

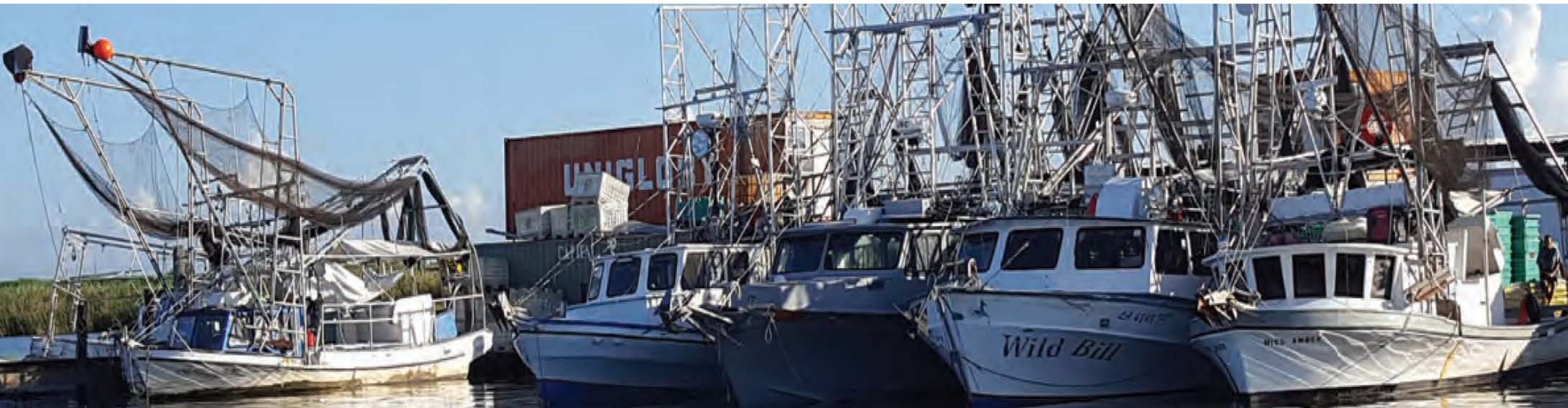


Coalition To Restore Coastal Louisiana

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Managing Natural Resource Conflicts while Implementing Large-Scale Ecosystem Restoration



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



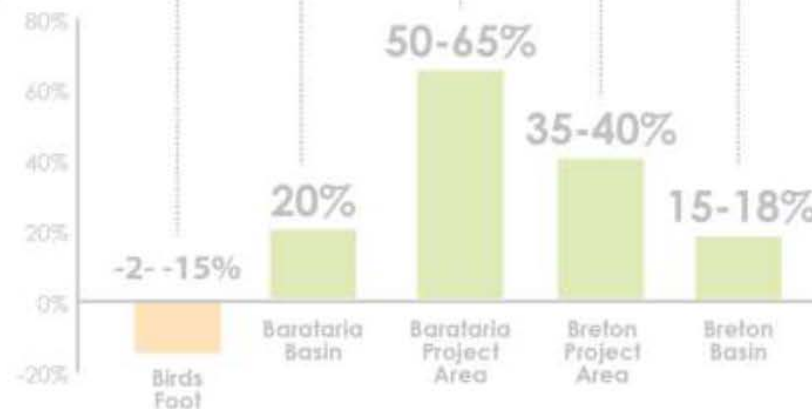
DIVERSION DECISIONS & FISHERIES IMPACTS

CPRA Recommendation:

Advance Mid Barataria and Mid Breton sediment diversions to engineering and design.

