

U.S. Pacific Region Residents' Awareness of and Attitudes Toward Aquaculture

California Results

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Credit: The Marine Mammal Center

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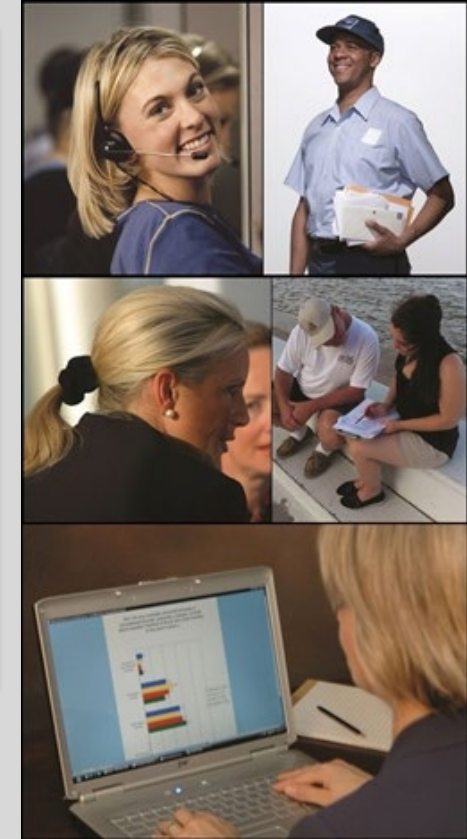
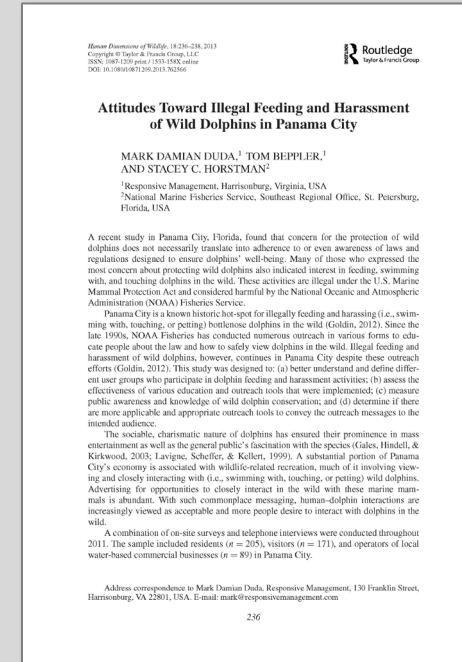
Michael Lee, Executive Director, California Aquaculture Association

Margaret A. Pilaro, Executive Director, Pacific Coast Shellfish Growers Association

Tony Vaught, President and CEO, Professional Aquaculture Services, Inc.

About Responsive Management

- High-quality, legally defensible survey research on natural resource, environmental, and outdoor recreation issues for more than 35 years
- Known, trusted source of research within the fisheries community; working relationships with agency directors, NGO heads, and more
- More than 300 projects on fisheries issues
- Research in 50 states and 15 countries
- Research conducted for every state fish and wildlife agency and federal resource agency, including NOAA and NMFS
- Research for all major NGOs, including the American Fisheries Society, RBFF, ASA, Ocean Conservancy, Trout Unlimited, Sierra Club, The Nature Conservancy, and more
- Research for industry leaders, such as Vista Outdoor (Bushnell, Primos, Federal Premium, etc.), Trijicon, Yamaha Boats, and more
- Data collection for the nation's top universities: Auburn University, Clemson University, Colorado State University, Duke University, Michigan State University, Penn State University, Rutgers University, Stanford University, Texas Tech, University of Florida, University of Southern California, Virginia Tech, Yale University, and many more



Project Examples

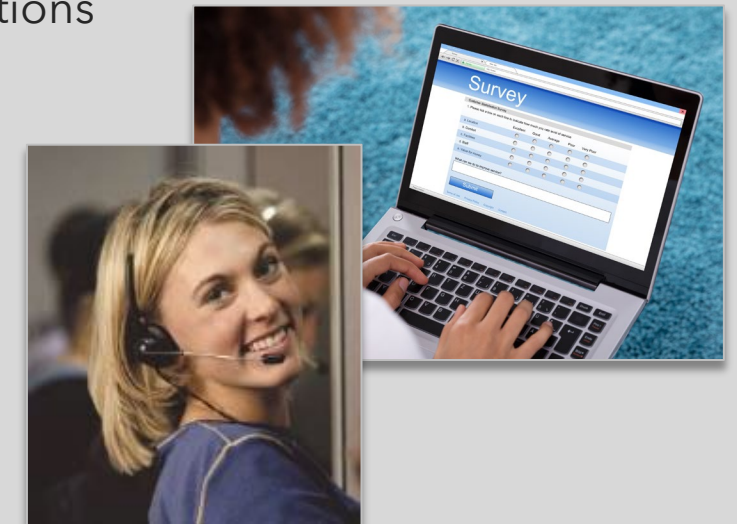
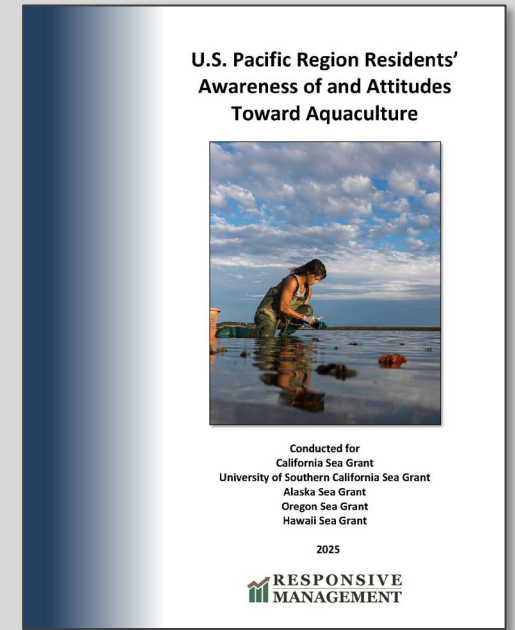
- ✓ *A Programmatic Evaluation of the Marine Mammal Health and Stranding Response Program Networks*
- ✓ *Panama City Residents', Visitors', and Business Operators' Attitudes Toward the Illegal Feeding and Harassment of Wild Dolphins*
- ✓ *Corpus Christi Residents', Visitors', and Business Operators' Attitudes Toward the Illegal Feeding and Harassment of Wild Dolphins*
- ✓ *Attitudes Toward the Protection of Wild Dolphins and Dolphin-Human Interactions—Focus Group Study*
- ✓ *South Florida Residents' Knowledge of, Attitudes Toward, and Perceptions of Coral Reef Management*
- ✓ *U.S. Virgin Islands Residents' Knowledge of, Attitudes Toward, and Perceptions of Coral Reef Management*
- ✓ *Public Survey on the National Hurricane Center's Arrival of Tropical-Storm-Force-Winds Product*
- ✓ *An Evaluation of the NOAA Coastal Services Center Coastal Resource Management Surveys*
- ✓ *NOAA Coastal Resource Management Customer Survey*
- ✓ *Effects of Delaware River Oil Spill on Waterfowl Hunter Behavior and Participation*
- ✓ *Manatee Education and Outreach Assessment*
- ✓ *Recreational Boaters and Derelict Commercial Fishing Gear*
- ✓ *Words Matter: Determining How to Engage the American Public Through the Language of Conservation*
- ✓ *National Invasive Species Outreach Campaign Assessment*
- ✓ *Southeast Florida and South Carolina Anglers' Release Practices and Their Attitudes Toward Descending Devices*
- ✓ *Florida Anglers' Attitudes Toward Fishing Issues and the Florida Fish and Wildlife Conservation Commission*



Study Methodology

Study Methodology

- Study conducted to address key gaps in aquaculture literacy by systematically evaluating understanding and perspectives of aquaculture in Alaska, Oregon, California, and Hawaii
- Overall project entailed a scientific, multimodal survey of adult residents in Alaska and Hawaii and of adult coastal residents in California and Oregon
- Survey developed cooperatively by California Sea Grant, University of Southern California Sea Grant, Alaska Sea Grant, Oregon Sea Grant, Hawaii Sea Grant, the California Aquaculture Association, and Responsive Management
- Survey questionnaire included both common core and state-specific questions
- Institutional Review Board (IRB) approval obtained from each state
- Three-pronged contact method (phone, text, and online) and multimodal data collection approach (phone and online)
- All respondents at least 18 years old and resident of the state
- Survey fielded August - October 2025



California Sampling Plan:

- General population, 18 or older
- Regional stratification (sample three regions equally) of coastal counties only (goal: n=800 overall | actual: n=953 overall)

Region	Goal	Actual
Northern California	267	341
Central California	267	277
Southern California	267	335

- 29 counties identified as coastal watershed counties by NOAA
 - Counties for each region determined using the California Department of Fish and Wildlife's management regions

	Survey sample	Survey population	Sampling error (%)
Alaska	844	555,513	3.37
Oregon	839	1,764,834	3.38
California	953	26,464,726	3.17
Hawaii	843	1,144,163	3.37

California Coastal Counties and Regions	
Alameda	Northern
Contra Costa	Northern
Del Norte	Northern
Humboldt	Northern
Marin	Northern
Mendocino	Northern
Napa	Northern
Sacramento	Northern
San Francisco	Northern
San Joaquin	Northern
San Mateo	Northern
Santa Clara	Northern
Santa Cruz	Northern
Siskiyou	Northern
Solano	Northern
Sonoma	Northern
Sutter	Northern
Trinity	Northern
Yolo	Northern
Monterey	Central
San Benito	Central
San Luis Obispo	Central
Los Angeles	Southern
Orange	Southern
Riverside	Southern
San Bernardino	Southern
San Diego	Southern
Santa Barbara	Southern

Survey Topics

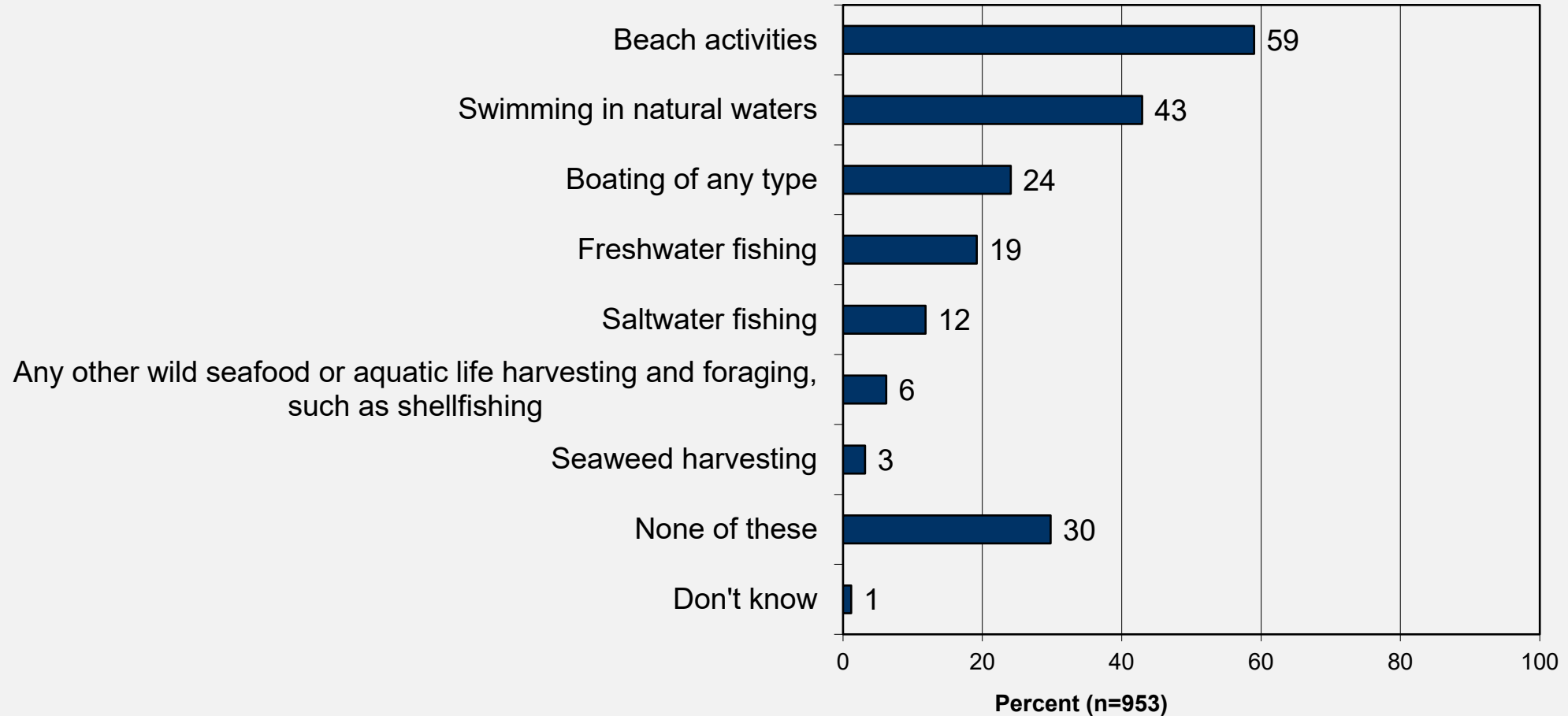


- ✓ Water-Related Activities and Consumption of Seafood
- ✓ Awareness of Aquaculture
- ✓ Awareness of and Willingness to Consume Farm-Raised Seafood
- ✓ Attitudes Toward Aquaculture
- ✓ Knowledge of Aquaculture
- ✓ Factors Important to Food Purchasing Decisions
- ✓ Sources of Information
- ✓ Demographic Characteristics of Respondents

