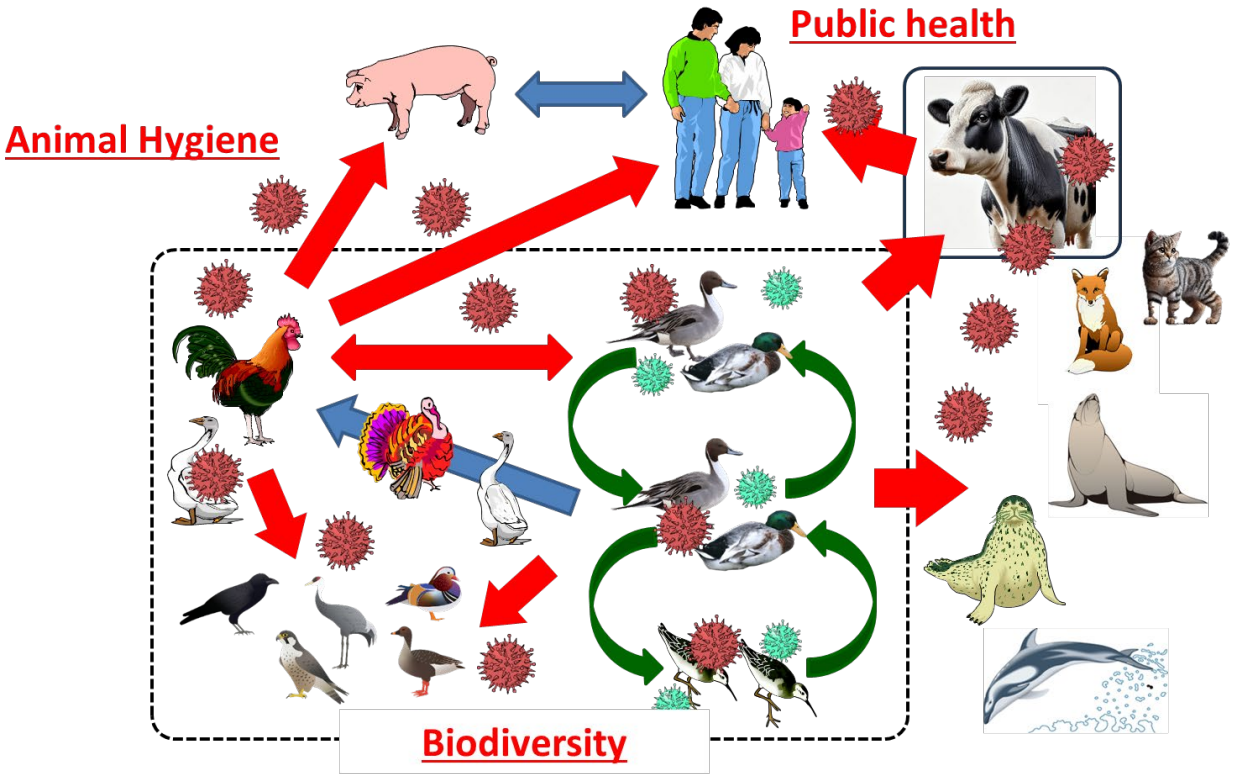
Why Network? – Working Together to Respond to Emerging Wildlife Health



