

# CONSUMER SURVEY: SEAFOOD HEALTHFULNESS

*A study of consumer perception of seafood's healthfulness and connection to consumption frequency*



2019

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# HELLO!

Welcome to Positively Groundfish's 2019 Seafood Health pilot survey of consumer attitudes, perceptions and understanding of seafood's healthfulness and how that translates into seafood consumption.

"Healthy" is an admittedly vague term used to sell all kinds of products, services and ideas. There are also lots of ways for brands and food producers to portray "healthy" – be it functional and performance-centric or holistic wellbeing-centered. To provide some guidance to seafood producers, this survey sought to shed some light on how Denver consumers understand and frame "healthy" for themselves, and how they weigh the complex and sometimes opposing information.

Moreover, the results of this survey can provide guidance about where to focus marketing efforts to promote the healthfulness of seafood – both in terms of consumer groups to target as well as core messages. It identifies knowledge gaps, hindering attitudes and their susceptibility to efforts designed to encourage higher consumption of seafood.

We specifically chose Denver, CO, an extremely landlocked but metropolitan city with increasing foodie acclaim, as the location for this study. Seafood consumption in the US is significantly lower inland than on the coasts, which needs to be addressed if we are to grow total US seafood consumption. By choosing

Denver for this study, we also assess Denver's readiness to become the mid-western hub for a new seafood-eating trend.

Do bear in mind that this is only a pilot study, chiefly carried out to guide the design of a larger, more comprehensive consumer study of these central questions. However, our hope is that this survey will prove insightful for fishermen, processors, distributors and seafood brands, and all those who work to promote greater consumption of sustainable underutilized seafood.

Yours positively,

Jana Hennig  
*Executive Director*





# KEY INSIGHTS

1

Seafood is generally considered healthy by the majority of consumers. The older the consumer the more likely they are to consider seafood to be healthy.

2

There's clearly a need to educate those younger than 18 years old about the potential health benefits of seafood – a full 50% of teenagers surveyed here did not know if seafood was healthy.

3

Just over 10% don't eat seafood at all, which includes the 7% that are vegan or vegetarian. The majority of non-eaters are younger than 40, with a concentration in the 19-30 age group.

4

Seafood being "heart healthy" and "high in Omega-3s" are most often cited as key health benefits. The older the consumer the more health benefits they recognize in seafood.

5

Two-thirds of respondents believe seafood to be healthy for children, with an additional 8% thinking it's healthy in moderation. The older the respondent, the more comfortable they were about kids eating seafood. There is opportunity in educating millennial consumers.

6

Approximately, 30% of respondents claim to eat seafood at least twice per week or more, meeting the USDA dietary guidelines. However, three-quarters think they are eating the right amount of seafood, which includes 65% of those who, according to their own claims, do not meet the USDA guidelines. There's thus a need to educate consumers about the right frequency.

7

Older consumers (50+) exhibit the highest consumption frequency of any age group, while consumers under 30 eat seafood the least often. There appears to be a correlation between consumers recognizing seafood's health benefits and their consumption frequency.

8

Driving up consumption frequency for the 19-40 age group (i.e. mainly millennials) likely holds the greatest commercial opportunity. However, this group has the highest proportion of vegans/vegetarians; is most likely to have young children; and has less disposable income.

9

The majority had at least one health concern about seafood, with mercury be the leading issue followed by microplastics and dioxins. However, half of consumers thought that seafood's health benefits outweighed the potential health concerns, whereas only 11% believed the inverse.

10

Plastic/microplastic pollution is very top-of-mind for consumers at the moment and is perceived to be the greatest threat to ocean health, ahead of overfishing or climate change. However, unlike overfishing, microplastics also negatively affects perceptions of seafood's healthfulness.





# METHODOLOGY

## Location

This survey was carried out as a classic street survey in downtown Denver, Colorado at the Slow Food Nations Annual food festival on the weekend of July 20 and 21, 2019. This international food festival is the annual culmination of the Slow Food movement that promotes “good, clean and fair food” and “prevent the disappearance of local food cultures and traditions” and raise awareness of “how food choices affect the world around us” [source: slowfoodnations.org]. The festival draws an audience of 30,000 people and includes a marketplace of approved vendors, as well as speeches, discussions or demonstrations with chefs, writers, activists etc.

## Survey Methodology

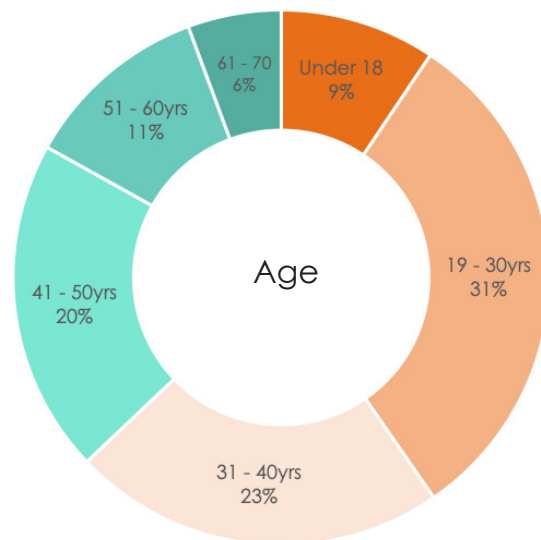
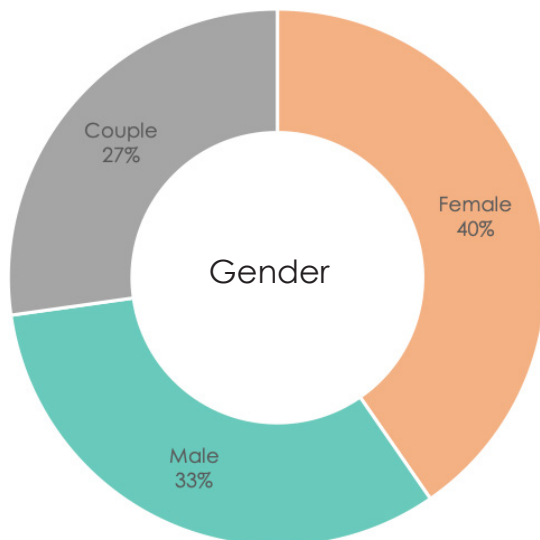
Questions were asked open-ended without prompts or multiple-choice answers being provided, aiming to keep a conversational style. Answers were later coded into categories that best fit participants' responses. A single interviewer carried out all surveys and coded all answers, assuring consistency in approach and questioning style.

