Using image and sound in Vattenfall for biodiversity monitoring

Vattenfall Research & Development
Patrik Andreasson 2026-09-29



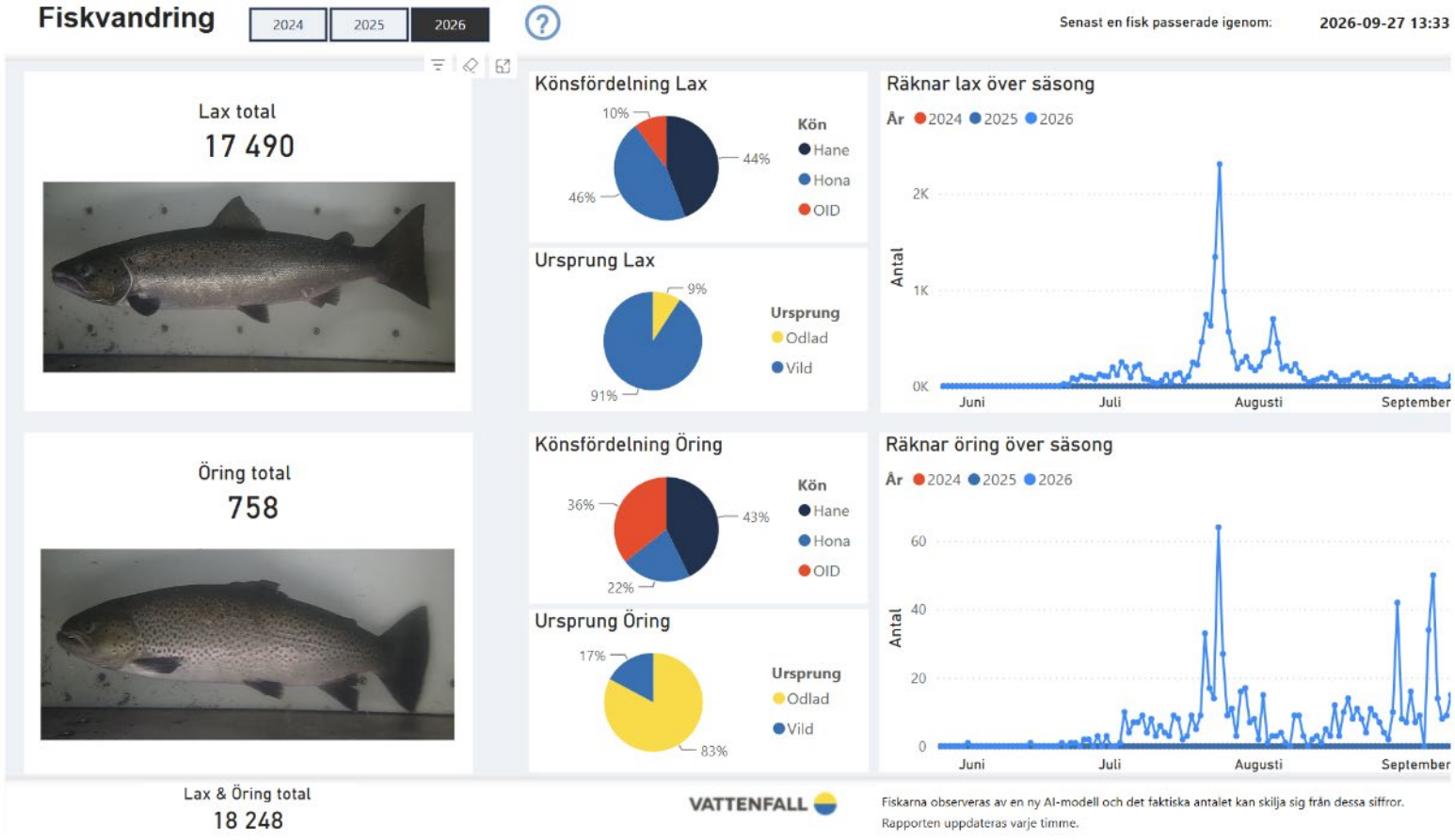
Photo: Jörgen Wiklund, SLU

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id:7 Has_fin 0.98
id:7 Male 0.95
id:7 Salmon 0.95
FishAI revisited
Counting fish in Stornorrfors fish ladder

