

Leveraging people and technology to expand and improve wildlife health surveillance

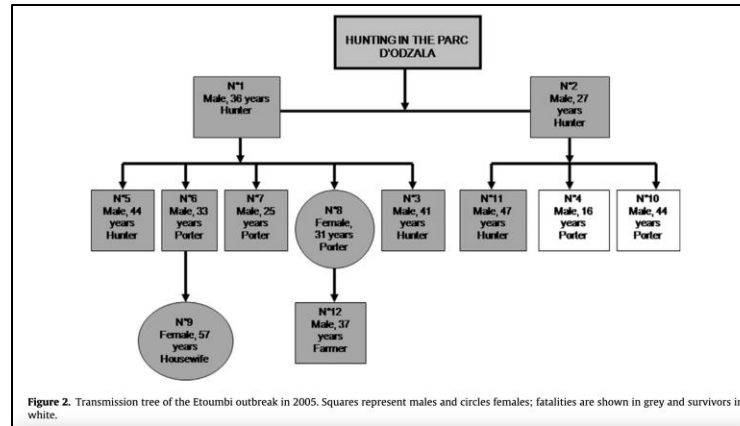
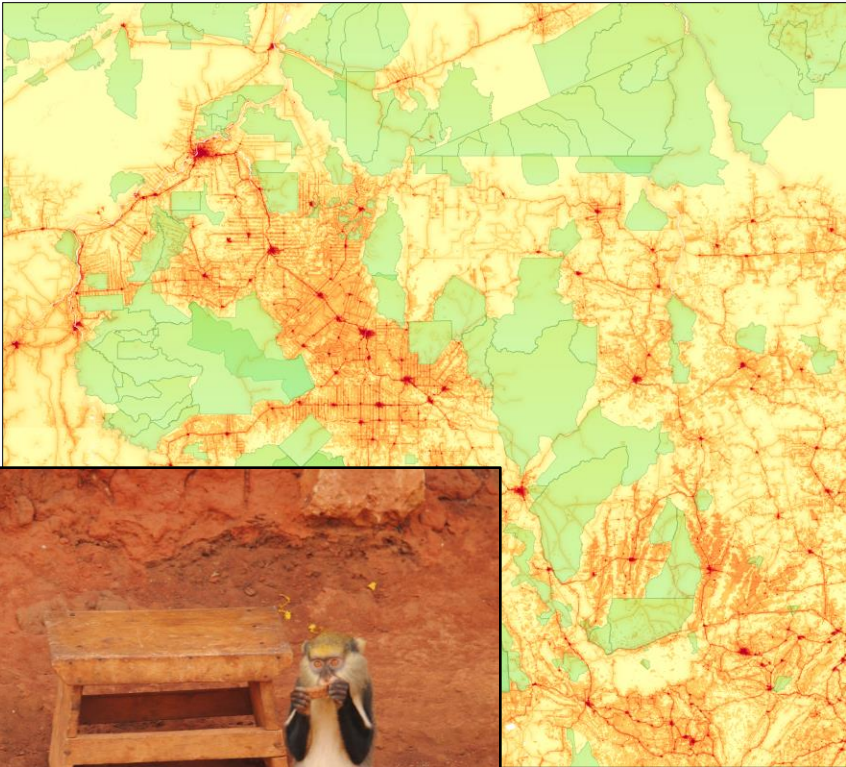


