USDA NIFA Southern Regional Aquaculture Center

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Regional Aquaculture Centers

- Established in 1985
- Administered through USDA NIFA
- Five Centers
  SRAC – Mississippi State University
  NRAC – University of Maryland
  NCRAC – Iowa State University
  WRAC – University of Washington
  CTSA – University of Hawaii

Regional Aquaculture Centers

- Originally authorized at $7.5 million
- 2012 Farm Bill caps at $5 million
- Level at $4 million since 1992
- Appropriation is split evenly between 5 Centers
- Equates to about $740,000 / year

Southern Regional Aquaculture Center

- Comprises 13 states and 2 territories
- Mississippi State University is the host institution
- The Administrative Center is at the National Warmwater Aquaculture Center, in Stoneville Mississippi

What does SRAC do?

Distributes USDA-NIFA grant funds to teams of research and extension scientists to address priority problems in southeastern aquaculture

How We Conduct Business

- Complete Grant Application each year to receive funds
- Makes sub-awards to regional Universities based on priorities
- Projects are approved in entirety but funds are released on a yearly basis
- All subcontracts are reimbursable and budgets for multiple years are kept separate

Distribution of SRAC Funds

- $21.6 million awarded through competitive process
- Institutions in all 13 states and 2 territories have received funds
- 30 different institutions have participated
- 185 different scientists have participated

Board of Directors

- One Administrator from Host Institution
  - Greg Bohach
- Three 1862 Experiment Station Directors
  - Wes Burger, Phil Elzer, Steve Lommel
- Three 1862 Extension Service Directors
  - Tony Windham, Glen Lemme, Ed Jones
- One 1890 Research Administrator
- One 1890 Extension Administrator

Industry Advisory Council

- One regular member from each of the 13 states and 2 territories (15)
- Six at-large members nominated by the states, elected by Executive Committee, and approved by BOD

Technical Committee

- Each state and territory has two seats (30)
  - One representing research interests
  - One representing extension interests

Project Process

Problems Identified by IAC and TC

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Focused Jointly by IAC and TC

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Voted on by IAC (Approval by BOD)

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Call for Proposals from Region

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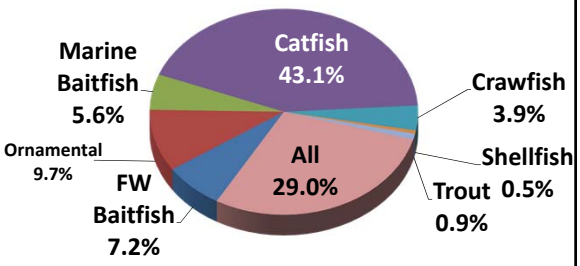
Project Conducted by a Team Consisting of the Best Talent in the Region

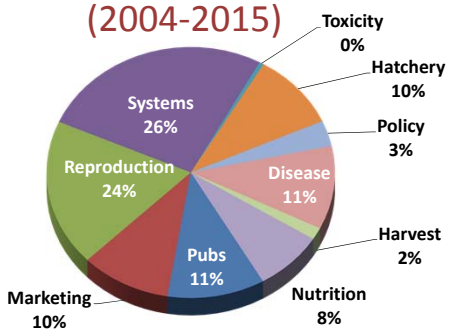
Criteria for Regional Projects

- ✓ **Importance** in the Southern Region
- ✓ **Significant accomplishment** in a reasonable period of time (usually up to 3 years)
- ✓ Information should be **made quickly available** to the industry in an accessible, understandable format
- ✓ Participation by **two or more states** or territories
- ✓ **Complement and enhance ongoing** extension and research activities by participants
- ✓ **Not likely to occur** through other programs and mechanisms

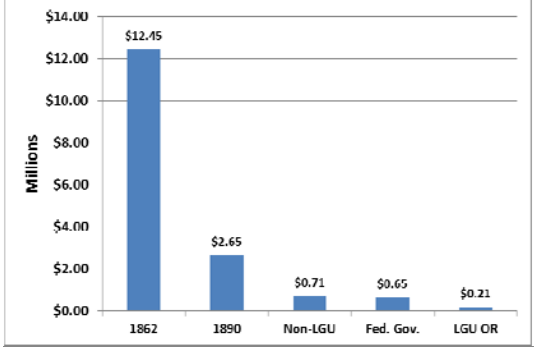
SRAC Funding by Species (2004-2015)



SRAC Funding by Subject (2004-2015)



SRAC Funding By Organization Type



Top Ten in Funding

Institution	Funding
Mississippi State	$ 2,861,598
Auburn	$ 2,765,166
UA Pine Bluff	$ 2,565,229
Texas A&M	$ 2,295,538
LSU	$ 1,938,548
Florida	$ 835,567
Georgia	$ 555,915
N.C. State	$ 452,204
Clemson	$ 440,541
Univ. of Memphis	$ 221,978

