

STATE OF THE SCIENCE SYMPOSIUM

WASHINGTON DC | SEPTEMBER 20, 2017 | MEETING SUMMARY

The Seafood Nutrition Partnership held an inaugural State of the Science Symposium in partnership with the Global Organization for EPA+DHA Omega-3s on Wednesday, September 20, 2017 in Washington DC. The goal for this symposium was to provide the latest information on seafood nutrition science where all aspects on the science and technology of seafood, including human nutrition and environmental sustainability was addressed by leading experts. The educational presentations merged technical analysis and accessible information for non-specialists. Speaker presentations are online: [LINK](#).

KEY TAKEAWAYS:

- Eating seafood increases your joy! Omega-3 fatty acids from seafood are important building blocks for the brain. Research suggests omega-3s may be effective at managing depressive disorders. (Speaker: Dr. Joe Hibbeln)
- 90% of Americans are missing out on the health benefits from seafood omega-3s that support brain and heart health, and they should try to eat a variety of seafood (including fish and shellfish) at least twice per week. (Speaker: Dr. Tom Brenna)
- 90% of seafood eaten in the U.S. is considered a “best” choice in that it is low in mercury risk. The FDA/EPA seafood advisory for expecting moms contains a 1,000% safety factor. (Speaker: Dr. Tom Brenna)
- \$1,500 lower medical bills in year after birth for moms who get 600mg of omega-3s DHA per day. (Speaker: Dr. Susan Carlson)
- In 10 years, we could double wild seafood production if we continue working on fisheries management. (Speaker: Mr. Tim Fitzgerald www.EDF.org/oceanupside)
- 90% of US retailers and 80% of US foodservice are committed to sourcing sustainable seafood. (Speaker: Mr. Tim Fitzgerald <http://solutionsforseafood.org/>)
- Seafood is probably the most efficient animal protein to produce. (Speaker: Mr. Robert Jones)
- Sustainable seafood and responsible aquaculture equals food security — a vital solution to feeding the world’s population. (Speaker: Dr. Tom Brenna)
- The US will not have a sustainable seafood portfolio without aquaculture. (Speaker: Ms. Laurel Bryant)



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Session: Seafood and Public Health

Presenter: Dr. Tom Brenna, University of Texas at Austin, Dell Medical School

- The outlook for human health and environmental health depend in large part on what we put on our plates each day.
- Excesses of the traditional Western diet lead to high risk for chronic disease that can only be ameliorated with adoption of a healthier dietary pattern rich in nutrient-dense foods, including seafood. Western populations with low fish intake have omega-3 EPA + DHA levels of about 3%–5%. (See desired levels research in session, Omega-3 and (Heart) Health.)
- Poor diet is a leading factor in one in five deaths per Global Burden of Disease.
- Most experts agree that at least 50% of premature deaths in the US is preventable through diet and lifestyle changes.
- The US spends 86% of healthcare dollars treating chronic disease including mental health.
- Current US seafood consumption guidelines outlined in the Dietary Guidelines for Americans 2015-2020 (DGA) is to: Eat seafood twice a week or 8 ounces per week. Only 10% of Americans follow this guideline. Not knowing what to buy or how to prepare seafood is biggest reason people are not eating seafood.
- Current US seafood consumption guidelines for expecting moms outlined by the EPA/FDA is risk-based and advises moms to: Eat 8-12 ounces of a variety of seafood per week.
- Per the EPA/FDA fish advice, 90% of fish eaten in the U.S. is considered a “best” choice, low in mercury, and should be consumed two to three times per week.
- FDA/EPA advisory contains a 1,000% Safety Factor
- Net effects of eating seafood outweigh mercury risks. The 2014 FDA Report, A Quantitative Assessment of the Net Effects of Fetal Neurodevelopment from Eating Commercial Fish, outlines the upper safety limit for seafood consumption by expecting moms and infants before risk from mercury harm. The report found that the top 10 seafood consumed in America, on average, can be consumed at 45 pounds per week. Albacore tuna, or canned white tuna, is safe to consume for expecting moms and babies at 3.5 pounds per week.
- The average American is consuming just 80-90mg of omega-3s EPA + DHA per day versus the DGA recommended 250mg per day.
- Omega-3 DHA are the main building blocks of neural cell structure.
- A third of the brain's key functional units are made up of omega-3 fatty acids.
- Communicating seafood is skewed. Only 20% is focused on benefits and 80% is focused on risks.
- 2017 Journal of American Medical Association study found low intake of seafood omega-3 fats accounts for 54,626 cardiometabolic deaths per year.
- Seafood sustainability equals food security.

Session: Brain Health, Mental Health, Depression

Presenter: Dr. Joe Hibbeln, NIH - AAA

- We must prioritize brain nutrition.
- Omega-3 deficiency affects dopamine production in brain and impacts joy.
- Meta-analysis shows marked reduction in risk of major depression with greater EPA omega-3 intake.
- Emerging research suggests EPA omega-3s may be effective at managing depressive disorders.

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- Oysters and many shellfish have the same nutrient content as brain -- Vitamin B12 and zinc. They are brain food.
- Is delinquency a marker for deficiency of omega-3s?