Dr. Diego Montecino-Latorre BVSc, MPVM, PhD Epidemiology

Wildlife Conservation Society – Health Program

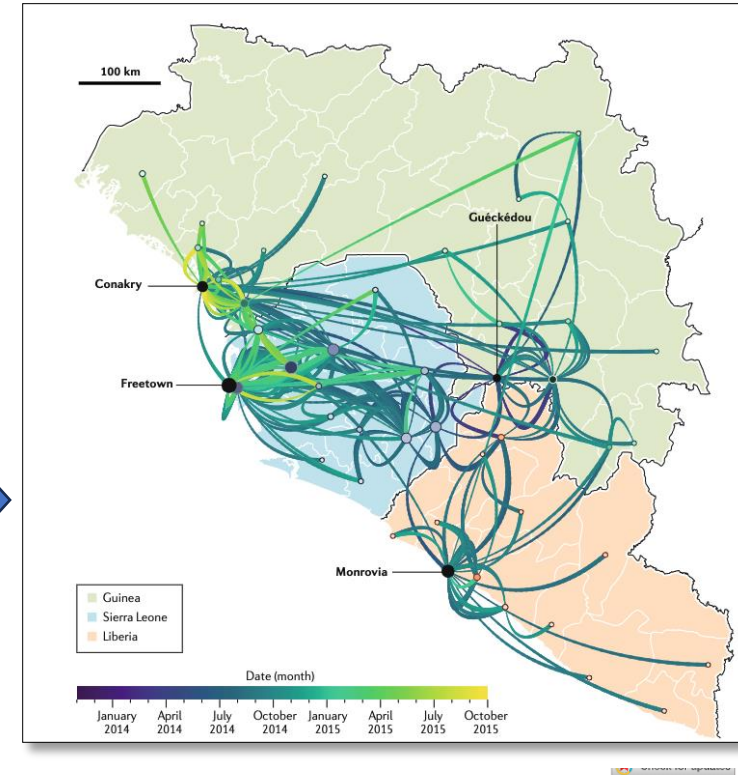
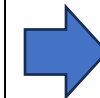


Protected areas: biodiversity strongholds but also key interfaces



A limited outbreak of Ebola haemorrhagic fever in Etoumbi, Republic of Congo, 2005

Dieudonné Nkoghe^{a,b,*}, Mamadou Lamine Kone^c, Adamou Yada^d, Eric Leroy^{a,e}



Ebola virus disease

Shevin T. Jacob^{1,2}, Ian Crozier³, William A. Fischer II⁴, Angela Hewlett⁵, Colleen S. Kraft⁶, Marc-Antoine de La Vega⁷, Moses J. Soka⁸, Victoria Wah⁹, Anthony Griffiths¹⁰, Laura Bollinger¹¹ and Jens H. Kuhn¹¹✉

Abstract | Ebola virus disease (EVD) is a severe and frequently lethal disease caused by Ebola



Diseases increasingly recognized as a threat for conservation



The wildlife snaring crisis: an insidious and pervasive threat to biodiversity in Southeast Asia

Thomas N. E. Gray¹ · Alice C. Hughes² · William F. Laurance³ · Barney Long⁴ · Anthony J. Lynam⁵ · Hannah O'Kelly⁶ · William J. Ripple⁷ · Teak Seng⁸ · Lorraine Scotson⁹ · Nicholas M. Wilkinson¹⁰



Illegal cattle trade brings New World Screwworm to wildlife and continues to destroy protected areas in Mesoamerica



Case report: Lumpy skin disease in an endangered wild banteng (*Bos javanicus*) and initiation of a vaccination campaign in domestic livestock in Cambodia

Alice Porco^{1*}, Sokha Chea¹, Sreyem Sours¹, Vonika Nou², Milou Groenenberg³, Cain Agger¹, Sothyra Tum⁴, Vanna Chhuon⁵, San Sorn², Chamnan Hong⁶, Ben Davis⁷, Sharyn Davis⁷, Sereyrotha Ken¹¹, Sarah H. Olson⁸ and Amanda E. Fine^{8*}



Wildlife health surveillance: reality check

Gaps in health security related to wildlife and environment affecting pandemic prevention and preparedness, 2007–2020

Catherine Machalaba,^a Marcela Uhart,^b Marie-Pierre Ryser-Degiorgis^c & William B Karesh^a

Among 107 countries:



No evidence of functional wildlife health surveillance program

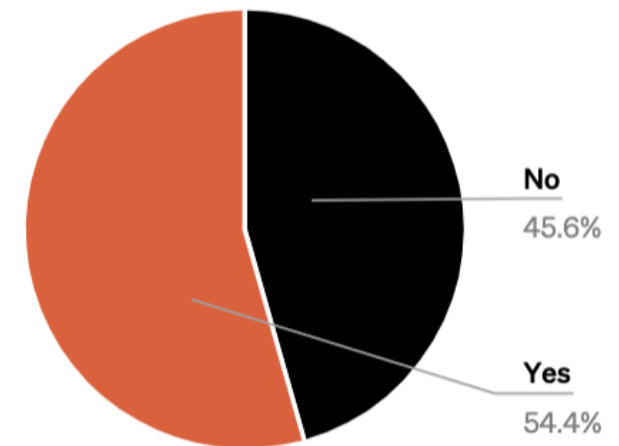


Reported gaps in operations, coordination, scope, or capacity.