NIES :
1st screenig

Universities
(Hokkaido,
Tottori,
Kagoshima)
NIAH

Virus isolation,
Subtyping

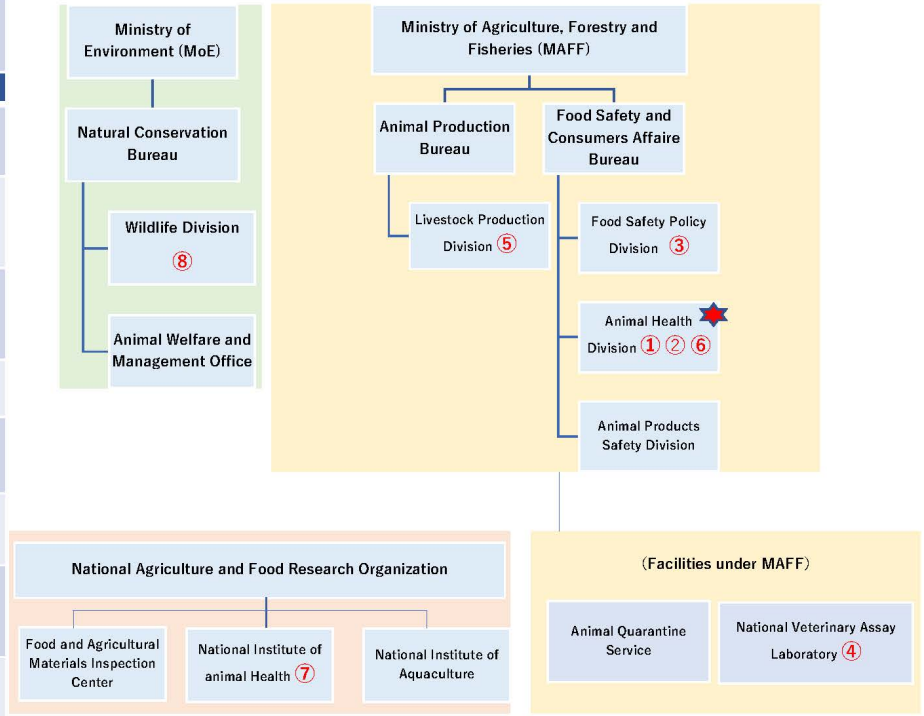
MAAF, MOE,
MHLW

Manabu ONUMA
National Institute for Environmental Studies

WOAH Focal Point of Wildlife in Japan : MOE, NIES

WOAH Delegate and Focal Points: Japan

WOAH Delegate		
Dr Masatsugu Okita ★	Director, Animal Health Division Food Safety and Consumer Affairs Bureau Ministry of Agriculture, Forestry and Fisheries (MAFF)	
Focal Points		
Disease Notification ①	Dr Rei Jinnai	Section Chief Animal Health Division, Food Safety and Consumer Affairs Bureau, MAFF
Aquatic Animals ②	Ms Hitomi Yoshinouchi	Director Fish and Fishery Products Safety Office, Animal Health Division, Food Safety and Consumer Affairs Bureau, MAFF
Food Safety ③	Dr Kiyoko Kotsubo	Director International Standards Office Food Safety Policy Division, Food Safety and Consumer Affairs Bureau, MAFF
Veterinary Products ④	Dr Yuta Hosoi	Chief Inspector National Veterinary Assay Laboratory, MAFF
Animal Welfare ⑤	Mr Hikaru Nakano	Deputy Director Livestock Production Division, Livestock Industry Bureau, MAFF
Communication ⑥	Dr Mika Haruna	Deputy Director, International Animal Health Affairs Office, Animal Health Division Food Safety and Consumer Affairs Bureau, MAFF
Veterinary Laboratory ⑦	Dr Tohru Yanase	Coordinator Kagoshima Research Station, National Institute of Animal Health, National Agriculture and Food Research Organization (NARO)
Wildlife (Main) ⑧	Mr Ken Kawabe	Office for Wildlide Management Ministry of the Environment
(Sub)	Dr Manabu Onuma	Chief Senior Researcher Biodiversity Division National Institute for Environmental Studies

