Highland Invasive Species Forum 9th October 2015

Attendees:

Àlex Miró	Centre for Advanced Studies, Blanes, Catalunya
Andy Ford	Cairngorms National Park
Ann-Marie MacMaster	RAFTS
Barbara Macritchie	NTS
Bob Laughton	Findhorn and Nairn Local Fisheries Trust
Brian Shaw	Spey Fishery Board & Spey Foundation
Carol MacKintosh	NTS
Caroline Vawdrey	HEN
Chris Horrill	RAFTS
Christian Christodoulou-Davies	SNH
Daniel Sutherland	Police Scotland
David O'Brien	HBRG
Derry Gunn	FCS
Dr Emily Hesling	Nevis Environmental
Duncan Donald	Wester Ross Environmental Network
Duncan Ferguson	Spey District Fishery Board
Emma Williams	Aberdeenshire Council
Gregor Dalziell	SNH
Iain Shepherd	Lovat Estates
Ian Collier	FCS
John Parrott	Coille Alba
John Phillips	Highland Council
Jonathan Willet	Highland Council
Kenneth Knott	FCS
Liz Walsh	SLE
Lynn Brydon	Cromarty Fisheries Trust
Marcia Rae	Highland Council, SUDS intern
Matthew Harmsworth	ROAVR
Meryl Norris	RAFTS, Scottish Invasive Species Initiative
Nick Barker	Ness and Beauly Fisheries Trust

Pat Cottis	
Patricia Oddie	Aberdeenshire Council
Rob Dewar	NTS
Roger Cottis	
Ruth Watts	SEPA
Sarah Smyth	SNH
Steve North	SNH
Stuart Mack	Lovat Estates

Notes on Presentations and site visits

1) Droning On: Habitat Mapping with New Technology – Bob Laughton. Findhorn, Nairn and Lossie Fisheries Trust and Matthew Harmsworth, ROAVR

Drones
Bob and Matthew outlined a number of ways in which the use of drone surveys could be useful in the management of invasive plant species:

- seeing into areas that are difficult to work in - e.g. dense vegetation or steep slopes
- monitoring how successful the eradication programme has been
- spotting individual plants that might otherwise be easily missed
- increasing the area that can be covered - probably double that which can be walked in a given time period
- linking to GIS maps
- recording can be done in a number of ways (eg thermal) depending on what equipment is attached to the drone - this includes the ability to have more that one survey technique being used on a single drone.
- enthusing volunteers - both with the technology and with the visual demonstration of what they have achieved

It was noted that the use of a drone is likely to be more costly, but that it produces high quality data, and the routes taken can be replicated through the GPS tracking.

A drone is allowed to fly up to 122m above the ground and can see 500 metres to either side. It can fly for a maximum of 20 minutes with the onboard battery power.

Matthew noted that all contractors should have a permit from the Civil Aviation Authority and appropriate insurance.

Matthew offered to provide a demonstration of drones in action at their site near Culloden battlefield. If anyone is interested contact Matthew directly at matt@roavr.co.uk or phone 01463 791054

Other work

Bob also updated the meeting on work that has been undertaken on the Rivers Findhorn, Nairn and Lossie. This includes:

- Distribution surveys for Japanese knotweed, Himalayan balsam and giant hogweed
- getting known as the person to contact in relation to invasive species sightings

There has been a particular focus on reducing giant hogweed, which is now being found along railways and in farmland, in addition to river banks. Eradication attempts involve using all available techniques - including cutting, digging, stem injections and spraying. Over 95km of giant hogweed has been treated, assisted in some difficult areas, such as the Findhorn Gorge, by a white water rafting club. Bob noted that a long reach saw was the most effective way of cutting large plants/ dense stands.

Discussion included:

- the importance of taking mammal presence into account
- that cutting giant hogweed might lead to the area being designated contaminated ground
- the pros and cons of trying mechanical flailing on giant hogweed

2) Invasive Fish Removal in the Pyrenees – Alex Miro, Centre for Advanced Studies, Blanes, Catalunya

The Pyrenees contain over 1000 lakes above 2,000 metres altitude. These are mostly neutral and naturally are without fish.

However stocking with fish over the last 150 years means that more than 50% of the lakes now have fish. The original stocking was with common and latterly with rainbow trout, but in the last 30 or 40 years minnow have been introduced as a result of being used as live bait (probably by French fishers).

All fish have an effect on the lakes ecosystems as they eat crustaceans. Crustaceans eat algae, and so with reduced numbers the amount of algae increases. In the case of minnow introduction their appetite for crustacea (and anything else that moves) is voracious, so much so that crustacea are all but wiped out. As a result the lake system moves from clear waters with a diverse ecosystem and healthy plant and crustacea population to muddy waters in which little survives but algae (trout have disappeared from a number of minnow dominated lakes).

In the last two years there has been an European LIFE-funded project to remove fish from eight lakes , with the aim of restoring the lake habitats. In one lake work began prior to the LIFE project, and this was used as an example by Alex. Fish traps were laid all around the lake margins over the gravels in which minnow spawn. The majority of minnow were caught in the first week, but trapping continues in order to prevent re-population. Remarkably the lake had begun to recover in the second month after minnow catching began, with a diverse range of crustacea and other animals including amphibians reappearing. The lake now has a healthy ecosystem, with clear water to the full 3m depth of the lake.