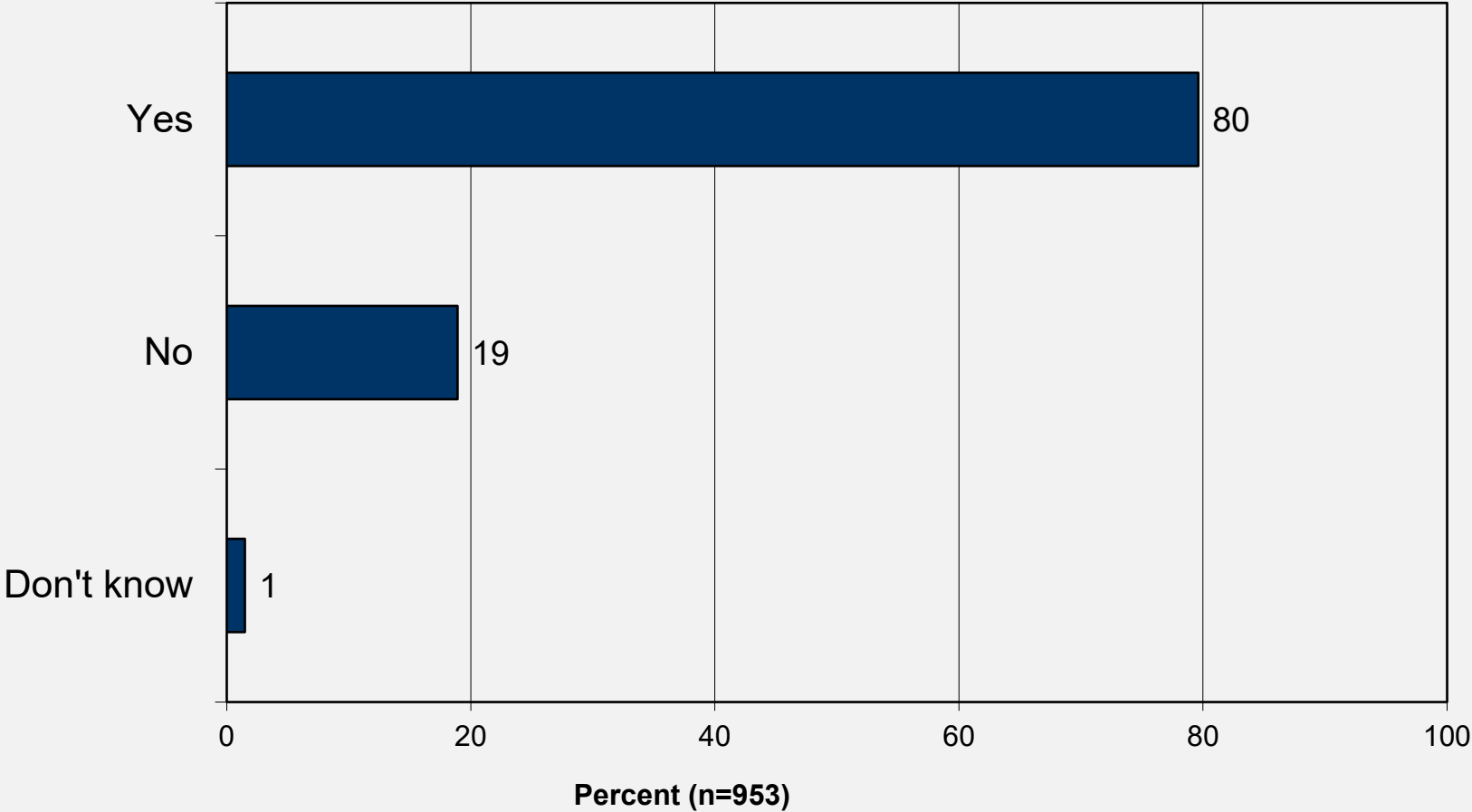
Water-Related Activities and Consumption of Seafood

In the last 5 years, have you participated in any of the following activities for any purpose, including for recreation, food, other personal use, or commercial purposes? (California)

Multiple Responses Allowed

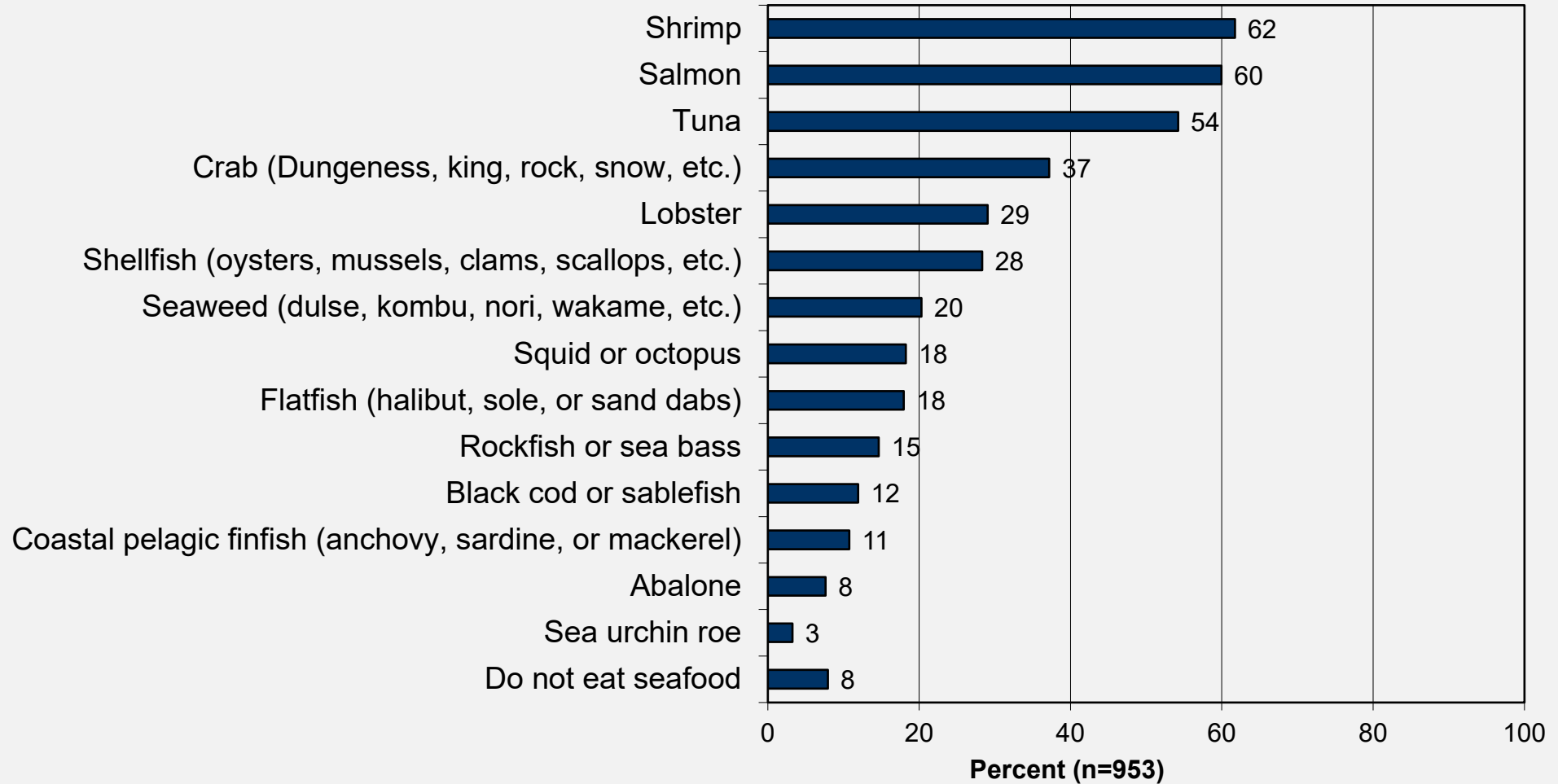


Have you eaten any fish, shellfish, seaweed, or other seafood in the past 12 months? This includes freshwater and saltwater species. (California)



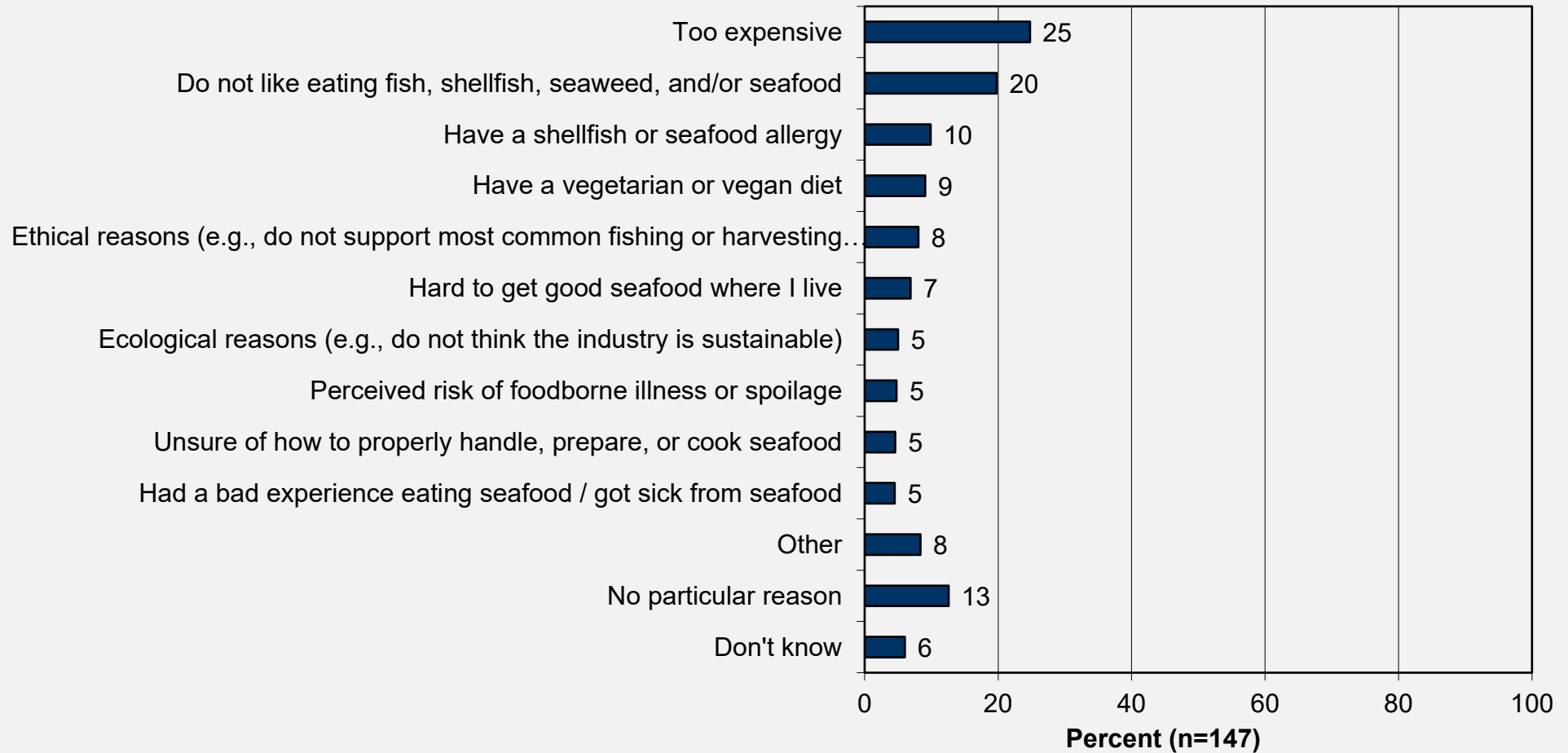
When you do eat fish, shellfish, seaweed, or seafood, what types do you typically eat? (California)

Multiple Responses Allowed



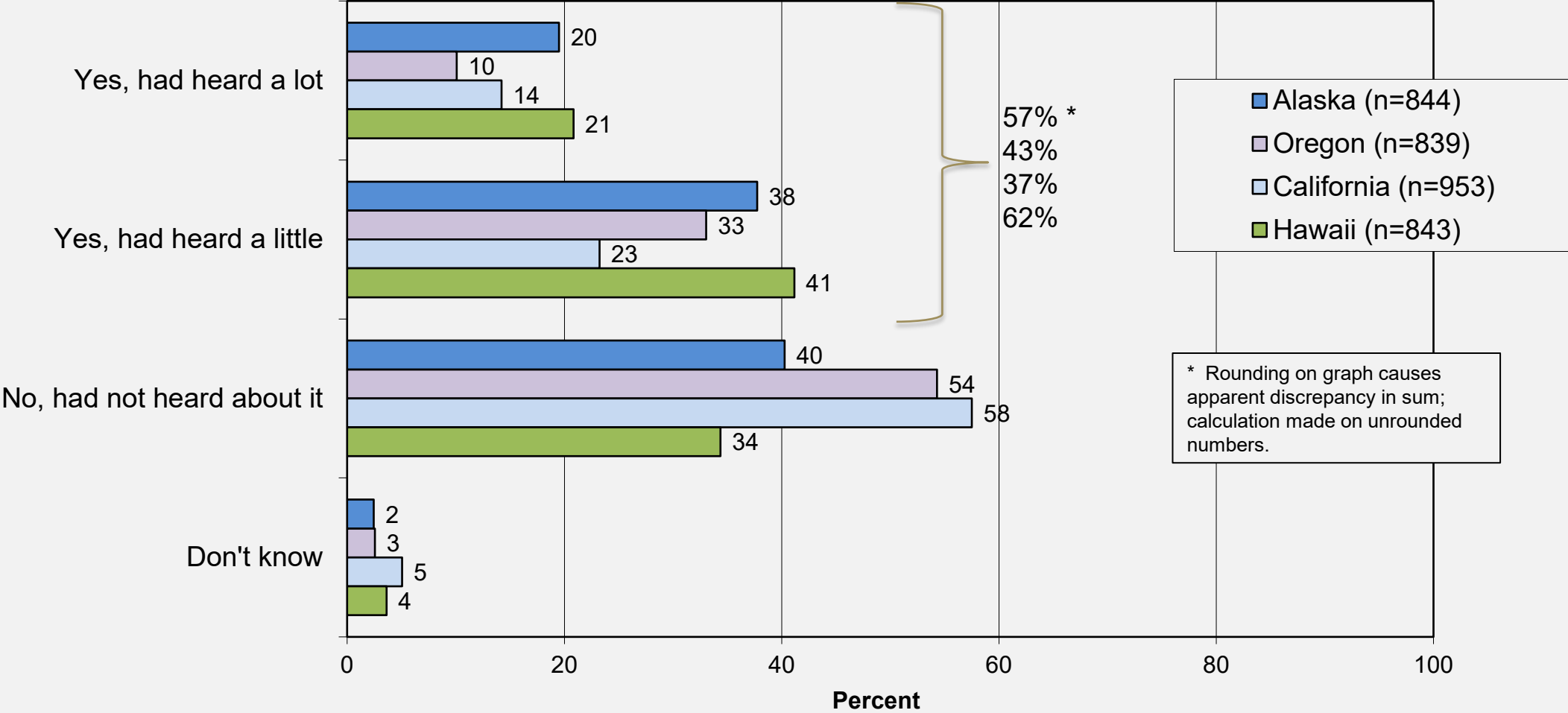
Which of the following are reasons that you do not typically eat fish, shellfish, seaweed, or seafood, or do not eat it more often? (Asked of those who never eat seafood or who eat seafood once a year or less.) (California)

