



Manx
Wildlife Trust
Treisht Bea-Feie
Vannin

Rare Species Action Plan *Year 18 (2022) Update Report*

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*Pink Water-Speedwell (left) naturally colonising Rosehill ASSI alongside
blue-water-speedwell (lime green leaves)*



In partnership with the Isle of Man Government,
Department of Environment Food and Agriculture

Summary

The Rare Species Action Plan (RSAP) programme began in 2004 and this is an update for its 18th year; a year of significant conservation action and progress.

The programme is currently working with 26 species of wildflower to ensure their Island future, with seven more proposed this year.

Achieving the RSAP objectives has required a long-term investment in survey, planning, propagation and site creation. DEFA have provided the core funding of the project, which has enabled wider partnership working (through funding, infrastructure, resources in kind, land and volunteers) to create a project that is now delivering its conservation objectives.

Our two main receptor sites, a calcareous grassland site at Billown and a woodland site at the Ramsey Hairpin are now operational, but we are looking to extend their size, and the range of species they can support over the next few years.

The publication of 'Plants of Conservation Concern in the Isle of Man 2022' in the summer has enabled a more methodical approach, which in combination with bigger/better receptor sites will create scope to expand the programme further.

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1 Introduction

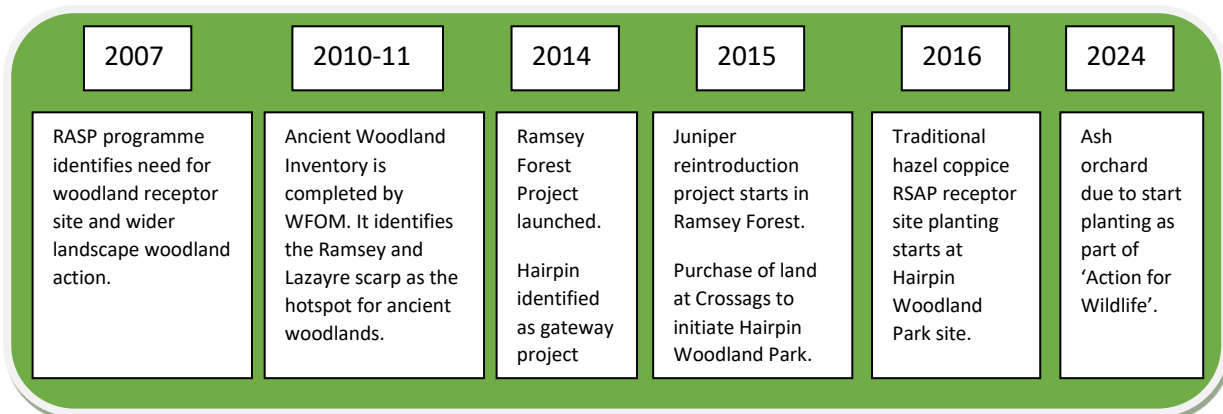
The RSAP program was initiated by the Wildflowers of Mann Project in 2004 in response to its own findings that on average seven species of wildflower were going Island-extinct each decade. Core funding for the RSAP comes from the Wildflowers of Mann budget in DEFA. The purpose of the program was to identify rare species of wildflower and create and implement action plans to ensure their survival. Plants were prioritised by criticality and where achievable, practical actions that could save the species from decline and Island-extinction.

The initial stages of the program involved intensive rare species survey. In some cases, the rare species turned out to be common and in others they were already extinct. From here action plans were developed, cuttings or seeds taken, and plants were propagated in nursery conditions.

There were clear habitat patterns of rare species, where action could be taken:

- Species of traditionally managed woodland (see Box 1)
- Species of calcareous (alkaline) grassland
- Species of ponds that dry up in summer (drawdown flora)

There were also clusters of rare species such as those of fen which would need large-scale restoration that would be outside the scope of the program's ability.



Box 1. Timeline of woodland conservation actions

The next and longest stage in the process has been creating suitable receptor sites, where ideal niche habitat conditions and traditional management can be created and controlled.

So far the program is actively working with 26 species

- 4 are extinct in the wild
- 14 are red listed
- 8 are amber listed

2 The Receptor Sites

For the critical habitats that the program has identified, there are no longer optimum sites on the Island where these species can thrive (which is why so many have declined and gone extinct). The long-term strategy has been to create bespoke receptor sites, and this is the phase of the program we are most actively working on:

Hairpin Woodland Park (HWP). We started developing this in 2016 and have now introduced 10 woodland species of conservation concern to specially managed areas. HWP represents the fusing together of 5 land parcels into a single management unit under MWT management: Cloughbane Plantation is now under a 99 MWT lease from DEFA thus can be managed as a single unit with Crosssags Coppice. The Nut Glen should join the site in 2023 as a 99-year tenancy and the Crosssags fields should join in 23/24 as a purchase. The joining of the Treasury Fields to the site is now looking more likely, though timescales are still unknown. The addition of the new areas to our work at Cloughbane Plantation will increase the critical mesotrophic (NVC W8 and W7) woodlands considerably, thus many of the RSAP species should have their suitable habitat extended from less than 5 acres to more than 25. There could be scope for NVC MG5 species-rich neutral grassland habitat to occur here too with the potential for some localised calcareous grassland areas to be created. As much of this new area is on more gently sloping ground, the present issue with all habitat being on a cool, shaded, north-facing slope will be overcome. The creation of woodland pasture and opportunities to greatly extend the south-facing woodland edge habitat will complete the inventory of available habitats.



Figure 1. The Treasury fields have areas of grassland that could be managed to become species-rich grassland (MG5) glades

Billown Quarries Nature Reserve (BQNR) (inc Rosehill ASSI). This has been in development since 2019 when major ASSI restorative management works took place, but with most species introduced into specially created calcareous grasslands adjacent to the ASSI in 2022. MWT are entering into a tenancy arrangement with the owner Colas to turn this site into an MWT nature reserve and introduce sheep grazing. Niche habitats from shaded cliff, to (artificial) limestone pavement, pond, damp grassland, dry banks, scattered scrub, dense scrub, bare rock and shallow soils are all being created to widen the potential biodiversity the site can sustain. When grazing links Rosehill ASSI with the extension site then biodiversity should freely flow from one part to the other.

