

Alaska Fishermen's Salmon Habitat Survey

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Introduction

In summer 2016, over 500 Alaska fishermen took a United Fishermen of Alaska's Salmon Habitat Information Program survey, answering 21 questions about their relationship to salmon habitat.

The survey asked about Alaska fishermen's role in the state's fishing industry as well as their definition of salmon habitat, key salmon habitat concerns, trusted messengers, and favored information sources.

A summary of the responses by these Alaska fishermen is presented here.



Help UFA guide the SHIP!

TAKE THE SURVEY and enter to win

\$500 Alaska Air Gift Card!

\$200 LFS Gift Card!

The advertisement features a collage of three photos on the left: a fishing boat, a person on a boat, and a fisherman holding a salmon. On the right is a large graphic with a blue background, white waves, a white mountain range, a white fisherman silhouette, and a white fish school. A yellow circular border is on the left side of the graphic. The UFA logo is in the bottom right corner.

This image is one of the Facebook advertisements used for the survey.



Survey Highlights from UFA's Salmon Habitat Information Program (SHIP)

1. Over 500 Alaska commercial fishermen took the survey, representing all fisheries and gear types.
2. 100% of fishermen surveyed care deeply about Alaska salmon habitat – for sustaining jobs, identity, and family.
3. Fishermen are concerned about a variety of habitat issues, with mining, climate change, and pollution concerns rising to the surface. The Pebble Mine and transboundary mines were most often mentioned as specific issues.
4. Fishermen use freshwater habitat terms more often than brackish or saltwater terms to talk about habitat. Fishermen most often use the word “streams” to describe habitat.
5. Fishermen believe Alaska is doing somewhat well at ensuring salmon sustainability.
6. Fishermen most trust information about Alaska salmon habitat from Alaska Department of Fish and Game scientists, local/regional gear groups, and United Fishermen of Alaska (UFA). Trout Unlimited and Governor Bill Walker were the least trusted sources of information.
7. What fishermen say matters - 79% of fishermen list other fishermen as a news source.
8. Facebook is the social media channel that fishermen most frequently use. YouTube is also popular.
9. Fishermen prefer to receive hear from UFA via email and social media, and they signed up for UFA's email and pilot text programs in very high numbers.
10. Fishermen speak up for habitat - 93% of fishermen have taken action on behalf of salmon habitat in the last year, including talking to other fishermen, donating, signing petitions, & calling / writing decision makers.



Methodology

The survey consisted of 21 qualitative and quantitative questions administered online via Survey Monkey.

The survey was open July 26, 2016 through September 5, 2016.

Survey takers heard about the survey through newsletters and emails from commercial fishing groups, traditional news sources like the Alaska Dispatch News, Cordova Times, and Fish Radio, and social media.

Over 1,100 people attempted to take the survey. The first question limited eligibility to self-reporting commercial fishermen or their family members, and 682 people who tried to take the survey were able to continue the survey.

A total of 513 Alaska fishermen completed the opinion sections of the survey, and 485 people continued all the way through the final questions to submit their contact information.

Fishermen are notoriously difficult to survey and UFA's habitat survey represents an extremely large sample size for the target population. This survey, for example, elicited 174% of the number of respondents to a 2015 Alaska Seafood Marketing Institute fishermen survey.

According to the most recent commercial fishing permit data¹, 2.4% of Alaska commercial fishing permit holders completed the survey. At a 95% confidence level for quantitative questions, the margin of error is 4.27 for the commercial fishing permit population size and survey sample size.

Most survey questions were, however, qualitative in nature to elicit beliefs, concerns, and views about Alaska salmon habitat. Thus many of the survey questions had a high level of variance and the answers approach focus group-style data. Given that the average focus group project consists of 4 to 6 groups, a sample size of over 500 offers a rich and robust view into fishermen's opinions.

Seven fishermen who completed the survey were selected at random on September 6, 2016 to win prizes.

¹ 2016 Permit Status, All Fisheries, Total Permits Issued. State of Alaska -- Commercial Fisheries Entry Commission. <https://www.cfec.state.ak.us/pstatus/14052016.htm>.



Survey Findings

Demographics

All survey respondents were from the United States, and 85% listed Alaska as their home.

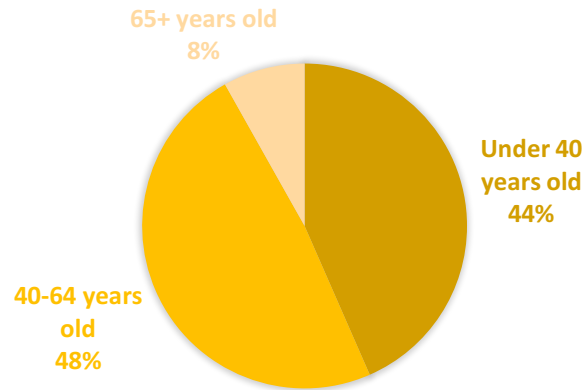
The communities with the most respondents were Anchorage, Homer, Juneau, Cordova, and Kodiak. This word cloud is a visualization of the cities listed in home addresses, with more frequently used words appearing more prominently.



Survey respondents did not reflect the Alaska commercial fishing's typical age demographic, with 44% of survey takers aged 40 and under.

Q2 WHAT IS YOUR AGE?

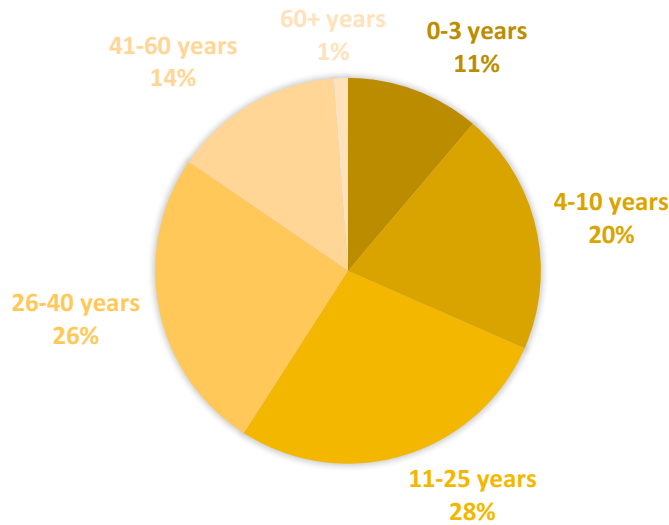
ANSWERED: 602 SKIPPED: 520



Respondents had been fishing for a wide range of years: 14% for 0-3 years, 20% for 4-10 years, 28% for 11-25 years, and 26% for 26-40 years. Some of the respondents indicated they had been fishing their entire lives.

Q3 ABOUT HOW MANY YEARS HAVE YOU COMMERCIALY FISHED IN ALASKA?

ANSWERED: 602 SKIPPED: 520



Fishermen taking the survey represented all regions of Alaska, gear types, and species. This word cloud is a visualization of the words fishermen used to describe their fishery, with more frequently used words appearing more prominently.

Q4 What fisheries do you participate in?

