



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Overview of the NAI-2022 PSIW



Canada

Presentation Outline

- H5N1: Global context and introduction into Canada
 - Description of H5N1 impacts on Canadian Poultry
 - Situation in the West
 - Challenges/Successes
- 

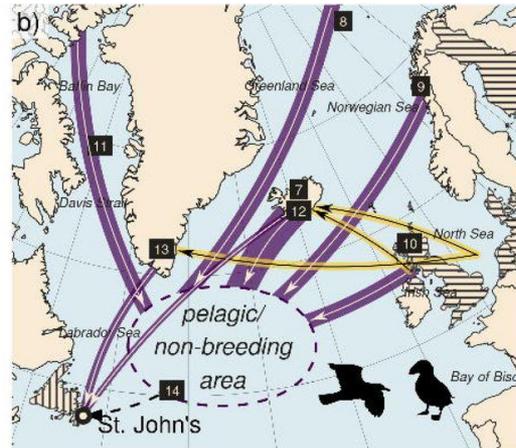
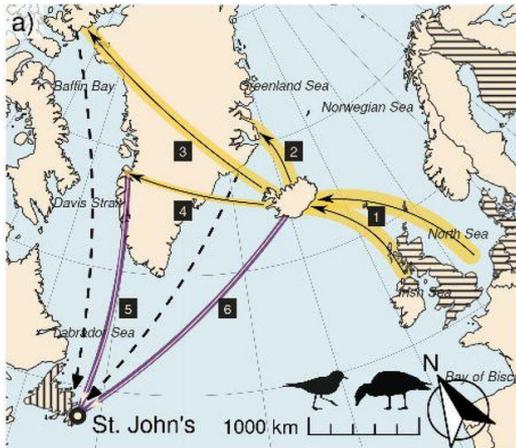
H5N1 Global Context



Overview of confirmed global outbreak events of all HPAI strains using date of observation between January 1st 2021 and Sept 30th 2022. This information was obtained from the Food and Agriculture Organization's (FAO) EMPRES-i+ Global Animal Disease Information System (GADIS).

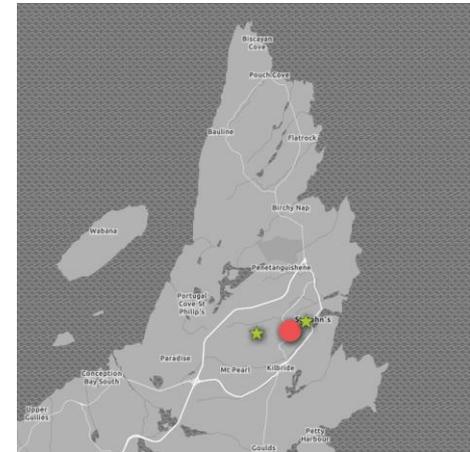
- The past 15 years: rise in the frequency and geographic distribution of avian influenza A virus infections
- Mostly low pathogenicity avian influenza (LPAI)
- Produce no or few signs in infected wild birds, and cause either no or mild disease in poultry
 - e.g. ruffled feathers, reduced feed and water intake, decreased egg production, maybe respiratory disease
- Since 2020: worldwide increase in the number of high pathogenicity avian influenza (HPAI) infections – especially H5N1 Clade 2.3.4.4b
 - leads to clinical disease affecting multiple organ systems, and mortality rates exceeding 90% among poultry flocks within 24-48 hours of infection

