

Sea Grant

50



YEARS

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Mississippi-Alabama Sea Grant Consortium and Auburn University

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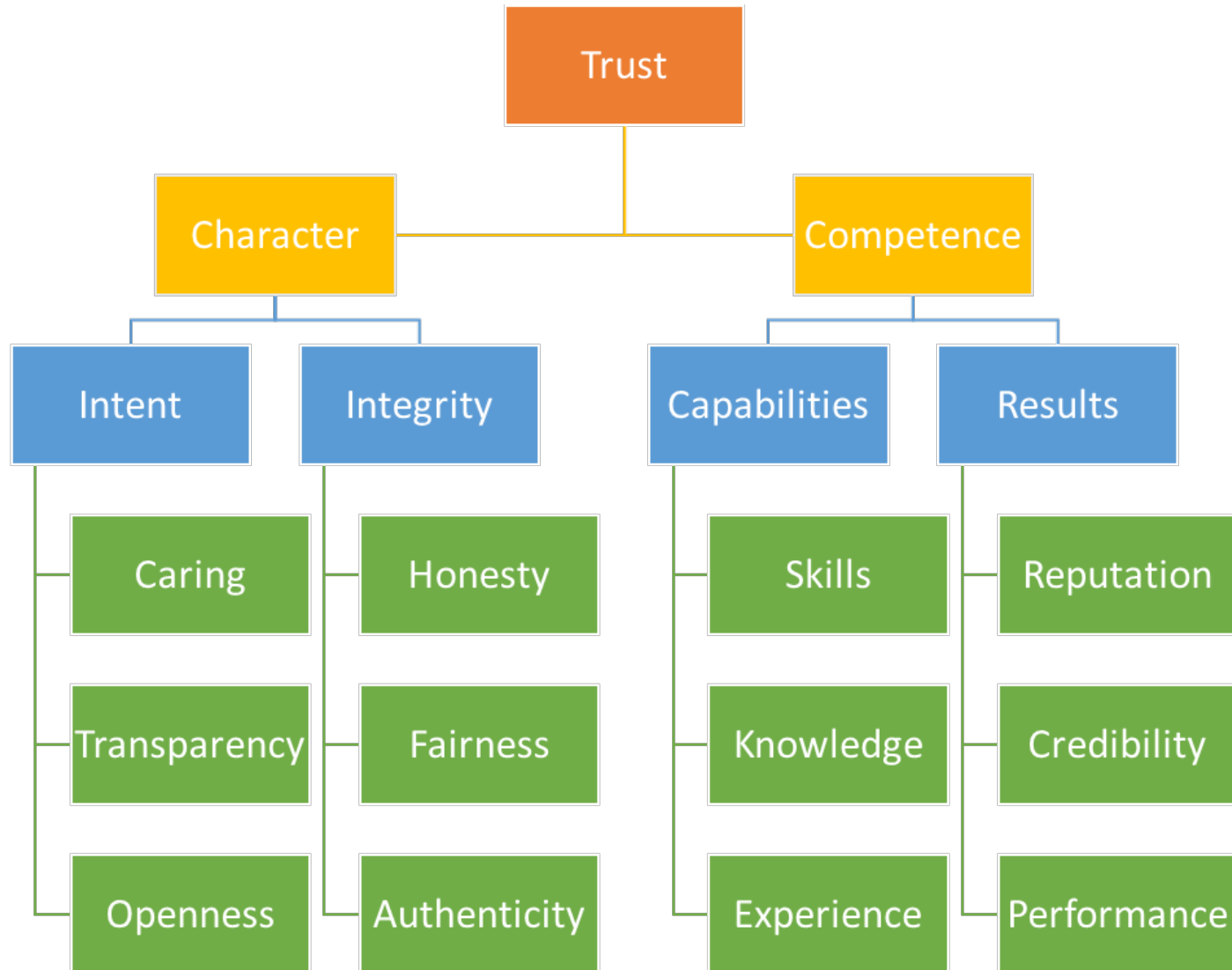
National Sea Grant College Program



Seven Rules of Extension

- 1. Be observant**
- 2. Meet people**
- 3. Look for positives**
- 4. Listen**
- 5. Don't be too quick with answers**
- 6. Don't be afraid to say no**
- 7. Anticipate**

