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DECISIONS IN A MARKET:  
A STUDY OF THE HONOLULU FISH AUCTION

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE  
UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT  
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DOCTOR OF PHILOSOPHY

IN ANTHROPOLOGY

DECEMBER 1973

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## ABSTRACT

The fish market in Honolulu, a city of native Hawaiians and of the descendants of Japanese, Chinese, Korean, Filipino, Samoan, and Caucasian immigrants, was the setting for the dissertation research. The objective of the research was to discover the ways in which decisions were made regarding the sale of fish. In addition to the main objective, the dissertation includes detailed information about fishing boats, crews, methods for catching, handling, packing and selling fish, the people who sell fish and those who buy it. The variety of ethnic groups in Honolulu, their relative economic status in the community, their traditions, holidays and celebrations are also considered as they relate to catching, selling and buying fish. Several conclusions are drawn regarding (1) theoretical problems in decision research, particularly problems related to generalizations about strategies and comparability of strategies and decisions; (2) methodological problems, particularly those regarding language differences; (3) the future of the fish market itself, its dealers, fishermen, customers, and the likelihood that it will survive into an age of steel boats and massive fishing enterprises.

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CHAPTER I  
INTRODUCTION

Introduction

The fish market in Honolulu, a city of native Hawaiians and of the descendants of Japanese, Chinese, Korean, Filipino, Samoan, Portuguese,<sup>1</sup> and other Caucasian immigrants, was the setting for this dissertation research. The objective of this research was to discover the ways in which decisions are made regarding the sale of fish. In addition to the main objective, the dissertation includes detailed information about fishing boats, crews, methods for catching, handling, packing and selling fish, the people who sell fish and those who buy it. The variety of ethnic groups, their relative economic status in the community, their traditions, holidays and celebrations are also considered as they relate to catching, selling and buying fish. All of this information is necessary to fully understand the decision-making process.

The research strategy is discussed throughout this work; although most detail is given in the latter chapters where two methods for dealing in fish, the ways in which choices are made, the factors influencing choice from the

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<sup>1</sup>Portuguese are classified as a separate group from haoles in Hawaii although classified as Caucasians by most Europeans. Perhaps because they were a separate immigrant group which maintained its language and customs in the face of the New England missionaries, they were perceived as something other than haole.

social and natural environment, and the results of choices are covered in detail.

Finally, several conclusions are drawn regarding (1) theoretical problems in decision research, particularly problems related to generalizations about strategies and comparability of strategies and decisions; (2) methodological problems, particularly those regarding language differences; (3) the future of the fish market itself, its dealers, fishermen, customers, and the likelihood that it will survive into an age of steel boats and massive fishing enterprises.

#### Theoretical Background

There is some rationale for this research other than my natural curiosity about the lively, colorful and entertaining fish market. Methodological questions have been the focus of a number of recent research projects (Cole, Gay, Glick and Sharp 1971; Lee 1971; Romney, Shepard and Nerlove 1972), and several of these (Lee 1971 and Romney et al. 1972) have also explored the theoretical implications of human decision making. This research explores both methodological and theoretical issues and attempts to draw some conclusions regarding the application of the research to more traditional ethnographic methods.

Quinn (1971a) has traced the history of decision-making quite thoroughly and thus it will not be repeated here. However, the works of Goodenough (1956) and Keesing (1967) are

of particular relevance. Ward Goodenough in his article on residence rules on Truk (1956), noted that the data he collected differed from that of Fisher, who had done research on the same topic. After an examination of the way in which the two sets of data were collected and analyzed, Goodenough discovered the reasons for this disparity. In his original study, Goodenough had examined not only the census material but also decisions regarding individual choices of residence. He found that the distribution of residential types on Truk could be economically explained if the anthropologist postulated a small number of rules governing choice. These rules shared by the members of the group, provided them with a structure in which to act. Given a situation, and the goal of the individual, the choice made as to residence was according to rules of residence. Because of a variety of situations and alternative goals, the rule followed did not always have the same outcome. Thus Goodenough goes on to point out that comparative studies in anthropology should be interested in the rules, not in the behavior, since vastly different behaviors can result from a single rule.

It is interesting to note that Goodenough has emphasized the applicability of this method to comparative studies. The emphasis on comparability has been a major focus in the theoretical development of anthropology starting with Lewis Henry Morgan and reaching its zenith (nadir) in

G. P. Murdock's Human Relations Area Files. In order to insure comparability many monographs and dissertations are organized along similar lines: religion, politics, economics, kinship, and so forth. In fact this dissertation follows traditional lines of economic anthropology by discussing factors of production, distribution and consumption. However, a series of suggestions made by Keesing have modified what might have been a traditional market study.

Keesing (1967) summarizing Goodenough, says (p. 2), "observed statistical patterns of social alignment may vary widely under different demographic and ecological conditions, even when the principles on which decisions about social group memberships are based remain constant." He then goes on to propose the use of a decision model rather than a statistical model of social structure.

Keesing's decision model is defined as an "ethnographic description that is actor-oriented and based on the categories of the culture under study, i.e., one that is 'emic' (p. 2)." He further states that,

Its minimal properties are that it (1) defines the situation or context in a culturally meaningful way; (2) defines the range of culturally acceptable alternative courses of action in that situation; and provides either (3) a set of rules for making appropriate decisions under culturally possible combinations of circumstances . . . or (4) a set of strategies for deciding among alternatives, i.e. a value maximization model (p. 2).

Although Keesing does not expand upon the difference between (3) and (4), there is a good point to be made from that difference. Alternative (3) implies that in a given circumstance, the actor will follow the set of rules available to him. If his circumstances make it impossible to follow the first rule, then he follows the next rule or the next until he is able to act according to a rule in the set of rules. The implication is that the rules within the set are rank-ordered, and that the individual chooses the highest-ranked rule that conforms to his circumstances.

If there are domains of behavior in which all possible legitimate choices are ranked, it would indicate that choices would vary more with a change of circumstance than with a change of mind. Goodenough's residence rules seem to be of this type, and they might be further characterized as infrequently occurring decisions of importance not only to the actor but also to the community or group.

Examples of this can be seen among fish dealers where there are set rules regarding acceptable behavior. There are rules regarding the introduction of products to the market. If a dealer chooses to import a product, it may be similar to a product carried by another dealer and thus threatening to the businesses of the other dealers. The "rule" states that the dealer should introduce the product in a way that does not directly compete with products of the other dealers. This is done by (1) maintaining the

same wholesale price, (2) selling in different areas of the island or State, and (3) not attempting to "steal" the customers of the other dealers. This rule is expressed by the dealers using a Hawaiian term for an area of responsibility. "We each have our own kuleana,"<sup>2</sup> they say.

Keesing's alternative (4) on the other hand, assumes no fixed ranking for the strategies within a set of strategies, but rather the possibility of choosing a strategy which best fits the goal of the individual. A group of fish sellers have available to them a set of strategies with which they choose from among alternatives. Choice of strategy differs with the age of the dealer, financial backing, customer demand, and so forth. Choice among alternatives differs with the daily changes in the fish market. Thus we might conclude that alternative (4) may occur in situations where decisions are frequent and are concerned with outcomes which are largely under the control of the individual. For decisions of importance to the entire society, more stringent rules control choice, resulting in alternative (3).

If one is interested in building a model of a social structure, one must consider whether a set of rules or a

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<sup>2</sup>Elbert and Pukui define kuleana as right, title, property, portion, responsibility, jurisdiction, authority, interest, claim, ownership (1971:165).

set of strategies or perhaps both are being considered. This dissertation primarily explores the strategies available to fish dealers. The ways the strategies are chosen, used and interact form patterns of behavior in the auction and among the fish dealers. These patterns, or what I choose to call "optional stabilized strategies," are the products of the dealers' habitual reactions to environmental variables, particularly fish supply and consumer demand. At the same time, there are a set of rules governing the fish market and these are illustrated in Chapter III where interaction and sanctioning in the auction are discussed.

Strategies are made up of a series of interrelated decisions, which are themselves products of analysis of available alternatives. In turn, each alternative has attributes which give it value. For example, a dealer has a number of fish (alternatives) available from which he must choose. The fish are judged on the basis of their attributes: color, freshness, size, weight, etc., and a decision is made concerning which fish to buy. These kinds of decisions are made daily by each dealer, and, considering a dealer's decisions over a period of time, one could determine what his strategies are. For instance, a dealer may buy only good quality tuna, marlin and dolphin for wholesaling and retailing. If this were the case, then one could say that his strategies are made up of decisions that enable him to buy those fish. Furthermore, since he

habitually deals only in those fish, his strategies are quite similar from day to day. These are the optional stabilized strategies referred to in the previous paragraph. They are optional in the sense that a dealer does not need to use his strategy for buying tuna if he has enough tuna. (See Figure 1).

Furthermore, if one were to consider the optional stabilized strategies of all dealers in this fish market, one would have a set of strategies which are the result of the individual optional stabilized strategies as they are affected by both environmental constraints and rules governing the market. This dissertation includes a model (in Chapter V) that uses this set of strategies to predict daily price changes in tuna. This model is based on observed regularities in behavior and on elicited information concerning factors that influence decisions and the decisions themselves. The model serves three purposes here. First, it is a heuristic device describing the ways in which the various factors are put together--the rules for dealing with the variety of information. Although it is a simplification of reality, the model output can be tested against observations to determine how closely the model has approached a description of reality. This second aspect of the model is the proof of the exercise. Third, the model has some predictive qualities. By altering some conditions while

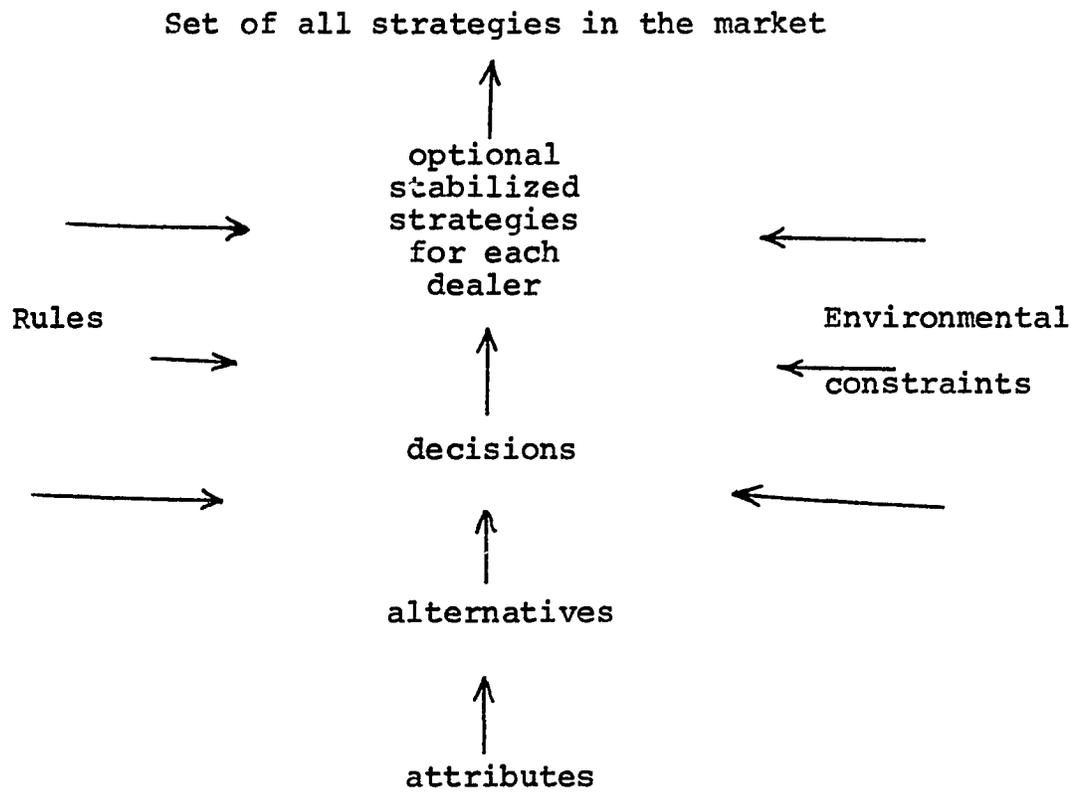


Figure 1. A Decision Process

maintaining others, one can see the possible results of change in the system.

Izmirlian (1969:1062) discussing recent changes in anthropological perspective, points out that structural analysis leads to "a view of society as an integrated whole whose parts make functional sense," while study of activity systems "yields an image of society where parts of the machinery do not mesh, where bits and pieces are disconnected and isolated, and where everything does not make sense--at least not functional sense." This analysis of the fish market attempts to make functional sense of the market as a whole, while at the same time providing specific detail of the decisions made by the participants. In fact, the structural or "functional sense" is the result of knowing the variety of strategies and alternatives available to actors and the frequency of their use.

Once anthropologists decided to study decisions, the theory and methodology for doing so had to be collected from other fields of study as well as developed within the discipline. Economists are the originators of much of the theoretical background of modern decision making, while psychologists, geographers, and businessmen have also contributed to the field.

Edwards, a psychologist, has traced the theory of decision making in these fields quite thoroughly up to 1960 (1954 and 1961) and thus that literature will not be

reviewed here. More recently, Wayne Lee (1971) quite aptly described decision theory as "a kind of mathematized cognitive theory" (p. 333), in his book Decision Theory and Human Behavior. There he discusses a number of measures developed to consider utility, probability, risk and choice. Since early studies of decision-making developed from observations on gambling or games of chance, many of the early articles consider such contexts when considering decisions; however, Edwards and Tversky (1961) and Lee (1971) give examples of other decision experiments run by psychologists where individuals are observed in their choices among items in other settings. The work described by Alexis and Wilson (1967) is concerned with decisions made by a number of people functioning within an organization, but in these examples, most decisions are being made toward a shared goal, i.e., in a non-competitive sense. Thus the focus of decision research has been not only on individuals, but also on groups making decisions. This dissertation focuses on individuals making decisions both independently and in the context of others' decisions.

Decision models have been subdivided into two types by Alexis and Wilson (1967): closed and open. A closed model assumes that there are "(1) clearly defined goals, (2) a number of alternatives open at each phase of the situation, and (3) players or participants who can estimate the consequences of their choices (p. 151)." The alternatives

to these concise but unrealistic models are open decision models, of which there are few examples. The open model takes into account the decision maker's fallibility, the fact that he cannot realistically consider all alternatives available, but must have methods for limiting the amount of information. Since the open model takes the decision maker's perspective, it could be classified as emic.

Keesing defined his decision model as one that is emic (p. 4 this chapter), expressing a concern felt by many anthropologists who are concerned with the question of whether a model is emic or etic. An emic model is built upon the categories and assumptions of the members of a culture while an etic model is built upon the categories and assumptions of the researcher or persons external to the system under consideration.

Economists' models have been etic for the most part. They have been based on principles of supply, demand, production, costs, etc., which are considered capable of accommodating data from any society. Many of the concepts of social structure and organization are themselves etic since they are cross-culturally applied constructs for organizing norms, strategies and behavior. Decision theory also has its etic side, for the ways in which alternatives are reduced in number and the ways in which the attributes of an alternative are processed can be generalized cross-culturally.

Furthermore, the models of social organization and structure are responsive to jural norms as well as to environmental constraints, while the models of the economists seem responsive only to environmental constraints. A decision model takes into consideration rules, strategies, and behavior as well as environmental variation, and is emic in the sense that the decisions and the decision processes are elicited from the participants rather than assumed by the researcher. The methodology for constructing such a model will be discussed in the latter half of this chapter. However, some statements about the processes of decision-making that are derived from such a model could be tested cross-culturally and are thus etic models.

In a paper by Christina Gladwin (1971) a hierarchical model of decision-making was proposed. She stated that Fante fish sellers chose to sell their fish at a market that had the lowest risk of being flooded with fish. In less specific terms, people chose the alternative with the lowest risk. This of course leads to the question of how risk is assessed. For the Fante fish sellers of the Ghanian coast, a wide variety of information about the various alternatives was analyzed and choice made on the basis of the likelihood of certain markets being good, mediated by the sellers' costs in terms of time and convenience. Another question considered here is decision makers' choice of low risk alternatives over alternatives of higher risk. Gladwin points out in her concluding

statements that students participating in psychology experiments are often found to choose high risk alternatives because they have little invested in the experiment, whereas Fante fish sellers (and Honolulu fish sellers) have a great deal invested and therefore cannot afford to make high-risk decisions.

This same point is made by Cove (1971) in his discussion of two Canadian fishing fleets. He compared two fishing captains, one of whom was rather successful not only in terms of the size of his catch but also in maintaining rapport with his crew, and the other of whom had a bad catch record, difficulty in keeping a crew together, and inferior equipment. Cove pointed out that the latter captain continually made high-risk decisions regarding likely fishing sites, while the former fished near other boats he observed making catches or in well-known grounds. The captain with the good reputation had to maintain it by making low-risk decisions, but the captain with nothing to lose could experiment by fishing wherever he chose.

Quinn (1971b)<sup>3</sup> did a more detailed analysis of the decision making process in her article on simplifying procedures in natural decision making, or the ways in which people limit the amount of information involved in a

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<sup>3</sup>Permission to quote given by author September 15, 1973.

decision, and developed some generalizations about decision processes. There she discussed how individuals go about making a decision from among a vast number of alternatives available. She proposed a two level process: (1) procedures which reduce the number of alternatives; and (2) procedures, applied subsequently to (1) which operate on the attributes (p. 1). "Procedures which reduce alternatives have their best known formulation in Simon's 'satisficing' principle (Simon 1957:204-205), by which individuals search among available alternatives until they find one which is satisfactory. This alternative is then chosen although there may exist other, more optimal alternatives in the universe still unsearched (p. 2)." From the above information on Gladwin's fish sellers, choosing the alternatives with the lowest associated risk was their method for reducing the number of alternatives. In Honolulu, fish dealers reduce the number of alternatives available to them based on the number of pounds of each species of fish they want to sell. Once a dealer has decided which species of fish, and how many pounds of each he wants to sell, he has eliminated large amounts of extraneous information from what he must consider each day.

Once the number of alternatives has been reduced, other operations are used to compare the remaining alternatives. "Lexicographic ordering" and "lexicographic semi-ordering" refer to the way in which people rank the considerations of

various attributes. Quinn's example (p. 4) of house purchases notes that people may consider the criterion price, compare several homes on this criterion and move on to size, location, etc. Semi-ordering refers to those situations where two alternatives are not perfectly discriminable. For example, in the market considered here the difference between a fish weighing 160 pounds and one weighing 170 pounds is minimal and thus fish dealers do not make a judgment on the criterion of size, but move on to consider the next most important criterion.

Another operation described by Quinn (p. 5) is cancelling out, a process used "whenever alternatives differ with respect to choice criteria of judge equivalence." An example would be a fish dealer's rule which said four hundred pounds of tuna is as profitable for him to sell as six hundred pounds of marlin; if he cannot get that much marlin, then he needs four hundred pounds of tuna. Yet another operation is dimension adding. It simply states that one counts the number of positive points of each alternative and chooses the alternative with the highest number. Finally Quinn discusses an operation called tipping the balance (p. 7) where one introduces a new criterion of choice to enable one to judge between alternatives of great similarity. For fish dealers, the decision to buy fish from one boat rather than another is an example of tipping the balance.

Quinn has outlined the ways in which people make decisions in terms of the processes rather than the content of the decisions. In Chapter V, I discuss the decision making process used by Big fish dealers, and these simplifying procedures are relevant to that discussion, indicating that, in fact, the procedures used to make decisions may have wide ranging areas of applicability. Quinn's hypothesis that decisions are made in this way would best be tested by applying it to decisions made under conditions of certainty: that is, where an actor can evaluate the various alternatives on the basis of known information. However, the decision-maker must often act in situations where his knowledge does not permit him to gauge the likelihood that certain attributes are present.

#### Economic Anthropology

The research described in this dissertation, occurring as it did in a market setting, may be regarded as falling within the domain of economic anthropology. Firth (1968) generalized about the relationship between anthropology and economics in the statement, "The basic concept of economics is the allocation of scarce, available resources between realizable human wants, with the recognition that alternatives are possible in each sphere. However defined, economics thus deals with the implications of human choice, with the results of decisions (p. 67)." Sutti Ortiz (1967: 191-227) following Firth's direction, studied the economic

system of a group of Colombian Indian farmers. She states, "As anthropologists, our contribution lies not only in listing social factors of production that might be overlooked by economists, but also in trying to outline the structure of the situation within which the farmer has to make his own productive decisions as well as the process of decision-making itself (p. 192)." Although she does not discuss the process of decision-making, she does define the situation in which a farmer acts, and that alone is an important contribution to the research done in decision-making.

A problem that needs to be considered in most research is that of value or utility. In societies without a monetary system, or in which the system is not directly comparable to a modern system, transactions are difficult to evaluate. Although in the last forty years the number of societies without some contact with the yen, franc, ruble, mark, pound or dollar has shrunk considerably, this does not relieve the problem of valuation, it only diminishes it, at least within a small range of valuation. Regardless of the convenience of monetary valuation, other ways of determining value have now come into use. Modern researchers have attempted to have informants rank order preference, compare a series of items two by two, and if possible, give numerical value to items.

Since the value of an item, a service, or a social status is culturally as well as individually determined, cross-cultural comparisons of economic systems have been difficult. Brookfield (1969) has edited a collection of essays on Pacific market places that discuss credit, supply, demand, dispersion and collection of goods, ethnic group participation, and other economic processes. In order to provide comparative information on price, all data were changed to Australian dollars, and even then some figures had to be adjusted because most sales were made at 10¢ intervals, and conversion left some prices in odd numbers, giving the impression that transactions were more complicated than they actually were (1969:vi). Brookfield made the adjustments in order to provide cross-cultural comparability. However, a statement of the range of prices of a variety of items gives little information about relationships among items in a market and the similarity or difference in these relations from one market to another. In order to solve some of these problems, I would take up Goodenough's suggestion that comparisons be made on the basis of decision rules rather than on the basis of statistical similarities (1956). Although Goodenough made his point in a paper on kinship, it is applicable to economic anthropology as well.

LeClair and Schneider (1968:453-474) are perhaps more demanding in their idea of what economic anthropology should

involve. They use the notion of mathematical functions to discuss the relationships between various aspects of an economic system. For example, as the supply of fish goes down, the cost of the fish goes up if the demand remains constant. Then, the cost of the fish is a function of supply. Of course, the number of functions and the relationships between them is exceedingly complex. One of the problems involved in attempting to obtain the relationships between functions and the characteristics of the functions is that one will fail to make functional (anthropological) sense (cf. Izmirlian 1969). Although LeClair and Schneider may be suggesting that the decision making methodology be used to discover functions, they never say that outright. If they do not make this assumption, they are proposing standard economic research which is probably done better by economists and which often disregards social and cultural variables of people under consideration. However, the model given in Chapter V includes ecological, cultural and economic factors affecting the price of tuna and uses these factors to build a predictive model of the market.

### Methodology

My research methodology owes something to previous anthropological investigations of fishermen and fish dealers. Firth (1939), Andersen and Wadel (1972), Cove (1971), D. Szanton (1971), Quinn (1971a) and Barth (1966) all focus on

fishermen while Gladwin (1971), Brookfield (1969) and C. Szanton (1972) focus on fish sellers. For anthropologists interested in decision making, enterprises dealing in fish provide a suitable background for research. "Sell it or smell it" is the phrase used by meat packers but it is equally appropriate to fish dealers. The fact that the item has to be sold quickly means that decisions about supply, demand, and profit cannot be delayed and are made often and under a variety of conditions, and thus I chose to study the Honolulu fish auction.

The material covered here was collected on a daily basis from October 1971 through September 1972 and on a weekly basis from September 1972 until June 1973. These weekly visits were not a part of the original research design, but the dealers told me I would not be able to stay away from the market after such a long exposure to it, and they were right. The weekly visits (on Friday morning) enabled me to check on certain aspects of the market about which I was unclear and also to observe another cycle in the process of selling fish.

Several methods were used to elicit data from the participants in this market. Direct questioning was the most successful one. Perhaps because the dealers had little time for idle conversation (at least it seemed that way at first), they agreed to very short interviews. They thought of my work as that of a news reporter, and thus they

expected to be interviewed. However, they also expected the "reporter" to go away after a while, and when I did not go away, they defended their original statements by saying "I told you everything already."

What I had learned from the interviews were the general outlines of thirty-three fish dealers' businesses: the varieties of fish carried, the number of employees, the history of the businesses, their future plans, their feelings about their relationships to the fishermen and the public. None of them would tell me how many pounds of each species of fish were carried per month or per year, and no one would tell me anything about his annual income.

Once I had an idea of how the market worked, I began to inquire into more specific aspects of decision-making. I asked the dealers how long in advance they could buy fish, how they kept it, and how they sold it if a large quantity suddenly came in. They gave opinions about boats, fish, fellow dealers, and customers. Usually this material could be conveyed in some order, but I had to work to get people to rank-order information if a large number of items was involved. In Chapter II, I will mention that they roughly rank-ordered the ahi boats; they gave a definite ranking for deep-sea boats and akule boats because there were so few of these. They also rank-ordered customers by ethnic group in answer to my question, "What kind of people do you like to deal with best?" I found this was

identical with the lists for "What kind of people do you sell to most?"

For several months I went to Kewalo Basin or Pier 15 where the fish was landed so that I would know in advance what would be available in that morning's auction. Immediately afterward I went to talk with a dealer, giving him several possible supply conditions and asking what he would do in each case. Then I checked what he said he would do against what really happened when the fish arrived and the auction began.

The dealers quickly caught on to the fact that I often had advance knowledge and began interviewing me as I walked through the Market Place to get to the auction room. The questions almost always came in the same order:

1. There is           (kind of fish)           today?
2. How much of it?
3. Which boat?
4. What else is there?

There were some logical exceptions to this order. For example, if a dealer had enough tuna already, question 4 would be asked first, and sometimes the other three questions would be asked out of curiosity, but there was no regularity to this. If the fact that there was fish was known, questions 2, 3, and 4 would be asked. Several dealers never asked me directly, but would ask another dealer for the

information I had given him. It was rather as if they did not want to get involved in any reciprocal arrangements, and thus they were friendly, but not inquisitive.

Another method for eliciting information was setting up linguistic frames of a sort. "\_\_\_\_\_ is better than \_\_\_\_\_ for sashimi."<sup>4</sup> "Filipinos like \_\_\_\_\_ better than \_\_\_\_\_." "Haoles<sup>5</sup> buy \_\_\_\_\_." "Japanese like \_\_\_\_\_." "\_\_\_\_\_ is a fish that all ethnic groups like." "\_\_\_\_\_ boat is more reliable than \_\_\_\_\_." I set up these by asking a question of the type, "Aku is better than ahi for sashimi, isn't it?" and sometimes got a response in kind, while at other times, a whole list of sashimi fish: the best, the traditional, the possible. For a question regarding ethnic group preference, I usually put an improbable fish name into the blank in order to get a response.

The problem with most of these methods is that once the fish dealers knew me, I could not be dumb about small things. After three months, it was impossible to ask a blatantly stupid question; they ignored me if I did.

Thus I changed to a narrative style, focusing on individual problems. For example, each dealer who sells small fish told me the problems involved: buying, preserving,

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<sup>4</sup>Sashimi is Japanese-style raw fish.

<sup>5</sup>Haoles are Caucasians with the exception of the Portuguese.

selling, cleaning, wrapping, over-supply, under-supply, the boats, the customers. After we had covered all kinds of fish, their good points and bad, I attempted to put the information together. For example, I would say "O.K., I think I understand it. You buy so much of A because it is easy to sell and fairly plentiful, right? (Wait for affirmation.) And then you get B, C, and D when you can, right? How often does B come in? (Wait for answer.) What do you do the rest of the time if B, C and D are not available? Where do you get other fish?"

Of course, I observed the behavior of the dealers, as well as recording their statements about strategies. I kept records on each dealer: the kinds of fish he carried, the number of pounds of fish if the information was available, the price paid if I could learn it, the wholesale and retail prices. Records were also kept by species of fish. Retail prices were simple to collect since the prices were marked on the packages of fish or on a plastic marker placed among the fish displayed in the stalls. Wholesale prices were more difficult to obtain because many dealers did not wish to disclose the prices they paid to their fishermen nor the prices at which they sold fish to their fellow dealers or to other wholesale outlets. However, I did find that the prices paid at the auction were often similar to prices paid to fishermen. In fact, many dealers paid their fishermen according to the auction prices minus

the 10 percent commission charged by the auction company. At the auction I kept records of each species of fish, total pounds available each day, number of pounds sold, the price of each fish for the large fish, or each can of fish for the smaller ones.

One method for eliciting prices dealers were willing to pay worked out very well for some time. Just before the auction, when the quantities and qualities of fish were known, I would try to ask as many dealers as possible both what they thought the price would be that day and what they were willing to pay. This developed into a system where bets would be made about the day's prices. Even though the individuals making the bets also set the prices, their interest was primarily in a low price for fish and not in winning the bet. Thus no one attempted to control the price in order to win the bet.

No questionnaires or interview schedules were used during the research. Besides leaving me with less time to touch, taste, smell, poke and prod the fish, questionnaires would have greatly reduced the breadth of responses. Even after I had spent many months attending the auction and talking with dealers, a question asked slightly out of context of a conversation was ignored or only briefly answered. Most information was collected during casual conversation about topics of importance on that particular day. To discuss the future was impossible in any but the broadest generalities.

In Chapter II I will discuss the various methods of catching and marketing fish. The fishing boats, or sampans as they are called in Hawaii, vary in size, age, equipment, use and crew. Although not all dealers have a thorough knowledge of the boats, many of them have particular interest in arrivals, departures, and catches of some of the boats, and together the dealers possess a good working knowledge of the size and capacity of the fishing fleet. The fishing fleet will be described in some detail for the general information of the reader, although not all of these data are necessary to understand the operation of the market.

Chapter III will discuss the auction house and its services, the role of the auctioneer, and the auction itself. In particular, behavior that dealers expect from one another will be discussed as background material for decision-making. The auction is the context in which decisions are made, information is made available to dealers, and much other, non-auction business is carried out.

Chapter IV will discuss the demand for fish in Hawaii. Much of the variation in demand is related to holidays, both those associated with particular ethnic groups and those celebrated by all members of the society. The ways in which the individual dealers perceive these demands will be discussed in the text as well as being presented in a table showing basic characteristics of each dealer: age, sex,

ethnic group, size of business, market supplied, years in business.

The strategies used by fish dealers that enable them to succeed both economically and as members of their peer group are continually emphasized since success in one area is vital to success in the other. Rather than strictly competing for supplies of fish and wider ranges of customers, fish dealers cooperate with one another, a cooperation that is maintained by a network of social and economic relationships. These latter relationships not only involve fish, but also real estate ventures, financial tips regarding the stock market and other investment sources. Competition does exist at the level of prices for fish offered to the consumer, but in general, this small group of fish dealers cooperate with one another, working to buy fish from a worldwide network and sell to an equally broad network at a profit to each and a loss to none. At the same time, they provide fish to the consumer at a reasonable price considering the scarcity of locally caught fish and the expense of importing mainland and foreign fish.

Chapter V will do several things. While describing the strategies used by seven fish dealers in the Big Fish auction, it will also predict changes in the price of fish under a variety of supply and demand situations through the use of a computer simulation. In a sense, this chapter will pull together the information given previously by illustrating

the dealers' perception of supply and demand and their interaction on the auction floor, and will provide material with which to discuss the theories of decision-making and the practice of model-building presented in the first chapter.

While Chapter VI will not include a simulation of Small Fish dealers' behavior because of certain complications, this chapter will describe the strategies used by the Small Fish dealers and the general rules under which they operate.

## CHAPTER II

### FISH AND FISHING BOATS

#### Introduction

This chapter deals with the ways in which different portions of the ocean are exploited by fishermen who themselves differ in skill, equipment, and knowledge. The discussion of fish, fishing boats and fishermen will provide the reader with information about the supply situation with which dealers must interact. Fish dealers need to know a good deal about the structure of the supply system if they are to be able to make and carry out strategies for their own businesses.

At the same time, dealers are also functioning in the context of a demand situation which will be discussed in Chapter IV. The variety of ethnic groups in Hawaii and their traditions, celebrations and holidays all affect demand for fish. Dealers must be able to predict quantitative shifts in total demand as well as varying demand for different species of fish.

In short, if one is to understand the process of decision making, the attributes, alternatives, decisions and strategies developed by fish dealers, some knowledge of fish and fishing boats is necessary. The following discussion of vessels, methods, fishermen and fish of Hawaii provides much of that information. Also, the ways in which fish are

handled in the water and on the boats are discussed in so far as the treatment of fish affects its marketability. Once on land, the fish is sold in one of four ways: through an association which sets the price, to the dealers via auction, directly to the fish dealers, or directly to the public. Because this is essentially a study of fish dealers, the second and third methods for selling fish are emphasized.

Although only five out of twenty-eight Honolulu fish dealers carry the complete range of fish caught in Hawaiian waters, collectively they know a good deal about fishing boats that supply the market. Perhaps because a lack of one species of fish often results in increased sales of another species, the dealers need to know about variations in supply in order to assess their own positions in the market.

The dealers have a range of expectations for each group of fishing boats and for each boat within a group. For example, if a dealer wanted to know about ahi<sup>1</sup> (large tuna) supply for a given day, he would first want to know if any ahi boats were in harbor; if there were, how much fish did they have, and finally which particular boats were in harbor. My discussion

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<sup>1</sup>I have used the Hawaiian fish names here in the same way they are used in the fish market, i.e., without diacritical marks. However, Appendix I lists the Hawaiian fish names following Pukui and Elbert 1971.

of the fishing boats is limited to generalizations for several reasons. One reason is that I studied dealers, not fishermen, and thus know more about boats from the dealers' points of view than about the fishermen's points of view. Another reason is that each dealer assesses boats differently depending on the sort of business he conducts and on his relationship with the captain or owner. A third and most important reason is that fishing boat captains do not wish to have their boats discussed individually. Their reasons for this are usually summed up in the expression "protecting their own interests."

The boats themselves are a motley collection of wooden sampans. Most of them were built between 1940 and 1950, and a few between 1930 and 1940. They range in size from thirty-five feet to one hundred feet in length and have high sharp prows and low flat decks. The boats are kept in fairly good condition by an annual overhaul in dry dock during which boards are replaced and the paint renewed. A striking thing about the Hawaiian fishing fleet is its colorful equipment. Boats, skiffs, and buoys are all brightly painted in blue, orange, red, white, yellow and turquoise. The cost of maintaining these boats is increasing rapidly as they get older and it is likely that within ten years all of them will have to be replaced. There are also two steel fishing boats and one aluminum boat. One of the steel boats fishes for aku (skipjack tuna, Katsuwonus

pelamis), the other two for ahi (Thunnus obesus, Thunnus albacares, and Thunnus Thynnus orientalis). Two more steel boats are to be completed in Spring 1973 and will be used to catch ahi.

The sampan-style fishing boat is a Japanese introduction although the term itself is Chinese. A newspaper account states that, "The first Japanese shipwrights arrived here in 1895. . . . Their craft were constructed with bulkheads rather than with ribs. That is, something like large boxes were made around which spiked planks were warped and fastened to the keel. But since those early days the sampan design has been modified here somewhat. At the present time, the tuna boats are planked and ribbed. The beam is broader and the bow is higher (Honolulu Star Bulletin 1/26/46)." The sampans are supposed to be cheaper and easier to build than conventional fishing boats as well as particularly suited to the Pacific fishery.

This discussion of fish and fishing techniques is centered on the various species caught in the waters around Hawaii. Ahi, aku, akule, a'u, opelu, opakapaka are unfamiliar to people unaccustomed to local Hawaiian fish names. In order to avoid unnecessary confusion, I will try to use English names wherever possible. In Table I of Appendix I there is a list of fish giving the English name, local name most commonly used in the fish market (whether it be Hawaiian, Japanese or Chinese), alternate local names and finally the scientific name.

Note that the Hawaiian words for two categories of tuna aku and ahi will be used to distinguish between them rather than the cover term tuna. Aku refers to the skip-jack tuna, a small fish (usually less than thirty pounds) caught by chumming or live bait fishing. Ahi refers to three species of large (60 to 250 pounds) tuna caught by long line fishing boats using dead bait. Marketing methods differ as much as fishing methods for aku and ahi and thus the two kinds of tuna must be discussed separately.

Fishing boats are readily classified according to the sorts of fish they catch, because different categories of fish require different fishing methods. It is difficult to give a cover term for the boats that catch snappers, bass, and certain other deep-water fish since deep-sea boats also include ahi boats. Here I am using the term Deep-Sea Boat only for those catching fish other than ahi. Possible confusion is forestalled in the market place by asking specifically about a boat by name or captain, or by asking if there will be any red fish that day. Red fish in this instance includes all varieties of fish caught by Deep-Sea Boats in the narrow sense. Akule boats, crab boats, small boats that catch akule (Trachurops crumenophtalmus) and opelu (Decapterus pinnulatus) with hook and line, and skiffs are also discussed. Table II in Appendix I categorizes fish according to the type of boat usually used to catch them.

### Aku Boats

Aku (Katsuwonus pelamis) is caught by twelve sampans fishing out of Kewalo Basin, a commercial fishing boat harbor about one and one-half miles from the main Honolulu harbor. The method of fishing for this particular kind of tuna is called chumming. Small sardine-like fish (nehu) are netted in the shallow waters of the harbors, streams and protected reef areas around Oahu and transferred live to holding tanks on the fishing boats. The fishermen, work off the low flat decks of the 70 to 100 foot boats, throw the live bait into the midst of a school of aku, thereby attracting the aku to the surface. They are taken into the boat using barbless steel hooks, a short line and a bamboo pole at the rate of several tons of fish per hour. The highly skilled fishermen flip the hooked fish over their shoulders into the open hold or onto the deck of the sampan to be later stowed in ice. (For more information see Uchida and Sumida 1971.)

Late in the afternoon when the aku boats return to Kewalo Basin, their home port and the site of the Hawaiian Tuna Packers, the catch is unloaded into numbered galvanized-metal cans with rectangular mouths 18" in length by 24" in width, and with slightly sloping sides 18" high. The fish are placed head down (they are then easy to remove by pulling on the convenient handle-like tail) and weighed. The number and weight of the fish in each can is recorded before the contents are refrigerated at about 35 to 45

degrees. A given proportion (about ten thousand pounds) of each day's catch is allotted to the fresh-fish market and the remainder is then either canned or frozen for future canning.

The crews of the aku boats are mostly Japanese nationals from Okinawa with a few Micronesians and some local Japanese and Hawaiians. The Okinawans are recruited because it is difficult to attract local crew members in sufficient numbers. They are paid by shares of the catch and usually provided with housing in Honolulu. Apparently Okinawan fishermen come to Hawaii to make their fortunes. Working on tuna boats at home earned them only a regular salary, but in Hawaii they get a share of the catch and have greater opportunity to make and save money. After two or three years of fishing here, they return to Okinawa relatively rich. Of course, some return as poor as they started, but with memories of an enjoyable life in Honolulu.

The aku-boat owners market their fish through either the Aku Boat Association or the United Fishing Agency, which together regulate the price of the fish. Because aku is not sold through auction, the kind of information presented here is much less thorough than that of ahi, a fish sold only through auction. The cannery price is low --\$.19 per pound. The price asked for aku that is to be dried is \$.35 per pound. The fish for the fresh fish market are priced by size. Large-size aku (18 to 25 pounds or four to

six to a galvanized-metal can) sells at 10 cents per pound higher than medium-size (12 to 18 pounds or seven to nine fish to a galvanized-metal can). Small-size fish weigh 5 to 10 pounds each and fit ten or more to a galvanized-metal can. By counting the number of tails sticking out of a can of fish and observing how far above the rim the tails reach it is fairly easy to estimate the weight of the individual fish.

The wholesale price of fresh aku varies with the available supply and the general demand for fish. In the past, the wholesale price went as high as \$.85 per pound during the summer, when aku was scarce but other fish were plentiful. On the other hand, \$1.00 per pound is reasonable for scarce aku when other fish are also scarce; and recently the whole sale price has gone as high as \$1.25 per pound. About three or four o'clock in the morning, the freshly caught aku is delivered to the stalls of the various fresh-fish dealers throughout the city. Aku is a dependable fish for dealers to carry because the price is regulated by the Aku Boat Association and the United Fishing Agency, and thus the extreme variations found among fish brought to the auction do not have to be considered when selling aku. About 55 percent of the aku is meat; the other 45 percent is head, tail, backbone and entrails. When the meat is trimmed to remove the tough parts near the tail, the resulting saleable part is just

about 50 percent of the original weight. This percentage varies with the size of the aku. A small aku consists of about 43 percent meat where a large one can be up to 60 percent meat.

The belly, roe and backbone are edible but less desirable parts and are sold at a lower price than the rest of the meat. The trimmed parts of the meat can be cooked in fish dishes and the head can be used for soup, or more commonly for bait. The main part of the fish is eaten raw in such dishes as Japanese sashimi and Hawaiian poki. For many people aku is the hamburger of raw fish--adequate and even tasty--but not suitable for special occasions. The meat is a dark blood-red color in contrast to the rosy reds and pinks and whites of other fish used for raw fish dishes. The aku also has a rather strong fishy taste compared to the other fish.

The disadvantage to dealing in aku is that the fish has a short shelf life. It stays fresh only one day and then either should be canned or dried. During times when aku is scarce, some dealers sell the day-old aku, but this is fairly risky if the customer wants to eat the fish raw, because it starts to get a bitter or sharp taste. Frozen aku has a grayish color and watery flesh; characteristics which make it unsuitable for sashimi. The frozen fish are then either canned or dried.

### Ahi Boats

In general the ahi boats are slightly smaller than the aku boats. They range from 55 to 80 feet compared to the 70 to 100 foot sampans used for aku fishing. Because the size of an aku catch usually exceeds that of an ahi catch, a larger boat is needed for aku. The ahi boat crews (from four to seven men per boat) are mostly of Japanese ancestry too. About half of all crew members are Okinawan or Japanese; the rest are Hawaiian-born Japanese, some of whom speak little or no English. Only three boats have Hawaiian crew members and only one of these boats is predominantly manned by Hawaiians. Although I have not kept records on the changes in crew, most boat crews seem to have worked together since World War II. A crew that is not accustomed to fishing together fishes badly, makes little or no money, and then disintegrates because the men are working for nothing. However, once a crew is stabilized, it generally earns an adequate income over all seasons. (See Ahsan, Ball & Davidson 1972 for a comparison of aku and ahi fishing.)

Ahi boats go out to sea for six to twelve days unless they get a catch large enough to justify returning to port sooner. When fish prices are high, some captains go out for two or three days to catch a few fish to sell at a high price. A thousand pounds of ahi at \$3.00 per pound is a good catch for a three-day trip. This strategy does

not always work, because there is a chance that another boat with a lot of fish will come in and drive the price down. During good weather and good fishing most boats stay out only six days. One captain explained his time schedule this way, "I tell my wife to count six days after I leave; if I'm not back then, continue counting to twelve days and I will be back on that day."

Stiles (1972:35) comments on the behavioral implications of the adoption of a two-way radio system by a Canadian fishing fleet. He points out that the radios are used to exchange information, which may or may not be accurate, with other boats. Although five of the ahi and aku boats are able to communicate with the United Fishing Agency (the auction company) by a single band radio system, none of the other boats is equipped with the same system. Even the boats equipped with the single-band radio system seldom communicate with one another, except in emergencies, since they do not wish to reveal their fishing areas. That does not mean that the areas in which a boat fishes are not generally known; it means only that they are never discussed. Because the size and condition of the sampans limit their fishing grounds to a very small area around the Hawaiian Islands, no captain wants to disclose his particular sites or methods for catching fish. Thus radio communication between boats or between boat and shore are limited to emergency situations.

Usually a boat travels one day or one and a half days to the fishing site, usually within sight of the islands and rarely more than five hundred miles from Honolulu. Once at the site, a line is set over a mile or more of ocean as it will be every morning of the trip. This method of fishing is called "long lining" or "flag line" fishing. Bouys and flags are placed at various intervals along the line. Hanging below each flag is the long line that drops to the depth where the fish are supposed to be (300 to 500 feet). Sets of hooks fastened at intervals along each of these long lines are baited with halalu (3 to 5 ounces big-eye scad, Trachurops crumenophtalmus). When a fish takes the hook, it pulls the flag under the water, which signals to the men that they should pull in this line to retrieve the fish. The entire line system is pulled in before sunset and relaid in the morning. (For a complete description of long line fishing see Yoshida 1966:75-85.)

While the boat is at sea, various things can happen to the fish that detract from its saleability at the market. A fish "dead on the line"--that is, dead before being pulled into the boat--starts to deteriorate in the water. This deterioration, which begins in the stomach of the fish, is described by fishermen and dealers as "burn." A fish may also have been burned because it was poorly iced once it was on the boat, or because it was not iced quickly

enough after being brought on board. A burned fish tastes bad and cannot be served raw. It can be cooked, but usually the price for ahi to be used for "fry fish" is low--\$.15 to \$1.25 per pound.

Black flesh on the ahi, a condition where the flesh is almost as dark as aku, is also undesirable and lowers the value of the fish. There are many theories as to why the flesh is dark-colored; fish are born that way; they were brought up from deep water too fast; they were kept on the boat too long. No one really knows why it happens that a fish is black; they do know that it gets a bad price, though not as bad as a burned fish. Black meat seems to taste no different from the desirable rosy red meat, although its lack of fat somewhat impairs its texture. Many of the dealers say that if one closes one's eyes to eat sashimi, the difference between black and red cannot be distinguished. But since color is an important selling point, the same price cannot be paid for black and red fish in the auction. One dealer who often buys the black fish does so because he says that the bars he supplies are so dark none of the customers can see what they are eating.

Often a shark attacks the ahi as they are brought to the surface. This can be disastrous unless the shark is shot or the fish pulled in quickly enough. Sometimes a fish partially eaten by a shark will be put on the auction block. If the remaining meat is good, the fish fetches a

fair price proportional to how much of it has been left behind by the shark. Peddlers who handle only 30 to 40 pounds of sashimi will buy a "shark bite" ahi because they can salvage the meat where most large wholesalers would not bother with it. More often, the shark-bitten fish are divided among the crew for their own consumption or for use as gifts.

Pacific blue-striped marlin, commonly called by its Japanese name 'natagi', is also caught on ahi lines. Occasionally other fish of the marlin family, such as swordfish, are also caught, but for the past three years it has been illegal to sell swordfish in the United States because of a health regulation which prohibits the sale of any fish with more than .05 parts per million mercury. However, swordfish is often caught to be consumed by the fishermen, their families and friends. The publicity surrounding the mercury problem did a great deal of harm to the fishing industry in Honolulu in 1969-1970. For several months dealers had a difficult time selling any fish at all, and they say that it remains difficult to sell quantities of the safe fish of the marlin family.

The fish is unloaded and taken down to the auction block the morning after the boat arrives in port. Boats unload their catches in the order of their arrival. Since the ahi boats come into one of two harbors, it is usually quite simple to determine which boat was in harbor first

because it is first in line at the unloading platform. If boats come into both harbors, the captains say what time they arrived and the auctioneer says which should be first on the auction block. There is usually little conflict since there are many people around the harbor with whom the auctioneer can cross-check time of arrival.

It is the responsibility of the captain to inform the auction company that his boat is in port and how large a catch is on board, and it is the responsibility of the crew to be at the harbor at 4:00 a.m. to unload the fish. This is often a problem because a crew that has been out at sea for a week or more does not want to remain on the boat. What they usually do is go get drunk--and thus the early morning unloading is often disorganized, to say the least, because none of them is sober enough to do the work.

Once the fish is unloaded, the captain and some of his crew follow it down to the auction to see the fish sold and to collect their money. All of the ahi boats send their fish to the auction to be sold; however, some of the crew's share of the fish is distributed directly to a dealer. Hawaiian fishing crews have traditionally been paid not only in money but also in fish. The size of the fish share depends upon the total amount caught. If the catch is small, all of it is sold to make up boat expenses and to provide the crew with some cash. From a medium-sized catch (thirty to forty ahi) the crew members may each receive

one-quarter of an ahi to keep for themselves or sell to a dealer. If small ahi (40 to 60 pounds) are caught each may get one. This payment in fish is called the okazu fish by the Japanese and kau kau fish by Hawaiians and Filipinos. Both words mean food. Crew members may sell their fish at holiday time, when they get a very good price and they do not have pressure from home to give it to relatives.

The ideal fishing schedule is to go out for six days, rest for three or four, and then go out again. This ideal is rarely if ever realized in fact. Only three boats managed to go out regularly during a three-month period from May through July 1972. There are several reasons why the boats do not fish more regularly. The primary reason is bad weather. When the winds blow at more than 25 miles per hour only a few boats--usually the larger ones--go out to fish. Three or four tropical storms each year prevent fishing for four to eight days at a time. Heavy rains, even if unaccompanied by high winds, also keep the fishermen in port. During the winter all fish around Hawaii is scarce compared to the supply available during the summer months. (The summer of 1972 was an exceptional season, since fish were scarce then, too.) Often captains have a difficult time convincing crews to go out during the months when fish is scarce because a great expenditure of time and energy brings only low monetary returns then. Crews feel that they

are much better off collecting compensation<sup>2</sup> from the government than attempting to fish. The fishermen say that compensation and their probable share of the catch work out to be the same amount of money, so why should they go out for two weeks of relatively cold and windy weather?

Table 1

Number of fishing trips and number of ahi caught by 18 ahi boats from May through July, 1972

Boat	Number of trips	Number of ahi
A	11	143
B	10	113
C	8	140
D	7	132
E	7	73
F	5	235
G	5	103
H	5	60
I	5	45
J	4	403
K*	4	98
L	4	55
M	4	43
N*	3	62
O*	3	39
P	3	38
Q	3	14
R	2	21

Spearman rank correlation coefficient:  $r_s = .704$ ;

$t = 3.96634$ ; significant .01

\*indicates boat dry docked part of the time

Although fishermen claim that fishing is a matter of luck, Table 1 also shows it to be a matter of diligence.

<sup>2</sup>Workmen's compensation is paid to fishermen.

Even considering an exceptional boat that brought back 403 fish from four trips, the correlation between number of trips and number of fish caught per boat is very high. (The probability that they are not related is less than .01.) A boat that fishes regularly also has the advantage of being well-known in the auction hall for the quality of fish it catches. The dealers are more likely to give these boats as fair a price as possible, since they are dependent upon a regular catch for their own businesses. On the other hand, boats that are infrequent contributors to the auction may get less than average prices for their fish because the dealers have little knowledge of the boat. "Who can tell from time to time what his fish will be like? He comes in so seldom maybe he forgets how to fish in between," was one dealer's response to my question about the quality of fish from Boat Q. The other factors that affect price will be discussed in the section on dealer behavior.

