

**Project Title: Developing Social License for Trout Aquaculture in the North
Central Region [Termination Report]**

Total Funds Committed: \$153,032

Initial Project Schedule: September 1, 2021-August 31, 2022 [Extended to August 31,2023]

Current Project Year: September 1, 2022-August 31, 2023

Participants: J. van Senten (Virginia Seafood AREC, Virginia Tech); C. R. Engle (Virginia Seafood AREC, Engle-Stone, Aquatic, LLC); Matthew Smith (The Ohio State University); Kwamena Quagraine (Purdue University); Charlie Arnot (Center for Food Integrity); Amy te Plate-Church (Center for Food Integrity)

Extension Liaison: Amy Shambach (Purdue University)

Industry Liaison: Dan Vogler, Harrietta Hills Trout Farm, LLC

Project Objectives

1. To map social license in selected locations in Michigan, Wisconsin and Ohio (through funding support from the Ohio Soybean Council).
2. To design and implement specific intervention strategies for each location.
3. To evaluate the degree of change in social license before and after intervention.
4. To disseminate project results to aquaculture producers, extension specialists, and the broader aquaculture producer and scientific community.

Project Summary

The lack of social license for aquaculture is widely cited as a major constraint to growth, as expressed through overly burdensome regulations, delays/denials of permits, and lawsuits by citizens groups. Literature on social license for aquaculture is primarily theoretical and lacks empirical evidence for strategies effective for developing social license. This project has potential to serve as a model beyond the North Central Region (NCR). The project team formed includes NCR aquaculture extension specialists, economists well known to NCR aquaculture producers, and social license experts. The goal is to develop and test strategies designed to enhance social license for aquaculture in the NCR. Strategies developed will be tested in specific locations in at least two NCR states, with a third state funded by the Ohio Soybean Council. Pre- and post- surveys will measure change in social license before and after intervention. Deliverables from this project will include: 1) manual that describes strategies for developing social license; 2) fact sheet describing outcomes of strategies implemented; 3) presentations at national, regional, and state conferences; 4) webinar summarizing project outcomes and successful strategies; 5) Trout Talk article; 6) refereed journal article manuscript; 7) training workshop on social license; 8) final report; and 9) highlights summary.

Anticipated Benefits

The long-term benefits of increased social license will include the following:

- Increased social license within local communities which enables more freedom to operate for aquaculture producers.
- Producers will spend less time dealing with negative issues which allows more time to focus on production issues.
- Better reputations for aquaculture producers enable an increased pool of workers since the negative stigma of working for these operations is reduced or eliminated.
- A reduction in negative community perceptions enables financial opportunities as lenders are

more willing to offer loans and investors witness community support.

In the shorter-term, there is a strong need to develop a model of how to create and sustain social license for U.S. aquaculture. The outreach materials and deliverables from this project will be used in a training workshop, a national webinar, and multiple presentations that will multiply the impact of this project through extension of a working model to address social license in aquaculture.

Project Progress

Objective 1

A companion project to this one was officially funded by the Ohio Soybean Council to leverage the foundational process to be used two states funded by NCRAC (MI and WI) to implement a third aquaculture community advisory panel in OH. The funding amount is \$24,874 for one year.

The project team identified an aquaculture producer in each of the three targeted states (MI, WI, and OH) around which to focus the Community Advisory Panel social license effort. A successful kick off meeting was held with all project participants and industry partners. There have been several collaborative calls with members of the research team, CFI, and the identified industry partners to assist with understanding the situation in the respective state and the framing of the Community Advisory Panels. One member of the research team was designated as the lead collaborator for each of the 3 states covered by the study.

A final list of candidates for the community advisory panels was established and the first meetings were scheduled for each state. Invitations to the selected panel members were sent out and the option to participate virtually or in-person were given to achieve higher attendance.

