

North Central Regional
Aquaculture Center

2023 Listening Session Report

March 2023



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A Letter from Dr. J.

To the NCRAC community -

Thank you for giving me the opportunity to use a research-based facilitation practice for this year's listening session. While this process was indeed frustrating, upsetting, and confusing for some participants, this process was also innovative, challenging, and opened mindsets within our community. I do apologize for not being able to complete the day as planned in order to discuss next steps, but I do hope that this report helps to lay the groundwork for designing projects so that we can continue to communicate within and across committees. Collaboration was highlighted by all groups during the listening session as a condition for success to support aquaculture in the Midwest. I hope it is evident that I really do want the best for the industry and for those who love fish. Hopefully, we continue to build upon each of our successes and aim towards a sustainable and growing industry rather than focus on our failures while being agents of change.

Best,

Dr. Lauren Jescovitch

Acknowledgements

Thank you to those who trusted in the process, and willing to try something different and new. A special thanks to the extension team who helped to facilitate the process and provided support before, during, and after the event!

1.0 North Central Regional Aquaculture Center (NCRAC)

1.1 Mission of NCRAC

(Excerpt Provided by Operations Manual Draft, 2021)

“Congress recognized the opportunity for making significant progress in aquaculture development in 1980 by passage of the National Aquaculture Act (P.L. 96-362). Congress amended the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101) in Title XIV of the Agriculture and Food Act of 1981 (P.L. 97-98) by granting authority to establish aquaculture research, development, and demonstration centers in the United States in association with colleges and universities, State Departments of Agriculture, Federal facilities, and non-profit private research institutions (7 U.S.C. 3322). Five such centers have been established: one in each of the northeastern, north central, southern, western, and tropical/subtropical Pacific regions of the country. Subsequent Farm Bills have reauthorized the Regional Aquaculture Center (RAC) program at \$7.5 million per annum; in 2013 RAC program was reauthorized at \$5 million per annum.

As used here, a Center refers to an administrative center. Centers do not provide monies for brick-and-mortar development. Centers encourage cooperative and collaborative aquaculture research and extension educational programs that have regional or national application. Center programs complement and strengthen other existing research and extension educational programs provided by the U.S. Department of Agriculture (USDA) and other public institutions. As a matter of policy, centers implement their programs by using institutional mechanisms and linkages that are in place in the public and private sector.

The mission of the RACs is to support aquaculture research, development, demonstration, and extension education to enhance viable and profitable U.S. aquaculture production which will benefit consumers, producers, service industries, and the American economy.

NCRAC was established in February 1988. It serves as a focal point to assess needs, establish priorities, and implement research and extension educational programs in the 12-state agricultural heartland of the United States which includes Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. NCRAC also provides coordination of interregional and national programs.”

1.2 Who is NCRAC?

NCRAC consists of up to 57 members throughout the NCR dedicated to a Board of Directors (11), Industry Advisory Council (18), and a Technical Committee with two sub-committees: Research (16) and Extension (12). For a full membership list of active members and their roles, visit the website at www.ncrac.org/people.

During the 2023 NCRAC meeting and project updates the day before the listening session, each committee was asked the following questions to reflect upon before the listening session:

1. As a committee, we value _____.
2. How do you define success for:
 - a. This committee?
 - b. NCRAC?
 - c. Aquaculture in the Midwest?

The following are the responses from each committee:

Industry Advisory Committee (IAC):

- As a committee, we value money for research that also provides money in producers pockets.
- IAC is successful when we communicate the needs of the industry in a way that NCRAC can meet those needs.
- NCRAC is successful when they support the effective implementation of information, extension, and resources.
- Aquaculture in the Midwest is successful when there is a growing and profitable industry.

Technical Committee-Research (TCR)

- As a committee, we value adequate funds for projects, continuation of funding topics, connection with industry, and relevance of results.
- TCR is successful when there is dialogue and collaborations with both new and experienced members.
- NCRAC is successful when there are interactions among members and results developed.
- Aquaculture in the Midwest is successful when there is economic viability, sustainability, resilience, and the industry serves as a model for other RACs.

Technical Committee-Extension (TCE)

- As a committee, we value two-way communication, being involved in project conversations from the start, and development of trust and relationships.
- TCE is successful when we can translate information between IAC and TCR effectively.
- NCRAC is successful when there is a profitable and sustainable industry that constantly works on improvements.
- Aquaculture in the Midwest is successful when there is industry growth along with understanding, messaging, and a positive mindset.

2.0 2023 Listening Session

2.1 Goal of Listening Session

The purpose of the listening session is to facilitate dialogue among researchers, extension, and producers within the NCRAC region about aquaculture, and to brainstorm industry needs for NCRAC's call for proposals and projects moving forward.

2.2 Framework for Listening Session

The framework for this listening session was Appreciative Inquiry. Appreciative Inquiry (Cooperrider & Whitney, 1999) is an asset-based approach to organizational and social engagement that utilizes questions and dialogue to help participants uncover existing strengths, advantages, or opportunities in their communities or organizations.

To learn more about Appreciative Inquiry and the framework for the listening session, visit: <https://appreciativeinquiry.champlain.edu/learn/appreciative-inquiry-introduction/>

Appreciative Inquiry is a methodology that focuses on the positive – on what went right, on what was done well – and builds on these good news stories. This method is backed by research and is more robust than simply having a positive outlook, using positive phrases, and giving affirming feedback. It is grounded in reality, focusing on questions such as, “what actually happened? What is really going on that works? How can we build on this?”