Session: Omega-3 and (Heart) Health

Presenter: Dr. William Harris, OmegaQuant

- Risk for fatal cardiovascular disease was 35% lower in people with an omega-3 index of 8% compared to those with an index of 4%.
- 8% - 12% is the desirable range for Omega-3 index.
- Omega-3s could be as important to public health as cholesterol was.

Session: Prenatal Health

Presenter: Dr. Susan Carlson, University of Kansas

- US consumption of omega-3 DHA is one of the lowest in the Western World. Not good for public health.
- When babies are born they have a much higher omega-3 status than their mothers.
- \$1,500 lower medical bills in year after birth for moms who get 600mg of omega-3s per day during pregnancy.
- Higher maternal DHA level at birth is linked to less infant distractibility.
- US pregnant women consume 50-60mg of omega-3 DHA per day. Compared to many other countries we're very low.

Session: U.S. Fisheries - Sustainable Seafood

Presenter: Ms. Laurel Bryant, NOAA Fisheries

- What constitutes sustainable fisheries in the US: 10 standards on [slide 6](#)
- NOAA recognizes need for aquaculture. We must work to create a secure seafood future.
- An area the size of Rhode Island in aquaculture could produce twice the world's current seafood production.
- We won't have a sustainable seafood portfolio without aquaculture.
- Three pillars of how US fisheries have been revitalized in 2007: science, management, enforcement including catch limits. We have stopped overfishing in the US.
- Growing fish through aquaculture is a safe and effective way to address sustainability issues.

Session: Aquaculture Innovations

Presenter: Mr. Robert Jones, The Nature Conservancy

- Aquaculture is important for sustainable seafood. If we get it right:
 - Aquaculture might be one of our best opportunities to sustainably feed the planet.
 - Farmed seafood is safe and nutritious.
 - Aquaculture can support coastal communities.
- Oceans cover 70% of the earth but only 2% is used for food production.
- Aquaculture uses less resources to produce fish versus land-based protein.

Session: Seafood Sustainability and Health

Presenter: Dr. Michael Tlusty, University of Massachusetts at Boston

- Ectotherm: Fish don't need to use energy for body heat, so all the energy they consume goes towards growth.

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- Eat many (new) varieties of seafood to achieve human health and environmental sustainability.

Session: The Environmental & Social Impact of Seafood

Presenter: Mr. Tim Fitzgerald, Environmental Defense Fund

- Fish is a very straight forward problem, and we have the resources to recover in our lifetime.
- Seafood is probably the most efficient animal protein.
- If we continue working on fisheries management, in 10 years we could double wild seafood production.

Session: Opportunities for Building Awareness and Urgency

Presenter: Ms. Linda Cornish, Seafood Nutrition Partnership

- Behavior change research in two target markets found women want seafood more and are motivated by foods that provide energy, help them feel good, and that help a certain part of their body.
- SNP message framework draws an emotional appeal through a number of resources and grassroots efforts in key target markets.

Session: Opportunities for Building Awareness and Urgency

Presenter: Mr. Adam Ismail, Global Organization for EPA + DHA Omega-3s

- Healthy lifestyles resonate better with health practitioners than take this it will lower triglycerides.

Panel: Bringing It All Together - Moderator: Dr. Tom Brenna

Panelists:

Dr. Scott Nichols, Food's Future

- People know seafood omega-3s are good for them, but they are not taking action. We need to communicate in a way that resonates with people. We need to tell stories that connect with them.
- Effective communication is not what comes out of our mouth - it's what in the other person's ear.
- If we all start to increase our omega-3s, we will need innovation in providing omega-3 fatty acids for aquaculture.
- We need to show how simple it is to cook seafood and answer questions: I don't know how to cook it, it stinks up my kitchen, I don't know how to buy it. SNP is addressing these questions.

Ms. Sara Baer-Sinnott, Oldways

- Communicate with audiences through culturally relevant food pyramids and recipes. For example, Oldways has Mediterranean, Asian, and African food pyramids.
- We need to share more positive stories about the benefits of eating seafood omega-3s.

Dr. Judith Rodriguez, University of North Florida

- We need to think through how we can apply the information presented at this symposium to the human condition.

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- SNP has been addressing low seafood consumption through the basic domains of learning, which includes cognitive (knowledge), psychomotor (skills), and the affective (attitudes).
- What is key that SNP is addressing is the psychomotor, or the nitty gritty of how you go through the store, know what to buy, know how to cost a product to be within your own socio-ecological system (SES) framework, and then how to make it at home within your own constraints. People want ease and convenience. People can have all the knowledge, but we need to meet them at their psychomotor needs.
- The affective domain is the most important domain, which is the values piece. This is where people actually believe that something is important enough for them to take action. Understand their values, lifestyle, and cultural background that they want to keep or change. With lifestyle, do they want to be ahead of trends or are they traditionalists? We must approach each group differently in our communications.
- As nutritionist, we still have a lot of work as with other discipline to learn more about seafood. Many times, when we ask why someone doesn't eat seafood, the barrier is perceived as price, so we need to provide options. Taste and price. For most people, taste will be priority and they will not care about health. So, we need to help them find a way to include seafood that tastes good to them.
 - Taste breakdown: Europe favors cream base, Central America favors spicy, Caribbean favors seasons,
 - Core-Periphery Preferences: Core may be something we are not willing to change, but we may be more flexible with our peripheral preferences.