SC Aquaculture: Past, Present and Future

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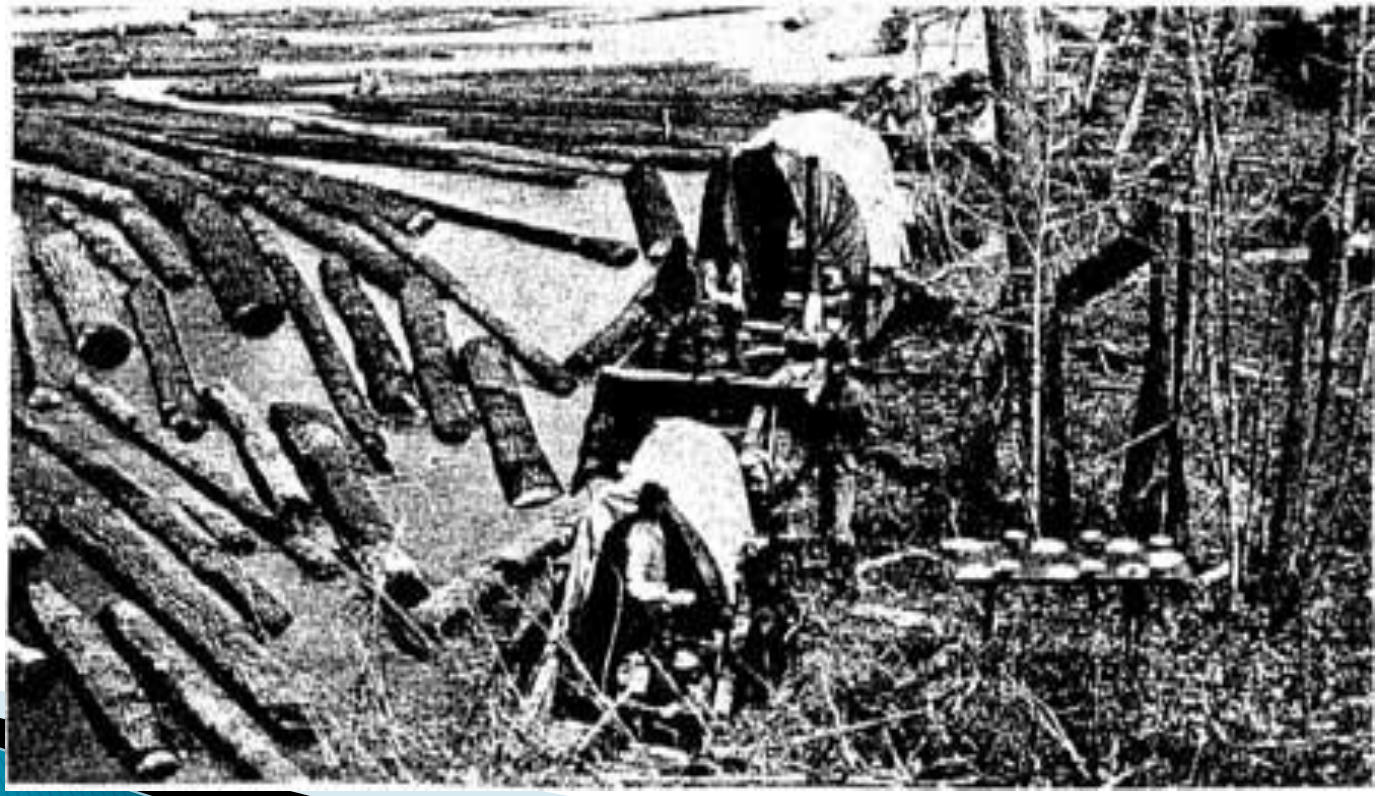
Clemson University – SC Sea Grant