Wildlife health surveillance: gaps, needs and opportunities

M. Delgado⁽¹⁾, N. Ferrari⁽²⁾, A. Fanelli⁽³⁾, S. Muset⁽¹⁾, L. Thompson⁽¹⁾, J.M. Sleeman⁽⁴⁾, C.L. White⁽⁴⁾, D. Walsh^(4,5), C. Wannous⁽¹⁾ & P. Tizzani⁽¹⁾

Respondent Members with a wildlife disease surveillance programme





How to expand wildlife health surveillance in protected areas and surroundings

“Estimate...286 thousands rangers, far short of published guidance on required densities”

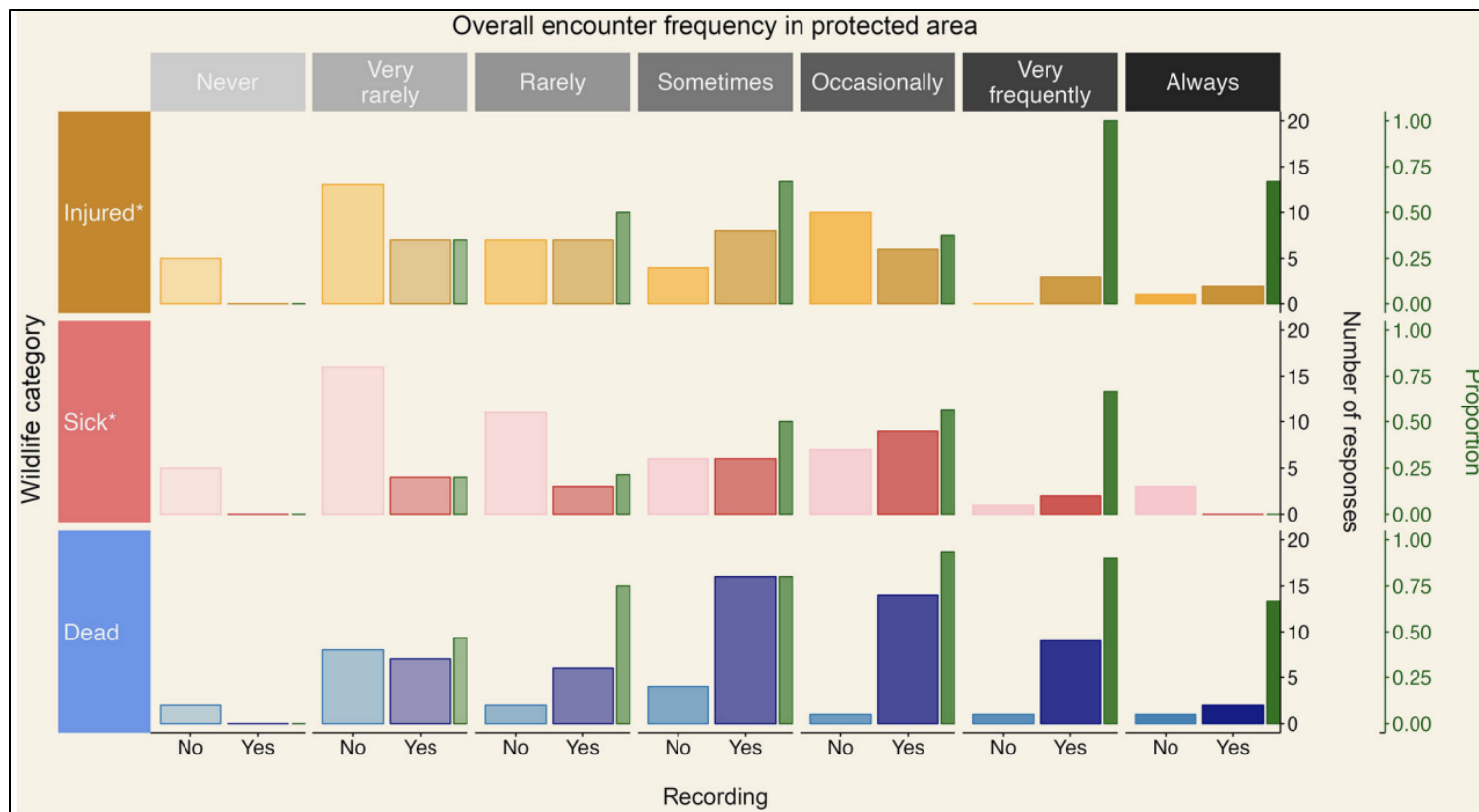
“Expansion by 2030 to 30% coverage of protected will require more than 1.5 million rangers”

