Managing Natural Resource Conflicts while Implementing Large-Scale Ecosystem Restoration

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History, Culture, Significance

Today:

- Shrimp are La’s most valuable fishery - $137,734,698 dockside value reported in 2016
- La lands more shrimp than any other state
- This accounts for 15,000 jobs and an annual impact of $1.3 billion for Louisiana
CPRA Recommendation:
Advance Mid Barataria and Mid Breton sediment diversions to engineering and design.
LA SHRIMP ECONOMICS & OPPORTUNITIES

LA’s Shrimp Value Chain

Production: $1.50
Dockside Aggregation: $+0.20 = $1.70
Processing: $+1.93 = $3.63
Wholesale Distribution: $+2.97 = $6.60
Retail: $+2.00+ = $8.60+
LA SHRIMP ECONOMICS & OPPORTUNITIES

Combined totals: - 4MT - 6.5MT - 8MT

Aquaculture and Capture
Global Shrimp Production, 1950 - 2014
LA SHRIMP ECONOMICS & OPPORTUNITIES

Sell more shrimp directly…

...And within that, sell shrimp for higher value through improved handling and marketing....
Shrimping with Diversions

Mix of socioeconomics

• Age (range of 22-78 years old; 64% of participants were 45-65 years old)

• Sources of income: 55% part-time shrimper, 45% full-time

Mix of business operations

• Boat and gear type

<table>
<thead>
<tr>
<th>Location</th>
<th>Participants</th>
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<tbody>
<tr>
<td>Venice Marina</td>
<td>6</td>
</tr>
<tr>
<td>Jean Lafitte Town Hall</td>
<td>8</td>
</tr>
<tr>
<td>Docville Farm, Meraux</td>
<td>7</td>
</tr>
<tr>
<td>Lucky Ryan Restaurant, Buras</td>
<td>11</td>
</tr>
<tr>
<td>Bucktown Marina</td>
<td>18</td>
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</tbody>
</table>
Shrimping With Diversions

How do sediment diversions affect shrimp?

• Push them farther out
• Less shrimp
  - affects eggs
  - need inshore habitat for eggs/baby shrimp
• No more shrimp
  - can’t reproduce
SHRIMPING WITH DIVERISIONS

- No shrimping business - no work, no income
- Less fishing opportunity
- Buy a different boat to fish other species - invest money
- Stay home
- Move some place else to find new careers

<table>
<thead>
<tr>
<th>How does it affect you?</th>
<th>How to deal with it</th>
<th>Needs/Obstacles</th>
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- No brown shrimp (esp. Empire, Venice)

- Switch to crabbing or other fisheries
- New career
- Need assistance finding new jobs
- Need help identifying new place to move + job options
- Sell boat
- Sell house
- Buy-out program
- Need money to move
- Job that pays at least $15 per hour

- Can't get license for oysters + other fisheries
- Need to do apprenticeship
- Few job options here
- Might not be able to sell boat + house
- Language barrier
- Moved from Vietnam to fish
- Louisiana is home and don't want to move
- Likes the freedom of the sea...
SHRIMPING WITH DIVERSIONS

Catch More Shrimp

**Strategies And Avenues To Accomplish Adaptation**
- Implement new equipment to reduce labor costs.
- Increase the ability to capture more shrimp.
- Develop new shrimp species.
- Increase the efficiency of shrimp farming.

**Obstacles To The Avenues**
- Limited availability of new equipment.
- High costs associated with new species.

**Sell Catch for More Money**

**Strategies And Avenues To Accomplish Adaptation**
- Increase the price of shrimp by reducing supply.
- Develop new marketing strategies.
- Increase the visibility of shrimp.

**Obstacles To The Avenues**
- Limited access to markets.
- High competition in the market.

**Find Alternative Income**

**Strategies And Avenues To Accomplish Adaptation**
- Develop new income streams.
- Increase the efficiency of alternative income sources.
- Develop new marketing strategies.

**Obstacles To The Avenues**
- Limited access to markets.
- High competition in the market.


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## SHRIMPING WITH DIVERSIONS

### Adaptation Category: **Catch More Shrimp**

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<tr>
<th>Strategies And Avenues To Accomplish Adaptation</th>
<th>Obstacles To The Avenue</th>
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<tbody>
<tr>
<td>● Improve currently owned fishing vessel by upgrading the fishing versatility and capacity. (Examples include gear and storage upgrades.)</td>
<td>● Improvements may be too expensive or require too much additional labor time from the shrimper.</td>
</tr>
<tr>
<td>● Help accessing subsidies, grants, or low interest loans to offset upgrade expenses.</td>
<td>● Upgrades may not be compatible for current vessel size, configuration.</td>
</tr>
<tr>
<td>● Work more hours/days per trip (increase fishing effort).</td>
<td>● Current loan opportunities are unavailable or undesirable. More time working places burden on business, family and overall quality of life.</td>
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Our Findings

1. There is a wide range of vulnerability and resilience amongst shrimpers

   Defined by:
   a. Way of operating business
   b. Socioeconomic status

2. Some shrimpers may not be able to continue their current way of shrimping; assistance can facilitate transition

3. There are solutions!

   Shrimpers have lots of ideas about potential avenues to adaptation:
   a. Individual efforts (adjustments to business operations)
   b. Organizational efforts (systemic adjustments)
Shrimping in Louisiana: Supporting Innovation in the Face of Coastal Change

- Shared, collective action offers best path forward
  - Includes industry, management, restoration scientist & managers, environmentalists, etc.

- A common, base-level understanding of shrimp, shrimping, and shrimpers
  - management to biology to economics to TEK and culture

- Recommendations:
  - Data collection
  - Communication
  - Assistance
Conclusions

There are significant challenges but through communication, collaboration and collective action, we can overcome these conflicts!
Thank you! & Questions?