Species introduced to Billown extension site in 2022 via planting and direct sowing include 21 species of conservation concern (asterisk indicates Schedule 7 species):

- *Agrimony (Extinct in Wild)
- *Bee orchid (Amber list)
- Black Bog-rush (Amber list)
- Brown Sedge (Amber list)
- Bur Chervil (Amber list)
- *Celery-leaved Buttercup (thought to be Extinct in Wild – since relocated)
- Common Fleabane (Amber list)
- Crab Apple (Red list)
- Dyer's Greenweed (Red list)
- Field Mouse-ear (Amber list)
- Golden Dock (Extinct in Wild)
- Hawkweed species (Red List)
- Knotted Hedge parsley (Amber list)
- *Pale Sedge (Amber list)
- Purple Milk-vetch (Red list)
- *Pyramidal Orchid (Amber list)
- Quaking Grass (Red list)
- Rough Clover (Amber list)
- Spotted Medick (Amber list)
- *Wood Melick (Red list)
- Yellow Oat-grass (Amber list)

Using green hay, direct planting, direct sowing and turf transfers and translocations around 200 species have been introduced to site, with an expectation that of these over 150 will establish in the long-term.



Figure 2. Green hay being spread at Billown extension site in July 2022



Figure 3. Top of the 3 Acre Extension Site at Billown with new pool at far end (August 2022)

*AES*¹ ponds. Saving the most important drawdown flora will require conservation actions to create and restore multiple farm ponds. With MWT as the delivery partner for AES, we are well positioned to work with the farming community to create enough suitable habitat. Critical species here include:

- *Celery-leaved buttercup
- *Golden Dock
- *Nodding bur-marigold
- *Pennyroyal

The main pool at Billown (Rosehill ASSI) has proved to be the most successful drawdown site at BQNR as other areas are too heavily grazed by rabbits. A smaller pool has been dug at the extension site and lined with the clay-rich washings from aggregate recycling. This may become a good drawdown pool, however it is still too early to ascertain how well it will hold water.

¹ AES (Agri-environment Scheme) was launched in April 2021 and is the DEFA farm environmental support scheme.

3 Rare Species Important Records 2022

2022 has seen a few important records:

- Common Skullcap (*Scutellaria galericulata*). Found at SC239707 near Ballabeg by David Bellamy. Last recorded in mid 18th century near Scarlett. Conclusively native. Division taken.



Figure 4. Common Skullcap (Photo by D. Bellamy)

- Silver Hawkweed (*Hieracium argenteum*). Re-found after 10 years at SC461864 Dhoon bay by Darren Giddins. Historically always uncommon here (its only Island location).



Figure 5. Silver Hawkweed (Sept 22) (Photo by D. Giddens)

- Field rose hybrid (*Rosa arvensis* x *R. squarrosa*). Phenotypically almost identical to field rose, but with small irregularities in the fruit that indicate it is a hybrid (probably fertile) (Determined by Roger Maskew, BSBI). The small scale of irregularities points to a back-crossed hybrid as there are no obvious features of 'dog rose' type. Found by A. Dubbeldam on the track leading to Cain's Strand, North of Peel (SC2628 8518). Field rose had been regarded² as an extinct non-native (from 1910), however given that one of its sites was subsequently found to be ancient woodland, it was very likely an extinct native. The finding of this plant is further evidence of its native status. Stem cuttings taken.

² D E Allen (1984) *Flora of the Isle of Man*. Manx Museum and National Trust. Douglas.



Figure 6. Field rose at Cain's Strand

- Pink water speedwell (*Veronica catenata*) a single plant found by A. Dubbeldam) in Rosehill Quarry ASSI (SC2691 6981) among blue-water speedwell plants. Flowered and seeded well in the lower drawdown zone, having been an aquatic species during the winter. Looks to have been a recent colonist via wildfowl (see front cover). An existing RSAP plant formally only recorded in a short section of the nearby Dumb River.
- Celery-leaved buttercup. Found by Liz Charter in one of its old haunts at Ballahot Dub (SC2731 7015). Adjacent to its reintroduction site at BQNR. An existing RSAP plant.
- Flattened meadow-grass (*Poa compressa*) was recorded by A. Dubbeldam at Billown (Rosehill ASSI) in abundance. Last recorded here 20 years ago (Liz Charter).
- Slender-leaved sandwort (*Arenaria leptoclados*). Re-found by A. Dubbeldam on tops of lime-mortared boundary walls around Rushen Abbey. (SC27770110). ID based upon somewhat dry specimens so needs checking. Seed taken.
- Greater Pond-sedge (*Carex riparia*). A visit to Lough Cranstal MWT Reserve (NX450025) in Oct 22 confirmed (A. Dubbeldam) that this species is still present and locally abundant. It is able to grow in shaded areas in very wet conditions where willow growth is weaker, thus the loss of open space in this site is unlikely to be critical to the species. A root cutting was taken.
- Lastly the Orrisdale Dub (SCXxxxxx) was checked (August 2022) for its population of Pennyroyal. None were found and area appeared to be very heavily poached by cattle. As this is the main island refuge for Pennyroyal, this is concerning. Checks in 2023 of this site and its other known recent location at Rhencullen are recommended.