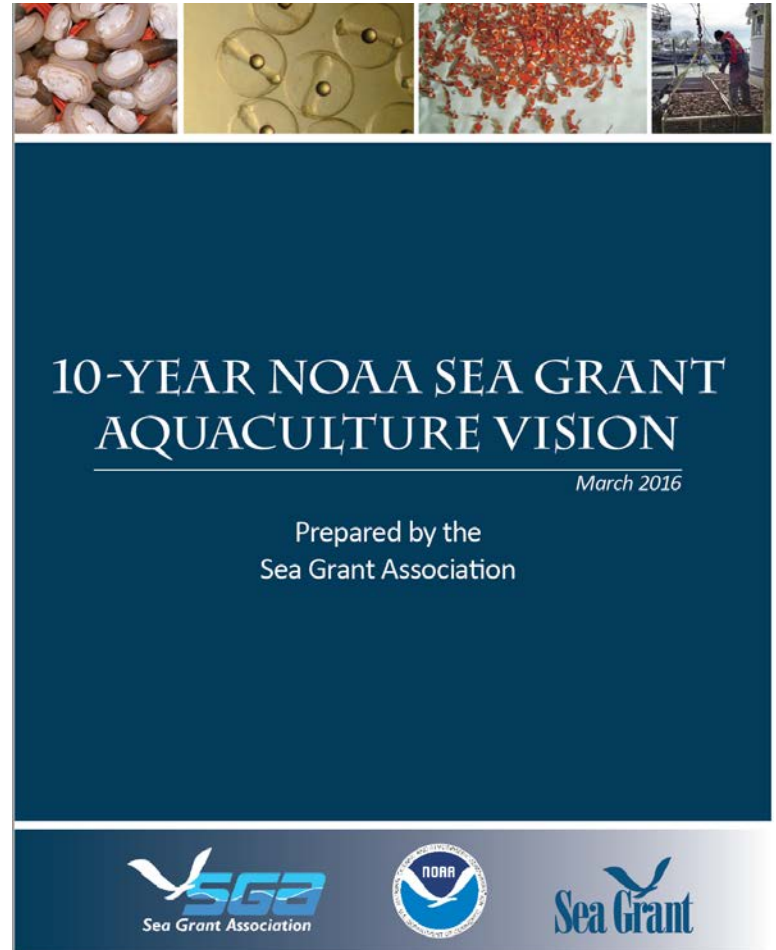
Why I love Extension



10-Year NOAA Sea Grant Aquaculture Vision

- **Rationale**

- \$18B seafood trade deficit
- \$20M NOAA aquaculture investment
 - \$9.5M Sea Grant
 - \$9M NOAA Office of Aquaculture
- Sometimes more funding is not the only answer



Steering Committee

- Paul Anderson, Maine Sea Grant
- Jim Berkson, National Sea Grant
- Sarah Bowman, National Sea Grant Office
- Penny Dalton, Washington Sea Grant
- Rick Devoe, South Carolina Sea Grant
- Tessa Getchis, Connecticut Sea Grant
- Robert Jones, NOAA Office of Aquaculture
- Teri King, Washington Sea Grant
- Andy Lazur, Maryland Sea Grant
- Mike Liffman, National Sea Grant Office (retired)
- Fredrika Moser, Maryland Sea Grant
- Paul Olin, California Sea Grant
- Stephanie Otts, National Sea Grant Law Center
- Kwamena Quagraine, Illinois-Indiana Sea Grant
- Michael Schwarz, Virginia Tech
- Stephen Sempier, Mississippi-Alabama Sea Grant Consortium
- Bill Walton, Auburn University
- Chuck Weirich, North Carolina Sea Grant
- LaDon Swann, Mississippi-Alabama Sea Grant Consortium (Chair)

NOAA Sea Grant's 10-Year Aquaculture Vision

Sea Grant's integration of research, outreach and education will be instrumental in creating and applying aquaculture products, tools and services to foster the expansion of a sustainable U.S. marine and Great Lakes aquaculture industry.

Stakeholder Input via Extension Network

- **Online survey with 153 responses**
- **Questions**
 - Aquaculture-related issues
 - Role in addressing the issues
 - Beyond funding what resources are needed
 - Ideal impact statements


Partnership and Leveraging Opportunities

- NOAA's Office of Aquaculture
- Aquaculture Interagency Working Group
- USDA Regional Aquaculture Centers
- U.S. FDA
- USFWS
- National, regional and state Industry associations



COLLABORATION:

Two or more people working together towards shared goals



Focus Areas

- **Commerce**
- **Permitting and Policies**
- **Current and Emerging Species**
- **Production Systems**
- **Seafood Safety and Quality**



Commerce

- **Priority**
 - Provide economic and marketing research and associated outreach programming to increase the profitability and environmental sustainability of aquaculture businesses.





Commerce

- **Research**

- Investigate international trade issues.
- Conduct economic analyses of using public waters.
- Behavioral and consumer sciences.

- **Outreach**

- Develop niche markets.
- Coordinate and liaise among states and synchronize efforts among industry, government, and research and extension communities.
- Develop business models and provide training.

Permitting and Policy

- **Priority**
 - Streamline the permitting process to save farmers time and money.



