Scottish Invasive Species Initiative

GBNNSS Local Action Group Meeting - Shrewsbury
31 January 2023

Scottish Invasive Species Initiative – invasive non-native species control at scale

Callum Sinclair (NatureScot)
Scottish Invasive Species Initiative - Project Manager

NatureScot
Scotland's Nature Agency

HERITAGE FUND

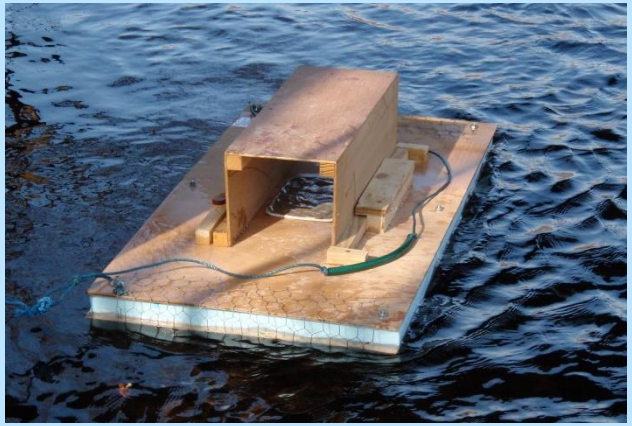
Scottish Invasive Species Initiative

Scottish Invasive Species Initiative

- 5 year project (2018 - 2023) – (extended by 1 year)
- Working at a local level with partners and volunteers to establish community-based strategic invasive non-native species management across 29,500km^2 of mainland Scotland
- Engaging people with their local river environment

Project activities -

American mink control



Invasive plant control

Education & awareness

Scale of invasive plant control activity -

- Control programme is extensive –
  - Circa 400 individual sites under management (many with multiple species)
    - Up to 468 volunteers per year
    - 2936km managed for giant hogweed
    - 171,520k Japanese knotweed stems injected
    - 576 volunteer days pulling Himalayan balsam (2018-2022)
- All sites have records of –
  - method of control,
  - time taken to undertake control,
  - chemical volumes used.
- Monitored sites have records of plant abundance
- Range of specific site studies at – https://www.invasivespecies.scot/case-studies

Japanese knotweed at Dunkeld Bridge, River Tay

2019

60 hours control
12.1L neat herbicide

Stem injection
Foliar spray

DOMINANT (50-100%)

2020

10 hours control
1.6L neat herbicide

Foliar spray

RARE (<5%)

2021

4 hours control
0.4L neat herbicide

Foliar spray

OCCASIONAL/RARE
(15-<5%)

2019 to 2021 –

- **93% reduction in control time**
- **97% reduction in chemical volume**

Transfer of responsibilities to land manager and landowners -

- For invasive plant control programmes to be sustainable we need to break cycles of reliance on ongoing funding to manage the same locations.
- Our approach is to -
    1. Prioritise and support initial site control using contractors and staff and with volunteers and land managers
    2. As infestation declines it becomes more manageable by others - who we have invested in through training, equipment loans and joint working
    3. Prepare “voluntary management agreements” for land managers/land owners to set out future control needs and agree responsibilities to deliver this
- 45+ such agreements signed, 30+ others issued and under review
- Allows future work to move to new areas with control in initial areas to be coordinated but not delivered by us.

Giant hogweed control by sheep grazing – River Deveron, Macduff

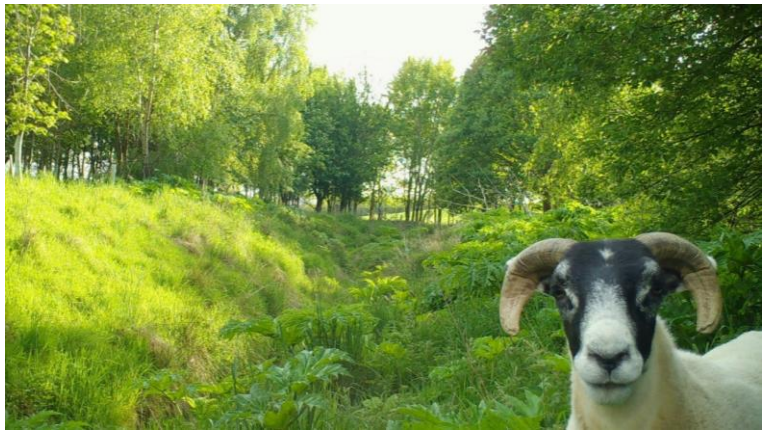
Question:

Can land managers use sheep to control giant hogweed?