4 Rare Species Action Plan Updates for 2022 * indicates Schedule 7

Wildlife Act species

- ***Agrimony (*Agrimonia eupatoria*):** Extinct in the wild. Stock plants at Mullen-e-Cloie and UCM are in good health and spreading. Planting and sowing of agrimony at BQNR has been ongoing in 2022 with over 20 plants translocated and large amounts of seed sown.
- ***Beech fern (*Phegopteris connectilis*):** Rare- no change.
- ***Burnet saxifrage (*Pimpinella saxifraga*):** Very Rare/Extinct- checked in April to see if distinctive rosettes visible. None found.
- ***Celery-leaved buttercup (*Ranunculus sceleratus*):** Very Rare. Found at Ballahot Dub by Liz Charter. Plant has done well in main waterbody at Rosehill ASSI following planting and seeding, but we will need to see if they reappear in 2023. It performed very poorly in some drier areas where rabbits removed it as it came up. Abundant seed set.
- ***Common cow-wheat (*Melampyrum pratense*):** Rare- no change. The suitable habitat in the Nut Glen and Cloughbane Glen is still several years from being ready for introductions from South Barrule .
- **Crab apple (*Malus sylvestris*):** Rare as a native tree- 70 trees planted at Cloughbane so far. Ongoing planting at Billown, with stock for Hairpin available. Cloughbane trees now 4 years old and some are well established saplings.
- **Dyer's greenweed (*Genista tinctoria*):** Cuttings taken from sensitive verge west of Ramsey. 10 plants ready for planting at Billown in new year, and one planted.
- ***Field Gentian (*Gentianella campestris*):** Rare. No action taken in 22.
- **Field mouse-ear (*Cerastium arvense*):** Local, but still found from Santon Gorge to Strandhall. Ongoing introductions at BQNR.
- **Giant fescue (*Festuca gigantea*):** Rare- Introduction at Cloughbane very successful and plant rapidly spreading. No further action should be needed on this species beyond habitat management. Stock plants of giant fescue have been planted out on site in 2022 and no longer grown.
- **Greater Spearwort (*Ranunculus lingua*):** Uncommon. No action in 22.
- ***Golden dock (*Rumex maritima*):** Growing at UCM. First limited introduction in 2021 to Rosehill ASSI failed (rabbits?). Planting around main pool in 2022 appears to be more successful, though rabbits still keen later in season. Abundant seed set in summer.
- ***Juniper (*Juniperus communis*):** Reintroduced to area around Guthrie's Memorial. Existing trees still showing near perfect survival. An additional 50 trees planted in same area in Jan 21 still alive and further planting possible. Stock not available for planting in 2022.
- ***Marsh hawksbeard (*Crepis paludosa*):** Rare- Population established but not yet spreading at Cloughbane. Reinforcement planting around Cloughbane quarry marsh to take place this winter.
- ***Pale sedge (*Carex pallescens*):** Over 10 plants planted in 2020. Only one flowered in 2022, but in good health. Introduced to Billown.



- ***Pink water-speedwell (*Veronica catenata*):** Rare in the wild. Plants held in cultivation with significant seed production. Plant introduced to Billown this winter and survived but not flourished. Appeared spontaneously at main pool (duck introduction?) and is doing very well. Lots of reinforcement planting and seeding has taken place around pool.
- **Purple milk-vetch (*Astragalus danicus*):** One good stock plant yielding good quality stolon cuttings. Only one plant surviving at planting in Billown, but further planting is ongoing.
- ***Pyramidal orchid (*Anacamptis pyramidalis*):** Seed from Jurby direct sown into BQNR August 2022.
- **Quaking grass (*Briza media*):** First quaking grass planted in Billown survived 2021. Full survival and good flowering at Rosehill ASSI in 2022. Many additional plants in extension site added in Feb 22 and more in autumn.
- **Spring sandwort (*Minuartia verna*):** Very rare. Action plan not currently active and awaiting receptor site in Mine deads.
- ***Wood fescue (*Festuca altissima*):** Very rare- Planted grasses at Cloughbane shy to flower but survival evident. One plant at Cloughbane (SC44526 93342) flowered well in 2021 (not 22) and 15 plants will be introduced to quarry area of Cloughbane and Cloughbane Glen area. A further 15 plants will be grown for planting in 23.
- ***Wood melick (*Melica uniflora*):** Very rare- Actively spreading from most introduced plants to Cloughbane. Seedlings on site will continue to be moved about to establish more viable clusters at Cloughbane. Added tiny amount to Billown extension (somewhat speculatively) on an old quarry wall in shade. This species may do well here, however its response to grazing outside its main spring growth period is unknown. Stock plants of wood melick have been planted out on site in 2022 and no longer grown.
- **Wood speedwell (*Veronica montana*):** Rare. Planted plants continuing to spread at Cloughbane and no further action should be needed. Stock plants of wood speedwell have been planted out on site in 2022 and no longer grown.
- **Woodruff (*Galium odoratum*):** Uncommon- Gradual spread of planted plants-slow and steady. More planting needed after first coppice around 2027.
- ***Wood small reed (*Calamagrostis epigejos*):** Planted in flushes in Cloughbane. Plants not surveyed in 2022. More planting needed after first coppice (2027). It appears this grass is loved by rabbits for grazing, which has made introductions more difficult than expected.
- ***Wood-vetch (*Vicia sylvatica*):** Very rare. Six plants planted in 2019 have survived to 2022. Very little flowering observed. Extensions to HWP will have wood-vetch habitat created as part of woodland creation process (south facing woodland banks and mesotrophic coppice).
- **Yellow oat-grass (*Trisetum flavescens*):** Rare. In cultivation from seed from Scarlett. Four plants survived well at Billown extension in full flower. Ongoing introductions to Billown as small plants (>20 per annum).

