STEEPLE WOODLAND NATURE RESERVE

A Local Nature Reserve for St Ives

MANAGEMENT PLAN

September 2019

SUMMARY

The **Steeple Woodland Nature Reserve** in the Knill's Monument and Steeple Woods area adjacent to St Ives and Carbis Bay (see Site Location Map, Appendix 1; Site Plan, Appendix 2) is owned by Cornwall Council and managed by the **Steeple Woodland Project Group (SWPG),** a constituted community group.

The site was declared a Local Nature Reserve and officially opened on 12th October 2002. The Steeple Woodland Project Group is responsible for the environmental management of the site through a management agreement with Cornwall Council. The project presents a variety of opportunities for community involvement and education.

This Management Plan sets out the management objectives for the site over the next 10 years and succeeds previous management plans written by Cornwall Environmental Consultants.

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Photos:

Photo 2. Project members clearing the extensive rhododendron cover in 2006.
This area is now young woodland.

1. THE STEEPLE WOODLAND PROJECT GROUP

The Steeple Woodland Project Group became a constituted community group in 1999. The group currently has 15 members with many others giving active support.

The principal aim of the group is to promote and manage the Local Nature Reserve to function as both a wildlife habitat and a public amenity. Formal designation as a Local Nature Reserve gives the area a degree of protection from further development and ensures wildlife interests are protected. We aim to preserve and enhance the naturalness of the site and to this end the installation of man-made artefacts including signage, seats and made up paths will be kept to a minimum.

The group runs regular working parties on site, 9.30-11.30am on Wednesday mornings (meet by notice board three-quarters of the way up Steeple Lane), and has been very encouraged by the number of local residents joining in.

Committee meetings are held approximately quarterly and membership of the Group is open to anyone interested in supporting the aims of the project (see Constitution, Annex 1).

The group always welcomes new faces, both out on site and at meetings. For contact details see website: www.steeplewoods.org under Volunteers Needed!
Facebook: https://en-gb.facebook.com/pages/biz/community/Steeple-Woodland-Nature-Reserve-723180224408395/

The group is affiliated to the Trust for Conservation Volunteers (TCV) and has an insurance policy to cover the group's activities.

2. AIM OF THE PROJECT

The overall aim is to establish mixed broad-leaved woodland with glades on the lower slopes of Worvas Hill (also known as Cock Hill) beneath Knill's Monument, leading up to heath around the summit of the hill (see Appendix 3, Proposed Habitat Plan). Locally native species have been planted to create high quality wildlife habitats.

A central aim of the project is to preserve and enhance the naturalness of the site. The presence of an area of quality wilderness on the fringe of a significant urban settlement is a precious resource and needs to be protected. There will undoubtedly be increasing pressure on the nature reserve as the local population grows and achieving a balance between human needs and protecting wilderness with it biodiverse habitats will always be a matter for fine judgement.

The nature reserve offers a multitude of opportunities for people to engage with nature. The project will seek to involve members of the community, from school children to the elderly, in the management of the site and encourage people to visit the nature reserve.

3. THE SITE

The Local Nature Reserve is situated on open land with public access in the Trelyon Downs and Steeple Woods area around Knill's Monument or "the Steeple" comprising about 40 acres (see Appendix 2, Site Plan).

Photo 3. The ancient Steeple Woods. Fencing around the Tudor mine workings is visible in the background. These are the oldest workings in the area, thought to date from the 16th Century.

In prehistoric times the slopes of Worvas Hill would probably have been used for rough un-enclosed pasture and fuel gathering (see Steeple Woodland Nature Reserve: Historical Background, Annex 2; Archeological and Geotechnical Assessment 1997, Bibliography 1; Archaeological Assessment 2007, Bibliography 2). Steeple Woods has origins as an ancient woodland pasture dating from Tudor times. Trelyon Downs was extensively involved in the tin and copper mining industry from at least the Tudor era until late in the nineteenth century.

After the cessation of mining, large areas of the site became overrun by Rhododendron ponticum.

The rhododendron has now been cleared and native tree and shrub species planted and heathland around Knill's Monument restored. However, rhododendron still covers two large areas in private ownership adjacent to the nature reserve and the appearance of seedlings is an ongoing problem.

4. PUBLIC ACCESS

The site is a public open space with free public access. There is one designated public right of way crossing the site: the path following the eastern boundary of the site between Counthouse Lane and Steeple Lane. The public right of way carrying the St Michael's Way is shown on the Cornwall Interactive Map, approaching the western side of the site from Laity Lane before heading to the north-west of the quarry at the top of Worvas Hill (see Annex 3, Map: Public Rights of Way). However, the sign-posted route of the St Michael's way enters the site at the north-western corner then takes in Knill's Monument before rejoining Steeple Lane.

There are several informal paths over the site, maintained by a combination of footfall and SWPG volunteers. There is an improved path suitable for wheelchair and limited mobility users from the site entrance by the notice board on Steeple Lane to the old reservoir, a level area used for activities such as the Open Day. The path incorporates a small viewing area above the old reservoir. The design of this minimises the environmental and aesthetic impact on the naturalness of the site. A survey of public use of the nature reserve in 2017 (Annex 4) highlighted the popularity of Knill's Monument as a destination and the project group will work towards upgrading a path from the top of Steeple Lane to Knill's Monument to facilitate access for those with limited mobility.

Photo 4. The level access path and viewing area, built in 2017

The main, or "designated", paths will be kept clear to a reasonable standard (see Map: Designated Paths, Appendix 4). Other informal paths will generally be left to be kept clear by footfall. Some areas of the site will be deliberately left without access, other than existing designated paths, to facilitate colonisation by wildlife (see Map: Wilderness Area, Appendix 5).

5. GEOLOGY

The site lies on the eastern edge of the Lands End granite intrusion formed of medium- and coarse-grained biotite-granite (see Annex 5, Extract from British Geological Society: Geology of Britain viewer). The remnants of exposed granite tors are visible on the boundary of the site at the base of Knill's Monument and by the old quarry. There is a tourmaline-rich pegmatite running through the quarry. Granite clitter is strewn across the top of Worvas Hill but has been extensively worked and the stone used to build parts of St Ives. Large black crystals of biotite or tourmaline are found in some of the stones, giving a characteristic appearance locally known as “figgy dates” and can be seen in some buildings in St Ives built from granite cut from the hilltop.