Appreciative Inquiry is based on the following principles:

Principle	Summary	Details
Constructionist Principle	Words create worlds	Reality, as we know it, is a subjective vs. objective state and is socially created through language and conversations.
Simultaneity Principle	Inquiry creates change	The moment we ask a question, we begin to create a change. “The questions we ask are fateful.”
Poetic Principle	We can choose what we study	Teams and organizations, like open books, are endless sources of study and learning. What we choose to study makes a difference. It describes – even creates – the world as we know it.
Anticipatory Principle	Images inspire action	Human systems move in the direction of their images of the future. The more positive and hopeful the image of the future, the more positive the present-day action.
Positive Principle	Positive questions lead to positive change	Momentum for small or large-scale change requires large amounts of positive affect and social bonding. This momentum is best generated through positive questions that amplify the positive core.

In order to implement these principles into a practical, process model, the framework follows the 5-D cycle:

1. **Define – What is the topic of inquiry?** – It is important to define the overall focus of the inquiry (what the system wants more of). Definition is used to clarify the area of work to be considered. In spite of being the starting point of the cycle, it's a recent addition – the 5Ds were originally the 4Ds, including discover, dream, design, and destiny. Definition defines the project's purpose, content, and what needs to be achieved. In this phase, the guiding question is, "What generative topic do we want to focus on together?"
2. **Discover – Appreciating the best of 'what is'** – Discovery is based on a dialogue, as a way of finding what works. It rediscovers and remembers the organization or community's successes, strengths, and periods of excellence.
3. **Dream – Imagining 'what could be'** – Imagining uses past achievements and successes identified in the discovery phase to imagine new possibilities and envisage a preferred future. It allows people to identify their dreams for a community or organization; having discovered 'what is best.' They have the chance to project it into their wishes, hopes and aspirations for the future
4. **Design – Determining 'what should be'** – Design brings together the stories from discovery with the imagination and creativity from the dream. We call it bringing the 'best of what is' together with 'what might be,' to create 'what should be – the ideal.'
5. **Deliver/Destiny – Creating 'what will be'** – The fifth stage in the 5Ds process identifies how the design is delivered, and how it's embedded into groups, communities, and organizations. In early appreciative inquiry development, it was called 'delivery,' based on more traditional organizational development practice. The term 'destiny' is more prevalent now.

NCRAC's listening session was structured to include the cycle up to but not including Deliver/Destiny (as this would be extremely specific to a proposed project). However, the group faced a lot of challenges during the Designing process which was met with a lot of miscommunication and frustration. Therefore, the listening session was unable to complete the Design portion of the framework which would have provided the opportunity for smaller request for proposals (RFP) groups to come together during the Destiny portion to complete the cycle and elicit RFP teams who would move forward in proposal development and relationship building before the RFP was released. This is explained further in the feedback section of this report.

2.3 Meeting Code

A meeting code was established at the beginning of the listening session to help facilitate a productive session. The group was asked if there was anything they wanted to add, and the rules that were implemented were the following:

1. Respect our commitment to make this meeting enjoyable and productive. We adopt this Code as our shared commitment to doing great work. This is our Code; we can and will change together if we feel there is a better way.
2. We will respect everyone's time by starting and ending on time.
3. We will respect everyone's time by sharing the time we have together so all can share their perspective.
4. We will respect the purpose of the meeting by being prepared and ready to engage.
5. We will treat each other with kindness and respect. Including ourselves.
6. We will keep individual perspectives in confidence by only sharing summarized information to others outside of the meeting.
7. We will have fun!

2.4 Listening Session Schedule

8:30-8:50 am	Welcome and Overview of Agenda and Expectations Objective: Define - Framing the Topic (What is our Inquiry? Identify the positive core, what solicits success?)
8:50-9:00 am	Transitional Break
9:00-10:20 am	Breakout Rooms Objective: Discovery (explore and appreciate what is) The goal of this session is discovery. We're going to explore what is currently happening and appreciate what is successful for your individual business/job, as well as the industry as a whole. <i>Room C - Producers</i> <i>Room D - Researchers</i> <i>Room E - Supply Chain/Industry Support/Extension</i>
10:20-10:40 am	Networking Break
10:40-12:00 pm	Breakout Rooms Objective: Dream (imagine and debate what might be; what could happen) The goal of this breakout session is to dream. What should the journal say for the room's theme 5 years from now? What would be the leading story? What would be the ultimate dream? No limitations, everything is possible. <i>Room B - Social License (Public/ Consumer Education, Marketing, Legislature)</i> <i>Room C - Products (Food, Stocking, Bait, Fee, Ornamental, Diversity in,</i>

