

NOSB RECOMMENDATIONS

For Organic Production of
Aquatic Animals and Plants

April 10, 2013

Aquaculture Working Group

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Aquaculture in the World and United States

- The world's capture fisheries are at their limits
- One-half of all seafood supply is from aquaculture
- Growth in seafood consumption depends upon aquaculture
- USDA-HHS Dietary Guidelines for Americans 2010 recommend increased seafood consumption to two servings weekly (8 or more ounces per week)
- Farmed seafood is the only major animal protein without "USDA Organic" standards
- Contrary to the intent of OFPA for single and consistent USDA standards, salmon, shrimp, tilapia and oysters are legally marketed in the US with organic claims
- Some are not certified to any standards

Chronology

- 1999 First proposed NOSB standards
- 2000 Conference at University of Minnesota
- 2002 Wittenberg report on feasibility of Organic aquaculture
- 2003 and 2004 NOAWG proposed standards
- January 2005 Appointment of AWG
- January 2006 AWG Interim Final Report (excluding molluscs)
- Spring 2007 First NOSB recommendation (holding back feed and facilities)
- Fall 2008 Second NOSB recommendation for feed and facilities
- Spring 2010 Final NOSB recommendation-bivalve molluscs

























Photo: Jimmy Avery



Fish Farming Inspection System









KEEP REFRIGERATED
Do not freeze

Sainsbury's

SO
organic

Scottish
salmon fillets

✓ HIGH IN OMEGA 3



100g serving

Keep refrigerated		
Use by	Weight	Price
		Per pack price
		£
		Farmed in





Ocean Fresh
Organic Salmon

Certified by Ecocert Canada















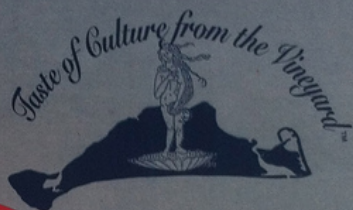




Diploid oysters on the left and triploid oysters on the right after 58 weeks in culture at Apalachicola, September 1992.



