

*Monthly global update on exceptional disease events of terrestrial wildlife reported to WOA
Situation report period covered – February 2023*

Wildlife co-exists alongside humans and domestic animals around the world. Each species contributes to the careful balance of the ecosystems in which they live. The health of wildlife is deeply entwined with the health of other animals, the environment and humans. By protecting wildlife health, we safeguard biodiversity and invest in a healthier, more sustainable future.

The World Organisation for Animal Health (WOAH) closely monitors the situation of select diseases in terrestrial wildlife, based on reports provided by Members. They are legally bound to provide disease information when they become members of the Organisation. This includes about 80 diseases listed by WOA¹, as well as emerging diseases². Members can also send, on a voluntary basis, information to WOA on relevant events for other diseases.

The objective of the monthly situation report is to provide a better visibility to exceptional disease events in wildlife for communication purposes through mandatory reporting to WOA for listed and emerging diseases and voluntary reporting of any other relevant information³. The events highlighted in this report represent exceptional changes in global disease dynamics in wildlife, that have been detected and reported by National authorities. Stable situations of wildlife diseases are not in the scope of this report. This data may have some bias, by being either incomplete or presenting variations in data granularity (depending on the Member reporting). However, it is the official global reference of animal health information reported by national authorities, using a standard template and a standard data format.

Surveillance activities in wildlife

Accurate reporting on disease situations in wildlife relies on a proper surveillance system in place at country level. National resources allocated to surveillance of diseases in wildlife is sometimes limited and this has an impact on the accuracy of the information reported. To provide background information on surveillance in wildlife and enable a better understanding of the quality and gaps in reporting, a map showing the number of diseases listed by WOA for which surveillance is reported in wildlife among the 81 diseases listed in 2019, is provided in figure 1. In 2019, 165 Members and non-Members have reported surveillance

¹ https://www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/?id=169&L=1&htmlfile=chapitre_oie_listed_disease.htm

² means a new occurrence in an animal of a disease, infection or infestation, causing a significant impact on animal or public health resulting from: a) a change of a known pathogenic agent or its spread to a new geographic area or species; or b) a previously unrecognised pathogenic agent or disease diagnosed for the first time.

³ Although Member Countries are only required to notify listed diseases and emerging diseases, they are encouraged to provide the OIE with other important animal health information.

activity in wildlife for at least one listed disease. On average countries report surveillance for 19 listed diseases in wildlife (minimum = 0; maximum = 81) with significant differences among and within regions.