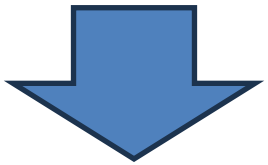


https://rr-asia.woah.org/app/uploads/2025/04/Japan_2025.04.16.pdf

The current status of wildlife disease network in Japan

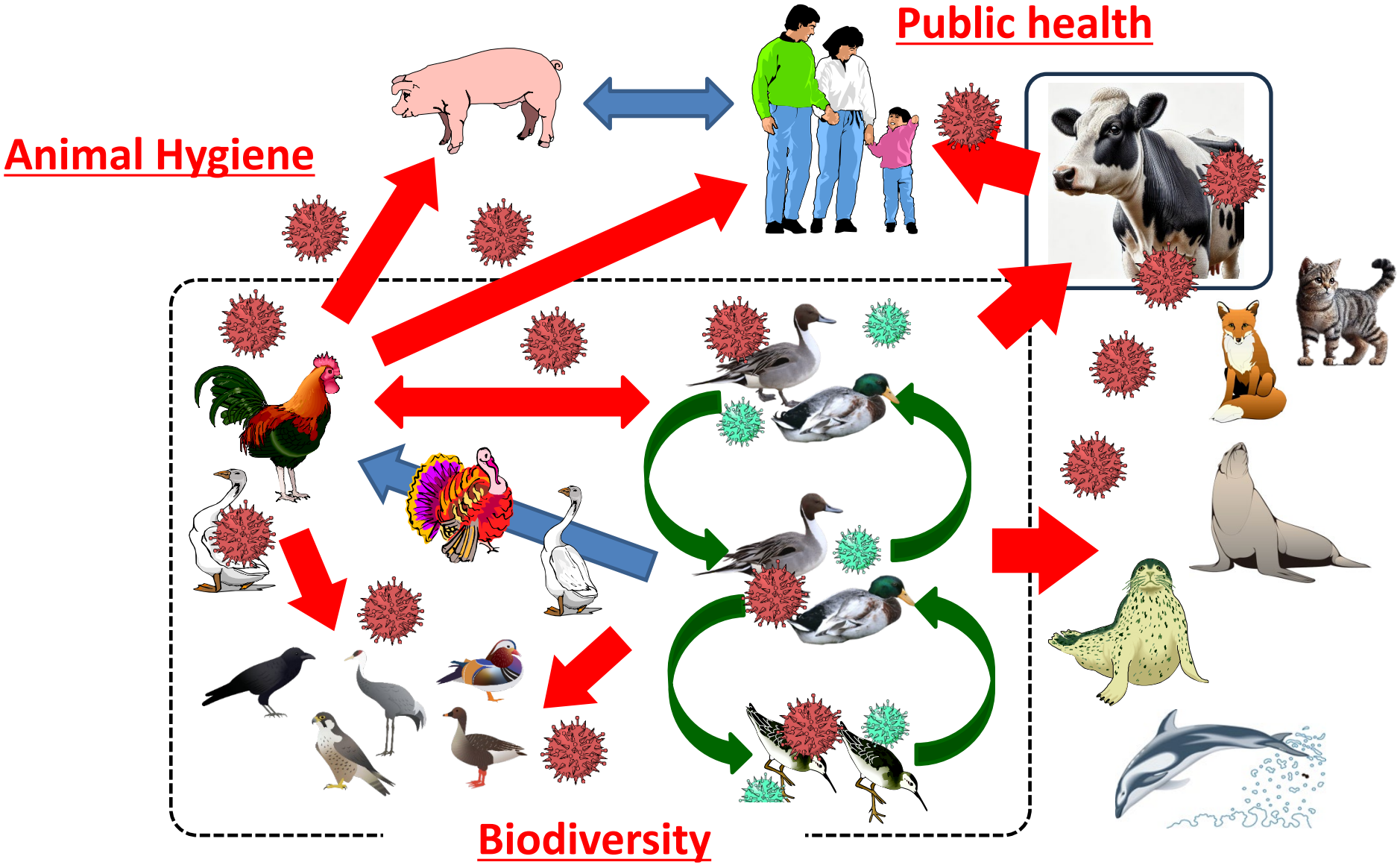
There's no comprehensive national network for wildlife diseases in Japan. ⇨Personal connections is important

There is a formal network for highly pathogenic avian influenza.



