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# I FISH U FISH

## got beef?

### Debunking fishery myths

FISHERS FORUM

6 p.m. to 9 p.m.

October 17, 2013 (Thursday)

Harbor View Center, Pier 38

1129 N. Nimitz Highway, Honolulu

Know what's fact and fiction about Hawaii's fisheries, like longline, lay and surround net, spearfishing, aquarium fish collecting and more.

*This free public event is part of the 158th meeting of the Western Pacific Fishery Management Council being held October 16 to 18, 2013, at the Laniakea YWCA-Fuller Hall, 1040 Richards St., Honolulu*

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## I Fish, U Fish, What's the Beef? Debunking Fishery Myths

October 17, 2013 (Thursday) 6 to 9 p.m.  
Harbor View Center, 1129 North Nimitz Highway, Honolulu

### Draft Agenda (v. Oct. 16, 2013)

**6:00 p.m. REGISTRATION, REFRESHMENTS AND INFORMATIONAL TABLES**

- Western Pacific Regional Fishery Management Council
- Longline table – Gear provided by Hawaii Longline Association
- Net Fishing table – Carl Jellings, Makani Christensen (fishermen)
- Aquarium Fish Collecting table - Oahu Aquarium Fishermen
- Spearfishing table – *Hawaii Skin Diver* magazine
- Pacific Islands Fisheries Group and *Lawaia* magazine
- Hawaii Fishermen's Alliance for Conservation and Tradition

**6:45 p.m. PRESENTATIONS**

- **Welcome and Introductions** by *Paul Callaghan, chair emeritus of the Council's Scientific & Statistical Committee*
- **Longline Fishing** presented by *Jim Cook, owner/co-owner of Hawaii longline vessels and POP Fishing & Marine*
- **Net Fishing** presented by *Frank Farm, fisherman and former chair of Hawaii's Gillnet Task Force*
- **Aquarium Fish Collecting** presented by *Matthew Ross, fisherman*
- **Scuba Spearfishing** presented by *Makani Christensen, fisherman*

**8:00 p.m. PUBLIC DISCUSSION AND DOOR PRIZES**

Prize Donors: POP Fishing & Marine, Pacific Islands Fisheries Group, Nico's at Pier 38, Coral Fish Hawaii, *Hawaii Fishing News* and more

*The Fishers Forum is part of the 158<sup>th</sup> meeting of the Western Pacific Fishery Management Council, October 16 to 18, 2013, at the Laniakea YWCA-Fuller Hall, 1040 Richards St., Honolulu. For more information, go to [www.wpcouncil.org/meetings](http://www.wpcouncil.org/meetings), email [info.wpcouncil@noaa.gov](mailto:info.wpcouncil@noaa.gov) or call 522-8220.*

Mercury in fish \_\_\_\_\_.

- a) Is in high concentration in the Pacific
- b) Is more important than the health benefits from seafood
- c) Comes from atmospheric pollution
- d) Is not toxic if equal or greater to the amount of selenium present in the fish

Buying and eating fish and seafood from Hawaii is \_\_\_\_\_.

- a) Dangerous
- b) Healthy
- c) Unsustainable
- d) Safe



*Get Involved, Stay Connected!*



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TEST YOUR KNOWLEDGE OF HAWAII'S FISHERIES



*Is What You Know MYTH or FACT?*



# Test your knowledge!!!

Complete each statement with what you believe to be true (select all that apply)

**Hawaii's longline fishery \_\_\_\_\_.**

- a) Takes all the fish
- b) Catches only a few fish per set
- c) Lay lines close to shore in the same area as trollers
- d) Kill thousands of protected species like sea turtles, sea birds and marine mammals every year
- e) Is a type of fishing done by foreigners on foreign vessels

**Hawaii's commercial fishermen \_\_\_\_\_.**

- a) Take more than non-commercial fishermen
- b) Take about the same as non-commercial fishermen
- c) Take less than non-commercial fishermen
- d) Only care about money



**Spearfishing in Hawaii \_\_\_\_\_.**

- a) Is the most selective fishing gear
- b) Is only fair if done during the day, holding your breath
- c) At night provides an unfair advantage
- d) With SCUBA provides an unfair advantage

**Net fishing in Hawaii \_\_\_\_\_.**

- a) Has no rules or enforcement
- b) Kills everything that gets caught in it
- c) Can be done responsibly
- d) Is bad in all its forms

