

Developing Social License for Trout Aquaculture in the North Central Region

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.

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

Total Funds Committed: \$127,131

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

Current Project Year: September 1, 2023-August 31, 2024

Participants: J. van Senten, Virginia Seafood AREC, Virginia Tech; Carol Engle (Virginia Seafood AREC, Virginia Tech; Kwamena Quagrainie, Purdue University; Charlie Arnot, Center for Food Integrity; Melanie Fitzpatrick, 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, Michigan

Relevance: The lack of social license for aquaculture is widely cited as a significant contributing factor to the slow growth of U.S. aquaculture in many parts of the U.S. News stories have reported the opposition and resistance of local communities against aquaculture for many years. Without social license to operate, social controls can appear that lead to excessive and overly burdensome regulatory requirements, delays and denials of permits, and lawsuits by various citizen groups. Additionally, opposition to aquaculture production reduces market opportunities when consumers choose wild caught over farm-raised fish because they perceive that aquaculture causes pollution, harms wild species or is not produced in a sustainable way.

Response: This study gathered groups of individuals in the three study states (MI, WI, OH) and engaged at the community level to affect social license for trout and salmonid aquaculture.

Results: Four Distinct Objectives were being pursued in this project:

1. To map social license in selected locations in Michigan, Wisconsin and Ohio (through

funding support from the Ohio Soybean Council).

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 and traveled to those respective onsite meetings to observe and document the process of the meetings. Meeting dates, times, and locations were coordinated with members of the advisory panels in order to maximize participation. In a few instances, the option to participate remotely via teleconference was given to advisory panel members in order to achieve higher attendance; although the preference was still for advisory members to attend in person.

2. To design and implement specific intervention strategies for each location.

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.

3. To evaluate the degree of change in social license before and after intervention. Pre- and post-assessments were conducted in MI and OH to measure any change in perception of aquaculture amongst the community advisory panel members.

Michigan:

When asked if aquaculture and fish farming were the same, 82% of participants said they were in the pre-assessment while 100% said they were in the post-assessment. However, there was a drop-in participant who believed that fish raised and stocked by state or federal hatcheries to be considered aquaculture from 91% to 67%. There were no significant changes in the current or best sources of fish farming information from pre- to

post-test however, more people (22%) indicated newspapers were the most credible source of information for fishing farming in the post-test than the pre-test (0%). There were also no large changes between the pre- and post-assessments when participants were asked to rank their agreement or disagreement with statements regarding aquaculture.

Ohio:

Given the small sampling size of the survey, it is difficult to objectively say there were noticeable shifts in perceptions from the pre- and post-survey. There is one individual that is very supportive of the project and the survey indicates the viewpoints for this individual remained supportive. There are two individuals that started the meetings very skeptical. While there are some shifts noted in the post-survey responses, the survey reveals that skepticism remains as well as a desire to stay engaged in the process. There are subtle shifts of improvements in some areas where individuals neither agreed nor disagreed. The low number of meetings (4) is also a factor in the overall impact of the process.

The need to build relationships in the community by the aquaculture farm is significant. Before construction restarts on the project, proactive, transparent outreach to help close the gap between community expectations and company performance should be prioritized.

4. To disseminate project results to aquaculture producers, extension specialists, and the broader aquaculture producer and scientific community.

A 4-page fact sheet summarizing aquaculture and social licenses was generated by CFI to provide information on why this work is important for aquaculture farmers. Additionally, it defines what a social license is, how to identify disagreements in the community, defines a community advisory panel, and describes how those panels can be effective in driving change.

In addition to this factsheet, a “resource guide” was developed to walk farmers through how to establish community advisory panels for their project or farm, how to identify participants, carry out the meetings, and follow up with local leaders. This generalized guide is not specific to any state or project; therefore, it is useful to any business operating in the United States that faces similar challenges to those farms used to develop the guide from this project. Both the factsheet and resource guide have been shared with NCRAC accompanying this project termination report.

There were also two conference presentations associated with this project, one that took place at the Aquaculture America 2023 Conference in New Orleans titled “Developing social license for trout aquaculture in the North Central region” and the other that presented project findings to industry stakeholders at the U.S. Trout Farmers Association Annual Meeting 2023 titled “Developing Social License for Trout Aquaculture”.

Outreach Overview: The results from this project were summarized in both a factsheet and resource guide that can be used outside of the original scope of the project to assist producers in navigating social license issues in their communities. These resources will be shared broadly

within the NCRAC region and beyond in order to broaden the impact of this project.

There was also 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

There was not much measurable change when the pre- and post-assessment results were analyzed. 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.

Extension/Outreach Publications

Arnot, C. (2023). *Aquaculture and social license*. The Center for Food Integrity.

<https://www.ncrac.org/project/developing-social-license-trout-aquaculture-north-central-region>

Center for Food Integrity (2023). *Community advisory panel resource guide: How to build trust and create social license for aquaculture*.

<https://www.ncrac.org/project/developing-social-license-trout-aquaculture-north-central-region>

Oral Presentations

te Plate-Church, A. (2023, February 15). *Developing social license for trout aquaculture in the north central region*. [Conference presentation]. Aquaculture America 2023, New Orleans, LA, United States. <https://www.ncrac.org/project/developing-social-license-trout-aquaculture-north-central-region>

van Senten, J. (2023, September 12). *Developing social license for trout aquaculture: What we have learned so far*. [Conference presentation]. United States Trout Farmers' Association

2023, Hershey, PA, United States. <https://www.ncrac.org/project/developing-social-license-trout-aquaculture-north-central-region>