Table 2 shows the relative price received by the boats listed in Table 1. In order to compare the prices that boats receive, I used data from those days when two or more boats came to the auction. For instance, D and I came into the auction on the same day, as did Q, M, H and A. (May, June and July did not have enough days where two or more boats came in together so I included August in order to make an adequate amount of information available for analysis.) I then averaged the price for those ahi that

weighed more than 100 pounds by boat, and ranked the boats at a given day's auction by highest to lowest average price received. For example, Boats M, A, H, and Q were listed in that order on the day when M received an average price of \$1.20, A an average price of \$1.10, H an average price of 98¢ and Q an average price of 85¢. I felt that I could

Table 2

Number of fishing trips and number of fish caught by 18 ahi boats from May to July 1972; relative price received by same 18 boats from May to August 1972

Boat	Number of trips	Number of ahi	Ranked by relative price	
K	4	98	1	1
D	7	132	2.5	2
M	4	43	2.5	3
C	8	140	4.5	4
O	3	39	4.5	5
B	10	113	6.5	6
P	3	38	7.5	7
G	5	103	8	8
E	7	73	10.5	9
F	5	235	10.5	10
H	5	60	10.5	11
A	11	143	10.5	12
I	5	45	13	13
J	4	403	15	14
L	4	55	15	15
N	3	62	15	16
Q	3	14	17.5	17
R	2	21	17.5	18

Kendall's coefficient of concordance  $\underline{W} = .615$ ;  $\chi^2=31.37$ ;  
p less than .02

only rank boats by price received if they came to the auction on the same day because prices change so radically from day to day. Even comparing boats that sell fish on the same day has some drawbacks since the first fish of the day often gets the highest price of the day and skews the average of the first boat upwards. However, a boat first on the auction block one day is not necessarily first every time, so this factor is averaged out.

After the various sets of boats were ranked on the days they came in together, I put them in an over-all rank order based on the difference in average price received. For example, if on July 3, Q averaged \$1.00, A averaged \$1.20 and C averaged \$1.10, they were put on a scale at \$.05 intervals. Since I knew Q to be a low-earning boat, I started it near the bottom. Its initial position was irrelevant, however, since the scale is relative not absolute. Then I found a day when Q, A and D had come in and included D on the ranking, and so on until all boats were ranked. This method of ranking assumes transitivity of boats; e.g., if A gets more than B and B gets more than C, then A gets more than C. This assumption held true for most boats; the only exceptions were boats that got very similar prices. Boats A, E, F and H, in particular, switched positions constantly in the ranking and rarely differed on their average prices by more than \$.05. Thus they were all assigned the rank 10.5--the average of the four ranks they

should have held had they been completely distinguishable. On the other hand, boat K always got a higher price than any other boat it competed with and thus its position as 1 was easy to assign. These rankings by average price received are also reflected in the dealers' perceptions of the boats. None of them could rank-order the boats from 1 to 18. Rather, they could say that a specific boat was good, o.k. or bad. I then used Kendall's coefficient of concordance  $W$  to measure the association among the three factors. I found that the probability that these factors were not related was less than .02 but greater than .01. ( $W=.615$ ;  $\chi^2= 31.37$ ). Given this probability, it is possible to say that fishing boats that go out to fish often catch more fish and make relatively more money per catch than boats that go out less often.

#### Deep-Sea Boats

During 1971-72 there were four professional deep-sea boats that regularly supplied the Honolulu auction. Several other boats of this type also supplied the auction on a less regular basis and some boats chose not to work through the auction at all. When the tourist business is slow several of the sport-fishing boats fish commercially on weekends and contribute much of the deep-sea fish found in the auction on Monday mornings. These sport-fishing boats together supply about the same amount of fish as one of the professional boats does.

These brightly painted deep-sea boats, with one exception, are quite small compared to ahi and aku boats. Three of them range from 38 feet to 52 feet in length; the fourth is the largest at 75 feet. These boats have crews of two or three men. Two of them are each manned by a father and two sons. The fishing method is similar to ahi fishing except that the lines are of different lengths and the fishing spots are selected according to different criteria (see Table II, Appendix I). Most snappers, bass, and other deep-sea fish are believed to live near specific types of reef formations. Boats, some using sounding equipment, attempt to locate formations frequented by the kind of fish they wish to catch. The red snapper or onaga (Etelis carbunculus) is the most valuable of the deep-sea fish, but lives at a greater depth than the other fish (see Gosline and Brock 1960 for fish habitats). Some of the fishermen do not bother with the extra work necessary to catch these fish and settle for the less valuable pink (Pristipomoides microlepis) and grey (Aprion virescens) snappers.

The professional deep-sea boats go out for six to eight days--perhaps up to ten days if they have little fish on board--and always work within sight of the islands. Like the ahi, the deep-sea fish is packed in crushed ice as soon as it is caught. The boat returns to port when it has enough fish--1,000 to 2,000 pounds--or when the ice begins

to melt (after about eight days). It is important for deep-sea boats to keep the fish on ice until just before the auction, because the firmness of the flesh is one consideration used by the dealers in judging the quality of the fish. Since much of the deep-sea fish are given as gifts, it is very important that the exterior be in perfect condition: eyes shiny and scales intact. A fish brought out of the ice at 6:30 on a warm morning will start to soften up by the 7:30 auction, particularly if the truck is delayed.

The captain and some of the crew always accompany the fish to the auction. Unless fish is very scarce, they put aside a few fish as the truck is unloaded. These fish are then given to the auctioneer, the head of the auction company, to the truck driver who brought the fish down from the basin, to the secretaries of the auction company, and to various dealers. Usually only the largest dealers are given fish--in hopes that they will buy a good deal of fish and keep the price up. Those dealers who buy very little of the deep-sea fish are rarely given fish, unless it is in trade for another item. The average number of fish given away is six with the boats with large catches giving away eight or nine and the captains with small catches giving away three or four. Each captain has different preferences for dealers to whom he will give fish, and captains do not give to exactly the same people every time. Usually the captain puts the fish aside with an

auction tag bearing the name of the recipient stuck to the fish. Before or during the early part of the auction, he points out the gift of fish to the individual involved.

### Akule Boats

Three large (70 to 80 feet) sampans were worked as akule boats during 1971-72. These boats are similar to ahi and deep-sea boats in that they have a high prow and a low flat deck. However, the akule boats are net boats rather than hook and line fishers and thus have certain structural modifications for handling the nets full of fish. These three sampans are accompanied by a skiff (a wooden, flat-bottomed boat 18 to 22 feet long) from which the fishermen drop the net to surround the fish. The akule itself, a mackerel-like fish (Trachurops crumenophtahlus) found in schools along the coasts of all islands, is caught in either gill or purse/seine combination nets in water up to 100 feet deep. The sampans are crewed by six to ten men. An airplane spotter is employed to radio down information as to the exact location of schools of fish. (For a complete discussion of this technique see Peterson 1972.)

Several skiffs not accompanied by a larger sampan, but again aided by a small plane, are also used in the akule fishing. These skiffs have a maximum capacity of 2,000 pounds of fish while the sampans are capable of carrying between 10,000 and 20,000 pounds. These skiffs have advantages that make up for their relatively small capacity.

They can fish every day because their catches can be sold easily. They can be driven by truck and trailer to the next fishing site whereas the less maneuverable sampans need two days to complete a fishing operation--one day for fishing and traveling and one for unloading the catch and selling the fish.

Most of the akule from the sampans comes to the auction; the remainder is sold directly to specific dealers or allotted to the crew. If a sampan has over 8,000 pounds of fish, it usually takes two days to bring its catch to the auction because of limited auction facilities and limited buyer demand. In such cases, the fish is kept well-packed in ice on the boat, because it will remain in better condition there than if it were to be transferred to cans and then to the refrigerators of the buyers.

The condition of the fish on arrival at the market depends on several factors. The manner in which the fish are caught is very important. Gill nets damage the scales and kill the fish in the water. The fish then have to be taken from the net one by one before they can finally be chilled. On the other hand, purse/seine combinations keep the fish alive until they are hauled into the boat and poured into the hold with tons of iced water where they are chilled to death. There is a range of variation on the quality of the pursed fish depending upon how much ice was in the hold per ton of fish caught, how many days the boat took to return

to port, and how many days were spent unloading the fish. It is difficult to sell fish that has been out of the water for more than three days, because the dealer buying the catch must then resell it immediately for it to be acceptable as fresh fish. Akule is dried as one way to avoid flooding the fresh-fish market.

Another use for akule is as bait for the ahi boats. In the past bait imported from Japan was used. When the price of the bait reached \$.60 per pound, the local fishermen started buying the small size akule or halalu at \$.35 per pound to use as bait. This has enabled the akule fishermen to increase the size of their catches and has improved their chances of selling all the fish they catch. The fresh fish market is limited to about 15,000 pounds of akule per week. One boat can easily supply that amount during good weather. Now with increased options for selling the fish, particularly for bait, the akule boats can fish more regularly and catch larger amounts per fishing day. Even though considerable quantities can be dried or sold as bait, akule remains the only fish that is over-caught for the fresh-fish market. Sometimes boats cannot sell even half of a catch at auction, and must either send it to the outer islands or peddle it elsewhere on Oahu. Very little of the fish left on the boat is actually thrown away. As a last resort, the small-sized akule can be sold to the zoo at 12¢ per pound to feed the seals and bears. Although dealers estimate that between 5 and 10 percent of what they

buy is spoiled before sale, the boat crew usually gives away fish before letting it rot. This practice decreases the number of retail sales. Thus a boat that continually over-fishes finds itself giving away fish and then selling less at the next auction because the dealers know that they "sell on the outside."

### Night Fishing Boats

The small (20 to 35 feet) boats that are equipped to fish at night for opelu (Decapterus pinnulatus) and akule with hook and line usually fish six nights each week for three weeks of each month. During the full moon and the two or three nights before and after, these fishermen usually do not attempt to fish, unless the sky is overcast, because the akule and opelu are not attracted to their lights then. (See Powell 1968, 1969 for a detailed description of the method.) The amount of fish caught by all these boats taken together is very small compared to the tons of fish brought in by other types of boats. A night's catch varies from 20 to 300 pounds of akule, halalu and opelu, and there are usually only four or five such boats fishing. Even though the catches are small, there is high demand among the dealers for these fish, and a lone fisherman's catch on the auction block can bring a very high price. Night fishing remains financially viable in spite of limited catch because most of these boats are one-man operations.

As is the case with other types of fish at the auction, the first boat's catch usually gets a slightly higher price because the dealers are anxious to assure themselves of an adequate supply. After each dealer has bought at least one can of fish, the price drops off slightly, so that later boats get lower prices. Because these fish are also brought to auction according to arrival time, there is some competition among the fishermen to come into port first.

After being caught, akule and opelu are kept alive in holding tanks on the small sampans. The fishermen say that the water in the enclosed harbor area of Kewalo Basin is too polluted to keep their fish alive, and that therefore they wait in the open ocean until about 6 a.m. The entrance to Kewalo Basin is so narrow that only one boat at a time can enter, and thus the arrival of the boats is fairly easy to observe in the dawn light.

Once in port, the fisherman scoops his live catch out of the holding tanks into small garbage cans of iced water, which kills the fish. The auction driver is usually there on the pier to supply the ice, hand out the number of cans needed to hold the catch, and cart the filled cans up to his truck. Often the fish are still jumping when they get to the auction floor and look obviously more fresh than the netted akule brought in in larger quantities. Because hooked akule and opelu are caught in small quantities, they are sold 20 to 30 pounds to a can rather than in full 70

pound cans like netted akule. Since each can contains a relatively small quantity of fish, a larger number of cans is on the floor simultaneously, making it easier for each dealer to get at least one can of the hooked fish.

### Crab Boats

Three sampans work as crab boats, catching 200 to 800 pounds of Kona crab during a 24- to 48-hour fishing trip along the coast of Oahu. The crab are netted and brought into harbor alive in tanks carried in the hold of the boat. These tanks are simply wooden boxes built into the hold with a plug that can be pulled to let ocean water in. Dead crabs are removed immediately from the tanks and cooked and eaten on board or given away on shore. The remaining crabs are brought live to the auction and sold live by the dealers. Since limited facilities are available for keeping crabs alive, there is a maximum amount that can be brought to the auction in one day at a price that is acceptable to the fishermen. Usually an amount of less than 400 pounds brings a high price, whereas one of 600 pounds reduces the price by \$.40 to \$.50 per pound, wiping out any additional profit the fisherman may have hoped for by increasing his catch. The crab fishermen know this and are careful not to over-fish or to come into the harbor on the same day.

### Marketing Options for Fishermen

Not all boats fishing out of Honolulu send their fish to the auction for distribution. Several deep-sea fishermen with boats identical to those who use the auction choose instead to send their fish directly to a specific dealer. They give several reasons for this. The primary reason is that the auction charges the fishermen a commission for the fish they sell, usually totaling between 11 percent and 12 percent of the auction price of the catch. The fishermen ask themselves why the auction should get this money when they are able to sell directly to a dealer at the auction price.

A second reason given for dealing directly with an individual dealer was that fishermen felt that they were getting a better deal in the long run. If they caught a lot of fish that were not particularly desirable or marketable, their dealers would give a fair price anyway. In the auction dealers bid low prices for fish that is plentiful or undesirable. A fisherman feels that if he is "good to the dealer" in supplying him with fish that he needs to fill his order, the "dealer will be good to him" and give him a consistently fair price for his fish. On the other hand, many of the dealers say that they will not enter into this kind of relationship with new independent fishermen because they cannot be trusted. One dealer said to me that he has on several occasions "held the hand" of a fisherman

all through the summer months when fish is plentiful and cheap, paid him good prices and hustled to move the fish, only to have the fisherman desert him in the winter when fish is scarce and the dealer needed the regular supply at moderate prices (i.e., not the irregular prices of the auction fish).

Another reason fishermen give for sending fish directly to the dealers is that they can get the fish off their hands right away by doing so. They do not have to refrigerate or ice the fish overnight, do not lose a morning's fishing by waiting for the auction, and do not have to wait for their money.

On the other hand, the fishermen that do supply the auction do so for what they perceive as very good reasons. The principal reason, which is constantly mentioned in one form or another, is that fish dealers acting independently will offer the lowest possible price for a catch. In the auction dealers are forced to pay what the fish is worth in a competitive market. A fisherman who deals outside the auction does not know what the "going price" is for his catch; he only knows the acceptable range of prices. A dealer may try to offer a middle-range price when in fact the catch for that day is very valuable. This never happens in the auction because all of the dealers are present and know what the supply, in general, is for that day. Another advantage of the auction is that the fisherman can make a lot of money unexpectedly when the bidding goes very high

for certain kinds of fish. Were he selling to a dealer privately, he would have to settle for a lower price than the one prevailing that day, because the dealer would be quick to point out that he was very good to him when he had plenty of fish and that now the fisherman should be good to the dealer. Often a boat will come in expecting average prices and get exceptionally high prices because of a combination of weather and market factors that the fisherman did not perceive. At other times, of course, a fisherman will get a price much lower than he expected.

All of the ahi caught by the eighteen ahi boats discussed here, most deep-sea fish, and most akule is brought to the auction. In general, if a boat consistently catches more fish than can be sold by one dealer, the fish is sent to the auction, rather than being sold privately. On occasions when a deep-sea boat catches more than can be sold by the individual dealer with whom the captain works, the dealer can easily wholesale the fish to other dealers. It is quite common for dealers to sell their excess fish to one another rather than to one another's customers.

The largest category of fishermen who do not send their fish through the auction are the shallow-water or reef fishermen. These men go out at night or on weekends, if they have regular jobs, or full-time if they are retired, to catch the fish that live within a few hundred feet of shore. Many of these fish can be caught without a boat and

with minimal equipment: reef shoes; a net, spear or hook and line, and an ice chest for storage. Except in very bad weather, most reef fishermen bring in 25 to 40 pounds of fish per day, for which they receive a standard price. Most dealers have standing winter and summer prices they pay their regular fishermen, though they have the option of altering them if something unusual occurs. A newcomer may receive a markedly lower price for his fish simply because he does not have an established relationship with the dealer and the quality of his fish is unknown. The price a fisherman receives for his catch is also affected by the location of his fishing grounds. For example, mullet caught in certain polluted areas of Pearl Harbor has a very peculiar taste. White goatfish from the Waianae coast often tastes strongly of the seaweed it feeds on. Usually there is an established bottom price for each kind of fish brought to the market. This minimum price holds only if the fish is in good condition. The dealer feels no qualms about offering a very low price for fish he considers in bad condition, because he knows that such fish will be difficult to resell or store. This discrimination leads many fishermen to question the honesty of some of the dealers. Weekly summaries of prices are given in Appendices II and III.

Hawaiian fishermen who wish neither to bring their catches to the auction nor to sell directly to wholesalers

or retailers, have other means of disposing of their fish. Many of them take up these options when the market is glutted. Some send the fish to relatives on neighbor islands to peddle, or they peddle the fish themselves on Oahu. Peddling is a fairly successful way of disposing of fish for most of these men, although it is time consuming and not as profitable as selling an entire lot to one dealer. Also, as previously stated, it undermines their relationships with the dealers.

## CHAPTER III

### THE AUCTION

#### Introduction

In Chapter I, I wrote that fish dealers make decisions in the context of supply conditions (discussed in Chapter II) and demand conditions (to be discussed in Chapter IV). Most of these decisions take place in the morning fish auction. Even if a dealer does not buy fish at the auction, he goes there to gather information and develop strategies for his own business.

This chapter is divided into three main sections. The first section discusses the auction company and the services it offers to the fishermen and fish dealers. The second section is devoted to a discussion of the auctioneer's role and of his knowledge of fish marketing. The auction as an interactional sphere is discussed in the third section. The bidding, the games played by dealers, the language of the auction, and the differences between the Big and Small fish auction are described. This is done to give the reader information about the context in which decisions are made. Although one would like to view decisions as isolates, the decision processes of fish dealers are in fact closely related to their roles in the auction and bound up in their business and personal relationships with other dealers, fishermen, and customers.

### The Auction House and Auction Services

Six mornings a week an old brass school bell rings up and down the corridors of the dilapidated concrete building on College Walk and Nimitz Highway that is the site of the Honolulu fish auction. The sound can be heard in the open-air market on the other side of Nuuanu Stream, where many of the fish dealers have their stalls, and as far as Pier 15, where several of the fishing boats tie up when they are in port. The auction usually begins promptly at 6:30 a.m. for the large tuna and marlin, and at 7:30 for the smaller deep-sea and reef fish.

Until 1968 there were two auction houses on Oahu where fish were auctioned off on a daily basis. These two houses grew out of a split in the Kyodo Fishing Company which took place in 1952. The auction house presently in existence, the United Fishing Agency (UFA), was founded by a group of local Japanese fish wholesalers, fish retailers, and fishing boat owners. The second auction house, the Fishing Cooperative of Hawaii, went out of business in 1968 because several of the boats that supplied it with fish were damaged on the reef beyond repair and the remaining boats could not supply enough fish to keep the auction business profitable. In addition, the company had management problems that were not resolved. In contrast to the UFA, the Fishing Cooperative was run predominantly by ahi boat owners rather than by fish dealers. Each boat had a share in the company and

contributed to the expenses of auctioning. Fish dealers attended both auctions; first at Pier 15 where the Fishing Cooperative auctioned ahi, then at the UFA auction located in a building named Market Place two blocks away to buy ahi, deep-sea fish and reef fish. After the Fishing Cooperative's demise, all the remaining ahi boats began to send their fish to UFA for auction.

Market Place has been owned and operated by Matusjiro Otani Ltd. since August 1940 (Honolulu Star Bulletin 12/4/41). The United Fishing Agency rents office space, refrigerators, and storage space from Otani Ltd. Several other fish wholesalers, as well as vegetable, meat and pork wholesalers, also rent space in this large building. The spaces for wholesalers are open stalls with central refrigeration or sink units surrounded by marble-topped counters.

The fish auction is conducted in a large, cold, damp room that is deserted for all but about three hours each weekday. It is about fifty feet wide by sixty feet long, with a cement floor and chipped, peeling, hospital-green paint on the walls. On the inside wall there is a stairway going up to the UFA offices. Tourists, fishermen, captains, and their wives and children watch the auction process from various places on this stairway. At the top of the stairs the auction manager watches the day's activity, usually with the captain whose fish is then being auctioned. Opposite the stairway is the entry way from the alley through which an auction truck backs to unload fish. Along

the other two walls of the room, large cold-storage units open to reveal frozen fish products from Taiwan, Okinawa, Japan, New Zealand, Australia and the Mainland United States. There are also three water taps with attached hoses along the walls for washing down the floor after the auction. Several large drains filter out the bits of meat, gut, and gill that are missed when the floor is swept up by an auction employee after the fish are cleaned. The hoses are also used to spray a wet path along the floor so that fish can be transferred from place to place. A man can quite easily pull a 200 pound fish with a gaff hook if the floor and fish are both wet.

The services offered by the UFA are quite diverse. In addition to the auctioneer, the company employs five drivers, three secretary-bookkeepers, an accountant, and an office manager. The exact duties, characteristics and abilities of the auctioneer will be discussed later. The following discussion is concerned with describing the nature, cost, and extent of the other services offered to the fishermen and fish dealers.

There are five men who work for the auction company, all of whom are generally referred to as drivers, although two of them rarely leave the auction floor. Four of the five are local Japanese who speak Japanese in addition to English; the fifth driver is Chinese-Hawaiian. The two men who stay at the auction house receive the fish as it comes in on the trucks driven by the other three.

The auctioneer does an early-morning reconnaissance of the harbor areas to see which boats are in port and how much fish they have brought in. He then tells the three truck drivers to collect the fish. The drivers usually pick up fish from only one or two boats. If several boats are in port with the same kinds of fish, however, the same driver usually collects from all of them, but keeps the catches separate in the truck. If the bed of the truck is filled with fish from several boats, fish from one boat may be marked with a small piece of newspaper stuck to each fish. Since fish are generally washed down by the crew as they are unloaded, paper sticks to the wet fish quite firmly. To differentiate several boats' catches one driver puts the newspaper on different parts of the fish: on the side of one boat's fish, over the eyes of another boat's fish, and so on. Usually no more than three markers are necessary.

When a truck is full or all the fish is picked up, the driver returns to the auction block where he unloads the fish. One of the "drivers" who stays behind weighs each fish or can of fish as it comes off the truck. On a small piece of paper he indicates the boat, usually by initials, and the weight (minus the weight of the can, which is usually figured at 6 pounds + 2 pounds of water weight for a total of 8 pounds. The other fellow drags the fish off

to its appropriate place on the floor with his gaff hook-- usually just called a hook.

The fish are lined up in the same order every day. When Big Eye tuna are available, they are lined up first, in order of weight from the largest to the smallest. After all of the Big Eye from a single boat are lined up, the Yellow Fin tuna from that boat are lined up, again in order of size. After the Yellow Fin, the Marlin are lined up. These are not so closely ordered by size; usually the larger ones are first and smaller ones follow, but they are not as strictly ranked as the tuna.

There are some exceptions to this tradition of strictly ordering the fish. One day after an auction, the auctioneer was talking with the captain of the boat whose fish had just been sold. He asked him if he knew who put the 181 pound ahi first. The auctioneer had originally set up the fish so that a 175 pound fish was first, because it had the best meat of all that day's catch. He had done this so that there would be good, vigorous bidding on the first fish, with the price tapering down with less good fish. What happened was that the inferior fish was first, got a low price, and prices stayed low for all the fish. The most likely explanation for a change in the ordering of the fish is that one of the drivers who are usually responsible for strictly ordering the fish thought he had made a mistake, and so corrected what was in fact the auctioneer's

intentional reordering. After the marlin, the other a'u or marlin-family fish, including ono and barracuda, are lined up. Finally the dolphin (mahimahi) are put on the boards, usually the larger ones first. If there are several small dolphin, they will be weighed as a unit; e.g., three weighing a total of 47 pounds would be sold as 47 pounds of dolphin on one bid. An occasional moonfish comes last. Only eight were caught the year I observed the auction. They were included in the Big Fish auction because the fishermen that caught them were usually the ones fishing for ahi and other big fish. After all the fish from one boat are lined up, the next boat's fish are put out in the same order. Boats are ranked according to when they came into port, and many days only one ahi boat has fish on the block.

The Big Fish are placed on low wooden platforms called "boards," which are intended to keep the fish from direct contact with the floor. Since these platforms are only one and one-half inches high and about 18 inches wide, the large fish hang over at nose and tail. Each platform is about 8 feet long so that five or six ahi can be lined up on one. About twenty fish can be accommodated on three or four platforms placed end to end. The size of a day's catch is usually expressed as a certain number of rows on the floor. An average day has 1-1/2 to 2 rows of Big Fish while a busy day may have four or five.

After an entire truckload of Big Fish is unloaded and lined up on the floor, a driver saws the tails off the fish and makes a slash about 4 inches from the base of the tail that cuts through the meat to the backbone. On fish heavier than 100 pounds, he will cut out a small wedge of meat about 3 inches by 2 inches. These cuts enable the dealers to inspect the flesh. The driver who usually cuts the tails also makes his own judgments on the quality of the fish and is often asked by dealers in a hurry which fish are the best buys for that day.

Fish weighing less than 40 pounds are not cut at the tail for inspection. This omission makes it a little hard to tell small ahi from albacore. While the color and texture of the meat are very different in the two species, their appearance is similar. Thus albacore are always left with their tails on as an immediate cue to the buyers that these fish are not small ahi.

The fish for the Small Fish auction are also lined up in a definite order, and again according to the arrival of the boat in port. First are the red snapper or onaga, followed by the ehu, the pink snappers (kalikali and opakapaka), grey snapper, seabass, rock cod, jack crevally, amberjack, and miscellaneous deep-sea fish; at the end of the line come reef fish, hooked akule and opelu, and the netted akule. All of the small fish are lined up in rows of ten to

fourteen cans, so that the buyers can walk down either side of a row and back up the next as the fish are sold. As in the Big Fish auction, the cans are ordered according to the size of the fish, but in the Small Fish auction the order is reversed. The smallest onaga are in the first can and the largest in the last. The last can of large onaga is followed by the smallest ehu, and so on.

After the ahi are sold, several of the drivers begin cutting off the heads and removing the guts. A man with a D-saw cuts off the heads while another slits the bellies with a sharp butcher knife to remove the entrails and cuts out the gills. These parts are usually given away or sold at very low prices as bait or pig food. The dealers who have stalls in the Market Place usually have an employee haul the fish away soon after it is beheaded to begin cutting it into pieces of salable size. The fish bought by other dealers are loaded back on to the truck, this time with a tag bearing the name of the buyer, to whom they are usually delivered by 8:30 that morning. The fish from the Small Fish auction are not handled or cleaned by the auction service, but just distributed to the various buyers.

After delivering fresh fish sold at the auction, the drivers are usually through with work for the day. On days when UFA ships aku to other islands the drivers pack them three or four to a cardboard box, with newspaper as padding, butcher paper for wrapping, and plastic sheeting to keep the

moisture in. When 500 to 1,000 pounds have been packed, the drivers take the fish out to the airport and send it to one of the neighbor islands, usually Maui. During Spring when ahi is plentiful, the drivers also make trips to the airport to pick up boxes of ahi and marlin sent from Kona or Hilo on the island of Hawaii. These fish have been beheaded and gutted before being wrapped in plastic garbage can lines and then packed in cardboard boxes. The boxes are of uniform size: 18 inches by 24 inches by 4 feet, and are used three or four times before being discarded.

The auction company owns four heavy trucks, and a light pick-up for small deliveries. The company also owns the cans in which the fishermen send their fish to the auction floor. There are several hundred of these round galvanized washtubs, all with the four-inch-wide green stripe painted around the outside rim that identifies them as belonging to UFA. Many such cans have been taken over by fishermen for a variety of purposes so that several hundred new ones have to be ordered each year (five hundred in 1972). Most of the cans have holes punched in the bottom so that a can heavy with fish will not support much water weight. About thirty of the cans do not have holes in them and these are used for storing fish in ice water overnight or for salting down fish for bait.

These cans are units of weight and volume when used with specific fish names. It is well known, for instance, that a

full can of akule weighs about 70 pounds; that a full can of small ahi weighs 120 pounds; and that a "full" can of red snapper (onaga) usually weighs 25 to 30 pounds. A "full" can of red snapper is not filled to the brim, but to a customary level which gives 25 to 30 pounds to a can. A can of akule, however, is entirely filled with fish. Perhaps the akule are sold in large units because they come to the auction in large quantities; red snapper, being scarcer, are distributed over more containers. On the other hand, a can of aku does not mean the same thing as a can of akule, or anything else. As described in the section on aku fishing, aku is stored in a different type of container.

The auction house also buys unsold halalu that has come into the market as fresh fish. It is either salted or frozen and then supplied to the ahi boats that do not have their own bait supply. In the past the auction house wholesaled Japanese sardines to ahi fishermen as bait fish. However, the expensive imported sardines have now been replaced by halalu, which is available for bait because sophisticated catching methods produce a fairly regular supply.

Fishermen do not attend the auction only to insure that their fish get a good price. They have been out at sea for from six to twelve days and are usually fairly impatient for their pay. When the auctioneer gives them their receipt slips, they take them upstairs to women who add up the proceeds

and pay the fishermen within an hour or two of the sale of the fish. Rapid payment is very important to the fishermen who want to be free to go where they like and spend as much as they like once they return to Honolulu.

Some of the fishing-boat captains take their entire payment back to the boat, where it is divided into shares. Others prefer that the auction company figure out the amount of each crew member's share and deduct the State and Federal income tax, workmen's compensation, and boat expenses, so that the captains can hand out individual envelopes to the crew without having to do their own bookkeeping. Those captains who do not use this service express some distrust of the system. Many crew members prefer to have UFA figure the pay because they feel that they are in a neutral position. Apparently some crewmen feel that boat owners cannot or do not add very well.

The auction house charges 10 percent of a boat's earnings for its auctioning services and an additional charge of one-half cent per pound for trucking, can rental, and payroll preparation. Otani Ltd. charges 1 percent of the day's earnings for the rental of the auction floor. These charges reduce the profit a boat makes on a catch by between 11 and 12-1/2 percent. But the fishermen get more than these immediate services from the UFA. Through various long and short-term loans and the purchase of interest in fishing ventures, the UFA also helps fund the building of new boats

and the maintenance of old ones. They also supply capital to fishermen who wish to make expensive repairs, build a new skiff, or introduce technological improvements. Besides offering financial help, the UFA also acts as a middleman between the fishermen and dealers on the one hand, and the Federal and State authorities on the other. It informs its clients of new regulations on a variety of subjects from sanitary precautions to unemployment compensation. It also gathers information on Federal and State projects to aid fishermen and small businessmen.

This description of the UFA makes the entire business sound rather altruistic and ideally suited to the fishing industry. However, it is not, and the ways that the fishermen and the fish dealers perceive the role of the auction company affect their actions in the market. For instance, one fisherman mentioned that he thinks the auction is the best way to handle his fish because the auctioneer tries to get him the highest possible price for his fish. On the other hand, a dealer complained that the prices were too high and pointed out that it was to the advantage of the auction company to get the prices as high as possible since their fee is based on a percentage of sales. The articulation of fishermen, dealers, and auction will be discussed below, following the reader's introduction to the dealers.

### The Auctioneer

Every morning from Monday through Saturday, the auctioneer leaves his home at about 4 a.m. and drives to Pier 15 and Kewalo Basin to see which boats have come in. If a boat has returned, the auctioneer shouts up to the men sleeping on the boat to ask them how much fish they have on board. Although he may already have obtained a good deal of the information he needs from telephone messages or conversations at the UFA offices the previous day, he double checks to make certain he knows what kinds and amounts of fish are going to be available in that day's auction.

If more than three ahi boats have come into port on one day, he usually asks the later arrivals to wait until the next day to put their fish on the block. Boats have priority on the auction block according to the time they reached port: the first boat in has its fish auctioned first, the second boat second, and so on. If too many boats return to port on one day there will be too much fish reaching the auction, and thus a captain is willing to hold his fish back a day on the recommendation of the auctioneer because he knows his chances of a higher price are increased.

If more than three ahi boats come into port on a Saturday, however, all the fish is usually put onto the block right away rather than some being held over for the Monday auction, since a two-day delay in selling the fish would

result in a deterioration in quality that will lower the price more than too much fish on the block. A Saturday sale equalizes the loss among the boats. That is, a slightly lower price is received by all boats on that day, rather than one or two boats suffering greatly reduced revenue because they held their fish over the weekend.

Although I have stated that three boats are a break-off point, the auctioneer is not actually concerned with the number of boats, but with the quantity of fish that comes to the auction on any one day. The auctioneer knows that Monday is a fair day to sell fish, that Tuesday and Wednesday are generally bad, that Thursday and Friday are good, and that Saturday is fair again. These good, bad and fair days are defined according to consumer demand and the selling habits of the dealers, and the auctioneer uses his knowledge of variable demand to regulate the supply of fish reaching the auction floor. The supply is often referred to by indicating the number of boats since boats, with the exception of the steel boat, usually catch less than 30 ahi.

An exceptionally good ahi catch for a sampan or the regular catch of the iron boat (which always catches more than the wooden sampans) is often spread out over two or three days to avoid glutting the market. Thus we can see that the amount of ahi and other species brought in by ahi fishermen which are made available at each day's auction is mediated between the auctioneer and the captain or captains, usually

with the auctioneer having a more powerful voice because of his wide knowledge of the market.

Ahi boats often come into port two or more at a time, while deep-sea boats and akule boats usually come in one by one. The deep-sea boats seem to be able to deliver fish to the auction on the same day without suffering marked decrease in prices, perhaps because snappers and other deep-sea fish are in such high demand. This is not the case with the akule boats. Although there is demand for these fish, the market is rapidly saturated. The auctioneer usually discourages akule boat captains from sending more than 6,000 pounds of akule per day, because it will not sell unless there has been very little other fish on the market. Neither the dealers nor the auction company has the space to store a large quantity of akule or the ability to sell it off in one day; both would prefer that the akule were kept well iced on the boat and brought to the auction again the next day. If only one akule boat is in harbor with fish, and another is not expected the next day, the captain quite willingly holds back part of his catch for the next day's auction.

When two akule boats are in port, they usually both bring to the auction on the same day, despite having the option of holding back their catch. A simultaneous sale gluts the market and brings financial disaster to both fishing boats. The auctioneer tries to head off these problems by sending a

limited number of cans to the boats; when the captains telephone him to say more cans are needed, the auctioneer just says there are no more--which is often quite true, since cans disappear rapidly. If boats have their own supply of cans there is in fact no way that the amount of fish brought to the auction can be limited. However, the auctioneer knows quite accurately what the market potential is for each kind of fish and those captains who follow his advice usually benefit from it.

Although the akule boat captains know the problems they make for themselves by over-supplying the auction on any one day, there is real competition among these fishermen and a history of petty animosities. By waiting to sell his fish on the next day, the captain of the second boat knows he will get a lower price per pound than the first boat, or, even worse, be unable to sell much of his fish because the dealers will have stocked up on the previous day. Thus he insists on supplying his fish on the first day to insure that both boats will get the same low price. The strategy usually backfires, since it is the custom of the auction to sell all the fish from the first boat before any of the second boat's catch is put up for sale. What usually happens is that the price is very low for all fish and little fish from the second boat sells that day anyhow. When the second boat's fish is returned to the floor the next day, it brings in even less

money than it would have the day before, because it has been drying out in cans in the chill box for 24 hours instead of keeping fresh in ice on the boat. Although captains know this behavior to be economically unsound, they do get a good deal of personal satisfaction from their encounters, interestingly described as "banging up," and thus continue to provoke them to the dismay of the auctioneer (who is caught in the middle) and the disbelief of the dealers.

After checking the state of the fish supply at Pier 15 where five ahi boats and two akule boats dock and at Kewalo Basin where all others dock, the auctioneer returns to the Market Place, where he tells the drivers which boats are in. He then telephones orders for aku, arranges boat repairs, receives news about airport pickups and deliveries, and conducts other business that must be gotten out of the way before the manager arrives at 6:30 a.m. At about 6:15 he takes his auction pad and goes to the floor of the auction where the big fish have been placed on display. He makes duplicate records of the day, boat, species and weight of each fish on the floor on a special pad. The buyer gets the original copy and the carbon copy goes upstairs to the office at the end of the auction.

Cassady (1967:59) says, "In the ascending bid auction, . . . an auctioneer can exert considerable influence on the price achieved, possibly more than in any other type of auction. . . . The auctioneer's influence depends in part on

his personality, his voice, and his imperturbability, but he must also know values, must be skillful in stimulating competition, and must be able to accelerate the selling pace when the occasion requires it." What Cassady does not say here is that the auctioneer must know what sorts of people he is selling to.

In the Honolulu fish auction, and in the Big Fish auction, in particular, the seven regular dealers and the auctioneer know each other's behavior extremely well. The auctioneer knows what a dealer's principal needs for the day are after observing some of the dealer's actions. The auctioneer recognizes the difference between feigned and real inattention to the bidding and calls out the name of an absent-minded dealer who he knows to be interested in a specific fish. In a good-natured way he reprimands the dealers for incautious bidding, telling them to look around more clearly at the rest of the fish. He sometimes looks like a father directing seven small boys about their business. In turn, the dealers vie among themselves to tell the best jokes, make the most subtly obscene comments, or perform the most outlandish pranks in order to get the auctioneer's attention. Needless to say, a sense of humor is a most important attribute in dealing in this market, and the auctioneer must often repress his laughter to keep the auction running smoothly.

The auctioneer behaves more conventionally when he conducts the Small Fish auction. One reason for decorum is the

presence of a greater number of dealers and spectators, some of whom are women, so that the kind of behavior appropriate among a small group of men is no longer permissible. Although the Small Fish auction is not without its humorous aspects, the competition is spread out among a larger group of buyers and seems less personal than at the earlier auction. Here too the auctioneer knows the demands of the buyers, but he is not so quick to point out their mistakes or follies to them. A mistake in the Small Fish auction is not nearly as costly as one in the Big Fish auction, where a single ahi may be worth from \$200 to \$1,000. A can of fish in the Small auction is rarely worth more than \$100 and usually less than \$50. The risk is further reduced by bidding for several fish in a can, instead of being obliged to stake a good deal of money on the quality of a single fish.

To say how the auctioneer knows what he knows and why he acts as he acts is an impossible task. I do know that he has specific skills because he demonstrates them daily. When asked how he "learned to auction" he could only shrug and say that he learned, and counter with the question "how did you learn about it?" I watched the auctioneer for hours every day, learned to judge fish from the dealers, and learned the significance of the various dealers' behavior. Compared to the substitute auctioneer who takes over during

his illnesses and vacations, the regular auctioneer is a master of manipulating people--a skill gained over a long period of time and through intensive interaction.

I observed an incident that shows how sensitive the auctioneer is to any changes in the usual pattern of buying. Each dealer has regular buying habits throughout the weeks and months of the year, and the auctioneer has learned to expect specific types of buys and bids from him. Several of the large wholesalers buy small ahi (less than 100 pounds in weight) to ship to Mainland markets whenever there are enough fish of that size on the block to make up a shipment. The small size ahi are most desirable for shipping because they easily fit into the cardboard boxes without having to be trimmed. Small ahi are also purchased for Hawaiian markets, but never in great quantity by any one dealer. However, during the weeks before Christmas, very little ahi is sent to the Mainland because it is in great demand in Hawaii. Several weeks after Christmas, a dealer who normally bought about one-fifth of the day's available supply failed to buy a large ahi that all of us had expected him to buy and instead bid on a rather small ahi later in the auction. When he again bid on and bought a small ahi, the auctioneer very slyly began to sing, "California here I come," as he wrote up the receipt. The rest of us looked up and commented that the dealer's behavior had only just begun to strike us as peculiar when the

auctioneer so neatly explained the situation. The auctioneer is much more sensitive to the subtle changes in the auction than the participants or observers, taking care to perceive any options that the dealers might be exercising.

### The Big Fish Auction

Shakespeare's line that life is a stage and we are but players is particularly appropriate to the Honolulu fish auction. In many ways, the auction is a play, and the larger the audience, the better the act. For the most part, the play is performed in languages other than standard American English. The drama and language of the auction constitute the subject of this section.

Goffman (1959:22) uses the same analogy as Shakespeare to discuss interactions, and thereby introduces the terminology of the stage into sociological literature. "Performances" combine a setting and actors. He comments that, "those who would use a particular setting as part of their performance cannot begin their act until they have brought themselves to the appropriate place and must terminate their performance when they leave it." The auction setting does limit the behavior of the dealers, for the style of interaction involved there is inappropriate to any other setting. Although the dealers are ostensibly working while at the auction, many of them have a good deal of free time, which they spend in cracking jokes, telling stories, and teasing the dealers

who are engaged in bidding. One might say that the main stage where fish are being bought is surrounded by smaller stages where a few men are carrying on subplots of the play. Some subplots may be connected to the main plot in terms of the business at hand, while others are in the nature of comic relief.

As soon as the auction is over, the dealers disperse, either to tend to business in other parts of the building or to meet again in a cafe for coffee or breakfast. Even if they remain in the auction room, the auction setting has disappeared, for the fish have been sold and the auctioneer has left. The words and hand signals peculiar to the fish auction are rarely used outside the auction floor except to convey confidential information to a fellow dealer in the presence of an outsider. Prices for fish are usually stated in English in the retail market, except when the customer asks a question in Japanese or Chinese and receives an answer in his own language.

After I had learned the auction words and signals, dealers expected me to use them when giving the price of an item in a public place. Often when I was going from one retail stall to another to see what the prices were and to find out what fish had been supplied by non-auction sources, we exchanged information freely in the presence of customers. Dealers would convey the wholesale prices they paid for

particular items and I would give either general or specific information about the auction.

### Bidding

The bidding begins when the auctioneer calls out the weight of the first fish. Several dealers who happen to be drinking their morning coffee nearby may stoop to grab and examine a piece of the fish. Other dealers may be walking down the rows of fish still involved in an over-all inspection. If the auctioneer gets no response from the dealers, he calls out the weight again, and the name of a dealer who may or may not respond depending on his need for fish that day. If no bids come forth after the weight has been called twice, a dealer may jokingly call out 25¢ or 50¢ ("per pound" is assumed) just to get the bidding started. If that is a really low bid according to current prices the auctioneer will pointedly ignore it and perhaps call a bid himself. Because fish is desirable, there is always a bidder, although he may take his time before making an opening bid. One dollar is a common opening bid--often called out as "Ichi" or "Ichi maru maru" meaning "one" or "one zero zero" in Japanese. Another common opening bid is the weight of the fish. Since there is usually a large ahi at the beginning, starting the bid by weight (e.g., bidding \$1.83 a pound for a 183 pound fish) usually happens when fish is in high demand.

In the course of the auction dealers can bid the price of the fish up a minimum of one-half cent each time,

however, they can jump a bid any amount they want. The first raises are usually fairly large. For example, an initial bid of 25¢ might be raised to 50¢, then to 75¢, then to 80¢, then to 85¢, and from there to 90¢ by one-cent jumps. After 90¢ it may go by one-half cent jumps until a final price of 94-1/2¢ is reached. Although three or four dealers may make an initial bid, after the first few calls, all but two dealers drop out and these two continue to bid until one buys the fish. If an opponent drops out too early while the price is still low, another dealer may take over his position if he believes the fish is worth more than has already been bid.

#### Non-verbal Bids

Once a number is called, the dealers need not make any verbal response in order to bid. Raising one's eyebrows, shrugging one's shoulders, or bouncing slightly on the tips of one's toes all indicate bids to the auctioneer. Hand signals are also used. Raising the hand waist high and palm up indicates that the dealer wishes to raise the bid. Unless a number is signaled, each such hand movement tells the auctioneer to raise the bid by one-half cent. Thus, if two men choose to bid against each other by shrugging, the bids would go something like this: \$1.00, \$1.00-1/2, \$1.01, \$1.01-1/2, \$1.02, \$1.02-1/2, and so forth. If a dealer wants to raise his bid by a number of cents he can also indicate

this by hand signals: two fingers extended palm up indicates a raise of 2¢, two fingers palm down, a raise to a twenty-cent level. That is, if the bidding is at \$1.03-1/2 and one of the bidders extends two fingers palm down, the auctioneer will go to \$1.20, not to \$1.23-1/2. Palm-up gestures are signals to add a given number of cents while palm down gestures are signals to move to the next 20¢, 30¢, 40¢ or 50¢ level available. There is an exception. A palm-up bid with five fingers extended means to go to the next amount divisible by 5. That is, if the bid is 37¢, it means go to 40¢, if it is 43¢, to go to 45¢, if it is \$1.10, to go to \$1.15.

Only rarely is an entire bidding process carried out by gesture, and then only for the entertainment of the bidders themselves or an audience. If the dealers feel that the bidding is really slow, or too competitive, comic relief helps speed things along. As in any group, some men have a better sense of humor than others. The particularly outgoing dealers have a wide repertoire of actions, while the other dealers act as straight men or audience during the comic routine.

Naturally, this behavior calls for the cooperation of the auctioneer. During a shrugging match between two dealers the auctioneer has to call out each one-half cent bid between the starting bid and the final call. Bids of \$1.00 may go to \$1.60 or \$1.75 before one bidder's shoulder's stop moving. Another trick, one dealer's favorite, is even more difficult

for the auctioneer. The dealer makes up a set of flash cards saying  $1/2\text{¢}$ ,  $1\text{¢}$ ,  $2\text{¢}$ ,  $2-1/2\text{¢}$ ,  $4\text{¢}$ ,  $5\text{¢}$ ,  $10\text{¢}$ , or whatever he wants. Instead of calling out a specific bid, he flashes one of the cards at the auctioneer who then raises the call by that amount. This gets very difficult for the auctioneer as the speed of the bidding increases. A bid of \$1.21 may be upped to  $\$1.24-1/2$  followed by a shrug from the opposing bidder, to be followed by a flashed signal of  $2-1/2\text{¢}$  or  $4-1/2\text{¢}$  or  $11-1/2\text{¢}$  or whatever. Since a shrug takes only a moment, the auctioneer is busy adding peculiar numbers flashed at him at a rapid rate. The game lasts until the auctioneer stumbles or until the bidding closes. To close the bidding, the opponent stops shrugging and nods at the protagonist, or the protagonist flashes a 0 card. During one month a particular dealer bid only by flash cards or shrugs. For the last two weeks, a 0 bid for him was indicated by turning his back to the auctioneer where he had taped a card on which he had printed, "THE LONE RANGER RIDES AGAIN."

#### Interaction on the Auction Floor

As we can see from this brief description of non-verbal interaction, the relationships among dealers are often difficult for the outsider to perceive since much of what goes on in the auction is never verbalized. However, these non-verbal interactions are understood by all participating in the auction. A bid that greatly jumps a previous bid may

be considered as an insult, and bidding against a dealer who has stated a preference for a particular fish is considered a challenge. There are long-standing feuds between some dealers, so that when both want a particular fish the bidding often goes very high. There are two men who habitually bid against one another, although the same one usually ends up as the buyer. When I asked the other why he continually bid against this particular dealer, he said that he had nothing to lose from buying an extra fish or two, and his "friend" had everything to gain from loss of competition.

Short-term animosities can also drive a dealer to make a higher bid than he originally intended. Anger often destroys much of a dealer's carefully calculated strategy, and he must then readjust his plan for the day, and perhaps for the week or even longer, to recover from a loss due to over-bidding.

Other factors control bidding in the auction as well. Once a price has been established on the first few ahi, prices drop gradually for the smaller ahi and yellow-fin ahi, but no "bargain" fish are allowed. Even if a dealer has bought what he wants early in the auction, he will continue to bid against other dealers if he sees that a fish is about to sell for a much lower price than he paid. All dealers "protect their interests" by maintaining prices within a range, usually not more than 50¢ per pound below the best

fish of the size. (See data in Appendix IV for price variations in a single auction.)

Dealers who handle only one or two ahi each day are particularly dependent upon the good will of the larger wholesalers. In fact, the larger wholesalers could absorb much more fish than currently reaches the market, and, if they were not subject to specific sanctions, they could outbid the small dealers at any time. Small dealers are in a precarious position and make use of many skills to stay in business. Perhaps their most important skill is remaining neutral. None of them can afford to antagonize a large dealer in the Big or Small Fish auction. Small dealers are usually quieter than the large dealers, and engage in much less teasing and high bidding. The small dealers<sup>1</sup> also choose their fish very carefully, and, rather than bidding on many fish, bid on only a few, thus leaving the large dealers with a clear picture of their intentions. The small dealer does not usually bid to "protect his interest," to make jokes, or to fill volume orders. Thus a bid from a small dealer will be challenged until he presses his point. When the large dealer is certain that the small dealer wants the fish, he

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<sup>1</sup>The term small dealer refers to a dealer with a small business; the term small fish dealer refers to a dealer who sells small fish.

will either drop out (at a price high enough to protect his previous purchases) or, avoiding eye contact with the small dealer, continue to bid against him until he gets the fish.

The game of catching another dealer's eye is played only when a small dealer is bidding against a big dealer. If the small dealer can catch the eye of the big dealer, he can be assured of the fish. In a situation where other dealers observing the bidding feel that the small dealer should have the fish, one of them will poke the big dealer, or simply tell him to stop so that the other guy can have it. Once the competition has been made public, the big dealer will usually not continue to bid.

Dealers with fairly equal "buying power" have the most interesting encounters on the auction floor, because they can employ a wide range of behavior without threatening one another's business opportunities. Obscene gestures, bids, and comments are exchanged among these dealers for it does not matter as much if one of them gets angry for a few days. If the interaction is funny enough, the fact that it is insulting hardly matters.

#### Verbal Bids

I have already discussed the non-verbal bidding method and some of its humorous aspects. The verbal bidding can be even funnier, and is perhaps more interesting sociologically and linguistically. The "language of the auction" involves a combination of English, Japanese, Chinese, Portuguese,

Hawaiian, and made-up terms for numbers. Some series of numbers are part of a set pattern, others occur at random, and still others are the favorite bids of individual dealers.

Bids are often made at certain numbers because dealers like the sound or rhythm of the words, or because they feel that a certain bid is "theirs." This attachment to bids and sound preferences is functional in that it propels dealers through the bidding process as well as being a source of entertainment for the dealers participating in the bidding.

The seven dealers who regularly participate in the Big Fish auction have developed their own language and methods of communication. They avoid using this language at the later Small Fish auction, in which twenty or more dealers participate, unless they want to intimidate a Small Fish bidder who does not know the "in" jokes of the Big Fish auction dealers. For example, one dealer likes to make bids that end in  $4\text{-}1/2$ , because instead of saying  $54\text{-}1/2$ , for example, he can say "fifty whore house." He does not usually bid in the Small Fish auction, but another dealer will use the first one's favorite bid there to make jokes. If he is bidding against a woman dealer, he might approximate the originator's pronunciation so as to get the best laugh from the fellows from the Big Fish auction who know the joke, and to break up the auctioneer so that he has to stop the bidding. Jokes of this sort can be quite disconcerting for Small Fish auction bidders, because they often do not understand the bids of the Big Fish dealers.