	<p><i>processing, shipping)</i> <i>Room D - Systems (Efficiency, Water Quality, Discharge, expansion)</i> <i>Room E - Species (Fish Health, Feed/Nutrition, Seed)</i></p>
12:00-12:50 pm	Lunch & Networking
12:50-1:00 pm	Transitional Break
1:00-2:20 pm	<p>Breakout Rooms Objective: Dream, continued (imagine and debate what might be; what could happen) - <u>Participants pick a new room</u> The goal of this breakout session is to dream. What should the journal say for the room's theme 5 years from now? What would be the leading story? What would be the ultimate dream? No limitations, everything is possible. <i>Room B - Social License (Public/ Consumer Education, Marketing, Legislature)</i> <i>Room C - Products (Food, Stocking, Bait, Fee, Ornamental, Diversity in, processing, shipping)</i> <i>Room D - Systems (Efficiency, Water Quality, Discharge, expansion)</i> <i>Room E - Species (Fish Health, Feed/Nutrition, Seed)</i></p>
2:20-2:40 pm	Networking Break
2:40-4:00 pm	<p>Breakout Rooms Objective: Design - (determine and develop what should be, what is ideal) The goal of this breakout session is to design, that is, design what should be and determine what is ideal/feasible for that “headline.” <i>Room C - Producers</i> <i>Room D - Researchers</i> <i>Room E - Supply Chain/Industry Support/Extension</i></p>
4:00-4:10 pm	Transitional Break
4:10-5:00 pm	<p>Review and Recap Discussions Objective: Destiny (create what will be; how do we learn; how can we adjust? Identify what needs should be addressed) The goal of this review and recap from the day is moving forward with Destiny. This lets us create what will be and identify what needs should be addressed.</p>
5:00 pm	Adjourn

3.0 Outcomes

3.1 Welcome and Overview of Agenda and Expectations

Objective: Define - Framing the Topic

The goal of this session is to define. As a group, we are going to frame the day's topic and agree on a meeting code, and review the listening sessions' purpose, framework, and structured process for the day.

The purpose of this listening session is to:

1. Bring together members of NCRAC and the aquaculture industry in order to facilitate dialogue among these communities
2. Brainstorm and prioritize aquaculture needs in the region to inform NCRAC's call for proposals and projects moving forward.

3.2 Breakout Rooms 1

Objective: Discovery (explore and appreciate what is)

The goal of this session is discovery. We're going to explore what is currently happening and appreciate what is successful for your individual business/job, as well as the industry as a whole.



Participants broke out into the following rooms:

- Room C - Producers
- Room D - Researchers
- Room E - Supply Chain/Industry Support/Extension

Each room was split into smaller groups where participants had to share successful stories and write out what condition allowed that experience to be successful. Therefore, the following are conditions that were discovered and prioritized by the different groups that will elicit success. The grouping of ideas were clustered into a common themes named by participants:

Producers are successful when there's:

1. External Adaptation
 - a. Adapting to new technology
 - b. Flexible adaptation of a business model
 - c. COVID-19 operations
 - d. Innovation
 - e. Unplanned opportunities
2. Internal Adaptation
 - a. Learning from mistakes
 - b. Organization and documentation



3. Marketing
 - a. Marketing
 - b. Perseverance and flexible marketing
 - c. COVID-19 changing of markets
 - d. Business plan that is strategic and technical
 - e. Flexibility of market production or plan
 - f. Recognition of customer needs
4. Collaboration
 - a. Collaboration
 - b. Collaboration to share resources
5. Good or Efficient SOPs (Standard Operating Procedures)
 - a. Attention to detail/ Power of observation in order to avoid mistakes
 - b. Water quality monitoring
 - c. KISS (Keep It Simple Stupid)
6. Commitment
 - a. Perseverance
 - b. Persistence in the face of detractors



Researchers are successful when there's:

1. Creativity
 - a. Creativity to institutional barriers
 - b. Compromising
2. Collaboration
 - a. Interdisciplinary people/ideas
 - b. Openness to new people/ideas
 - c. Empowerment of others
 - d. Partner/key individuals' engagement
 - e. Communication
 - f. Outside perspectives
 - g. Compromising
3. Infrastructure
 - a. Available "opportunities" to improve aquaculture work
 - b. Visibility
 - c. Highly competitive department assistance
4. Stochastic Process
 - a. Luck
 - b. Serendipitous marketing
5. Value-based passion/persistence/love affair
 - a. Liked the challenge
 - b. Dedicated Students

Supply Chain/Industry Support/Extension are successful when there's:

1. Economic Investment
 - a. Economics
 - b. Funding
 - c. Relating economic benefits to recommendations
 - d. Intelligent risk taking on investments
2. A good aquaculture mindset/attitude
 - a. Open to new ideas and change
 - b. Adaptive/ opportunistic
 - c. Vision and effort
 - d. Innovative Salary
 - e. Determination
3. Trust
 - a. Producer support
 - b. Trust
 - c. Credibility with producers based on experience
 - d. Experience
4. Collaboration
 - a. Collaboration with producers, research, and extension
 - b. Support a network that improves the whole industry (past the point of sale)
 - c. Relationship development (break down barriers)
 - d. Regional approach (GLAC)
5. Communication



Overall, the following table highlights each groups' one or more conditions for success and cross references how their ideas parallel each other, although in different contexts:

Conditions for success	Producers	Researchers	Extension/ Supply Chain/ Industry Support
1	Collaboration	Collaboration	Collaboration
2	Commitment	Value-Based Passion	Mindset/Attitude
3	External Adaptation	Stochastic Process	Communication
4	Internal Adaptation	Creativity	Trust
5	Marketing	Infrastructure	Economic Investment
6	Good SOPs	---	---

3.3 Breakout Rooms 2 & 3

Objective: Dream (imagine and debate what might be; what could happen)

The goal of this breakout session is to dream. What should the journal “Fish News Now” say for the room's theme 5 years from now? What would be the leading story? What would be the ultimate dream? No limitations, everything is possible.

