

European Wildlife Disease Association Network Meeting

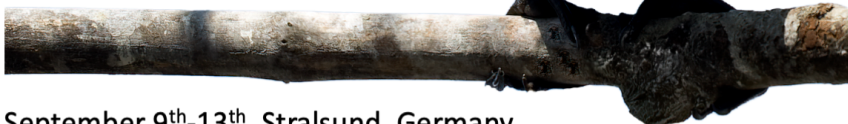


**How do we translate wildlife health
surveillance into conservation action?**

15th European Wildlife Disease Conference

One Health

EWDA 2024



September 9th-13th, Stralsund, Germany

**Challenges and Opportunities for the
Surveillance and Management of Wildlife**

© S.Knauf

Date: Monday September 9th, 2024

Time: 15.00 – 18.00 C(entral) E(uropean) S(ummer) T(ime)

For questions about the EWDA Network, please email
EWDA.Network@gmail.com

Background



Wildlife health surveillance (WHS) produces valuable information that can help inform and address disease threats to public and animal health alike. While focus has been on safeguarding the health of people and captive animals, there is a growing recognition of the need to consider adverse impacts on biodiversity and ecosystems to fully adopt a one health perspective. Geographically isolated species may be particularly at risk from introduced novel pathogens; critically endangered species with remnant populations are vulnerable to disease as an additive threat; and there are a growing number of examples where both infectious and non-infectious diseases have led to rapid and unpredictable declines of previously common species across wide geographical scales.

The goal of this meeting is to explore how we can translate WHS into conservation action. And the ultimate goal, how do we move to disease prevention and health promotion of resilient and biodiverse wildlife populations?

Presentations will explore our goal, illustrating with successful examples from recent years. We will end with a group discussion, to review lessons learned that may be reapplied, and opportunities for improvement in the future.

Programme 9 September 2024

Time: 15.00 – 18.00 C(entral) E(uropean) S(ummer) T(ime)

15.00 - 15.10	Welcome and introduction
15.10 - 15.30	Chris Walzer, Wildlife Conservation Society From surveillance to action: unleashing the power of wildlife health for conservation
15.30 - 15.50	Ruth Cromie, CMS Councillor for Wildlife Health Avian influenza: from surveillance to risk mitigation and conservation action
15.50 - 16.00	Q&A
16.00 - 16.30	Coffee break and poster viewing
16.30 - 16.50	An Martel, University of Ghent What did 10 years of <i>Batrachochytrium salamandrivorans</i> teach us about early detection of infectious wildlife diseases?
16.50 - 17.10	Tony Sainsbury, Institute of Zoology Monitoring the health of species in conservation translocations: The Disease Risk Analysis & Health Surveillance Project
17.10 - 17.20	Q&A
17.20 - 18.00	Panel Discussion



From surveillance to action: unleashing the power of wildlife health for conservation

Name: Chris Walzer^{1,2}

Email: cwalzer@wcs.org

Affiliation(s):

¹Wildlife Conservation Society, 2300 Southern Blvd. Bronx, New York, USA

²University of Veterinary Medicine, Vienna, Austria

Global leaders, national and regional governments, multilateral organizations, and civil society universally acknowledge the vital importance of preserving a healthy environment for public health. While international treaties and regulations uphold health as a fundamental human right, a global good, and a social asset, there is an urgent need for enhanced collaboration and action between the environmental and public health sectors to embrace a holistic approach to health. This cooperation is essential to combat future pandemics and safeguard the environment for the benefit of all individuals and species (1). The landmark 1986 Ottawa Charter for Health Promotion highlighted sustainability and resilient ecosystems as critical elements for promoting good health (2). More recently, various statements during the COVID-19 pandemic across different levels and sectors have emphasized the interconnectedness between the health of animals, humans, and their shared environment, advocating for a One Health approach. Notably, the incorporation of the UNEP into the existing Tripartite partnership for One Health involving the FAO, WOAHA and WHO in 2022 has significantly reinforced the integration of environmental considerations into global health approaches. In a world facing a multitude of crises, including climate change, biodiversity loss, emerging infectious diseases, and global inequities, it is evident that addressing critical drivers, such as deforestation in tropical and subtropical regions, enhancing the health and economic stability of communities in disease hotspots, improving biosecurity in livestock farming, regulating wildlife markets, and expanding pathogen surveillance in wildlife are not merely environmental concerns but crucial steps towards health for all.

