

Strategic Plan A Thriving & Sustainable Michigan Aquaculture

March 8
Wisconsin Aquaculture Conference
Mishicot, WI



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Today's Agenda

- The Question
- Context / Framework
- Vision Mission
- Plan – Key Objectives (7)
- 2014 Strategic Actions
- Conclusion
- Status / Next Steps (*as of today*)



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Integrated Assessment Policy Question

- *What critical elements are restricting Michigan's current commercial aquaculture activities from developing into a major sustainable seafood production industry, what actions must be implemented to rectify the situation, and what are the associated benefits to the state of Michigan?*



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A "Hybrid" Answer:
A Strategic Plan for the sector (MAA)
and
A Research Paper for SGIA

WHAT'S hot

2014 Culinary Forecast

NATIONAL RESTAURANT ASSOCIATION

Top 10 TRENDS

1. Locally sourced meats and seafood
2. Locally grown produce
3. Environmental sustainability
4. Healthful kids' meals
5. Gluten-free cuisine
6. Hyper-local sourcing (e.g. restaurant gardens)
7. Children's nutrition
8. Non-wheat noodles/pasta (e.g. quinoa, rice, buckwheat)
9. Sustainable seafood
10. Farm/estate branded items

3 of 10

"on target"

Fall 2013

The right time

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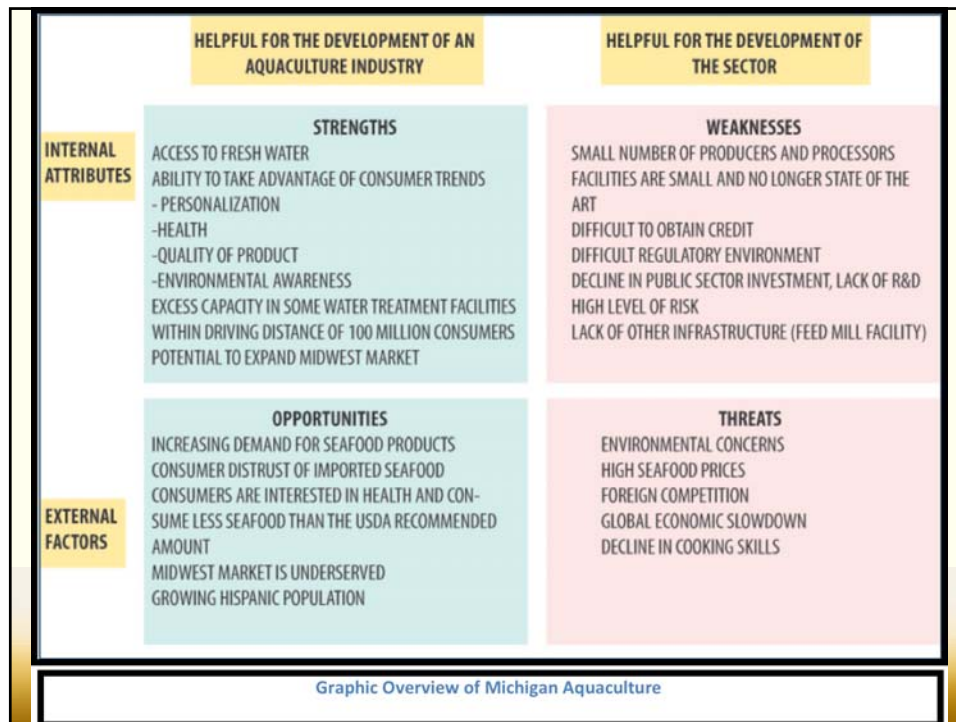
Aquaculture has surpassed wild-capture seafood market share.

The capture fishery is at maximum yield or collapsing worldwide.

**Michigan is a global leader in water technology...
...and sustainable water management.**


Sustainable aquaculture needs Michigan.

Michigan can be the future of sustainable freshwater aquaculture.