H5N1 Introduction into Canada



█ spring █ autumn H5N1 detected spring/summer 2021 November 2021

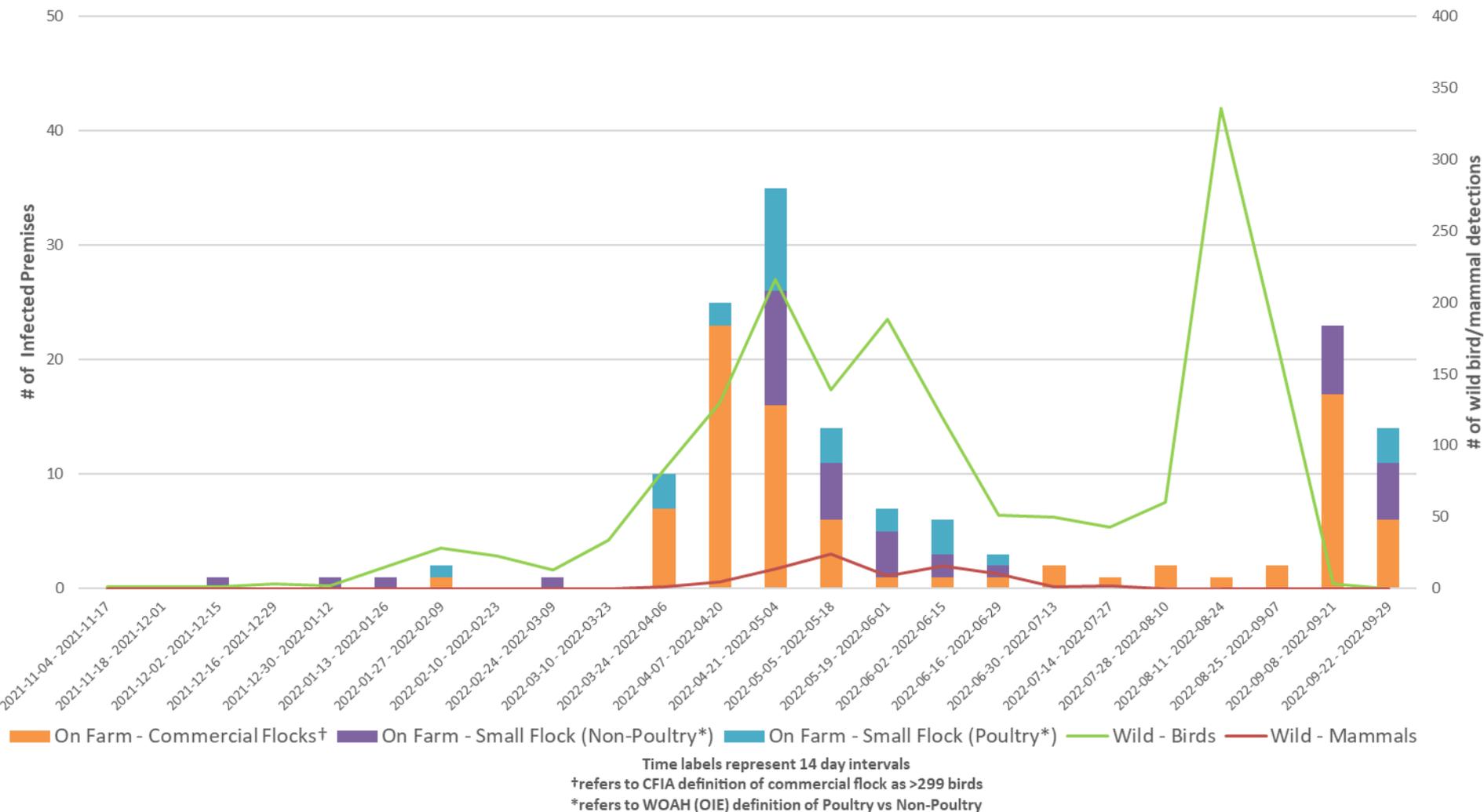
Maps showing putative transmission pathways between Europe and Newfoundland via migratory waterfowl/shorebirds (a) and pelagic seabirds (b). Taken from Caliendo et al. 2022 - Transatlantic spread of highly pathogenic avian influenza H5N1 by wild birds from Europe to North America in 2021



Map of the Northern tip of the Avalon Peninsula in Newfoundland showing the collected carcass of the great black-backed gull (red circle) and its proximity to the two IPs (green stars). Taken from the Highly Pathogenic Avian Influenza - Wild birds Dashboard