Public dashboard

https://powerplants.vattenfall.com/sv/stornorrfors/ 2026-09-27

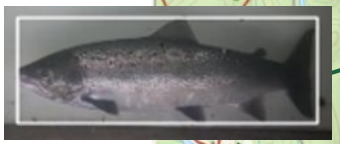


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Unregulated ”national river” Umeälven

Hydropower intake: 600 MW, 2.3 TWh/yr

Outlet via tunnel ~ 300-800 m^3/s



Old riverbed
(fish passage)
~ 10-50 m^3/s



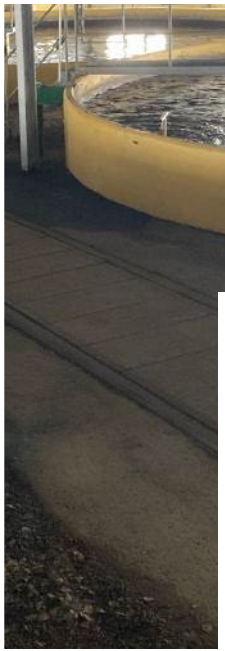
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Annotation data this fall

Hatchery in Norrfors (~1000 images/day)

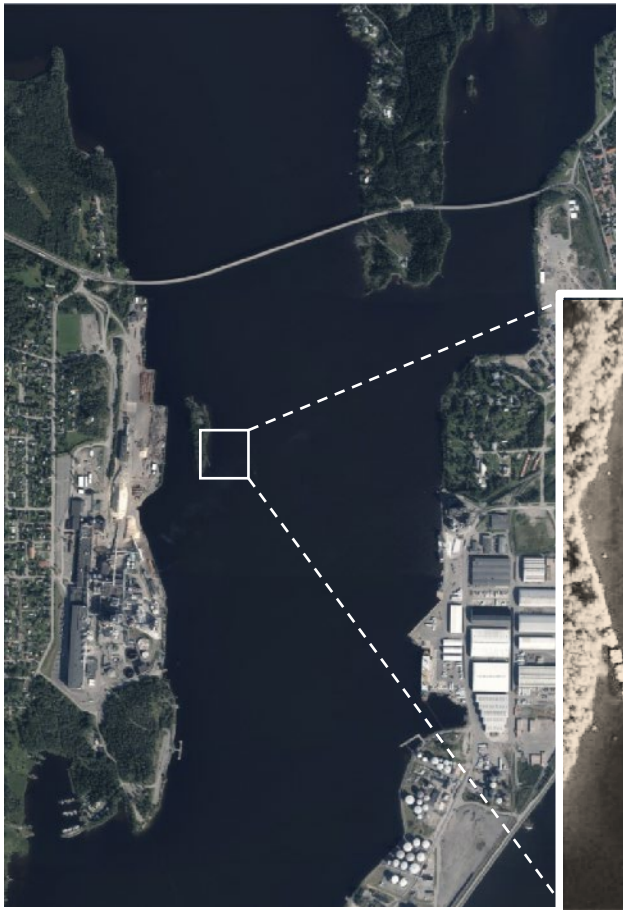








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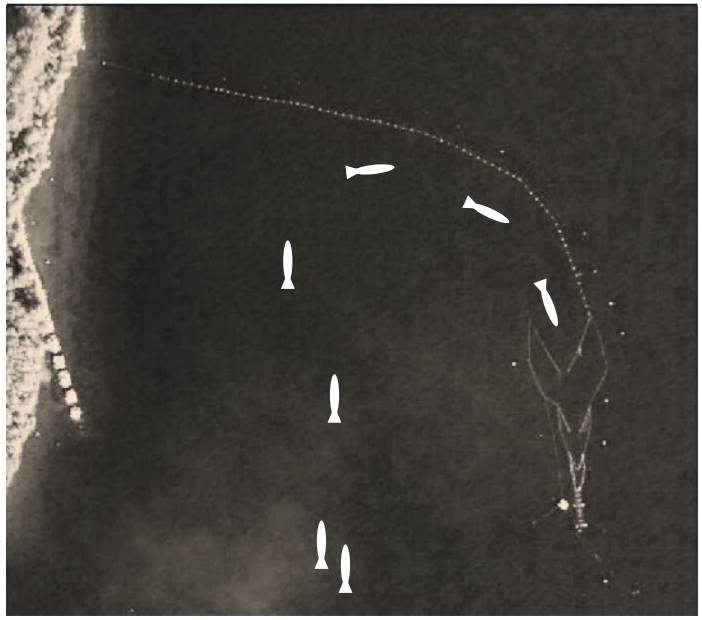