nature sustainability

Analysis

<https://doi.org/10.1038/s41893-022-00970-0>

Protected area personnel and ranger numbers are insufficient to deliver global expectations



Wildlife health perceptions and monitoring practices in globally distributed protected areas

Diego Montecino-Latorre¹ | Mathieu Pruvot^{1,2} | Sarah H. Olson¹

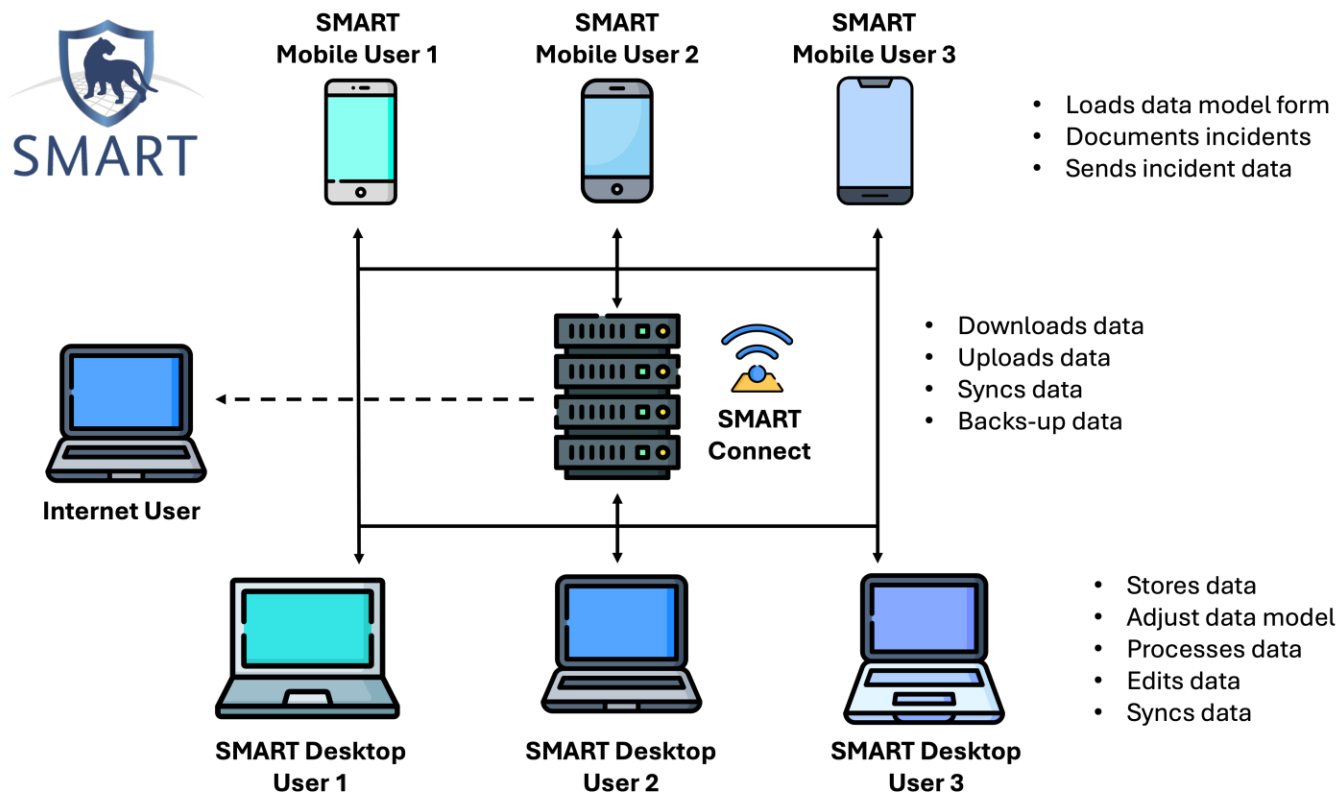


- ① Integrate rangers without adding more workload
- ② Record wildlife health events
- ③ Using a standardized protocol