Multiple Responses Allowed

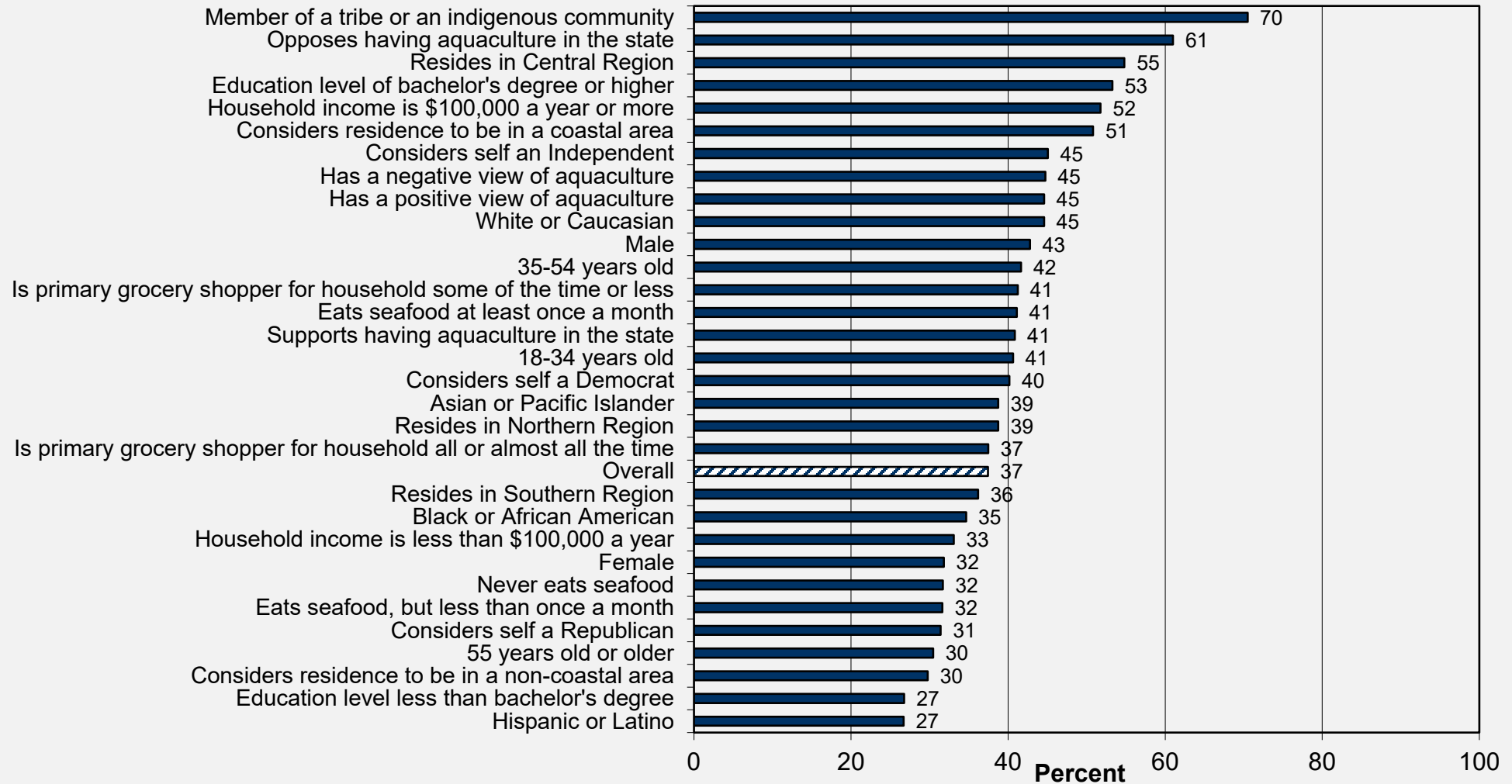


Awareness of Aquaculture

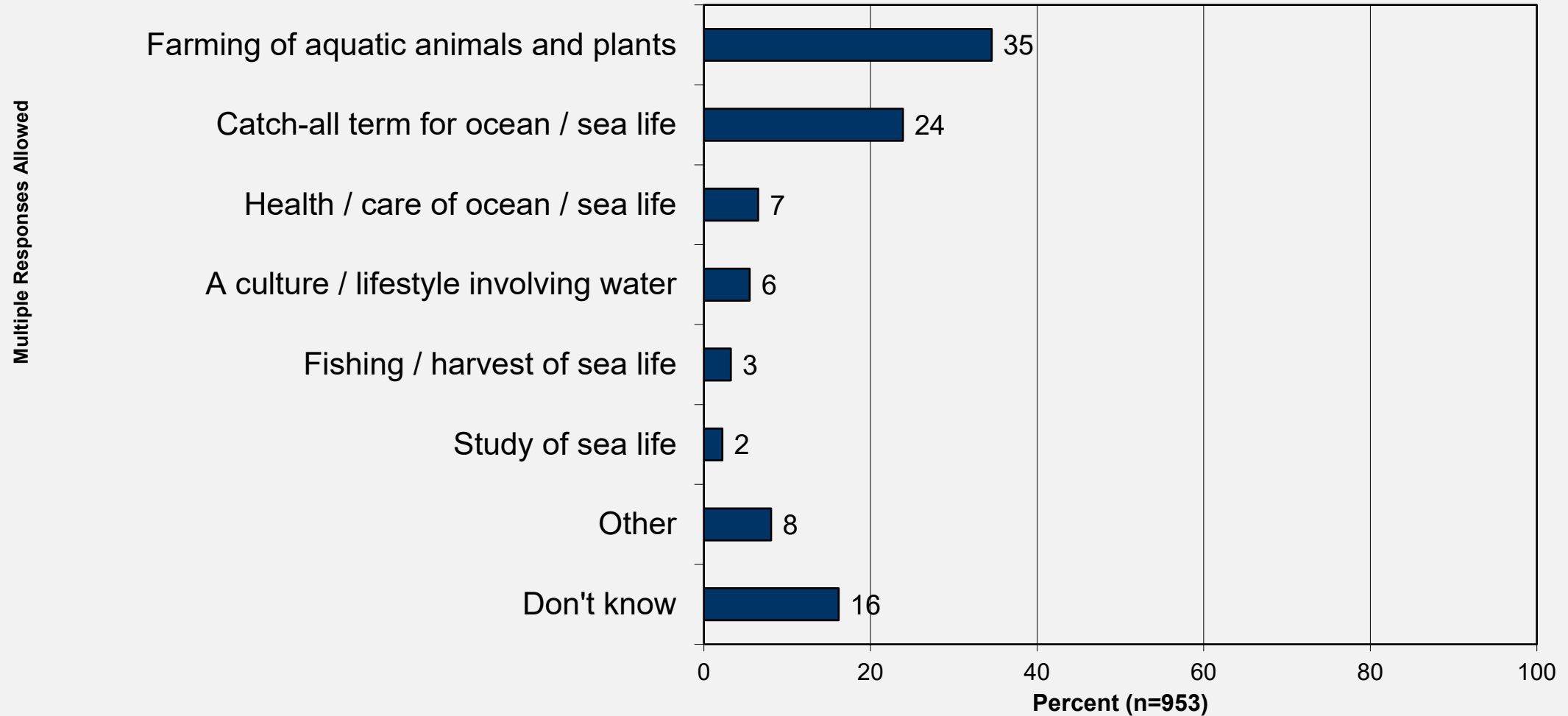
Prior to this survey, had you heard anything about aquaculture?



**Percent of the following groups who had heard of aquaculture prior to the survey:
(California)**



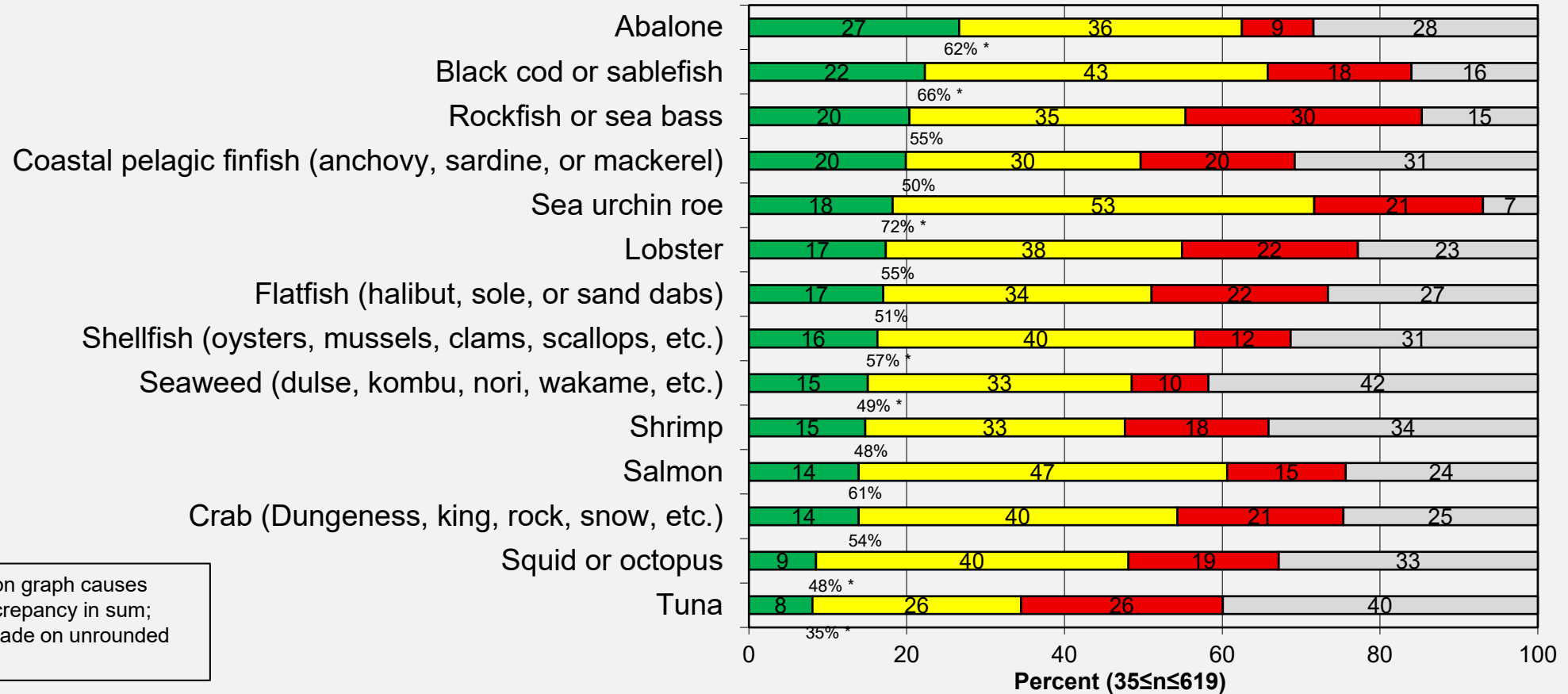
In a few words, what would you say the term aquaculture refers to? (California)



Awareness of and Willingness to Consume Farm-Raised Seafood

For each of the types of seafood you eat, please indicate how much of what you eat typically is farm raised: (Asked of those who typically eat the type of seafood.) (Overall) (California)

