

# **Importance of Small Ahi on Hawai'i Island, Maui and Kaua'i**

## **A Report of Surveys of Fish Vendors**



**August 2016**



**Western Pacific Regional Fishery Management Council  
1164 Bishop St., Ste. 1400  
Honolulu, Hawai'i, 96813**

A report of the Western Pacific Regional Fishery Management Council  
1164 Bishop Street, Suite 1400, Honolulu, HI 96813

Prepared by Christopher Hawkins.

© Western Pacific Regional Fishery Management Council 2016.  
All rights reserved.

Published in the United States by the Western Pacific Regional Fishery Management Council

ISBN 978-1-944827-20-5

## Contents

Summary.....	iv
Acknowledgements.....	iv
1. Introduction.....	iv
<i>1.1. Project Objective</i> .....	1
2. Approach to Information Gathering.....	1
<i>2.1 Initial Vendor Meeting</i> .....	1
<i>2.2 Weekly Vendor Surveys</i> .....	1
<i>2.3 Groupings</i> .....	2
3. Results.....	3
<i>3.1 Ahi Sales</i> .....	3
<i>3.2 Aku Sales</i> .....	4
<i>3.3 Ahi Prices</i> .....	5
<i>3.4 Aku Prices</i> .....	6
<i>3.5 Prices for other Substitutable Fish</i> .....	6
4. Conclusions.....	7
Table 1. Locales.....	3
Table 2. Average price per pound of potentially substitutable fish on Maui.....	7
Table 3. Average price per pound of potentially substitutable fish on Kauai.....	7
Table 4. Average price per pound of potentially substitutable fish on Hawaii Island.....	7
Figure 1. Vendor types surveyed on each island.....	2
Figure 2. Number of each type of vendor.....	2
Figure 3. Weekly sales volume of small ahi (lbs).....	3
Figure 4. Summer sales (lbs) of small ahi across the 13 vendors.....	4
Figure 5. Weekly sales volume of aku (lbs).....	5
Figure 6. Price per pound of small ahi (\$). ....	5
Figure 7. Price per pound of aku (\$). ....	6

## Summary

This report analyzes data we gathered about the sale and general importance of small ahi (3-15 lbs for the purpose of this study) and aku on Hawaii Island, Maui, and Kauai. We also asked vendors about species that might be potentially substitutable for small ahi small ahi were not available in the market and recorded prices of those fish during this study. We conducted this research to begin to understand the potential socioeconomic impacts of changing the minimum size of yellowfin ahi in the State of Hawaii. It complements similar work we conducted on Oahu in early 2015. We surveyed ten vendors on Hawaii Island (eight in the Hilo area and two in the Waimea area), fourteen vendors on Maui (one in Wailulu, two in Pukalani, three in Kihei, and eight in Kahului), and seventeen vendors on Kauai (one each in Hanalei and Waipouli, two each in Kilauea, Lihue, and Hanamaulu, three in Princeville, and six in Kapaa). Information on weekly sales of small ahi can help us infer the importance of having these fish available to the community. For each vendor, we first conducted an initial survey and then conducted follow-up visits to record species price and availability. The data indicates that small ahi comprise an important part of many vendors' weekly sales and suggest that a sudden loss of small ahi in the formal market would negatively affect a number of these vendors. Vendors suggested several potentially substitutable species, though not all of these were in the same price range as small ahi during our study.

## Acknowledgements

We thank our survey team: Patrick "Pepe" Conley (Kauai), Kekai Edens (Hawaii Island), and Gary Boteilho (Maui), as well as Dane Walin, who assisted with data analysis as part of his summer 2016 internship with the Council.

## **1. Introduction**

The issue of whether to raise the current Hawaii state minimum commercial size for yellowfin ahi is being discussed in the community and debated among local fisheries scientists. Some believe that increasing the size from the current three pound minimum will, over time, increase the size of the stock, which appears to have a local (Hawaii area) component. Others believe that only a substantial increase in the current minimum size (beyond say, 15 lbs.) would produce any conservation benefit, as data show that fishing seems to be a minor part of the mortality picture of small ahi in Hawaii.

However, biophysical and life history data are only one piece of the information puzzle regarding the issue. To begin to understand the socioeconomic effects that may come with an increase in the current three pound limit, as well as community attitudes towards doing so, we surveyed fish vendors on Hawaii, Maui, and Kauai to learn about the availability, sales volume, and other attributes of small ahi (3-15 lbs for the purpose of this study) in the formal marketplace on those islands.