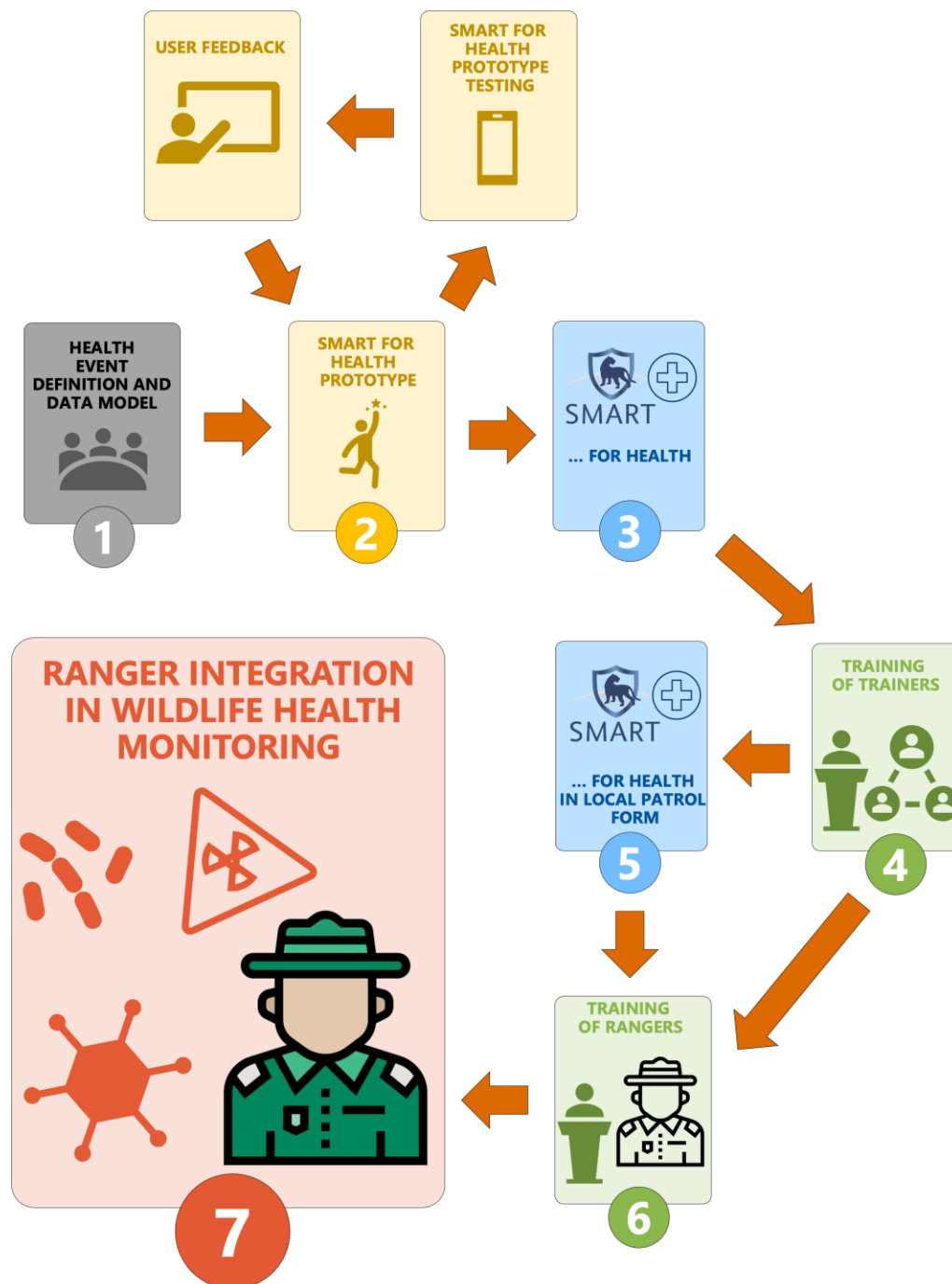


Spatial Monitoring and Reporting Tool



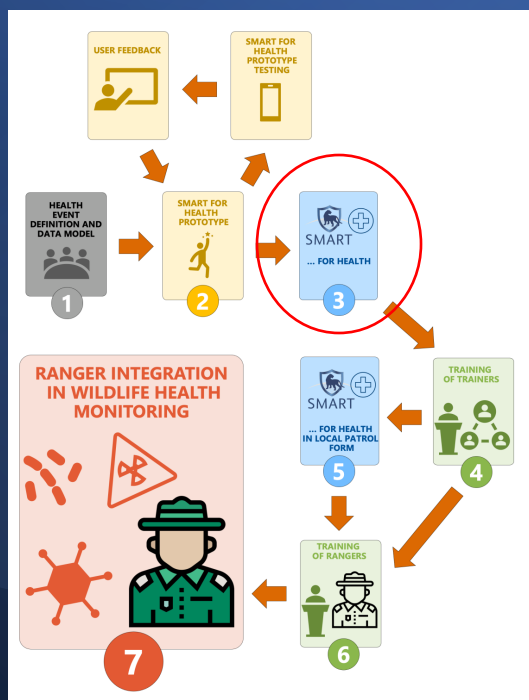


Integration





Integration



← Observations - Final

Site Description

Wildlife

Livestock - Domestic Species



Integration

 Wildlife 



* Species

* Context

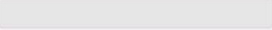
* Number Healthy Animals

* Number Sick or Injured Animals

* Number Dead Animals

Other Relevant Information

Audio note

 Wildlife 



* Species

* Context

* Number Healthy Animals

* Number Sick or Injured Animals

* Number Dead Animals
1

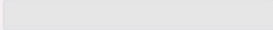
* Condition Dead Animals

* Anomalies in Dead Animals

* Potential Cause Death

Other Relevant Information