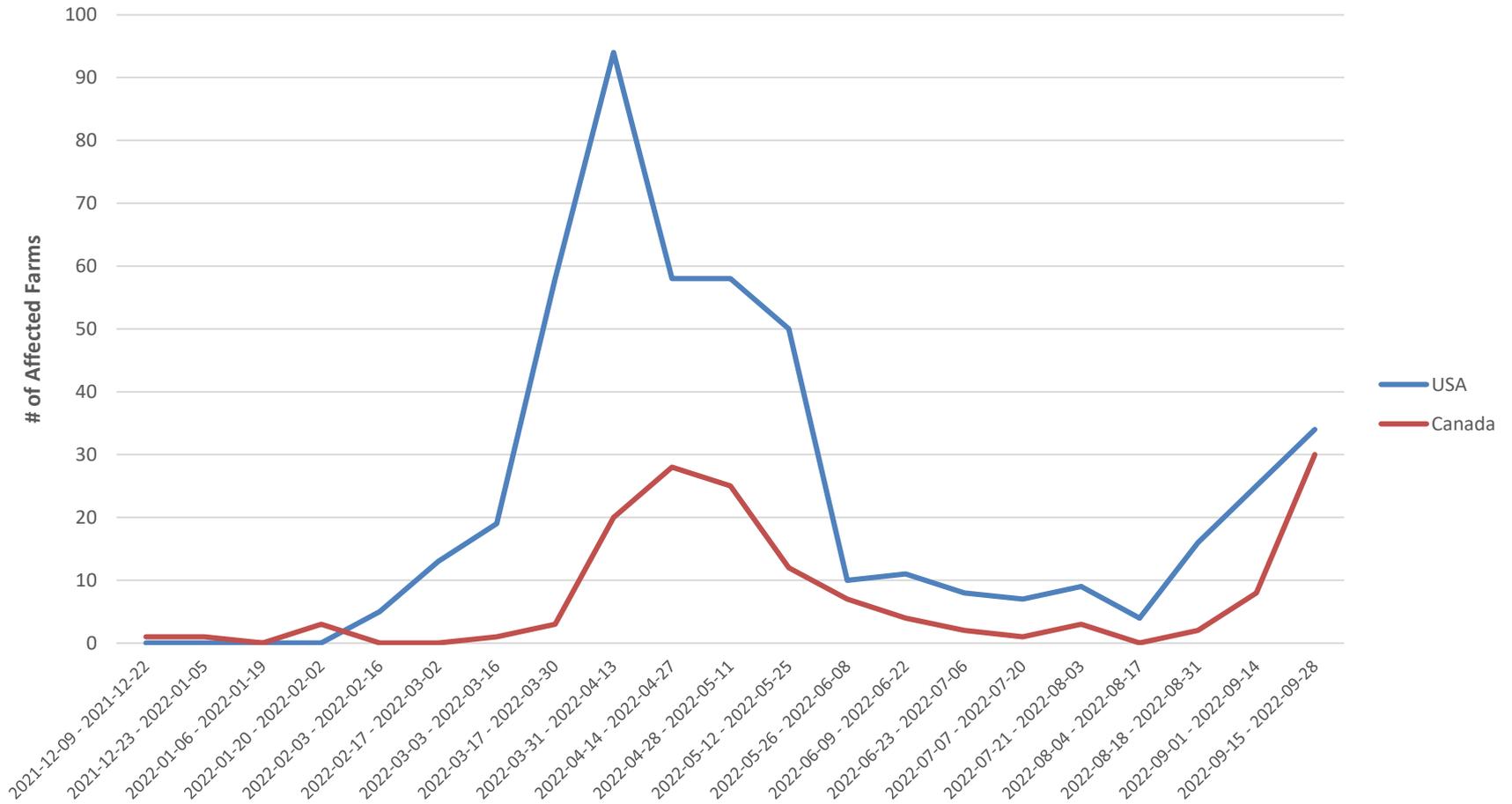
- H5N1 viruses detected in wild birds of NL in Dec. 2021, and across the U.S. eastern seaboard, by Jan. 2022
- Wild birds found in NL tested positive at National Centre for Foreign Animal Diseases (NCFAD) in Winnipeg for HPAI H5N1 clade 2.3.4.4b Fully Eurasian Lineage.
- The same lineage is confirmed on the two IPs nearby

