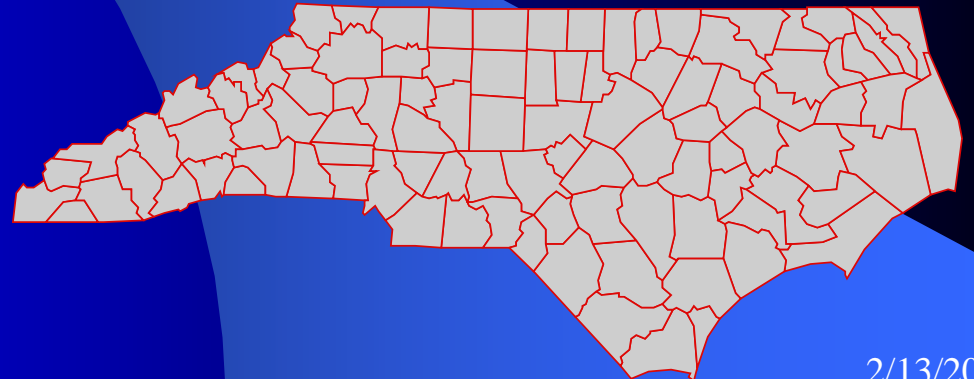


NORTH CAROLINA AQUACULTURE UPDATE 2011

**Thomas M. Losordo, Professor
Dept. of Biological and Agricultural Engineering
North Carolina State University**

**Steve Gabel, Jeff Hinshaw, Mike Frinsko,
Skip Thompson, Marc Turano
NC Cooperative Extension**

**Debra Sloan, Pete Anderson
NCDA&CS**



Thank you to all of the farms and agencies that provided the data to us for this presentation!

This presentation will be posted online at:
www.ncaquaculture.org



**Freshwater
Farms**

2011 NORTH CAROLINA AQUACULTURE SPECIES

Trout (72)

Catfish (19)

Striped Bass (14)

Tilapia (10)

Freshwater Prawns (10)

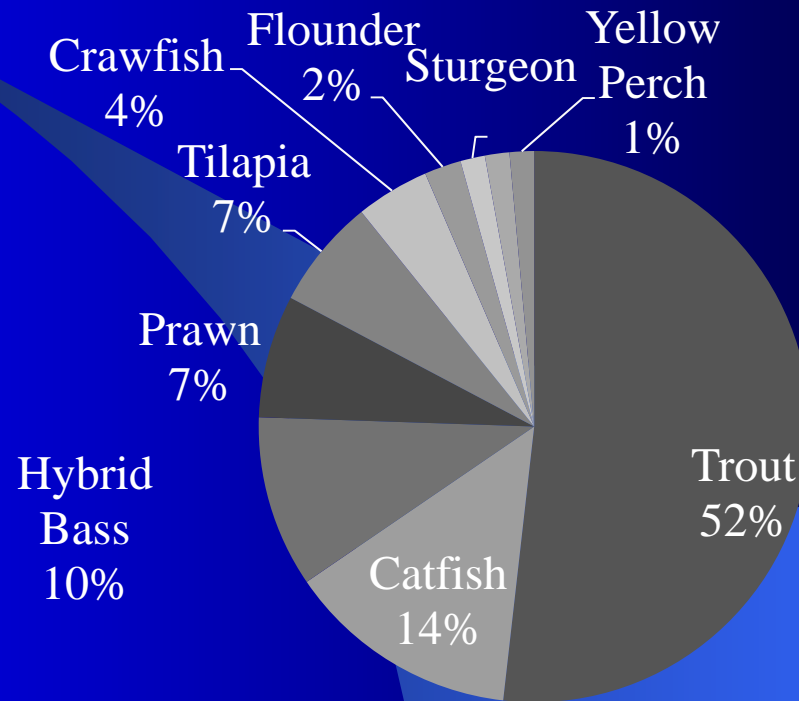
Crawfish (6)

Southern Flounder (2)

Yellow Perch (2)

Sturgeon Caviar (2)

Ornamentals (2)

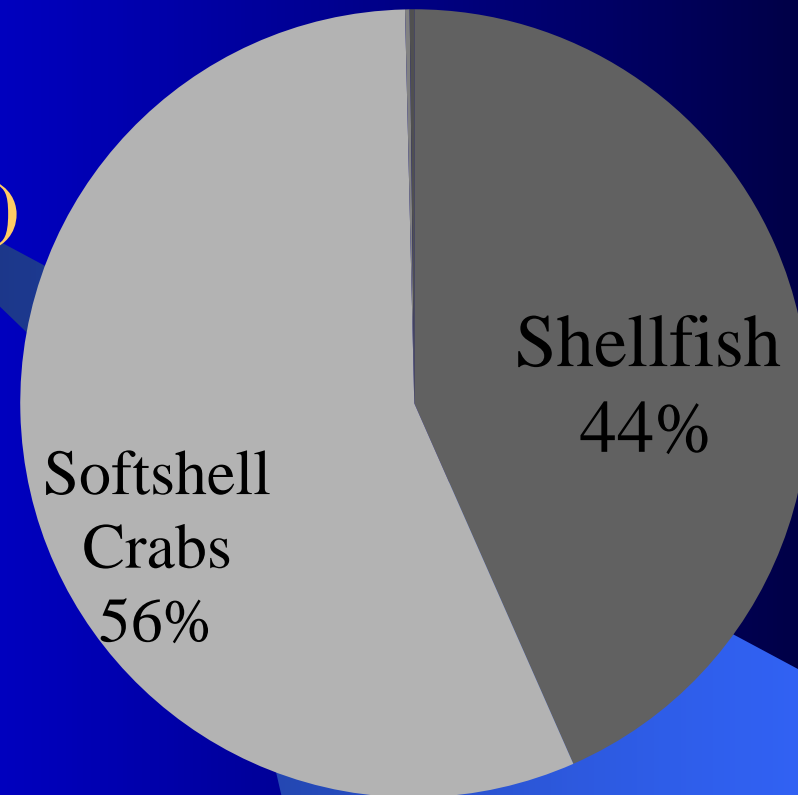


Number of Farms

2011 NORTH CAROLINA AQUACULTURE SPECIES

Saltwater

- Clams & Oysters (233 leases)**
- Soft Shell Crabs (293 shedders)**
- Southern Flounder (1)**
- Black Sea Bass (1 R&D)**



