



American Agricultural Law Association
Portland, Oregon
October 26, 2018



A Science-based Approach to Evaluate Commercial Aquaculture Netpens in the Great Lakes



Brad Deacon, JD, Director, Office of Legal Affairs
Michigan Department of Agriculture and Rural Development



Overview



IS NET-PEN AQUACULTURE A SUITABLE ACTIVITY FOR MICHIGAN'S WATERS OF THE GREAT LAKES?

- **Proposals for Lakes Huron and Michigan**
- **Ecosystem based approach**
- **Outcomes and status**



QOL Commercial Aquaculture Workgroup






DARD – Executive Division,
Agriculture Development
Division, Animal Industry
Division, Environmental
Stewardship Division

DEQ – Executive Division, Office of
the Great Lakes, Water Resources
Division

DNR – Executive Division and
Fisheries Division

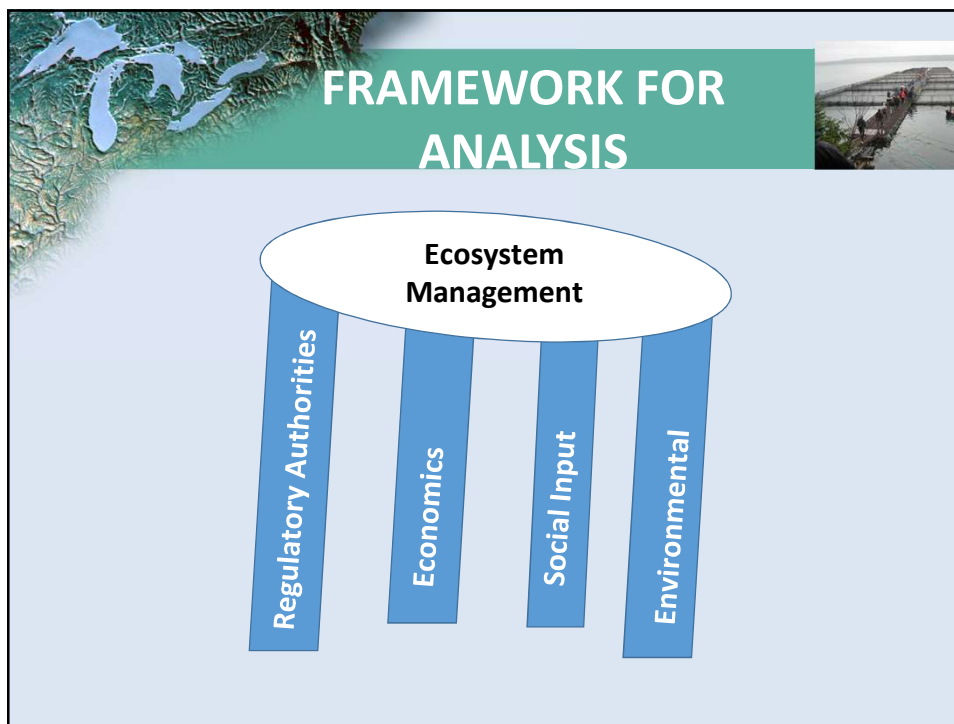


State and Federal Permits & Licenses

- Construction Permit
DEQ and ACOE
- Bottomlands Conveyance
DEQ
- NPDES Permit
DEQ
- Fish Stocking Permit
DNR
- 2000 Consent Decree
DNR, USFWS, 5 Tribal Nations
- Registration of Aquaculture Facility
MDARD

Bi-National Agreements

- Great Lakes Water Quality Agreement
- Great Lakes Commission
- Great Lakes Fishery Commission



-
- The diagram is titled "ENVIRONMENTAL/ECOLOGICAL REVIEW" in a green header. Below the header, the text "Key Issues or Areas of Uncertainty:" is followed by a numbered list of six items. The background features a topographic map on the left and a photograph of a fish farm on the right.
- Key Issues or Areas of Uncertainty:
1. Environmental and ecosystem effects
 2. Fish health and disease concerns
 3. Effects of fish escapes on wild populations
 4. Human health concerns
 5. Siting considerations
 6. Gaps in existing body of scientific literature



SCIENCE PANEL MEMBERS

Dr. Eric J. Anderson, NOAA, Great Lakes Environmental Research Laboratory
Dr. John M. Dettmers, Great Lakes Fishery Commission
Dr. James S. Diana, University of Michigan, Sea Grant
Mr. Keith McCormack, Hubbell, Roth & Clark
Dr. James A. Morris, NOAA, National Ocean Service
Dr. David Scarfe, Aquatic Veterinary Associates LLC, USDA-APHIS-VS
Dr. Craig Stow, NOAA, Great Lakes Environmental Research Laboratory
Dr. Roy A. Stein, Chair, The Ohio State University



Science and Net Pen Aquaculture in the Great Lakes

The Panel Process

- Two meetings
- Agency presentations
- Conference calls with agency and industry personnel
- Multiple panel conference calls
- e-mail correspondence among panelists
- Three drafts discussed by panel
- Consensus-generated report, independent from agencies




Tribal Nation Input

- **9 of the 12 federally recognized Michigan tribes participated in meeting**
- **Concern for negatively affecting the fishery and water quality**
- **Desire to be a part of any future process**
- **Strong opposition to implementation of commercial net-pen aquaculture**




Public Input

- **Nearly 1,700 written comments were received**
- **Opposition (approximately 1,600 letters)**
 - Risks to water quality, the fishery (genetics, disease, escapes), and tourism
 - Some voice support for recirculating, closed, and flow-through aquaculture
- **Support (11 letters)**
 - provision of jobs, economic benefits to local economies, and provision of a desired product
- **Other Considerations for shared management of Great Lakes**



Legal Standing and International Agreements



- The Aquaculture Development Act of 1996 (PA 199) states that aquaculture facilities may only be registered by MDARD if they are operating in **privately controlled waters**.
- The Great Lakes are not privately controlled waters.
- Therefore, current state law does not allow the state to register a commercial net-pen aquaculture facility in the Great Lakes.



Agency Start-up Costs



Initial Investment (2 Years to completion):

Siting Tool	\$350,000
Nutrient Input and Tracking Model	\$500,000
Creation of an Adaptive Management Science Panel	\$ 50,000

About \$900,000 for start-up costs for agencies.



Agency Annual Operational Costs

Monitoring program	\$1,160,000
MDARD Aquaculture Program	\$1,000,000
DEQ Permitting and Assistance	\$150,000
Science Panel Meetings & Support	\$ 25,000



QOL Director's Report

“The Michigan QOL agencies do not recommend pursuing of commercial net-pen aquaculture in the Great Lakes at this time for the following reasons...”

1. Environmental risk and uncertainty; challenge to overcome that uncertainty.
2. Amount of required public investment disproportionate to the amount of revenue generated. (\$2.4 million ongoing costs)
3. No legal authority to issue aquaculture registration.

Thank You



WWW.MICHIGAN.GOV/AQUACULTURE

*Slides developed by and courtesy of Tammy J. Newcomb,
Ph.D., Senior Water Policy Advisor, Michigan Department
of Natural Resources*