## Survey Participant Profile

In total, 321 people participated in our survey. As this was a street survey, the interviewer had some choice about who to approach, but given the somewhat random nature of festival footfall, also didn't have full control of the demographic composition. The interviewer aimed for balanced numbers of participants across gender and age group. However, this survey set skewed a little more female and younger than the average US population. This is both a reflection of the general composition of the Slow Food Nations festival audience, as well as who was willing to take the survey on the day.

## Considerations

Further, the choice of survey location/event needs to be taken into account when viewing these results. First, Denver is an extraordinarily land-locked location. Second, the audience at Slow Food Nations is likely more interested in food, sustainability and environmental/ food justice issues than the average US consumer. And although the survey was performed physically distanced from the Positively Groundfish booth, respondents may have visited the booth, where they would have heard a pitch about seafood health and sustainability, which may have introduced positive bias. Finally, the event's audience skewed a little younger and more female than the US average.





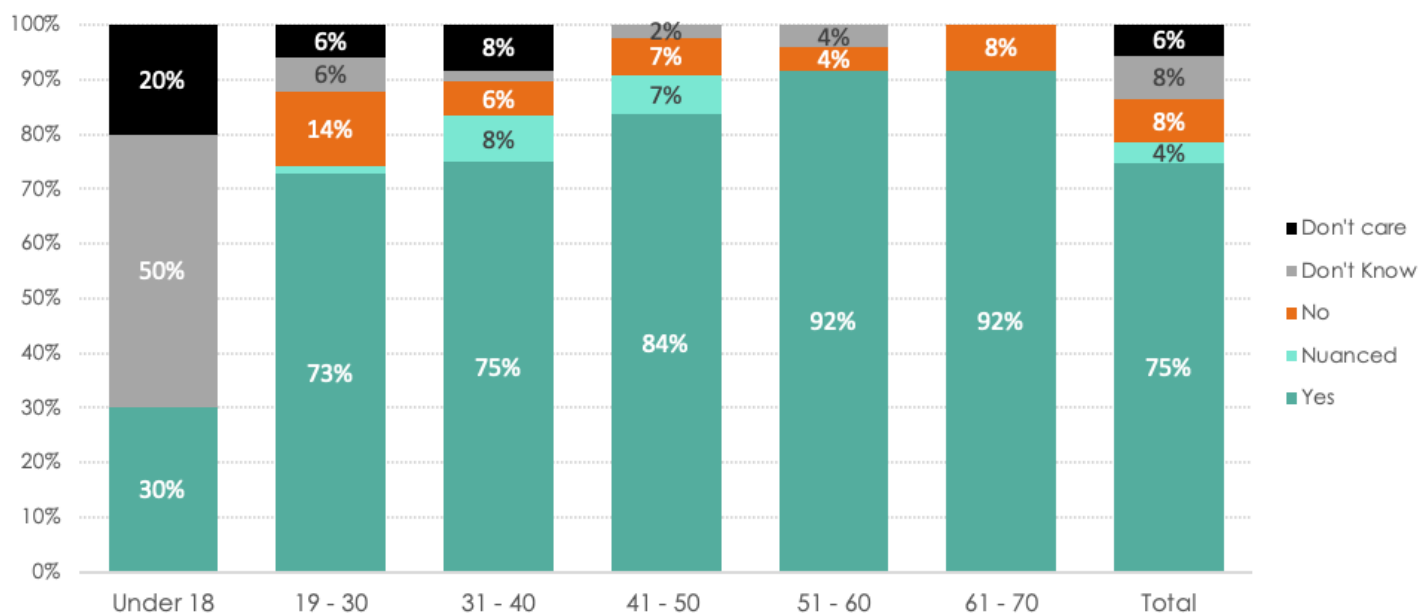
# RESULTS

## Question 1: Do you think seafood is healthy?

Our survey found widespread agreement that seafood is generally healthy (Graph 1). Three quarters (75%) of survey respondents unequivocally agree that seafood is healthy. “No” responses, which only accounted for 8%, were generally from individuals that were either vegan or vegetarian (7% of all respondents). Eight out of 213 respondents (4%) gave more qualified nuanced responses, and didn’t arrive at a clear “yes” or “no” conclusion. “Do not know” (8%) or “do not care” (5.6%) responses tended to come from individuals who either did not eat seafood due to allergies, personal preference, or simply felt they did not have information about the benefits or risks of seafood consumption. Converting those who “don’t care” or vegetarians/vegans who gave “no” answers seems a futile strategy. But, arguably, there is opportunity to provide more persuasive communication to those that gave “nuanced” or “don’t know” answers, which together account for approximately 12%. 12% may not sound like a huge gap, but in revenue terms, those 12% still represent a significant opportunity for the seafood industry.

Age distribution data for this question reveals a clear trend – the older the consumer the more likely they are to consider seafood to be healthy. Conversely, the greatest proportion of consumers that believe seafood to be unhealthy are in the 19-30 years age group. There’s clearly a need to educate those younger than 18 years old about the potential health benefits of seafood – a full 50% of teenagers surveyed here did not know if seafood was healthy. “Don’t care” answers only came from consumers under 40, who had already made up their minds that they would not eat seafood, irrespective of its health benefits.