Answered: 602 Skipped: 520

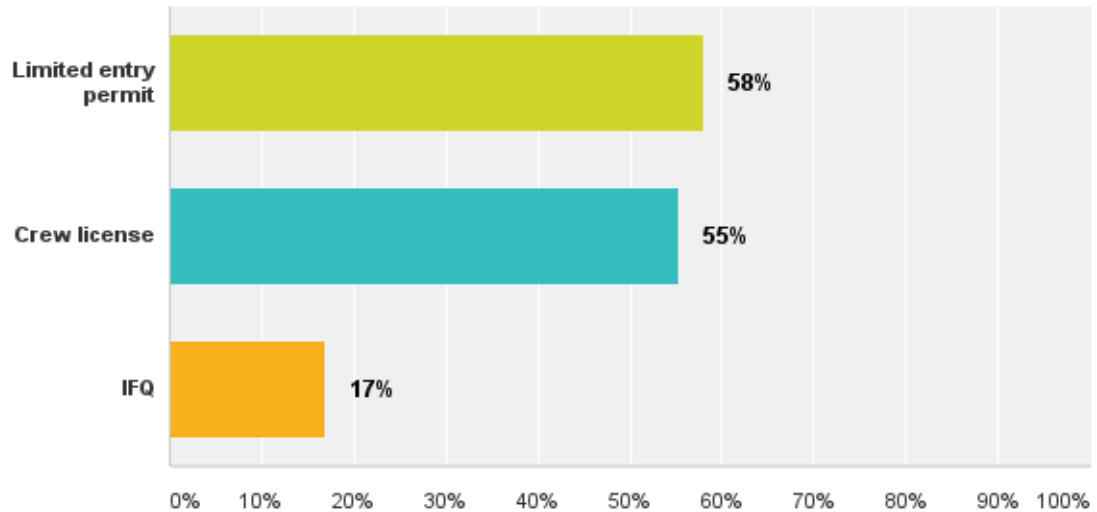
Fish Drift Gillnet Purse Trawl PWS Kodiak Salmon
Cook Inlet Alaska Crab Copper River Cod
Sockeye Gill Net Commercial Halibut
Drift Net Bristol Bay Shrimp Long Line
Power Troll Herring Pollock Set Net Salmon Set
Salmon Troll Prince William Sound



In the last five years, most respondents held a limited entry permit and / or a crew license. 17% held an individual fishing quota.

Q5 Which of the following have you held in the last 5 years? (check all that apply)

Answered: 602 Skipped: 520



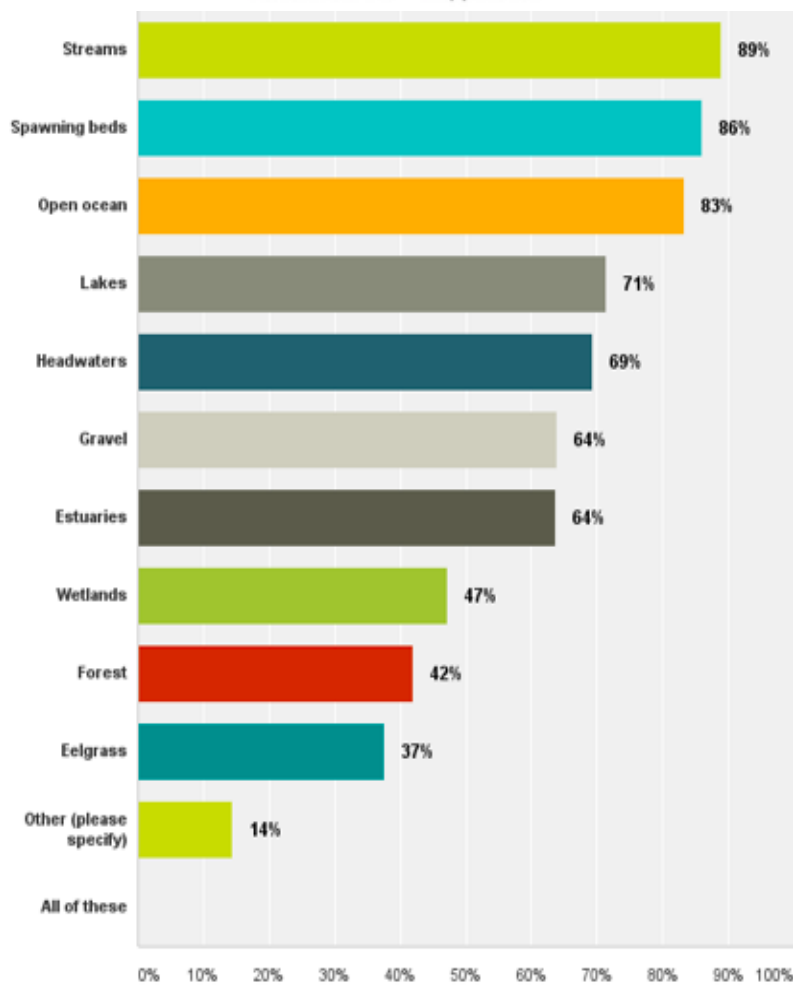
Description of Salmon Habitat

The words fishermen use to describe habitat are varied, and they recognize many varieties of fresh and saltwater habitat as important for salmon.

Fishermen were asked to select all words from the 10 listed below that represent salmon habitat to them. Over 70% of fishermen selected the words “streams”, “spawning beds”, “open ocean”, and “lakes” to describe habitat.

Q6 Which of the following words would do you use to describe salmon habitat? (Check all that apply)

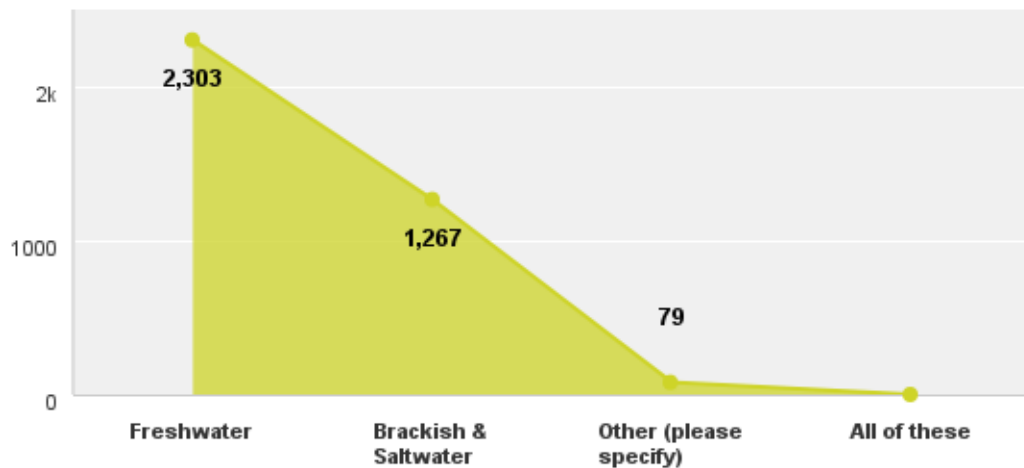
Answered: 547 Skipped: 575



When the types of habitat were grouped into freshwater and brackish / saltwater categories, freshwater habitats received 81% more votes. Based on the distribution of freshwater to saltwater or brackish options, fishermen chose freshwater types of habitat about 34% more frequently than saltwater or brackish habitats.

