Influenza aviar de alta patogenicidad y su impacto en la fauna silvestre

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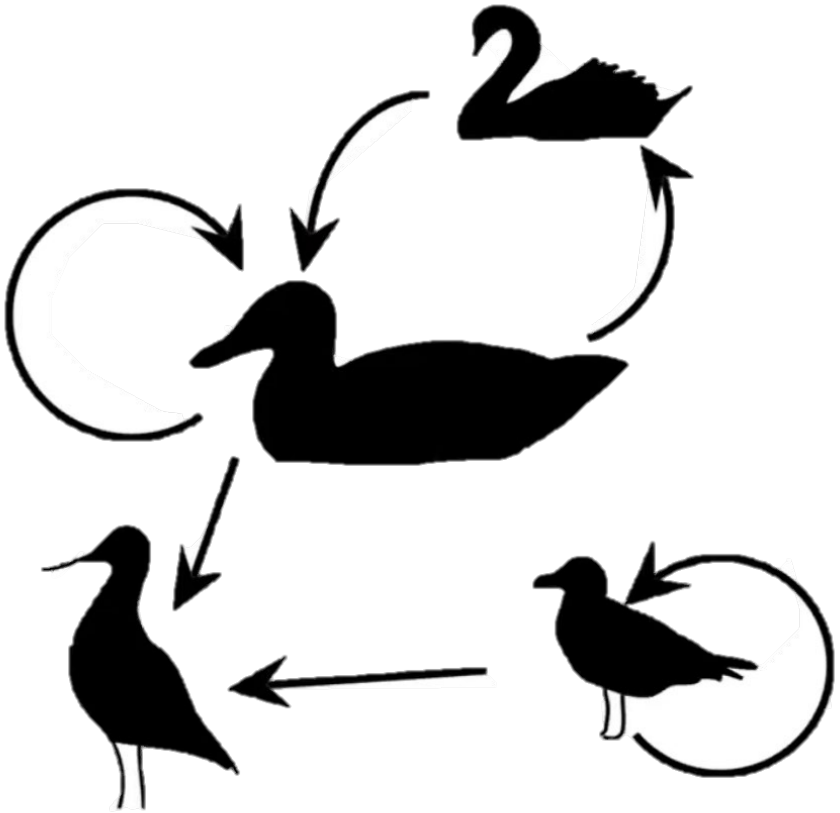
VIABP



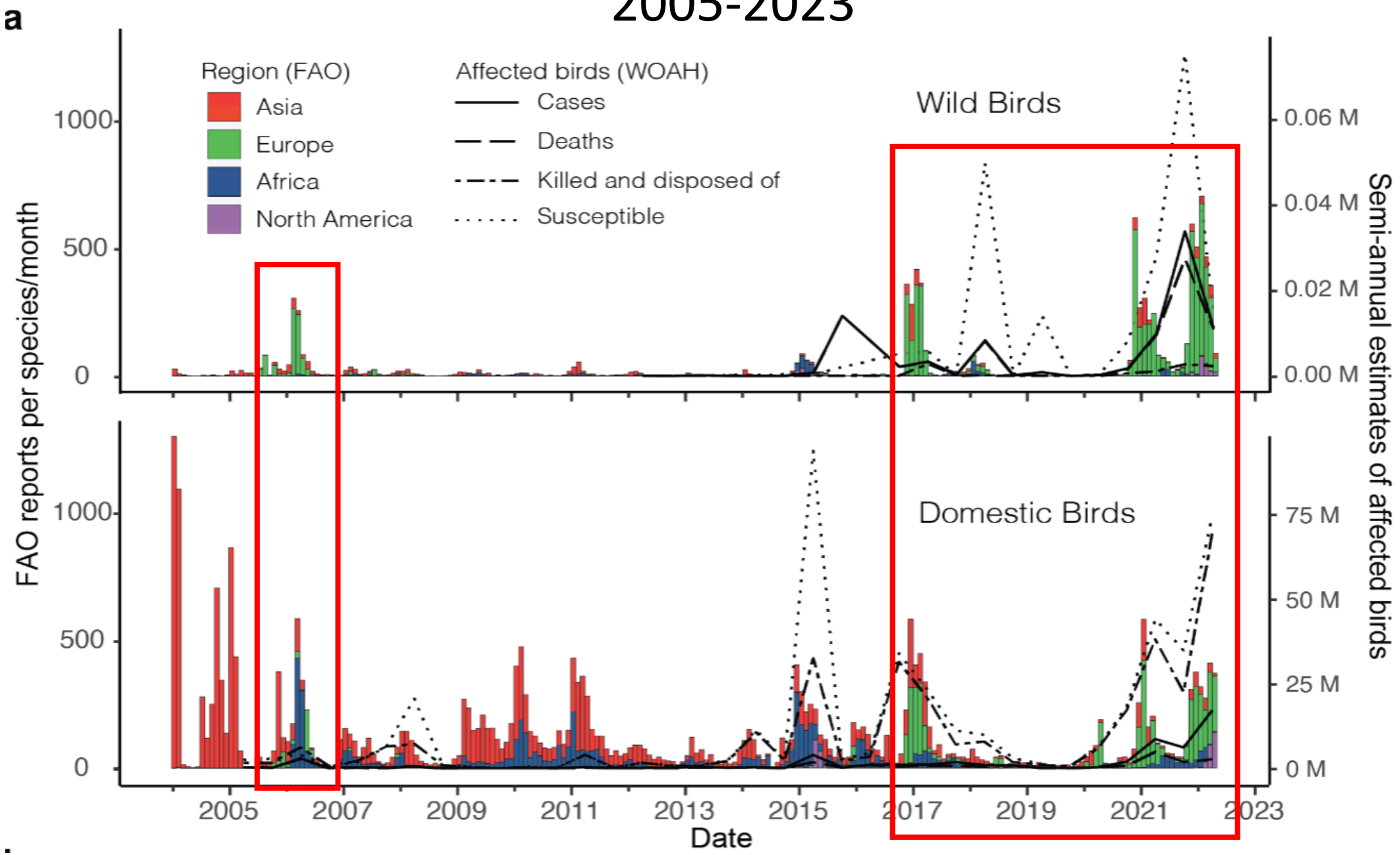
VIAAP H5N3

Sudáfrica 1961

1300 gaviotines

Becker WB. The isolation and classification of Tern virus: influenza A-Tern South Africa--1961. J Hyg (Lond). 1966 Sep;64(3):309-20. doi: 10.1017/s0022172400040596.

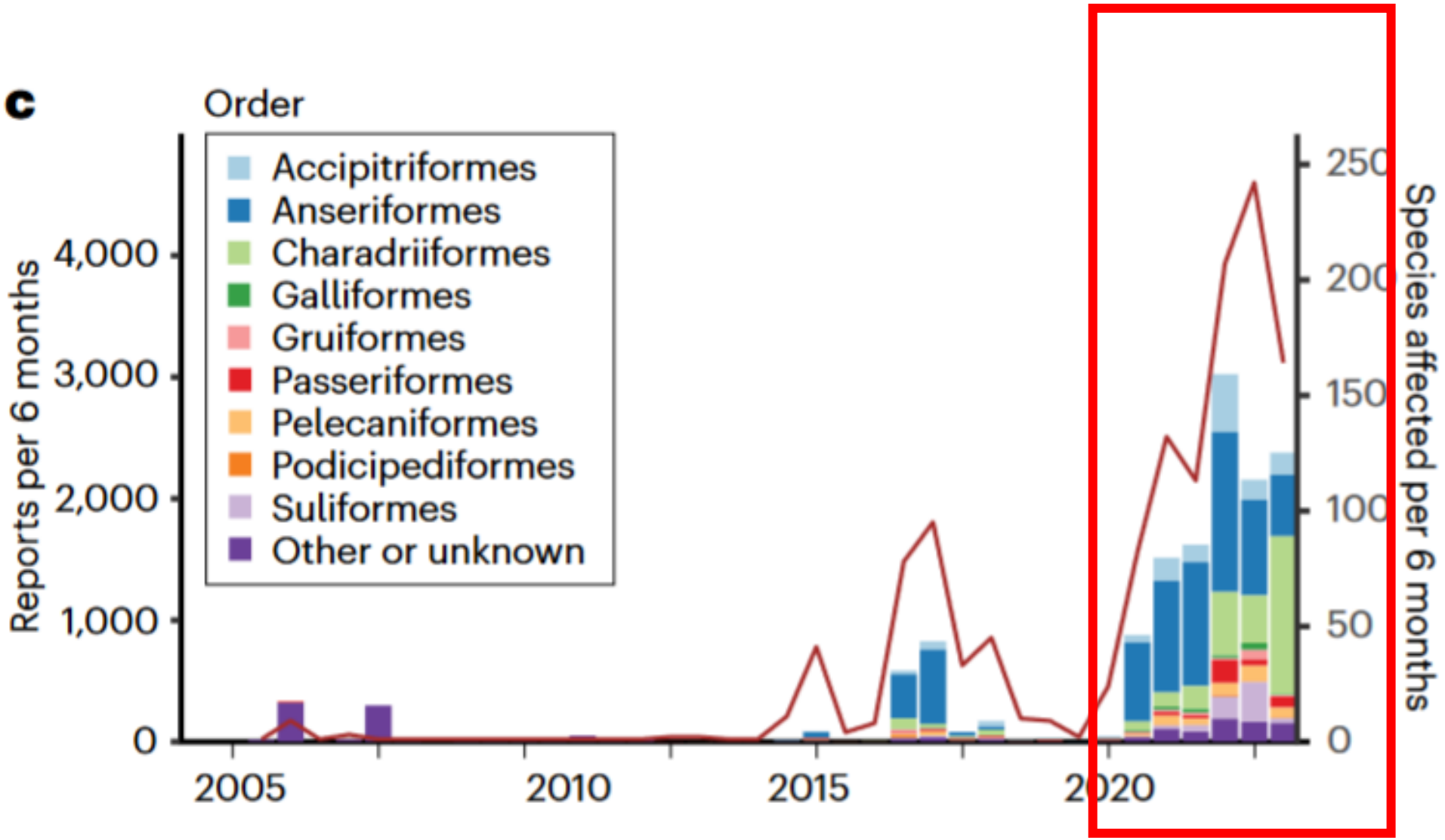
2005-2023



https://www.biorxiv.org/content/biorxiv/early/2022/12/18/2022.12.18.520670.full.pdf

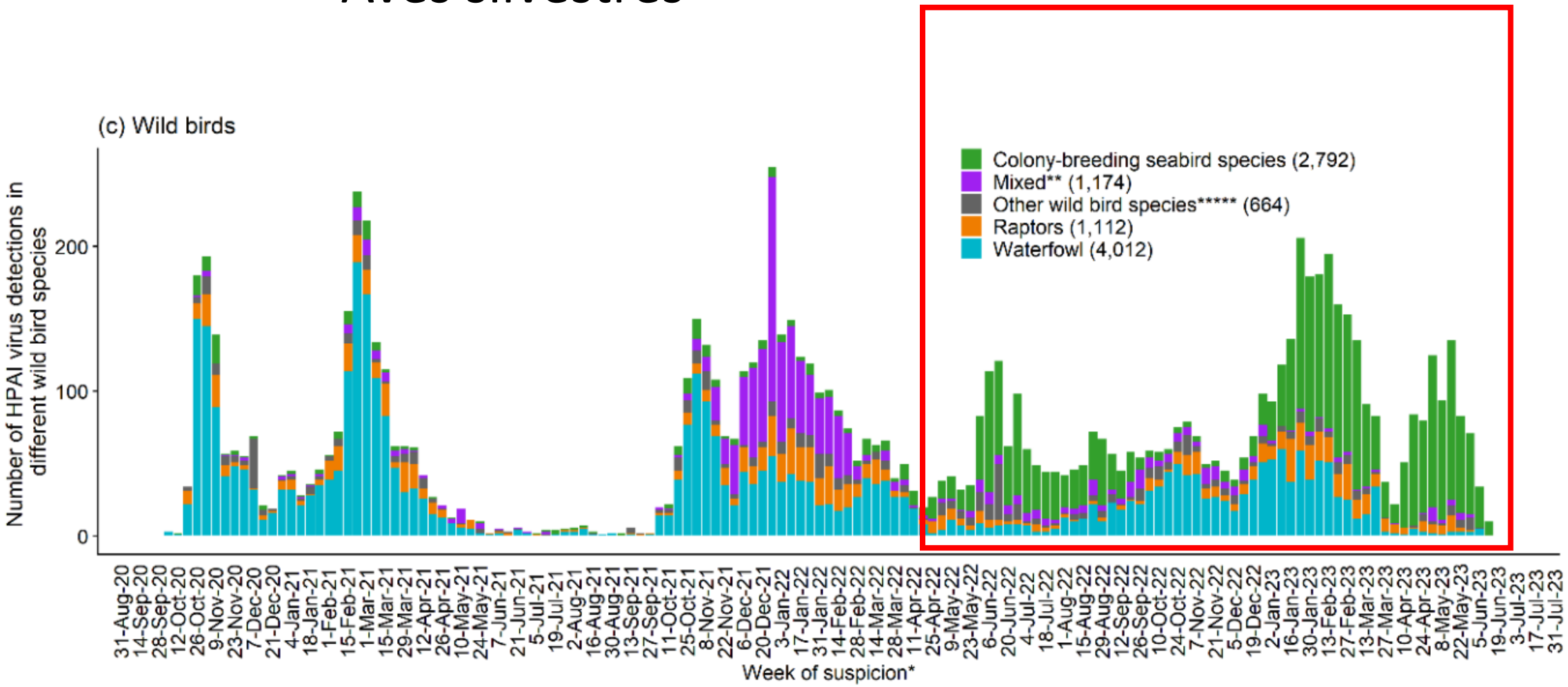
Xie et al. 2022

Más brotes en mayor número de especies



Klaassen, M., Wille, M. The plight and role of wild birds in the current bird flu panzootic. Nat Ecol Evol (2023). https://doi.org/10.1038/s41559-023-02182-x