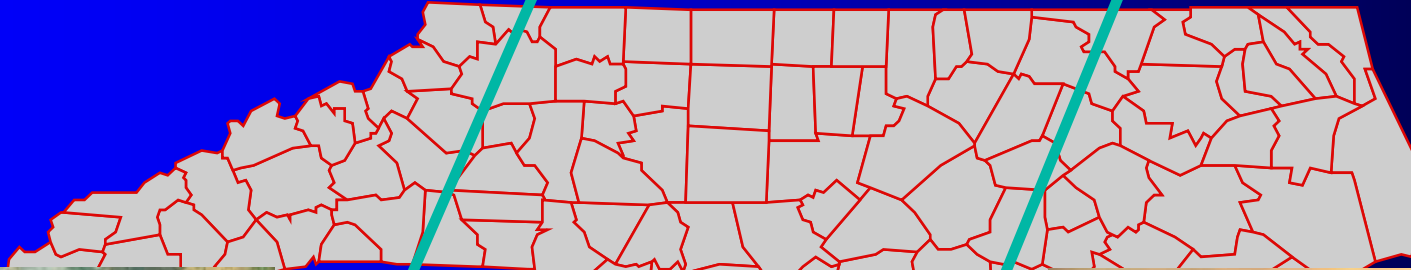
Number of Operations

NORTH CAROLINA AQUACULTURE BY REGION

**Cool and Coldwater
Flow-Through
Tank Production**

**Water Limited
Recirculating Tank
Production**

**Warmwater
Pond Production**



2011 NORTH CAROLINA TROUT INDUSTRY

36 Food Fish Producers (no change)

4,463,000 Pounds (+11%)

@ \$1.64 / Pound (- \$0.09)

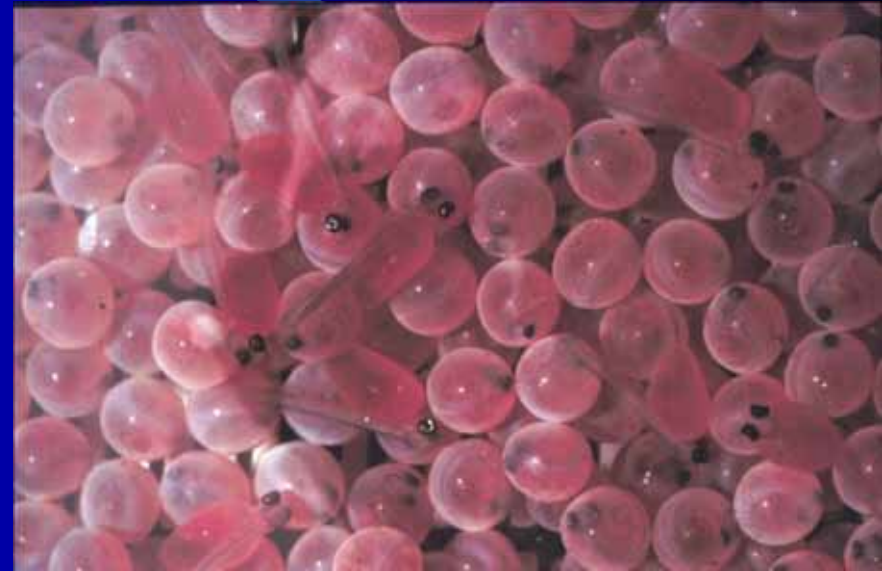
Farm Gate Value = \$7,300,700 (+5%)



2011 NORTH CAROLINA TROUT INDUSTRY

15 Hatcheries (no change)
6,880,500 Fingerlings (-3%)

@ \$0.09 each (no change)



“Eyed” Trout Eggs

Farm Gate Value = \$613,750 (-2%)

2011 NORTH CAROLINA TROUT INDUSTRY

21 Fee Fishing
Operations (+1)

222,500 Pounds (-3.4%)

@ \$4.72 / Pound (+ \$0.19)

Farm Gate Value = \$1,049,500 (+0.5%)



**MORGAN MILL
TROUT FISHING
RESORTS**
"SINCE 1983"

RULES	ADMISSION
① HAVE FUN	\$1 PER PERSON GROUP RATES \$5.00
② BE CAREFUL! WE ARE NOT RESPONSIBLE FOR ACCIDENTS	INCLUDES POLES & BAIT FISH CLEANED & ICED DOWN FREE
③ DO NOT THROW ANY FISH BACK	FILLETING AVAILABLE
④ COME BACK TO SEE US!	PICNIC AREA RESTROOMS

**Please Pay Admission
Before Fishing**

RAINBOW TROUT
\$2.95 Lb. FISH OUT OR DIP OUT
TO CATCH FISH FASTER
USE WORMS \$2.25

THANK YOU
OWEN FAMILY
Open Year Round
Mon - Sat 8 Til 6 Sun Til 6
Closed Weekends Dec 1 Thru Mar 1

2011 NORTH CAROLINA TROUT INDUSTRY STATUS

3 Processors (+1)

1,230,000 lbs (+7%)
(processed product)

Average Price
of Products

= \$5.60 / pound (no change)



Value Added Trout Products

Value = \$7,528,000 (+7%; includes non food products)

2011 NORTH CAROLINA TROUT INDUSTRY IMPACT

Farm Gate and
Processed Product
Value = \$16,491,950
(+9.3%)



2011 NORTH CAROLINA TROUT INDUSTRY GENERAL TRENDS

* Demand continues very strong despite the weak economy.

* Overall, the industry is relatively stable and should remain robust as long as water remains available and peak water temperatures in the summer do climb significantly.