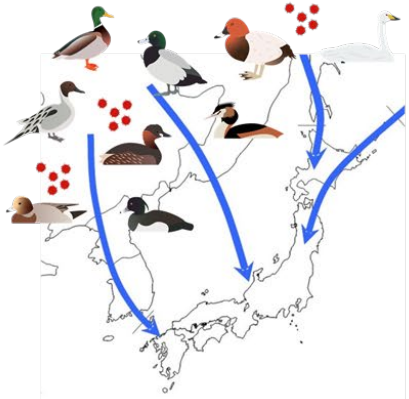
The network for highly pathogenic avian influenza can serve as a reference for future network development.

Animals infected with highly pathogenic avian influenza viruses



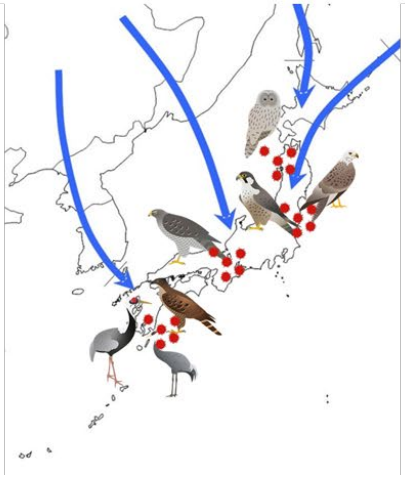
Nationwide AIV surveillance in Japan (2008～)

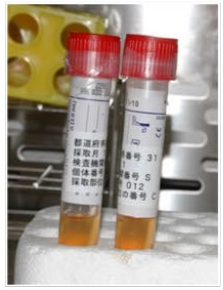
1，Fecal sampling By 2023



2,000 samples/year
(up to 6,000 samples/year)

2，Mortality events





300 samples/year
（up to 2,000 samples/year）

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Virus isolation,
Subtyping

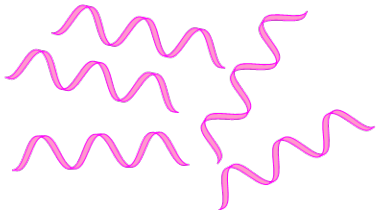
MAAF, MOE,
MHLW

Subtyping procedure of AIV surveillance in Japan




Fecal and swab samples

RNA extraction



1st screening

RT-LAMP
qPCR

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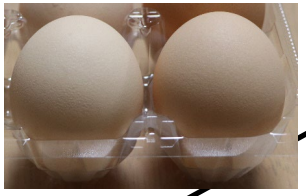
Terminal



Virus isolation

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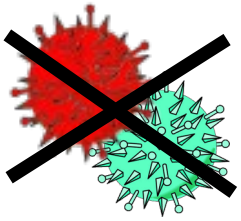
Terminal



AIV negativetive

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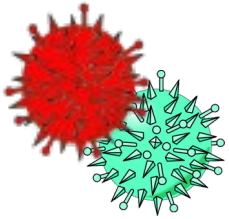
Subtyping using virus



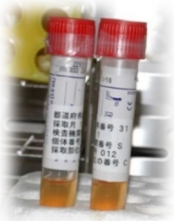
AIV positive

MOE,MAAF, MHLW

Information sharing

Regular meetings (twice per year)

The testing workflow (2021-2024)



Collection of swab samples from dead wild birds

NIES

Surveillance

Primary screening by LAMP method

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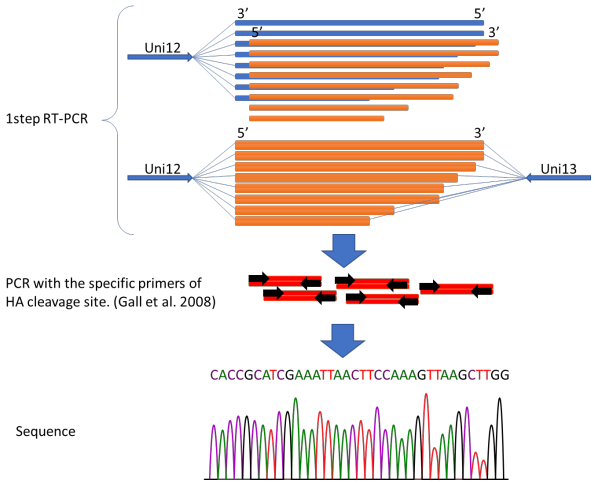
(−)

