

# Tales and Tails – 41 Sea Years with Sea Grant

Gary Graham  
Professor and Marine Fisheries Specialist  
Texas Sea Grant Program  
October 13, 2011

# "Forrest Gump with an IQ"

- Raised in seclusion in the Middle East
- Planned to be an educated cowboy
- Rangeland Ecology
- FV Gus III
- Captain Jim McMurrey

# Gulf Shrimp Fishery in the 1960s

- Wild West with no Fences
- High Profit Potential
- Unwritten Apprenticeship
- Colorful People
- Accepted Rules
- Community



# Pre-Sea Grant

- Military Service
- Back to Sea
- Approached by David Harrington – TAMU

# Shrimp Aquaculture

## April 1970

- Designed flow-through pipes
- Capture Trawls
- Sourcing – Gravid Females
- White Shrimp

# Fall 1972

- Marine Fisheries Specialist
- Fisheries Graduate Courses
- Began at-dock contacts
- Perceived as a state game warden

# Loran A – Technology Surfaces!

- More than navigation
- Avoiding Bottom Obstructions
- Defining Productive Bottom
- Information Private and Guarded

# Obstruction Types

- Shipwrecks
- Petroleum Rig Debris, Capoffs, Pipelines
- Airplanes
- Cars!!!
- Rocks

# Bottom Fishing Obstructions – Texas and Louisiana Gulf

- Earned some trust from industry
- Exchanged information
- No computers
- Snowballed

# Catalogue and Charts

- Conversion Loran A to Loran C
- Huge cooperative effort - USGC
- Discontinued efforts with introduction of GPS

# 12000 Obstructions



# 1997 Evaluation Survey

## 97 Texas Gulf Shrimp Vessels

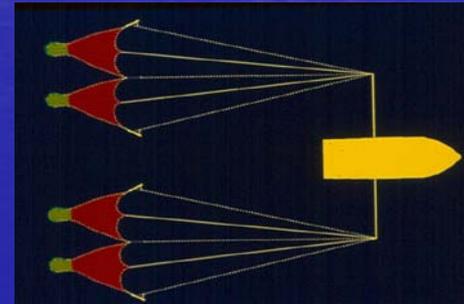
- Before 53 snags/yr.
- After 14/yr.
- \$58,588 annual savings per vessel
- Statewide \$168.3 million/year
- \$1.2 Billion up to 1997

# Other Interesting Aspects

- Civil War Vessel – Hatteras
- Texas Monthly Feature
- Law of unintended consequences – recreational impacts on reef fish

# Twin Trawl Array

- Evolved after weight float rig
- Aransas Pass – 90% conversion in one yr



# Magnuson Stevens Act

## The Landscape Changes

- 200 mile EEZ
- U S shrimping in foreign countries
- Cuba and Mexico off Texas
- Displacement of Gulf trawlers huge

# Era of Fishery Development

## "My Dark Years"

- Tremendous push for new fisheries
- Fear of lost grounds for Gulf shrimp fishermen
- Outside Investors
- No Management Plans!

# Longline Fisheries

- Swordfish - \$5k first night
- 48 Texas vessels rigged out in 1980
- \$40-\$60k per vessel
- Saw little bycatch or concern

# Tuna Longlining

- Looked at this and avoided
- Concern for bycatch
- Actually caught Giant Bluefin Tuna but did not advocate directed fishery
- \$20-\$30k value
- Japanese were catching

# Shark Longlining

- "Shamed" into involvement
- Directed effort by NMFS



# Bottom Longlining

- Deepwater Grouper
- Red Snapper
  - 300 fish day @ 20-22#/fish
- Spawning Reserve??
- 61 Texas Vessels Converted
- Council A.P proposal to terminate red snapper longlining

# Contentious Times 1980s and early 1990s

- Introduction/Mandate TEDs
- Tremendous early resistance
- Extensive Sea Grant/NMFS collaboration



# Cooperators Worked with both Organizations

- Gear Introduced
- Not readily accepted
- Too costly, bulky
- It did work, however.

