



## **Stimulating Oregon Aquaculture: Finding the Sweet Spot for Investment and Expansion**

*A report produced by the Oregon Aquaculture Association*

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### ***Executive Summary***

The Oregon Aquaculture Association (OAA) and its partners have been working for the past several years to strengthen the Oregon aquaculture<sup>1</sup> program with a core focus on developing strategies for an expanded and diversified program that is keeping pace with global trends and opportunities. As a producers' Association in today's competitive marketplace, our main objective is to increase success for all forms of sustainable aquaculture including producing food for direct human consumption, supporting outdoor recreation, and stock enhancement.

We coordinate our efforts with the Aquaculture Advisory Group—a public-private partnership with aims to increase the economic impact of aquaculture in Oregon. The Association together with the Advisory Group have hosted meetings and undertaken analyses to identify a blueprint for moving forward. This paper is a summary of our current recommendations.

Our aim is to promote and facilitate a significantly expanded farmed seafood program in Oregon. We know all too well that industry faces multiple constraints relating to permitting, growing, harvesting, processing and marketing our products. Our blueprint lays out strategies for addressing these constraints.

As producers, we also know there is a best set of strategies or a “sweet spot” where we have the best chance of generating the highest returns for our efforts, while simultaneously pursuing our activities responsibly and sustainably. This paper suggests how to find the sweet spot for the state's aquaculture program. Through an iterative process, we have identified five sets of activities which, if implemented, will achieve our goal. These are:

1. Support the OAA
2. Expand the Aquaculture Knowledge Base
3. Develop Specific Aquaculture Investment, Management, and Monitoring Tools
4. Engage in Aquacultural Education/Outreach

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<sup>1</sup> The word aquaculture, farmed seafood, and aqua-farming are used interchangeably in this document and are defined as the culture of biological organisms in freshwater, estuarine, or marine environments.

## 5. Structure an Oregon Aquaculture Program Supported by State Government

Following implementation, we expect the resulting modernized state program would have a combined harvest valued at \$60,000,000 within five to ten years of completing these interventions.

### ***Setting the Stage***

In collaboration with our partners<sup>2</sup>, OAA has coordinated and assisted the Oregon Aquaculture Advisory Group (OAAG). For the last five years, this Group has helped chart a way forward for Oregon's aquaculture program (e.g., <http://www.oregonaquaculture.org/legislative-activities.html>). In April 2018, OAAG organized a day-long working session for stakeholders to highlight issues and strategies to support a goal of an expanded and diversified aquaculture program in the state of Oregon -- a program that would make meaningful contributions to the state's economy including producing food and supporting new employment while making innovative and sustainable use of our diverse natural resources.

During the April meeting, it was suggested a specific target should be growing the private aquaculture industry in Oregon so that it is at least proportionally equivalent to other Western states and having a farm-gate value **of \$60M, producing economic impacts of \$100M, and providing more than 3,000 jobs in the state economy**. We believe this target, a four to five-fold increase over current production, is realistic with the right investment strategies. We also believe this level of economic value would be large enough and valuable enough to attract the necessary public support to help promote long term growth.

We will not go into all the reasons why Oregon should and could be doing better. These have been documented previously<sup>3</sup>. The bottom line is that worldwide, aquaculture is producing an increasing share of the seafood we eat – today more than half of global seafood consumption is from aquaculture production. Yet, while this global trend is accelerating, the Oregon program has stagnated even though Oregon has the natural and human resources and markets to support a much larger industry.

This fact is the reason for our present work. As an association of stakeholders, we strongly believe there is ample justification for both public and private sector investment in aquaculture. We know we can do more and the following recommendations provide a blueprint for moving forward.

### ***The Sweet Spot***

For the aquaculture industry in Oregon to expand, what are the key factors for success and the general requirements for a successful aquaculture investment? Building on broad-based results from the global aquaculture industry, it can be concluded there are **seven essential elements** for successful operations:

1. Output markets
2. Inputs (feed, seed, capital, labor)
3. Information (science-based)
4. Sites (land and water of suitable quality)
5. Fair and transparent regulations and monitoring
6. Financial solvency (forward-looking business culture)

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<sup>2</sup> VertueLab, ECOTRUST, Pacific Seafood, Oregon State University, and Oregon Sea Grant

<sup>3</sup> The major recent references for the Oregon program can be found at

<http://www.oregon.gov/ODA/shared/Documents/Publications/MarketAccess/AquacultureUsersGuide.pdf>

<http://www.oregon.gov/ODA/shared/Documents/Publications/MarketAccess/AquacultureInvestment.pdf>

## 7. Public support

All seven elements must work in concert, and their nexus is what we are calling the “sweet spot”. We see this as representing not only the best conditions for the producer, but also for the public. Careful attention to selecting where and how to invest will not only promote profits and jobs but responsible stewardship that minimizes ecological risks and societal concerns.