3) Scottish Mink Initiative Update - Anne-Marie MacMaster, RAFTS

The Scottish Mink Initiative began in 2011 and is now in phase two of its work. There are nine fisheries trusts directly involved and a contractor operating in a further area. There are nearly 1000 rafts spread throughout the initiative area, with more than 600 volunteers keeping an eye on these.

The peak of mink capture was in 2012 - with the reduced numbers since reflecting the success of the project. It is planned that the work to remove mink will continue through the Scottish Invasive Species Initiative, outlined by Meryl Norris below.

For full details of the Scottish Mink Initiative work go to their website: www.scottishmink.org.uk

4) Scottish Invasive Species Initiative – Meryl Norris, RAFTS

The Scottish Invasive Species Initiative is a multi-million programme by the River and Fisheries Trust in partnership with SNH and currently gathering information through funding by HLF, which will lead to submission of the full funding bid.

The aim is to get funding for a 4-year programme.

The mink programme will operate on a landscape scale over three phases:
1. Volunteer recruitment, fieldwork and raft saturation
2. Reducing the female breeding population
3. Targeting female breeding locations only

The invasive plants programme will operate on a catchment scale. RAFTS is currently collecting data on what techniques are the most effective and this will inform future work. Target species will be agreed at a local level. The aim is for integrated control across species and across regions.

The Scottish Invasive Species Initiative will include interactive data recording and a ten-year monitoring and evaluation plan.

Discussion included concerns about the potential for large-scale engineering projects (eg road dualling, rail links) to spread invasive species.

5) A Landfill-funded project to control INNPS in the Inner Moray Firth - John Parrott, Coille Alba

With the help of WREN funding, Coille Alba has up to 8 field technicians employed year-round controlling INNPS: rhododendron from November-March, other species for the remainder of the year.

John described techniques for tackling a number of invasive plant species. These notes include comments that were made during the afternoon field trip.

White butterbur - foliar spray in June, repeat treatment a month later

Giant Hogweed - dig or spray, March-May; repeat visit in June/July to check for flowering plants, which are felled with a pole saw, and flower-heads removed.

Skunk cabbage - spray in June; seeds can lie dormant for up to nine years.

Himalayan balsam - cut plants from May, repeating visits every 2-3 weeks through the growing season; later in the season, flower-heads with developing capsules are collected in sacks and removed from site. Regular visits and ability to respond rapidly necessary at the flowering stage, as viable seed develops within weeks of flowering.

- Grazing with livestock is very effective where site conditions allow.

A small population of Tibetan cowslip (*Primula florindae)* has been controlled by excavating plants.

Japanese knotweed -spraying and stem injection with glyphosate (Roundup) in late summer are the most effective techniques, but application rates are critical. Plants can go into chemical shock, lie dormant and recover 2-3 years later. Every living stem must be injected. Stems of 1cm or more diameter are suitable for injection. Control and monitoring must be maintained for several years years to achieve eradication.

Rhododendron - management takes place between November and March.

- a combination of techniques is required. Where possible, bushes are stem-injected. Holes are drilled with a 14mm spade bit; a washer can be used to standardise hole depth. A drill with a washer on to standardise depth was also recommended by Kenneth Knott.

Glyphosate is then injected into the 'reservoir'. All stems must be treated. Other treatments are need on smaller plants and layering stems: these include uprooting, hammering buds and spraying.

- Coille Alba use a liquid glyphosate injection, but chemical plugs can be used

- Kenneth Knott commented that calibrated syringe guns, used for animal injections can also be used

- Ian Collier noted that there is an FCS grant scheme for rhododendron control.

Look out for: *Cotula alpina* (button weed) - a species from New Zealand

6) Highland Squirrel Group Update – Ian Collier

Ian drew attention to the Red squirrels of the Highlands website www.redsquirrelsofthehighlands.co.uk which provides information about the group and provides a link to the Scottish Wildlife Trust red squirrel record submission page http://scottishsquirrels.org.uk

Ian validates all the records submitted and this information feeds into FCS Conservancy guidance and progressing of applications. There have been 3 grey squirrels recorded in the Highlands, but none of these have been confirmed.

Ian also drew attention to the Trees for Life project to translocate red squirrels to 10 new sites, setting up new breeding populations http://treesforlife.org.uk/news/article/reds-squirrel-project-seeks-first-major-boost

7) NTS work on INNS on their Estate – Rob Dewar, NTS

The NTS now has an Invasive Species Action Plan that includes a 7-point strategy and 18 actions.

Rob highlighted the importance of:

- clear public messages and information
- working with communities - Inveralligin being an example of a successful relationship - where *Rhododendron ponticum* has been exchanged for a non-fertile hybrid.
- good partnerships - eg Corrieshalloch Gorge, where NTS, other landowners and the Wester Ross Fisheries Trust all work together.

Rhododendron - Rob noted that:

- leaving standing dead rhododendron after stem injection can help to protect young herb and tree seedlings from deer grazing
- creating charcoal from the rhododendron stems can provide good publicity and a little profit
- *Luzula sylvatica* is being trialled as a rapid ground cover plant once rhododendrons have been removed

Site Visits; Ruttle Wood (Rhododendron stem injection) and Beauly
(Japanese Knotweed stem injections) - Notes from the site visits are included under John Parrott's presentation