2011 NORTH CAROLINA TILAPIA INDUSTRY STATUS

9 Fish Barns (-1)

1,245,560 Pounds (-2%)

average price \$2.20/ lb. (no change)

Farm Gate Value

= \$2,735,475 (-2%)



Southern Farm Tilapia

2011 NORTH CAROLINA TILAPIA INDUSTRY STATUS

4 Fingerling Systems
1,318,904 Produced
(most used on-farm)

370,000 sold (\$0.90 ea)

Farm Gate Value
= \$333,000



2011 NORTH CAROLINA TILAPIA INDUSTRY GENERAL TRENDS

- * One less farm this year
- * All New Farms Have Nurseries
- * Output is Stable for 2011
- * Stable or Slightly Higher Farm-gate Pricing
- * One New Farm Came Online in 2011
- * 2012 Industry Production Capacity:
1,500,000 Pounds Annually

2011 NORTH CAROLINA CATFISH INDUSTRY

19 Food Fish Producers (-2)

1 Brood-stock farm

1,686 Pond Acres

5,100,000 Pounds (-25%)

Average Price = \$1.14 (+\$0.31, +37%)

Price since August = \$1.20 / lbs (+44.5%)

Farm Gate Value = \$5,749,000 (+1%)

Catfish Farm



2011 NORTH CAROLINA CATFISH INDUSTRY

1 Fingerling Producer
4,000,000 fingerlings

Farm Gate Value
= \$400,000



Catfish FINGER-lings



Collecting Eggs

2011 NORTH CAROLINA CATFISH SALES & PROCESSING

1 Processor

Processed Value =
\$10,215,000 (-1.5%)

Carolina Classics Catfish, Inc
is a major regional employer
with 115 person on the payroll.

<http://www.cccatfish.com/>



2011 NORTH CAROLINA FEEDS PRODUCTION

1 Mill

Producing 15.74 million
pounds of feed (-8%)



Carolina Fish Feeds , Greenville, NC

Product Value= \$3,297,000 (-5%)

2011 NORTH CAROLINA CATFISH INDUSTRY VALUE

Farm Gate,
Processed Value &
Feed Milling

= \$19,661,000 (- 1%)



2011 NORTH CAROLINA CATFISH INDUSTRY GENERAL TRENDS

- * Two Fewer Farms
- * Less Product Available for Processing
- * Highest Farm-gate Pricing in +20 years
- * Value of the Industry Stable
- * Vacant Farms and High Farm Gate
Provides an Opportunity for Investment

2011 NORTH CAROLINA HYBRID STRIPED BASS INDUSTRY

14 Food Fish Producers (+1)

633 Pond Acres

2,433,383 Pounds (-9%*)

@ \$3.80 – \$4.10 / Pound

Farm Gate Value = \$9,906,920 (-5.5%)



Dr. Craig Sullivan
NC State University

*several farms suffered losses due to a hurricane

2011 NORTH CAROLINA HYBRID STRIPED BASS INDUSTRY

3 Hatcheries

5,800,000 Fingerlings

Produced

@ \$0.10 - \$0.25 each

Farm Gate Value = \$830,000

* more are grown, but are used on same farm



**Moving & Grading
Hybrid Bass Fingerlings**

2011 NORTH CAROLINA HYBRID STRIPED BASS INDUSTRY GENERAL TRENDS

- * Somewhat Less Acreage
- * Stable Production Intensity
- * Somewhat Lower Production
- * Higher Farm-gate Pricing
- * Stable Farm Gate Value



Nick Reynolds
Marc Turano
Brett Harrison

2011 NORTH CAROLINA FLOUNDER INDUSTRY STATUS

1 Operation: Hatchery & Nursery
(not reporting)

Two Growout Operations:
One harvesting in 2011 = 1,650 lbs.

Farm Gate Value @ \$4 / lbs = \$6,600



2011 NORTH CAROLINA FLOUNDER INDUSTRY GENERAL TRENDS

Continued Strong Interest
in this Industry

One New Large Farm
Built in 2011



2011 NORTH CAROLINA YELLOW PERCH STATUS



2 Fingerling Growers
9 Acres of Production (+5)

402,000 Fish Sold (+100%)

Farm Gate Value @ \$0.10 = \$40,200 (+100%)



2011 NORTH CAROLINA CRAWFISH INDUSTRY STATUS*

6 Active Growers (+2)

34 Acres (+5)

10,200 Pounds (-27%)

\$3.75 / lb. (+7%)

Farm Gate Value = \$38,250 (-22%)



Red Swamp Crawfish



Steve Gabel, Your Source of Info on Crawfish

2/13/2012

2011 NORTH CAROLINA FRESHWATER PRAWNS STATUS

10 Growers Active

36 Acres (44 acres available)

26,000 Pounds (+9%)

Farm Gate @ \$8.50 / lbs
= \$221,000



Small Production Ponds



2011 NORTH CAROLINA FRESHWATER PRAWNS STATUS

One Nursery
Produced 300,000 Juveniles
Farm Gate @ \$0.10 / each
= \$30,000



2011 NORTH CAROLINA American Prawn Cooperative



<http://www.apcprawn.com/>

2011 NORTH CAROLINA Black Sea Bass

UNC Wilmington

Research Hatchery & Nursery

27,000 fingerlings produced (+80%)

Research Growout System

9,098 lbs. produced

2,800 lbs. (< 1 lbs.) Marketed @ \$2.67 / lbs.

Weekly to Sushi Market (> 1 lb.) @ \$6.00 / lbs.

