Introducing Menhaden:

Why It's a Very Important Fish (And You May Not Even Know It!)

Ever heard of menhaden? Most people haven't, though they are one of the "Most Important Fish In the Sea"[I] AND many of us likely come in contact with them every day in some form. Commonly known in the Gulf as "pogies", menhaden are caught throughout the Atlantic Ocean and the Gulf of Mexico, ground up, and added to: commercial feed for livestock and farmed fish, domestic pet food, and even human dietary supplements.[II] Beyond these uses, and perhaps most importantly, **menhaden are vital to the ocean and its wildlife**. They are a main food source for larger fish, marine mammals and sea birds, and they help to clean the water they live in by eating small floating paricles.[III]

The Fishery

- Gulf menhaden *(Brevoortia patronus)* is the second largest fishery by weight in the United States.[IV] This means of all the fish caught in the waters around the U.S. – by poundage – we catch and keep more Gulf menhaden than almost anything else.
- Gulf menhaden are caught along the coastline from Florida to Texas, with a majority of the catch coming from off the shores of Louisiana.[V]
- The Gulf fishery, in the last five years, has averaged a catch of over 1 billion pounds of menhaden each year.[VI] **This equals 490, 860 metric tons, which by weight, would be the same as filling 196 Olympic size swimming pools annually.**[VII]
- The majority of Gulf menhaden are used in the "reduction" industry, meaning the fish are crushed and/or ground into fishmeal and fish oil. A small number of menhaden captured are used as bait for fishing.[VIII]

Misunderstood Economic Importance

- Menhaden products are now frequently used in industrial agriculture and factory farming operations in the United States, because they are an inexpensive source of protein for factory-raised poultry, livestock, and fish.[IX] The World Wildlife Fund reports that "fish meal is a valuable ingredient in poultry and livestock feeds because of its high protein content…Use of fish meal as feed in aquaculture operations, particularly in shrimp food, has increased in recent years. In the United States, approximately 80 percent of fish meal production comes from menhaden."[X]
- We also consume menhaden oil directly – it is in shortening and margarine, and used in health supplements, like in fish-oil pills. In addition, menhaden oil is in some cosmetics.[XI]
- The menhaden industry supplies protein through oil and fishmeal for pet foods. Many people unknowingly feed their dogs and cats menhaden with feed that is labeled as "ocean fish."[XII] However, fish is not a natural part of diets for cats[XIII] or dogs.[XIV]
- The fact is – it is not necessary to use so much menhaden – it has just been convenient and cheap to do so. There are many other existing alternatives of healthy, natural protein for animals (and for use in other products too).

Ecological Importance

- Menhaden play a critical role in our oceans' ecosystems by serving as an important food source for marine mammals, seabirds, and larger fish. Menhaden are eaten by a wide range of marine wildlife like tuna, dolphin and sharks.[XVI] Sea birds including brown pelicans and ospreys prey on menhaden, as do marine mammals such as bottlenose dolphins and whales.[XVII] Without healthy quantities of menhaden in the Gulf, there would be a gaping hole at the very base of the food chain that could have effects on other wildlife and the entire Gulf ecosystem (and beyond!).[XVIII]
- Menhaden are "filter feeders", meaning they suck in water and catch tiny floating particles for food.[XIX] The cleaned water then goes back into the Gulf. This natural process can help maintain the right amounts of oxygen and prevent buildup of pollutants that can cause serious problems for the Gulf. A stable Gulf menhaden population contributes to cleaner waters.[XX]

Problems

- **Overfishing** – menhaden are currently being fished at a significantly higher rate than in the past ten years.
  - According to government statistics, the annual catch rate for 2012 was a whopping 1.15 billion pounds.[XXI] In 2011, 1.22 billion pounds of menhaden were pulled from the Gulf.[XXII]
  - Going from 900 million pounds, on average, from 2000-2010, to the 2011 and 2012 catch rates (above), represents an approximately 30% increase in average catch from the previous ten years. [XXIII]
  - A wide range of marine wildlife depends on menhaden as a food source. If the menhaden are depleted by too much fishing, we could see a decline in larger fish, seabirds, marine mammals and more, because there are not enough menhaden left for them to eat.[XXIV]

