



Scottish Invasive Species Initiative

Scottish Invasive Species Initiative – Controlling invasive non-native species with volunteers at a landscape scale

Callum Sinclair
Scottish Invasive Species Initiative - Project Manager
NatureScot

Scottish Invasive Species Initiative (SISI)

- 4 year project (2017-2021) – with likely extension to 2022
- Working at a local level with partners and volunteers to establish community-based strategic **invasive non-native species** management
- Engaging people with their local river environment



Our project area

- 29,500km² northern Scotland
(Portugal (mainland) – 89,304km²)

Our team

- Project Manager
- Volunteer & Communication Officer
- 3 full time & 2 seasonal Project Officers
- Administrative support, Fishery Trust (local partners) staff time



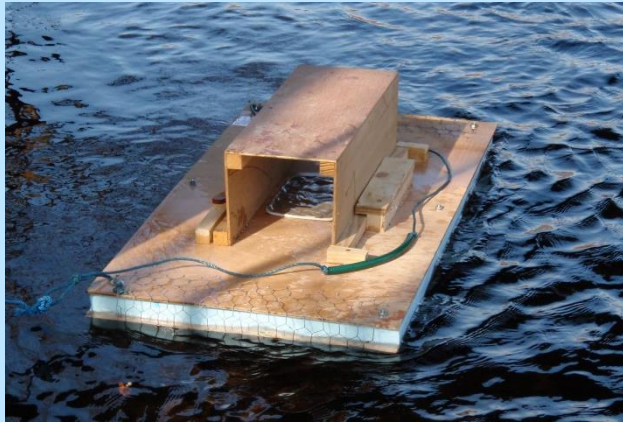
Our partners & funders

- National Lottery Heritage Fund (£1.59M), Scottish Natural Heritage (£500k), in-kind support (£1.25M) - approximately 3.64M Euro
- 10 Fishery trusts/boards (local delivery partners) and the University of Aberdeen



Project activities -

American mink control



Invasive plant control



Education & awareness

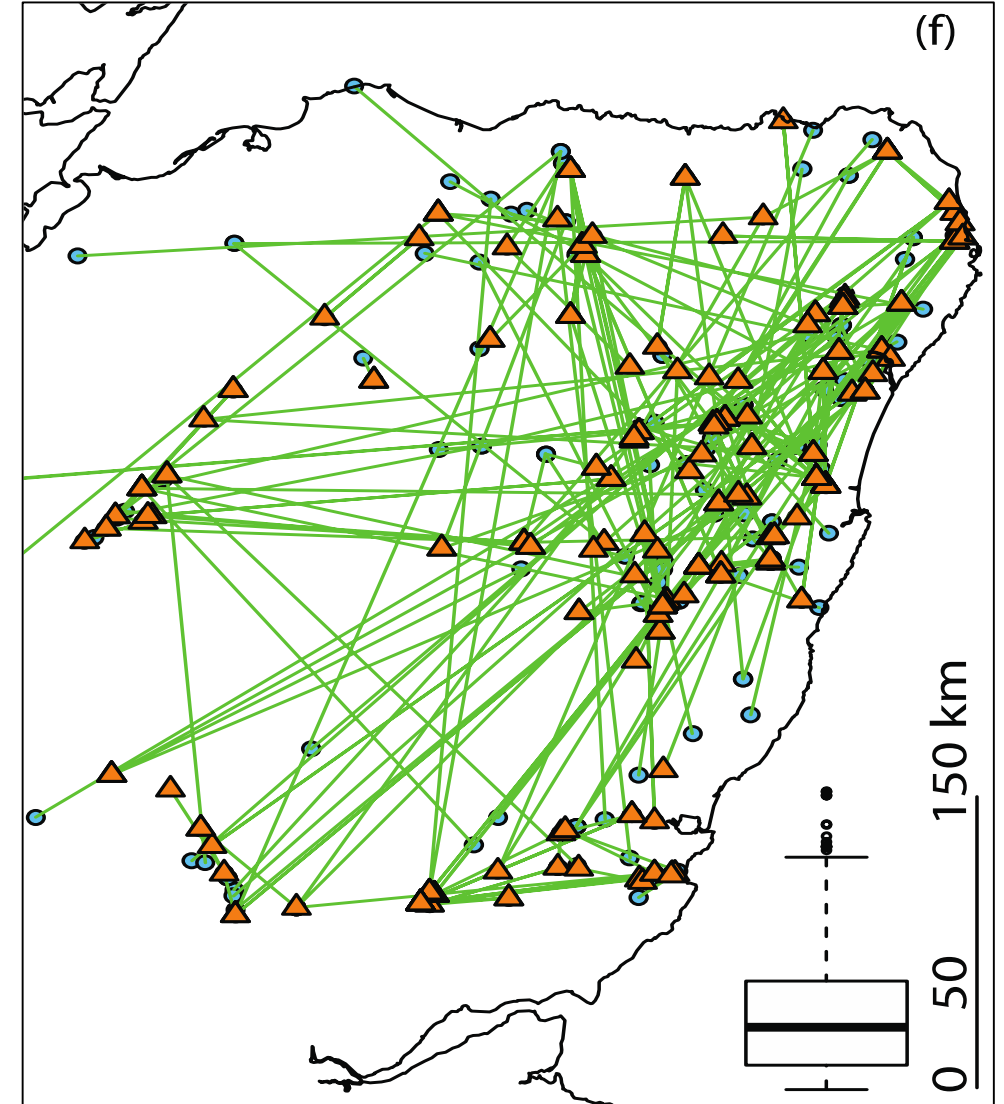


Core theme – Volunteers!