**Graph 1:** Do you think seafood is healthy? [All respondents]



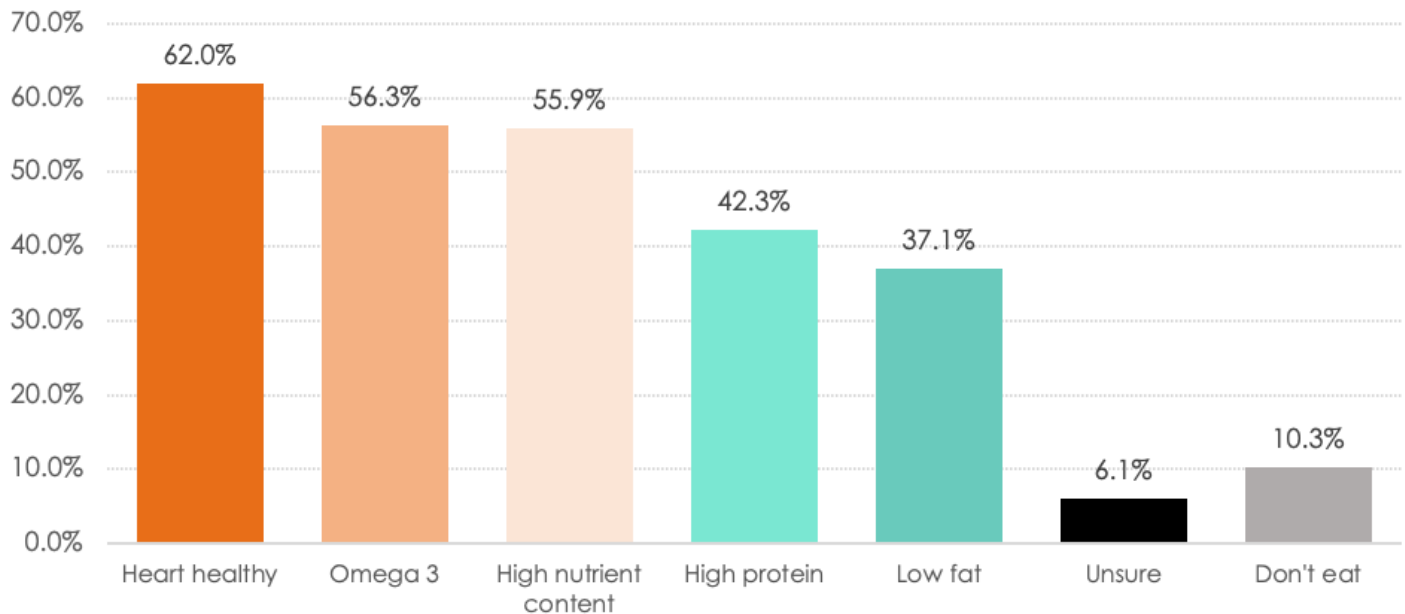


## Question 2: In your opinion, what makes seafood healthy?

Respondents provided a broad set of reasons why seafood is healthy, with “heart healthy” (62%) and “high in Omega-3s” (56%) being most often cited as key health benefits (Graph 2). Otherwise, more general statements about seafood being “high in nutrient content” (56%) came out ahead of more specific benefits such as “high in protein” (42%) or “low in fat” (37%). Respondents could give multiple answers, and 20 out of 213 respondents stated all of these key benefits.

15 out of 213 (6%) participants were “unsure” of what makes seafood healthy. Breaking down results by age group makes clear that it is largely younger respondents in the less than 18 and 19-30 groups that don’t know the health benefits of seafood (yet!), whereas almost everyone older was able to provide reasons (Graph 5). Just over 10% of those surveyed don’t eat seafood at all, which includes the 7% that are vegan or vegetarian, as well as some that simply don’t like it or no longer eat it after a bad experience (e.g. food poisoning). The majority (78%) that don’t eat seafood at all are younger than 40 years old, with a concentration in the 19-30 age group (Graph 4).

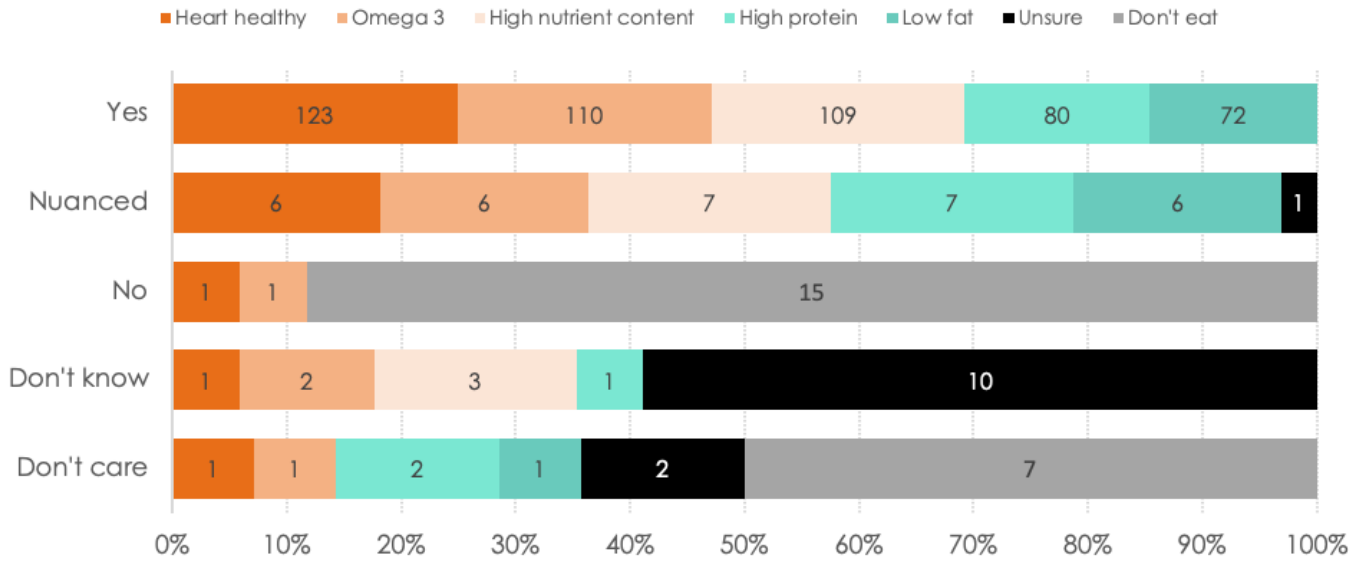
**Graph 2:** What do you think makes seafood healthy? [All respondents]