Total Sales: 3,281 lbs. for \$10,630



2011 NORTH CAROLINA Sturgeon (for meat & caviar)

The LaPaz Group, Happy Valley, NC



**Building 2 Completed
(total 32 production Tanks)**



**Design / Build of a Staging &
Processing Facility**

2011 NORTH CAROLINA Sturgeon (for meat & caviar)

Marshallberg Farms, Marshallberg, NC



27,000 ft Fish Barn



**12 each 4,000 gallon Tanks
8 each 12,000 gallon Tanks**



**State-of-the-Art
RAS**

2011 NORTH CAROLINA Flounder & Hybrid Striped Bass

Little River Trails Aquaculture, Bunnlevel, NC



**Large Scale Poultry House
Conversion, 80% Complete**



Growout RAS System

2011 NORTH CAROLINA Flounder & Hybrid Striped Bass

Little River Trails Aquaculture, Bunnlevel, NC



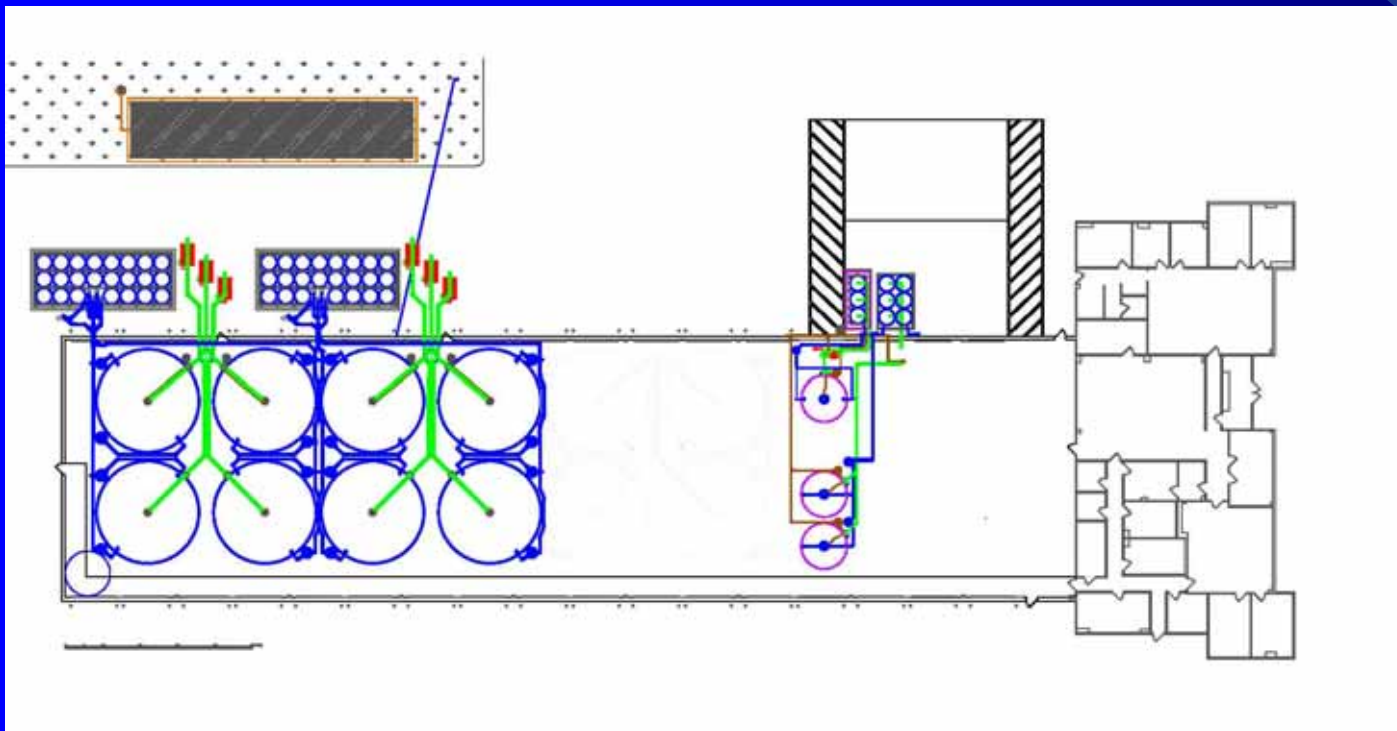
**200,000 Flounder Fingerlings
Stocked**



**15,000 lbs HSB in March
90,000 lbs by Fall 2012**

2011 NORTH CAROLINA Tilapia Production in a DHL Warehouse

Astor Farms, Charlotte, NC



2 System, 4 – 30,000 gallon tanks each
1 tank Quarantine, 2 tank nursery

<http://astoraqua.com/>

2/13/2012

2011 NORTH CAROLINA CLAM & OYSTER INDUSTRY STATISTICS*

232 Leaseholders (2010 data)

1,734 Acres Planted (2010 data)

3,128 Bushels Clams (-22%)

10,651 Bushels Oysters (+48%)

Farm Gate Value = \$503,611 (+27%)



2011 NORTH CAROLINA Blue Crab Shedding INDUSTRY STATISTICS

293 Active Permits

446,378 pounds

(up from 320,363 + 39%)

Farm Gate Value = \$2,107,170

(up from \$2,008,000, +5%)



crab molting



crab shedding tanks

2011 NORTH CAROLINA SHELLFISH AND CRAB SHEDDING GENERAL TRENDS



- Slight decrease in clam production and increase in oyster output
- 39% increase in Crab Shedding