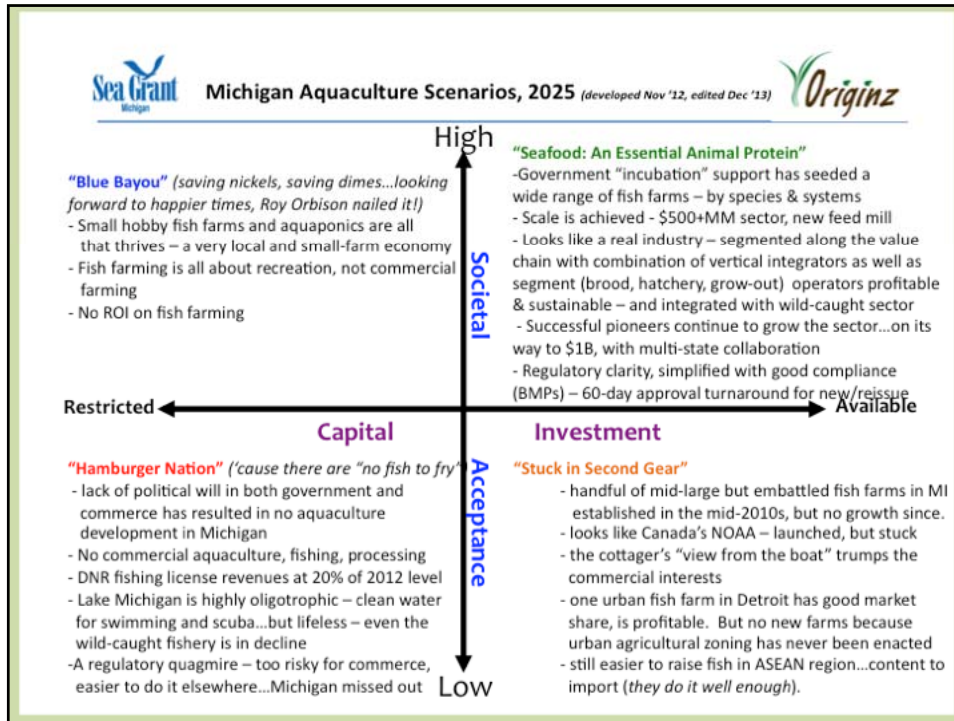
SWOT/Michigan Summary:

- We have the natural resources: water, and land
- We have the foundational infrastructure: Leadership in natural resource stewardship
- We have the markets: 70-100 million people within a day drive
- We have the skilled technical and operations workforce: biologist, engineers, farmers that can be trained and adapt to support the aquaculture sector



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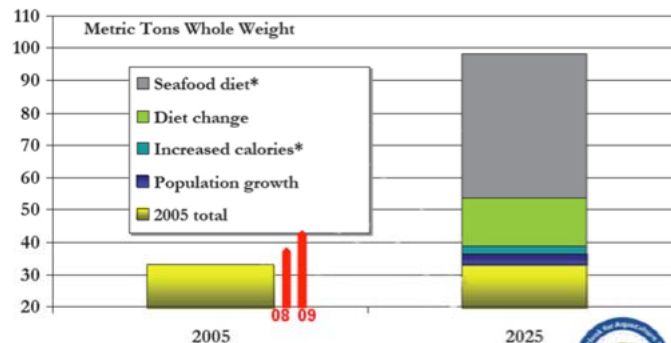
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Case Studies

- Aquaculture
 - China
 - Turkey
 - Ontario
 - Chile
- Poultry
 - Georgia - \$20B
- Turkeys
 - Michigan

China’s Future Seafood Demand Increase of 6 to 65 million metric tons





*Source: Int'l Institute for Applied Systems Analysis
<http://www.gaalliance.org/update/GOAL10/ChinaMarket.pdf>



Case Study Learning:

- Large-scale sustainable sector development is achievable
- Globally there are aquaculture and other production agriculture system, market, regulatory framework, siting, finance and investment models that can be adapted to Michigan aquaculture



