

The Economic Ripple Effects of Florida Red Tide



Tampa Bay Regional Planning Council
January 11, 2019 – FRCA Policy Board Meeting
Sean Sullivan – Executive Director

What is Florida Red Tide?

- Harmful algal bloom caused by concentrations of microscopic dinoflagellate (*Karenia brevis*).
- Naturally occurring and not directly caused by human activity, however, nutrient pollution of coastal waters can worsen and prolong its effects.
- Discolored water; massive fish kills; marine mammal, sea turtle, crustaceans, and sea bird mortalities; and respiratory irritants.
- Began in November 2017; impacting over 100 miles of Florida's coastline.

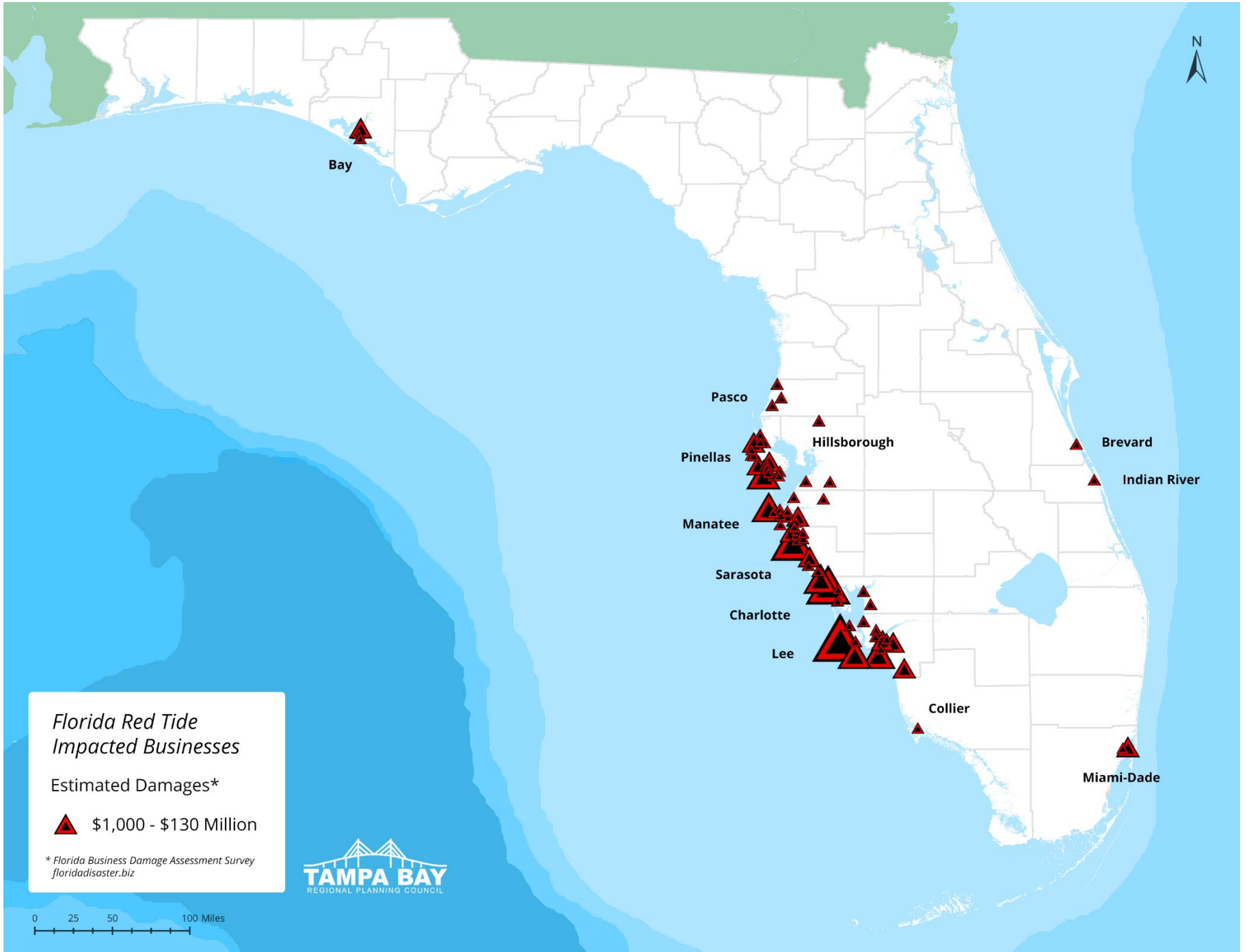
Captiva, FL – 8/3/18, ABC News



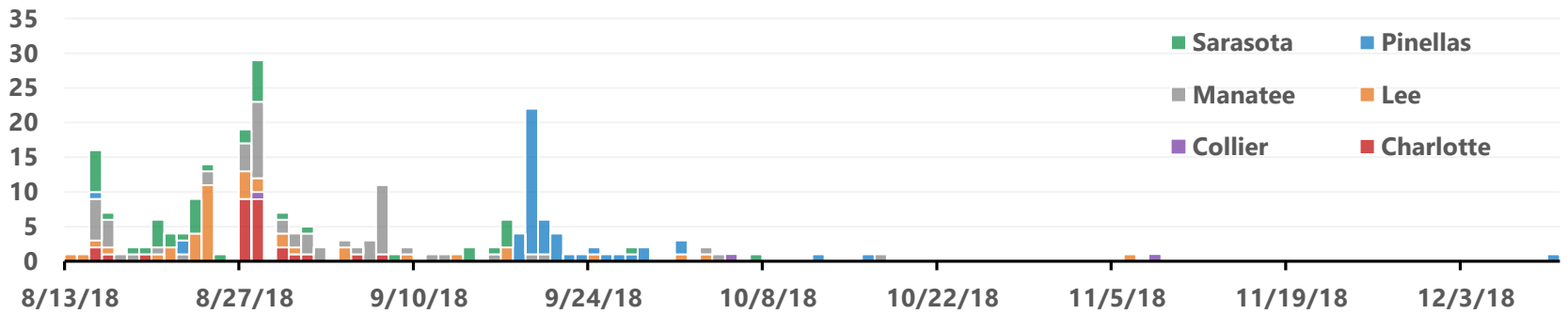
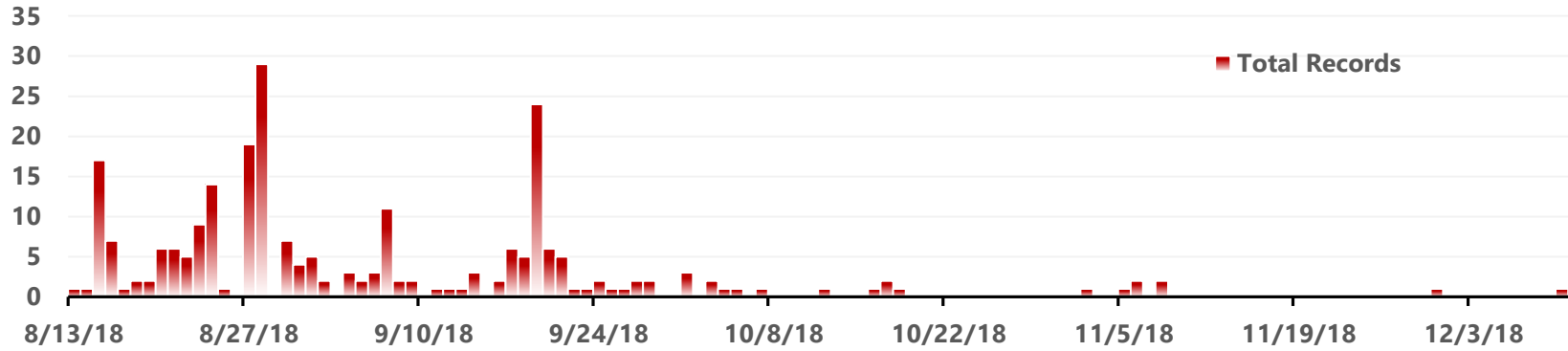
Business Damage Assessment Survey

- **Survey Period**
8/13/18 – 12/10/18
- **Survey Records**
246 responses across 12 counties
- **Responding Counties**
Bay, Broward, Charlotte, Collier, Hillsborough, Indian River, Lee, Manatee, Miami-Dade, Pasco, Pinellas, and Sarasota
- **Survey Questions**
floridadisaster.biz/BusinessDamageAssessments