5 Ex-situ Rare Plant Stock * held at UCM: \$ held at author's residence, otherwise at Mullen-e-Cloie.

- Agrimony (*Agrimonia eupatoria*) *\$
- Celery-leaved buttercup (*Ranunculus sceleratus*) *\$
- Crab apple (*Malus sylvestris*) *\$
- Field mouse-ear (*Cerastium arvensis*) \$
- Greater pond-sedge (*Carex riparia*) \$
- Golden dock (*Rumex maritima*) *\$
- Marsh hawksbeard (*Crepis paludosa*) *
- Meadow oat grass (*Helictotrichon pratense*) \$
- Pale sedge (*Carex pallescens*) *
- Pink water-speedwell (*Veronica catentana*) \$
- Purple milk-vetch (*Astragalus danicus*) *\$
- Quaking grass (*Briza media*) *\$
- Wood small-reed (*Calamagrostis epigejos*)
- Wood vetch (*Vicia sylvatica*) *
- Woodruff (*Galium odoratum*) *
- Yellow oat grass (*Trisetum flavescens*) *\$

There were enough stock plants and seed to plant up 60 trays of mixed wildflowers (about 8 plants per tray) at UCM. These nursery-grown turves can be directly introduced to the Billown Quarries receptor site. The turves contain species such as quaking grass, field mouse ear and yellow oat grass as well as a range of axiophytes. They are the key tool for targeted species introductions.

The need to hold many species ex-situ should diminish as species become securely established in the wild. Stock plants of wood melick, wood speedwell and giant fescue have been planted out on site in 2022 and no longer grown.

After 12 years of actively supplying hundreds of rare wildflowers for RSAPs, Mullen-e-Cloie nurseries at St Johns is being decommissioned as a plant growing nursery. MWT hopes to adopt the site as an agroforestry nature reserve.

6 Plants of Conservation Concern Isle of Man 2022 (PoCCIOM 2022)

From 2008-2019 the New Manx Flora Project (conceived and led by the DEFA funded Wildflowers of Mann Project) surveyed the Island's flora. This work is now a cornerstone of knowledge for critical plant species.

In 2022 MWT published a list of Plants of Conservation Concern (see fig 7). Effectively a red, amber, green (RAG) list. The list is 'live', thus there will be periodic published updates as status changes. The biggest hope is that in the next few years three species will come off the extinct list as the RSAP program progresses.

The RED List Y Rolley Jang Species of wild plant in the Isle of Man that are of greatest conservation concern					
Allseed	Early dog-violet	Isle of Man cabbage	Maidenhair fern	Pond sedge	Subterranean clover
Annual knawel	Early marsh orchid	Ivy-leaved bellflower	Marsh yellow-cress	Purple milk-vetch	Suffocated clover
Bladderwort	Early purple orchid	Juniper	Meadow oat-grass	Purple rambling-fumitory	Tubular water dropwort
Blunt-leaved pondweed	Fat duckweed	Killarney filmy fern	Narrow buckler-fern	Quaking-grass	White sedge
Blunt-flowered rush	Few-flowered spike-rush	Knotted pearlwort	Nodding bur-marigold	Reflexed meadow-grass	White water-lily
Common cord-grass	Field gentian	Least bur-reed	Northern knotgrass	Sea wormwood	Wilson's filmy-fern
Common cow-wheat	Flattened meadow-grass	Least willow	O'Kelly's spotted orchid	Seaside pansy	Wood fescue
Common sea lavender	Floating bur-reed	Lesser tussock sedge	Oyster plant	Shepherd's cress	Wood mellick
Cowberry	Greater pond-sedge	Lesser twayblade	Pale butterwort	Smooth cat's-ear	Wood vetch
Crab apple	Hare's-foot dower	Lesser water-plantain	Pale flax	Southern polypody	Yellow bartsia
Cranberry	Hawkweed (all spp.)	Long-stalked cranesbill	Pedunculate water-stawort	Spindle	Yellow waterlily
Divided sedge	Heath cudweed	Long-stalked yellow-sedge	Pennyroyal	Spring sandwort	Celery-leaved buttercup
Dyer's greenweed	Hybrid tufted sedge	Lords and ladies	Pink water speedwell	Strawberry clover	Golden dock

NB: Species outlined in black are currently 'Extinct in the Wild' but held in captivity

Plants of Conservation Concern in the Isle of Man (PoCCIOM) 2022 5

Figure 7. The red list from Plants of Conservation Concern IOM 2022

The list will provide a more objective means of targeting conservation initiatives such as RSAP and will enable a more structured framework for legislative changes (such as Schedule 7) and within development/planning work. It is already heartening to see that Juniper has gone from the extinct 'black' list to red, due to reintroduction works as part of the RASP and Ramsey Forest initiative.

7 Analysis and Future Direction

Billown and the Hairpin Woodland Park are likely to become very successful receptor sites for rare woodland and limestone grassland flora. The finding of flattened meadow grass and pink water speedwell at BQNR and slender sandwort and celery-leaved buttercup nearby, reinforces the importance of this site as a rare-species hotspot.

The route from safe receptor site to landscape recovery for limestone grassland sites is most likely to be in new-build developments, where calcareous grassland can be created using crushed aggregate and topsoil. MWT is working with Hartford Homes and others to trial this.

For woodland flora, landscape scale recovery is likely to be much less immediate or easy. Large areas of semi-natural woodland, with significant mesotrophic and flushed elements will be needed and these areas will either need to be highly managed for glades and coppice or will need to be open-grazed woodlands. While no such area currently exists, the Hairpin Woodland Park, while not at a landscape scale, is growing to become a large site and should be a sustainable holding site in the long-term, so long as management is maintained.

The Hairpin Woodland Park and Billown will become much better populated with niche habitat types. Billown should be able to cater for aquatic and drawdown calcareous species through to species that need summer parched conditions such as rough clover and slender sandwort. Extensions to the Hairpin should allow for more open conditions and sheltered woodland edge conditions that will be make the site more suited for species such as wood vetch and field rose.

Because the RSAP programme predated the Isle of Man Biodiversity Action Plans by 10 years they were deliberately not called BAPs to avoid confusion. However now the BAP process is established and embedded with a regularly meeting committee, it is time for the RSAP to become part of the wider BAP process, noting the tactical/practical nature of the RSAPs, versus the strategic approach of BAPs. MWT will submit this to the BAP Leaders committee in early 2023. Should the RSAPs be adopted as BAPs, the 2023 report will be the 'Flora BAP report'.