2020-2023
Aves silvestres

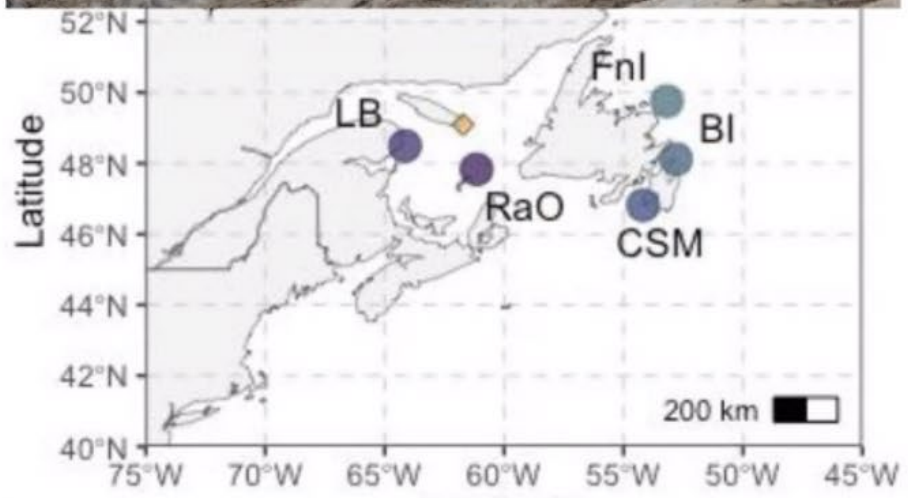


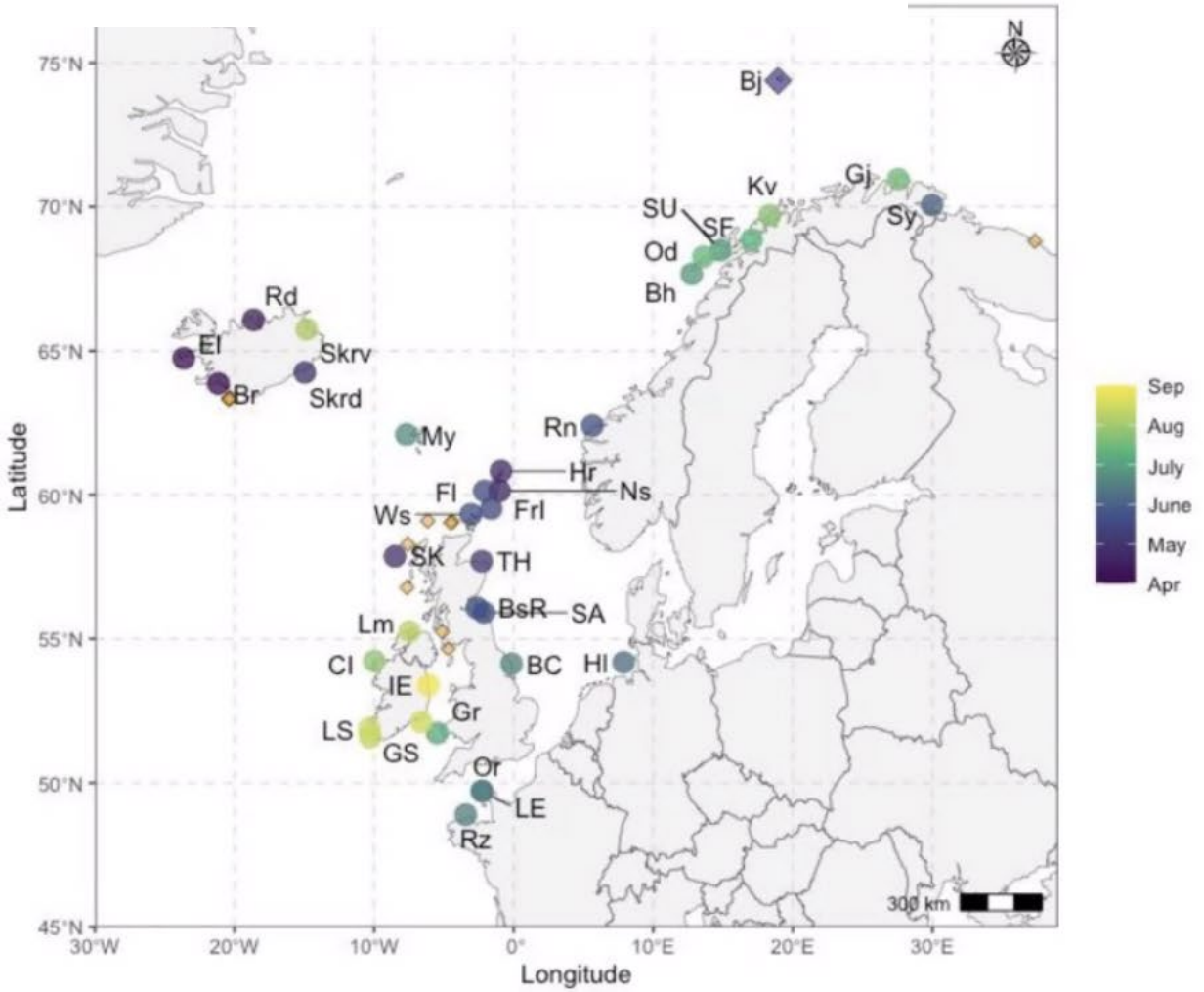
Adlhoch, C, et al., Scientific report: Avian influenza overview April–June 2023. EFSA Journal 2023; 21(7):8191, 54 pp. https://doi.org/10.2903/j.efsa.2023.8191


MM Uhart, UCD

alcatraces

Amplio rango geográfico afectado en muy poco tiempo

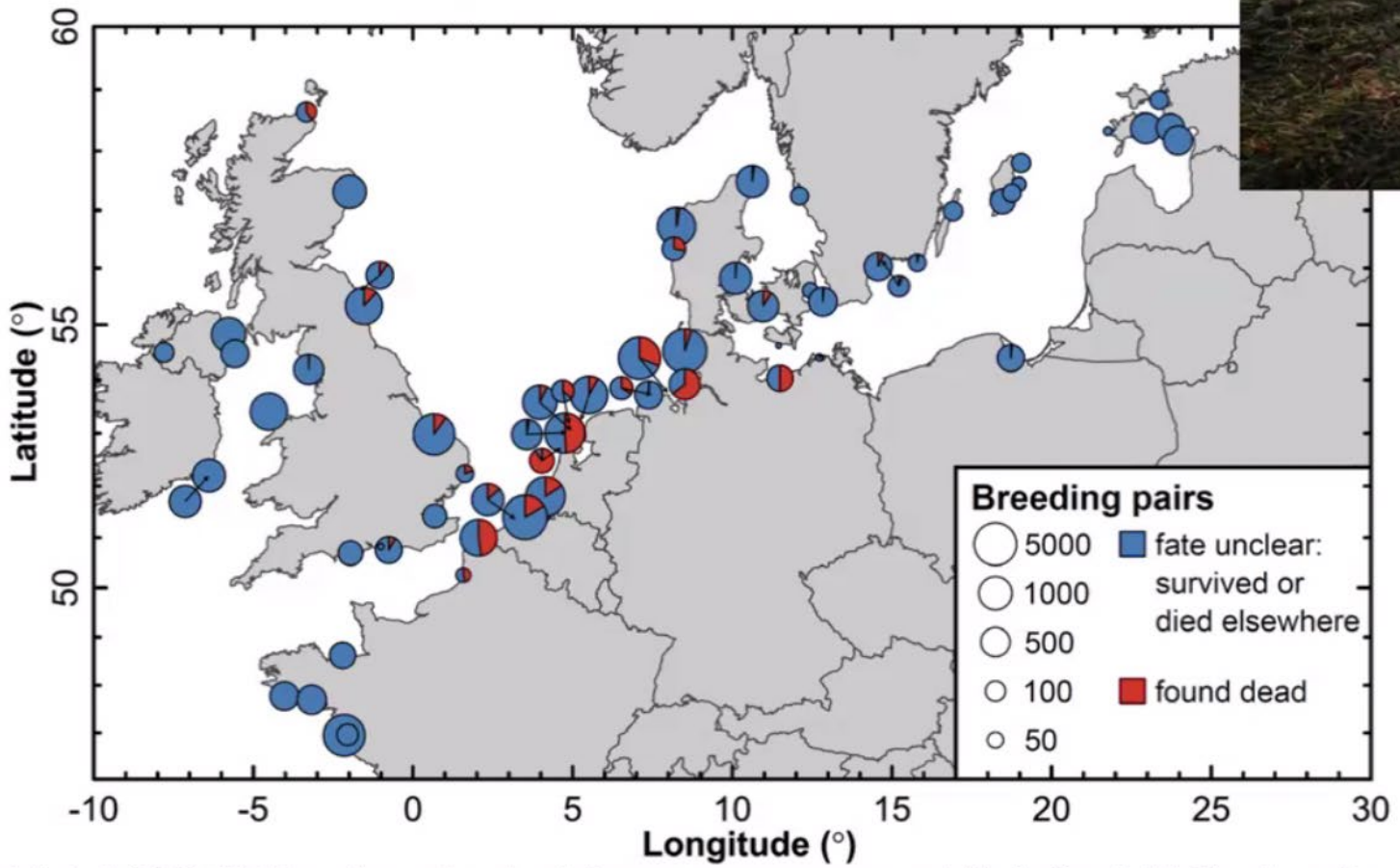




Lane et al. 2023. High pathogenicity avian influenza in Northern Gannets. bioRxiv

gaviotines

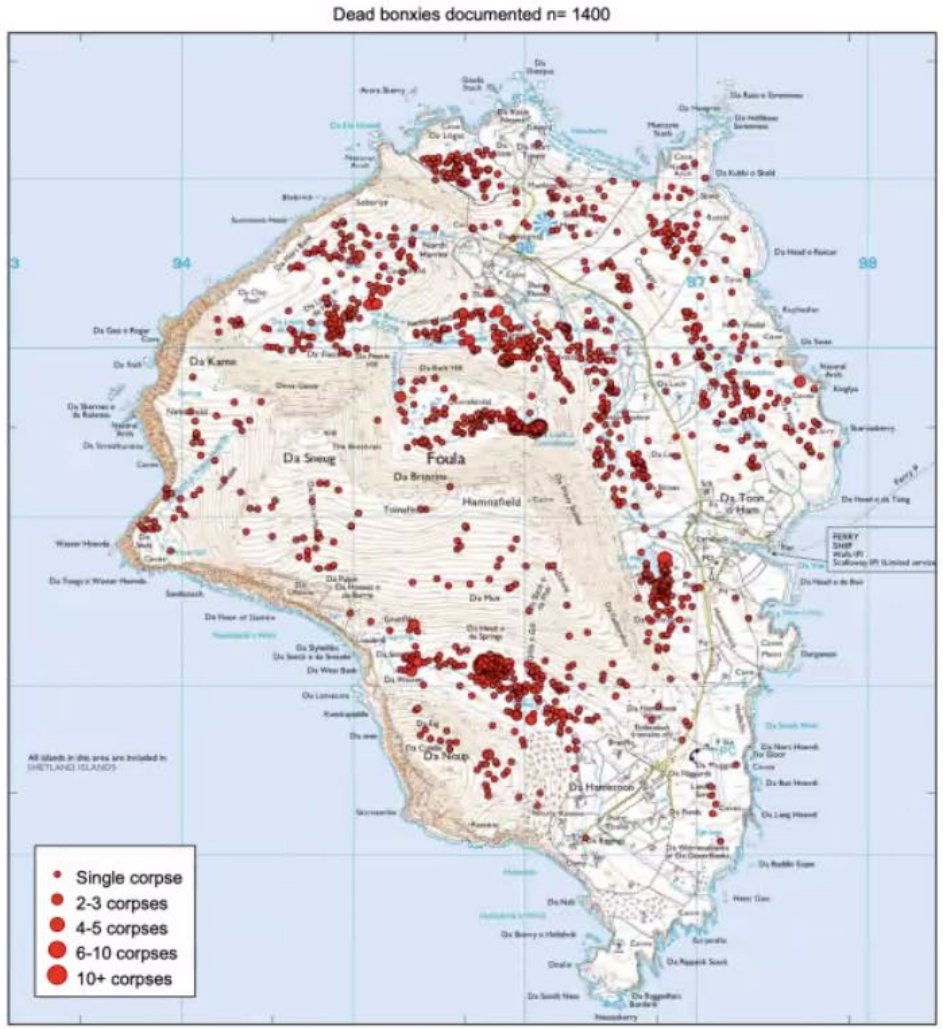
17% gaviotín pico amarillo Europa
Mortalidad cercana 100% pichones colonias afectadas