Q6 Which of the following words would do you use to describe salmon habitat? (Check all that apply)

Answered: 547 Skipped: 575



In the “other” category, selected by 14% of respondents, “rivers” were the habitat type most often mentioned. This is a word cloud of the other words fishermen used to describe habitat.

Alaska Riparian Banks Sea Creek Beds Fish
 Habitat Coastal Rivers Freshwater
 Water Inland Open Ocean Salt Delta



Value of Salmon Habitat

When it comes to reasons to protect habitat, fishermen are highly invested in the cultural, economic, and legacy values that salmon offer. More than 95% of fishermen ranked all listed habitat as very important.

The spread between the least and most popular very important salmon habitat values was less than one percent, indicating that fishermen see salmon as important for many facets of life.

Q7 How important to you are these reasons to take care of salmon habitat?

Answered: 547 Skipped: 575

	Very important	Somewhat important	Not important	Total	Weighted Average
We owe it to our children and grandchildren to leave a salmon legacy. We must protect salmon for future generations.	96.71% 529	2.93% 16	0.37% 2	547	1.04
I depend on fish and fish depend on habitat. We must take care of our salmon habitat to keep working.	96.34% 527	3.66% 20	0.00% 0	547	1.04
Salmon are an essential part of the Alaskan economy. We should do as much as we can to protect the commercial fishing industry.	96.34% 527	3.29% 18	0.37% 2	547	1.04
Salmon are part of Alaska's culture. We must protect them and their spawning streams to make sure Alaska remains the salmon state.	95.80% 524	3.66% 20	0.55% 3	547	1.05



When the “very important” and “somewhat important” rankings are grouped together, we see that “taking care of salmon habitat to keep working” ranks half a percent higher than the other reasons to protect salmon habitat.

Q7 How important to you are these reasons to take care of salmon habitat?

Answered: 547 Skipped: 575

	Important	Not important	Total	Weighted Average
I depend on fish and fish depend on habitat. We must take care of our salmon habitat to keep working.	100.00% 547	0.00% 0	547	1.00
We owe it to our children and grandchildren to leave a salmon legacy. We must protect salmon for future generations.	99.63% 545	0.37% 2	547	1.01
Salmon are an essential part of the Alaskan economy. We should do as much as we can to protect the commercial fishing industry.	99.63% 545	0.37% 2	547	1.01
Salmon are part of Alaska's culture. We must protect them and their spawning streams to make sure Alaska remains the salmon state.	99.45% 544	0.55% 3	547	1.01



Here is a word cloud of what fishermen said in their own words about the value of salmon habitat. Here too, the survey shows how fishermen see salmon habitat as important for sustaining identity, livelihood, and family.

Q8 Why else is salmon habitat important to you?

Answered: 423 Skipped: 699

Beautiful Spawning Grounds Species Return Protect
Forests Subsistence Environment Living
Future Generations Life Livelihood Family
Survive Habitat Economy Fish Care
Food Source of Income Eco System Planet
Culture Love Sustainable Tradition Fishery



Concerns about Salmon Habitat

Fishermen were asked to list any salmon habitat concerns they have in their fishery.

The question was open ended, allowing fishermen wide latitude in their answers. Each answer was tagged topically, and most answers received several tags.

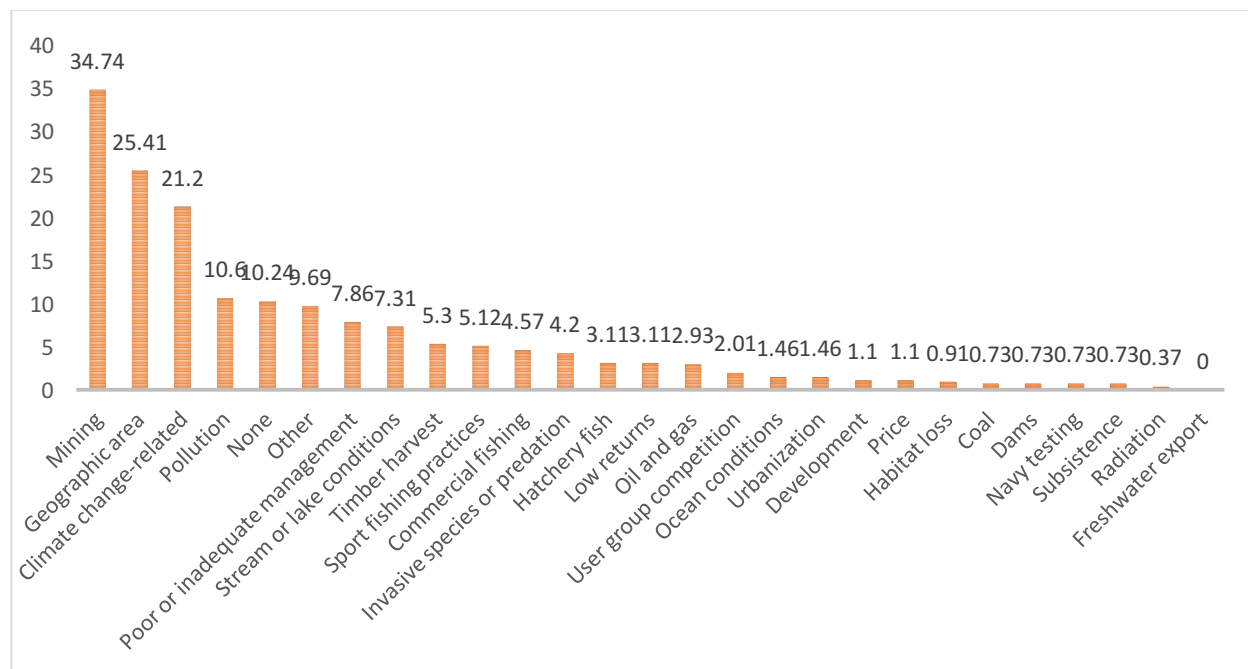
The top ranking habitat issue was mining, with roughly 35% of respondents listing some kind of mining issue as a concern. The second and third highest ranking concerns were climate change-related issues, and pollution including cruise ship waste and trash.

About 25% of fishermen also listed specific geographic areas in their concerns.

Notably, answers to this question were often long and detailed, indicating that fishermen feel strongly about their concerns.

Q9 Please list any salmon habitat concerns you might have in your fishery?