The granite bedrock yields poor acidic soils which favour heathland plants.

6. THE NATURE RESERVE, HEALTH AND WELLBEING

The nature reserve offers an experience which is becoming increasingly important as we become ever more urbanised and contact with nature is lost from our daily lives. With growing evidence for the health benefits of exercise, volunteering, positive social interaction and contact with nature (see Bibliography, 3), the project offers an experience that “ticks all the boxes” through the weekly volunteer working sessions. Historically, the group was involved in developing the first “Green Gym” in Cornwall in association with the then British Trust for Conservation Volunteers (BTCV) and the Stennack Surgery in St Ives. The St Ives “Green Gym” ran successfully for several years.

7. BIODIVERSITY AND WILDERNESS

There is increasing concern regarding the decline in biodiversity of flora and fauna, with plummeting wildlife populations as highlighted by the United Nations' Global Assessment Report on Biodiversity and Ecosystem Services (Bibliographies 4 & 5). Modern trends of intensive agriculture, with loss of hedgerows and pesticide use, and the growth in housing, make it more and more important that wilderness is preserved wherever possible. The widespread introduction of non-native plants has also caused environmental problems across the globe: Rhododendron ponticum, Japanese knotweed and montbretia are prime examples, locally.

With these issues in mind, the ethos of the project has been to maximise biodiversity and enhance the naturalness of the site. A “wilderness area” is proposed, where the habitat is established and can be left to nature, requiring only “light touch” management (see Appendix 5, Map: Proposed Wilderness Area). Other areas of specified habitat type, for example “lowland heath”, will be managed to preserve their integrity and maximise the unique biodiversity attributed to such habitats.

Although much of the reserve is “artificial” in the sense that large areas have been specifically planted, this has been done with the aim of establishing biodiverse habitats. Locally native trees and shrubs have been planted in a “random” fashion to mimic natural regeneration. However, to add interest and diversity and to accommodate specific projects, some trees and shrubs that are not strictly locally native have also been planted.

Photo 5. A section of the site has been designated as a “wilderness area” with very light touch management.

With growing concern for populations of mining bees, we will work in conjunction with the Wheal Buzzy Project (see Annex 6) to improve specified habitats for mining bees through the planting and seeding of wild flowers and maintaining selected areas in a bee-favourable state, for example sections of wall and the margins of the reservoir (see Appendix 6, Map: Areas managed for Mining Bees and Appendix 7, Paddy Saunders' report: Steeple Wood Initial Survey and Recommendations). The project will also encourage the management of the proposed public open space above Menhyr Drive as a bee-friendly wild flower meadow.

The species mix on the site will be kept under review and certain species may be culled from the site in the interests of preserving native biodiversity. For example, there is a stand of Monterey pine (Pinus radiata, native to California and Mexico) on the shoulder of Worvas Hill. There are growing concerns about the negative impact these trees have on native ecosystems. In other environmentally sensitive locations around the world they are being removed (see Bibliography, 6). Holm oak saplings are also present in large numbers and will need to be controlled.

8. TEN YEAR MANAGEMENT PROGRAM

Since the initial 10 year management plan by Eula Eliades of Cornwall Environmental Consultants in 2000 (Annex 7) the site has been transformed from a rhododendron jungle into areas of lowland heath, new woodland and open mature woodland.

8.1 Management Objectives

- to preserve naturalness and allow selected areas to revert to a wilderness state.
- to protect and enhance biodiversity, through habitat management.
- to facilitate public access without compromising the site's naturalness qualities.
- to facilitate community engagement in the project.

8.2 Ten Year Management Aims

- Eradicate Rhododendron ponticum, Montbretia.
- Complete tree planting, other than ongoing maintenance planting.
- Establish heathland area under an ongoing rotational management program.
- Upgrade a path from the top of Steeple Lane to Knill's Monument.
- Establish one or more wilderness areas, free from invasive non-native species.

8.3 Challenges facing the nature reserve

- Invasive non-native species such as Rhododendron ponticum, Montbretia, Cotoneaster, Buddleia, Sycamore, Holm oak.
- Spread of bracken.
- Disturbance caused by visitors and their animals.
- Diseases caused by pathogens such as Phytophthora ramorum (Sudden Oak Death) and Hymenoscyphus fraxineus (Ash Dieback or Chalara).

8.4 Other management challenges

- Public safety: mine shafts and other man-made workings; hazardous trees.
- Litter and fly-tipping.
- Balancing access against the need to protect wildlife and the naturalness of the site.
- Fire hazard.
- Inappropriate use of the site e.g. motorcycling, shooting, camping, parties.

9. HABITAT SECTORS and MANAGEMENT PROTOCOLS

There has been little material change in habitat type, other than maturation of trees and heathland, since the Steeple Woodland Local Nature Reserve Phase 1 Habitat Survey by Cornwall Environmental Consultants in 2009 (Annex 8. Management guidance for the site is summarised on pages 32-38 of that document).

Using this, and the management plan of 2000, the site has been divided into habitat sectors according to habitat type (Appendix 8, Map: Habitat Sectors). A work schedule has been devised setting out the tasks for each habitat sector season by season (Appendix 9, Work Plan for Habitat Sectors). This is a rolling program of operations. The proportion of time devoted to each operation will vary through the course of the 10 years as they take effect and the site matures.

9.1 Heathland on the summit of Worvas Hill (Frontispiece).

This is an area of lowland heath that has regenerated following the removal of rhododendron in 2006. This and other small areas of heath, for example the margins of the old reservoir, will be actively managed to maintain heath vegetation as a biodiverse habitat. The guidance provided by Martin Rule (2017) will be followed (See Appendix 10 Heathland Management Report).