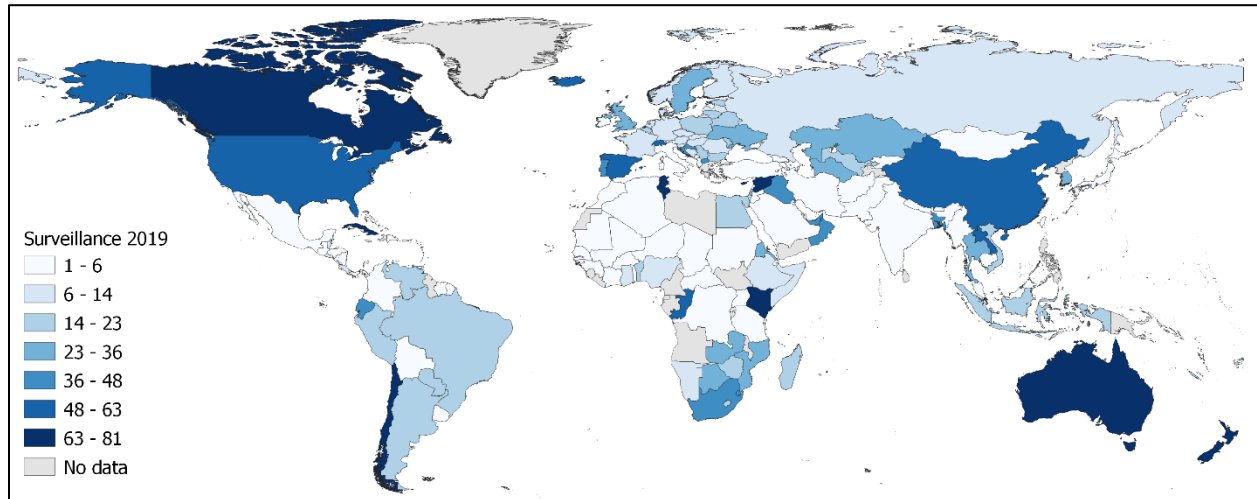


Figure 1. Number of diseases listed by WOA for which surveillance is reported in terrestrial wildlife (data referring to situation reported by countries to WOA in 2019 – being the most recent year with almost all countries having sent reports).

Recent exceptional disease events in terrestrial wildlife (which were reported for the month covered by this report)

In total **1,402 new outbreaks** with **3,968 cases** of [exceptional disease events](#)⁴ (Figure 2) were reported in terrestrial wildlife during the month, through WOA's early warning system.

⁴ Based on the criteria listed in Article 1.1.3.1 of the WOA Terrestrial Animal Health Code

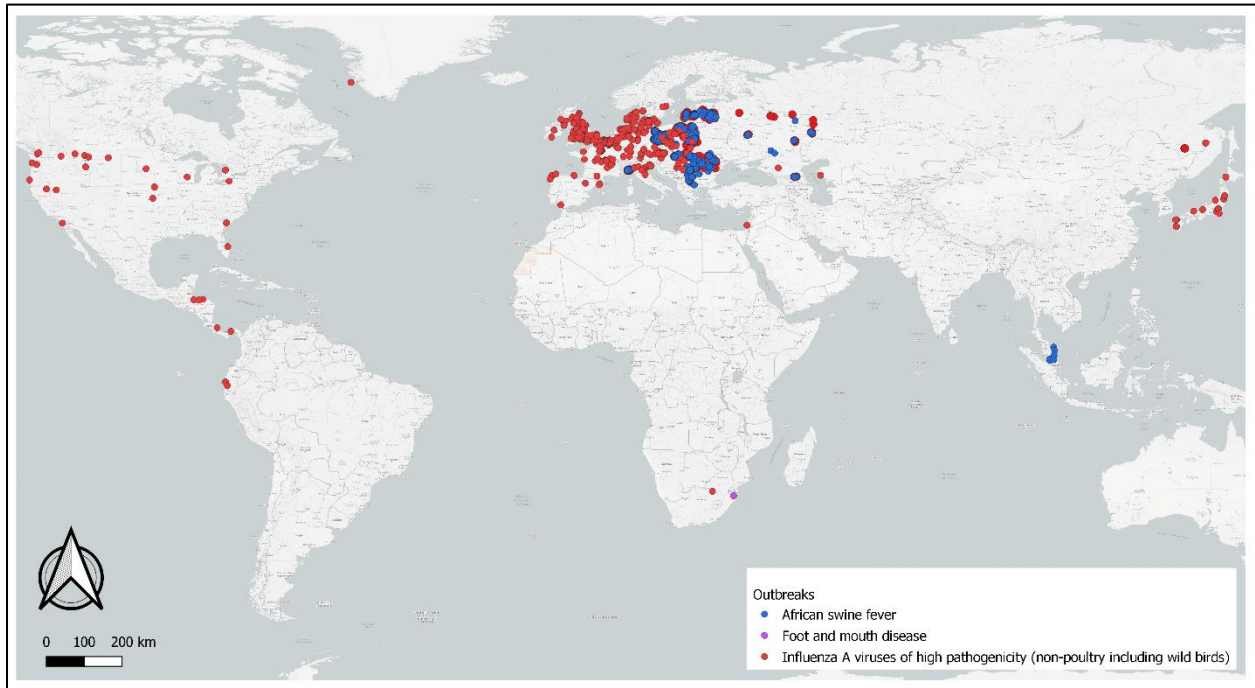


Figure 2. New outbreaks of exceptional disease events reported during the period in terrestrial wildlife

Outbreaks were reported in countries in the Americas, Asia, and Europe (Figure 3), specifically of **African swine fever (ASF)**, **highly pathogenic avian influenza (HPAI)** (HPAI), **rabies**, and **West Nile fever (WNF)**. A higher density of outbreaks can be observed in the Europe Region, potentially linked to more extensive surveillance in place in wildlife. Cases have been reported in 137 different wild species belonging to 19 orders (Table 1, Table 2, and Annex 1).