When we look at the new species found, the extended suitability of the receptor sites and the focus brought in by the 'Plants of Conservation Concern' document, many new RSAP sheets will be needed. The following seven new species are included in this year's report (Appendix II).

- Field rose (hybrid)
- Common skullcap
- Slender sandwort
- Spotted medick
- Rough clover
- Silver hawkweed
- Greater pond-sedge

APPENDIX I. Current RSAPs

Species	Action plan created	Status	Primary Receptor Site
Agrimony	2004	Extinct in the wild	Billown (Planted 22)
Wood vetch	2004	Red List	Hairpin Woodland Park
Beech fern	2004	Red List	Hairpin Woodland Park
Burnet saxifrage	2004	Extinct	Billown (prospective)
Spring sandwort	2004	Red List	None available
Quaking grass	2007	Red List	Billown
Wood fescue	2007	Red List	Hairpin Woodland Park
Wood speedwell	2007	Amber List	Hairpin Woodland Park
Greater spearwort	2008	Amber List	None
Yellow oat-grass	2008	Amber List	Billown (Planted 22)
Woodruff	2008	Amber List	Hairpin Woodland Park
Wood melick	2008	Red List	Hairpin Woodland Park
Marsh hawksbeard	2011	Amber List	Hairpin Woodland Park
Crab apple	2013	Red List	Hairpin Woodland Park
Juniper	2013	Red List	Glen Auldyn Area
Celery-leaved buttercup	2016	Extinct in the wild*	Billown
Golden dock	2016	Extinct in the wild	Billown (Planted 22)
Giant fescue	2017	Amber List	Hairpin Woodland Park
Wood small-reed	2017	Red List	Hairpin Woodland Park
Pale sedge	2017	Red List	Hairpin Woodland Park
Pyramidal orchid	2019	Amber List	Billown (Sown 22)
Purple milk-vetch	2019	Red List	Billown (Planted 22)
Field mouse-ear	2019	Amber List	Billown (Planted 22)
Field gentian	2019	Red List	Billown (Proposed)
Dyer's greenweed	2019	Red List	Billown (Planted 22)
Pink water-speedwell	2019	Red List	Billown (Planted 22)
Field rose (hybrid)	2022	Extinct	Hairpin Woodland Park
Common skullcap	2022	Not yet listed	Billown
Slender sandwort	2022	Red List	Billown
Spotted medick	2022	Amber List	Billown
Rough clover	2022	Red List	Billown
Silver hawkweed	2022	Red List	Billown
Greater pond-sedge	2022	Red List	Billown

*Refound in wild in 2022.

APPENDIX II. NEW RSAPS

DRAFT Action Sheet Field Rose Hybrid (*Rosa arvensis* x *R. squarrosa*)

Species Overview

Field rose is a British native rose species. Of the wild roses found on the Isle of Man, this is the only species that is not able to grow upright without support. Its main growth habit is as a rambling rose in woodland edge and hedgerow conditions and as scrambling plant in shaded woodland floor conditions. It is an ancient woodland indicator species, but is also common in old hedgerows and some scrub. It prefers heavy mesotrophic soils. It does not occur in strongly acid conditions, but can be found on limestone.

Field rose is known to commonly hybridise with dog rose, with *Rosa squarrosa* part of the dog rose (*Rosa canina* agg.) group of species. Dog rose is a ubiquitous species, readily colonising scrub, woodland edge and hedgerows and has wide soil tolerances, but with a somewhat low shade tolerance.

The hybrid rose at Cain's Strand shows strong phenotypic similarities with field rose and has no distinctive dog rose traits. Its hybrid determination was from the variable sized hips and some elements of hip morphology. As this plant was growing in full sun conditions its shade tolerance is unproven, but the assumption is towards shade tolerance.

Native roses host a wide range of wildlife and it assumed that this hybrid does also.

Field rose is presently Black listed in POCCIOM

Distribution

Field rose is mostly a species of England and Wales and Ireland, rare as a native in Scotland. The field/dog rose hybrid has a similar distribution [Rosa arvensis x canina \(R. x verticillacantha\) | Online Atlas of the British and Irish Flora \(brc.ac.uk\)](#) to field rose. On the Isle of Man it was formally found in Groudle Glen and a hedge south of Ballabeg. It was gone on the Island by 1910, though was in cultivation as a garden plant in Union Mills until recently.

While David Allen considered this species to be introduced to the Island, its presence in what was later determined as an ancient woodland, would lead us to believe this was native to the Island.

Its discovery near Cain's Strand is in semi-natural vegetation, where it forms a low, wind-pruned thicket some 20-30m², indicating it has been present here a long time. Field rose is a somewhat non-descript shrub/climber, thus being overlooked for a very long-time is not surprising. The semi-natural coastal grassland/scrub forms a continuous 7km habitat from Peel to Kirk Michael, most of which is barely accessible and largely private, thus there remains the possibility the parent of this hybrid occurs nearby. The chances of finding such a plant however are very slim.

Strategy

In the absence of a full species, this phenotypic field rose hybrid is as close as the Island has to the lost species, thus half a species is better than none. It grows readily from hardwood cuttings (taken and rooted) and seed has been collected and sown. The seed looked plump and hard, thus probably fertile.

Ongoing propagation of the plant via hardwood cuttings or layers should be fairly simple once a stock plant is established.

Seed has been sown and is likely to germinate after 1 or 2 winters. Assessment of seedlings will show how stable this hybrid is. If seedlings show strong dog rose character, this would indicate the seedlings are back-crossing with dog rose, while if they are show field rose characters this would indicate self-pollination. Seedlings that provide stable offspring would clearly be desirable as over time the population will breed back closer to field rose.