The majority of heathland is in the 'mature' phase. Heathland will be encouraged to regenerate in over-mature areas through rotational cutting and burning of brush. Up to three areas of mature or degenerate phase heath (including areas of maturing willow and gorse) of approximately 90 sq.m. each, will be cut and burned every year during the winter months. This will be completed by the end of February according to the heathland management schedule. The efficacy of the operations will be assessed using photographs taken annually, before and after, and activity modified accordingly.

Rhododendron ponticum and other invasive species will be removed where they are encountered.

Control of bracken and invading scrub will be carried out during the summer in specified working areas where it is encroaching on the heathland.

9.2 Mature woodland (Steeple Woods, photo 3).

The ancient woodland pasture and subsequent infill with plantation in the nineteenth century and will continue to be managed as mature woodland. Areas not already frequented by users of the woodland will be left to become dominated naturally by ground flora and other understory plants (including bramble). Tree planting will continue around the perimeter of the woodland with the aim of creating a dense continuous shelter-belt.

Dead wood, including standing dead trees, will be left on site unless presenting a significant hazard to the public. Fallen trees will be left untouched where possible to preserve the naturalness of the woodland and provide valuable dead wood habitat.

If required, locally native trees may be planted in canopy gaps using large, well-protected saplings, which will be maintained until fully established. Gaps occurring in designated wilderness areas through natural losses will be left to regenerate naturally. The area could eventually be designated as a wilderness area and subject only to 'light touch' management

9.3 Young woodland (photo 6).

Photo 6. Young woodland – planted in 1999/2000

The first area of the nature reserve to be planted with trees by the Steeple Woodland Project Group, between 1999 and 2001, has now matured into young woodland. The objective is to allow this area to become mature woodland.

Within this area there are numerous mine shafts which have been enclosed with sturdy fencing and Cornish hedges. Dense undergrowth has colonised the areas within the Cornish hedges, acting as an additional barrier to anyone attempting to access the mine shafts.

The larger part of this area is proposed for designation as a wilderness area, with minimal management other than keeping designated paths clear and removing invasive non-native species. Trees will not be actively managed, other than where safety is an issue. Consideration will need to be given to ivy control where it is affecting young trees. Selected sections of the Cornish hedges will be managed to favour colonisation by mining bees (see Appendix 6, Map: Areas Managed for Mining Bees).

9.4 Recently planted woodland (photo 7).

These are areas planted with trees between 2002-2018 following removal of rhododendron between 2001-2006. The objective is to allow these areas to become largely woodland with glades.

Photo 7. Trees planted by St Ives Junior School pupils in 2018.
Bracken control is a key issue for aftercare of saplings.

Tree planting requirements will be monitored, particularly around the boundary of the site. Locally native trees only will be planted, according to the list published by Cornwall Council (Appendix 11, British native trees and shrubs and their status in Cornwall).

Bracken control around newly planted trees will continue until the young trees are above the bracken canopy and able to grow without further maintenance. Tree shelters will generally be removed at this stage. Invasive non-native species will be removed. The banks of the old reservoir will be kept free of trees to encourage bee colonisation.

Designated pathways will be maintained during the summer months, through light removal of obstructing vegetation.

9.5 Scattered woodland giving way to scrub (photo 8)

The density of trees decreases towards the upper slopes of Worvas Hill, giving way to scrub before the heathland area on the top of the hill.

Photo 8. Scattered woodland giving way to scrub and heath on slopes of Worvas Hill

Woodland trees will be planted most-densely near the boundary wall in the southern part of the upper slopes of Worvas Hill, but will become less dense towards the upper areas of the hill, giving way to scrub and then heathland. Tree after-care will be as in Sections 9.4. and 10.4. Selective thinning of scrub may be necessary towards the heathland area. Invasive non-native species will be removed. Designated paths will be kept clear.

The larger part of this area could be left as a wilderness area once tree planting and after care is complete.

9.6 Orchard area (photo 9).

A small area has been planted with fruit trees to promote interest in the community and provide food from the site, and is shown in photo 9, below. It will be managed as an orchard meadow to favour bees. Bracken and scrub will be controlled to encourage wild flowers.

Photo 9. The Orchard Area

9.7 Wilderness Area

A specified area will be left to nature (see Appendix 5, Map: Wilderness Area; photo 5). Within this area management activities will be restricted to minimum necessary clearance of designated paths and removal of invasive non-native species. Specifically, native plants and trees will be left untouched. New paths will not be created and informal, i.e. undesignated, paths within the wilderness area will not be maintained but left to natural footfall. The success of the designation will be kept under review and further wilderness areas added if and as appropriate.

9.8 Bee-favourable Areas

The project will work in conjunction with the Wheal Buzzy Project to establish mining bee-friendly habitat areas (see map, Appendix 6). Guidance in a survey and report by Paddy Saunders of Kernow Ecology will be followed (Appendix 7, Steeple Wood Initial Survey and Recommendations). Specified areas will be selectively managed to encourage bees, with supplementary planting/seeding of bee friendly locally native plants if appropriate and maintaining ground cover to a bee-friendly state. Sections of Cornish hedge will be seeded as appropriate with seed mix to encourage colonisation by flowering plants (see Annex 9, The Cornish Hedges Library).

Photo 10. Banks of the old reservoir to be managed to favour mining bees

The areas to be managed to encourage bees are:

(1) the “orchard area” - to be managed as a meadow;
(2) banks around the old reservoir – to be kept clear of scrub and trees;
(3) a section of the Cornish hedge traversing the hillside between the old reservoir and Knill's Monument – to be kept clear of bracken, scrub and trees to encourage heather;
(4) borders of the path leading up to Knill's Monument above this hedge;
(5) ad hoc path management where naturally occurring ground cover is appropriate.

10 PLAN OF OPERATIONS

See Appendix 9, which sets out a detailed schedule season by season. The management schedule will be discussed and agreed at Group meetings for the period until the next meeting, usually quarterly.