Table 3 shows the numbers used in bidding and their English equivalents. "Poi kaukau" for a bid of 55¢, like some of the other numbers, started out as a joke several years ago and has now been abbreviated to "poi." Apparently a bag of poi, an edible starch made from taro roots, used to cost 55¢. A similar bid, which I heard created, was still in use thirteen months later. One day a really inspired dealer called out a bid of "Japanese dog." The entire auction stopped. Finally, the auctioneer asked "What is Japanese dog?" The dealer replied, "What does a Japanese dog say?" There were ten seconds of silence while a slow smile spread over the auctioneer's face and then he shouted, "\$1.11!" The other Japanese dealers broke up in loud laughter and, since there were only three or four other people in the room and I was looking particularly confused, the auctioneer stopped and said, "Susan, what does an American dog say?" All I could think of was "bow-wow," so that is what I said. "O.k., what does a Japanese dog say?" he countered. I said I didn't know and in unison all the dealers shouted "Wan, wan, wan." The culturally defined noise that a Japanese dog makes is no closer to a bark than "bow-wow" is, but it is very close to one, one, one, which in an auction like this is \$1.11.

#### The Small Fish Auction

The Big Fish Auction usually takes less than the hour allotted to it. For one row of fish, about twenty pieces, the

Table 3

## Common Bids Used in the Big Fish Auction

English	Chinese	Japanese	Portuguese	Made Up
one	Ichi	Ichi (ich)		
two	Ni	Ni		
three	Sam	San		
four	Shi	Shi		
five	Go	Go		
six		Roku		
seven		Nana		
ten		Juu		
eleven				all straight up
fifteen			Ariya	
twenty		Nijuu	Vente (bente)	
twenty-one			Vente uno	
twenty-two			Vente dos (deuce)	
twenty-four			Vente quatro	
twenty-five	Chimbat			
twenty-six	Chinlook			
twenty-six & 1/2	Dogo on			
thirty	San (sam) bo chee			
thirty-five	San ju go	San ju go		
forty-nine	Faa quu(??)			Fuck you
fifty-five				poi kaukau
sixty	Loco chee			

Table 3 (continued) Common Bids Used in the Big Fish Auction

English	Chinese	Japanese	Portuguese	Made Up
sixty-five	Loco pun			
seventy-five	Chat o pun			Charter the boat
seventy-seven	Chat o chat			
one dollar	Ichi	Ichi maru maru		
two dollars		Ni maru maru		
One dollar, 11¢				Japanese dog/ all straight up
One dollar, 25¢				Haole dog
half		Humble		
Bid= price of last fish		Ikinee		
Bid= weight of fish		Shogo da		

auction is usually finished in twenty minutes. If there is a large amount of fish present, the bidding goes much more quickly for two reasons: the auctioneer is anxious to get it over, staying as close as possible to the schedule; and the dealers want to get the fish auctioned so that they can return to their stalls where preparation for the day's sales have already begun.

The Small Fish Auction often starts late, not because the Big Fish auction finishes late, but rather because the drivers are slow about picking up the small fish, the boat owners are slow unloading, or the traffic between the basin and the auction block is busy enough to slow down the trucks. A very large catch takes a long time to unload from the boats, transfer to the trucks, and then unload at the block. Very large catches come in seldom enough that the hour to hour-and-a-half that the drivers usually have to get the small fish to the block is ample.

Regardless of how long the Big Fish auction takes, the auctioneer always allows the dealers a ten-minute intermission for coffee and breakfast in the cafe just a few feet from the auction floor. When the small fish are set up on the auction floor, the auctioneer walks back to the cafe to see if the dealers are almost finished eating; if they are, he returns to the floor and rings the bell to signal the start of the next auction.

The entire atmosphere of the auction block has changed from the quiet of the early morning when the first dealers arrived to the noises, smells, and bustling of a crowded arena of activity. Instead of lying peaceful and silvery on their boards, the ahi have been decapitated and the floor at that end of the room is ankle deep in water mixed with fish blood. Bits of meat examined for color, texture and fat just minutes before are strewn about the floor making slippery spots for the unwary visitor to the auction.

The ahi are being loaded into trucks for delivery to the wholesalers while the small fish are still neatly lined up waiting to be auctioned. As described earlier, the cans are in rows in a definite order so that the dealers can quickly summarize the information. The bright red tails of the snappers in the first row are a sign that a deep-sea boat is in, and if they reappear in a second or third row, the dealers know that two or more boats are in and that they will have a better chance to buy the fish they would like. As with the big fish, the total pounds of fish available is not the important factor in stimulating competition but rather the number of items available for purchase. The clever deep-sea-boat captain puts his red snapper into as few cans as possible, thereby stimulating higher prices and increasing competition by limiting the number of cans of each fish type.

The small fish are also judged for freshness. Dealers poke the flesh to see if it is soft, check the eyes to make certain they are bright and slightly bulging. On a fresh fish, the gills are a deep blood red, which gradually lightens to pink and then to gray as the fish ages. After checking the fish many dealers smell their hands to ascertain whether the fish smells "sweet." If it smells fishy or rotten it is a high-risk item for any dealer to handle. Dealers also prefer fish that are good to look at. The scales should be intact and the fish undamaged if it is to attract buyers.

Although only two dealers usually compete for an ahi during the Big Fish auction, during the Small Fish auction three or four dealers may be bidding for the same item, adding to the confusion and excitement of the auction and keeping the auctioneer busy following their signals and words. If fish is scarce, the large dealers rarely leave any for the small ones. Under other circumstances, however, some of the pressures already mentioned can be brought to bear in this auction as well, so that small dealers usually are able to buy one or two cans of the type of fish they desire. The dealers who carry a wide range of fish bid on almost every item in this auction, a policy which pits them against a constantly changing group of competitors. For example, three large dealers and two small dealers may bid for red snapper, with a large dealer finally winning the bid. On the next

can of fish, perhaps gindae, the same three large dealers will be bidding against different small dealers. Thus not only do the large dealers take turns among themselves buying fish, but they must give small dealers a turn to bid and buy so that they too can be supplied. Often a large dealer will complain that he bids and bids but gets nothing. This usually happens, however, when he already has a fairly adequate supply of fish but would like to supplement it from the auction. Because he knows he does not really need the fish, he ends up backing down in competition and letting the other dealers have the fish.

The Small Fish auction usually lasts less than 30 minutes because the fish is auctioned by the can rather than one by one. In fact, large catches of akule, moi, kala, or weke are often auctioned off in 10-can lots.

If there is not very much fish in the market, or if there is an adequate amount but only some of it is of very good quality, dealers will split a purchase, each taking half of the fish in a can or half an ahi. This means that both dealers get some of the most desired product and that the bidding does not go extremely high with the two of them competing against each other. There are fairly standard cut-off points in the bidding process (relative to the general prices for that auction) where dealers will agree to split a fish. If the bidding approaches the level of the

highest-priced fish of the day, and both dealers still want the fish, the dealer who has bought the lesser amount that day (i.e., the person in an inferior position) will say "half-half?" Any of the dealers could ask another for the favor of splitting a fish; however, there are regular partnerships where two dealers often agree in advance to split the best fish of the day. The dominant dealer will then make the purchase and share out with the other dealer without demanding a commission.

When fish are being sold off in 10 can lots during the Small Fish auction, several small dealers will jointly buy ten cans to be split among them. They usually take turns doing this because the one who is billed for the 10 cans has bookkeeping expenses and wholesale tax ( $1/2$  of 1%) to pay. If there are not enough of the small dealers present to make this kind of arrangement, one or two small dealers will ask a medium-sized dealer to buy for them in return for a small commission. The standard sales method on large volumes of fish is to sell one can at a set price; five cans are sold at 5¢ less per pound and ten cans are sold at 10¢ less per pound. Thus one can of akule might cost 45¢ per pound where a ten-can lot of the same fish would cost 35¢ per pound, which means a difference of \$7.00 per can of fish. (A can of akule weighs 70 pounds; at 45¢ per pound it would cost \$31.50, while at 35¢ per pound it would cost \$24.50.) The dealer who agrees to buy for a group of small dealers will

usually charge them the five can price for each can of fish, thereby reducing the cost of buying in small amounts by half, or, in this example, saving \$3.50 per can.

The dealers in the Big Fish and Small Fish auctions are affected by many of the same demand situations. Each of the dealers knows his own needs for fish and each has a range of prices for each kind of fish available at that day's auction. If there is enough fish available to fill each dealer's needs, then they do not have to compete in the auction. The fish is simply sold at a minimum price and each dealer takes what he needs.

For example, amberjack is a large (10 to 30 lbs.) fish that can be sold for consumption as a raw-fish appetizer (sashimi) or as filets of firm white meat. However, worms present in the belly of the fish often leave traces in the flesh. The dealer selling amberjack has the choice of either cleaning the fish carefully, cutting around all wormy areas, and selling at a high price, or of spending little time cleaning it and selling it at a low price. Since most of them believe that it is better to make more money than less, dealers do not buy amberjack unless they have the time to clean it properly. Thus only a few of the smaller dealers buy it, and then at less than \$1.00 per pound. If more than three fish are available for auction, a large dealer often attempts to buy a few, adding to his volume and variety, to sell at a low price. When he bids against the small dealers

who regularly buy this fish, he ends up paying more than they would have. If there are more than fifteen amberjack at the auction, the price drops back down because there is enough available for each interested dealer.

Although I stated earlier that a large volume of fish is sold at a minimum set price, this is not usually done by previous agreement with the fishermen but rather by previous agreement among the dealers. "Agreement" is not quite the proper word, since they never verbalize their intention to buy at a set low price; the agreement is a matter of tradition in the market. What happens is that the sale of a large volume of fish is carried out in the auction format, but without competitive bidding. If there are fifteen or twenty amberjacks on sale, for example, a dealer will bid a low price, usually 30¢ to 50¢ per pound, for the first fish. Rather than bidding against him, the other dealers will simply move down along the line of fish slapping their tags on the fish they want and shouting, "Ikinee!" This bid means, "I bid the same price as the last fish sold for." In a situation of high supply, it results in all the fish being sold at the same price. (The same bid of "ikinee" is legitimate in any bidding process, but may be only a stepping stone to a higher bid if there is not enough fish to go around.)

Akule comes into the auction in large quantities starting on November 1st and tapers off through Spring, until

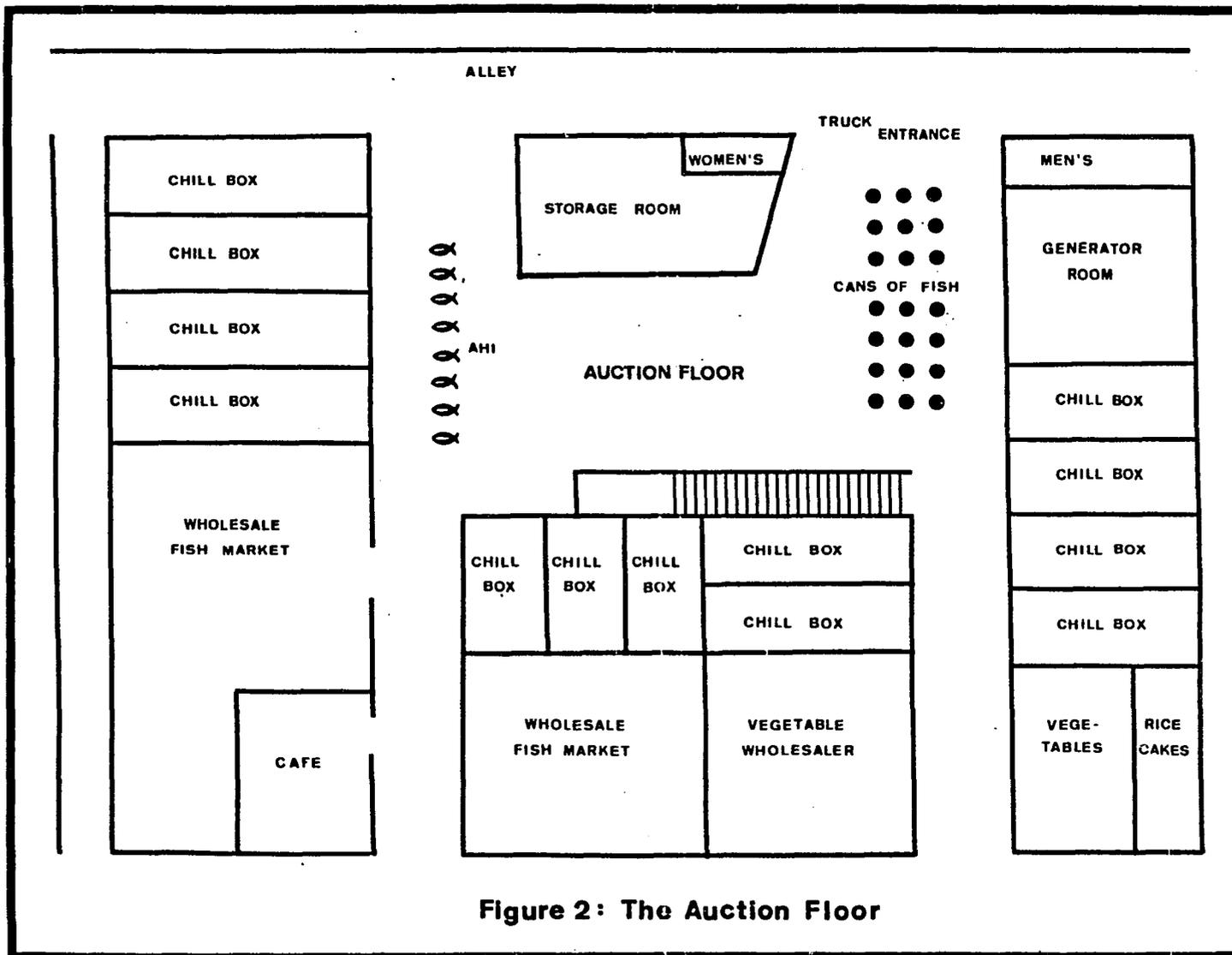


Figure 2: The Auction Floor

there is little during closed season (July through October) on netted juveniles (halalu). Any large catch of akule brought in at the beginning of the open season is auctioned off, with dealers bidding against one another to set the price. However, as the fish becomes more plentiful, the fishermen simply tell the auctioneer the lowest price they will accept (35¢ during 1971-73) and the fish sells at that price. If there is a brief time when little is available, a large catch will be auctioned in a competitive setting, but an increase in supply almost always indicates a return to set-price buying.

### Conclusion

In this chapter I have discussed the auction company and the variety of services it offers to fishermen and fish dealers. A particularly important service is the dispensing of information to fishermen regarding State and Federal regulations, loan information, and fishing innovations. The auction company provides dealers with short term credit (one week) and information about fish on hand and expected arrivals. It also mediates between dealers and fishermen.

The auctioneer and his diverse skills have also been discussed. Perhaps more than any other person in the fishing business, he knows the likely price at which fish can be bought and sold. Because he knows the dealers very well, he is in a position to guide their decisions by providing

them with additional information or reminding them of the existing supply or current obligations.

The auction itself, held during a few early-morning hours, provides a setting in which fish are bought and sold, information collected, and long-term commitments made. The auction provides a backdrop against which dealers entertain themselves at one another's expense or at the expense of onlookers. If one did not take the auction and the forms of behavior associated with it into account, many of the decisions made by fish dealers would appear to be irrational. Maximization as a principle of economic exchange does hold for this market, although what is being maximized is not always constant. Bidding at an auction such as this theoretically assigns items to those people willing to pay the highest price in dollars. In fact, dealers may buy fish because of their involvement in the bidding process, perhaps in an attempt to "put down" their fellow dealers, to add good humor to the situation, or to distract other bidders from the real goal of the bidder's strategy. Rapid fluctuation or increase in prices can often be explained by increased demand and limited supply, but it can also be explained, on occasion, by dealers' over-zealous involvement in the bidding itself. Then personal satisfaction is being maximized rather than low cost.

Thus we have established the setting in which decisions take place, and the types and conditions of supply with which

dealers work. In the next chapter the dealers themselves are discussed in terms of the demands placed upon them, their interaction in the auction and their perception of supply.

## CHAPTER IV

### THE DEALERS: COLLECTIVELY AND SEPARATELY

#### Introduction

Demand is the combination of perceptions of consumption patterns that each dealer participating in the auction holds. The demand for fish depends on the food habits of the various ethnic groups in Hawaii and on seasonal and other factors unrelated to ethnic divisions. Collectively, the dealers hold assumptions about the preferences of each ethnic group for certain species of fish and adjust their own purchases of fish in order to attract certain portions of the population. They also know the history of the market, a shared past where demand for fish has fluctuated with holidays, seasons, and the days of the week.

The shared perceptions of supply, needs and costs are introduced first in this chapter followed by specific information about each dealer. This specific information includes ethnic background, age, sex, years in the market, and ethnic group supplied. The reader should have a better feeling for interaction in the auction and for individual perceptions of supply and demand after being introduced to the dealers.

Decisions are made by individuals, in this case individuals engaged in buying and selling fish. They work under the same supply conditions, which can be stated in

terms of the number of pounds of each species of fish available per day, although only the kinds of fish in which he usually deals have significance for a particular dealer. Demand too is a shared perception of (a) which people will like what fish and (b) when they will like it. Relying on past experience as a guide, dealers decide to buy fish according to their assessment of decisions to be made by consumers. Dealers who carry similar arrays of fish work under similar perceptions of supply and demand, while those with diverse arrays hold widely differing perceptions of the market.

Although it would be possible to describe each dealer's perception of supply and demand, that will not be done here. Rather, in following chapters a representative Big Fish dealer and a representative Small Fish dealer will be described fairly completely. This chapter is intended only to provide the background information necessary before specific decision processes can be understood.

#### Supply of fish

Although I have already discussed the way in which fish is supplied to the dealers, it is useful here to give a more rigorous definition to the term supply as well as to demand. Cassady (1967:41) defines supply as follows,

The term 'supply,' in its technical sense, refers to the amounts of a commodity or service which would be available at different hypothetical prices. Not only then does supply vary with price, other things being equal, but the supply of a commodity has a strong

influence on price. The supply factor in relation to auctioning may mean either the supply of the relevant item available generally or the supply available for sale in a particular auction.

Here, we are concerned most immediately with the supply available at a particular auction, although the general supply will also be considered. The previous sections on boats and the auction company have already given some information about the general supply of fish in the market. Dealers know broadly what to expect in terms of supply throughout the seasons. (Tables of supply of fish by species are available in Appendix IV.) What we are more concerned with here is how daily variations in supply affect the dealers' decisions in the auction.

Dealers do attempt to discover the likelihood that there will be fish at some future date by asking when boats are expected back. The drivers often keep count of the number of days a boat has been gone and can say when it is due back within a day or two. Other information may be obtained from the auction manager, who has radio contact with two of the ahi boats and may know their return schedules. One of the men who works the pulley and crane system used to unload the ahi is also a good source of information and can easily list the names and expected dates of arrival of the boats. Finally, the families of the boat captains often know an exact return date and will share this information. No dealer goes out of his way to collect this information; rather he asks a knowledgeable person when he sees him at

the auction block or in the market place. On the morning of an auction, a dealer may phone the auction manager to find out specific information for that day's auction, but often dealers wait until they arrive at the auction block to begin assessing their probable opportunities for buying fish.

The supply of fish a returning boat will bring is never known unless there has been radio communication with the boat. However, the return of a boat usually is taken to mean that there will be some fish available, even if it is a small amount at high prices. If the names of the returning boats are known, the dealers can further assess the likelihood that there will be sufficient fish, because some crews are known for being better, more persistent fishermen.

Actually, the dealers can do very little with the knowledge that there will be fish in the auction. The important information is the number of fish that will be available that day. Even knowing the total number of pounds does not give a dealer an important advantage, since he must buy the fish one by one. For those dealers who buy only one or two ahi per day, knowing the number of fish is particularly important for they know that they will be unable to buy fish if there are less than ten ahi altogether; if there are between ten and fifteen ahi, they may be able to buy fish; if there are fifteen to thirty ahi, each dealer will be able to buy

at least one fish if he is willing to pay a substantial price for it; if there are more than thirty ahi, each dealer can be assured of the quality he likes at a reasonable price. However, the number of fish to be available at the auction is usually not known until the morning of the auction itself, unless the supplying boats have been in harbor for some days waiting to send their fish to the auction block.

Simply knowing that there will be fish in the auction, even without specific knowledge as to the number of fish involved, is helpful for those dealers who are planning Mainland shipments or attempting to fill a large order for a wedding or special party. When asked if they made arrangements to sell fish on the basis of the information that they collected about the arrival schedules of the boats, the dealers all said that that was a ridiculous thing to do. They all tell the customers that there may or may not be fish, and ask how high they are willing to pay for the specialty item. Hotels and bars put an upper limit on what they will pay a fish dealer because they maintain a standard menu price and prefer to stay within the limitations set by that. Private persons, buying for their own use, often put no limit on what they will pay. However, dealers say that in recent years people have begun to dishonor commitments to buy fish when they hear the final price. Now a dealer rarely takes a large order for expensive fish from an unknown

customer, because he is afraid of being left with fish he is unable to sell if the customer reneges.

In a sense, partial advance information about the fish supply enables dealers to take out a series of options which will be played according to what really happens. Even when the dealers know an adequate amount of fish will be available, they do not know how the fish will be distributed in the auction. It is in the auction that the dealers finally learn what they will have to work with that day, and even then their information is incomplete until the fish is cut open and its quality ascertained.

#### Needs

Supply is a readily accessible figure in terms of the pounds of each kind of fish available in past auctions. On the other hand, demand is much more difficult to assess because of the number of factors influencing it. These factors include holidays, weekends, paydays, tourist arrivals, and Mainland shipments of fish. Demand is also influenced by the cultures and economic positions of the ethnic groups in Hawaii.

Cassady says (1967:47),

In an auction, . . . the individual demands for the different items must be considered. . . . It follows that (a) the demand for each item is composed of demands of different combinations of individual buyers, and (b) the individuals making up the demand for a particular item are likely to possess different demand prices.

To paraphrase Cassady, the demand for each item is made up of the combined needs of the dealers, and each dealer has a different cost he is willing to pay for the item. Cost includes the amount of money a dealer is willing to pay, as well as the cost to him in time, effort and personal relationships. Needs are most often expressed by the pounds of fish of certain species, with the amount paid and the species varying among the dealers.

In this market fish are classified by ethnic group preference: Chinese fish, Japanese fish, Hawaiian fish, Filipino fish, Samoan fish and Haole (Caucasian) fish. Naturally there is some overlap among these categories, but the following generalization helps explain the categorization of fish by ethnic groups. It is said by fish dealers and consumers that Chinese people like fish that have white flesh and that are appropriate for steaming or cooking Chinese-style. Rarely do the Chinese eat raw fish. On the other hand, Japanese people are particularly fond of sashimi or raw fish and are willing to pay premium prices for suitable fish both as gifts and for their own consumption. Sashimi is not usually the main course of a meal; rather it is part of the hors d'oeuvres to be eaten slowly with a sauce and a few vegetables. For many people, sashimi is proof of affluence, free time, a pleasant existence. Hawaii's population of 630,000 is 27 percent Japanese-American (U.S. Department of Commerce, 1971), many of whom continue to eat

in the traditional styles of Japan. But more important is the large and continually growing number of Japanese tourists visiting Hawaii (125,000 in 1971 and approximately 225,000 in 1972 according to the Hawaii Visitors' Bureau) who enjoy the traditional foods and symbols of prosperity of Japan while they vacation in Hawaii as much as they enjoy American steak and potatoes. Thus the Japanese-Americans and the Japanese tourists make up the largest demand group for fresh fish in Hawaii.

Although the exchange of fish for money between a retailer and his customer is the end of a cash-based exchange system, some fish are later given away as gifts. Red snappers and red goatfish are particularly desired as gifts by Japanese customers because they are symbols of luck or prosperity. Other kinds of fish, particularly ahi for sashimi, are in demand as gifts at weddings, funerals, graduations, parties, and New Year celebrations. The fish that are used as gifts are more highly valued than others. Appropriateness as a gift varies among the ethnic groups in Hawaii; aku is an excellent gift for a Hawaiian, but would be unwelcome, and remain uneaten, if given to a Chinese.

Hawaiians and part-Hawaiians probably eat a greater variety of fish and mollusks than do members of any other ethnic group. Reef fish, deep-sea fish, tunas, limpets, and other sea foods are eaten raw or prepared by steaming, frying, baking, or pickling, following either traditional

Hawaiian recipes or incorporating Chinese or Japanese ones. Hawaiians who have grown up in urban areas rather than in coastal villages, seem to have a more limited repertoire of edible fish, consisting mostly of varieties considered as traditional feast or luau food: raw limpet (opihi), raw aku mixed with seaweed, raw crab in kukui nut sauce, raw goatfish, mullet, bonefish, ladyfish, and lomilomi salmon (salt salmon with tomatoes and onions--a dish introduced by the missionaries). Aku is the most commonly eaten fish, and it is prepared in Japanese style with soy sauce and mustard, in Hawaiian style with limu (seaweed), or with onions, chili peppers and soy sauce. Raw aku is suitable only as a side dish or snack, but aku baked or fried with vegetables and soy sauce can become the main course. Eating raw aku is part of a style of life; either in neighborhood bars or at home, men sit drinking beer and eating aku, particularly on Friday and Saturday afternoons after work.

Samoans are accustomed to the reef and inshore fish available in Hawaii, because the same or similar species are consumed in their homeland. However, most Samoans are recent immigrants to Hawaii, and many of them work at low-paying jobs or are unemployed. Because they have little money to spend, most of the fish they buy are kinds caught in great quantity or kinds not considered as edible by the large body of Japanese customers. Samoans also seem to buy in great quantity at a marked-down rate for weekend feasts, particularly for Sunday afternoons after church.

Filipinos are also a fairly recent addition to the Hawaiian population, since the bulk of the immigration from the Philippines occurred in the 1920s. Many Filipinos were brought to Hawaii to work on the sugar and pineapple plantations as the Japanese and Chinese abandoned plantation labor. Some of the early arrivals are now retired and living in cheap rooms in the Chinatown district, which is also the location of the fish market. These men are frequent customers at the retail fish stalls because the lack of refrigeration facilities in their rooms forces them to shop daily for fresh food. They buy certain kinds of fish, especially reef fish, that are inexpensive and that are eaten in the Philippines, too.

Local Caucasians ("Haoles") generally eat very little fresh fish caught locally. They like frozen or chilled filleted fish. Snappers, which are local fish, can be filleted but sell at prices higher than most Haoles are willing to pay, and they are in high demand by the Japanese portion of the population. The dolphin or mahimahi is often referred to as a "Haole" fish because it is in demand at the large restaurants and hotels patronized by Mainland tourists. A rather bland fish filleted in large strips, dolphin is largely imported frozen from Taiwan to fill the demand on Oahu, for few businesses could afford to pay the very high prices asked for the locally caught fish.

Variation in demand for fish is also a result of seasonal fluctuations, with peaks occurring around holidays, as well as monthly and weekly fluctuations. Each dealer knows fairly accurately what fish he needs for a particular day. In fact, he probably has enough fish for two or three days in his chill box unless he grossly underestimated his needs on previous buying days. No dealer likes to have an empty chill box, because fish may not appear on the auction block for days at a time during bad weather or other periods when fishing is poor. If only one dealer suffers from a low supply of fish, he can buy from his fellow dealers in order to replenish his supply. However, on Mondays most dealers' stocks are low because there is no Sunday auction, and because there is high demand over the weekend which can use up much of the dealers' supplies. Thus Mondays are generally days in which everyone tries to replenish his stock. Dealers are then not necessarily buying for specific orders but rather as a precaution against the uncertainty of the fish supply. Also, on Monday there is a particular desire for fish with a long shelf life since some of it will not be sold until Thursday or Friday. The dealers who do a large volume of business have inadequate storage space and thus decreased ability to plan for the future in this way. Thus when their supply is low they are particularly competitive in the auction.

On Thursday and Friday dealers attempt to buy what they will need for the weekend. The boats that arrive on these days can usually be assured of a good price for their fish because of increased competition among dealers. Saturday is not as good a day for boat owners because by the time the fish have been auctioned off, cleaned, and delivered to the buyers, the dealers have already made most of the important sales for the day; thus the dealers do not care to buy as much fish on Saturday as on Friday. However, Saturday is a good day for the retailers to buy fish at the auction because there is less dealer competition, and because they are open half day on Sunday and can sell fish then.

The weekly fluctuation in the demand for fish intersects with occasions that increase consumer demand. All holidays on which people entertain their friends affect the market, particularly now that more national holidays fall on either side of the weekend and give three-day vacations to the many Federal employees in Hawaii. Additionally State holidays, such as Statehood Day and Kamehameha Day, and ethnic holidays affect the demand for fish. Although Boys' Day (May 5) is not celebrated by the Japanese as much as in the past, the visits they pay on New Year's Day make it an extremely important holiday for the fish dealers and raise the price for ahi to its highest level of the year. Chinese New Year is not important to the ahi market, but does result in increased demand for "Chinese" fish.

Demand increases on the first and fifteenth of each month, which are paydays for the thousands of State employees. The effect is especially noticeable if payday falls on a Thursday or Friday. If payday falls on a Monday, the retail market is often very slow on the preceding weekends. For dealers who supply fish to poorer neighborhoods, the fifth working day of the month, when welfare checks are distributed, is a very important day to consider.

Dealers who supply hotels that cater to Japanese tourists must plan to buy fish four or five days before a large group is due to arrive. Tens of thousands of Japanese tourists arrive during the January holiday season, putting enormous pressure on the fish market to supply sashimi. The four dealers who send ahi to Seattle, San Francisco and Los Angeles also must plan ahead to buy the smaller ahi (less than 100 pounds) in quantities large enough to ship to the Mainland.

Dealers assess future demand on the basis of their past experience in the market. The daily, weekly, monthly and yearly trends are well known to them, and may control much of their lives. Dealers take vacations during the first week in January because the Japanese fishermen are taking the traditional Japanese New Year's vacation that lasts from January 1st to the 7th or even to January 15th. The demand for fish during Lent keeps many dealers very busy, and they often take a short holiday after Easter. Many dealers observe

that September and April are bad months for selling sashimi fish and other specialty items. They feel that September is bad because so much money has been spent preparing children for school that little is left over for the luxury of fish. The last half of April is slow because of income tax payments. Several dealers with only a stall and limited commitments close down completely during these slow times. A neighboring dealer handles any fish that the small dealer's fishermen bring in during these periods, and often makes use of the empty counters and chill box space.

#### Costs

Increases in social security payments, employee benefits, taxes, insurance, equipment cost, rent, and general inflation all ultimately affect a dealer's fish-buying considerations. Several dealers told me that they cannot afford to increase the volume of fish they handle because the extra money they would earn would not make up for the costs which accompany an increase in the number of employees. They felt that there were other dealers around willing to handle larger quantities of fish. My informants thus saw no point in increasing the scope of their own businesses.

Additional costs force large dealers to diversify their businesses, since none of them can depend wholly on fresh fish to meet their high costs. In the past ten years dealers have begun making large purchases in the international chilled

and frozen fish market. Several men have become importers of specialty products--shrimp, crab, lobster, mullet, clams, oysters, salmon, and cod--which they distribute among their fellow dealers. Although retailers handle some of these items, most of the imported fish products go to bars, restaurants, hotels, and supermarkets.

Dealers have also chosen to diversify in other ways. Some carry local meat and vegetable products, as well as some prepared fish foods such as fish cakes and dried fish. Others have diversified by selling "local" prepared foods. These include Hawaiian lomi lomi salmon, opihi, limu, kalua pig, laulau, chicken long rice, poki fish, Korean-style aku, some Filipino fish products such as glutinous rice cakes, and Japanese sushi and mochi. In a sense they operate a pan-Pacific delicatessen with fish instead of corned beef.

The auction itself imposes costs on the dealers. Monetary costs are the simplest to analyze. Each dealer has a top price in mind when he enters the auction floor; whether he stays under that price depends upon how closely it matches the top prices of the dealers who buy the most fish. If it is within 25¢ to 50¢ of their top prices, there is a good chance that he will be able to buy what he likes; if he is willing to pay more than anyone else he can have the pick of the fish; if he insists on paying less, he gets the lowest-quality fish or none at all. Often dealers must revise their prices upwards in order to buy any fish at all.

Dealers set the price they are willing to bid in auction according to the price they paid at the previous auction and according to the price they will have to ask when selling the item. For a wholesaler who adds only a few pennies per pound to the cost of the fish, initial cost is not as important as having a volume of fish, and thus he bids as high as necessary to buy quantity. For the retailer, the cost to the consumer is the most important thing he must consider. There is an upper limit beyond which consumers will not buy fish. For example, during the New Year holiday period, Japanese customers will pay \$8.00 per pound for sashimi, but they will not pay more than \$4.00 per pound on a normal weekend, and even at that price the fish moves slowly. If the retailer can keep his sashimi price between \$2.50 and \$3.50, he can sell a large quantity at a price satisfactory to his customers. Since most dealers charge a standard mark-up per pound, it does not matter whether the retail price is \$8.00 or \$2.00 per pound as long as they can sell the same volume. Because volume of sales is the most important factor, both to the wholesaler and to the retailer, a low price is preferred, since it increases the likelihood that more buyers will be interested in the product.

Although cost in dollars is a major determinant of dealer demand, other costs are also important. One dealer who is getting old and has no future in the market considers his time and energy more important than money. Thus he pays

a high monetary price for fish, but spends little effort in buying, conserving his physical resources. He makes less money than other dealers, but he also works shorter hours and under better conditions than they.

Another dealer refuses to buy fish from a certain boat because of a disagreement of six years' standing with the captain of that boat. The dealer loses money because of a decreased supply of fish for his business, but he gains a great deal of satisfaction from knowing that his absence from the bidding reduced competition and consequently lowers the price of that boat's catch.

Another cost which needs to be considered is the "personal" one that a dealer must pay for disregarding his fellow dealers in the auction. Several examples of the kinds of sanctions dealers use among themselves to assure a "fair distribution" of the fish will be given in the next section.

### The Dealers

The dealers who regularly appear at the morning auction are the wholesalers, retailers and peddlers who sell fish on Oahu. Although some of them never buy fish at auction, most of them appear regularly to check the prices and to exchange information and fish with fellow dealers. The businessmen who sell fish on Oahu do so in the context of the supply and demand situation already described.

Dealers are generally referred to as "retailers," "wholesalers," and "peddlers." Although a fine distinction

can be drawn between wholesaling and retailing in terms of the market which is supplied and the strategies which are used, many dealers here work both as wholesalers and as retailers. A wholesaler sells fish at high volume to other businesses which will further distribute the fish. These other businesses include hotels, restaurants, bars, tea houses, grocery stores and supermarkets. The retailers and peddlers sell directly to the person who is going to take the fish home to be prepared for family or friends, or who is going to give it as a gift. Retailers and peddlers differ in that retailers are stationary, working out of stalls or shops, while peddlers work out of trucks or cars.

Each of the businesses with which a wholesaler deals buys according to the demands of its clientele: a small neighborhood bar or market buys fish appropriate to the ethnic groups and incomes in that area; Japanese tea houses and bars buy only Japanese-style fish. On the other hand, large discount supermarkets must cater to all ethnic groups, and thus buy a broad range of fish. Retailers carry specific arrays of fish to meet the demands of their customers. For example, a retailer who sells to Samoans, Hawaiians, and Filipinos will mainly stock reef fish and other items at prices his customers can afford to pay. No two dealers carry identical arrays of fish, and thus none of them are directly competing for the same segments of the population.

Rather than discuss each dealer in detail here, I have prepared a table (Table 4) showing some details about them. This table includes information about ethnic group membership, age, sex, type of business (i.e., wholesale, retail, or peddler), number of employees, type of local fish carried, other items sold, ethnic groups to which the greatest amount of fish is sold, the period during which the business was started, whether the dealer started his own business or succeeded a parent, and the types of businesses to which sales are made.

Twenty of the twenty-eight dealers are of Japanese or Okinawan ancestry. All twenty speak a little Japanese, with the youngest among them being the least fluent and the oldest being almost completely bilingual. Only two of them were born in Japan, and even they emigrated as children. The present situation is in marked contrast with that of 1939 when ". . . approximately 94 percent of the stall men were of Chinese extraction (Honolulu Advertiser 3/24/39)." The four Chinese dealers left in the market speak either Cantonese or Hakka. Two of them were born in China. Only one was in business before World War II. The three "Hawaiian" fish dealers are not pure Hawaiian: one is Japanese-Hawaiian, one Chinese-Hawaiian, and the third Portuguese-Hawaiian. However, all three identify themselves as Hawaiians and know more Hawaiian words and phrases than is customary for non-Hawaiians, even those who have lived in the state

for a long time. The single Caucasian fish dealer is a recent arrival in Hawaii who speaks only standard American English.

Seven of the twenty-eight dealers are women and all seven are Japanese. There were no women in the market as independent dealers (i.e., working for themselves, instead of for their husbands or other relatives) until 1949, when the first of them opened a stall. However, there were many women peddlers before this time. Since then several other women have begun their own businesses, usually working on a small scale with only one or two employees. Only one of them is currently married although all but one have been married at some time and all of these have two or more children.

These women began their careers as fish dealers when a little capital and a lot of work were necessary to succeed. Even now, most of them work a ten to fourteen-hour day, seven days a week, with a five or six-day holiday at the New Year. The demands of this business in both time and energy may partially explain why the women are not married. However, there are other reasons which account for this. One dealer explained, "I had a husband, but I got rid of him. I worked hard all day long and then he wanted to tell me how to spend the money." Two of the women began to work because their husbands no longer supported them and they needed money to support their families. One of these women

Table 4  
The Fish Dealers

Dealer	Ethnic Group	Age				Sex	Type of Business			Number of employees
		30-39	40-49	50-59	60+		Whol.	ret.	ped.	
1	Japanese		x			F	x			1
2	Japanese			x		F		x		2-3
3	Japanese		x			F		x		1-2
4	Japanese	x				F	some	x		2-5
5	Japanese			x		F		x		1-3
6	Japanese			x		F	some	x		2-4
7	Japanese		x			F	1/2	1/2		2-5
8	Japanese		x			M		x		2-4
9	Japanese			x		M		x		4-7
10	Japanese				x	M		x		3-5
11	Japanese			x		M	some	x		2-3
12	Japanese		x			M	1/2	1/2		4-6
13	Japanese			x		M		x		3-5
14	Japanese	x				M		x		5-7
15	Japanese		x			M	some	x		12+
16	Japanese	x				M	x			5-7
17	Japanese			x		M	x			12+
18	Japanese		x			M	x			8-12
19	Japanese			x		M	x			12+
20	Chinese			x		M	x			12+
21	Chinese			x		M	1/2	1/2		5-7
22	Chinese			x		M		x		2
23	Chinese			x		M		x		4-5
24	Caucasian	x				M	1/2		1/2	2-3
25	Hawaiian	x				M	1/2	1/2		2-3
26	Hawaiian		x			M	1/2	1/2		3-5
27	Hawaiian	x				M	1/2	1/2		2-4
28	Japanese			x		M			x	1

Table 4 (continued) The Fish Dealers

Type of Fish	Other Items Sold						Ethnic Group of customers	When business began		
	frozen	flown	veg.	meat	dried	prepd.		pre- 1942	1945- 1955	1955- 1972
n.s							Japanese	x		
n.s./d.s.							Japanese	x		
tuna					x	x	Jap/Haw			x
n.s./d.s./tuna	x					x	Cosmopolitan	x		
n.s.		x					Fil/Haw	x		
n.s./d.s.					x		Japanese	x		
n.s./d.s.					x		Cosmopolitan			x
tuna						x	Cosmopolitan	x		
n.s./d.s./tuna	x	x	x	x	x	x	Jap/Haw	x		
n.s./d.s./tuna					x		Japanese	x		
tuna					x		Japanese	x		
n.s.	x						Haw/Fil/Jap	x		
n.s./tuna	x	x					Jap/Haw	x		
n.s./d.s./tuna				x	x	x	Jap/Cos			x
n.s./d.s./tuna	x	x	x	x	x	x	Cosmopolitan			x
d.s./tuna	x				x		Cosmopolitan	x		
d.s./tuna	x	x			x		Jap/Cos	x		
n.s./d.s./tuna	x	x			x	x	Jap/Cos	x		
tuna	x				x		Japanese	x		
n.s./tuna	x	x	x		x	x	Cosmopolitan		x	
n.s.	x	x				x	Chinese	x		
tuna					x		Jap/Haw		x	
n.s.	x						Chinese/Jap			x
n.s./tuna		x					Cosmopolitan			x
n.s./tuna					x		Haw/Fil			x
n.s./tuna					x		Haw/Fil		x	
n.s.							Haw/Fil			x
d.s./tuna			x	x	x	x	Japanese	x		

Table 4 (continued) The Fish Dealers

Generation	Other types of business to which fish is supplied						other dealers	
	Rest	bars	hotels	tea houses	markets	chain stores		Mainland
1								x
1								
1								
2	x	x						x
1								x
1	x	x						x
1								x
1	x	x						
1					x			
1								x
2		x	x	x				
2	x							x
1	x	x						x
2	x	x		x				x
2	x	x	x	x				x
2	x	x	x	x				x
3	x	x			x		x	x
2	x	x	x	x	x	x	x	x
2	x	x	x	x	x	x	x	x
2				x	x	x		
1						x		x
2	x		x		x			x
1		x						
1								x
1	x		x		x			x
2		x	x		x			x
2					x			x
1								x
1								x

established her younger sister in business ten years after she herself had begun, and a few years after that brought another sister in to help out in her own business.

Of the twenty-one men in the fish-dealing business, all but one are currently married and all but three of the married men have their wives (and sometimes their children) involved in the business as salespeople, bookkeepers or drivers. Eight men have younger siblings working with them in the business. Five of the second- and third-generation dealers' fathers are still living, although in retirement or semi-retirement.

Fish-dealing businesses are often inherited from father to son; the sons of five dealers are considered as their fathers' heir apparent. One dealer whose son is not interested in becoming a dealer has invited a sister's son to work in the business with the idea of leaving it to him. The designated heirs, who are young men in their early twenties are the sons of owners of large businesses, wholesaling tons of fish each day throughout Hawaii and having investments in buildings, equipment, and technology. No man or woman who runs a single stall wants his son to have to lead the kind of life he himself has led, and none has plans for the business beyond retirement or death. One woman, an only child, has inherited her parent's business and another girl is being trained by her father to buy fish

and run the business. No dealer has chosen a daughter to run his business in preference to a son.

It is fairly easy to classify a dealer as a wholesaler, a retailer, or a peddler, since no dealers spend equal amounts of time doing all three things. The five or six peddlers constitute a single entry on Table 4 since their businesses are very similar. The other dealers are either wholesalers (who do a little retailing) or retailers (who do a little wholesaling). However, there are some dealers who, although still considering themselves as retailers, do almost as much wholesaling as they do retailing.

The number of employees varies daily, weekly and monthly for almost all fish dealers because the supply of fish varies in the same way. Since most of the employees are related to the owners, they can be hired or laid off as the needs of the business require. (Hiring relatives apparently also benefits the dealer in terms of lower insurance rates.) When fish is plentiful, one simply calls in young relatives to help out for a week or two. Fortunately the periods when fish is plentiful coincide with summer and Christmas school vacations. All dealers have a core group of employees who work six or seven days each week at variable hours. Relatives are convenient because they will not only work unusual hours, but also work much longer hours than unrelated employees. During the week before New Year's,

most dealers work a twelve to fifteen hour day with little additional help other than sons and daughters, nephews and nieces on school holiday.

Dealers have also been classified by the type of fish they carry and by the ethnic groups of the customers they attract. Both ahi and aku are labeled as tuna for this purpose; deep-sea fish are those species caught by deep-sea boats, and inshore fish include the reef fish and the akule and opelu. Ethnic groups are labeled specifically as Chinese, Japanese, etc., if a dealer sells exclusively to a certain ethnic group or groups; however, some dealers reach all portions of the population, and so their clientele has been labeled as cosmopolitan.

Although this study was devoted to the fresh fish market in Honolulu, I found that the other products carried by dealers were important factors in their decisions about fresh fish. A dealer with frozen products to back him up during slack fishing periods works under a completely different set of premises than a dealer completely dependent upon the fresh fish supply. A dealer who also handles meat and vegetables has a broader range of actions available to him than a dealer restricted to fish, because the former can attract a wider range of customers. Table 4 also shows the range of local, Mainland, and foreign products carried by fresh fish dealers.

Some of the present dealers are the founders of their businesses, and this is indicated under the Generation listing. The figure 1 indicates the present dealer is also the founder, 2 indicates the business was founded by his father, and a 3 indicates the business was founded by his grandfather. The periods of time during which the businesses were founded are broadly characterized as pre-World War II (before 1942), post-war (1945-1955) and recent (1955-1972). Of the recent businesses all were begun prior to 1967.

A knowledge of the kinds of businesses to which a dealer sells fish or other items is important for an understanding of his buying habits. Restaurants, bars, and hotels all emphasize specialty dishes associated with Japanese, Korean, Filipino, Chinese, or other ethnic cooking styles. They buy from fish dealers they consider most likely to carry the products they want. Thus a Japanese restaurant owner is likely to go to a dealer who has a Japanese family name and who carries fish preferred by Japanese. On the other hand, a hotel with a variety of dishes on its menu will go to a dealer with the widest selection of fish, regardless of his ethnic identification.

The dealers all know one another very well, since most of them see each other at the auction six mornings each week and at various social functions. The Fish Dealers' Association meets five to seven times each year to discuss

problems faced by the fishing industry, such as mercury poisoning, refrigeration technology, and price freezes. Several dealers play golf together each week and others take annual trips to Las Vegas as a group. Small groups of dealers have made trips to the Mainland or to other Pacific islands, in search of new sources of fish and new outlets for their own products. Groups of dealers with stalls in the same market building see each other off and on during the day to exchange information about customers, weather, boats, and shipments. All of the dealers eat breakfast or at least drink coffee in the little cafe in the Market Place during the lull between the Large and Small Fish auctions, and here information and bills are passed out, fish sold wholesale, and debts paid.

Of course, there are some animosities among dealers, but these are fairly well contained during public encounters. Several of the dealers speak of their relationships with other dealers in this way, "I have to see those people every day--buy fish from them and sell fish to them. What would life be like if we didn't enjoy joking and storytelling together?" Incurring the animosity of another dealer can be dangerous to one's business and to one's friendships with other dealers. Because of this some relationships take on a note of forced friendliness; however, all regular dealers know the state of arguments among themselves.

Although I was an outsider in the market, I was often included in the daily activities normally restricted to insiders. Because of my unusual position, I was often asked for my opinion on certain aspects of the market. One man who had tried to open a fish market some years before asked me what these dealers "had on one another" to make them stick so closely together. He wanted to know what sort of knowledge one dealer could have of another's business to use as a lever to force the other into buying from him. He said that he offered items at much lower prices than his nearest competitor and yet could not make enough sales to stay in business. I told him that after twenty to forty years of acquaintance the dealers know all about one another's habits, thoughts, ideas, beliefs, and customs. They know what to expect from one another in an enormous range of situations. A dealer would rather buy at a slightly higher price from a dependable, well-known colleague than from a stranger. Dealing with strangers may save money in the short run, but will eventually cost more if the new suppliers turn out to be undependable or hard to communicate with. Communication is not so much a matter of sharing a language, although that is important, but rather one of sharing a style of interaction. Many individuals have failed as fish dealers because they were not aware of the stylistic difference between their mode of interaction in the market and that of the well-established dealers. Failure

to conform their behavior to the norm resulted in business failure as well.

The following is an example of the expected behavior. No dealer is allowed to cavalierly outbid other dealers in an auction. If a dealer is trying to buy "more than his share," the other dealers impose sanctions of graduated severity on him. They start by teasing him about being greedy. If he continues, they take turns outbidding him, thereby keeping the "greedy" dealer in his place at the cost of small losses to themselves through overbidding. If a dealer does not learn from that, he may be driven up to very high bids and then dropped there at prices so high he cannot profitably resell the fish. As a last resort other dealers will ostracize him both socially and economically.

There is an economic hierarchy in the market, headed by the dealers who have the most money to spend on fish and who handle a variety of products. If these dealers are forced to bid high prices for fish, they can sell it at cost and still make a profit on the other products. The big dealer wants to have the fish at almost any cost so that his customers will continue to come to him for all of their fish products. During times when fish is scarce or in very high demand, this policy can be quite detrimental to the interests of the small dealers.

The small businessmen cannot continually pay high prices and so have found other ways to deal in fish. Many of them

have a number of fishermen that supply them directly with inshore and deep-sea fish. They retail what they can and wholesale the remainder to other dealers. The small dealers who bid in the auction are able to buy fish there in small quantities as long as there is enough to go around to the more powerful dealers as well.

The dealers I observed in the market over eighteen months were the dealers who were successful in the system, who could cope with the variety of pressures encountered when dealing in a scarce, highly perishable item. Many people have not succeeded in this system and have either left the fish business or gone into other phases of it. In the last few years several businesses have folded, and the number of dealers has drastically decreased leaving a large number of empty stalls in the market places. A study done by Sam Camp in 1968 (unpublished data) mentions four dealers as participating in the Big Fish auction who have since quit. One of these men said that he was not aggressive enough to handle the interaction at the auction. He was uncomfortable there for years and finally just gave up.

CHAPTER V  
A BIG FISH DEALER

Introduction

In this and the following chapter a detailed description of the strategies used by two types of fish dealers are discussed. A dealer who sells the large tuna and marlin has a set of strategies for use under the variety of conditions that occur in this market. These strategies are based on his perception of factors influencing the market (such as supply of fish) as well as on the rules of the market (such as expected behavior in the auction).

Because almost all fish handled by a Big Fish dealer goes through auction, and because there are a small number of participants in that auction, it has been possible to construct a model to illustrate the ways in which the factors affecting the auction outcomes are interrelated. The elements of the model are the rules of the auction, the strategies of the seven dealers under various circumstances, and the factors that affect price change. Sufficient data are available for building the model. Chapter I covered the ways in which data were collected, and some examples of collected data appear at the end of this chapter and in the Appendices.

### Dealers in the auction

At 6:20 a.m., the auction room is cold and empty of all but the silvery ahi and marlin lined up neatly in their rows at one end of the floor. A few minutes later, the first of the dealers arrives, stops to pick up some slips of paper printed with his name, and walks over to the rows of fish. He is dressed in knee-high black rubber boots and a long white oilcloth apron worn over shirt and trousers. The apron comes down below the tops of his boots, making walking great distances uncomfortable, but preventing water from running into the boots when he is cleaning fish or moving wet cans of fish around.

By the time the first dealer has begun to look over the fish, a few other dealers will have arrived, all wearing black boots, but some who come from another market area are without aprons. These men also inspect the fish on the auction floor. Since there are about twenty ahi in each row the dealers can estimate the total number of fish available by counting the rows. Each of the dealers has orders for fish, some placed weeks in advance for parties, others that came up only the day before, and standing orders from grocery stores and restaurants. They also have to buy fish with the idea in mind that someone may call that morning with an order for the same day. Not only do the dealers know how many fish, how many pounds of fish, and what quality of fish they will need, but also the likelihood that

they will be able to get the fish they need that day. The way in which they assess this likelihood is discussed below.