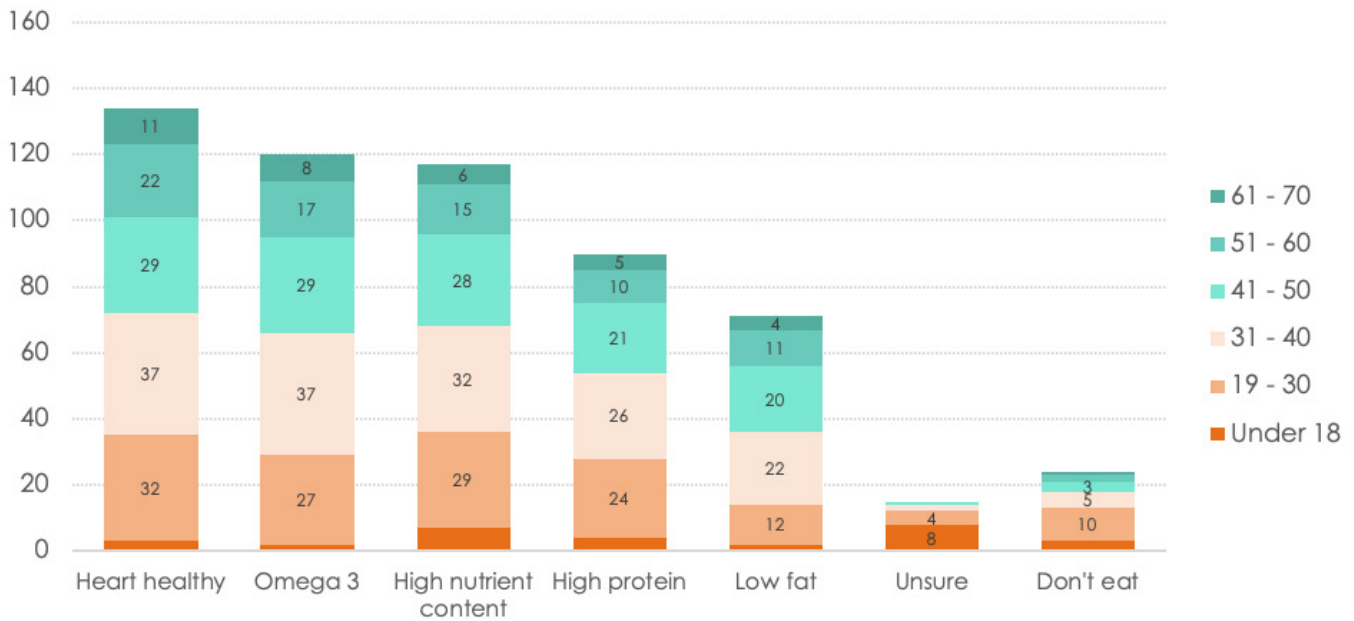
It is evident that those that think seafood is healthy and answered yes to Question 1, see a lot more health benefits in seafood than those answering “no” or “don’t care” (Graph 3). Of those that don’t think seafood is healthy 88% also don’t eat any seafood, as well as 50% of those that said they “don’t care” if it’s healthy. Clearly, people in those 2 groups would be exceedingly hard to convince to eat seafood based on health reasons alone.



**Graph 3:** Do you think seafood is healthy? / What do you think makes it healthy?



**Graph 4:** What do you think makes seafood healthy? – name all that apply. [By age group]

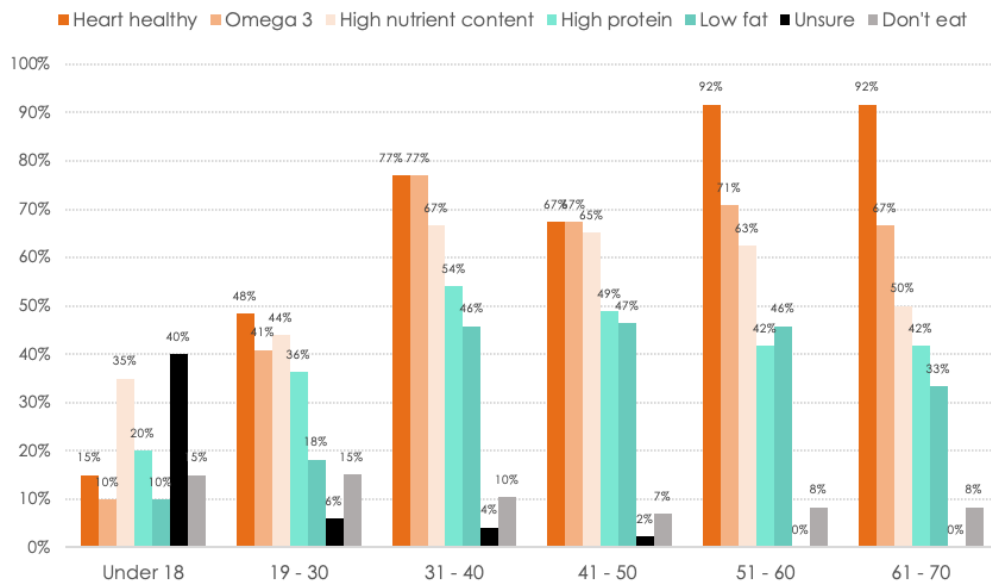


This survey shows that “heart healthy” is the number one cited health benefit of seafood for any age group, except for the under 18s (Graph 5). Consumers aged 51yrs and older are most likely to recognize heart health benefits - fully 92% of respondents in those age groups cited it. Consumers in their 30s are the age group most likely to name “Omega-3s”, “high nutrient content” and “high in protein”. Somewhat surprisingly, respondents aged 19-30, had comparatively low awareness of the macro or micronutrient content of seafood.





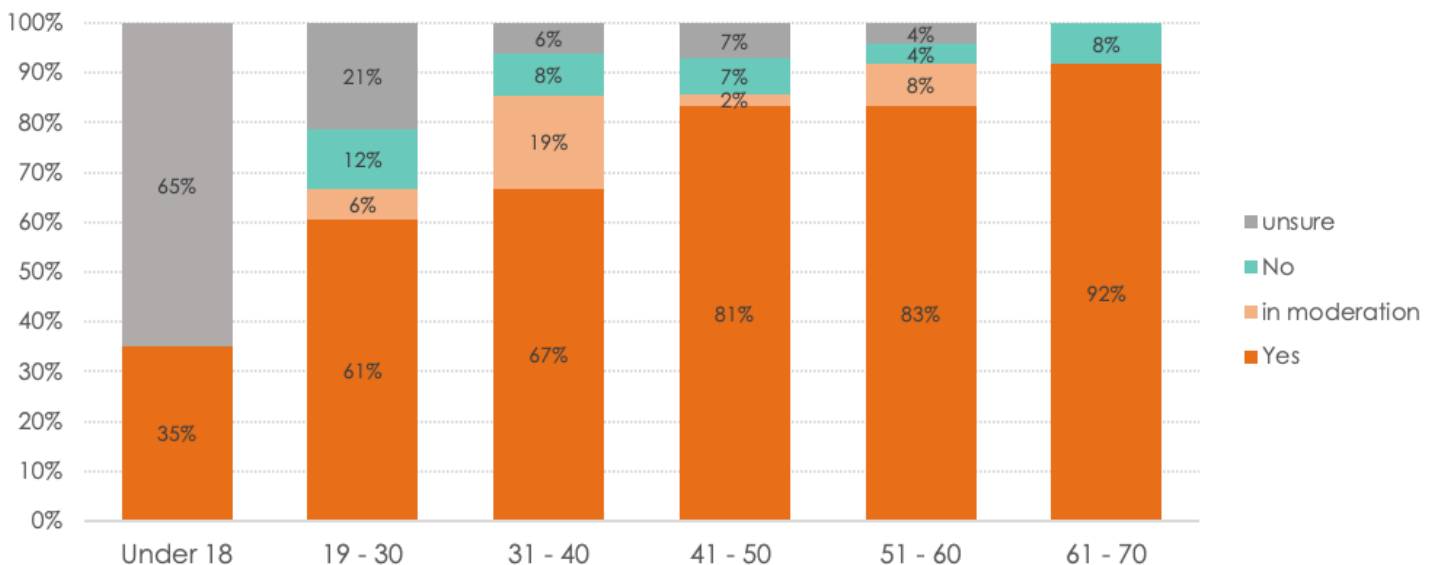
**Graph 5:** What do you think makes it healthy? – name all that apply. [By age group]