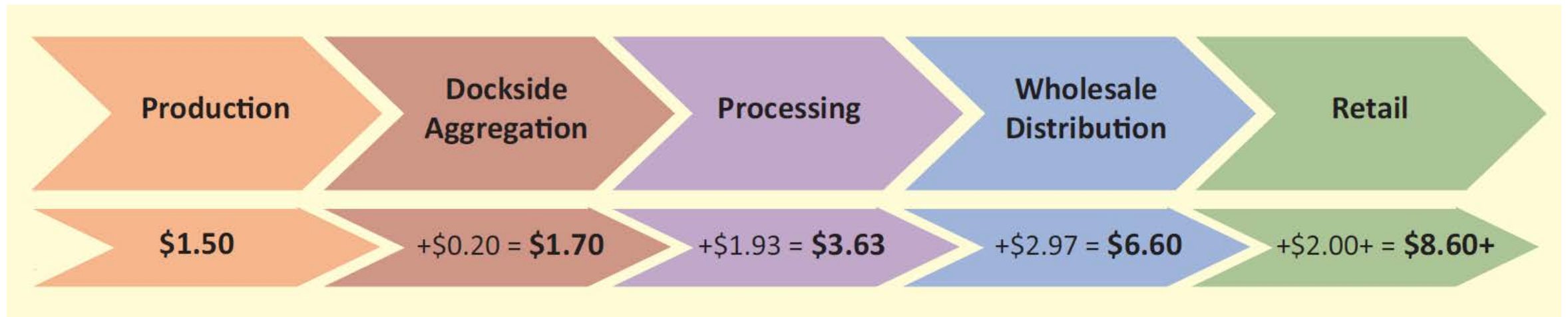
FWA
VS.
FWAO

Land Loss
Reduced by:

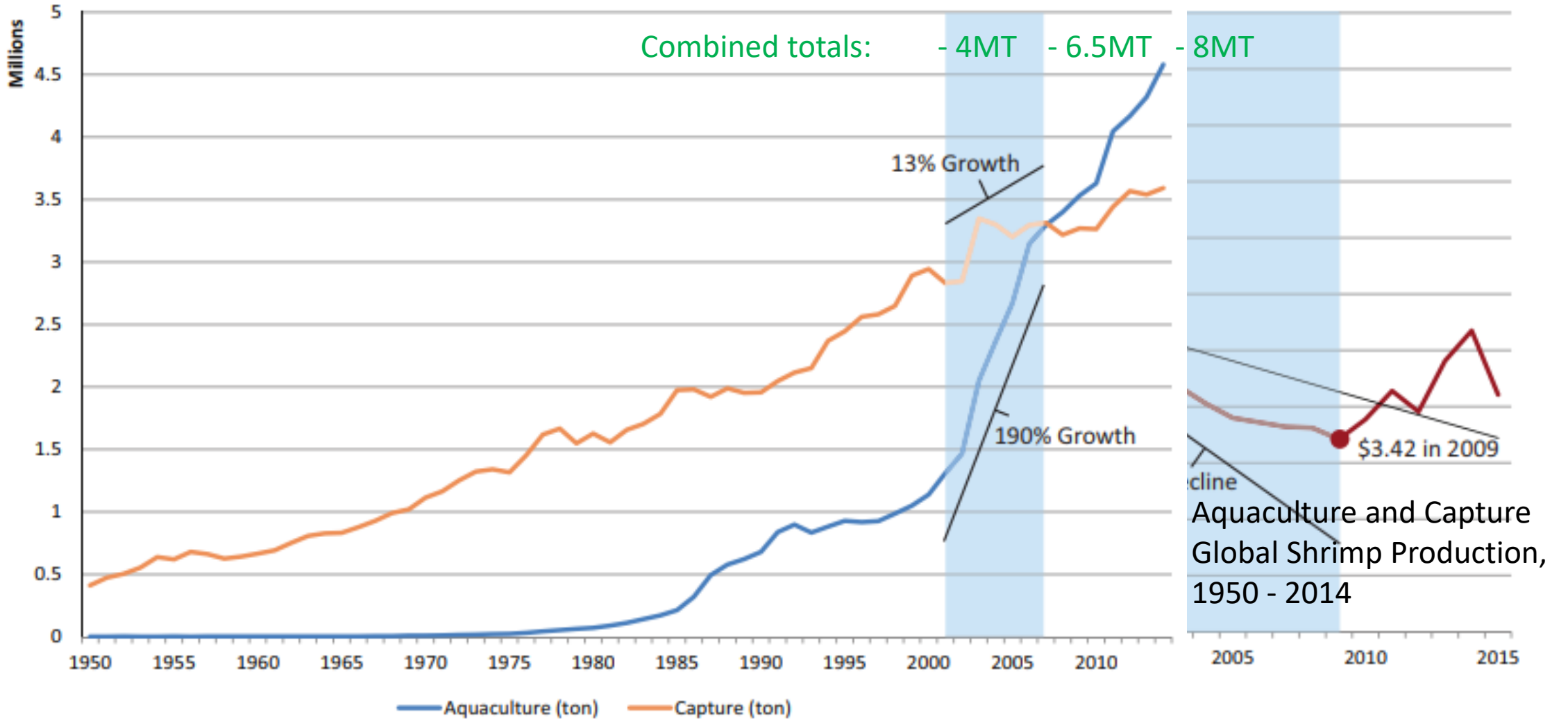


LA SHRIMP ECONOMICS & OPPORTUNITIES

LA's Shrimp Value Chain



LA SHRIMP ECONOMICS & OPPORTUNITIES



LA SHRIMP ECONOMICS & OPPORTUNITIES

Sell more shrimp directly...