At 6:30 the auctioneer takes the bell off its shelf and walks into the corridor leading back to the stalls of the wholesalers. There he rings the bell for 30 to 45 seconds with a rapid movement of his wrist. If his arm tires, he changes arms, producing a brief change in the pattern of sound as the bell comes down from above his head and is transferred to the other arm to resume its rapid ringing. Even though the dealers have been expecting the bell, it often takes 5 to 10 minutes for them to arrive on the auction floor. By this time the early arrivals have already inspected the fish and are anxious to begin bidding.

#### Inspecting the fish

Each dealer who participates in the auction inspects the fish from several points of view. Each fish is judged on the basis of its various attributes and then accepted or rejected by the dealer. If it is accepted, the dealer bids for it in auction; if he is unable to buy one of these fish, a fish formerly rejected may be reintroduced for consideration.

Before and during the auction, a dealer inspects the attributes of a fish one after the other, following roughly the same sequence each time. The inspection is at first cursory: the dealers simply note the number and size of the fish. A wedge cut a few inches from the tail of each ahi

and marlin by an auction employee allows a more detailed inspection of color, water, and fat. Color is an important factor in judging ahi, and a dealer must be able to accurately assess the color of a fish and the likelihood that the color will hold. Many fish change from a pink-red to a brown-red color when exposed to the air. Because of the greater risk of color change in yellowfin tuna, the price for this species is markedly lower than that for bigeye ahi.

For those ahi that seem to be a good color, further inspection is required. Squatting down, the dealer pulls a piece of the meat from the slash and takes a closer look at the color. He then slowly squeezes the meat against his four fingers, starting at his little finger and slowly moving his thumb across the tips of his fingers. He is checking for three things: fat, water, and color. The water shows up as small bubbles and the meat is easily squished. A fat piece feels sticky and does not readily yield to the pressure of the dealer's thumb. When squished, the fat shows up as white globules in the meat. A fish that has little fat is darker in color and is preferred by some people, and thus many of the dealers try to carry several types of ahi varying according to fat content, although the fattest ones are generally considered the most desirable.

A burned fish is beige in color and quite watery. The more water in the meat, the quicker the dealer has to sell the fish, since it will rapidly lose what firmness it has.

A good firm fish, regardless of fat content, can be stored in a dealer's chill box for four to seven days if it is not cut open and exposed to air. Dealers often buy such fish to keep as a back-up supply for days on which too few ahi are brought to market, but they sell the less firm ahi as quickly as possible. The taste and texture of the less firm fish are adequate for sashimi if eaten within a few days of sale. On the other hand, some fish are too firm--almost rubbery--and there is little that can be done about this condition. Dealers who buy rubbery or tough ahi pay a low price and sell it cheaply to places that do not build their reputations on quality sashimi.

Marlin are long narrow fish with dangerous swords which are cut off before arrival at the auction. Actually the snout is cut back almost to the eyes by the fishermen so that the fish can be more easily stored on the boat. Both lobes of the large tail are also cut off for the same reason, resulting in a somewhat deformed looking fish on the auction floor. Marlin flesh is milky white with a coral tinge. The flesh is described as orange when the coral color predominates. Orange flesh is the least desirable; almost white flesh the most.

Dolphin (mahimahi) are judged by several features. A fish fresh out of the water is beautifully colored in iridescent blues, greens and yellows, but fades to a dull

blue-green soon afterwards, and to almost solid yellow within several days. The dealers must look for dolphin with good color to assure themselves of fresh fish.

Dolphin are one of the few species of fish reaching the auction that can be sexually distinguished by external cues. The profile of the male's head is square, while the female's head slopes back from the eyes. Since the dealers buy dolphin for filets they prefer females, since the large head of the male reduces the proportion of filetable meat to total weight. Consequently, these fish are often sold in separate groups by sex.

Dealers are also concerned with the firmness of dolphin flesh. They want to know if the fish has been bruised or roughly handled when being caught, whether it was properly iced, and how long it was on board the boat. Often dolphin caught in large numbers by aku boats are delivered in the aku cans. Those fish which stand firmly in the cans are fresher than those that are leaning over in a rather limp fashion. When the dolphin is lying on the boards a dealer often picks it up by the tail to test for freshness. If it sags and bends then the meat has lost much of its firmness and may even be "cracked" or broken. Remember that this fish is to be sold in filets, and if sections of the filet are damaged, the dealer will not be able to sell firm steaks at a high price. When the tail of a fresh dolphin is

picked up much of the body also comes off the boards. Even when this method is used on a fish over 30 pounds, there is only slight sag on a good fish.

Ahi and marlin are also checked for firmness and uniformity by pressing with extended fingers on the fleshy parts of the fish. It is possible to distinguish a bruise because the flesh there gives to the touch more readily than does the surrounding tissue. Dealers also press the stomachs to see if they are full or not. Since they are paying for the fish by the pound, none of them is willing to pay premium prices for a fish full of partially digested food.

A dealer also looks for scars or gaff marks on the fish. When the ahi and marlin are caught they are pulled on to the boat with gaff hooks. These hooks are intended to be used on the mouth, but sometimes a fisherman accidentally damages the meat. If this is not detected before sale and the fish is sent off to a buyer who then discovers the flaw, the fisherman is responsible for either a financial readjustment to the dealer, or more often, a gift of fish on his next trip. When detected before sale, the fish is usually sold at a lower price than unflawed fish. This detail is noted on the tag bearing the weight and boat information and is announced by the auctioneer before he begins to sell that fish. Sometimes an old scar escapes the notice of the fishermen, drivers and auctioneer, but seldom the sharp eye

of the buyer. A scarred fish may have some tissue damage extending well into a section of meat. Large wholesalers often just cut around this part, but for a retailer who displays the quarter section of ahi for buyer inspection, a scar can devalue the piece of fish.

Fish caught by pleasure boats and fish shipped to Honolulu from the Big Island (the Island of Hawaii) receive markedly lower prices. The former get poor prices because sports fishing methods often damage the fish. Marlin and dolphin caught for pleasure are on the line fighting over several miles of ocean before being hauled flapping and protesting onto the deck to be duly admired before being iced. Shipping often damages the fish from the Big Island because packing is inadequate and handling by the airlines irresponsible. Boxes labeled "fresh fish," "chill," "perishable," or "fragile" are often left in the sun or piled under other cargo. The heavy cardboard box often deteriorates from the moisture of the fish. Even this packing method is quite costly (about \$2.00 per fish), so it seems unlikely that more protective and more expensive methods will be used.

When fish shipped from the Big Island reach the auction company, they are quite often stored in a chill box for several days because there are plenty of locally caught ahi on the auction block. On the day the supply decreases, the auctioneer sells the Big Island fish after

he has sold any fresh ahi or marlin on hand. If he has decided to put it on auction because it is getting old, the dealers are not told it is available until well into the Big Fish auction. Sometimes he volunteers the number of fish and sometimes dealers ask how many will be available. He also tells the day it was shipped to him if they ask.

I have been describing the process used to judge the quality of fish, a process that is carried out more thoroughly by some dealers than by others. In general, the more fish a dealer buys, the less concern he has for the quality of an individual fish. A large-scale dealer, who daily buys one-third to one-half of the available ahi, has little need to examine a fish for scars, bruises, a full stomach, or other defects. By buying a number of fish each day he lowers the risk that a substantial portion of his purchases will be bad. A dealer buying several fish with one bad one in the lot loses profit he might have made from it, but he continues to do business with the other fish, perhaps making a little more on those fish to make up for his loss. A dealer who buys only one fish must reduce his risk by making a thorough examination of the fish before purchase. Even so, the dealer buying only one fish continually takes greater chances than the dealer buying many, because the profit he expects to make that day vanishes if his one fish turns out bad. In fact, no fish is ever a complete loss; usually a black or burned fish can be sold at cost or a little below.

### Choosing among alternatives

Although dealers consider the same attributes for inspecting fish, they use very different criteria for choosing which fish they would like to buy. As in the situation regarding fishing boats described in Chapter II, dealers do not strictly rank fish by quality, but they do group them into broad categories. A dealer with a small business picks out a few fish he likes, and after noting the weight and approximate position in the line of fish, stands back to observe the auction until the fish he has selected come up for bidding. If initial prices are very high, he may reassess his needs and decide on a few fish of slightly lower quality on which to bid next. Dealers who buy many fish bid on all the fish that fit into their categories of acceptable purchases.

Table 5 shows the way in which the attributes of each fish are ordered by six of the dealers attending the Big Fish auction. This table takes thirteen attributes a fish may have and compares them two by two. For one dealer, the most important consideration is to obtain red, fat fish; for another, the price is the most important attribute; a third looks for good quality at a low price. Since a dealer does not know the price of a fish until the bidding is over, he estimates the likelihood that the price will be high, medium or low. If the bidding is in a range other than that he thought it would be, he can react accordingly.

Table 5

Choice Among Alternative Qualities of Ahi by Six Dealers

x indicates a row item is preferred over a column item  
0 indicates a row item is not preferred over a column item  
 ? indicates ambivalence, inconsistency in reply

Dealer A												Dealer B															
Red		x	x	x	x	x	x	x	x	x	x	?	Red		x	x	?	x	x	?	x	x	x	0	0	x	
dkrd	0		x	?	x	x	0	x	x	x	x	?	?	dkrd	0		x	0	x	x	0	x	x	x	0	0	x
bge	0	0		0	0	0	0	x	x	?	0	0	0	bge	0	0		0	x	x	0	0	x	?	0	0	x
lg	0	?	x		x	x	0	x	x	x	x	0	?	lg	?	x	x		x	x	x	x	x	x	?	x	x
med	0	0	x	0		x	0	x	x	?	0	0	?	med	0	0	0	0		x	0	0	x	?	0	0	x
sm	0	0	x	0	0		0	x	x	0	0	x	0	sm	0	0	0	0	0		0	0	x	?	0	0	x
fat	0	x	x	x	x	x		x	x	x	x	?	?	fat	?	x	x	0	x	x		x	x	x	0	0	x
H <sub>2</sub> O	0	0	0	0	0	0	0		x	0	0	0	0	H <sub>2</sub> O	0	0	x	0	x	x	0		x	0	0	0	x
burn	0	0	0	0	0	0	0	0		0	0	0	0	burn	0	0	0	0	0	0	0	0		0	?	0	x
scar	0	0	?	0	?	x	0	x	x		0	0	?	scar	0	0	?	0	?	?	0	x	x		0	x	x
chp	0	0	x	0	x	x	0	x	x	x		0	0	chp	x	x	x	?	x	x	x	x	?	x		x	x
med\$	0	?	x	x	x	0	?	x	x	x	x		?	med\$	x	x	x	0	x	x	x	x	x	x	0		x
exp\$	?	?	x	?	?	x	?	x	x	?	x	?		exp\$	0	0	0	0	0	0	0	0	0	0	0	0	0

Dealer C												Dealer D															
Red		x	x	x	x	x	0	x	x	x	x	x	x	Red		x	x	x	x	x	0	x	x	x	x	x	x
dkrd	0		x	0	x	x	0	x	x	?	x	0	0	dkrd	0		x	0	x	x	0	x	x	x	x	0	x
bge	0	0		0	?	?	0	?	x	0	0	0	0	bge	0	0		0	0	0	0	?	x	?	0	0	0
lg	0	x	x		x	x	0	x	x	x	x	x	?	lg	0	x	x		x	x	0	x	x	x	x	0	x
med	0	0	?	0		0	0	x	x	?	0	0	x	med	0	0	x	0		x	0	?	x	?	0	0	x
sm	0	0	?	0	x		0	x	x	x	?	?	x	sm	0	0	x	0	0		0	?	x	?	0	0	0
fat	x	x	x	x	x	x		x	x	x	x	x	x	fat	x	x	x	x	x	x		x	x	x	x	x	x
H <sub>2</sub> O	0	0	?	0	0	0	0		x	0	0	0	0	H <sub>2</sub> O	0	0	?	0	?	?	0		x	0	0	0	0
burn	0	0	0	0	0	0	0	0		0	0	0	0	burn	0	0	0	0	0	0	0	0		0	0	0	0
scar	0	?	x	0	?	0	0	x	x		0	0	x	scar	0	0	?	0	?	?	0	x	x		?	0	x
chp	0	0	x	0	x	?	0	x	x	x		x	x	chp	0	0	x	0	x	x	0	x	x	?		0	x
med\$	0	x	x	0	x	?	0	x	x	x	0		x	med\$	0	x	x	x	x	x	0	x	x	x	x		x
exp\$	0	x	x	?	0	0	0	x	x	0	x	0		exp\$	0	0	x	0	0	x	0	x	x	0	0	0	0



Other attributes are also considered, such as the species of the ahi and the boat from which it came. Although the meat of the bigeye and yellowfin ahi are quite similar, there are several distinct differences that affect the prices of these two fish when they are to be used for sashimi. The bigeye ahi is generally a fatter fish and, as stated earlier, fat is important for sashimi. The bigeye ahi also has a good color, which lasts even when the fish is quartered and exposed to the air. On the other hand, yellowfin is a rather lean tuna with darker meat color and a tendency to darken even more with exposure to the air. Not all yellowfin darken, however, and the dealer who can tell whether or not meat has that tendency from the small sample in his hand has the advantage in choosing a fish as an investment. A dealer who cannot afford to pay high prices may decide to bid only on yellowfin tuna and take the chance that the color will not change, rather than investing large amounts of money that he may not be able to recover in bigeye tuna.

Many dealers also consider the boat off which the fish came. Boats have reputations regarding the condition of their fish. Also, as explained in Chapter II, ahi boats receive a range of prices related to the number of trips they make and the number of fish they catch. The good boats are those sampans which bring well-iced, unbruised fish to the auction at regular intervals. The number of trips per

month also gives some indication of the length of the trips. Shorter trips produce fish that can be stored longer by the dealer as his hedge against uncertainty; long trips imply that at least some of the fish have been on the boat for considerable time and cannot be stored for more than a few days in the dealers' chill boxes. Thus a boat that goes out for long periods and catches large quantities is discriminated against by the dealers because of the assumed low quality of its catch. The delivery of a relatively large quantity of fish to the auction on a single day also lowers the price per pound.

Another factor that needs to be considered is the relationships between dealers and boat owners. Although only one dealer is related to an owner by kin ties (he is the boat-owner's sister's husband), other dealers have economic relationships with boat owners that induce the dealers to pay those boats good prices for their fish. Some of these relationships are marked by exchanges that go beyond the sale of fish in the market. For example, there are dealers who receive extra fish from an owner as a "present." There is also a dealer who supplies bait to an owner and in turn bids a high price for the owner's fish because he wants to be assured that the owner will continue to be able to buy bait from him.

### Strategies of a Big Fish Dealer

While considering these attributes of the individual fish, dealers are also considering the day's demand, future demand, future supply and competition in the auction. The last consideration is perhaps the most important one, because a dealer will be forced out of business unless he can operate successfully in the auction setting. In Chapter I, I quoted Keesing's distinction between sets of rules and sets of strategies in decision models. Chapter IV applied Keesing's concepts to the Honolulu fish auction by discussing the expected patterns of interaction among dealers. In that chapter I discussed a list of unwritten rules dictating the way in which a fish dealer should behave toward his fellow dealers. Some of the sanctions for behavior that violate these rules were already given in that chapter. The rules can be generalized as follows:

A dealer must have a good sense of humor.

A dealer must bid in the language of the auction.

No dealer should try to buy all the fish.

Each dealer should be allowed to buy fish at auction.

Dealers should not attempt to destroy other dealers.

The dealers are aware that these rules exist, occasionally refer to them when someone steps outside the boundaries of acceptable behavior. Violations of the rules are easier to notice than examples of the rules being followed. A new dealer in the auction who was also a haole continually broke

the rules of the auction. His primary offense was to show anxiety during the bidding by continually bidding fish past their reasonable prices. He did not recognize that he had to be willing to back down, to show his own frailty as a dealer, and instead continued to antagonize other dealers by bidding "with the wrong spirit." For him the auction was strictly business, while for everyone else it was business mixed with pleasure. Also, he was unwilling to extend short-term credit to his fellow dealers, whose habit it is to bill each other once every month. He expected cash payment at least once a week if not on delivery of fish. Although many sales are made "cash on delivery," these usually involve a limited number of items, and usually a charge of less than \$200.00, since many dealers carry only \$200.00 to \$500.00 in cash.

Within this framework of rules, dealers have individual strategies for selling fish. Many aspects of these strategies are shared. For example, all dealers look at the same attributes when buying ahi, but order the attributes differently when choosing the set of alternatives that governs this bidding in the auction. Even individual and optional strategies are regularized and predictable.

These optional strategies provide dealers with the flexibility to handle rapid changes in supply and demand situations without forcing them into making decisions under conditions of uncertainty. These strategies are built upon

past experience and offer options that allow dealers to choose a course of action appropriate to foreseeable changes in the market.

The following illustrates the strategies used by a single dealer. Since this market is a small one and the people in it are quite likely to read a thesis such as this, I have chosen to describe a composite dealer rather than any one individual. No single dealer wants his entire business exposed to public examination. His strategies, business plans, and special techniques are his livelihood. All dealers felt threatened to some extent by a study such as mine. This description tries to protect all of them, while at the same time providing a thorough discussion of the structure and function of the market. The actions attributed to Takeshi, the character described here, are mostly taken from the observed activities of three dealers, with some input from those of a fourth. The size of Takeshi's business belongs to one dealer; his aku sales belong to another; his method for dealing with ahi is practiced by a third. Perhaps because the dealers know one another so well and have worked together for so many years, it is fairly easy to build a character that comprises a small part of several of them.

Takeshi has a small business, and thus rents a small space for which he pays \$450 each month. His other expenses include a telephone, paper for wrapping fish, receipt books,

scales, and equipment such as knives, whetstones and a gaff. His expenses went up sharply with a recent move to a newer building, because he was no longer able to share facilities with several other dealers. Telephones are often shared in the old markets, where several stalls back into a common cubicle, but not in the new markets, where stalls are discrete units. Refrigeration space used to be shared too if one dealer had an overflow; it is much more difficult to share in the new markets, since the boundaries between stalls are maintained by walls rather than by painted boards between the counters.

The costs of knives, wrapping paper, whetstones, and ice are some of the smaller expenses that vary from a few dollars to a hundred dollars per day, depending upon the size of the business. Takeshi has cut back his business in recent years. Now that he is selling less fish, he needs to spend only about four dollars per day on supplies. Devices for weighing the fish vary in intricacy. Many dealers use an old-fashioned beam balances, but a few have modern electric scales that figure total cost with a variety of cost per pound markings. All devices are inspected for accuracy by a state agency at regular intervals.

Takeshi and his father started their business just after World War II, when fishing boats that had been temporarily appropriated by the Navy were returned to fishermen and the supply of fish became more regular. At that time

market stalls were in great demand, and thus he paid almost the same rent in 1949 that he pays now, but all other costs were much lower then. Then as now, Takeshi's business concentrated on tuna, but also sold almost anything else that would help to meet expenses. In 1953 Takeshi's father and mother returned to Japan and his wife joined him as a fish cutter and stall manager, so that Takeshi himself could concentrate on buying and wholesaling fish. While their sons and daughters were in high school, they had plenty of help and business increased, but when the last child went away to college, Takeshi and his wife had to cut back on their volume because they were unable to clean, cut, and wrap fish fast enough to sell to the customers. About four years ago a nephew came to work for them; Takeshi needed help moving the large fish, as well as an extra hand to help with retailing. Occasionally, at New Year's and other busy holidays, a son or daughter comes to help out, but most of the time the three of them run the business. The nephew is a salaried employee, while the husband and wife are partners. The nephew often takes an unpaid vacation during a bad season, finding temporary work or collecting unemployment compensation until fish is again available. It is questionable whether a business as small as this one benefits from having an employee, in view of the high costs of keeping him. Takeshi's nephew directly costs about \$700 per month. His salary is little more than half of that, but with social

security, insurance, workmen's compensation and all other benefits that must be paid, the total cost of an extra employee is quite high. While the labor of a third person enables Takeshi to do more business, part of the additional profit is drawn off by higher income taxes.

Since it is now nearly impossible to sell a business such as Takeshi's, it will simply close down when he retires or dies, leaving one less fish dealer on Oahu. He has thought of taking a salaried position as a fish cutter with one of the larger firms until he decides to retire. His and his wife's skills at judging, buying, and cutting fish are very valuable to these larger firms. He feels that to get a job as a sashimi cutter on an 8 a.m. to 4 p.m. basis would be best for the future. Now both he and his wife work a ten to twelve-hour day with little security.

Because Takeshi's business, like most other fish-selling businesses, is a small one, it is difficult for him to plan for more than a few weeks or a month at a time. He knows he has to meet his monthly bills for rent, phone and ice, his weekly payments to the auction house for the fish he buys, and his daily expenditures for equipment. During the months when fish is scarce, he hardly sells enough to meet expenses and must live from his savings, and thus he attempts to make enough during months of good supply to carry him over bad times. The larger wholesalers and many of the chain stores which sell fresh fish can undersell him at times,

because their profits are figured on a mark-up spread out over a year, while Takeshi needs to make money, or at least break even, almost every day. The price he asks for fish reflects the price he paid that morning at auction.

#### Aku sales

Takeshi has a standing order with Hawaiian Tuna Packers to buy three cans of aku every morning. Since he is a good customer and rarely returns fish he has been unable to sell, he is in a good position to get aku on a regular basis. Those dealers who sell aku are ranked by the Tuna Packers' distributor, and on the days when little aku is available, only a few of the "best dealers" are supplied. Aku is officially distributed to the dealers on a percentage basis; the dealer who regularly buys 10 percent of a day's fresh aku should get 10 percent of the fish brought to the fresh fish market on the day of a bad catch. However, a dealer's relationship with the distributor has a great deal of influence on how much aku he really gets during times of short supply.

During the summer months, the wholesale price of aku is stable at about 65¢ to 75¢ per pound for medium-sized specimens. Three cans of aku weigh about 350 pounds so Takeshi pays out roughly \$245 per day figured at 70¢ per pound. A small dealer like Takeshi works almost every day of the month, including Sundays. Thus Takeshi's aku bill

alone is about \$7,350 per month during a month of regularly supplied, inexpensive aku. Most dealers figure a 45 percent loss on each aku once the guts and head are removed. Thus 350 pounds of aku from the Tuna Packers would be about 193 pounds of aku to be sold to the public. At the standard retail price of \$1.50 per pound for aku (including sales tax of 6¢), a day's sales ought to be in the neighborhood of \$289.50. Takeshi also figures that he will get about \$1.30 per fish for the head (about 10¢), backbone (35¢-50¢), belly (65¢ to 80¢), and roe (usually \$1.00, but not always available). Three cans of aku contain about twenty-four fish, so he can figure on an additional \$30 or so from the extras. His total retail sales on a good day will thus be around \$319.50 for an item for which he paid out \$245.

Of course, he receives this income from sales only when he can sell all his aku at a high price. In fact, almost every day at least one aku is bruised, burned, wormy or in some other way less than desirable. Completely bad fish can be credited to a dealer's account if they have not been cut open. Once opened, the fish is the dealer's problem and is usually sold at the break-even point or at a loss. The flesh near the tail, which constitutes between 10 and 15 percent of the total, is usually too fibrous and tough to sell at the established price of \$1.50 per pound. Instead, it must be sold as scraps for 75¢ to \$1.00 per

pound. Thus the potential maximum income for aku sales is rarely attained. The breakdown of daily aku sales is summarized below in Table 6.

Table 6  
Daily aku sales

Wholesale price	\$ .70 per lb.	retail price	\$1.50 per lb.
total pounds	<u>350 lbs.</u>	saleable lbs.	<u>193 lbs.</u>
paid to HTP	\$245.00	filet sales	\$298.50
		head, etc.	<u>30.00</u>
		Total	\$319.50
		4% sales tax	<u>- 12.78</u>
			\$306.72
		cost of fish	<u>- 245.00</u>
		Gross profit	\$ 61.72

There is another factor besides spoilage and variation in meat quality that affects the total amount of money made on the sale of tuna. If a customer contracts to buy an entire fish, then the dealer adds 15¢ per pound to the wholesale price and makes a total of about \$1.50 to \$2.00 on the fish. Although dealers charge more for fileted fish, it actually takes them only about ten minutes to cut and prepare the fish in thin slices for sashimi. Consequently, dealers prefer to sell fileted fish rather than whole fish

because the higher markup charged for the latter makes it the more profitable item.

On almost every sale the customer gets more than he asked for at no additional cost. Takeshi and his wife find it easy to slice a piece off a tuna and be within an ounce of the desired weight. However, a customer expects that he will get a little more than the pound or two for which he asked, and thus several pounds per day are given away to customers, particularly to regular customers who know the dealer well. No single customer gets more than one or two ounces, but at \$1.50 per pound, each ounce is valuable.

Considering the amount of fish spoiled and given away, Takeshi can count on less than \$55 per day from the sale of aku during the best time of the year. This is about \$1,650 per month, enough money to pay his rent, his supply bills, and the salary of his employee. As fish becomes scarcer and the retail price climbs to \$2.00, \$2.50 or even \$3.00 per pound, he sells less fish and at a lower profit margin than when fish is cheap. In June, July, and August, he can count on about \$250 per week from the sale of aku; for six months of the year he can count on \$150 to \$200 per week; January through March he cannot count on any money from aku at all because the supply is so questionable during that season.

### Ahi sales

Although he considers aku as the backbone of his business because the supply is better than that of any other fish and the price is relatively stable (between 60¢ and \$1.00 per pound wholesale) throughout the year, the money made from aku just covers his expenses while any profit he makes comes from the sale of ahi and marlin. Although there is a strong community feeling that fish dealers take advantage of the public at New Year's by charging high prices and making a large profit, the dealers actually depend on making most of their profits during Spring and Summer. Because of a good supply of fish at this time of year, the wholesale price is low and competition in the auction is minimal. Nevertheless, dealers maintain a fairly high retail price during this time by marking ahi and marlin up by 50¢ a pound, rather than by 20 or 25¢ per pound which is usual during the rest of the year. They feel that a fairly high price for sashimi should be maintained. An analogy (mine, not theirs) can be drawn to steak, which may sell for \$1.29 to \$1.99 per pound, but has too much social value to ever drop below \$1.00. There is a latent absolute scale of value on which fish ranks as a very desirable item that must always be sold at an appropriately high price.

Most of the large dealers who handle tuna figure their prices on a percentage basis. Thirty percent of the retail price is a common markup over the wholesale price of the

fish. For example, when fish retails at \$1.50 per pound, the cost to the dealer is \$1.05. Wholesale markups vary from 5 percent to 10 percent of the cost of the fish. For dealers who do a very large volume of business, 5 percent is adequate to cover operating expenses, but 10 percent is necessary if the business is entirely dependent upon the sale of fresh fish for its profits. However, most of the large dealers carry chilled or frozen products imported from the Mainland or from abroad, from which an assured profit can be taken; thus 5 percent is the more common markup.

Takeshi does not figure his profit on a percentage basis, although it could be computed that way. Rather, he considers how many pounds of fish he must sell each day at how many cents per pound in order to maintain his business. He knows that sashimi (ahi) for more than \$4.00 per pound is difficult to sell, and that the same fish priced at \$3.75 will move better. However, by lowering the retail price to \$3.75 he may be reducing his markup to only 20¢ per pound, and even then may sell only 60 pounds a day. Table 7 shows all of Takeshi's purchases and sales for one week during the Spring of 1972. Wholesale prices for fish are very low and he has been able to sell much more on both the retail and wholesale market. Even though the wholesale price is low, he has maintained a medium retail price, because he feels that premium-quality sashimi should not sell for less than \$2.50 per pound.

Table 7  
Takeshi's Purchases During One Week

Day	Bought at Auction	Auction Price	Retail Price
Monday	145 lb. ahi (from pleasure boat)	\$.65/lb.	\$2.00 to \$3.00
	83 lb. marlin	.76/lb.	\$2.50
	83 lb. marlin	.76/lb.	\$2.50
Tuesday	155 lb. yellowfin ahi	.88/lb.	\$2.50
	142 lb. yellowfin ahi	.91/lb.	\$2.50
Wednesday	156 lb. ahi	1.05/lb.	\$2.75
Thursday	159 lb. ahi	1.37/lb.	\$3.00
	102 lb. marlin	.80/lb.	\$2.00
	89 lb. marlin	.73/lb.	\$2.00
	157 lb. ahi (from Kona)	.90/lb.	\$2.50
	154 lb. ahi (from Kona)	.75/lb.	\$2.50
Friday	144 lb. ahi (from Kona)	.75/lb.	\$2.75
	127 lb. ahi (from Kona)	.90/lb.	\$2.75
Saturday	No fish purchased; continued to retail at. . . . .		\$2.75

When he arrives at his retail stall in the morning, his day's supply of aku is already there waiting for him. If the supply is less than usual because of bad weather or just bad luck, he may try to arrange for another three or four aku, or perhaps another whole can. The UFA has its own aku boats, and so he may phone their offices to see if they have any extra fish. If they do, he drives over to their storage area and brings the fish back to his own chill box before the first auction begins. He also prepares a quarter section of ahi and cuts the heads off of several aku and carries these out to the retail counter.

His wife, who comes to work with him, is busy preparing for the day by cleaning the counters, counting the change, wiping the scales, and performing other routine tasks. She finishes in half an hour and has coffee and reads the paper while waiting for the first of her customers. In the old days business was brisk from about 6:30 a.m. until early evening, but now few customers come before 7:30 and the busy part of the day is between 10 a.m. and 1 p.m. After 1 p.m. very few sales are made, but Takeshi stays open until 4:30 or 5:00 to catch the few customers who come by after work.

Takeshi tries to buy ahi and marlin three days in advance--buying on Monday for Thursday, on Tuesday for Friday, and so forth. By beheading and gutting the fish as soon as he buys them and then storing them in his chill box, he can usually depend on them to keep quite well for

three to five days. He buys as much as he can early in the week because the prices are lower then and he can be assured of good quality at relatively low cost. Aku cannot be kept for more than two days, and usually has to be sold on the first day.

Since more than half of Takeshi's ahi and marlin is wholesaled to regular customers, he supplies them first and then sells the remainder to the retail customers. Often his wife sells only aku after the first few hours because all the ahi they had intended for retail has been sold.

After Takeshi has prepared the fish for early morning sales, he drives down to the auction block to look over that day's supply. He regularly buys between 8 and 12 percent of the ahi available, and so he knows that there must be about ten ahi on the auction floor for him to be able to buy one. If there are less than ten ahi, he will be able to buy at auction only by being more competitive, and by paying a higher price, than usual.

When he enters the auction floor he immediately knows, by looking at the number of ahi, in what range he will have to bid that day. This range of prices is closely related to the price of fish on the previous day. If, for example, there were forty ahi on Thursday and the large ones sold for between \$1.80 and \$2.20 per pound, depending on the quality of individual fish, he knows that the prices will go at least that high on Friday. If only twenty ahi are available

on Friday, the price will go up by from 25¢ to 50¢ a pound, partly because the quantity is less, and partly because Friday is a high-demand day. If there is a special holiday, such as Labor Day, over the coming weekend, the price will go even higher, perhaps to \$1.00 or \$1.25 more per pound than on the previous day.

Takeshi does not know how much the price will change, but he does know approximately what he will have to pay if he wants a fish on that particular Friday. There are ways of hedging or avoiding such high prices. First, he can refrain from buying ahi and depend on the fish he bought earlier in the week to carry him through the weekend. Second, he can refrain from buying fish if he knows that two or more boats are expected on Saturday. If only one boat is expected, he will ask for the name of the boat, and again refrain from buying at a high price if he knows that the boat expected is a good one. Third, he can buy any shark-bitten fish available at a lower-than-average price and salvage as much as possible from it. A final option is to buy a fish of low quality and correspondingly low price and hope that it will be saleable.

The last option brings Takeshi's skills at judging fish into play. Ideally he would like a firm, fat bigeye tuna weighing about 175 pounds. A fish of this kind has a long shelf life and good color that lasts even after the fish has been cut for sashimi. However, since he knows he

cannot compete against the larger wholesalers for a fish of that quality, he begins to look for the combinations of qualities that indicate a good fish but not an expensive fish. He takes a long time selecting on the basis of color, perhaps considering five or six of the twenty available fish. Although he can rank these fish on a scale from the most desired to the least desired, such calculation is useless because the fish are auctioned off in sequence by weight and he must bid on the fish as they come up for auction. Perhaps the least good of the five or six he has selected will come up for auction before the others. In that case he bids for the poor fish but sets a definite cutoff point beyond which he will not bid. This cutoff point is set according to bidding that has already taken place that morning. He knows what the fish he is interested in should be worth in relation to those sold previously, and sets his cutoff point accordingly. If prices have ranged from \$2.90 to \$3.38 per pound and the fish under consideration is comparable in quality to the cheaper fish in this range, he sets his stopping point at \$3.00. Almost all dealers use cutoff points, and usually set them at levels divisible by ten, although levels ending in \$.25 or \$.75 are frequent. For example, \$2.00 or \$2.25 or \$2.75 are common cutoff points, whereas no dealer sets one at \$2.77 or \$2.12.

Takeshi stays within his limitations most of the time because he is under pressure to sell at the lowest possible

retail price in order to make money. Other dealers do not stay below their cutoff points as often because they have greater flexibility in sales.

If he has chosen a set of six ahi as acceptable, he bids with a different cutoff point in mind for each fish. The price he is prepared to pay varies with the quality of the fish and with the pressure to buy. For the first fish, a low cutoff point is usual unless it is a very good fish. He sets the cutoff point higher for succeeding fish until he is finally able to purchase one. After three of the six fish are sold to other dealers, his judgment of quality becomes less important, and the bid necessary to buy the fish becomes the most important consideration. Figure 4 illustrates the process of buying at auction.

As explained in the preceding chapter on auction behavior, all dealers play games of sorts with one another. Takeshi knows that if he is bidding against two of the six other dealers, he can show that he really needs the fish by bidding slowly and deliberately. As explained earlier, only two dealers are bidding at a time, although on occasion three dealers will compete for the same fish. When bidding against one of the other four dealers, Takeshi is as much of a competitor to them as they are to him and thus preset cutoff points, rather than personal manipulation, tend to dictate the outcome of the bidding.

Adapted from Alexis and Wilson (1967:160)

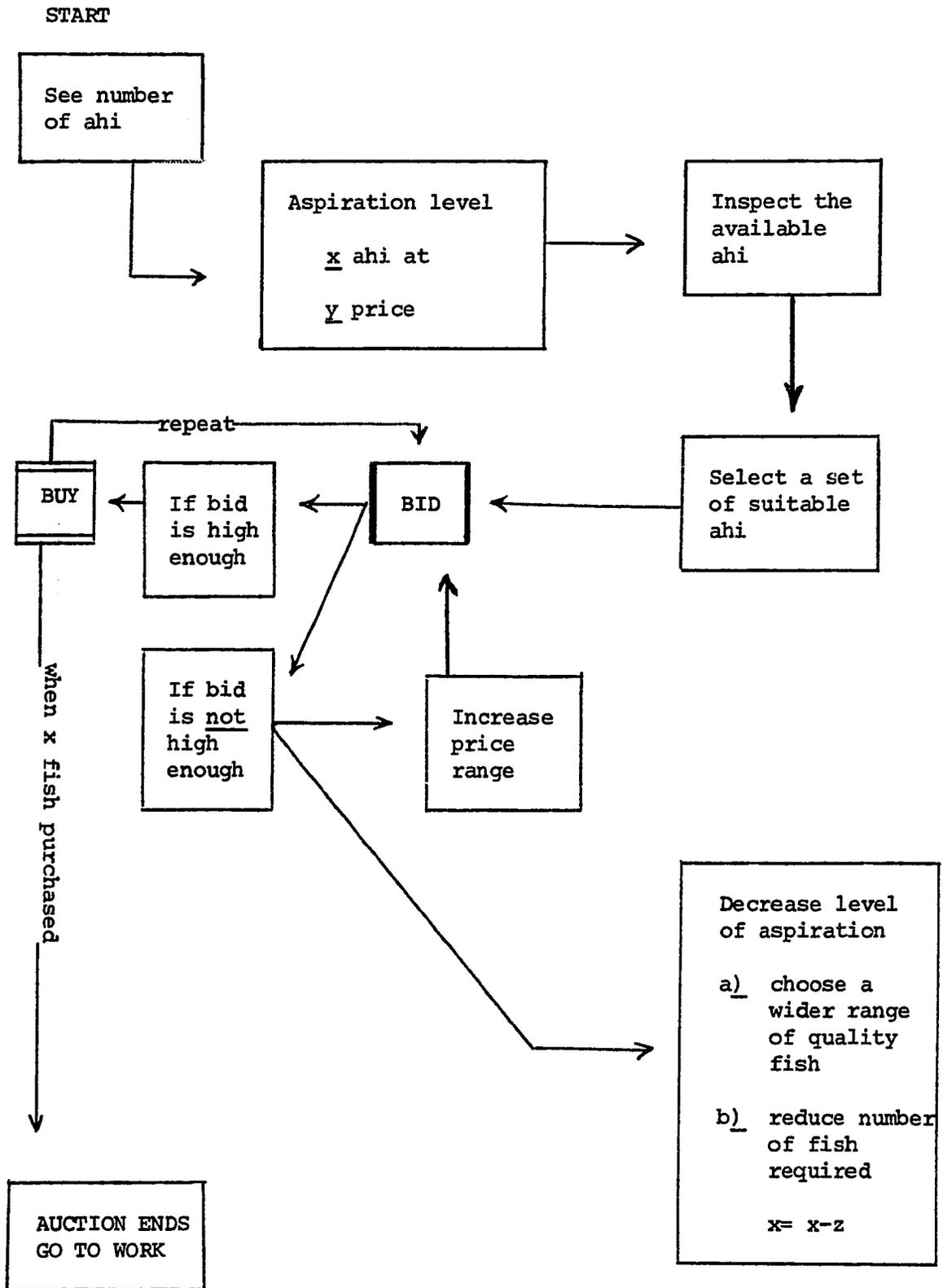


Figure 4. Buying Fish at Auction

If Takeshi is unable to buy fish in the auction and has none in his chill box, he has three options: to sell only aku, to attempt to buy a quarter or half an ahi from another dealer, or to close his stall. If there is no aku he always closes for the day. If there is one can of aku, he and his wife sell that, usually before 11 a.m. and then go home, or they save it for the next day. If there is plenty of aku, they carry on business as usual but sell only aku.

To return to the example of a Friday with twenty ahi on the block, Takeshi already has four ahi in his chill box but feels that six would be necessary to enable him to sell this kind of fish continuously through the weekend. He first bids on and succeeds in buying a 111 pound ahi at \$1.81 per pound. He then takes a chance on the quality of a second fish weighing 121 pounds and buys it at \$1.35. He knows that only two ahi boats were out at sea and that it is unlikely that they would be returning on the following day. So he buys what he needs for the long weekend. He has a good supply of aku, and since demand is high, sells his ahi at \$4.50 per pound for the best cut.

He later explained his pricing in this way. The 111 pound ahi was a good fish. The saleable weight was about 65 pounds, and of this 35 pounds were sold at \$4.50 per pound. About 20 pounds were sold at \$3.75, and the remaining 10 pounds were sold at \$2.50. He also sold the belly, backbone

and head for a total of \$9.25. For a fish that cost him \$200.91 at the auction he received \$256.08 after taking out sales tax, for a gross profit of about \$55.00. It took his wife an entire day to retail the fish because the price was so high, although she eventually sold it all because of the high demand over a holiday weekend.

Table 8

## Sale of a 111 pound ahi

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111 lbs.	x	\$1.81	=	\$200.91	(cost at auction)
35 lbs.	x	\$4.50	=	157.50	
20 lbs.	x	3.75	=	75.00	
10 lbs.	x	2.50	=	25.00	
head, etc.				9.25	
<hr/>					
65 lbs.				\$266.75	
				-10.67	4% sales tax
<hr/>					
				256.08	
				-200.91	
<hr/>					
				\$ 55.17	

---

The other ahi (121 pounds at \$1.35) was sold to several bars and as scrap in the retail stall. The meat was dark in color and not acceptable as regular sashimi. The bars that bought it used the fish to make sushi--a Japanese vinegar rice rolled in seaweed or fried bean curd and stuffed with small pieces of fish. The fish is eaten raw, but because it

is prepared in this way, the color is not so important. Of the 70 saleable pounds of meat on the fish, 50 pounds were sold wholesale at \$2.80 per pound and the remaining 20 pounds were sold in the retail stall at \$1.50 as scrap. The cost of the fish was \$163.35 and he made \$34.60.

Table 9

## Sale of a 121 pound ahi

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121 lbs.	x	\$1.35	=	\$163.35	(cost at auction)
50 lbs.	x	\$2.80	=	\$170.00	
				-.85	(1/2 of 1% wholesale tax)
				<hr/>	
				\$169.15	
20 lbs.	x	\$1.50	=	30.00	
				-1.20	(4% sales tax)
				<hr/>	
				\$197.95	
				-163.35	cost
				<hr/>	
				\$ 34.60	

---

He did almost as much work for the \$34.60 as he did to earn the \$55.00 from the other fish. But because the second fish was dark, it could only be wholesaled to certain places and could not be retailed. He felt that he was lucky to break even on the fish. Normally he would not take the

chance of buying dark-meat fish, but this weekend he had no options; fish was scarce and likely to remain that way, and he had orders from his customers that he had to fill.

Marlin is seasonal and thus its presence or absence in the auction is not as important in the general process of buying and selling fish as is ahi. When marlin is plentiful, that is, when there are more than eight or ten marlin on the auction floor every morning, each dealer buys one and sells it at a rate comparable to ahi, although auction prices are usually quite a bit lower than ahi prices. Dealers feel that if the marlin were retailed at too low a rate, all customers would buy marlin rather than ahi and they would not be able to make any ahi sales. Thus retail prices for marlin are always a little lower than ahi prices, but usually less than one dollar lower, so that marlin does not drive ahi off the market.

#### Computer simulation of the fish auction

The previous section discussed in detail the business of a dealer in ahi, marlin, and aku. The ways in which he planned against the uncertainty of the future, calculated profits, maintained relationships with customers, judged fish, and acted at the auction were all discussed. Each of the seven dealers who regularly participate in the Big Fish auction has strategies for conducting his business and knows the conditions under which one strategy must be exchanged for another. Changes in the supply and demand for fish

compel all dealers to adopt different strategies; but even though strategies change from day to day or from week to week, the dealers continue to perceive the supply and demand factors which determine their choice of strategies in much the same way. For example, bad weather increases their demand for fish, because they feel that bad weather means a lack of fish in future auctions. Moreover, there are predictable factors such as the daily fluctuation in demand for fish, which are invariable because they depend on the institutions of Hawaiian society, such as the five-day work week.

Given the factors that the dealers feel affect the market, the factors unperceived or unstated by the dealers (see section on Quirks below) and the relative importance of all these factors, I have built a model that replicates the top price for large ahi at the daily auction. Each day's top price is determined early in the auction because of the order in which the fish are auctioned. The biggest, most valued ahi are sold first, followed by smaller sizes and different species. Thus the first prices set the upper limit for the day and allow dealers to make choices during the rest of the auction based on more complete information, for once the first few fish are sold, the dealers know not only the supply available, but also the price they probably will have to pay to get the fish they want.

In order to simulate the results of the auction, rather gross generalizations are used to reduce some of the

complexity. A "Monte Carlo" technique is used (Gilbert and Hammel 1966) in which allocated, random-number generated probabilities "make decisions," resulting in an output that replicates the past situations the model was built on and that can be used to simulate the future. (A few weeks of simulated future can be found in Appendix V.)

The following factors are taken into consideration: supply, demand, weather, presence or absence of aku in the market, the previous day's top price, the day of the week, the week of the year, the difference in supply from the previous day, whether or not payday falls on Thursday or Friday, and which boat brought the fish to auction. The range of variation of each of these factors is described in detail below, not only in the way it is perceived by dealers, but also in the way it was adapted for simulation.

Demand for ahi in each week was rated as very high, high, average, or low, each of the 52 weeks of the calendar year was given the appropriate designation. For example, the two weeks before the New Year were rated Very High, while most of the weeks in September were rated Low. These levels of weekly demand were then ordered to appear in the simulation in the same way they did during the year of field work, so that an entire year could be simulated. The percentages of increase or decrease caused by changing from one level of demand to another were based on observations in the auction and gross estimates made by the dealers. For

example, a week of low demand followed by a week of high demand increased the price by 25 percent. A change from low to average demand increased the price by only 10 percent; similarly, a change from average to low demand decreased the price by 10 percent.

Supply of fish was generated in the model according to the amounts of fish available at past auctions. For example, there were no ahi available at auction 15 percent of the time, and less than six ahi available 11 percent of the time. Table 10 illustrates not only the way in which the supply of fish was generated for the simulation, but also the way in which the various demand situations taken in association with supply altered the price of fish.

Table 10

## The Effect of Supply of and Demand for Fish on Price

---

r = a random number from 1 to 100

Fish = number of ahi at auction on a given day

p = the price of fish

r	15	11	8	6	7	9	8	6	9	6	1	
fish	0	5	10	15	20	25	30	35	40	45	50	
High	+9%	+8%	+6%	0	0	-2%	-4%	-5%	-5%	-6%	-7%	of p
Avg.	+7%	+6%	+5%	0	-3%	-5%	-6%	-6%	-7%	-7%	-8%	of p
Low	+6%	+5%	+3%	0	-1%	-3%	-6%	-6%	-7%	-7%	-8%	of p

r	2	1	1	1	2	2	2	3	
fish	55	60	65	70	80	90	110	150	
Very High	+8%	+7%	+6%	+5%	+4%	+3%	-5%	-5%	of p

The effect of the weather on the price is also considered in this simulation. Good weather made dealers confident in the forthcoming supply of fish, and thus the price of fish decreased slightly. (A figure of 2 percent was found to cover this slight decrease.) Bad weather tended to force the price up slightly--by an estimated 3 percent. The supply of aku in the market was partly dependent on weather conditions. There was little or no aku in the market on 60 percent of the days of bad weather, but on only 20 percent of the days of good weather. Bad weather, determined mostly on the basis of small craft warnings, occurred 27 percent of the time. Many of the dealers checked each morning whether the small craft warning flag was flying at the harbor entrance, so that they would have an indication of future supply. Small craft warnings are issued by the U.S. Weather Bureau on the basis of many factors: wind strength and direction, currents, swells, and so on. Many small craft warnings did not affect the fishing, because they were issued for waters not usually fished. Thus I kept records of days that dealers felt the weather to be bad for fishing. Also, heavy rains occurred without small craft warnings but nevertheless affected the dealers' perception of weather. Rainy days were therefore considered to be days of bad weather. Table 11 shows the way in which both the weather and the aku supply were fed into the simulation.

Table 11

## The Effect of Weather and Aku Supply on Price

	Bad weather	Good weather
p=	1/4 +3% of p	3/4 -2% of p
p=	2/3 = no aku +6% of p	1/5 = no aku +6% of p
p=	1/3 = aku no change	4/5 = aku no change

The difference in supply from one day to the next has a marked effect on the bidding at auction. Dealers note that a low supply of fish on one day sends the price quite high on the next day. A change in supply from five fish to forty-five fish would send the price plummeting. Table 10 shows that an increment was added to the price for days on which no ahi appeared on the auction floor. Thus Table 12 shows no change in price when the supply for either the day under consideration or the previous day is zero, or when there is no change in supply.

The boats which bring fish to auction have a small effect on the price. As described in Chapter II, some boats get consistently better prices than others. Thus boats were roughly categorized as boats with good, average and bad fish, and price was increased by 3 percent for a good boat

and decreased by 3 percent for a bad one. The price remained the same for average boats.

Table 12

## The Effect of Difference in Supply on Price

$s_1$  = yesterday's supply  
 $s_2$  = today's supply  
 $d = s_2 - s_1$   
 $p$  = price

$d$ less than -21	$p = p + 10\%$ of $p$
$-11 > d > -20$	$p = p + 7\%$ of $p$
$-5 > d > -10$	$p = p + 4\%$ of $p$
$-1 > d > -4$	$p = p + 2\%$ of $p$
$d = 0$	$p = p$
$1 < d < 4$	$p = p - 3\%$ of $p$
$5 < d < 10$	$p = p - 6\%$ of $p$
$11 < d < 15$	$p = p - 8\%$ of $p$
$d$ greater than 15	$p = p - 10\%$ of $p$

---

The day of the week also affects the price. Monday adds an increment of 4 percent to the price, Tuesday decreases it by 4 percent, Wednesday decreases it by 9 percent, Thursday adds 2 percent, Friday adds 8 percent, and Saturday decreases it by 5 percent. Further, if the State payday falls on a Thursday or Friday (as it did thirteen times during 1971-72), the price receives an increment of 10 percent because dealers know money in the pockets of customers just before a weekend will increase demand for fish.

Finally, a factor which I have named Quirk must be considered. Eleven percent of the time, and on apparently random occasions, behavior occurs at the auction that affects the

ultimate price of fish. Quirk is a factor which neither the dealers nor I can predict, but which nevertheless has a real effect on the price of fish. Several examples were given in previous chapters and a few more will be given here.

One day, a tourist came to the auction who looked exactly like Colonel Sanders of "Kentucky Fried Chicken" fame. He was portly, dressed in white and had a pink face surrounded by very white hair and a goatee. The dealers immediately began referring to the fish as chicken and bid according to prices for boxes, barrels and buckets of chicken. The outrageous bidding grew worse when a dealer overheard the white-haired gentleman tell me that he was an auctioneer himself (from Aurora, Illinois) and interested in what was happening. Because much of what the dealers were saying was in Japanese or local dialect, the man had been unable to follow the bidding at all. I explained the process to him briefly (without explaining about the chicken) and he seemed satisfied. However, the price for the day had jumped drastically while the dealers had been fooling around.

On another occasion, the price fell sharply when one of the dealers went to the bathroom and removed himself from the competition. However, another time a dealer's trip to the bathroom caused the prices to soar because the dealer continued to bid on his way to, in, and coming back from the bathroom, which is located just off the auction floor.

Quirks occur 11 percent of the time and are of varying degrees:

$r = 90,91$	$92,93,94$	$95,96,97$	$98,99$	$100$	(r from 1 to 100)
$p = +6\%$	$-4\%$	$+2\%$	$-5\%$	$-2\%$	of p

All of the factors that seem to affect price have now been covered. The problem of simulating supply, demand, weather, and other factors is not quite solved, however, for all calculations are based upon an effect on a starting price. In the real auction a top price for the previous day's ahi serves as the starting price. In a simulation, a starting price is generated by a random number according to the distribution of prices during a year.

$r = 1-9$	$10-21$	$22-30$	$31-34$	$35-37$	(r from 1 to 37)
starting <u>price</u> is \$1.25	$1.50$	$1.75$	$2.00$	$2.25$	

Now we are ready to simulate starting on a Monday.

First we need a string of random numbers: 10, 37, 08, 65, 39, 45, 31, 85 (Blalock 1960:437).