### ***1.1. Project Objective***

The objective of this project was to discern whether small ahi may be an important component of fish vendor sales, which would in turn indicate the importance to the community of having these fish available in the formal marketplace.

## **2. Approach to Information Gathering**

### ***2.1 Initial Vendor Meeting***

Beginning in mid-August 2015, surveyors went to selected vendors on their respective islands. Generally, a surveyor included all relevant vendors in his area of operation. Each vendor was given a code by the surveyor. An initial visit established the name and location of the market, vendor type (Figures 1 and 2), days and hours of operation, the sources of their small ahi and aku, the most important reason the customers would buy small ahi, and if no small ahi were available, what fish customers would be most likely to purchase instead.

### ***2.2 Weekly Vendor Surveys***

At every subsequent visit to a vendor, surveyors recorded the date, vendor code number, and price of small ahi at the time of the visit (if available). The surveyor also collected price per pound and availability data regarding substitutable fish likely to be purchased if small ahi was not available.

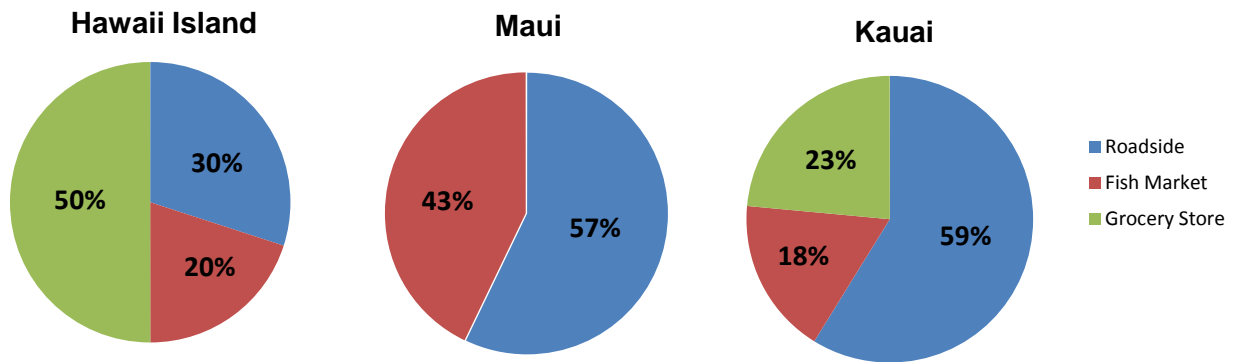


Figure 1. Vendor types surveyed on each island.

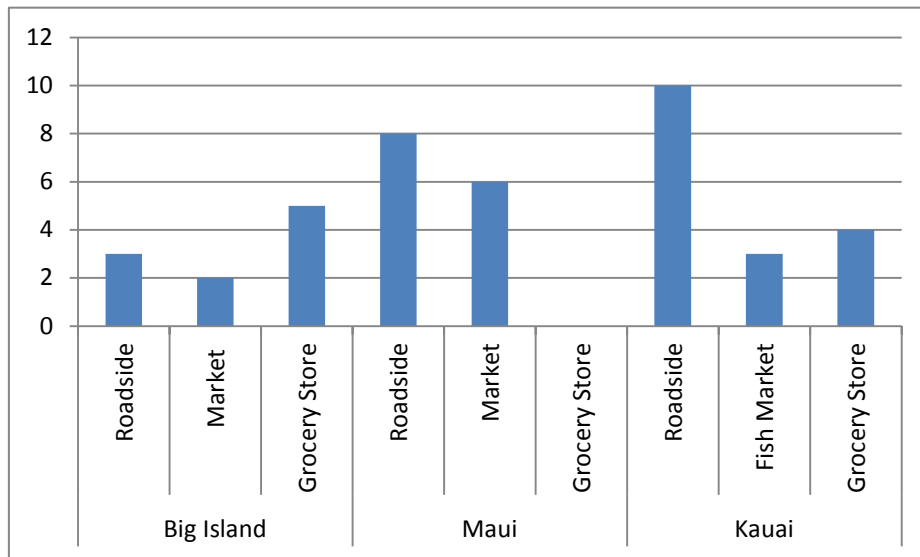


Figure 2. Number of each type of vendor.

### 2.3 Groupings

During the project we surveyed 41 different vendors on Hawaii, Maui, and Kauai. For analytical convenience, we have grouped these 41 vendors by 13 locations (Table 1) and have averaged some data across these groupings. Henceforth, these 13 groupings will be referred to as “locales.”