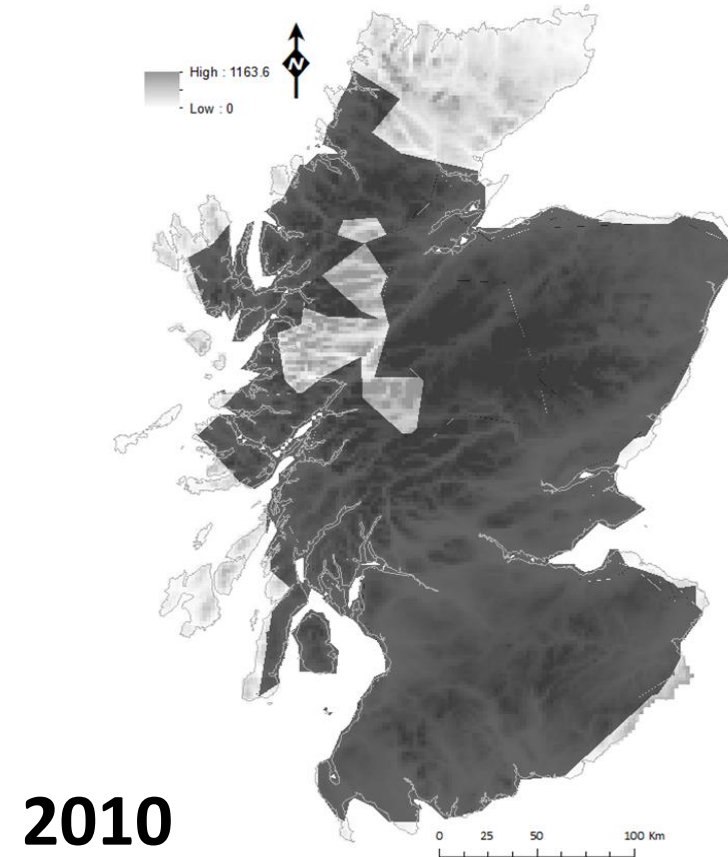
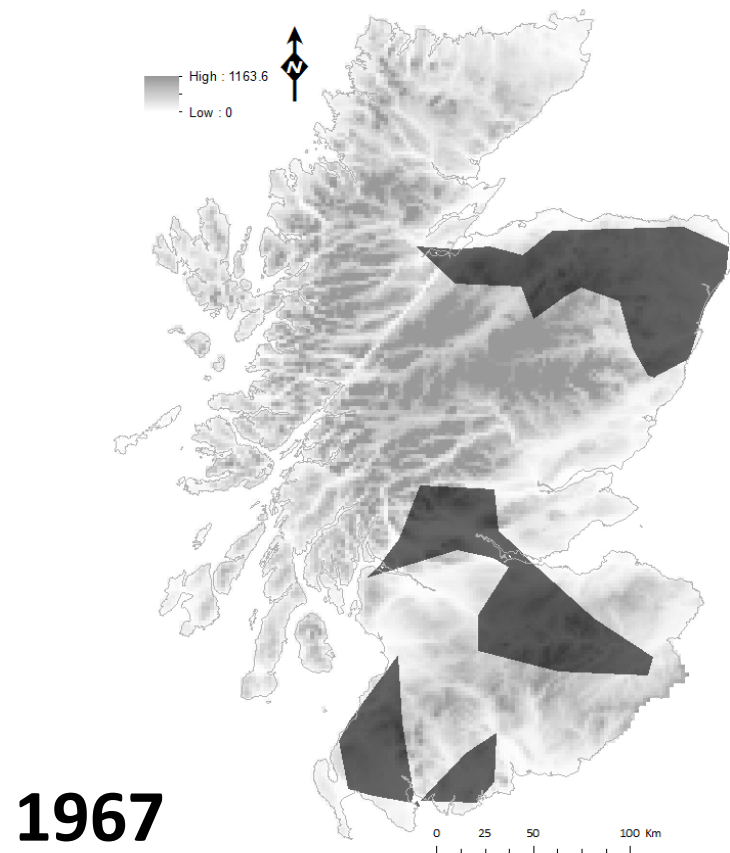


Controlling American mink

- American mink are voracious and effective predators
- Impacts on native fauna – particularly water voles and ground nesting birds
- Widespread but often at low population density
- Seasonally mobile
(20% of animals will move >80Km to new breeding territories)
- Resilient to control – young mink at low density have higher reproductive rates and success