Current Projects

- Publications
- Market Trends
- Catfish Broodstock
- Intensive Pond Systems
- Split-pond Systems
- Collective Actions
- Cryopreservation
- *Aeromonas*
- Variability in hybrids
- Pre- & Pro-biotics

Industry Impact

- Hybrid Catfish
- Intensive Systems
- Virulent *Aeromonas*

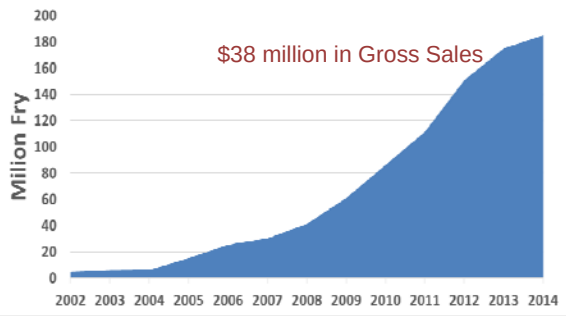
Hybrid Catfish

- Early discovery but no adoption
- Push to lower cost of production created need
  - Better growth
  - Disease resistance
  - Better dressout

SRAC Investment ($965,000)

- Improving Reproductive Efficiency to Produce Channel x Blue Hybrid Catfish Fry (2004-2008; $460,000; AU, LSU, MSU, UMem, USDA/ARS CGRU)
- Cryopreservation of Blue Catfish Sperm (2014-2017; $45,000; LSU, USDA WARU)
- Reducing Variability and Providing Year Round Harvest of Hybrid Catfish (2015-2016; $300,000; AU, USDA WARU)
- Ovulation, Fecundity and Fertility in Channel Catfish Females Induced to Ovulate for Production of Hybrid Catfish Fry ($160,000; In development)

Hybrid Catfish Fry Production



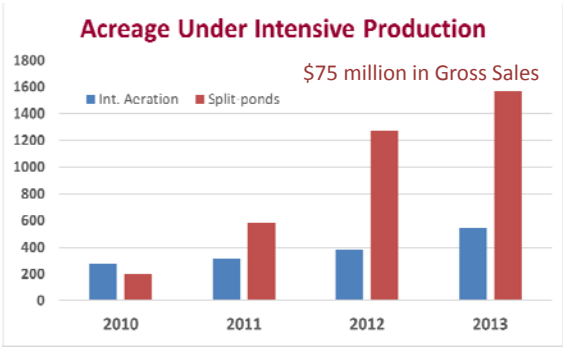
Intensive Culture Systems

- Decreasing production costs through higher production per acre
- Split-ponds
- Intensively aerated small ponds
- In-pond Raceways

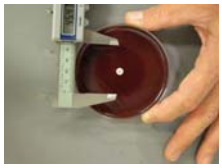
SRAC Investment ($765,000)

- Performance Evaluation of Intensive Pond-based Culture Systems for Catfish (2012-2016; $300,000; USDA, AU, MSU, UAPB)
- Split-Pond Aquaculture Systems: Design Refinements for Catfish Production and Evaluation for Culturing Other Species (2014-17; $465,000; USDA WARU, MSU, AU, UAPB, USDA NPURU)

Acreage Under Intensive Production



Virulent *Aeromonas hydrophila* in Catfish Aquaculture Ponds



- $ 374,374
- 1 June 2014
- 2 years
- AU, MSU, USDA APHIS

Studies to improve the control of virulent *Aeromonas hydrophila* and evaluate the impact of environmental factors on its abundance in **catfish** aquaculture ponds.

One Year Later

- Can detect vAh in water, sediment, invertebrates, fish, and birds *via* PCR
- Survivors are carriers
- Does not persist in envir. after outbreak
- Algae biomass lower in positive ponds
- Birds are capable of spreading bacteria
- vAh forms biofilms on seines and equip.

Outreach

- Publications project
- Scientific literature and presentations
- Industry education

Publications Project

- ~$45K per year
- 243 fact sheets
- 30 VHS/CDs
- 230 authors
- Publications Committee sets priorities

2015 Outreach Effort

- 13 Journal Articles
- 11 Extension Publications
- 27 Oral Presentations
- 6 Poster Presentations
- 3 Digital Products

Challenges

- Level funding supports only half the research of 1990
- No overhead
- Fewer FTEs in aquaculture
- Lack of "brand" awareness by producers
- Zeroed out in President's FY17 Budget

Thank You!! Questions??

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