

Harmful Algal Blooms- Economic Impacts

Many red tide and cyanobacteria blooms result in some type of economic impact. Health care costs from hospital and doctor visits, beach clean-up activities following fish kills, and losses in tourism revenues are some of the costs associated with these blooms. For additional reading materials on the economic effects of harmful algal blooms, visit the references section at the bottom of this page.

Health Costs

- Researchers found that during a red tide in Sarasota County, hospital emergency department diagnoses increased by 19% for pneumonia, 40% for gastrointestinal illnesses, and 54% for respiratory illnesses compared to a period when red tide was not present in the area^{1,2}.
- During a red tide, the costs of hospital visits for respiratory illness alone in Sarasota County ranged between \$0.5 to \$4 million dollars³.
- On average, \$22 million dollars are lost annually (figure includes medical expenses and lost work days) during HAB events⁴.

Tourism and Mitigation Costs

- One study in Okaloosa County, where Fort Walton Beach and Destin are located, estimated that red tides which occurred from 1995-2000 resulted in economic losses of nearly \$6.5 million dollars to local restaurant and hotel sectors⁵.
- A survey of city and county government administrators responsible for red tide mitigation efforts along the Florida Gulf Coast was conducted by the University of Florida⁶. In Sarasota County, respondents estimated that \$51,148 dollars was spent in the 2006-2007 fiscal year for six separate red tide events. In Lee County, an estimated \$250,000 was spent for a single event in 2004 and, in Collier County, the same amount was spent in 2005⁶.
- Administrators from Pinellas, Sarasota, Lee, Collier, Longboat Key, and Naples recorded dollar expenditures for clean-up activities in their jurisdictions totaling \$653,890 spent from 2004 to 2007 (figure includes equipment, labor, vendor, and supply fees)⁶. Most of the money spent was allocated to beach clean-up activities related to red tide.

Fisheries Costs

- The annual impact of HABs to commercial fisheries was estimated to vary from \$13-\$25 million dollars with an average annual impact of \$18 million (2000 dollars)⁴.

References

1. Cheng YS, Zhou Y, Irvin CM, Pierce RH, Naar J, Backer LC, et al. Characterization of Marine Aerosol for Assessment of Human Exposure to Brevetoxins. *EH Perspect.* 2005;113:638-643.
2. Kirkpatrick B., Bean J.A., Fleming L.E., Kirkpatrick G., et. al. Gastrointestinal ER Admissions and Florida Red Tide Blooms (2010) *Harmful Algae*, 9 (1), pp. 82-86.
3. Hoagland P, Jin D, Polansky LY, Kirkpatrick B, Kirkpatrick G, et al. The Costs of Respiratory Illnesses Arising From Florida Gulf Coast *Karenia Brevis* Blooms. *Environ Health Perspect.* 2009; 117:1239-1243.
4. Anderson DM, Hoagland P, Kaoru Y, White AW. 2000. Estimated Annual Economic Impacts from Harmful Algal Bloom (HABs) in the United States. Technical Report WHOI 2000 to 2011 Woods Hole Oceanographic Institute, Woods Hole, Mass.
5. Morgan, K.L., S.L. Larkin, and C.M. Adams. Economic Impacts of Red Tide Events on Restaurant Sales. Southern Agricultural Economics Association Annual Meeting. Orlando, Florida, Feb. 5-8, 2006.
6. Morgan, K.L., S.L. Larkin, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. June 2008.