Participants broke out into the following rooms:

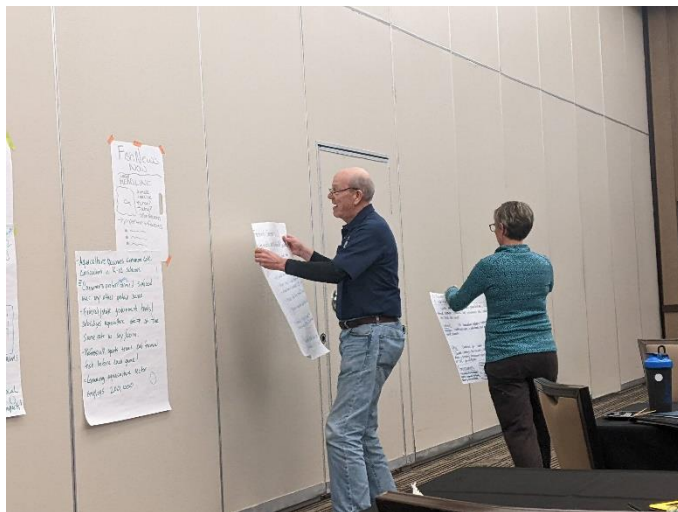
Room B - Social License (Public/ Consumer Education, Marketing, Legislature)

Room C - Products (Food, Stocking, Bait, Fee, Ornamental, Diversity in, processing, shipping)

Room D - Systems (Efficiency, Water Quality, Discharge, expansion)

Room E - Species (Fish Health, Feed/Nutrition, Seed)

Participants brainstormed and then voted on the headline that they wanted to work with in smaller groups. Although only one headline was picked, there were many great ideas for a vision given the topics for each room. Participants then worked in smaller groups to produce a news article that shared the headline, the who, the why, the consequences, and important facts.



3.4 Breakout Rooms 3 (Participants pick a new room)

Participants repeated the process of Breakout Rooms 2, but were able to contribute to another main topic room to join a new group and discover new ideas/headlines. After articles were complete, participants received 4 stickers to vote on their favorite headline in each room. The top news articles were then selected for discussion in breakout room 4.

3.4.1 Social License Headlines

(Note: Time was also spent to define Social License as: Freedom to operate your business the way you feel is best because you earned public trust)

1. Aquaculture becomes common core curriculum in K-12 schools
2. Consumers prefer sustainably farmed seafood over any other protein source
3. Federal/state government funds/subsidizes aquaculture at the same rate as soy/corn
4. Professional sport teams eat farmed fish before each game
5. Growing aquaculture sector employs 200,000
6. Domestic aquaculture now producing 50% of seafood demand
7. US eliminates trade deficit in aquaculture
8. US farmed seafood is a safe, sustainable, and nutritious food source
9. Midwest fish farms generate \$15 Billion
10. Midwest aquaculture meets local demand with positive environmental impacts
11. Sport Fishing community rallies behind aquaculture production
12. 90% of America's children learn to fish
13. Aquaponics education increases university STEM enrollment
14. Aquaculture/Aquaponics is the top Google search
15. Local US aquaculture networks reverse climate change and eliminates food insecurity
16. Communities compete for opportunity to host fish farm development
17. Fish farms harness waste heat to protect the environment and diversity of farm products
18. Burgeoning interest in aquaculture results in nine out of ten land grant universities creating majors in this topic
19. Neighborhood fish farm wins National Sustainability Prize
20. Marketing - Home of Fish farm!
21. 90% of neighborhoods have local fish farms across the US
22. March has been declared national aquaculture month!
23. US Fish farms enhance water quality
24. Neighborhood fish farms become source of food, fun, and recreation

The 2 headlines the groups picked were:

1. US farmed seafood is a safe, sustainable, and nutritious food source!
2. Communities compete for the opportunity to host fish farm development!

The most voted on news article was:

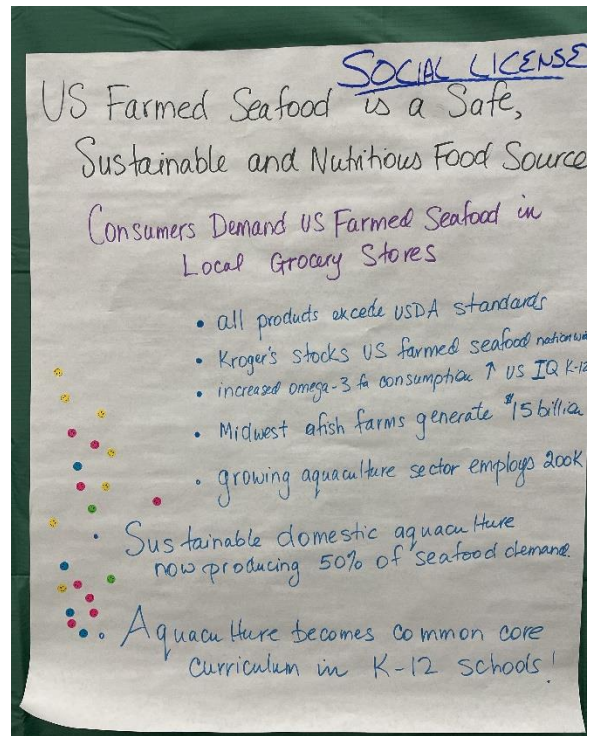
Social License: US farmed seafood is a safe, sustainable, and nutritious food source!