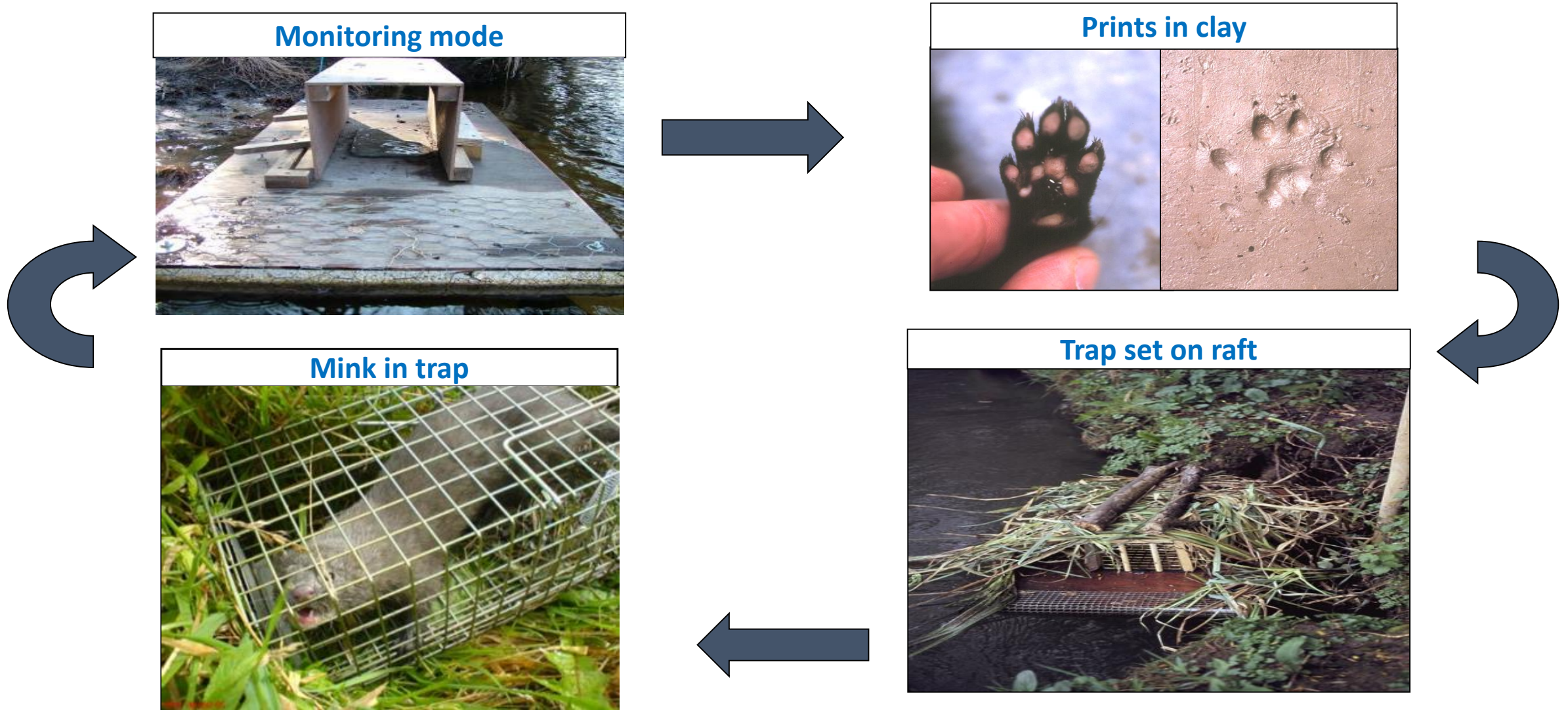


American mink in Scotland: An explosive invasion - slower speed in mountain - areas but relentless



Scottish Invasive Species Initiative: How?

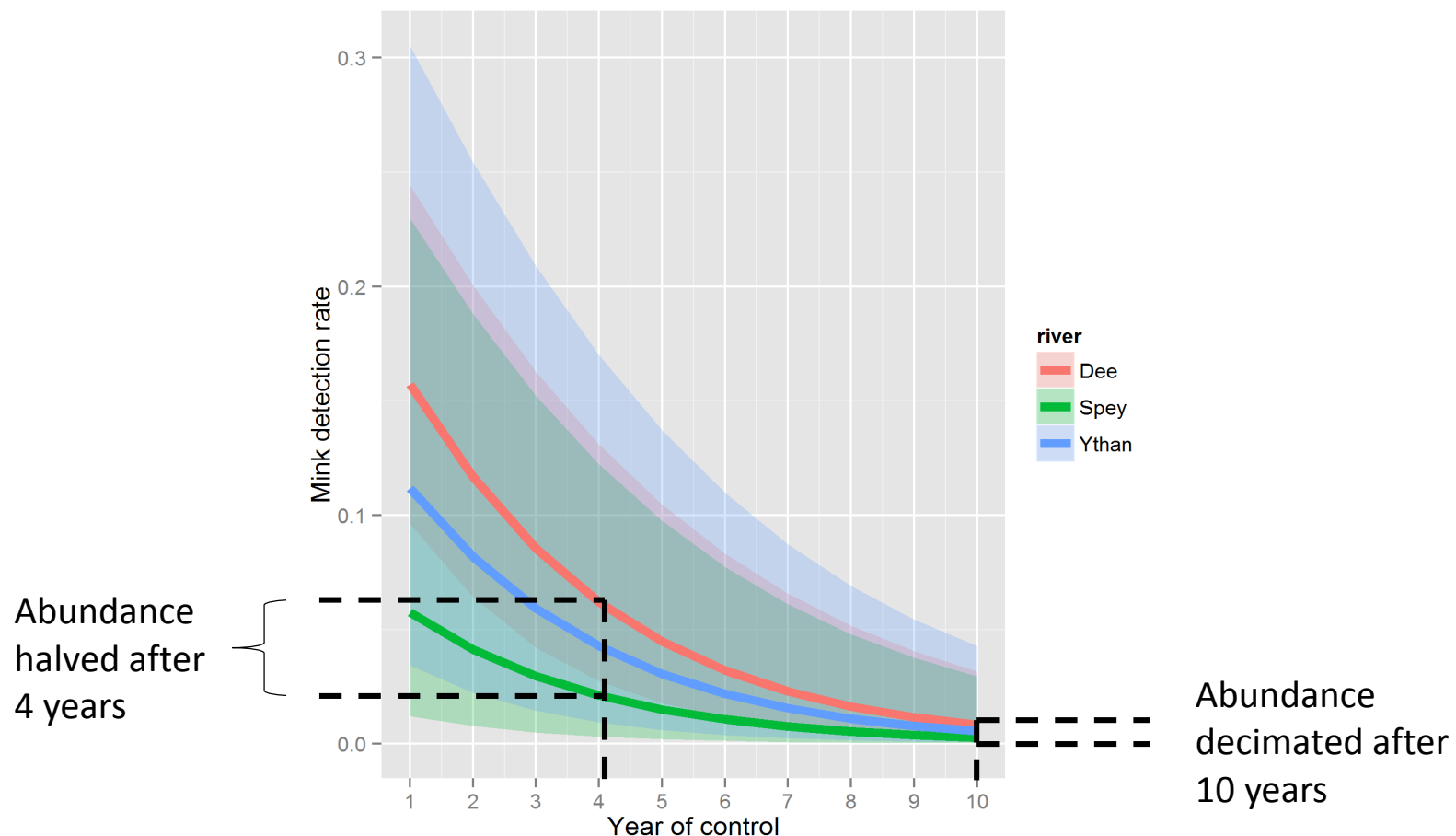
Mink rafts: a key component of coverage and volunteer participation