### Question 3: Do you believe seafood is healthy for children?

A little over two-thirds (68%) of total respondents believe seafood to be healthy for children, with an additional 8% saying “yes, but in moderation” (Graph 6). The older the respondent, the more comfortable they were about kids eating seafood. Only 8% of respondents unequivocally said “no”, which tended to come from non-seafood eaters. However, 16% of respondents were “unsure” and felt they did not have enough information to make an informed decision or provide a response. Younger age groups especially were most uncertain about this question. That indicates that there is a learning curve that (needs to) happens as consumers become parents.

**Graph 6:** Do you believe seafood is healthy for children? [By age group]



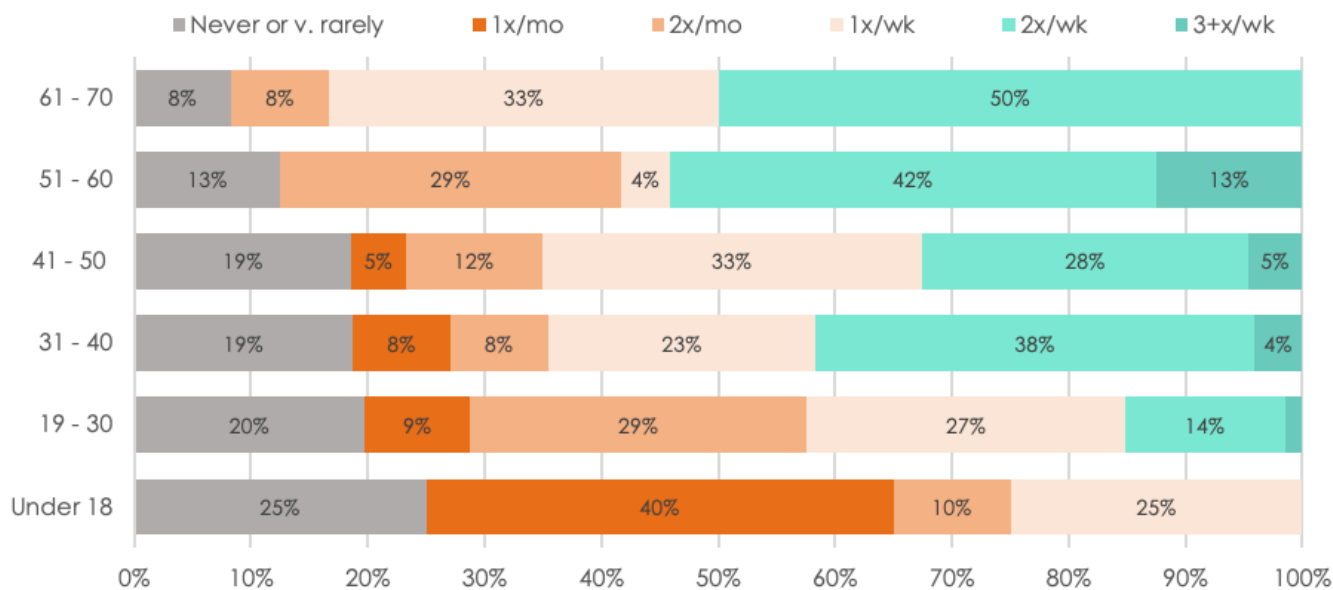


## Question 4: How often do you eat seafood?

The majority of seafood eaters said they eat fish regularly. Approximately, 30% of respondents claim to eat seafood at least twice per week or more, meeting the USDA dietary guidelines. In fact, a frequency of “twice per week” is the most common response we received with 25.8%, followed closely by “once per week” with 24.9%. Arguably, the greatest opportunity lies in driving up frequency of consumption with consumers that don’t currently meet the USDA dietary guidelines and eat seafood just once per week (24.9%), once every 2 weeks (17.8%) or just once per month (9.4%). The 18.3% of respondents that said they never or very rarely eat seafood includes vegans, vegetarians, those with seafood allergies, or dietary and taste preferences. This group may be hard to persuade to consume seafood.

This survey showed that older consumers aged 51-60 and 61-70 exhibit the highest consumption frequency of any age group (Graph 7). Conversely, the youngest consumers eat seafood the least frequently. And while those 18 years and younger may not have full control over their diets, we can assume that those between 19-40 years old largely have agency over their food choices. There may be several factors contributing to that low frequency – 1) these age groups have the highest proportion of vegans/vegetarians; 2) this group most often has young children that they’re gearing family meals toward; 3) these groups generally have less disposable income. And though we don’t have full information such as total grocery or animal protein spending levels or willingness to pay, it’s not an illogical conclusion to say that driving up consumption frequency for the 19-40 age group (i.e. mainly millennials) likely holds great commercial opportunity.