1. The first number: 10 generates last Saturday's top price  $p = \$1.25$
2. The second number: 37 generates last Saturday's supply  $s_1 = 15$  ahi
3. The third number: 08 generates demand for the week which increments p by 10% High  
 $p = p + .1 \times p$
4. The fourth number: 65 generates Monday's supply which under conditions of high demand decreases p by 9%  $s_2 = 35$  ahi  
 $p = p - .09 \times p$

5. The fifth number: 39 generates the weather which decreases $p$ by 2%	Good $p = p - .02 \times p$
6. The sixth number: 45 generates a supply of aku which does not affect $p$	there is aku $p = p$
7. The difference in Supply ( $s_2 - s_1$ ) decreases $p$ by 10%	$d = 20$ $p = p - .1 \times p$
8. The day of the week increases $p$ by 4%	Monday $p = p + .04 \times p$
9. The seventh number: 31 generates Quirk which does not affect $p$	no $p = p$
10. The eighth number: 85 indicates what class of boat supplied the fish and increments the price by 3%	Good $p = p + .03 \times p$
Total change in $p$	$p = p - .04 \times p$
Monday's top price	$p = \$1.20$ per lb.

Monday's top price can then be used to predict Tuesday's top price, and so on for as many weeks as desirable. Since the model was built on real situations, prices, supply levels, demand levels, etc. have been checked against actual data. Several weeks of data showing how closely the methods for simulating approach predicting actual prices follow in the next few pages. In almost every case the predicted price comes within 10 percent of the actual price, showing that the factors taken into consideration and the known behavior of the dealers (i.e., how the factors are weighed) can be used to predict outcomes in the fish market.

There are two likely explanations for those situations when the predicted price is quite far from the actual price.

The mechanical aspects of the simulation are such that it depends on regularities over time to produce accurate information, while in fact some changes in the market take place very quickly. For example, the third weekly example in Table 13, for the last week in June 1972, shows a high price almost halved and then a return to a high price. In a simulated model of the market, these abrupt changes do not appear; rather the price decreases slowly over a few days and then increases slowly. The other explanation is that a factor not taken into account has affected the market. In the case of the example above, a large shipment of fish from the Big Island (with only mediocre fish available on Oahu) forced the price down. Shipments of fish from the Big Island are not only seasonal, but unpredictable in quantity and quality when they do arrive, and thus, although they affect the market, a method for including them in the simulation has not yet been devised.

Table 13. Predictions of Top Prices for Ahi Compared to Actual Prices

	Pre- vious day's price	boat	demand	supply	weather	aku	diff. in supply	day	pay day	quirk	REAL PRICE	Daily <sup>1</sup> pre- dicted p	Weekly <sup>2</sup> pre- dicted p
Condi- tions	\$1.14	good +3%	avg 0	18 -3%	good -2%	no +6%	10 -6%	Mon +4%	no 0	no 0	<u>\$1.19</u> p=+2%	\$1.16	\$1.16
p	1.19	avg 0	avg 0	20 -3%	good -2%	yes 0	2 -3%	Tues -4%	no 0	yes* +6%	<u>\$1.17</u> p=-6%	1.12	1.09
	1.17	bad -3%	avg 0	20 -3%	good -2%	yes 0	0 0	Wed -9%	no 0	no 0	<u>\$.93</u> p=-17%	.97	.90
	.93	good +3%	avg 0	13 0	good -2%	yes 0	-7 +4%	Thur +2%	no 0	no 0	<u>\$1.05</u> p=+7%	.98	.96
	1.05	good +3%	avg 0	9 +5%	good -2%	yes 0	-4 +2%	Fri +8%	no 0	no 0	<u>\$1.10</u> p=+16%	1.21	1.11
	1.10	avg 0	avg 0	2 +6%	good -2%	yes 0	-7 +4%	Sat -5%	no 0	no 0	\$1.14 p=+3%	1.17	1.14

Second Week in November, 1971

\*The regular auctioneer was sick this day, and thus the dealers enjoyed teasing the stand-in (who is the auction manager) by bidding each 1/2¢ bid rather than in 5¢ and 10¢ intervals. Bidding by 1/2¢ was worked into the song "God Bless America" by one dealer and his antics kept the bidding going to slightly higher prices than usual.

<sup>1</sup>Daily predicted price uses the real previous day's price to predict the next day's price. For example on Tuesday, \$1.19 is used to predict \$1.12.

<sup>2</sup>Weekly predicted price uses the real previous day's price to predict Monday's price but uses its own predicted price for succeeding predictions. Thus Tuesday's predicted price of \$1.09 is used to predict Wednesday's \$.90.

Table 13 (continued) Predictions of Top Prices for Ahi Compared to Actual Prices

pre - vious day's price	boat	demand	supply	weather	aku	diff. in supply	day	pay day	quirk	REAL PRICE	Daily pre- dicted p	Weekly pre- dicted p
\$2.75	bad -3%	avg* -25%	19 -3%	bad +3%	yes 0	4 -3%	Mon	no 0	yes <sup>1</sup> -5%	<u>\$1.85</u> p=-32%	\$1.87	\$1.87
1.85		avg 0	0 +7%	bad +3%	yes 0	-	Tues	no 0	no 0	p=+6%		(1.97)
1.85	avg 0	avg 0	18 -3%	bad +3%	yes 0	-	Wed	no 0	no 0	<u>\$1.50</u> p=-9%	1.68	1.78
1.50	avg 0	avg 0	18 -3%	good +3%	yes 0	0	Thur	no 0	no 0	<u>\$1.46</u> p=-3%	1.46	1.71
1.46	good +3%	avg 0	29 -6%	good -2%	yes 0	11 -8%	Fri	no 0	no 0	<u>\$1.33</u> p=-5%	1.38	1.62
1.33	good +3%	avg 0	21 -5%	good -2%	yes 0	-8 +4%	Sat	no 0	yes <sup>2</sup> +6%	<u>\$1.50</u> p=+1%	1.34	1.64

Third Week in May, 1972

\*Demand from the week before was High, thus change from High to Avg. made price decrease

<sup>1</sup>The quirk on Monday was due to a long-standing feud between a dealer and the captain of the boat that supplied that day's fish. The dealer refused to buy fish from the captain, and, since he is a dealer who usually buys 10 to 15% of the day's fish, his absence from competition causes a quirk.

<sup>2</sup>The Quirk on Friday was a result of the dealers' knowledge about the boats in the harbor. Only two boats were out fishing, several in dry dock, and the others either just returned from fishing or were loading ice in preparation to going fishing. They felt it unlikely that there would be much ahi the following week, and they were right. The fourth week in May had 32 ahi for the entire week compared to 105 for the week above.

Table 13 (continued) Predictions of Top Prices for Ahi Compared to Actual Prices

pre- vious day's price	boat	demand	supply	weather	aku	diff. in supply	day	pay day	quirk	REAL PRICE	Daily pre- dicted p	Weekly pre- dicted p
\$2.25	avg 0	avg* -25%	22 -5%	bad +3%	yes 0	16 -10%	Mon +4%	no 0	no 0	<u>\$1.15</u> p=-33%	\$1.51	\$1.51
1.15	bad -3%	avg 0	8 +5%	bad +3%	yes 0	-14 + 7%	Tues -4%	no 0	no 0	<u>\$1.60</u> p=+8%	1.24	1.63
1.60	good +3%	avg 0	2 +6%	bad +3%	yes 0	- 6 + 4%	Wed -9%	no 0	no 0	<u>\$1.50</u> p=+7%	1.71	1.74
1.50	good +3%	avg 0	3 +6%	good -2%	yes 0	1 - 3%	Thur +2%	yes +10%	no 0	<u>\$1.75</u> p=+16%	1.74	2.01
1.75	bad -3%	avg 0	11 0	good -2%	yes 0	8 - 6%	Fri +8%	no 0	yes <sup>1</sup> -6%	<u>\$1.65</u> p=-9%	1.69	1.82
1.65	bad -3%	avg 0	16 -3%	good -2%	yes 0	5 -3%	Sat -5%	no 0	no 0	<u>\$1.20</u> p=-16%	1.32	1.43

Last Week in June, 1972

\*Demand was high the previous week

<sup>1</sup>Although the method of predicting daily prices follows rather closely the real prices for the week, the weekly prediction based on simulated prices failed to keep the price low on Thursday, Friday and Saturday. A shipment of ahi from Kona was available on Friday and that probably influenced the low prices received by the Oahu fishermen.

CHAPTER VI  
A SMALL FISH DEALER

Introduction

Some of the problems faced by Small Fish dealers are similar to those encountered by Big Fish dealers. Lack of knowledge about weather, boats, supply, price, customer demand and so forth are factors with which all of them deal. The previous chapter described the ways in which a Big Fish dealer acted in the market, the kinds of knowledge that he had, and the decisions he made in order to supply himself with fish to sell to the public.

Big Fish dealers, because they work from a common supply background and sell to a relatively homogeneous body of customers, were rather easy to describe. On the other hand, it is very difficult to generalize about the sources of supply and the customers of the Small Fish dealers. It was thus not possible for me to construct a generalized decision model for them. While a flow chart is included in this chapter, a computer simulation of Small Fish dealers is not feasible.

As is the case with Takeshi, Akiko, the dealer described here, is a composite figure. She represents a collection of case histories of seven Small Fish dealers--four men and three women--who have somewhat similar businesses.

Dealer Relationships with Customers and Fishermen

Akiko is a forty-seven year old Japanese-American. She is divorced and has three children, two of whom she still supports. She lives with her mother, her married daughter, and two grandchildren. Although she has been in the business of selling small fish for eighteen years, her ambition is to sell sashimi; however, she has seen several of the sashimi retailers experiencing difficulties with irregular supplies and high prices of ahi and aku. Supplies of reef fish and of the few deep-sea fish that she sells are much more dependable. She had to close her stall for only thirteen days last year because of lack of fish, while ahi retailers were closed for many days through the winter. Since she has been the only support of her household for some time, she feels that she is better off staying in the Small Fish business even though it entails long hours and a larger number of variables to be considered.

She has a far-reaching network of fishermen and suppliers which she can exploit when she needs fish to fill her counter. She has two fishermen that supply her regularly with fish. One sends goatfish, parrotfish, tangs and some snappers from a neighbor island, while her Oahu fisherman supplies her with akule, bonefish, ladyfish and goatfish. Three weekend fishermen also regularly supply her with fish, but they cannot always be depended upon. Two of her fellow dealers often get large quantities of reef fish (more than they can sell in

two days) and charge her 5¢ per pound more than the price they paid to their fishermen. Both Akiko and the suppliers ask the same retail price however, and thus she makes 5¢ per pound less than they. Sometimes Akiko sells fish to her suppliers, so both sides are satisfied with the arrangement.

These seven sources of fish are enough to keep her counter full of a variety of fish which is attractive to people of all ethnic groups. To further increase the variety of products, she carries some frozen squid which she defrosts before selling. Imported blue crab from Louisiana and, occasionally, imported littleneck clams complete her broad spectrum of seafood.

Occasionally a fisherman will come up to her while she is working in her stall and offer her an ice chest full of reef fish. Unless she knows the fisherman or has dealt with him in the past, she spends several minutes looking over the catch and asking questions about when and where it was caught. If the fish looks fresh to her and the fisherman convinces her that it was not caught in an area known to produce bad-tasting fish, she will buy if she needs fish or if she can get it at a low enough price. Since she has fairly dependable sources of fish, she feels no obligation to give this fisherman a good price. Also, the selection of fish he has brought most likely contains some fish she would not usually deal in, and she may worry about selling these "losers." There is a range of prices for particular

species, varying seasonally (see Appendix III) and she usually pays her regular fisherman at the top of the range in order to assure her supply of fish, while offering other fishermen 10¢ to 20¢ less per pound for similar fish on the same day.

Dealers see nothing immoral or illegal in this behavior, although fishermen find it most distressing. All dealers have set relationships with fishermen which they maintain by paying reasonable prices, thereby assuring the fishermen of a regular income and themselves of a regular supply of fish. Some fishermen have supplied the same dealer for twenty years or more with no problems; other fishermen change from dealer to dealer hoping to get a more favorable price.

Davis (1968) describes suki relationships in a Philippine market that are somewhat similar to the relationships between fishermen and fish dealers in this market, although here the relationships are not so highly institutionalized. A suki relationship as described by Davis exists between the seller and the customer. A customer benefits by receiving an extension of credit, a small reduction in price or a slightly larger measure at daily purchases, and special consideration such as grocery bags or transport. In turn the seller gets a secure market for his goods by assuring the continual patronage of those people with whom he has suki relationships. Apparently these relationships exist among the middle men at various stages in marketing as well as between the final seller and the consumer. Although he does not mention such

relationships with the producers, I imagine that they too exist. The result of this institution is that instead of maximizing economic gain at each transaction, security and long-term gain are maximized.

When a fisherman continually supplies a single dealer he is maximizing security rather than immediate monetary gains. Particularly during times when fish is in short supply, a fisherman knows that he could get a better price by taking his fish to another dealer. However, a dealer is careful to remind "his" fisherman that the two of them have continuing obligations toward one another.

Permanent relationships exist between dealer and customer also. Regular customers are given especially good fish at a discount, consisting of a few cents marked off the total or a slightly larger cut than requested at no extra cost. These relationships exist most obviously among the older, non-English speaking Japanese and Chinese customers and the dealers who speak Japanese or Chinese. Transactions involve long conversations about the desired fish, fish in general, local events, the state of the world, and so forth.

Akiko has well-established relationships with her suppliers, her customers, and her fellow dealers. For eleven years she bought fish from her neighbor-island fisherman without ever having met him; a mutual friend told the fisherman to send fish to her and he did. She liked his fish and paid him well, and he liked the income. Of course, they

had telephone communication concerning shipments and the needs of the dealer and the fisherman. Thus one could say that the continuity of the relationship was based solely on the fact that both profited from it. This continuity was maintained even though, at times, Akiko really had to work to sell all of the fish he had sent, while he had to accept low payments for his fish during times of oversupply.

Most of Akiko's customers are individuals buying for home consumption, and about two-thirds of them are regular customers. A few customers run small restaurants and buy ten to twenty pounds of fish to add variety to their menus. Most of these restaurants are in the neighborhood of the market place. The other regular customers are "bar girls."

In Hawaii one can get pupus (the local term for hors d'oeuvres) at almost any local (i.e., non-tourist) bar by buying drinks. Particularly in bars with Japanese and Korean waitresses, the tradition of "giving" pupus to the customers is well-established. The bar girls actually sell this food, although they do not charge for it directly. A girl buys the raw materials, perhaps together with a few other girls, and prepares the pupus, usually in the kitchen of the bar. Customers buy only beer or liquor and theoretically leave a tip large enough to cover the cost of the pupus. Resourceful girls vie with one another in preparing tasty pupus in order to maintain customers and attract new ones. Fish of all kinds are favorite pupus and thus a fish dealer usually has several customers buying fish for this purpose.

Akiko has many bar girls as customers, some of whom she provides with special services. Since a bar girl cannot serve a patron half a fish, she prefers to purchase smaller ones. When she buys several small fish rather than one medium-sized one she gets more individual fish per pound and thus can serve more patrons at a lower cost. The akule is particularly desirable when it is small enough for five or six of the little fish to make up a pound, which then sells for 50¢. Akiko carefully saves her smaller fish for these customers, who often call her early in the morning to learn the available fish supply. Bar girls may also buy aku, which they then slice as thinly as possible in order to get several servings from a one-pound piece, but they rarely buy ahi because of the high cost. The reef fish that sell between 50¢ and \$1.20 per pound are the most commonly chosen items. Slit from tail to nose, gutted, dipped in batter and fried, these fish look like a lot of food but cost the girls relatively little.

Most of the reef fish and many of the deep-sea fish are everyday food, not a specialty food like sashimi. Thus dealers like Akiko are not as dependent on holidays and Japanese tourists as are the Big Fish dealers. As mentioned in Chapter IV, the weekend is the best time of the week for selling fish. The sales made from Monday through Thursday are equalled in a few hours on Saturday morning. Friday and Sunday are a little less busy but also are important days

in the market. State payday also affects the market for fish if paychecks are disbursed before the weekend. For many dealers, the days immediately following welfare check distribution are also good days for selling fish.

Akiko carries fifteen to twenty kinds of fish, each of which is treated slightly differently. Several reef fish are quite fragile: they bruise easily and the scales fall off, making them undesirable to the customer. Such fish, if not sold the day they are brought to market, are carefully packed in crushed ice and newspaper. Members of the snapper family are wrapped thoroughly in butcher paper, and then stored for two to six days in a chill box. Akule, opelu, and goatfish are "brined." That is they are stored overnight in a bucket of salted and iced water. The amount of salt differs from one dealer to the next and is practically a trade secret.

About 6:30 a.m. Akiko comes to her fish stall to see what has been left in her chill box. Her regular fishermen have a key and simply deposit the fish there when it is convenient. After checking the contents of the chill box, she walks around the market place, stopping to talk with the various pork, vegetable, meat, and fish dealers with whom she has trade relationships. If another fish dealer has fish to sell or needs fish for that day, arrangements are usually made at that time. She may have to phone a dealer elsewhere if she cannot make the necessary arrangements at her own market place.

Volume of Sales

Although the pounds of fish she is able to sell during a day are an accurate measure of the volume of sales, she thinks of the supply and the sales in terms of cans of fish, a term of measure discussed earlier. Akiko keeps mental records in terms of the number of cans of fish she has to sell as a bookkeeping short cut. During a full moon, she expects no akule or halalu to be available; during two weeks of the month she expects about two cans per day of hooked akule or halalu from her fishermen and buys several cans of netted fish either at auction or from fishermen selling their own catches. She knows that on an average day she can sell one can of hooked akule (35 pounds) two or three cans of netted akule (70 pounds), one can of red or white goatfish (40 pounds), and three or four fish each of the red snapper, pink snapper, grey snapper, sea bass, and amberjack species. These fish are gradually cut into steaks during the day and sold that way. The head is also sold for soup. The small snappers (less than three or four pounds) are always sold whole, often to be used as gifts by the customer. Small amounts of other reef fish such as manini, opelu, aholehole, aweoweo, kumu, mamao, u'u and weke ula are stored two or three species to a can but displayed as separate species on the selling table. During the full moon, when akule is scarce, fishermen intentionally increase their catches of these

other reef fish, so as to be able to deliver a constant supply. Finally, Akiko imports clams and crabs from the Mainland in twenty-pound styrofoam boxes; an average day's sale amounts to one box of each.

Table 14 gives the purchases, sales and gross profits for three days. Akiko's rent, refrigeration, expenses, daily expenses and employee costs are similar to Takeshi's, with the exception of extra crushed ice for storing and displaying the fish, which costs her about \$5 to \$10 per day.

Before the 7:30 Small Fish auction begins, she has checked in at the auction floor to see what fish is available there and then met with some of her fellow dealers over breakfast at the Market Place Cafe. Breakfast is usually segregated, with all the women dealers at one table and the men at other tables. Because the room is small and usually crowded, conversation between the women and the dealers at other tables is not precluded. Bills are collected, debts paid, appointments for trips or golf games confirmed, and general gossip about everything exchanged.

When the auction bell rings, Akiko goes to the auction floor with the other dealers but rarely buys any of the fish there. If a small lot of fish is available, and she thinks it will be cheap, she bids on that. But often she merely stands on the sidelines and listens to the bidding. The prices she pays her fishermen usually fluctuate with the

Table 14. Three Days: Purchases and Sales

		lbs. pur- chased Thurs.	price paid	retail pr.	¢ markup	lbs. sold	gross profit	lbs. pur- chased Fri.	lbs. left from Thurs.	price paid	retail pr.	¢ markup	lbs. sold	gross profit	lbs. pur- chased Sat.	lbs. left from Fri.	price paid	retail pr.	¢ markup	lbs. sold	gross profit	
hook akule	Thurs.	35	.65	1.00	.35	25	8.75		10	.65	.85	.20	10	2.00								
	Fri.							55		.70	1.00	.30	40	12.00	15		.70	.85	.15	15	2.25	
	Sat.														75		.65	1.00	.45	65	29.25	
reef akule	Thurs.	210	.50	.85	.35	80	28.00		130	.50	.75	.25	130	32.50								
	Fri.							70		.50	.75	.25	70	17.50								
	Sat.														70		.50	.85	.35	60	21.00	
white weke	Thurs.	40	.40	.75	.35	40	14.00		0													
	Fri.														80		.45	.75	.30	80	24.00	
	Sat.																					
opaka paka	Thurs.	35	.85	2.00	.30	11	3.30		24	.85	2.00	.30	24	7.20								
	Fri.							70		.85	2.00	.30	55	16.50	15		.85	2.00	.30	15	4.50	
	Sat.														0							
uku	Thurs.	111	.45	1.50	.60	60	36.00		51	.45	1.25	.35	51	10.50								
	Fri.							90		.55	1.50	.40	30	12.00	60		.55	1.25	.15	30	4.50	
	Sat.														18		.50	1.25	.25	18	4.50	
blue crab	Thurs.	20	.90	1.50	.60	20	12.00		0													
	Fri.																					
	Sat.														20		.90	1.50	.60	20	12.00	
kumu	Thurs.	6	3.00	3.60	.60	6	3.60															
	Fri.							19		3.00	3.60	.60	19	15.40								
	Sat.														27		3.00	3.60	.60	27	16.20	

Table 14 (continued) Three Days: Purchases and Sales

	lbs. pur- Thurs.	price paid	retail pr.	¢ markup	lb. sold	gross profit	lbs. pur- chased Fri.	lbs. left from Thurs.	price paid	retail pr.	lbs. sold	gross profit	lbs. pur- chased Sat.	lbs. left from Fri.	price paid	retail pr.	¢ markup	lbs. sold	gross profit	
opelu manini	Thurs.	21	1.05	1.50	.45	21						9.45								
	Fri.						47	1.05	1.50	.45	30	13.50		17	1.05	1.50	.45	17	12.65	
	Sat.												32	1.10	1.50	.40	32	12.80		
opelu	Thurs.	18	1.20	1.65	.45	18						8.10								
	Fri.						33	1.20	1.65	.45	20	9.00		13	1.20	1.65	.45	13	5.85	
	Sat.												43	1.20	1.65	.45	37	16.95		
		Thursday gross profit							Friday gross profit						Saturday gross profit					
		<u>\$123.20</u>							<u>\$98.10</u>						<u>\$165.45</u>					

prices fish get in the auction. For those fish which rarely appear in the auction, prices are set by the dealer on the basis of her knowledge of the saleability of the item.

After the auction is over, Akiko returns to her stall, where several employees have set up the table and put out the fish during her absence. If she did not go to the auction, she asks returning dealers what the auction prices were for various fish and sets her retail prices accordingly.

Small Fish dealers make as much as they can from the fish on the first day it is on the table. For example, akule purchased at 55¢ per pound will be sold at \$1.00 early in the day, and dropped back to 85¢ after noon in an attempt to encourage sales. The price will stay at 85¢ per pound until the next morning, dropping to 75¢ in the afternoon. On the third day, Akiko will sell the fish at three pounds for \$1.75, although the same three pounds cost her \$1.65. If the fish is not sold after the third day, the price will drop to 50¢ per pound or lower, and often the remainder is thrown away.

Ahi dealers have an advantage over Small Fish dealers in that they are rarely stuck with a supply of very expensive fish after the flux of a vast quantity of fish has caused the price to drop. Ahi prices seem to rise sharply but fall gradually. Perhaps because ahi is always in demand and can be stored longer, the market is rarely flooded with overwhelming quantities of fish. On the other hand, Small Fish

dealers often have to cope with sudden large catches of akule, weke, and opelu. Consequently, if they buy fish at a high price, they attempt to sell all of it that day, because they will be forced to sell expensive fish at a low price in order to compete with other dealers if a large catch becomes available later.

### Factors Affecting Supply

The most important factor affecting the Small Fish dealers' supply is the weather. Heavy rains and high winds prevent the reef fishermen and many deep-sea fishermen from going out to fish. The small size of their boats and the discomfort involved are enough to keep them on shore. All dealers know that the supply of reef and inshore fish decreases for a few days after a storm. On days of moderate rain, however, retail sales increase because construction workers who cannot continue their jobs often buy fish and beer to eat during their unexpected day off.

Other than the weather, factors affecting supply vary from dealer to dealer according to the habits of the fishermen who supply him. Most dealers do not try to predict what the supply of fish will be; rather, they wait until the amount and condition of the fish is known and then choose among a series of options. Figure 5 illustrates this process.

Cooperation with one's fellow dealers is an important part of success as a fish dealer. Since other dealers are

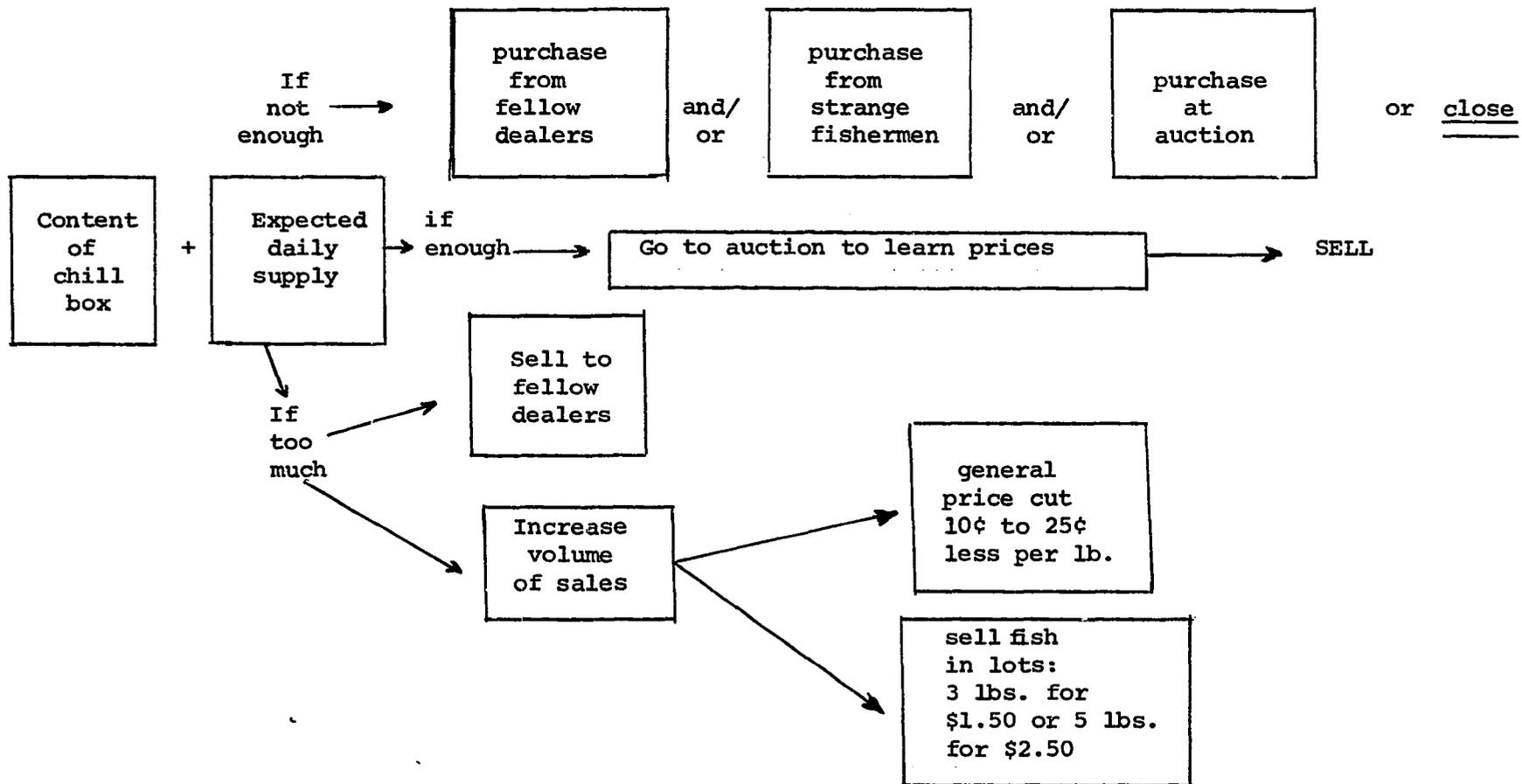


Figure 5. A Generalized Strategy for Small Fish Dealers

sources of supply themselves and provide information about other possible supplies, their friendship is necessary. Of course, some dealers are much more friendly than others. For example, several dealers take turns going on short vacations, each making arrangements to have a fellow dealer buy fish from his source of supply. This insures the fishermen's continued sale of their catches and gives the vacationing dealer's friend an opportunity to make extra money by increasing sales. In the old market place on Kekaulike Street in Chinatown, dealers can be seen working in stalls other than their own, especially during very high demand periods for specific kinds of fish. A Small Fish dealer may step in to an ahi dealer's stall to wrap or cut fish or make change for a few minutes or hours when ahi is in high demand. Or if one dealer has left his stall for a few minutes and another dealer sees a customer there, he will step over to sell the desired fish.

Of course there is some competition among dealers, particularly among dealers not dependent upon one another for fish. Several of the dealers have very dependable sources of fish from other islands, and thus can sell at a set price, which is usually lower than that charged by dealers with less regular sources of supply. In a market place where several dealers are within a few steps of each other, this practice causes considerable friction. Dealers with independent

stores (that is, stores outside of a market place), often charge somewhat higher prices for fish, because their customers have no basis for comparison shopping.

### Big and Little Businesses

Thus far I have overlooked the fact that selling fish can be big business, by describing Small Fish dealers who handle only a few hundred pounds of fish per day. My purpose is not to ignore the larger businesses but rather to give as much detailed information as possible, using the examples of dealers who specialize only in fresh fish. These little dealers account for only one quarter of the sales of tuna and about two-thirds of the sales of deep-sea and reef fish. The remaining fish are sold by a few big firms that wholesale the fish.

However, the bigger firms which supply the supermarkets are faced with the same problems as the smaller ones. Their operations are compounded by other variables, such as the availability and price of supplies of frozen and chilled fish, and in some cases, meat and poultry. Also, the large companies participate in a world-wide market, sending shipments of fresh ahi to Seattle, Los Angeles, San Francisco, New York, and Tokyo. Some snappers are also sent to the Mainland, although at much smaller quantities than ahi. Because of the cost of air freight, a dealer usually sends fish only when he has enough volume to qualify for reduced rates.

Usually 500 to 1000 pounds are necessary, and the individual fish shipped must weigh less than 100 pounds in order to fit into the shipping containers. Thus an influx of ahi weighing less than 100 pounds changes the structure of the market, because dealers can opt to sell some fish to the Mainland.

The fish supplied to grocery stores and supermarkets are usually aku, the cheaper ahi, steaks cut from snappers and bass, and akule. These fish are put on styrofoam trays, wrapped in plastic and put in the meat counters. Apparently there are several reasons why this method of selling fish has not been successful. Most of the fish cut into one or two-pound sections develop a "skin" of dried out flesh that the customer must trim off. The customer also has to do his own preparation and cutting for sashimi. Akule and other mackerel are not cleaned or scaled before being packaged, and thus the consumer has to do this chore at home. The grocery stores and supermarkets charge prices comparable to those in the market places without performing the services of cutting, cleaning, and filleting the fish. One supermarket has employed a fish seller to prepare fish to the customers' demand for at least six years. In 1972, one of the large retail discount chain stores opened a "fish market" within the store where the customary services are provided. Three other stores have since reverted to this "old-fashioned" way of selling fish because they have found that they make more money and maintain good customer relationships by doing so.

Because of their high fixed costs, supermarkets require a constant supply of fish. They cannot afford to take a day off when particular kinds of fish are unavailable. Only a few of the thousands of people who pass by the fish counter in a discount store each day would normally go down to one of the market places, except perhaps on a weekend when they are looking for specialty food. Thus the demand for all kinds of fish, and reef fish in particular, remains high regardless of variations in the supply, and the price gradually increases. Big fish dealers also attribute the constantly rising prices to the increased demand resulting from Japanese tourism in Hawaii. All these sources of demand are beginning to affect the fishermen and local interest in the fishing industry. This will be further discussed in the concluding chapter.

I have already mentioned that instead of trying to outguess the market, dealers with small businesses wait to see what will be available and then act according to one of a series of options. Dealers with large businesses cannot afford to do this; they feel it important that they have some control over the future supply of fish. Several of them keep track of the large akule boats in an attempt to plan their buying around expected arrivals of akule. Akule constitutes an important part of their sales, since it is one of the least expensive fish on the market, and since it is

considered desirable by customers of Japanese, Hawaiian and Filipino background.

These dealers who try to learn of expected akule catches are also interested in the arrivals of deep-sea boats. If such boats are not expected for some time, a dealer will try to increase his stock of reef and inshore fish of comparable value. Weke ula and kumu (two species of goatfish) can replace red snapper if this deep-sea fish is unavailable, because they, too, are red in color and very good to eat.

Big dealers attempt to buy as much fish as possible, knowing that they can always sell to other dealers or retail the fish at a lower-than-usual markup if they overbuy. A big dealer must assure himself of a large and constant supply of fish in order to support his business. During winter, when fish is scarce around Hawaii, several dealers import chilled fish from New Zealand, Australia, and Japan to provide their customers with a wide selection of fish.

Regardless of a dealer's ability to garner fish from diverse sources, there are several days each year when he has no fish on hand. Customers with special orders are told there is no fish, and nothing can be done. One dealer tells a story of a wedding reception he was asked to supply with sashimi. Three days before the wedding, he told the man who placed the order there would probably be no fish. The man insisted that there must be fish at any cost. The next day the dealer called again and simply asked if the man were willing to pay \$10.00 per pound. The man replied, "Of course

not," and hung up. The dealer said, "This man wanted me to do a miracle, produce fish out of nowhere, and he wouldn't even pay \$10.00 per pound!" The point is that no fish is no fish and, unless one goes out to catch it oneself, nothing can be done even for people willing to pay for it. With all of their planning, ordering and scheming, no dealer can control the future; all he can hope to do is estimate the likelihood that there will be fish from a certain source and attempt to place himself in a position to buy some.

One dealer who buys much of the inshore, reef, and deep-sea fish says that he pays high prices because he needs the fish. "How would it look if my customers came into the store and there was no fish? My whole business is centered around the sale of fish. I can't keep a good name with no fish on my table." Ability to pay a high price for the fish helps insure supply, but no dealer without financial support from sales of other, relatively risk-free, items can afford to offer premium prices all the time.

Even the dealer who is best at guessing the supply of fish that will be brought to the market cannot take into account all of the demands impinging on the level of demand from other dealers. He can consider holidays, paydays, rainy days, and so forth, but not the competition for fish from his fellow dealers. It is really the dealers' ability to manipulate their personal relationships that ultimately controls the allocation of fish in Honolulu.

## CHAPTER VII

### CONCLUSIONS

#### Introduction

This concluding chapter is composed of three parts. First, in a summary statement of the relationships among fishermen, fish dealers and the auction company, I discuss possible changes in the fish market and the effect of these changes on the participants in the market. Second, I discuss the theoretical issues introduced in Chapter I, particularly the differences between decision models based on rules and those based on strategies, the possible overlap between these systems, and Quinn's (1971b) discussion of simplifying procedures as a basis for cross-cultural comparisons of decision models. Finally, some methodological problems are discussed.

#### The Fishermen, the Fish Dealers and the Auction Company

It is useful to step back from the detailed description of the fish market to look at the structure of the entire fishing economy. The three major elements of this system are the fishermen, the fish dealers and the auction company, and the relationships among these elements need to be explored. The auction company, owned by fish dealers, fishermen, and other investors, headed by the auction manager and the auctioneer, and employing drivers, bookkeepers, and secretaries,

is responsible for mediating between fishermen and the fish dealers at several levels.

At the most obvious level, the auction company transports and sells fresh fish in a manner convenient for the dealers and profitable for the fishermen. At another level, the auction company invests in fishing boats by coordinating repairs, installing new equipment, and making outright investments in new boats. Since the auction company is dependent upon a commission from the sale of fish for the bulk of its income, it has a financial interest in maintaining as constant a supply of fish as possible, and in increasing the supply without lowering prices significantly. While this activity is to the financial advantage of the fishermen and to dealers who own shares in the auction company, in fact, few of those dealers who own shares perceive it to be to their direct advantage. They argue that maintaining high prices for the scarce locally caught fish forces them to increase their imports of Mainland and foreign fish to insure a volume of sales necessary to maintain large businesses. They claim that importing inexpensive fish decreases the demand for locally caught fish and causes the existing market to deteriorate. They would like to have local fish at greater volume but lower prices so that they could sell more of it, thereby strengthening the local fishing industry. However, increasing supply while decreasing the cost per pound actually

maintains the income of the fishermen at the level attained under conditions of low supply and high prices. A fisherman would prefer to fish four days for 10,000 pounds at 65¢ per pound than to fish eight days for 20,000 pounds at 30¢ per pound. The model developed in Chapter V shows quite clearly that slight variations in the amount of fish brought to auction alter the price received by the fishermen. Thus, in order to justify the extra work involved in catching a greater volume of fish, the fishermen would have to be well paid for their work.

In short, the dealers want more fish at a lower price per pound and the fishermen want to sell more fish for at least the same price per pound, if not at a higher price. The auction company is caught in the middle, not only because its own board of directors is composed of dealers and fishermen, but also because it is selfishly interested in the future of both dealers and fishermen. The only point they all seem to agree on is that they want more fish than is currently being brought to the market.

#### The Fishermen

The fishermen who work on the ahi, akule, deep-sea, crab and other types of boats which currently supply fish to the Honolulu market are, for the most part, old, untrained in other jobs, uneducated, and poor, and have limited relationships and commitments beyond the crew with which they work.

The owners of the boats, some of whom are also the captains, originally invested \$15,000 to \$40,000 in what are now old, poorly outfitted boats, with limited fishing range and small capacity, although the fish they catch are of a quality that meets the demands of this market. Few of the present owners are willing to continue investing in these old wooden-hulled boats, which are for the most part uninsurable. The cost of making repairs or of replacing even minor parts often overshadows the possible returns on these investments, given the likelihood that a boat could break up and sink at any time.

However, there are persons in the community who believe an investment in a fishing boat to be a good one, for they feel that continued Japanese tourism will maintain a demand for ahi (yellowfin tuna, Thunnus albacares and bigeye tuna, Thunnus obesus) and for the akule (bigeye scad, Trachurops crumenophthalmus) used as bait in catching ahi. Also, the snappers, crab and reef fish will continue to be popular, particularly in the light of the recent emphasis on culturally distinctive foods, both in restaurants catering to tourists and in the homes of local residents. Thus, there have been recent investments in large ahi boats, and there may soon be new construction of akule boats as well.

On the other hand, there is a very large group of sports fishermen and weekend fishermen who feel that an increase in large boats with efficient catching methods is detrimental to

their interests. To some extent, this large group of fishermen is supported by the State of Hawaii, which earns far more money from the sale of licenses and from the taxes on gasoline, equipment and boats used for pleasure fishing than it does from commercial fish ventures. While this policy disregards the desirability of the State's obtaining more of its food from local sources, rather than depending largely on imports, it is realistic in the immediate sense that the State needs an income and chooses to use its environment accordingly.

State policies also affect the kinds of commercial fishing methods that are developed. Although there are large numbers of reef fishermen who supply fish to the dealers as well as peddle it in the various communities, little research has been done to improve their methods of fishing, their equipment, or their marketing methods. The aku and ahi boats which employ fewer men have been given considerable aid in the form of research by the State and the University, because of the considerable income from these boats and the prestige of tuna as a food product. Even within the tuna fishery, much research (see references in Chapter II) has been done to develop the aku fishing industry while ahi, for the most part, has been ignored.

However, increasing demand for ahi, without a proportionally large increase in supply, has led to a considerable increase in the case value of the annual catch (see Table 15). As a response to the demand for more ahi, two new ahi boats

Table 15  
Compared Aku and Ahi Catches

	Aku		Ahi	
	pounds	value	pounds	value
1960	7,359,923	\$1,001,017	1,651,258	\$ 734,036
1961	10,894,320	1,306,734	1,497,014	676,982
1962	9,415,376	1,173,986	1,617,565	741,102
1963	8,099,341	1,089,820	1,333,111	654,912
1964	9,023,599	1,221,701	1,338,369	678,344
1965	16,157,309	2,013,861	1,271,498	648,367
1966	9,384,527	1,403,623	1,265,334	698,065
1967	8,039,675	1,263,116	1,148,829	705,866
1968	9,319,683	1,539,617	978,230	702,739
1969	5,963,265	1,245,204	1,132,537	909,823
1970	7,351,096	1,496,919	1,182,142	1,008,995
1971	13,340,812	2,752,710	1,329,597	1,085,214
1972	10,917,378	2,949,372	1,329,899	1,244,204

From: State of Hawaii, Division of Fish and Game,  
Commercial catch by species, State of Hawaii.

(at a cost between \$250,000 and \$350,000 each) were added to the Honolulu fishing fleet in the Spring of 1973. These boats are equipped with sophisticated chilling and freezing compartments, fuel capacity for long range trips, and equipment for judging water depth, temperature, and salinity. Additionally these boats have comfortable living quarters for captain and crew, a vast improvement over facilities on older boats where meals are prepared and eaten on deck and crew sleep on mattresses crowded into the pilot house or among bundles of line on the deck.

There are several problems surrounding the introduction of these new boats. As explained in Chapter II, the ahi boats which receive high prices are small ones that fish frequently, coming into port every ten days to two weeks. Frequent return to port assures the dealers that the fish has recently been caught. Freshly-caught fish is a good investment, not only because of its quality, but also because of its long shelf life, which enables the dealers to store it in order to reduce the risk of an uncertain fish supply.

In contrast, the one modern boat in operation previous to the introduction of these two new boats caught large volumes of fish for which it received low prices. This boat suffered two disadvantages in the Honolulu market as a result of its "efficiency." These are the result of the volume of the catch and the quality of the fish. Because this boat is

a modern steel vessel equipped with chilling compartments, the ice in which the fish is packed does not melt, and thus the boat can fish for three to four weeks at a time. While this reduces the running expenses for the boat, the average quality of fish that it brings to market is only adequate at best from the dealers' points of view. Because mediocre fish receives rather low prices, the entire catch loses value. Additionally, the relatively enormous quantity of fish that it lands reduces the price further, and thus the boat makes a lower profit than a wooden sampan bringing a small amount of high quality fish to the auction.

It is my contention that the small "inadequate" sampans which currently supply the market are in some sense ideal for the type of product demanded here. The large sampans and modern metal boats with greater fishing range spend more time at sea and return with a poorer product. The profitable operation of the two new boats can perhaps be assured only by expanding the demand for fish that will not be sold fresh or used for sashimi. The two new boats have not begun fishing operations at the time I write, and thus their influence on the market cannot yet be determined.

#### The Fish Dealers

The price of fish in the market is the result of shared perceptions by the dealers. As discussed in Chapters IV, V, and VI, each dealer has his own strategies for dealing in the

market, but taken collectively, the dealers operate under unwritten rules of expected behavior, as well as under environmental constraints. These rules and constraints, which were isolated from observed behavior and economic data, were used to build a model which shows the interrelationships of factors that affect dealers' decisions at auction (Chapter V). The volume of ahi, the boats from which it came, the weather, the aku supply, the volume and price of ahi sold on the previous day, and the day of the week were all considered. However, with a change in the market, such as the introduction of a new dealer or a rapid increase in the volume of fish, the rules governing auction behavior may change. Before discussing these possible changes a brief review of the dealers may be helpful.

In Chapter IV, the dealers were characterized by several criteria: sex, age, length of time in business, type of business, etc. If one were to place the dealers in a continuum from most specialized to most generalized (i.e., from the dealer who sells one kind of fish to a single ethnic group to the dealer who sells all kinds of fish, as well as meat, vegetables, fruit and poultry to all ethnic groups) one would have ranked the dealers according to several variables. First, they would be ranked according to "buying power." This refers to the dealer's ability to bid in auction. When the prices go high, the dealers with limited businesses do not buy fish, because they are unwilling to make the cash

outlay given the high probability that they will lose money when they attempt to resell the fish. Only those dealers with financial backing (i.e., the capital with which to wager) and the diversity of products to absorb the loss if in fact the fish cannot be sold at a high price can afford to buy at those times.

A dealer's investment tends to be correlated with his position on the generalized-specialized continuum. Dealers who handle only one kind of fish have invested very little money in their businesses, although a great deal of skill and time may be involved. Diversified dealers have invested in equipment, in the training of employees, and in several cases, in buildings to house their businesses. Those with specially equipped stores have the greatest capital investment, and it is they who are training their sons to succeed them in the fish business. These dealers are also the ones who are most interested in possible changes in the fishing industry, for they would have to adjust their strategies to accommodate to these changes.

As mentioned previously, one change that all dealers would like to see is an increase in the supply of fish. This is a desire that has placed some of them in a peculiar situation because of imminent plans to rebuild the Market Place. These plans have discouraged dealers from expanding cold storage facilities until the rebuilding is completed. The Market Place, where many wholesalers have their businesses

and where the auction is held, is scheduled to be torn down and replaced with a new market center, combining both wholesale and retail outlets under one roof. This is planned to coincide with Federal and State efforts in a renewal project for the Chinatown district in which the Market Place is located. However, the timetable is continually changing, and demolition originally scheduled for 1972 and 1973 has not yet come about.

One reason for the delay is that State Health Department regulations concerning meat and pork handling in particular are so strict that buildings suitable as temporary quarters for the present tenants of the Market Place are difficult to find, and would be almost as costly to construct as permanent structures. The fish dealers who presently are tenants of the building are unwilling to improve their facilities because it is likely that the building will be torn down soon. Any newly purchased piece of equipment will then have to be moved, and might not fit into the new building anyway. Also, rents for the projected new building have been climbing steadily even though construction has not yet started, and several dealers are concerned about their ability to pay both high rents and increased labor costs. Thus the possibility of a new building maintains the present marketing system in a stable or deteriorating state, and the building itself, if it becomes a reality, could put some dealers out of business because of increased costs.

The most serious drawback to the present situation is that adequate storage facilities for fresh fish do not exist. Dealers complain when more than 200 ahi are available in any one week because they do not have the facilities to keep the fish. Except during holiday periods, the arrival of a large quantity of fish not only causes prices to drop, which results in less money for the fishermen, but embarrasses the dealers, who do not have adequate channels for disposing quickly of large amounts of fish.

A departure from the present system of buying individual fish or very small lots would necessitate the introduction of a grading system. The methods by which dealers judge and choose among fish (see Chapters V and VI) would become untenable with an increased supply. The effect of a tremendous increase in fish on the auction can be gauged by considering the week prior to New Year's, when vast amounts of fish come to auction. The auction begins 2-1/2 hours earlier than normal at 4:00 a.m. and continues until 8:30 or 9:00 a.m. If the auction were always four hours long, dealers buying at auction would not be able to carry out the many tasks related to their businesses which they now perform. They would have to increase their number of employees. They would also have to introduce some mechanical means for cutting or filleting large fish, or else sell these fish in large sections or whole, as is done with the small fish. Such expansion is

feasible, but may not be economically possible except for the largest of the dealers.

#### The Auction Company

The auction company is faced with the very real possibility that there will soon be no boats or fishermen active in Hawaii because both the boats and the men are old, and are not being replaced. The auction manager is anxious to maintain an outlet for fish through the present system of wholesalers and retailers, as well as to maintain the diverse fishing fleet as a profitable, attractive investment. However, the introduction of the new steel boats may destroy the present structure, either by driving the prices so low that other boats cannot survive, or by adding such a volume of fish at irregular intervals that the dealers have nothing in stock for weeks at a time and then are flooded with more fish than they can easily sell.

Two solutions have been proposed to counteract these possibilities. First, the auction manager has suggested that the amounts of fish made available to the fresh fish market be limited so that prices would stay between \$1.50 and \$2.25 per pound for the best fish. He believes that this price level would be sufficient both to maintain the older boats and to provide the new boats with a good income, thereby encouraging increased investment in the fishing industry. Any excess fish could then be canned. Although Hawaiian

Tuna Packers currently cans only aku, albacore (Thunnus alalunga) could also be canned. Now the ahi boats bring little albacore to market because there is no demand for it. However, if the new tuna boats can sell large volumes of albacore to the canners while marketing ahi as sashimi, the boats could prove quite profitable to their investors without driving present market participants out of business.

The second solution involves increasing the marketing area for fresh fish sales. There is a great demand for top-quality sashimi fish in Japan, and a large proportion of the fish now brought to the Hawaiian market could be sold to a Japanese dealer. However, unless the new boats develop methods for maintaining the quality of their fish better than has the existing steel boat, it is possible that a Japanese buyer would simply skim off the best fish (those caught during the last week of an extended fishing trip) to send to Japan, leaving local dealers with poor-quality fish to sell in Hawaii and on the Mainland. This in turn could affect the volume of sales made locally, since it is doubtful that poor-quality sashimi could be sold in the local market. Of course, there is also the very real possibility that, if Hawaii does not develop a tuna fishing fleet that can export part of its catch to Japan, Japanese fishing boats will expand their territory and catch the fish themselves.

However, this second solution has serious drawbacks, for one must consider the difficulties that a Japanese dealer or an exporter would face if he tried to enter this market. Regardless of a man's "buying power," financial backing, and experience at judging fish, there is little chance that he will be successful at buying fish unless he can work within the social system of the auction. The present group of dealers is a closed group of men, accustomed to working together over long periods of time with well-structured expectations of behavior, and even a jargon that allows them to communicate various kinds of information. Despite the fact that most of the dealers are of Japanese ancestry, a Japanese dealer would no more be accepted than a French one. Neither would know the local customs, language, traditions, and jokes, and thus both would fail.

#### Theoretical Problems in Decision Research

In Chapter I I discussed Keesing's reaction to Goodenough's (1956) article on decision rules. Keesing (1967) suggested a model of social structure that was built upon either rules or strategies, and I pointed out that this implied different orientations toward a group. That is, rules were found to apply in those situations where an individual's behavior directly affected the well-being of the group, while strategies were found to be employed in situations where an individual's activities were self-oriented, primarily affecting the actor. Quinn's hypothesis regarding the ways in which people make

decisions should also be considered. She suggested that people are not perfect decision makers, that they do not work within the closed model of Alexis and Wilson (1967:151) but rather that they have mechanisms, first for reducing the number of alternatives, and second, for choosing among the remaining alternatives. Several examples of the ways in which alternatives were reduced were given from Gladwin (1971), Agar (1971), and Cove (1971).

This dissertation, while concentrating on the strategies of the individual dealers, also contains several examples of rules that give structure to this market. There are rules concerned with the introduction of a product into the market, and others concerned with auction behavior. These rules operate in situations where the well-being of the entire group of fish dealers is involved, and the decisions governed by them do not appear to be amenable to the simplifying procedures suggested by Quinn.

However, the strategies used by the individual dealers can be classified according to Quinn's simplifying procedures. The dealer's alternatives are limited by the significant attributes of the available fish, and by the relative value his customers place on different species. Although dealers commonly reduce the number of alternatives by choosing those with the lowest associated risk, there are also dealers who choose fish, such as those caught by sportsmen, that combine

high risk with the possibility of a high payoff. The discussion of Takeshi's buying patterns illustrated this point. However, even when buying a fish that is considered risky because of the way it was probably caught and handled, the dealers always attempt to reduce the risk by carefully inspecting the fish.