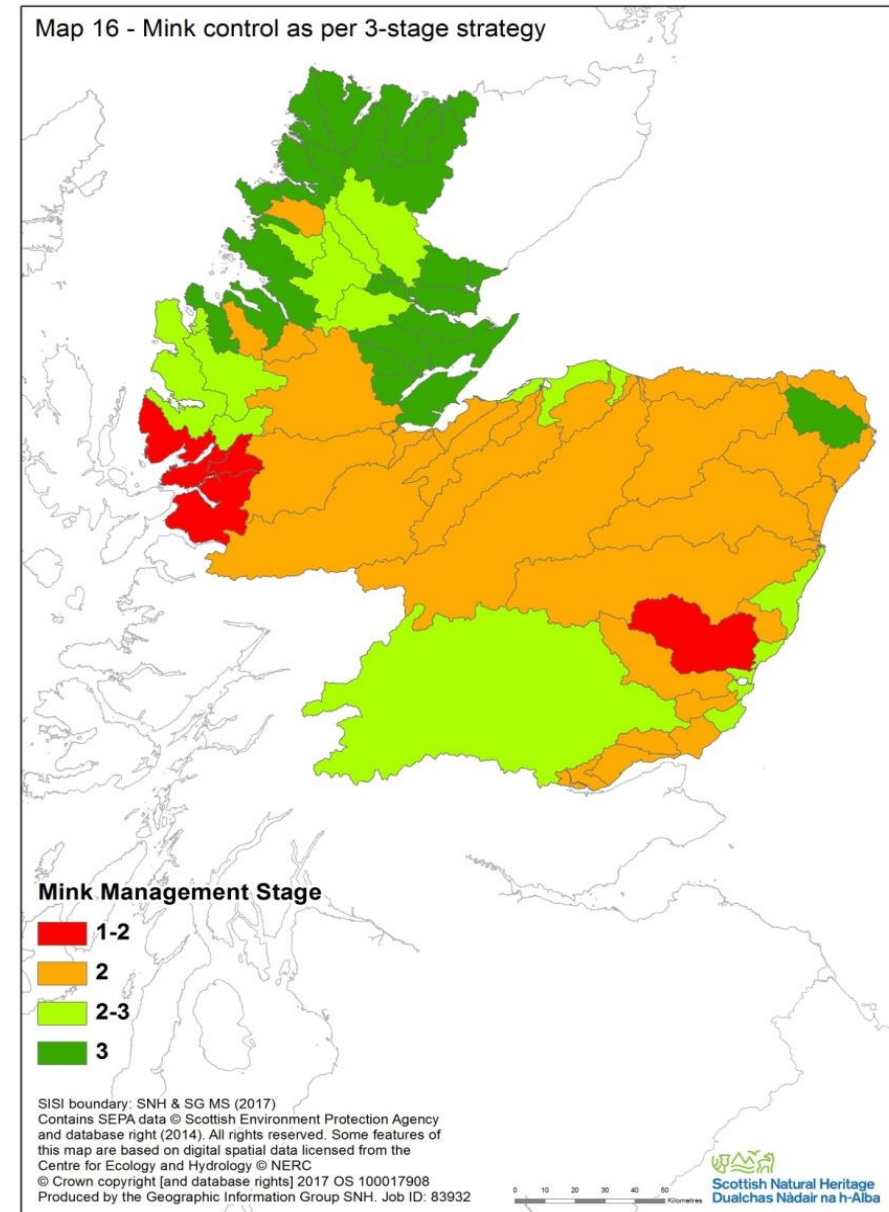
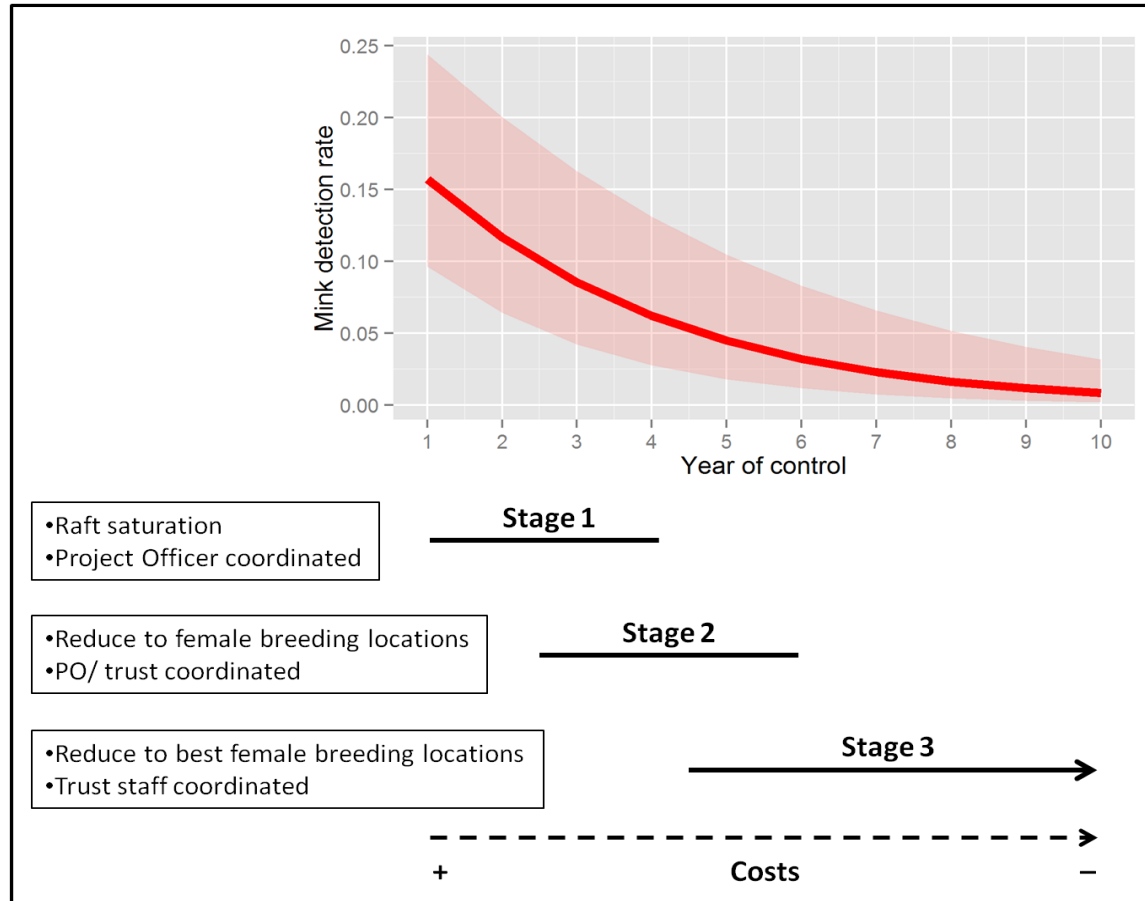
Mink abundance in response to management control