**Graph 7:** How often do you eat seafood? [% frequency for each age group]



## Question 5: Do you think that’s the right amount?

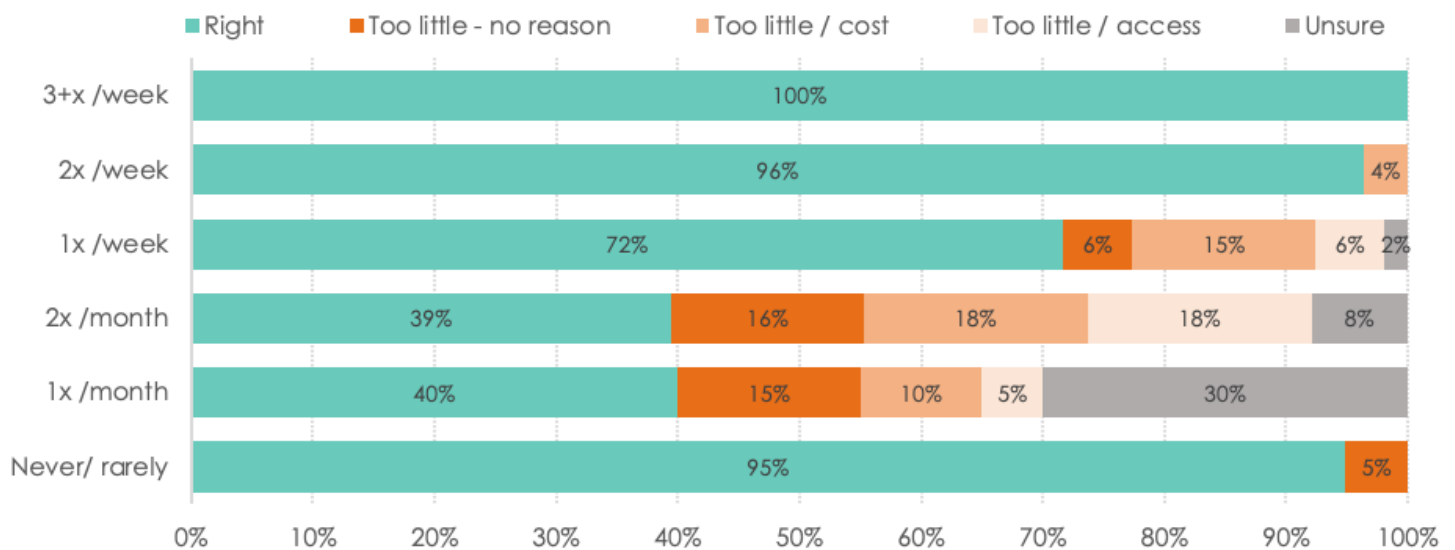
In total, 159 out of 213 respondents (74.6%) think they are eating the right amount of seafood. That includes 65% of those who, according to their own claims of consumption frequency, do not currently meet the USDA recommended frequency of twice-per-week. However, of those that do currently meet or exceed the USDA recommended frequency, almost all of them are sure that they are eating



the right amount. As are those who almost never or very rarely eat seafood – they are sure it's “the right amount for them” (Graph 8).

The opportunity lies in helping those that currently eat less than the recommended amount, but are open to eating seafood, and believe they are currently eating too little or are unsure – 50 out of 213 respondents fall into that opportunity group (23.5%). 14 participants simply said it was “too little” without further information, 19 specified that it was “too little” but that it was cost-prohibitive for them to eat seafood more frequently, while 11 cited lack of access to seafood or at least access to good, fresh seafood as the main reason (this survey was carried out in landlocked Denver!). They believed they would probably eat more seafood if it were readily available and for a reasonable cost. And a total of 10 respondents (that tended to eat it about once a month) simply were “unsure” what the right amount was.

**Graph 8:** How often do you eat seafood? / Do you think that's the right amount?

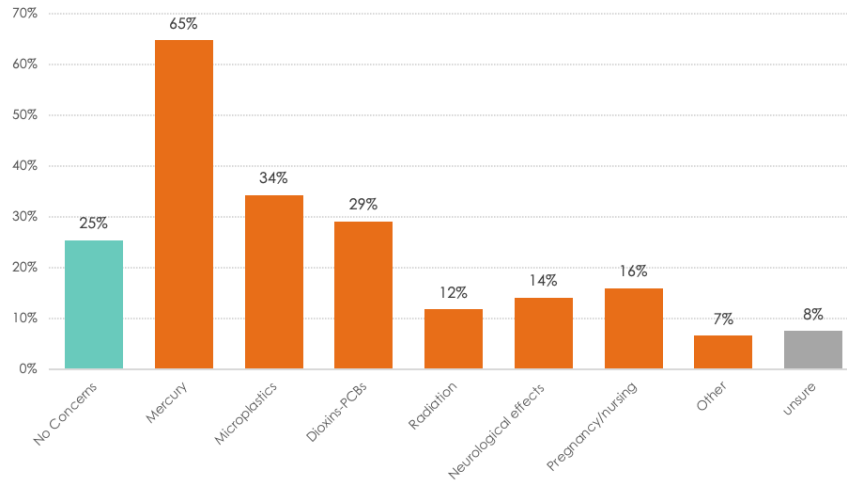


### Question 6: With regard to health, is there anything that concerns you about seafood? If so what?

Two thirds of consumers that were surveyed had at least one health concern about seafood (Graph 9). Only 25% of respondents had no health-related concerns about seafood consumption at all, while a further 8% are still unsure. Mercury content of seafood is the leading cause for concern (65%) – almost every respondent that had any kind of concern named mercury. Microplastics pollution has become an area of health concern and is now top of mind for at least one third of consumers. Other harmful chemicals like dioxins and PCBs follow not far behind (29%). While some consumers expressed their concerns in terms of specific pollutants or causes, other consumers spoke more in terms of health effects. 14% spoke about neurological effects, and 16% of consumers expressed specific health concerns surrounding pregnancy and nursing. Among the list of “Other” (7%) we found concerns about general “pollution”, GMOs, unsafe food handling, seafood allergies and environmentally unsustainable fishing/ farming practices.



**Graph 9:** With regard to health, is there anything that concerns you about seafood? If so what? [% of total respondents]