Aims:

- Establish an optimal grazing regime (period and total grazing days)
- Produce practical guidance for land managers

More info - https://www.invasivespecies.scot/giant-hogweed-and-sheep-trial



Giant hogweed control by sheep grazing – Seedling emergence and management guidance

Seedling emergence trial:

When do seedlings emerge?

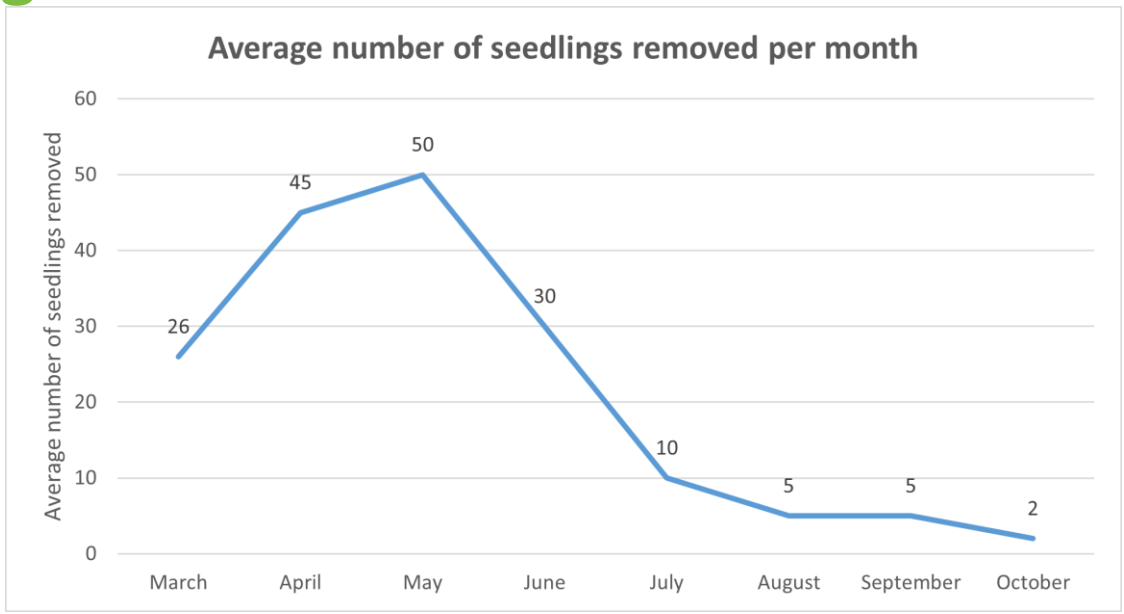
(when do we need to graze)

https://www.invasivespecies.scot/index.php/when-do-giant-hogweed-plants-emerge-scotland

Management guidance:

- Grazing regime / pressure which can be replicated
- Practical guidance for land managers

https://www.invasivespecies.scot/index.php/sheep-grazing-management-guidance



Year	Start	End	Number of sheep put on site	Annual Total Sheep days	Livestock Units per hectare per year
2019	12/04	01/11	26	5075	0.3 LU/ha/year
2020	06/04	06/09	23 ➔ 12	2476	0.19 LU/ha/year
2021	02/05	15/09	11	1326	0.08 LU/ha/year
2022	01/05	06/09	11	1276	0.07 LU/ha/year