Situation as of Sept 30th, 2022

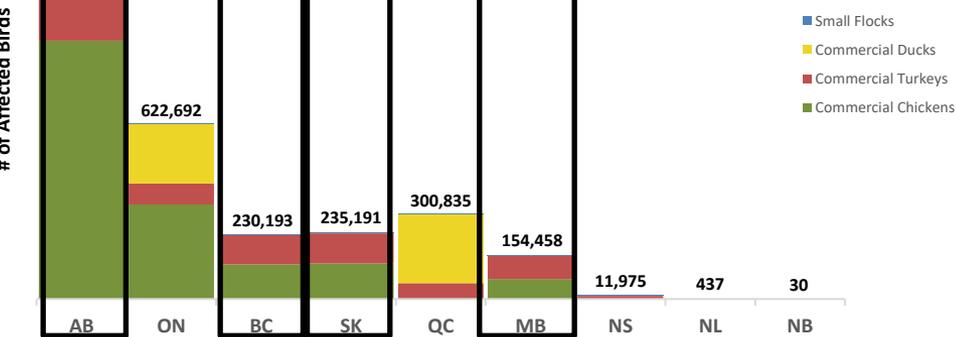
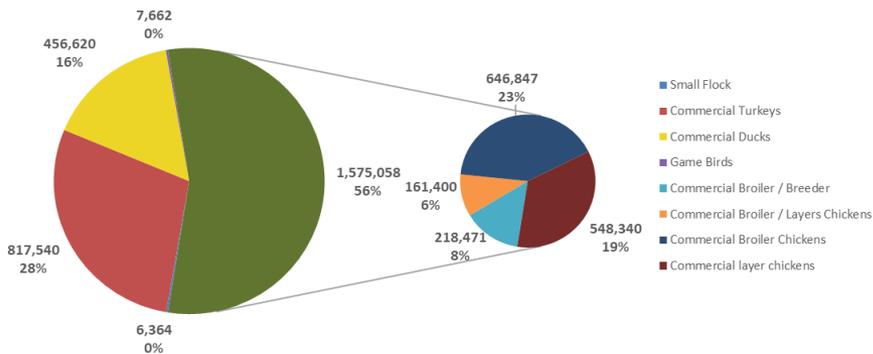
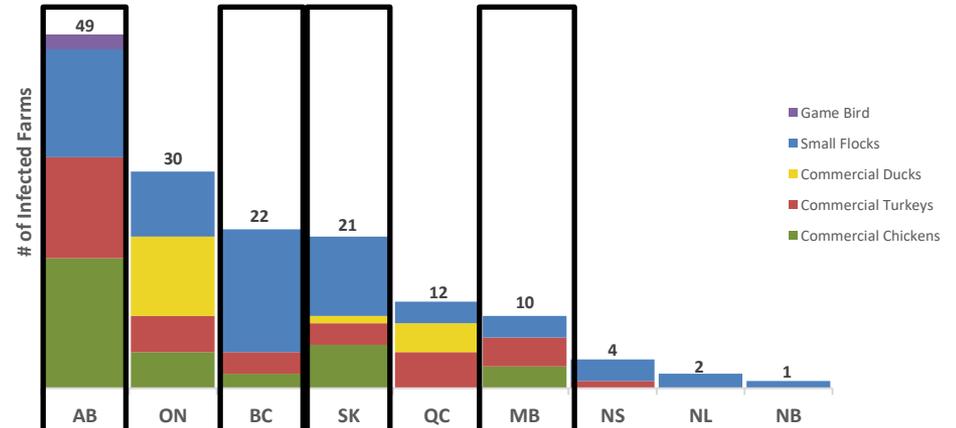
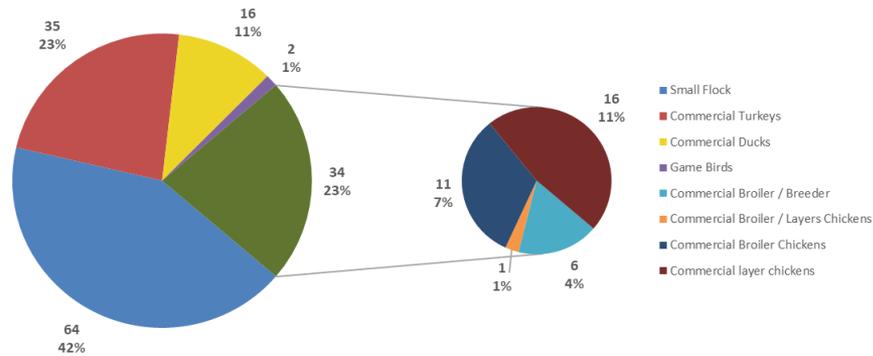


Temporal correlation between domestic and wild bird/mammal HPAI detections. For wild birds/mammals, the dates represent collection date (found dead or live-sampled) and on-farm represents the Canadian Animal Health Surveillance Network (CAHSN) confirmation date. Note that On-farm and Wild bird/mammal detections are plotted on separate axis.

Comparing Farm cases with USA



Impacts on Canadian Poultry



Breakdown of infected premises (IP) by type of farm (top); compared to number of birds affected (bottom). Chickens (Dark Green) are further broken down by production sector (as of Sept 30th 2022)