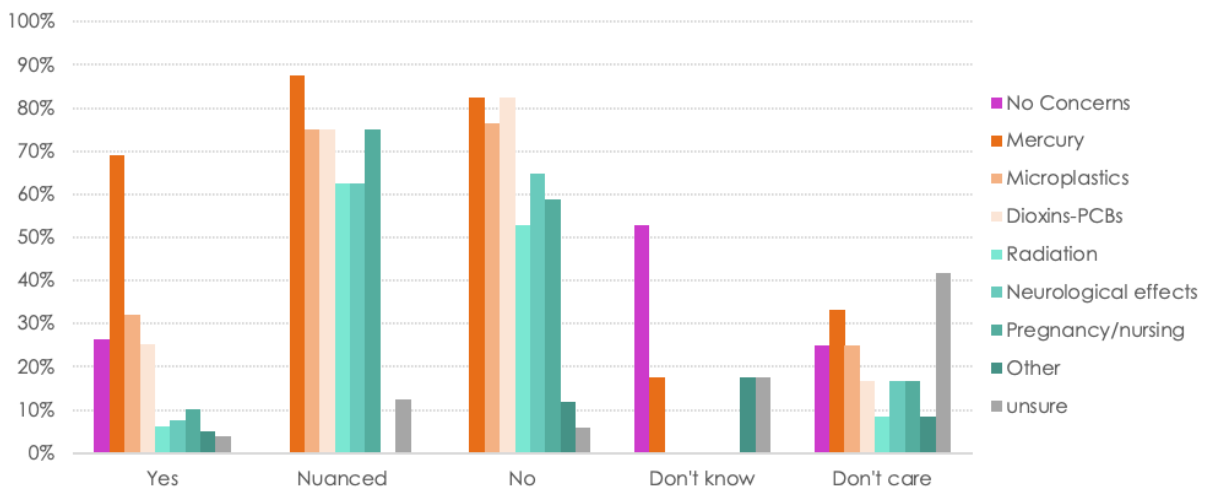


We then looked at the relationship between consumers' answers to Question 1 – “Do you think seafood is healthy?” and their specific health concerns (Graph 10). It is clear that people who think seafood is not healthy or gave more nuanced answers, also have the highest proportion of health-related concerns, typically each respondent having multiple concerns. For example, within the group that doesn't believe seafood to be healthy, 82% are concerned about mercury, 82% about dioxins/PCBs, 76% about microplastics and 53% about radiation.

Those that believe seafood to be healthy in Question 1 (reminder: 159 out of 213 = 75% said it was healthy) have lower levels of health-related concerns, and 26% of people in this group have none. Interestingly though, even in this pro-seafood group, we still find that 69% of respondents have health concerns around mercury, 32% about microplastics and 25% about dioxins/PCBs.

Another interesting finding is that among those who stated that they “don't know” whether seafood is healthy, we find the highest proportion of those with no specific health concerns at all. That tells us that this “don't know” group is unsure mostly for not knowing enough about health benefits or concerns, rather than their uncertainty being result of confusion of how to weigh benefits and concerns. This group is a blank slate, with a largely positive starting point.

**Graph 10:** Do you think seafood is healthy? / With regard to health, is there anything that concerns you about seafood? If so what? [% of total respondents]



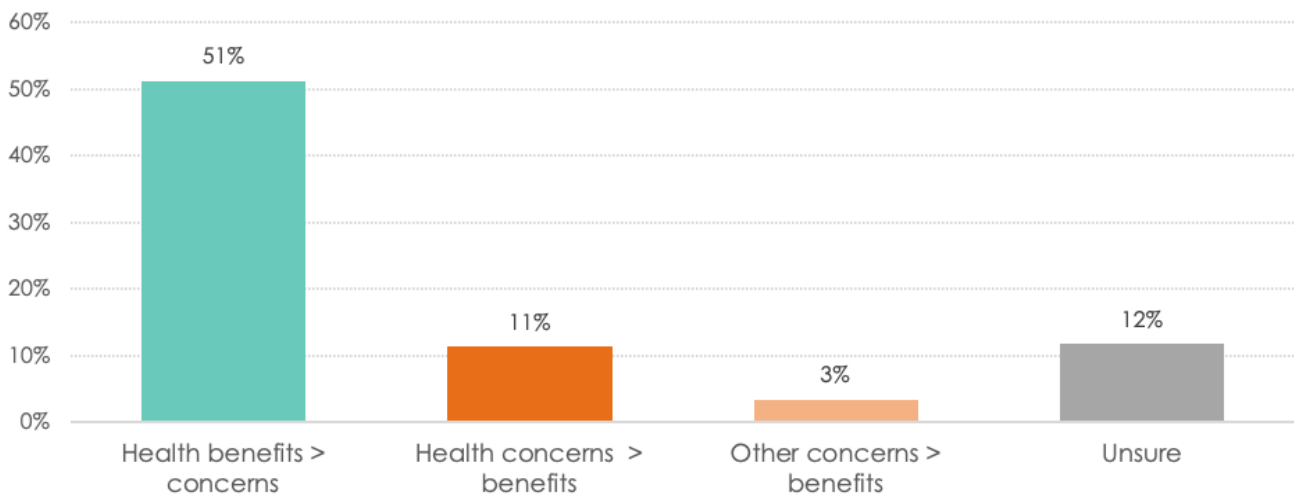


## Question 7: How do you weigh these concerns against the benefits of eating seafood?

As a follow-up to the previous question we asked participants how they weighed the concerns they have against the health benefits of eating seafood (Graph 11). 51% of survey participants said that they believed health benefits outweighed the potential health concerns. They often added that their doctors recommended that they eat seafood and had told them that the benefits outweighed the risks. Some added that if seafood is eaten in moderation, or within the guidelines, it is safe to do so.

For 11% of respondents, the health concerns outweighed the potential health benefits, whereas for an additional 3% of respondents other concerns (environmental, animal rights/ethical) weighed even heavier. These responses mainly came from those that describe themselves as vegetarian or vegan. 12% of survey participants felt very unsure or felt they did not know enough about possible risks. Please note that 23% of participants did not answer this question.

**Graph 11:** How do you weigh these health concerns against the health benefits? [% of total respondents]



## Question 8: In your opinion, what is the greatest threat to ocean health?

Despite asking survey participants what they considered the *greatest* threat to ocean health, most refused to choose a single threat, and instead provided a list of areas of concern. Overall, consumers in the 41-50 age range saw the most threats to ocean health, being the most concerned age group for any of the threat categories. Conversely, those aged 61-70 as well as under 18-year-olds named the fewest threats in this survey.

Plastic/microplastic pollution is very top-of-mind for consumers at the moment and topped all other issues – 139 of 213 respondents (65%) listed this issue, while a further 31 participants (15%) listed pollution in more general terms (Graph 12). Plastic pollution was the number one area of concern for all age groups 50 and younger. However, it peaks with the 41-50-year-olds – 86% in this age group listed it as the greatest threat.