Who:

- Consumers demand US farmed seafood in local grocery stores

What:

- All products exceed USDA standards
- Kroger's stocks US farmed seafood nationwide



Why:

- Increased omega 3 fatty acids consumption increases US IQ numbers in K-12
- Midwest fish farms generate \$15 Billion
- Growing aquaculture sector employs 200,000

Consequences:

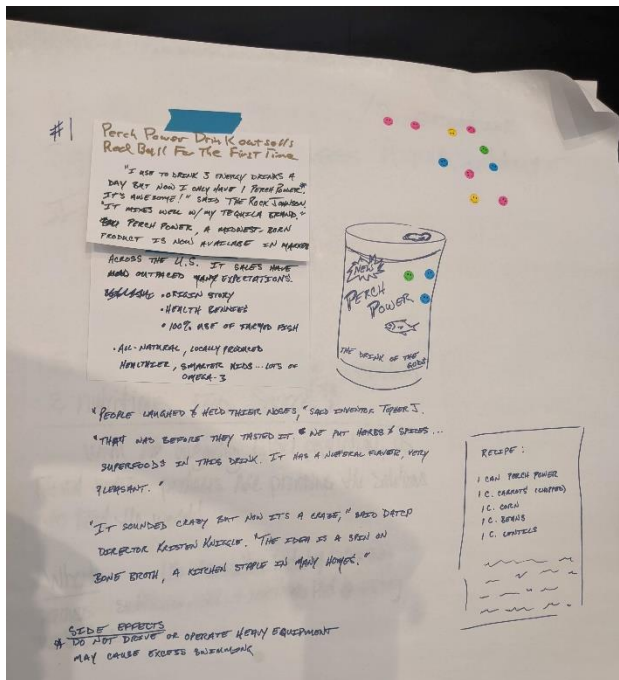
- Sustainable domestic aquaculture now producing 50% of seafood demand
- Aquaculture becomes common core curriculum in K-12 Schools

Other news articles' content that may be of interest:

- Produces an affordable seafood choice for consumers that is cost effective
- Reduce carbon footprint
- Increased and equal access to nutritious and safe food sources
- Increased workforce/ educational opportunities
- Increased opportunities for rural communities
- Solutions for climate change and increasing quality of life for millions

3.4.2 Products Headlines

1. New sustainable aquaculture products you probably never heard of!
2. Farmed fish are the safest seafood in the US
3. EPA study shows fish farming has less impact on water quality than any other agriculture
4. U.S. Aquaculture farms gain organic certification (USDA)
5. Zero discharge aquaculture grows in importance to US rural economies
6. Fish Jump to the Top: How Americans turned from turf to surf



The most voted on news article was:

Products: New sustainable aquaculture products you probably never heard of!

What:

- Perch power drink outsells red bull for the first time

Why:

- Origin story
- Health Benefits
- 100% use of farmed fish
- All-natural, local produced

Consequences:

- Healthy, smarter kids... lots of omega-3s, superfoods
- Craze over farmed fish product
- Staple in the kitchen

3.4.3 Systems Headlines

1. Aquaculture industry revitalized by youth education aquaponics/aquaculture!
2. Standardized aquaculture production system leads to competitive pricing for US aquaculture products
3. US Demand for sustainable seafood shapes shoppers' choices
4. Great lakes net pen aquaculture proceeds at blazing rate
5. DNR contracts out fish production to private company
6. Regulatory agencies adopt reasonable standards and common-sense standards for NPDES permitting
7. Aquaponic systems develop Zero discharge and is economically viable
8. Great Lakes aquaculture net pens save US aquaculture Industry

The most voted on news article was:

Systems: Aquaculture industry revitalized by youth education aquaponics/aquaculture!

Who:

- STEM educators catalyze innovative solutions to advance aquaculture

What:

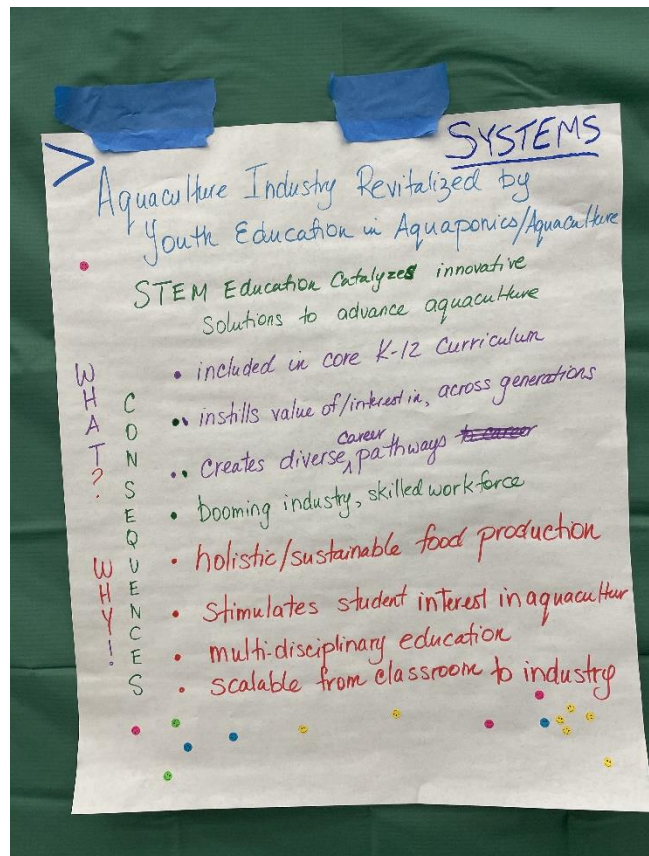
- Included in core K-12 curriculum
- Instills value of/interest in, across generations
- Creates diverse career pathways