Knief et al. 2023. Highly pathogenic avian influenza causes mass mortality in Sandwich Tern breeding colonies across north Western Europe. bioRxiv

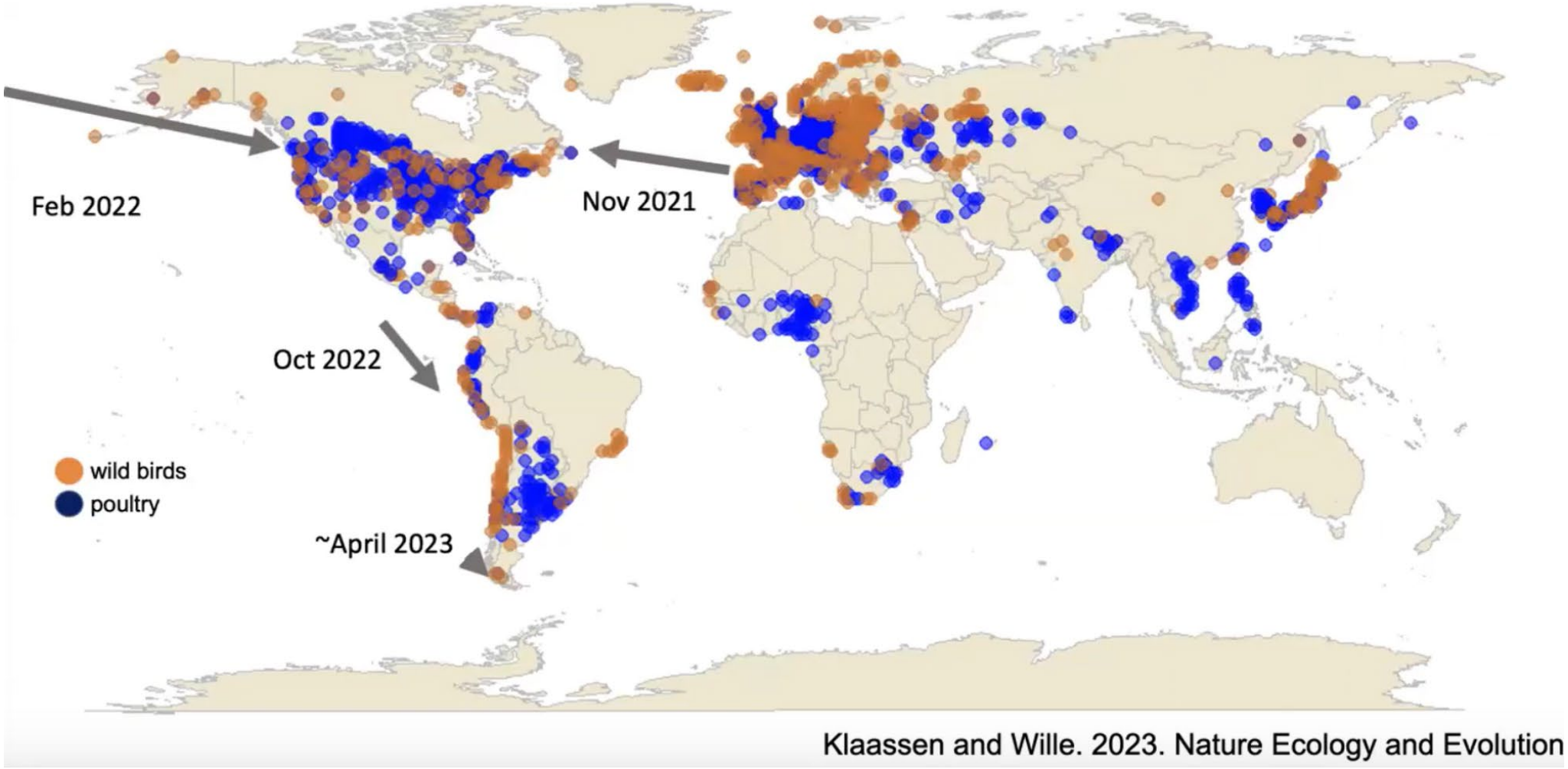
skuas

1500 skuas muertos
60-70% baja territorios ocupados



Camphuysen & Greer. 2022. Great Skuas and Northern Gannets on Foula, summer 2022. NIOOZ report

Ingreso VIAAP H5N1 a las Américas



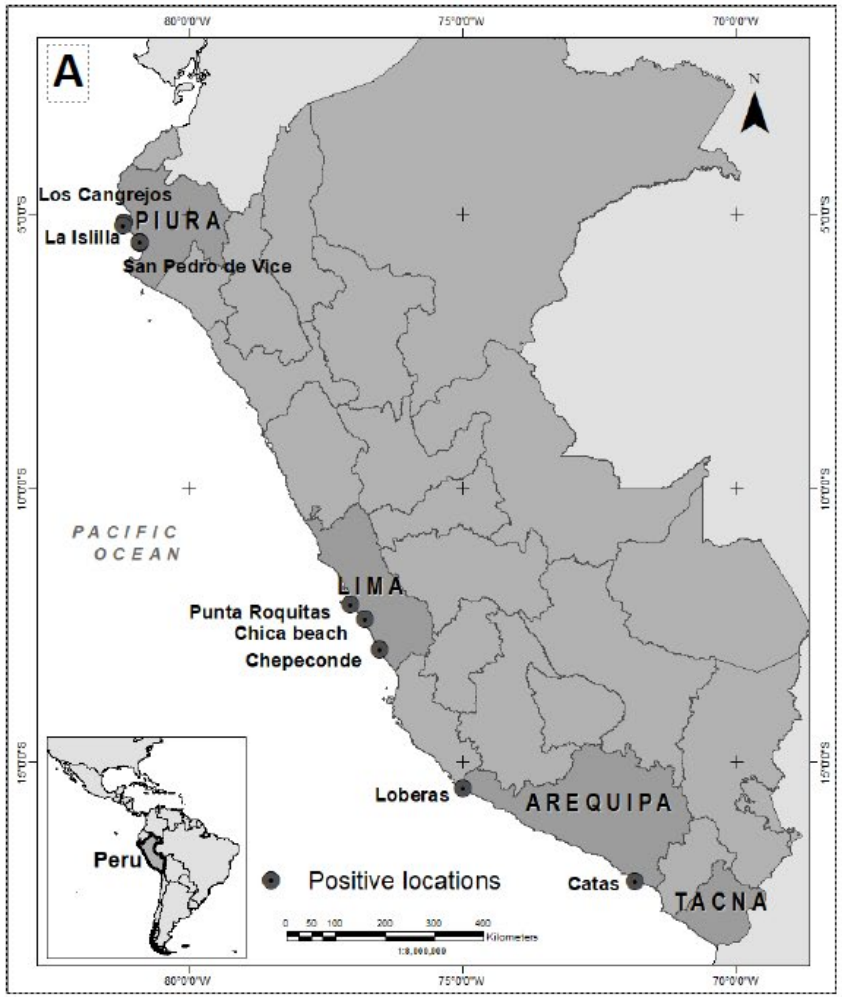
Klaassen and Wille. 2023. Nature Ecology and Evolution

nature communications

Article

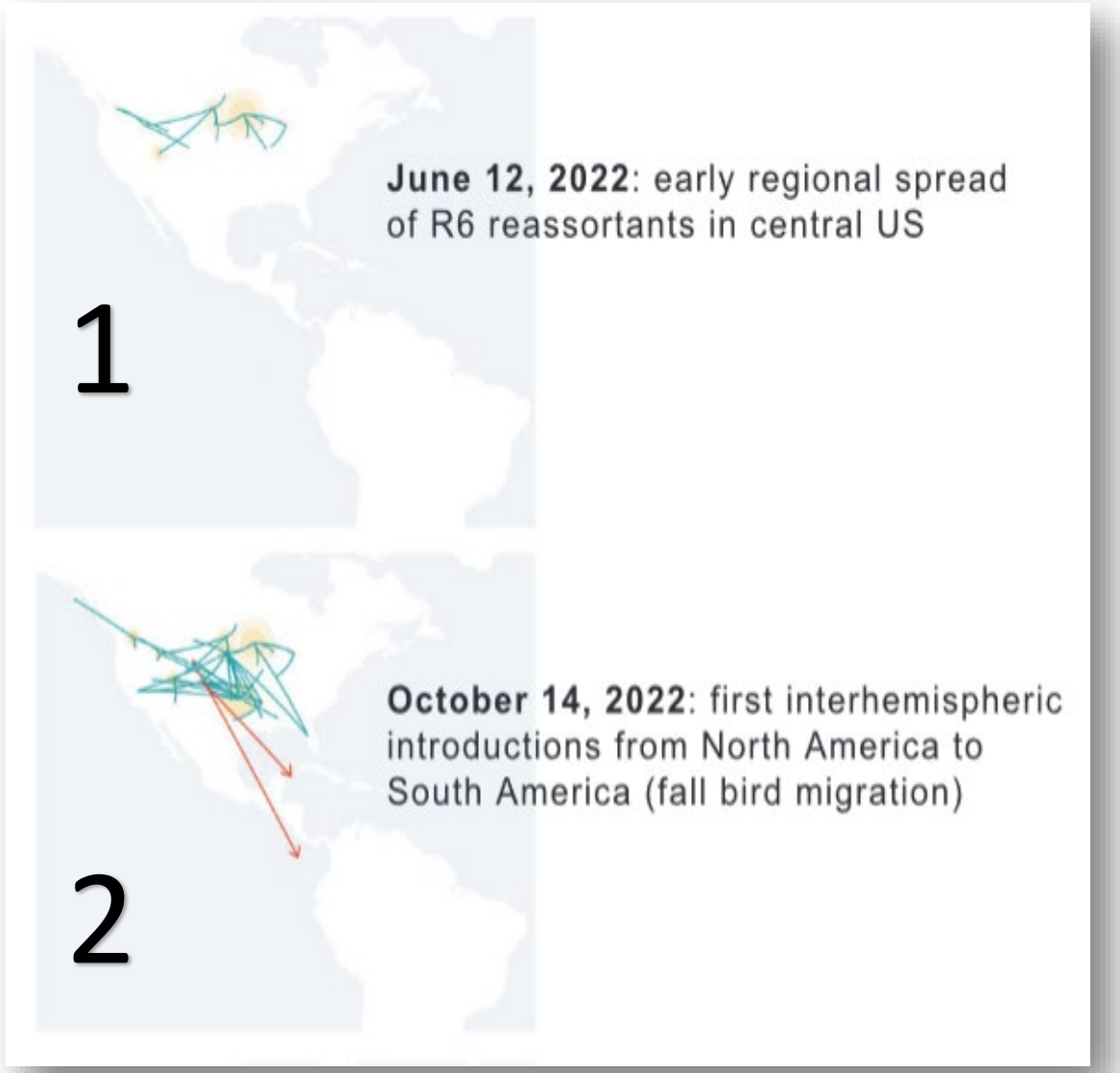
https://doi.org/10.1038/s41467-023-41182-0

Highly pathogenic avian influenza A (H5N1) in marine mammals and seabirds in Peru



*Leguia, M., Garcia-Glaessner, A., Muñoz-Saavedra, B. et al. Highly pathogenic avian influenza A (H5N1) in marine mammals and seabirds in Peru. Nat Commun **14**, 5489 (2023). https://doi.org/10.1038/s41467-023-41182-0*

Múltiples introducciones a Sudamérica



*Leguia, M., et al. Nat Commun **14**, 5489 (2023). https://doi.org/10.1038/s41467-023-41182-0*