Long term monitoring data shows strong negative impact on mink abundance.

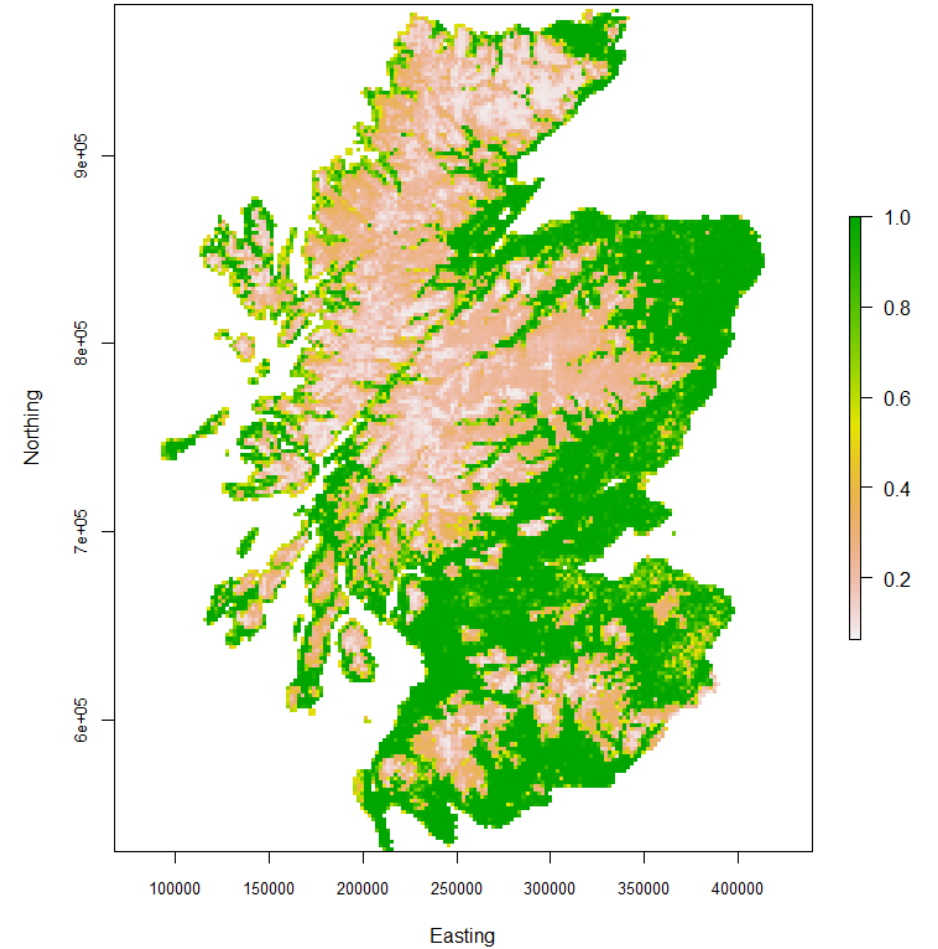
This helps to put a time scale to mink control and guide strategy.