**Sustainable Hawaii fish and seafood can be bought \_\_\_\_\_.**

- a) From places like health food stores and organic markets
- b) When it is certified as sustainable
- c) At any reputable seafood market/dealer
- d) From the back of the truck on the side of the road
- e) From any fishery managed under the Magnuson-Stevens Act



**The fish and seafood Hawaii buys and consumes is \_\_\_\_\_.**

- a) Mostly (i.e., more than half) imported from other countries
- b) Mostly (i.e., more than half) locally caught by local fishermen in Hawaii waters
- c) Will be gone by the year 2048



## HAWAII'S FISHERIES FACTS: Answer Sheet

*How did you do? Did you know the facts from the myths? Let's find out:*

### **Hawaii's longline fishery b) Catches only a few fish per set**

*The correct answer is b).*

*The truth is that for all the hooks that longlines put out, they do not catch very many fish. In the Hawaii longline fishery in 2012, about 2,300 hooks were deployed each set, and which on average yielded only about 30 fish per boat per night, of which 11% or just over three fish per set. The fishery is also subject to a quota for bigeye tuna that is set by the U.S. through international collaboration with other countries, busting the myth that Hawaii longlines "rape and pillage" the ocean.*



*The longline fishery in Hawaii also does not interact with the troll fishery. They target different species (yellowfin tuna and marlins for troll fishery and bigeye tuna and swordfish for longline fishery) and operate in different areas. There are also regulations that exclude the longline fishery from operating within 25 nm from shore. The vessels in the Hawaii longline fishery are also U.S.-owned and operated, not foreign owned. It is true that there may be foreign workers on board some vessels, but the boat and ownership is American owned and fish are landed in the U.S.*

*Longlines do occasionally catch sea turtles and can pose a threat to seabirds and marine mammals as well. However, changes to the fishery developed by the industry that include the use of large circle hooks, dying bait, weighting branch lines, and side-setting, has reduced the interaction of longlines with protected species to very low numbers.*

### **Net fishing in Hawaii c) Can be done responsibly**



*If you picked c) you are correct! There are a variety of different nets, including surround, hukilau, akule/opelu, crab, throw, and gill nets. Not all of them are used the same, and there are regulations developed and enforced by the State of Hawaii. Nets do catch a lot of fish (as they are designed to), but used responsibly contributes to both the market and the community's fish and seafood needs.*

**Hawaii's commercial fishermen a) Take more than non-commercial fishermen; b) Take about the same as non-commercial fishermen; c) Take less than non-commercial fishermen**

*If you said a), b) or c) you are right! The real answer is that we DO NOT know how much commercial fishermen take in relation to non-commercial (recreational, sportsfishing, subsistence, traditional/cultural) fishermen because we have very limited data. The main problem that we have is that we don't know the universe of non-commercial fishermen. Estimates range from six-thousand to over a quarter of a million recreational fishermen!*



*Surveys of bottomfish fishermen have estimated that catch from non-commercial bottomfish fishing is can range from nearly equal to commercial bottomfish fishing to twice that of commercial bottomfish fishing. Non-commercial catch is often estimated to be likely equal to or greater than inshore commercial fishery catch.<sup>1</sup> The State of Hawaii currently uses the Hawaii Marine Recreational Fishery Survey (HMRFS) to collect non-commercial fishery data. However, the estimates expanded from these surveys are prone to skepticism because of the wide variances of error and yearly oscillation of the estimated values. The National Marine Fisheries Service (NMFS) is in the process of reviewing and revising these estimates through pilot projects being implemented by the Marine Recreational Information Program (MRIP.)*

*Participating in surveys and questionnaires on the phone, in the mail, or in-person on the beach or docks will help us understand this relationship, so please participate!*

**Spearfishing in Hawaii a) Is the most selective fishing gear**



*The correct answer is a). Selectivity means that the use of the gear is good and virtuous, as discards are reduced/avoided and selection is made for species that can support fishing pressure. Spearfishing is the most selective fishing gear, as discards are rare and a diver can avoid certain sizes or species of fish. However, the use of this gear may cause it to be non-selective. The misuse of the gear causes many social conflicts.*