There are several situations where field rose could be included:

- In wildlife gardening and on farms the addition of field rose in mixed hedgerows will add a woody rambling climber element that is currently only found with bittersweet (*Solanium dulcamara*) as a native on the Island (and then only rarely). It is a good plant to include in public-facing and educational projects to showcase this rare native plant.
- In scrub and woodland edge field rose makes a very good ecotone between woody vegetation and grassland, particularly in a rough grazing situation (mesotrophic only).
- In semi-natural mesotrophic woodland (NVCW8, W9), field rose can be introduced as woodland flora.

The short term overall strategy will be to introduce this plant to Billown as a woodland edge species and HWP as a woodland interior and hedgerow species. The opportunistic introduction into public facing projects should also be allowed for.

Action	Timing	Responsibility
Grow 5 plants from cuttings	2022/23	MWT
Grow 20 plants from cuttings	2023/24	MWT
Grow +/-20 plants from seed	2023/24	MWT
Introduce 5 plants to BQNR, HWP and UCM	2023	MWT
Assess seedling morphology	2023 onwards	MWT
Introduce 40 plants to Billown and HWP	2024 onwards	MWT
Assess and review plan	2027	MWT

DRAFT Action Sheet Common Skullcap (*Scutellaria galericulata*)

Species Overview

Common skullcap is a species of mesotrophic/calcareous open wetlands, occurring in habitats as diverse as dune slacks, canal sides, wet woodland rides, pond edges and marsh. It is an herbaceous perennial that primarily spreads through sub-surface stolons (forming extensive colonies), and also seed. It is a moderately vigorous and medium-tall plant very similar in growth habit and habitat as marsh woundwort.

Skullcap is occasionally grown as a garden or herbal plant, however it is invasive in a flower border, thus not a popular garden plant.

Skullcaps have a deadnettle like flower, thus specialised for bees, and are a host for many insects that feed on generic mint family plants.

Common Skullcap is not yet listed in POCCIOM

Distribution

Common skullcap is widely distributed throughout Britain and Ireland. On the Isle of Man it was recorded near Scarlet in 1832 and re-recorded in 1880. Allen assumed these records were a 'slip'. In 2022 a small but thriving colony was found at SC239707 near Ballabeg (Ballagawne Farm). The habitat is a small area of mesotrophic marsh with branch-bur-reed that lies within a wider area of acid-neutral marsh, where the plant is absent. The site is cattle grazed. It is most likely that the plant near Ballabeg is a single clone rather than many plants growing together.

Strategy

Occurring as a single small population makes this plant susceptible to Island extinction, therefore ensuring there are multiple viable populations should be our long-term goal. The present population is stable, with the species appearing to occupy all available habitat.

Stolon cuttings have been taken in the summer of 2022 and these have already become established plants by autumn 2022. A single large stock plant is held, that has enough stolon growth within the pot to produce multiple new plants in 2023 if needed. Mesotrophic wetlands are mostly found in the North of the Island around old marl pit ponds and many of these are still grazed thus fully suitable. BQNR is comparatively close (<3km) to the Ballabeg site, thus the wetter areas of the Billown extension site could become very appropriate for our initial actions. Once a second population on BQNR (a protected site) has been secured we can look to establishing this species on an additional 2-3 sites around the Island, particularly in newly created/restored sites.



Action	Timing	Responsibility
Introduce 5 plants to BQNR	2022/23	MWT
Reinforce planting at BQNR	2023/24	MWT
Have plants available for introduction to mesotrophic wetland creation in AES or other projects	2024 onwards	MWT
Assess and review plan	2027	MWT

DRAFT Action Sheet Slender Sandwort (*Arenaria leptoclados*)

Species Overview

Upgraded from sub-species of thyme-leaved sandwort to full species in the APG3 classification (2009). This is a small annual of dry/summer parched conditions, particularly sand and limestone. Sometimes occurring in old lime-mortared walls. Slender sandwort is one of a large suite of small 'winter annuals' of low-fertility soils that are able to complete their life cycle by germinating in autumn, growing in winter and flowering in spring. Like most such annuals it is a very uncompetitive plant and only able to grow where low fertility and parched summer conditions retain a low sward with lots of bare spaces for germination. These conditions occur in semi-natural niches such as shallow soils over rock or large-grained sandy soils. They also occur in the built environment on walls, waste places, pavements etc. These habitats are often maintained through late spring/summer herbicide applications that remove competitive perennials.

Slender sandwort is presently red listed in POCCIOM

Distribution

Slender Sandwort has a wide British/Irish distribution, becoming less common/rare in W Wales, NW England, Western Scotland and Northern Ireland. On the Isle of Man it has been recorded in the past in the North, but seems now to be confined to SE Coast and Ballasalla. It used to be recorded in Billown Quarries too but was not recorded in extensive searches in 2022, or at time of ASSI designation in 2006. Records for slender sandwort have been very sparse, partly because they flower before the main survey season and partly because, when it was a subspecies of Thyme-leaved sandwort, it was not separated by field workers very often. The species appears to have declined significantly as many of its habitats have become overgrown or un-grazed.

David Allen classed this as an introduced species, but without clarification. On the BSBI atlas it is classed as native. Its presence on the Scarlett to Strandhall coast would imply a native distribution here.

Strategy

Slender sandwort has become rare by stealth and there are very few post 1990 records. A clear objective will be to determine the present distribution for this species through survey in May and June along the SE coast. This will take time due to the size of the plant and rocky complexity of the habitat where the species may occur. A second clear objective will be to verify that the Rushen Abbey plants are definitely the correct species.

Seed was collected in 2022 and has been sown into viable areas. Securing a strong population at Billown through niche habitat creation and grazing should create a medium-term answer for this species. Many rare and axiophyte calcareous species rely on summer parched conditions, but as the name of the species implies slender sandwort prefers substrate that remains well drained and very low fertility in winter. It is hoped that over the coming decades the Billown site will expand as quarries are worked out. This will create a much more viable site as summer parched niche habitat areas can be created multiple times. It

will hopefully recolonise Rosehill ASSI. Maintaining grazing on site will be critical to keeping the open sward. Long-term solutions of larger-scale conservation around the SE coast are at present not achievable.