Photo: Johan Leander (SLU)
& Lantmäteriet



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Capercaillies and Windpower

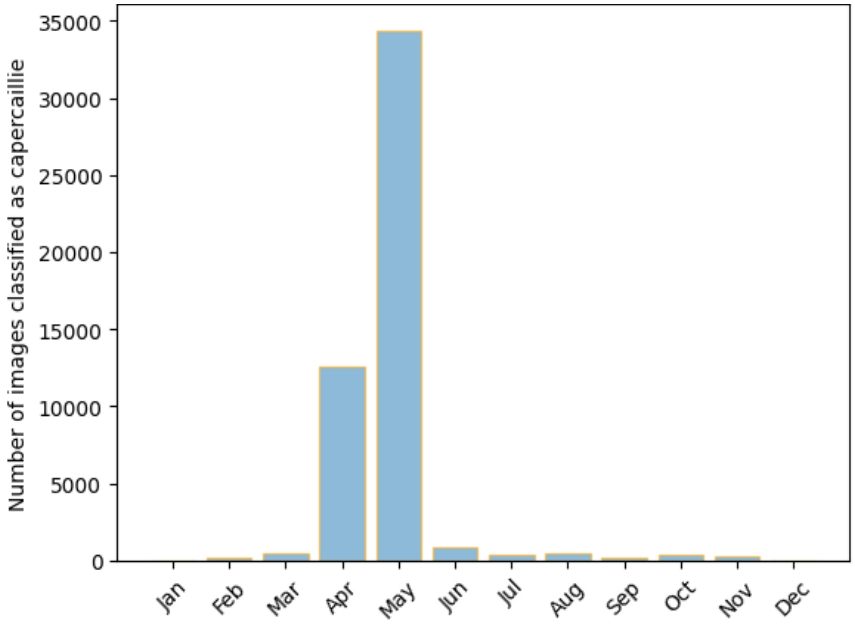


Foto: Jörgen Wiklund, SLU

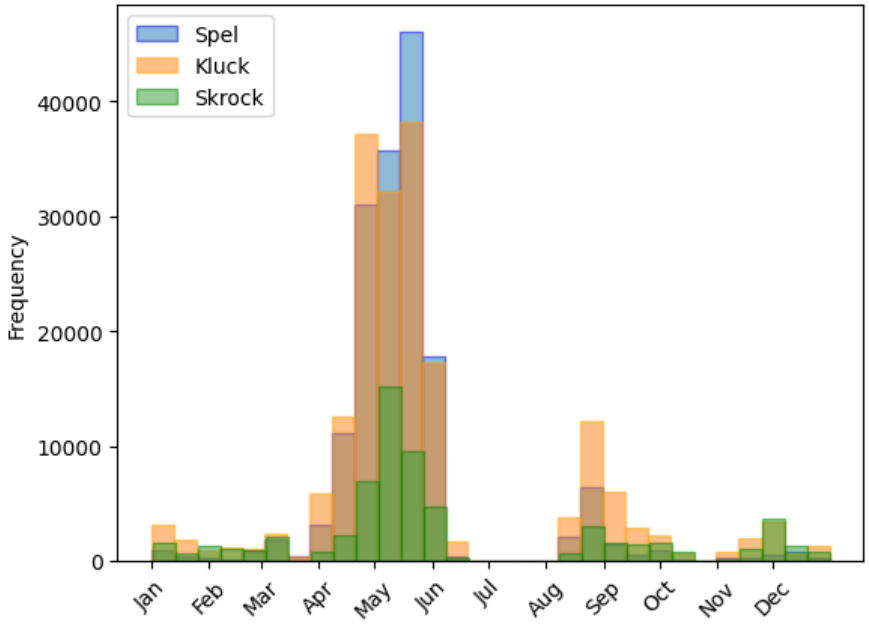
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Capercaillie activity in Bruzaholm wind power site 2023-2024