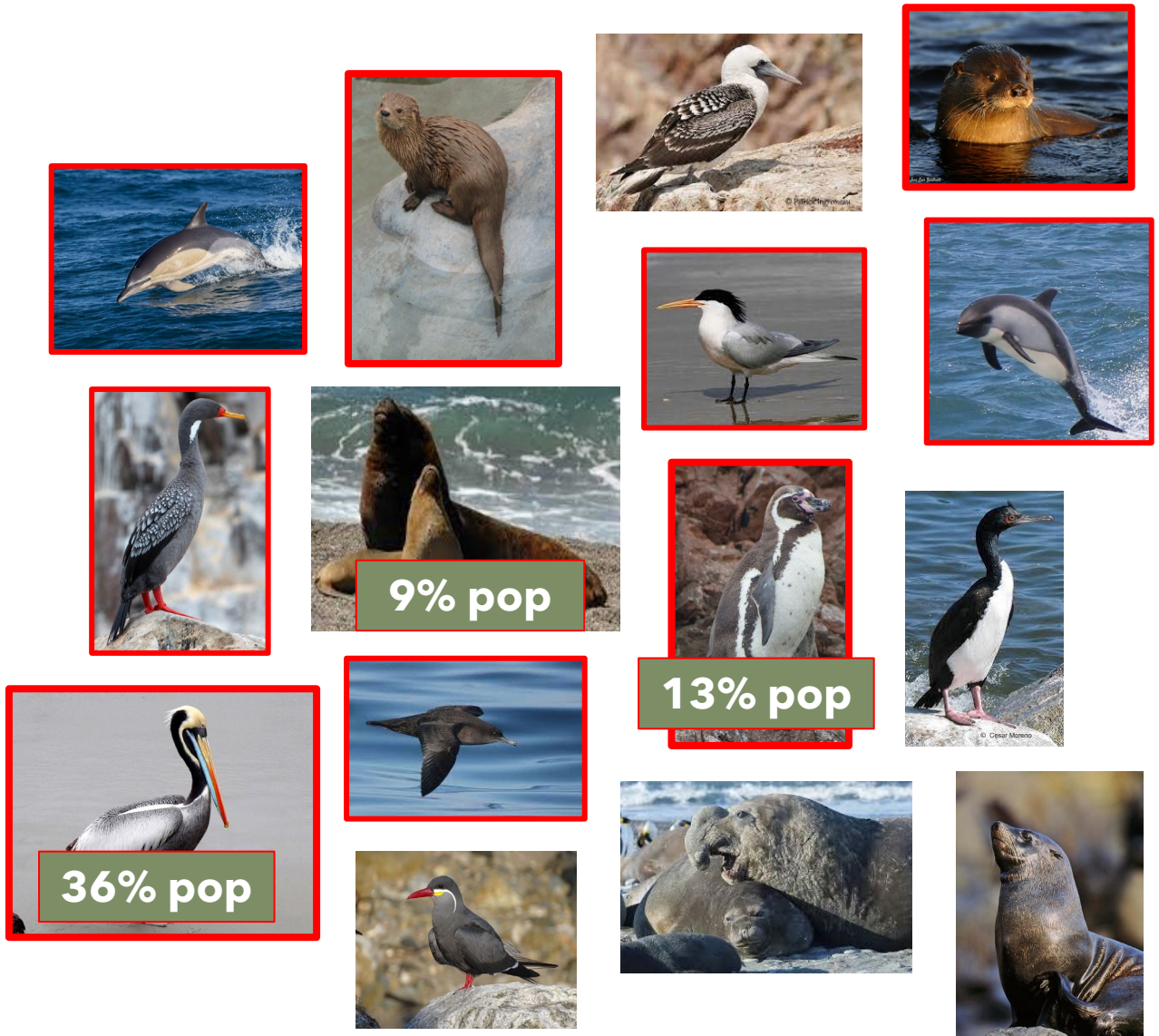
VIAAP H5N1 en fauna de la costa Pacífica de Sudamérica

Impacto conservación

500.000 aves (65 sp)

20.000 mamíferos (15 sp)

Al menos 80 especies



offlu
WOAH FAO
network of expertise on animal influenza

https://www.offlu.org/wp-content/uploads/2023/08/OFFLU-statement-HPAI-wildlife-South-America-20230823.pdf

Science

HOME > NEWS > ALL NEWS > DEADLY AVIAN FLU REACHES GALÁPAGOS ISLANDS

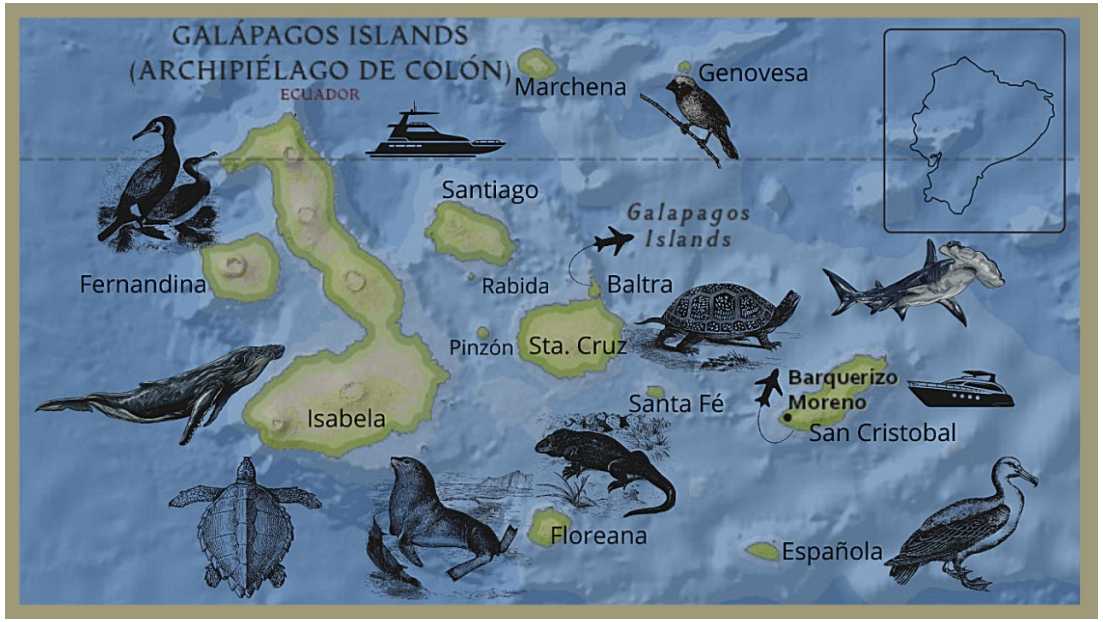
NEWS | PLANTS & ANIMALS

Deadly avian flu reaches Galápagos Islands

Concerns rise for boobies, finches, and other endemic species

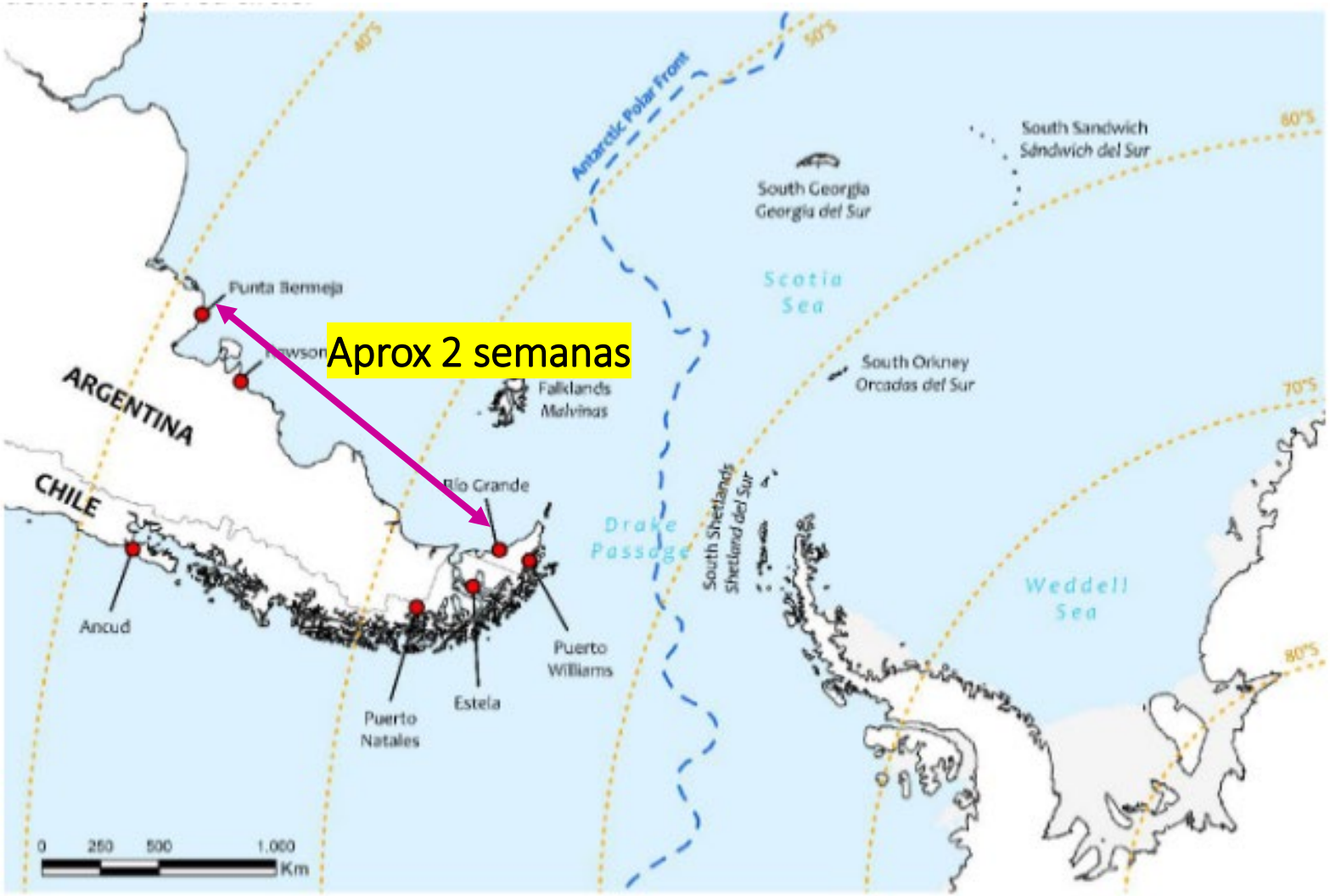
25 SEP 2023 · 4:10 PM ET · BY ERIK STOKSTAD

https://www.science.org/content/article/deadly-avian-flu-reaches-galapagos-islands



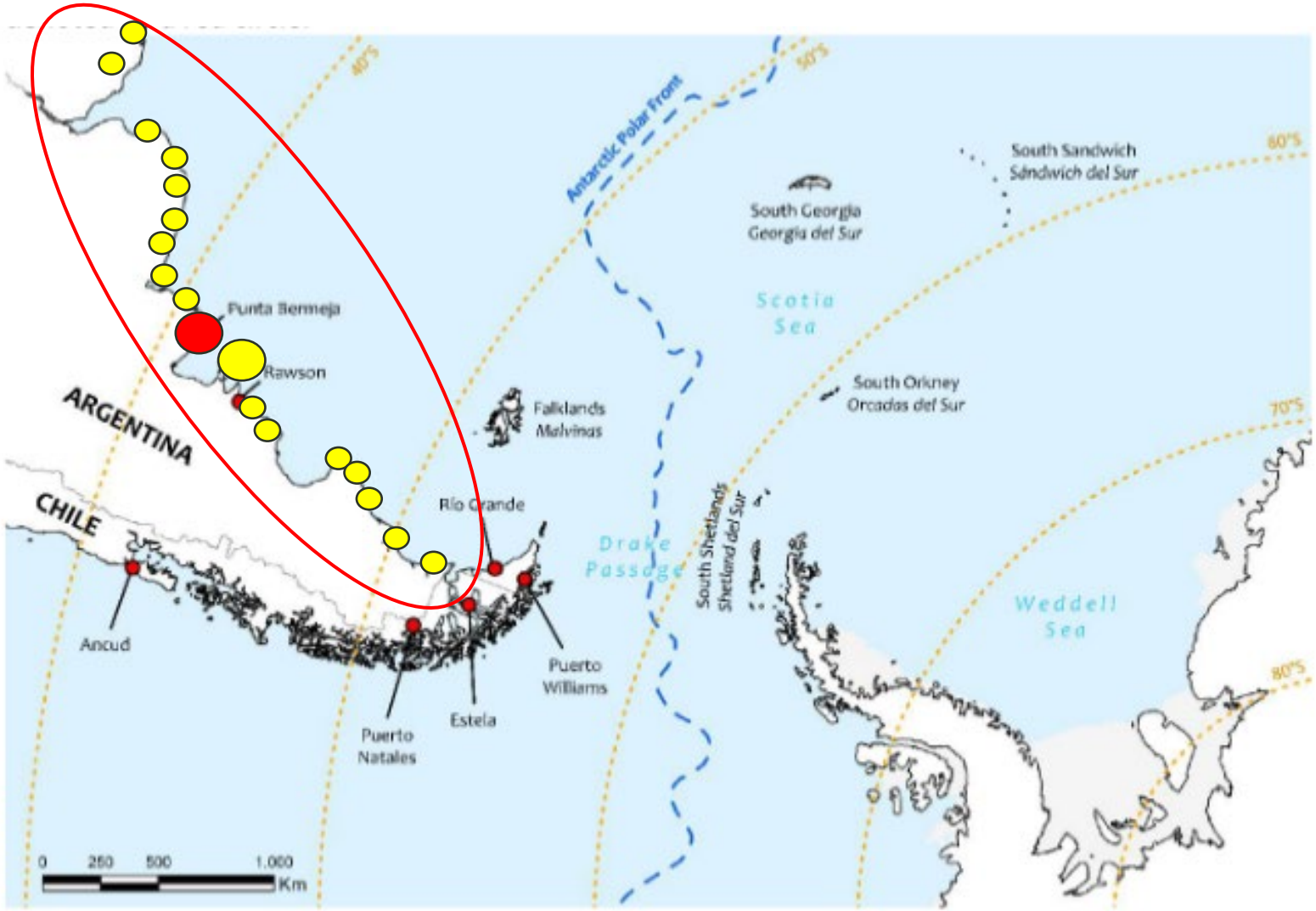
78 especies endémicas en riesgo

Eventos notables en el extremo sur de Sudamérica (mayo-agosto 2023)



https://www.offlu.org/wp-content/uploads/2023/08/OFFLU-statement-HPAI-wildlife-South-America-20230823.pdf