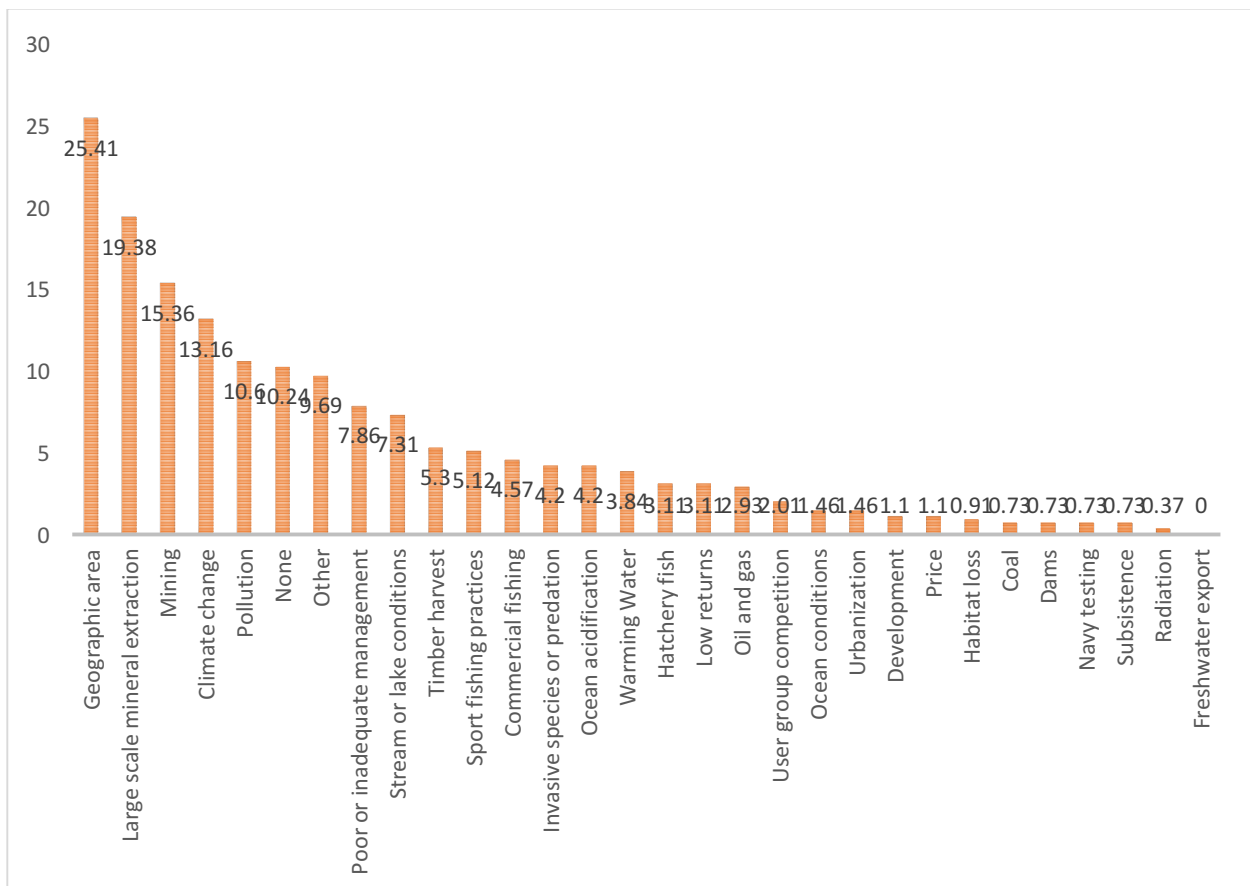
Answered: 547 Skipped: 575



When 5 categories of mining and climate-related issues are expanded, large scale minerals extraction emerges as the number one habitat concern for fishermen. Transboundary mines and the Pebble mine were the primary projects listed in this concern.

Q9 Please list anysalmon habitat concerns you might have in your fishery?

Answered: 547 Skipped: 575



Here is a word cloud showing words that frequently appeared in the answers about habitat concerns.

Low Copper River Bristol Bay Open Ocean
Temperatures Spawning Grounds Logging Dams
Pollution Escapement Fisheries
Warming Waters Fishing Lake Salmon
Global Warming Pebble Sea
Climate Change BC Mines
Management Canadian Mines Oil Water Quality
Kenai River Cruise Ship Waste Ocean Acidification



Relationship to Salmon Habitat Management

The survey asked fishermen to rank fisheries issues in order of importance.

99% of fishermen say habitat conservation is important.

Fisheries management was the most “very important” issue, with habitat conservation ranking third over market and price factors.

Q10 How important to you are the following fisheries issues?

Answered: 547 Skipped: 575

	Very important	Somewhat important	Notimportant	Don't know	Total
Fisheries management	91.77% 502	7.31% 40	0.55% 3	0.37% 2	547
Product quality	91.58% 500	7.88% 43	0.18% 1	0.37% 2	546
Habitat conservation	88.67% 485	10.24% 56	0.55% 3	0.55% 3	547
Market and price variables	79.34% 430	19.00% 103	1.29% 7	0.37% 2	542
Funding for fisheries science	74.22% 406	22.49% 123	2.38% 13	0.91% 5	547



All issues ranked close to or above 97% when both categories of importance are grouped

Q10 How important to you are the following fisheries issues?

Answered: 547 Skipped: 575

	Important	Notimportant	Don't know	Total
Product quality	99.45% 543	0.18% 1	0.37% 2	546
Fisheries management	99.09% 542	0.55% 3	0.37% 2	547
Habitat conservation	98.90% 541	0.55% 3	0.55% 3	547
Market and price variables	98.34% 533	1.29% 7	0.37% 2	542
Funding for fisheries science	96.71% 529	2.38% 13	0.91% 5	547



Fishermen were also asked how important a variety of policies were for ensuring salmon sustainability.

All sustainability policies ranked extremely high in importance.

Reducing harm to salmon habitat ranked number one in salmon sustainability policies.

Ensuring water quality and quantity were selected as the second and third most important policies.

The survey indicated a high level of certainty about the value of protecting salmon habitat. The answer option reduce harm to salmon habitat showed the least difference between importance rankings, and zero respondents selected “don’t know”.

Prioritize salmon enhancement programs and manage for climate change were more likely to be ranked as unimportant.

Fishermen showed the greatest uncertainty about climate change-related policies of maintain water temperature and manage for climate change.

Q11 How important are these Alaskan policies for ensuring salmon sustainability?