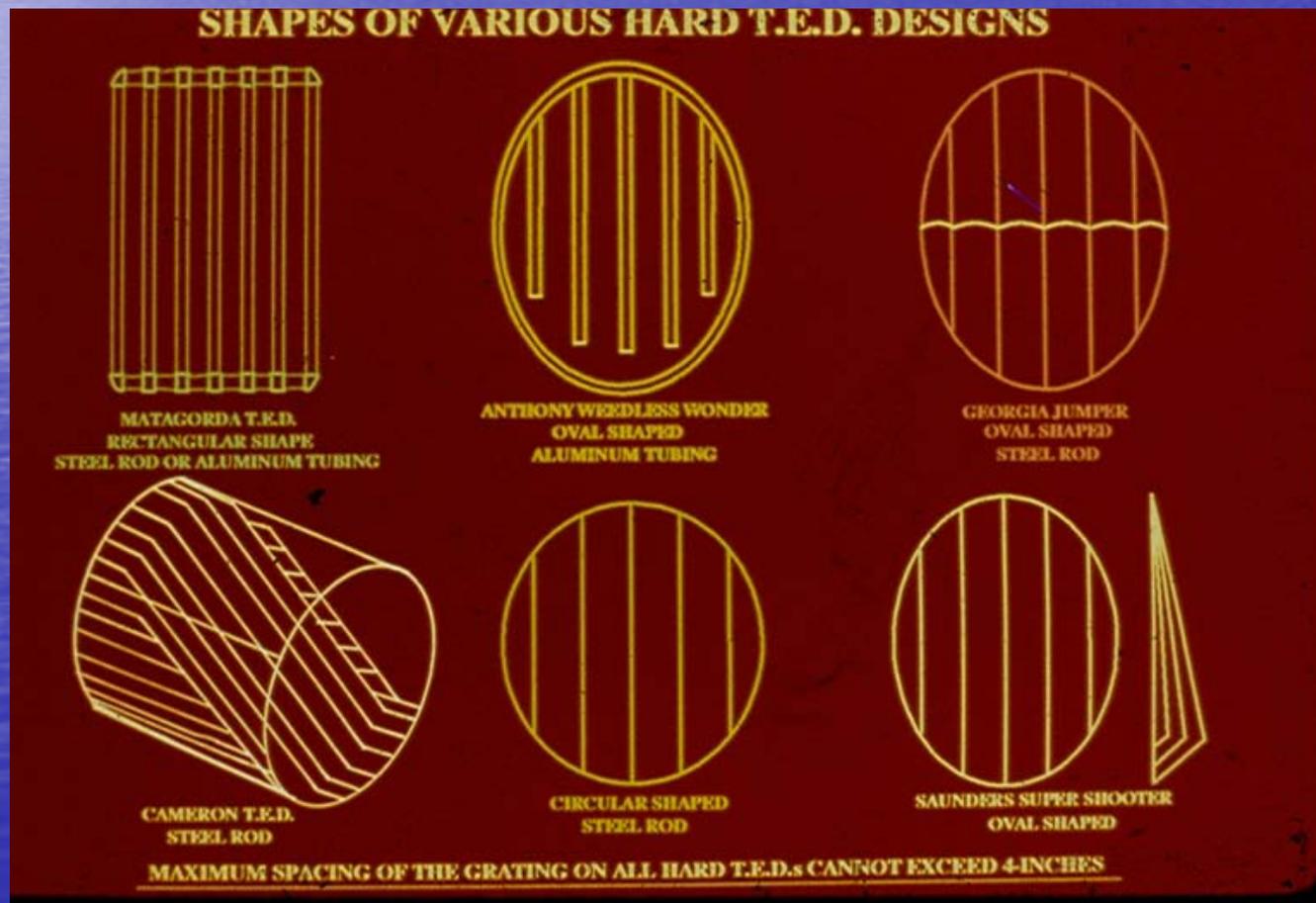


# Jelly Balls a Persistent Problem in Some Segments of the Fishery



# Industry Already had Gear for Jelly-Balls

- Evaluation of jelly-ball excluders to TEDs



# Industry Involvement

- Cape Canaveral-Many Sea Turtles
- Environmental Groups Included
- Collaboration with NMFS



# TED Workshop with Asian Americans



# Industry Outreach

- Workshops most efficient  
Can be contentious
- DVDs/Camtasia  
Quality (Vessel Handling and Freezing)
- At dock contacts  
Inefficient  
Effective