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

LA SHRIMP ECONOMICS & OPPORTUNITIES



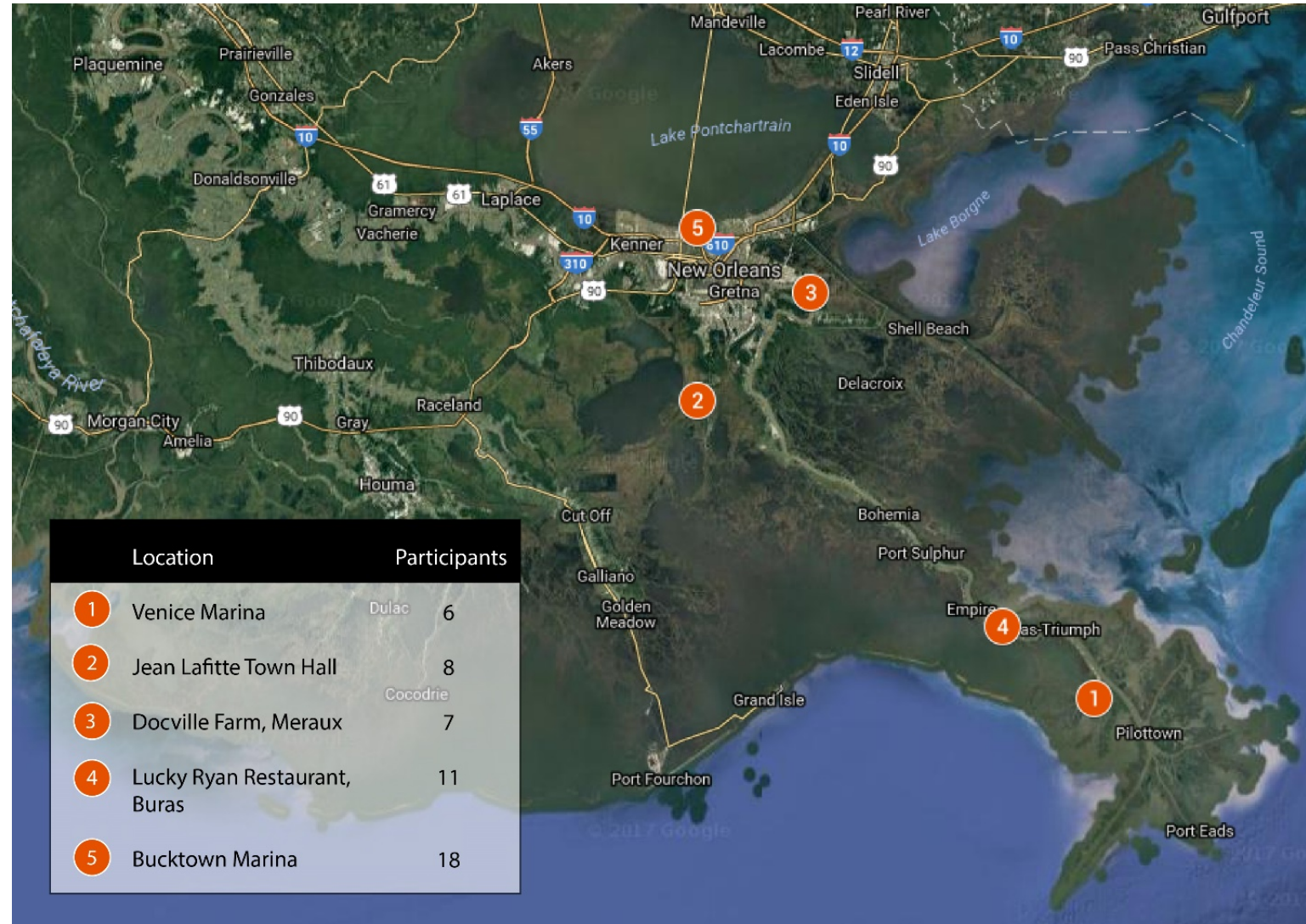
Shrimping with Diversions

Mix of socioeconomic

- 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



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 DIVERSIONS



No brown Shrimp (esp. Empire + Venice)			
How does it affect you?	How to deal	with it	Needs/obstacles
<ul style="list-style-type: none"> ★ 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 	<ul style="list-style-type: none"> • Switch to crabbing • New career • Need assistance b/c of language barrier • Need help identifying new place to move + job options • Sell boat • Sell house • Buy-out program • Get money to move ★ Job that pays at least 	<ul style="list-style-type: none"> or other fisheries finding new jobs + more flood protected ↳ assistance w/ more for people who haven't invested works much better for people who have been shrimping for years + invested \$\$\$, not enough → Houston because no one else would buy the boat → everybody would want to move DIS/per hour 	<ul style="list-style-type: none"> • 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 USA. ★ If other fisheries are affected too, investment is not worth it

SHRIMPING WITH DIVERSIONS

Catch More Shrimp

Strategies And Avenues To Accomplish Adaptation	Obstacles To The Avenues
<ul style="list-style-type: none"> Improve currently owned fishing vessel by upgrading the fishing versatility and capacity. (Examples include gear and storage upgrades.) Help accessing subsidies¹, grants, or low interest loans to offset upgrade expenses. Work more hours/days per trip (increase fishing effort). 	<ul style="list-style-type: none"> Improvements may be too expensive or require too much additional labor time from the shrimper. Upgrades may not be compatible for current vessel size, configuration. Current loan opportunities are unavailable or undesirable. More time working places burden on business, family and overall quality of life.
