

CALIFORNIA SEAFOOD COUNTER STAFF SURVEY

A study of seafood counter employees' roles, perceptions and personal seafood preferences, and their potential as advocates for underutilized West Coast groundfish



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HELLO!

Welcome to Positively Groundfish's 2019 survey of retail seafood counter staff in California. This study examines the seafood purchasing process from the perspective of the people behind the counter, as well as their personal experience with white fish species, with particular focus given to West Coast groundfish. We believe this to be one of the first studies of its kind, but it certainly won't be the last.

Seafood counter staff or fishmongers hold a unique position within the seafood supply chain. Their direct interaction with shoppers at the moment of purchase makes them one of the most influential and important stakeholders in the entire seafood system. Their recommendations may indeed hold more sway over purchase decisions than expensive advertising campaigns.

Yet, as a stakeholder group, seafood counter staff are rarely represented in industry discussions about the seafood system and are seldom surveyed. To date, their perspectives and experience of the seafood purchasing process are only poorly understood. Moreover, we know little of their personal seafood experience and preferences, that may shape the recommendations they provide to shoppers. That is true for seafood in general, but even more so as it relates to West Coast groundfish species in particular.

There's a clear opportunity to better understand seafood counter staff and recruit them to become advocates for lesser-known and underutilized seafood, such as Rockfish, Pacific Dover Sole, Lingcod and other West Coast groundfish species. Our hope is that this survey will prove insightful for fishermen, processors, distributors and retail managers, and all those who work to promote underutilized sustainable species.

Yours positively,

Jana Hennig
Executive Director





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KEY INSIGHTS

1

Fresh seafood is a very involved and considered purchase. A significant proportion of shoppers asks seafood counter staff for additional information or recommendations.

2

Staff's verbal guidance and recommendations carry significant weight and are especially important for the introduction of new or lesser known species.

3

Shoppers most often ask for assurance of basic product information that is typically already displayed (indicating uncertainty), as well as questions about taste profile and cooking recommendations (Need for inspiration).

4

Counter staff receive little to no training on the majority of the subjects they receive questions about. They thus have to rely on personal experience and informal training to provide this customer service.

5

However, counter staff's personal experience level is highly variable. There is high staff turnover and a high proportion of inexperienced staff, particularly in grocery chain stores.

6

There are gaps in the staff's awareness of species as well as their personal experience with having tasted and/or cooked with them. Rockfish and Sole, in particular, are sold by staff that have never personally tasted either fish.

7

Rockfish and Sole enjoyed encouragingly high distribution and awareness, as well as the endorsement by counter staff; though Rockfish at a much higher level than Dover Sole.

8

Counter staff undoubtedly play a pivotal role in the seafood sales process. But they are also a potential source of misinformation or uncertainty/un-ease, that could negatively impact the sales process and shoppers' perceptions.

9

Seafood counter staff needs to receive more training on seafood production systems (not just food safety), as well as guidance for selling products (i.e. cheat sheets of key selling points).

10

As unofficial gatekeepers and key influencers, seafood counter staff should be won over as consumers first; by providing opportunities for them to try new products, as well as interesting facts, persuasive storytelling and cooking inspiration.

INTRODUCTION

Retail seafood counter employees are key connectors between consumers and the wider fishing industry. It is their ability to directly interact with and influence shoppers that gives them a unique and very important position in the seafood supply chain. And because their interactions are largely conversation-based, seafood counter staff have the ability to bring personal biases into the sales process, that are important to study. Understanding this group's attitudes, perceptions and tendencies will help elucidate the current shopper experience at seafood counters and the opportunities or challenges for lesser known, sustainably caught seafood to thrive in the marketplace.

West Coast Groundfish species are prime examples of such lesser known, but sustainably managed seafood. This fishery comprises over 90+ different species of fish such as rockfish, sole, sablefish or ling cod [2]. It spans the length of the entire US West Coast - California, Oregon, and Washington - and is one of the West Coast's most important fisheries [1], economically and ecologically.

The West Coast Groundfish fishery is the mark of good fisheries management and diligent, collaborative and hard work by all stakeholders to return it to abundance after it collapsed in 2000/01. In the 1970's, a combination of growing market demand, improved processing technologies, and policies encouraging the expansion of domestic fisheries (i.e. the 1976 Magnuson-Stevens Act) all drove increased groundfish landings [3], which continued throughout the 80's and early 90's [4]. The groundfish harvest reached its peak in 1982, landing 160,000 million tons of fish [2]. As overfishing and mismanagement started to become apparent during the boom of the fishery, an amendment to the Magnuson-Stevens Act, as well as new management strategies, were put into place. However, because of the poor state of the fishery, catch limits continued to decrease, causing the Secretary of Commerce to declare the fishery an economic disaster in 2000 [2, 3]. This economic failure is estimated to have caused a loss of \$11 million of fishing revenue in a single year [3]. In 2011, under additional amendments to the Magnuson-Stevens Act, a catch share program was implemented [2], accelerating the recovery of the fishery and allowing fish populations to rebound earlier than expected. Overall, "this Individual Fishing Quota (IFQ) program allocates a guaranteed share of landings to groundfish trawlers on the West Coast" [2], who contribute to over 90% of groundfish landings [4].

Today, this fishery is deemed a poster child of sustainability. 18 of the most commercially important species are now certified sustainable by the Marine Stewardship Council and are rated as "Best Choice" by Monterey Bay Aquarium's Seafood Watch [5]. Regardless of ecological success, economic success has been slow to come around [2]. Because many groundfish species were essentially absent from the market for a decade or longer, other whitefish species such as Tilapia were able to replace groundfish in the display cases and strengthen their market position [6]. Further, as groundfish species disappeared from menus and seafood counters, consumers were no longer exposed to them, and have simply forgotten about these species. And younger consumers who started doing their own grocery shopping between 2000 and 2020 may have never seen or heard of these species, and may be entirely unaware. This now presents a considerable challenge, that the collective Groundfish industry must meet with increased marketing, consumer education and outreach [7].

Seafood counter staff play a pivotal role in educating and guiding consumer choice and are thus central to a successful market re-introduction of groundfish species. However, despite their important role in the sales process, this stakeholder group is under-studied and still poorly understood. This study primarily serves to understand seafood counter employees' personal awareness, trial, usage and attitudes toward groundfish species; as well as how these may be influencing the recommendations they make to shoppers. Moreover, this survey set out to better understand the fish counter employee's side of the purchase experience, to quantify their interactions with shoppers, and gain insight into common shopper concerns.

STUDY DESIGN

Data Collection

This survey sought responses from seafood counter employees working at a variety of retailers, large and small, nationwide chains and independently owned, in the state of California (Image 1). To account for all voices, a range of stores, from high-end grocery chains to independent shops to natural food stores to low-end grocery chains were surveyed. The goal was to account for a wide socio-economic spread.

Surveys were carried out during November 2018 – February 2019. All surveys were conducted in-person and administered verbally, using a predetermined set of 15 questions (see Appendix). Two questions (#7 and 11) required a printed list of potential answers that seafood counter employees could hold, write on, and choose from. Otherwise, questions were asked as open-ended questions. The surveyor could answer three of the questions (#1, 2, and 8) through observation. The same surveyor conducted all surveys, assuring overall consistency in approach and survey methods.

Image 1a, b, c: Three seafood counters that the surveyor visited. In order: Albertsons, Lucky, and Island Pacific



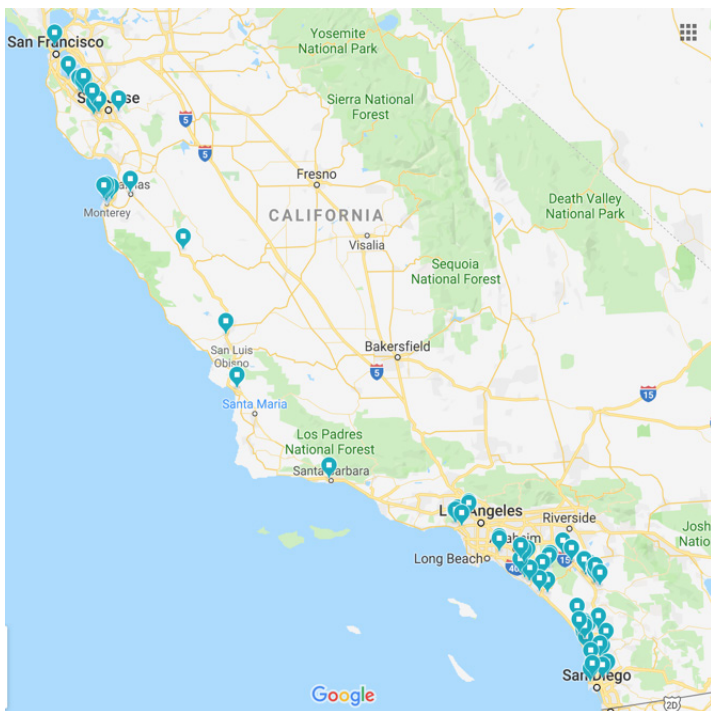


Target stores were identified before the field surveys commenced. Stores were found through Yelp and Google by searching for terms such as “Seafood Counters,” “Fish Counters,” and “Grocery.” Locations were pinned in Google Maps and logged in Google Sheets for recording purposes. After arriving at the store, the surveyor approached the seafood counter, provided a short overview of the purpose of the survey and obtained consent from the seafood counter employee to be interviewed. Approximately, 70% of seafood counter staff that were approached agreed to be interviewed. Once an employee agreed to participate in the survey, the surveyor assured the employee that they could interrupt the survey to help shoppers at any time. The employee was also welcome, although not encouraged, to leave the survey without finishing it. This only occurred in two interviews. Once the survey was completed, the surveyor input the collected information into a Google Form. In instances when counter staff employee said that they were too busy or unsure if they were allowed to participate, the surveyor left behind a printed copy of the survey along with a stamped and addressed envelope. Of these, there was a 0% return rate.

Question 1: Store Location

This report presents information from 60 individual seafood counters all located within California, USA. These were scattered across 10 counties and 45 unique zip codes (Image 2) with median household incomes ranging between \$43,992 and \$173,739 per year.

Image 2: Locations where seafood counter staff interviews were conducted



Seafood counters were located within a variety of establishments, which can be categorized into three groups: national grocers, regional grocers, and non-grocery establishments (Chart 1). Seafood counters in national grocers made up 25% of the respondents. To be classified as a national grocer, the grocery company had to be a chain that spanned multiple regions of the US. Half of all interviews (50%) were conducted with seafood counter staff in regional grocers. These are stores found within one



geographical region of the US. They tended to be chains, but two responses came from independent stores with only one total location. Finally, non-grocery establishments made up 25% of the responses and were the most eclectic group. This group encompassed independent seafood counters (1 response), independent restaurants with seafood counters/independent seafood counters with food options (10 responses), chain restaurants with seafood counters (2 responses), as well as seafood counters run by seafood distributors Santa Monica Seafood and Catalina Offshore Products (2 responses).

Question 2: Participating Store Brands

Chart 1: Names of specific stores that were visited. Names of non-grocery establishments are kept private due to the request to be anonymous by many non-grocery seafood counter employees.

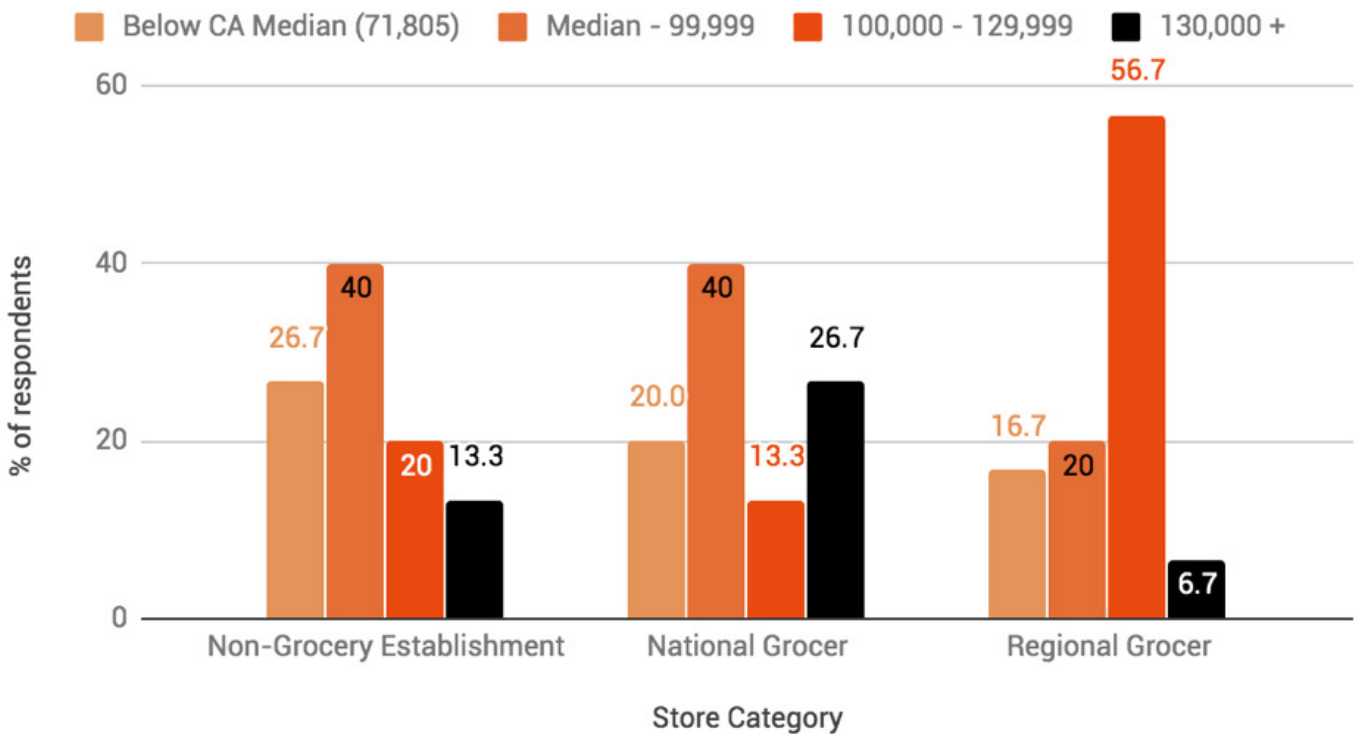
National Grocers	
Brand	Number of Stores Visited
Albertsons	6
Sprouts	3
Whole Foods	3
Safeway	2
99 Ranch	1
WinCo	1
Regional Grocers	
Brand	Number of Stores Visited
Ralphs	5
Vons	4
Stater Bros	3
Gelson's	2
Lazy Acres	2
Nob Hill	2
Bristol Farms	1
Island Pacific Seafood	1
Jimbo's...Naturally!	1
Lucky	1
Lucky California	1
Mollie Stone's Market	1
New Seasons Market	1
Pavilions	1
Zanotto's Family Market	1
Cardiff Seaside Market	1
Star Market	1
Non-Grocery Establishments	
Category	Number of Stores Visited
Independent Restaurant/Fish Counter	10
Chain Restaurant/Fish Counter	2
Seafood Distributors/Fish Counters	2
Independent Fishmonger	1



Finally, it is important to recognize where each of these types of stores tend to be located socio-economically. The stores' zip codes were used to identify the median household income levels of the area, and presumably of most of their clientele (Graph 1). Regional grocers were more likely to be located in affluent areas, whereas non-grocery establishments were more likely to be located in less affluent areas. A combined 63.4% of regional grocers were located in zip codes with above-median household income levels; and only 16.7% in areas below the CA median. Non-grocery establishments interviewed for this survey most often (40%) fell into the Californian median household income (\$99,999). Notably, however, over a quarter (26.7%) of the non-grocery survey locations are in areas below the median. Like non-grocery establishments, 40% of national grocery's locations are in median - \$99,000 zip codes. Unlike non-grocers, this category has over a quarter (26.7%) of survey locations in zip codes with median household incomes of \$130,000+.

Graph 1: Median household income levels of locations of stores participating in this survey, broken down by retail outlet type

Median Household Income of Store Zip Codes





PROFILE OF A SEAFOOD COUNTER

Next, this survey sought to establish a baseline understanding of seafood counter employees in California with regard to their experience level, their decision-making power, and views on product range changes. As might be expected there is great variability with regard to those distinguishing factors, but we also see emerging patterns that are important to understand.

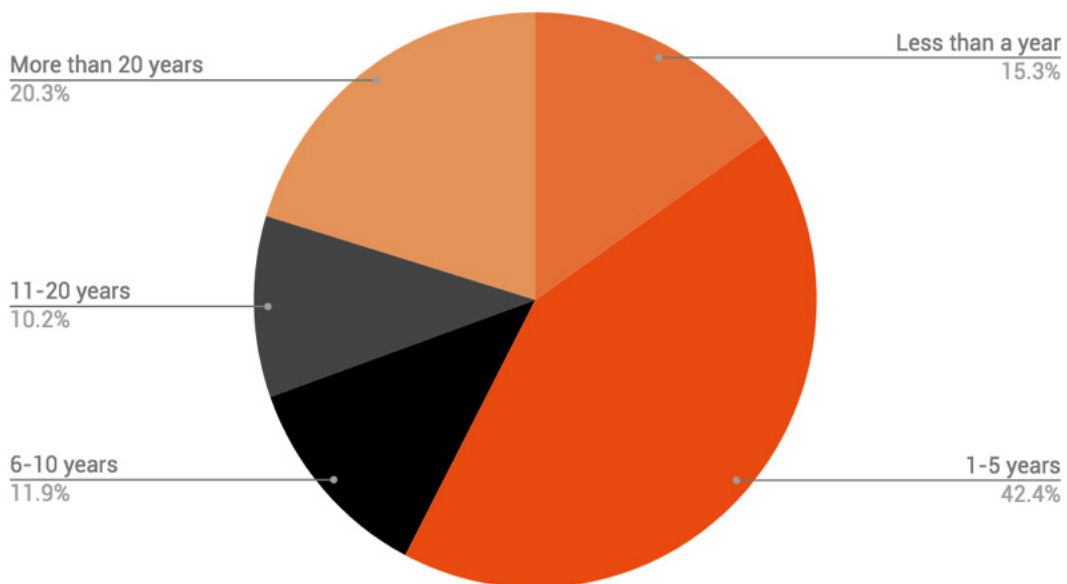
Question 3: How long have you worked at the seafood counter?