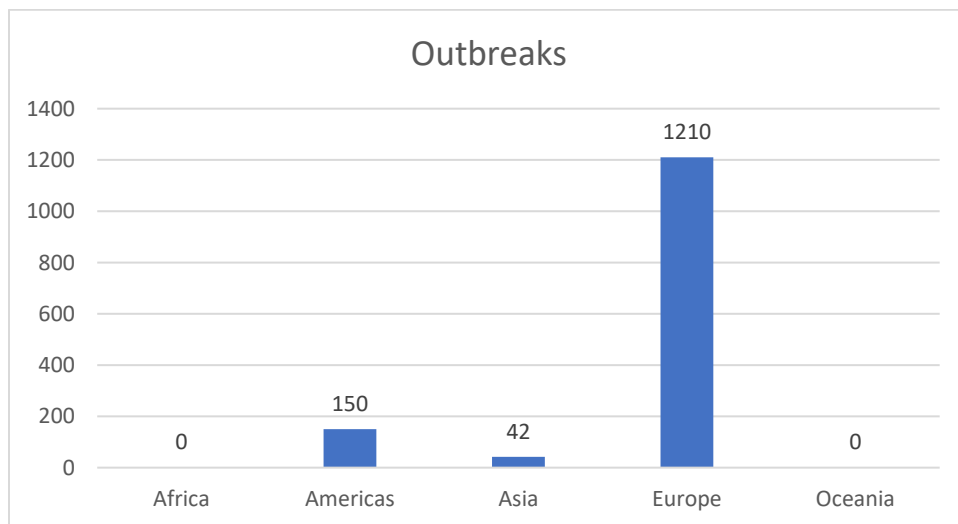


Figure 3: Number of outbreaks reported during the period and split by world region

Table 1 – Number of outbreaks reported by disease and information on zoonotic potential of the disease.

Disease	Outbreaks reported	Zoonotic disease
African swine fever	613	No
HPAI	776	Yes
Rabies	2	Yes
West Nile fever	11	Yes

Table 2 - Number of cases reported by order, and animal species; conservation status of each species, based on IUCN red list of threatened species (database accessed on 26 March 2023) This table provides the list of species with threatened status. The full list of species reported is provided in annex 1.

Disease	Cases	Order	Species	Endangered status*
HPAI	6	Accipitriformes	<i>Gypaetus barbatus</i>	NT
HPAI	1	Accipitriformes	<i>Haliaeetus pelagicus</i>	VU
HPAI	3	Accipitriformes	<i>Vultur gryphus</i>	VU
HPAI	1	Anseriformes	<i>Marmaronetta angustirostris</i>	NT
HPAI	2	Anseriformes	<i>Somateria mollissima</i>	NT
HPAI	1	Charadriiformes	<i>Larosterna inca</i>	NT
HPAI	2	Charadriiformes	<i>Numenius arquata</i>	NT
HPAI	1	Charadriiformes	<i>Rissa tridactyla</i>	VU
HPAI	2	Charadriiformes	<i>Thalasseus elegans</i>	NT
HPAI	2	Gruiformes	<i>Grus monacha</i>	VU
HPAI	1	Pelecaniformes	<i>Geronticus eremita</i>	EN
HPAI	406	Pelecaniformes	<i>Pelecanus thagus</i>	NT
HPAI	8	Suliformes	<i>Phalacrocorax bougainvillii</i>	NT
HPAI	2	Suliformes	<i>Phalacrocorax gaimardi</i>	NT

*NT=Near threatened; VU=vulnerable; EN: endangered

Global and regional impact

Reporting and impact on biodiversity

Out of the 137 species for which cases were reported, 14 of them (10%) have a threaten status according to the IUCN classification. In particular, nine are classified as “Near threaten” (NT), four as “Vulnerable” (VU), and one as “Endangered” (EN) (figure 4). Out of the four reported diseases, only HPAI impacted species with threaten status, highlighting the relevant impact of this disease on biodiversity conservation.