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- **Vision:**
 - A Thriving and Sustainable Michigan Aquaculture Sector
- **Mission:**
 - Grow Aquaculture to a \$1 Billion Sector by 2025 That Compliments our Natural Resource Conservation and Recreation Uses of Water
- **Core Values:**
 - Sustainability
 - Economic success as key to funding natural resource stewardship investment
 - Trust – stakeholders support



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Strategic Plan: Framework

The shift from reliance on wild-caught to aquaculture:

- Fish farming is the future of seafood

Food security:

- as Asia's demand increases USA should decrease reliance on imported seafood

Leverage the progress made, Michigan's "Open for Business":

- Michigan Aquaculture Development Act,
- The AIM Process,
- Roadmap Through Regulations,
- QOL Aquaculture Streamlining Team



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Initial Strategic Actions (2014)

1
Expand and Establish Aquaculture Enterprises Along the Supply Chain
- based on proven species, technologies, and markets to demonstrate sustainable growth
By: 2014-2016
Through: Commercial enterprise – achieve near-term targeted quadrupling to \$3-8 million in farm-gate sales

2
“Open for Business” *(1 - Social Acceptance/Political Will)*
- AQUACULTURE IS ENDORSED IN THE MICHIGAN GREAT LAKES WATER STRATEGY AS A NEEDED ECONOMIC ACTIVITY
By: Q1, 2014
Through: Office of the Great Lakes, with support from Quality of Life Departments, MEDC, Governor

3
Engage Tribal Leadership & State Regulators in Great Lakes Water Usage
(1 - Social Acceptance/Political Will)
- DEFINE WATER AREAS FOR SHIPPING, FISHING, PRESERVES, RECREATION, and **AQUACULTURE** AS PART OF A COMPREHENSIVE USE PLAN THAT CONSIDERS THE NEED FOR COMMERCIAL ACTIVITY FOR THE PUBLIC GOOD FROM PUBLIC RESOURCES.
By: Initiate dialog in 2014, work towards definition ahead of expiration of current 1836 Consent Decree (by 2020)
Through: Negotiations and/or legislation towards consensus that seeks the economic/social/environmental welfare of all stakeholders in society

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Initial Strategic Actions (2014)

4
Permitting and Regulation *(2 - Achieving Trust)*
-Continue to DRIVE SIMPLIFICATION OF PERMITTING THROUGH STATE GOVERNMENT, building on the current QOL Working Group process, ACHIEVING WORLD-CLASS TURN-AROUND (< 60 days)
By: Year End 2014
Through: Continuous Improvement practices, while handling new incoming applications

5
Drive RAS Operations Cost Reduction *(3/4 - Research/Education/Extension)*
By: 2104 and ongoing - secure research grant for 2015 and implement research program
Through: Research Program to Improve on Energy Usage and Capital Costs per unit of Production - secure first research grant funding through Michigan Sea Grant or other sources

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Initial Strategic Actions (2014)

6

Funding Sector Leadership

(5 - Leadership: a Sector Champion)

-HIRE A CHAMPION FOR A THRIVING AND SUSTAINABLE MICHIGAN AQUACULTURE, ENGAGING STAKEHOLDERS, ATTRACTING INVESTORS, LEADING PUBLIC-SECTOR PARTNERING

By: year-end 2014

Through: The trade association (MAA), with private and/or public funds (with matching "kick-start" funds for up to 5 years from an MEDC Aquaculture Development Program - negotiated or legislated)

7

Attracting Investors and Financing Growth

(6 Improved Business Plans & 7 Attraction)

-BEGIN MESSAGING IN SUPPORT OF "OPEN FOR BUSINESS"

By: 2014 & 2015 aquaculture sector annual meetings and conferences - and ongoing

Through: MAA Leadership, in partnership with AIM stakeholders including MEDC and MDARD-OAD