SELECT



NECK OYSTERS



















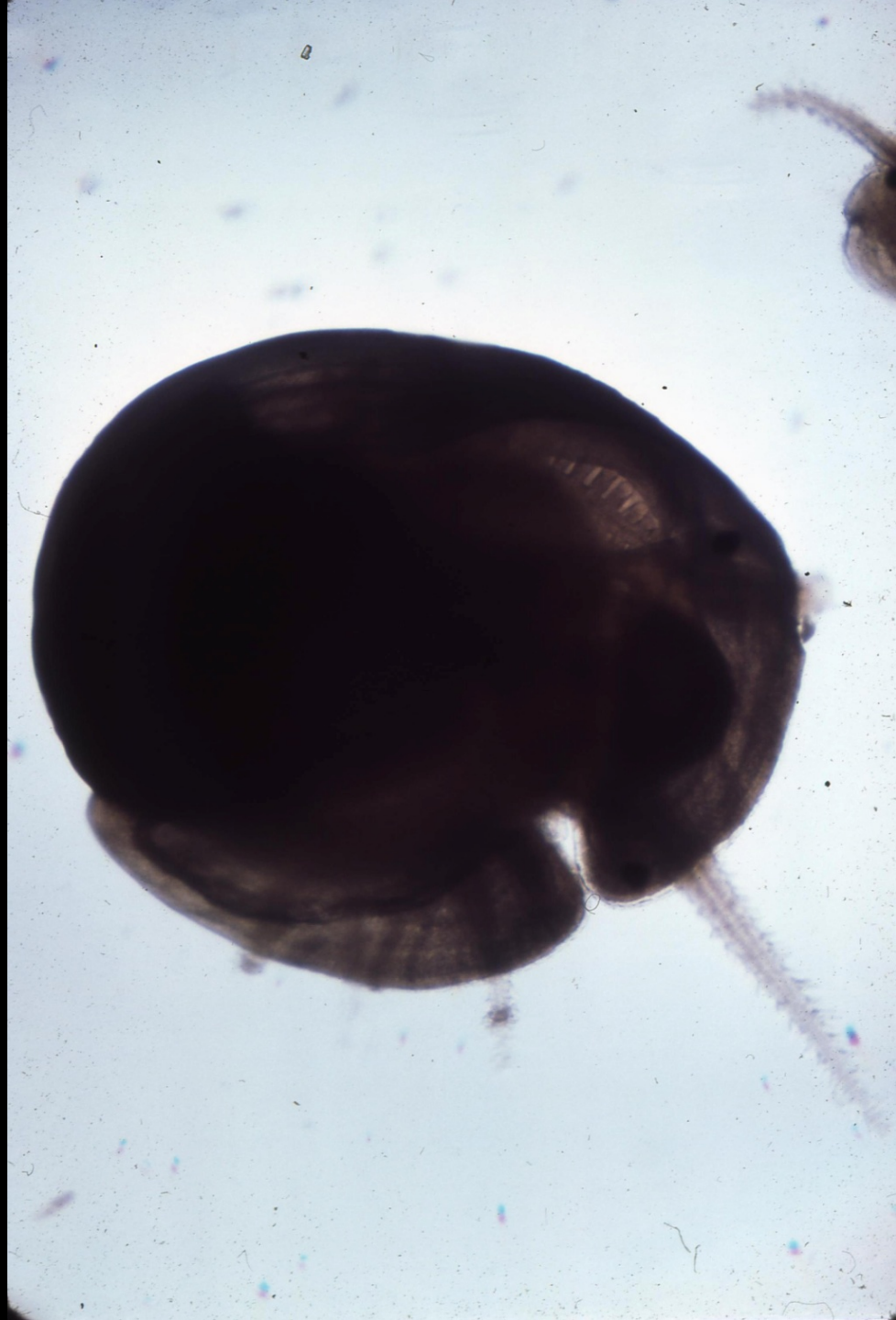










Photo: Jimmy Avery





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Photo: Jimmy Avery



Photo: Jimmy Avery



Photo: Jimmy Avery



Photo: Jimmy Avery





LIVE FISH

POND STOCKING
1-888-MR-FISH-9





Photo: James Rakocy

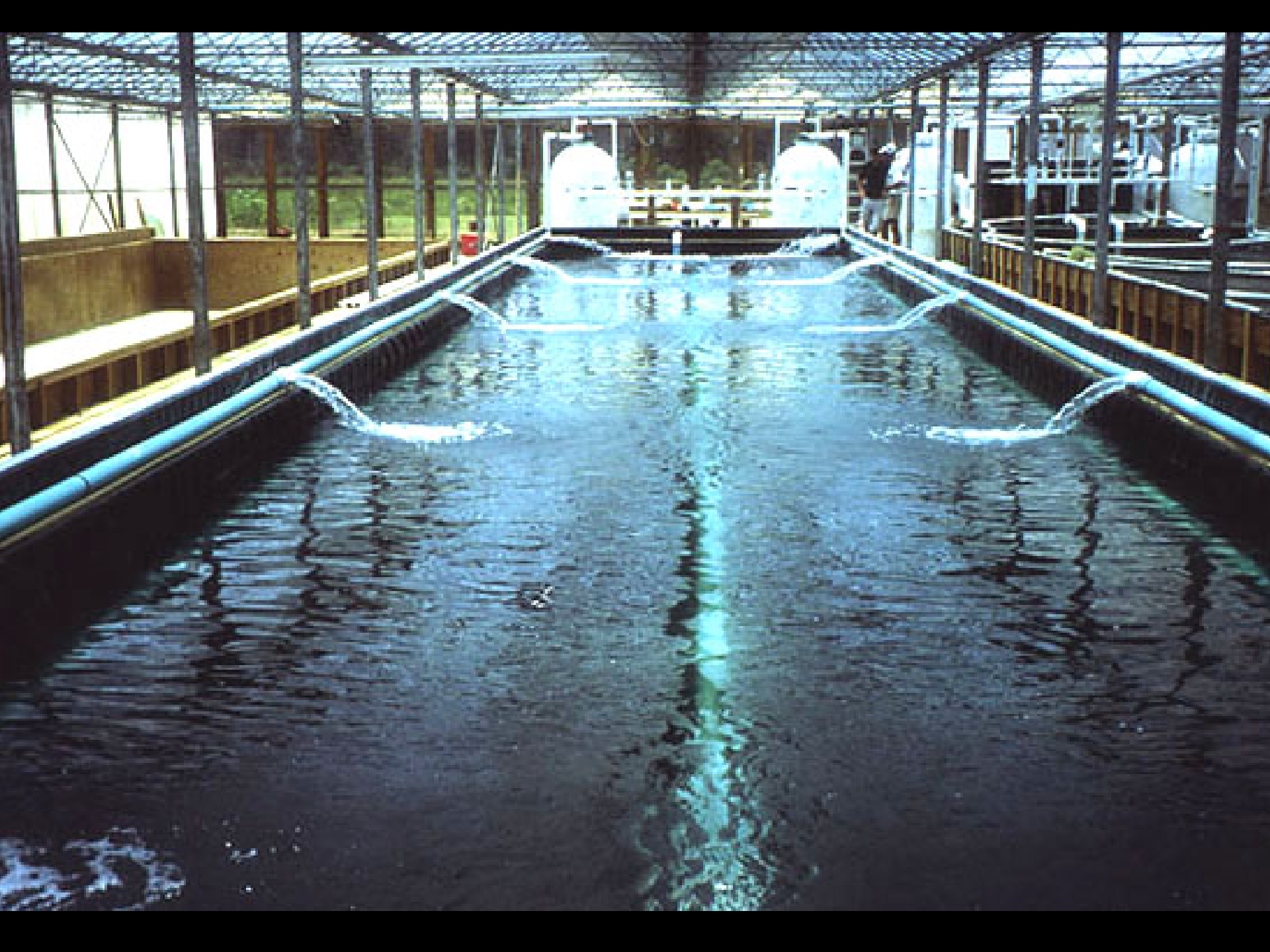


Photo: James Rakocy



Photo: James Rakocy

















INDIVIDUALLY QUICK FROZEN
KEEP FROZEN • DO NOT REFREEZE

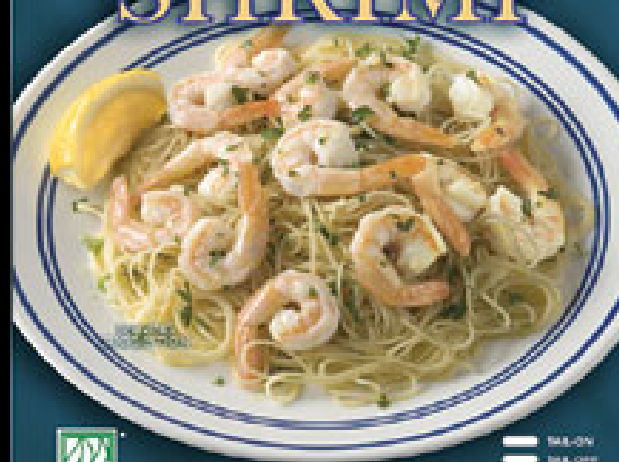


POLAR NATURALS

ORGANIC

COOKED • PEELED • DEVEINED

SHRIMP



FARM RAISED • THAW & SERVE
NO PRESERVATIVES, ANTIBIOTICS OR CHEMICALS
PRODUCT OF CANADA



944-074
944-077

NET WT. 16oz.(1lb.) 454g



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§ 205.250 Aquaculture General

- Organic System Plan must include a detailed environmental assessment including a map, listing of flora and fauna, water quality monitoring program, measures to minimize impacts, biosecurity practices, waste management plan, surveillance, and multi-stakeholder issue resolution
- Must consider measures to recycle, including through poly-culture and integration

§ 205.251 Origin of Aquatic Animals

- Triploidy is prohibited
- Monosex stocks by chemical and other artificial methods are prohibited
- Genetically modified plants and animals, and excluded methods are prohibited
- Traceability required
- Aquatic animals must be under continuous organic management beginning no later than 5% of total market weight