Answered: 547 Skipped: 575

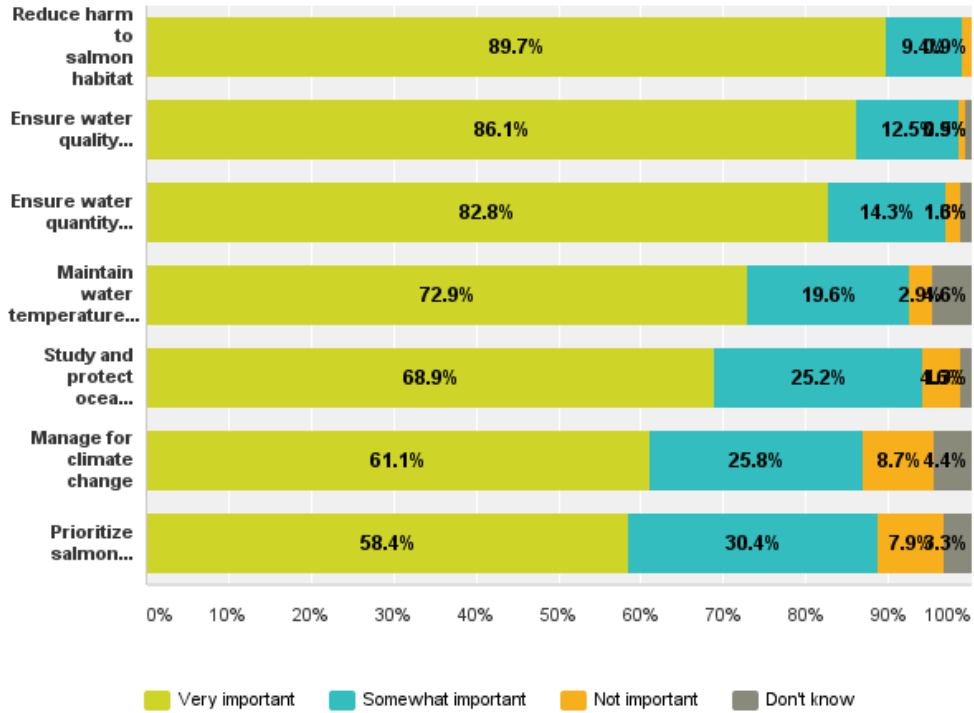
	Very important	Somewhat important	Not important	Don't know	Total	Weighted Average
Reduce harm to salmon habitat	89.72% 489	9.36% 51	0.92% 5	0.00% 0	545	1.12
Ensure water quality (pollution from mixing zones)	86.08% 470	12.45% 68	0.92% 5	0.55% 3	546	1.17
Ensure water quantity (in-stream flow)	82.82% 453	14.26% 78	1.65% 9	1.28% 7	547	1.24
Maintain water temperature (cold enough water for fish)	72.89% 398	19.60% 107	2.93% 16	4.58% 25	546	1.47
Study and protect ocean carrying capacity	68.92% 377	25.23% 138	4.57% 25	1.28% 7	547	1.44
Manage for climate change	61.07% 331	25.83% 140	8.67% 47	4.43% 24	542	1.70
Prioritize salmon enhancement programs	58.42% 319	30.40% 166	7.88% 43	3.30% 18	546	1.67



Here are the same results in colored bar graph form, included here for clarity.

Q11 How important are these Alaskan policies for ensuring salmon sustainability?

Answered: 547 Skipped: 575



Grouping together the “very important” and “somewhat important” responses didn’t change the top ranked issues, but shuffled the lower ranking issues to boost studying carrying capacity and move manage for climate change down.

Q11 How important are these Alaskan policies for ensuring salmon sustainability?

Answered: 547 Skipped: 575

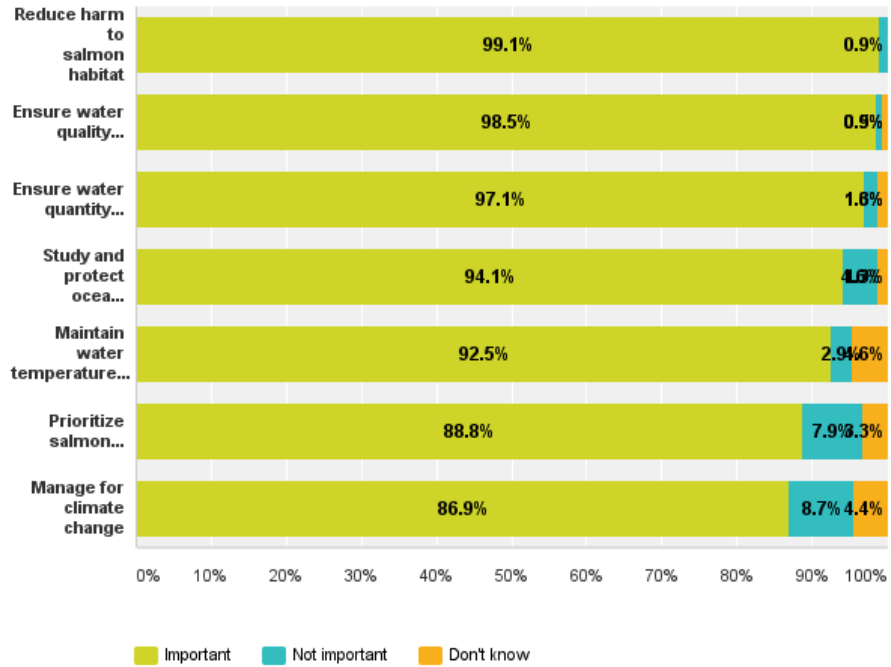
	Important	Not important	Don't know	Total	Weighted Average
Reduce harm to salmon habitat	99.08% 540	0.92% 5	0.00% 0	545	1.03
Ensure water quality (pollution from mixing zones)	98.53% 538	0.92% 5	0.55% 3	546	1.05
Ensure water quantity (in-stream flow)	97.07% 531	1.65% 9	1.28% 7	547	1.10
Study and protect ocean carrying capacity	94.15% 515	4.57% 25	1.28% 7	547	1.19
Maintain water temperature (cold enough water for fish)	92.49% 505	2.93% 16	4.58% 25	546	1.27
Prioritize salmon enhancement programs	88.83% 485	7.88% 43	3.30% 18	546	1.37
Manage for climate change	86.90% 471	8.67% 47	4.43% 24	542	1.44



Here is that same data aggregation in colored bar graph form, included here for clarity.

Q11 How important are these Alaskan policies for ensuring salmon sustainability?

Answered: 547 Skipped: 575



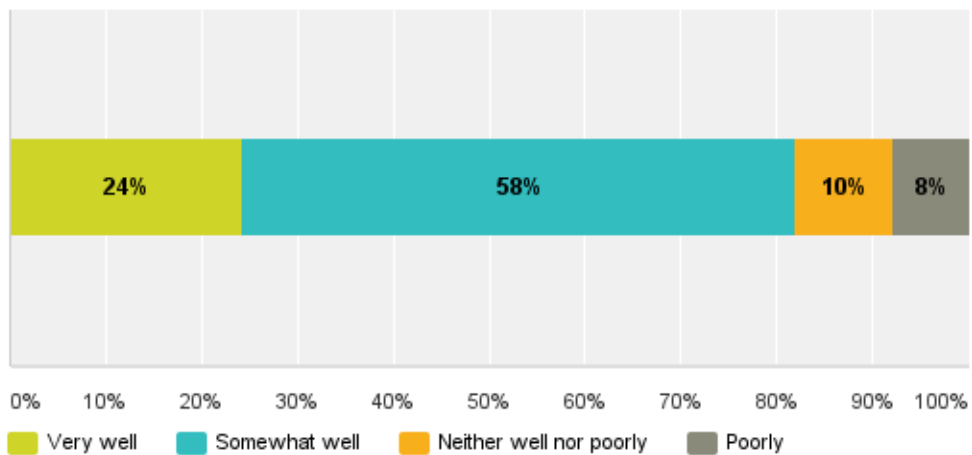
60 fishermen added comments to their policy rankings, with some suggestions for specific UFA positions and activities. This word cloud shows some of the words found in the comments.



Fishermen were asked how Alaska is doing on ensuring salmon sustainability. 82% of respondents said Alaska is doing well, but over 2/3 of those said somewhat well instead of very well.