The majority of seafood counter employees have five years of experience or less. Respondents that have between one and five years of experience accounted for the largest group, with 42.4% of respondents. Whereas those with less than 1 year of experience at the seafood counter made up 15.3% of survey respondents. The second most common experience level is on the opposite end of the spectrum, those with more than 20 years of experience (20.3%). Even though the majority of seafood counter employees are relatively inexperienced, there are still members of this profession who have a substantial amount of experience.

Employees at specialty and non-grocery establishments tend to have much more experience than those at regional or national grocery stores. A third of non-grocery seafood counter staff in this survey had over 20 years of experience, which was the most common answer for non-grocery establishments (Graph 2). Conversely, approximately two thirds of seafood counter staff at national and regional grocery stores have 5 years and less experience. National grocers have the least experienced counter staff on average - 33.3% have less than one year of experience; indicating a high rate of seafood counter staff turnover in these channels.

Graph 1: Work experience as a seafood counter employee

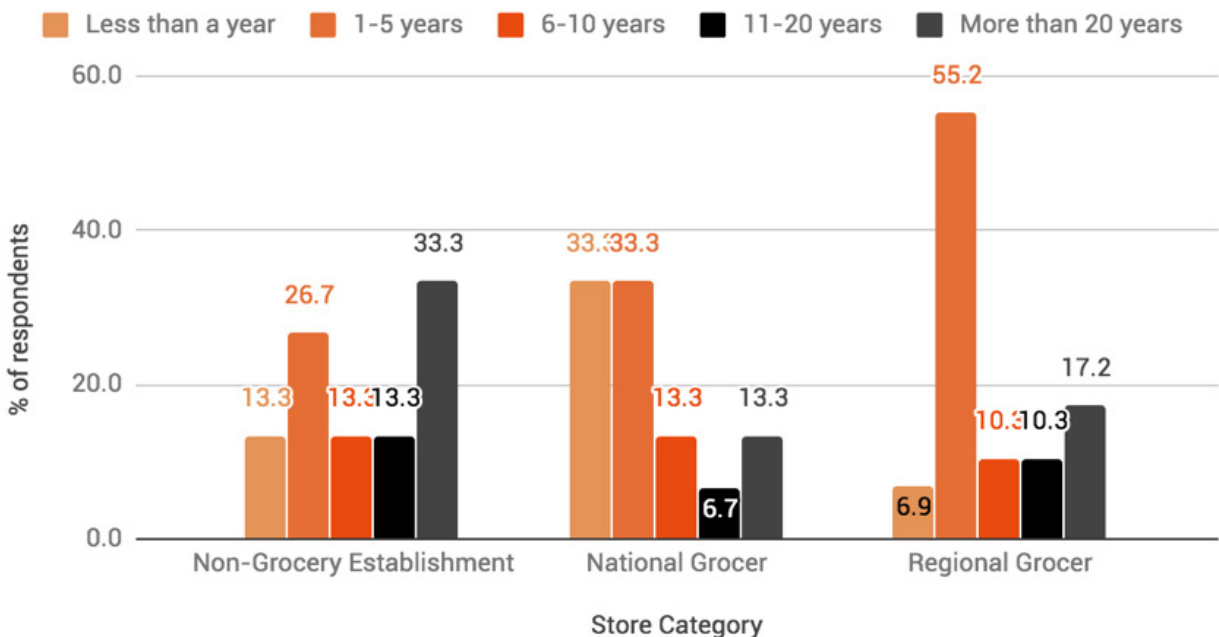
How long have you worked as a fishmonger/at a fish counter?





Graph 2: Work experience as a seafood counter employee, broken down by retail store type

Seafood Counter Employee Experience Level



Question 4: How much decision-making power do you have over the product range?

Most seafood counter employees do not have significant influence over the seafood selection presented to customers. 42% of respondents have no input at all into the selection of fish they are selling (Graph 3). Another 30.4% have limited input into the fish varieties sold at the fish counters. As many of these interviewees explained, corporate management makes most of the decisions but provides local managers with a list of fish to choose from.

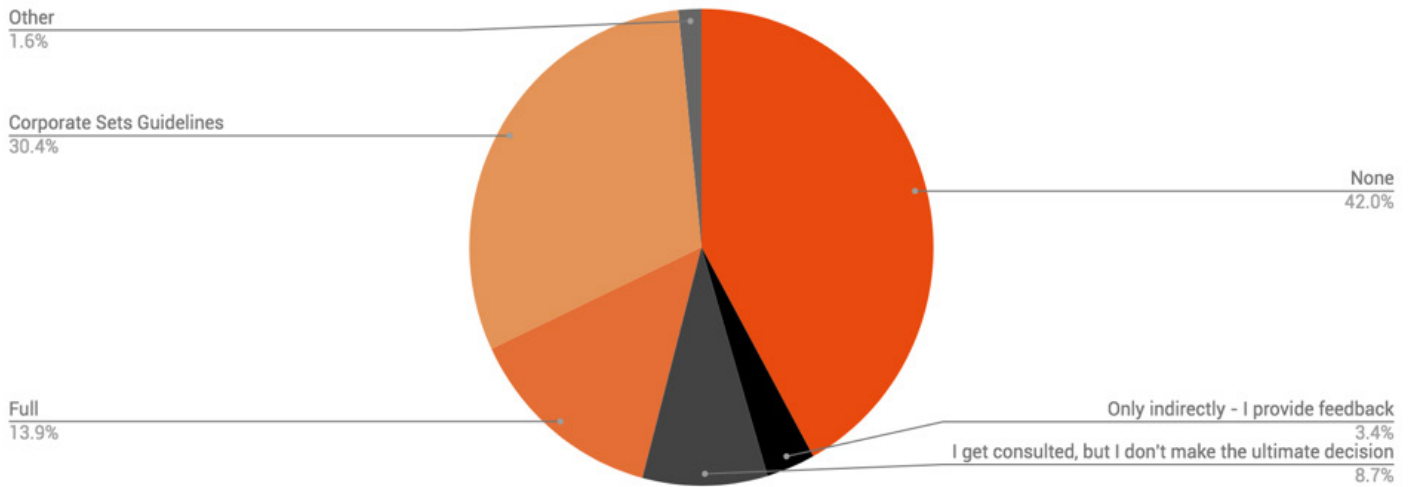
Experience level and decision-making power seem to be linked, seeing that establishments with more experienced employees tend to report higher decision-making power and that establishments with less experienced employees tend to report less decision-making power. Non-grocery staff, for instance, have the highest level of experience and also have the highest level of full decision-making power out of the three store categories. 46.2% of non-grocery employees report full decision-making power (Graph 4).

On the opposite end of the spectrum, national grocery stores have, by far, the highest proportion (60%) of employees who have no input into the seafood selection at all. Similarly, these stores, as stated above, have the least experienced employees. Another 20% of national grocery store employees say that corporate headquarters grants them some level of choice. These employees oftentimes can choose a few varieties from a pre-set list or place special orders for shoppers. However, that is the extent of their input. The majority of decisions are out of their control. For regional grocery employees, this level of involvement is the most likely (41.4% of respondents), while another 37.9% of them are given no say in selection. Compared to national grocery stores, regional grocery stores have a higher number of employees who have some level of choice, but decisions are still largely made top-down.



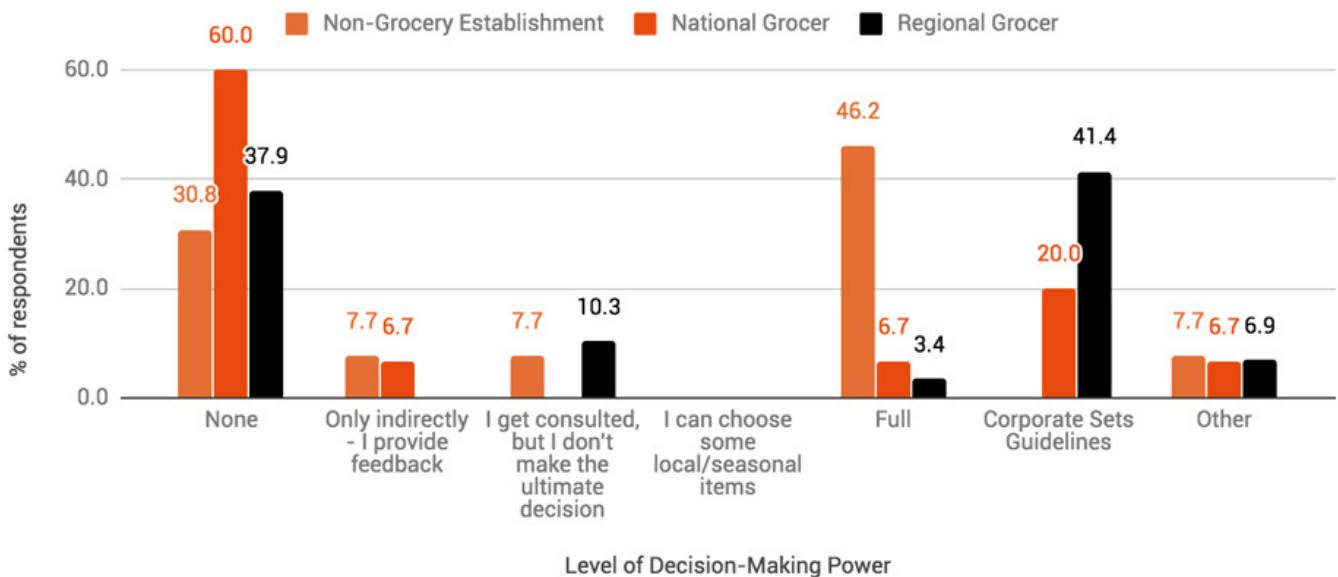
Graph 3: Level of decision-making power of participating seafood counter employees

How much decision-making power do you have over the product range?



Graph 4: Level of decision-making power of participating seafood counter employees, by retail store type

Seafood Counter Employee's Level of Decision-Making Power

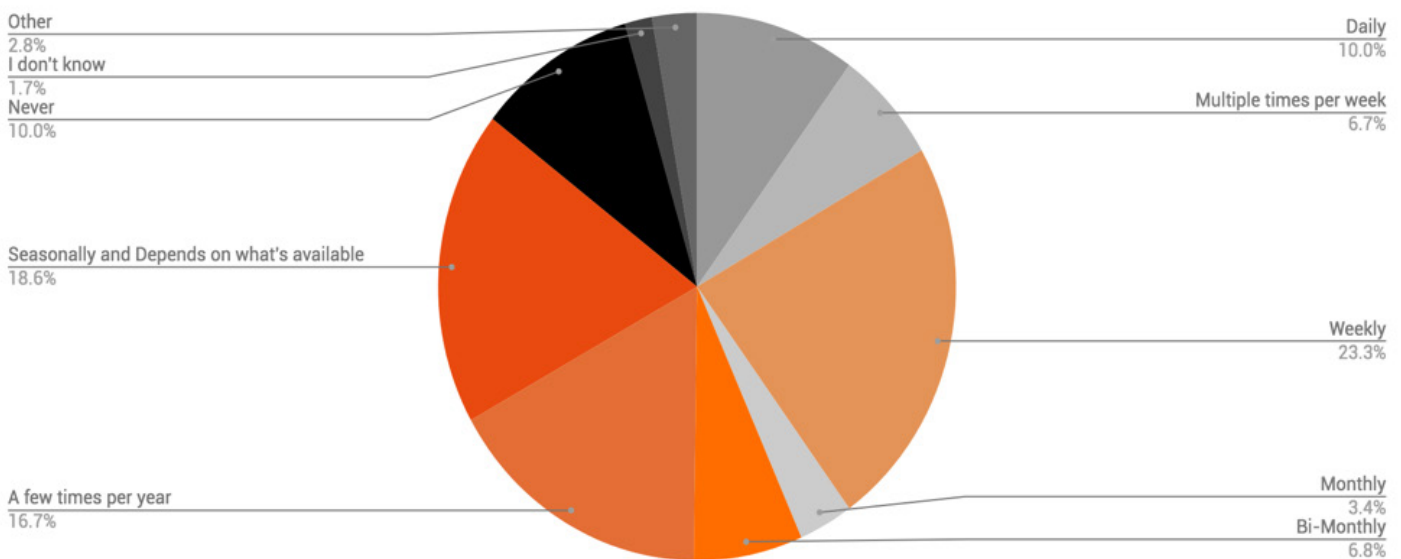


Question 5: How often does your seafood selection change?

The frequency of product rotation in the display case varies greatly between stores – our survey reveals no clear pattern or leaning. 23.3% state that they rotate their products on a weekly basis, which was the most common response (Graph 5). 18.6% say that they rotate their product seasonally and based on availability, the second most common response. We see equal numbers on the extreme ends of the rotation spectrum: 10% of respondents say they “never” change their seafood selection, while another 10% say they change it on a “daily” basis.

Graph 5: Frequency of seafood selection/range changes

How often does your seafood selection change?

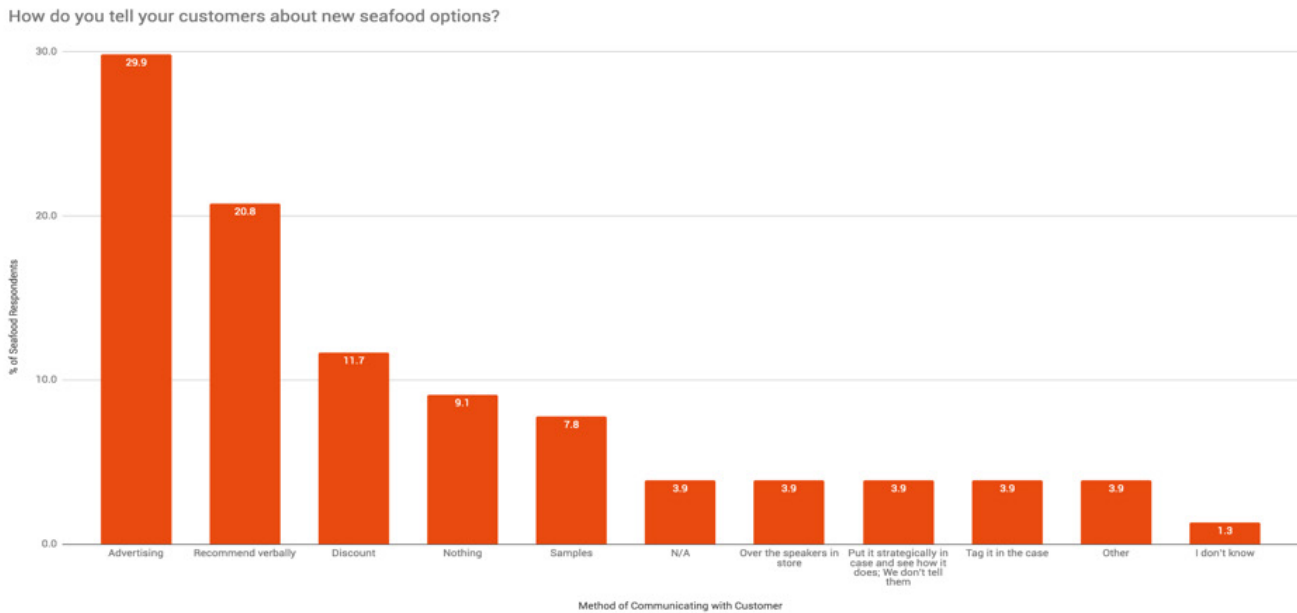


Question 6: How do you typically introduce new seafood items?

The main communication method grocery stores employ to tell their shoppers about new seafood products is advertising (29.9%), such as mailers (as paper ads), on digital marketing/social media platforms/email, on screens/signs nearby or on the counter, or through promotional material from vendors (Graph 6). However, verbal communication by seafood counter employees follows as the second most common method of raising awareness (20.9%), ahead of discounts (11.7%), or samples (7.8%). This highlights the crucial role seafood counter employees' play in raising product awareness for underutilized species.



Graph 6: Methods of communication used to introduce new seafood items



Question 7: What are the top 3 factors that make a seafood item easy to sell?

Seafood counter staff have their own perspective and perception of what it takes for a seafood item to sell. For a seafood item to sell well, seafood counter staff asserts that fish is ideally wild-caught (83.4% ranked it in top 3), that it's local (39.3% ranked it in top 3), and familiar to customers (32.8% rank it in top 3) (Chart 2). Secondary factors are year-round availability (30.8% ranked it in top 3), from the USA (30.4% ranked it in top 3), and mild in flavor (27.7% ranked it in the top 3). It is interesting to note that seafood counter staff rank "Local" origin higher than "US" origin. "Mild flavor" is perceived as far superior to "Unique and Interesting Flavor". Finally, it is noteworthy that "certified sustainable" is not perceived to make a seafood item that much easier to sell.