§ 205.252 Aquatic Animal Feed

- Must meet minimum nutritional needs
- Antibiotics, hormones, mammalian and poultry slaughter products, synthetic solvents, and GMOs in feeds are prohibited
- Fish meal and oil may not be sourced where FAO or other government authorities report “over-exploited,” “reduced reproductive capacity,” “overfished,” etc.
- Fish must be from regions with the lowest levels of persistent bioaccumulative toxins
- Fish oil must be treated with activated carbon to remove toxins

§ 205.612 Nonsynthetic substances prohibited

- Fish meal and fish oil from wild caught fish and other wild aquatic animals, Except if produced from environmentally responsible food grade wild caught fisheries and fed in the following step-wise levels: a maximum combined total of 25% during year 1 through 5 after this regulation is implemented, a maximum combined total of 15% during year 6 through 8, and a maximum combined total of 10% during year 9 through year 10, and a maximum combined total of 5% during year 11 and 12, with the percentages by weight of feed being averages over the production cycle of the aquatic animal.
- Synthetic stabilizers are prohibited.

§ 205.253 Aquatic Animal Health Care

- Meet minimum nutritional needs (vitamins, trace minerals, etc.)
- Monitor, record, and maintain water quality
- Establish biosecurity measures
- Administer vaccines and other biologics, if allowed.
- Employ site fallowing, cleaner fish, etc.
- Must not:
 - administer antibiotics, hormones, etc.
 - sell clinically diseased fish as organic
 - administer synthetic parasiticides
 - administer medications in absence of illness (other than vaccines)
 - withhold treatment for illness

§ 205.254 Aquaculture Living Conditions

- Site environment must accommodate needs
- Containment must
 - Provide for exercise swimming behavior
 - Minimize potential for injury
 - Biomass densities appropriate for the animal that promote natural behaviors and limit aggression
- Predator Management Plan without use of lethal measures

§ 205.255 Aquaculture Facilities

- Pond berms to withstand 100-year flood
- Effluents must be assimilated within 25-meters
- Waste Management Plan involving recycling
- Escape prevention plan
- Net pens in public waters must
 - Avoid migratory routes of native species
 - Grow strains of native species
 - Be spaced from conventional net pen operations
 - Control fouling by physical or biological, not chemical means
 - Employ multiple species outside pens for recycling
 - Conversion period of the less of one-year, or one cycle
- Earth ponds conversion of 36-months if prohibited substances have been applied

§ 205.257 Bivalve Molluscs

- Detailed environmental assessment with maps
- Hydraulic Zone of Influence using oceanographic methods
 - Identification of sources of prohibited substances
 - Affidavits from contiguous users
- Expanded sanitary survey and site requirements
- Hatchery produced seed only
- Monitoring requirements for indicator organisms and sentinel animals
- Chemicals to control predators are prohibited
- Restriction on harvest methods and equipment
- Traceability requirements

§ 205.258 Farmed Aquatic Plants

- Earth ponds must not have prohibited substances for 36-months
- Dissolved nutrients must not exceed minimum necessary
- Berms, boundaries and buffer zones to prevent contamination
- Organic starter cultures required when available
- Composted manure allowed if it complies with 205.203, but prohibited in public waters
- Continuous organic management after 5%

§ 205.259 Harvest, ... and Slaughter of Aquatic Animals

- Minimize stress to animals and minimize environmental impacts
- Transport conditions must consider water quality, duration of trip, density and metabolite accumulation to minimize adverse effects
- Food deprivation period limited to that necessary to provide gut clearance
- Finfish must be stunned to be instantly rendered insentient and maintained insentient until death by:
 - Concussion to the head
 - Electrical stunning
 - Electrocution

§ 205.259 Harvest, ... and Slaughter of Aquatic Animals (cont.)

- Prohibited means include:
 - Ice slurry for cold water fish (allowed for warm water fish for five years)
 - Carbon dioxide
 - Suffocation or asphyxiation (leaving fish to die in the air)
 - Synthetic anesthetics
 - Exsanguination (bleeding) without stunning
- Ice slurry is allowed for aquatic animals that are non-sentient