Q12 How well do you think Alaska is ensuring salmon sustainability?

Answered: 547 Skipped: 575

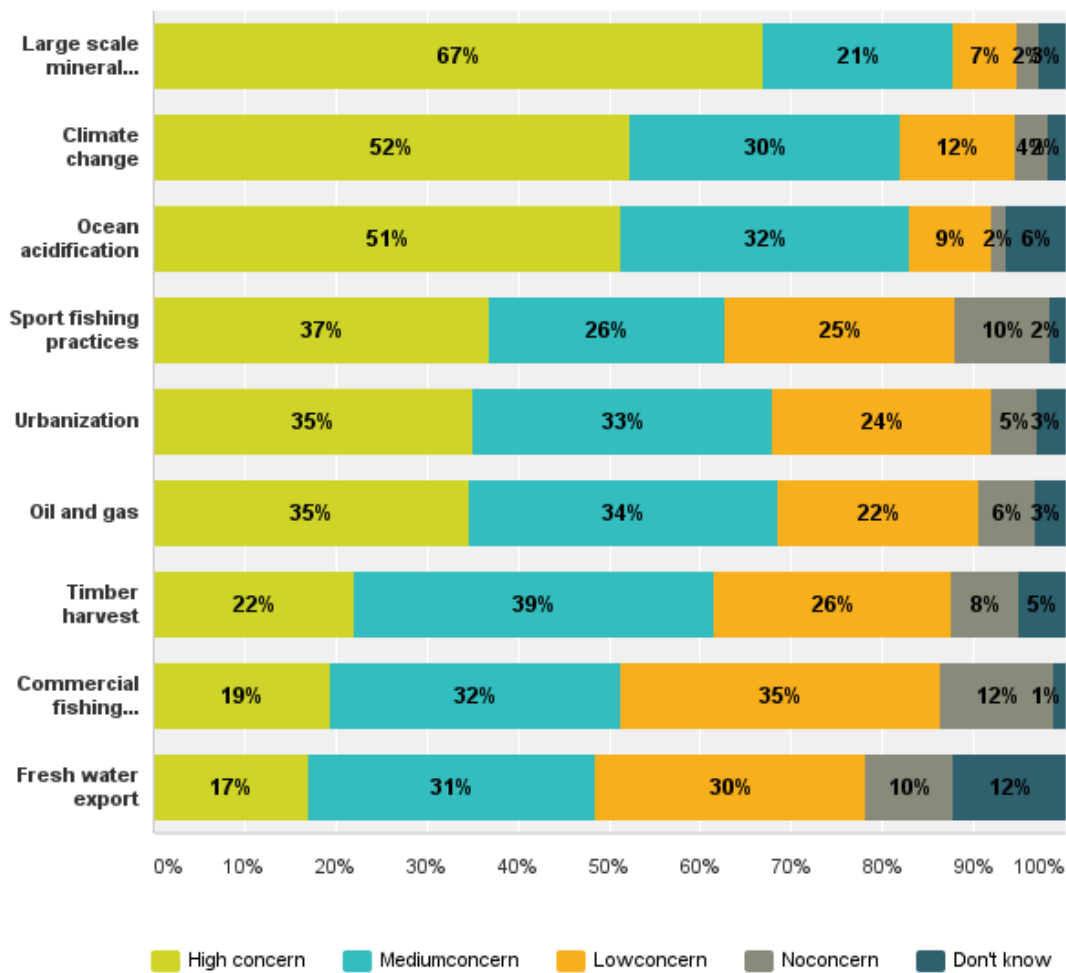


When fishermen were asked to rate their concern level over several kinds of negative impacts to salmon habitat, they indicated high concern over negative impacts from large scale mineral extraction, climate change, and ocean acidification.

Uncertainty was highest with freshwater export. More fishermen selected no concern with commercial fishing practices than with the other impacts to salmon habitat. When all the concern levels are grouped together, fishermen continued to view large scale mineral extraction, climate change, and ocean acidification as the biggest concern.

Q13 What do you see as negatively impacting Alaskan salmon habitat?

Answered: 547 Skipped: 575



49 fishermen added comments to their ranking of concern, and the comments echoed those salmon habitat issues in previous sections of this report. Here is a word cloud of what some fishermen wrote in comments about negative impacts to salmon habitat.

Science Protection Habitat Increased Sport Allocation
Bycatch Food Natural Oil Spills Ocean
Commercial Fisherman Salmon
Way the Board Management Vehicles
Spawning Huge Concern Issue High Seas
Release Politics



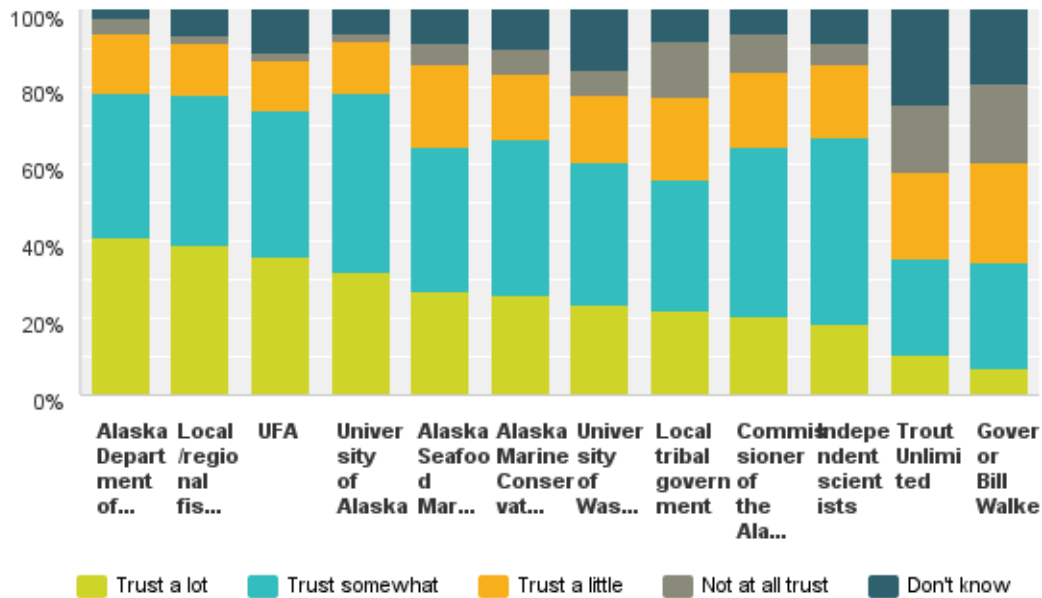
Where Fishermen Get Their Information

Fishermen were asked whom they trust to give credible information about Alaskan fish habitat.

Alaska Department of Fish and Game scientists were highly trusted, closely followed by local or regional fishing groups and UFA.