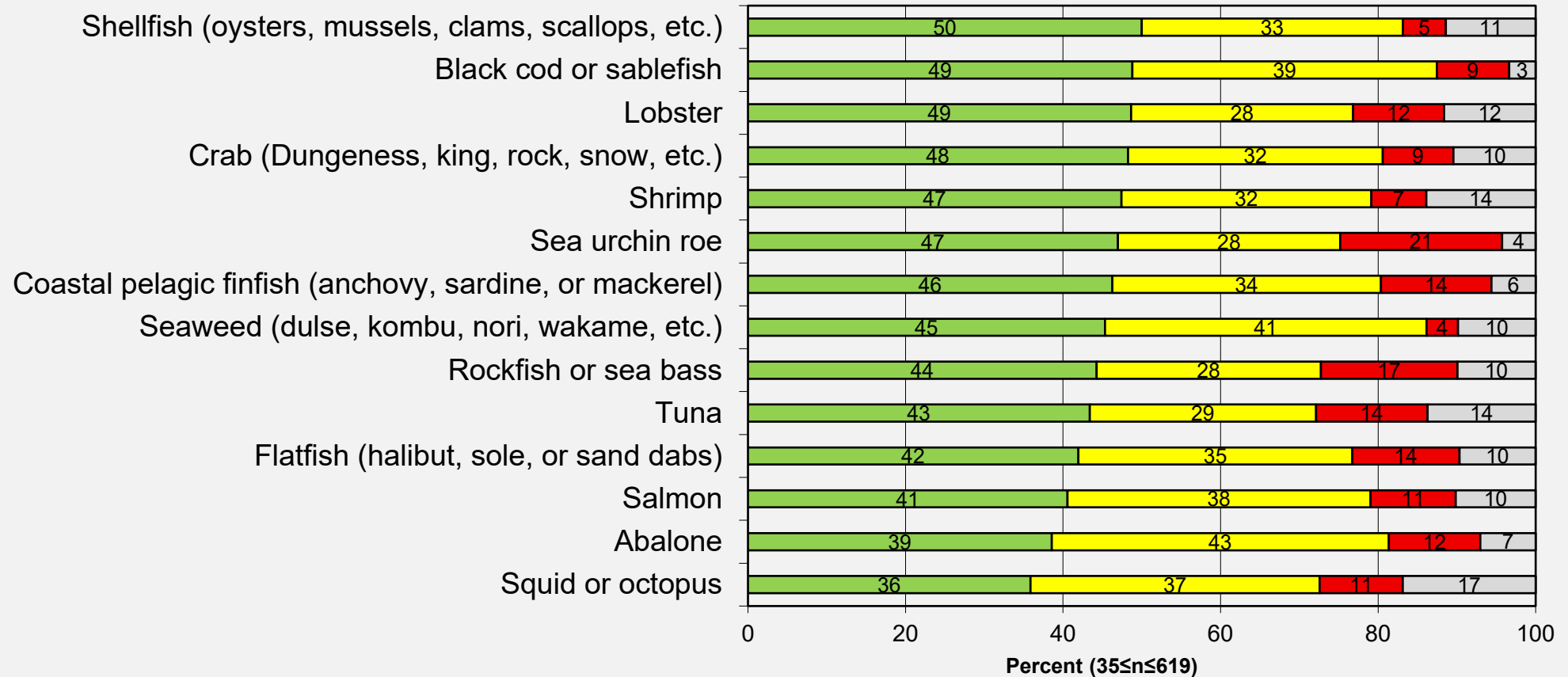
■ All of it
 ■ Some of it
 ■ None of it
 ■ Don't know



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

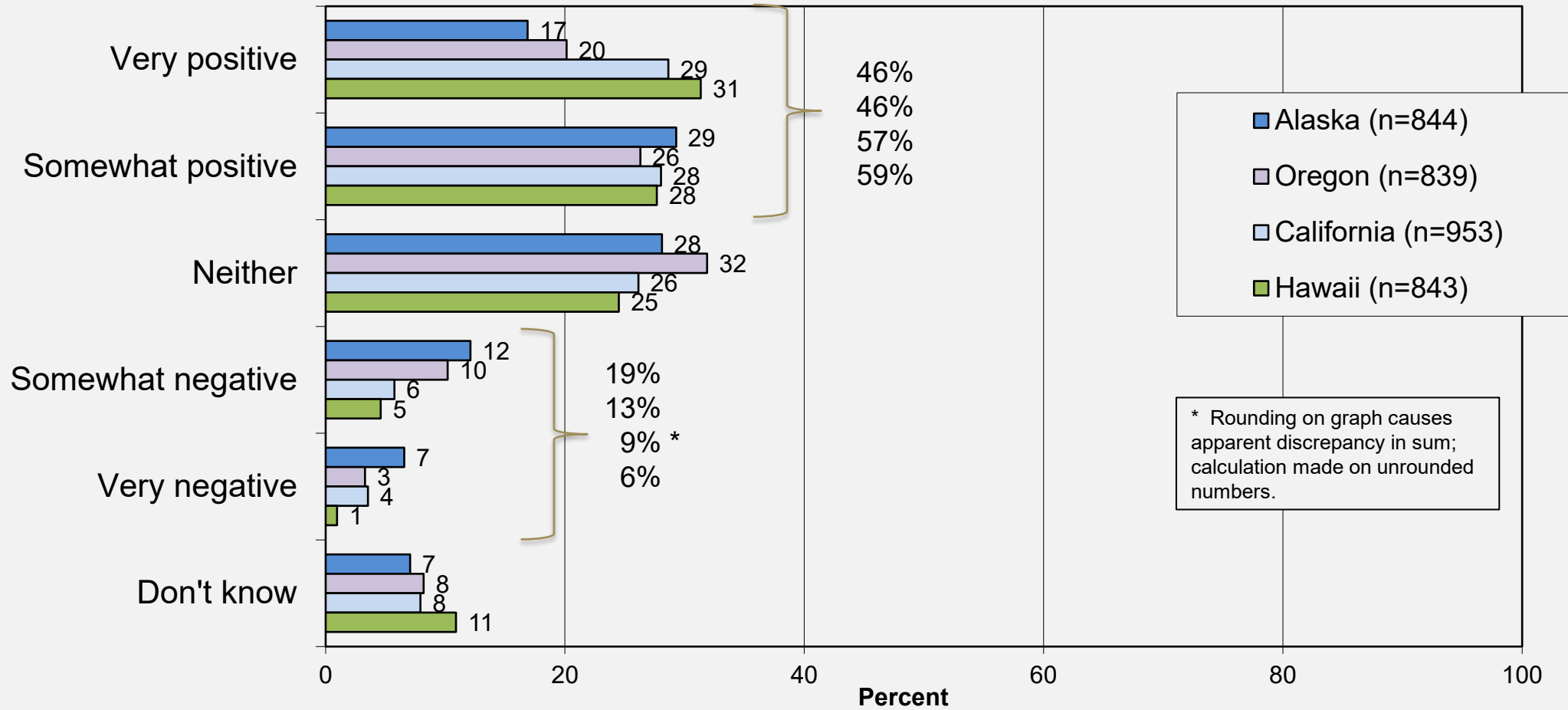
**For each of the types of seafood you eat, please indicate how willing you would be to eat the species if it were farm raised: (Asked of those who typically eat the type of seafood.)
(Overall) (California)**

■ Very willing
 ■ Somewhat willing
 ■ Not at all willing
 ■ Don't know / No opinion

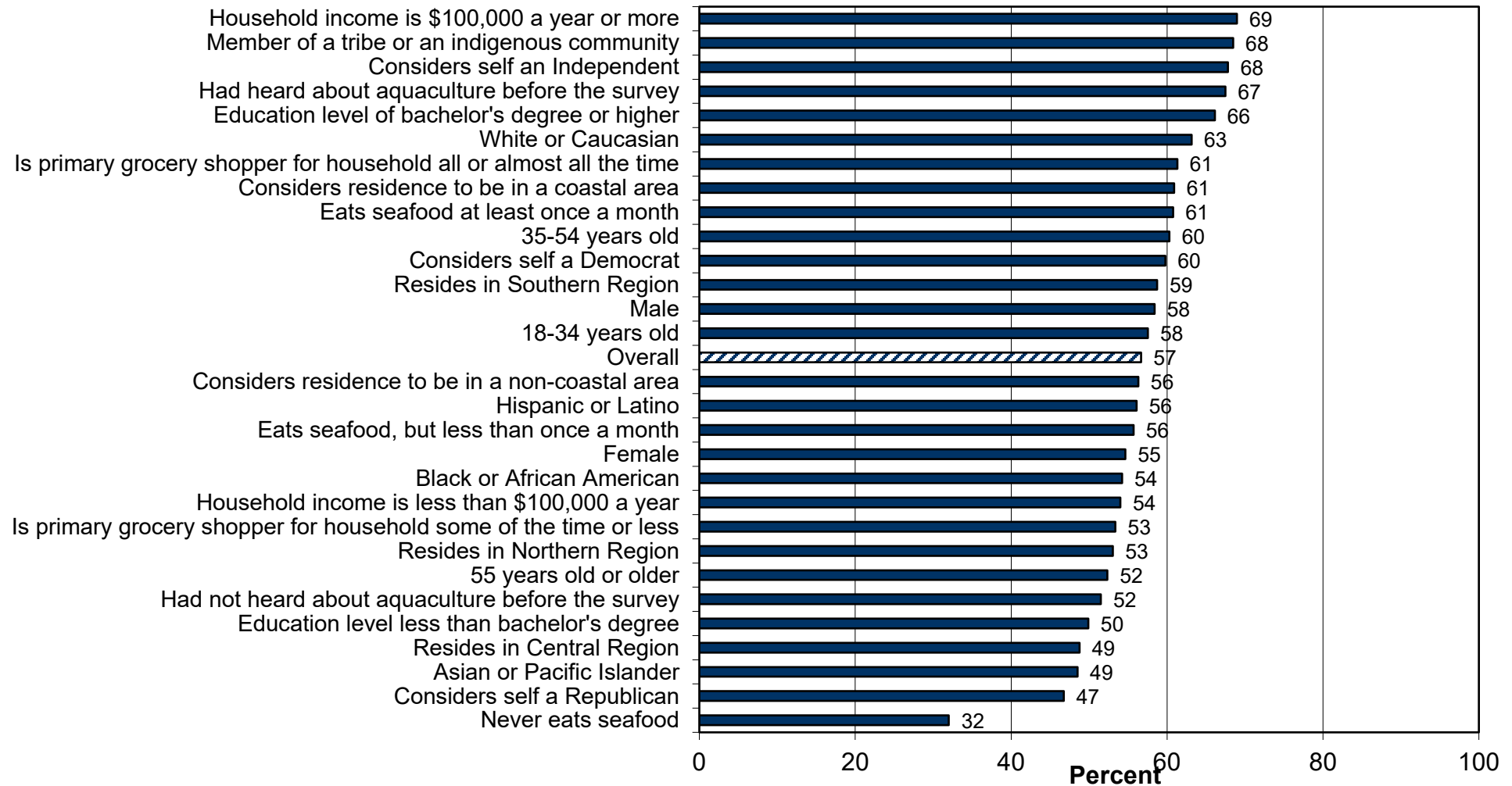


Attitudes Toward Aquaculture

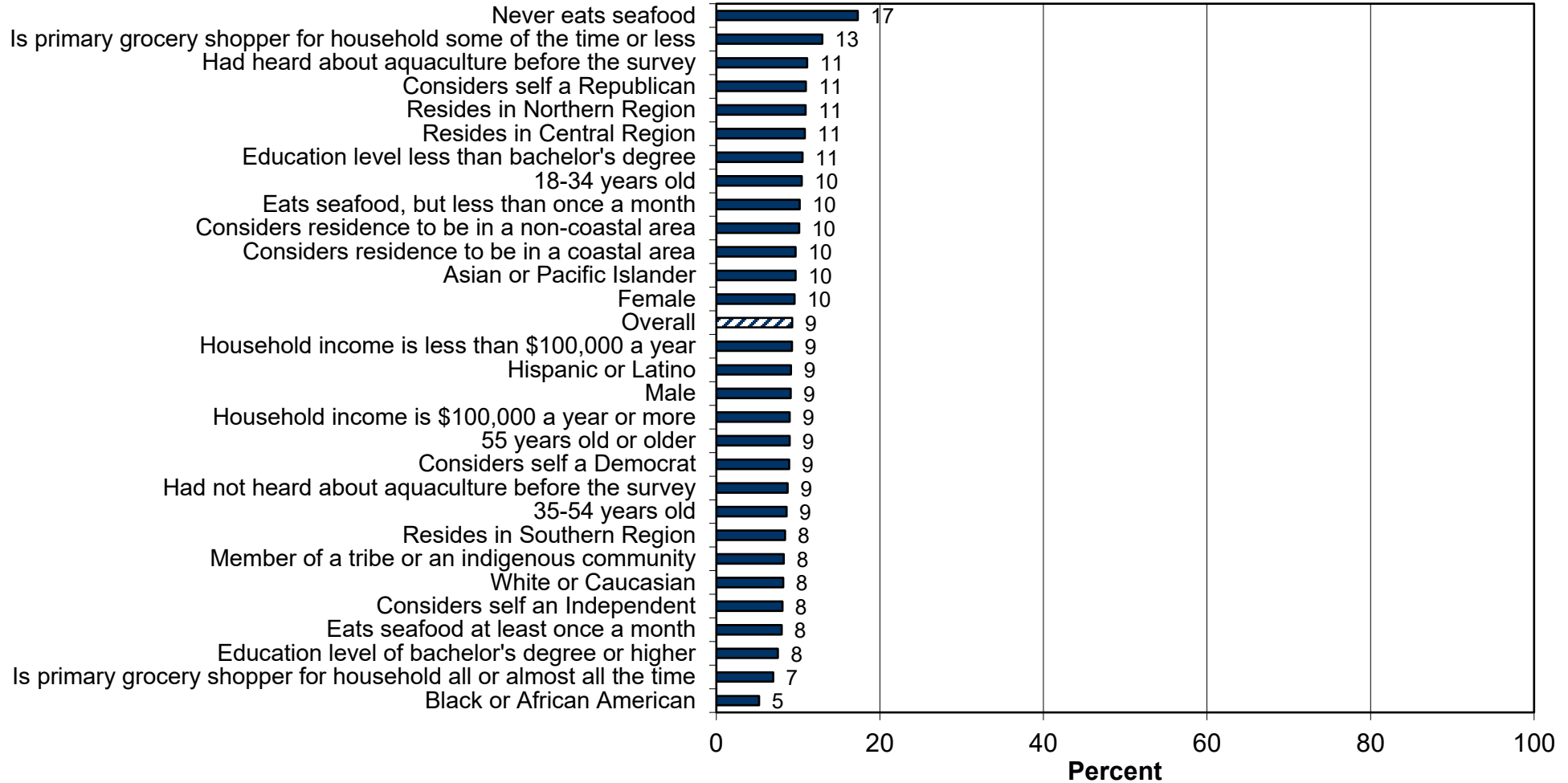
In general, how positive or negative is your view of aquaculture?