10.1 Rhododendron eradication

The principle source of rhododendron invasion is now from wind-blown seed from dense rhododendron stands on neighbouring land and regeneration from root stock. Seedlings should be pulled by hand where possible. It is **very important** that the plant is uprooted and earth shaken from the root ball to prevent regeneration from rootstock. A mattock or spade should be used to achieve this if necessary. If, due to the large size of the rhododendron bush, uprooting is not possible, the trunk should be cut at ground level and traumatised as much as possible in an attempt to prevent regeneration. Any stump regeneration should ideally be removed completely by hand. If this persists, spraying with herbicide may be necessary. Herbicide treatment will generally be used as a last resort in view of its harmful effect on surrounding plants, potential to contaminate watercourses and possible carcinogenic properties.

Photo 11. Uprooted rhododendron seedling – it is important to shake out earth from the roots

10.2 Control of other species

Other species present on the nature reserve that have invasive potential include Cotoneaster, Buddleia, Spanish bluebell, Montbretia, Pampas grass, Holm oak. Shrubby species can be uprooted and the soil shaken from the roots as per rhododendron treatment, but species such as Spanish bluebell and Montbretia should be removed from the site, as they have the potential for regeneration if just left on the surface.

10.3 Bracken control

Bracken is pervasive throughout the site. Control has been attempted with trampling and cutting but unless this labour intensive treatment is repeated annually for many years, bracken will persist and will in any case regenerate once control ceases. Thus, it is not realistic to control all bracken and areas have to be prioritised:

- Heathland on the summit of Worvas Hill: bracken should be controlled starting from the summit of the hill and radiating outwards, gradually extending the area of control.
- Around young trees until they grow above the bracken canopy: a 1 metre radius around each tree will give sufficient protection from the main hazard of being dragged down when the bracken canopy collapses in the Autumn. Avoiding block clearing of bracken in the most heavily affected areas will allow resources to be targeted efficiently to safeguard young trees.
- Ad hoc areas where bracken is invading patches of heath: here, block control will be necessary.
- Glades within woodland areas, to encourage diversity of ground cover.

Bracken control should take place in May, June and early July to maximise efficacy.

10.4 Tree planting and after care

Locally native trees and shrubs will be planted. Plants not native to West Cornwall will be avoided and those considered to be introduced will not be planted at all (see Appendix 11: British native trees and shrubs and their status in Cornwall).

10.4.1 Planting guidelines: random species mixes reflecting the micro-environment of the location, to enhance the natural feel of planted woodland; to avoid planting stands of ornamental trees or regular groups or lines of trees that might appear unnatural. Gradation from open areas to woodland. Appropriate species planted for each location.

Tree protection – guards & stakes. Non-mesh, non-spiral guards to be used (mesh and spiral guards can trap branches and become embedded in trees as they grow).

Photo 12. Disintegrating tree guards deposit plastic fragments into the soil. It is important they are removed when no longer needed.

10.4.2 Aftercare – clearing undergrowth particularly bracken to 1m radius around trees until established with the crown above the undergrowth canopy. Tree guards **must be removed** once trunks are of sufficient diameter to ward of gnawing herbivores. Holly, hawthorn and ash in particular need to be well established before guards can be removed.

10.5 Access and path maintenance

The Group will undertake to maintain designated pathways (see Map: Designated Paths, Appendix 4) to facilitate public access, bearing in mind the guiding principle of preserving the naturalness of the nature reserve to facilitate an immersive nature experience. Thus, efforts will be made to ensure that maintenance is conducted sensitively, clearing obstructing undergrowth but avoiding excessive clearance around path margins which will reduce the "managed" appearance and enhance the feeling of naturalness right up to path margins. Herbicides will not be used to clear paths.

Paths (other than the tarmac path from the top of Steeple Lane to Knill's Monument and the access path to the old reservoir) are not made up paths but retain a natural surface which is inherently uneven and contributes to the natural feel of the reserve. Should deep gouges or persistent flooding occur on designated paths, remedial measures will be undertaken but in general, paths will be left as natural as possible.

11. COMPLIANCE-RELATED POLICIES

11.1. Risk Assessment

As the Steeple Woodland Nature reserve is a public open space it is necessary to perform regular risk assessments to protect visitors from unreasonable avoidable risk. But a nature reserve carries inherent risk to visitors, for example from thorns, uneven surfaces, bites and stings from fauna, and falling branches from trees. A Risk Assessment will be performed each January, to include tree safety, mine shafts and designated paths (See Annual Risk Assessment Proforma, Appendix 12). Informal paths will only be checked for subsidence and dangerous trees. The responsibility for the management of subsidence and dangerous trees rests with the Land Owner and Agent (Cornwall Council and Cormac).

A risk assessment will be performed for volunteer sessions (Annex 10) and for group visits to the site supervised by project members.

The Group holds an Environment Agency Waste Management Licensing Exemption for burning of cut brush on the site (Annex 11). Fires will only be used were necessary to meet the objectives. Fires will be extinguished before leaving the site unattended. The fire brigade will be notified in advance of any burning activities.

11.2. Equal Opportunities policy

The Group has an Equal Opportunities Policy (Annex 12).

11.3. Safeguarding policy

A Safeguarding Policy is in place with respect to working with vulnerable adults and children (Annex 13).

11.4. Notifiable **Pathogens** policy

Phytophthora ramorum (Sudden Oak Death – see Bibliography, 5) is present on the site. *Fraxinus excelsior* (Ash dieback, Chalara) has been tentatively identified in the recently planted woodland (September 2019). Outbreaks of these or other suspected diseases will be reported to Cornwall Council and Cormac (see policy, Annex 14).

12. STEEPLE WOODLANDS PROJECT CONTACT DETAILS

Website: www.steeplewoods.org
Facebook: https://en-gb.facebook.com/pages/biz/community/Steeple-Woodland-Nature-Reserve-723180224408395/

Chairman: Alwyn Jones (AJ)
Secretary: Rupert Manley 07900177122 rapja995@gmail.com
Treasurer: Melanie Frankell

13. BIBLIOGRAPHY

1. Steeple Wood and Trelyon Downs, St Ives. An Archaeological and Geotechnical Assessment. Adam Sharpe, 1997. Cornwall Archaeological Unit, Cornwall County Council.

