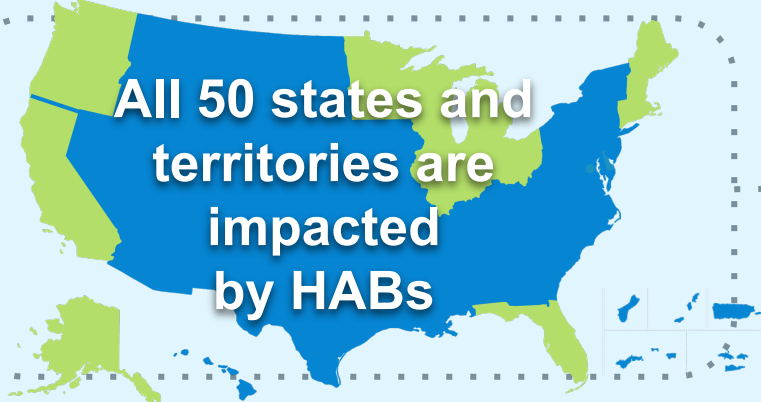




Harmful Algal Blooms: National and Regional Impacts by the Numbers

HABs occur in marine, coastal, and freshwater systems, and are costly.



All 50 states and territories are impacted by HABs

Many types and species of HABs, many impacts.



Pacific Northwest

\$97.5M in fishery landing losses, \$40M in tourism losses from Dungeness crab and razor clam harvest closures in 2015.



Great Lakes

500,000 Toledo residents without clean drinking water in 2014. \$5.6M lost fishing expenditures along Lake Erie from 2011-2014.



California

10,000 fish killed in San Francisco Bay during 2022 bloom. \$18M fishing income loss due to Dungeness crab closure in 2015.



New England

\$9M in fisheries failure disaster relief for shellfish closures in MA, ME, NH from 2005-2009.



Alaska

\$1.1M in lost value for geoduck fisheries in 1998. 100+ Paralytic Shellfish Poisoning cases and 7 deaths in past 30 years.



Florida

1,800 tons of fish killed during the 2021 red tide event. \$4.4M in emergency room visits in Sarasota County in 2001.

- Amnesic shellfish poisoning (ASP)
- Paralytic shellfish poisoning (PSP)
- Diarrhetic shellfish poisoning (DSP)
- Neurotoxic shellfish poisoning (NSP)
- Ciguatera fish poisoning (CFP)
- Cyanobacteria
- Golden algae
- Brown tide

- Fisheries closure
- State drinking water advisory
- Human illness reported to CDC
- Marine mammal stranding or death