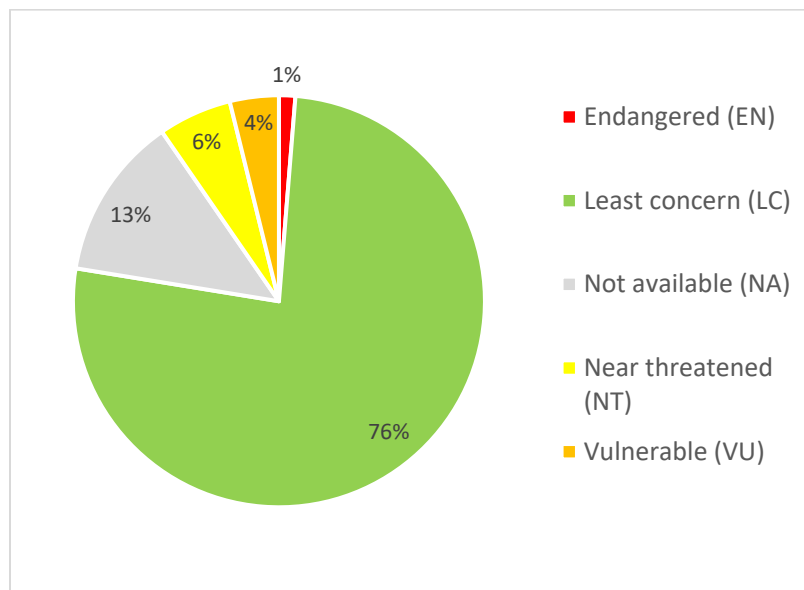


Figure 4: percentage of reported species falling under the different IUCN categories

In particular, regarding the species with endangered status, the Northern Bald Ibis, *Geronticus eremita* has a global estimated population of 200-249 mature individuals (IUCN estimation). The Northern Bald Ibis (NBI) is one of the world's most threatened birds. The historical range of *Geronticus eremita* probably extended throughout North Africa and into the Middle East. Since the beginning of the 20th century, however, the species has been known as two disjunct populations: a western population in Morocco currently estimated at 300 individuals, and an eastern migratory population between Syria and Ethiopia (less than 5 individuals) and in Turkey where only 180 semi-captive birds remain (BirdLife International, 2015). The species has a quite restricted geographic range, but the population demography seems stable. Several program for breeding in captivity and reintroduction have been carried out, including in Spain, from where the dead animal arrives. Considering the restricted population even the loss of one individual due to avian influenza should be consider a major threat for population viability and for the success of breeding and reintroduction programs⁵.

Although not affecting endangered wild species in this report, African Swine fever could potentially threaten endemic wild pig species leading to local population extinction, and cause generate tension for top predators that rely on wild boar as a main source of food.

Reporting and impact on Public health

⁵ <https://www.iucnredlist.org/species/22697488/130895601>

Among the disease reported this month, three of them have a recognised zoonotic potential: HPAI, rabies and WNF. In particular, the report of HPAI cases in nine “unusual hosts”, belonging to Carnivora order (*Lynx rufus*, *Mephitis mephitis*, *Neovison vison*, *Otaria flavescens*, *Phoca vitulina*, *Procyon lotor*, *Puma concolor*, *Ursus americanus*, *Vulpes vulpes*), highlights the increased risk of transmission to mammals (including humans). This confirms a trend (increased number of HPAI cases reported in unusual hosts) observed since 2021 (for additional information see the [HPAI situation reports](#)). This trend has led to a statement of WOAHA on avian influenza in mammals to increase awareness, monitoring and analysis of wild mammals⁶. Rabies is one of the deadliest infectious diseases in humans, with a fatality rate of 100%. The circulation of rabies in the fox population in Hungary and Slovakia, where the disease was previously eradicated, represent an important public health risk. Finally, WNV infection is mostly asymptomatic, but a range of clinical forms and symptoms have been reported for humans, horses and birds. In humans, around 20% of cases develop influenza-like symptoms (WNF), while less than 1% develop West Nile neuroinvasive disease (WNND), with encephalitis, meningitis and acute flaccid paralysis, occasionally resulting in death.