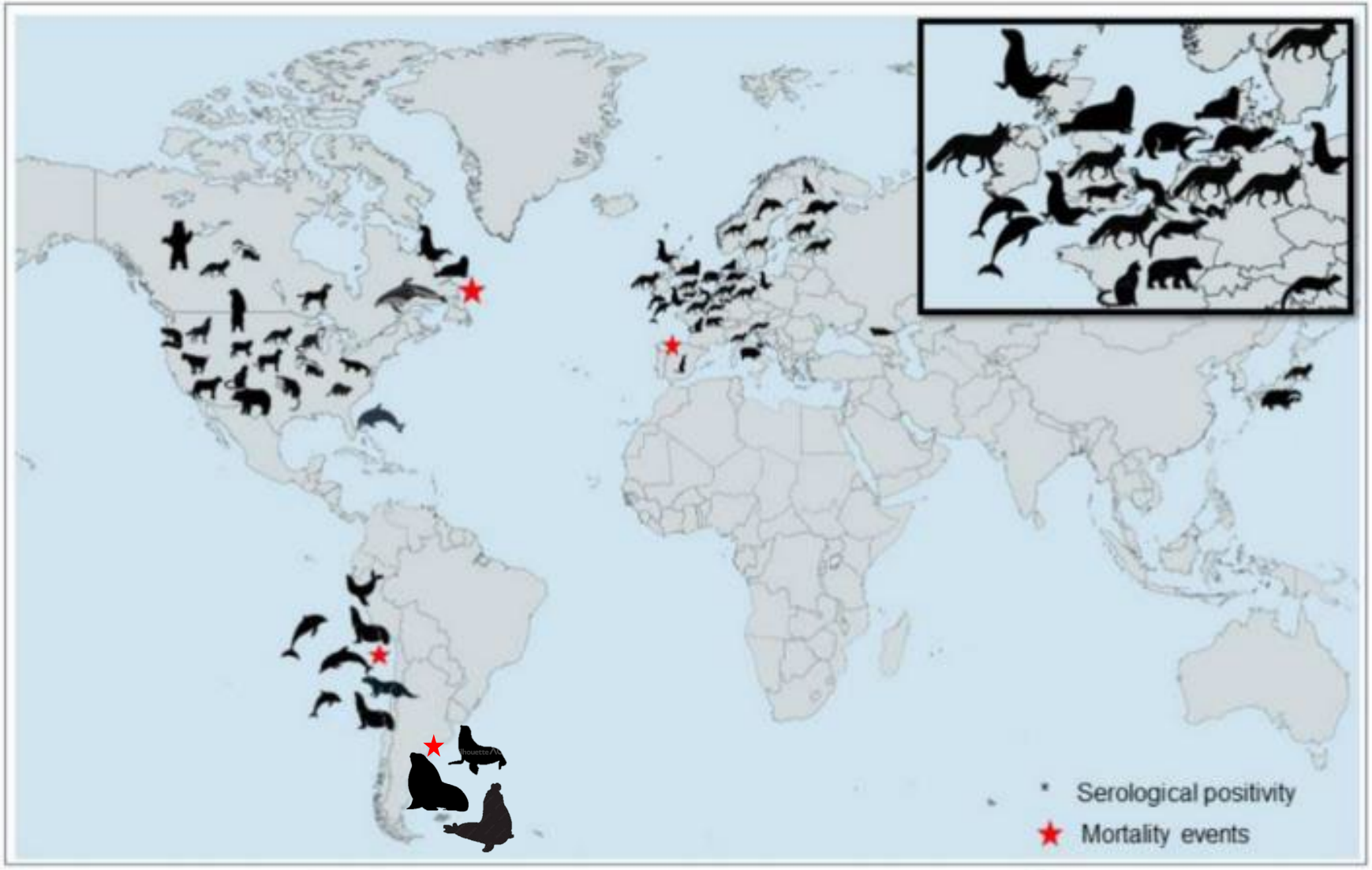
Nuevos casos hasta fines de oct 2023 - mayormente mamíferos marinos



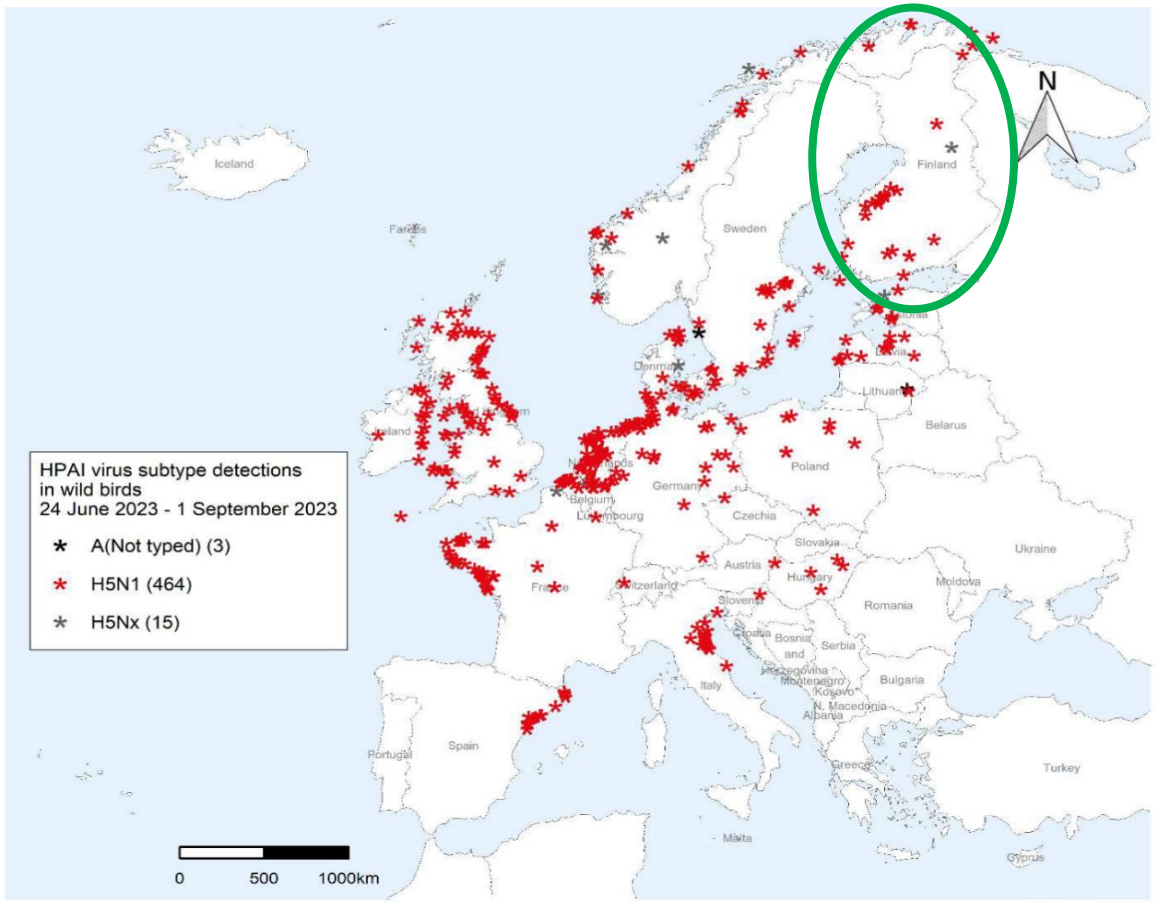
https://www.offlu.org/wp-content/uploads/2023/08/OFFLU-statement-HPAI-wildlife-South-America-20230823.pdf


Elefante marino (*Mirounga leonina*)
~18000 crías/año, mortalidad 2%
2023: mortalidad ~97,4%
RET Vanstreels, UCD

Mamíferos afectados VIAAP H5N1



https://www.ecdc.europa.eu/sites/default/files/documents/Avian-influenza-overview-March-April-2023_0.pdf



Author: EFSA
Data sources: ADIS, WOAH
Date updated: 01/09/2023

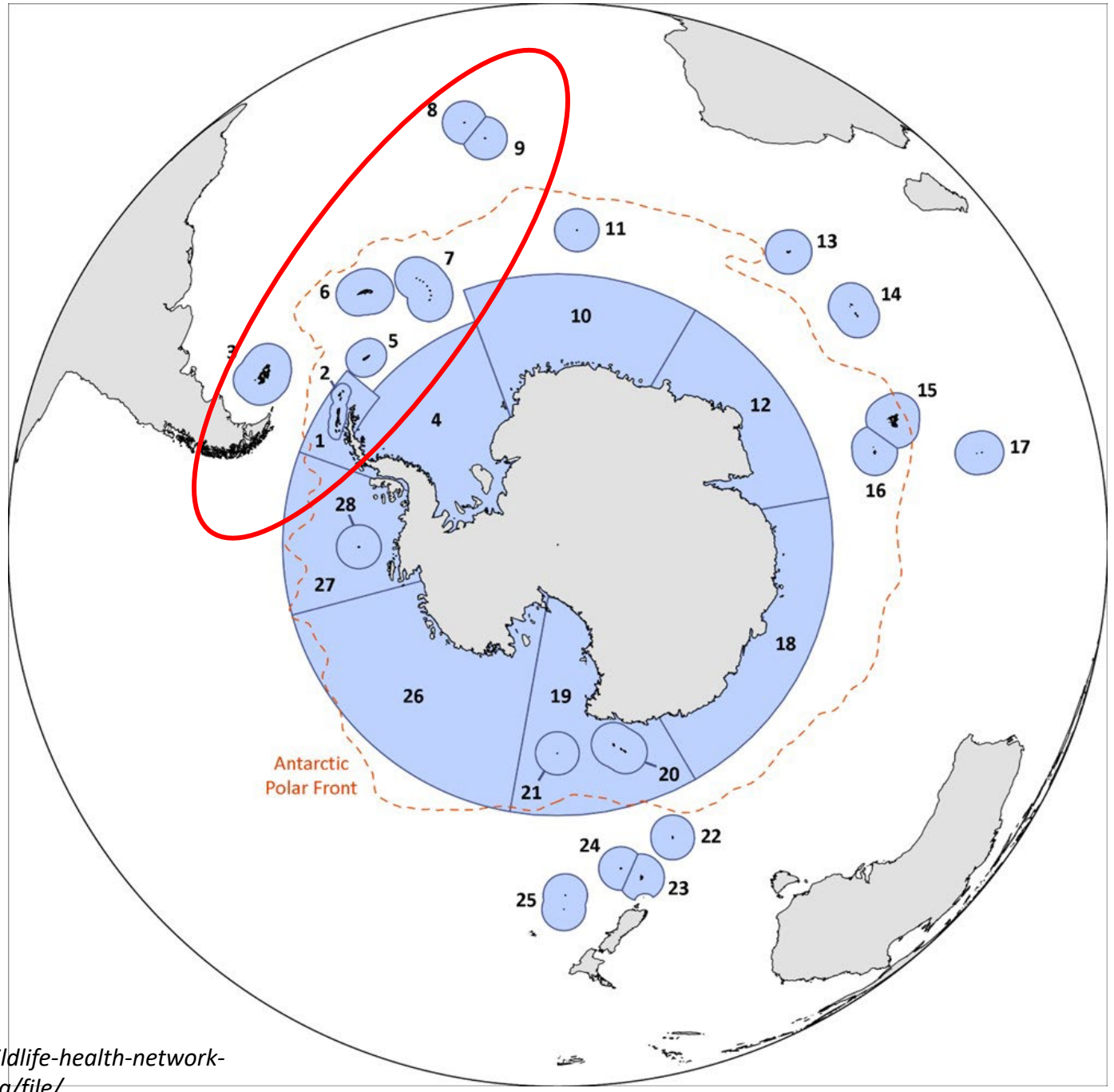
RAPID COMMUNICATION

Highly pathogenic avian influenza A(H5N1) virus infection on multiple fur farms in the South and Central Ostrobothnia regions of Finland, July 2023

Erika Lindh[1,*], Hanna Lounela[2,*], Niina Ikonen[1], Tuija Kantala[2], Carita Savolainen-Kopra[1], Ari Kauppinen[2], Pamela Österlund[1], Lauri Kareinen[2], Anna Katz[1], Tiina Nokireki[2], Jari Jalava[1], Laura London[2], Marjaana Pitkäpaasi[1], Jaana Vuolle[2], Anna-Liisa Punto-Luoma[1], Riikka Kaarto[3], Liina Voutilainen[1], Riikka Holopainen[2], Laura Kalin-Mänttäri[1], Terhi Laaksonen[2], Hannu Kiviranta[1], Aino Pennanen[1], Otto Helve[1], Ilona Laamanen[2], Merit Melin[1], Niina Tammiranta[2], Ruska Rimhanen-Finne[1], Tuija Gadd[2], Mika Salminen[1]

Sacrificio 120.000 zorros y visones
+ 20 granjas
31 Agosto 2023

Riesgo introducción a Antártida



https://scar.org/library/science-4/life-sciences/antarctic-wildlife-health-network-awhn/5973-risk-assessment-avian-influenza/file/

