Seafood & Your Health
From Mercury to Omega-3’s

Infographic
http://www.oneworldoneocean.com/blog/entry/know-your-seafood-infographic

Citations and Further Resources

INTRO

Eating seafood has health benefits and risks. You can get a delicious, ocean-friendly, and sustainable meal, if you know what to avoid and what to look for.

Sustainably sourced seafood is generally healthier than conventional seafood.


Toxins in the food web

5,500 metric tons of mercury are released into the atmosphere by humans every year.


Mercury, lead, arsenic, cadmium, and dioxins end up in the atmosphere, streams, and oceans as byproducts of burning of fossil fuels and industrial processes.

Bioaccumulation:

Toxins are breathed, swallowed or absorbed into marine organisms’ bodies, becoming more concentrated than in the surrounding environment.


Any mercury in your system is probably from seafood.


Biomagnification:

Bioaccumulated toxins move their way up the food web. Higher on the food web = more toxins.

Primary producers (algae, plankton) absorb toxins from the water. Primary consumers absorb toxins from their environment, too, but they also ingest it from eating the plankton. Intermediate predators absorb it and also get it from their own prey, the primary consumers, and the plankton the primary consumers ate. Top predators (tuna, sharks, swordfish, dolphins, whales) absorb toxins from the water in addition to absorbing the toxins from everything below them on the foodweb.


Sharks are high in BMAA (beta-methylamino-L-alanine), which is linked to neurodegenerative diseases like Alzheimer’s, Lou Gehrig’s, and Parkinson’s diseases.


Orcas in the Pacific Northwest were found with 200x the PCB levels of toxic waste. Canadian guidelines classify material with concentrations of 50ppm or more as hazardous waste. The blubber of orcas from Dungeness Spit, WA had concentrations of over 1,000 ppm.


Health risks

Average mercury concentrations (parts per million)

- Swordfish (top predator): 0.98
- Cod (intermediate predator): 0.11
- Sardine (primary consumer): 0.01

**Mercury risks:**

Prenatal: delayed learning, poor motor control, severe disabilities

Adult: headaches, memory loss, heart disease

  [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257552/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257552/)

FDA: Children and women who are or may become pregnant should avoid seafood high in mercury.

• FDA. What you need to know about mercury in fish and shellfish. 2011.  

**Eat lower on the food web**

Super green fish: high omega-3s, low in mercury (>0.07ppm), & ocean-friendly.

Farmed oysters, wild Pacific sardines, US pole-caught albacore tuna, farmed rainbow trout, wild Alaskan salmon.

• Monterey Bay Aquarium Seafood Watch. The Super Green List.  

Wild salmon have fewer contaminants than unsustainably farmed salmon.

  [http://pubs.acs.org/doi/abs/10.1021/es049548m](http://pubs.acs.org/doi/abs/10.1021/es049548m)

**Get educated**

More than 1.5 billion people rely on seafood as their primary source fo protein.


Muscles, organs, and the immune system are built and maintained by protein, which can come from animal or vegetarian sources.

• Easy Diet for Life. The importance of protein.  

Omega-3 fatty acids are proteins that provide various health benefits and cannot be made by the human body, but are abundant in many fish.


Check out kidsafeseafood.org, by SeaWeb, which educates families to consume sustainable seafood that advances ocean and human health.

• KidSafeSeafood.  

Get Monterey Bay Aquarium’s Seafood Watch app to make sustainable choices at grocery stores and restaurants.

• Monterey Bay Aquarium Seafood Watch: Seafood Recommendations.  

**PCB risks:**

Prenatal: lower birth weight, lowered visual recognition, delayed muscle development


Adult: lower memory and learning capability

  [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240343/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240343/)

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