Choice among alternatives also follows the procedures suggested by Quinn: lexicographic ordering and semiordering, cancelling out, dimension adding, and tipping the balance. However, because dealers change their methods of deciding as the auction progresses, there is no simple way of determining which method of choice is most important. Dimension adding and tipping the balance seems to be the least used method of making choices. Perhaps because fish dealers take so many considerations into account from the beginning, a new criterion of choice is seldom introduced.

Finally, I must return to the issue of cross-cultural comparisons. Comparisons between this market and another could be made at several levels. First, it would be interesting to note which spheres of activity in another market are covered by rules and which ones permit the use of individual strategies. The fact that the participants in this market perceive themselves as subject to collective sanctions restricts competition in the market as a whole, while the auction system supports (at least nominally) competition for

individual fish. A fish dealer from New Orleans, amazed at the way in which the Honolulu fish market functioned, described an entirely different system for his own market. According to him, the New Orleans market lacked special rules, leaving the dealers free to use any legal strategy to obtain fish or favorable terms. In fact, he pointed out that one of the strategies used by dealers there was to undersell their fellow dealers in an attempt to drive them out of business. He described the result of this activity as an unstable marketing system in which dealers were very uncertain about the future of their businesses.

Thus it appears that the Honolulu fish dealers have avoided some of the risks of their business by eliminating extreme competition among themselves through a system of established social relations. The major remaining source of uncertainty is the unreliability of the fish supply. The use of a social system to reduce risk is not unusual, for one can think of many examples where society protects its members from the unknown or the uncertain. In a general sense, the rules of society result in consistent behavior so that marriage, transmission of property, and other vital concerns are played out in expected patterns. Fish dealers fear the uncertainties that would probably result from an unrestrained use of economic power. Hence they apply social and economic sanctions against any member of their group who

does not behave consistently and predictably, or who ignores the legitimate interests of his colleagues.

The areas that seem to be covered by rules in this market are: competition for sales, auction behavior and the introduction of new products. The areas that seem to be covered by individual strategies are: competition for purchases, use of technology, the introduction of new customers (i.e., a previously unexploited group).

If it were possible to categorize decisions according to the simplifying procedures discussed by Quinn, one might gain some insight into the difference and similarities in market systems. For example, if dealers consistently use only lexicographic ordering or semi-ordering and dimension adding as methods for choosing among alternatives, then one could expect specific kinds of behavior under a variety of conditions by knowing in what order the decision maker had placed the attributes or the number of attributes. Thus a specific, predictive model of individual decision-making could be built and cross-cultural comparisons made based on procedures used in decision making.

However, in this case, the auction process eliminated some alternatives and resulted in irregular use of simplifying procedures, and often a fish that was not within the original realm of choice was chosen. Thus it is very difficult to predict decisions here, although each dealer's

general strategies can be observed and elicited, and furthermore, these strategies can be generalized (see Figure 4). Regardless of one's ability to generalize about strategies, it seems difficult to make cross-cultural comparisons at the level of strategies because they are specific to a setting. This obviously needs to be explored further.

### Methodological Problems

In the previous section I spoke of the possibility of building a predictive model of individual decisions. Although a model was built in Chapter V, it predicted the outcome of a variety of decisions made by a group of dealers. Building such a model was a methodological problem rather than a theoretical one. Using the factors elicited from the dealers, their opinions of the relative importance of these factors and my own observations of the auction, it was possible to build a model predicting change in price.

This model followed the suggestion by LeClair and Schneider (1968) (see Chapter I) that anthropologists doing economic research take a closer look at the functional relationships of factors. In order to do this, a research strategy which examined the decisions made by the individuals participating in the market was used. The ways in which I elicited information and the kinds of information I obtained were described in the introduction and in the text, but I feel that some problems involved in this kind of research should be discussed in greater detail.

Although decision research may be no more tedious than doing a census or collecting kinship data for an entire village, I felt it to be so and my informants would agree. It is not only extremely detailed, but repetitive too, since it is difficult to isolate a decision process from a small sample of decisions. Because of the volume of information collected from the small number of informants with which I worked, I would not recommend doing this type of research in a group composed of fifty persons or more.

Secondly, decision research demands that one have a good working knowledge of the informants' language. Since much of my time was spent attempting to have people verbalize obscure processes, not only was their linguistic facility (or lack of it) a problem, but my own ability to understand what was finally said was often taxed. Most dealers spoke a local dialect of English called pidgin by themselves as well as the community at large. The dealers of Japanese ancestry often spoke some Japanese when talking together. In particular, Japanese nouns were used in English sentences, while Japanese question or affirmation words (ka and ne) often followed English sentences. If two of the older dealers were involved, the conversation was mainly in Japanese, with a few English nouns or phrases. Since most of the dealers spoke pidgin or Japanese, the non-Japanese-speaking dealers usually only spoke pidgin or English, even if English was not their native language, because they rarely

had a member of their own language group to speak to while at auction. In the wholesale and retail stalls, languages were spoken according to the ethnic group of the employees.

When I first began the research, dealers conscientiously spoke formal English to me, but after several months, they stopped and used their normal speech. After they discovered that besides understanding pidgin I also spoke some Japanese, I often got lessons, particularly in obscene words and phrases they felt I should say to other people as a joke. Actually, besides the joking, I did learn quite a large vocabulary, although one completely different from that used by the majority of Japanese speakers since it was particular to a fish market.

A third problem relating to decision research is that of the choice of a setting in which to study decisions. I chose a fish market because it involved daily decisions being made by a small number of people in a setting (the auction) where I could observe at least a major part of the process. Research projects in decision making with which I had previously been involved considered decisions made over long periods of time. Although some of the relationships which influenced decisions had long been established in the fish market, the decisions themselves were fairly easy to observe and understand in a short period of time. Thus I think that anyone studying decisions should do so in a situation where decisions are likely to take place fairly frequently.

Because the process of discovering how decisions are made had made me aware of the perceptions of my informants, I was in a good position to understand their reactions to a recent change. In June 1973 the Federal government put a price freeze on fish for the first time. At a meeting between representatives of the Internal Revenue Service and the fish dealers, several points of confusion arose which the IRS agents were unable to clarify. The government recognized a species of fish as a single category, all members of which were to be treated in the same manner: tuna was tuna. However, for the fish dealers there is a difference among small, medium, and large tuna, both in the price that is paid for it and the way in which the fish is sold. Several dealers had been selling small ahi at a relatively low price at the time prices were frozen because this kind of tuna was plentiful then. They were unable to sell big ahi profitably during the price freeze because they were legally restricted to the low prices of the small ahi. When I explained to the IRS agents that although dealers knew big and small ahi belonged to the same species, they perceived the different fish size as two different products analogous to beef and veal, they understood the problem but had no solution to it, for legally there was no recognized difference. The dealers felt that the law was prejudicial since it did not take into account either the size or the quality of the

various fish, the most important factors from the dealers' points of view.

The failure of the government to use categories based on decisions of the fish dealers resulted in substantial financial loss to several of the dealers and a loss of tax revenue to the government. Although I do not intend to justify decision research on the grounds that it can help someone make or save money, it does seem obvious that plans for analyzing a changing system ought to be based on the perceptions, goals and interests of the people involved, and that studying their decisions is a good way to learn what these perceptions, goals and interests are.

Finally, from the first day of the research, I was assured by the dealers that "it is all a matter of supply and demand, supply and demand." Of course they were right, for the market can be explained in terms of supply and demand. However, an adequate explanation must include cultural, ecological and social factors that the dealers do not readily perceive or verbalize, as well as those factors that are readily apparent to them. Thus this dissertation attempted to bring all of these factors together in a description of the fish market that covered the issues of supply and demand without ignoring the social structure of the market.

## APPENDIX I

## COMMONLY CAUGHT FISH FOR THE HAWAIIAN MARKET

Table I

English, Hawaiian, and Scientific Names

English name	Hawaiian or Local Names	Scientific Name
Albacore	Tonbo/'ahipalaha	Thunnus alalunga
Amberjack	Kahala	Seriola dumerilii
Anchovy	Nehu	Stolephorus purpureus
Barracuda	Kaku	Sphyræna barracuda
Big red eye	'Aweoweo	Priacanthus crientatus
Bonefish	'O'io	Albula vulpes
Bonito	Kawakawa	Euthynnus yaito
Damsel fish	Mamo	Abudefduf abdominalis
Dolphin	Mahimahi	Coryphaena hippurus
Flat fish	Paki'i	Platophrys pantherinus
Goat fish-red	Kumu	Parupeneus porphyreus
Goat fish	Moano	Parupeneus multifasciatus
Goat fish	Red weke	Mulloidichthys pflugeri
Goat fish-red	Weke 'ula	Mulloidichthys auriflamma
Goat fish	White weke	Mulloidichthys samoensis
Jack Crevally	Ulua/papio	Carangidae
Japanese mackerel	saba	Scomber japonicus
Kawelea	Kawele'a	Sphyræna helleri
Lady fish	'Awa'aua	Elops hawaiiensis
Leather back	lae	Scomberoides sancti-petri
Limpet (fresh)	Hihiwai/Vee	Neritina
Limpet (sea)	'Opihi	Helcioniscus
Marlin, striped	Natagi/a'u	Makaira audax
Milk fish	'awa	Chanos chanos
Mountain Bass	Aholehole	Kuhlia sandvicensis
Mullet	'Ama'ama	Mugil cephalus
'Omaka	'Omaka	Caranx mate
Parrot fish	uhu	Family Scaridae
Razor fish	Nabeta/laenihi	Anistrias provonius
Rock cod	Nohu/hogo	Scorpaenopsis cacopsis
Salmon, Hawaiian	Kamanu	Elagatis bipinnulatus
Scad, Big-eye	Akule/Aji	Trachurops crumenophthalmus
Scad, Big-eye (young)	halalu/hahalalu	Trachurops crumenophthalmus
Scad, Mackerel	'Opelu	Decapterus pinnulatus
Seabass	Hapu'upu'u	Epinephelus quernas
Silverside	'iao	Pranesus insularum

Table I (continued) English, Hawaiian, and Scientific Names

English name	Hawaiian or Local names	Scientific name
Snapper, red	ehu/ Efu 'ula'ula	<i>Etelis marshi</i>
Snapper	gindai/ Uhikiki	<i>Rooseveltia brighami</i>
Snapper, pink	Kalikali	<i>Pristipomoides sieboldi</i>
Snapper, Aust.	Mu	<i>Montaxis grandoculis</i>
Snapper, red	Onaga/'Ula'ula koae	<i>Etelis carbunculus</i>
Snapper, pink	'Opakapaka	<i>Pristipomoides microlepis</i>
Snapper, grey	Uku	<i>Aprion virescens</i>
Squid	Tako	
Squirrel fish	Mempachi/ U'u	<i>Myripristis berndti</i> or <i>argyromus</i>
Stick fish	Nunu	<i>Aulostromus chinensis</i>
Surgeon fish	Palani	<i>Acanthurus dussumieri</i>
Surgeon fish	Pualu	<i>Acantherus xanthopterus</i>
Tang, convict	Manini	<i>Acanthurus triostegus</i>
Tang, orange spotted	Naenae	<i>Acanthurus olivaceus</i>
Thread fish	Moi	<i>Polydactylus sexfilis</i>
Trigger fish	Humuhumu	Balistidae
Tuna, big eye	'ahi/ shibi/ Menpachi	<i>Thunnus obesus</i>
Tuna, blue fin	'ahi/Marguro	<i>Thunnus Thynnus orientalis</i>
Tuna, skipjack	'aku	<i>Katsuwonus pelamis</i>
Tuna, yellow fin	'ahi/Yashihi	<i>Thunnus albacares</i>
Unicorn fish	Kala	<i>Naso unicornis</i>
Wahoo	ono	<i>Acanthocybium solandri</i>
Wrasse	Hinalea	Family Labridae

Adapted from: Gosline and Brock 1960, Titcomb 1972 and  
Tamashiro Market Daily Fish Inventory

Table II

## Classification of Commonly Caught Fish by Boat Type

English name	Hawaiian or Local names	Scientific name
<b>Ahi boats:</b>		
Blue fin tuna	'ahi, Maguro	Thunnus Thynnus orientalis
Big eye tuna	'ahi, shibi, menpachi	Thunnus obesus
Yellow fin	'ahi, mashibi	Thunnus albacares
Barracuda	kaku	Sphyraena barracuda
Dolphin	mahimahi	Coryphaena hippurus
Striped marlin	natagi, a'u	Makaira audax
Wahoo	ono	Acanthocybium solandri
Albacore	tonbo, 'ahipalaha	Thunnus alalunga
<b>Deep sea boats:</b>		
Red snapper	ehu, efu, 'ula'ula	Etelis marshi
Snapper	gindai, ukikiki	Rosseveltia brighami
Seabass	Hapu'upu'u	Epinephelus quernas
Rock cod	hogo, nohu	Scorpaenopsis cacopsis
Amberjack	kahala	Seriola dumerilii
Pink snapper	kalikali	Pristipomoides sieboldi
Hawaiian salmon	kamanu	Elagatis bipinnulatus
Bonito	kawakawa	Euthynnus yaito
Red, goat fish	kumu	Parupenus porphyreus
Red snapper	onaga, 'ula'ula koae	Etelis carbunculus
Pink snapper	'opakapaka	Pristipomoides microlepis
Grey snapper	uku	Aprion virescens
Red goat fish	weke 'ula	Mulloidichthys auriflamme
<b>Aku boats:</b>		
Skipjack tuna	aku	Katsuwonus pelamis
Silverside	'iao	Pranesus insularum
Anchovy	nehu	Stolephorus purpureus
<b>Akule boats:</b>		
Big-eye scad	akule, aji	Trachurops crumenophthalmus
Young scad	halalu, hahalalu	Trachurops crumenophthalmus
Thread fish	moi	Polydactylus sexfilis
Bonefish, ladyfish	'o'io	Albula vulpes
Jack Crevally	ulua, papio	Carangidae family
<b>Night fishing boats:</b>		
Big eye scad	akule, halalu	Trachurops crumenophthalmus
Mackeral scad	'opelu	Decapterus pinnulatus

Table II (continued) Classification of Commonly Caught Fish by Boat Type

English name	Hawaiian or local names	Scientific name
Reef boats, skiffs, no boat: i.e., near shore fish:		
Mountain bass	aholehole	<i>Kuhlia sandvicensis</i>
Mullet	'ama'ama	<i>Mugil cephalus</i>
Milkfish	'awa	<i>Chanos chanos</i>
Ten pounder/lady fish	'awa 'aua	<i>Elops hawaiiensis</i>
Big red eye	'aweoweo	<i>Priacanthus cruentatus</i>
Limpet (fresh)	hihiwai, vee	
Wrasse	hinalea	Labridae family
Trigger fish	Humuhumu	Balistidae family
Unicorn fish	kala	<i>Naso unicornis</i>
Kawelea	kawelea	<i>Sphyaena helleri</i>
red goat fish	kumu	<i>Parupeneus porphyreus</i>
leather back	lae	<i>Scomberoides sancti-petri</i>
Damsel fish	Mamo	<i>Abudefduf abdominalis</i>
Convict tang	manini	<i>Acanthurus triostegus</i>
Squirrel fish	mempachi, u'u	<i>Myrispristis berndti</i> or <i>argyromus</i>
goat fish	moano	<i>Parupeneus multifasciatus</i>
Thread fish	moi	<i>Polydactylus sexfilis</i>
Porgy	mu	<i>Monotaxis grandoculis</i>
Razor fish	nabeta, laenihi	<i>Iniistius pavoninus</i>
Orange spotted tang	naenae	<i>Acanthurus olivaceus</i>
Stick fish	nunu	<i>Aulostomus chirensis</i>
Bonefish	'o'io	<i>Albula vulpes</i>
'Omaka	'omaka	<i>Caranx mate</i>
Limpet (sea)	'opihi	
Flat fish	Paki'i	<i>Platophrys pantherinus</i>
Surgeon fish	Palani	<i>Acanthurus dussumieri</i>
Surgeon fish	Pu'alu	<i>Acantherus xanthopterus</i>
red goat fish	red weke	<i>Mulloidichthys pflugeri</i>
Japanese mackerel	saba	<i>Scomber japonicus</i>
Squid	tako	
Parrot fish	uhu	Scaridae family
Jack Crevally	ulua, papio	Carangidae family
Red goat fish	weke 'ula	<i>Mulloidichthys auriflamma</i>
White goat fish	white weke	<i>Mulloidichthys samoensis</i>

Adapted from: Gosline and Brock 1960, Titcomb 1972 and  
Tamashiro Market Daily Fish Inventory

## APPENDIX II

### WEEKLY SUMMARY OF AUCTION AND RETAIL PRICES FOR THIRTY KINDS OF FISH

This appendix contains the information gathered at the daily fish auction and at eleven retail markets which has been summarized by the week. Since the auctions are held Monday through Saturday, all weeks end on Saturday. The heading for this appendix uses the word "kinds" rather than species; perhaps it looks non-specific, but in fact there are only twenty-one species represented. The Big-eye Scad or akule is categorized as four kinds of fish: Hooked akule, Hooked halalu, Netted akule and Netted halalu because these are the categorizations of fish relative to this market. Also, ahi is subdivided into: Big Ahi (over 100 pounds each), Medium Ahi (70 to 100 pounds), Small Ahi (less than 70 pounds), Yellow Fish Ahi (of all sizes, but rarely less than 100 pounds, thus the lack of symmetry between Big Eye and Yellow Fin tuna), and Kona Ahi. This last group of fish is either the fish caught by Big Island fishermen and flown to Oahu or the fish caught by pleasure boats off Oahu. These fish are grouped together because they are handled in similar fashion at the auction. They come in at the end of the Big Fish Auction when most of the ahi has already been sold, or they are sold later during the

Small Fish Auction. "Kona Marlin" is the same combination of fish caught by Oahu pleasure boats and Big Island fishermen.

The heading NO. refers to the number of fish on the auction block during each week. Since several species of fish are sold by the can rather than as individual fish, this NO. is 0 for those fish. (Counting the number of akule in a seventy pound can would be time consuming and messy.) Most of the fish found at the Big Fish Auction have a figure under the heading NO.; however, this figure is consistently accurate only for the ahi. Often marlin were sold in lots of three or four, and I must admit to sloppy record keeping as far as that fish is concerned. For the weeks a number is present, it is accurate; for weeks where my data were incomplete, a 0 fills the record. This is also true of Kona marlin, ono, barracuda and mahi-mahi.

I kept daily records of the Big Fish Auction fish by fish. An example can be seen in Appendix IV. However, before summing the total pounds for each fish for each day, the weights were changed to the nearest number divisible by five. For example, fish weighing 137,63,47,19 became 135,65,45,20 so that the numbers could be added more easily. If only one or two fish were available, the numbers were not adjusted. In the Small Fish Auction I summed the pounds available by recording the weight to the nearest number

divisible by five of each can of a species and then summed these weights for total pounds per day.

The auction prices were averaged in a peculiar way for I found that the weighted average (i.e., the number of pounds times the price per pound summed for all fish of a species and then divided by total pounds) did not represent what the dealers perceived as an average. Rather, the simple average obtained by adding the price of each fish or can of fish and dividing by the number of fish or cans seemed to be much closer to their "average price." They disregarded the weight of the fish and perceived them as number of fish rather than pounds of fish. This was pointed out in Chapter V where an important variable in predicting price change was shown to be the number of ahi available at auction. The average price is important to the dealers for it is from this figure that retail prices are often set. For example, if one were to look at the fish UKU for the week ending 24/10/71, one would see that the average auction price was 70¢ with the top price for the week at 76¢ and the bottom at 62¢. The retail price of \$1.75 reflects the use of the formula shared by most dealers: double the auction price and add the mark-up ( $$.70 \times 2 = \$1.40 + .35 \text{ mark-up} = \$1.75$ ).

Retail prices were collected at eleven retail outlets in the city of Honolulu on a regular basis. Other stores, markets and stalls were also surveyed but seemed to share the same pricing and selling methods used by the eleven and

thus, in order to avoid extensive travel, I concentrated on collecting daily retail prices for these eleven establishments, with occasional trips to the others. The average retail price is the sum of retail prices collected from each store divided by the number of stores. For example, six stores selling akule priced at \$1.35, 1.30, 1.00, 1.12, 1.10, 1.15 have an average retail price of \$1.17 per pound.

The markup is figured by subtracting the average auction price from the average retail price. It should be ignored when there is no average retail price since the negative number found under the mark-up heading is then indicative of nothing.  $Q$  is the mark-up as a percentage of the auction price and  $Z$  is the mark-up as a percentage of the retail price. Some dealers determined mark-ups based on a percentage of the auction or retail price while most dealers simply added a number of cents per pound. Again one should note that the mark-up for filleted fish seems exceptionally high only when one fails to consider that approximately 50 percent of the weight is lost in filleting.

Finally, retail prices for Medium, Small, Yellow Fin and Kona ahi do not appear in the record. Since once the fish is cleaned and packaged for sale or displayed on the selling counter it is difficult to distinguish the size or species of the individual fillets, retail price for all ahi

is listed under the Big Ahi section. Actually, very little of the Small ahi appears on the retail market since most of it is sold to restaurants, bars or to the Mainland.

WEKE

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
17/10/71	0	102	0.35	0.35	0.35	1.10	1.25	0.75	0.75	0.68	2.14
21/11/71	0	43	0.40	0.40	0.40	1.10	1.25	0.50	0.70	0.64	1.75
28/11/71	0	200	0.73	0.86	0.60	0.85	1.25	0.50	0.12	0.14	0.16
23/01/72	0	1620	0.50	0.50	0.50	0.75	1.25	0.50	0.25	0.33	0.50
04/06/72	0	366	0.25	0.25	0.25	0.0	0.0	0.0	-0.25	0.0	-1.00
11/06/72	0	250	0.37	0.45	0.25	0.95	1.00	0.85	0.58	0.61	1.57
18/06/72	0	780	0.30	0.30	0.30	0.90	1.00	0.75	0.60	0.67	2.00
25/06/72	0	49	0.25	0.25	0.25	0.75	0.75	0.75	0.50	0.67	2.00
09/07/72	0	120	0.27	0.28	0.26	1.10	1.20	1.00	0.83	0.75	3.07
23/07/72	0	35	0.61	0.61	0.61	0.85	1.00	0.60	0.24	0.28	0.39
06/08/72	0	6	0.80	0.80	0.80	0.75	0.75	0.75	-0.05	-0.07	-0.06
20/08/72	0	168	0.40	0.45	0.35	0.80	1.00	0.60	0.40	0.50	1.00

PAPID

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
17/10/71	0	84	0.82	0.82	0.82	0.0	0.0	0.0	-0.82	0.0	-1.00
24/10/71	0	86	0.84	0.84	0.84	0.0	0.0	0.0	-0.84	0.0	-1.00
31/10/71	0	16	1.50	1.50	1.50	2.00	2.00	2.00	0.50	0.25	0.33
07/11/71	0	26	0.70	0.75	0.65	0.0	0.0	0.0	-0.70	0.0	-1.00
21/11/71	0	176	1.28	2.25	0.68	2.29	2.75	0.0	1.01	0.44	0.79
29/11/71	0	81	1.95	2.20	1.70	2.13	2.50	1.75	0.18	0.08	0.09
12/12/71	0	22	1.80	1.80	1.80	0.0	0.0	0.0	-1.80	0.0	-1.00
02/01/72	0	59	1.70	2.00	1.40	3.00	3.00	0.0	1.30	0.43	0.76
16/01/72	0	19	1.63	1.63	1.63	0.0	0.0	0.0	-1.63	0.0	-1.00
24/01/72	0	35	0.80	1.00	0.60	0.0	0.0	0.0	-0.80	0.0	-1.00
07/02/72	0	5	1.45	1.45	1.45	0.0	0.0	0.0	-1.45	0.0	-1.00
21/02/72	0	9	2.25	2.25	2.25	0.0	0.0	0.0	-2.25	0.0	-1.00
13/03/72	0	338	1.59	1.82	1.25	0.0	0.0	0.0	-1.59	0.0	-1.00
27/03/72	0	1708	1.21	1.45	0.90	2.00	2.00	0.0	0.79	0.39	0.65
03/04/72	0	7	0.50	0.50	0.50	0.0	0.0	0.0	-0.50	0.0	-1.00
15/05/72	0	68	0.90	0.90	0.90	0.0	0.0	0.0	-0.90	0.0	-1.00
12/06/72	0	144	0.56	0.75	0.42	0.0	0.0	0.0	-0.56	0.0	-1.00
24/07/72	0	13	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
07/08/72	0	12	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
14/08/72	0	65	0.93	1.10	0.55	2.00	2.50	0.0	1.07	0.53	1.14
29/08/72	0	7	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
31/12/72	0	86	2.25	2.25	2.25	0.0	0.0	0.0	-2.25	0.0	-1.00

WEKE ULA

FOR THE WEEK ENDING

NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z	
		AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM				
31/10/71	0	26	1.07	1.15	1.00	1.50	1.50	0.0	0.43	0.28	0.40
07/11/71	0	12	0.50	0.50	0.50	1.50	1.50	1.50	1.00	0.67	2.00
14/11/71	0	44	1.16	1.16	1.16	1.50	1.50	1.50	0.34	0.23	0.29
21/11/71	0	75	1.13	1.15	1.11	1.75	2.00	1.50	0.62	0.35	0.55
28/11/71	0	2	2.00	2.00	2.00	0.0	0.0	0.0	-2.00	0.0	-1.00
12/12/71	0	24	0.75	0.75	0.75	1.42	1.50	1.35	0.67	0.47	0.90
26/12/71	0	194	1.26	2.00	0.95	0.0	0.0	0.0	-1.26	0.0	-1.00
02/01/72	0	232	1.56	2.40	1.00	2.88	3.00	2.50	1.32	0.46	0.84
09/01/72	0	24	1.51	1.51	1.51	2.00	2.00	2.00	0.49	0.25	0.32
16/01/72	0	43	1.12	1.35	0.90	0.0	0.0	0.0	-1.12	0.0	-1.00
23/01/72	0	16	1.00	1.00	1.00	1.20	1.20	1.20	0.20	0.17	0.20
30/01/72	0	27	1.13	1.26	1.00	1.88	2.00	1.75	0.75	0.40	0.66
13/02/72	0	18	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
20/02/72	0	9	1.60	1.60	1.60	0.0	0.0	0.0	-1.60	0.0	-1.00
12/03/72	0	436	1.46	1.59	1.31	2.00	2.00	2.00	0.54	0.27	0.37
26/03/72	0	440	1.25	1.33	1.10	2.00	2.00	2.00	0.75	0.38	0.60
02/04/72	0	92	1.14	1.14	1.14	0.0	0.0	0.0	-1.14	0.0	-1.00
21/05/72	0	93	1.01	1.01	1.00	0.0	0.0	0.0	-1.01	0.0	-1.00
28/05/72	0	62	0.88	0.95	0.94	1.50	1.50	0.0	0.62	0.41	0.70
05/06/72	0	5	1.27	1.27	1.27	0.0	0.0	0.0	-1.27	0.0	-1.00
12/06/72	0	102	1.13	1.42	1.00	1.50	1.50	0.0	0.37	0.25	0.33
19/06/72	0	65	0.92	1.02	0.75	1.50	1.50	0.0	0.58	0.38	0.62
26/06/72	0	8	2.25	2.25	2.25	0.0	0.0	0.0	-2.25	0.0	-1.00
03/07/72	0	3	1.10	1.10	1.10	1.50	1.50	1.50	0.40	0.27	0.36
10/07/72	0	14	1.05	1.10	1.00	2.00	2.00	0.0	0.95	0.48	0.90
01/08/72	0	14	1.10	1.11	1.10	0.0	0.0	0.0	-1.10	0.0	-1.00
07/08/72	0	9	0.85	0.85	0.85	1.75	1.75	1.75	0.90	0.51	1.06
14/08/72	0	23	1.75	1.75	1.75	1.50	1.50	1.50	-0.25	-0.17	-0.14

MAHO

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
31/10/71	0	120	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
14/11/71	0	112	1.10	1.10	1.10	1.50	1.50	1.50	0.40	0.27	0.36
21/11/71	0	29	1.00	1.00	1.00	1.00	1.45	0.75	0.0	0.0	0.0
29/11/71	0	20	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
02/04/72	0	160	0.80	0.80	0.80	0.0	0.0	0.0	-0.80	0.0	-1.00
09/04/72	0	105	0.92	0.92	0.92	0.0	0.0	0.0	-0.92	0.0	-1.00
23/04/72	0	42	1.15	1.15	1.15	1.75	1.75	1.75	0.60	0.34	0.52
30/04/72	0	143	0.95	0.95	0.95	0.0	0.0	0.0	-0.95	0.0	-1.00
14/05/72	0	162	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
21/05/72	0	110	0.81	0.86	0.75	0.0	0.0	0.0	-0.81	0.0	-1.00
29/05/72	0	113	0.75	0.75	0.75	1.50	1.50	1.50	0.75	0.50	1.00
25/06/72	0	179	0.73	0.87	0.60	1.00	1.25	0.0	0.27	0.27	0.36
02/07/72	0	106	0.93	0.93	0.81	0.0	0.0	0.0	-0.93	0.0	-1.00
15/07/72	0	278	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
23/07/72	0	36	0.61	0.61	0.61	0.0	0.0	0.0	-0.61	0.0	-1.00
13/08/72	0	105	0.89	0.89	0.89	1.45	1.45	1.45	0.56	0.39	0.63
20/08/72	0	60	0.76	0.76	0.76	0.0	0.0	0.0	-0.76	0.0	-1.00

CPCLU

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	0	715	0.20	0.40	0.0	1.15	1.65	1.00	0.95	0.83	4.75
17/10/71	0	1860	0.35	0.75	0.0	1.25	1.35	0.0	0.90	0.72	2.57
24/10/71	0	2375	0.38	0.65	0.0	0.91	1.00	0.85	0.53	0.58	1.37
31/10/71	0	1971	0.77	0.85	0.65	1.14	1.25	0.90	0.37	0.32	0.48
07/11/71	0	3058	0.65	1.07	0.35	0.96	1.50	0.33	0.31	0.32	0.47
14/11/71	0	1905	0.86	1.00	0.75	1.07	1.35	0.75	0.21	0.19	0.24
21/11/71	0	1361	0.73	1.20	0.0	0.96	1.20	0.75	0.22	0.23	0.30
28/11/71	0	518	1.06	1.51	0.65	0.97	1.25	0.0	-0.09	-0.09	-0.09
12/12/71	0	496	1.09	1.25	1.00	1.27	1.50	0.0	0.18	0.14	0.16
26/12/71	0	329	1.52	1.76	1.40	1.65	1.65	0.0	0.13	0.08	0.09
02/01/72	0	33	1.60	1.61	1.60	0.0	0.0	0.0	-1.60	0.0	-1.00
09/01/72	0	159	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16/01/72	0	367	1.28	1.50	1.10	1.43	1.50	0.0	0.15	0.11	0.12
23/01/72	0	673	1.00	1.25	0.75	1.22	1.50	0.0	0.22	0.18	0.22
05/02/72	0	32	1.66	1.66	1.65	0.0	0.0	0.0	-1.66	0.0	-1.00
13/02/72	0	285	1.61	1.80	1.45	1.62	1.75	0.0	0.01	0.01	0.01
20/02/72	0	339	1.55	1.65	1.40	1.64	1.75	0.0	0.09	0.06	0.06
27/02/72	0	42	1.50	1.60	1.40	0.0	0.0	0.0	-1.50	0.0	-1.00
12/03/72	0	77	1.84	2.00	1.75	0.0	0.0	0.0	-1.84	0.0	-1.00
19/03/72	0	528	1.23	1.40	1.05	1.85	2.00	0.0	0.62	0.34	0.50
26/03/72	0	56	1.75	1.85	1.65	0.0	0.0	0.0	-1.75	0.0	-1.00
16/04/72	0	73	1.38	1.52	1.25	1.60	1.60	0.0	0.22	0.13	0.16
23/04/72	0	311	1.41	1.62	0.65	1.50	2.00	0.0	0.09	0.06	0.06
07/05/72	0	410	1.34	1.69	1.10	1.25	1.25	0.0	-0.09	-0.07	-0.07
14/05/72	0	510	0.98	1.06	0.75	1.05	1.25	0.0	0.17	0.16	0.19
21/05/72	0	610	1.02	1.35	0.60	1.13	1.25	0.0	0.11	0.10	0.11
28/05/72	0	258	0.98	1.32	0.75	1.50	1.50	0.0	0.52	0.35	0.53
04/06/72	0	97	1.49	1.69	1.30	0.0	0.0	0.0	-1.49	0.0	-1.00
11/06/72	0	1236	0.91	1.25	0.32	1.34	1.60	0.0	0.43	0.32	0.47
18/06/72	0	678	0.88	1.21	0.45	1.21	1.75	0.0	0.33	0.27	0.37
25/06/72	0	217	1.15	1.25	0.90	0.0	0.0	0.0	-1.15	0.0	-1.00
02/07/72	0	45	1.57	1.60	1.55	0.0	0.0	0.0	-1.57	0.0	-1.00
09/07/72	0	194	1.59	1.60	1.57	0.0	0.0	0.0	-1.59	0.0	-1.00
16/07/72	0	80	1.50	1.70	1.30	0.0	0.0	0.0	-1.50	0.0	-1.00
23/07/72	0	155	1.39	1.48	1.30	1.55	1.75	0.0	0.16	0.10	0.12
30/07/72	0	1025	0.66	0.73	0.65	1.13	1.25	0.0	0.47	0.41	0.70
06/08/72	0	1200	1.13	1.70	0.55	1.47	1.80	0.0	0.34	0.23	0.30
13/08/72	0	1126	0.30	1.16	0.0	0.95	1.10	0.0	0.65	0.68	2.15
20/08/72	0	172	1.22	1.25	1.20	1.50	1.50	0.0	0.28	0.18	0.22
03/09/72	0	425	1.02	1.45	0.65	1.00	1.00	0.0	-0.02	-0.02	-0.02
10/09/72	0	105	0.87	0.91	0.85	0.0	1.15	0.0	-0.87	0.0	-1.00
17/09/72	0	860	0.65	0.65	0.65	1.00	1.00	1.00	0.35	0.35	0.54
24/09/72	0	460	0.65	0.65	0.65	0.0	1.00	0.0	-0.65	0.0	-1.00
31/09/72	0	1120	0.65	0.65	0.65	1.00	1.00	1.00	0.35	0.35	0.54
31/12/72	0	452	1.39	1.56	0.90	1.42	1.50	0.0	0.03	0.02	0.02

## NET HALALU

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
07/11/71	0	17136	0.31	0.40	0.25	0.59	0.65	0.50	0.27	0.47	0.88
14/11/71	0	11340	0.34	0.40	0.30	0.57	0.65	0.50	0.24	0.41	0.70
21/11/71	0	13590	0.31	0.40	0.25	0.47	0.65	0.33	0.16	0.34	0.52
28/11/71	0	6020	0.32	0.35	0.30	0.54	0.65	0.42	0.22	0.40	0.66
05/12/71	0	13250	0.34	0.45	0.25	0.57	0.75	0.42	0.24	0.41	0.70
12/12/71	0	8050	0.33	0.40	0.30	0.57	0.65	0.50	0.24	0.42	0.72
19/12/71	0	5630	0.54	0.71	0.35	1.00	1.00	0.0	0.46	0.46	0.83
26/12/71	0	1890	0.67	0.70	0.65	1.00	1.00	1.00	0.33	0.33	0.49
02/01/72	0	7980	0.50	0.60	0.45	0.85	0.85	0.85	0.35	0.41	0.70
16/01/72	0	6860	0.35	0.40	0.30	0.65	0.65	0.65	0.30	0.46	0.86
23/01/72	0	5600	0.40	0.45	0.35	0.65	0.75	0.50	0.25	0.38	0.63
06/02/72	0	14910	0.43	0.50	0.40	0.76	0.85	0.72	0.33	0.43	0.76
13/02/72	0	7560	0.47	0.60	0.35	1.00	1.00	0.0	0.53	0.53	1.11
20/02/72	0	1170	0.73	0.95	0.50	1.00	1.00	0.0	0.27	0.27	0.36
27/02/72	0	3497	0.62	0.65	0.60	1.25	1.25	0.0	0.63	0.50	1.00
05/03/72	0	10710	0.35	0.35	0.35	0.50	0.8	0.50	0.24	0.41	0.69
12/03/72	0	7330	0.67	0.96	0.50	0.90	1.00	0.0	0.23	0.25	0.33
19/03/72	0	10308	0.49	0.55	0.40	0.71	0.75	0.0	0.23	0.32	0.46
26/03/72	0	3570	0.60	0.60	0.60	0.80	0.85	0.50	0.20	0.25	0.33
02/04/72	0	7560	0.50	0.55	0.40	0.78	0.85	0.75	0.29	0.36	0.57
09/04/72	0	1820	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
16/04/72	0	14560	0.45	0.60	0.40	0.80	0.85	0.75	0.35	0.44	0.78
23/04/72	0	20310	0.41	0.43	0.40	0.80	0.85	0.0	0.39	0.49	0.96
30/04/72	0	4550	0.40	0.40	0.40	0.0	0.0	0.0	-0.40	0.0	-1.00
07/05/72	0	10570	0.51	0.60	0.40	0.90	1.00	0.75	0.39	0.43	0.76
14/05/72	0	8448	0.73	1.40	0.40	0.63	0.85	0.50	-0.10	-0.16	-0.14
21/05/72	0	4550	0.40	0.50	0.45	0.75	0.75	0.75	0.35	0.47	0.88
28/05/72	0	1470	0.50	0.50	0.50	0.33	0.33	0.33	-0.17	-0.52	-0.34
04/06/72	0	4302	0.37	0.40	0.35	0.0	0.0	0.0	-0.37	0.0	-1.00
11/06/72	0	3580	0.34	0.40	0.20	0.75	0.75	0.0	0.41	0.55	1.21
18/06/72	0	2542	0.37	0.40	0.35	0.58	0.75	0.50	0.21	0.36	0.56
25/06/72	0	10815	0.38	0.40	0.30	0.47	0.50	0.33	0.00	0.19	0.24
02/07/72	0	2345	0.40	0.45	0.35	0.80	0.85	0.75	0.40	0.50	1.00
23/07/72	0	6401	0.44	0.55	0.35	0.70	0.70	0.0	0.26	0.37	0.59
30/07/72	0	3624	0.40	0.45	0.40	0.75	0.75	0.75	0.35	0.47	0.88
06/08/72	0	14492	0.42	0.65	0.30	0.73	0.85	0.0	0.31	0.42	0.74
20/08/72	0	7630	0.35	0.35	0.35	0.75	0.75	0.75	0.40	0.53	1.14
10/09/72	0	1610	0.40	0.40	0.40	0.0	0.72	0.0	-0.40	0.0	-1.00
31/12/72	0	5950	0.35	0.35	0.35	0.75	0.75	0.0	0.40	0.53	1.14

NET AKULE

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
17/10/71	0	1890	0.65	0.70	0.60	1.00	1.00	1.00	0.35	0.35	0.54
24/10/71	0	1875	0.78	0.93	0.63	1.17	1.35	1.00	0.39	0.34	0.51
31/10/71	0	840	0.92	1.00	0.85	1.35	1.50	1.20	0.42	0.31	0.46
16/01/72	0	1160	0.72	0.84	0.60	1.13	1.25	1.00	0.40	0.36	0.55
23/01/72	0	4900	0.55	0.60	0.50	1.00	1.00	1.00	0.45	0.45	0.82
05/02/72	0	3899	0.84	0.95	0.75	1.35	1.50	0.0	0.50	0.37	0.60
13/02/72	0	7140	0.81	1.00	0.45	1.08	1.35	0.85	0.27	0.25	0.33
20/02/72	0	5712	0.80	1.01	0.60	1.25	1.50	0.0	0.45	0.36	0.56
05/03/72	0	2877	0.93	1.20	0.66	0.95	1.00	0.0	0.02	0.02	0.02
12/03/72	0	3439	0.96	1.12	0.76	1.03	1.25	0.85	0.07	0.07	0.08
19/03/72	0	11760	0.58	0.80	0.45	0.65	0.80	0.0	0.07	0.10	0.11
02/04/72	0	4690	0.75	0.85	0.70	1.00	1.00	0.0	0.25	0.25	0.33
09/04/72	0	840	0.84	0.85	0.75	0.0	0.0	0.0	-0.84	0.0	-1.00
16/04/72	0	3850	0.85	1.00	0.75	1.35	1.35	0.0	0.50	0.37	0.59
23/04/72	0	2362	0.71	0.90	0.60	0.88	1.00	0.0	0.17	0.19	0.24
30/04/72	0	164	1.14	1.14	1.14	0.0	0.0	0.0	-1.14	0.0	-1.00
07/05/72	0	6650	0.54	0.65	0.50	0.90	1.00	0.0	0.36	0.40	0.67
14/05/72	0	3605	0.50	0.60	0.40	0.80	0.85	0.75	0.30	0.37	0.60
21/05/72	0	4395	0.43	0.55	0.30	0.75	0.75	0.0	0.32	0.43	0.76
28/05/72	0	9380	0.42	0.50	0.20	0.74	0.75	0.68	0.32	0.43	0.75
04/06/72	0	7408	0.48	0.55	0.45	0.0	0.0	0.0	-0.48	0.0	-1.00
25/06/72	0	1680	0.35	0.35	0.35	0.0	0.0	0.0	-0.35	0.0	-1.00
02/07/72	0	2340	0.83	0.92	0.75	1.20	1.20	0.0	0.37	0.30	0.44
09/07/72	0	6670	0.59	0.70	0.50	0.82	0.85	0.75	0.22	0.27	0.38
16/07/72	0	303	0.75	0.76	0.75	0.82	1.00	0.65	0.07	0.08	0.09
23/07/72	0	2315	0.57	0.65	0.40	0.92	1.00	0.85	0.35	0.38	0.61
30/07/72	0	4833	0.50	0.55	0.45	0.68	0.85	0.50	0.18	0.26	0.36
13/08/72	0	1704	0.55	0.65	0.40	0.60	0.85	0.0	0.05	0.09	0.10
20/08/72	0	635	0.55	0.55	0.55	1.00	1.00	0.0	0.45	0.45	0.82
27/08/72	0	10710	0.45	0.50	0.40	0.77	0.85	0.75	0.32	0.42	0.72
03/09/71	0	4957	0.52	0.60	0.45	0.85	0.85	0.0	0.33	0.38	0.62
10/09/71	0	420	0.50	0.50	0.50	0.0	0.85	0.0	-0.50	0.0	-1.00
24/09/71	0	5460	0.45	0.50	0.35	0.75	0.85	0.65	0.30	0.40	0.67
31/12/72	0	5670	0.50	0.50	0.50	0.85	0.85	0.85	0.35	0.41	0.70

HOOK HALALU

FOR THE WFEK ENDING

NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z	
		AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM				
17/10/71	0	240	0.95	1.10	0.80	1.15	1.25	1.00	0.20	0.17	0.21
07/11/71	0	25	0.61	0.61	0.61	0.0	0.0	0.0	-0.61	0.0	-1.00
14/11/71	0	702	0.52	0.65	0.40	0.75	0.75	0.0	0.23	0.30	0.43
21/11/71	0	843	0.45	0.60	0.40	0.85	0.85	0.0	0.40	0.47	0.88
29/11/71	0	612	0.50	0.95	0.40	0.0	0.0	0.0	-0.50	0.0	-1.00
12/12/71	0	479	0.62	0.79	0.50	0.85	0.85	0.0	0.23	0.26	0.36
19/12/71	0	45	1.05	1.05	1.05	0.0	0.0	0.0	-1.05	0.0	-1.00
26/12/71	0	630	0.77	0.80	0.75	1.13	1.25	1.00	0.36	0.32	0.47
02/01/72	0	77	0.73	1.00	0.50	0.85	0.85	0.0	0.12	0.14	0.16
09/01/72	0	256	1.58	1.80	1.43	1.55	1.60	0.0	-0.03	-0.02	-0.02
16/01/72	0	690	0.58	0.90	0.45	0.82	1.10	0.0	0.24	0.29	0.41
23/01/72	0	1063	0.58	0.82	0.35	0.90	1.00	0.0	0.32	0.35	0.55
30/01/72	0	30	0.50	0.50	0.50	0.0	0.0	0.0	-0.50	0.0	-1.00
06/02/72	0	109	0.64	0.70	0.60	0.0	0.0	0.0	-0.64	0.0	-1.00
13/02/72	0	1563	0.69	0.95	0.53	1.02	1.25	0.0	0.33	0.32	0.48
20/02/72	0	979	0.77	0.95	0.50	1.15	1.25	0.0	0.38	0.33	0.49
27/02/72	0	310	0.63	0.80	0.50	1.21	1.35	1.00	0.58	0.48	0.91
13/03/72	0	892	0.97	1.16	0.65	1.34	1.50	1.25	0.37	0.27	0.38
20/03/72	0	1230	0.57	0.73	0.40	0.0	0.0	0.0	-0.57	0.0	-1.00
27/03/72	0	101	0.90	0.90	0.90	1.20	1.25	1.00	0.30	0.25	0.33
17/04/72	0	808	0.60	0.79	0.50	0.0	0.0	0.0	-0.60	0.0	-1.00
24/04/72	0	529	0.63	0.85	0.50	0.92	1.00	0.0	0.29	0.32	0.46
08/05/72	0	1138	0.60	0.94	0.50	0.80	0.85	0.0	0.20	0.25	0.34
15/05/72	0	2312	0.48	0.55	0.40	0.72	0.75	0.0	0.24	0.33	0.49
22/05/72	0	936	0.57	0.80	0.45	0.77	0.85	0.0	0.20	0.26	0.35
05/06/72	0	947	0.58	0.72	0.50	0.85	0.85	0.0	0.27	0.32	0.47
12/06/72	0	2696	0.49	0.66	0.35	0.85	0.85	0.0	0.36	0.42	0.73
19/06/72	0	1119	0.48	0.55	0.40	0.83	0.95	0.0	0.35	0.42	0.73
26/06/72	0	237	0.47	0.51	0.45	0.0	0.0	0.0	-0.47	0.0	-1.00
03/07/72	0	138	0.84	1.00	0.75	0.90	0.90	0.0	0.06	0.06	0.07
10/07/72	0	1196	0.65	0.76	0.50	0.90	1.00	0.0	0.25	0.28	0.39
17/07/72	0	709	0.82	0.97	0.65	1.13	1.25	0.0	0.31	0.27	0.37
23/07/72	0	1410	0.69	0.92	0.45	1.00	1.25	0.0	0.31	0.31	0.44
06/08/72	0	2597	0.70	1.15	0.50	0.85	0.85	0.0	0.15	0.18	0.21
13/08/72	0	2904	0.63	0.95	0.40	0.89	1.00	0.0	0.26	0.29	0.42
20/08/72	0	708	0.58	0.70	0.50	0.92	1.00	0.85	0.34	0.37	0.59
27/08/72	0	51	1.35	1.35	1.35	0.0	0.0	0.0	-1.35	0.0	-1.00
03/09/71	0	430	0.75	1.00	0.55	0.92	1.00	0.0	0.18	0.19	0.24
10/09/71	0	718	0.50	0.50	0.50	0.0	0.85	0.0	-0.50	0.0	-1.00
17/09/71	0	70	0.96	0.96	0.96	1.35	1.35	1.35	0.39	0.29	0.41
31/09/71	0	63	1.05	1.25	0.80	1.40	1.40	1.40	0.35	0.25	0.33
31/12/72	0	324	0.68	1.01	0.50	0.96	1.45	0.0	0.28	0.29	0.41

HOOK AKULE

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	0	240	0.80	0.80	0.80	1.50	1.50	1.50	0.70	0.47	0.88
24/10/71	0	480	0.92	0.94	0.90	1.15	1.25	1.00	0.23	0.20	0.25
31/10/71	0	350	0.85	0.85	1.50	0.0	0.0	0.0	-0.85	0.0	-1.00
14/11/71	0	19	1.03	1.05	1.02	1.35	1.35	0.0	0.32	0.23	0.30
21/11/71	0	841	1.04	1.20	0.80	1.30	1.50	1.25	0.26	0.20	0.25
28/11/71	0	142	1.04	1.10	1.01	1.32	1.35	1.25	0.28	0.21	0.27
05/12/71	0	27	1.25	1.25	1.25	0.0	0.0	0.0	-1.25	0.0	-1.00
12/12/71	0	19	1.03	1.05	1.02	1.35	1.35	0.0	0.32	0.23	0.30
19/12/71	0	596	1.00	1.10	0.80	1.27	1.35	1.25	0.27	0.22	0.27
26/12/71	0	397	1.10	1.20	1.01	1.36	1.50	1.25	0.26	0.19	0.24
02/01/72	0	136	1.91	2.06	1.80	1.75	2.00	0.0	-0.16	-0.09	-0.09
16/01/72	0	670	0.88	1.30	0.65	1.31	1.35	1.10	0.43	0.33	0.50
23/01/72	0	1333	0.88	1.05	0.60	1.20	1.35	0.0	0.32	0.26	0.36
30/01/72	0	175	1.09	1.11	1.05	0.0	0.0	0.0	-1.09	0.0	-1.00
13/02/72	0	432	1.11	1.27	0.80	1.42	1.50	0.0	0.31	0.22	0.28
20/02/72	0	400	1.05	1.33	0.91	1.25	1.50	0.0	0.20	0.16	0.18
27/02/72	0	221	1.13	1.40	0.75	1.42	1.50	1.25	0.29	0.20	0.26
12/03/72	0	245	1.26	1.50	1.00	1.53	1.65	0.0	0.26	0.17	0.21
19/03/72	0	432	1.12	1.26	0.83	1.50	1.50	0.0	0.38	0.26	0.34
26/03/72	0	48	1.51	1.58	1.45	0.0	0.0	0.0	-1.51	0.0	-1.00
16/04/72	0	173	1.04	1.35	0.80	1.35	1.35	0.0	0.31	0.23	0.29
23/04/72	0	482	0.95	1.40	0.75	1.27	1.35	0.0	0.32	0.25	0.34
07/05/72	0	250	0.84	1.11	0.66	1.00	1.00	0.0	0.16	0.16	0.18
14/05/72	0	1273	0.70	0.81	0.50	1.13	1.25	0.0	0.43	0.38	0.61
21/05/72	0	814	0.76	0.90	0.65	1.07	1.20	0.0	0.31	0.29	0.41
28/05/72	0	22	0.65	0.65	0.65	0.0	0.0	0.0	-0.65	0.0	-1.00
04/06/72	0	163	0.85	0.86	0.85	0.0	0.0	0.0	-0.85	0.0	-1.00
11/06/72	0	753	0.82	1.05	0.36	1.20	1.25	0.0	0.38	0.32	0.46
18/06/72	0	851	0.70	0.90	0.65	1.25	1.25	0.0	0.55	0.44	0.79
25/06/72	0	71	0.75	0.76	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
02/07/72	0	426	0.94	1.18	0.65	1.07	1.20	0.0	0.13	0.12	0.14
16/07/72	0	913	0.97	1.26	0.65	1.25	1.50	0.0	0.28	0.22	0.28
23/07/72	0	471	1.00	1.11	0.91	1.25	1.25	0.0	0.25	0.20	0.25
30/07/72	0	443	0.55	0.55	0.55	0.0	0.0	0.0	-0.55	0.0	-1.00
06/08/72	0	389	1.08	1.20	0.95	1.10	1.10	0.0	0.02	0.02	0.02
13/08/72	0	23	0.95	1.00	0.85	0.0	0.0	0.0	-0.95	0.0	-1.00
20/08/72	0	262	0.95	1.15	0.65	0.0	0.0	0.0	-0.95	0.0	-1.00
27/08/72	0	5	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
03/09/72	0	1393	0.80	0.99	0.60	1.09	1.25	1.00	0.29	0.27	0.36
31/09/72	0	12	1.25	1.25	1.25	1.50	1.50	1.50	0.25	0.17	0.20
31/12/72	0	1102	0.85	1.30	0.60	1.00	1.00	0.0	0.15	0.15	0.18

