US MARKETPLACE LANDSCAPE

OPPORTUNITIES

FISH AND SHELLFISH AQUACULTURE



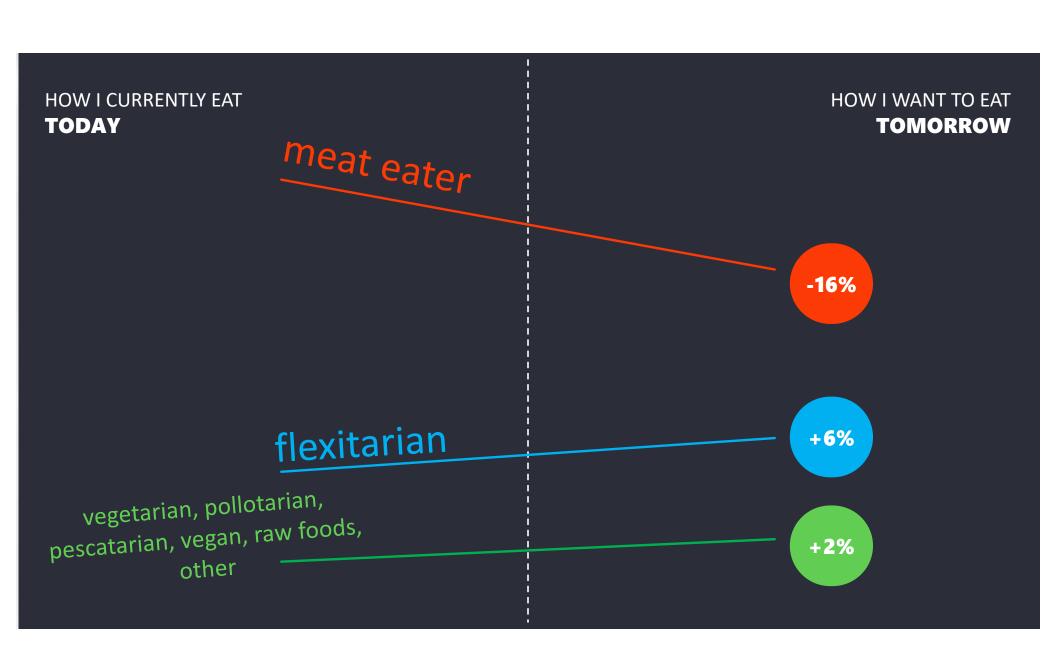
dietary trends

consumers general population

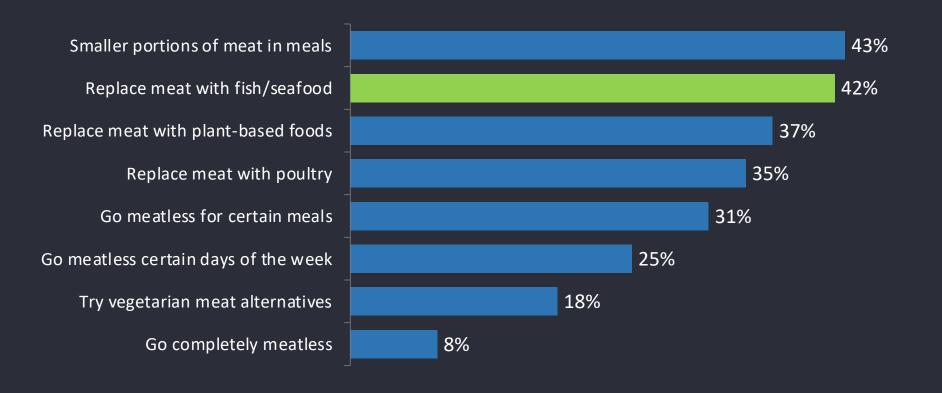
menu mentions

operatorsmajor buyers

how americans eat



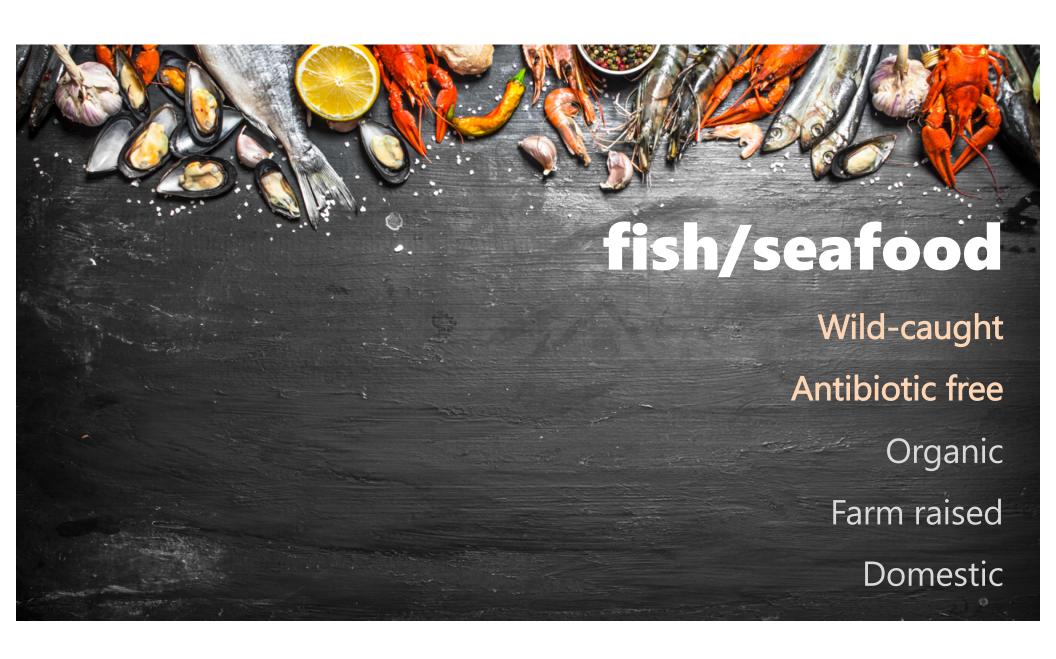
today's consumers who want to eat less meat also want to eat more fish and seafood instead



concerns with animal-based protein

animal welfare is a driving force in changing what consumers eat

34%	animals given antibiotics
29%	unnatural farming techniques
26%	animals not treated well
21%	too expensive
18%	lack of food safety
18%	artificial flavoring / coloring added
16%	not healthy
15%	environmental impact
6%	don't know how to cook it
5%	friends / family don't eat animal protein



Attributes Driving Consumer Protein Choices (2017 Finding)

	Total	Chicken/Poultry	Seafood	Beef	Pork	Plant-based
n= _l	504	191	196	96	14	7
Prefer the taste	50%	73	116	126	71	85
It's healthier overall	48%	84	160	13	30	177