Why:

- Holistic/ sustainable food productions
- Stimulates student interest in aquaculture
- Multi-disciplinary education
- Scalable from classroom to industry

Consequences:

- Booming industry, skilled workforce



Other news articles' content that may be of interest:

- NCR co-op develops standard aquaculture production system
- Imports from other countries have health, environmental, humanitarian, and sustainability concerns. NCR co-op makes it possible to compete with these foreign imports.
- Sustainability concerns are increasing and important to consumers

- Import sustainability is lacking, but cheaper at the store
- Market trends shift domestic and overseas producers to be more environmentally friendly.
- New Tech and shift to RAS make aquaculture sustainable
- Traceability, certification, and quality assurance guaranteed through production

3.4.4 Species Headlines

1. Mortality down, Profits Up! Farmed fish/Aquaculture grows 25% annually!
2. Fish farmers collaborate, fix supply chain, and reach consumers directly
3. American eels saves aquaculture
4. North Central aquaculture profitability for all
5. Company puts Lake Erie in a tank
6. Mortalities down, profits up
7. Yellow Perch aquaponics- sustainable food for Milwaukee
8. USDA stops supporting swine, supports and subsidizes aquaculture
9. No more sick fish in the North Central Region
10. Local fish farm celebrates 100 years
11. Farmed food fish grows 25% annually
12. Yellow Perch becomes #1 fish sold
13. Reducing seafood deficit through aquaculture
14. Quality fish up thanks to vaccines and good food!
15. U.S. aquaculture production in surplus
16. Most baitfish now cultured indoors

The 2 headlines the groups picked were:

1. Mortality down profits up! Farmed fish/aquaculture grows 25% annually!
2. U.S. aquaculture production in surplus thanks to better vaccines, better fish food

The most voted on news article was:

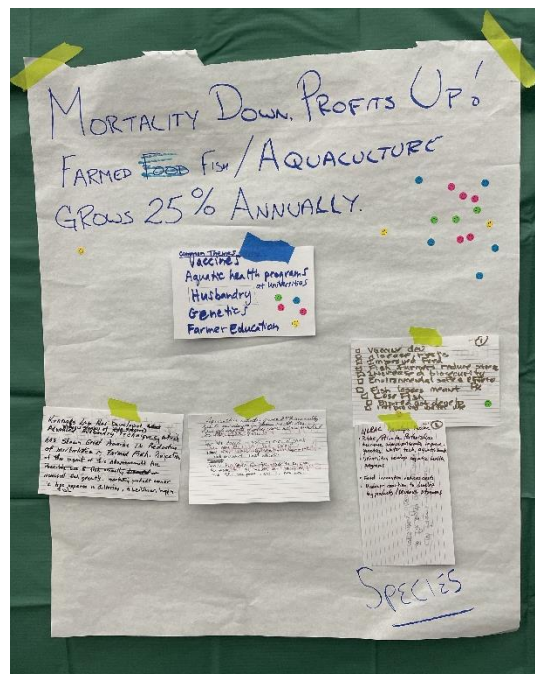
Species: Mortality down, Profits Up! Farmed fish/Aquaculture grows 25% annually!

Who:

- NCRAC develops vaccine
- Public/private partnerships decrease disease outbreaks, improve genetics, water technology, and aquatic health

What:

- Vaccines developed
- Disease tested
- Improved feed
- Improved Genetics
- Preventative husbandry practices
- Fish farmers reduce stress on fish
- Reduction in mortalities



Why:

- Increase biosecurity
- Environmentally safe and effective prescriptions
- Bioproduct development
- Improved water use
- Increased fish growth over time
- Healthier and happier fish

Consequences:

- Universities develop aquatic health programs
- Aquatic vet demand is growing by leaps and bounds which creates lots of new jobs and more overall interest in aquaculture related industries
- Farmer fish health education expanded so more farmers have the knowledge and resources to make better management decisions on their farms
- Producer coalition to develop by products/revenue streams

Other news articles' content that may be of interest:

- Messaging to consumers to eat more farm raised fish
- Support multitudes of small aquaculture farms rather than consolidating into fewer, larger entities like in other agricultural sectors
- Produce consistent product with the help of: consistency in supply and quality of product; improved genetics, feed, and seed supply; consistent, high-quality seed available to buy; fish breeding education (multiple species)

3.5 Breakout Rooms 4

Objective: Design - (determine and develop what should be, what is ideal)

The goal of this breakout session is to design, that is, design what should be and determine what is ideal/feasible for that “headline.”

Participants broke out into the following rooms:

Room C - Producers

Room A - Researchers

Room A - Supply Chain/Industry Support/Extension

Participants started with the social license article to determine what they themselves can do to make that project happen and then what they needed to ask from the other 2 groups in order to make that happen. They were then offered the opportunity to have a spokesperson ask on behalf of the group to the other spokespeople. They were only able to respond with “Yes, No, I will try, or whatever (meaning the question is unclear)” with no explanations. This provided the opportunity for each group to enter in a decision-making process and this component proved to be challenging for some participants.