*These social conflicts are brought to light in the other answers (night spearfishing and SCUBA spearfishing) and are related to the values of individuals. While many might feel that SCUBA or night spearfishing is “cheating” or “doesn't give fish a fair chance,” others might see it as expending less energy and maximizing efficiency. Whether ten fish are taken at night or during the day, or using SCUBA or holding your breath, the fact remains that ten fish were taken. Gear or time of day doesn't matter as much as personal responsibility. Following a code of conduct that includes “taking only as much as you need” will ensure that there is enough fish for everyone.*

<sup>1</sup> Friedlander, A., Aeby, G., Brown, E., Clark, A., Coles, S., Dollar, S., Hunter, C., Jokiel, P., Smith, J., Walsh, B., Williams, I., and Wiltse, W. 2008. "The state of coral reef ecosystems of the main Hawaiian Islands." *The state of coral reef ecosystems of the United States and Pacific freely associated states*: 219–257.

**Sustainable Hawaii fish and seafood can be bought a) From places like health food stores and organic markets; b) When it is certified as sustainable; c) At any reputable seafood market/dealer; d) From the back of the truck on the side of the road; e) From any fishery managed under the Magnuson-Stevens Act**



*This is a trick question, as you can buy sustainable fish and seafood from anywhere. Hawaii fisheries and its markets practice basic standard best manufacturing practices and seafood dealers utilize process such as HACCP (Hazard Analysis Critical Control Point) to maintain fish and seafood as wholesome. Hawaii's longline fishery was assessed using the UN Code of Conduct for Responsible Fisheries and scored a 94% which is amongst the highest of all fisheries worldwide.<sup>2</sup> Most coral reef fish in Hawaii are also experiencing moderate to low exploitation, in reference to its biomass.<sup>3</sup>*

*While "certified" fish and seafood are available, the reality is that all of Hawaii's fisheries are sustainable even without the certification. Fish being sold on the side of the road, at a fish market, in the local grocery stores, or in vendor stalls in Chinatown may or may not be selling Hawaii-caught fish. To know if your fish is truly from a sustainable fishery, like Hawaii's fisheries, you need to ask when you buy it.*

**The fish and seafood Hawaii buys and consumes is a) Mostly (i.e., more than half) imported from other countries**

*Per capita, Hawaii consumes between 30 and 40 pounds of seafood annually. Commercially, foreign and U.S. imports supply more than half of the fish and seafood consumed in Hawaii, with about a third provided by local fishermen.<sup>4</sup> There is a clear demand for fish and seafood in Hawaii that causes a dependence upon foreign imports. Supporting the local fishing industry and fishermen would provide Hawaii with less dependence upon foreign imports.*



*A 2003 paper in Nature estimated that there was a rapid depletion of predatory fish communities and concluded that 90% of the fish in the ocean are gone and that by the year 2048, there will be little or no seafood available.<sup>5</sup> These ideas have since been rebutted by numerous scientists that showed that stocks have not declined anywhere near 90% and have only been depleted slightly.<sup>6,7,8</sup> The FACT is that you should be able to continue to enjoy your fish and seafood for the next 35 years and beyond. The Western Pacific Regional Fishery Management Council is dedicated to ensure that fisheries are sustainable and that we can continue to fish forever.*

<sup>2</sup> Bartram, P., Nakamura, K., Kaneko, J.J., and Krasnick, G. (2008) Responsible Fisheries Assessment of Hawaii's Pelagic Longline Fisheries. Hawaii Seafood Council, Honolulu, Hawaii. Retrieved October 3, 2013 from: <http://www.hawaii-seafood.org/uploads/2008%20RESPONSIBLE%20FISHERIES%20ASSESSMENT.pdf>

<sup>3</sup> Luck, D. and Dalzell, P. (2010) Western Pacific Region Reef Fish Trends. A Report to the Western Pacific Regional Fishery Management Council. Honolulu, Hawaii. Retrieved October 3, 2013 from: <http://www.wpcouncil.org/documents/Reports/annualreports/Western%20Pacific%20Region%20Reef%20Fish%20Trends%202010-4.pdf>

<sup>4</sup> Geslani, C., Loke, M., Takenaka, B., and Leung, P. (2012) Hawaii Seafood Consumption and its Supply Source. Pelagic Fisheries Research Program, SOEST 12-01, JIMAR Contribution 12-379, Honolulu, Hawaii.