Controlling American mink

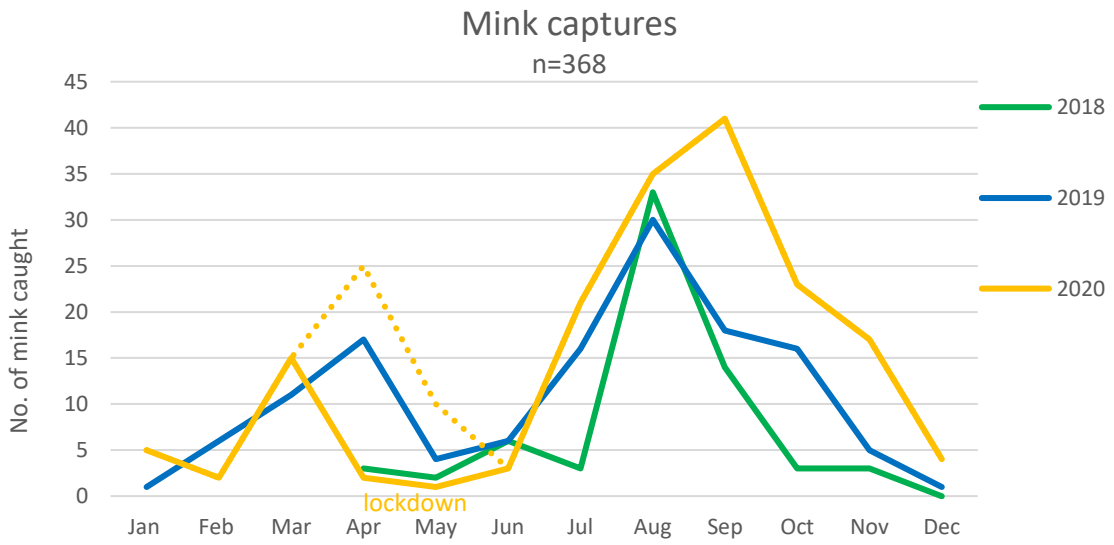
- American mink is a voracious and effective predator
- Impacts on native fauna – particularly water voles and ground nesting birds
- Widespread but often present at low population density
- Fantastic colonisers – travel long distances in two seasonal migration periods to seek breeding territories
- Resilient to control – young mink at low density have higher reproductive rates and success
- Control must take place at scale – small scale is pointless due to ongoing recolonisation

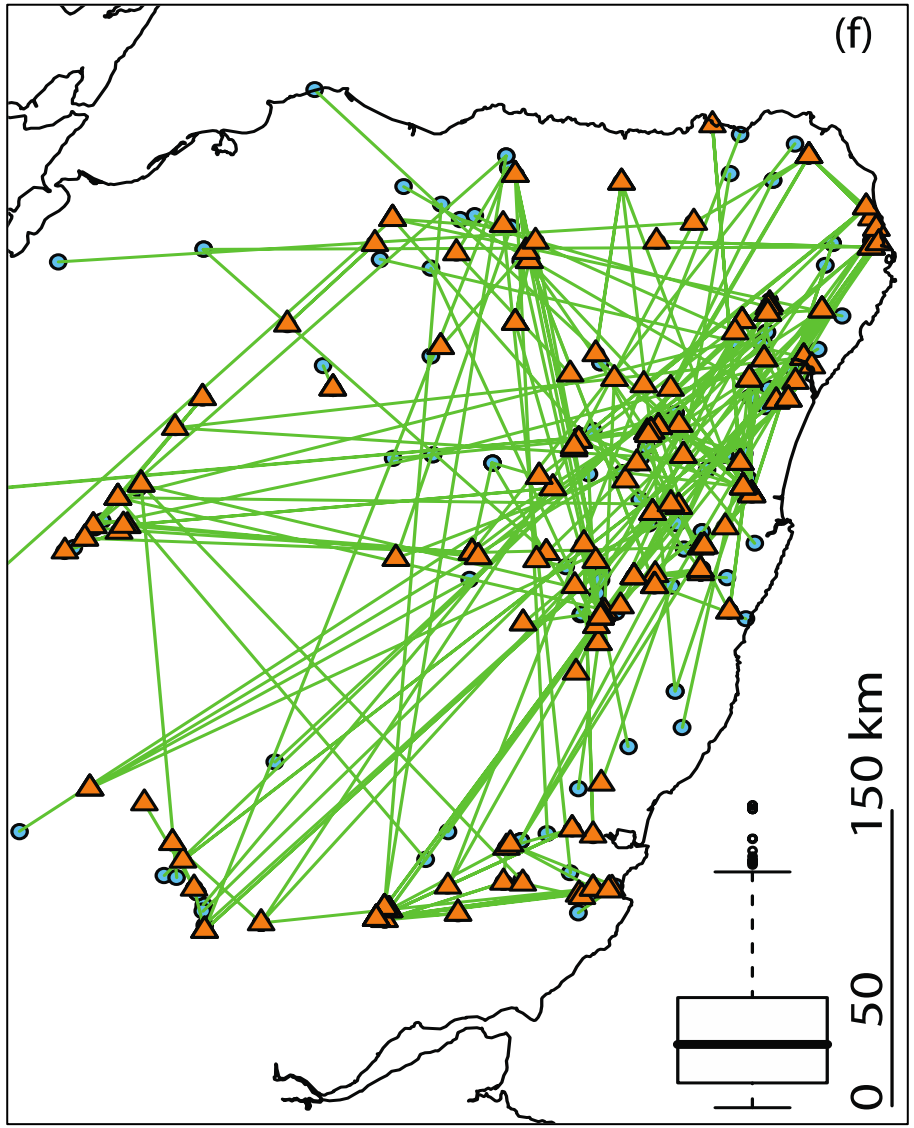
Mink on the move!