“US farmed seafood is a safe, sustainable, and nutritious food source!”

For example, in Extension:

1. We can:
 - a. Distribute information to consumers
 - b. Reach out to wholesalers and retailers
 - c. Identify and educate influencers (dieticians, doctors, and chefs)
2. Can researchers do the following (answers from researchers are listed in parenthesis):
 - a. Provide info/data on farmed and wild caught seafood (whatever - needs to be more specific)
 - b. Market analysis of demand and consumer needs (yes)
 - c. Life cycle assessment of US produced vs imported carbon footprints (yes)
3. Can Industry do the following (answers from the industry are listed in parenthesis):
 - a. Transparency on production costs and sales data/price/enterprise budget (no)
 - b. Work with researchers to generate/provide data (We will try)
 - c. Improve feed and lower costs to maintain sustainability and nutrients (no)
 - d. Positivity! Be a good collaborator (yes)

After receiving responses for their questions, the group then worked on how they can move forward with this information:

Extension can:

1. Build trust and be transparent with producers
2. Make/improve educational material
3. Create social media such as cooking videos, sustainability and for younger audiences
4. Collect data and work with researchers or community experts to analyze data and improve educational materials
5. Get training on numbers 3 and 4.

3.6 Review and Recap Discussions

Objective: Destiny (create what will be; how do we learn; how can we adjust? Identify what needs should be addressed)

The goal of this review and recap from the day is moving forward with Destiny. This lets us create what will be and identify what needs should be addressed.

Participants were all in one room.

Unfortunately, there was a communication breakdown and frustration elicited during the last breakout room and this part of the listening session process. The facilitators provided the space for additional closed-door conversation within the producer group and then changed the structured process for this portion to a more generalized check-in/opportunity to provide feedback. Participants were encouraged to write a letter to themselves stating what worked well, what could be improved, and what they were going to hold themselves accountable to moving forward. These letters, in addition to a fact sheet of the outcomes of this work, will be mailed back to each letter writer in September 2023 year as a follow-up. Once feedback was complete, the listening session adjourned.

4.0 Summarized Feedback

Feedback of the listening session is provided by individual follow-ups, facilitator debrief meetings, and assessment letters. This section summarizes this feedback in aggregate to share the group's findings and feedback from this experience.

4.1 Comments Providing Overall Impressions of the Event

1. The 2020 NCRAC listening session (Listening Session Assessment, 2020) was not structured and had loud voices. This 2023 listening session was too structured but provided opportunity for small group discussion and opened the conversation for more voices to be heard, and thus, more perspectives.
2. The process did not seem realistic, and therefore was frustrating to some. There was no wrap up at the end or consensus on how to move forward.
3. Too much planned for one day.
4. Very different worlds and very different perspectives lead to discomfort.
5. Being creative is hard because it's different and out of most participants' comfort zones.
6. Expectations to dominate a conversation because of one's experience/expertise can be confused between a right and a privilege.
7. There were some really great ideas that came about that should be reviewed and/or followed up.
8. We discovered that communication is very important and wanted/needed by all groups. This led to more frequency and more specific communication in groups moving forward.

4.2 Facilitators' Lessons Learned

1. Have handouts for participants.
2. Review and practice beforehand.
3. Invite/fund a professional, external facilitator so extension can participate (extension is also not necessarily neutral - we can receive funds, too).
4. Too ambitious for a new process (½ day would be best for broad needs, ½ day for individual needs).
5. Spend more time in the framework under "design" rather than "dreaming."
6. Be very clear on goals in the beginning - the idea is to help the industry as a whole, not just one business.
7. Bridging communication between farmers and research is difficult. However, facilitating perspectives and collaboration is valuable.

4.3 Positive Learning Outcomes from the Event

1. Effective networking experience
 - a. Achieved comradery
 - b. Built collegiality among producers, industry, and extension
 - c. Broadened/highlighted collaboration potential among communities in the region
2. Opened creative thinking to grow the industry
 - a. Peaked farmer curiosity about other methods and species outside their own

- b. New, innovative activities led to unique ideas
- 3. Valuable information was shared
 - a. Highlighted the importance of marketing and business flexibility
 - b. Heard from everyone - small groups were extremely effective in getting people to share ideas and values from all attendees (including the quiet voices)
- 4. There is potential from these ideas
 - a. Hope to be a part of discussions and implementation of some of these projects moving forward
- 5. NCRAC tried something different to come up with priorities
 - a. Great to be looking forward (positive) rather than the past (negative)

4.4 Learning Outcomes to Improve Upon from Event

- 1. We were not able to bring it all back together at the end (left hanging; did not complete the process)
 - a. Consequently, there was a feeling that the sessions did nothing to develop/refine priorities to guide the community in the upcoming RFP process
 - b. No clear, feasible picture on how to stop the decline, never mind growth, of aquaculture in the Midwest
 - c. Process did not provide opportunities to effectively elicit all the industry needs
- 2. Too long spent out of “comfort zone, ” consequently, participants experienced burnout.
- 3. There was frustration at times with this new process
- 4. The industry felt that their perspective was undervalued and that researchers gained more from this process than they did
- 5. Too much time spent on definitions/language rather than solutions

4.5 Other Learning Outcomes from the Day

- 1. Communication is key
 - a. Need more communication
 - b. Farmers, researchers, and extension need more coherence and to be less reluctant when working together
 - c. Fish farmers need transparency and honesty with researchers
 - d. Lack of trust from industry/need to build trust with industry
 - e. Industry needs to learn what research is currently ongoing in the region
 - f. Lack of clarity about what NCRAC does and how it works (how did the 2015 RFP come to be?)
 - g. Active listening is important
- 2. Perspective matters - we all see the world through different lenses
 - a. Defining social licensing
 - b. Defining production aquaculture
 - c. Challenges and solutions
 - d. Diverse industry species, systems, and products
 - e. Industry has their needs, but they might not always align with research and extension capabilities or needs.