It's more versatile	39%	138	59	106	145	36
It's easier to prepare/cook	38%	113	79	118	132	0
It's cheaper/a better value	24%	192	26	56	238	0
It has more protein	22%	60	140	105	65	65
More options/variety available where I shop	20%	71	113	142	72	0
Members of my household like (protein) best	18%	75	141	87	0	0
It's more sustainable	14%	58	159	43	148	296
It has a less of an impact on the environment	8%	86	141	26	0	540

Green font indicates index over 115

Red font indicates index under 85



seafood landscape

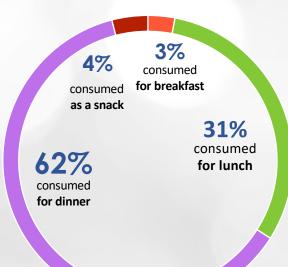
frequency of fish & shellfish consumption

	Fish	Shellfish
Consume Regularly (at least once a month)	62%	41%
Consume Occasionally (once every few months)	26%	31%
Consume Mostly During Special Occasions (Lent, holidays, etc.)	3%	4%
Rarely Consume (once or twice a year)	8%	11%
Do Not Consume	1%	12%

last seafood dish: when eaten:

Within the Past Day	14%
Within the Past Week	53%
Within the Past 2 Weeks	13%
Longer than 2 Weeks Ago	20%

last seafood dish: daypart eaten



I menu seafood...