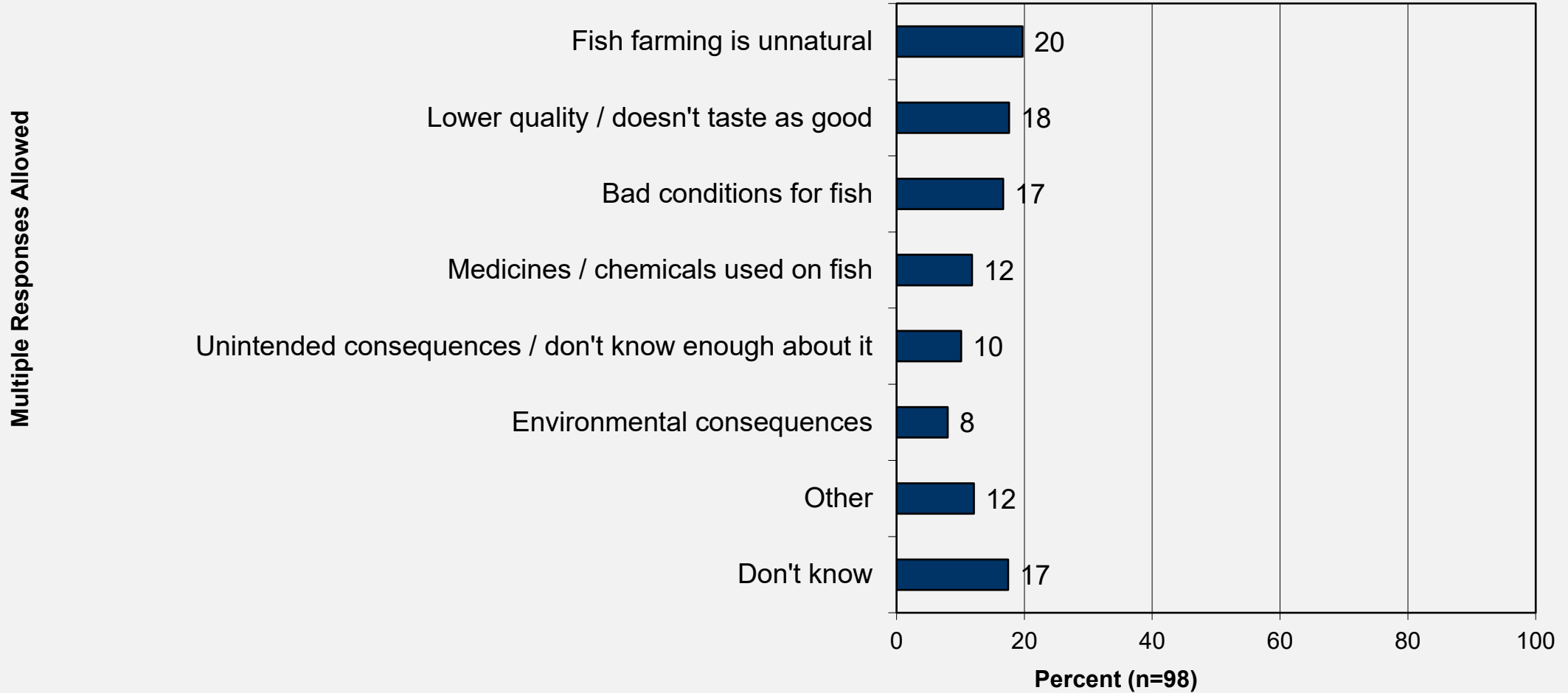
Percent of the following groups who have a very or somewhat positive view of aquaculture: (California)



Percent of the following groups who have a very or somewhat negative view of aquaculture: (California)

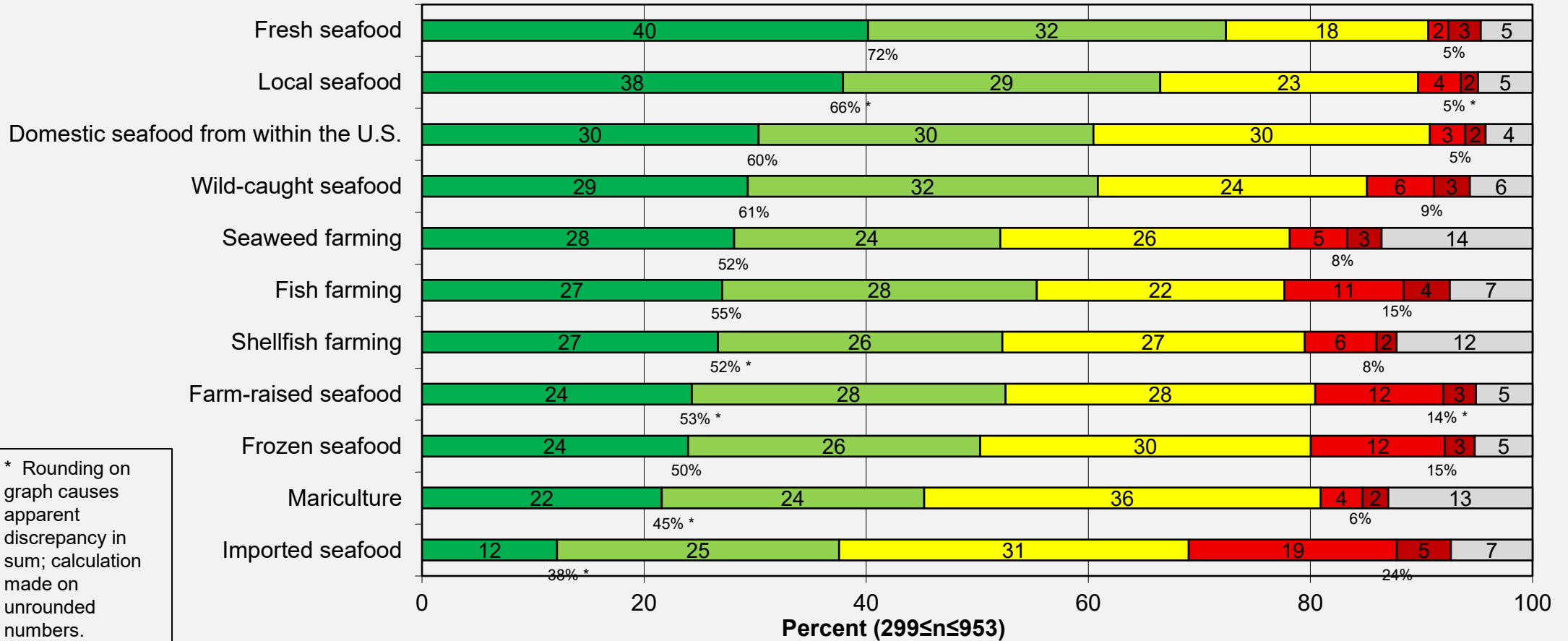


**What did you see or hear that gave you a negative opinion of aquaculture?
(Asked of those with a negative opinion of aquaculture.) (California)**

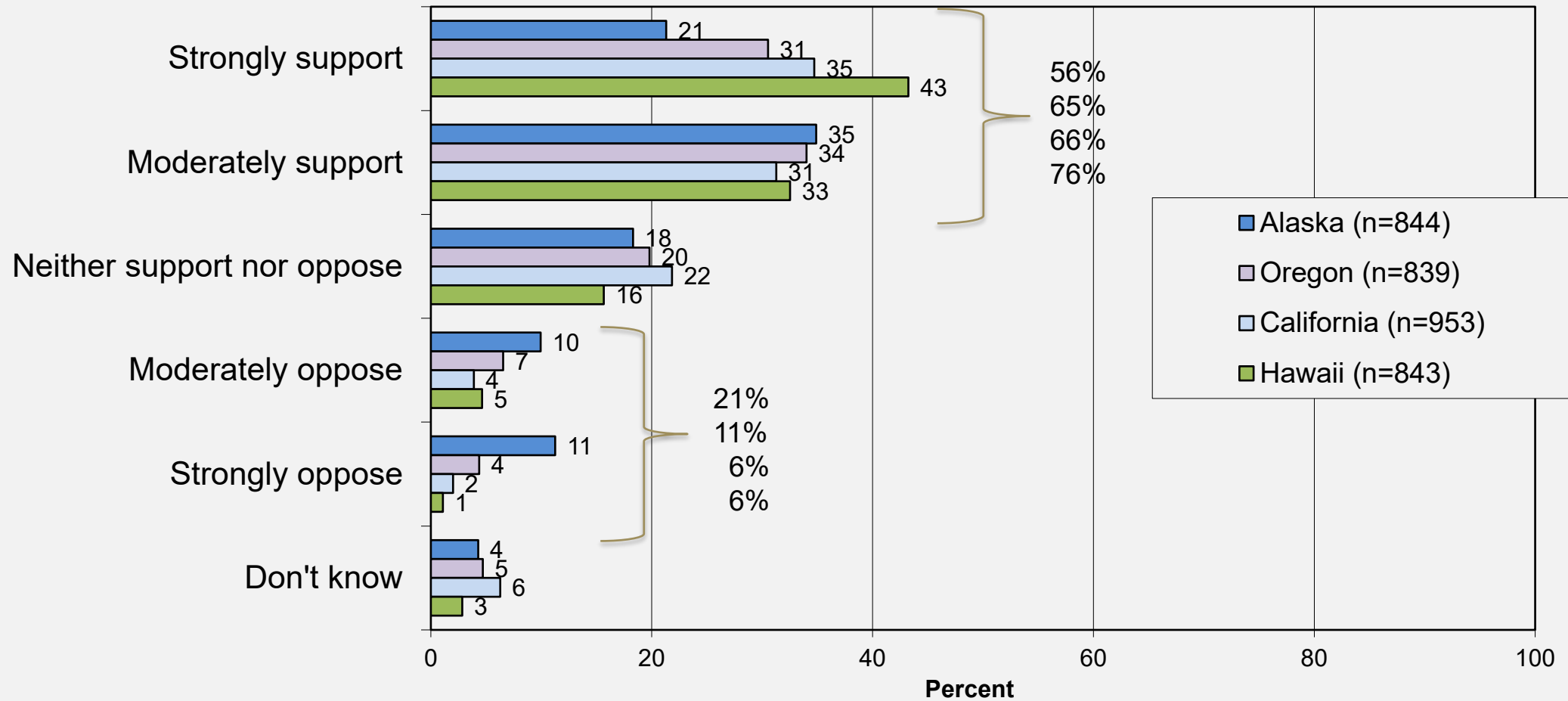


Based on what you have heard or seen prior to this survey, for each one please tell me if you have a positive or negative view of it, or if you are neutral. (Overall) (California)

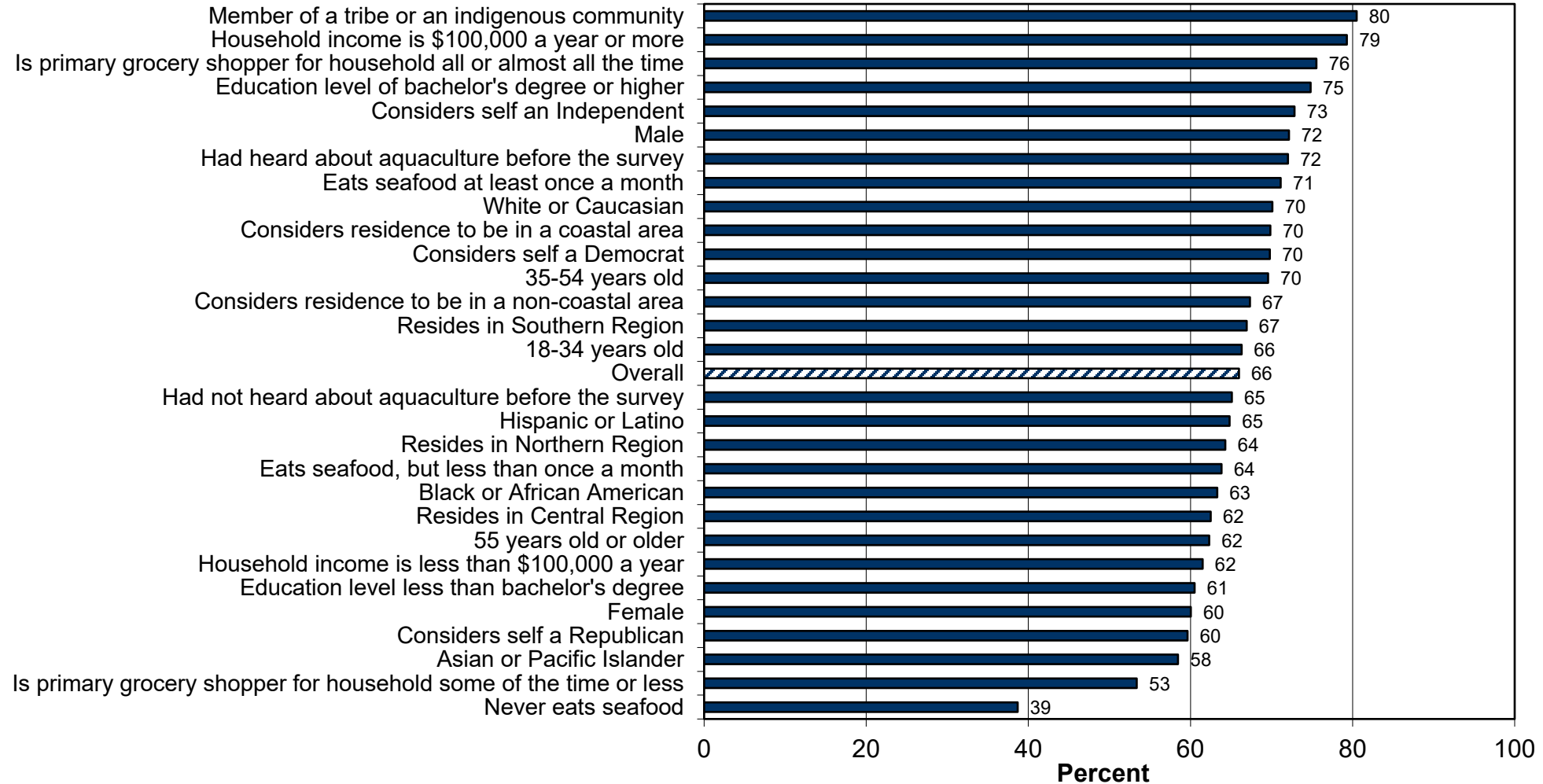
■ Very positive
 ■ Somewhat positive
 ■ Neither
 ■ Somewhat negative
 ■ Very negative
 ■ Don't know



In general, do you support or oppose having aquaculture in your state?

