



# The Future Role of Sea Grant in Aquaculture

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## Presentation Outline

- Overview of Past & Present NCSG Aquaculture Focal Areas
- Forecasting Future Directions:
  - Near Term: A piece of cake
  - Long Term: Is that really possible?



## The Context

- Even if wild harvests are at maximum yields, demand for seafood will continue to grow;
- Certain NC'ers will seek to meet & profit from that demand;
- Hence, the continuing need for research & educational efforts in aquaculture in NC.



## NCSG Goals in Aquaculture

- Assist in developing new culture species
- Assist in refining production methods for existing culture species
- Help improve shellfish culture operations / efficiencies
- Provide instructional / educational materials & opportunities



## Past Areas of Focus

### Clams

- “Nursery bags” / tents for protection from predators and for improved planting and survival on leases (FRG)
- Careers / Apprentice Program in Aquaculture



## Past Areas of Focus

### Scallops

- Examination of anti-predatory cultural practices (enclosed compounds)



## Past Areas of Focus

### Blue Crab

- Culture of hatchery-reared BCs in freshwater ponds for growout (BC)
- Soft-shell BC mortality studies (FRG)



## Past Areas of Focus

### Oysters

- Remote setting of oyster larvae (FRG)
- Antibiotic activity in oysters
- Refinement of off-bottom culture methods (FRG)
- Production of extension materials on the above topics



## Past Areas of Focus

### **Oysters** *(continued)*

- Setting up networks to collect oyster shell for recycling (FRG)
- Ecosystem roles of oyster reefs (FRG)
- Historical reef locations (FRG)
- Under Dock Oyster Culture Program (NCSG & DMF)



## Past Areas of Focus

### **Oysters** *(continued)*

- Oyster Culture and Restoration Project (Kemp; NCSG mini-grant)
- Refocusing NCSG Extension Specialist time in shellfish aquaculture
- Oysters Summit, Oyster Roast, Joint Oyster Restoration Planning Initiative



## Past Areas of Focus

### **Hybrid Striped Bass (HSB)**

- Hybrid striped bass culture research since 1979 (NCSG; NCRI)
- Development of commercial HSB culture techniques / operations (Carolina Fisheries, Kent SeaTech, several NC producers)



## Past Areas of Focus

### **Hybrid Striped Bass (HSB)** *(continued)*

- Compensatory growth & production efficiencies
- Coldbanking



## Past Areas of Focus

### **Hybrid Striped Bass (HSB)** *(continued)*

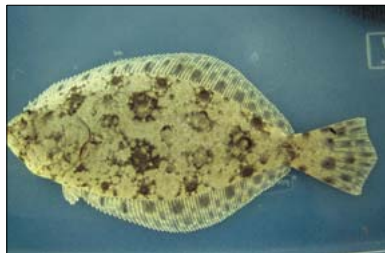
- Selective breeding, broodstock & domestication studies
- Disease / health / drug testing & management studies



## Past Areas of Focus

### **Southern Flounder (SF)**

- Transference of HSB culture techniques & lessons to SF
- Controlled breeding, sexing, fingerling production





## Past Areas of Focus

### **Southern Flounder (SF)** *(continued)*

- Optimizing environmental & nutrition / feeding practices
- Production of hatchery manual



## Past Areas of Focus

### **Other Finfish Related Studies**

- Growing black sea bass in semi-closed recirculating systems
- Yellow perch growth efficiencies
- Tilapia hybridization
- Best nutrition options for marine ornamental finfish





## Forecasting the Future

### **The Near Term**

- Projects most likely to be funded will be most akin to what we've supported in the past.
  - Merit strong peer review
  - Align with NGSF aquaculture goals
  - Make significant innovative (not just incremental) advances



## Forecasting the Future

### **The Near Term** *(continued)*

- Mariculture extension specialist
- NC Aquarium's Draft Proposed Oyster Hatchery Program
  - Oyster extension position
  - Shellfish (oyster) research professor
- Joint Oyster Restoration Planning Initiative



## Forecasting the Future

### Predicting the Longer Term

### Is That Really Possible?



## Forecasting the Future

### Long Term Prediction ... Possible?

- “The trouble with the future is it ain’t what it used to be.” – *Yogi Berra*
- “I never think of the future; it comes soon enough.” – *Albert Einstein*
- “Most of the future lies ahead.”  
– *Denny Crum*



## Forecasting the Future

### Long Term Prediction ... Possible?

- “Prediction is very difficult, especially if it's about the future.”  
– *Nils Bohr*, Nobel laureate
- “I have seen the future and it is very much like the present....only longer.”  
– *Kehlog Albran*, *The Profit*



## Forecasting the Future

### Long Term Prediction ... Possible?

- “My interest is in the future because I am going to spend the rest of my life there.” – *C.F. Kettering*
- “We are not ready for any unforeseen event that may or may not happen.” – *Dan Quayle*



## Forecasting the Future

### Long Term Prediction ... Possible?

- “We see nothing but increasingly brighter clouds every month.”  
– *Gerald Ford*
- “Our pitching could be better than I think it will be.”  
– *Sparky Anderson*



## Forecasting the Future

### Long Term Prediction ... Possible?

- “We should not look at the immediate situation in terms of planning a new move in any timeframe that is now immediately foreseeable.”  
– *Henry Kissinger*



## Forecasting the Future

### Long Term Prediction ... Possible?

- “They couldn’t hit an elephant at this dist ----.”

*– Famous last words of General John Sedgwick, Union Commander, as he watched Confederate Troops during the Battle of Spotsylvania*



## Forecasting the Future

### Long Term Prediction ... Possible?

- “Don’t ever prophesize, for if you are wrong, nobody will forget, and if you are right, no one will remember.”

*– J.R. Lowell*



## Forecasting the Future

- While aquaculture efforts will remain a goal and priority for NCSG
  - NCSG Advisory Board support
  - Updated NCSG Strategic Plan
- ... And while aquaculture will likely remain a priority for the National Sea Grant Program ...



## Forecasting the Future

- ... NCSG's future in aquaculture will most directly depend upon ***what it gets***, in terms of:
  - Federal support
  - State support
  - Faculty proposals
  - Stakeholder ideas and feedback



## Forecasting the Future

- **Federal** SG support:
  - 2007-08FY = 7% to 16% cut?
- **State** SG support:
  - No increase in 9 years, not even for salary improvement



## Forecasting the Future

- At NCSG, research dollars are distributed via an open, competitive, investigator-driven process.
- Faculty researchers must come to NCSG with a “better” and fundable idea.





## Forecasting the Future

- In short, NCSG cannot just move, by itself, in new aquacultural directions, or attempt to meet specific aquacultural research needs, if investigators do not submit fundable proposals that address those needs.



## Forecasting the Future

- State-funded programs (FRG, BC, and any future Oyster) require stakeholders to conceive the “better idea” and propose a fundable project.



## Forecasting the Future

- NCSG cannot just allocate these state resources to proposed projects that don't measure up methodologically
- The stakeholder needs to be fully engaged and, ideally, should develop the project idea.



So, is it possible to forecast the nature and level of NCSG's involvement in and support of future aquaculture development in North Carolina?

## **Yes, but ...**

- mainly in the short-term
- only to the degree that it has budget resources
- only to the degree that investigators & stakeholders come forward with good and fundable ideas



Sea Grant  
North Carolina

The Key Is ...

# **Feedback!**