The editorial board of The Lancet recently emphasized that the One Health approach inherently requires reducing human impact on the environment, representing a primary medical intervention (3). As we move forward, it is crucial that we fully consider intact and functioning environments in an expanded social-ecological model of health (4).

References:

1. Olson SH, et al. 2023. Ground zero for pandemic prevention: reinforcing environmental sector integration. *BMJ Global Health* 8(10) e013600. doi:10.1136/bmjgh-2023-013600.
2. WHO (World Health Organization) 1986. Ottawa charter for health promotion. Available: <https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference> [Accessed 2 Jul 2024].
3. The Lancet, 2023. One Health: a call for ecological equity. *Lancet* 401, 10372. doi:10.1016/S0140-6736(23)00090-9.
4. Stephen C & Walzer C 2023. The continuum of care as a unifying framework for intergenerational and interspecies health equity. *Frontiers in Public Health* 11(1236569). doi: 10.3389/fpubj.2023.1236569.

What did 10 years of *Batrachochytrium salamandrivorans* teach us about early detection of infectious wildlife diseases?

Name: An Martel¹, Frank Pasmans¹

Email: An.Martel@ugent.be

Affiliation(s):

¹Wildlife Health Ghent, Faculty of Veterinary Medicine, Ghent University, Salisburylaan 133 9820 Merelbeke, Belgium

In 2013, the fungus *Batrachochytrium salamandrivorans* (*Bsal*) was described, following the discovery of a massive crash of a fire salamander population in the Netherlands. *Bsal* is believed to have recently spilled over from Asian urodeles in the pet trade to European salamanders. This fungus has been shown to be highly pathogenic to most urodelan taxa naturally occurring in Europe and currently causes mortality in wild salamander and newt populations in four EU member States: the Netherlands (first detected in 2013), Belgium (first detected in 2013), Germany (first detected in 2015) and Spain (first detected in 2018).

Shortly after *Bsal*'s detection, a pan-European Early Warning System, consisting of a network of regional hotlines and diagnostic labs in 12 EU countries was developed. This Early Warning System raised broad-scale awareness in a European network of stakeholders and centralized and coordinated efforts (Tender ENV.B.3/SER/2016/0028).

Detection of *Bsal* in nature is invariably associated with mortality events and the infection has been demonstrated to persist for at least ten years in an affected population. The regional hotlines have proven to be essential in the detection of new *Bsal* outbreaks, after which active surveillance efforts were set up in order to delineate the extent of the outbreaks by surveillance of nearby urodele populations.

A combined effort of authorities, management and scientists delivered proof that drastic and continued actions in the field may contain and even eradicate Bsal in natural systems through a combination of fencing, disinfection, host removal and active surveillance of a perimeter. To achieve this, initiating mitigation measures quickly is key. This stresses the importance of a functional Early Warning System to optimise the value of surveillance for amphibian conservation.

References:

Report: Tender ENV.B.3/SER/2016/0028: Mitigating a new infectious disease in salamanders to counteract the loss of European biodiversity. http://bsaleurope.com/wp-content/uploads/2021/03/Report_ENV.B.3-SER-2016-0028.pdf

Avian influenza: from surveillance to risk mitigation and conservation action

Name: Ruth Cromie^{1,2} (Bristol, UK)

Email: ruth.cromie@outlook.com

Affiliation(s):

¹Convention on Migratory Species (CMS) COP-Appointed Councillor for Wildlife Health

²Co-ordinator of CMS FAO Co-convened Scientific Task Force on Avian Influenza and Wild Birds University of Veterinary Medicine, Vienna, Austria

Eurasian lineage goose/Guangdong H5 highly pathogenic avian influenza (HPAI) is causing unprecedented mortality of wild birds and marine mammals with significant conservation impacts. With global spread and increasing numbers of species affected, the knowledge gaps are extensive with surveillance and research being key to improving our understanding. And this improved understanding could help preparedness to better mitigate impacts and reduce risks to other sectors including people and the risk of emergence of a pandemic strain. The key word here is 'could'.