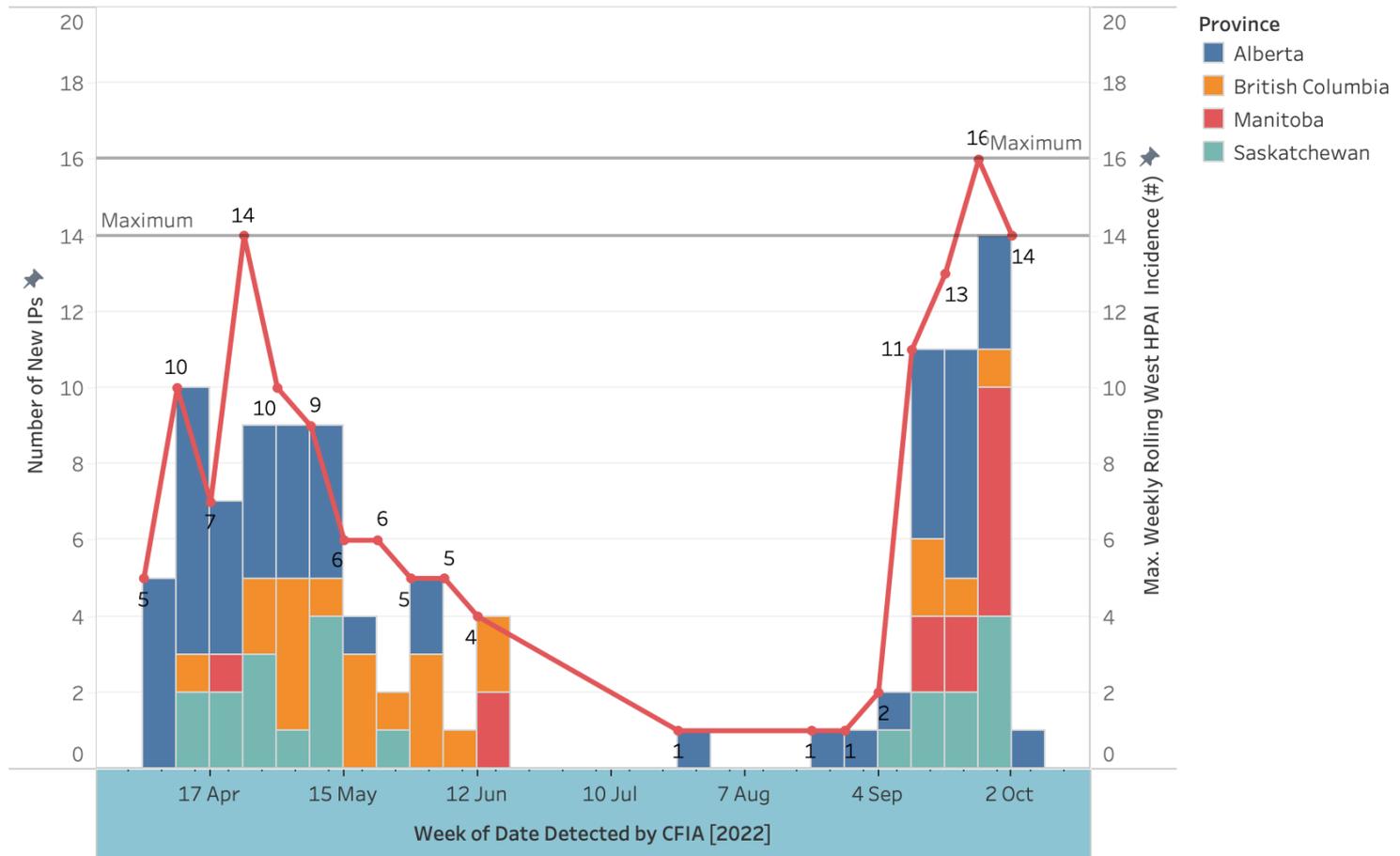
Comparison of total number of provincial IPs (top; n=151) and the total number of birds affected (bottom; n=2,863,244) further broken down by type of bird (as of Sept 30th 2022)

Timeline of Domestic Outbreaks in the West

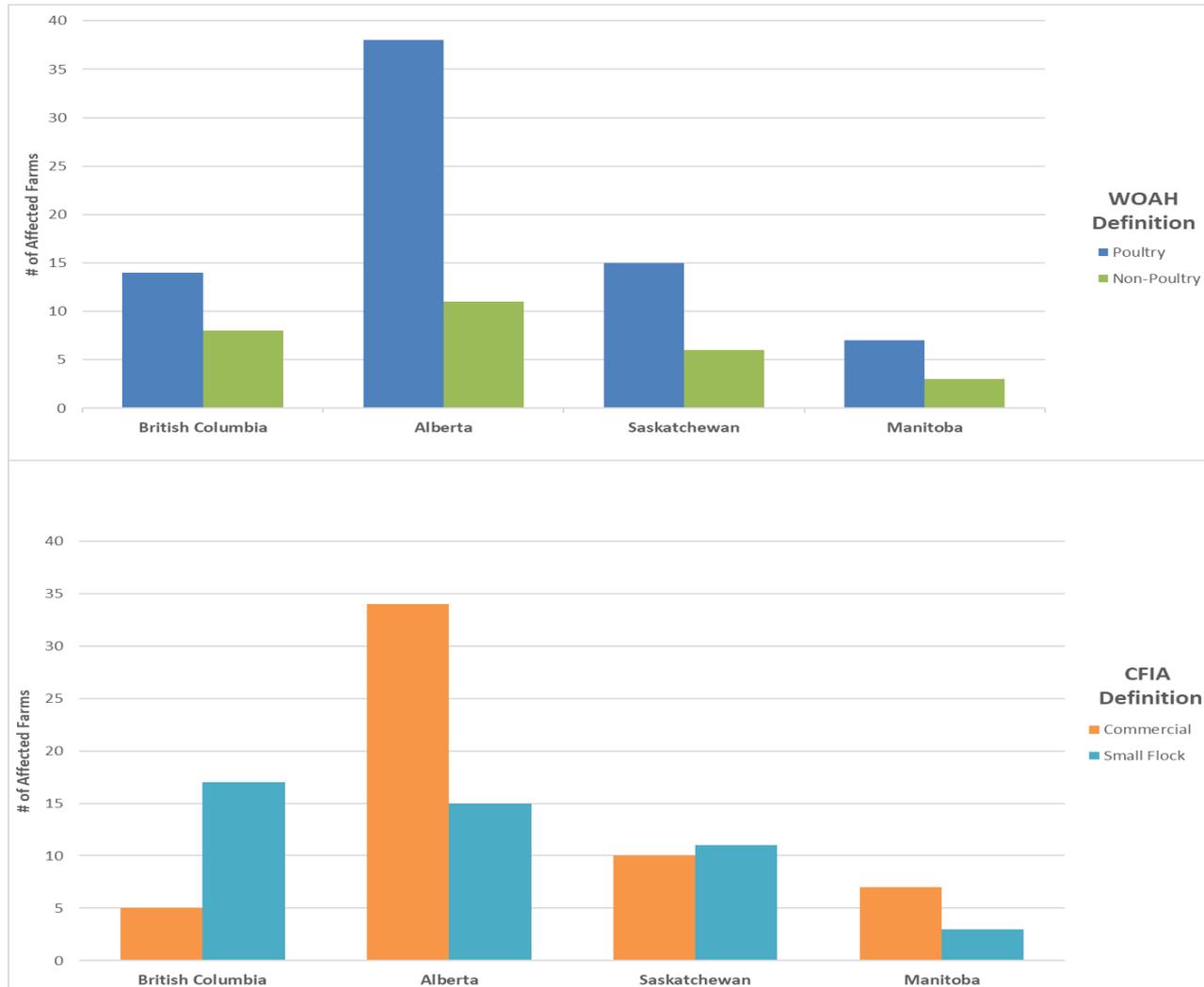
HPAI West: Weekly EpiCurve by Date of Diagnosis & Province

