

Conceptualizing the Economic Effects of Large Scale Diversions on Fishing Firms

Advanced Ecological Modeling for Diversions and Hypoxia in the Northern Gulf of Mexico



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1. Who should sponsor and who should conduct such an analysis?

- Highly polarized debate over diversions and fisheries
- Entrenched parties are perceived as having an agenda
- Funding sources more scrutinized in economic studies
- Need for independent analysis

Recommendation:

Commission a team of impartial, credentialed fisheries economists* and provide support through a competitive federal research RFP subject to peer review.

* *University and private sector economists have worked on such projects in the past in conjunction with LDWF and NOAA.*



2. What should be the context and scope of the economic analysis?

- Must be project-specific and species-specific
- Need to expand current unit of analysis:
 - Existing focus on Fishes : Quantified metrics of net changes in ecosystem services over very long time periods.
 - Expand focus to Fishers : Seasonal/annual changes in revenue, operating cost, annual net income

Recommendation

Simulate project impacts on commercial fisheries adjacent to the project.

* *Eastern Oyster for Hire (RFH)*



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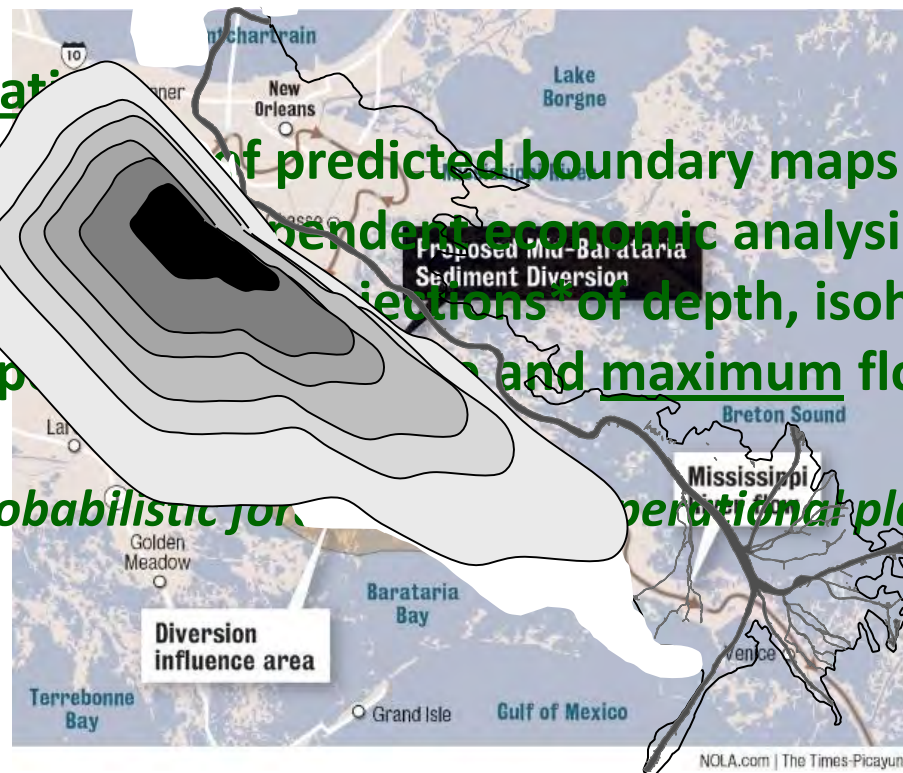
3. What is the footprint of the MBD project?

- Without hydrodynamic projections (maps), there is no analysis!
- Mississippi River Hydrodynamic and Delta Management Study (pending)
- Hydrodynamic output is critical for examining fisheries dynamics
- Flow Rate (cfs) ➡ Depth (z), Salinity (mg/l), TSS (mg/l), DO (mg/l), T (C)

Recommendation

The most current set of predicted boundary maps should be made available for independent economic analysis. Maps would include cross-sections of depth, isohalines, and sediment deposition, and maximum flow rates.