ONAGA

FOR THE WEEK FINDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	0	837	1.62	2.30	1.10	2.80	2.85	0.0	1.18	0.42	0.72
17/10/71	0	520	1.46	1.60	1.23	2.34	2.85	2.00	0.88	0.37	0.60
24/10/71	0	200	0.0	0.0	0.0	2.00	2.00	2.00	2.00	1.00	0.0
31/10/71	0	228	1.89	2.15	1.55	2.35	2.35	0.0	0.46	0.20	0.25
07/11/71	0	588	1.77	2.67	1.00	2.06	2.50	1.50	0.29	0.14	0.16
14/11/71	0	1260	1.86	3.05	1.50	2.00	2.50	1.35	0.14	0.07	0.08
21/11/71	0	705	1.61	1.75	1.51	2.13	2.50	2.00	0.52	0.24	0.32
28/11/71	0	446	1.89	2.15	1.25	0.0	0.0	0.0	-1.89	0.0	-1.00
05/12/71	0	525	1.85	2.19	1.70	2.13	2.50	1.65	0.28	0.13	0.15
12/12/71	0	835	1.40	2.00	0.75	2.25	2.50	2.00	0.85	0.38	0.61
19/12/71	0	58	1.74	2.03	1.85	0.0	0.0	0.0	-1.94	0.0	-1.00
26/12/71	0	222	2.59	3.25	1.50	0.0	0.0	0.0	-2.59	0.0	-1.00
02/01/72	0	1457	2.53	3.75	1.55	3.17	4.50	0.0	0.63	0.20	0.25
09/01/72	0	69	3.00	3.00	3.00	0.0	0.0	0.0	-3.00	0.0	-1.00
16/01/72	0	894	1.86	2.35	1.50	2.67	3.00	0.0	0.80	0.30	0.43
23/01/72	0	750	1.73	2.10	1.30	2.31	2.65	1.85	0.58	0.25	0.34
30/01/72	0	641	1.97	2.50	1.25	2.28	2.50	0.0	0.31	0.14	0.16
06/02/72	0	297	2.11	2.22	2.05	0.0	0.0	0.0	-2.11	0.0	-1.00
13/02/72	0	1731	2.09	3.50	1.56	0.0	0.0	0.0	-2.09	0.0	-1.00
20/02/72	0	74	2.24	3.55	2.05	0.0	0.0	0.0	-2.24	0.0	-1.00
27/02/72	0	2009	1.94	2.50	1.00	0.0	0.0	0.0	-1.94	0.0	-1.00
05/03/72	0	361	1.60	2.00	1.45	0.0	0.0	0.0	-1.60	0.0	-1.00
12/03/72	0	746	2.36	2.80	2.00	0.0	0.0	0.0	-2.36	0.0	-1.00
19/03/72	0	1245	1.89	2.25	1.65	0.0	0.0	0.0	-1.89	0.0	-1.00
26/03/72	0	1292	1.70	2.10	1.51	0.0	0.0	0.0	-1.70	0.0	-1.00
02/04/72	0	3471	1.27	2.45	0.89	2.40	2.75	0.0	1.13	0.47	0.89
09/04/72	0	950	1.13	1.75	0.89	0.0	0.0	0.0	-1.13	0.0	-1.00
16/04/72	0	195	2.59	3.08	2.25	0.0	0.0	0.0	-2.59	0.0	-1.00
23/04/72	0	435	2.44	3.03	1.50	2.50	2.50	0.0	0.06	0.02	0.02
30/04/72	0	744	1.94	2.77	1.50	0.0	0.0	0.0	-1.94	0.0	-1.00
07/05/72	0	696	2.21	3.75	2.00	0.0	0.0	0.0	-2.21	0.0	-1.00
14/05/72	0	625	1.85	2.26	1.50	2.50	2.50	0.0	0.65	0.26	0.35
21/05/72	0	443	2.08	2.40	1.70	0.0	0.0	0.0	-2.08	0.0	-1.00
28/05/72	0	1038	1.76	2.01	1.40	2.25	2.50	0.0	0.49	0.22	0.28
04/06/72	0	313	1.97	2.10	1.25	0.0	0.0	0.0	-1.97	0.0	-1.00
11/06/72	0	854	2.03	2.75	1.67	2.75	3.00	0.0	0.72	0.26	0.36
18/06/72	0	661	1.46	2.30	0.78	2.50	2.50	0.0	1.04	0.42	0.71
25/06/72	0	38	3.29	4.01	2.50	0.0	0.0	0.0	-3.29	0.0	-1.00
02/07/72	0	463	1.99	2.76	1.50	0.0	0.0	0.0	-1.99	0.0	-1.00
09/07/72	0	425	2.31	2.90	1.85	0.0	0.0	0.0	-2.31	0.0	-1.00
16/07/72	0	494	2.02	3.80	1.51	0.0	0.0	0.0	-2.02	0.0	-1.00
23/07/72	0	526	2.15	2.65	1.65	3.00	3.00	0.0	0.85	0.28	0.39
30/07/72	0	443	2.07	2.30	2.00	0.0	0.0	0.0	-2.07	0.0	-1.00
06/08/72	0	257	2.06	2.50	1.75	0.0	0.0	0.0	-2.06	0.0	-1.00
13/08/72	0	791	1.69	2.25	1.15	2.50	2.50	0.0	0.81	0.32	0.48
20/08/72	0	643	2.80	3.55	2.00	0.0	0.0	0.0	-2.80	0.0	-1.00
03/09/72	0	231	2.23	2.85	1.75	3.00	3.50	0.0	0.77	0.26	0.35
10/09/72	0	292	2.10	2.51	1.60	3.00	3.50	2.50	0.90	0.30	0.43
17/09/72	0	93	2.20	2.25	1.75	2.85	2.85	2.85	0.65	0.23	0.30
24/09/72	0	56	2.00	2.27	1.77	2.75	2.75	2.75	0.75	0.27	0.38
31/12/72	0	1024	3.58	5.68	2.00	3.50	3.50	0.0	-0.08	-0.02	-0.02

CPAKAPAKA

FOR THE WEEK ENDING

NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z	
		AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM				
17/10/71	0	621	0.83	1.08	0.70	1.60	2.00	1.50	0.77	0.48	0.94
24/10/71	0	284	0.42	0.85	0.0	1.17	1.25	1.10	0.75	0.64	1.76
31/10/71	0	145	0.98	1.10	0.90	1.75	2.00	0.0	0.77	0.44	0.78
07/11/71	0	1337	0.88	1.25	0.40	1.39	1.50	1.00	0.51	0.37	0.59
14/11/71	0	1250	0.96	1.16	0.65	1.45	1.50	0.0	0.49	0.33	0.50
21/11/71	0	680	0.96	1.25	0.76	1.47	1.75	1.25	0.51	0.35	0.53
28/11/71	0	159	1.24	1.45	1.00	0.0	1.50	0.0	-1.24	0.0	-1.00
05/12/71	0	677	0.92	1.40	0.70	1.75	1.75	0.0	0.83	0.47	0.90
12/12/71	0	845	0.80	0.95	0.51	1.58	2.00	1.50	0.79	0.50	0.99
19/12/71	0	315	1.13	1.15	1.10	0.0	0.0	0.0	-1.13	0.0	-1.00
26/12/71	0	525	1.15	1.65	0.75	2.00	2.00	0.0	0.85	0.42	0.73
02/01/72	0	1798	1.16	1.65	0.75	2.09	3.00	1.75	0.93	0.44	0.80
09/01/72	0	89	1.70	1.80	1.60	0.0	0.0	0.0	-1.70	0.0	-1.00
15/01/72	0	459	1.45	1.90	1.06	1.83	2.00	0.0	0.38	0.21	0.26
23/01/72	0	1364	1.01	1.28	0.75	1.42	1.50	1.25	0.41	0.29	0.41
30/01/72	0	1122	1.23	1.60	0.80	1.53	2.00	0.0	0.29	0.19	0.24
06/02/72	0	793	1.47	1.66	1.02	1.75	1.75	1.75	0.28	0.16	0.19
13/02/72	0	554	1.53	1.78	1.25	1.75	1.75	0.0	0.22	0.12	0.14
20/02/72	0	377	1.75	2.00	1.35	2.00	2.00	0.0	0.25	0.13	0.15
27/02/72	0	500	1.51	1.85	0.75	2.00	2.00	0.0	0.49	0.24	0.32
05/03/72	0	450	1.43	1.76	0.80	0.0	0.0	0.0	-1.43	0.0	-1.00
12/03/72	0	1436	1.45	1.70	1.02	2.00	2.00	0.0	0.55	0.23	0.38
19/03/72	0	1396	1.26	1.55	0.65	2.00	2.00	0.0	0.74	0.37	0.59
26/03/72	0	394	1.18	1.60	0.90	1.40	1.50	1.35	0.22	0.16	0.15
02/04/72	0	1427	0.90	1.22	0.53	1.35	1.45	1.25	0.45	0.33	0.49
09/04/72	0	385	0.92	1.00	0.80	0.0	0.0	0.0	-0.92	0.0	-1.00
16/04/72	0	138	1.80	1.90	1.70	0.0	0.0	0.0	-1.80	0.0	-1.00
23/04/72	0	593	1.54	1.80	1.30	2.00	2.00	0.0	0.46	0.23	0.30
30/04/72	0	310	1.76	1.99	1.50	2.00	2.00	0.0	0.24	0.12	0.14
07/05/72	0	668	1.60	1.90	1.45	2.00	2.00	0.0	0.40	0.20	0.25
14/05/72	0	334	1.19	1.95	0.0	2.25	2.50	2.00	1.06	0.47	0.89
21/05/72	0	505	1.24	1.50	1.01	1.75	2.00	1.50	0.51	0.29	0.41
28/05/72	0	476	1.02	1.69	0.80	1.54	2.00	1.20	0.52	0.34	0.51
04/06/72	0	65	1.30	1.30	1.30	0.0	0.0	0.0	-1.30	0.0	-1.00
11/06/72	0	333	1.20	1.38	1.10	0.0	0.0	0.0	-1.20	0.0	-1.00
18/06/72	0	1007	0.98	1.50	0.60	1.45	1.50	0.0	0.47	0.32	0.48
25/06/72	0	161	1.38	2.00	0.80	1.35	1.35	0.0	-0.03	-0.02	-0.02
02/07/72	0	266	1.62	1.85	1.50	0.0	0.0	0.0	-1.62	0.0	-1.00
09/07/72	0	149	1.55	1.85	1.10	1.50	1.50	0.0	-0.05	-0.03	-0.03
16/07/72	0	296	1.51	1.85	1.31	0.0	0.0	0.0	-1.51	0.0	-1.00
23/07/72	0	675	1.48	1.99	0.80	2.00	2.00	0.0	0.52	0.26	0.35
30/07/72	0	373	1.36	1.85	1.10	2.00	2.00	2.00	0.64	0.32	0.47
06/08/72	0	467	1.39	1.90	1.00	2.00	2.00	0.0	0.61	0.30	0.44
13/08/72	0	436	1.23	1.50	1.00	1.50	1.50	0.0	0.27	0.18	0.22
20/08/72	0	515	1.69	2.25	1.39	2.00	2.00	0.0	0.31	0.15	0.18
03/09/72	0	370	1.45	2.02	1.10	2.50	2.50	0.0	1.05	0.42	0.72
10/09/72	0	89	1.39	1.40	1.36	2.75	2.75	2.75	1.36	0.49	0.98
17/09/72	0	220	1.00	1.25	0.75	2.00	2.00	2.00	1.00	0.50	1.00
24/09/72	0	25	1.20	1.30	1.06	2.25	2.25	2.25	1.05	0.47	0.88
31/12/72	0	530	2.17	3.05	1.50	0.0	0.0	0.0	-2.17	0.0	-1.00

ULUA

FOR THE WEEK ENDING

NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z	
		AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM				
24/10/71	0	58	0.67	0.67	0.67	0.0	0.0	0.0	-0.67	0.0	-1.00
31/10/71	0	94	1.02	1.30	0.75	0.0	0.0	0.0	-1.02	0.0	-1.00
07/11/71	0	90	0.45	0.56	0.35	1.20	1.20	0.0	0.74	0.62	1.64
21/11/71	0	396	0.86	1.00	0.72	0.0	0.0	0.0	-0.86	0.0	-1.00
28/11/71	0	164	1.06	1.35	0.69	0.0	0.0	0.0	-1.06	0.0	-1.00
05/12/71	0	245	0.69	1.05	0.50	1.35	2.00	0.0	0.66	0.49	0.95
19/12/71	0	24	0.65	0.65	0.65	0.0	0.0	0.0	-0.65	0.0	-1.00
25/12/71	0	21	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
02/01/72	0	408	1.27	1.80	1.00	2.50	2.50	0.0	1.23	0.49	0.97
15/01/72	0	111	0.84	0.95	0.70	0.0	0.0	0.0	-0.84	0.0	-1.00
05/02/72	0	10	1.02	1.02	1.02	0.0	0.0	0.0	-1.02	0.0	-1.00
20/02/72	0	10	1.26	1.26	1.26	0.0	0.0	0.0	-1.26	0.0	-1.00
27/02/72	0	22	1.44	1.44	1.44	0.0	0.0	0.0	-1.44	0.0	-1.00
05/03/72	0	84	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
12/03/72	0	38	1.50	1.51	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
19/03/72	0	100	0.93	1.20	0.60	2.00	2.00	0.0	1.07	0.53	1.14
25/03/72	0	27	1.10	1.10	1.10	0.0	0.0	0.0	-1.10	0.0	-1.00
02/04/72	0	96	0.69	0.76	0.55	2.00	2.00	0.0	1.31	0.66	1.91
09/04/72	0	126	0.63	0.75	0.50	0.0	0.0	0.0	-0.63	0.0	-1.00
23/04/72	0	27	1.22	1.35	1.10	0.0	0.0	0.0	-1.22	0.0	-1.00
30/04/72	0	461	1.10	1.30	1.00	0.0	0.0	0.0	-1.10	0.0	-1.00
07/05/72	0	24	1.17	1.25	1.10	0.0	0.0	0.0	-1.17	0.0	-1.00
14/05/72	0	280	0.67	0.90	0.40	0.0	0.0	0.0	-0.67	0.0	-1.00
21/05/72	0	132	0.40	0.90	0.65	2.90	2.90	0.0	2.10	0.72	2.63
28/05/72	0	172	0.45	0.55	0.40	1.50	1.50	0.0	1.04	0.70	2.30
04/06/72	0	618	1.55	2.55	0.35	0.0	0.0	0.0	-1.55	0.0	-1.00
11/06/72	0	170	0.50	0.75	0.40	0.0	0.0	0.0	-0.50	0.0	-1.00
18/06/72	0	668	0.45	0.77	0.15	1.22	1.60	0.0	0.77	0.63	1.71
02/07/72	0	64	0.79	1.25	0.15	0.0	0.0	0.0	-0.79	0.0	-1.00
09/07/72	0	335	0.70	1.10	0.50	1.62	1.80	0.0	0.92	0.57	1.31
16/07/72	0	82	0.63	0.70	0.56	0.0	0.0	0.0	-0.63	0.0	-1.00
23/07/72	0	28	1.00	1.25	0.75	0.0	0.0	0.0	-1.00	0.0	-1.00
30/07/72	0	323	0.83	1.36	0.50	2.00	2.00	0.0	1.17	0.59	1.42
06/08/72	0	86	0.96	1.16	0.60	0.0	0.0	0.0	-0.96	0.0	-1.00
13/08/72	0	222	0.55	0.75	0.35	2.55	2.60	2.50	1.99	0.78	3.59
20/08/72	0	189	0.94	1.50	0.75	2.60	2.60	0.0	1.66	0.64	1.77
03/09/72	0	539	0.68	1.00	0.25	1.42	1.50	0.0	0.75	0.53	1.11
10/09/72	0	105	0.60	0.65	0.50	1.25	1.25	1.25	0.65	0.52	1.08
17/09/72	0	98	0.85	1.06	0.45	0.0	0.0	0.0	-0.85	0.0	-1.00
31/12/72	0	180	1.75	2.50	1.35	0.0	0.0	0.0	-1.75	0.0	-1.00

UKU

FOP THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
17/10/71	0	250	0.65	0.65	0.65	1.75	1.75	1.75	1.10	0.63	1.69
24/10/71	0	665	0.70	0.76	0.62	1.75	1.75	1.75	1.05	0.60	1.50
31/10/71	0	744	0.73	0.80	0.65	1.45	1.75	0.0	0.72	0.49	0.98
07/11/71	0	524	0.48	0.65	0.30	1.50	1.50	0.0	1.02	0.68	2.10
14/11/71	0	370	0.78	0.81	0.76	0.0	0.0	0.0	-0.78	0.0	-1.00
21/11/71	0	365	0.82	0.91	0.71	1.76	1.85	1.50	0.94	0.54	1.15
28/11/71	0	384	1.47	1.80	1.11	0.0	0.0	0.0	-1.47	0.0	-1.00
05/12/71	0	189	0.68	0.80	0.57	0.0	0.0	0.0	-0.68	0.0	-1.00
12/12/71	0	163	0.66	0.75	0.60	1.35	1.65	0.0	0.69	0.51	1.03
19/12/71	0	270	1.03	1.06	1.00	0.0	0.0	0.0	-1.03	0.0	-1.00
26/12/71	0	19	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
02/01/72	0	195	1.29	2.13	0.90	2.00	2.00	0.0	0.71	0.36	0.55
09/01/72	0	140	1.33	1.35	1.30	0.0	0.0	0.0	-1.33	0.0	-1.00
16/01/72	0	960	0.84	0.88	0.75	1.50	1.50	0.0	0.66	0.44	0.79
23/01/72	0	720	0.81	0.89	0.61	0.0	0.0	0.0	-0.81	0.0	-1.00
30/01/72	0	346	0.87	0.91	0.81	0.0	0.0	0.0	-0.87	0.0	-1.00
13/02/72	0	31	1.30	1.30	1.30	0.0	0.0	0.0	-1.30	0.0	-1.00
20/02/72	0	131	1.33	1.36	1.30	0.0	0.0	0.0	-1.33	0.0	-1.00
27/02/72	0	26	1.10	1.10	1.10	0.0	0.0	0.0	-1.10	0.0	-1.00
05/03/72	0	44	0.80	0.85	0.75	0.0	0.0	0.0	-0.80	0.0	-1.00
12/03/72	0	373	1.28	1.30	1.25	0.0	0.0	0.0	-1.28	0.0	-1.00
19/03/72	0	330	1.07	1.07	1.07	0.0	0.0	0.0	-1.07	0.0	-1.00
26/03/72	0	645	0.93	1.01	0.75	1.38	2.00	0.75	0.44	0.32	0.47
02/04/72	0	64	0.89	0.91	0.87	0.0	0.0	0.0	-0.89	0.0	-1.00
09/04/72	0	83	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
23/04/72	0	23	1.40	1.40	1.40	0.0	0.0	0.0	-1.40	0.0	-1.00
30/04/72	0	202	1.35	1.45	1.25	0.0	0.0	0.0	-1.35	0.0	-1.00
07/05/72	0	195	1.18	1.25	1.10	0.0	0.0	0.0	-1.18	0.0	-1.00
14/05/72	0	1170	0.85	1.00	0.75	0.0	0.0	0.0	-0.85	0.0	-1.00
21/05/72	0	1330	0.67	0.75	0.30	0.0	0.0	0.0	-0.67	0.0	-1.00
28/05/72	0	2936	0.56	0.75	0.40	1.50	1.50	0.0	0.94	0.63	1.68
04/06/72	0	2901	0.54	0.62	0.50	0.0	0.0	0.0	-0.54	0.0	-1.00
11/06/72	0	3927	0.50	0.85	0.30	1.17	1.50	0.0	0.66	0.57	1.31
18/06/72	0	2066	0.37	0.60	0.26	1.29	1.50	1.00	0.92	0.71	2.50
25/06/72	0	1298	0.59	1.10	0.40	1.42	1.75	0.0	0.83	0.59	1.42
02/07/72	0	270	0.64	0.75	0.55	0.0	0.0	0.0	-0.64	0.0	-1.00
09/07/72	0	909	0.82	1.10	0.40	0.0	0.0	0.0	-0.82	0.0	-1.00
16/07/72	0	577	0.87	1.00	0.75	2.00	2.00	0.0	1.13	0.57	1.30
23/07/72	0	350	0.91	1.00	0.75	0.0	0.0	0.0	-0.91	0.0	-1.00
30/07/72	0	637	0.81	0.90	0.76	0.0	0.0	0.0	-0.81	0.0	-1.00
06/08/72	0	1051	0.92	1.20	0.70	0.0	0.0	0.0	-0.92	0.0	-1.00
13/08/72	0	2128	0.62	0.90	0.44	1.63	2.00	0.0	1.00	0.62	1.60
20/08/72	0	443	1.35	1.76	1.00	0.0	0.0	0.0	-1.35	0.0	-1.00
03/09/72	0	1030	1.01	1.35	0.51	1.75	2.00	0.0	0.74	0.42	0.73
10/09/72	0	32	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
17/09/72	0	240	0.75	0.75	0.75	1.75	1.75	1.75	1.00	0.57	1.33
31/12/72	0	117	2.07	2.50	1.50	0.0	0.0	0.0	-2.07	0.0	-1.00

FHU

FOR THE WEEK ENDING

NO.	LBS.	AVG.	---AUCTION PRICE---		---RETAIL PRICE---			MARKUP	Q	Z	
			TOP	BOTTOM	AVG.	TOP	BOTTOM				
17/10/71	0	95	1.71	2.01	1.45	0.0	0.0	0.0	-1.71	0.0	-1.00
07/11/71	0	139	1.22	1.61	0.60	1.50	1.50	0.0	0.28	0.19	0.23
14/11/71	0	71	1.52	1.75	1.10	0.0	0.0	0.0	-1.52	0.0	-1.00
21/11/71	0	62	1.08	1.65	0.0	0.0	0.0	0.0	-1.09	0.0	-1.00
29/11/71	0	119	1.60	1.82	1.15	0.0	0.0	0.0	-1.60	0.0	-1.00
05/12/71	0	80	1.64	1.75	1.56	2.00	2.00	0.0	0.35	0.18	0.22
12/12/71	0	266	1.49	1.65	1.25	0.0	0.0	0.0	-1.49	0.0	-1.00
26/12/71	0	240	1.98	2.20	1.53	0.0	0.0	0.0	-1.98	0.0	-1.00
02/01/72	0	451	1.65	2.76	0.0	2.25	2.50	0.0	0.60	0.27	0.36
09/01/72	0	49	2.18	2.60	1.75	0.0	0.0	0.0	-2.18	0.0	-1.00
16/01/72	C	190	1.63	2.02	1.11	2.50	2.50	0.0	0.87	0.35	0.54
23/01/72	0	130	1.49	1.66	1.20	2.00	2.00	0.0	0.51	0.26	0.34
30/01/72	0	293	1.73	2.02	1.40	2.00	2.00	0.0	0.27	0.14	0.16
06/02/72	0	97	2.00	2.25	1.50	2.00	2.00	0.0	0.0	0.0	0.0
13/02/72	C	344	1.93	2.50	1.25	0.0	0.0	0.0	-1.93	0.0	-1.00
20/02/72	0	47	2.39	2.75	1.50	0.0	0.0	0.0	-2.38	0.0	-1.00
27/02/72	0	213	1.80	2.10	1.50	2.50	2.50	0.0	0.70	0.28	0.39
05/03/72	0	175	1.75	2.01	1.25	2.25	2.50	2.00	0.50	0.22	0.28
12/03/72	0	736	2.07	2.40	1.30	2.50	2.50	0.0	0.43	0.17	0.21
19/03/72	0	520	1.46	2.00	1.00	2.50	2.50	0.0	1.04	0.42	0.1
26/03/72	0	546	1.52	1.77	1.00	2.00	2.00	2.00	0.48	0.24	0.32
02/04/72	0	706	1.21	2.00	0.85	1.50	1.50	1.50	0.29	0.19	0.24
09/04/72	0	94	1.35	1.45	1.25	0.0	0.0	0.0	-1.35	0.0	-1.00
16/04/72	0	440	1.87	2.30	1.35	2.00	2.00	2.00	0.13	0.07	0.07
23/04/72	0	186	1.98	2.50	1.50	0.0	0.0	0.0	-1.98	0.0	-1.00
30/04/72	0	220	2.14	2.45	1.50	0.0	0.0	0.0	-2.14	0.0	-1.00
07/05/72	0	230	2.06	2.76	1.50	0.0	0.0	0.0	-2.06	0.0	-1.00
14/05/72	0	1097	1.47	2.05	0.75	2.50	2.50	0.0	1.03	0.41	0.70
21/05/72	0	76	1.83	2.16	1.70	2.50	2.50	0.0	0.67	0.27	0.37
29/05/72	0	871	1.21	1.66	0.75	0.0	0.0	0.0	-1.21	0.0	-1.00
04/06/72	0	118	1.43	1.75	1.00	0.0	0.0	0.0	-1.43	0.0	-1.00
11/06/72	0	438	1.44	2.01	0.50	2.50	2.50	0.0	1.06	0.42	0.73
18/06/72	0	837	1.24	1.56	0.75	2.38	2.50	0.0	1.14	0.48	0.92
25/06/72	0	2	2.50	2.50	2.50	0.0	0.0	0.0	-2.50	0.0	-1.00
02/07/72	0	1002	1.77	2.41	1.00	2.25	2.50	0.0	0.48	0.21	0.27
09/07/72	0	311	1.91	2.35	1.50	2.50	2.50	0.0	0.59	0.24	0.31
16/07/72	0	629	1.90	2.35	1.00	2.25	2.50	0.0	0.35	0.16	0.19
23/07/72	0	435	2.11	3.03	1.27	0.0	0.0	0.0	-2.11	0.0	-1.00
30/07/72	0	1171	1.61	2.12	1.00	2.25	2.50	0.0	0.64	0.28	0.40
06/08/72	0	290	1.83	2.16	1.50	1.75	1.75	0.0	-0.08	-0.05	-0.05
13/08/72	0	1165	1.61	2.30	1.00	2.00	2.00	0.0	0.39	0.19	0.24
20/08/72	0	165	2.52	3.60	2.02	2.00	2.00	0.0	-0.52	-0.26	-0.21
03/09/72	0	693	1.65	2.04	1.00	2.63	3.50	0.0	0.97	0.37	0.59
10/09/72	0	272	1.65	2.00	1.00	3.00	3.50	2.50	1.35	0.45	0.82
17/09/72	0	384	1.25	1.75	1.00	2.10	2.35	2.00	0.85	0.40	0.68
24/09/72	0	114	1.40	1.62	1.10	2.50	2.75	2.00	1.10	0.44	0.79
31/12/72	0	320	2.77	4.00	2.05	3.50	3.50	0.0	0.73	0.21	0.26

## SEABASS

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
17/10/71	0	20	0.95	0.95	0.95	0.0	0.0	0.0	-0.95	0.0	-1.00
14/11/71	0	88	0.98	1.11	0.85	0.0	0.0	0.0	-0.98	0.0	-1.00
21/11/71	0	9	1.30	1.30	1.30	2.20	2.20	2.20	0.90	0.41	0.69
28/11/71	0	130	1.34	1.40	1.27	0.0	0.0	0.0	-1.34	0.0	-1.00
05/12/71	0	4017	0.91	1.35	0.75	1.58	2.00	0.0	0.67	0.42	0.74
12/12/71	0	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25/12/71	0	243	1.45	1.51	1.39	0.0	0.0	0.0	-1.45	0.0	-1.00
02/01/72	0	395	1.42	1.50	1.21	0.0	0.0	0.0	-1.42	0.0	-1.00
16/01/72	0	37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30/01/72	0	13	0.91	0.91	0.91	0.0	0.0	0.0	-0.91	0.0	-1.00
06/02/72	0	93	1.29	1.38	1.20	0.0	0.0	0.0	-1.29	0.0	-1.00
13/02/72	0	308	1.56	1.66	1.50	1.65	1.65	0.0	0.09	0.05	0.06
27/02/72	0	202	1.37	1.50	1.25	0.0	0.0	0.0	-1.37	0.0	-1.00
05/03/72	0	117	1.18	1.30	1.00	2.00	2.00	0.0	0.82	0.41	0.70
12/03/72	0	326	1.31	1.40	1.25	3.20	3.20	0.0	1.89	0.59	1.45
19/03/72	0	291	1.06	1.10	1.02	0.0	0.0	0.0	-1.06	0.0	-1.00
26/03/72	0	336	0.97	1.00	0.90	0.0	0.0	0.0	-0.97	0.0	-1.00
02/04/72	0	290	0.94	1.10	0.75	2.62	2.80	0.0	1.69	0.64	1.80
09/04/72	0	21	0.80	0.80	0.80	0.0	0.0	0.0	-0.80	0.0	-1.00
16/04/72	0	47	1.25	1.25	1.25	0.0	0.0	0.0	-1.25	0.0	-1.00
23/04/72	0	553	1.17	1.36	1.05	3.00	3.00	0.0	1.83	0.61	1.56
30/04/72	0	610	1.13	1.25	1.10	0.0	0.0	0.0	-1.13	0.0	-1.00
07/05/72	0	892	1.02	1.05	1.00	2.80	2.80	2.80	1.78	0.64	1.75
14/05/72	0	2188	0.72	0.75	0.60	2.20	2.20	2.20	1.47	0.67	2.03
28/05/72	0	714	0.78	0.95	0.75	1.95	2.20	0.0	1.17	0.60	1.49
11/06/72	0	87	0.85	0.95	0.70	0.0	0.0	0.0	-0.85	0.0	-1.00
19/06/72	0	790	0.84	1.10	0.75	0.0	0.0	0.0	-0.84	0.0	-1.00
25/06/72	0	509	0.90	1.05	0.75	0.0	0.0	0.0	-0.90	0.0	-1.00
02/07/72	0	908	0.88	1.01	0.80	1.72	2.40	0.0	0.85	0.49	0.97
09/07/72	0	27	1.38	2.00	1.00	2.40	2.40	0.0	1.02	0.43	0.75
16/07/72	0	1042	1.12	1.26	0.90	2.80	2.80	0.0	1.68	0.60	1.50
23/07/72	0	339	1.14	1.35	1.00	0.0	0.0	0.0	-1.14	0.0	-1.00
30/07/72	0	1300	1.22	1.51	1.00	1.90	2.00	0.0	0.68	0.36	0.55
06/08/72	0	284	1.09	1.15	1.04	2.80	2.80	2.80	1.70	0.61	1.56
13/08/72	0	915	1.11	1.27	1.00	2.80	2.80	0.0	1.69	0.60	1.52
20/08/72	0	345	1.29	1.45	1.10	0.0	0.0	0.0	-1.29	0.0	-1.00
03/09/72	0	552	24.56	1.50	1.00	2.25	2.25	0.0	*****	-9.92	-0.91
10/09/72	0	1300	1.05	1.10	1.03	2.40	2.40	2.40	1.35	0.56	1.29
17/09/72	0	140	0.85	0.95	0.75	2.20	2.20	2.20	1.35	0.61	1.59
31/12/72	0	155	1.58	1.92	1.25	0.0	0.0	0.0	-1.58	0.0	-1.00

KAHALA

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
17/10/71	0	150	0.35	0.35	0.35	0.0	0.0	0.0	-0.35	0.0	-1.00
24/10/71	0	171	0.16	0.35	0.0	0.0	0.0	0.0	-0.16	0.0	-1.00
14/11/71	0	90	0.52	0.77	0.44	0.0	0.0	0.0	-0.52	0.0	-1.00
21/11/71	0	394	0.41	0.65	0.30	1.55	1.75	0.0	1.14	0.74	2.78
29/11/71	0	214	0.60	0.65	0.55	0.0	0.0	0.0	-0.60	0.0	-1.00
05/12/71	0	1055	0.47	0.60	0.35	1.21	1.50	0.0	0.74	0.61	1.59
12/12/71	0	274	0.58	0.65	0.50	1.32	2.00	0.65	0.74	0.56	1.28
19/12/71	0	80	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
02/01/72	0	827	0.54	0.80	0.45	2.13	2.50	0.0	1.58	0.74	2.92
09/01/72	0	18	0.80	0.80	0.80	1.50	1.50	1.50	0.70	0.47	0.88
15/01/72	0	301	0.53	0.70	0.50	0.0	0.0	0.0	-0.53	0.0	-1.00
23/01/72	0	282	0.51	0.54	0.45	0.0	0.0	0.0	-0.51	0.0	-1.00
30/01/72	0	622	0.59	0.66	0.55	1.45	1.45	0.0	0.86	0.59	1.46
05/02/72	0	562	0.70	1.25	0.40	1.75	1.75	0.0	1.05	0.60	1.50
13/02/72	0	600	0.69	0.85	0.35	1.81	2.75	0.0	1.12	0.62	1.61
20/02/72	0	279	1.22	1.25	1.20	0.0	0.0	0.0	-1.22	0.0	-1.00
27/02/72	0	855	0.75	1.00	0.50	0.0	0.0	0.0	-0.75	0.0	-1.00
05/03/72	0	361	0.66	0.95	0.35	0.0	0.0	0.0	-0.66	0.0	-1.00
12/03/72	0	260	1.27	1.76	0.95	0.0	0.0	0.0	-1.27	0.0	-1.00
19/03/72	0	547	0.85	1.05	0.60	0.0	0.0	0.0	-0.85	0.0	-1.00
26/03/72	0	850	0.59	0.80	0.40	2.00	2.00	0.0	1.41	0.70	2.36
02/04/72	0	811	0.51	0.67	0.40	0.0	0.0	0.0	-0.51	0.0	-1.00
09/04/72	0	102	0.58	0.65	0.51	0.0	0.0	0.0	-0.58	0.0	-1.00
23/04/72	0	677	0.63	0.75	0.50	0.0	0.0	0.0	-0.63	0.0	-1.00
30/04/72	0	480	0.75	0.85	0.65	0.0	0.0	0.0	-0.75	0.0	-1.00
07/05/72	0	722	0.65	0.70	0.50	0.0	0.0	0.0	-0.65	0.0	-1.00
14/05/72	0	1099	0.46	0.75	0.25	0.0	0.0	0.0	-0.46	0.0	-1.00
21/05/72	0	253	0.42	0.50	0.30	1.50	1.50	0.0	1.08	0.72	2.57
29/05/72	0	370	0.37	0.50	0.25	0.0	0.0	0.0	-0.37	0.0	-1.00
11/06/72	0	51	0.15	0.30	0.0	0.0	0.0	0.0	-0.15	0.0	-1.00
18/06/72	0	506	0.31	0.35	0.23	1.50	1.50	0.0	1.19	0.80	3.88
25/06/72	0	85	0.38	0.40	0.35	0.0	0.0	0.0	-0.38	0.0	-1.00
02/07/72	0	323	0.38	0.50	0.30	0.0	0.0	0.0	-0.38	0.0	-1.00
09/07/72	0	307	0.37	0.50	0.26	0.0	0.0	0.0	-0.37	0.0	-1.00
16/07/72	0	322	0.42	0.55	0.40	0.0	0.0	0.0	-0.42	0.0	-1.00
23/07/72	0	252	0.53	0.70	0.40	0.0	0.0	0.0	-0.53	0.0	-1.00
30/07/72	0	225	0.46	0.60	0.40	1.50	1.50	0.0	1.03	0.69	2.23
06/08/72	0	113	0.57	0.70	0.45	0.0	0.0	0.0	-0.57	0.0	-1.00
13/08/72	0	472	0.36	0.40	0.30	0.0	0.0	0.0	-0.36	0.0	-1.00
20/08/72	0	215	1.15	1.45	0.90	0.0	0.0	0.0	-1.15	0.0	-1.00
27/08/72	0	40	1.79	2.00	1.76	0.0	0.0	0.0	-1.79	0.0	-1.00
03/09/72	0	582	0.45	0.60	0.25	1.30	1.30	0.0	0.84	0.65	1.86
10/09/72	0	310	0.65	0.75	0.36	1.40	1.40	1.40	0.75	0.54	1.15
31/12/72	0	191	1.07	1.30	1.00	0.0	0.0	0.0	-1.07	0.0	-1.00

KONA CRAB

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	0	360	2.00	2.00	2.00	0.0	0.0	0.0	-2.00	0.0	-1.00
17/10/71	0	690	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
24/10/71	0	175	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
07/11/71	0	760	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
21/11/71	0	324	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
26/12/71	0	1080	1.80	1.85	1.75	0.0	0.0	0.0	-1.80	0.0	-1.00
02/01/72	0	620	1.80	1.85	1.75	0.0	0.0	0.0	-1.80	0.0	-1.00
09/01/72	0	560	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
16/01/72	0	546	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
23/01/72	0	990	1.70	1.75	1.65	0.0	0.0	0.0	-1.70	0.0	-1.00
30/01/72	0	342	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
06/02/72	0	605	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
13/02/72	0	344	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
20/02/72	0	520	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
27/02/72	0	1119	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
12/03/72	0	1340	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
19/03/72	0	2335	1.66	1.75	1.40	0.0	0.0	0.0	-1.66	0.0	-1.00
26/03/72	0	133	1.45	1.50	1.40	0.0	0.0	0.0	-1.45	0.0	-1.00
02/04/72	0	2359	1.58	1.60	1.50	0.0	0.0	0.0	-1.58	0.0	-1.00
09/04/72	0	588	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
16/04/72	0	1560	1.40	1.40	1.40	0.0	0.0	0.0	-1.40	0.0	-1.00
23/04/72	0	2711	1.57	1.60	1.50	0.0	0.0	0.0	-1.57	0.0	-1.00
30/04/72	0	1940	1.67	1.75	1.60	0.0	0.0	0.0	-1.67	0.0	-1.00
07/05/72	0	2762	1.50	1.60	1.40	0.0	0.0	0.0	-1.50	0.0	-1.00
14/05/72	0	4475	1.29	1.40	1.10	0.0	0.0	0.0	-1.29	0.0	-1.00
21/05/72	0	4413	1.34	1.40	1.30	0.0	0.0	0.0	-1.34	0.0	-1.00
28/05/72	0	2215	1.30	1.40	1.20	0.0	0.0	0.0	-1.30	0.0	-1.00
04/06/72	0	201	1.50	1.60	1.40	0.0	0.0	0.0	-1.50	0.0	-1.00
11/06/72	0	1680	1.63	1.70	1.60	0.0	0.0	0.0	-1.63	0.0	-1.00
18/06/72	0	960	1.72	1.75	1.70	0.0	0.0	0.0	-1.72	0.0	-1.00
25/06/72	0	596	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
02/07/72	0	364	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
09/07/72	0	440	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
16/07/72	0	1184	1.72	1.85	1.60	0.0	0.0	0.0	-1.72	0.0	-1.00
23/07/72	0	912	1.85	1.85	1.85	0.0	0.0	0.0	-1.85	0.0	-1.00
30/07/72	0	450	1.85	1.85	1.85	0.0	0.0	0.0	-1.85	0.0	-1.00
06/08/72	0	1038	1.85	1.85	1.85	0.0	0.0	0.0	-1.85	0.0	-1.00
13/08/72	0	675	1.85	1.85	1.85	0.0	0.0	0.0	-1.85	0.0	-1.00
20/08/72	0	13	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
27/08/72	0	1054	1.85	1.85	1.85	0.0	0.0	0.0	-1.85	0.0	-1.00
03/09/72	0	1491	1.80	1.85	1.75	0.0	0.0	0.0	-1.80	0.0	-1.00
10/09/72	0	1152	1.75	1.75	1.75	0.0	0.0	0.0	-1.75	0.0	-1.00
17/09/72	0	731	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
31/12/72	0	172	2.00	2.00	2.00	0.0	0.0	0.0	-2.00	0.0	-1.00

ROCK COD

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	0	4	2.00	2.00	2.00	0.0	0.0	0.0	-2.00	0.0	-1.00
21/11/71	0	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/12/71	0	53	1.01	1.05	1.00	0.0	0.0	0.0	-1.01	0.0	-1.00
26/12/71	0	27	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
02/01/72	0	7	1.77	2.25	1.30	0.0	0.0	0.0	-1.77	0.0	-1.00
27/02/72	0	11	1.40	1.50	1.30	0.0	0.0	0.0	-1.40	0.0	-1.00
05/03/72	0	3	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
02/04/72	0	4	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
09/04/72	0	14	0.83	0.85	0.80	0.0	0.0	0.0	-0.83	0.0	-1.00
16/04/72	0	8	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
18/06/72	0	5	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
02/07/72	0	12	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
23/07/72	0	7	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
20/08/72	0	23	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
03/09/72	0	28	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
31/12/72	0	45	1.22	1.80	1.00	0.0	0.0	0.0	-1.22	0.0	-1.00

NABETA

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
31/10/71	0	15	2.14	2.14	2.14	0.0	0.0	0.0	-2.14	0.0	-1.00
14/11/71	0	15	1.92	2.25	1.60	0.0	0.0	0.0	-1.92	0.0	-1.00
12/12/71	0	33	1.92	2.10	1.75	0.0	0.0	0.0	-1.92	0.0	-1.00
02/01/72	0	5	2.20	2.20	2.20	0.0	0.0	0.0	-2.20	0.0	-1.00
15/01/72	0	40	1.68	1.76	1.61	0.0	0.0	0.0	-1.68	0.0	-1.00
23/01/72	0	12	1.70	1.70	1.70	0.0	0.0	0.0	-1.70	0.0	-1.00
05/02/72	0	7	1.55	1.55	1.55	0.0	0.0	0.0	-1.55	0.0	-1.00
13/02/72	0	10	1.85	1.85	1.85	0.0	0.0	0.0	-1.85	0.0	-1.00
20/02/72	0	15	1.99	2.20	1.77	0.0	0.0	0.0	-1.99	0.0	-1.00
26/03/72	0	2	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
02/04/72	0	59	1.57	1.65	1.50	0.0	0.0	0.0	-1.57	0.0	-1.00
11/06/72	0	11	1.65	1.65	1.65	0.0	0.0	0.0	-1.65	0.0	-1.00
16/07/72	0	4	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
13/08/72	0	2	1.70	1.70	1.70	0.0	0.0	0.0	-1.70	0.0	-1.00

GINDAE

FOR THE WEEK ENDING	NO.	L&S.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
05/12/71	0	8	1.01	1.01	1.01	0.0	0.0	0.0	-1.01	0.0	-1.00
02/01/72	0	81	1.31	1.35	1.27	0.0	0.0	0.0	-1.31	0.0	-1.00
12/03/72	0	8	1.90	1.90	1.90	0.0	0.0	0.0	-1.90	0.0	-1.00
19/03/72	0	57	1.01	1.01	1.01	0.0	0.0	0.0	-1.01	0.0	-1.00
02/04/72	0	114	0.88	1.00	0.75	0.0	0.0	0.0	-0.88	0.0	-1.00
16/04/72	0	86	1.60	1.60	1.60	0.0	0.0	0.0	-1.60	0.0	-1.00
23/04/72	0	44	1.25	1.25	1.25	0.0	0.0	0.0	-1.25	0.0	-1.00
30/04/72	0	40	1.22	1.45	1.00	0.0	0.0	0.0	-1.22	0.0	-1.00
14/05/72	0	33	0.55	0.55	0.55	0.0	0.0	0.0	-0.55	0.0	-1.00
28/05/72	0	20	0.92	1.10	0.75	0.0	0.0	0.0	-0.92	0.0	-1.00
11/06/72	0	24	1.16	1.16	1.16	0.0	0.0	0.0	-1.16	0.0	-1.00
18/06/72	0	186	0.85	1.05	0.60	0.0	0.0	0.0	-0.85	0.0	-1.00
02/07/72	0	54	1.12	1.25	1.00	0.0	0.0	0.0	-1.12	0.0	-1.00
16/07/72	0	67	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
23/07/72	0	64	1.13	1.25	1.00	0.0	0.0	0.0	-1.13	0.0	-1.00
30/07/72	0	60	0.97	1.10	0.85	0.0	0.0	0.0	-0.97	0.0	-1.00
06/08/72	0	37	1.00	1.00	1.00	0.0	0.0	0.0	-1.00	0.0	-1.00
13/08/72	0	52	1.11	1.11	1.11	0.0	0.0	0.0	-1.11	0.0	-1.00
20/08/72	0	32	1.28	1.30	1.25	0.0	0.0	0.0	-1.28	0.0	-1.00
03/09/72	0	31	1.13	1.50	1.00	0.0	0.0	0.0	-1.13	0.0	-1.00
10/09/72	0	20	0.65	0.65	0.65	0.0	0.0	0.0	-0.65	0.0	-1.00
17/09/72	0	75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

BIG AHI

FOR THE WEEK ENDING

	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	64	6312	1.30	1.50	0.33	2.92	3.25	2.75	1.62	0.55	1.24
17/10/71	85	9937	1.32	1.85	0.34	3.00	3.00	0.0	1.68	0.56	1.28
24/10/71	20	2824	1.08	1.35	0.65	3.00	3.00	0.0	1.92	0.64	1.78
31/10/71	36	5246	1.18	1.49	0.79	3.00	3.00	3.00	1.82	0.61	1.54
07/11/71	82	12300	0.97	1.19	0.65	2.59	2.75	2.50	1.61	0.62	1.66
14/11/71	50	7500	1.43	1.70	1.08	3.15	3.25	3.00	1.72	0.55	1.20
21/11/71	60	9151	1.50	1.70	1.29	3.30	3.75	3.00	1.80	0.54	1.20
29/11/71	108	16005	1.30	1.70	0.99	3.08	3.75	0.0	1.78	0.58	1.37
05/12/71	112	17397	1.29	1.72	1.01	3.25	3.50	0.0	1.96	0.60	1.53
12/12/71	114	17154	1.09	1.29	0.55	3.00	3.00	3.00	1.91	0.64	1.75
19/12/71	53	7971	1.44	2.15	0.79	3.25	3.75	0.0	1.81	0.56	1.26
26/12/71	55	8016	2.51	2.89	2.00	6.00	6.00	6.00	3.49	0.58	1.39
02/01/72	135	20865	2.59	3.60	1.46	5.90	7.00	5.00	3.31	0.56	1.28
09/01/72	1	144	2.69	2.69	2.69	0.0	0.0	0.0	-2.69	0.0	-1.00
16/01/72	29	4007	1.58	2.59	1.05	3.75	3.75	0.0	2.17	0.58	1.37
23/01/72	50	6771	1.24	1.68	0.90	3.04	3.25	3.00	1.80	0.59	1.45
30/01/72	50	7272	1.24	1.60	0.77	2.87	3.00	2.75	1.63	0.57	1.31
06/02/72	44	5978	1.17	1.72	0.65	2.92	3.00	2.85	1.76	0.60	1.50
13/02/72	52	7406	1.41	1.98	0.75	3.12	3.50	0.0	1.71	0.55	1.21
20/02/72	30	4528	1.45	2.59	1.00	3.12	3.85	0.0	1.66	0.53	1.15
27/02/72	55	7463	1.09	1.58	0.46	2.81	3.00	0.0	1.72	0.61	1.58
05/03/72	34	4689	1.29	2.08	0.59	2.92	3.50	2.75	1.63	0.56	1.26
12/03/72	17	2676	2.89	3.95	2.25	6.00	6.00	0.0	3.11	0.52	1.08
19/03/72	11	1296	2.53	3.87	0.75	0.0	0.0	0.0	-2.53	0.0	-1.00
26/03/72	30	4376	2.35	3.05	1.79	4.75	6.00	0.0	2.40	0.51	1.02
02/04/72	12	1616	2.46	3.00	2.25	0.0	0.0	0.0	-2.46	0.0	-1.00
15/04/72	17	2380	1.68	1.90	1.43	3.75	3.75	3.75	2.07	0.55	1.23
23/04/72	21	3288	1.63	1.80	1.30	0.0	0.0	0.0	-1.63	0.0	-1.00
30/04/72	25	3696	1.92	2.75	1.50	3.83	4.00	3.75	1.91	0.50	1.00
07/05/72	77	11403	1.69	2.56	1.18	3.65	3.85	0.0	1.96	0.54	1.16
14/05/72	26	3739	1.96	2.75	1.00	3.75	4.50	3.00	1.79	0.48	0.92
21/05/72	105	16207	1.14	1.85	0.63	3.44	4.00	0.0	2.30	0.67	2.01
28/05/72	39	5830	1.03	1.68	0.62	3.04	3.25	3.00	2.01	0.66	1.94
04/06/72	112	13883	1.17	2.28	0.51	0.0	0.0	0.0	-1.17	0.0	-1.00
11/06/72	8	1141	1.96	2.75	1.30	0.0	0.0	0.0	-1.96	0.0	-1.00
18/06/72	41	5889	0.89	1.55	0.53	2.50	2.50	2.50	1.61	0.64	1.80
25/06/72	24	3279	1.10	2.25	0.66	2.63	3.00	0.0	1.53	0.58	1.39
02/07/72	46	6197	1.31	1.75	0.59	3.00	3.00	0.0	1.69	0.56	1.29
09/07/72	74	11387	0.95	1.75	0.20	2.70	3.00	2.50	1.75	0.65	1.85
16/07/72	14	1941	0.77	0.99	0.38	2.75	2.75	2.75	1.98	0.72	2.56
23/07/72	8	1051	1.12	1.63	0.66	2.69	3.25	2.50	1.57	0.58	1.40
30/07/72	20	3182	1.38	2.12	1.07	2.83	3.00	0.0	1.45	0.51	1.05
06/08/72	13	1753	1.53	2.39	0.92	3.25	3.75	2.50	1.72	0.53	1.12
13/08/72	19	2582	1.53	1.82	0.69	3.75	3.75	3.75	2.22	0.59	1.45
20/08/72	9	1163	2.88	3.20	2.35	4.38	5.00	3.75	1.50	0.34	0.52
27/08/72	17	2728	2.25	2.99	1.10	4.00	4.00	0.0	1.75	0.44	0.78
03/09/72	15	1834	2.15	3.58	1.25	3.80	3.85	0.0	1.65	0.43	0.76
10/09/72	4	567	2.45	3.25	2.00	0.0	0.0	0.0	-2.45	0.0	-1.00
17/09/72	33	4045	1.59	2.90	0.85	3.00	3.00	0.0	1.41	0.47	0.89
24/09/72	19	2505	2.14	3.10	1.03	0.0	0.0	0.0	-2.14	0.0	-1.00
31/09/72	32	4393	1.66	2.67	1.00	3.25	3.25	0.0	1.59	0.49	0.96
31/12/72	228	30982	2.64	3.52	0.65	6.75	8.00	0.0	4.11	0.61	1.56