Chart 2: Seafood counter staff's rankings of qualities they believe to makes a seafood item easy to sell

Quality	% of respondents who ranked it in 1st place	% of respondents who ranked it in 2nd place	% of respondents who ranked it in 3rd place	TOTAL % of respondents who ranked it in top 3
Wild-Caught	55.9	19	8.5	83.4
It's Local	8.5	13.8	17	39.3
Familiarity to Customer	3.4	10.3	19.1	32.8
From the US	3.4	19	8.5	30.9
Year-Round Availability	6.8	15.5	8.5	30.8
Mild Flavor	10.2	6.9	10.6	27.7
Certified Sustainable	1.7	5.2	10.6	17.5
Limited, Seasonal Availability	1.7	6.9	8.5	17.1
Other	3.4	1.7	4.3	9.4
Versatility	3.4	0	2.1	5.5
Unique and Interesting Flavor	1.7	1.7	2.1	5.5



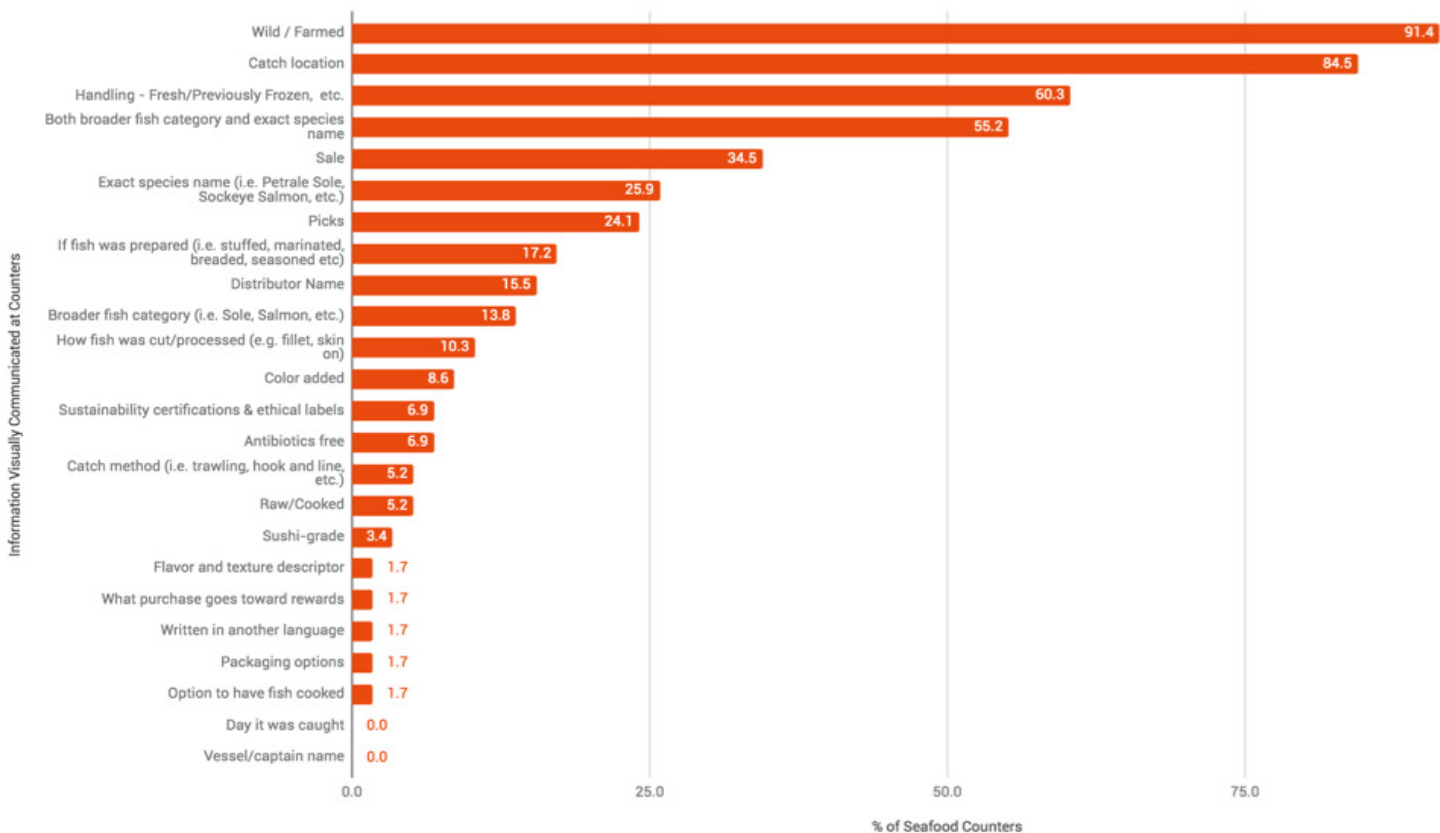
Question 8: Product Information at Seafood Counters

Seafood is a complex and fragmented product category, with products differentiating along a long list of product descriptors, features and benefits. Our survey captured what information is displayed at the seafood counter via product labels/tags and signage. This is observational data captured by the surveyor.

The majority of seafood counters, though not all (!), listed whether the seafood products were wild or farmed (91.4%). Catch location/country of origin was the second most commonly displayed product information (84.5%), followed by whether the product was fresh or previously frozen (60.3%). There is little agreement on which level of species identification to provide, whether it is the exact species name (25.9%), only the broad species family names such as “salmon” (13.8%), or a combination of both (55.2%). Sustainability information or eco labels were only displayed at 6.9% of seafood counters visited. (Graph 7).

Graph 7: Product Information that was visually provided at seafood counters (signage, labels, print materials etc)

What's Communicated at Seafood Counters





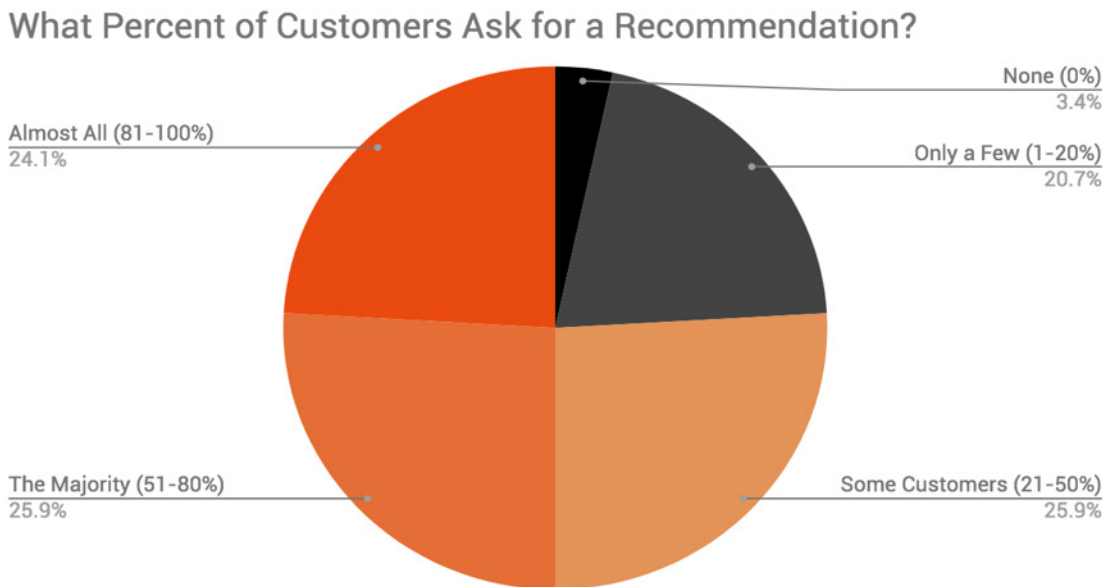
SHOPPER QUESTIONS AND STAFF RECOMMENDATIONS

Seafood counter staff interact with shoppers and undoubtedly influence the purchasing process through the recommendations and information they provide. Our survey thus attempted to quantify and qualify the product recommendations and information that are provided, from the perspective of seafood counter staff.

Question 9: How often do shoppers ask for a recommendation?

We asked counter staff to estimate the percentage of shoppers that ask for their recommendation and additional information (Graph 8). Nearly all seafood counter staff, over 96% experienced at least some customers asking for recommendations. Only 20.7% of counter staff said that only a few shoppers (1-20%) ask for recommendations. Many of those employees explained that "People just come in knowing what they want." But exactly half (50%) of all seafood counter staff that were surveyed said that the majority of shoppers, if not almost all, ask for a recommendation. That makes seafood counter staff some of the most influential people in the seafood supply chain.

Graph 8: Seafood counter employees' perception of the percentage of their shoppers that ask for recommendations



Channel Breakdown

To gain more nuanced insight, we then looked at shoppers' propensity to ask seafood counter staff for recommendations by store type. However, while this analysis revealed some differences, there are no strong and clear patterns emerging. Overall, it is more common to find customers asking for recommendations in non-grocery establishments. Regional grocers are second to non-grocery establishments, and national grocers are third. However, it is clear that all channels regularly give recommendations to at least some of their customers (Graph 9).



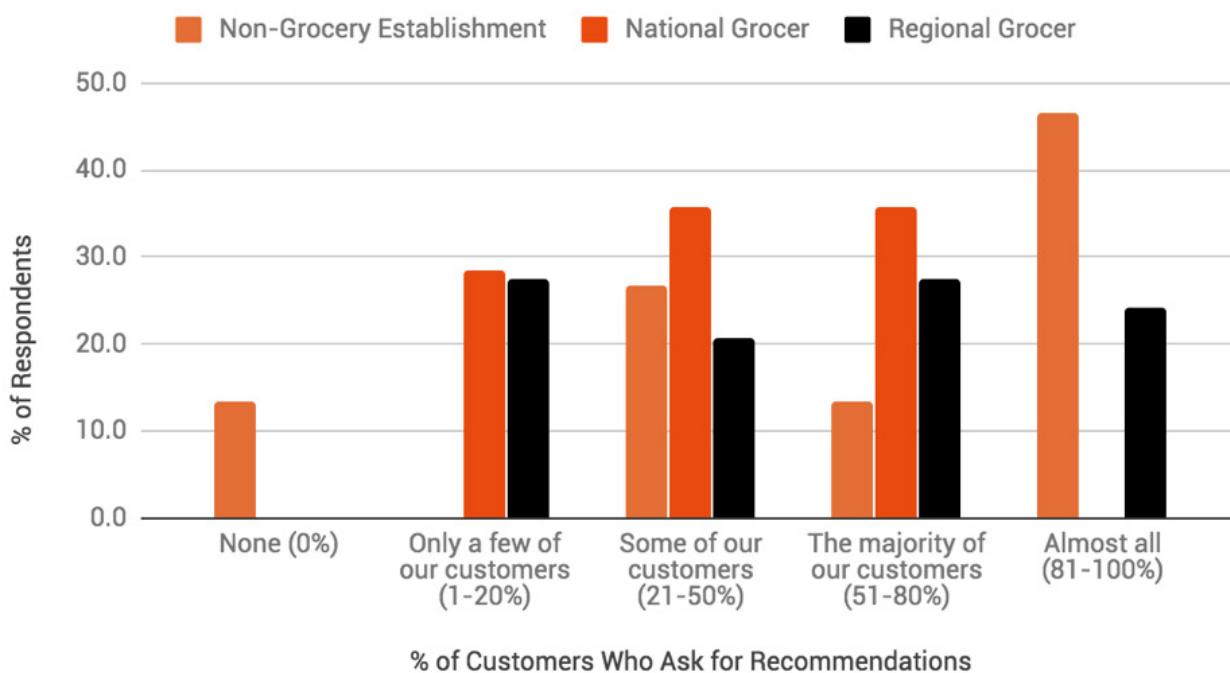
The non-grocery channel appears to be the most divided, indicative of the diversity of outlets in this group. On the one hand, this is the only store type that reports a figure for “None” (13.3%). But on the other hand, it is the channel that has the highest proportion of stores (46.7%) reporting that almost all (80-100%) of their shoppers ask for a recommendation.

Regional grocers are very evenly split on their answers to this question, ranging from “a few” to “almost all”. Overall, regional grocers are more likely than national grocers and less likely than non-grocery establishments to have customers that ask for recommendations. The majority of respondents stated that 51% to 100% of customers ask for a recommendation.

National grocers tend to have slightly fewer shoppers asking for a recommendation, but every respondent reported that they receive recommendation requests from at least some shoppers. The majority of seafood counter employees at national grocers gave middle-of-the-road answers, stating that “some” or “most” (i.e. between 21% and 80%) shoppers ask them for a recommendation.

Graph 9: Seafood counter employees' perception of the percentage of their shoppers that ask for recommendations, by retail store type

What Percent of Customers Ask for a Recommendation?



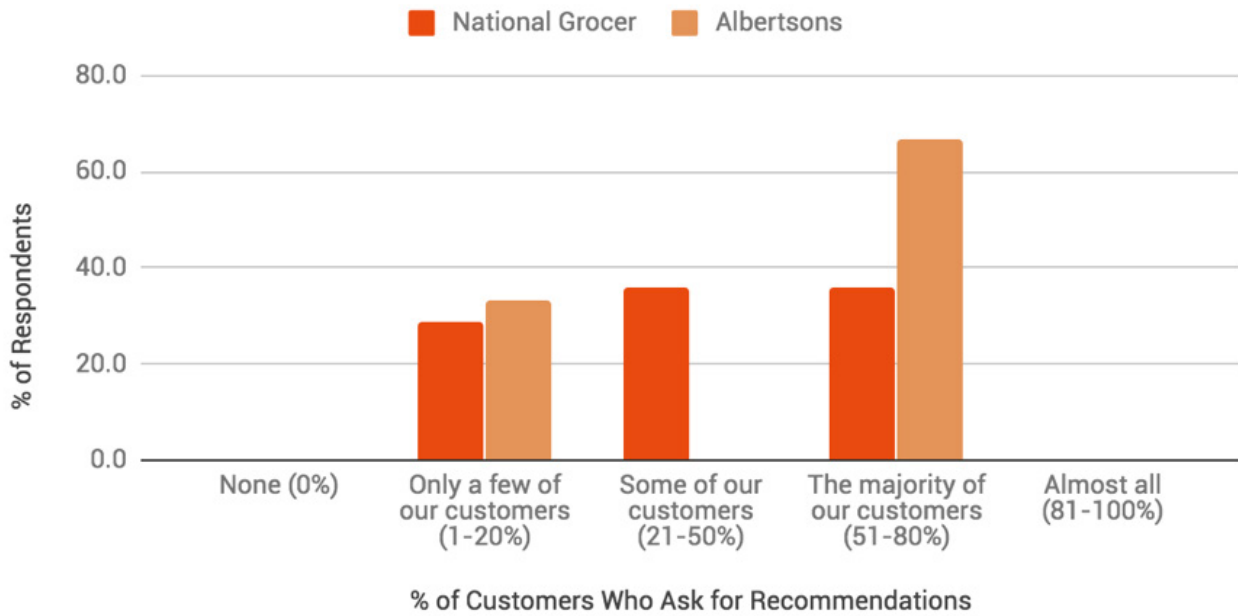
A Closer Look at 2 Store Brands

These are general trends for non-grocery establishments, national grocers, and regional grocers. However, if you look at specific brands within each category, they do not always reflect the general category trend. Two brands, Albertsons (national grocer) and Ralphs (regional grocer), were examined. Only brands that had five or more stores surveyed were included in this more in-depth analysis. Albertsons stores tend to have more customers asking for recommendations than other national grocers (Graph 10). Ralphs, on the other hand, tends to have fewer customers asking for recommendations than other regional grocers (Graph 19). Understanding how customers in each store brand tend to behave will allow seafood producers to identify potential partnerships and specific areas in need of change.



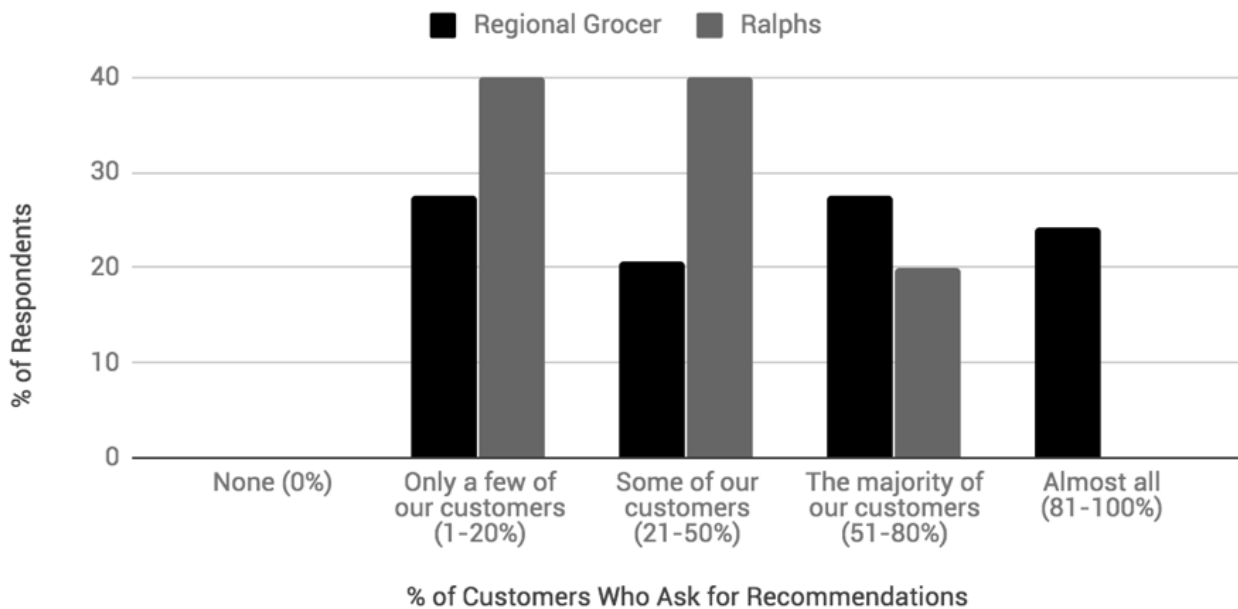
Graph 10: Seafood counter employees' perception of the percentage of their shoppers that ask for recommendations, in national grocers and Albertsons

What Percent of Customers Ask for a Recommendation? - National Grocer and Albertsons



Graph 11: Seafood counter employees' perception of the percentage of their shoppers that ask for recommendations, in regional grocers and Ralphs

What Percent of Customers Ask for a Recommendation? - Regional Grocer and Ralphs



Question 10: What do customers ask about most often? Choose 3.