- **Bycatch** – refers to the unintended catch of fish or other wildlife, while attempting to catch certain fish, like menhaden.
  - In addition to the over 1 billion pounds of menhaden taken from the Gulf annually in recent years, an estimated 10 million pounds of other sea life is caught and likely dies each year with that catch.[XXV]
  - Menhaden fishing boats are not required to have unbiased, independent observers on board their vessels to verify catch and bycatch, so what gets caught and possibly killed as bycatch is not known.[XXVI] It is extremely important to find out if bycatch associated with menhaden fishing is threatening sport fish, such as red drum, or protected species like bottlenose dolphins, or highly depleted species such as dusky sharks.[XXVII]

- **"Dead" Zones**
  - "Dead zones", more formally called "hypoxic zones" are areas where there is not enough oxygen in the water to support living creatures.[XXVIII]
  - One of the world's largest dead zones occurs in the northern Gulf of Mexico on the Louisiana-Texas continental shelf.[XXIX] **This past year the Gulf of Mexico dead zone was the size of Connecticut (about 5,840 square miles).**[XXX]
  - Ironically, a dead zone often is associated with an overload of nutrients in the water, usually from agricultural run-off or deep ocean upwelling.[XXXI] Excess nutrients stimulate the growth of algae, which when it all dies, covers the water and blocks sunlight, and uses all the oxygen in the water to break down.[XXXII] Depriving the environment of oxygen and sunlight makes it unfit for plant or animal wildlife.
  - The development of these "dead zones" has been attributed in part to a diminished menhaden population, due to the menhaden's important role as a filter feeder – eating algae and other nutrients.[XXXIII]

What We Need:

- **Fisheries Management Plan**
  - An ecosystem-based fisheries management plan for menhaden that accounts for all the benefits these small fish provide to the total health of the Gulf of Mexico.
  - Because menhaden are so important to the Gulf, the management plan created for menhaden should consider all the interactions menhaden have with various fish, marine mammals and wildlife and the Gulf ecosystem as a whole.
  - This can be used to determine how much menhaden needs to be left in the water to provide those important interactions, in addition to maintaining a healthy population.

- **Annual Cap**
  - A set annual catch cap – a yearly limit on how much menhaden can be taken out of the water (based on the ecosystem-based management plan). This will insure enough menhaden are left in the water to keep their own population healthy, feed larger fish, marine mammals and seabirds, and to help keep our Gulf waters clean.
  - Government regulators currently claim that the Gulf menhaden population is fine, although some scientists have raised concerns over the environmental impact of removing so much menhaden from the Gulf ecosystem every year.[XXXIV]

- **Bycatch Monitoring**
  - Require an independent bycatch observer on board menhaden fishing vessels.
  - People unrelated to the menhaden fishery would ride along on fishing boats to help collect unbiased information on the menhaden fishery. The information will be used to track population numbers, help create good management plans and regulations, and in developing new technology to reduce bycatch.

What You Can Do:

- **Sign the petition** (http://bit.ly/1hwHlxm)
- **Come to a meeting** – The Gulf States Marine Fisheries Commission is a group made up of appointed representatives and fishery resource management agency directors from each of the Gulf States. It helps coordinate management of fisheries that operate in the state waters of Texas, Louisiana, Mississippi, Alabama, and Florida. To date, the Gulf States Marine Fisheries Commission has largely ignored the many problems raised about the menhaden fishery. While Texas has implemented a cap on the catch of menhaden, other states, in particular Louisiana and Mississippi, where most of the menhaden are caught, have not. Attend the next Gulf States Marine Fisheries Commission in New Orleans on March 18th and tell the Commission to protect the "Most Important Fish In the Sea!"[XXXV]

[I] *See generally*, H. Bruce Franklin, The Most Important Fish in the Sea: Menhaden and America (2007).

[II] Katherine Sayre, *In Wake of BP Oil Spill, Scientists Track a Fish used for Pet Foods, Supplements*, The Times Picayune, October 3, 2010, *available at* http://blog.al.com/live/2010/10/oil_spill_gulf_menhaden.html.

[III] H. Bruce Franklin and Tom Tavee, *The Most Important Fish In the Sea: You've Never Heard of Them, But Your Life May Depend On Them*, Discover Magazine (Sept. 2001), *available at* http://discovermagazine.com/2001/sep/featfish#.UvjsJLsTm-0.