Photo credit: Chris Bartlett, Maine Sea Grant





Permitting and Policy

- **Research**

- Identify common policies that will ensure uniform regional governance.

- **Outreach**

- Provide technical assistance to researchers working with the aquaculture industry to scale up technologies.
- Facilitate the development of model state laws and guidance to address typical legal and regulatory barriers to the aquaculture industry.

Permitting and Policy

- **Outreach**

- Conduct extensive outreach programs for aquaculture stakeholders to increase awareness of:
 - Legal responsibilities of state agencies as managers of public trust lands and waters
 - The challenges of balancing multiple uses of coastal lands and waters, and
 - The legal authority of local governments to regulate land uses in certain zones.

Current and Emerging Species

- **Priorities**

- Nutrition
- Reproduction
- Larval rearing
- Genomics
 - enhance growth,
 - improve health and
 - adapt to changing conditions
- Hatchery production of shellfish, macroalgae, and finfish



Current and Emerging Species

- **Research**

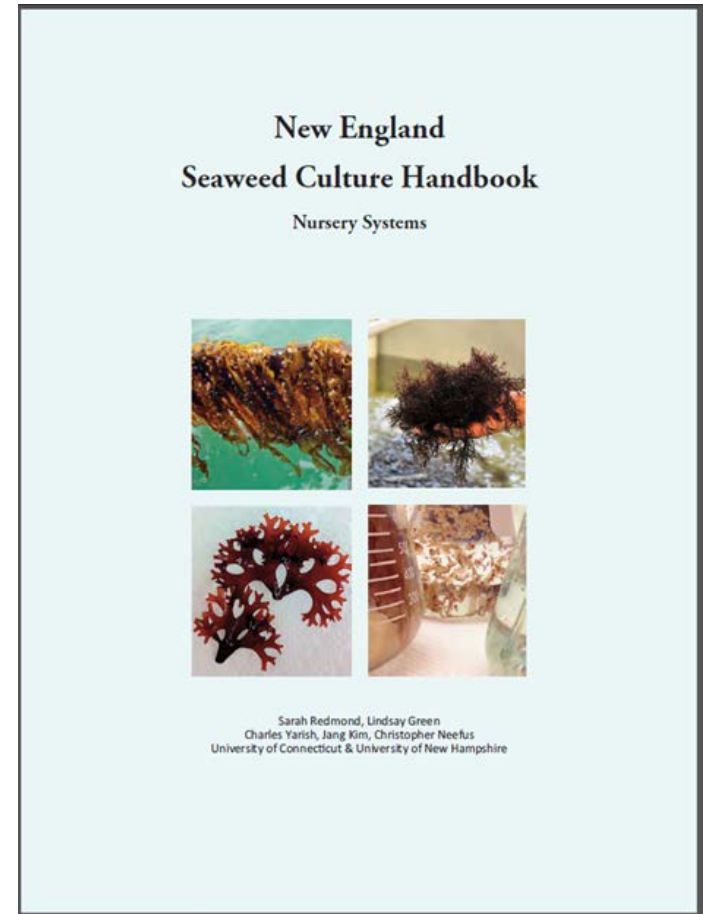
- Develop sustainable alternative and emerging species including reproductive biology, nutrition and feeding, health, husbandry practices and other research.
- Improve the efficiencies of existing marine and Great Lakes species.

- **Outreach**

- Support the creation of collaborative, multidisciplinary research partnerships involving all stakeholders to commercialize promising new species.
- Guide the use of sustainable alternative and emerging species.

Production Systems

- **Priority**
 - Link industry needs to basic and applied research efforts, including establishing demonstration centers to develop and refine aquaculture systems and disseminate applied information to end users.



Production Systems

- **Research**

- Develop new and optimize existing culture systems and practices.
- Improve technology efficiencies.
- Improve the economics of commercial scale production.
- Develop cost-saving technologies for production, harvest and processing.

- **Outreach**

- Establish a network of regional aquaculture demonstration centers.

Seafood Safety and Quality

- **Priority**
 - Support research and outreach to aquaculture producers, resource managers, scientists and consumers to ensure the safety and quality of sustainably cultured seafood products to meet public demand.



Seafood Safety and Quality

- **Research**

- Develop or improve environmental monitoring tools, forecasting models and faster biotoxin analyses.
- Assess rising concerns about bacteria and viruses, such as *Vibrio* species and norovirus.
- Develop value-added aquaculture products.
- Improve the understanding of aquaculture interactions with wild stocks and the natural environment.

Seafood Safety and Quality

- **Outreach**

- Provide consumer education programs on seafood quality and food security.
- Continue involvement in Hazard Analysis Critical Control Point (HACCP).
- Conduct outreach regarding seafood contaminants.
- Build markets by working with seafood handlers to improve seafood quality and safety.