This survey then dove deeper into understanding what subjects or type of questions counter staff get asked the most (Chart 3). Counter staff felt that shoppers asked most about whether the product was wild or farmed – 78.1% of all respondents ranked this among the top 3, and 30% as the most common question. This information is already typically displayed at seafood counters (at 91.4% of those visited), and staff typically have the right information to be able to answer this question.

The second most common type of question (72.7% of respondents ranked it in the top 3) is for cooking recipes or cooking recommendations for the fish shoppers were about to purchase. In fact, 40% of seafood counter staff ranked this as the number 1 question they received. This points to a potential challenge or missed opportunity as currently very little cooking/recipe information is available at the counter, nor are seafood counter staff especially trained to be able to make culinary recommendations. We must assume that most seafood counter staff answer on the basis of their own personal experience.

Third, shoppers also cared about where their seafood is from (66.8% rank in top 3), which should be displayed on signage. However, that product information may not always be there/legible or may not be sufficiently detailed. Or perhaps shoppers want additional assurance by asking counter staff about it; or this may be a result of shoppers having been “trained” by various communication campaigns or news articles to ask about those two factors specifically.

How fresh the product was ranked 4th overall (48.3% ranked it in top 3), followed by whether the product was previously frozen (27.9% placed it in top 3), and which fish has a mild flavor (26.3%). Finally, The long tail of “other” questions counter staff mentioned is indicative of the plethora and detail of knowledge shoppers expect seafood counter staff to have.



Chart 3: Seafood counter staff's rankings of most commonly asked questions

Seafood counter staff's report of questions they are most asked by shoppers	TOTAL % of respondents who ranked it in top 3	% of Respondents who ranked this as the #1 question	% of Respondents who ranked this as the #2 question	% of Respondents who ranked this as the #3 question	% of Respondents who Did Not rank but thought was important
Farm or wild?	78.1	30	23.1	25	0
Cooking recipes or recommendations?	72.7	40	7.7	25	5.3
Where the seafood is from?	66.8	12	42.3	12.5	18.4
How fresh is the seafood?	48.3	18	11.5	18.8	2.6
Previously frozen?	27.9	0	15.4	12.5	0
Is it caught sustainably?	6.3	0	0	6.3	0
Which has a mild flavor?	0	0	0	0	26.3
How was it farmed?	0	0	0	0	15.8
Are there bones?	0	0	0	0	10.5
What's on sale?	0	0	0	0	5.3
Is there mercury?	0	0	0	0	2.6
Best whitefish?	0	0	0	0	2.6
Good quality?	0	0	0	0	2.6
What do you recommend?	0	0	0	0	2.6
Antibiotic free?	0	0	0	0	2.6
How does this fish compare to [x]?	0	0	0	0	2.6
Can I get a particular cut?	0	0	0	0	2.6
Do you have more than what's in case?	0	0	0	0	2.6
When will you get this in again?	0	0	0	0	2.6
Who caught the fish?	0	0	0	0	2.6
Is this sushi grade?/Can I eat this raw?	0	0	0	0	2.6
Why isn't [a particular fish] here?	0	0	0	0	2.6
Color added?	0	0	0	0	2.6
Can I freeze this?	0	0	0	0	2.6
How long does this keep?	0	0	0	0	2.6
What's seasonal?	0	0	0	0	2.6
OTHER	0	0	0	0	0



Staff Training

Though this question was not included in the official questionnaire we did speak to staff about the training they had received to work at the seafood counter. Their answers made clear that training, if any, mostly centers around health and safety and safe food handling practices. However, only few of the staff we talked to felt that they had been trained in seafood sustainability, fishing methods, farming methods, certification standards or nutritional/dietary matters. Crucially, they had not been trained in the culinary aspects of seafood (recipes cooking and preparations) which a large proportion of shopper questions relate to. We must thus assume, that seafood counter staff answer shopper questions mainly from their own informal training/reading and their personal experience. That means that, while seafood counter staff are influential stakeholders in the supply chain, they are also a potential source of misinformation, confusion and biases flowing directly to the end consumer. This would benefit from further study, as well as concerted efforts by the industry to facilitate better training for these frontline workers of the seafood supply chain.

PERSONAL EXPERIENCE OF WHITE FISH SPECIES

Question 11: What is your personal experience level with the following species?

In previous parts of the survey, we learned that seafood counter staff are frequently asked for recommendations and play an important role in the species selection process. We also learnt that they are often asked about the taste/texture of a species and/or for cooking recommendations. However, seafood counter staff receive little to no information about the taste/texture or suitable cooking methods or recipes and will have to rely on their personal experience. It is therefore crucial to understand what level of personal experience seafood counter staff have of a range of white fish species, with particular focus given to Pacific Rockfish and Pacific Dover Sole.

Seafood counter employees were asked 1) if they have heard of the fish included in this survey, 2) if they have tasted the fish, and 3) if they have sold the fish either currently or in the past.

Choice of Species

We only chose white fish species in this study. Given Positively Groundfish's focus, we included core West Coast groundfish species – Rockfish, Sole and Lingcod - as well as less common groundfish species such as Sanddabs and Thornyhead. We also included Rockfish by its other market name Pacific snapper, as some people on the West Coast may be more familiar with this name. We then included very well established and seemingly ubiquitous species Atlantic Cod and Tilapia to provide a benchmark. Finally, we included some up-and-coming white fish species Alaska Pollock (wild) and Barramundi (farmed).



Personal Species Awareness

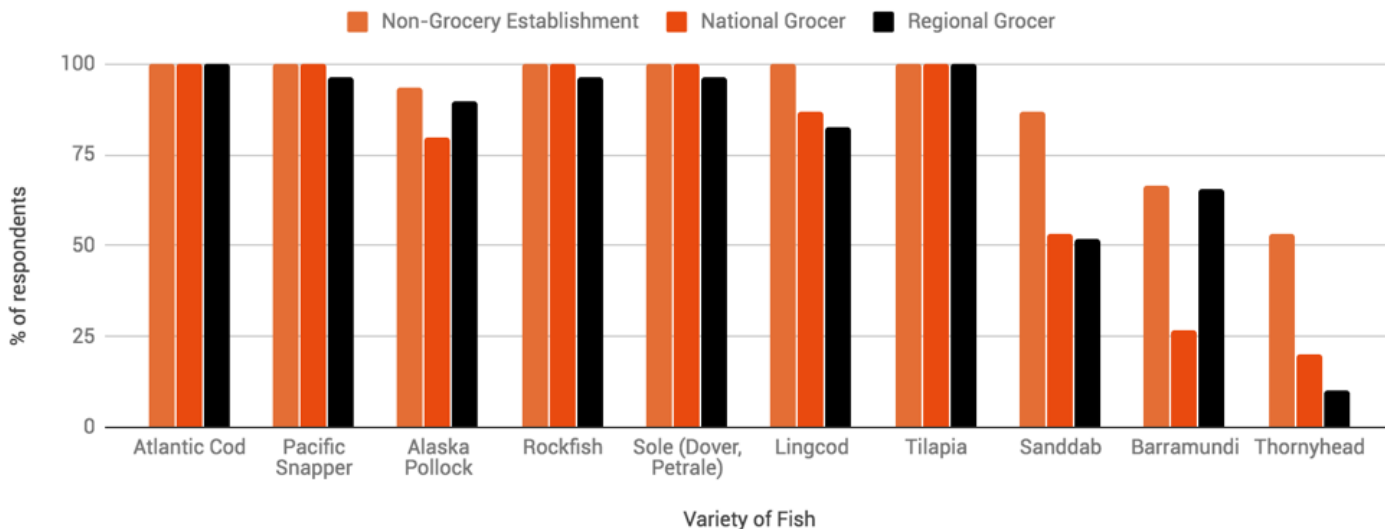
As expected, we saw universal awareness of common white fish species Atlantic Cod and Tilapia. Encouragingly, our survey showed near universal awareness for Sole, Rockfish and Rockfish's other market name Pacific Snapper. Alaska Pollock and Lingcod lagged behind showing some awareness gaps, especially in national and regional grocers. Thornyheads, Barramundi and Sanddabs had the lowest awareness levels among seafood counter staff.

Generally, non-grocery employees are more likely to have heard about a white fish on our list than staff at both national and regional grocers. This is true for every fish on the survey list (Graph 12). Non-grocery employees also have the most experience in selling seafood and have had more opportunity to encounter and learn about species.

Average income level of a store's location does not seem to significantly impact awareness levels for most species included here (Atlantic Cod, Tilapia, Rockfish, Pacific Snapper, Sole, Lingcod). Thornyheads and Barramundi, however, seemed to have higher awareness levels in lower income areas than in wealthier areas (Graph 13).

Graph 12: Species Awareness - the percentage of seafood counter staff who have heard of a species, segmented by retail store type

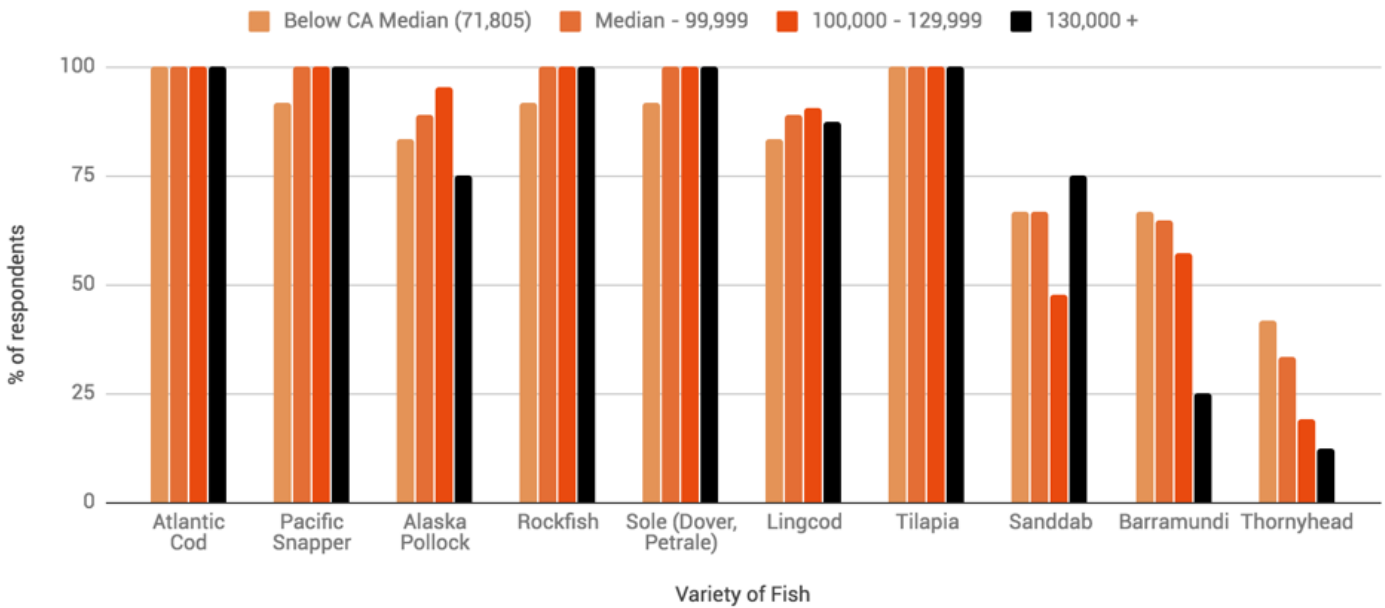
Heard of?





Graph 13 Species Awareness - the percentage of seafood counter staff who have heard of a species, segmented by retail store location's median household income level

Heard of?



Personal Species Trial Levels

Next we asked respondents if they had personally tasted our set of species. Across all channels, trial levels were highest for Tilapia, followed by Atlantic Cod, and Sole. Encouragingly, Pacific Snapper and Rockfish were not far behind. However, there are still approximately 20% of seafood counter staff at national and regional grocers that have never personally eaten these species and can therefore not make informed recommendations to their customers regarding their taste.

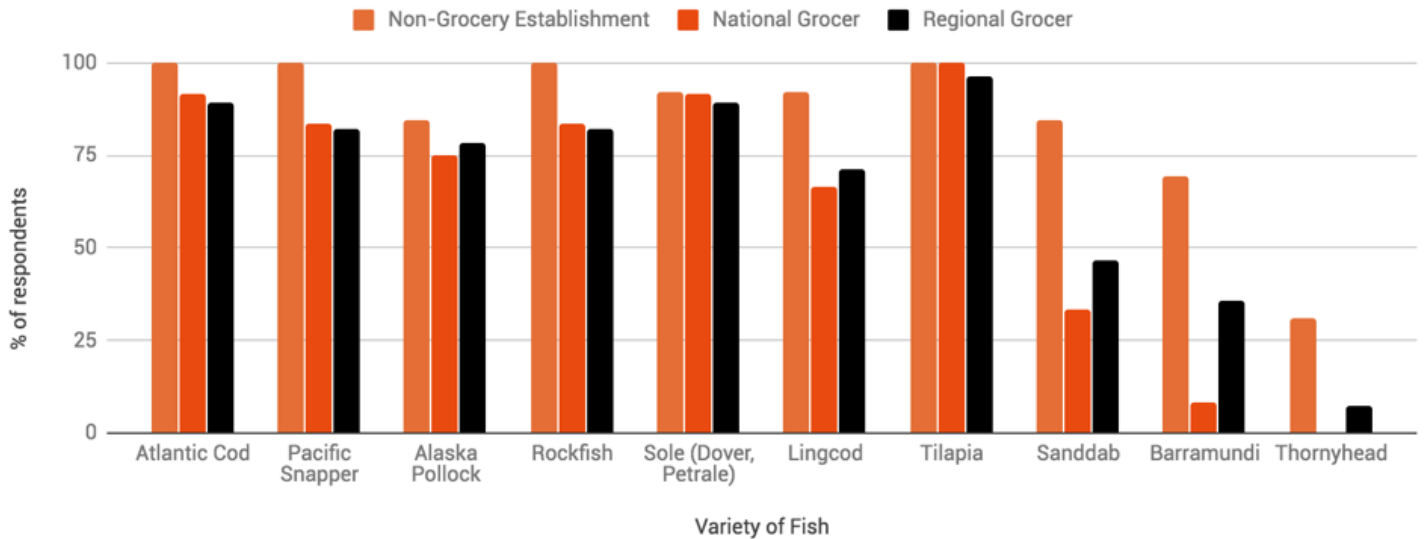
The trial gap was most concerning for Sanddab, Barramundi and Thornyheads. Most seafood counter staff would currently not have any personal experience of eating these species, which likely impedes their ability or likelihood to recommend these wholeheartedly. Generally, non-grocery employees are more likely to have personally tried any of these white fish species, while counter staff at national grocery chains are the least likely to have personally tasted this set of species (Graph 14).

Breaking down our results by socioeconomic shows that personal taste experience is generally lowest in the least affluent areas (Graph 15). Except for "niche" species such as Sanddabs, Barramundi and Thornyheads which have their highest trial levels in the least affluent areas. Tilapia and Lingcod had been tried equally across socioeconomic areas. And our key species of concern – Sole, Rockfish and Pacific Snapper – have relatively similar trial levels in areas with income levels that meet or exceed the California median.



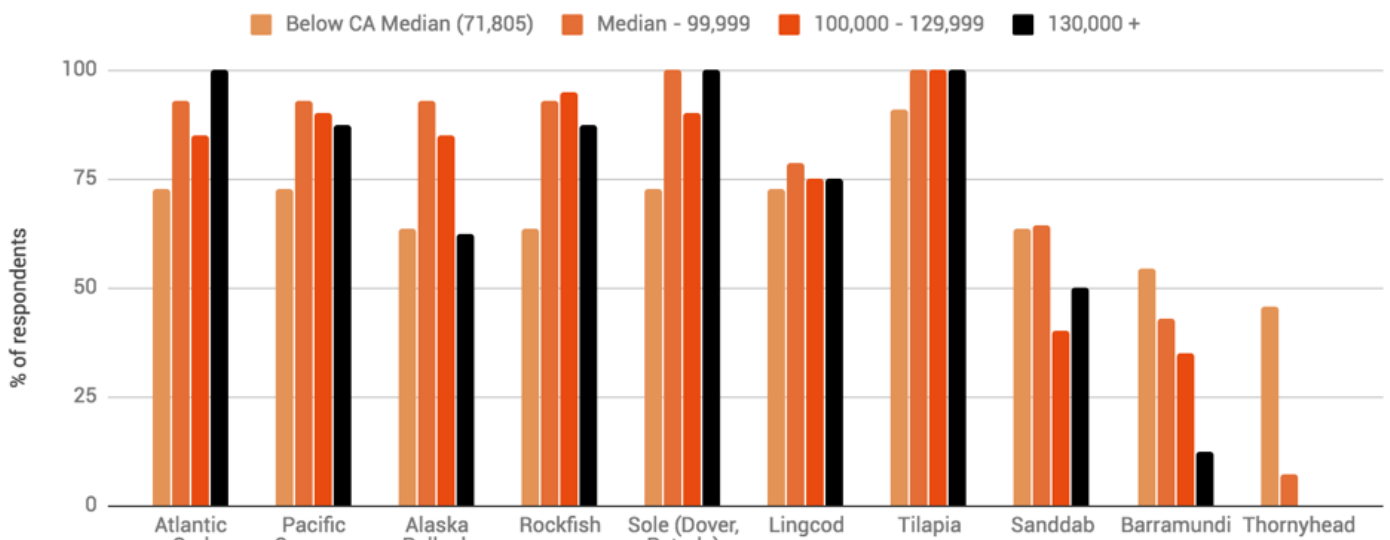
Graph 14: Species Trial - the percentage of seafood counter staff who have ever tasted a species, segmented by store type.