2. Steeple Wood Phase II Archaeological Assessment: Recently cleared land around Knill's Monumnet, Worvas Hill, St Ives. James Gossip, 2007. Historic Environment Service (Projects), Cornwall County Council

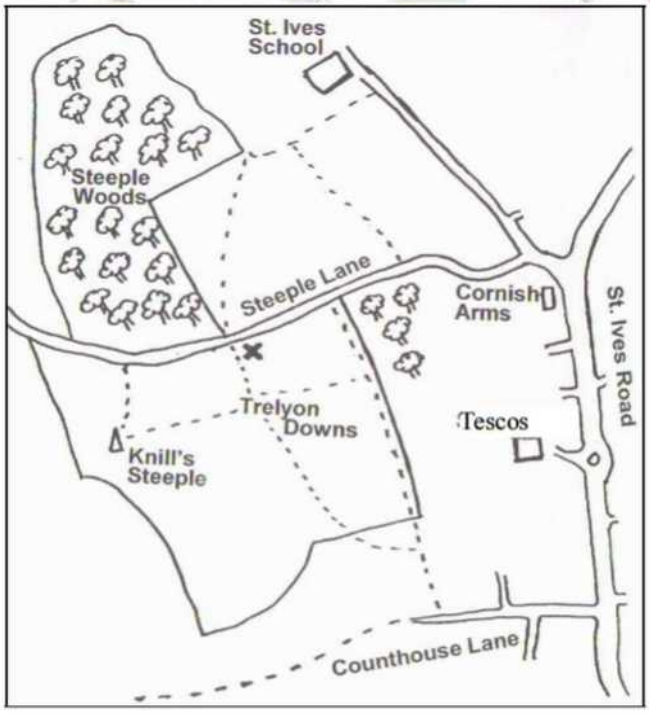
3. Benefits of interacting with nature: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3709294/

4. United Nations: Global Assessment Report on Biodiversity and Ecosystem Services: https://www.ipbes.net/sites/default/files/downloads/spm_unedited_advance_for_posting_htn.pdf

5. Fall in insect numbers: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0185809 and https://e360.yale.edu/features/insect_numbers_declining_why_it_matters

6. Problems with introduced conifers in New Zealand: https://en.wikipedia.org/wiki/Wilding_conifer

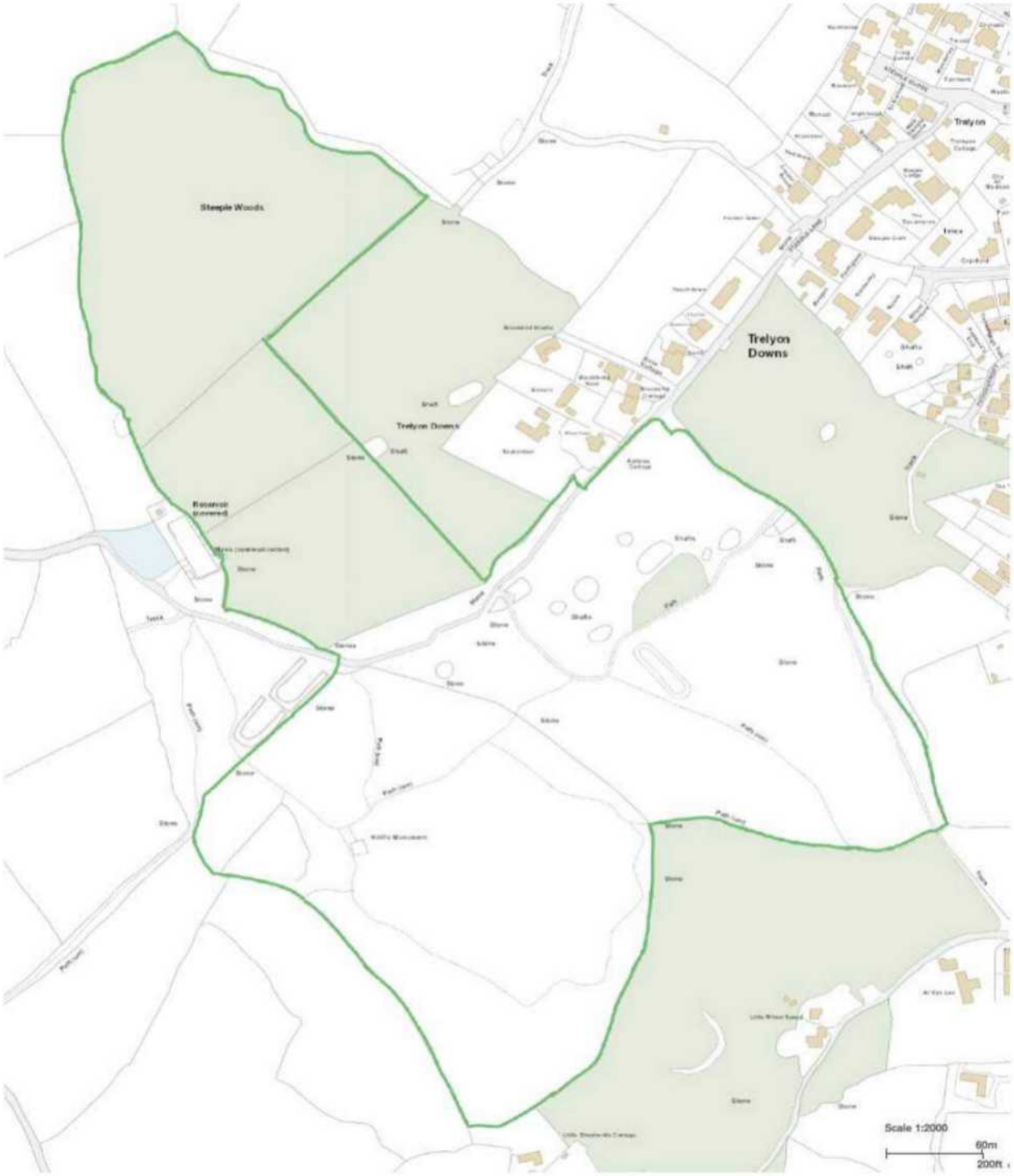
Appendix 1: Site location



Directions:

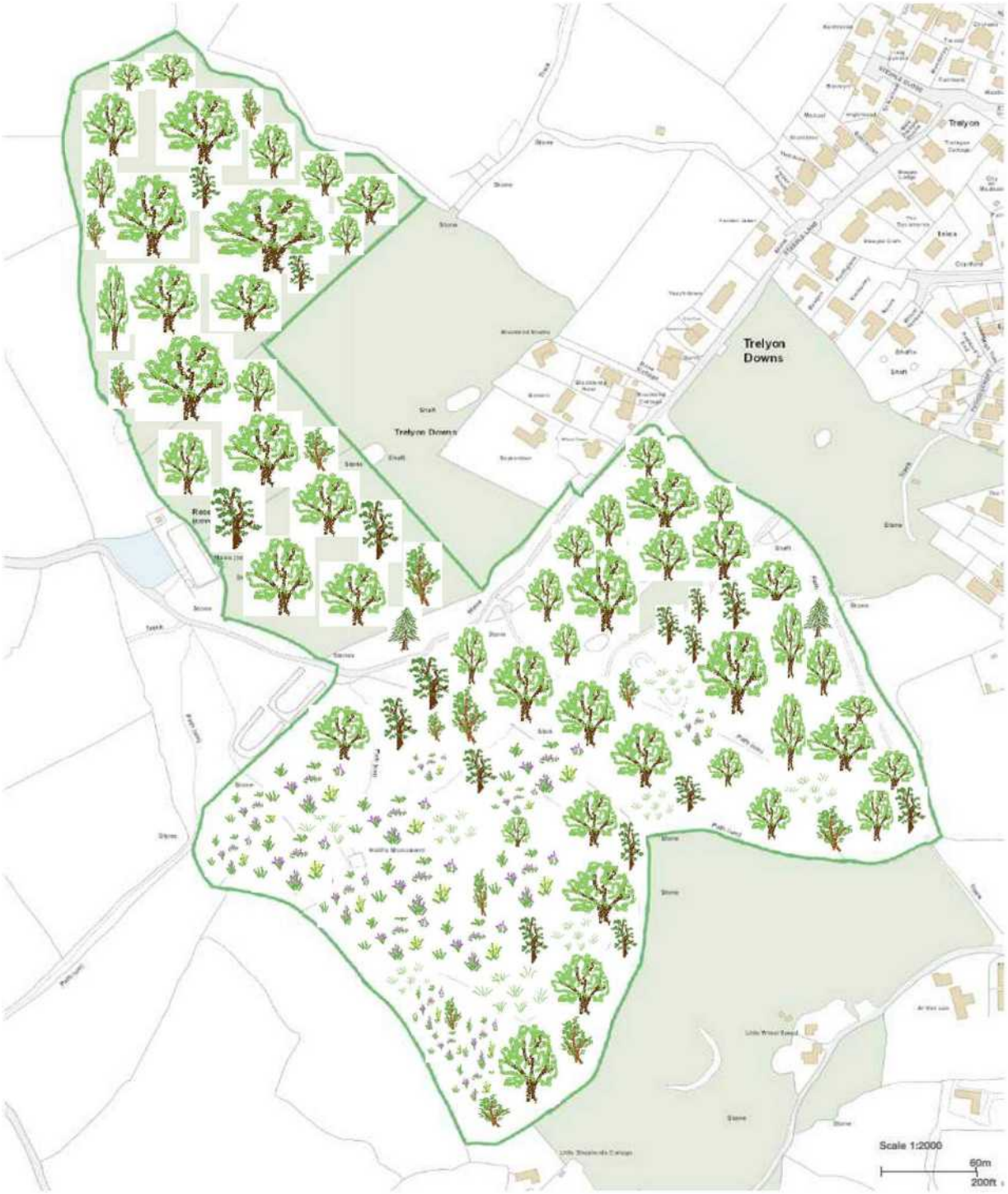
Head to St Ives from Lelant on A3074. Towards the far end of Carbis Bay, pass Tescos mini-roundabout. About 200 yards on left is The Cornish Arms. Turn left immediately after this (Higher Tregenna Road), and then immediately left again into Steeple Lane. Follow the lane up past all the houses. About 100 yards after last house there are gates either side of the lane. The Steeple Woodland Project Notice board is on the left hand side. Further up the lane towards the top is a small pull-in, next to the Knills Monument sign. Steeple Woods is on the right, and a path to Knill's monument is on the left. The monument itself is 100 yards up the path.