Table 1. Locales

1. Hilo Area (HI)	6. Kahului Area (M)	11. Hanamaulu Area (K)
2. Waimea Area (HI)	7. Hanalei (K)	12. Princeville Area (K)
3. Wailulu (M)	8. Waipouli (K)	13. Kapaa Area (K)
4. Pukalani Area (M)	9. Kilauea Area (K)	
5. Kihei Area (M)	10. Lihue Area (K)	

### 3. Results

#### 3.1 Ahi Sales

Nearly all of the locales surveyed sold in excess of 100 pounds of small ahi per week and seven locales reporting selling 200 or more pounds per week (Figure 3). Seven of 13 vendors reported that at least 40 percent of their income comes from small ahi; five vendors indicated that small ahi comprise more than fifty percent of their sales. One vendor on Kauai reported that 80 percent of his sales are small ahi.

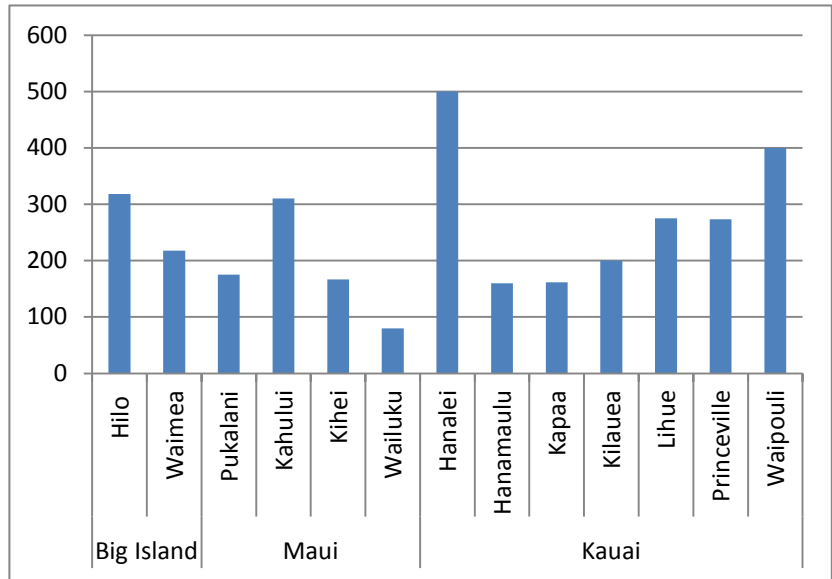


Figure 3. Weekly sales volume of small ahi (lbs).

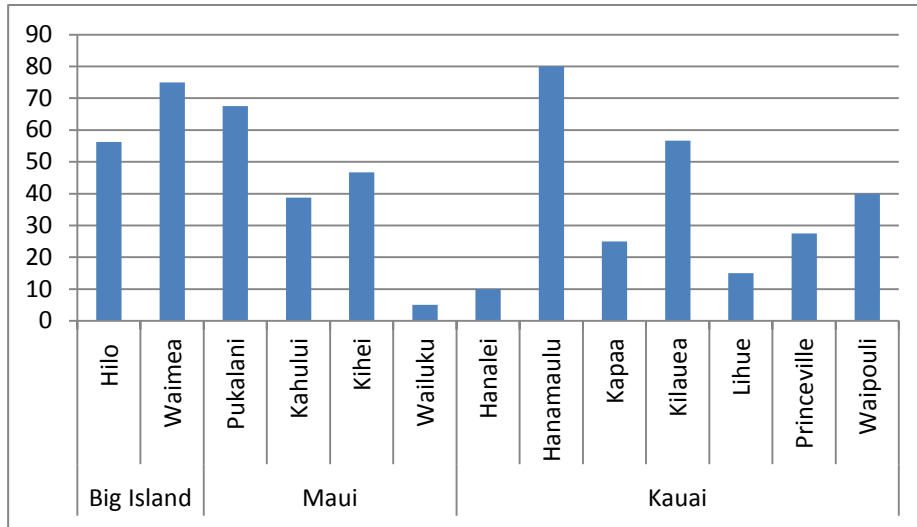


Figure 4. Summer sales (lbs) of small ahi across the 13 vendors.

There is a strong trend towards summer sales of small ahi, most likely because this is when they are most available in Hawaii (Figure 4).