Tasted?



Graph 15: Species Trial - the percentage of seafood counter staff who have ever tasted a species, segmented by retail store location's median household income level

Tasted?



Personal Species Selling Experience

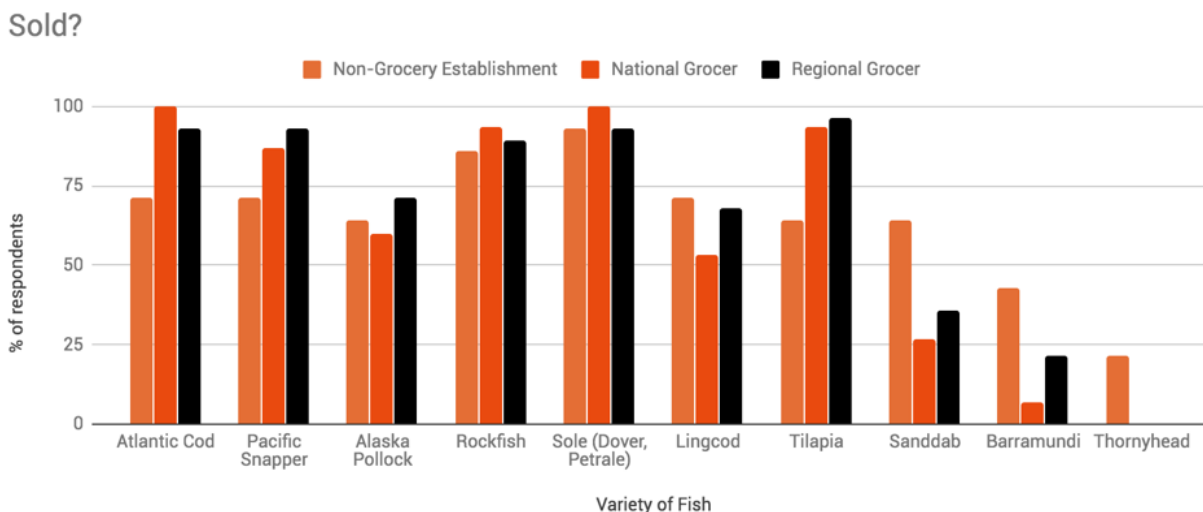
Surprisingly, Sole and Rockfish come out on top as the two species that seafood counter staff have the most personal experience of selling, whereas common white fish species, Tilapia and Atlantic Cod, have surprisingly low levels of personal selling experience, pointing toward significant distribution gaps for these two species. Here we also see more significant differences in answers for Rockfish and its other



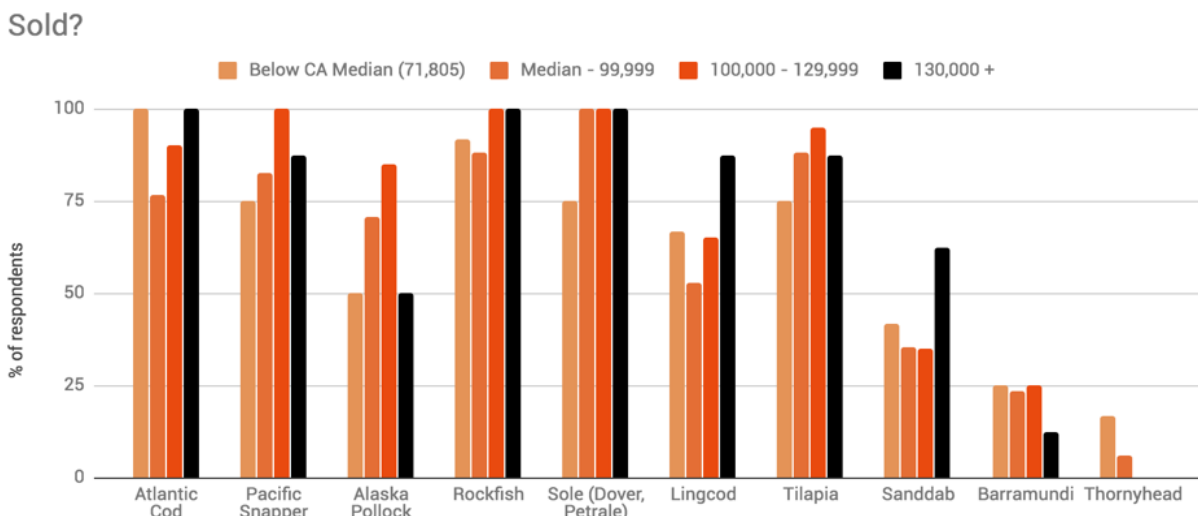
market name Pacific Snapper, which may lead us to assume that not all seafood counter staff is aware that these two species are equivalent. Alaska Pollock and Lingcod have only been sold – ever - by 50-70% of seafood counter staff, more so by regional grocers and non-grocery outlets. Generally, non-grocery employees are less likely to have experience selling these fish species, with the exception of lesser known species like Lingcod, Sanddab, Barramundi, and Thornyhead.

Typically, employees in all zip codes have more experience selling Rockfish and Sole than Tilapia, with two exceptions (Graph 16). In zip codes in the median - \$99,000 range, employees have equal experience selling Tilapia as Rockfish. 88.2% of employees in this range sell or have sold both fish. Similarly, 50% of employees in the below median income range have sold both Tilapia and Sole. This shows that Rockfish and Sole are actually relatively ubiquitous compared to one of the most popular white fish on the market. Employees in stores located in zip codes across all income levels are least likely to sell or have sold Thornyhead, Barramundi, and Sanddab (Graph 17). The \$130,000+ group, however, has Alaska Pollock in its bottom three.

Graph 16: Species Selling Experience - the percentage of seafood counter staff who have ever sold a species, segmented by store type



Graph 17: Species Selling Experience - the percentage of seafood counter staff who have ever sold a species, segmented by retail store location's median household income level



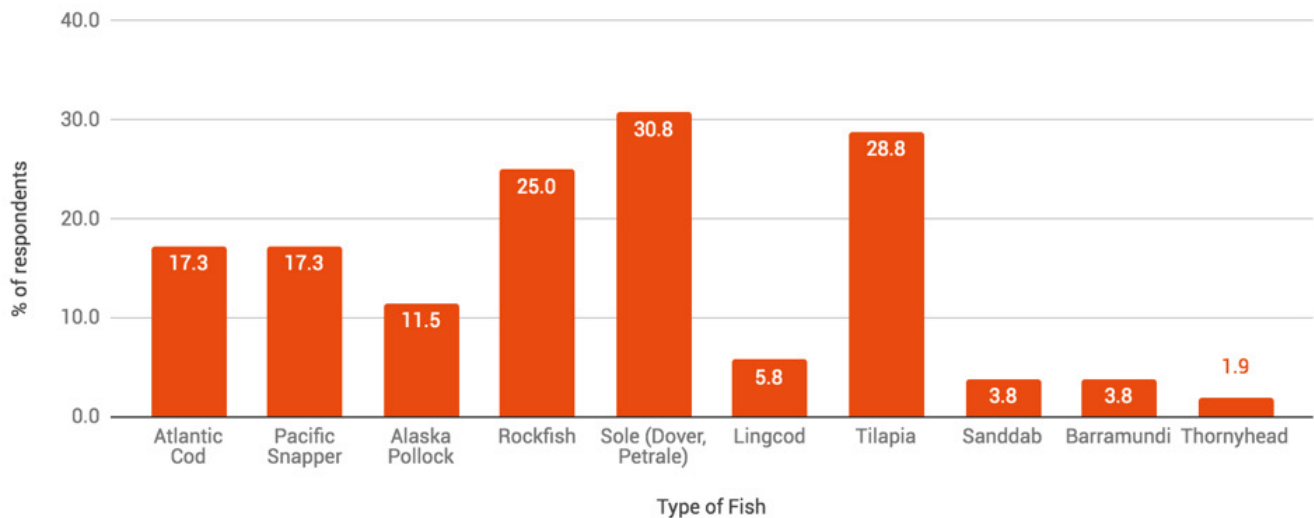


Shoppers' Inquiries About Particular Species

Out of the presented list of fish, customers specifically asked most often about Sole (Dover and Petrale) – almost a third (30.8%) of counter staff got specific questions about Sole. This was followed by Tilapia (28.8%), and Rockfish (25%) (Graph 18), an indication of shoppers' lack of familiarity and uncertainty about these species.

Graph 18: Seafood counter staff's perception of the species they get asked most about, out of the presented list of white fish species

What Fish Customers Ask Most About



Tasting vs Selling Experience

Recommendations made by seafood counter staff may not be based on personal experience of tasting the product or even cooking with it. This survey shows that more people are selling and recommending Rockfish, Pacific Snapper (another name for Rockfish), and Sole (Dover or Petrale) than have personally tried it (Graph 19). Notably, the same is not true for the other common seafood species included in this survey such as Atlantic Cod or Tilapia, which most seafood counter employees have tried before.

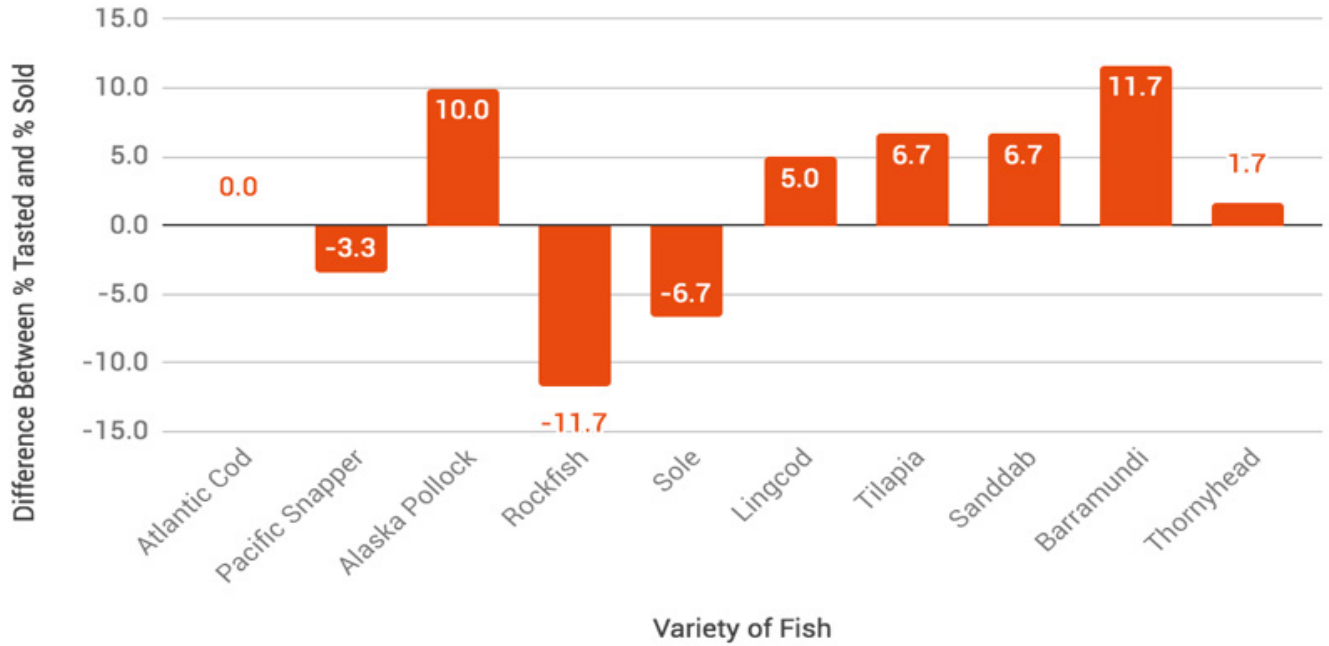
11.7% of seafood counter employees have recommended and sold Rockfish without ever having tasted it themselves. The same is true for 6.7% of staff in the case of Sole, and 3.3% for Pacific Snapper. Diving deeper into this data and breaking it out by retail outlet type, we find that this phenomenon is particularly pronounced in national and regional grocers, but rarely at non-grocery establishments (Graph 20).

In fact, respondents working in non-grocery establishment have generally had a lot more personal experience eating fish species, than selling them.



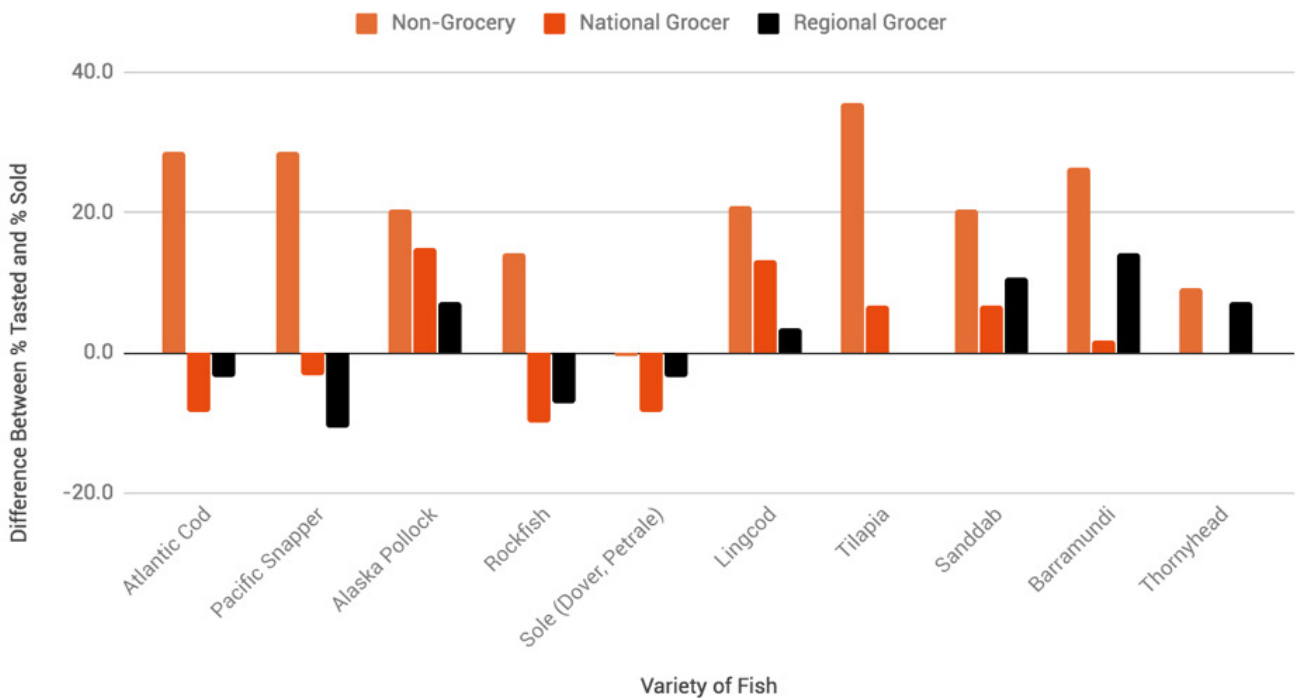
Graph 19: Difference between the percentage of seafood counter staff who have tasted and who have sold each species. Positive numbers represent employees who have tasted a species but have never sold it. Negative numbers represent the staff who have sold the fish but who have never tasted it.

Overall Difference Between % Tasted and % Sold



Graph 20: Difference between the percentage of seafood counter staff who have tasted and who have sold each species, by retail store type. Positive numbers represent employees who have tasted a species but have never sold it. Negative numbers represent the staff who have sold the fish but who have never tasted it.

Difference Between % Tasted and % Sold by Counter Category





Is Tilapia King?

Tilapia is seen as a popular whitefish. Thus, it often acts as a standard to compare against when it comes to popularity of a fish. The two fish that all employees in all categories of seafood counters have heard of are indeed Tilapia as well as Atlantic Cod (Graph 12). However, Pacific Snapper, Rockfish, Sole are not far behind. 100% of employees working at non-grocery establishments and national grocers have heard of these fish. Although employees have heard of Tilapia, it is actually not as popular to sell as one would think. In fact, in non-grocery establishments, more employees have sold Sole, Rockfish, Atlantic Cod, Pacific Snapper and Lingcod than have ever sold Tilapia (Graph 16). In national grocers, more employees have sold Atlantic Cod and Sole than Tilapia. In contrast, Tilapia still reigns as the fish sold by the most seafood counter employees in regional grocers. However, proportionally, national and regional grocers have equal numbers of distribution (93.3% vs. 96.4% respectively). However, regional grocers tend to sell fewer of the other competing white fish species than national grocers do.

EXPERIENCE AND PREFERENCES - ROCKFISH

Seafood counter employees' personal experience and preferences may influence the guidance and recommendations they give to the shoppers they are serving. Thus, understanding these tendencies is crucial to understanding a shopper's experience and the flow of information from seafood counter employee to shopper.

Question 12: Have you/your company sold US West Coast Rockfish in the last 12 months?