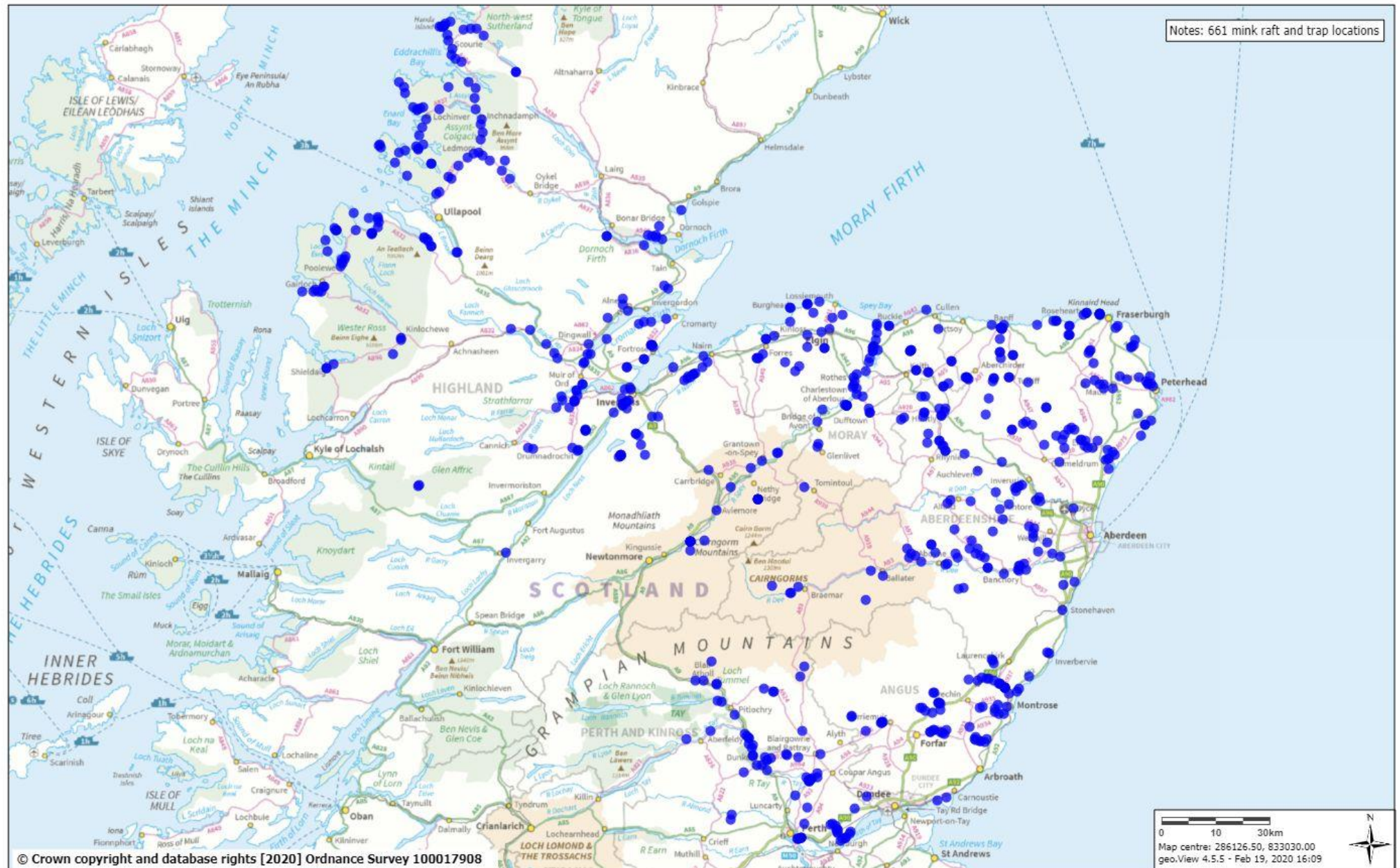
Our approach – targeted application of effort and resources dependant on past activities and results



Habitat suitability varies across the landscape – so target effort to areas most likely to produce and attract mink