Análisis de Riesgo VIAAP H5N1 en Antártida y Oceáno Austral

Especies en riesgo

100 millones aves

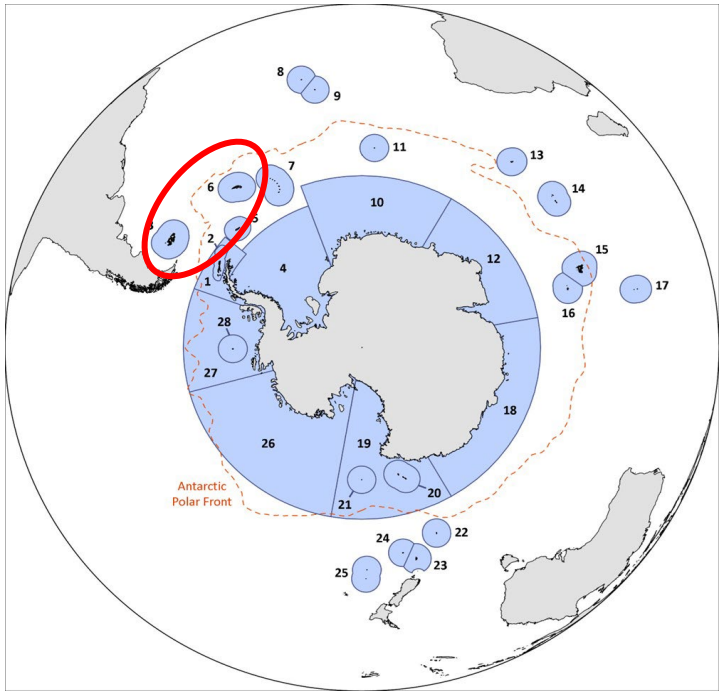
6 sp pinnípedos

17 sp cetáceos

https://scar.org/library/science-4/life-sciences/antarctic-wildlife-health-network-awhn/5973-risk-assessment-avian-influenza/file/

Islas Georgias del Sur e Islas Malvinas

24 octubre
Skuas pardas



30 octubre
Petrel plateado

https://polarjournal.ch/en/2023/10/24/avian-influenza-reaches-south-georgia/

https://en.mercopress.com/2023/11/03/confirmed-avian-flu-case-in-the-falklands-stanley-becomes-control-zone-until-november-23

Islas Georgias del Sur

13 noviembre, al menos 7 especies
15 sitios nivel 1
15 sitios nivel 2
3 sitios nivel 3

24 octubre
Skuas pardas

Seabirds such as Brown Skuas travel great distances in the Southern Ocean and can thus carry pathogens such as HPAI-H5N1 from one corner to another. On Bird Island, suspected cases were investigated and forensically confirmed. Archive photo: Michael Wenger

Diagnóstico y reporte desde zonas remotas

FluGlobalNet
Enhancing global Animal Influenza networks

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News and Publications

Preliminary Genomic Analysis of H5N1 HPAIV from South Georgia

Brown Skuas (*Stercorarius antarcticus*) on South Georgia confirmed positive for H5N1 High Pathogenicity Avian Influenza Virus (HPAIV)

13 November 2023 | News

In October 2023, the National and International (WOAH/FAO) Reference Laboratory for Avian Influenza at the Animal and Plant Health Agency (APHA) in the United Kingdom received samples from staff at the British Antarctic Survey (BAS) based on Bird Island, South Georgia due to suspicion of Avian Influenza in Brown Skuas (*Stercorarius antarcticus*).

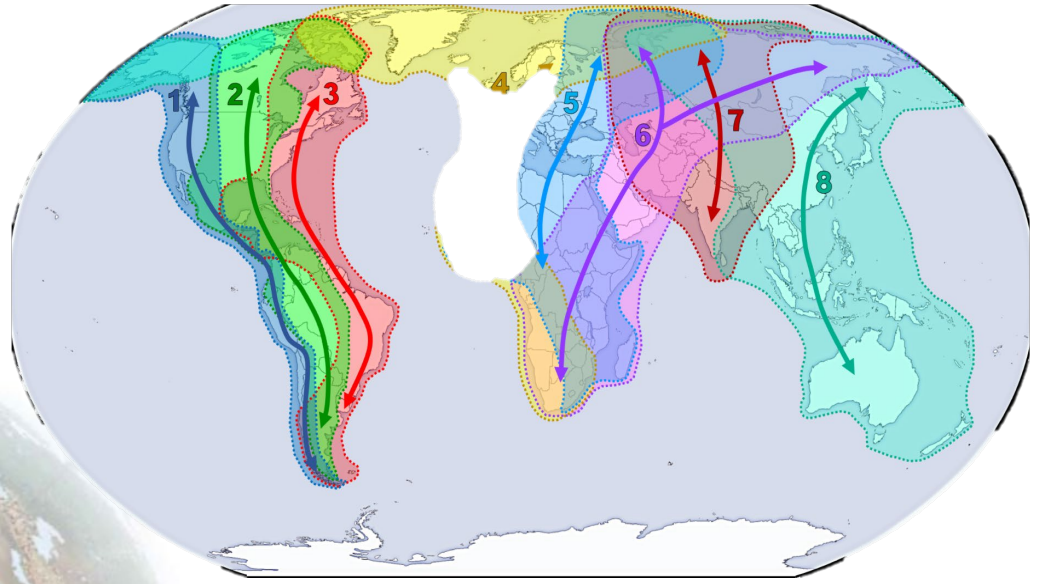
The samples received at APHA were collected from three birds and all were confirmed to be positive for H5N1 High Pathogenicity Avian Influenza Virus (HPAIV). Viral genome sequencing was undertaken, and three genomes were produced which shared 99.86-100% nucleotide identity to each other across all eight influenza virus gene segments. These sequences were subjected to phylogenetic assessment which demonstrated that the sequences from Bird Island clustered with sequences from South America, particularly Uruguay, Peru and Chile. Analysis of the Bird Island sequences using the USDA H5N1 genotyping tool, GenoFLU, found all three sequences were of the B3.2 genotype; a reassortant of the original Eurasian H5N1 that incurred into North America in late 2021, and local North American avian influenza viruses. A review of the publicly available full genome sequences from South America found that the B3.2 genotype was predominant in the region. The sequences obtained from samples collected on South Georgia have been made available through the GISAID EpiFlu platform (https://gisaid.org) under the following accession numbers: EPI_ISL_18439562, EPI_ISL_18439563 and EPI_ISL_18439564.

Further analyses of the sequences from Bird Island are underway and APHA are continuing to work closely with BAS and the Government of South Georgia & the South Sandwich Islands.

Brown skuas (*Stercorarius antarcticus*) forage within the colonies of other seabirds on South Georgia. Photo credit: A. Corbett-Kuiper.

https://science.vla.gov.uk/fluglobalnet/publications/antarctic-update-nov23.html

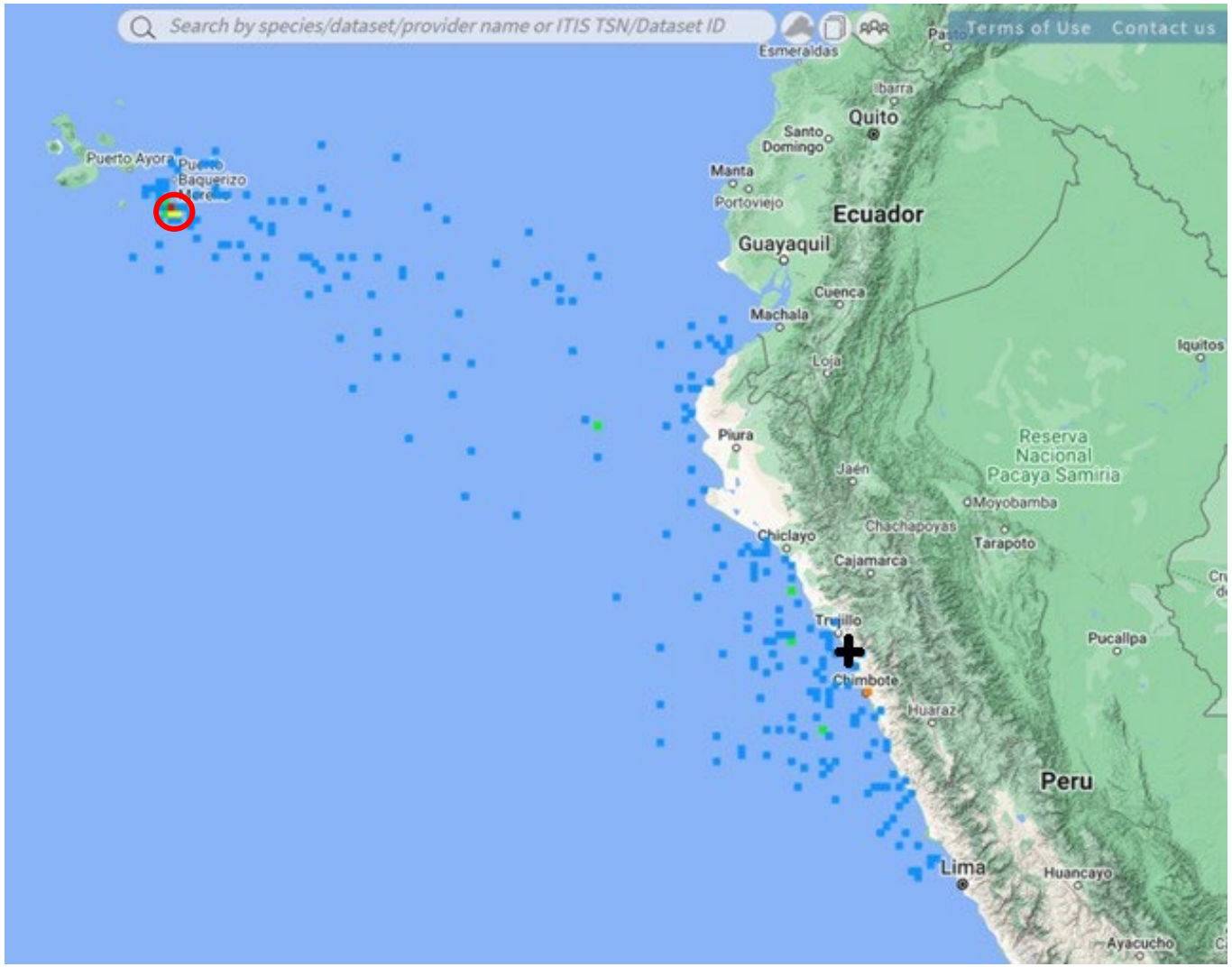
Mitos y migraciones



Lisovski, S. et al. No evidence for highly pathogenic avian influenza virus H5N1 (clade 2.3.4.4b) in the Antarctic region during the austral summer 2022/23. bioRxiv 2023.10.24.563692

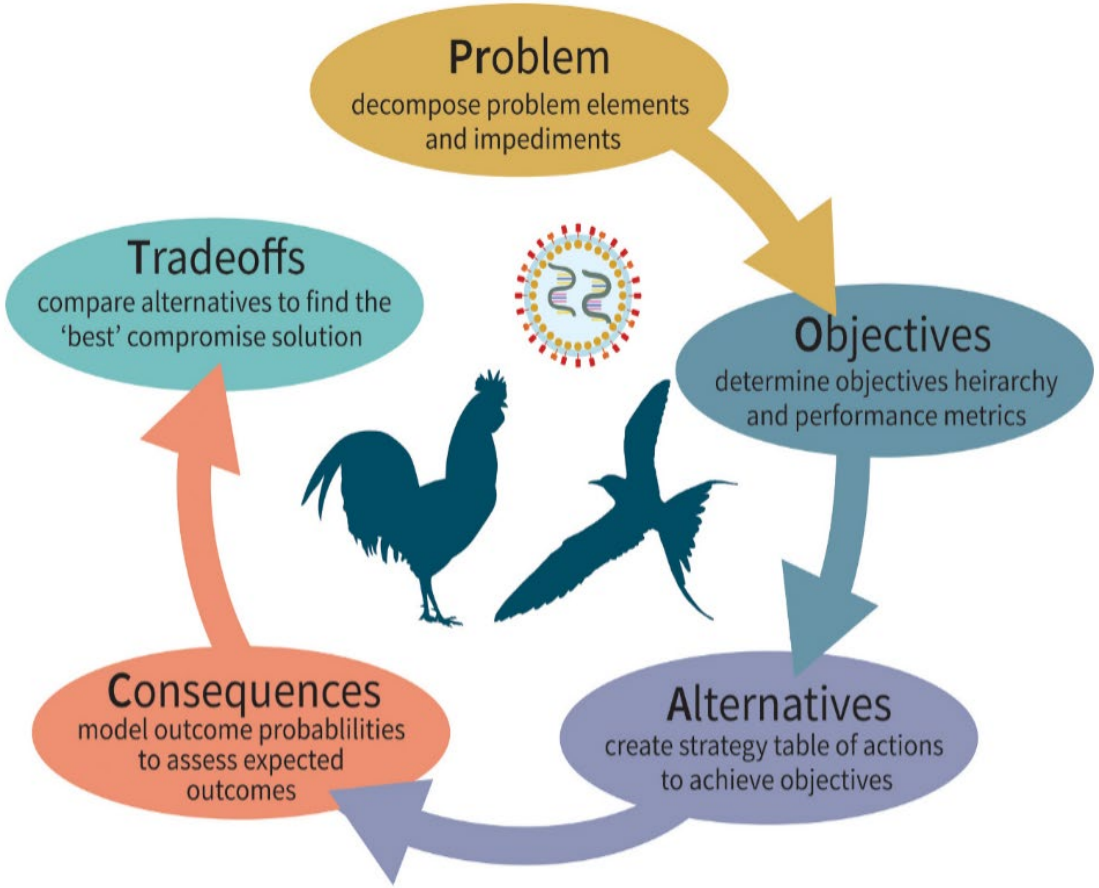
Ecología especies y transmisión de enfermedades

