



Creating a health monitoring program for the Saimaa ringed seal

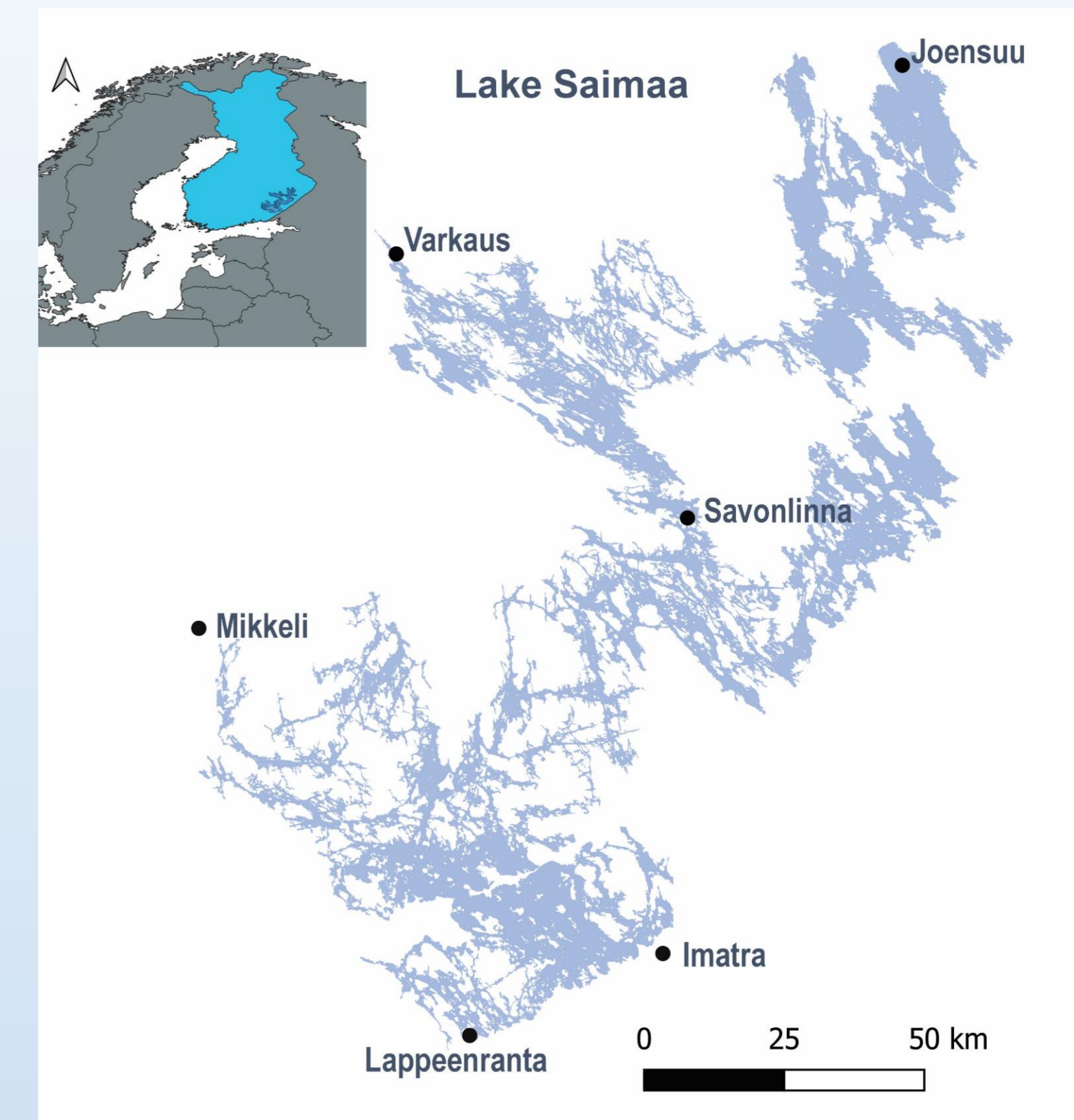
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The Saimaa ringed seal (*Pusa hispida saimensis*) is an endangered subspecies found only in Lake Saimaa, Finland. Although the population of some 400 seals has recently grown positively due to various conservation measures, small population size, by-catch and extremely low genetic diversity are still contributing to extinction risk in the changing climate.

Diseases and pathogens are known to cause significant population declines of many endangered species and epidemics driven by climate change have been documented in many wildlife populations. Therefore, more comprehensive procedures for health monitoring of the Saimaa ringed seal population is needed.

A major issue within the process is to **document and assess the situation today and point out areas where improvements are needed**. Updated and developed guidelines and best practices will be prepared with veterinarians and marine mammalogists. Finally, we aim to publish standardized health and welfare monitoring procedures for Saimaa ringed seals, which can be utilized by both national and local organizations as well as trained volunteers working with population health monitoring, sample collection and animal handling.



Map of Lake Saimaa, seals can be found in every part of the lake.



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Protocols for injured individuals and seals in poor condition will be created.



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The focus of health monitoring has been on mortality investigations of pups found dead, by-caught and stranded carcasses in variable condition.

Table showing diseases, pathogens, parasites and other health monitoring issues sampled and findings in Saimaa ringed seals.

Health monitoring issues sampled	Found	Not Found
Acanthocephalan worm <i>Corynosoma magdaleni</i>	✓	
Cestode helminth <i>Diphyllobothrium ditremum</i>	✓	
Cestode helminth <i>Schistocephalus sp.</i>	✓	
Seal louse <i>Echinophthirius horridus</i>	✓	
Seal lungworm <i>Parafilaroides gymnurus</i>	✓	
Seal heartworm <i>Acanthocheilonema spirocauda</i>		✗
Swine erysipelas <i>Erysipelothrix rhusiopathiae</i>	✓	
<i>Brucella</i> bacteria		✗
Influenza A & B viruses		✗
Canine distemper virus		✗
Sealpox virus		✗
Elevated mercury levels	✓	
DDT (decreasing)	✓	
PCB (decreasing)	✓	
PFAS –ongoing study		



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Autopsies conducted by Finnish Food Authority. Samples are stored in Saimaa ringed seal tissue banks by UEF and Metsähallitus.

Under the Our Saimaa Seal LIFE project, an international workshop on pinniped diseases and health issues will be organized in 2024 in Finland.

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