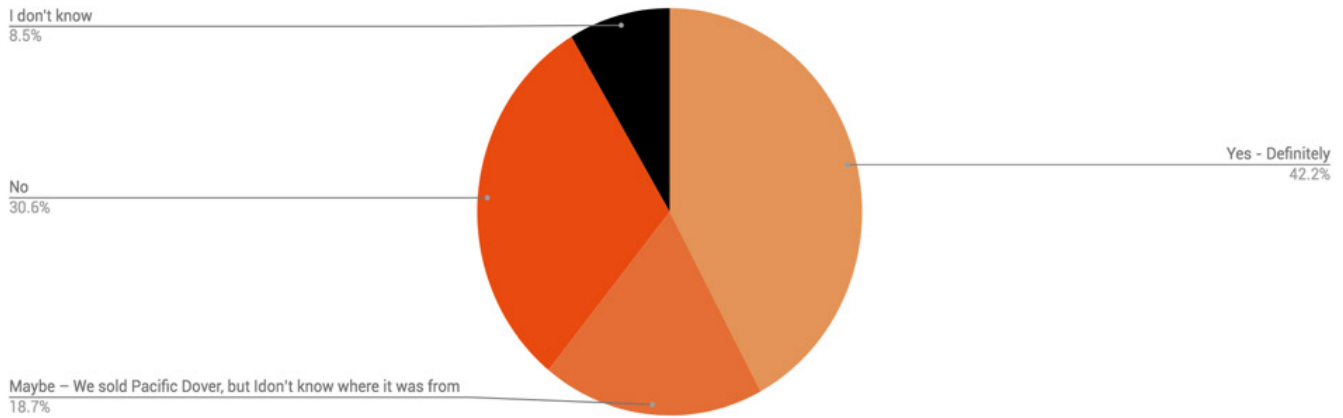
Note that while Question 11 asked counter staff if they had ever sold Rockfish, Question 12 homes in on whether they had sold it at some point over the past 12 months, which can account for seasonal or promotional range rotations. However, answers to this question also provides a read on recent distribution levels of West Coast Rockfish. According to this survey, 60.9% of respondents reported that they had sold Rockfish at some point over the last 12 months, of which 42.2% are sure that the Rockfish they'd sold had come from the US West Coast, whereas another 18.7% know they sold Rockfish but are unsure of its origin. Approximately one third of respondents gave a definitive "No" answer. Closing this distribution gap for West Coast Rockfish would be a sizeable market opportunity.

Non-grocery establishments were most likely to carry Rockfish from the West Coast, with a resounding 73.3% of non-grocery establishments included in this survey carrying the fish (Graph 22). National grocery stores are least likely (26.7%) to carry West Coast Rockfish and most likely to have employees that do not know the Rockfish's origin. 46.7% of national grocery store employees answered that they carry Rockfish but are unsure of where it is from. Regional grocery stores are least likely to carry Rockfish regardless of where it is from. 46.7% of respondents said that their store does not carry Rockfish.



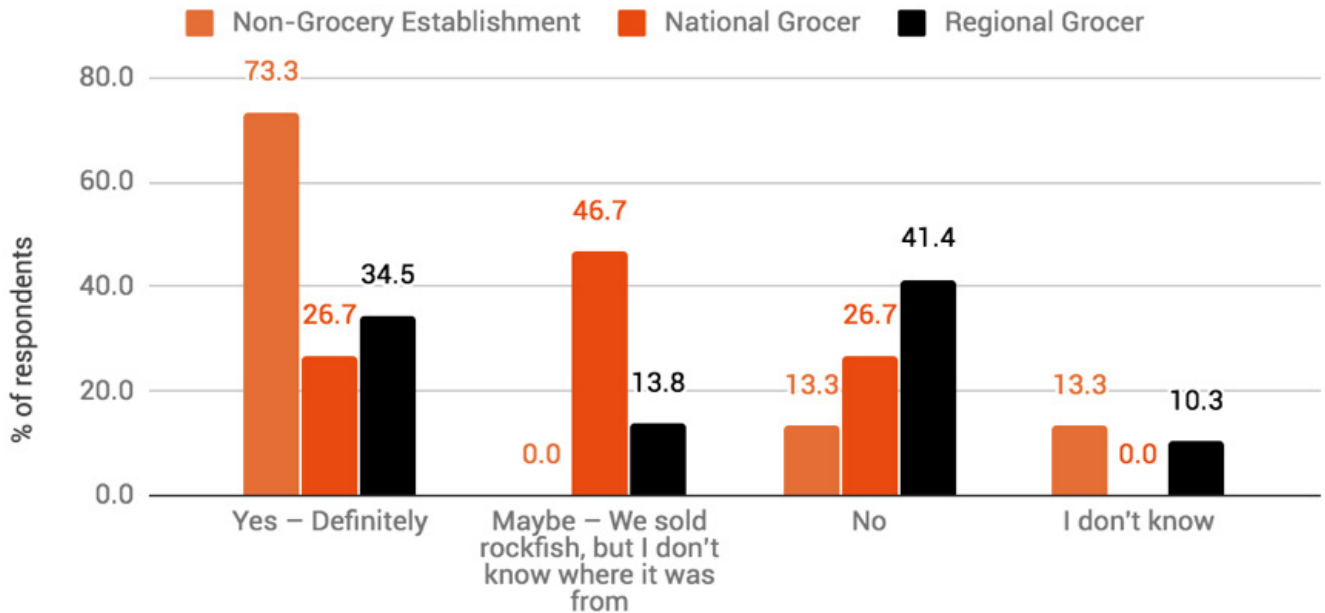
Graph 21: Seafood counter employees who have sold US West Coast Rockfish within the last 12 months

Have you/your company sold US West Coast Rockfish in the last 12 mo.?



Graph 22: Seafood counter employees who have sold US West Coast Rockfish within the last 12 months, by store category

Carried in Last 12 Months? (West Coast Rockfish)



Question 13: Would you recommend Rockfish to a customer? Why or why not?

According to our survey 79.4%* of seafood counter employees say they would recommend it to a customer (Graph 23), listing its mildness (21.8% of respondents listed this), tasty/good flavor (20%), its versatility (10.1%) and affordability (9.1%) as well as being good for tacos (16.4%) or ceviche (9.1%) as the top reasons (Chart 4). These results are particularly noteworthy, since this question was presented to seafood counter employees as an open-ended question. Thus, a relatively large number of seafood counter employees all have arrived at the same answer individually. The most "negative" quality that came through was that Rockfish have bones, which about 7.3% of respondents mentioned.

Seafood counter staff in national grocers (85.7%) were most willing to recommend Rockfish, followed by staff at non-grocery establishments (80%) and Regional grocers (75.9%) (Graph 24). Staff from regional grocery chains were most likely to be on the fence with 17.2% responding "may be", while seafood counter staff at non-grocery establishments were most resolute about not wanting to recommend Rockfish (20%).

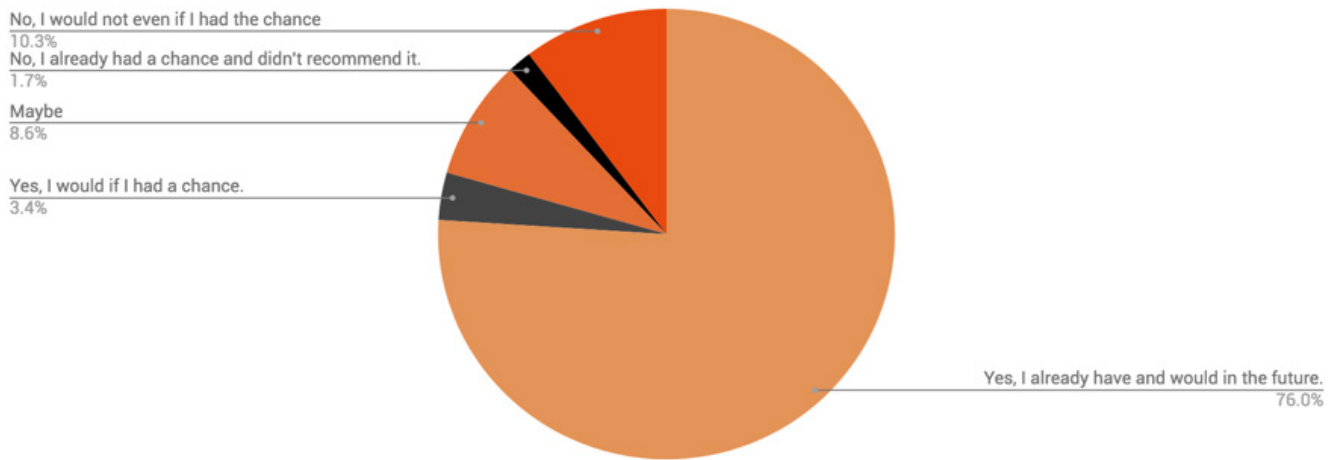
Two neutral responses surfaced: 1) Some seafood counter employees only recommend fish based on what the customer wants (5.5% of respondents), meaning they only typically try to assure shoppers of the choice they've already made and 2) some employees have never tried either fish and do not know what he/she would recommend about the fish (7.3%).

Note: Although not quantitatively recorded, the sentiment "I only recommend fish the customers want" was voiced verbally by many respondents as a preface of their actual survey answer. This tendency to recommend seafood that the customer has already expressed an interest in, could be interpreted as 1) a strong customer orientation, 2) wanting to provide assurance in order to make the sale; 3) counter staff's uncertainty or lack of confidence in their recommendations.



Graph 23: Percentage of seafood counter employees who would recommend Rockfish to a customer

Would you recommend Rockfish to a customer?



Graph 24: Percentage of respondents who recommend West Coast Rockfish, segmented by store category

Would You Recommend? (West Coast Rockfish)

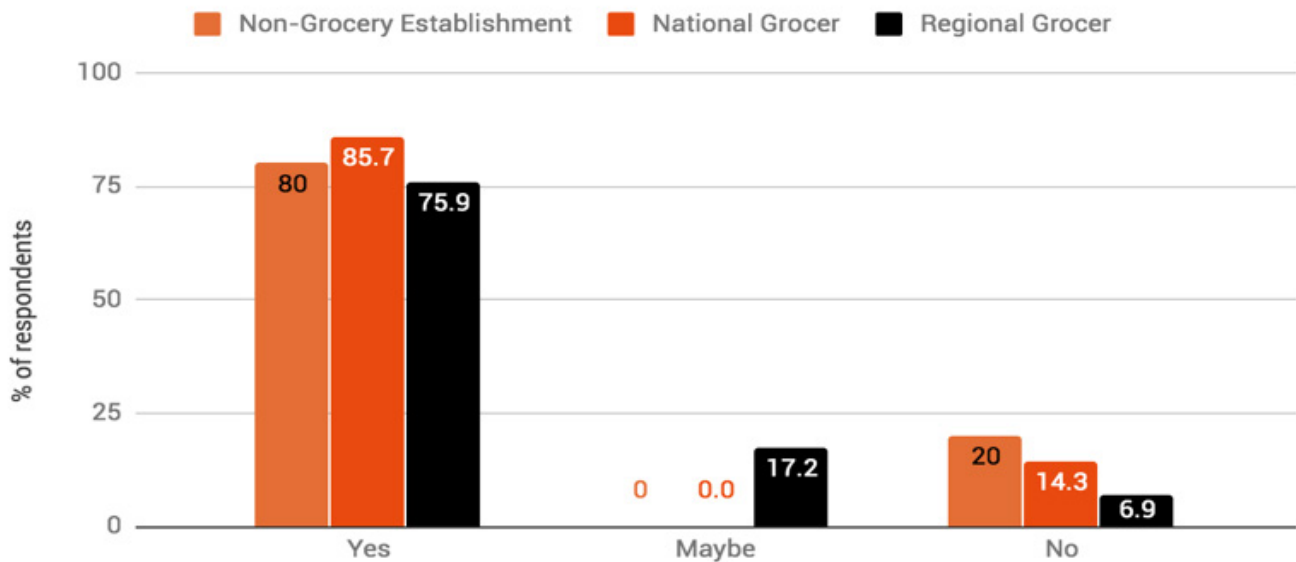




Chart 4: Reasons why seafood counter employees would or would not recommend Rockfish and their provided reasons

POSITIVE CHARACTERISTICS			
Physical Descriptors	% of respondents who mentioned particular descriptor	Other Descriptors	% of respondents who mentioned particular descriptor
Mild	21.8	Versatile	10.9
Tasty/Flavor	20	Affordable	9.1
Flaky	7.3	"Good"	5.5
Good texture	3.6	Personal favorite	3.6
Easy to debone	1.8	Local	3.6
Light	1.8	Simple/Easy	3.6
Holds together well	1.8	Wild	1.8
Firm	1.8	Sustainable	1.8
Soft	1.8	Can utilize the whole fish	1.8
Thin	1.8	Fresh	1.8
White	1.8	Easy to cook	1.8
Doesn't get hard while cooking	1.8	Good story	1.8
Skin will crisp	1.8	Healthy	1.8
Specific Recipes			
Tacos	16.4		
Ceviche	9.1		
Pan Fry	5.5		
Breaded	1.8		
Cajun	1.8		
Grill	1.8		
Sandwich	1.8		
NEGATIVE CHARACTERISTICS			
Physical Descriptors	% of respondents who mentioned particular descriptor	Other Descriptors	% of respondents who mentioned particular descriptor
Bones	7.3	There are better fish to sell	1.8
Not as mild of a flavor as tilapia	3.6	Used to source locally, but not meeting sustainability standards	1.8
Worms in fish	1.8	Personal dislike	1.8
Use pesticides on fish	1.8	Umbrella term for multiple species	1.8
Bland	1.8	Doesn't fit the restaurant/fish counter concept	1.8
Not great for old people (Bones)	1.8	Availability (Hard to get because restaurants get it 1st)	1.8
Not great for kids (Bones)	1.8		
NEUTRAL CHARACTERISTICS			
Neutral Descriptors	% of respondents who mentioned particular descriptor		
I haven't tried it and don't really know	7.3		
Depends on what customer wants	5.5		

EXPERIENCE AND PREFERENCES - PACIFIC DOVER SOLE

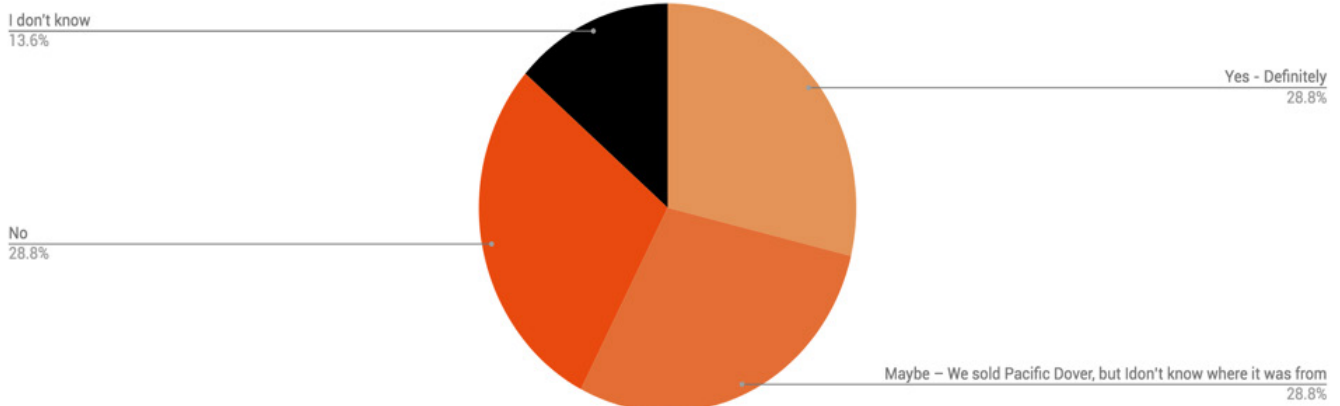
Question 14: Have you/your company sold US Pacific Dover Sole in the last 12 months?

Compared to Rockfish, seafood counters in this study were somewhat less likely to carry Pacific Dover Sole from the US West Coast, and counter staff were less often aware of its origins. Only 28.8% of respondents reported that they had sold Pacific Dover Sole over the past year, and that it had been from the US West Coast (Graph 25). An equal number, 28.8%, had sold Pacific Dover Sole over the past 12 months, but were unsure of its catch location.

Pacific Dover Sole is less popular than Rockfish across all store types. The non-grocery channel is by far the least likely to carry Pacific Dover Sole. A full two-thirds (66.7%) responded that they have not carried it at all during the past 12 months. (Graph 26). Conversely, 80% of national grocers and 62.1% of regional grocers had sold Pacific Dover Sole during the past year. However, employees at both national and regional grocers are relatively uncertain about if the Pacific Dover Sole they carry comes from the West Coast or not (46.7% and 34.5% respectively).

Graph 25: Percentage of seafood counter employees who have sold US West Coast Pacific Dover Sole within the last 12 months

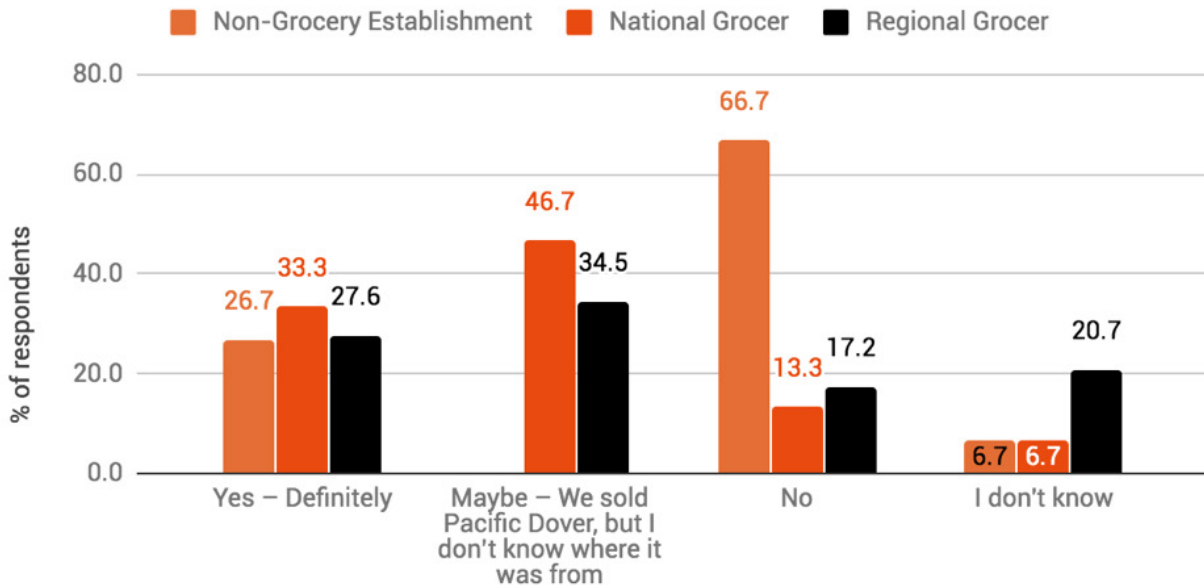
Have you/your company sold US West Coast Pacific Dover Sole in the last 12 mo.?