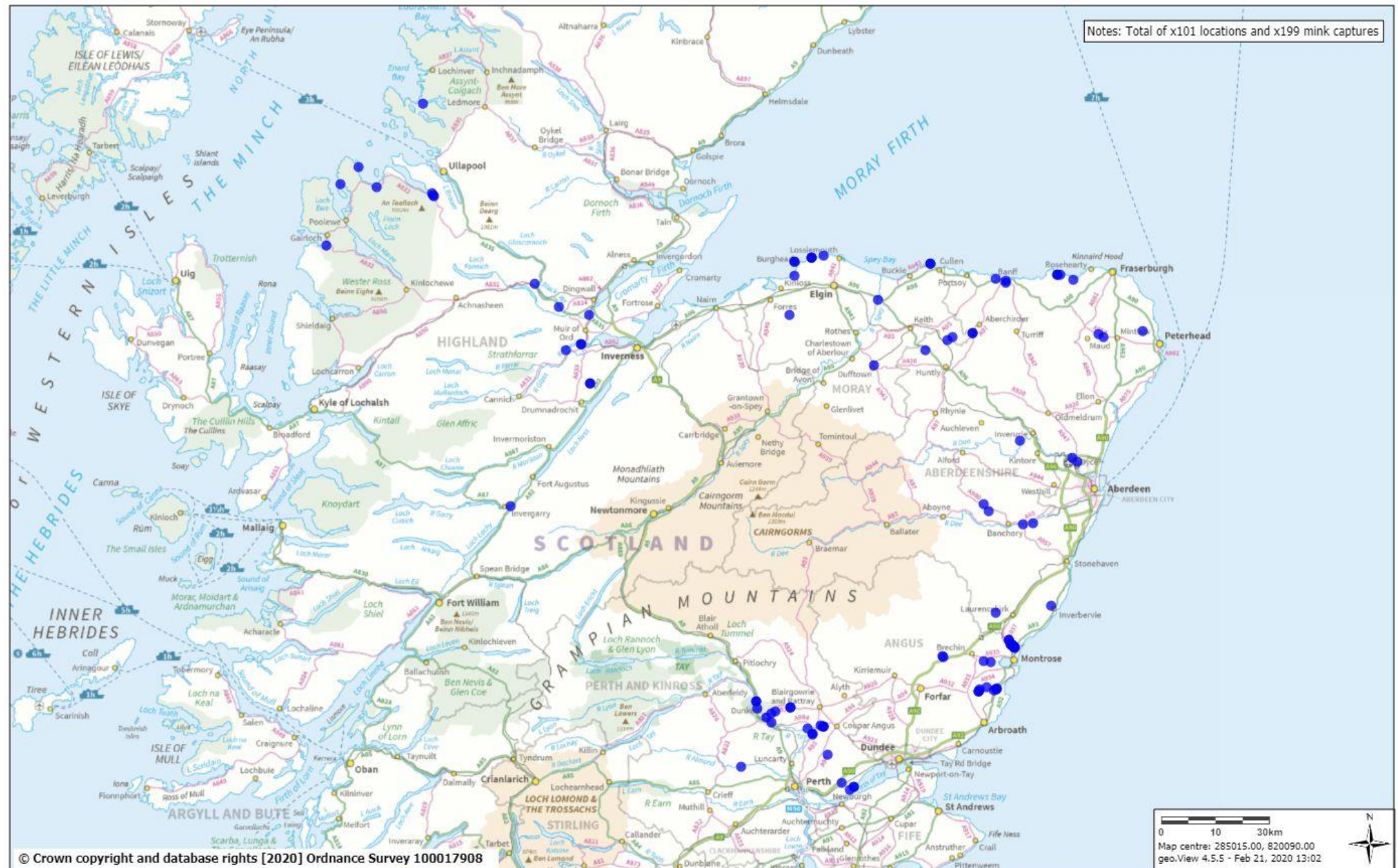


Scottish Invasive Species Initiative - All Mink Raft and Trap Locations 2018 and 2019



© Scottish Natural Heritage, © Scottish Office, © Scottish Executive, © General Register Office (Scotland),
 © Scottish Rights of Way Society, © Forest Enterprise, © Forestry Commission, SSNWI © Highland Birchwoods,
 Some features of this map are based on digital spatial data licensed from the Centre for Ecology and Hydrology
 © NERC (CEH) Defra and Met Office
 © Crown Copyright, © The James Hutton Institute, Ordnance Survey

Scottish Invasive Species Initiative - Mink Capture Locations 2018 and 2018



© Scottish Natural Heritage, © Scottish Office, © Scottish Executive, © General Register Office (Scotland),
 © Scottish Rights of Way Society, © Forest Enterprise, © Forestry Commission, SSNWI © Highland Birchwoods,
 Some features of this map are based on digital spatial data licensed from the Centre for Ecology and Hydrology
 © NERC (CEH) Defra and Met Office
 © Crown Copyright, © The James Hutton Institute, Ordnance Survey

Mink control - 2018 and 2019



- 559 mink rafts
- 389 mink traps
- 43 catchments

- 335 volunteers 2019
- 195 volunteers 2018
- 199 mink despatched

- 20,991 volunteer hours 2019
- 10,384 volunteer hours 2018
- **31,375 volunteer hours total**