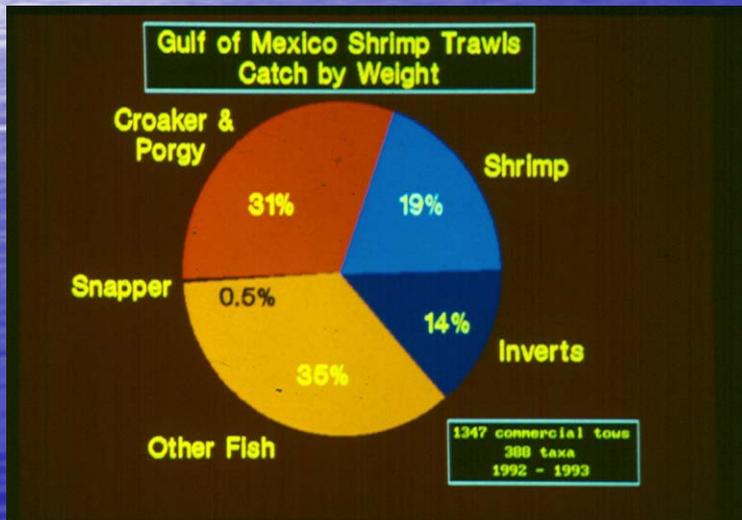
# Shrimp Trawl Finfish Bycatch

- Problematic
- Pilot Program through Texas Shrimp Association – Catch Characterization 1990
- Gulf and South Atlantic Fisheries Foundation very dedicated to this work