Graph 26: Percentage of respondents who have carried West Coast Pacific Dover Sole in the last 12 months segmented by store category

Carried in Last 12 Months? (West Coast Pacific Dover Sole)



Question 15: Would you recommend Pacific Dover Sole to a customer? Why or why not?

Seafood counter employees are also slightly less likely to recommend Pacific Dover Sole compared to Rockfish – only 63.8% would recommend it, while 22.4% say they would not recommend it (Graph 27). As with Rockfish, employees liked that Pacific Dover Sole has a mild flavor (16.4%), is easy to cook (12.7%) and thin (10.9%). The largest perceived negative was that respondents thought Dover Sole to be mushy/gelatinous/ slimy (14.5%). Another 7.3% respondents said that they would prefer to sell other fish (Chart 5).

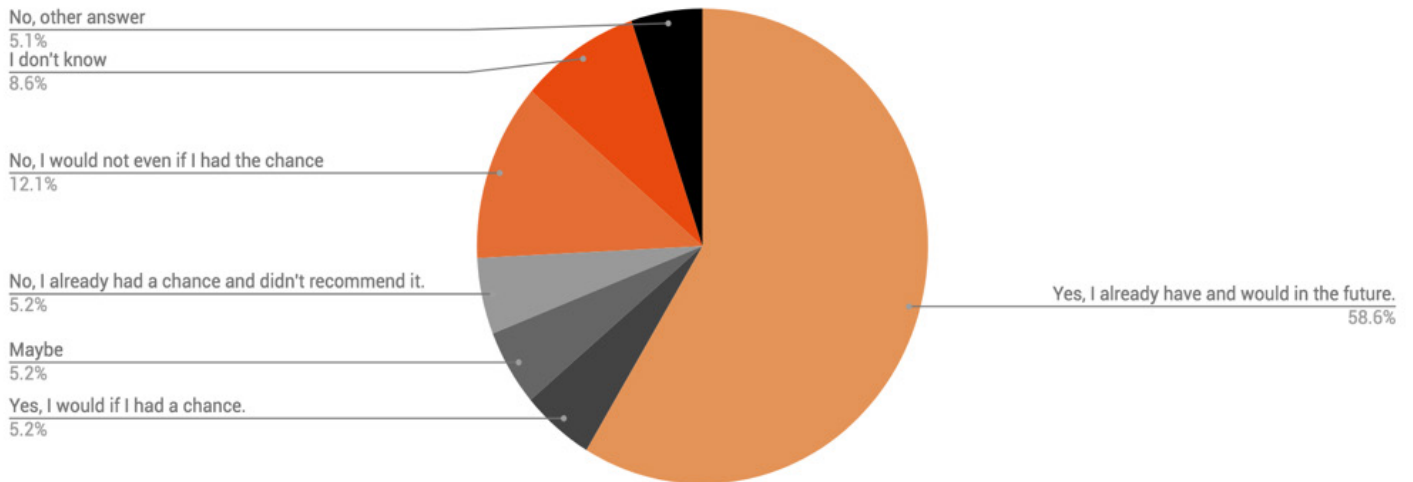
Employees at national grocers are most likely to recommend (86.7%) Pacific Dover Sole, with employees at regional grocers somewhat less likely (67.9%) (Graph 28). In stark contrast, employees at non-grocery outlets are much less likely to recommend Pacific Dover Sole, with only 36% being willing to endorse this species and a full 50% being resolutely unwilling. Notably, some seafood counter employees made a point to say that they will recommend Petrale Sole over Pacific Dover Sole.

As with Rockfish, two neutral responses also surfaced for Pacific Dover Sole : 1) Some seafood counter employees only recommend fish based on what the customer wants (5.5% for Pacific Dover Sole), meaning they only assure shoppers of the choice they've already made and 2) some employees have never tried either fish and do not know what he/she would recommend about the fish (5.5% respectively).



Graph 27: Percentage of seafood counter employees who would recommend Pacific Dover Sole to a customer

Would you recommend Pacific Dover Sole to a customer?



Graph 28: Percentage of respondents who would recommend West Coast Pacific Dover Sole, segmented by store type

Would You Recommend? (West Coast Pacific Dover Sole)





Chart 3: Reasons why seafood counter employees would or wouldn't recommend Pacific Dover Sole and percentage of employees who gave that reason why

POSITIVE CHARACTERISTICS			
Physical Descriptors	% of respondents who mentioned particular descriptor	Specific Recipes	% of respondents who mentioned particular descriptor
Mild	16.4	Can wrap around other ingredients (shrimp, crab, spinach & cheese)	7.3
Easy to cook	12.7	Breaded	3.6
Thin	10.9	Pan fry	3.6
Cooks quickly	9.1	Searing	1.8
Light	7.3	Fish tacos	1.8
Soft	5.5	Good sautéed	1.8
No bones	3.6	Soak in white wine	1.8
Delicate	3.6	Other Descriptors	
Flavor	3.6	Wild	7.3
Similar taste to Petrale	3.6	Popular	5.5
Easy to play around with	1.8	Versatile	5.5
Cooks well	1.8	Inexpensive	5.5
White	1.8	Personal favorite	3.6
Slightly salty	1.8	"Good"	3.6
Oil contents = healthy	1.8	Good seller	1.8
Flaky	1.8	Good with other ingredients	1.8
Airy	1.8	Good alternative to Petrale	1.8
Texture	1.8	Better than Tilapia	1.8
Buttery	1.8	Local	1.8
Good for elderly	1.8	Fresh	1.8
Good for kids	1.8	From US	1.8



NEGATIVE		NEUTRAL	
Physical Descriptors	% of respondents who mentioned particular descriptor	Neutral Descriptors	% of respondents who mentioned particular descriptor
Mushy/Gelatinous/Slimy	14.5	Depends on what customer wants	5.5
Too soft	3.6	Haven't been exposed to it/tried it	5.5
Too thin	3.6	Not much diff. than Petrale (Does not include employees who work at a counter that consciously sells dover sole over petrale)	1.8
Falls apart	1.8	Searing	1.8
Other Descriptors			
Would prefer to sell other fish	7.3		
Lack of handling/processing options (only sold frozen and whole)	1.8		
Confusion with English Dover Sole	1.8		
Availability	1.8		
What old people eat	1.8		
Expensive	1.8		
Unsustainable fishing method	1.8		
Low quality	1.8		
Low value	1.8		
Doesn't sell well	1.8		
Won't buy	1.8		
Don't carry	3.6		



DISCUSSION

These survey results provide us a glimpse into an average staff- shopper interaction at a seafood counter in coastal California. Prior to this report, the industry has lacked insight into the sales process, into a seafood counter employee's perception of the customer, and their perception of groundfish species. A more in-depth understanding of this important stakeholder group may enable the industry to take productive steps toward creating economic success for the West Coast Groundfish fishery.

Potential in the Marketplace for Rockfish and Pacific Dover Sole

This research brings encouraging news for the West Coast groundfish industry - Rockfish and Pacific Dover Sole enjoy surprisingly high distribution in Californian retail outlets, and great foundational awareness, trial and endorsement by seafood counter staff.

The majority of counters included in this survey have sold Rockfish (61%) and Pacific Dover Sole (58%) in the last 12 months, which means that a majority of shoppers at least have exposure to and the opportunity to buy these species. Moreover, these 2 types of fish are among the most asked about species, according to seafood counter employees. Sole (Dover, Petrale) took the top spot, while Rockfish was the third most popular fish that customers ask about. This shows that shoppers already have some interest in these two groundfish varieties.

Furthermore, seafood counter employees have relatively high regard for these fish species and would recommend them to shoppers, though they are clearly more willing to recommend Rockfish (80%) than Pacific Dover Sole (60%). This is particularly important since such a high number of shoppers ask for recommendations. Approximately half of seafood counters estimate that the majority of the shoppers that approach the seafood counter have questions and ask for recommendations. These verbal promotions become especially important for the introduction of new seafood items. Thus, working with seafood counter staff and developing their personal experience and preference for rockfish and dover sole to gain their personal endorsement could be an effective avenue to drive sales of groundfish.

However, there is plenty of opportunity to improve seafood counter staff's personal perception and preferences for Rockfish and Dover Sole. In particular, groundfish producers need to address their perception that rockfish have a lot of bones, while Pacific Dover Sole has perception challenges regarding its texture and taste profile. Producers need to provide more guidance on how to handle Pacific Dover Sole and how to prepare it for best results.

Selling but Not Tasting

Not all seafood counter employees have tasted the fish that they are selling or have sold. This is particularly true for Rockfish/Pacific Snapper and Sole (Dover, Petrale). This is an area of concern since it opens the sales process up to inaccurate information flowing from seafood counter employee to shoppers.

The seafood counter sales process relies heavily on verbal recommendations, in particular for new or lesser-known species. As detailed earlier, at least half of seafood counter employees report that the majority of their customers ask for recommendations. Customers also tend to ask for recipes or cooking recommendations, which may be a challenge if the counter employee has no experience with ever even tasting or cooking the specie. The more information flows from inexperienced fish counter employees to customers, the more potential there is for misinformation to spread.

When asking for recommendations or seafood advice, the customer is inherently placing trust in seafood counter employees, expecting to receive an informed answer. Because of this expectation, there is the possibility that customers will walk away from a seafood counter falsely counting the information they receive as fact, if the employee they encounter is selling the fish but has not tasted the fish or if they do not have accurate information about the fish's sustainability, catch location, how it was raised/caught, etc. This can cause a domino effect with faulty information traveling from inexperienced seafood counter employee to customer to the larger community.

How to Counter Inexperience in Employees

This gap between species that staff had “sold” vs personally “tasted” is almost exclusively seen in national and regional grocery stores in which employees have the least amount of professional experience – over 60% of employees have at most 5 years of experience. This points to the need for more extensive training. Many of these employees are entry-level employees who have had little to no training on seafood matters (other than obligatory food handling safety training), and also tend to have little decision-making power or influence on the seafood selection in their cases.

More readily available training and access to information may help inexperienced employees familiarize themselves with Rockfish and Sole. Distributors can accomplish this by supplying short but informational training materials to stores to train new hires and providing “cheat sheets” with key talking points with each case. Through observation, it seems that many seafood counters already have binders that contain store codes for each particular fish. This may be a convenient place to put extra handouts with groundfish information. Additionally, it may be a good tactic to enable and incentivize seafood counter employees to personally cook and taste Rockfish and Sole, by providing them with free coupons, recipes and handling instructions for product to take home.

If distributors want to reach shoppers directly, there is the option of putting information about the fish directly in or on the display case. Some distributors and grocery store chains already supply recipe cards to consumers for seafood items such as Tilapia, Shrimp, and Salmon (Image 3). Because shoppers frequently ask for cooking recommendations, recipe cards for Rockfish or Sole could be useful materials for seafood counter employees to easily point shoppers toward.


Some seafood distributors (Santa Monica Seafood) have gone so far as to develop sauces and marinades to be used with particular fish. To take this idea a step further, seafood counters could sell meal-kits or flavor-kits that include ingredients that match a free recipe card. The fish for the kit could be bought at the counter, eliminating any confusion around whether or not the product is fresh, which 20% of seafood counter employees rank as the number one topic customers ask about. Such kits could be a convenient way to drive shoppers toward these sustainable fish. In order to gain traction, recommendations and recipes must be optimized for groundfish specifically. Furthermore, because groundfish may be unfamiliar to some shoppers, it is important to create recommendations and recipes that seem familiar. As seafood employees pointed out, “Familiarity to customers” is the third most important quality when a shopper is choosing seafood.

Another possible place for information is inside the seafood display case with the use of picks. Currently, about 24% of seafood counters place informational picks in the seafood. Picks have phrases written on them such as “Advertised Special,” “Wild,” “Delicious with [name recommended sauce here],” “Great on the grill,” “Great for baking,” and “Tasty.” These picks give consistent recommendations to the customer without bias and allow customers to get additional information simply while browsing for fish.



Image 3: These handouts were found on the counters of Pavilions and Bristol Farms. Although one handout from Pavilions does mention Rockfish and Sole, the recipe/cooking suggestion is not focused solely on that variety of fish.

SEAFOOD COOKING
Simple Ideas



Fish Tacos

Cod, Halibut, Mahi Mahi, Pollock, Rockfish, Shark, Swordfish, Tilapia

Marinate the Fillet with Canola Oil, Lime Juice, Chili Powder and Cilantro for 15 to 20 Minutes.



Remove from marinade and place on a hot grill or skillet for 4 to 5 minutes on the first side. Flip for 30 seconds and remove. Let it rest for 5 minutes then flake with a fork. Garnish with your favorite toppings.

Poached or Baked

Halibut, Lobster, Mahi Mahi, Salmon, Seabass, Swordfish, Tilapia

Preheat oven to 350 degrees. Sprinkle the fillet with olive oil, lemon juice, salt and pepper.

Place fillet in baking dish and bake for approximately 15 minutes per pound.

Tilapia

Cultivated in fresh or salt water, Tilapia is available year-round. While currently Tilapia is largely farm-raised, it has been consumed for thousands of years from equatorial and western Africa north to Egypt.

The raw meat is a beautiful pinkish-white that cooks white. Because the meat holds together well during cooking, it accepts sauces well and can be used in a wide range of preparations. The meat is fine-textured and somewhat flaky with a mild sweet flavor similar to sole.

Tilapia can be grilled, poached, broiled or blackened. We suggest using it for fish tacos!

Another attraction to tilapia is that it is so affordable and has a long shelf life of as long as 10 days when fresh. So if you love snapper, perch, or cod and just want a dependable fish that even the most inexperienced chef can cook with ease, try tilapia, it is available year-round.



Front - Handouts from Pavilions

SEAFOOD COOKING
Simple Ideas



BBQ'd Fish

Mahi Mahi, Lobster, Salmon, Shark, Swordfish, Tuna (Ahi/Albacore)

Rub fish with Old Bay Seasoning and marinate in olive oil, garlic and seafood seasoning for one hour in the refrigerator. Preheat your grill. Place fillets/steaks, on a hot grill and cook until done to your preference.

Pan Seared

Catfish, Cod, Orange Roughy, Rockfish, Scallops, Sea Bass, Shrimp, Sole, Tilapia, Whitefish

Pat fish completely dry with paper towels. Preheat a large sauté pan on medium-high heat. Lightly dust the fish with cornstarch and season lightly with sea salt and fresh ground pepper. Coat the bottom of the pan with oil. Carefully lay the fish in the pan. Cook for several minutes, on both sides until fish is just done. Avoid constantly flipping the fish as it may fall apart. Cooking time will vary.



Parmesan Baked Tilapia



Serves 4

Tilapia can be substituted with Alaska Cod, Catfish, Rockfish or Swai

Ingredients:

- 2 lbs tilapia fillet
- 2 eggs, beaten
- 1/2 cup milk
- 1 cup breadcrumbs
- 1/4 cup fresh parmesan cheese, grated
- 1 tsp oregano
- 1/2 tsp paprika
- 1/2 tsp garlic powder
- 1/4 tsp pepper
- 1 tbs parsley

Preparation:

Preheat oven to 400°F. Spray baking pan(s) with nonstick cooking spray. Combine beaten eggs and milk in a shallow dish. Stir until well-combined. In a separate shallow dish, stir together breadcrumbs, parmesan cheese, and the herbs/spices. Mix well. Dip each fillet into the egg/milk mixture (coat both sides). Let excess drip off, then dip into breadcrumb/cheese mixture to coat both sides.

Place coated fillets in prepared baking pan(s). Bake, uncovered, at 400°F for 20-30 minutes, or until fish is white and flaky inside.



Back - Handouts from Pavilions



Front - Handouts from Bristol Farms

Bristol Farms

SPICY SHRIMP AND NOODLE STIR-FRY

AN ASIAN STIR-FRY THAT'S BOTH QUICK AND DELICIOUS AND PERFECT FOR A BUSY WEEKNIGHT.

INGREDIENTS:

- 1 lb Del Pacifico's Fair Trade Wild Shrimp, peeled and deveined
- 1 package lo mein or rice noodles
- 3 chopped scallions
- 2 cloves chopped garlic
- 2 teaspoons grated ginger
- 3 tablespoons grapeseed oil
- 1 tablespoon chili oil
- 1 tablespoon freshly squeezed lime juice
- 1 cup sugar snap peas
- 2 carrots, thinly sliced
- 1 red bell pepper, cut in strips
- Crushed red pepper

DIRECTIONS: In a large pot of salted boiling water, cook noodles according to package instructions. Drain, rinse under cold water and transfer to a large bowl.

Combine scallions, ginger, garlic, salt, and pepper in a small glass bowl. In a skillet, quickly heat 2 tsp grapeseed oil and 1 tsp chili oil and then carefully mix the heated oil into the scallion and ginger mixture. Stir well. Toss in 1 tbsp of the scallion ginger oil with the noodles and reserve the rest.