Appendix 2: Steeple Woodland Nature Reserve Site Plan



Steeple Woodland Nature Reserve boundary

Appendix 3: Proposed Habitat Plan

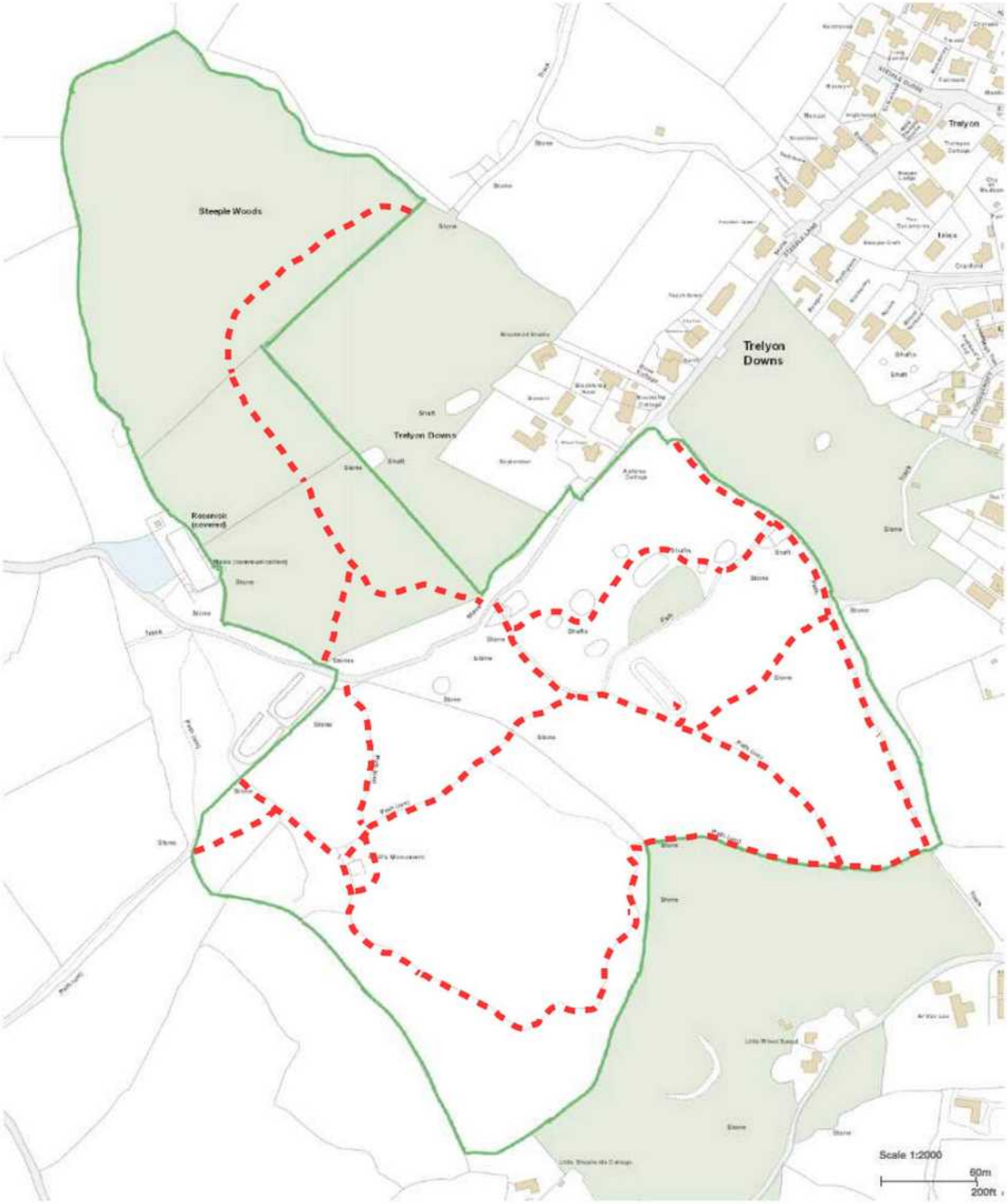


Lowland heath: predominantly western gorse and heather with moorland grasses, bracken. On summit of Worvas Hill and scattered elsewhere.

Rough meadow/moorland grasses. Scattered patches on heath and within woodland areas.

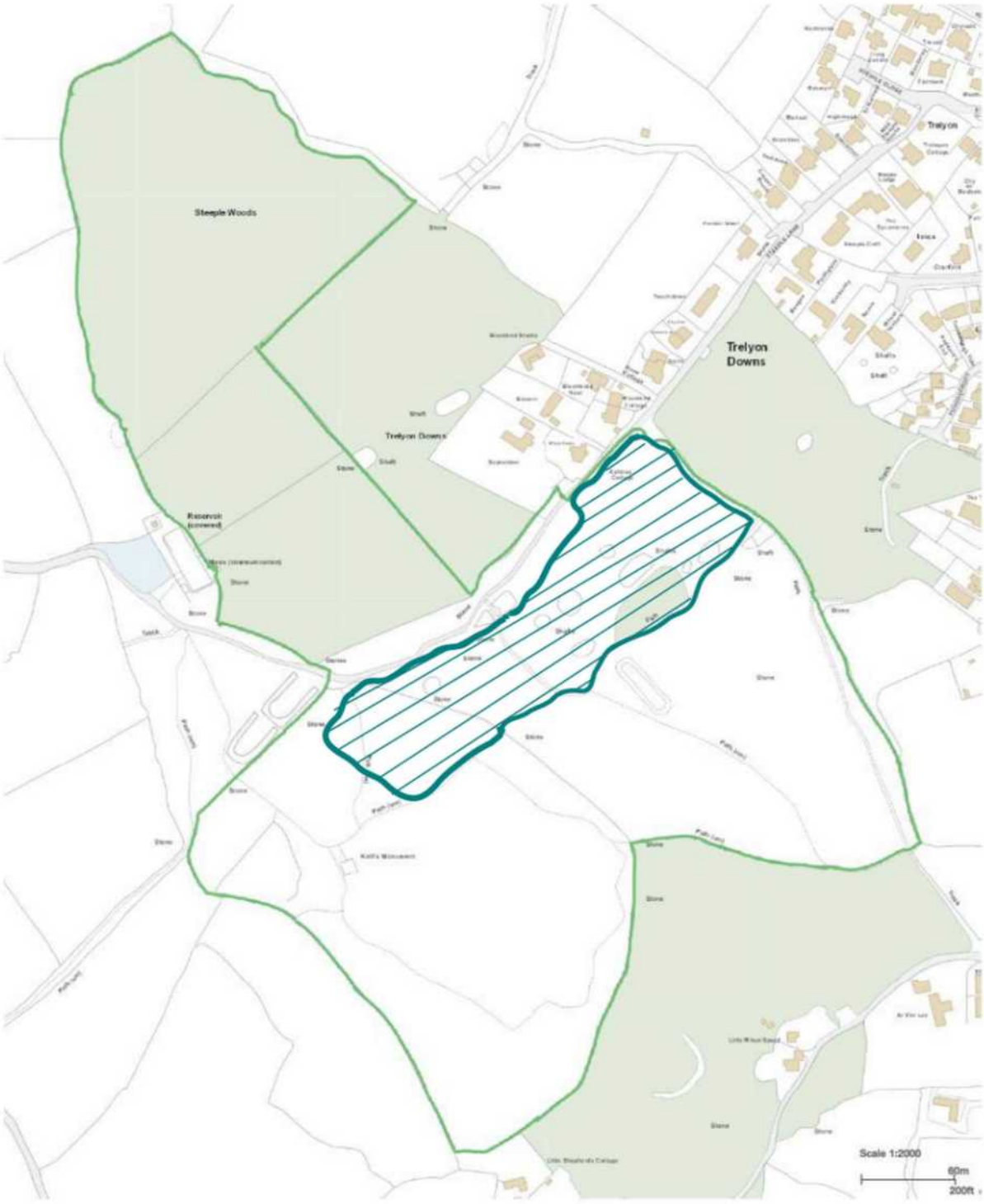
Mixed broad-leaved woodland with occasional evergreen trees, predominantly in Steeple Woods and lower slopes of Worvas Hill giving way to scattered trees and heath towards summit of Worvas Hill.