- f. New attendees are not aware of the issues with producers and others but are happy to work with all for the greater good
3. Need an effective decision-making process
 - a. Learn from failures, build on successes
4. Social media is an underutilized tool by all groups
5. Educational opportunities (youth and public) were supported and encouraged by all groups
6. Not everyone is going to walk away happy

5.0 Recommendations Moving Forward

In summary, the following are recommendations based on the day's dialogues and feedback:

5.1 Recommendations for Future Listening Sessions

1. Invite and fund a professional facilitator to moderate, plan, and report on a listening session so that all groups (industry, research, and extension) can fully participate with a 3rd-party, neutral perspective.
2. Provide opportunities to solicit from the overarching needs of the industry as well as individual needs from producers.
3. Provide a mix of structured and unstructured dialogues.
4. Give an overview of NCRAC and expectations of outcomes for all participants before beginning a listening session.
5. Continue facilitating both eliciting needs *and* developing community/trust/open dialogue.



5.2 Recommendations for NCRAC

1. NCRAC leadership to determine a process (trust/transparency) and timeline (frequency) for eliciting and addressing both individual and group needs.
2. NCRAC to determine a clear, concise, and transparent RFP and evaluation process (i.e., what's the timeline for proposals? What priorities are picked? Whose voice has the most influence on these priorities? Why? How are projects evaluated? How are projects determined to be funded?)
3. Continue to build community and have more frequent communication within and across committees. For example, explain the job of a researcher, extension, and producer and what perspectives/values their roles depend on.
4. Transfer NCRAC website to another host site in order to redesign for accessibility, organization, and dissemination of information for the region.

5.3 Recommendations for Prioritizing Regional Projects

While the following projects are not prescriptive, these ideas were elicited during the vision (or Dream) sessions and prioritized during the 2023 listening session under the lens that these would grow the aquaculture industry. Design and implementation should be completed by a dedicated research team that is inclusive of research, industry, and extension members according to their expertise and knowledge. The following recommendations should be considered for the next request for proposals (RFP):

1. Social Licensing
 - a. Consumer Education
 - i. Antibiotic residuals/contaminants study
 - ii. Imports//Wild/Farmed comparison contaminant study
 - b. Transposing producer information into consumer information/formats
 - c. Chef/Cook education
2. Workforce development
 - a. Youth Education
 - b. Recruitment/training programs
3. Marketing
 - a. Science Communication
 - i. Social Media training, value comparisons
 - ii. Awareness/ community-farm partnerships
 - b. NCRAC website improvement/ enhancement
 - i. Redesign; updating and organizing information
 - ii. Accessibility
 - c. Current and potential economic value of NCR aquaculture
 - d. Market feasibility study from local producer to grocery chain
 - e. Market feasibility and development of US eco-label certification
4. Fish Health
 - a. Vaccine development
 - b. Feed improvements
 - i. Nutrition and economics
 - ii. Local feed alternatives
 - c. Producer training/workshops
5. Sustainability
 - a. Sustainability life cycle assessment (LCA) of farms/products
 - b. Imports//Wild/Farmed comparison sustainability study in NCR
 - c. Zero-waste and economic sustainable models
6. Innovation
 - a. Public-private partnerships for seed supply, fish health, fish genetics
 - b. Viability of Great Lakes cage/pen aquaculture
 - c. Industry feasibility study for a co-op or check-off program
 - d. Feasibility studies for profitable by-product revenue streams

In conclusion, it is important to remember that aquaculture is a way of life for most, if not all participants, and each group is successful when there is incorporation of one or more of the following conditions:

Conditions for success	Producers	Researchers	Extension/ Supply Chain/ Industry Support
1	Collaboration	Collaboration	Collaboration
2	Commitment	Value-Based Passion	Mindset/Attitude
3	External Adaptation	Stochastic Process	Communication
4	Internal Adaptation	Creativity	Trust
5	Marketing	Infrastructure	Economic Investment
6	Good SOPs	---	---

6.0 Appendix I: References

Cooperrider, D.L., & Whitney, D. 1999. *A Positive Revolution in Change: Appreciative Inquiry*. Taos, NM: Corporation for Positive Change.

<https://appreciativeinquiry.champlain.edu/learn/appreciative-inquiry-introduction/>

Listening Session Assessment. 2020. NCRAC Listening Session Assessment. Available online:

https://www.ncrac.org/files/news/files/listening_session_2020_assessment.pdf

Operations Manual Draft. 2021. North Central Regional Aquaculture Center's Operation Manual. Available online:

https://www.ncrac.org/files/page/files/op_manual_draft_revised_april_2021_0.docx