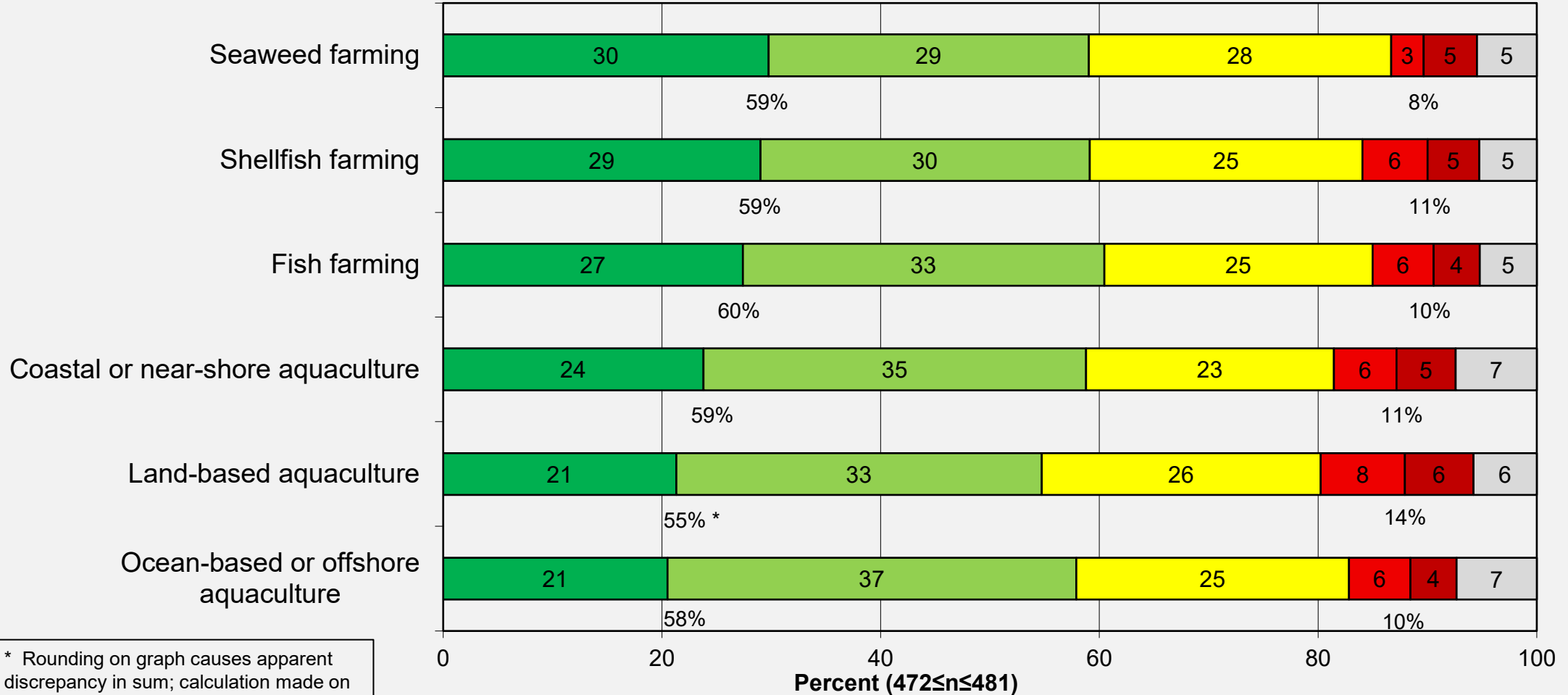


Percent of the following groups who strongly or moderately support having aquaculture in California:



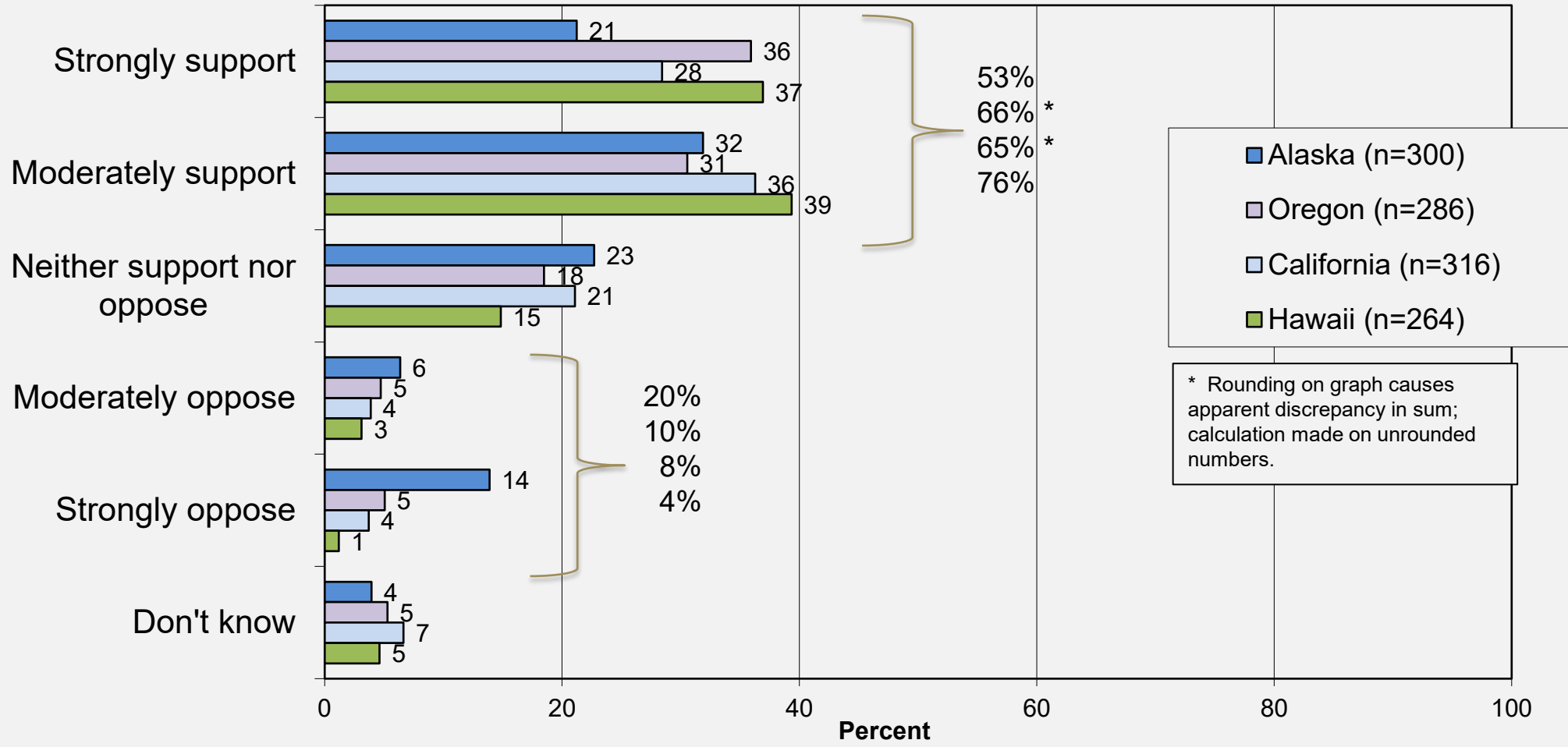
**Please tell me to what extent you support or oppose each of the following: (Overall)
(California)**

■ Strongly support
 ■ Moderately support
 ■ Neither
 ■ Moderately oppose
 ■ Strongly oppose
 ■ Don't know

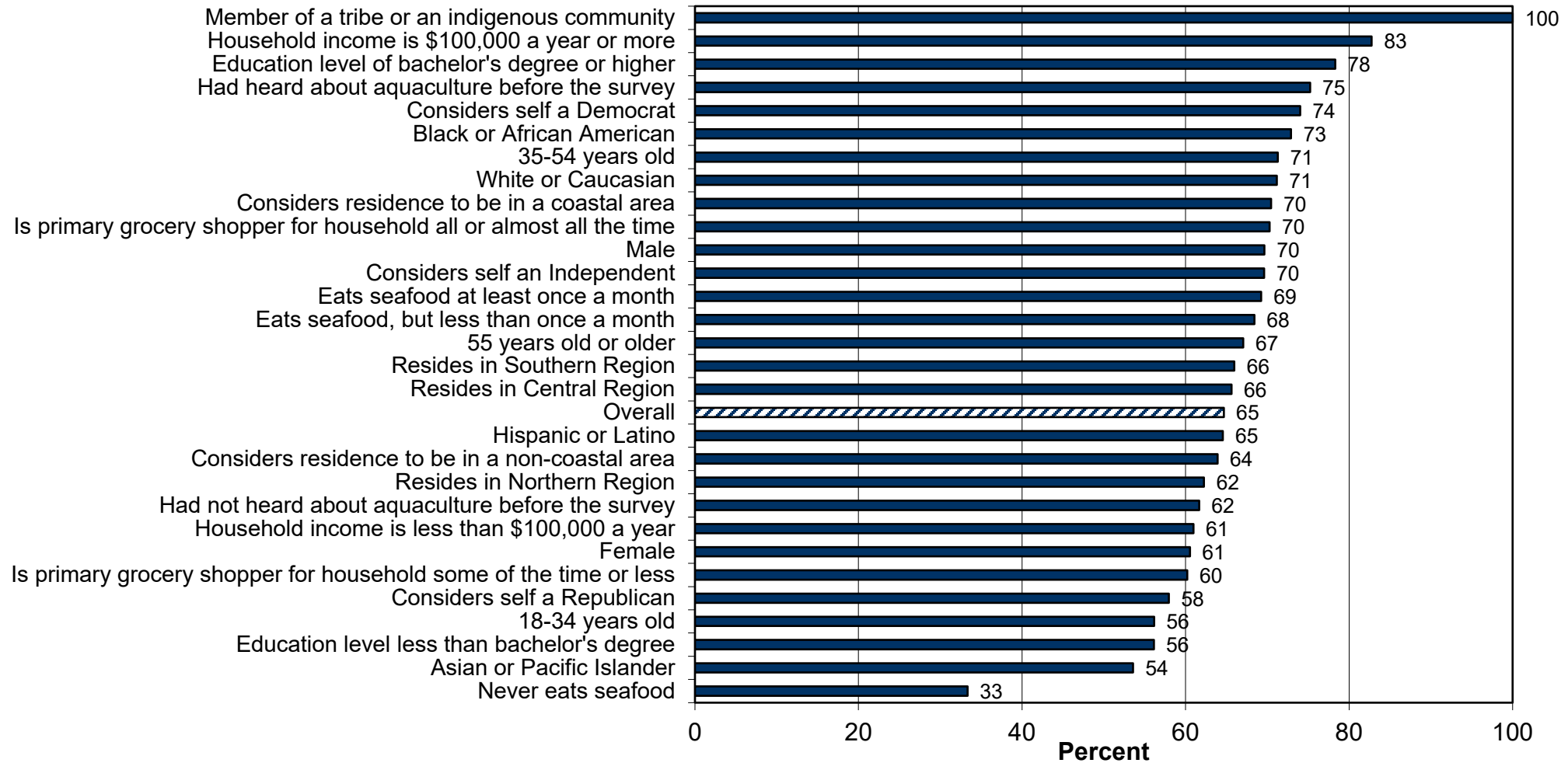


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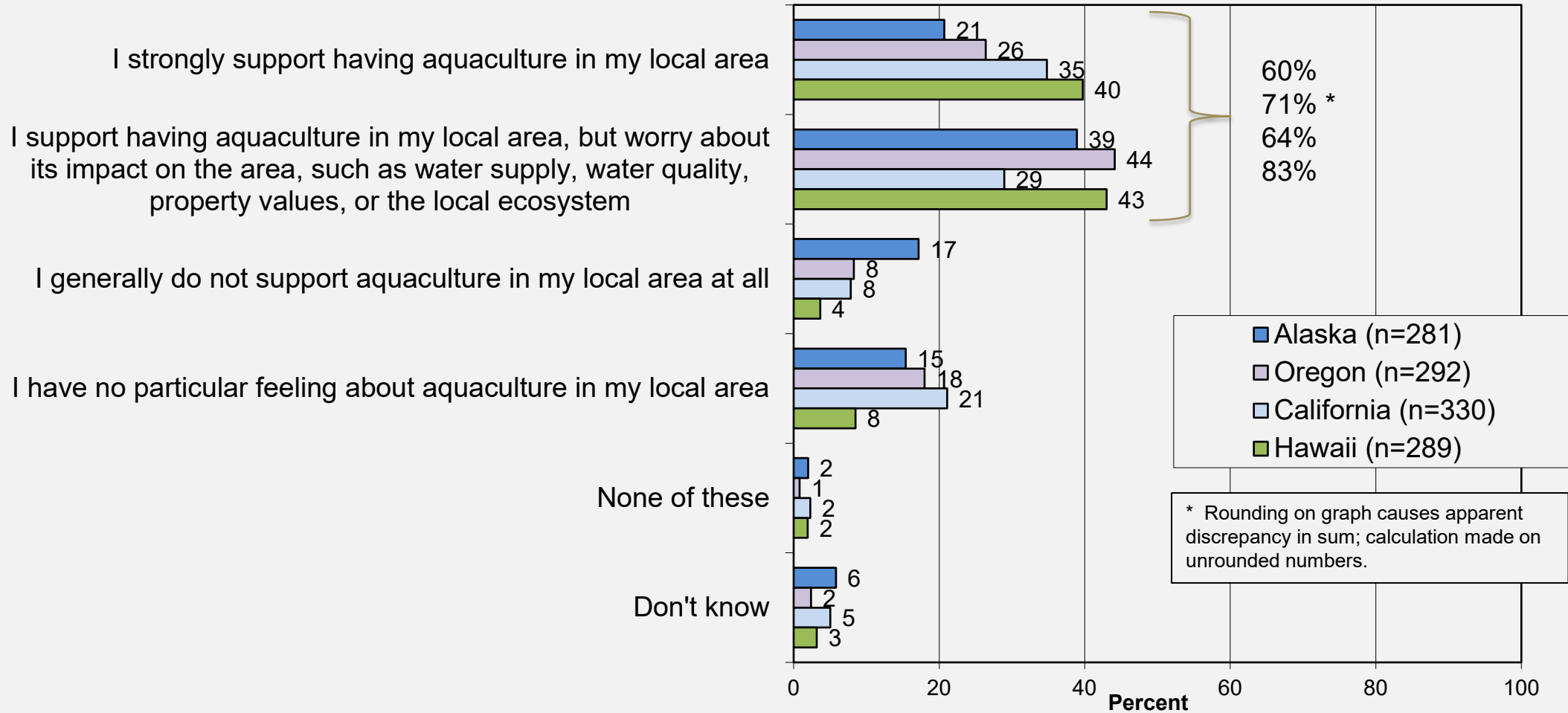
In general, do you support or oppose having some type of aquaculture in your local area?