2011 NORTH CAROLINA Aquaculture Processors & Product Value

3 Processing Plants

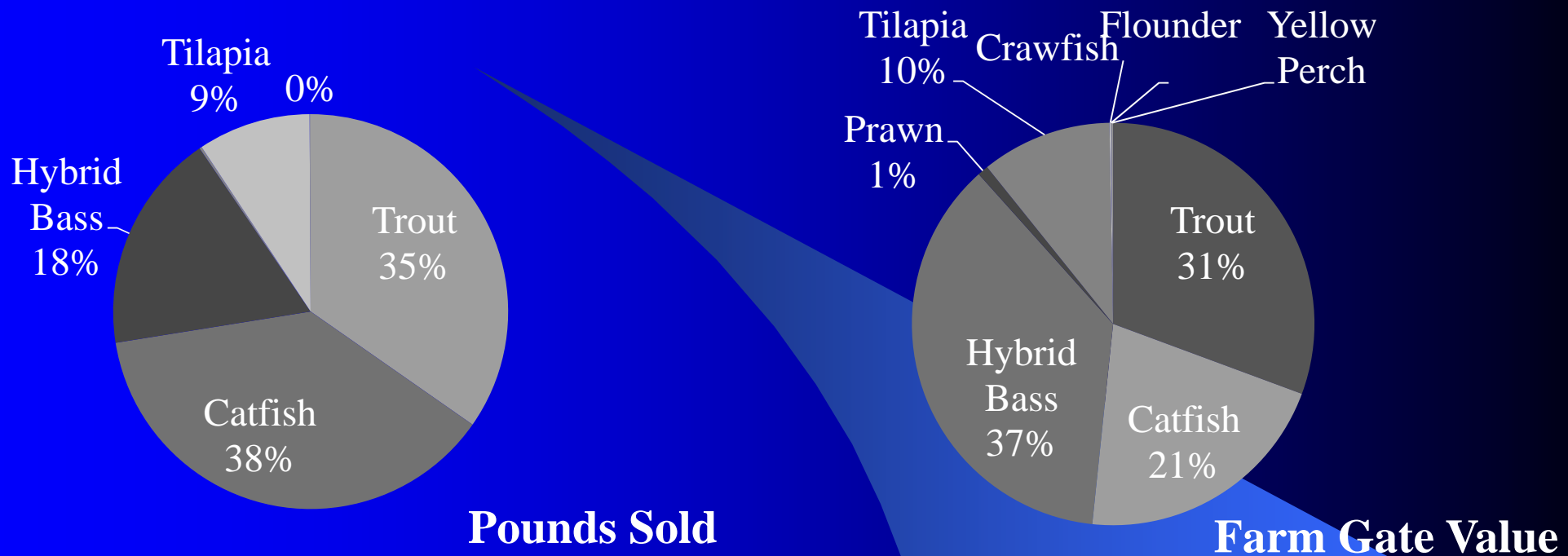
Processed Product
Value = \$17,743,000

\$ 16,821,200 (in 2010 = +5.5%)



Sydney Seafood Market

2011 NORTH CAROLINA FRESHWATER AQUACULTURE SPECIES



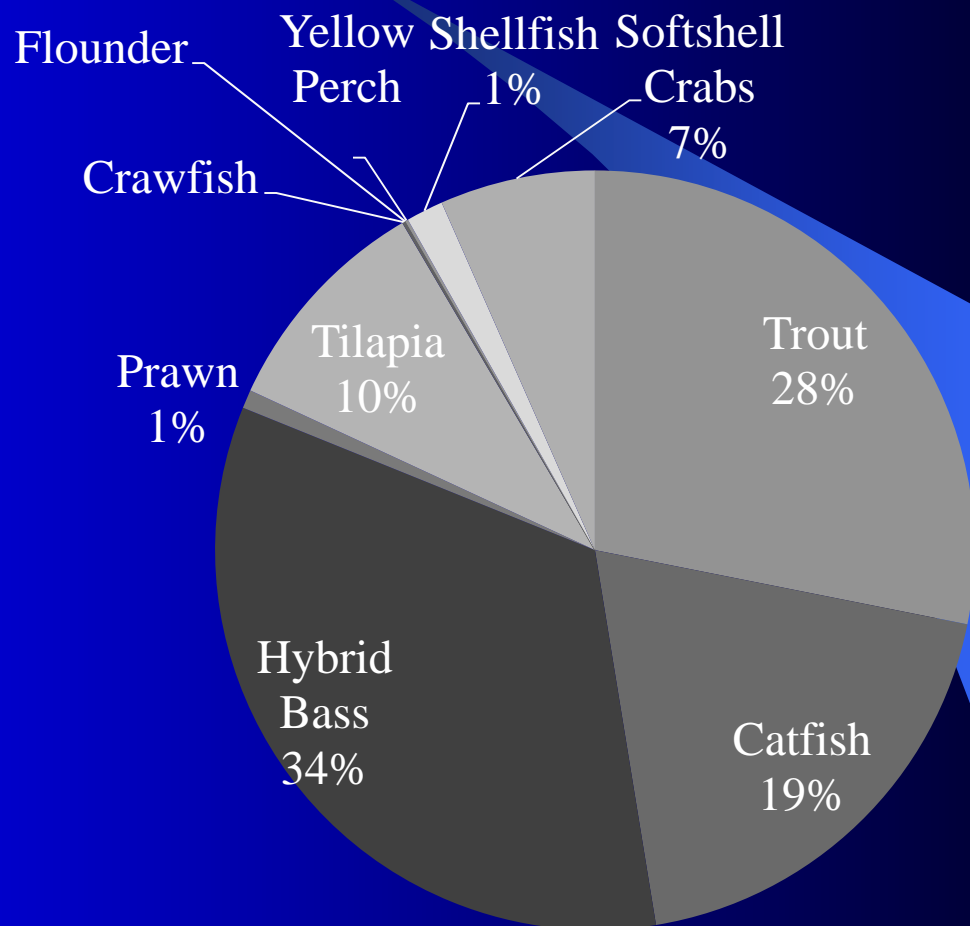
2011 NORTH CAROLINA Aquaculture Farm Gate Value

\$31,867,176 (nc)

139 Farms (+13)

232 Shell Fish Leases

293 Crab Shedders



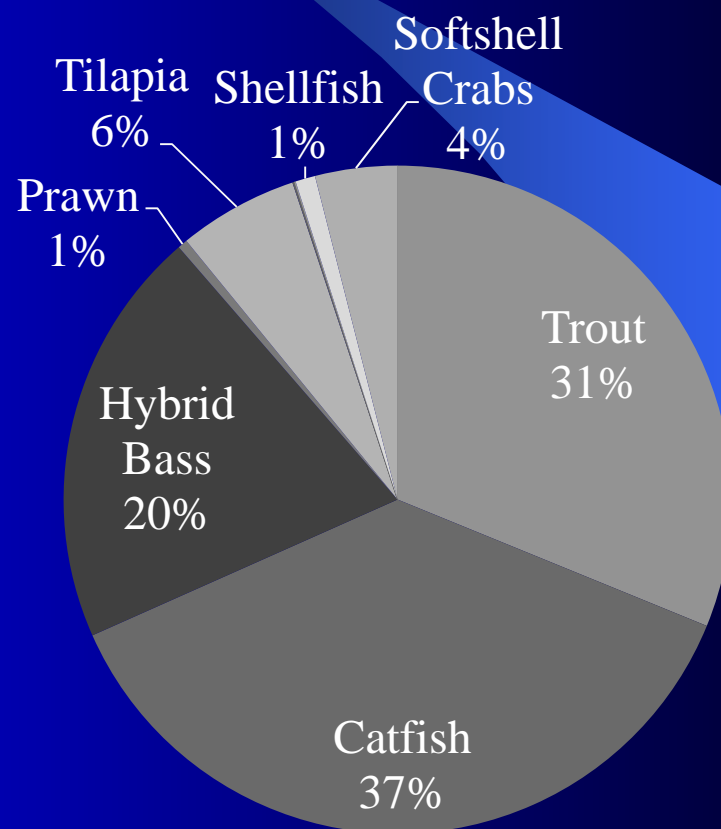
Farm-Gate Value

2/13/2012

2011 NORTH CAROLINA

Aquaculture Farm Gate, Processed Product and Feed Value

\$52,907,176 (+ 1%)