** Based on probabilistic forecasts of operational plans*

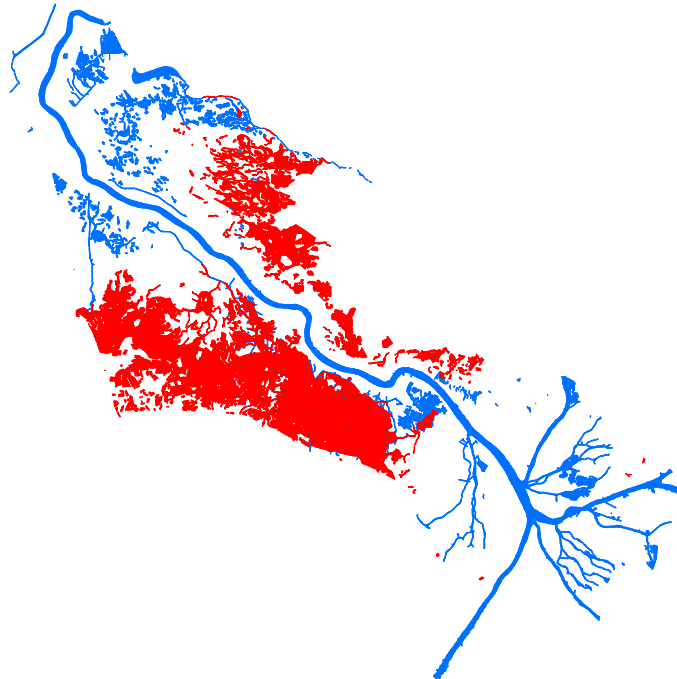


4. What commercial infrastructure lies within and adjacent to MBD project boundaries?

- Opportunity to expand on disaster assessment methods
- Requires spatial integration of biophysical and economic data
- No spatial inventory is maintained for fisheries infrastructure

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5. What will be the biophysical effects on fishes?

- What do we know from literature and current research on MBD?
- How do fishes and fishers differ under avg. and max. flow rates
- What spatial and temporal scales are appropriate for informing economic impacts?

Coast/Basin
Sub-basin/grid
Recommendation:
Distribution
Diversity
Biomass
Biodiversity
Explicit dep
and maxim

* Reduction



3D fisheries-
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a grid

Decades (20y & 50y)
Seasonal (monthly)

7. What legal implications (if any) do individual losses imply for planning and implementation?

- Oysters: 2003 Liability limits, 2006 Lease Compensation Rule
- “No Takings” does not rule out tort claims

Oyster Lease Acquisition and Compensation Program

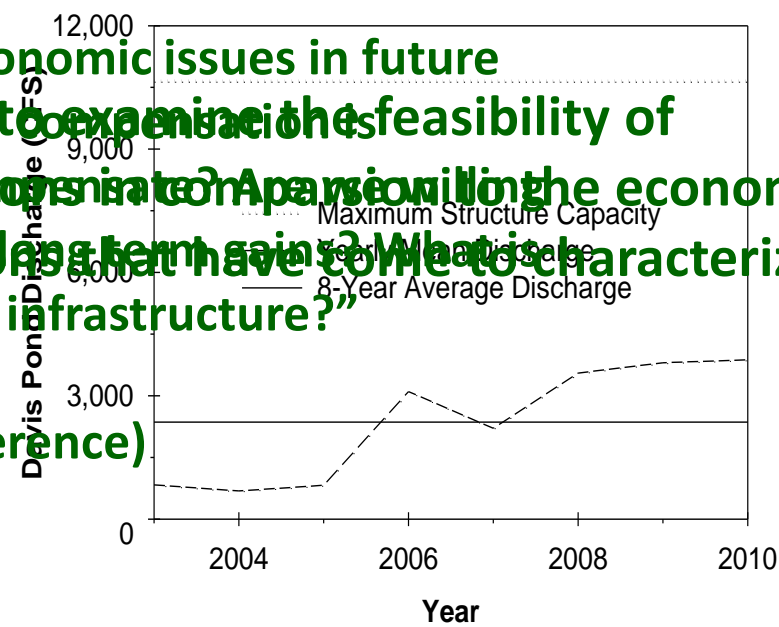
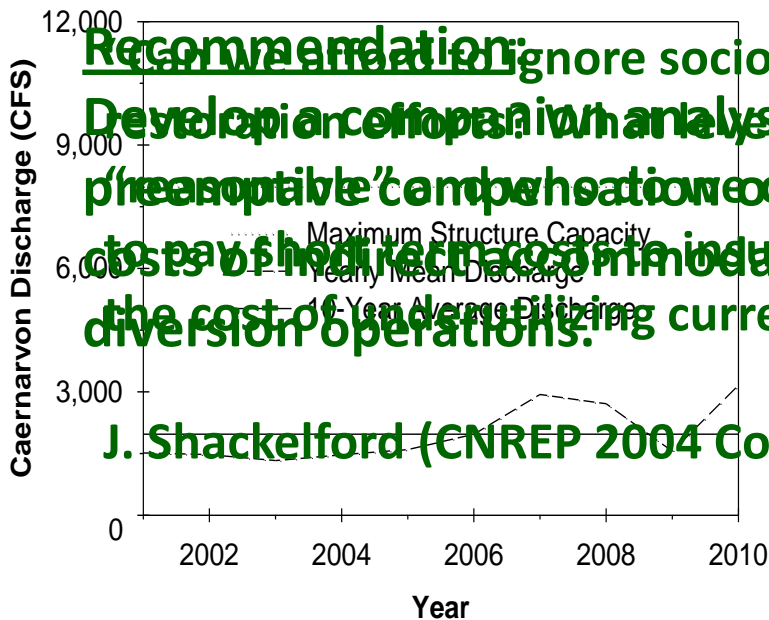
Recommendation:

Seek legal and economic counsel on the financial extent of liability under “fair market value” compensation for reefs rendered useless due to siltation. Seek opinions on “intentional tort” claims for economic losses to other fisheries sectors and obtain conservative estimates of the time required to settle such disputes.

“(provides) for the acquisition of and compensation for oyster leases or portions of oyster leases upon which occurs or will occur dredging, direct placement of dredged or other materials, or other work or activities necessary for the construction or maintenance of a project for coastal protection, conservation, or restoration.”

8. What are the economic trade-offs between protracted disputes vs. targeted compensation?

- What is the “opportunity cost” of lost time and capacity? (i.e. project delay and constrained operation)
- Does political, economic expediency require a step beyond minimum legal requirements?



Recommendation: ignore socioeconomic issues in future development options. An analysis to examine the feasibility of prescriptive compensation options is not a priority. A separate economic cost-benefit analysis is needed to determine if there are any net gains to be realized from the current infrastructure. What is the economic cost of immediate loss? What is the economic cost of protracted disputes? What is the economic cost of targeted compensation? What is the economic cost of diversion operations?

J. Shackelford (CNREP 2004 Conference)

9. How might expanded costs estimates influence original benefit-cost projections?

- It is common in public works projects to incorporate preemptive compensation, mitigation and transition costs.

Recommendation:

Kyle Graham, executive director of the authority, said his agency is still doing the research to see if diversions could build enough land to offset their financial and social costs, including impacts on fishing communities. In the absence of such mitigation, project benefit projections should be scaled back to account for

Bob Marshall, The Riskns April 2014

** Not just fisheries; e.g. navigation, private property, public infrastructure*

10. How much time would be needed for the economic assessment and when should it begin?

- Time is the limiting factor (more limiting than funding)
- Project(s) initiated now *might* be ready for 2017 Master Plan

Recommendation:

Form a committee under the auspice of NOAA and LDWF charged with development of a diversion-oriented socioeconomic research agenda for fisheries. Issue a competitive RFP as soon as possible with ample funding for teams to pursue 2-year projects.

Recap

Conceptualizing the Economic Effects of Large Scale Diversions on Fishing Firms

1. Commission an impartial economics assessment
2. Must be project and species-specific (Net Income of Fishers)
3. Will require preliminary hydrodynamic projections
4. Geocode fisheries infrastructure within project boundaries
5. Scale-appropriate fisheries dynamics (sub-basin, seasonal)
6. Simulate economic impact via grid-specific budgeting
7. Seek legal and economic counsel on potential liability
8. Calculate opportunity costs of limited compensation
9. Revisit original cost and benefit projections
10. Start immediately, provide ample time and funding

CNREP

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