Action	Timing	Responsibility
Verify ID of Rushen Abbey plants	April 2023	MWT
Monitor sown plants at BQNR	2023/24	MWT
Reinforce reintroduction to BQNR as new niche habitat is created.	2024 onwards	MWT
Survey SW coast (Strandhall to Derbyhaven) for species	2023 onwards	MWT
Assess and review plan	2027	MWT

DRAFT Action Sheet Spotted Medick (*Medicago arabica*)

Species Overview

Spotted Medick is a winter annual of dry mesotrophic or calcareous soils. It is one of the few rare winter annuals that shows positive response to additional fertility and can become quite a large sprawling plant if given room and fertility. It is able to tolerate more competition than many winter annuals and is able to grow in mown lawns. Its main restricting feature on the Isle of Man is the need for free-draining warm conditions, thus like most populations outside its core SE British range it grows near the coast.

Unlike most winter annuals spotted medick will keep flowering and growing if there is adequate moisture through to late summer. This is especially the case in lawns where regular clipping delays senescence.

Spotted medick is presently amber listed in POCCIOM

Distribution

This is a species that is abundant and widespread in SE Britain, where it is often regarded as a lawn weed. In Wales, Northern England, Ireland, and Scotland the species is largely coastal.

On the Isle of Man spotted medick has historically been only found in three locations around Castletown; Derbyhaven, Ronaldsway and Knock Rushen. It is now only found at Knockrushen, where it can grow in profusion in the road edge but is much less common as a lawn-weed here than a decade ago. A 2009 unlocalised/unverified record for SC48m could be either an error, part of a sown UK wildflower mix or a grass seed contaminant.

It is regarded as probably native by Allen and native by BSBI.

Strategy

Spotted Medick's reputation as a weed, hides the fact that this species is now critically endangered. A simple resurfacing of Queen Street could tip the species towards island extinction quite rapidly. Why the species has struggled as a lawn-weed in Castletown is unknown, but its requirements for warmth may be rather critical here, and it could be the tarmac of Queen Street that allows such vigour here.

The introduction of the species to BQNR is by no means an assured success, despite the designed microclimate here. In the first two years as plenty of bare soil is available the species should have a window to initially thrive. The somewhat heavy soils, low nutrient status and ecological stability may create conditions too unfavourable in the long-term. However a keen rabbit population and some localised topsoil deposits may create the exact conditions needed. Seed from Queen Street is plentifully available thus testing spotted medick in a variety of situations is easy.



Action	Timing	Responsibility
Collect seed from Queen Street Castletown	22/23/24	MWT
Direct sow into BQNR	2022/23/24	MWT
Evaluate success/failures at BQNR and adjust management where possible.	2023-25	MWT
Investigate opportunities to expand species into Castletown municipal lawns	2022-2027	MWT
Assess and review plan	2027	MWT

DRAFT Action Sheet Rough Clover (*Trifolium Scabrum*)

Species Overview

Rough clover is a winter annual of poor summer-parched mesotrophic or calcareous soils. It flowers in May and June. Habitats such as rocky outcrops and very parched infertile sands are its main habitats. It is uncompetitive and only thrives after severe summer drought or where it can colonise open ground. It requires low fertility and good drainage. It is mostly coastal. It has a long-lived seedbank and can await optimal germination conditions.

Rough Clover is presently amber listed in POCCIOM

Distribution

This is a mostly coastal Southern British species, but with small populations as far north as Aberdeenshire. The Isle of Man is the northern limit of the species on the West British/Irish coasts. On the Isle of Man the species is found at Port St Mary, Poyllvaish ASSI, Ramsey Mooragh Park area and the Ayres. In Port St Mary it grows in broken tarmac (kept open by summer herbicide sprays) adjacent to species-rich calcareous grassland. While regarded as abundant at Poyllvaish by Allen, it is now less common, presumably, as grazing no longer takes place. Its regarded as native by Allen and BSBI.

Strategy

Seed was collected from Pt St Mary in summer 2022. It was a bumper year and the species was very abundant here in the broken tarmac conditions. In 2021 the species was not found at all, (presumably there was a very early or very late herbicide application)

This amber-list species is likely to be in gradual decline. Repairing the footpaths at Port St Mary, the extension of development near the Park Hotel at Mooragh Park, sea-level rise and coastal erosion at the Ayres and lack of management and INNS at Poyll Vaaish are all long-term threats.

The use of BQNR as a potential safe receptor site has a good likelihood of success as the microclimate and extreme summer drought niche conditions that are being created here should be perfect for this species. These conditions will mirror those of the PoyllVaaish rocky outcrops, however sheep grazing should extend the ecological suitability of this habitat, by removing competitive weeds. It is likely to spread to Rosehill ASSI.

Action	Timing	Responsibility
Collect seed from Port St Mary	22/23/24	MWT
Direct sow into BQNR	2022/23/24	MWT
Evaluate success/failures at BQNR and adjust management where possible.	2023-25	MWT
Assess and review plan	2027	MWT

DRAFT Action Sheet Silvery Hawkweed (*Heiracium argenteum*)

Species Overview

Silvery hawkweed's hairy, silvery leaves make it the most distinctive, easy to ID and attractive hawkweeds native to the Isle of Man. It tends to be found in low fertility, rocky, mesotrophic and calcareous conditions, particularly grassy banks. It is both an upland, lowland and coastal species of open ground. Individual plants are long-lived perennials that spread via seed. Like most hawkweeds it is late flowering, with yellow dandelion-like flowers appearing from August to October. While the seeds come attached to a pappus (like a dandelion parachute), hawkweeds rarely spread far from the mother plant and small discrete colonies are a norm.

Hawkweeds are apomictic (reproduces clonally through seeds), thus all silvery hawkweeds are genetically highly similar (with just small mutational differences across UK).