Reporting and impact on domestic animal's health and welfare

During the period most of the outbreaks of non-zoonotic diseases reported were related to the occurrence of African swine fever in wild boar in Europe. African swine fever represents one of the main animal diseases that threaten to livestock and food security at global level (for additional information please see also the [African swine fever situation reports](#)). The major impact of African swine fever is linked to the establishment of a wildlife cycle that makes disease eradication challenging. Reduction of wild boar density may have indirect effects also on increase predation of livestock⁷.

Regarding the occurrence of HPAI it is relevant to highlight also in this case the dynamics of the disease at the poultry/wildlife interface with impacts on food security, and biodiversity conservation, (for additional information please see also the [HPAI situation reports](#)).

Key messages

For a century, WOAHA has managed repositories for animal health disease monitoring data from its Members. By providing a common tool through the World Animal Health Information System (WAHIS), that is homogenous across countries, and founded on a basis of shared definitions and standards, we ensure that reporting is standardised and centralised. The information provided in this report on surveillance

⁶ [Statement on avian influenza and mammals - World Organisation for Animal Health \(woah.org\)](#)

⁷ <https://www.sciencedirect.com/science/article/pii/S1470160X21010840>

implementation in terrestrial wildlife shows major gaps in several parts of the world, which suggests that the number of cases reported to WOAAH is significantly under-detected and underestimated. This summary however provides a picture of what has been detected and is useful to the international community.

The information provided in this monthly situation report highlights that:

- Surveillance activities reported in wildlife is largely variable among countries and regions.
- The reporting of exceptional events affecting wildlife in January concerned mainly ASF and HPAI in several regions.
- Several countries reported outbreaks for ASF and HPAI, which shows the widespread existence of surveillance activities for these two diseases.
- Several species with critical conservation status have been reported by countries, highlighting the importance of sharing this information for disease events that can threaten the conservation of biodiversity.
- The widespread detection of ASF and HPAI in wildlife represent a threat to livestock and food security at global level.

More information and resources

- [Statement on avian influenza and mammals](#)
- [African swine fever in wild boar ecology and biosecurity](#)
- [African swine fever awareness and technical resources](#)
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For any press inquiry on diseases in wildlife, you can email us at media@woah.org

Annex 1

Complete list of species for which cases were reported in February 2023. The number of cases are reported by order, and animal species; conservation status of each species, based on IUCN red list of threatened species (database accessed on 25 April 2023).