Audio note

 Anomalies in Dead Animals 

Search

No Obvious Anomalies ☐

Abnormal Gas Content ☐

Bad Smell ☐

Bleeding, Wound, Bruises ☐

Body Part Missing ☐

Diarrhea or Vomiting ☐

Fracture, Deformation, Inflammation, Prolapse ☐

Loss of Hair and Feathers ☐

Oiled/Covered by Substance ☐

 Potential Cause Death 

Search

Unknown ☐

Drowned ☐

Electrocution ☐

Entangled ☐

Fishing Gear ☐

Gunshot ☐

Infectious Disease ☐

Old Age ☐

Other Non-infectious Disease ☐



←

Hallazgos en el Lugar

Fauna Silvestre

Ganado - Especies Domesticas

←

Observations - Final

Description du Site

Faune

Bétail et Animaux Domestiques

←

Observations - Final

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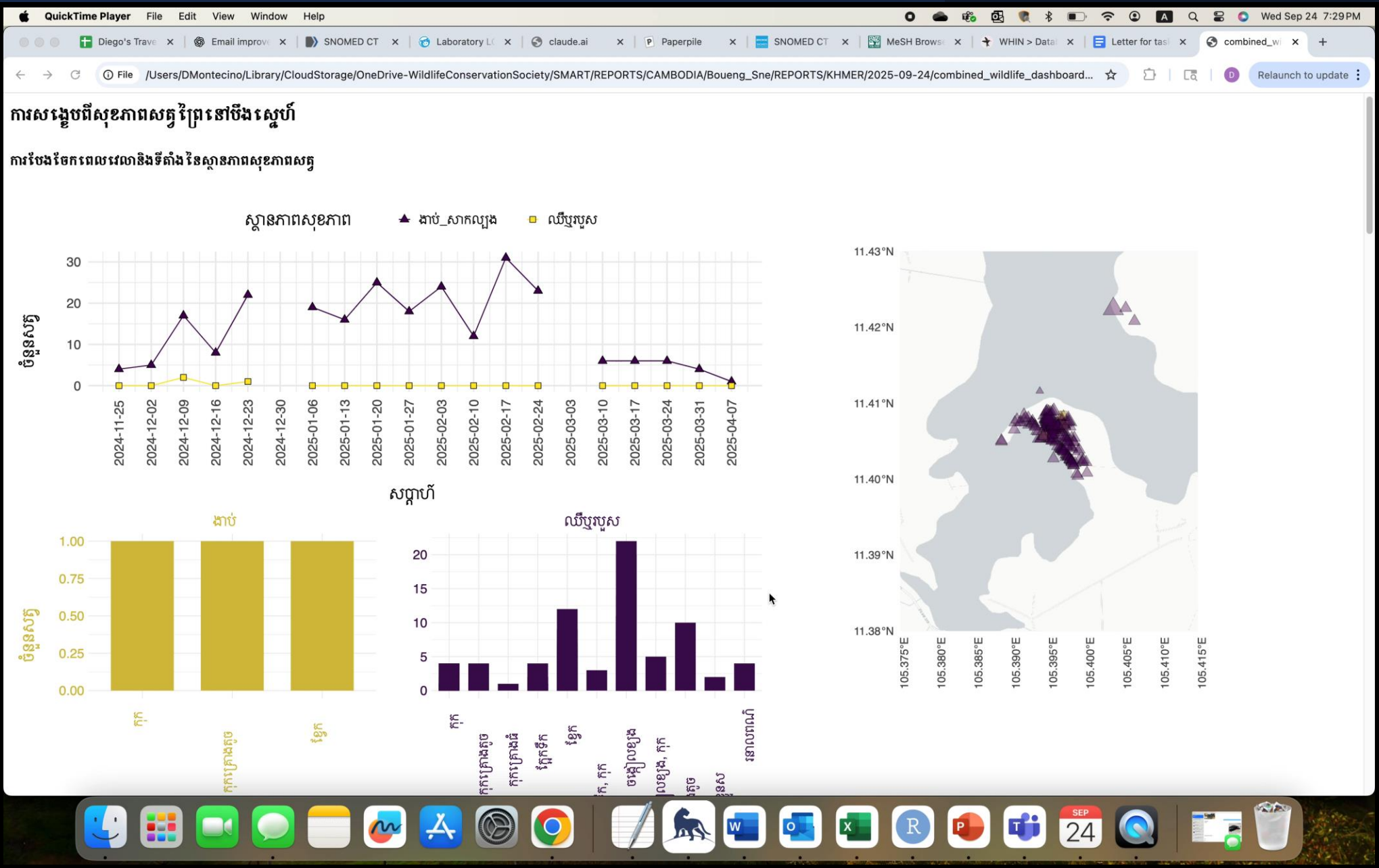
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Some results







51 Protected Areas



4 Countries



250 rangers trained



6 languages



> 1000 events recorded

Rangers as An Essential One Health Workforce: Strengthening the Preservation of Biodiversity and Global Health in Practice

22 Pages • Posted: 25 Oct 2024

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Path forward

- ✓ Experience gained improves the efficiency of the integration
- ✓ Limits of the data and measure integration efficiency
- ✓ Suitability of Anomalies, Potential causes, and their options
- ✓ Expand, evolve monitoring into WHS, and integrate in OH frameworks
- ✓ New PAs in Cambodia next year