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| Economic Impact of Aquaculture Production - Projections, Estimated to the year 2025 | | | | WR, MSU-PC, 2013/016 v1 |
|---|--|-------------------|---------------------------------------|-------------------------|
| Scenario | Direct Impact (\$ million, Farm Gate) | Direct Employment | Total Economic Impact (\$ million) | Total Employment |
| <i>Seafood: An Essential Animal Protein</i> | \$500 - \$1 billion | 8,600 - 17,200 | \$780 - \$1.5 billion | 11,000 - 22,000 |
| Stuck in Second Gear | \$70 - \$150 | 1,200 - 2,580 | \$110 - \$236 | 1,500 - 3,300 |
| Blue Bayou | \$30 - \$50 | 500 - 860 | \$47 - \$78 | 660 - 1,100 |
| Hamburger Nation | <\$5 | 80 - 100 | \$7 - \$20 | 100 - 130 |

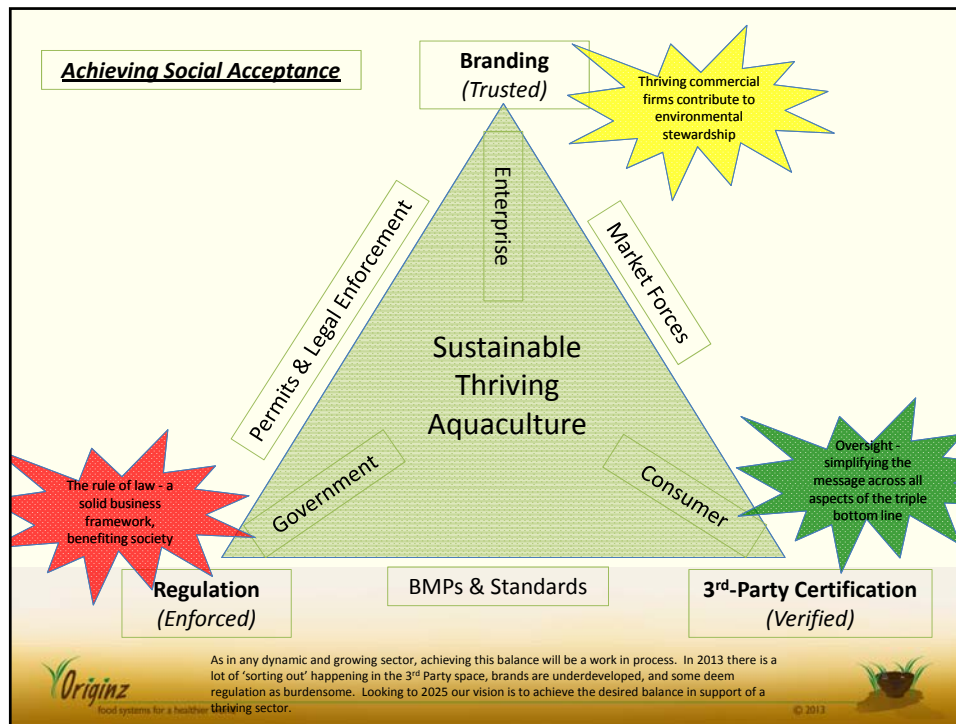
Figure 7 - Aquaculture in 2025 - Jobs and Economic Impact



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Leading to the Future

- A strategic plan should never be static
- Guide further dialog and discovery on what exactly the sector can become



Conclusion

- **The development of a thriving and sustainable Michigan aquaculture sector that can:**
 - contribute to the state economy,
 - provide jobs and food,
 - while ensuring that our natural resources are preserved and available for recreation
 - is desirable and doable
 - another opportunity for “relentless positive action” by Michigan, for the benefit of Michigan and the world.



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Status/Next Steps: Feb 20/14

- MAA – Adopted the Strategic Plan, Jan 2014
 - Online at www.michiganaquaculture.org
 - Strategic Plan, 2014
 - 107 pages, 70+ references/links, 9 appendices
 - Engaging Stakeholders: OOGL Water Strategy, House Competitiveness, CGL, commercial interests, NAA, USTFA, WAA, NCRAC
- Peer Review – C Weeks, pending final version
- Taking Action



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- Acknowledgements & Thanks

- Funding:

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- Contributions of 100+ people:

- work sessions, meetings, interviews, insights, critique
- Critical to advancing the project and the sector

- Contact

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