Objective 2

Michigan:

On September 30, 2021, a discovery call was held with a MI aquaculture producer, Melanie Fitzpatrick (CFI) and Jonathan van Senten (Virginia Tech). From conversations and investigations, it was learned that the challenges in MI are less prevalent at the local level; rather more broadly at the agency level and state level. Regulations for state-produced aquaculture and commercial aquaculture are not the same, with regulators severely restricting commercial production, and preventing expansion, through increasingly stringent permitting requirements that become more onerous with each passing year. The industry in MI has contended with rising costs for compliance; making it difficult to expand production. Environmentalist organizations and NGOs were identified as a critical stakeholder group to consider in the formation of the Community Advisory Panels. These groups have driven a lot of the messaging and communication about aquaculture in MI. The local residents around farm really did not seem to have any strong opposition to the farm's activities. It was also noted that there is limited academic support for the aquaculture industry in MI.

On March 16, 2023 the first community advisory meeting was held in Lansing, MI. Participants included CFI collaborators, trout farmers, and MI farm associations. Each participant was given a pre-assessment survey to measure changes from the first meeting to the last. After introductions from the participants and project coordinators, the discussion centered around "worst-case" and "ideal" outcomes for the future of aquaculture in MI. Comments were organized and discussed as a group. The meeting concluded by finalizing a list of issues that the panel would like to be covered at future meetings and guests to be invited to those meetings including regulators and government employees.

On May 18, 2023 the second community advisory panel meeting was held in Lansing, MI and attended by the same members as the first meeting. In general, the meeting was focused around the regulatory framework of aquaculture in the state of MI and the process that farmers must go through in order to be compliant. The process to obtain a permit from each relevant state agency was covered and explained in depth including process time, cost, and chance to actually be approved. The meeting finished with the panel discussing the possibility of forming a coalition of stakeholders to develop a more efficient regulatory process for aquaculture farms.

The third and final meeting was held on July 31, 2023 and was virtual. The panel members discussed major roadblocks to aquaculture development in the state and whether they would like to peruse further discussions with other state regulators to address the major issues in MI. Ultimately, many of the participants showed interest in continuing the work. Additionally, the post-assessment survey was administered to document any changes in participants' perception of aquaculture in the region.

Wisconsin:

On October 8, 2021, a discovery call was held with a WI aquaculture producer, Carol Engle (Engle-Stone Aquatic\$, LLC & Virginia Tech) and Melanie Fitzpatrick (CFI). The discussion focused on an interview exchange and conversation to understand the local community and social license obstacles faced by producers in WI. Similar to MI it was learned that the challenges with social license in WI are less at the local level around the farm, and more so at the broader state and agency level. Despite the community support, special interest groups and NGO groups do oppose aquaculture growth and expansion at the broader state level. Like in MI, in WI there is competition with the state hatchery system. Producers in WI have worked collaboratively with NGO groups to build bridges between the NGO community and aquaculture, with some limited success.

The first meeting in WI was held on February 20, 2023 in Madison, WI. The panel for this state consisted of trout farmers, state regulators, NGOs, and veterinarians. Participants went around the room and discussed their own goals for the four advisory meetings and what they would hope to learn from each other throughout the process. Then as a group the members brainstormed any common ground shared between the participants that could be a good starting point for discussions going forward. A list of guest speakers was created to be invited to future meetings in order to cover topics such as groundwater runoff, regulations, and consumer preferences. The date for the next meeting was set and invitations were sent out.

The second meeting in WI was held on April 4, 2023 in Madison, WI. This meeting focused on effluent regulations which was a key issue identified by the panel in the previous meeting. It featured a guest speaker from a state agency who was an expert on the topic. He explained the regulatory landscape in WI, how to apply for and obtain a permit, and he also fielded questions at the end. A pre-assessment was also distributed at the beginning of the meeting to measure changes in the participants over the course of the project. Overall this meeting brought to light the regulatory challenges that farmers face in WI and sparked healthy discussion on what could be done in the future to help resolve some of the roadblocks to further growth.

The third meeting was held on May 8, 2023 and was conducted virtually to maximize participation. This meeting was a continuation of the previous discussion and featured another guest speaker from a state agency to discuss phosphorus discharge limits for farmers. Again, the speaker provided great insight into the laws for WI producers and defined critical terms which furthered understanding of the issue. The next meeting agenda was set and scheduled for the summer of 2023.

