

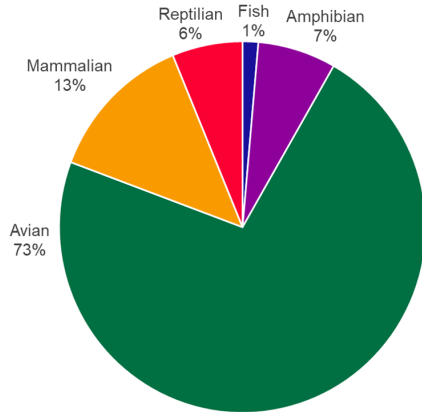
National Wildlife Health Center Newsletter

December 2019

United States Wildlife Health Events at a Glance

From January to November 2019, 145 mortality events and over 44,700 affected animals were reported to [WHISPers](#).

Mortality Events by Class



Top 10 Diagnoses

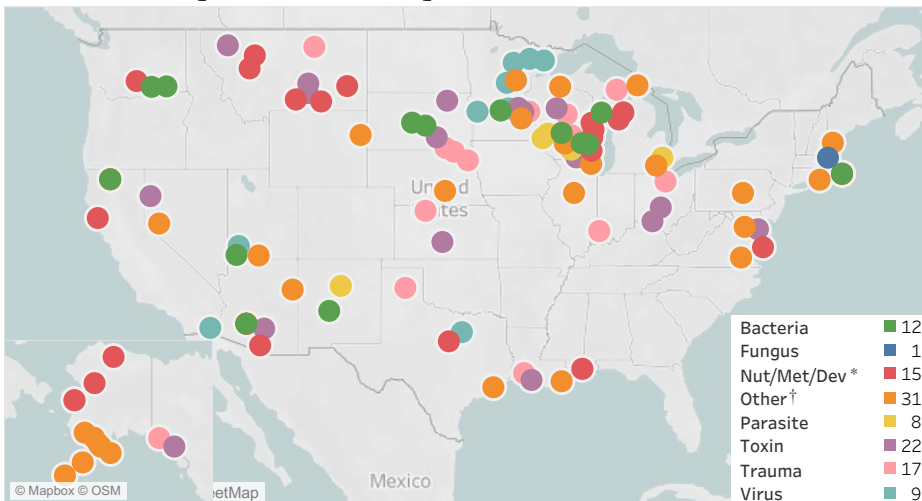
by number of events

Diagnosis	Number of Events
Emaciation	21
Trauma	20
Botulism Type C	9
Avian Cholera	5
Toxicosis (lead)	5
Salmonellosis	4
Trichomoniasis	4
Pigeon Paramyxovirus-1	3
West Nile Virus	3
Botulism Type E	2

Highlighted Event

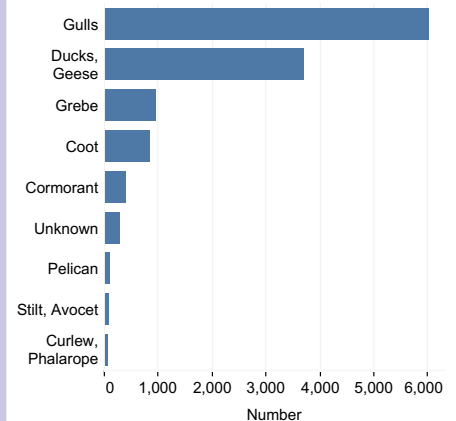
The largest single event occurred in August 2019 in Stillwater Co., MT and involved an estimated 12,500 birds, primarily puddle and diving duck, gulls, grebes, coot, and smaller numbers of pelicans, cormorants, geese, and shorebirds. The mortality was discovered following a severe hail storm that also damaged homes and vehicles in the area. Necropsies on a subset of specimens submitted by Montana Fish Wildlife and Parks confirmed traumatic injuries consistent with blunt trauma (most likely from hail).

Avian Mortality Events January-November 2019



Mortality events involving birds made up 73% of reported events Jan.-Nov. 2019. *Nutritional/Metabolic/Developmental †Other includes pending cases and undetermined diagnoses

Stillwater, MT Trauma Mortality Event



New Strategic Science Plan for the USGS National Wildlife Health Center

The USGS National Wildlife Health Center has adopted a new strategic science plan to guide our efforts to advance wildlife health for the next five years. The strategic plan includes three initiatives that will help us work collectively to realize our new

U.S. Department of the Interior
U.S. Geological Survey

mission: *advancing wildlife health science for the benefit of animals, humans, and the environment.* The plan is intended to be solutions focused and innovative to address complex problems impacting wildlife health. As we work toward implementing the strategic initiatives described in the plan, we look

forward to working collaboratively with you, our partners, to advance wildlife health.

Learn more about the strategic science plan at <https://www.usgs.gov/center-news/new-strategic-plan-usgs-national-wildlife-health-center>

Climate Change and Wildlife Health

The USGS National Wildlife Health Center, in partnership with the USGS Climate Adaptation Science Centers, is leading a project to understand and prepare for emerging challenges related to fish and wildlife health, disease, and climate change across North America. The objectives of this national-scale project are to review and synthesize existing information on the impacts of climate change on fish and wildlife health and disease. Project partners will then use this information to highlight gaps in our current understanding of the problem and identify unique areas of concern.

This project will provide much needed information to resource managers who are responsible for anticipating and responding to these future threats. The synthesis piece of the project is currently underway and project researchers are now putting plans in motion to hold a workshop in early 2020 that will bring together



A flock of Black-legged Kittiwakes foraging. (Credit: Sarah Schoen, USGS)

scientific experts and resource managers from federal, state, and tribal organizations. The workshop will provide a venue for scientists and stakeholders to come together to deepen their understanding of the problems at hand and collaboratively develop plans for moving forward. The resulting synthesis information

will be made available in an online, searchable database.

Learn more about the project at <https://www.usgs.gov/center-news/project-examines-emerging-challenges-related-climate-change-disease-and-wildlife-health>

NWHC and Partners Study Health of Native Freshwater Mussels

Native freshwater mussels are a keystone species and are considered both ecosystem engineers, improving habitat for other species, and indicator species important in assessing the health of the ecosystem. USGS scientists in collaboration with partners at U.S. Fish and Wildlife Service, University of Wisconsin-Madison, Xerces Society for Invertebrate Conservation, and the Wisconsin Department of Natural Resources are working to develop a diagnostic tool box and collaborative network for responding to mussel

die-offs and for assessing the health of captive, relocated, and wild mussel populations. The goals of this project are to characterize the microbiome, metabolome, and pathology of freshwater mussels; develop standard sampling protocols and diagnostic assays for mussel die-offs and health assessments; and identify causes of die-offs to help in the management of freshwater mussels.

For more information visit <https://www.usgs.gov/centers/nwhc/science/native-freshwater-mussel-health>



A pocketbook mussel (*Lampsilis cardium*). Native freshwater mussels play important ecological roles in our lakes and rivers. (Credit: Alissa Ganser, USGS)

More Information from the NWHC

Visit our website at www.usgs.gov/nwhc and follow us on Twitter [@USGSWILDLIFE](https://twitter.com/USGSWILDLIFE)

To sign up to receive Newsletters and Wildlife Health Bulletins from the NWHC, please email nwhcoutreachdb@usgs.gov.