

**Project Title: Aquaculture in Michigan**

**January 2012**

This proposal is in response to the Michigan Aquaculture Industry Committee determination of the need for a guide to assist entities in developing, building, processing and marketing an aquaculture operation in Michigan.

**Project Purpose:** Develop a “How-to-Guide” to assist individuals seeking to develop a new or expanded aquaculture facility. The guide will provide a road map for navigating the regulatory requirements for building and operating an aquaculture facility in Michigan.

**A - Introduction and Overview**

The Michigan Aquaculture Association’s (MAA) current strategic plan proposes that aquaculture in Michigan can grow from a \$5 million, 100 direct jobs sector to over \$100 million and 1500 jobs.<sup>1</sup> The Michigan aquaculture sector has a track record of sound management in environmental practices and safety, with no invasive species released in its 150-year history.<sup>2</sup>

The MAA strategic plan identifies USA seafood imports at more than 80% of its seafood requirements, representing a trade deficit of over \$9 billion<sup>3</sup>. In this context there is opportunity for aquaculture expansion in Michigan by leveraging solid track record in environmental and safety practices while capturing some of the market opportunity both within the state and across the upper Midwest and Great Lakes region. While in the past Michigan aquaculture has focused on bait, pond stocking and fee fishing, the growth opportunity is in producing fish for human consumption. This can be achieved while retaining a strong bait, stocking, and recreational element. Furthermore, there exists an expanding market for fish-meal and processing offal in fish-feed and value-added fertilizer markets. In particular, processed aquatic species byproducts are desirable as specialty fertilizer amendments for potting soils and other composted natural fertilizers,<sup>4</sup> presenting a complimentary opportunity for the byproducts of the industry’s growth that will be important in maximizing the complete industry value proposition.

The Aquaculture Industry Committee RFP identified the need for a “How-to-Guide” as a resource for those seeking to build new facilities or expand existing infrastructure in Michigan. This guide is best developed in the context of the desired commercial outcome – what we

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<sup>1</sup> MAA Strategic Plan 2, source: <http://michiganaquaculture.org/strategic-plan/plan-document/>

<sup>2</sup> Michigan Sea-Grant Aquaculture in Michigan, source: [www.miseagrant.umich.edu/fisheries.aquaculture.html](http://www.miseagrant.umich.edu/fisheries.aquaculture.html)

<sup>3</sup> MAA Strategic Plan 2, source: <http://michiganaquaculture.org/strategic-plan/plan-document/>

<sup>4</sup> Personal communications, Brad Morgan, Morgan Composting, Inc. Sears, MI December 6, 2011

propose can be a thriving industry built on best practices. The focus of this proposal is therefore to review the rules and regulations and develop the Guide as a roadmap to commercial success targeting human food markets. Additionally, we will review surrounding States' regulations and how their regulatory framework impacts commerce. An assessment of future impacts on the industry will be conducted including the new Water Withdrawal Legislation and food safety Good Agricultural Practices (GAP). We propose a review of current production, processing facilities and marketing practices within Michigan. Assessing the regulatory and commercial framework together will result in the Originz team delivering a robust "How-to-Guide" that builds on the sector's history and will map a new way to the future. We acknowledge that the preferred way forward may require some change in either regulation, interpretation, enforcement and/or practice in the sector, which we believe can be best accomplished in dialog with regulators and industry stakeholders in the development of the "How-to-Guide". This approach will best position the guide as a tool truly owned by the Michigan aquaculture industry that can be used immediately upon completion in 2012 to spur aquaculture industry growth.

## **B – About Originz, LLC and the Project Team**

Originz, LLC was founded in early 2001 and for eleven years has served customers' desires to create *"food systems for a healthier world"*. Originz brings knowledge and experience along the agriculture and food value chain. Joe Colyn, P.Ag., Originz owner and principal consultant, will serve as the lead consultant on this proposed project and upon award, Originz, LLC, will manage the project. Originz provides its clients with custom solutions, assembling the right team and other resources to address specific needs. For this project, Gary Boersen, P.E., St. Johns, MI, will act as an independent consultant with extensive experience in agriculture including aquaculture and environmental matters. He will join Joe Colyn to form the project team. Together they bring a breadth of experience that can address both the regulatory and commercial elements of the proposed "How-to-Guide" for individuals and enterprises seeking to expand the aquaculture opportunity in Michigan. Both have backgrounds in farming (including aquaculture) and interact regularly in their work with farmers and others in primary production in their work. This background will be invaluable in gathering information and insight from fishery owners and operators, an integral part in this project. By leveraging the fish farmers' experience in the development of the "How-to-Guide", the resulting tool will provide be a more robust resource with better consideration for practices within the regulatory framework in mapping the new way forward.

Originz is fully insured for business liability. Joe Colyn retains Professional Agrologist (P.Ag.) standing with the Ontario Institute of Agrologists in support of his work in the USA, Canada, and internationally. Gary Boersen retains Professional Engineer registration with the State of Michigan.

The text box below frames the market space within which Originz provides consulting and knowledge services and solutions in food systems:

**About Originz, LLC:** Today more and more people want know where their food comes from and what is involved in its preparation. The story of the food is as important as the food itself. The generic commodity market simply can't tell that story, and there is a desire to reconnect the participants in the food system in transparent, trust relationships.

We understand these market relationships across the scale from country roadside stands to billion dollar global enterprises. We apply our knowledge and research capacity to help clients create the sustainable food system they desire to meet this emerging market need. Learn more at: [www.originz.com](http://www.originz.com)

Originz provides a solid fit for the Aquaculture Development Guide project vision and is confident that it can provide the Aquaculture Industry Committee with a sound assessment of the regulations, including best options to pursue, risk identification, and pitfalls to avoid.