Disease	Cases	Order	Species	Endangered status*
ASF	1163	<i>Artiodactyla</i>	<i>Sus scrofa</i>	LC
HPAI	1	<i>Accipitriformes</i>	<i>Accipiter cooperii</i>	LC
HPAI	4	<i>Accipitriformes</i>	<i>Accipiter gentilis</i>	LC
HPAI	6	<i>Accipitriformes</i>	<i>Accipiter nisus</i>	LC
HPAI	11	<i>Accipitriformes</i>	<i>Accipitridae (incognita)</i>	NA
HPAI	1	<i>Accipitriformes</i>	<i>Aquila fasciata</i>	LC
HPAI	35	<i>Accipitriformes</i>	<i>Buteo buteo</i>	LC
HPAI	1	<i>Accipitriformes</i>	<i>Buteo jamaicensis</i>	LC
HPAI	1	<i>Accipitriformes</i>	<i>Buteo japonicus</i>	LC
HPAI	1	<i>Accipitriformes</i>	<i>Buteo lagopus</i>	LC
HPAI	1	<i>Accipitriformes</i>	<i>Buteo polyosoma</i>	LC
HPAI	10	<i>Accipitriformes</i>	<i>Cathartes aura</i>	LC
HPAI	2	<i>Accipitriformes</i>	<i>Geranoaetus melanoleucus</i>	LC
HPAI	6	<i>Accipitriformes</i>	<i>Gypaetus barbatus</i>	NT
HPAI	5	<i>Accipitriformes</i>	<i>Gyps fulvus</i>	LC
HPAI	4	<i>Accipitriformes</i>	<i>Haliaeetus albicilla</i>	LC
HPAI	1	<i>Accipitriformes</i>	<i>Haliaeetus pelagicus</i>	VU
HPAI	2	<i>Accipitriformes</i>	<i>Parabuteo unicinctus</i>	LC
HPAI	3	<i>Accipitriformes</i>	<i>Vultur gryphus</i>	VU
HPAI	10	<i>Anseriformes</i>	<i>Alopochen aegyptiaca</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Anas clypeata</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Anas crecca</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Anas cyanoptera</i>	LC
HPAI	121	<i>Anseriformes</i>	<i>Anas discors</i>	LC
HPAI	56	<i>Anseriformes</i>	<i>Anas platyrhynchos</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Anas rhynchotis</i>	LC
HPAI	60	<i>Anseriformes</i>	<i>Anatidae (incognita)</i>	NA
HPAI	1	<i>Anseriformes</i>	<i>Anser albifrons</i>	LC
HPAI	184	<i>Anseriformes</i>	<i>Anser anser</i>	LC
HPAI	12	<i>Anseriformes</i>	<i>Anser brachyrhynchus</i>	LC
HPAI	16	<i>Anseriformes</i>	<i>Anser caerulescens</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Anserinae (unidentified)</i>	NA
HPAI	13	<i>Anseriformes</i>	<i>Aythya affinis</i>	LC

HPAI	16	<i>Anseriformes</i>	<i>Branta canadensis</i>	LC
HPAI	17	<i>Anseriformes</i>	<i>Branta leucopsis</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Bucephala clangula</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Chloephaga melanoptera</i>	LC
HPAI	30	<i>Anseriformes</i>	<i>Cygnus (incognita)</i>	NA
HPAI	19	<i>Anseriformes</i>	<i>Cygnus atratus</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Cygnus columbianus</i>	LC
HPAI	14	<i>Anseriformes</i>	<i>Cygnus cygnus</i>	LC
HPAI	10	<i>Anseriformes</i>	<i>Cygnus melancoryphus</i>	LC
HPAI	149	<i>Anseriformes</i>	<i>Cygnus olor</i>	LC
HPAI	1	<i>Anseriformes</i>	<i>Marmaronetta angustirostris</i>	NT
HPAI	2	<i>Anseriformes</i>	<i>Somateria mollissima</i>	NT
HPAI	2	<i>Carnivora</i>	<i>Lynx rufus</i>	LC
HPAI	17	<i>Carnivora</i>	<i>Mephitis mephitis</i>	LC
HPAI	1	<i>Carnivora</i>	<i>Neovison vison</i>	LC
HPAI	1	<i>Carnivora</i>	<i>Otaria flavescens</i>	LC
HPAI	5	<i>Carnivora</i>	<i>Phoca vitulina</i>	LC
HPAI	2	<i>Carnivora</i>	<i>Procyon lotor</i>	LC
HPAI	3	<i>Carnivora</i>	<i>Puma concolor</i>	LC
HPAI	3	<i>Carnivora</i>	<i>Ursus americanus</i>	LC
HPAI	11	<i>Carnivora</i>	<i>Vulpes vulpes</i>	LC
HPAI	1	<i>Charadriiformes</i>	<i>Alle alle</i>	LC
HPAI	1	<i>Charadriiformes</i>	<i>Calidris alba</i>	LC
HPAI	2	<i>Charadriiformes</i>	<i>Charadrius hiaticula</i>	LC
HPAI	2	<i>Charadriiformes</i>	<i>Chroicocephalus cirrocephalus</i>	LC
HPAI	872	<i>Charadriiformes</i>	<i>Chroicocephalus ridibundus</i>	LC
HPAI	1	<i>Charadriiformes</i>	<i>Haematopus palliatus</i>	LC
HPAI	27	<i>Charadriiformes</i>	<i>Laridae (incognita)</i>	NA
HPAI	1	<i>Charadriiformes</i>	<i>Larosterna inca</i>	NT
HPAI	101	<i>Charadriiformes</i>	<i>Larus argentatus</i>	LC
HPAI	3	<i>Charadriiformes</i>	<i>Larus belcheri</i>	LC
HPAI	6	<i>Charadriiformes</i>	<i>Larus cachinnans</i>	LC
HPAI	1	<i>Charadriiformes</i>	<i>Larus californicus</i>	LC
HPAI	1	<i>Charadriiformes</i>	<i>Larus canus</i>	LC
HPAI	1	<i>Charadriiformes</i>	<i>Larus delawarensis</i>	LC
HPAI	2	<i>Charadriiformes</i>	<i>Larus dominicanus</i>	LC
HPAI	3	<i>Charadriiformes</i>	<i>Larus marinus</i>	LC
HPAI	9	<i>Charadriiformes</i>	<i>Larus michahellis</i>	LC
HPAI	73	<i>Charadriiformes</i>	<i>Larus novaehollandiae</i>	LC
HPAI	4	<i>Charadriiformes</i>	<i>Leucophaeus modestus</i>	LC
HPAI	2	<i>Charadriiformes</i>	<i>Numenius arquata</i>	NT
HPAI	1	<i>Charadriiformes</i>	<i>Rissa tridactyla</i>	VU