menu variety

lifting check averages

offering nonmeat options

best-selling seafood species

most profitable seafood species

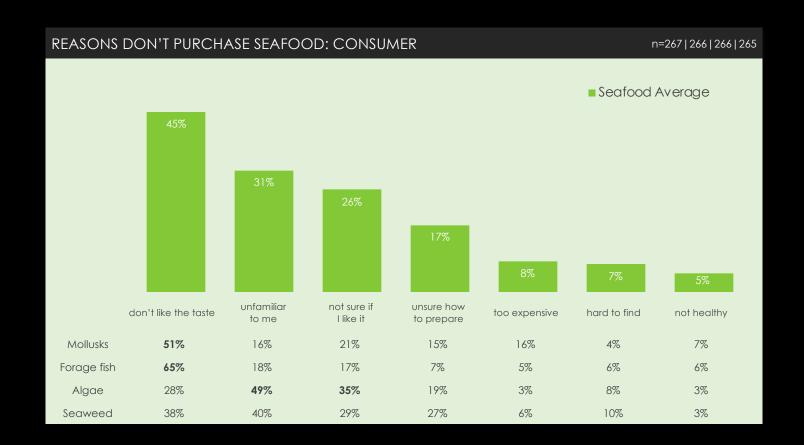
	% Entering
Shrimp	30%
Whitefish (any variety)	22%
Salmon	19%
Tuna	6%
Tilapia	6%
Crab	5%
Catfish	3%
Clam	1%
Calamari	1%
Other species	8%

	% Entering
Shrimp	26%
Whitefish (any variety)	26%
Salmon	11%
Tilapia	8%
Tuna	7%
Crab	6%
Catfish	4%
Clam	3%
Calamari	1%
Other species	8%

most menued & fastest growing seafood species in U.S. restaurants

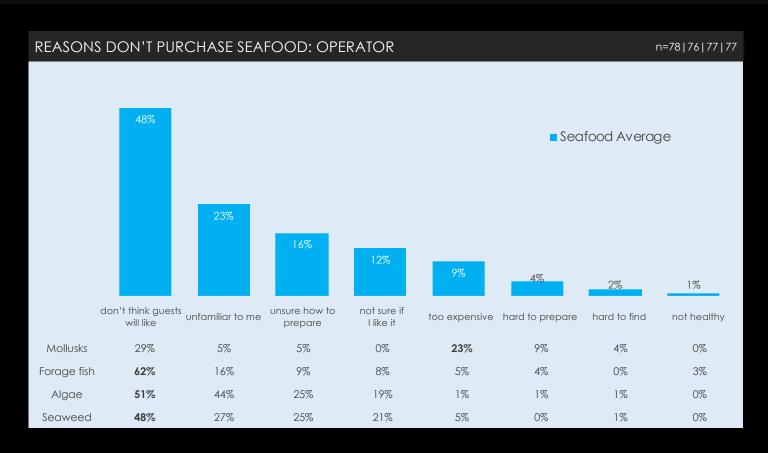
	2018 PENETRATION	4-YEAR GROWTH
Shrimp	65%	-1%
Salmon	43%	+7%
Tuna	38%	-2%
Crab	34%	-5%
Scallop	26%	-12%
Calamari	24%	-6%
Clam	22%	-13%
Lobster	20%	-3%
Anchovy	18%	-6%
Mussel	16%	-10%
Cod	14%	+8%
Oyster	13%	+5%
Tilapia	11%	-15%
Squid	10%	-4%
Ahi Tuna	10%	+27%
Octopus	9%	+17%
White Fish	8%	+2%
Catfish	7%	-1%
Albacore Tuna	7%	-10%
Snapper	6%	-10%

Some seafood isn't purchased because consumers don't like the taste or are unfamiliar. Consumers are more likely to dislike the taste of mollusks and forage fish, while they are less familiar with algae and seaweed.



Q5: You mentioned that you don't purchase [MOLLUSKS, FORAGE FISH, ALGAE, OR SEAWEED] for your operation. Why is that? Select all that apply.

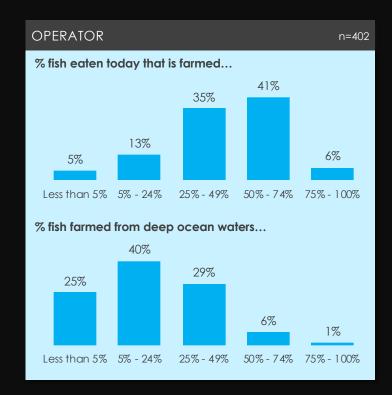
Operators don't purchase these types of seafood because they don't think guests will like them. This is aligned with consumer beliefs that they don't like the taste.