[IV] World Wildlife Fund, TRAFFIC North America: Fisheries Snapshot on Trade and Conservation Issues – Menhaden, at 2, (2004), *available at* http://www.traffic.org/species-reports/traffic_species_fish11.pdf

[V] *Id* .

[VI] Gulf and Atlantic Menhaden Purse-Seine Fisheries, Forecast for 2013 and Review of 2012 Season, Sustainable Fisheries Branch, NMFS Beaufort, N.C., at 3 (March 2013), *available at* http://www.st.nmfs.noaa.gov/st1/market_news/menhaden_forecast_2012.pdf.

[VII] Olympic pools are 50m x 25m x 2m = 2500 meters cubed. As such, each pool holds 2,500 metric tons.

[VII] Gulf and Atlantic Menhaden Purse-Seine Fisheries *supra* note vi.

[IX] World Wildlife Fund, *supra* note iv, at 4.

[X] *Id*; *see also* Alison Fairbrother and David Schleifer, The Fish at the Heart of the Food System, LIMN (Jan. 2014), *available at* http://limn.it/the-fish-at-the-heart-of-the-food-system/#.UuanKvm7fPw.facebook (stating that "the real money is in menhaden proteins and fats, which have become ingredients in animal feed for industrial-scale aquaculture, swine, and cattle growing operations in the United States and abroad").

[XI] *Id*.

[XII] Maya K. VanRossum, *Menhaden Fish in Your Dog and Cat Food*, Delaware Riverkeeper Network, June 27, 2013, *available at* http://delawarerivervoice.blogspot.com/2013/06/menhaden-fish-in-your-dog-cat-food.html.

[XIII] Anthea Appel, *Why Fish is Bad for Your Cat*, Cats & Dogs Naturally, Jan. 2, 2013, *available at* http://catsndogsnaturally.com/?p=1217.

[XIV] Dogs Naturally, *Are Omega-3 and Fish Oils Essential for Dogs?*, *available at* http://www.dogsnaturallymagazine.com/omega-3-fish-oils-essential-dogs/ (last visited Feb. 10, 2014).

[XV] Gulf States Marine Fisheries Commission, *Menhaden Facts*, http://menhaden.gsmfc.org/2010%20FAQ.shtm (last visited Jan. 18, 2014).

[XVI] World Wildlife Fund, *supra* note iv, at 2.

[XVII] Gulf States Marine Fisheries Commission, *supra* note xv.

[XVIII] Tess M. Geers, Developing an Ecosystem-based Approach to Management of the Gulf Menhaden Fishery, at 1 (Dec. 2012), *available at* http://dspace.sunyconnect.suny.edu/bitstream/handle/1951/59658/Geers_grad.sunysb_0771M_11152.pdf?sequence=1.

[XIX] H. Bruce Franklin and Tom Tavee, *supra* note iii.

[XX] *Id*.

[XXI] Gulf and Atlantic Menhaden Purse-Seine Fisheries, *supra* note vi.

[XXII] *Id.*

[XXIII] *Id* .

[XXIV] E. Pikitch et al., *Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs*, Lenfest Ocean Program, 23 (April 2012).

[XXV] Gulf Restoration Network, *Help Protect Menhaden in the Gulf of Mexico* (2012), https://healthygulf.org/our-work/gulf-fish-forever/protect-menhaden-in-the-gulf-of-mexico (last visited Jan. 23, 2014).

[XXVI] *Id* .

[XXVII] *Id* .

[XXVIII] Rabalais Nancy et al, *Gulf of Mexico Hypoxia, A.K.A. "The Dead Zone,"* 33 Annual Review of Ecology and Systematics 235, 236 (2002).

[XXIX] *Id* .

[XXX] Tom Yulsman, *Dead Zone the Size of Connecticut Blossoms in Gulf of Mexico*, Discover Magazine, July 30, 2013, *available at* http://blogs.discovermagazine.com/imageo/2013/07/30/dead-zone-in-gulf-of-mexico-is-size-of-connecticut/#.UvkpULsTm-0 (last visited Feb. 20, 2014).

[XXXI] Rabalais, *supra* note xxviii.

[XXXII] Yulsman, *supra* note xxx.

[XXXIII] Franklin, *supra* note i, at 58; 164.

[XXXIV] Geers, *supra* note xviii.

[XXXV] Franklin, *supra* note i.

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