HPAI	1	<i>Charadriiformes</i>	<i>Rynchops niger</i>	LC
HPAI	2	<i>Charadriiformes</i>	<i>Sterna hirundo</i>	LC
HPAI	2	<i>Charadriiformes</i>	<i>Thalasseus elegans</i>	NT
HPAI	1	<i>Charadriiformes</i>	<i>Tringa semipalmata</i>	LC
HPAI	26	<i>Ciconiiformes</i>	<i>Ciconia ciconia</i>	LC
HPAI	1	<i>Ciconiiformes</i>	<i>Ciconiidae (incognita)</i>	NA
HPAI	3	<i>Columbiformes</i>	<i>Columba palumbus</i>	LC
HPAI	2	<i>Columbiformes</i>	<i>Streptopelia decaocto</i>	LC
HPAI	1	<i>Falconiformes</i>	<i>Caracara cheriway</i>	LC
HPAI	28	<i>Falconiformes</i>	<i>Falco peregrinus</i>	LC
HPAI	2	<i>Falconiformes</i>	<i>Falco tinnunculus</i>	LC
HPAI	2	<i>Falconiformes</i>	<i>Falconidae (incognita)</i>	NA
HPAI	18	<i>Galliformes</i>	<i>Gallus gallus</i>	LC
HPAI	4	<i>Galliformes</i>	<i>Numida meleagris</i>	LC
HPAI	7	<i>Galliformes</i>	<i>Phasianidae (incognita)</i>	NA
HPAI	5	<i>Galliformes</i>	<i>Phasianus colchicus</i>	LC
HPAI	1	<i>Gruiformes</i>	<i>Fulica atra</i>	LC
HPAI	2	<i>Gruiformes</i>	<i>Grus grus</i>	LC
HPAI	2	<i>Gruiformes</i>	<i>Grus monacha</i>	VU
HPAI	4	<i>Gruiformes</i>	<i>Rallidae (incognita)</i>	NA
HPAI	17	<i>Order undetermined</i>	<i>Al indeterminatum fau</i>	NA
HPAI	2	<i>Passeriformes</i>	<i>Corvus brachyrhynchos</i>	LC
HPAI	4	<i>Passeriformes</i>	<i>Corvus corax</i>	LC
HPAI	8	<i>Passeriformes</i>	<i>Corvus macrorhynchos</i>	LC
HPAI	1	<i>Passeriformes</i>	<i>Corvus monedula</i>	LC
HPAI	1	<i>Passeriformes</i>	<i>Fringilla coelebs</i>	LC
HPAI	1	<i>Passeriformes</i>	<i>Phylloscopus trochilus</i>	LC
HPAI	1	<i>Passeriformes</i>	<i>Pica pica</i>	LC
HPAI	4	<i>Passeriformes</i>	<i>Pygochelidon cyanoleuca</i>	LC
HPAI	6	<i>Passeriformes</i>	<i>Quiscalus mexicanus</i>	LC
HPAI	10	<i>Pelecaniformes</i>	<i>Ardea cinerea</i>	LC
HPAI	3	<i>Pelecaniformes</i>	<i>Ardeidae (incognita)</i>	NA
HPAI	3	<i>Pelecaniformes</i>	<i>Bubulcus ibis</i>	LC
HPAI	1	<i>Pelecaniformes</i>	<i>Egretta garzetta</i>	LC
HPAI	1	<i>Pelecaniformes</i>	<i>Geronticus eremita</i>	EN
HPAI	1	<i>Pelecaniformes</i>	<i>Pelecanus erythrorhynchos</i>	LC
HPAI	36	<i>Pelecaniformes</i>	<i>Pelecanus occidentalis</i>	LC
HPAI	406	<i>Pelecaniformes</i>	<i>Pelecanus thagus</i>	NT
HPAI	1	<i>Pelecaniformes</i>	<i>Plegadis falcinellus</i>	LC
HPAI	1	<i>Phoenicopteriformes</i>	<i>Phoenicopterus roseus</i>	LC
HPAI	1	<i>Podicipediformes</i>	<i>Tachybaptus ruficollis</i>	LC
HPAI	1	<i>Sphenisciformes</i>	<i>Bubo bubo</i>	LC