MEDIUM AHI

FOR THE WEEK ENDING

NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z	
		AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM				
24/10/71	39	3120	0.83	1.10	0.66	0.0	0.0	0.0	-0.83	0.0	-1.00
31/10/71	60	4800	0.83	1.10	0.71	0.0	0.0	0.0	-0.83	0.0	-1.00
07/11/71	87	7000	0.79	1.15	0.43	0.0	0.0	0.0	-0.79	0.0	-1.00
14/11/71	69	5520	1.13	1.30	0.85	0.0	0.0	0.0	-1.13	0.0	-1.00
21/11/71	32	2560	1.28	1.45	1.19	0.0	0.0	0.0	-1.28	0.0	-1.00
29/11/71	122	10720	1.11	1.29	0.78	0.0	0.0	0.0	-1.11	0.0	-1.00
05/12/71	74	5920	1.01	1.19	0.92	0.0	0.0	0.0	-1.01	0.0	-1.00
12/12/71	65	5200	1.00	1.13	0.70	0.0	0.0	0.0	-1.00	0.0	-1.00
19/12/71	76	6080	1.12	1.87	0.85	0.0	0.0	0.0	-1.12	0.0	-1.00
26/12/71	69	5520	2.28	2.62	1.75	0.0	0.0	0.0	-2.28	0.0	-1.00
02/01/72	81	4896	1.79	2.40	1.00	0.0	0.0	0.0	-1.79	0.0	-1.00
15/01/72	28	2399	1.27	1.84	0.97	0.0	0.0	0.0	-1.27	0.0	-1.00
23/01/72	53	4251	1.02	1.15	0.87	0.0	0.0	0.0	-1.02	0.0	-1.00
30/01/72	56	4480	0.94	1.15	0.79	0.0	0.0	0.0	-0.94	0.0	-1.00
06/02/72	39	2640	0.96	1.10	0.80	0.0	0.0	0.0	-0.96	0.0	-1.00
13/02/72	30	2520	1.26	1.60	0.69	0.0	0.0	0.0	-1.26	0.0	-1.00
20/02/72	10	850	1.29	1.87	1.02	0.0	0.0	0.0	-1.29	0.0	-1.00
27/02/72	43	3506	0.92	1.14	0.59	0.0	0.0	0.0	-0.92	0.0	-1.00
05/03/72	20	1713	1.14	1.69	0.73	0.0	0.0	0.0	-1.14	0.0	-1.00
12/03/72	5	455	1.93	2.02	1.85	0.0	0.0	0.0	-1.93	0.0	-1.00
19/03/72	3	255	1.93	1.89	1.76	0.0	0.0	0.0	-1.83	0.0	-1.00
26/03/72	8	661	1.64	2.33	1.05	0.0	0.0	0.0	-1.64	0.0	-1.00
02/04/72	1	89	2.45	2.45	2.45	0.0	0.0	0.0	-2.45	0.0	-1.00
16/04/72	7	538	1.46	1.98	1.18	0.0	0.0	0.0	-1.46	0.0	-1.00
23/04/72	4	302	1.66	1.95	1.40	0.0	0.0	0.0	-1.66	0.0	-1.00
30/04/72	9	745	1.53	1.59	1.45	0.0	0.0	0.0	-1.53	0.0	-1.00
07/05/72	35	2969	1.27	1.47	0.95	0.0	0.0	0.0	-1.27	0.0	-1.00
14/05/72	19	1504	1.28	2.00	0.75	0.0	0.0	0.0	-1.28	0.0	-1.00
21/05/72	28	2245	0.87	1.26	0.65	0.0	0.0	0.0	-0.87	0.0	-1.00
29/05/72	45	3632	0.75	0.93	0.59	0.0	0.0	0.0	-0.75	0.0	-1.00
04/06/72	17	1470	0.98	1.25	0.65	0.0	0.0	0.0	-0.98	0.0	-1.00
11/06/72	54	4377	0.56	0.75	0.35	0.0	0.0	0.0	-0.56	0.0	-1.00
19/06/72	12	1034	0.66	1.11	0.28	0.0	0.0	0.0	-0.66	0.0	-1.00
25/06/72	9	746	0.95	0.98	0.50	0.0	0.0	0.0	-0.85	0.0	-1.00
02/07/72	18	1423	1.03	1.16	0.75	0.0	0.0	0.0	-1.03	0.0	-1.00
09/07/72	46	3742	0.66	0.92	0.25	0.0	0.0	0.0	-0.66	0.0	-1.00
16/07/72	5	572	1.09	1.59	0.59	0.0	0.0	0.0	-1.09	0.0	-1.00
30/07/72	6	538	1.16	1.07	1.07	0.0	0.0	0.0	-1.16	0.0	-1.00
06/08/72	8	673	1.22	1.65	0.90	0.0	0.0	0.0	-1.22	0.0	-1.00
13/08/72	8	690	1.32	1.50	1.07	0.0	0.0	0.0	-1.32	0.0	-1.00
27/08/72	18	1512	2.17	2.92	1.00	0.0	0.0	0.0	-2.17	0.0	-1.00
03/09/72	2	185	2.18	2.45	1.92	0.0	0.0	0.0	-2.18	0.0	-1.00
10/09/72	2	186	2.19	2.49	1.89	0.0	0.0	0.0	-2.19	0.0	-1.00
17/09/72	32	2883	1.14	1.29	0.90	0.0	0.0	0.0	-1.14	0.0	-1.00
24/09/72	14	1174	1.60	2.15	0.65	0.0	0.0	0.0	-1.60	0.0	-1.00
31/09/72	7	612	1.36	1.75	1.20	0.0	0.0	0.0	-1.36	0.0	-1.00
31/12/72	23	1979	1.99	2.69	1.15	6.00	6.50	0.0	4.01	0.67	2.01

SMALL AHI

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
24/10/71	33	1625	0.66	0.75	0.57	0.0	0.0	0.0	-0.66	0.0	-1.00
31/10/71	34	1530	0.69	0.90	0.60	0.0	0.0	0.0	-0.69	0.0	-1.00
07/11/71	70	3150	0.62	0.68	0.55	0.0	0.0	0.0	-0.62	0.0	-1.00
14/11/71	115	5175	0.83	1.09	0.70	0.0	0.0	0.0	-0.83	0.0	-1.00
21/11/71	51	2295	0.87	1.01	0.75	0.0	0.0	0.0	-0.87	0.0	-1.00
29/11/71	94	4230	0.93	1.01	0.40	0.0	0.0	0.0	-0.83	0.0	-1.00
06/12/71	96	4770	0.88	0.96	0.83	0.0	0.0	0.0	-0.88	0.0	-1.00
13/12/71	62	2790	0.87	1.05	0.60	0.0	0.0	0.0	-0.87	0.0	-1.00
20/12/71	43	1935	1.07	1.45	0.84	0.0	0.0	0.0	-1.07	0.0	-1.00
27/12/71	64	2880	1.91	2.13	1.50	0.0	0.0	0.0	-1.81	0.0	-1.00
03/01/72	57	1840	1.59	2.20	1.00	0.0	0.0	0.0	-1.59	0.0	-1.00
10/01/72	1	50	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
17/01/72	39	1775	0.93	1.11	0.79	0.0	0.0	0.0	-0.93	0.0	-1.00
24/01/72	64	3072	0.84	1.01	0.78	0.0	0.0	0.0	-0.84	0.0	-1.00
31/01/72	85	3825	0.90	0.91	0.55	0.0	0.0	0.0	-0.80	0.0	-1.00
07/02/72	40	1832	0.80	0.95	0.60	0.0	0.0	0.0	-0.80	0.0	-1.00
13/02/72	51	2695	0.97	1.26	0.75	0.0	0.0	0.0	-0.97	0.0	-1.00
20/02/72	27	1605	1.02	1.51	0.80	0.0	0.0	0.0	-1.02	0.0	-1.00
27/02/72	72	3966	0.68	1.05	0.55	0.0	0.0	0.0	-0.68	0.0	-1.00
05/03/72	26	1455	0.80	1.65	0.0	0.0	0.0	0.0	-0.80	0.0	-1.00
12/03/72	3	186	1.52	1.55	1.50	0.0	0.0	0.0	-1.52	0.0	-1.00
19/03/72	28	1505	1.13	1.89	0.75	0.0	0.0	0.0	-1.13	0.0	-1.00
26/03/72	33	1978	1.07	1.26	0.56	0.0	0.0	0.0	-1.07	0.0	-1.00
02/04/72	17	523	1.07	1.95	0.68	0.0	0.0	0.0	-1.07	0.0	-1.00
16/04/72	12	653	1.16	1.40	0.90	0.0	0.0	0.0	-1.16	0.0	-1.00
23/04/72	1	67	1.55	1.55	1.55	0.0	0.0	0.0	-1.55	0.0	-1.00
30/04/72	21	1079	1.29	1.57	0.75	0.0	0.0	0.0	-1.29	0.0	-1.00
07/05/72	51	2446	1.07	1.27	0.65	0.0	0.0	0.0	-1.07	0.0	-1.00
14/05/72	26	1428	1.04	1.89	0.55	0.0	0.0	0.0	-1.04	0.0	-1.00
21/05/72	24	1528	0.95	1.20	0.63	0.0	0.0	0.0	-0.95	0.0	-1.00
28/05/72	35	1067	0.50	0.60	0.36	0.0	0.0	0.0	-0.50	0.0	-1.00
04/06/72	5	319	0.68	0.70	0.60	0.0	0.0	0.0	-0.68	0.0	-1.00
11/06/72	72	3746	0.47	0.68	0.20	0.0	0.0	0.0	-0.47	0.0	-1.00
19/06/72	5	153	0.25	0.25	0.25	0.0	0.0	0.0	-0.25	0.0	-1.00
25/06/72	10	315	0.73	1.15	0.35	0.0	0.0	0.0	-0.73	0.0	-1.00
02/07/72	1	69	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
09/07/72	12	767	0.54	0.68	0.44	0.0	0.0	0.0	-0.54	0.0	-1.00
16/07/72	3	283	0.52	0.52	0.52	0.0	0.0	0.0	-0.52	0.0	-1.00
23/07/72	3	127	0.34	0.38	0.25	0.0	0.0	0.0	-0.34	0.0	-1.00
30/07/72	17	700	0.45	0.55	0.40	0.0	0.0	0.0	-0.45	0.0	-1.00
06/08/72	7	406	0.65	0.65	0.65	0.0	0.0	0.0	-0.65	0.0	-1.00
27/08/72	3	144	0.93	1.15	0.69	0.0	0.0	0.0	-0.93	0.0	-1.00
03/09/72	5	264	0.99	1.30	0.61	0.0	0.0	0.0	-0.99	0.0	-1.00
10/09/72	1	34	0.88	0.88	0.88	0.0	0.0	0.0	-0.88	0.0	-1.00
17/09/72	11	481	0.67	1.50	0.26	0.0	0.0	0.0	-0.67	0.0	-1.00
24/09/72	11	404	0.73	0.77	0.60	0.0	0.0	0.0	-0.73	0.0	-1.00
31/09/72	6	286	0.67	1.10	0.40	0.0	0.0	0.0	-0.67	0.0	-1.00
31/12/72	8	362	1.21	1.50	0.90	2.50	2.50	0.0	1.29	0.51	1.06

YELLOW FIN AHI

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
26/12/71	0	142	2.50	2.50	2.50	0.0	0.0	0.0	-2.50	0.0	-1.00
02/01/72	76	8014	1.97	2.80	1.13	0.0	0.0	0.0	-1.97	0.0	-1.00
15/01/72	9	1002	1.14	1.51	0.75	0.0	0.0	0.0	-1.14	0.0	-1.00
23/01/72	70	7346	0.93	1.20	0.79	0.0	0.0	0.0	-0.93	0.0	-1.00
30/01/72	112	12671	0.84	1.14	0.55	0.0	0.0	0.0	-0.84	0.0	-1.00
06/02/72	94	9835	0.90	1.26	0.61	0.0	0.0	0.0	-0.90	0.0	-1.00
13/02/72	100	11369	1.08	1.46	0.40	0.0	0.0	0.0	-1.08	0.0	-1.00
20/02/72	83	10119	1.29	2.00	0.78	0.0	0.0	0.0	-1.29	0.0	-1.00
27/02/72	103	12744	0.68	1.07	0.40	0.0	0.0	0.0	-0.68	0.0	-1.00
05/03/72	48	5440	1.05	1.96	0.41	0.0	0.0	0.0	-1.05	0.0	-1.00
12/03/72	4	452	2.30	2.55	2.10	0.0	0.0	0.0	-2.30	0.0	-1.00
19/03/72	2	204	2.15	3.55	0.75	0.0	0.0	0.0	-2.15	0.0	-1.00
26/03/72	14	1273	1.36	1.75	0.75	0.0	0.0	0.0	-1.36	0.0	-1.00
16/04/72	3	329	1.71	1.77	1.60	0.0	0.0	0.0	-1.71	0.0	-1.00
23/04/72	3	187	1.18	1.54	0.80	0.0	0.0	0.0	-1.18	0.0	-1.00
30/04/72	28	3276	1.54	1.89	1.25	0.0	0.0	0.0	-1.54	0.0	-1.00
07/05/72	33	3477	1.23	1.50	0.70	0.0	0.0	0.0	-1.23	0.0	-1.00
14/05/72	30	3055	1.40	2.01	0.75	0.0	0.0	0.0	-1.40	0.0	-1.00
21/05/72	9	711	0.79	1.05	0.72	0.0	0.0	0.0	-0.79	0.0	-1.00
28/05/72	28	2941	0.83	1.15	0.64	0.0	0.0	0.0	-0.83	0.0	-1.00
04/06/72	24	2828	0.90	1.20	0.35	0.0	0.0	0.0	-0.90	0.0	-1.00
11/06/72	57	6312	0.53	1.26	0.25	0.0	0.0	0.0	-0.53	0.0	-1.00
18/06/72	85	13630	0.66	1.05	0.30	0.0	0.0	0.0	-0.66	0.0	-1.00
25/06/72	52	7333	1.00	1.56	0.69	0.0	0.0	0.0	-1.00	0.0	-1.00
02/07/72	94	13170	1.05	1.62	0.60	0.0	0.0	0.0	-1.05	0.0	-1.00
09/07/72	29	3607	0.56	0.99	0.10	0.0	0.0	0.0	-0.56	0.0	-1.00
15/07/72	221	34854	0.67	1.59	0.15	0.0	0.0	0.0	-0.67	0.0	-1.00
23/07/72	84	13099	0.97	1.74	0.33	0.0	0.0	0.0	-0.97	0.0	-1.00
30/07/72	80	13142	0.95	1.40	0.35	0.0	0.0	0.0	-0.95	0.0	-1.00
06/08/72	94	14731	1.28	2.00	0.15	0.0	0.0	0.0	-1.28	0.0	-1.00
13/08/72	71	10823	1.22	1.69	0.30	0.0	0.0	0.0	-1.22	0.0	-1.00
20/08/72	5	856	2.63	4.30	1.35	0.0	0.0	0.0	-2.63	0.0	-1.00
27/08/72	7	906	1.91	2.75	0.30	0.0	0.0	0.0	-1.91	0.0	-1.00
03/09/72	7	900	1.18	1.69	0.58	0.0	0.0	0.0	-1.18	0.0	-1.00
10/09/72	8	1144	2.41	2.60	2.00	0.0	0.0	0.0	-2.41	0.0	-1.00
17/09/72	36	3002	0.98	1.38	0.25	0.0	0.0	0.0	-0.98	0.0	-1.00
24/09/72	14	2042	1.02	1.80	0.27	0.0	0.0	0.0	-1.02	0.0	-1.00
31/09/72	23	2256	0.93	1.60	0.40	0.0	0.0	0.0	-0.93	0.0	-1.00
31/12/72	67	16272	2.43	3.50	0.50	0.0	0.0	0.0	-2.43	0.0	-1.00

KONA AHI

FOR THE WEEK ENDING

	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
24/10/71	11	1320	1.04	1.04	1.04	0.0	0.0	0.0	-1.04	0.0	-1.00
07/11/71	4	400	0.70	0.70	0.70	0.0	0.0	0.0	-0.70	0.0	-1.00
19/12/71	9	810	1.11	1.18	1.04	0.0	0.0	0.0	-1.11	0.0	-1.00
02/01/72	8	736	0.95	1.99	0.60	0.0	0.0	0.0	-0.95	0.0	-1.00
09/01/72	12	893	1.17	1.78	0.63	0.0	0.0	0.0	-1.17	0.0	-1.00
16/01/72	24	2832	1.06	1.36	0.57	0.0	0.0	0.0	-1.06	0.0	-1.00
23/01/72	18	2053	0.88	1.05	0.75	0.0	0.0	0.0	-0.88	0.0	-1.00
30/01/72	7	746	0.76	1.10	0.43	0.0	0.0	0.0	-0.76	0.0	-1.00
13/02/72	3	364	1.07	1.18	1.01	0.0	0.0	0.0	-1.07	0.0	-1.00
20/02/72	33	550	0.51	0.51	0.50	0.0	0.0	0.0	-0.51	0.0	-1.00
27/02/72	4	429	0.65	0.90	0.45	0.0	0.0	0.0	-0.65	0.0	-1.00
12/03/72	138	826	0.68	1.06	0.40	0.0	0.0	0.0	-0.68	0.0	-1.00
26/03/72	25	630	0.25	0.25	0.25	0.0	0.0	0.0	-0.25	0.0	-1.00
02/04/72	81	6265	0.39	0.65	0.20	0.0	0.0	0.0	-0.39	0.0	-1.00
09/04/72	30	1500	0.60	0.60	0.60	0.0	0.0	0.0	-0.60	0.0	-1.00
16/04/72	6	487	1.28	2.00	0.90	0.0	0.0	0.0	-1.28	0.0	-1.00
23/04/72	59	4290	1.34	2.00	0.60	0.0	0.0	0.0	-1.34	0.0	-1.00
30/04/72	68	1945	1.42	2.42	0.90	0.0	0.0	0.0	-1.42	0.0	-1.00
07/05/72	68	859	0.88	1.30	0.45	0.0	0.0	0.0	-0.88	0.0	-1.00
14/05/72	17	1337	0.97	1.35	0.75	0.0	0.0	0.0	-0.97	0.0	-1.00
21/05/72	24	1852	0.58	0.80	0.40	0.0	0.0	0.0	-0.58	0.0	-1.00
28/05/72	52	6615	0.71	0.99	0.25	0.0	0.0	0.0	-0.71	0.0	-1.00
04/06/72	57	6297	0.75	1.19	0.35	0.0	0.0	0.0	-0.75	0.0	-1.00
11/06/72	45	6513	0.49	0.92	0.26	0.0	0.0	0.0	-0.49	0.0	-1.00
18/06/72	36	5269	0.52	0.70	0.35	0.0	0.0	0.0	-0.52	0.0	-1.00
25/06/72	19	2503	0.74	1.49	0.25	0.0	0.0	0.0	-0.74	0.0	-1.00
02/07/72	27	3766	0.83	1.20	0.50	0.0	0.0	0.0	-0.83	0.0	-1.00
09/07/72	12	1602	0.44	0.65	0.35	0.0	0.0	0.0	-0.44	0.0	-1.00
16/07/72	11	1614	0.31	0.50	0.25	0.0	0.0	0.0	-0.31	0.0	-1.00
23/07/72	2	328	0.69	0.85	0.53	0.0	0.0	0.0	-0.69	0.0	-1.00
30/07/72	12	1720	0.94	1.32	0.39	0.0	0.0	0.0	-0.94	0.0	-1.00
06/08/72	3	422	0.85	1.20	0.60	0.0	0.0	0.0	-0.85	0.0	-1.00
13/08/72	22	2775	0.99	1.60	0.60	0.0	0.0	0.0	-0.99	0.0	-1.00
20/08/72	7	968	1.50	2.05	1.25	0.0	0.0	0.0	-1.50	0.0	-1.00
10/09/72	2	286	1.18	1.25	1.00	0.0	0.0	0.0	-1.18	0.0	-1.00
17/09/72	14	964	0.92	1.22	0.46	0.0	0.0	0.0	-0.92	0.0	-1.00
24/09/72	23	1435	1.10	1.97	0.65	0.0	0.0	0.0	-1.10	0.0	-1.00
31/09/72	10	723	1.28	1.99	0.35	0.0	0.0	0.0	-1.28	0.0	-1.00

MARLIN

FOR THE WEEK ENDING

NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z	
		AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM				
17/10/71	0	1502	1.02	1.50	0.75	2.35	2.35	0.0	1.33	0.57	1.31
24/10/71	0	1931	0.57	0.65	0.46	1.88	2.00	0.0	1.31	0.70	2.32
31/10/71	0	1280	0.82	1.00	0.71	2.00	2.00	0.0	1.18	0.59	1.42
07/11/71	0	7258	0.48	0.63	0.38	1.71	1.75	0.0	1.23	0.72	2.54
14/11/71	0	10195	0.54	0.66	0.37	1.88	2.00	0.0	1.34	0.71	2.49
21/11/71	0	5140	0.61	0.95	0.39	2.00	2.25	1.75	1.39	0.69	2.28
28/11/71	0	4115	0.70	0.84	0.45	2.25	2.25	0.0	1.55	0.69	2.20
05/12/71	0	4535	0.78	0.99	0.58	2.06	2.25	0.0	1.28	0.62	1.64
12/12/71	0	6320	0.68	1.00	0.35	2.00	2.00	2.00	1.31	0.66	1.92
19/12/71	0	9605	1.01	1.79	0.75	2.00	2.25	0.0	0.99	0.50	0.98
26/12/71	0	7280	1.98	2.16	1.75	5.00	5.00	5.00	3.02	0.60	1.53
02/01/72	0	19850	0.72	1.58	0.35	3.35	4.75	3.00	2.63	0.79	3.67
09/01/72	0	860	0.55	0.75	0.35	0.0	0.0	0.0	-0.55	0.0	-1.00
16/01/72	0	1495	0.69	0.85	0.35	2.50	2.50	0.0	1.81	0.73	2.64
23/01/72	0	8162	0.72	0.92	0.38	2.15	2.50	0.0	1.43	0.67	2.00
30/01/72	0	7710	0.58	0.78	0.35	2.00	2.00	2.00	1.42	0.71	2.47
06/02/72	0	6221	0.62	0.86	0.31	2.05	2.25	0.0	1.43	0.70	2.32
13/02/72	29	7611	0.83	1.12	0.40	2.42	2.75	0.0	1.58	0.65	1.90
20/02/72	0	5775	0.91	1.41	0.40	2.44	2.50	2.25	1.52	0.63	1.67
27/02/72	0	6138	0.65	0.99	0.35	2.25	3.00	0.0	1.60	0.71	2.48
05/03/72	0	9327	0.58	0.96	0.33	2.13	2.50	2.00	1.54	0.73	2.65
12/03/72	0	904	1.50	3.36	0.50	3.38	3.75	0.0	1.98	0.56	1.25
19/03/72	0	4142	1.49	3.15	0.57	3.00	3.00	0.0	1.51	0.50	1.01
26/03/72	0	3000	0.94	1.25	0.43	2.56	3.00	2.25	1.62	0.63	1.71
02/04/72	0	4820	1.27	1.68	0.55	3.25	3.50	0.0	1.98	0.61	1.55
16/04/72	0	5224	0.82	1.07	0.55	2.71	3.00	2.50	1.99	0.70	2.29
23/04/72	0	2122	1.24	1.70	0.47	0.0	0.0	0.0	-1.24	0.0	-1.00
30/04/72	6	4050	1.16	1.65	0.40	2.88	3.00	0.0	1.71	0.60	1.47
07/05/72	2	3433	1.02	1.39	0.41	2.67	2.75	0.0	1.65	0.62	1.62
14/05/72	0	2981	0.87	1.25	0.30	2.83	3.50	0.0	1.97	0.69	2.27
21/05/72	0	2373	0.75	1.10	0.35	2.25	2.50	0.0	1.50	0.67	2.00
28/05/72	0	2482	0.75	1.25	0.35	2.40	2.50	0.0	1.65	0.69	2.21
04/06/72	23	2053	0.77	1.06	0.30	0.0	0.0	0.0	-0.77	0.0	-1.00
11/06/72	43	5351	0.49	0.83	0.30	1.83	2.00	0.0	1.35	0.73	2.76
18/06/72	53	4884	0.33	0.50	0.20	1.85	2.00	1.75	1.52	0.82	4.64
25/06/72	47	4280	0.65	0.96	0.30	2.50	2.50	0.0	1.95	0.74	2.83
02/07/72	42	2876	0.54	1.00	0.30	2.00	2.00	0.0	1.46	0.73	2.69
09/07/72	5	332	0.35	0.40	0.30	2.00	2.00	0.0	1.65	0.82	4.71
16/07/72	16	1274	0.54	0.90	0.20	2.00	2.00	0.0	1.45	0.73	2.67
30/07/72	2	119	0.63	0.85	0.41	0.0	0.0	0.0	-0.63	0.0	-1.00
06/08/72	4	246	1.04	1.50	0.75	0.0	0.0	0.0	-1.04	0.0	-1.00
13/08/72	1	82	1.60	1.60	1.60	0.0	0.0	0.0	-1.60	0.0	-1.00
27/08/72	1	135	2.60	2.60	2.60	0.0	0.0	0.0	-2.60	0.0	-1.00
17/09/72	4	456	1.56	1.77	0.56	0.0	0.0	0.0	-1.56	0.0	-1.00
24/09/72	5	753	1.18	1.37	0.95	0.0	0.0	0.0	-1.18	0.0	-1.00
31/09/72	1	137	1.36	1.36	1.36	0.0	0.0	0.0	-1.36	0.0	-1.00
31/12/72	107	7083	1.94	2.55	0.45	6.00	6.00	0.0	4.06	0.68	2.10

KONA HARLIN

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
24/10/71	7	259	0.39	0.40	0.37	0.0	0.0	0.0	-0.39	0.0	-1.00
14/11/71	8	640	0.49	0.53	0.43	0.0	0.0	0.0	-0.49	0.0	-1.00
02/01/72	5	400	0.54	0.54	0.54	0.0	0.0	0.0	-0.54	0.0	-1.00
09/01/72	4	200	0.40	0.50	0.35	0.0	0.0	0.0	-0.40	0.0	-1.00
20/02/72	2	153	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
27/02/72	10	724	0.50	1.02	0.35	0.0	0.0	0.0	-0.50	0.0	-1.00
12/03/72	2	140	3.48	3.50	3.45	0.0	0.0	0.0	-3.48	0.0	-1.00
02/04/72	2	180	1.05	1.10	1.00	0.0	0.0	0.0	-1.05	0.0	-1.00
23/04/72	3	276	1.33	1.45	1.25	0.0	0.0	0.0	-1.33	0.0	-1.00
30/04/72	3	201	1.21	1.55	1.05	0.0	0.0	0.0	-1.21	0.0	-1.00
07/05/72	1	58	0.58	0.58	0.58	0.0	0.0	0.0	-0.58	0.0	-1.00
21/05/72	6	775	0.85	1.20	0.50	0.0	0.0	0.0	-0.85	0.0	-1.00
29/05/72	16	1484	0.61	1.08	0.30	0.0	0.0	0.0	-0.61	0.0	-1.00
04/06/72	10	840	0.41	0.41	0.41	0.0	0.0	0.0	-0.41	0.0	-1.00
11/06/72	12	1124	0.35	0.35	0.35	0.0	0.0	0.0	-0.35	0.0	-1.00
19/06/72	38	3892	0.27	0.38	0.15	0.0	0.0	0.0	-0.27	0.0	-1.00
25/06/72	7	675	0.30	0.30	0.30	0.0	0.0	0.0	-0.30	0.0	-1.00
02/07/72	18	1428	0.34	0.35	0.30	0.0	0.0	0.0	-0.34	0.0	-1.00
30/07/72	2	247	0.81	0.86	0.75	0.0	0.0	0.0	-0.81	0.0	-1.00
24/09/72	1	151	1.05	1.05	1.05	0.0	0.0	0.0	-1.05	0.0	-1.00

ON0

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
05/12/71	0	1315	0.34	0.38	0.30	0.0	0.0	0.0	-0.34	0.0	-1.00
12/03/72	0	19	0.60	0.60	0.60	0.0	0.0	0.0	-0.60	0.0	-1.00
19/03/72	0	141	0.47	0.55	0.40	0.0	0.0	0.0	-0.47	0.0	-1.00
26/03/72	0	24	0.52	0.52	0.52	0.0	0.0	0.0	-0.52	0.0	-1.00
16/04/72	0	53	0.35	0.35	0.35	0.0	0.0	0.0	-0.35	0.0	-1.00
28/05/72	0	107	0.32	0.37	0.25	0.0	0.0	0.0	-0.32	0.0	-1.00
11/06/72	0	187	0.34	0.35	0.30	0.0	0.0	0.0	-0.34	0.0	-1.00
19/06/72	0	407	0.27	0.36	0.20	0.0	0.0	0.0	-0.27	0.0	-1.00
25/06/72	0	75	0.19	0.20	0.15	0.0	0.0	0.0	-0.19	0.0	-1.00
02/07/72	0	1575	0.25	0.35	0.20	0.0	0.0	0.0	-0.25	0.0	-1.00
09/07/72	0	466	0.19	0.20	0.15	0.0	0.0	0.0	-0.19	0.0	-1.00
16/07/72	0	609	0.26	0.40	0.20	0.0	0.0	0.0	-0.26	0.0	-1.00
23/07/72	0	305	0.34	0.50	0.20	0.0	0.0	0.0	-0.34	0.0	-1.00
30/07/72	0	287	0.51	0.55	0.49	0.0	0.0	0.0	-0.51	0.0	-1.00
06/08/72	1	227	0.45	0.55	0.35	0.0	0.0	0.0	-0.45	0.0	-1.00
13/08/72	0	969	0.45	0.58	0.30	0.0	0.0	0.0	-0.45	0.0	-1.00
27/08/72	0	112	0.66	0.70	0.63	0.0	0.0	0.0	-0.66	0.0	-1.00
03/09/72	0	82	0.45	0.45	0.45	0.0	0.0	0.0	-0.45	0.0	-1.00
17/09/72	1	56	0.50	0.50	0.50	0.0	0.0	0.0	-0.50	0.0	-1.00

BARRACUDA

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
24/10/71	1	27	0.59	0.59	0.59	0.0	0.0	0.0	-0.59	0.0	-1.00
07/11/71	1	12	0.66	0.66	0.66	0.0	0.0	0.0	-0.66	0.0	-1.00
14/11/71	2	30	1.25	1.25	1.25	0.0	0.0	0.0	-1.25	0.0	-1.00
21/11/71	5	70	1.01	1.27	0.90	0.0	0.0	0.0	-1.01	0.0	-1.00
28/11/71	6	82	1.25	1.37	1.14	0.0	0.0	0.0	-1.25	0.0	-1.00
19/12/71	4	29	1.43	1.55	1.30	0.0	0.0	0.0	-1.43	0.0	-1.00
02/01/72	4	59	0.65	0.65	0.65	0.0	0.0	0.0	-0.65	0.0	-1.00
15/01/72	2	33	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
23/01/72	2	48	1.50	1.50	1.50	0.0	0.0	0.0	-1.50	0.0	-1.00
06/02/72	2	22	0.75	0.75	0.75	0.0	0.0	0.0	-0.75	0.0	-1.00
26/03/72	3	76	0.40	0.40	0.40	0.0	0.0	0.0	-0.40	0.0	-1.00
30/04/72	2	29	0.50	0.65	0.35	0.0	0.0	0.0	-0.50	0.0	-1.00
14/05/72	3	48	0.33	0.35	0.30	0.0	0.0	0.0	-0.33	0.0	-1.00
28/05/72	5	104	0.30	0.35	0.25	0.0	0.0	0.0	-0.30	0.0	-1.00
11/06/72	0	184	0.40	0.65	0.20	0.0	0.0	0.0	-0.40	0.0	-1.00
25/06/72	0	54	0.27	0.30	0.25	0.0	0.0	0.0	-0.27	0.0	-1.00
02/07/72	0	12	0.25	0.25	0.25	0.0	0.0	0.0	-0.25	0.0	-1.00
09/07/72	0	38	0.30	0.35	0.25	0.0	0.0	0.0	-0.30	0.0	-1.00
16/07/72	0	20	0.50	0.50	0.50	0.0	0.0	0.0	-0.50	0.0	-1.00
23/07/72	0	127	0.35	0.51	0.20	0.0	0.0	0.0	-0.35	0.0	-1.00
30/07/72	0	18	0.35	0.35	0.35	0.0	0.0	0.0	-0.35	0.0	-1.00
06/08/72	0	32	0.30	0.30	0.30	0.0	0.0	0.0	-0.30	0.0	-1.00
13/08/72	0	100	0.44	0.65	0.25	0.0	0.0	0.0	-0.44	0.0	-1.00
27/08/72	0	52	0.66	0.71	0.60	0.0	0.0	0.0	-0.66	0.0	-1.00
31/12/72	6	162	0.85	2.55	0.26	0.0	0.0	0.0	-0.85	0.0	-1.00

MAHIMAH

FOR THE WEEK ENDING	NO.	LBS.	---AUCTION PRICE---			---RETAIL PRICE---			MARKUP	Q	Z
			AVG.	TOP	BOTTOM	AVG.	TOP	BOTTOM			
10/10/71	0	54	0.94	1.00	0.85	0.0	0.0	0.0	-0.94	0.0	-1.00
17/10/71	0	1235	0.83	1.10	0.75	0.0	0.0	0.0	-0.83	0.0	-1.00
24/10/71	0	895	1.28	1.55	0.64	0.0	0.0	0.0	-1.28	0.0	-1.00
31/10/71	0	718	1.38	1.60	0.85	0.0	0.0	0.0	-1.38	0.0	-1.00
07/11/71	0	3613	0.75	0.90	0.50	0.0	0.0	0.0	-0.75	0.0	-1.00
14/11/71	0	2416	0.84	1.15	0.75	0.0	0.0	0.0	-0.84	0.0	-1.00
21/11/71	0	1665	0.86	1.18	0.68	0.0	0.0	0.0	-0.86	0.0	-1.00
28/11/71	0	1618	0.90	1.11	0.40	0.0	0.0	0.0	-0.90	0.0	-1.00
05/12/71	0	1010	1.17	1.75	0.50	0.0	0.0	0.0	-1.17	0.0	-1.00
12/12/71	0	1442	1.03	1.32	0.61	0.0	0.0	0.0	-1.03	0.0	-1.00
17/12/71	0	873	0.92	1.45	0.55	0.0	0.0	0.0	-0.92	0.0	-1.00
26/12/71	0	483	1.28	1.76	0.50	0.0	0.0	0.0	-1.28	0.0	-1.00
03/01/72	0	1880	1.24	1.79	0.45	0.0	0.0	0.0	-1.24	0.0	-1.00
09/01/72	0	382	1.22	1.50	0.85	0.0	0.0	0.0	-1.22	0.0	-1.00
16/01/72	0	444	1.28	1.59	0.75	0.0	0.0	0.0	-1.28	0.0	-1.00
23/01/72	0	699	1.26	1.65	0.90	0.0	0.0	0.0	-1.26	0.0	-1.00
30/01/72	0	277	1.32	1.55	0.68	0.0	0.0	0.0	-1.32	0.0	-1.00
06/02/72	0	896	1.42	1.75	0.50	0.0	0.0	0.0	-1.42	0.0	-1.00
13/02/72	0	1058	1.69	1.95	1.01	0.0	0.0	0.0	-1.69	0.0	-1.00
20/02/72	0	1137	1.52	1.70	1.40	0.0	0.0	0.0	-1.52	0.0	-1.00
27/02/72	14	1212	1.41	1.50	1.10	0.0	0.0	0.0	-1.41	0.0	-1.00
05/03/72	0	1213	1.39	1.53	0.75	0.0	0.0	0.0	-1.39	0.0	-1.00
12/03/72	0	2969	1.41	1.59	1.05	0.0	0.0	0.0	-1.41	0.0	-1.00
19/03/72	0	6563	0.85	1.50	0.50	0.0	0.0	0.0	-0.85	0.0	-1.00
26/03/72	0	3169	0.79	1.25	0.50	0.0	0.0	0.0	-0.79	0.0	-1.00
02/04/72	0	4676	0.84	1.05	0.50	0.0	0.0	0.0	-0.84	0.0	-1.00
09/04/72	0	797	0.64	0.68	0.60	0.0	0.0	0.0	-0.64	0.0	-1.00
16/04/72	0	9537	0.63	0.91	0.50	0.0	0.0	0.0	-0.63	0.0	-1.00
23/04/72	0	2425	0.64	0.90	0.41	0.0	0.0	0.0	-0.64	0.0	-1.00
30/04/72	0	4899	0.72	0.85	0.50	0.0	0.0	0.0	-0.72	0.0	-1.00
07/05/72	0	3907	0.91	1.10	0.65	0.0	0.0	0.0	-0.91	0.0	-1.00
14/05/72	0	4437	0.75	0.90	0.50	0.0	0.0	0.0	-0.75	0.0	-1.00
21/05/72	0	1523	0.59	0.70	0.50	0.0	0.0	0.0	-0.59	0.0	-1.00
28/05/72	0	1119	0.95	1.95	0.50	0.0	0.0	0.0	-0.95	0.0	-1.00
04/06/72	0	860	1.31	1.80	0.75	0.0	0.0	0.0	-1.31	0.0	-1.00
11/06/72	0	3064	0.85	1.08	0.40	0.0	0.0	0.0	-0.85	0.0	-1.00
18/06/72	0	3451	0.74	1.00	0.50	0.0	0.0	0.0	-0.74	0.0	-1.00
25/06/72	0	700	0.87	1.50	0.56	0.0	0.0	0.0	-0.87	0.0	-1.00
02/07/72	0	655	1.18	1.80	0.56	0.0	0.0	0.0	-1.18	0.0	-1.00
09/07/72	0	1343	1.06	1.80	0.56	0.0	0.0	0.0	-1.06	0.0	-1.00
16/07/72	0	2521	0.96	1.55	0.45	0.0	0.0	0.0	-0.96	0.0	-1.00
23/07/72	0	1875	1.05	1.58	0.50	0.0	0.0	0.0	-1.05	0.0	-1.00
30/07/72	0	4440	0.94	1.55	0.40	0.0	0.0	0.0	-0.94	0.0	-1.00
06/08/72	0	2529	1.01	1.50	0.52	0.0	0.0	0.0	-1.01	0.0	-1.00
13/08/72	0	4794	0.78	1.27	0.25	0.0	0.0	0.0	-0.78	0.0	-1.00
20/08/72	0	4929	0.61	1.20	0.30	0.0	0.0	0.0	-0.61	0.0	-1.00
27/08/72	0	407	1.28	2.00	0.75	0.0	0.0	0.0	-1.28	0.0	-1.00
03/09/72	0	380	1.48	1.99	0.65	0.0	0.0	0.0	-1.48	0.0	-1.00
10/09/72	0	49	2.15	2.15	2.15	0.0	0.0	0.0	-2.15	0.0	-1.00
17/09/72	0	122	1.75	2.10	1.50	0.0	0.0	0.0	-1.75	0.0	-1.00
31/09/72	0	83	1.75	1.89	1.00	0.0	0.0	0.0	-1.75	0.0	-1.00
31/12/72	0	428	2.57	2.75	2.00	0.0	0.0	0.0	-2.57	0.0	-1.00

### APPENDIX III

#### AVERAGE RETAIL PRICES FOR 27 SPECIES OF FISH

#### SOLD BY SMALL FISH DEALERS

Summarized by week: 2 October 1971 to 2 September 1972

These prices were collected at eleven retail outlets for fish throughout Honolulu. Small businesses run by a single dealer, medium sized markets and large outlets such as supermarkets and discount stores are included. Since not all stores carry all varieties of fish, some prices represent an average taken from only two or three stores during a week.

In order to compute the price per pound the fishermen received, one can subtract 20¢ to 60¢ with 35¢ as an average from the retail prices to get the range of prices paid to fishermen throughout the year. For example, manini retailing at \$1.50 per pound may have cost the dealer between \$.90 and \$1.30 per pound, but the most likely cost was \$1.15 per pound.

As described in Chapter V, aku and ahi sold in fillets are priced by doubling the dealers cost before adding the markup. Fish names followed by (f) indicates that those fish were sold in fillets. Both the octopus and shrimp included on this list are imported items. The former is from Japan already cooked and covered with a red dye. It is kept frozen and defrosted as needed. Usually customers buy

only a portion of the animal, perhaps one or two arms, rather than the entire octopus. The shrimp are imported frozen from Australia, New Zealand, Taiwan and Japan.

The eel and turtle listed here are not in Appendix I because I was unable to identify the species. The kinds of eel sold in the market are brown, white and black eel caught in the reef areas near shore. The turtle is usually over 80 pounds and caught commercially particularly to supply restaurants and not for the retail market.

Fish  
Name

For the week ending:

	Sat. 9/10	Sat. 16/10	Sat. 23/10	Sat. 30/10	Sat. 6/11	Sat. 13/11	Sat. 20/11	Sat. 27/11	Sat. 4/12	Sat. 11/12	Sat. 18/12	Sat. 25/12
UHU		.55		1.00	.75		.70	1.10	1.00	.85		.75
AWA	1.00	1.00	.60		1.00	.75	.75	.50	.50	.50	.50	.75
OIO	.75		.70	.65	.75	.75	.75	.65	1.25		.75	.75
SHRIMP	2.20	2.20	2.80	2.80	2.80	2.20	2.30	2.40	2.40	2.70	2.70	2.70
U'U	1.70		1.45	1.55	1.60	1.75	1.80	1.45	1.75	1.85		
MANINI	1.40	1.45	1.50		1.50	1.55	1.65	1.50	1.50	1.65	1.50	1.50
KUMU	3.10	3.00		2.00	3.00	3.30	3.45	3.50	3.50	2.90	3.00	2.80
AWEOWEO	1.00							1.85				
MULLET	1.25	2.00	1.25	2.00	2.00	2.00	1.90	2.10	2.00		2.00	
SM.AHI (f)	1.95	2.00	2.00	2.10								
MOANA	1.40	1.50	1.50	1.50	1.50	1.60		2.00	1.25	1.50		1.60
OCTOPUS												
MAHIMAHI (f)			1.00			2.00						
AKU (f)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.75	1.50	1.50	1.50	2.50
WT/BL CRAB	1.50		1.60	1.25	1.50	1.00	1.65	1.50	1.75	1.50	1.50	
SQUID	1.75	1.75	1.10	.80	.95	.75	.60	.95		1.35		1.50
EEL		.40								.35		
TURTLE	1.75	1.50		1.55	1.45	1.00	1.50	1.20				1.10
PALANI					.65	.65	.65	.50	.50	.50	.65	.60
KALA		.40		.45					.50	.35	.35	.35
AHOLEHOLE				1.75		1.35	1.50		1.75			
'OMAKA		1.65										
OPIHI												
VEE												
MOI												
PUALU						.65		.65				
PERCH								1.25		1.50	1.50	

Fish  
Name

For the week ending:

	Sat. 1/1	Sat. 8/1	Sat. 15/1	Sat. 22/1	Sat. 29/1	Sat. 5/2	Sat. 12/2	Sat. 19/2	Sat. 26/2	Sat. 4/3	Sat. 11/3	Sat. 18/3
UHU	.65		1.30	1.20	.85		.85		.90	.75	1.25	1.00
AWA	.50	.50	.50	.50	.50	.50	.65	.65	1.35			.65
OIO		1.00	.75	.75	.75	.70	.75		.85		.90	
SHRIMP	2.70	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.85	2.85	2.85
U'U	1.85		2.00	2.00	2.00	2.00	2.00	2.20	1.80	2.10	2.00	
MANINI	1.60		1.50	1.55	1.60	1.60	1.25	1.65				1.60
KUMU	2.00	3.50	4.00	3.60	3.00	3.60	3.00	3.20	3.50	3.20	3.20	3.40
AWEOWEO	1.00			1.00		1.25	1.35	1.35		1.25	1.10	1.00
MULLET	2.50			2.00	2.20	2.25		2.50	2.50	2.20	2.20	2.00
SM AHI(f)									1.50			.50
MOANA	2.00	1.25	1.60	1.70	.65						1.40	1.80
OCTOPUS	1.75											
MAHIMAHI(f)												2.00
AKU(f)	2.50		1.75	1.65	1.50	1.50	1.50	2.00	1.75	1.75	1.75	2.00
CRAB	1.75		1.65	1.60	1.75	1.65	1.65	1.65	1.65	1.50	1.50	1.50
SQUID	2.00	1.30	1.30	1.30	1.30	.95	.95	.95	.95	.95	.95	.95
EEL				.65				.65				
TURTLE				1.65	1.50	1.35				1.50	1.50	
PALANI	.60	.65	.65	.65	.65	.70	.75	.75			.75	.65
KALA	.40		.40		.50	.50	.50	.50	.50	.30	.50	.40
AHOLEHOLE			1.85		1.70		1.80	1.60	1.80	1.80	1.80	1.70
'OMAKA												
OPIHI						2.20	2.20			1.75		
VEE												
MOI									2.50			
PUALU												
PERCH	1.50											

Fish  
Name

For the week ending:

	Sat. 25/3	Sat. 1/4	Sat. 8/4	Sat. 15/4	Sat. 22/4	Sat. 29/4	Sat. 6/5	Sat. 13/5	Sat. 20/5	Sat. 27/5	Sat. 3/6	Sat. 10/6
UHU	1.20	1.10		1.20		.65	.65	.70	.60	.50		.75
AWA		.75		.75				.80	1.25	.80		
OIO	.80	.90			1.25		.80	.75	.50	.75		
SHRIMP	2.85	2.85		2.50	2.50	2.50	2.50	2.50	2.50	2.50		2.50
U'U		1.75		2.40	1.75	2.25	2.25	1.90	2.20	1.90		2.10
MANINI		1.35			1.65		1.50					
KUMU	3.50	3.50		3.40	3.20	3.20		2.80	2.40	2.20		3.20
AWEOWEO	.75	1.15			1.45							1.25
MULLET	2.25				2.00	1.50	1.45	1.50	1.50	1.75		1.50
SM AHI(f)	.55	.50							1.50	1.50		1.50
MOANA	1.00	1.80		2.00	1.75		1.80	2.30	1.25	1.50		.85
OCTOPUS				1.75	1.75	1.75	1.75	1.75	1.75	1.75		
MAHIMAHI (f)		2.00					1.80			2.20		2.00
AKU(f)	2.00	2.00		2.00	2.00	2.00	2.00	1.75	1.75	1.75		1.50
CRAB	1.50	1.50				1.50	1.50	1.50	1.50	1.50		1.50
SQUID	1.35	.95		.95	.95	.95	.95	.95	1.20	.95		
EEL												.75
TURTLE		1.50				.50	1.50		.75			
PALANI					.75		.45	.75		.50		.65
KALA		.50					.50	.50				
AHOLEHOLE	1.50											1.50
'OMAKA							1.75	1.80		.80		1.65
OPIHI		2.00			2.00	2.00						2.00
VEE												
MOI	2.00											
PUALU												
PERCH										1.50		1.20

Fish  
Name

For the week ending

	Sat. 17/6	Sat. 24/6	Sat. 1/7	Sat. 8/7	Sat. 15/7	Sat. 22/7	Sat. 29/7	Sat. 5/8	Sat. 12/8	Sat. 19/8	Sat. 26/8	Sat. 2/9
UHU	.75	.65		.90	1.40	.65	.75	1.30	.75	.80	.70	.75
AWA	.90	.95		1.00		1.25	1.00					.80
OIO		.75			.90	.90	.90					
SHRIMP	2.50	2.50	2.50	2.50	2.50	2.50	2.50					
U'U	1.65	1.50	1.75	2.00	2.00	1.80	1.80	1.90	1.70	1.50	2.00	1.80
MANINI			1.50		1.55	1.40	1.50	1.50	1.35	1.50	1.50	1.65
KUMU	3.00	3.00	2.80	3.40	2.00	3.00	3.60	3.00	3.00	3.20		
AWEOWEO	1.00			1.20	1.25				1.00			1.00
MULLET			1.50	1.45	1.50	1.90	1.50		1.50	1.35	1.50	1.50
SM AHI (f)			1.50	1.50	1.50	1.50	1.50					
MOANA	1.80	1.60	1.75	2.00	2.00	2.00	1.60	2.00		2.00	1.80	
OCTOPUS		1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
MAHIMAHI (f)					1.00			1.50		2.00		
AKU (f)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
CRAB	1.50	1.50	1.50							1.75	1.75	
SQUID		1.75	1.85	1.86	1.85	1.85	1.75	1.75	1.75	1.75	1.75	1.75
EEL	.65					.70		.65				
TURTLE			1.60								1.50	
PALANI	.65					.75		.60	.55			.70
KALA						.45						
AHOLEHOLE		1.75						1.75	1.50		1.75	
'OMAKA	1.50	1.50	1.60	1.75	1.80	1.80			1.75			
OPIHI	2.00		2.00		2.00	2.00		2.00		2.00	2.00	2.00
VEE	1.95	2.00	1.75				2.00	1.75	1.75	1.75	1.75	
MOI	2.00	1.60						2.20			2.00	
PUALU												
PERCH	.90	.95	1.35	1.00	1.00			1.00			1.00	

APPENDIX IV

COMPLETE DATA FOR ONE DAY

Monday, 17 January, 1973

Boats at Big Fish auction: Oshima and Ilima

Dealers present: all

Weather: good

Aku Supply: good Price: \$1.75 per pound retail

No.	Fish	Lbs.	Price range	Average
8	Big Ahi	1088	\$1.11 to 1.55	\$1.29
20	Medium Ahi	1600	.99 to 1.11	1.07
20	Small Ahi	900	.85 to .95	.90
9	Yellow fin	905	.90 to 1.05	.96
10	Marlin	370	.78 to .78	.78

Boats at Small Fish auction: Venus, Kuro, Koko, Mary I,  
Alika, Taihei Maru

Total lbs.	no. of cans	Fish	Price range	Average
72	3	Akule	\$ .90 to 1.00	.95
51	1	Halalu		.90
100	4	Onaga	1.66 to 2.00	1.79
1240	31	Opakapaka	.85 to .90	.88
45	3	Eku	1.20 to 1.50	1.40
57	3 fish	Kahala		.45
25	1 fish	Mahimahi		1.15
640	16	Kona crab		1.75
160	8	Halalu (net)		.75
180	4	Opelu	1.20 to 1.25	1.23
315	9	Akule (net)	1.01 to 1.11	1.06
128	2	Oio		.46
130	3	Awa		.55

The data for the Big Fish auction was collected in the following general form:

total lbs.	No.	Fish name	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
			\$	\$	\$	\$	\$	\$
		buyer	A	A	B	A	C	F

For the fish sold at the Small Fish auction, this form was used:

total lbs.	No. of cans or No. of fish	Fish name	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
			\$	\$	\$	\$	\$	\$
		buyer	G	P	H	A	M	A

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