Seafood Safety and Quality

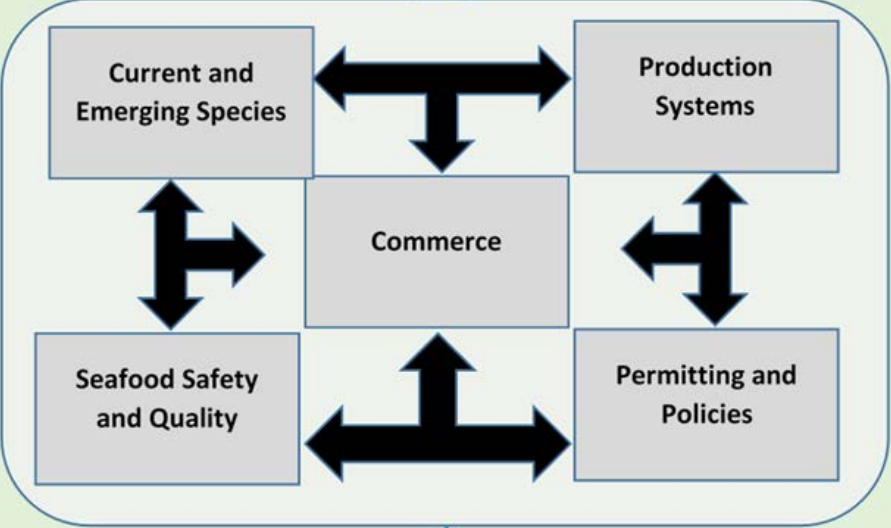
- **Outreach**

- Guide development of product diversity.
- Provide technical assistance and outreach to develop value-added aquaculture products.
- Provide technical assistance and outreach to improve the understanding of aquaculture interactions with wild stocks and the natural environment relative to diseases and other factors affecting product quality and sustainability.

Areas of Investment

Focus Area	Areas to Invest Resources		
	Research	Outreach	Partnership
Commerce	Detailed economic analysis of cost of production for various species and systems.	Business and marketing workshops.	Nurture partnerships with ongoing marketing programs with industry organizations and other marketing efforts.
Permitting and Policy	Extensive background analysis of state laws and policies.	Law and policy workshops and facilitate dialogue among permitting agencies.	State and federal permitting agencies and the private sector.
Current and Emerging Species	Hatchery and seed stock production technologies and production protocols for emerging species.	Applied demonstration workshops, support outreach personnel to work directly with existing and new aquaculture producers.	Research institutions, agencies and the commercial sector.
Production Systems	Production system and emerging species hatchery and seed stock production technologies/production protocols.	Applied demonstration workshops and support outreach personnel to work directly with existing and new aquaculture producers.	Integrate/ leverage existing infrastructure capacity at partner institutions to enhance outreach and demonstration capacity.
Seafood Safety and Quality	Develop new and enhance existing seafood safety tools and new products.	Develop new and enhance existing seafood safety services and technology transfer programs.	Develop new partnerships and leverage existing partnerships with seafood safety agencies (e.g. FDA and USDA).

Sea Grant will be instrumental in creating and applying new aquaculture products, tools, and services to foster the expansion of a sustainable US marine and Great Lakes aquaculture industry



Coordination with partners

Measures of Success

- **Implementation will INCREASE:**
 - U.S. jobs.
 - Aquaculture production.
 - Value and quality of products.
 - New markets.
 - Exports of high-quality seafood.
 - Seafood safety and security.
 - Seafood consumption and consumer confidence.
 - Consistent and fair application of laws and policies.

Measures of Success

- **Implementation will DECREASE:**
 - Unemployment.
 - The national seafood trade deficit.
 - The number of illnesses from consumption of aquaculture products.
 - Legal barriers to implement new techniques.

Guiding Principles

- **The greatest return on Sea Grant investments will occur by following these principles:**
 - Cause no harm to the environment or the seafood industry.
 - Focus on the small business community.
 - Invest in priorities that target critical issues and needs as identified throughout the coastal United States, but allow maximum flexibility to address regional, state and local issues and needs relevant to the aquaculture industry.
 - Directly involve stakeholders and the industry.

Guiding Principles

- Invest in geographically and topically diverse integrated aquaculture research and outreach efforts.
- Support projects and activities that are multi-dimensional in scope and focus, address issues and opportunities holistically, apply an integrated mix of research, education, extension and/or communications approaches, and when applicable, directly involve stakeholders and the industry.

Conclusion

- **Achieving the aquaculture vision requires Sea Grant to continue to invest resources in high-priority areas identified by all stakeholder groups.**



FEED THE HUNGRY
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