Source: <https://inspection.canada.ca/animal-health/terrestrial-animals/diseases/reportable/avian-influenza/hpai-in-canada/status-of-ongoing-avian-influenza-response/eng/1640207916497/1640207916934>

Updated data to October 6th, 2022 6:24am



Comparing WOAH and CFIA Infected Farm Classification

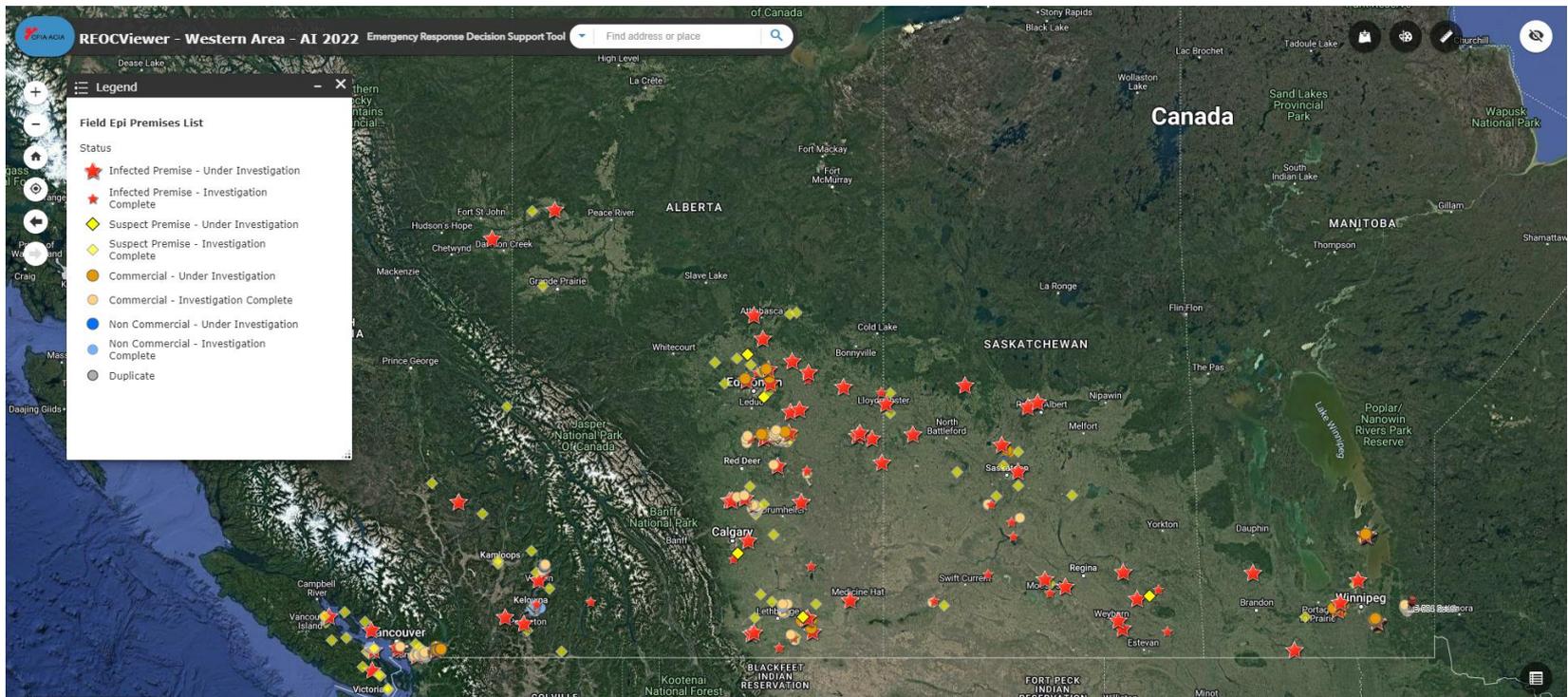


Challenges

- Geographic diversity
- Virtual ICS Structure
- Responder readiness
- COVID -19
- CO₂ Availability
- Industry readiness
- Industry alignment