Industry Product Value

2/13/2012

AQUACULTURE IN EDUCATION

High Schools

Teaching Science
through Aquaculture



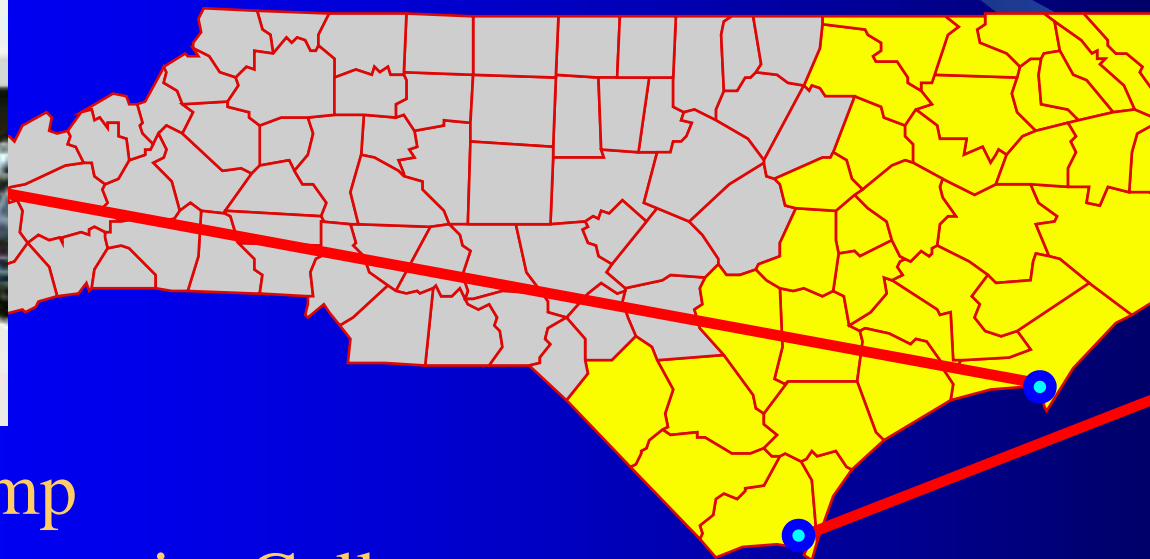
Mr. Barry Bey, Instructor & Student
South Brunswick High School

Aquaculture Education

Eastern NC Community Colleges



Mr. Skip Kemp
Carteret Community College
(252 222-6114)



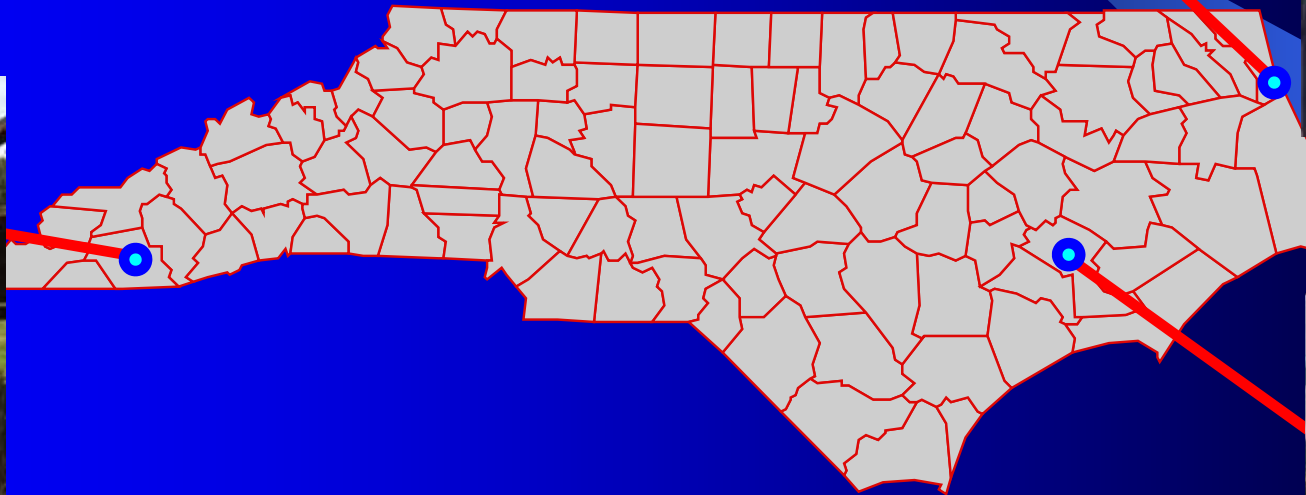
Dr. Doug Holland
Brunswick Community College
(910 755-7432)

Business Planning & Permitting Assistance

Mr. John Aydlett, NCDA & CS
Seafood Marketing
(252) 331-4773



Ms. Debra Sloan, NCDA & CS
Aquaculture Business Advisor
Western NC (828) 524-1264



Pete Anderson
Agribusiness Development
& Aquaculture Consultant
(252) 633-1477



Technical Assistance

Western NC Cooperative Extension Service

Mr. Skip Thompson
Area Aquaculture Agent
Waynesville, NC
(828 456-3575)



Dr. Jeff Hinshaw
Aquaculture Specialist
Fletcher, NC
(828 684-3562)