Testing completed

H5,H7 subtyping (qPCR)

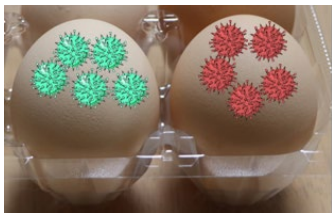
Pathogenicity determination (by sequencing)

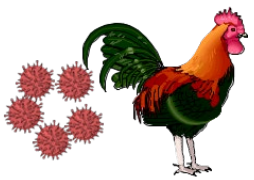


Universities, NIAH

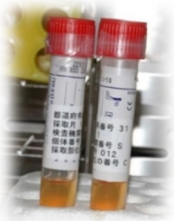
Research use

Virus isolation and experimental infection





The present testing workflow (2025-)



Collection of swab samples from dead wild birds

Surveillance

(+)

Primary screening by LAMP method

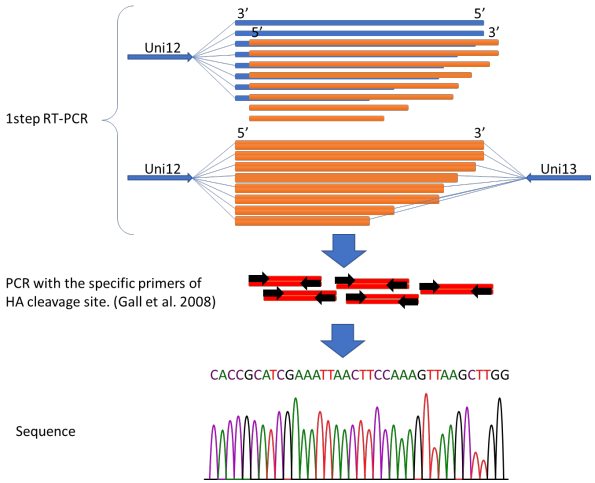
(−)

Testing completed

Lab wms

H5,H7 subtyping (qPCR)

Pathogenicity determination (by sequencing)



NIES, Universities, NIAH

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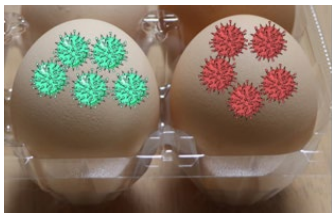

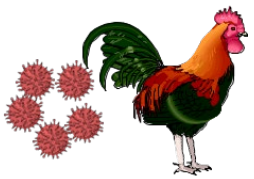

Review for wildlife management plan to control the infectious disease in wildlife (2021-2023)

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Background and purpose

- Various kinds of pathogens in wildlife were reported in Japan.
- Public and livestock health are addressed by specific laws in Japan, but challenges like sample collection remain. Conversely, systemic responses for biodiversity conservation, especially during events like endangered species deaths or wildlife mass mortality, are limited (Limited responses to HPAIV and CSF are implemented).

➢ Reducing the risk of infectious diseases in wildlife especially, endangered species by understanding the actual situation of infectious diseases among wildlife in Japan, assessing the risks to biodiversity conservation, and evaluating wildlife management policy. And establishing surveillance and information sharing system by collaborating with organizations in the fields of veterinary science, ecology, and public health.

Annual plan

2021

(1) Risk Assessment for Biodiversity Conservation

Collecting information of infectious diseases in wildlife in Japan and conduct risk assessments for biodiversity conservation (evaluate risks that could lead to mass mortality of wildlife or adverse effects on endangered species).

(2) Model Projects planning

Based on the results of the risk assessments, consider model projects for high-priority infectious disease management in terms of biodiversity conservation.

(3) Establishment of a discussion group

Set up a discussion group with experts from various field and officers from MHLW, MAAF and MOE.