<ul style="list-style-type: none"> Limit entry of new commercial shrimpers to regulate fishing pressure². 	<ul style="list-style-type: none"> (Nothing formally commented; see researcher observation below.) The researchers acknowledge that restrictions on access to commercial fisheries has rarely occurred without contention from some segments of the industry.
<ul style="list-style-type: none"> Increase range of fishing trips (travel further to seek greater distribution/ more productive areas). Access to fuel subsidies or rebates from the state based on boat type/size that would cover increased costs. Access to gear and engine fuel efficiency upgrades. 	<ul style="list-style-type: none"> Insufficient investment capital for purchasing additional fuel and supplies to maintain boat and crew. Required to be away from home for too long, dock in remote areas that are less secure and stay in temporary housing such as motels.
<ul style="list-style-type: none"> Move household and shrimping business to an alternate community near areas with more shrimp (i.e. relocate to a different basin). Access to relocation assistance could facilitate. 	<ul style="list-style-type: none"> A relocation trend may result in excessive fishing pressure in those areas and be counter-productive. Families/businesses may be unable or unwilling to pay the costs of relocation. Relocation may be too demanding on elderly shrimpers and families.
<ul style="list-style-type: none"> Convert to an offshore³ (deep water) vessel. Financial assistance programs could facilitate upgrade to a larger boat (> 50 ft.) and appropriate gear type suitable for offshore conditions. Trainings for learning a new type of shrimping practice and business operation could assist transition. 	<ul style="list-style-type: none"> Capital investment to acquire, operate, and maintain the large vessels required for offshore could be cost-prohibitive (more expensive gear, larger crew, longer trips, more fuel, added supplies, etc.) Offshore fishing conditions are less safe. Difficulty and cost of having to learn a new type of shrimping in unknown waters. Consolidating fleet in these areas could result in excessive fishing pressure. Can be difficult to keep stable deckhands. Diminished quality of life due to longer hours/days at sea.