From cameras (8 in Bruzaholm)

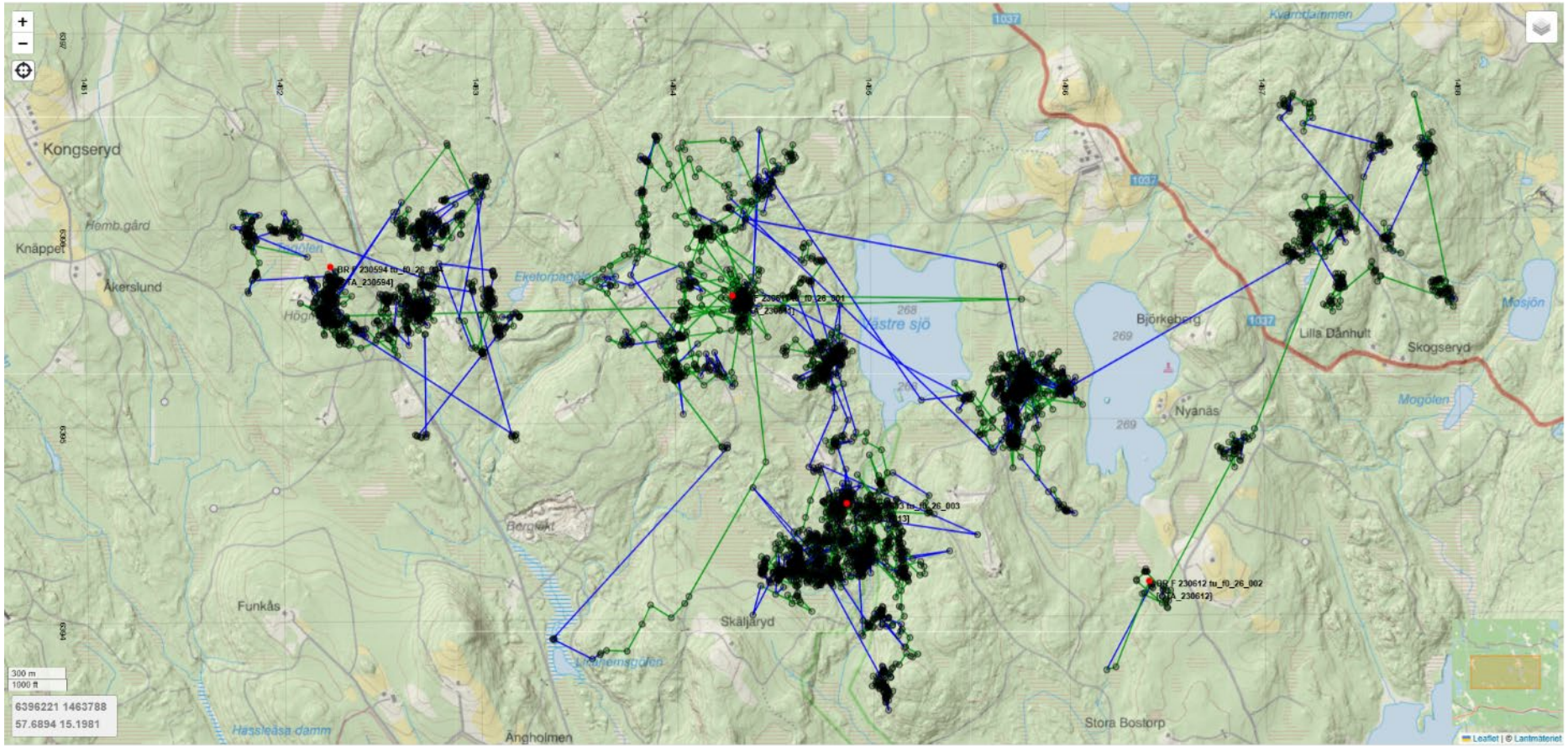


From soundboxes (2 in Bruzaholm)



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4 hens in Bruzaholm 2026-04-20 – 2026-09-12