Response Rate

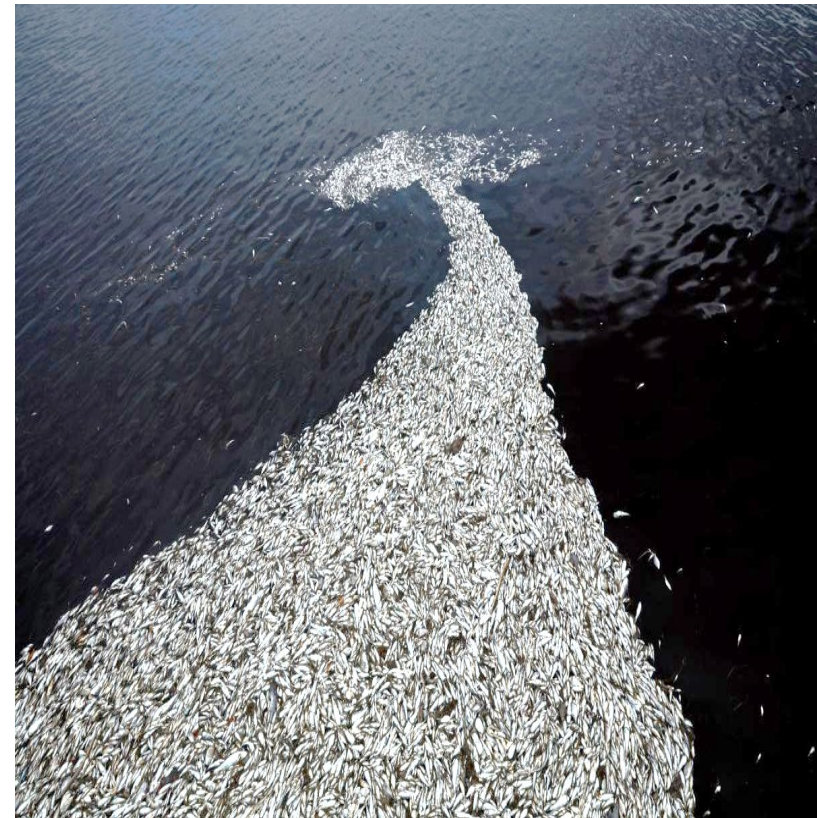


Economic Impacts

- Direct Pinellas, Manatee, and Hillsborough damage to date: \$2.9M
- Total Statewide damage to date: \$130.6M
- Likely significant under-reporting (N=246)
- Using survey reported data on lost revenues and business damage, TBRPC modeled the loss of industry sales in REMI PI+