Scottish Invasive Species Initiative: Invasive Plant Control and Management



- **Prioritisation:**

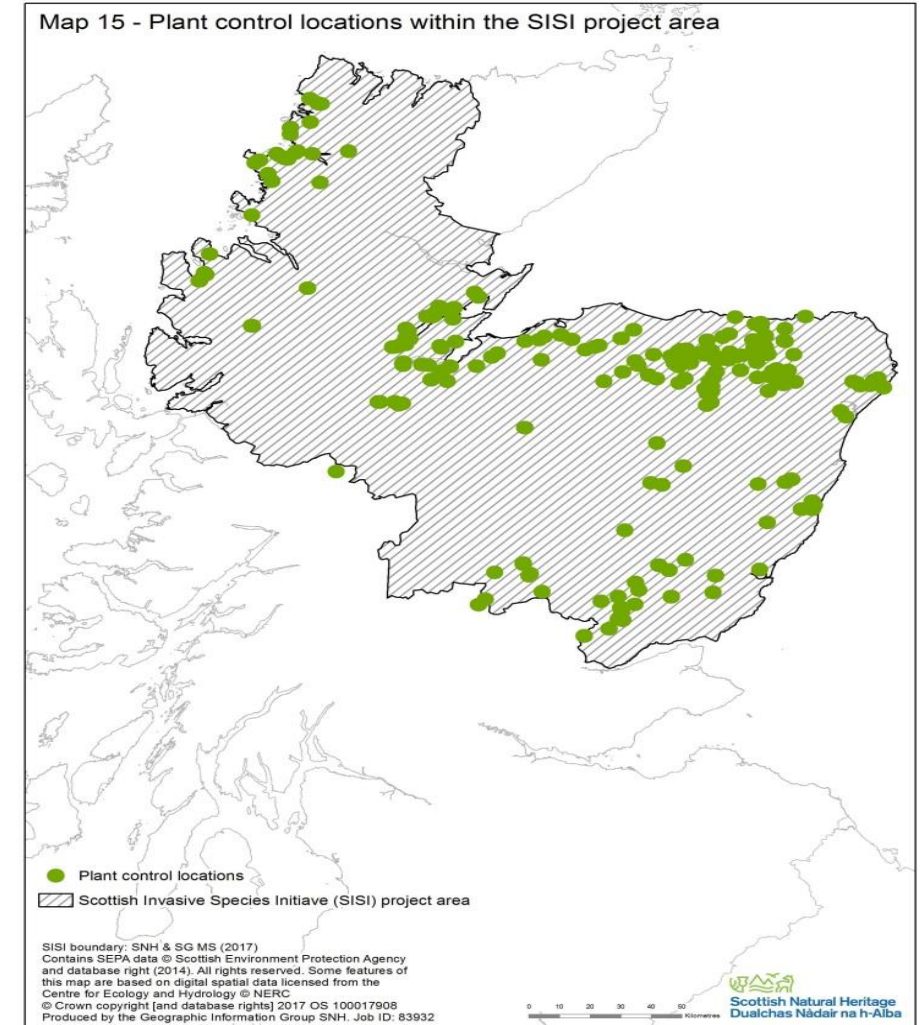
- Not all species all of the time
- Himalayan balsam
- Giant hogweed
- Japanese knotweed
- American skunk cabbage
- White butterbur control trials

- **Control:**

- Targeted contractor activities
- Widespread action by volunteers and community groups

- **Capacity building:**

- Of communities and volunteers
- Skills and training
- Equipment and materials



Invasive non-native species plant control



- 464 volunteers 2019
- 342 volunteer 2018
- 6,504 volunteer hours 2019
- 5,849 volunteer hours 2018
- **12,353 volunteer hours total**



- 501 volunteer days pulling Himalayan balsam
- 1,553km of riverbank controlled for Giant hogweed
- 144,185 Japanese knotweed stems injected



Education and awareness raising – 2018/2019



- 90 schools and colleges groups
- 2,223 students / pupils
- 136 events, talks and walks
- 8 Angling development sessions
- 9 primary school film making schemes
- 'Alien Detectives' education materials



Alien Detectives

- Free, online materials for schools and groups or individuals as part of home learning
 - www.invasivespecies.scot/alien-detectives

People Power - Our volunteers



- 782 individual volunteers 2019
- 583 individual volunteers 2018
- 27,495 volunteer hours 2019
- 16,233 volunteer hours 2018
- 43,728 volunteer hours = 30 fte staff years

Mobilising citizen volunteers CAN deliver large-scale, long-term conservation BUT



Retention is key and volunteers cannot be seen as merely cheap labour

Volunteers must be creatively enthused (with success and science stories) and replenished with ongoing recruitment

Volunteers have diverse motivations (place attachment, desire to take action, personal fulfilment) which must be understood and respected

Inclusive public engagement and volunteer motivations may clash with rationalised invasive management

It is hard – but hugely rewarding - work!



2020 – the coronavirus year

- Coronavirus has changed everything for everyone
- Large reductions in volunteer effort to mink and plant control
- Group and outdoor activities cancelled
- But we rebuild.....and we keep everyone safe

1. Education and outreach

Year	Group activities	Group talks	Events and shows
2019	19	20	6
2020	0	0	0

2. Invasive plant control

Year	Different volunteers (% change from 2019)	Volunteer hours (% change from 2019)
2019	289	3624
2020	113 (-61%)	1699 (-53%)

3. American mink control

2020	Number rafts (% change from March)	Number traps (% change from March)	Total raft and trap units (% change from March)	Volunteer hours (% change from March)
March	406	173	579	1616
April	239 (-41%)	85 (-51%)	324 (-44%)	926 (-42%)
June	266 (-35%)	115 (-34%)	381 (-34%)	1141(-29%)



www.invasivespecies.scot

sisi@nature.scot



Callum Sinclair
callum.sinclair@nature.scot

Image credits; NNSS, CABI Invasives, Ryzhkov Sergey CC BY-SA 4.0,