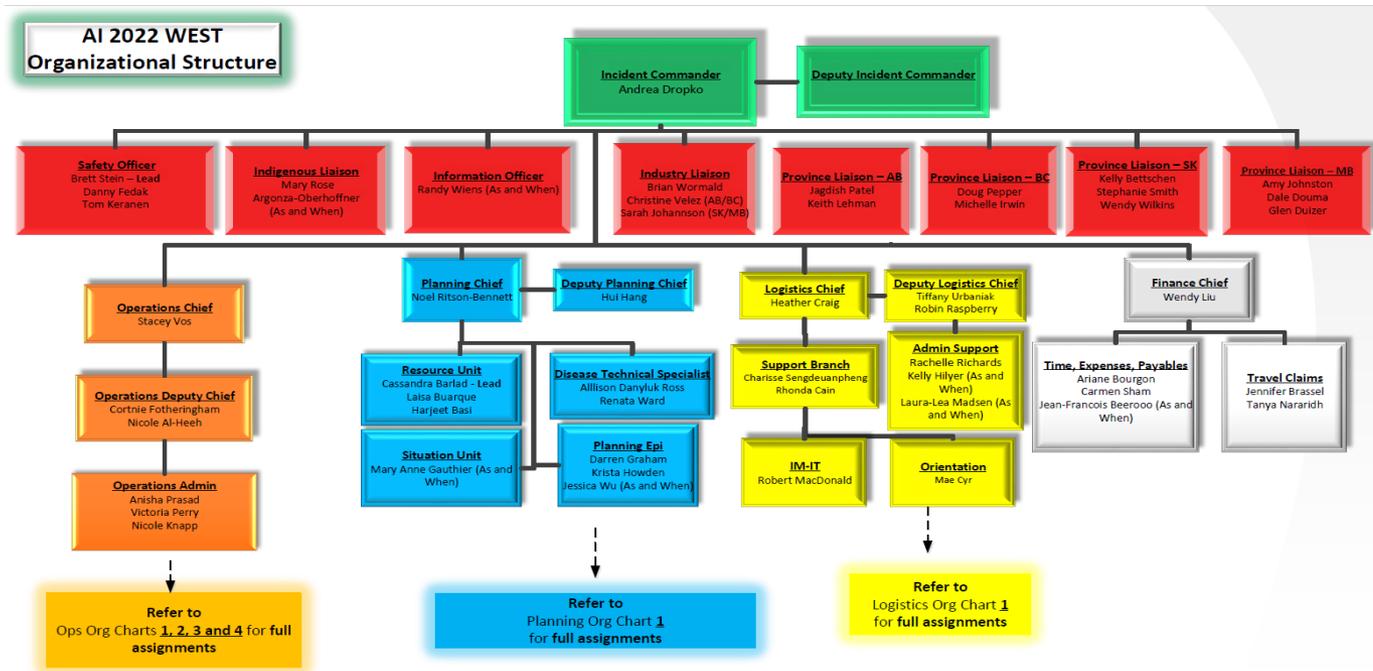
Challenges

Geographic diversity



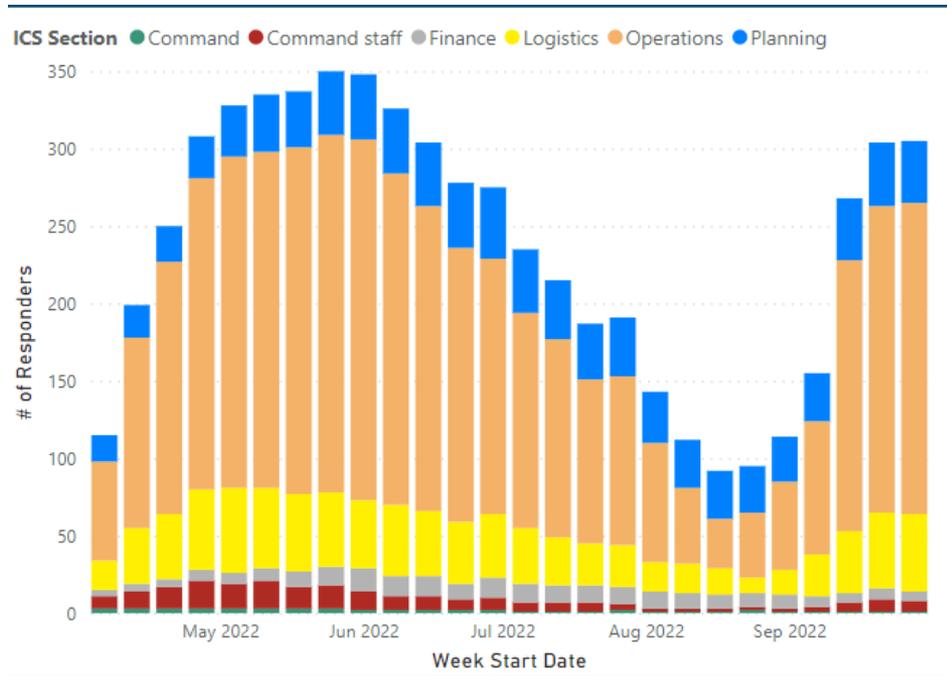
Challenges

Virtual ICS Structure



Challenges

Responder Readiness/Availability



Challenges



Challenges

CO₂ Availability



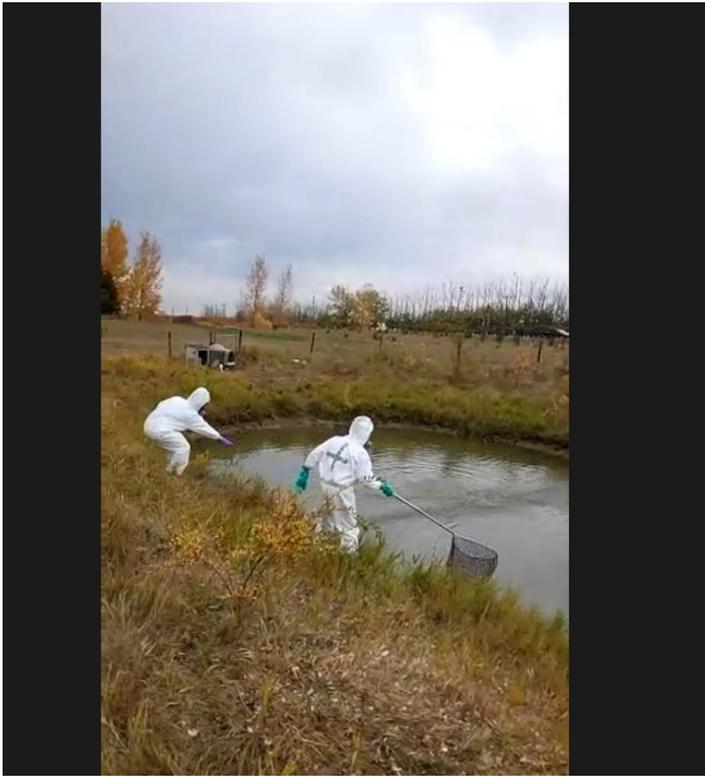
Challenges

- Industry readiness/awareness
- Industry alignment



Challenges

Non Commercial Premises



Successes

- Virtual ICS structure and Communications
 - Industry Collaboration
 - Private Veterinary sampling
 - Updated ERP
- 

Virtual ICS structure and Communications

Waugh, Bradley (CFIA/ACIA) Yesterday 2:51 p.m.



Noel and Andrea Afternoon Show

Industry Collaboration



Non CFIA Sampling



Event Response Plan



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Avian influenza – permits and conditions needed for movement control

The Minister of Agriculture and Agri-Food has [declared primary control zones \(PCZ\)](#) to prevent the spread of highly pathogenic avian influenza (H5N1) in Canada. As a result of this declaration, birds, their products and by-products, as well as things exposed to birds cannot be moved into, out of, within, or through PCZ except by permission. There are 2 permits available, a [general permit](#) and a [specific permit](#).

Use the interactive tool below for information on the required permit along with conditions for the transportation of birds and by-products in the PCZ. Domestic use (for personal use) and distribution of retail meat, meat products, fully cooked meat, egg product and processed egg are exempt from permitting requirements.

* **What type of product are you moving? (required)**

Make your selection...

Continue

Thank You!



Acknowledgments:

- Dr. Darren Graham
- Dr. Krista Howden
- NAI 2022 Team