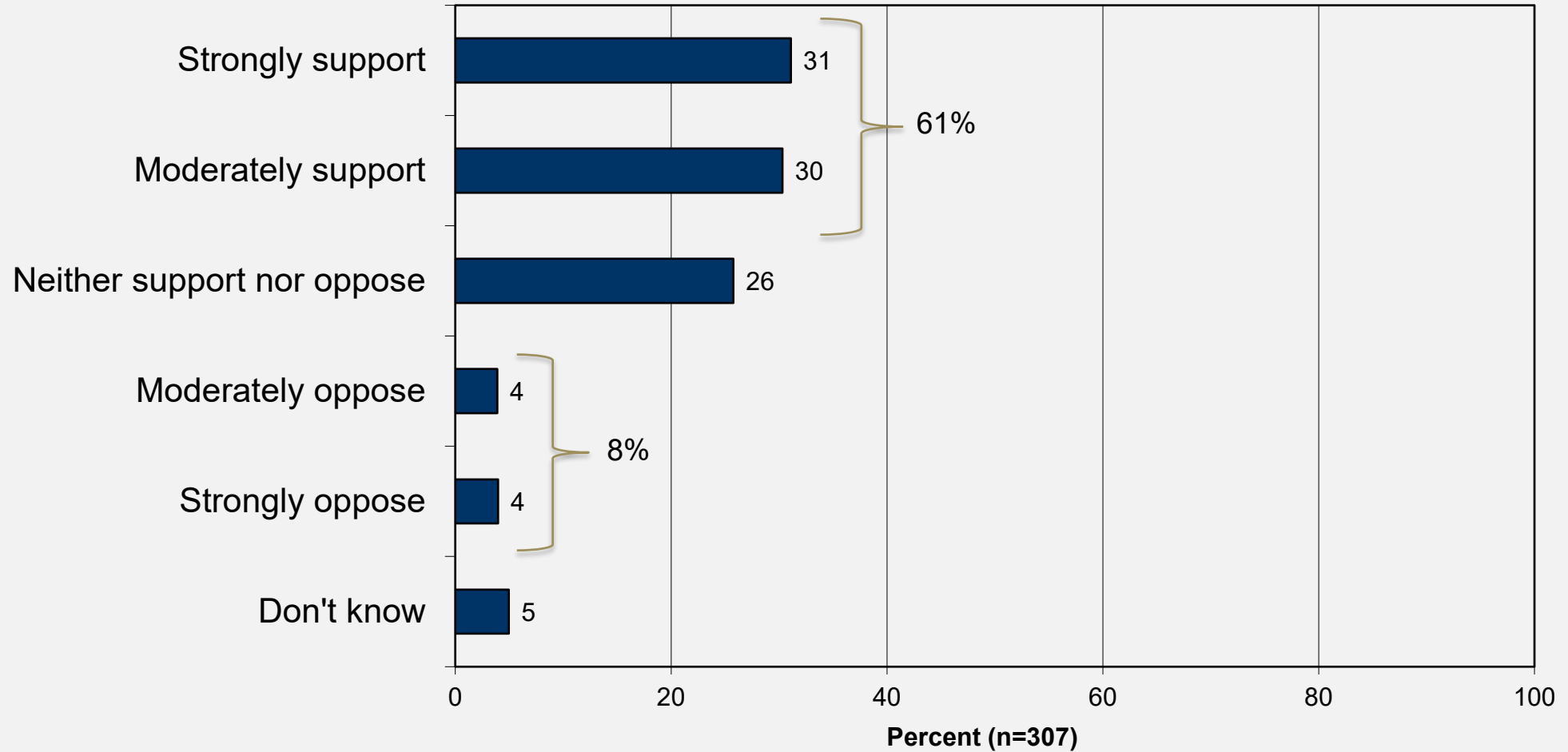
Percent of the following groups who strongly or moderately support having some type of aquaculture in their local area: (California)



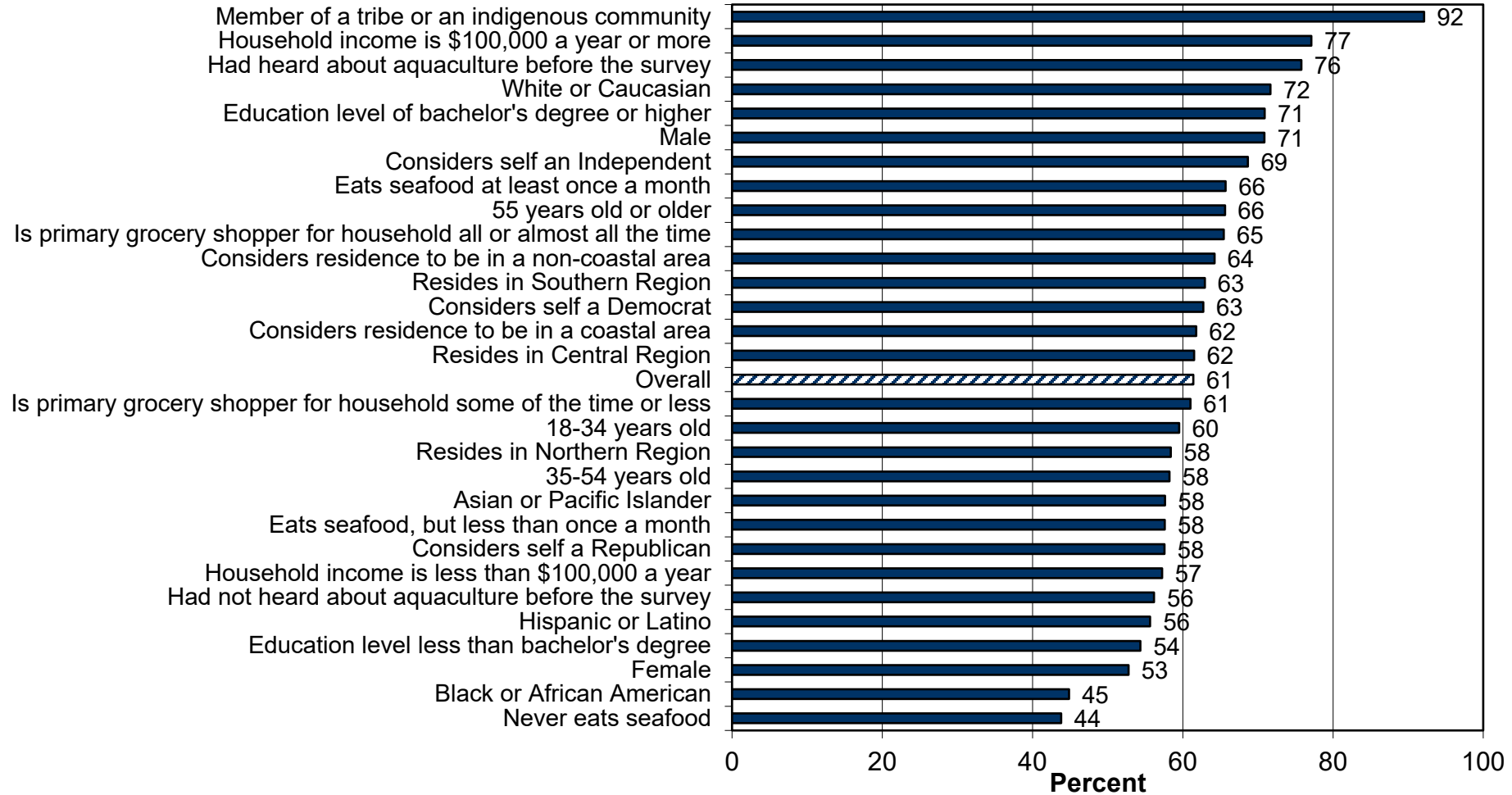
Generally, which of the following statements best describes your feelings about having some type of aquaculture in your local area?



Would you support or oppose policies that sustainably expand aquaculture in California?



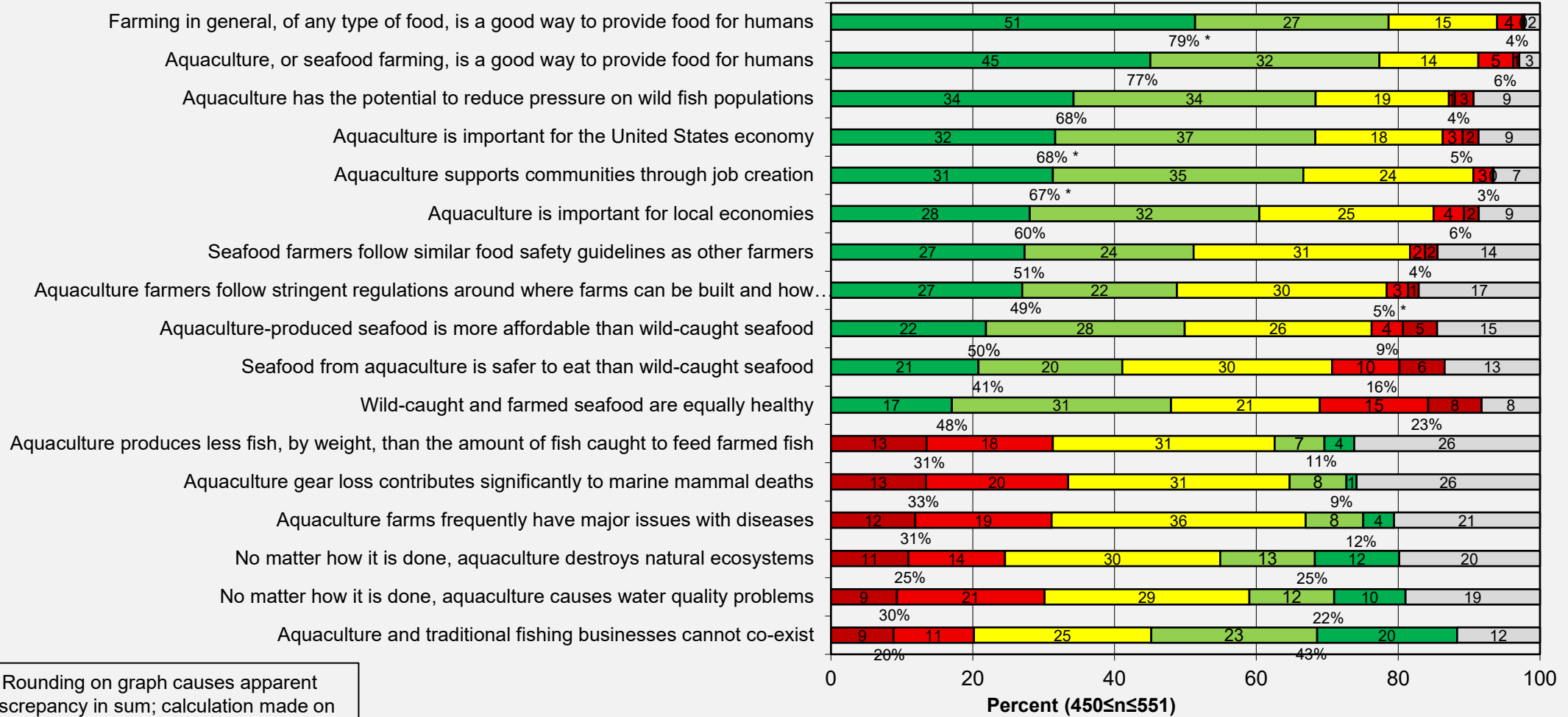
Percent of the following groups who strongly or moderately support policies that sustainably expand aquaculture in California:



Knowledge of Aquaculture

Next, please tell me if you agree or disagree with each of the following statements: (Overall) (California)

■ Strongly agree
 ■ Moderately agree
 ■ Neither
 ■ Moderately disagree
 ■ Strongly disagree
 ■ Don't know