Sell Catch for More Money

Strategies And Avenues To Accomplish Adaptation	Obstacles To The Avenues
<ul style="list-style-type: none"> Take steps to address the dockside price issues caused by imported shrimp placing downward pressure on local shrimp economy. Ideas that were suggested included: advocate for tariff on imported shrimp (to President Trump), federal government program that buys domestic shrimp at guaranteed price (contract), increase inspection of imports, consumer education, and proof on menu. 	<ul style="list-style-type: none"> (Nothing formally commented; see researcher observation below.) However, it should be noted that these avenues are largely outside the control of individual shrimpers and could literally take an act of congress. Regardless, the researchers believe it is an important avenue to investigate since an increase in dockside price is the ONE avenue that increases economic resilience across the full range of vulnerability.
<ul style="list-style-type: none"> Direct market shrimp to skip steps in the supply chain and sell directly to consumers or retail vendors (restaurants, grocery stores, etc.). Selling value added products (like Vermilion Bay Sweet model⁴) was identified as being an effective way to accomplish direct sales. Programs to assist in training, equipment, and marketing could increase access to these models. Create market for smaller shrimp which currently receive almost cost-prohibitive dockside prices. Consumer education on superior product handling and quality could increase demand. 	<ul style="list-style-type: none"> Direct sale requires a significant additional effort beyond selling to the dock and will only help a small percentage of shrimpers who are able to transition to that model. Requires more work to run direct to market business-permits, transport, time, effort, etc. May need to process the products to achieve greater markets by peeling, deveining, or packaging/preserving which requires buying equipment and compliance with Board of Health regulations Time spent selling shrimp is lost time for catching shrimp; need more employees to offset this which cost money and requires additional responsibility.
<ul style="list-style-type: none"> Take steps to address pricing control by docks. Incentivizing more docks and processors to be open, increasing competition. Set up a dock or processing cooperative. 	<ul style="list-style-type: none"> Historical attempts for shrimpers to open cooperatives have faced insurmountable state/political opposition from current dock owners. This requires considerable startup capital.
<ul style="list-style-type: none"> Change management policy for shrimp fishery to restrict harvest time to periods yielding larger, more marketable sized shrimp. 	

Find Alternative Income

Strategies And Avenues To Accomplish Adaptation	Obstacles To The Avenues
<ul style="list-style-type: none"> Fish other fisheries. Could include existing commercially harvested saltwater or freshwater species or allow entry into currently restricted species. Allow the use of more effective finfish fishing methods such as gillnets or strike nets. Leadership (in the form of lobby, unionization, or some other organization) will likely be required to enact legal changes. New management protocols could provide sustainable regulation of newly accessible fisheries. Assistance with accessing subsidies or loans could support purchasing appropriate boats and/or equipment to fish other fisheries. Trainings could educate on how to harvest other fisheries Saltwater species that could be utilized: redbfish, mullet, speckled trout, white trout, sheephead, crab, shark, and oysters. Freshwater species that could be utilized: catfish or garfish. 	<ul style="list-style-type: none"> Legacy issues of historic over-fishing practices . Entry into other fisheries (e.g. mullet, oysters) is too limited. Harvestability of other saltwater species might dwindle similarly to shrimp. Sport fishermen lobby seen as a strong opponent in countering efforts to allow commercial harvest of certain species. Market for freshwater species is undeveloped and small. Buying new gear could be too high of a cost and low interest loans are difficult to qualify for. Takes time for investment to payoff, may not be feasible for older fishermen. Some fisheries require an apprenticeship before fishermen can obtain a license.
<ul style="list-style-type: none"> Jobs in local industry like oil, navigation, or restoration. Labor jobs such as welding were identified as possible options within those industries. Training programs might help fishermen gain access to these local industry jobs. Stop eating shrimp (must spend more on groceries), may grow vegetables to supplement groceries. 	<ul style="list-style-type: none"> Elderly age, lack of education or experience outside of shrimping, and language barriers can be prohibitive. Local industries, like oil and gas, may not be a good option because they are dwindling or have too restrictive hiring processes. Undesirable changes to quality of life including loss of shrimping culture, subsistence food, and other losses of personal freedoms such as not being as autonomous.
<ul style="list-style-type: none"> Relocate to a region with more job options. Assistance for finding new place to live and work could facilitate. In one group discussion, a participant stated, "move me some place where I'm safer (from storms/flooding) and have security of a job paying \$15/hr" would make her content. 	<ul style="list-style-type: none"> Issues with no prior experience, socioeconomics, and undesirable changes to quality of life (similar to the above cell) may be exacerbated by a relocation. Some shrimping communities speak English as a second language, so there could be language barrier issues.
<ul style="list-style-type: none"> Sell boat and house. Buyout program to assist in fair-value liquidation of these assets. May require political will and leadership. 	<ul style="list-style-type: none"> Might not be able to sell boat and house (especially if a decrease in demand after diversions.) Creating a fair buyout program likely difficult since large variation between people who haven't invested much compared to those who have been shrimping a long time. Some perceived buyouts as unfair because it will wipe out supporting community.
<ul style="list-style-type: none"> Provide assistance with accessing Social Services such as: supplemented income or welfare. Reclassifying shrimpers as farmers/harvesters so that they can fit under Department of Agriculture and receive farm bill benefits may provide assistance. 	<ul style="list-style-type: none"> Not desirable to receive "handouts" and prefer a way to continue working. Social services were perceived as being difficult to qualify for and to navigate bureaucratic processes. May be economically infeasible for government.
<ul style="list-style-type: none"> Go back to school. 	<ul style="list-style-type: none"> Less desirable for older people. College is expensive and risky.