Despite greater than ever emphasis on, and needs for, better wild bird surveillance, current efforts remain patchy and problematic. Many of these problems are related to the aim of the surveillance being protection of poultry rather than wildlife with consequent missed opportunities to reduce risks to wildlife, or better manage outbreaks. At a time of a biodiversity crisis and ever-present threats to wider health, not least from HPAI, wildlife health often remains the poor relation in the One Health approach.

Yet, our time has come! In terms of appreciation of the interconnectedness of health and importance of One Health approaches, we are living in enlightened times with multiple global frameworks mandating a focus on resilient ecosystems, in part to reduce pandemic risks.

The presentation will explore how we move from the realms of surveillance into conservation action and the need for full engagement of environment sections of government as key decision makers.

The presentation will highlight work to engage these decision makers in taking conservation action in relation to HPAI and wider wildlife health via working with intergovernmental organisations. This work includes the role of the Scientific Task Force on Avian Influenza and Wild Birds which is co-convened by the Convention on Migratory Species (CMS) and the Food and Agriculture Organisation (FAO) of the United Nations, and two recent resolutions on wildlife health adopted by CMS early in 2024 with substantive supporting guidance. The obligations of these resolutions reflect the mandates of other frameworks. There feels no shortage of directives on the actions to be taken - our challenge is finding ways to support/encourage/urge our governments in their implementation of action on the ground.

Monitoring the health of species in conservation translocations: the Disease Risk Analysis and Health Surveillance (DRAHS) Project

Name: Tony Sainsbury¹

Email: tony.sainsbury@ioz.ac.uk

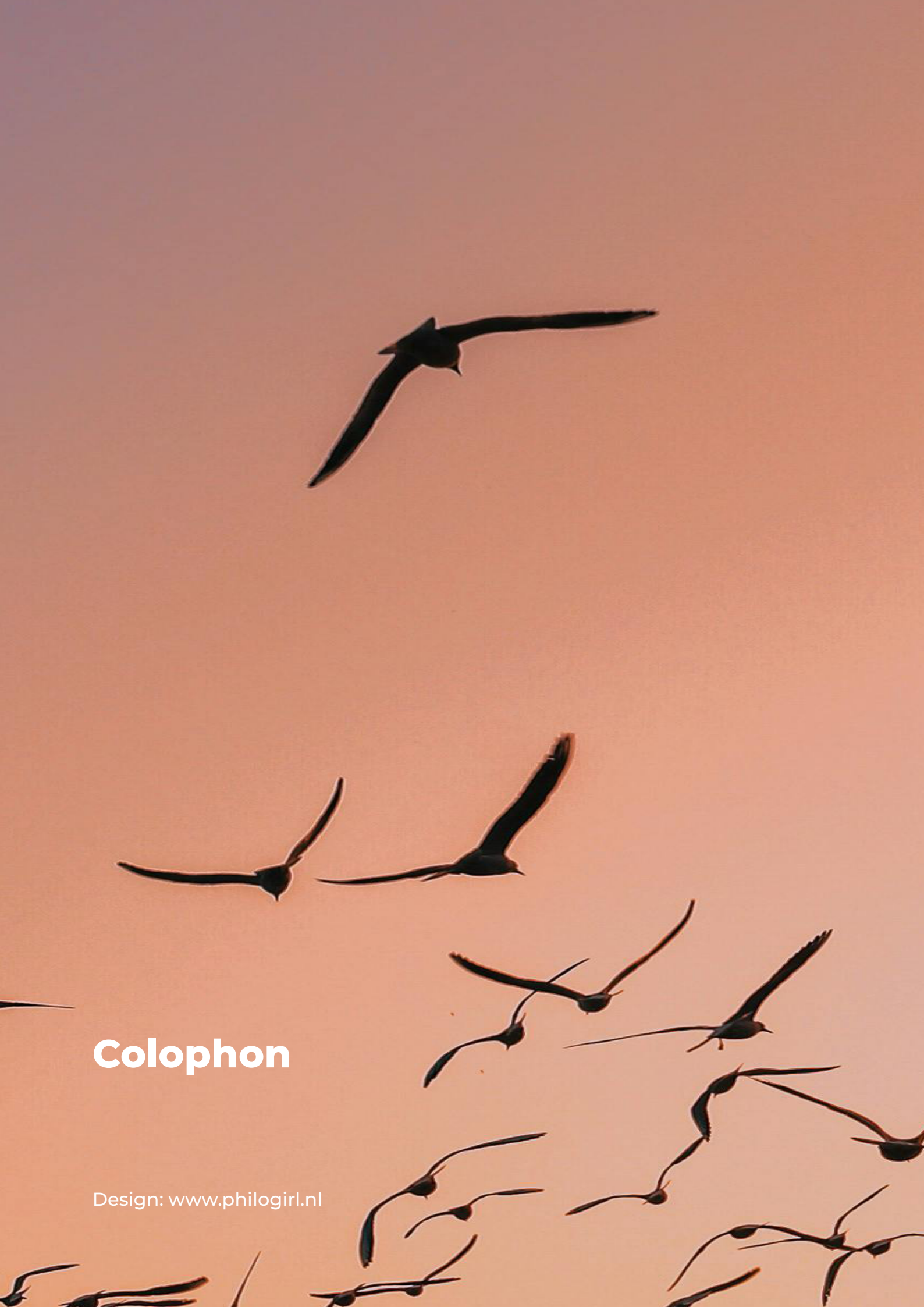
Affiliation(s):