HPAI	1	<i>Sphenisciformes</i>	<i>Bubo virginianus</i>	LC
HPAI	2	<i>Sphenisciformes</i>	<i>Strigidae (incognita)</i>	NA
HPAI	5	<i>Sphenisciformes</i>	<i>Strix aluco</i>	LC
HPAI	1	<i>Strigiformes</i>	<i>Strigiformes (incognita) (incognita)</i>	NA
HPAI	1	<i>Strigiformes</i>	<i>Tyto alba</i>	LC
HPAI	70	<i>Suliformes</i>	<i>Morus bassanus</i>	LC
HPAI	1	<i>Suliformes</i>	<i>Phalacrocoracidae (incognita)</i>	NA
HPAI	4	<i>Suliformes</i>	<i>Phalacrocorax auritus</i>	LC
HPAI	8	<i>Suliformes</i>	<i>Phalacrocorax bougainvillii</i>	NT
HPAI	3	<i>Suliformes</i>	<i>Phalacrocorax brasilianus</i>	LC
HPAI	2	<i>Suliformes</i>	<i>Phalacrocorax gaimardi</i>	NT
HPAI	2	<i>Suliformes</i>	<i>Sula neboxii</i>	LC
HPAI	60	<i>Suliformes</i>	<i>Sula variegata</i>	LC
Rabies	2	<i>Carnivora</i>	<i>Vulpes vulpes</i>	LC
WNF	16	<i>Accipitriformes</i>	<i>Accipitridae (incognita)</i>	NA
WNF	1	<i>Galliformes</i>	<i>Phasianidae (incognita)</i>	NA
WNF	3	<i>Passeriformes</i>	<i>Corvidae (incognita)</i>	NA
WNF	4	<i>Passeriformes</i>	<i>Passeridae (incognita)</i>	NA
WNF	1	<i>Psittaciformes</i>	<i>Psittacidae (incognita)</i>	NA
WNF	1	<i>Sphenisciformes</i>	<i>Strigidae (incognita)</i>	NA

*LC= Least concern; NT=Near threatened; VU=vulnerable; EN: endangered