Waved albatross
(*Phoebastria irrorata*)
CR



OBIS-SEAMAP. *https://seamap.env.duke.edu/dataset/324*

Severas limitaciones de opciones de manejo

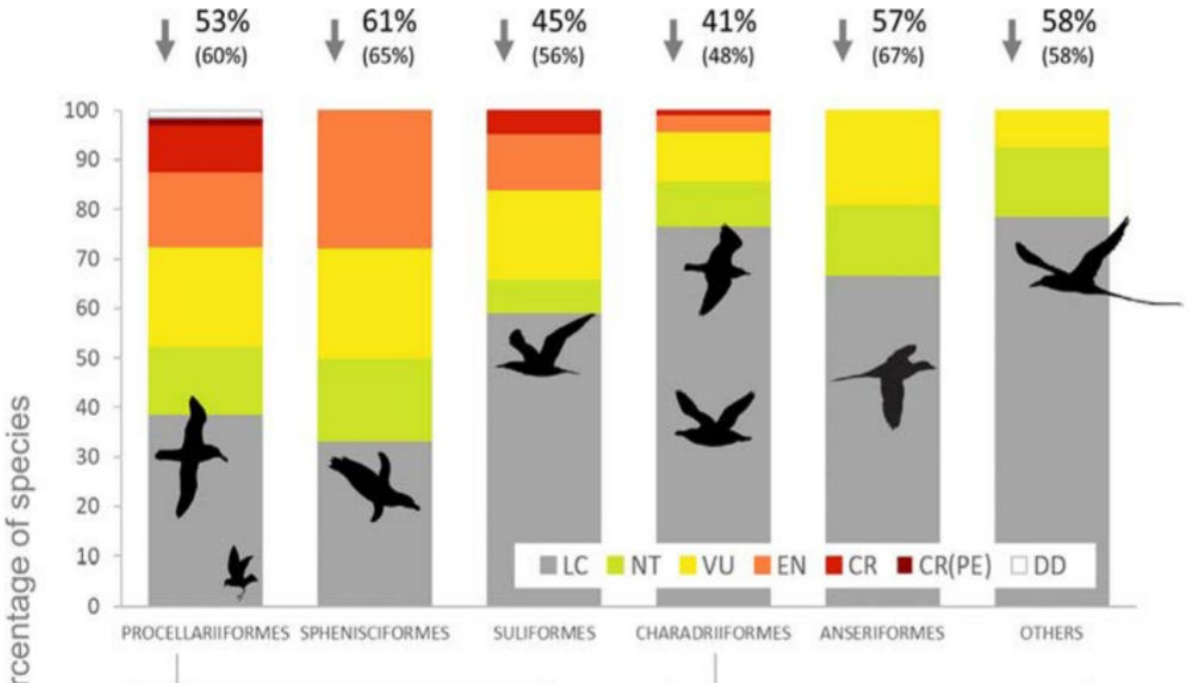


https://www.fws.gov/story/2023-10/california-condor-hpai-response-update-october-16-2023

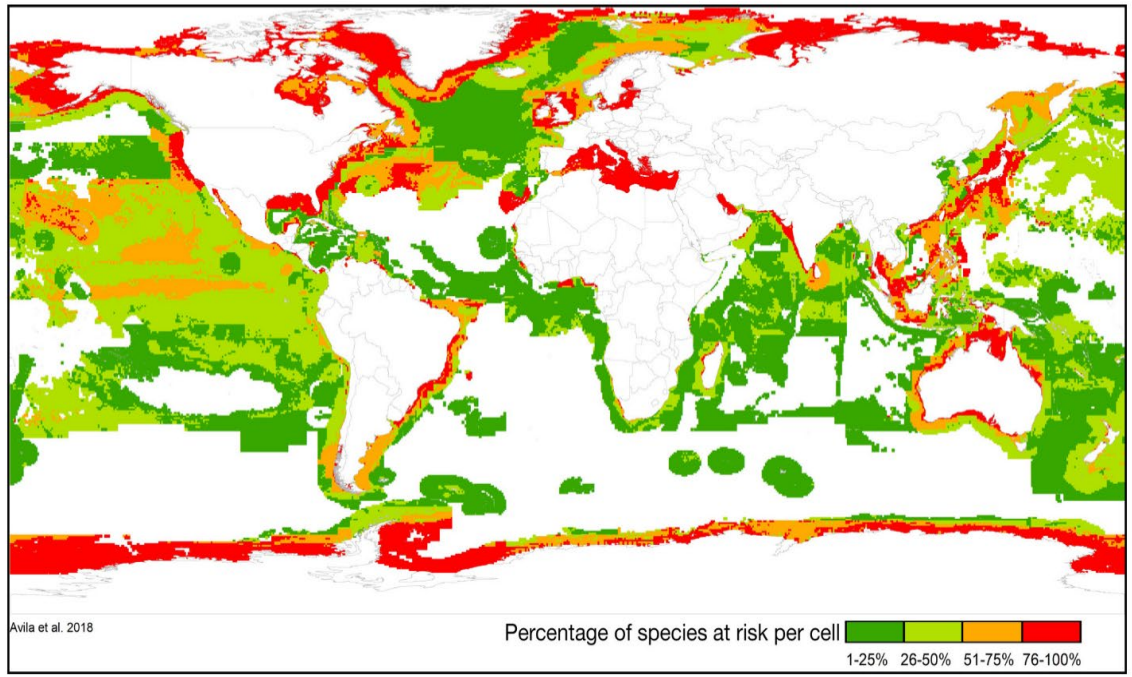
Harvey, J.A. et al. The changing dynamics of highly pathogenic avian influenza H5N1: Next steps for management & science in North America, Biological Conservation: 282. https://doi.org/10.1016/j.biocon.2023.110041

Posibles impactos poblacionales significativos

Aves marinas
+56% declinando



Mamíferos marinos
98% en riesgo, 25% amenazados



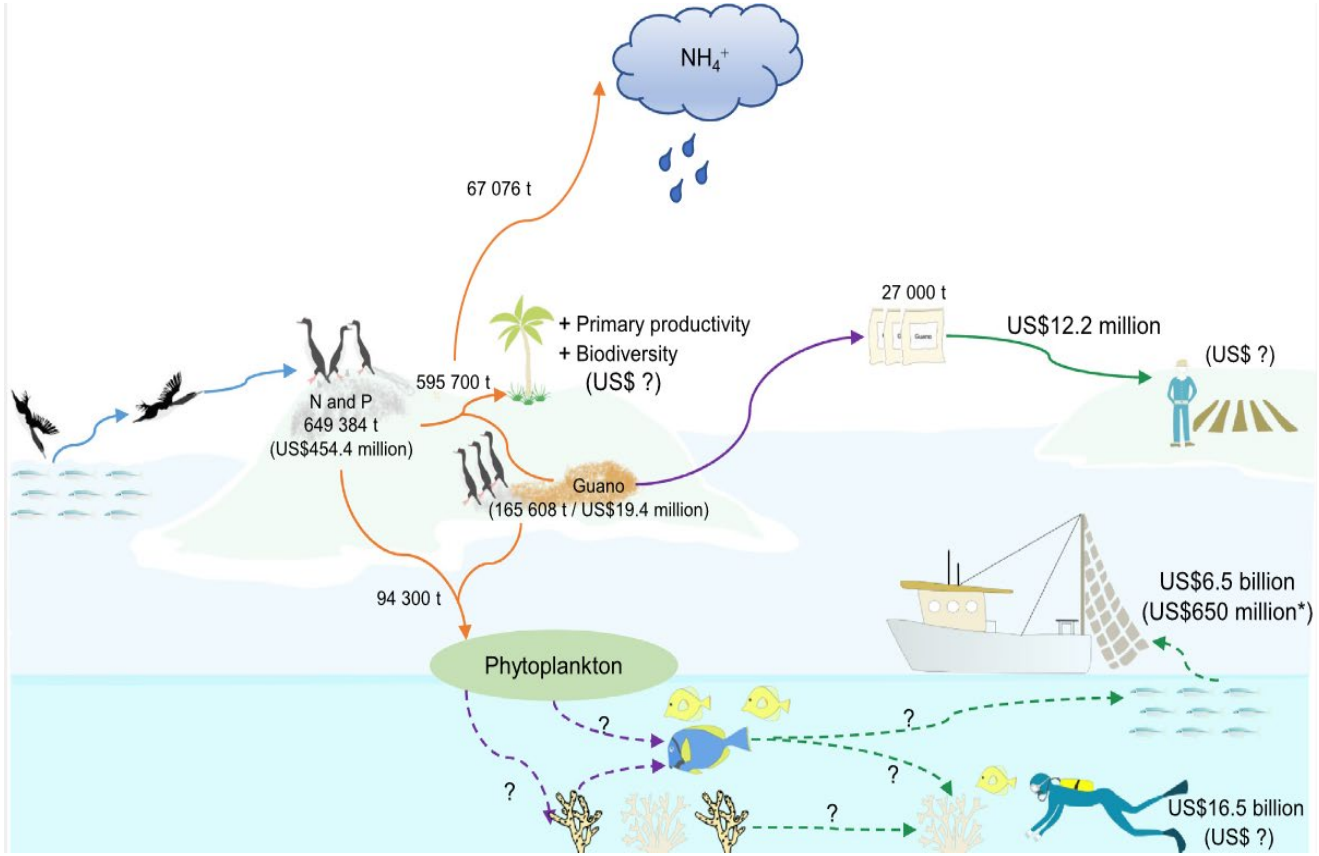
Phillips, R.A. et al. Chapter 2 - Conservation status and overview of threats to seabirds, 2023, https://doi.org/10.1016/B978-0-323-88539-3.00015-7.

Nelms SE, et al. 2021. Marine mammal conservation: over the horizon. Endangered Species Research 44:291-325. https://doi.org/10.3354/esr01115

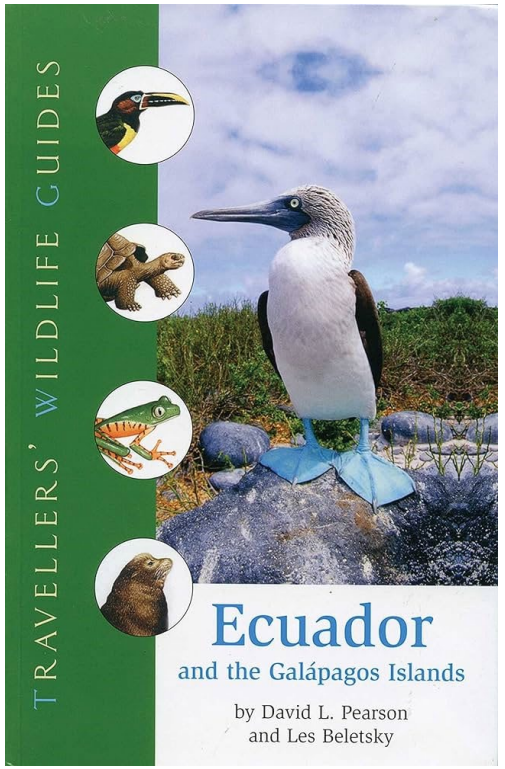
Servicios ecosistémicos y valoración económica