The final meeting in WI was held on June 5, 2023 in Palmyra, WI on a trout farm owned by one of the members of the panel. The meeting began with a thorough tour of the facility to give panel members an understanding of the inner workings of a farm and how one operates. Then the panel was broken into groups and asked to discuss common misconceptions about aquaculture and how the industry may address those ideas and communicate better with customers and other stakeholders. A post-assessment was also handed out to the participants and results will be compared to the pre-assessment to see if there were any changes in the panels understanding of aquaculture throughout the advisory panel process.

Ohio:

On November 9, 2021, a discovery call was held with an aquaculture producer in OH that included project collaborator Matthew Smith (OSU) and CFI. However, it was determined that the social license issue of concern affecting this producer had already been concluded. The project team learned of an ongoing social license issue affecting RAS production of salmonids in OH. This ongoing issue presents a unique opportunity to try and work with a Consumer Advisory Panel during a period of active challenges to aquaculture growth and expansion. Unlike MI and WI, the issue in OH is much more localized within a specific community. Making this an ideal opportunity to attempt the local level Community Advisory Panel approach. The community is well defined geographically, which is also ideal for the Community Advisory Panel approach.

The Ohio Soybean Council in collaboration with CFI conducted community advisory panel meetings in OH in a similar fashion to those done in MI and WI. These activities were synergistic to the NCRAC funded work, but not directly supported by NCRAC funding.

Objective 3

Pre- and post-assessments were conducted in MI, WI, and OH to measure any change in perception of aquaculture amongst the community advisory panel members. These results are still being analyzed and will be summarized in the final report.

Objective 4

The results from both the assessments and the panel meetings will be summarized in a guide which can be used by aquaculture producers around the country to conduct similar exercises with their state and local stakeholders to better improve aquaculture-community relationships. Additionally, the results will be disseminated in conference presentations at industry, regional, and national meetings.

Outreach Overview

The results and knowledge gained from this project will be summarized in a guide for aquaculture producers within the North Central Region (and beyond) to use in attempting to address social license issues through a Community Advisory Panel approach.

While the work analyzing the pre- and post-assessments is ongoing and the aquaculture social license guide is still being produced, there was positive progress made in the panel meetings that brought diverse groups of stakeholders together to address common issues. Additionally, some members of the panels did not fully understand the aquaculture industry or the hardships faced by producers so this study helped to further their understanding when making policy or regulatory decisions in the future. New industry partners were discovered throughout this project that will be useful in navigating future political, regulatory, or social challenges.

Targeted Audience

The target audience of this project are local community members in affected communities, commercial trout producers, environmental organizations, NGO, and state agency personnel.

Outcomes/Impacts

The results from the pre- and post-assessments are still be analyzed to understand any changes in panel member behavior from the meetings. However, the meetings accomplished in bringing together people with various perspectives and understandings of aquaculture to discuss common interests and how to resolve problems that each side faced. These discussions are the stepping stones to enact real positive change for the industry as a whole.

Recommended Follow-Up Activities

Future work can continue to build on the social and community component of aquaculture. While it is important to conduct this work while the issues are prevalent, training Extension, farmers, researchers, and other stakeholders in the aquaculture community can be important to engage with the community before problems arise. Additionally, the economic contribution of aquaculture to a community could help build a stronger portfolio for a farmer when they advocate for their business.

This project is being continued on a second grant.

Impacts Summary

Relevance. — Social license is a current issue affecting trout and salmonid aquaculture in the north central region (NCR). The lack of social license manifests primarily as opposition to aquaculture expansion and citing within the NCR.

Response. — This study will gather groups of individuals in the three study states (MI, WI, OH) to try and engage at the community level to affect social license for trout and salmonid aquaculture.

Results. — Work is ongoing.

Recap. — The project is in progress and work is ongoing; there are no impacts to report yet.

Publications, Manuscripts, Workshops, and Conferences

To date, there are no final versions of outputs available to share. However, there are drafts of multiple reports, guides, and technical papers that will be available to the public in the coming months.