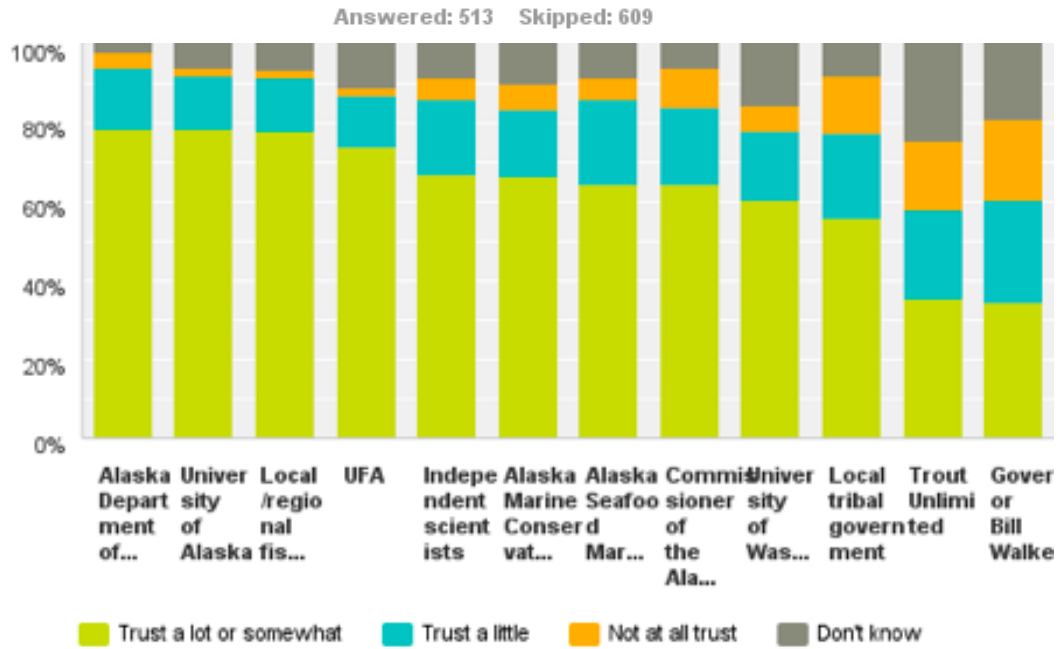
Q14 Whom do you trust to give you credible information about Alaskan fish habitat?

Answered: 513 Skipped: 609



When “trust a lot” and “trust somewhat” response options are grouped to see whom is mostly trusted, University of Alaska and independent scientists rose in ranking.

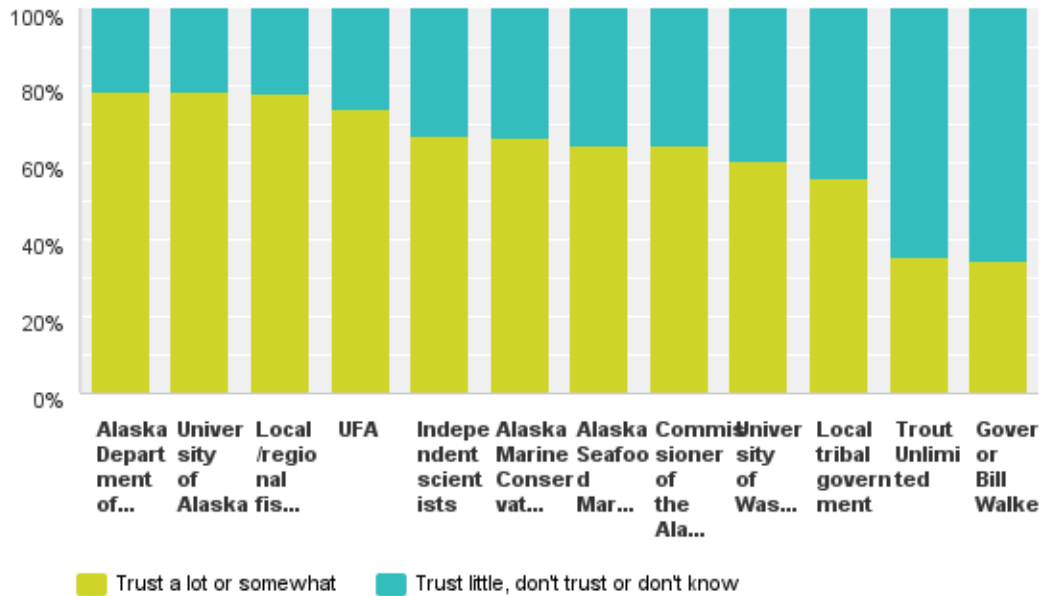
Q14 Whom do you trust to give you credible information about Alaskan fish habitat?



Here's another look at the same data, where "trust little", "don't trust", and "don't know" answer options were grouped together to more easily show whom fishermen don't really trust.

Q14 Whom do you trust to give you credible information about Alaskan fish habitat?

Answered: 513 Skipped: 609



This word cloud shows the gear groups that fishermen listed as sources of information.



Fishermen were asked where they currently get news about commercial fishing.

The top news source selected was other fishermen. Alaska Department of Fish and Game newsletters, Alaska Fisheries Report, National Fisherman, Alaska Dispatch news, local newspaper, and Pacific Fishing Magazine were also selected by over half of survey respondents.

Q16 Where do you currently get news about commercial fishing? (Check all that apply)

Answered: 510 Skipped: 612

Answer Choices	Responses	
Other fishermen	79%	401
ADF&G newsletters	59%	303
Alaska Fisheries Report	57%	291
National Fisherman	57%	290
Alaska Dispatch News	56%	284
Local newspaper	54%	276
Pacific Fishing Magazine	54%	273
Fish Radio	45%	228
Deck Boss	34%	174
Other fishing group newsletters	34%	173
UFA email updates	29%	148
Fish Factor	26%	135
Alaska Journal of Commerce	16%	82
Other (please specify)	16%	82
Juneau Empire	15%	77
Fishlines – the newsletter of the Alaska Sea Grant Marine Advisory Program	14%	72
Alaska FishNotes Listserve	6%	29
Total Respondents: 510		



16% of fishermen chose other news sources. This word cloud represents the distribution of the sources the respondents listed, with online sources appearing frequently.



Fishermen were asked to list their top two news sources. This world cloud shows a mix of gear groups and traditional news sources as most influential.

Q17 What are your top two commercial fishing news sources?