### 3.2 Aku Sales

Sales of small aku appear to be more variable than small ahi, probably because aku does not carry the same reputation, therefore experiences shifting consumer preferences. Most of the markets that sold aku sold less than 100 pounds per week. The highest sales volume was seen on Hawaii Island, with over 100 pounds per week in both the Hilo and Waimea areas.



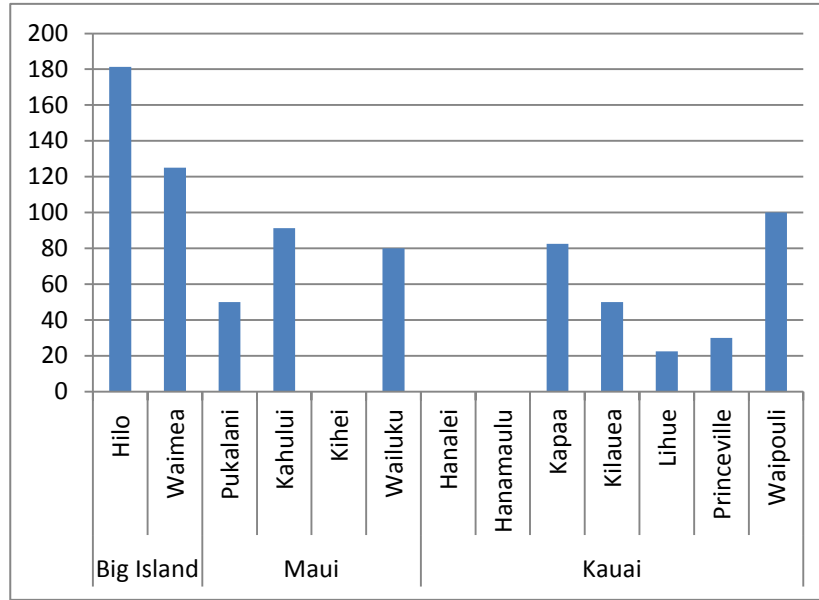


Figure 5. Weekly sales volume of aku (lbs).

### 3.3 Ahi Prices

The price per pound for small ahi varied across the survey locations (Figure 6). Hawaii Island prices averaged around \$3.00 dollars per pound during our study; Maui prices averaged about \$4.50; and Kauai prices averaged about \$5.30 per pound. The variation was most extreme on Kauai, where some vendors were selling fish for as low as \$2.75 per pound and others as high as \$8.00 per pound.

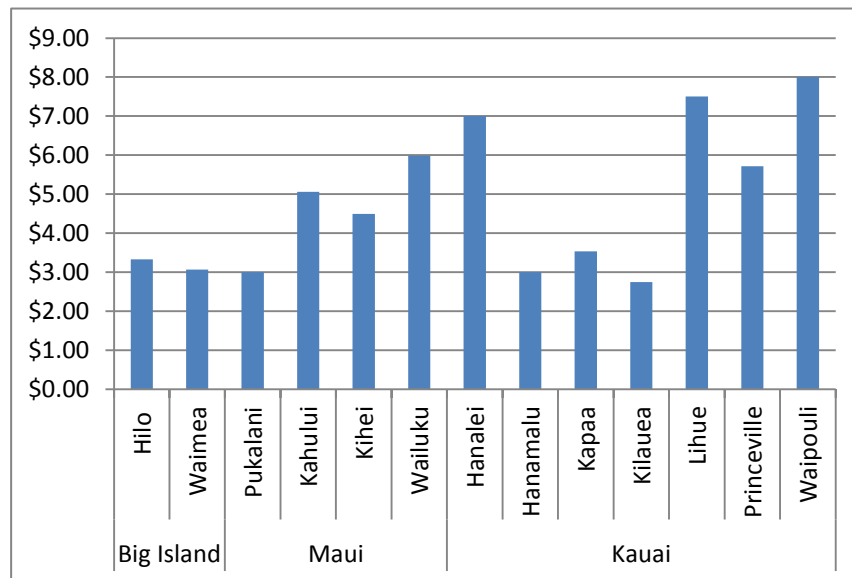


Figure 6. Price per pound of small ahi (\$).