2022-2023: Implementation of Model Projects

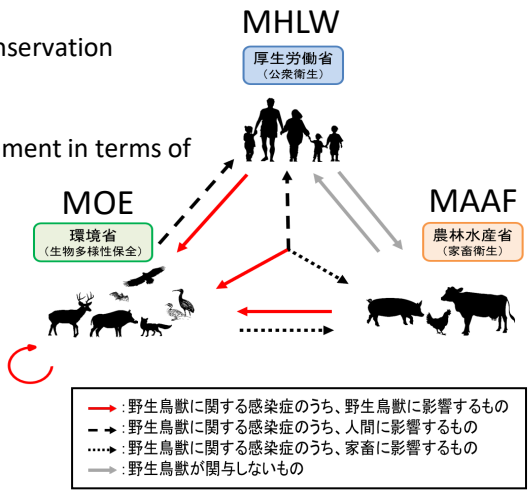
Implement the following model projects:

1, Infectious disease control for the conservation of the Tsushima leopard cat.

2, Infectious disease control for the conservation of endangered birds (such as the Okinawa rail).

3, Understanding the actual situatioin of infectious diseases in wildlife utilizing dead and rescued wildlife.

2023: Planning of Wildlife Protection and Management Policies Related to Infectious Diseases



https://www.env.go.jp/nature/choju/infection/committee/R03doc/mat2-1-2.pdf

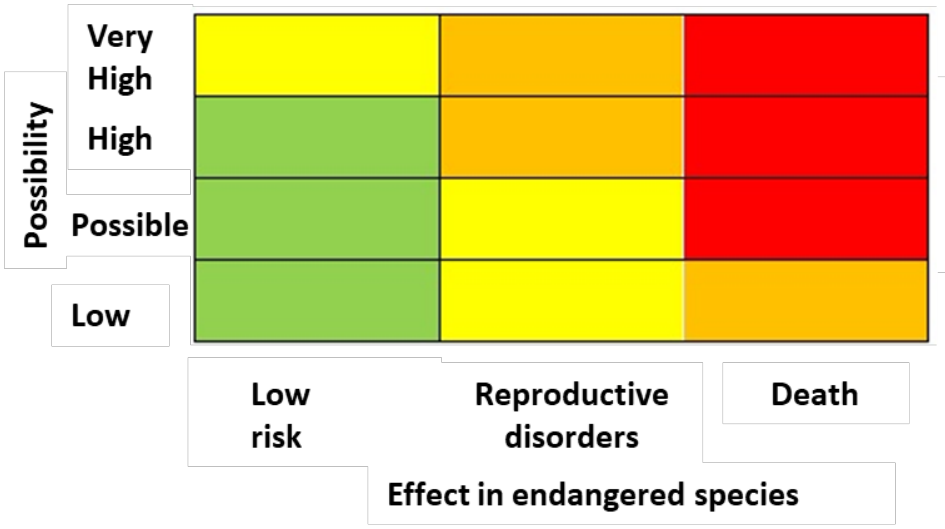
https://www.env.go.jp/nature/choju/infection/committee/R03doc/mat3-1.pdf