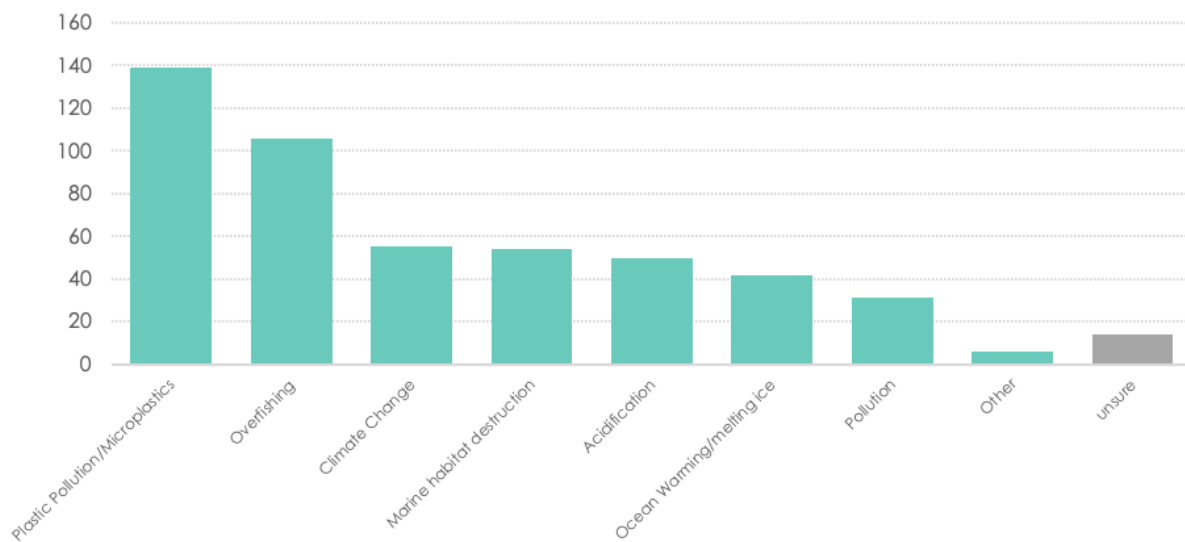




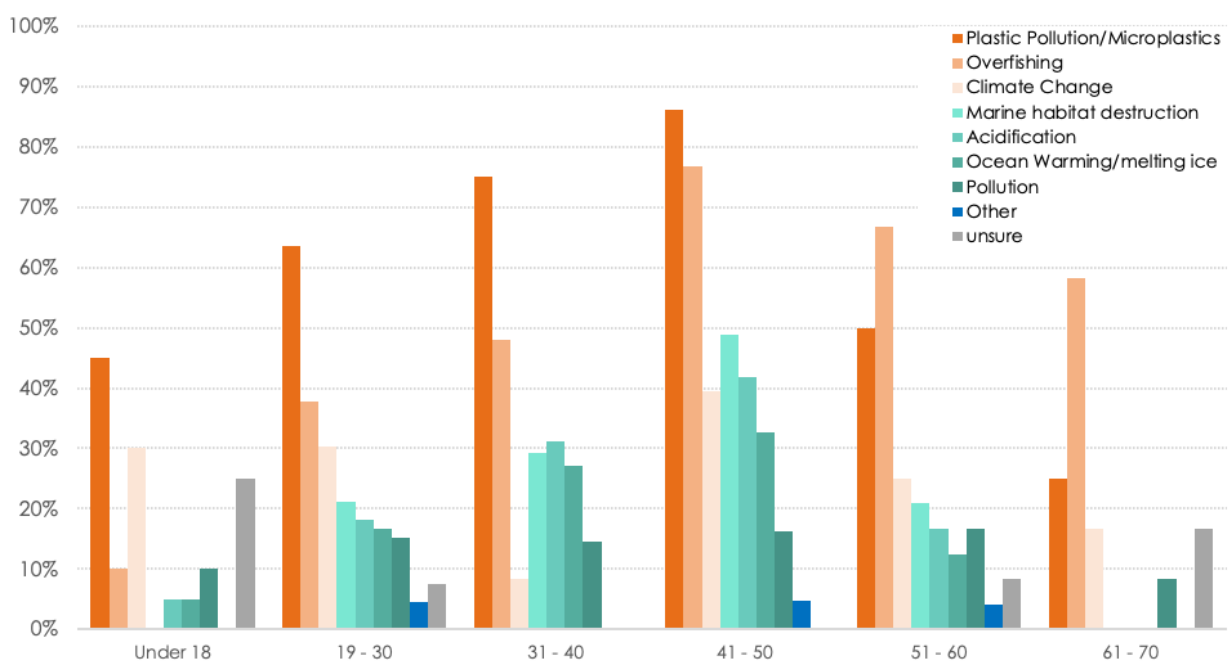
Overfishing came in second overall - 50% of total respondents called it out. Age distribution shows that overfishing is more top of mind for older consumers – for age groups 50 and older it was their number one issue. Conversely, it barely registers with the under 18-year-olds (Graph 13).

Climate change is considered relatively more important by those under 30, while marine habitat destruction, ocean warming/melting glaciers and ocean acidification are relatively more important for age groups between 31-50-years old.

**Graph 12:** In your opinion what is the greatest threat to ocean health? [Number of total respondents]



**Graph 13:** In your opinion what is the greatest threat to ocean health? [By age group]





# CONCLUSION

This survey showed that seafood is generally considered healthy by the majority of consumers in Denver, especially so by older consumers. Older consumers eat seafood more frequently than younger consumer groups, they recognized concrete health benefits of seafood at higher levels than younger consumers and they were more likely to consider it healthy for children. Conversely, at the other end of the spectrum, teenagers knew comparatively little about seafood's health benefits or potential areas of concern and they eat it the least often. There's clearly a need to educate younger consumers about sustainable seafood. The 19-40 age group seems to have the greatest opportunity for growth – they have a better foundational knowledge of seafood's health benefits, but their frequency of consumption still has headroom. However, targeting this group is not without its challenges - it has the highest proportion of vegetarians/ vegans, is most likely to have young children that are dictating meals; and has less disposable income.

Approximately 30% of respondents claim to eat seafood at least twice per week or more, meeting the USDA dietary guidelines. However, 75% think they are eating the right amount of seafood, which includes 65% of those who, according to their own claims, do not meet the USDA guidelines. There's thus a need to educate consumers about the right frequency first. A common theme that emerged qualitatively was that many felt they did not have access to fresh seafood due to living in a landlocked state. They felt that they would most likely incorporate more seafood into their diets if it were more readily available and more affordable.

Being “heart healthy” and “high in Omega-3s” are the most cited health benefits of seafood, while being a low-fat protein was less often referenced. The majority of consumers had at least some health-related concerns about seafood, with mercury be the leading issue followed by microplastics and dioxins. However, half of consumers thought that seafood's health benefits still outweighed the potential health concerns, whereas only 11% believed their concerns trumped the benefits. Respondents who did not eat any or very little seafood actually appeared more concerned about the environmental risks than the health risks of seafood. Plastic/microplastic pollution is very top-of-mind for consumers at the moment and is now perceived to be the greatest threat to ocean health, ahead of overfishing or climate change.





## 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](http://www.positivelygroundfish.org).

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