- Seasonally mobile – mean natal dispersal of 20km (20% will move >80Km to breeding territories)

- Two main periods of migration when most catchable –
  - Early spring (seeking breeding territories)
  - Late summer / early autumn (dispersal of young of year)

- Less active / less catchable in winter and when with young in summer

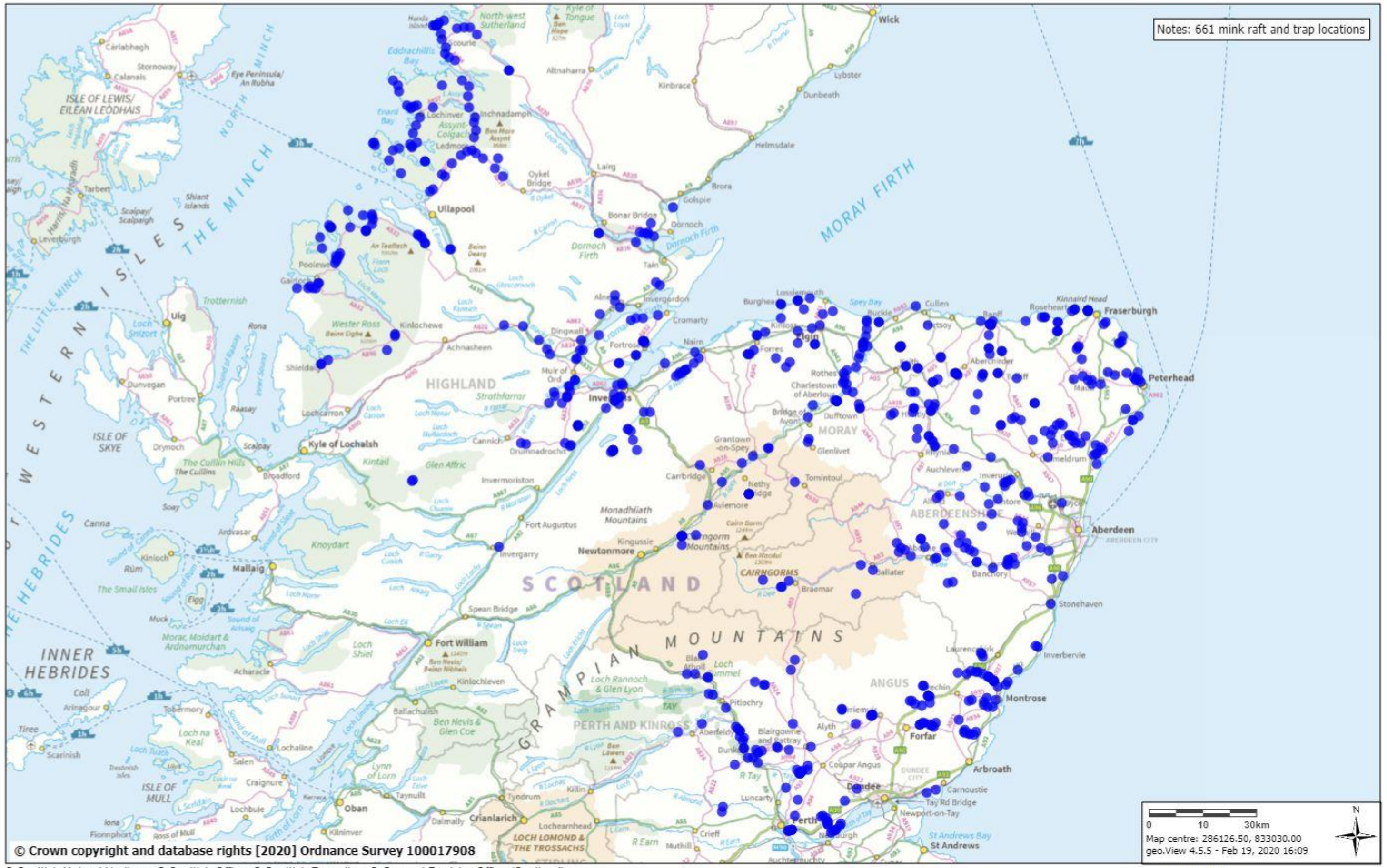




Mink control – 2018/2022

- 43 river catchments
- 679 mink rafts and traps operational
- Up to 357 volunteers active providing 83,561 hours to project
- 545 mink despatched

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



Scottish Natural Heritage
Dualchas Nàdair na h-Alba
nature.scot

People power: volunteer contributions – 2018/2022

Mink Control

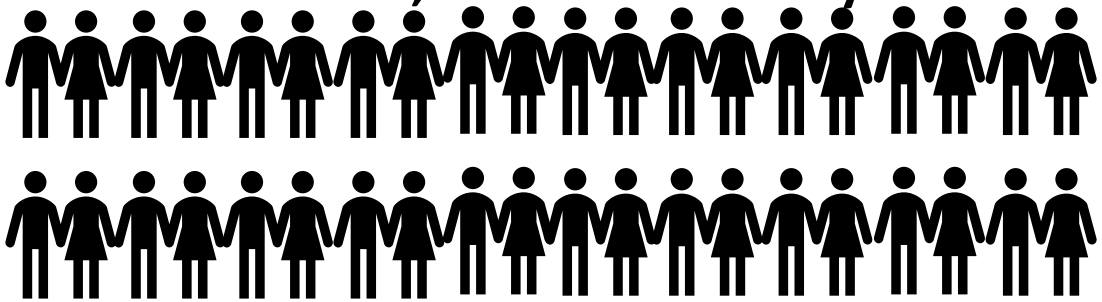
+

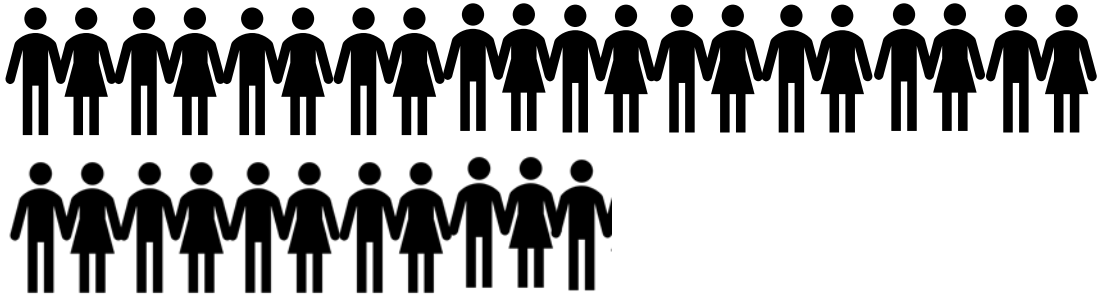
Plant Control

104,159 volunteer hours

14,880 volunteer days

Equivalent to ~71 staff years +





Scottish Invasive Species Initiative

Key to success – People, communities, volunteers

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Alien Detectives Education Programme -

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

Learning training and outreach -

- **138 (and counting!)** volunteers gained pesticide application / first aid qualifications
- **350** school, college and other groups learnt about invasive species
- **193** events, talks and walks delivered
- Invasive species films made by **5** primary school classes

https://www.invasivespecies.scot/schools-film-project

Our partners & funders

- National Lottery Heritage Fund (£1.59M), NatureScot (formerly Scottish Natural Heritage) (£500k), in-kind support (£1.25M) – total value = £3.34M
- 10 Fishery trusts/boards (local delivery partners) and the University of Aberdeen

What next?

- Programme scheduled to end March 2023 (likely short 3-4 month extension)
- £2M application made to Scottish Government Nature Restoration Fund which would –
    - Continue project to end March 2026 with enhanced project team
    - Maintain and protect gains and progress made to date
    - Move plant control “downstream” to new areas
    - Current plant control locations now in manageable position with land managers assuming future responsibility in many areas
    - Maintain and expand mink control programme

- We hope to be able to share some good news soon…..
- www.invasivespecies.scot