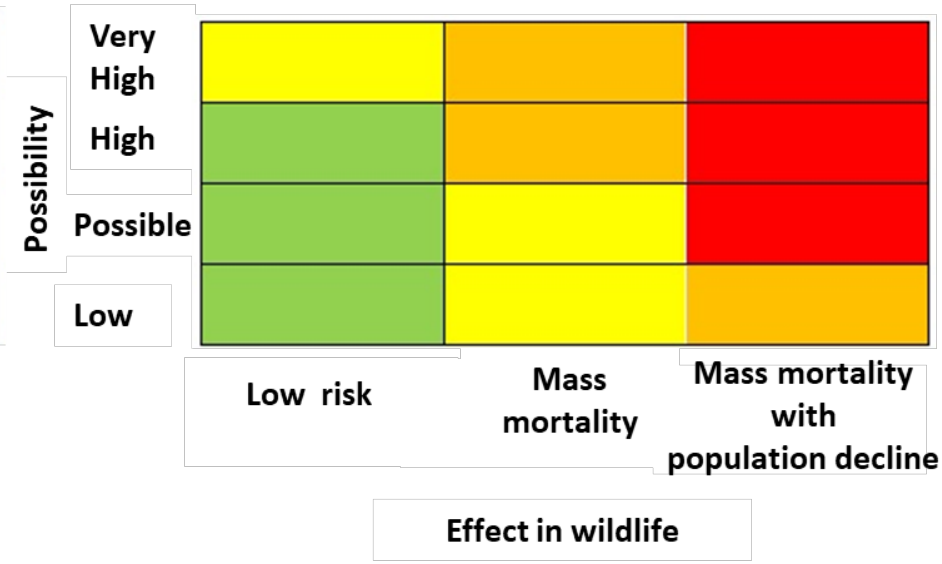
https://www.env.go.jp/nature/choju/infection/committee/R03doc/ref3-3.pdf

Risk assessment of infectious diseases for biodiversity conservation

- Assess the risk of infectious diseases from the perspective of biodiversity conservation based on possibility of occurrence in Japan and the impact for wildlife
- Consider the importance from the perspectives of public health and livestock health as well

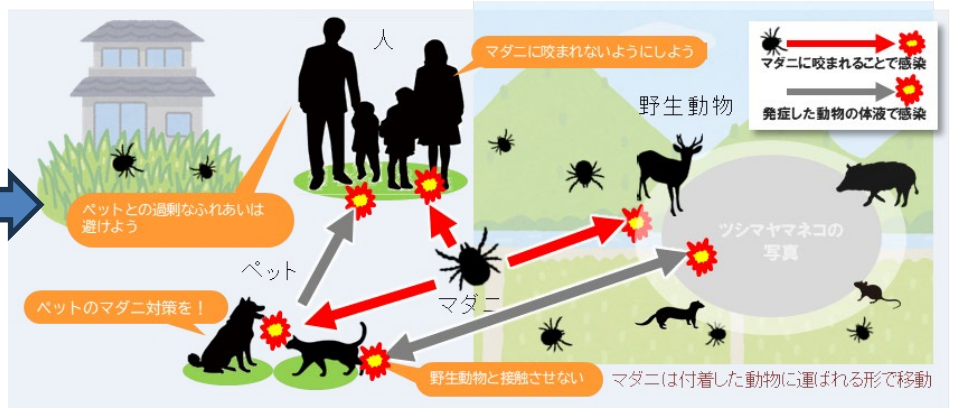
Risk = Effect × Possibility





Important infectious Diseases for Biodiversity Conservation (30 Diseases)

Highly pathogenic avian influenza
Scabies (caused by Sarcoptes scabiei or mites)
West Nile fever (a type of epidemic encephalitis)
African swine fever
Trichomoniasis
Toxoplasmosis
Avian mycoplasmosis (caused by M. gallisepticum, M. synoviae)
Leucocytozoonosis
Severe Fever with Thrombocytopenia Syndrome (SFTS)
Feline leukemia virus infection
Feline immunodeficiency virus infection
Morbillivirus infection (canids and felids, including canine distemper)
Parvovirus infection
Feline infectious peritonitis
Feline calicivirus infection
Feline viral rhinotracheitis
Rabies
Pasteurellosis (including hemorrhagic septicemia, avian cholera)
Newcastle disease (including high pathogenicity and low pathogenicity Newcastle disease)
Salmonella infections
(including salmonellosis, avian salmonellosis, and salmonellosis in sheep and goats)
Nipah virus infection
Tularemia
Marek's disease
Duck viral enteritis
Rabbit hemorrhagic disease
Myxomatosis in rabbits
Plague (Yersiniosis caused by Yersinia pestis)
Malaria
Listeriosis (caused by L. monocytogenes)
Coccidiosis



Animals infected with highly pathogenic avian influenza viruses