Other examples of image and sound recognition

- Monitoring pool frogs
- Monitoring reindeer presence
- Saving eels from sump
- Monitoring recovery of leichen

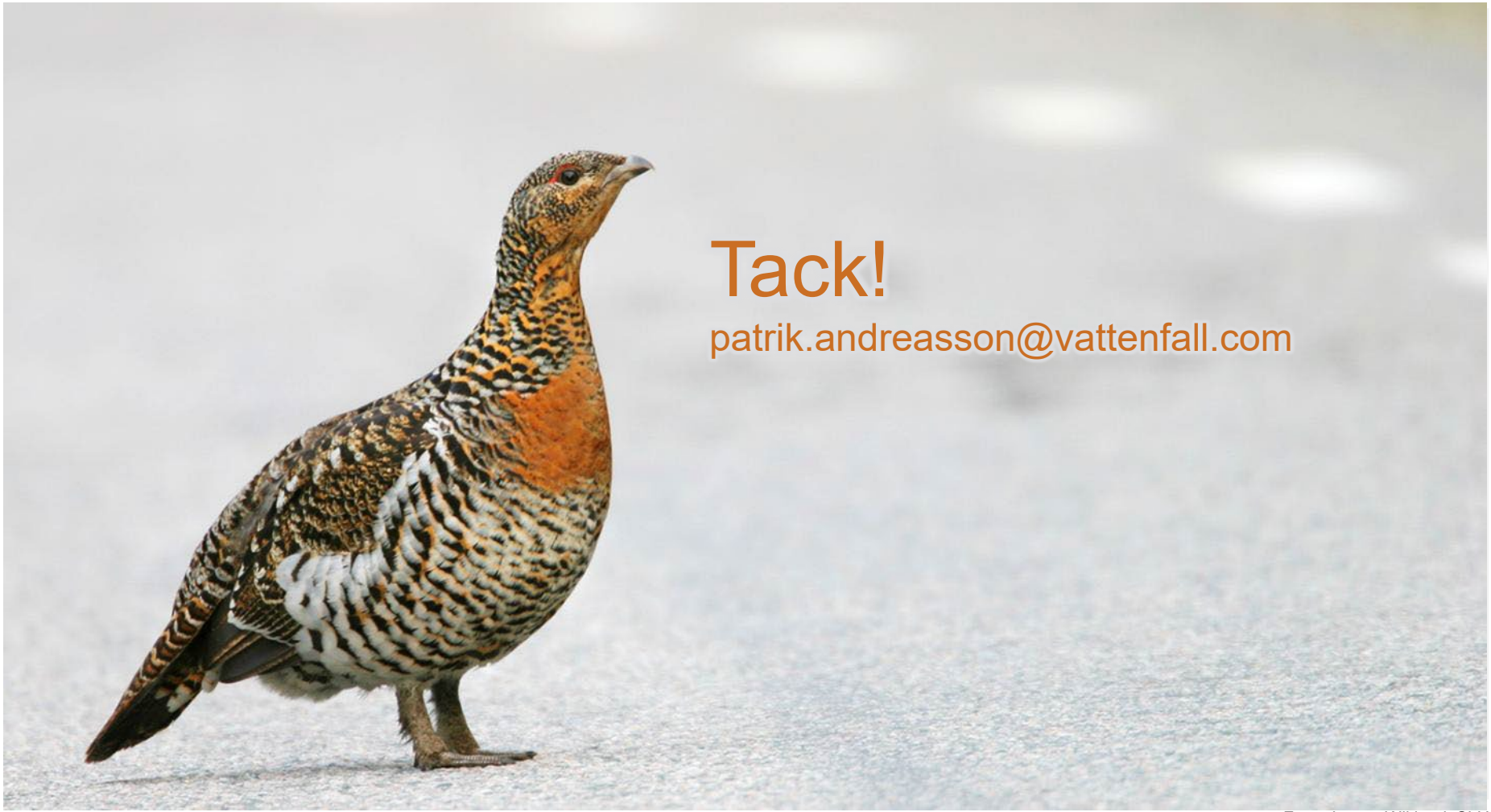








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Tack!

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Foto: Jörgen Wiklund, SLU

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