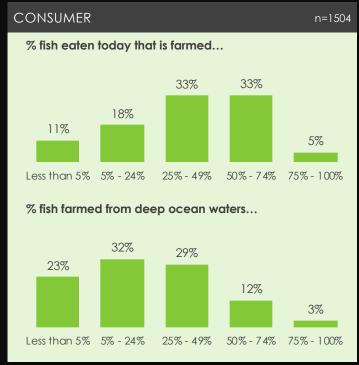


aquaculture attitudes

Operators are more aware that most fish and seafood is farmed.

Slightly more consumers believe that more of it is farmed out in the open ocean.

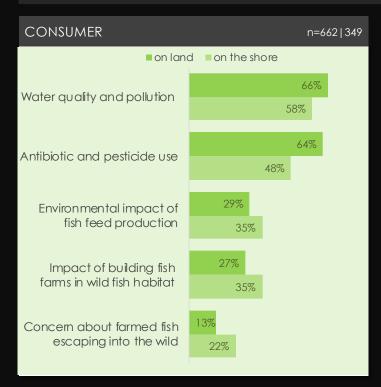


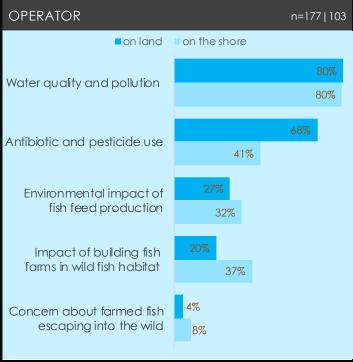


Q1: To the best of your knowledge, how much of the fish that is eaten today is farmed?
Q1a: Of the fish that is farmed, how much do you think is farmed far from shore out in deep ocean waters?

Both consumers and operators are most concerned with water quality impacts and antibiotic use in aquaculture.







Q6a: You mentioned that you think [PIPE WORST PRACTICE] is the worst for the environment. What are your top two concerns with fish farming [PIPE "on land" or PIPE "near the shore"]? Select two.

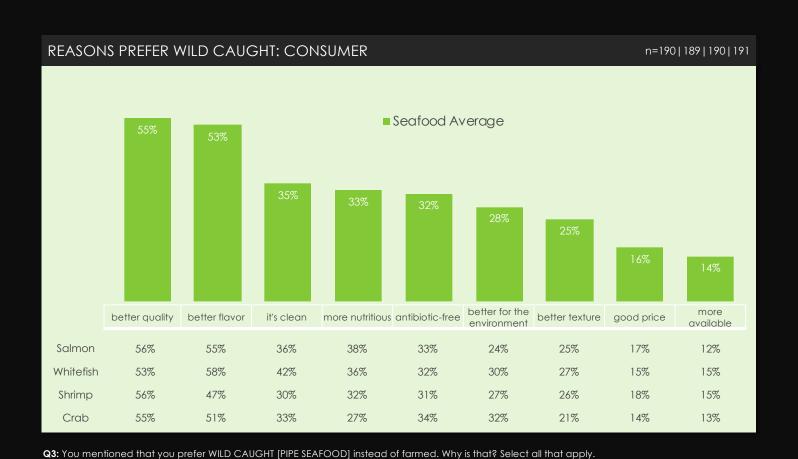
Both consumers and operators prefer wild caught over farmed fish.

But a majority either don't have a preference for or don't purchase many types of fish and shellfish.

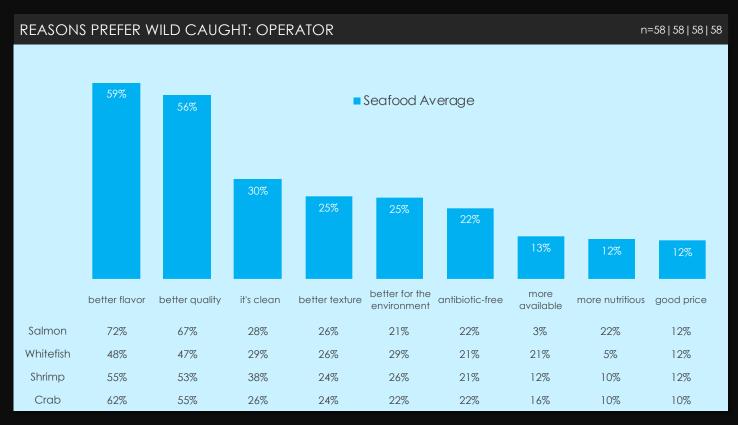


Q2: For the following types of fish and seafood, please indicate if you prefer to purchase wild or farmed for your operation. Select one per row.