Pat shrimp dry with a paper towel and season with salt and crushed red pepper. Add 1 tsp grapeseed oil to skillet and heat over medium-high heat. Add shrimp and cook for 1 minute. Add carrots, sugar snap peas, and bell pepper, tossing occasionally until the shrimp is pink and cooked through, about 1 to 2 minutes. Add noodles and lime juice to the skillet and toss with the reserved scallion oil until well-combined.

Assemble: Serve hot in a bowl with chopsticks!

Bristol Farms

HERB-CRUSTED BAKED SALMON

PERFECT FOR ANY QUICK AND DELICIOUS WEEKNIGHT DINNER, UNA'S ICELANDIC SALMON IS THE STAR OF THE SHOW IN THIS TENDER, FLAKY, FLAVORFUL DISH. SERVE ALONGSIDE ROASTED VEGETABLES AND POTATOES.

INGREDIENTS:

- 2 Una's Icelandic Salmon fillets
- 1 lemon, zested
- 1 cup panko breadcrumbs
- 3 cloves minced garlic
- 3 tablespoons fresh basil, chopped
- 1 tablespoon fresh flat-leaf parsley, chopped
- 4 tablespoons parmesan cheese
- 4 tablespoons melted butter
- 2-3 tablespoons extra virgin olive oil
- Salt & pepper

DIRECTIONS: Preheat your oven to 375 degrees F. For the herb crust topping, combine the breadcrumbs, garlic, herbs, cheese, and butter in a small bowl. Line a baking sheet with parchment paper and brush with olive oil. Place the salmon fillets skin side down and brush the tops with olive oil. Season with salt, pepper, and lemon zest. Spoon the herb and panko topping over the salmon and bake uncovered for 18-22 minutes, or until the fish flakes easily.

Bristol Farms

HONEY BAKED SALMON

FOR A 30-MINUTE DINNER THAT'S EQUALLY SWEET AND UMAMI, LOOK NO FURTHER THAN THIS ORA KING HONEY-BAKED SALMON RECIPE. ROUND OUT YOUR MEAL WITH STEAMED BROWN OR WHITE RICE.

INGREDIENTS:

- 2 lb Ora King Salmon fillet
- 1/3 cup honey
- 1/4 cup low sodium soy sauce or coconut aminos
- 6 cloves minced garlic
- 1 chopped shallot
- 1 1/2 teaspoons Kosher salt
- 1/2 teaspoon freshly-ground black pepper

DIRECTIONS: Preheat your oven to 400 degrees F with rack on middle position. Line a large baking sheet with a piece of foil large enough to fully wrap salmon fillet. Set aside. In a medium bowl, whisk together honey, shallots, garlic, soy sauce, salt, and pepper. Set aside.

Pat salmon fillets dry with paper towels. Place on the foil-lined baking sheet and evenly spoon most of the honey mixture over the salmon. Carefully fold all four sides of the foil so it seals tightly and won't leak. Bake for 10-15 minutes. While the salmon cooks, transfer 1/3 cup of the honey mixture to a small saucepan and cook until shallots are soft. Gently open the foil packet and move oven rack to upper position and broil salmon for 3 minutes, or until nicely browned.

Assemble: Serve the salmon atop a bed of steamed rice and pour over the remainder of the cooked honey mixture. Garnish as desired with sesame seeds or scallion.

Front - Handouts from Bristol Farms



What Seafood Counter Employees Value about Rockfish and Sole

In this survey, seafood counter employees were asked why they would or wouldn't recommend Rockfish and Pacific Dover Sole. This question allows the industry to better understand what motivates a seafood counter employee to recommend a particular fish.

The descriptors used for Rockfish are centered on the eating experience of the fish. The two most popular descriptors that 21.8% and 20% of seafood counter employees associated with Rockfish were "Mild" and "Tasty/Flavor" respectively. The third was "good for tacos." These are terms that can be used in marketing Rockfish, and be used in the seafood case or on recipe cards on display.

Seafood counter employees are most concerned about the cooking and eating experience that their shoppers are about to undertake, which may be prompted by consumers' number one question: "What are some cooking recipes or recommendations?" Seafood counter employees suggested using Rockfish for tacos or ceviche, or even sandwiches. Other suggestions included breading, pan frying, seasoning with Cajun seasoning, or grilling Rockfish. These may be some examples of recipes give familiarity to a yet (somewhat) unfamiliar fish.

Seafood counter employees, similarly, recommended Pacific Dover Sole for its cooking qualities. The top three descriptors are "Mild," "Easy to Cook," and "Thin," being recommended by 16.4%, 12.7%, and 10.9% of seafood counter employees respectively. The top reason why seafood counter employees would not recommend this fish was due to its mushy, gelatinous texture (14.5%). Pacific Dover Sole has been a harder sell than Rockfish [7], but seafood counter employees still recommended ways to prepare this fish that they personally liked. These included searing the fish, sautéing it, soaking it in white wine and putting mozzarella on top, breading it, pan frying it, putting it in fish tacos, and wrapping it around other ingredients, including shrimp, crab, and spinach and cheese. One advantage that the industry can capitalize on, based on seafood counter employees' recommendations, is Pacific Dover Sole's ease of cooking.

Groundfish Other than Rockfish and Sole

Besides Rockfish and Sole, groundfish species such as Lingcod, Sanddab or Thornyheads generally have much lower levels of awareness, trial, and distribution, especially in national and regional grocery stores. Lingcod, Sanddab, and Thornyhead are consistently in the bottom four fish that national or regional grocery seafood counter employees have heard of, tasted, or sold. Employees tend to be least familiar with Thornyhead and say "Thornyhead? What's that!?"

Though in the bottom four for national and regional grocery stores, 65-70% of seafood counter employees have sold or are selling Lingcod. This level of access opens up an opportunity. If a groundfish marketing campaign's call to action is to buy Lingcod, the majority of customers will be able to accomplish this. Sanddab is another groundfish that could be worth marketing more aggressively. As mentioned previously, 62.5% of employees who sell in zip codes with a median household income of \$130,000+ per year sell or have sold Sanddab, indicating that a wealthier clientele may be seeking out Sanddab. Thus, this fish has the potential to be positioned as a premium option.

Non-grocery establishments tend to be slightly more open to selling the three less common groundfish. More non-grocery seafood counter employees have heard of, tasted, or sold Thornyhead, Sanddab, and Lingcod* than national and regional grocers. These stores may be more receptive to groundfish marketing campaigns. However, non-grocery establishments are largely independent. Thus, these



seafood counters will not be able to reach as many shoppers in as many geographies as national and regional grocers can. At the very least, non-grocery establishments are more likely to carry groundfish and are worth directing customers to.

Sustainability as a Product Differentiator

Sustainability is rarely a primary driving factor in shoppers' decision-making. However, sustainability may be a secondary or tertiary factor. About 14% of store employees we surveyed think it important to market sustainability either by mentioning it in or on the case or by listing sustainability certifications for fish. Furthermore, 10.6% of seafood counter employees rank sustainability in the top 3 most important factors shoppers consider when choosing seafood. In conclusion, sustainability will most likely not be the message that resonates most with consumers.

Instead, through the eyes of seafood counter employees, consumers are first drawn to seafood that is wild-caught followed by seafood that is from the US. Customers also tend to frequently ask questions that mirror these priorities. This puts West Coast groundfish at an advantage compared to some other white fish. These two factors are important to stress when developing marketing materials for groundfish.

Other Notes

This section serves to highlight observations from the survey process that were not fully quantified. One measurement that this study did not quantify is the density of seafood counters in a particular area. Through observation, it became apparent that seafood counters are denser in populated areas close to the ocean. One would expect to see more seafood counters in more populated areas, and a readily available seafood supply. In more rural areas we still find good distribution, however, fewer of them have seafood counters. Thus, people in more rural areas may have less access to seafood and may therefore be less likely to buy fresh seafood. People, instead, may be purchasing frozen and/or packaged fish. There may be opportunities for those product formats, that this study did not identify, because it was outside of the scope of the study.

When visiting seafood counters, it became apparent that numerous seafood counters practice inconsistent labeling. Salmon price cards, for instance, oftentimes state "Antibiotic Free" or "(No) Color Added." For other fish, these labels are missing. This inconsistency may inadvertently and incorrectly suggest to shoppers that fish items that don't carry such a label may contain antibiotics or artificial colors and such. Additionally, labeling is not always clear whether a fish is fresh or previously frozen. Ensuring that seafood counters have key descriptors listed on price tags for groundfish varieties will help point customers toward these fish. Missing information causes confusion and requires an effort by the customer to find it.

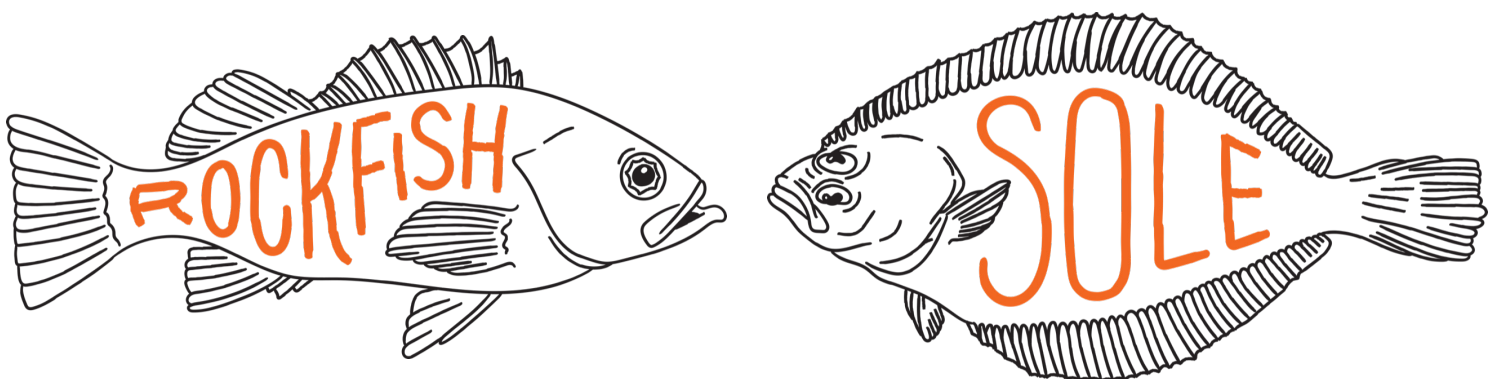
CONCLUSION

Encouragingly, this survey showed that Rockfish and Sole (Petrale, Dover) are gaining traction at seafood counters across California. They enjoy reasonably high levels of retail distribution, customers are asking about these species, and the majority of seafood counter employees are happy to recommend them. Other groundfish species, such as Lingcod, Sanddab or Thornyhead, are not as widely distributed and much less known, and will need more promotional effort and attention in future.

However, West Coast groundfish are generally well positioned to gain the endorsement of seafood retail employees. Based on their daily observations, counter staff believe seafood items sell best when they are wild, locally caught, from the US, available year-round, mild tasting, and sustainable – which are all features of West Coast groundfish species. The most obvious area that still needs to be addressed is “familiarity to customers”.

Seafood counter employees are crucial links in the seafood supply chain, and they could be key partners in the quest to broaden American consumers’ seafood repertoires and drive awareness and demand for underutilized, underloved species such as Rockfish or Pacific Dover Sole. The verbal guidance and recommendations they provide to shoppers at the point of purchase carry significant weight, and are especially important for the introduction of new or lesser known species.

However, more targeted engagement and training of this stakeholder group is needed. Seafood counters, especially in larger grocery chains, experience high staff turnover and are often staffed by relatively inexperienced employees. Moreover, the training they currently get is not necessarily equipping them to answer many of the most common questions they get – namely recipes, cooking instructions or taste/texture profiles. Seafood counter staff need to be given the opportunity to taste and cook each species for themselves and receive some culinary training and/or materials to become real advocates and provide the guidance shoppers seek. With proper engagement, training and marketing material, seafood counter employees may become powerful advocates for West Coast Groundfish species, that can boost the economic recovery of this comeback fishery.



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SURVEY QUESTIONS

Positively Groundfish Fishmonger Survey

1) Where is the store located? _____
city state

2) What store brand do you work for?

- Independent Fishmonger
- Safeway / Vons / Albertson's / Haggen
- Kroger / Ralps / Fred Meyer / Quality Good Centers
- Raley's / NOB Hill
- Whole Foods
- New Leaf Community Market
- Sprouts
- Ray's
- Other: _____

3) How long have you worked as a fishmonger/at the fish counter?

- Less than 1 year
- 1-5 years
- 6-10 years
- 11-20 years
- More than 20 years

4) How much decision-making power do you have over the product range?

- None
- Only indirectly - I provide feedback
- I get consulted, but I don't make the ultimate decision
- I can choose some local/ seasonal items
- Full
- Other: _____

5) How often does your seafood selection change?

- Weekly
- Monthly
- A few times a year
- Once a year
- Never
- Other: _____

6) How do you typically introduce new seafood items?

- Our customers love to buy new seafood products
- Our customers buy new seafood products with our recommendation
- Our customers only buy new seafood products with a good introductory discount
- Our customers are reluctant to try new seafood products
- I don't know
- Other: _____

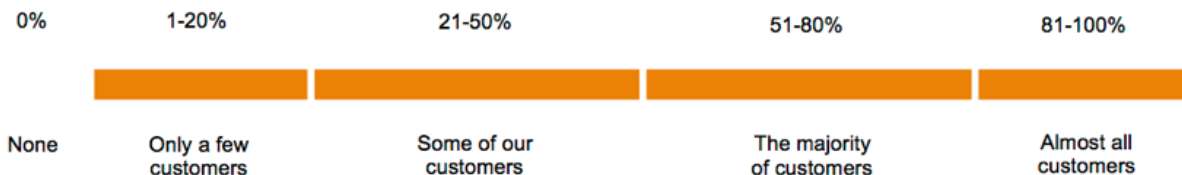
7) From the below list, which are the top 3 factors that make a seafood product easy to sell?

- ___ Mild Flavor
- ___ Unique & interesting flavor
- ___ Versatility in dishes
- ___ Year-round availability
- ___ Limited, seasonal availability
- ___ Familiarity to customer
- ___ Certified sustainable (e.g. MSC)
- ___ Wild-caught
- ___ From the US
- ___ It's local
- ___ Other: _____

8) For seafood, what product information do you communicate in the display case? Check all that apply.

- Exact species name (i.e. Petrale Sole, Sockeye Salmon, etc.)
- Broader fish category (i.e. Sole, Salmon, etc.)
- Wild / Farmed
- Handling - Fresh/Previously Frozen, etc.
- Sustainability certifications & ethical labels
- Day it was caught
- Catch location
- Catch method (i.e. trawling, hook and line, etc.)
- Vessel/captain name
- Flavor and texture descriptor
- Other: _____

9) How often do customers ask for a recommendation?





10) What do customers ask about most often? Choose the top 3.

- Where the seafood is from
- How the seafood was caught
- If the seafood is low in mercury
- If the seafood is farmed or wild
- How fresh the seafood is
- If the seafood was previously frozen
- If the seafood is sustainably caught
- If the seafood is ethically caught
- Cooking/recipe recommendations
- Other: _____

11) What is your experience level with the following species? Check all that apply.

	Which have you heard of?	Which have you tasted?	Which have you cooked with?	Which have you sold?	Which have customers asked about?
Atlantic Cod	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pacific Snapper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alaska Pollock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rockfish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sole (Dover, Petrale)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lingcod	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tilapia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sanddab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barramundi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thornyhead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12) Have you/your company sold US West Coast rockfish in the last 12 months?

- Yes – Definitely
- Maybe – We sold rockfish, but I don't know where it was from
- No
- I don't know

13a) Would you recommend rockfish to a customer?

- Yes, I already have and would in the future.
- Yes, I would if I had a chance.
- Maybe
- No, I already had a chance and didn't recommend it.
- No, I would not even if I had the chance.
- I don't know
- Other:

13b) Why/Why not?

14) Have you/your company sold US West Coast Pacific Dover Sole in the last 12 months?

- Yes – Definitely
- Maybe – We sold Pacific Dover, but I don't know where it was from
- No
- I don't know

15a) Would you recommend Pacific Dover Sole to a customer?

- Yes, I already have and would in the future.
- Yes, I would if I had a chance.
- Maybe
- No, I already had a chance and didn't recommend it.
- No, I would not even if I had the chance.
- I don't know
- Other:

15b) Why/Why not?





ABOUT POSITIVELY GROUND FISH

Positively Groundfish is a new non-profit organization (501c6) that was incorporated in April 2018, but it represents a fishery that has been around for generations and that was once the economic and cultural backbone of coastal communities along the West Coast. The story of the West Coast Groundfish fishery has all the elements of a classic tale of success, downfall, and redemption; and Positively Groundfish was formed to give it its happily-ever-after. West Coast Groundfish faced ecological collapse and was declared a federal economic disaster in 2000, but, thanks to comprehensive sustainability measures, has since experienced a remarkable recovery and is now considered “the ecological comeback story of the century” (quote: NOAA) and a posterchild for what sustainable fisheries management can achieve. However, more work is needed to also make it an economic success story, to communicate this hopeful story to the public, and make West Coast Groundfish a truly compelling case study that can persuade other fisheries around the world to adopt better practices. That is the work of Positively Groundfish.

Positively Groundfish was formed as a collaborative multi-stakeholder initiative by a collective of environmental non-profits, fishermen associations, seafood processors and academia that have partnered with a shared vision for a healthy and vibrant fishery. Positively Groundfish's stated mission is to tell the positive story of sustainable underutilized West Coast Groundfish to cultivate public appreciation and support the long-term economic success of local fishing communities. It is spreading a message of hope and positive responsible engagement with our ecosystems in which ecological and economic goals go hand-in-hand.

To learn more visit www.positivelygroundfish.org.

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