<sup>5</sup> Myers, R. A. and B. Worm. 2003. Rapid worldwide depletion of predatory fish communities. Nature 423:280-283.

<sup>6</sup> Walters, C. J. 2003. Folly and fantasy in the analysis of spatial catch rate data. Canadian Journal of Fisheries and Aquatic Sciences 60:1433-1436.

<sup>7</sup> Sibert, J., J. Hampton, P. Kleiber, and M. Maunder. 2006. Biomass, Size, and Trophic Status of Top Predators in the Pacific Ocean. Science 314:1773-1776.

<sup>8</sup> Juan-Jorda, M. S., I. Mosqueira, A. B. Cooper, J. Freire, and N. K. Dulvy. 2011. Global population trajectories of tunas and their relatives. Proceedings of the National Academy of Sciences of the United States of America 108:20650-20655.

**Mercury in fish *d*) Is not toxic if equal or greater to the amount of selenium present in the fish**

There has been much concern about mercury in fish and possible effects of consumption of fish and seafood that contain mercury. The truth is that no one has ever been sickened or died from mercury in fish from Hawaii or elsewhere, including tuna, marlin and swordfish.<sup>9</sup> Not to be mistaken, mercury poisoning is dangerous and there have been reports of mercury poisoning from eating seafood, however these instances were related to industrial pollution contaminating fish and shellfish, and not fish with naturally low levels of methylmercury.



Consuming fish and shellfish is important for reducing the risk of cardiovascular disease and may be associated with a decrease in the risk of strokes, heart attacks, cancer and other diseases. The importance of consuming fish is greater than the threat of mercury, particularly given the importance of levels of selenium. The presence of selenium in fish and the ratio of methylmercury to selenium is important as toxic effects of mercury is tied to a deficiency in selenium.<sup>10</sup> Seafood in Hawaii and the Pacific contain an excess of selenium and are more likely to prevent mercury toxicity.<sup>11</sup> Methylmercury in tunas has also been shown to be a result of natural environmental background and not directly from atmospheric pollution<sup>12</sup>

**Buying and eating fish and seafood from Hawaii is *b*) Healthy; *d*) Safe**

If you chose *b*) or *d*) you are correct! Hawaii fish and seafood not only tastes great, but is also healthy for you and your family. Fish and seafood are a low-fat, high quality protein that contains Omega 3 fatty acids DHA and EPA that are important to keep your heart and brain healthy .



While there has been much scare about radiation in fish from due to the 2011 tsunami in Japan and the effect of the nuclear power plant in Fukushima, most of the fears are unfounded. Bluefin tuna has shown trace amounts of radiation in it, but no more than what is commonly found in a banana. In fact, even if you ate as much as

5x the amount of the average American, the amount of radiation you would receive would be equal to that of getting a dental x-ray.<sup>13</sup>

**Get Involved, Stay Connected!**



<sup>9</sup> Kaneko, J.J. and Bartram, P. (2009) Mercury in Seafood: Is Hawaii Seafood Safe. Hawaii Seafood Council, Honolulu, HI. Retrieved October 3, 2013 from: <http://www.hawaii-seafood.org/uploads/Seafood%20Safety%20Articles/Kaneko%20Bartram%20Mercury%20in%20Fish%20Q&A%20July%2009.pdf>

<sup>10</sup> Ralston, N.V.C., J.L. Blackwell III and L.J. Raymond. (2007) Importance of Molar Ratios in Selenium-Dependent Protection Against Methylmercury Toxicity. Biological Trace Element Research 119 (3): 255-268.

<sup>11</sup> Kaneko, J.J and N.V.C. Ralston. Selenium and Mercury in Pelagic Fish in the Central North Pacific Near Hawaii. Biological Trace Element Research 119(3):242-254.

<sup>12</sup> Kraepiel, A.L., K. Keller, H.B. Chin, E. Malcolm and F.M. Morel. 2003. Source and Variations of Mercury in Tuna. Environmental Science & Technology 37 (24):5551-5558.

<sup>13</sup> Brown, E. (2013) Scientists to eaters: Don't freak out over Fukushima fish. Los Angeles Times. Retrieved October 2, 2013 from: <http://articles.latimes.com/2013/jun/03/science/la-la-sci-sn-fukushima-radiation-seafood-20130603>