

HARMFUL ALGAL BLOOMS AND FLORIDA WILDLIFE: A BRIEF REVIEW

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Harmful algal blooms (HABs) are an important global health concern. Visible impacts on wildlife are often an early indication of bloom presence and a trigger of public alarm. Public concerns include personal and family health risks, concern for the safety of pets, and anxiety when wild animals are observed dead or dying. Harmful effects can be the direct result of toxicity or can result indirectly from environmental disturbance such as loss of sea grass beds or low oxygen conditions. Algal blooms are complex and attributed to a myriad of potentially harmful organisms, each capable of causing unique disease and mortality patterns. Many of these seem to be “blooming” more frequently and more intensely as waters warm and storms intensify. Red tide and blue-green algal blooms are becoming a major economic concern for Florida. Wildlife impacts often precede human impacts and some wildlife species are considered sentinels for environmental health.

Red tide, caused by the dinoflagellate *Karenia brevis*, is a well-documented cause of mass mortality of manatees, dolphins and other wildlife species in Florida. Blue-green algal blooms may produce several different toxins. Of these, Microcystin is of particular concern and has been implicated in mortality of sea otters in California. Risks to Florida wildlife health from blue-green algae blooms are not as clear. Recent phytoplankton blooms in the Indian River Lagoon have included *Pseudonitzschia spp.*, producer of domoic acid, *Pyrodinium bahamense*, producer of saxitoxin, and brown tides (*Aureoumbra lagunensis*), which shade out sea grass beds. Domoic acid is well recognized as a cause of disease and mortality in California sea lions and sea birds. For each of these organisms, the impact of blooms will be discussed. Identification of the causative organism, its potential for direct and indirect effects on wildlife health, and methods of detection will be reviewed.

PRESENTER BIO: Dr. Francis-Floyd is an extension veterinary specialist with the aquatic animal health program and is a joint professor in the College of Veterinary Medicine and the School of Forest Resources and Conservation. She has more than 30 years’ experience working with captive and wild aquatic organisms.