¹Institute of Zoology, Zoological Society of London, Regent's Park, London, NW1 4RY, UK

There are inherent risks from disease in undertaking conservation translocations, particularly where these translocations cross geographical and ecological barriers (1). Where barriers are crossed, novel parasites (viruses, bacteria, fungi, protozoa, helminths, ectoparasites) may be introduced to immunologically naïve populations of wild animals. Parasite surveillance prior to conservation translocation can improve our understanding of the risks from disease. For example, faecal sampling of short-haired bumblebee (*Bombus subterraneus*) prior to release prevented the introduction of the alien trypanosome parasite, *Crithidia bombi*, to England from Sweden (2). A total of 192 free-living wild sand lizards (*Lacerta agilis*) were sampled for the presence of *Serratia marcescens*, prior to translocation of sand lizards from a captive population, in contact with the latter bacterium, to the free-living state in England. Post-release health surveillance potentially provides information on the threat posed by novel, previously unknown, parasites released at the destination. For example, reintroduced pool frogs (*Pelophylax lessonae*) have been health examined annually since a reintroduction programme started in England in 2006 (3). This pool frog surveillance work will continue because evidence shows that novel parasites may not have population impacts for decades following translocations (4). Therefore, parasite and disease surveillance provides important information on the effects of conservation translocations on ecosystem health, and facilitates interventions to reduce the impact.

References:

1. Bobadilla Suarez M, et al. 2017. Using qualitative disease risk analysis for herpetofauna conservation translocations transgressing ecological and geographical barriers. *Ecohealth* 14(S1): S47-S60. doi:10.1007/s10393-015-1086-4.
2. Brown MJF, et al. 2017. Bringing back a healthy buzz? Invertebrate parasites and reintroductions: a case study in bumblebees. *Ecohealth* 14(S1), S74-S83. doi:10.1007/s10393-015-1093-5.
3. Sainsbury AW, et al. 2017. Disease risk analysis and post-release health surveillance for a reintroduction programme: the pool frog *Pelophylax lessonae*. *Transboundary and Emerging Diseases* 64(5), 1530–1548. doi:10.1111/tbed.12545.
4. Sainsbury AW, et al. 2020. Implications of squirrelpox virus for successful red squirrel translocations within mainland UK. *Conservation Science and Practice* 2(6) e200. doi:10.1111/csp2.200.



Colophon

Design: www.philogirl.nl