SHRIMPING WITH DIVERSIONS

Adaptation Category: Catch More Shrimp

Strategies And Avenues To Accomplish Adaptation	Obstacles To The Avenue
<ul style="list-style-type: none">● <u>Improve currently owned fishing vessel by upgrading the fishing versatility and capacity.</u> (Examples include gear and storage upgrades.)● Help accessing subsidies, grants, or low interest loans to offset upgrade expenses.	<ul style="list-style-type: none">● Improvements may be too expensive or require too much additional labor time from the shrimper.● <u>Upgrades may not be compatible for current vessel size, configuration.</u>● Current loan opportunities are unavailable or undesirable. More time working places burden on business, family and overall quality of life.
<ul style="list-style-type: none">● Work more hours/days per trip (increase fishing effort).	<ul style="list-style-type: none">● More time working places burden on business, family and overall quality of life.



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

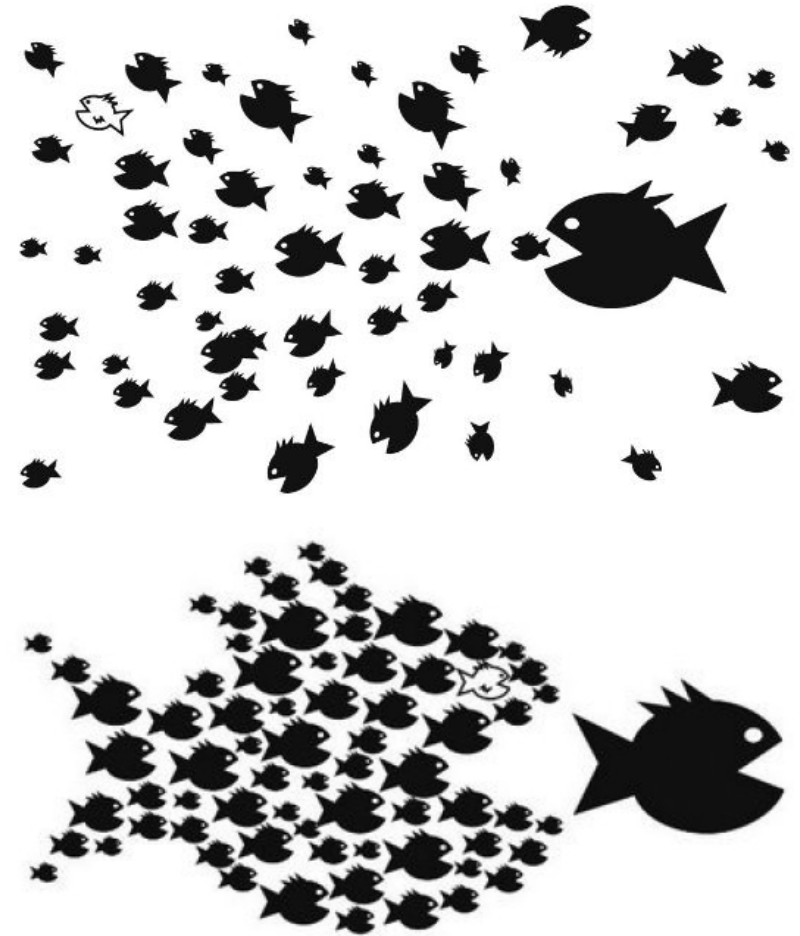
3. There are solutions!

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

- Shrimping and shrimpers face significant challenges but through communication, collaboration and collective action, we can overcome these conflicts!

- Need clearly defined roles and responsibilities for each group

- Once this is made public, not leveraged to assist in the transition

There are significant challenges but through communication, collaboration and collective action, we can overcome these conflicts!





**Coalition To Restore
Coastal Louisiana**

**Thank you!
&
Questions?**