While we have conceptualized this process to develop the necessary actions to grow our industry, we realize nothing operates perfectly. In everything we do, there are risks and aquaculture has several well-known risks<sup>4</sup>. However, the critical point is that these risks are no greater than the risks in any major economic activity; whether agriculture, forestry, or manufacturing. Significant technological advancements over the past decade allow aquaculture to be undertaken with realistic expectations of mitigating risks from unexpected events and impacts. If operators, investors, stakeholders, and citizens have the needed knowledge and tools—if we address the key issues and integrate solutions -- aquaculture’s benefits will far outweigh the costs.

### ***Starting point***

Our starting premise is that the Association is the fulcrum for growth. We say this not because we are the Association but because we have the experience, understanding, and commitment to shape our Association into a structure that truly assists stakeholders. We need to be a reliable source of science-based information. We need to help producers invest, support operators along the entire value chain, and address concerns of Oregon citizens. These will be valuable services for our membership and for our state. To be capable of providing these services, we need to expand our scope, our membership, and our tools.

### ***Priority Action/ Projects for Growth***

Aggregating the results of the April Workshop with past work focusing on supporting aquaculture in Oregon, we have been able to develop five broad categories of needed actions:

- 1) Support to OAA—the aim is to strengthen the Association to be able to undertake critical services.
- 2) Expand the Aquaculture Knowledge Base—we recognize aquaculture is a very small activity in Oregon today. We also know Oregon presents many special considerations for aquaculture (e.g., the “Oregon Way”). Finally, we fully accept that investors need knowledge to guide their investments. Accordingly, the aim of this project is to develop a database of Oregon-specific aquacultural knowledge.
- 3) Develop Specific Aquaculture Investment, Management, and Monitoring Tools—the database will serve as the basis for developing an aquacultural “tool box”. This will include templates for market and business plans at the enterprise level. There will be tools to compare investment options, comprehensive references, and spatial planning applications for investment, managing, and monitoring.
- 4) Engage in Aquacultural Education/Outreach—since aquaculture is currently a small activity, it has a very small place in education from primary through University. We know aquacultural education is critical and that it encompasses several fronts. Many popular perceptions of aquaculture are founded on a lack of science-based knowledge—this can be addressed through education.

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<sup>4</sup> <http://www.fao.org/docrep/012/i1136e/i1136e.pdf>

Oregon Measure 98 offers opportunities to design programs in schools that will train the skilled personnel needed to operate aqua farms in a growing industry. Finally, with roughly half the seafood we eat being farmed, it is important that students have exposure to aquaculture as a major food system.

- 5) Structure an Oregon Aquaculture Program—this is the ultimate project that builds on the previous four. It sculpts an innovative and responsible program—establishing this formally and officially in the state’s governmental and legislative systems.

More details, including approximate budgets, can be found in the workshop report “Supplement A: Oregon Aquaculture Advisory Group Workshop Results”.

### ***Critical Next Steps***

We realize knowledge and education are critical precursors for private investment and public support. Accordingly, within the context of the five-project program, we propose **immediate actions** that are cross-cutting within this program: (1) identifying specific related legislative action for the 2019 legislative session including eliminating the conditionalities linked to aquaculture approvals; (2) formalizing the pre-application conference (*one-stop-shop*); (3) updating the status and role of OAA to be optimally positioned to assist with the implementation of the state program; and (4) within the next nine months, organizing and convening a workshop for a wide spectrum of participants focusing on aquaculture investment opportunities and business planning. For more details please see “Supplement B: Immediate Actions and Critical Next Steps for Developing Oregon Aquaculture”.

### ***Wrap-up***

We are all aware of the growing demand for seafood. We are confident Oregon aqua farmers can produce a variety of products for local, national, and international markets—providing high quality food while promoting economic development for rural communities. Outside investors have looked at Oregon, appreciating our under-utilized resources and realizing that Oregon could be a “sweet spot” for aquaculture. However, the lack of a coherent program combined with a lack of basic understanding about what aquaculture can and cannot do, have deterred these would-be operators. They have taken their investments elsewhere.

We need to act if we want to benefit from the opportunities aquaculture offers. In the immediate- and medium-term, the Oregon Aquaculture Association will be the lens that focuses energies on sustainable aquaculture development in Oregon. As we achieve our aims, we will be building a foundation for the state to move forward in developing a modern and productive program. We effectively have a blank slate upon which to craft our program—a program that fits our needs and allows us to reach the sweet spot. Yet, to move forward, we need modest support that will be paid back many times over in the increase of aquacultural production and economic benefits.