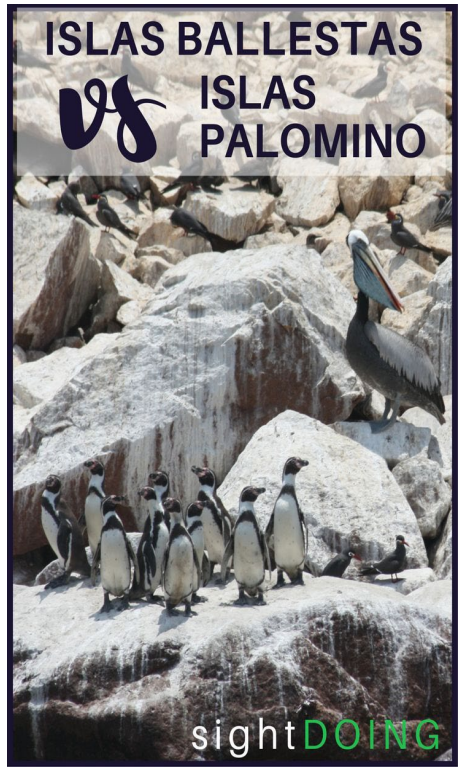
Guano aves marinas

~USD 473.83 millones/año



Ecoturismo

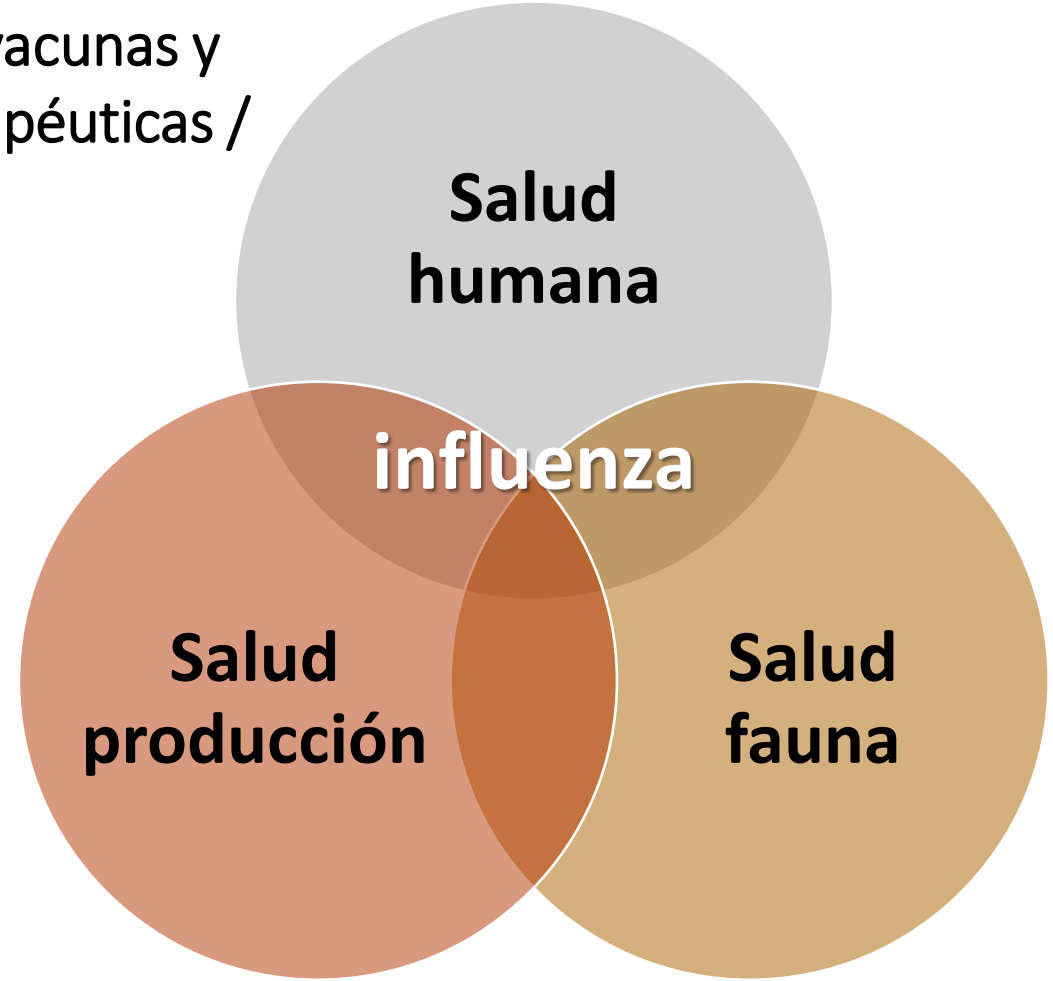




Plazas-Jiménez, D. et al. 2020. Valuing Ecosystem Services Can Help to Save Seabirds. Trends in Ecology & Evolution, 35 (9): 757-762. https://doi.org/10.1016/j.tree.2020.06.008

Resolver el problema actual

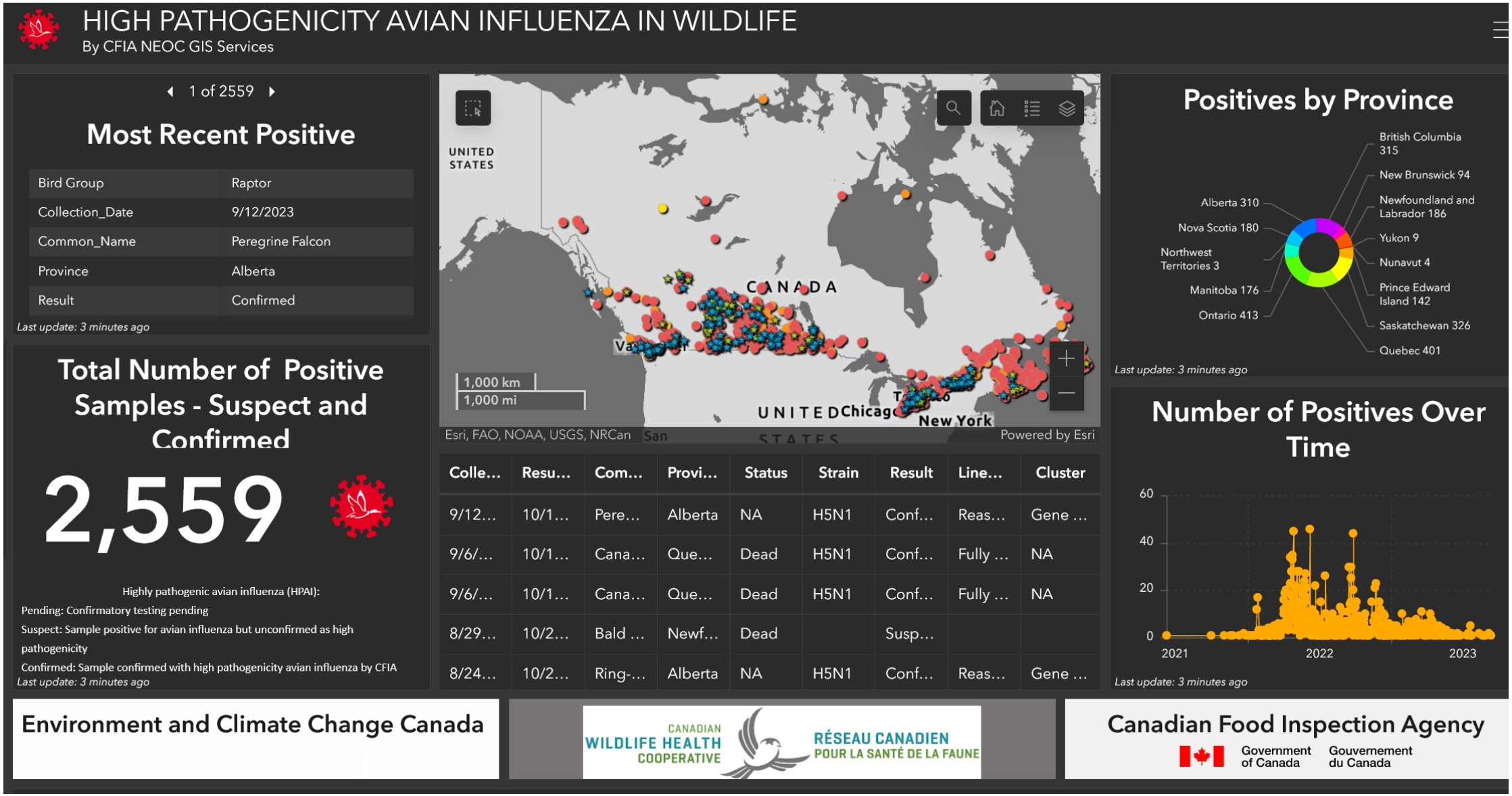
Preparación vacunas y opciones terapéuticas / **Secuencias!**



Prevención y control aves, cerdos, pilíferos / **Bioseguridad!**

Comprender y mitigar / **Impactos!**

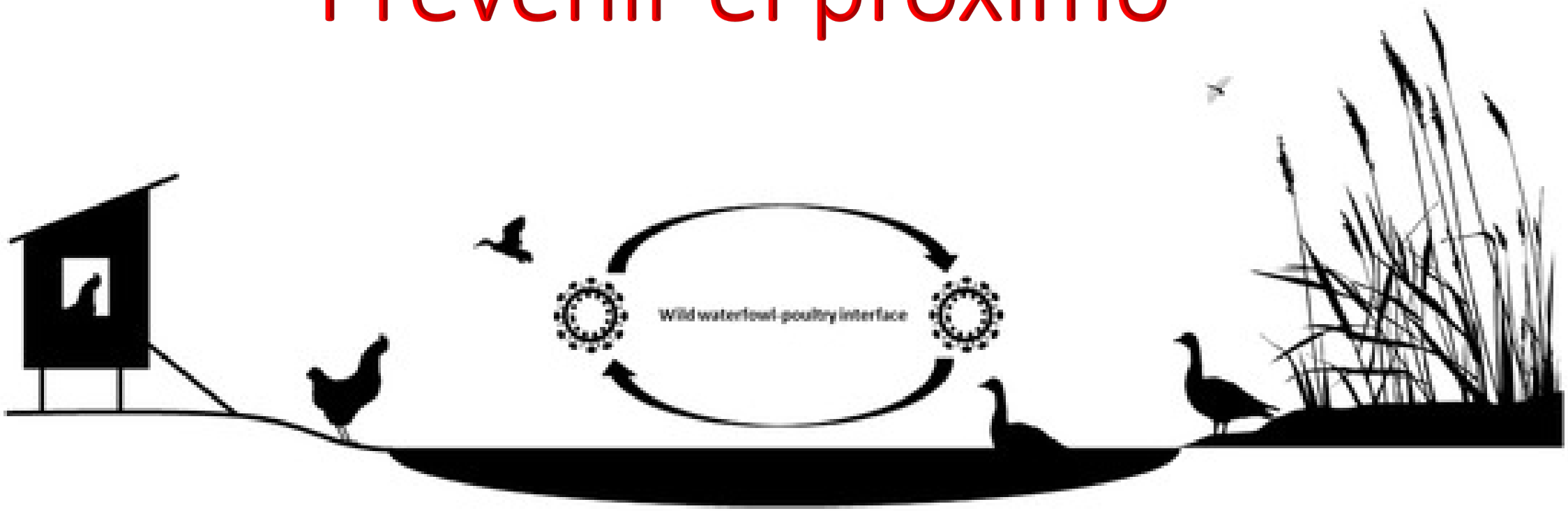
Vigilancia y comunicación en tiempo real



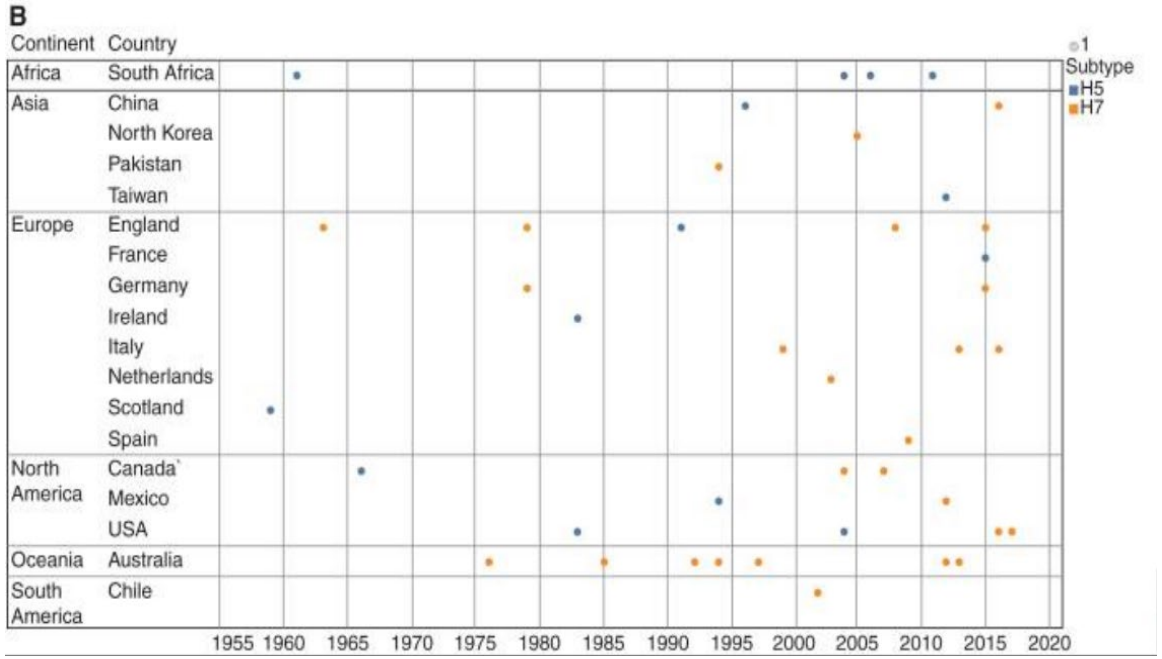
https://cfia-ncr.maps.arcgis.com/apps/dashboards/89c779e98cdf492c899df23e1c38fdbc

Los escenarios que le permitieron emerger y diseminarse persisten

Prevenir el próximo



42 eventos VIAAP 1959-2019
H5=15 H7=27



- **38** eventos contenidos y erradicados
- Brotes de linajes VIAAP A/goose/Guangdong/1/1996 (**H5Nx**), **H7N3** México y **H7N9** China continúan

Lee DH, Criado MF, Swayne DE. Pathobiological Origins and Evolutionary History of Highly Pathogenic Avian Influenza Viruses. Cold Spring Harb Perspect Med. 2021. doi: 10.1101/cshperspect.a038679.

Punta León, Chubut. 3 noviembre 2023

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