Answered: 513 Skipped: 609

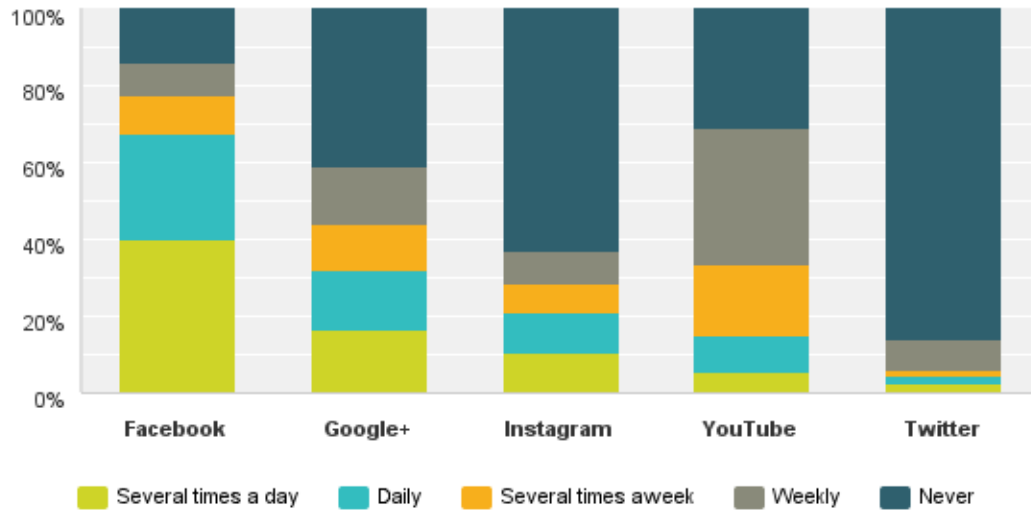
Internet News Media Fish and Game Tom
Newspaper SEAFA
Alaska Fisheries Report UCIDA Email
Fish Radio Facebook ADF&G Friends
Pacific Fishing Fish Factor
Fisherman Word of Mouth
Fishermen KDLG Radio Adfg Juneau Empire
UFA Salmon Alaska Dispatch Hauling Gear
Newsletters AK Journal of Commerce Deck Boss



In response to a question about which social networks fishermen use in a typical week and how often, Facebook was used by the most fishermen and most frequently. Fishermen use YouTube weekly or more often than any other social source except Facebook.

Q18 In a typical week, which of the following social networks do you use?

Answered: 513 Skipped: 609



Likelihood to Take Action for Salmon Habitat

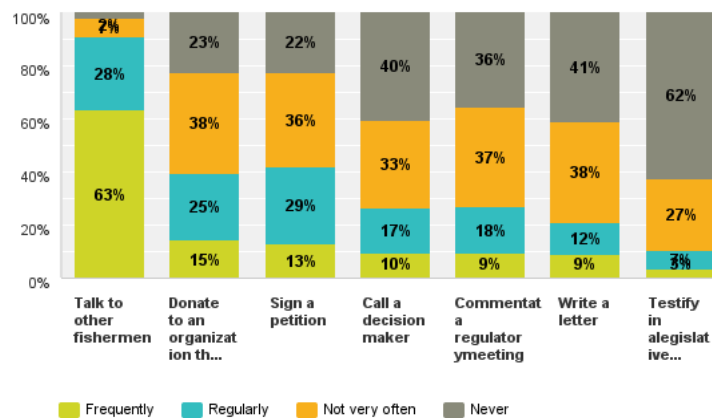
Half of survey takers were asked which actions they took for habitat last year, while half were asked which actions they were likely to do in the coming year.

In both scenarios, fishermen indicated they were highly likely to take action for salmon habitat.

Most popular action choices were talking to other fishermen, donate to an organization that works to protect salmon habitat, sign a petition, and call a decision maker.

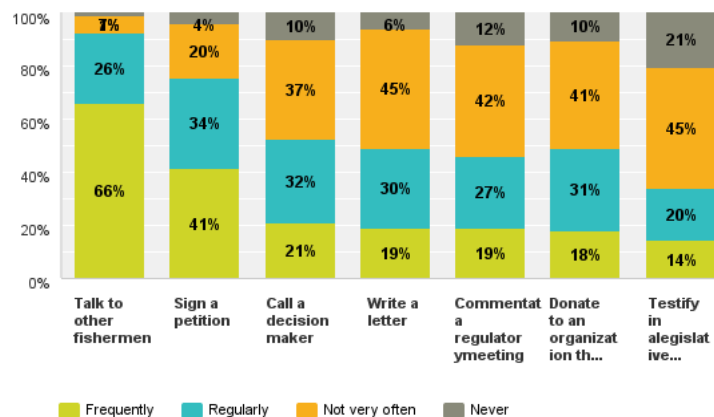
Q15 In the last year, have you taken any of the following actions on behalf of salmon habitat?

Variable: 1 Answered: 239 (21.30%)



Q15 Which of the following would you consider doing in the next year on behalf of salmon habitat?

Variable: 2 Answered: 274 (24.42%)



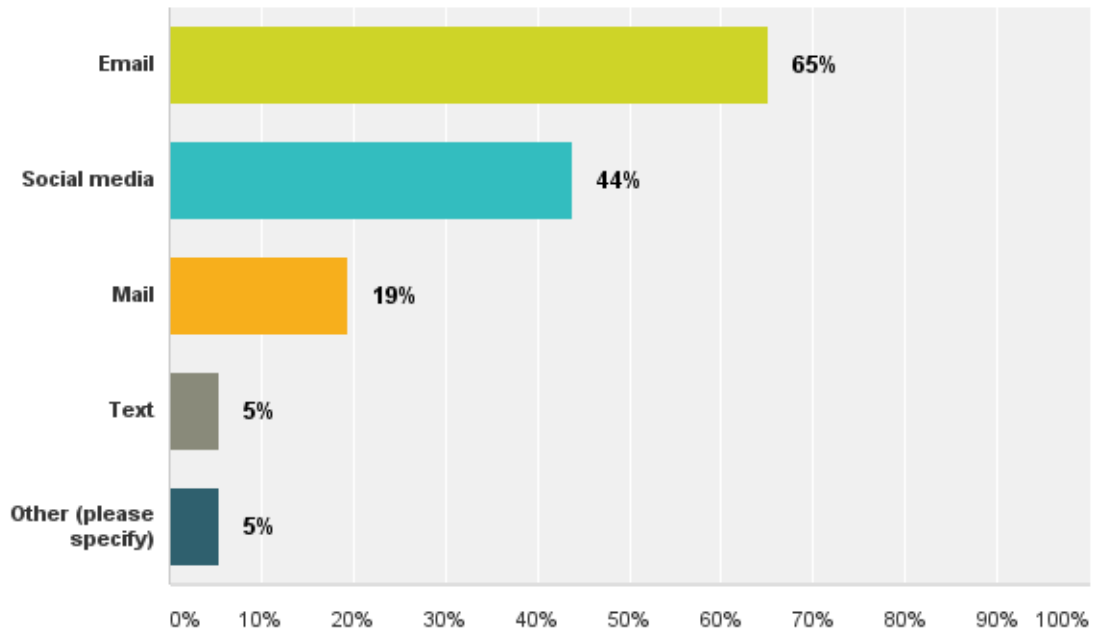
Communications Requests

Fishermen were asked how they wanted to hear from UFA about salmon habitat.

They were mostly likely to choose email, then social media.

Q19 How would you like UFA to communicate with you about salmon habitat? (Check all that apply)

Answered: 513 Skipped: 609



When asked specifically how they wanted to get survey results in direct communication from UFA, 57% of survey takers asked to receive UFA's regular newsletter. These sign-ups represented a 1/3 increase in individuals signed up for to receive UFA's newsletter.

About 41% of fishermen also asked to received salmon habitat-focused emails. 73 fishermen, 15% of respondents, signed up for a pilot cell phone outreach program, to receive small bites of information by text.

Q21 How would you like to get survey results and other UFA news? (Check any that apply)

Answered: 485 Skipped: 637