Technical Assistance

Eastern NC Cooperative Extension Service



Mr. Steve Gabel
Area Aquaculture Agent
(252 482-6585)



Mr. Mike Frinsko
Area Aquaculture Agent
(252 448-9621)

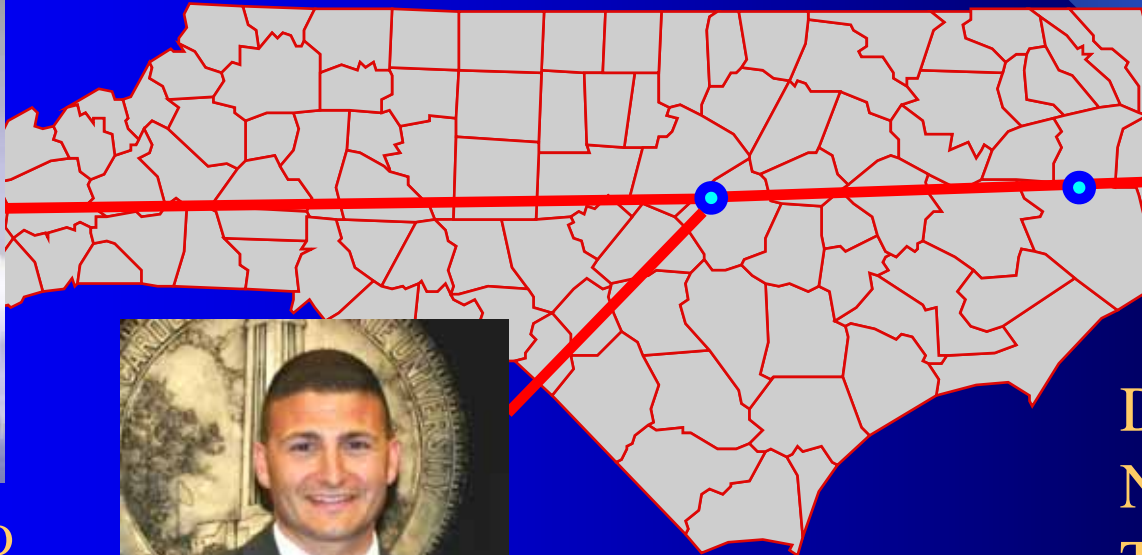


Dr. David Green
Seafood Specialist
(252 222-6304)

Campus Based Specialists



Dr. Tom Losordo
NC State, Raleigh
(919 515-6784)



Dr. Marc Turano
Sea Grant, NC State
(919 513-0122)



Dr. Harry Daniels
NC State, Raleigh
Tidewater Res. Stn
(919 515-4589)

Campus Based Specialist (Emeritus)



Dennis served the NC
Aquaculture Industry and
NC State for over 21 years.
(from 1990 – 2011)



Dennis DeLong

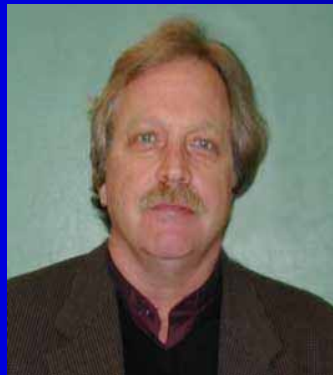
Dennis DeLong, Solutions Engineer
Pentair Aquaculture Technologies
2012

Aquaculture Research Personnel

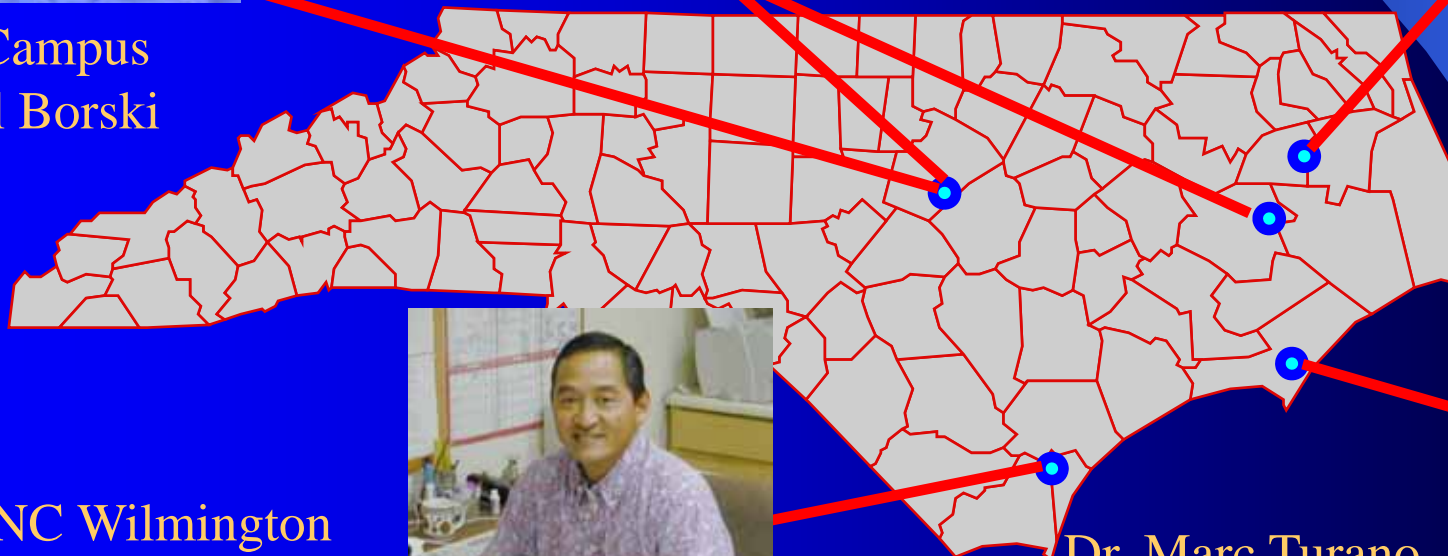
Dr. Harry Daniels
NC State, Raleigh
Tidewater Res. Stn