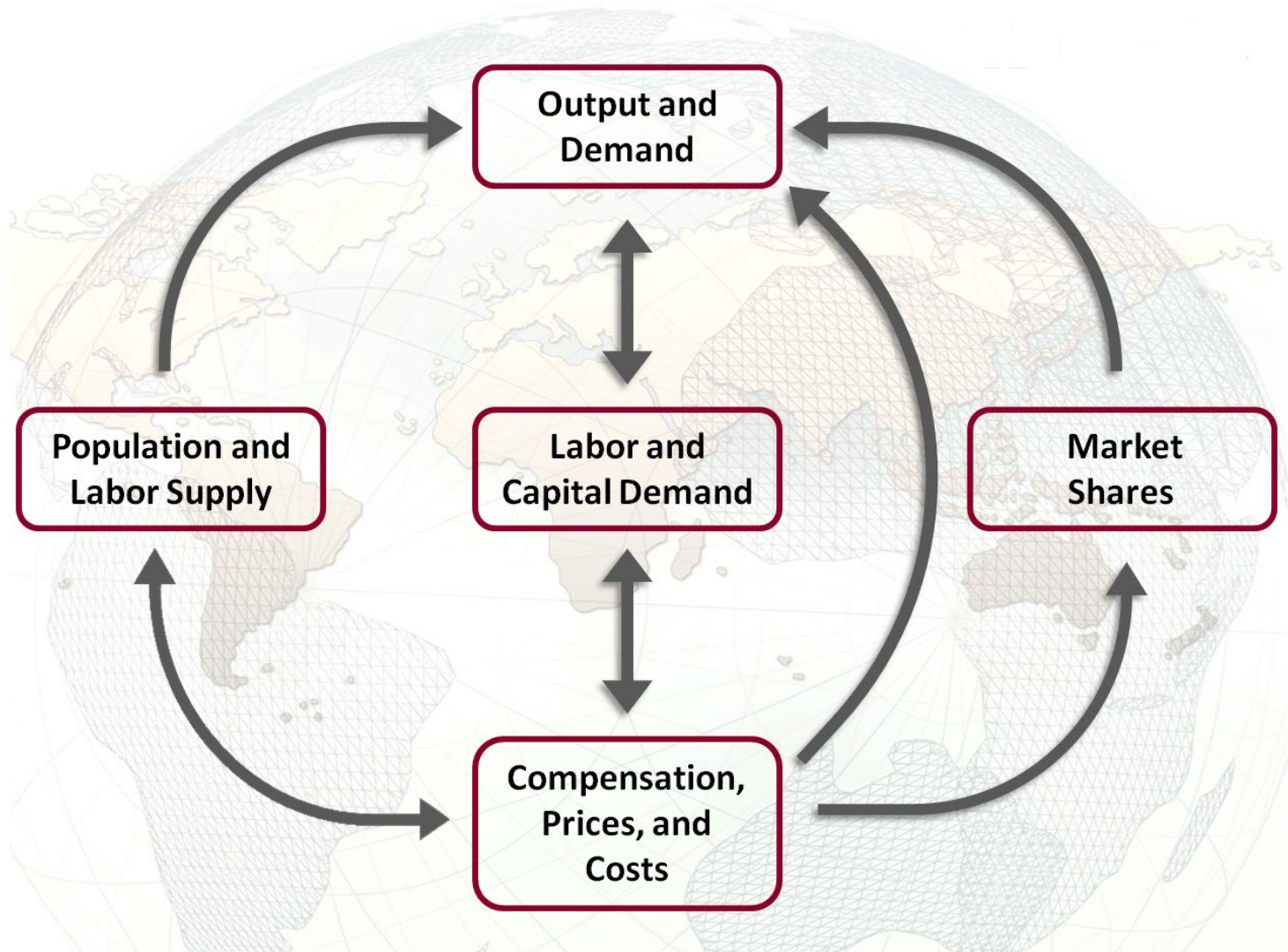


Madeira Beach – 9/10/18, ABC News



Sanibel – 8/8/18, National Geographic

REMI Model Structure



12 Directly Impacted Counties

Total Employment	-632
Gross County Product (Millions)	-\$72.4
Personal Income (Millions)	-\$24.0



Dead fish litter the beach in Indianalantic, victims of a second Florida red tide-related fish kill. (Krystal Knowles, Spectrum News)



RED TIDE: AS BREVARD COUNTY BEACHES DEAL WITH THOUSANDS OF DEAD FISH, A PLEA FOR HELP

Rest of Florida

Total Employment	94
Gross County Product (Millions)	\$14.5
Personal Income (Millions)	\$3.2



Findings

- Survey is informative but under-reporting may be significant. Does not include hospitalizations or lost work due to illness.
- Economic model results are consistent with reports of 626 temporary and permanent lay-offs from Red Tide impacts. While this does not resolve the question of whether all impacted firms responded to the survey, the economic analysis does help capture the overall impacts of losses from participating firms.
- Gain in jobs, personal income and Gross County Product in the rest of the state. Firms compete with each other for business and when visitors avoid spending money in areas impacted by Red Tide they spend their money elsewhere, generating economic activity in other places

<i>Economic Summary</i>	<i>12 Directly Impacted Counties</i>	<i>Rest of Florida</i>	<i>All of Florida</i>
Total Employment	-632	94	-538
Gross County Product (Millions)	-\$72.4	\$14.5	-\$57.9
Personal Income (Millions)	-\$24.0	\$3.2	-\$20.8



Resources



- Florida Fish & Wildlife Conservation Commission
 - Current status and forecasts of *k. brevis* blooms
 - myfwc.com/redtidestatus

- Disaster Assistance
 - Florida Small Business Development Center Network
 - floridadisasterloan.org