Early History

- Millpond Oysters
- Millpond Turtles
- Ricefield – Fish



Early 1900s

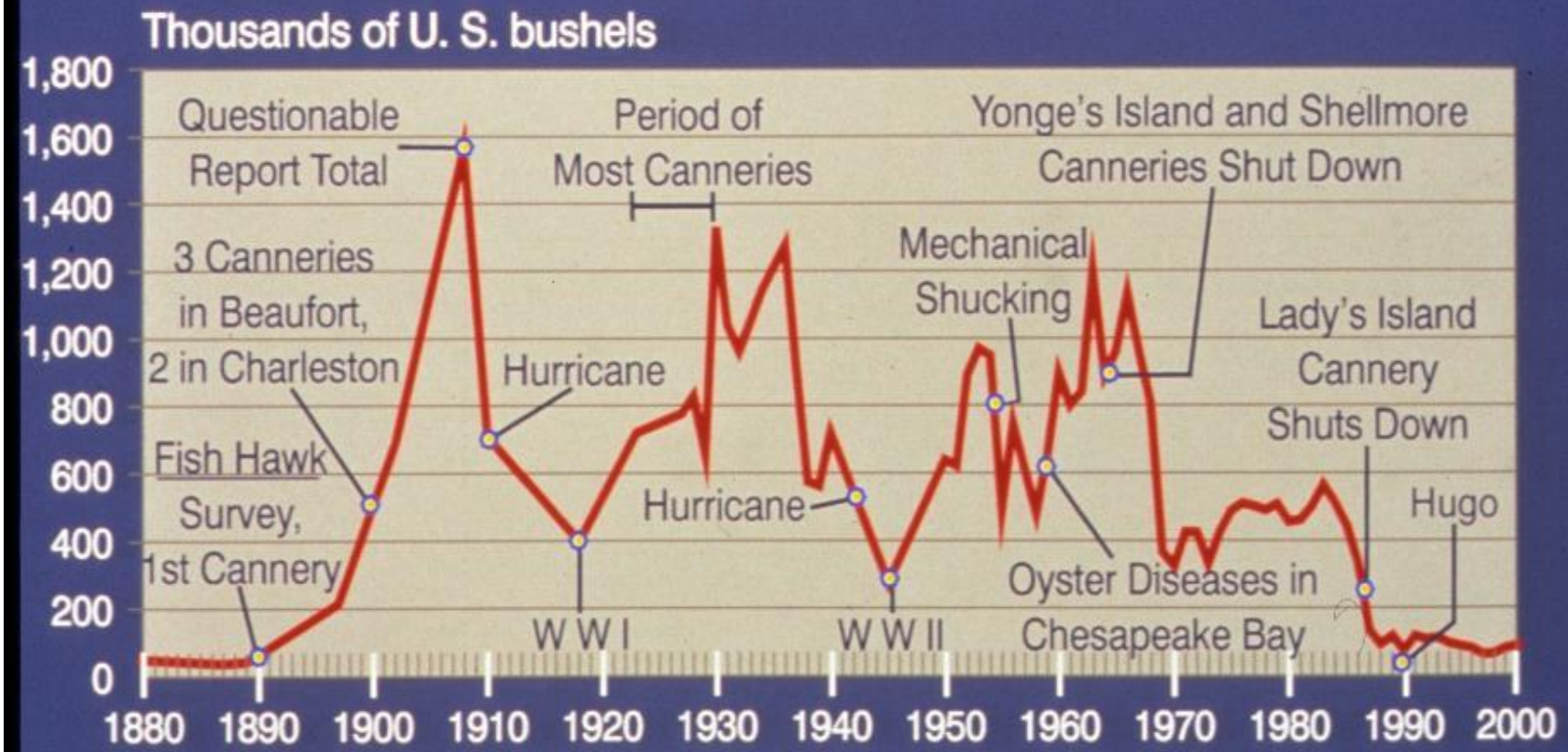
- Oyster Canneries

Oyster Aquaculture Development in South Carolina

- Early 1800's – Rice Mill and Lumber Mill Ponds
- 1893 – Oyster Canneries Develop
- 1925–1935 – ~20 Oyster Canneries Operating
- Mid 1900's – Increased Foreign Competition
- Mid 1900's – Increased "Fresh Product"
- 1986 – Last Cannery Closes
- Late 1900's – "Fresh Product" – >Diseases

Oyster Production in South Carolina

1880 - 2000



1880 - 1974 data converted from pounds of meat

1908 landings as published in *Report of the U. S. Commissioner of Fisheries*, 1921

1950s

- Lunz Method

1960s

- First Catfish Development

1970s

- Eels
- Catfish
- Crawfish

1980s

- Crawfish
- Prawns
- Hybrid Striped Bass
- Marine Shrimp
- Clams

1990s

- Marine Shrimp
- Clams
- Hybrid Striped Bass
- Second Catfish Development

2000s

- Gamefish
- Clams
- Oysters
- Marine Finfish

SC Research Facilities

- Clemson University
- SC Department of Natural Resources

Clemson Aquaculture Facility

Waddell Mariculture Center

Status of SC Aquaculture

- Diverse
- Consolidating
- Aquaculture Act
- NPDES Re-write
- Government Assistance

SC Aquaculture

- Stable in the Decade
- Clams – Growth
- Sportfish – Growth
- Softshell Crabs
- Decline in Catfish
- Decline in Shrimp

The Future

- Public Lands/Waters or Land Inland
- Shellfish – Little to No Feed Costs
- Live Products – Less Foreign Competition
- Reduced Discharges – Reduced Regulation
- Intensive Systems – Reduced Land Needs
- Decline of Natural Fisheries
- Recreation and Stock Enhancement

- Problems – Infrastructure, Value-added, Government Support

K48
K 32
K 29
K70

Shrimp

- TAA
- NPDES Permits
- Reduced Water Exchange
- Closed Systems
- Hyperintensive Systems
- Niche Marketing

Shrimp

- TAA in 2003 & 2004
- No Disease Problems
- Price Declines
- Marketing
- Theft!