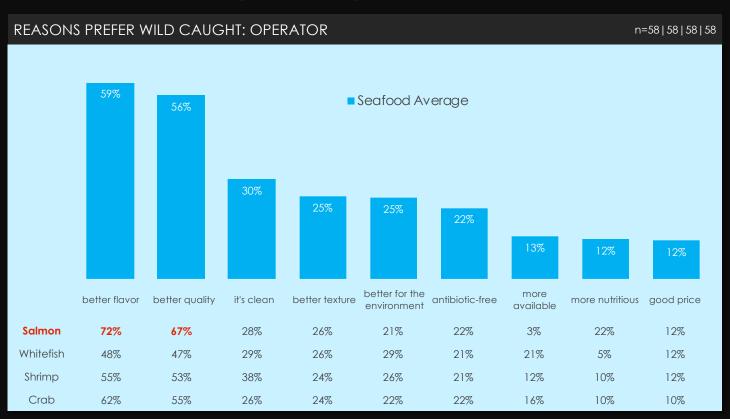
Consumers prefer wild caught seafood because it has better quality and flavor – similar for all fish types.



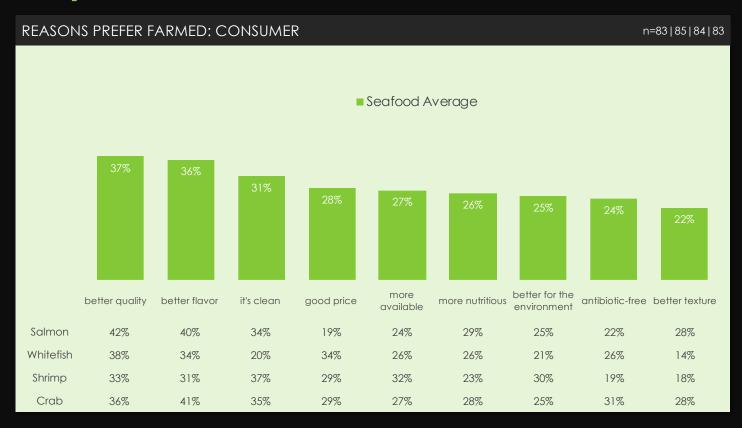
Similarly, operators think wild seafood has better flavor and quality than farmed.



Similarly, operators think wild seafood has better flavor and quality than farmed. Especially wild salmon.

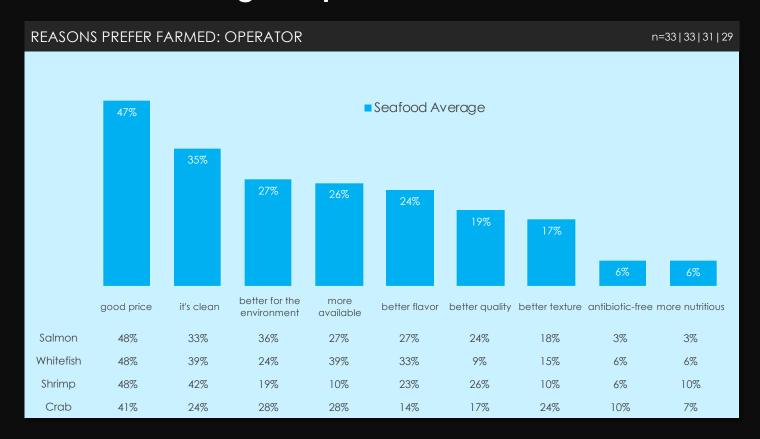


Consumers who prefer farmed seafood also think it has better quality and flavor.



Few operators prefer farmed over wild caught

Those who do think it's a good price and is clean.



Q4: You mentioned that you prefer FARMED [PIPE SEAFOOD] instead of wild caught. Why is that? Select all that apply.

Americans want to eat more fish and seafood.

Antibiotic and chemical use is a hurdle for choosing fish overall

Most consumers and operators haven't settled on preferences for farmed or wild for many varieties.

Flavor is the most important factor driving preferences.

Antibiotic use and cleanliness also matter.

So does familiarity with new to market types of fish and seafood.



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