NC State Campus
Pamlico Field Lab
Dr. Craig Sullivan



NC State Campus
Dr. Russell Borski



UNC Wilmington
Dr. Wade Watanabe



Dr. Marc Turano
Marine Aquaculture
Research Center



NCSU College of Veterinary Medicine



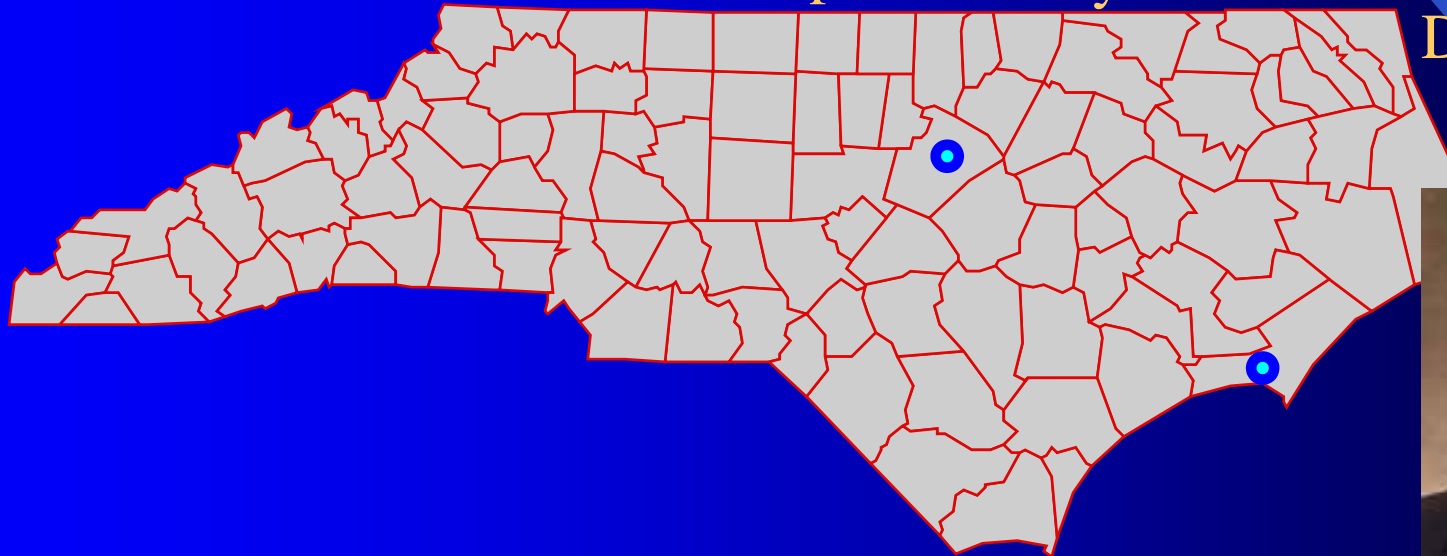
Dr. Michael Stoskopf



Dr. Jay Levine



Dr. Greg Lewbart



Dr. Craig Harms

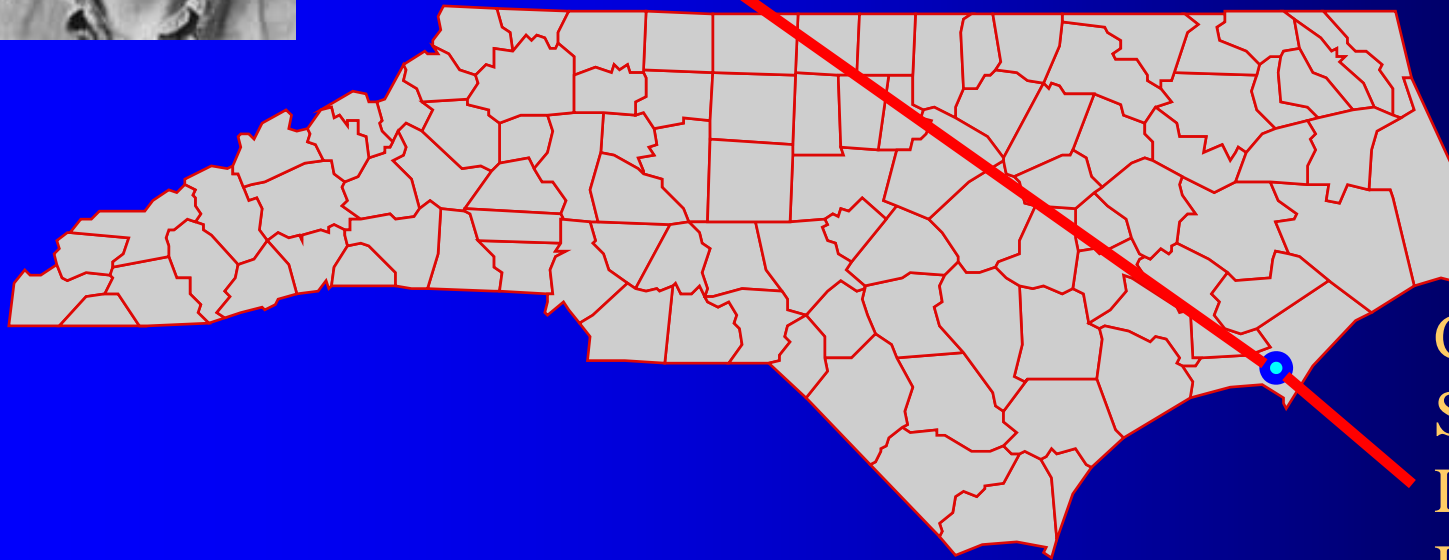
Aquaculture Research Personnel



Center for Marine Science & Technology, NCSU
Dr. David Eggleston
Professor
Center Director



CMAST, NCSU
Seafood Lab
Dr. David Green
Professor
Ext. Specialist



AQUACULTURE CONFERENCES

A Public / Private Partnership for 24 Years

Major Sponsors

NC Dept. of Agriculture & CS
NC State University, CALS
NC Farm Bureau
NC Small Business Tech. Dev. Center
NC Sea Grant
NC Aquaculture Association
NC Shell Fish Growers



Our Corporate Sponsors

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