Silvery hawkweed is an uncompetitive plant with basal rosettes that are easily overtopped by rough vegetation. It is easily lost from a habitat through too much grazing (stopping flowering) or too little grazing (making vegetation too tall), especially grazing later in the season when it flowers.

The individual exacting ecological requirements for most hawkweeds is not well studied, thus only limited clues as to species such as silvery hawkweed can be gleaned from the Hawkweed atlas³ distribution maps and summary paragraph.

All hawkweeds are red listed in POCCIOM

Distribution

Predominantly a Scottish species, silvery hawkweed also occurs in the uplands of England in Wales where it is much less common.

On the Isle of Man it was only ever recorded from Dhoon Bay, thus has probably been very rare on the Island for a long-time. Its present IOM population is estimated at 5-10 plants over 1m² on a grassy bank adjacent to the beach. It once grew here with carline thistle (*Carlina vulgaris*) that became extinct on Island in the 2000s when it was lost here.

Inaccessible coastal slopes north of Dhoon Bay could have unrecorded populations of this species.

Strategy

Like most Manx native hawkweeds silvery hawkweed occurs in a single small, isolated population. Even modest predicted sea-level rises will cause erosion that will sweep away this small area of habitat. At the same time the Dhoon Glen woodland is gradually expanding downhill towards the sea so there is no avenue for retreat for this species. Goats are likely to be a main factor slowing the woodland expansion and maintaining the grassland in a suitable condition. It is possible that the expanding feral goat population will be removed over time due to the wider damage they are causing to coastal woodland habitats and farmland along with the agricultural biosecurity hazard they pose

³ McGosh D J, Rich T C G (2011) Atlas of British and Irish Hawkweeds. BSBI

All these factors point to silvery hawkweed as being one of the most critically endangered species on the Island, with extinction being a when, not if, end-result. Finding a suitable receptor habitat for silvery hawkweed may be very difficult as there is probably a reason it so naturally rare in the first place. The plants are growing on a dry, sunny microclimate within the Dhoon area that enjoys a cool, humid wider microclimate. The cool humidity is likely to be important for a species that is essentially an upland, Scottish plant.

Collecting seed from Dhoon Bay will require ASSI consent.

BQNR will be an initial receptor site for this species, however the hot, dry, microclimate and grazing patterns that coincides with the late flowering period could make the long-term viability here questionable, however its introduction to this site is low-cost, thus worth trying.

The species is attractive and holding it ex-situ over a long-term basis while suitable habitats are found is likely to be possible, especially if volunteer growers are found. As the species is aptomitic, maintaining genetic variability over long-periods of time is not a concern.

Mesotrophic, lightly-grazed, upland, grassland habitats are very rare on the Island, with, lime kilns, mine-deads and unenclosed road verges the most likely candidates. Creating new mesotrophic conditions is very simply done over smaller areas with the application of crushed limestone or crushed hardcore. Favourable grazing regimes is likely to be harder to achieve.

Action	Timing	Responsibility
Collect seed from Dhoon Glen ASSI	2023/24	MWT/DEFA
Maintain ex situ population with volunteers	2023 onwards	MWT/ Volunteers
Introduce 20 plants to BQNR	2024	MWT
Evaluate and develop and implement plan to establish upland receptor sites	2024	MWT/DEFA
Evaluate success/failures at BQNR and adjust management where possible.	2024-27	MWT
Assess and review plan	2027	MWT

DRAFT Action Sheet Greater Pond Sedge (*Carex riparia*)

Species Overview

This is a mesotrophic wetland species of wet woodlands, fens and watersides. It is a creeping species sometimes making large thick 1.5m tall stands in more fertile situations. In lower fertility situations it is shorter and grows less dominantly allowing for greater floral diversity.

While mostly spreading via vegetative means, it sets plentiful fertile seed and occasionally colonises new areas this way, particularly along water courses.

The density of pond sedge populations make it ideal cover for wildlife adjacent to open water.

Its vigour and arching flowering stems make the species a popular aquatic garden plant, especially for larger gardens.

Greater Pond sedge is red listed in POCCIOM

Distribution

Common in England occasional in Ireland, Wales and SE Scotland, it is rare in N and W Scotland. Greater pond sedge is only found in Lough Cranstal as a native species on the Island. At Lough Cranstal it grows in the central drain as well as in the wet woodland where it is restricted to the wettest areas. It is likely that prior to the establishment of woodland on site, this species was a dominant fen species. Greater Pond Sedge is thought to be doing well in Lough Cranstal, however the majority of the site is inaccessible so its wider presence is only inferred from presence in the central accessible area along the drain.

The species is found in ornamental ponds on IOM, for example around the fish-ponds at Sunset Lakes near Peel.

Strategy

This species is looking fairly stable at Lough Cranstal, an important wetland that, while not protected, has remained mostly intact. The loss of most open space to woodland within the site has probably reduced the dominance of the species, but it remains likely to be abundant. At 5m above sea-level, it is likely to be a safe for the foreseeable future.

While the species is in good shape at Cranstal, it is still a single site, so there remains inherent vulnerability to Island loss.

In the 2020 BQNR management plan, greater pond-sedge was identified as a potential native species that would enhance the pool edge and act as a block to ongoing expansion of *Typha*. Grey club-rush and common club-rush, the other two identified species are now successfully established and the addition of greater pond sedge would add resilience to a species-rich marginal vegetation. It remains unknown if the

nearly 2m seasonal drawdown range will be too much variation for this species to cope with and the only way to find out will be to try it.

If introduction to BQNR fails a fen site should be looked at in the 2027 review as a secondary receptor site.

Action	Timing	Responsibility
Collect root cutting from MWT Lough Cranstal.	2023	MWT
Maintain ex situ population	2023-2026	MWT
Introduce 3 plants to BQNR (Rosehill ASSI) in accordance with management plan	2023-4	MWT
Replace plants as necessary adjusting to suit drawdown position	2024-25	MWT
Assess and review plan	2027	MWT