# Catch Characterization

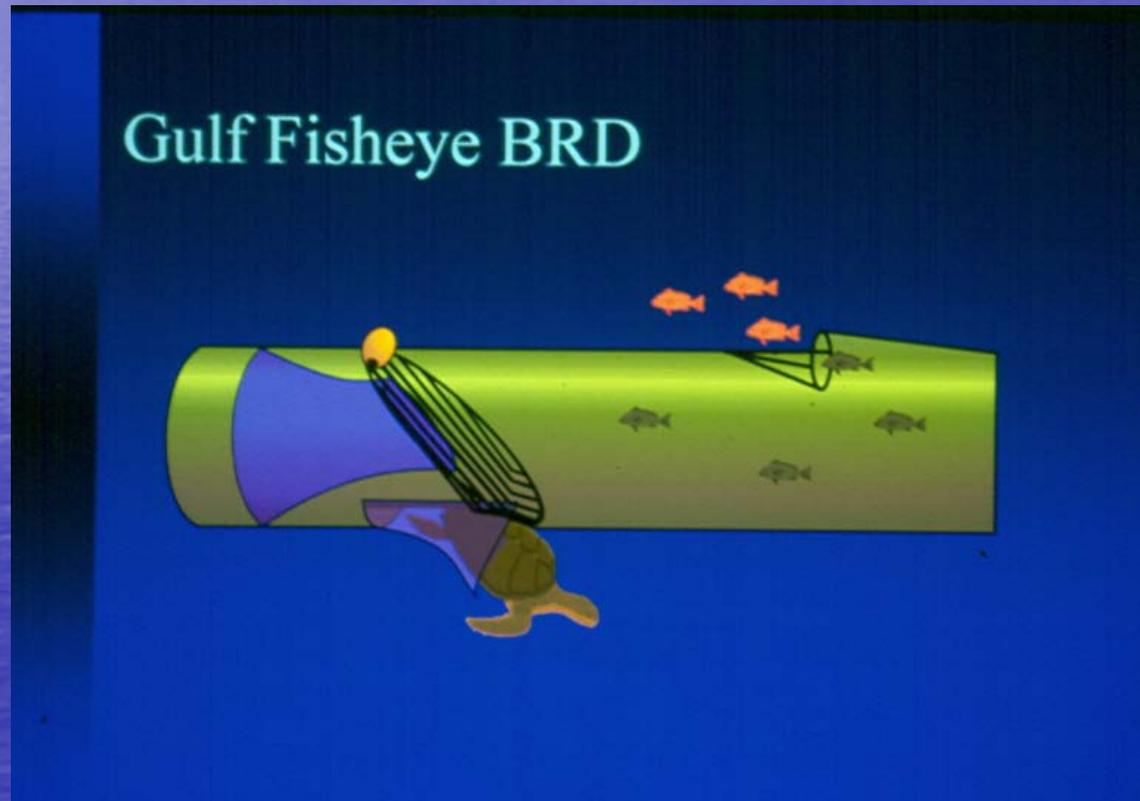
- 4:1 ratio finfish to shrimp



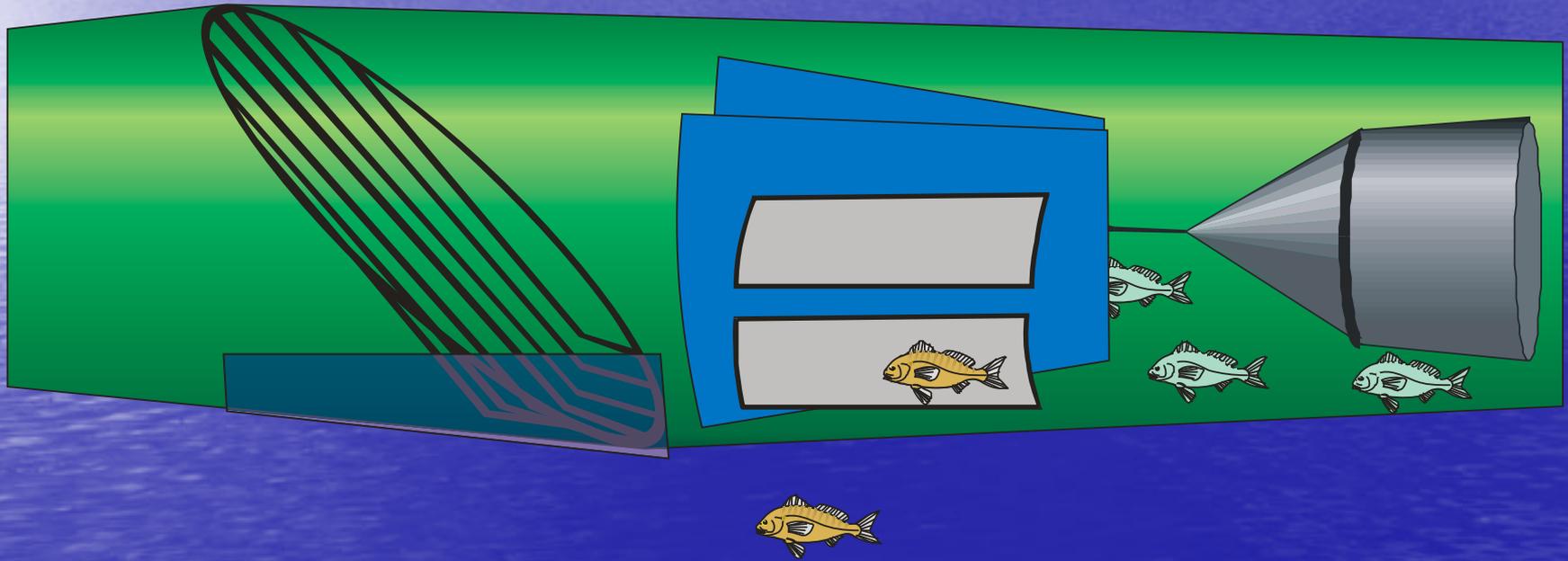
# Bycatch Reduction Devices (BRDs)

- NMFS and Industry Ideas
- Proof of Concept
- Certification

# TEDs and BRDs Now in Trawls



# Modified Jones Davis



# Evaluated a Number of BRDs



# BRDs Are an Ongoing Effort

- Ricky BRD
- Nested Cylinder
- 2" TED frame spacing
- Australian Witches Hat

# High Tech Fibers (Spectra or Dyneema)

MATERIAL	Diameter	Feet/Pound	Strength
Hi Tech #7	.034	3280	155
Nyl. #15	.051	1500	125
Nyl. #18	.058	1090	170
Nyl. #21	.065	860	210
Hi Tech # 9	.042		209
Hi Tech 11	.048	2000	220

# Fuel Efficient Trawl Doors



# 50% Smaller than Traditional Doors



# Outstanding Fuel Efficiency

- 20-28% Fuel Reduction on many trawlers
- No shrimp loss
- No problem for some fishermen,  
problematic for others

# Brownsville-Port Isabel Door Conversion

2007-2008 about 80% of the vessels converted (132 vessels)

2008-2009 Brownsville/Port Isabel saved 4.2 million gallons @ \$10.4 million

# Gear Collaboration with NGOs

- Ocean Conservancy
- Shrimp Roundtable – Sustainable Fisheries Partnership
- Provide cooperative cost sharing grants or loan programs for doors and environmental gear

# Only Touched Upon Some Highlights

- On vessel seafood quality control
- Vessel safety
- Electronic Log Book Efforts
- Honest Broker – Seismograph Conflicts
- NAS twice
- WWF Smart Gear
- Gulf Coordinator Gulf & S. Atlantic Fisheries Fd.
- Numerous committee appointments to include Red Snapper and Shrimp A.P.s for Council.

# Ridley Recovery



Questions?

Comments?