Shrimp Culture Intensification

- Waterfowl – Shrimp
- Lunz Method
- Extensive
- Semi-intensive
- Intensive
- Super-intensive

Why Super-intensive?

- Zero Water Exchange
- Biosecurity
- Inland – Cheaper Land
- Easier Permitting – No Discharge
- Continuous Marketing

SHRIMP INNOVATIONS

- REDUCED WATER EXCHANGE
- GREENHOUSE NURSERIES
- DOUBLE-CROPPING WITH SHELLFISH
- SPECIFIC PATHOGEN-FREE SHRIMP
- SELECTIVE BREEDING – GROWTH
- FRESHWATER CULTURE
- SUPER-INTENSIVE PRODUCTION

Title 50 – Fish, Game and Watercraft

CHAPTER 18.

THE AQUACULTURE ENABLING ACT

Purpose of the Act

- To expand opportunities for aquaculture in S.C.
- Streamline state agency permitting.
- Provide protection for the state's aquatic resources.

The AQUACULTURE ENABLING ACT regulates only freshwater aquaculture.

Marine Finfish

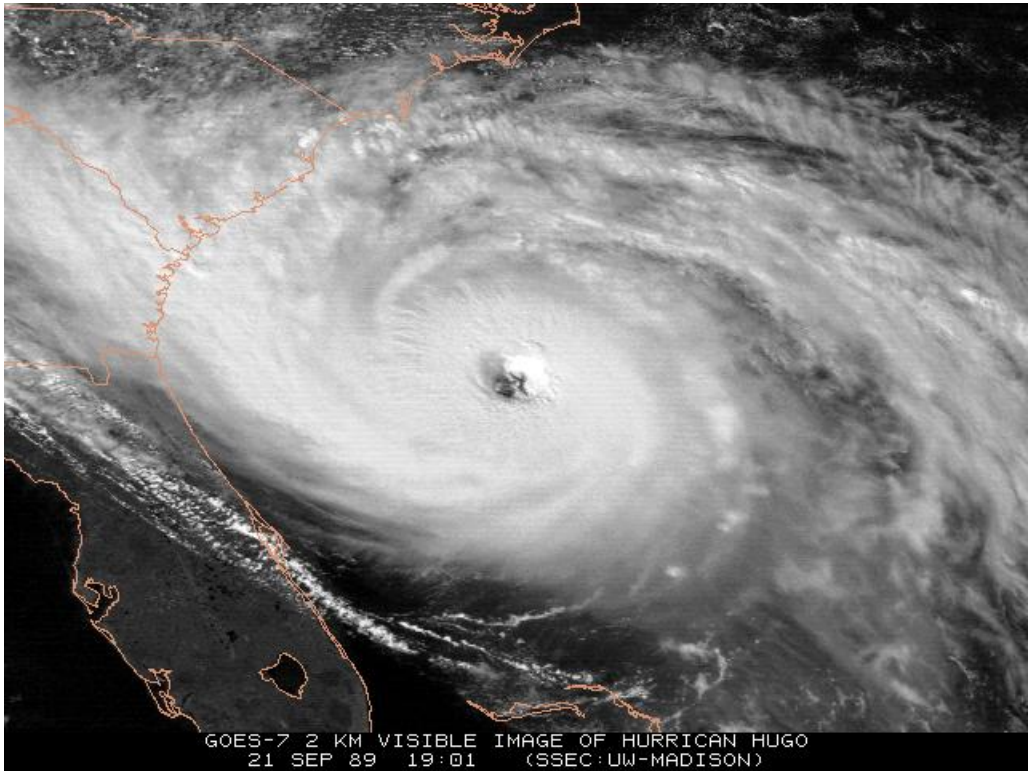
- Hybrid Striped Bass
- Redfish
- Black Sea Bass
- Flounder
- Cobia
- Dolphin
- Pompano
- Snapper

Aquatic Plants

- Food
- Restoration

Opportunities

- Large Areas
- Infrastructure
- Species
- Biological Information

Constraints

- Regulations
- Economic Feasibility
- Anchoring
- “Zoning”
- Insurance
- Hurricanes