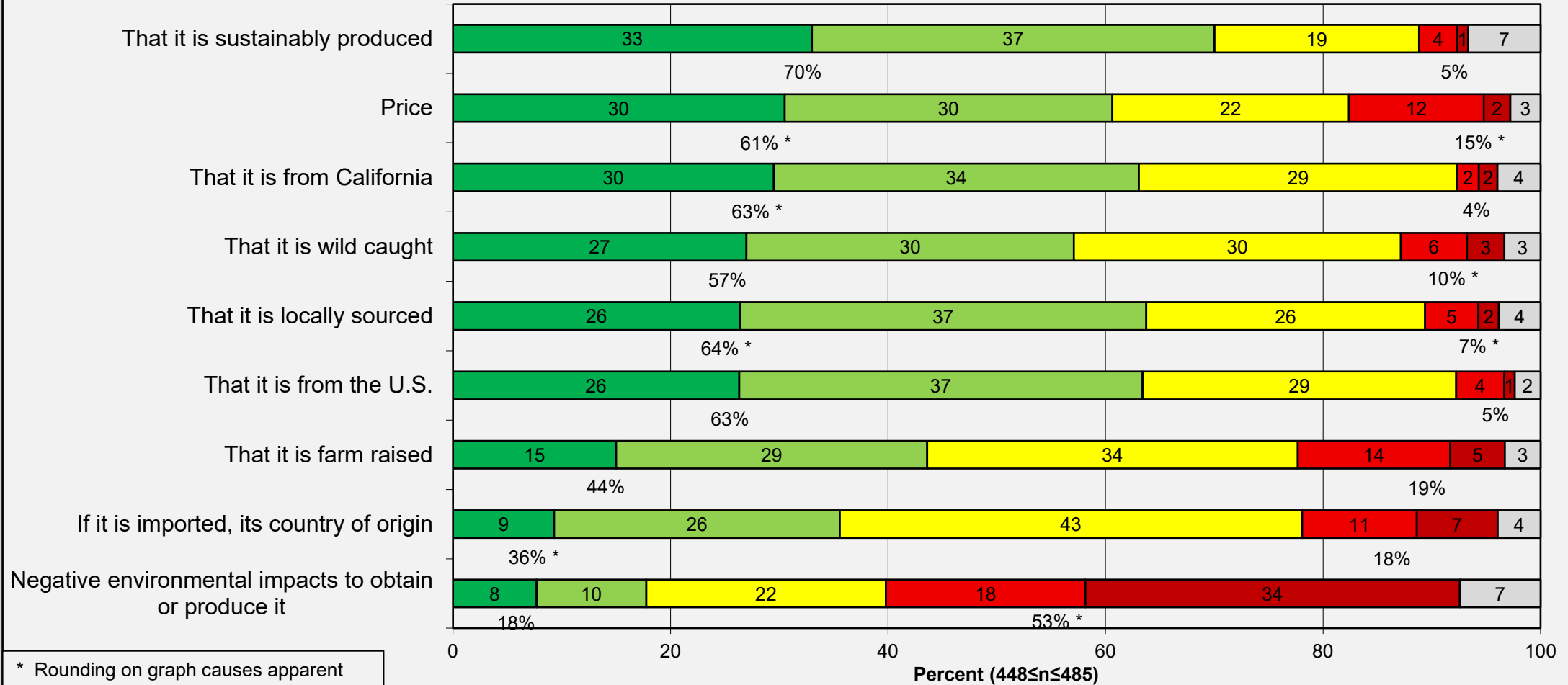


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Factors Important to Food Purchasing Decisions

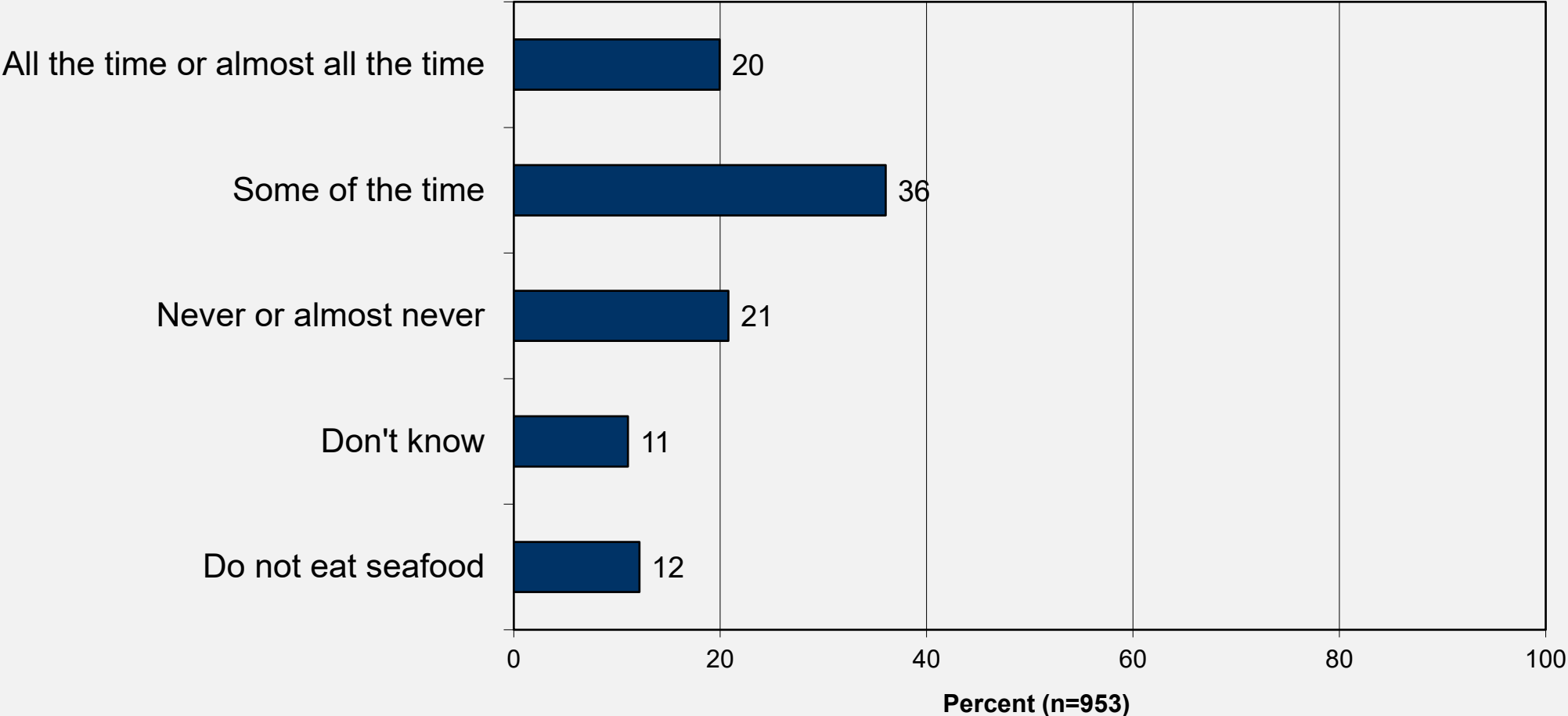
For each of the following, please indicate if it makes you more or less likely to purchase seafood. (Overall) (California)

■ Much more likely
 ■ Somewhat more likely
 ■ Neither
 ■ Somewhat less likely
 ■ Much less likely
 ■ Don't know



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

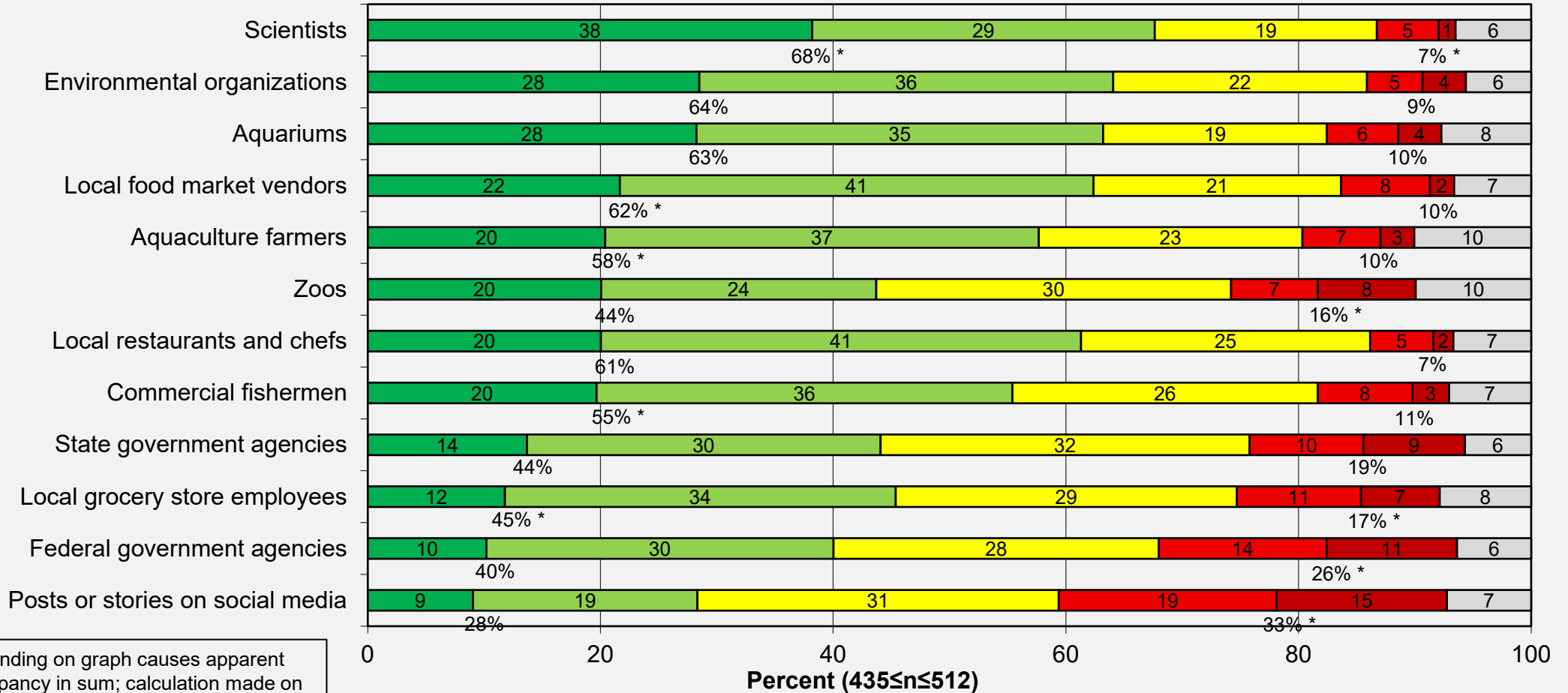
How often do you know if the seafood that you purchase from a store or market is farm raised or wild caught? (California)



Sources of Information

For the following, please tell me how much you trust each one as a source of information about aquaculture: (Overall) (California)

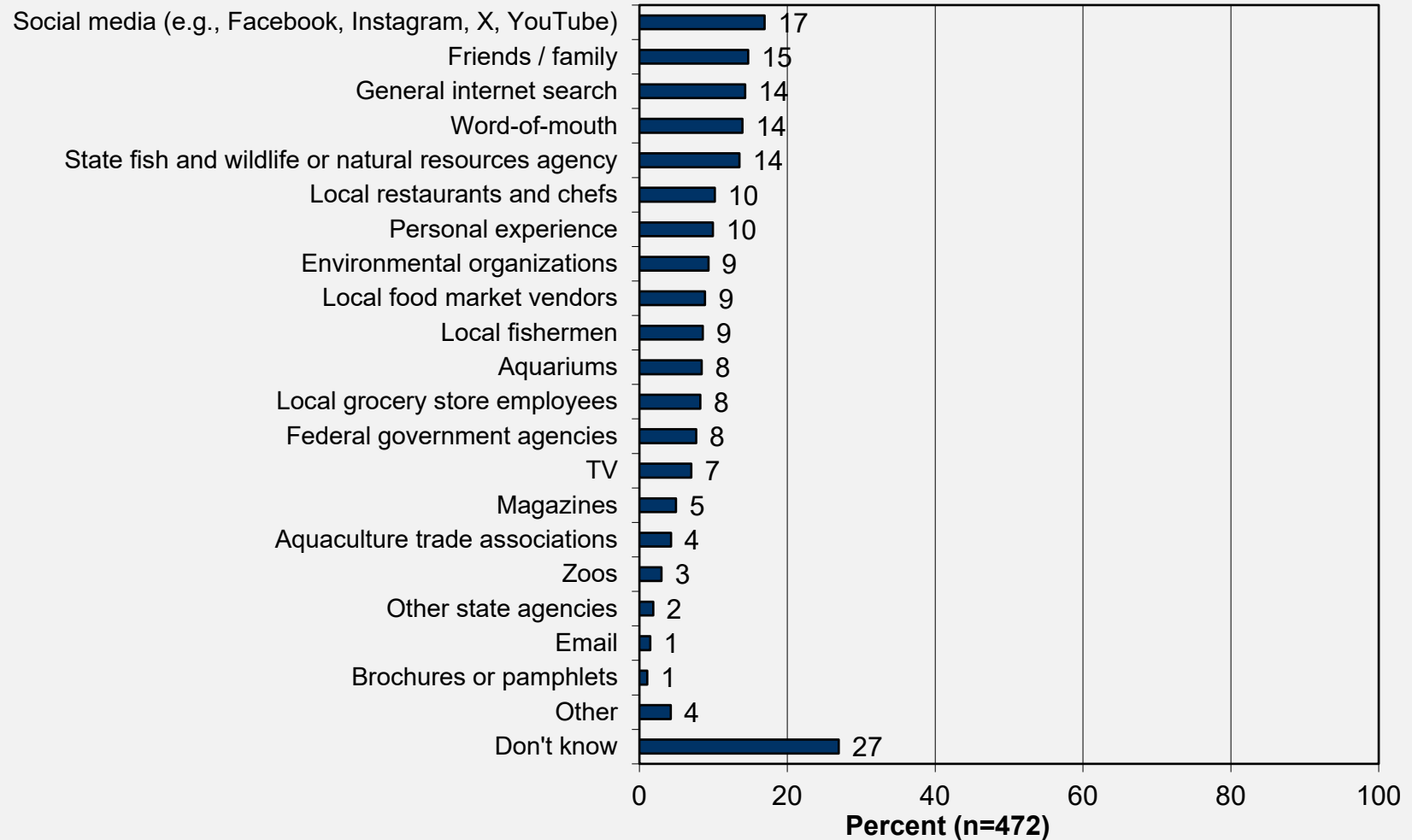
■ Trust a great deal
 ■ Trust somewhat
 ■ Neither
 ■ Distrust somewhat
 ■ Distrust a great deal
 ■ Don't know



* Rounding on graph causes apparent discrepancy in sum; calculation made on unrounded numbers.

Specifically, where do you get, or have you seen, information about aquaculture? (California)

Multiple Responses Allowed



An underwater scene with green seaweed and sunlight filtering through the water. The text "Questions?" is overlaid in a bold, yellow font.

Questions?

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