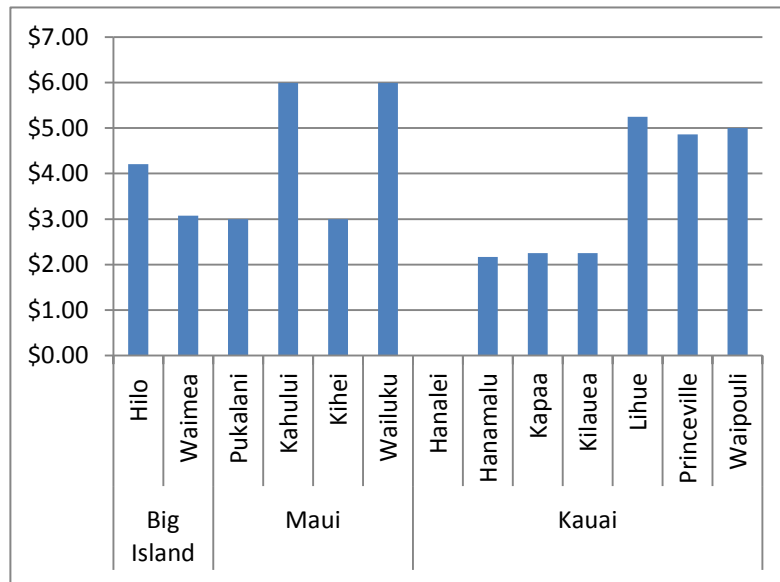


Figure 7. Price per pound of aku (\$).

### 3.4 Aku Prices

The price of aku was a bit less variable across vendors (Figure 7). Average prices on Hawaii Island and Kauai was just over \$3.50 per pound; it was about \$4.50 per pound on Maui.

### 3.5 Prices for other Substitutable Fish

Surveyors collected information from vendors regarding what species their customers might consider as substitutable for small ahi. The number of such species varied considerably across the three islands, with more than 20 on Hawaii Island and Maui, but only five on Kauai (Tables 2-4). However, a number of these species exceeded the maximum price our surveyors found for ahi (\$8.00), so it is unclear how many of these species are true substitutes from an economic perspective.

Table 2. Average price per pound of potentially substitutable fish on Maui

Species	Price	Species	Price	Species	Price
Palani	4.56	Opelu	6.24	Nohu	7.99
Bangus	4.67	Ta'ape	6.49	Moe lua	9.99
Kala	4.69	Mahimahi	6.51	Uku	10.99
Nenu	4.99	Menpachi	6.82	Kalekale	11.16
Manini	5.49	Uhu	6.82	Moi	11.99
Akule	5.87	Mullet	6.83	Opakapaka	12.49
Mamo	5.99	Kole	6.99	Onaga	12.66
Red weke	5.99	Rainbow runner	6.99	Ehu	12.87
Toau	5.99	Papio	7.49		

Table 3. Average price per pound of potentially substitutable fish on Kauai

Species	Price
Opelu	2.00
Frozen milkfish	5.49
Akule	6.78
Mahimahi	10.00
Ehu	12.00

Table 4. Average price per pound of potentially substitutable fish on Hawaii Island

Species	Price	Species	Price	Species	Price
Mullet	2.82	Wrasse	5.00	Ehu	9.79
Hogfish	2.99	Opelu	5.16	Gindai	9.99
Tilapia	3.24	Pompano	5.32	Menpachi	10.39
Barracuda	3.79	Rainbow runner	5.99	Mahimahi	11.50
Palani	3.99	Moana	7.24	Opakapaka	12.99
Goat fish	4.50	Marlin	7.49	Ono	13.50
Reef fish	4.50	Aweoweo	7.99	Razor wrasse	14.99
Frozen milkfish	4.66	Kalekale	8.64	Nabeta	16.99
Awa	4.99	Akule	8.99	Ahi Slabs	17.99
Taape	4.99	Tombo	8.99		

#### 4. Conclusions

Small ahi appears to be prevalent, at least during the summer, in many markets across the islands we studied, especially smaller markets. In addition, weekly sales volumes are at fairly

respectable numbers at many of these markets. When asked whether a sudden loss of small ahi might hurt their business as it is currently conducted, about half of the vendors we surveyed responded that their business would be “somewhat affected” by the loss of small ahi ‘sales, with several stating they would likely experience significant negative economic impacts.

Vendors also reported that their consumers primarily purchase small ahi because it is affordable, with just a few also stating that consumers also appreciate its versatility and that it is a local product. Vendors tend to sell out, implying that there is high demand in some parts of these communities for these fish. These findings are very much in line with our Oahu study findings.

The number of potentially substitutable species on Hawaii Island and Maui suggests that Hawaii consumers and vendors do have options if the State was to raise the minimum size of ahi substantially. However, these options would have to be understood in relation to the condition of those stocks and their ability to be caught easily in sufficient numbers that could supply the expected demand.