The Originz project team supports both strategic and tactical projects for clients and is comfortable working in both the field and the boardroom. This breadth of experience brings big-picture thinking and insight to the work even as the company delivers “on the ground” solutions.

Gary Boersen and Joe Colyn also both serve on the MIFFS (Michigan Food and Farming Systems [www.miffs.org](http://www.miffs.org)) leadership Council where they support the organization’s efforts on behalf of small and midsize farms. This is an exemplifies how they are truly engaged “on the ground” advocating for the state’s producers.

Originz’s direct experience, relative to the Aquaculture Development Guide initiative includes delivering for clients both as a generalist and a specialist. As generalists Originz has worked in many sectors of the food industry – produce, grains, oilseeds, protein (beef/poultry/swine aquaculture), dairy and fiber – and across disciplines including production, research, policy, processing, distribution and marketing. As specialists Originz focuses on supply and value chain solutions in agri-food. Originz will be asking both strategic and tactical questions as they relate to the aquaculture regulatory and production areas, and then distilling the learning into a practical “How-to-Guide”. Key relevant experience of the project team follows:

## **Related & Relevant Experience – Joe Colyn, P.Ag., Originz, LLC**

- ***Sysco Local Food Initiative, with Wallace Center/NGFN***
  - A two-year (2008-09) initiative in support of expanding Sysco Grand Rapids local sourcing of produce. The program continues to grow and has now doubled sales of Michigan produce. Originz facilitated producer introductions and the establishment of the commercial relationships and additionally provided project tracking and reporting services. Originz understands the systems needs of a commercial venture. As part of this project Originz needed to respond to food safety concerns and led the introduction and delivery of GAP (Good Agricultural Practices) training in three months just prior to the 2009 grower season (in partnership with state, federal, and non-profit entities).
    - Learn more at <http://www.ngfn.org/resources/ngfn-cluster-calls/ngfn-sysco-partnership#section-1>.
    - The outcome of the project was featured in Fast Company Magazine in October 2011: <http://www.fastcompany.com/magazine/160/sysco-new-system>
    - Project Reference: Denis Jennisch, Sysco Grand Rapids, 616-956-0742
- ***Aqua-feed Development (trout/salmon/shrimp)***
  - Confidential client research project design and execution, including securing grant funding (USDA-SBIR) for specialty next generation soybeans in aqua-feeds. Conducted trials at USDA Fish Technology Center, Bozeman, MT (2009-10). Engaged Sea-Grant partners in Montana, Texas, and Louisiana in aqua-feed development and feeding trials.
- ***Michigan Beef Sector Scenario Planning/Pasture Based Local Model Development***
  - A strategic initiatives, the scenarios developed in this Originz-facilitated (2010-11 ongoing) process are used to guide the industry forward to 2020.
  - A partnership with MSU and various collaborators and stakeholders in the Michigan beef sector.
    - Project Reference: Jason Rowntree, MSU, 517-974 9539
- ***Local Food for Hospitals***
  - My Sustainable Canada and St. Joseph Healthcare, Ontario, Canada - (2011-12 ongoing) – support audit/assessment of local sourcing options and recommend strategy and tactics for increased local sourcing for hospital general purchasing organization (GPO)
  - Originz recommendations contributed to a rewrite of the GPO RFPs with strong local-sourcing requirements. Year One of the project delivered 15% (\$600,000) in additional Ontario sourced food – double the 5-10% goal range. New local protein products were major contributors to the growth.
    - Project Reference: Brendan Wylie-Toal, Waterloo, ON, 519-896-1345

- **Kellogg Company** – Various specialty crops sourcing and supply chain projects, as an employee (pre-2001), and as an independent contractor (2001-2011).
  - o Specialty barley and wheat crop production in Western Canada and the US Pacific Northwest (PNW); Quinoa sourcing from growers cooperative in Bolivia/Peru; Technical Lead on Global Fruit & Nut strategic sourcing team; Soft wheat research and agronomy in the Great Lakes and PNW regions

**Related & Relevant Experience – Gary Boersen, P.E.**

- **Bioengineering Section of the American Fisheries Society**, Past President (1986)
- **National Pollutant Discharge Elimination System (NPDES)** Section Unit Chief involved with the development and issuance of NPDES Surface Water Discharge Permits (1985-1999)
- Member of the National Science Foundation Grant team to develop a waste heat aquaculture project (1990-1993)
- Worked with DNR-Fisheries Division on water quality issues at their Division fish hatcheries and walleye pond culture facilities (1985-1993)
- **USDA-NASS Enumeration** (2009-2011) - Contacted Farmers concerning farm production and factors affecting production
- **Local Government and Environmental Studies** (1976-2003) - Water Quality Studies, NPDES permits and discharge evaluations with permit issuance and issue resolution, Public involvement under NPDES permits and Right to Farm Programs
- **National Environmental Dialogue on Pork** (1997) - National Work Group that reviewed environmental regulations and limitations on pork production
- **MDA Right to Farm Implementation** (1999-2003) - Right to Farm Act compliant inspections and GAAMP Updates and Development
- **USDA-NRCS Committee Member** (1999-2011) - Review and Update State Technical Guidance to farmers on Guidelines and Standards
- **Graduate Studies:** (1985-1990) - 30 hours completed at Michigan State University towards Aquaculture PhD.

**Resumes** – see appendix A for Joe Colyn and Gary Boersen resumes