Appendix 4: Designated Paths



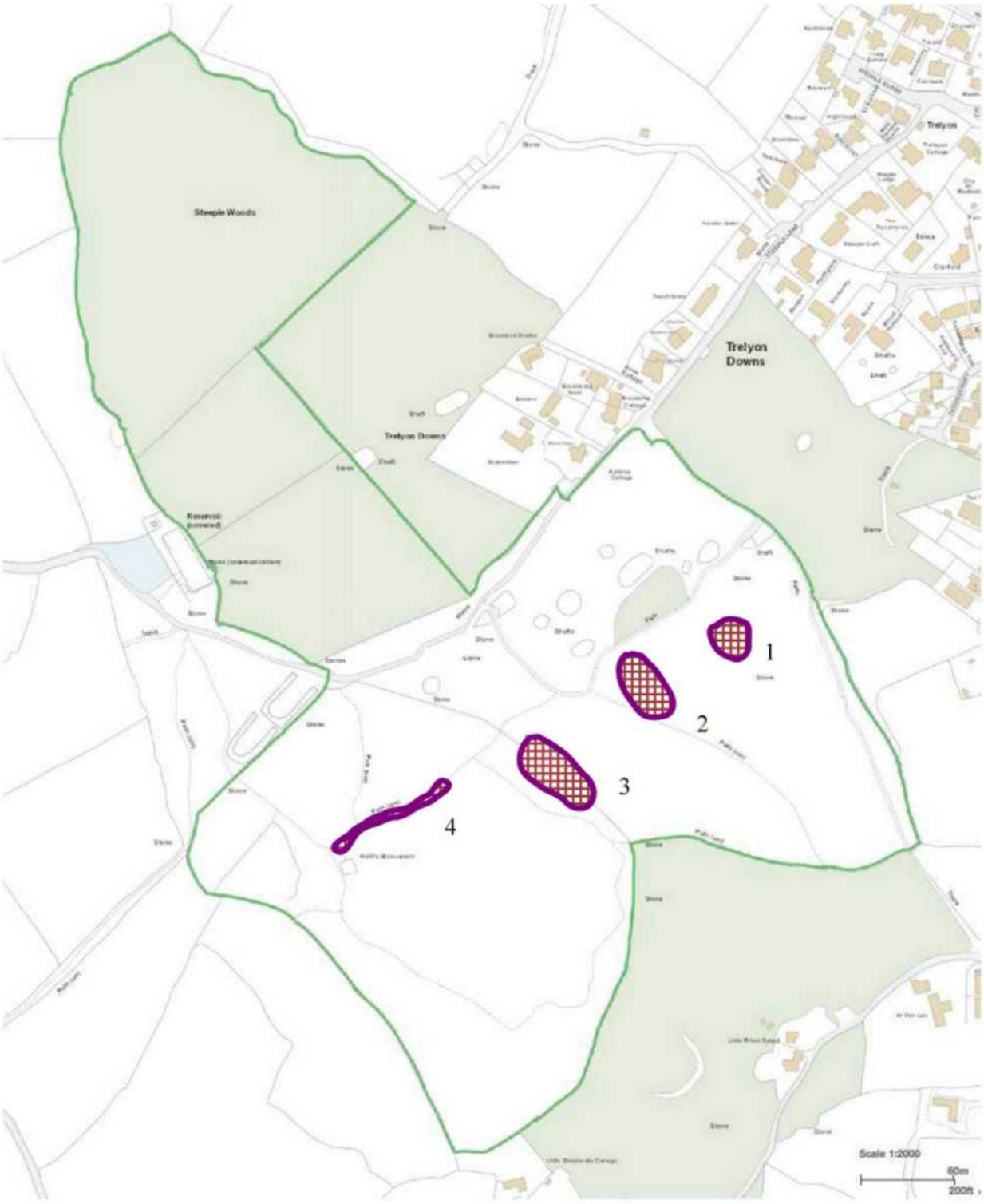
Designated paths that will be kept clear and subject to annual risk assessment. Some, but not all, of the designated paths are public rights of way on the Definitve Map. There are no bridleways on the site. There are numerous other informal pathways which will not be maintained by volunteers.

Appendix 5: Wilderness Areas



Proposed wilderness area for inclusion in the management plan.

Appendix 6: Areas Managed for Mining Bees



Areas to be managed to favour Mining Bees:
1. Orchard area;
2. Around banks of old reservoir;
3. Section of Cornish hedge;
4. Path up to Knill's Monument.

Cornwall
Area of Outstanding
Natural Beauty

Steeple Woodland Initial Survey and recommendations
Patrick Saunders of Kernow Ecology was requested on behalf of AONB Wheal Buzzy Project to visit the site with respect to habitat improvements for Wild Bees.

Summary

The site is large one, with moderate Bee species and habitats but high community interest. No rare species were found, although more a detailed invertebrate survey was not undertaken.

A range of habitats were found supporting solitary bees, but bees rely on open unshaded habitats, which are being reduced as scrub and tree cover is expanding on the site. Scrub and woodland edge is important, with trees such as Willow, Blackthorn, Hawthorn and Sycamore being valuable for bees in particular, but this should be balanced against rarer habitats and species round in open un-shaded heathland and flower-rich meadows.

Open heathland rich in Heather and Bell heather can be rich in solitary bees such as Heather Colletes (*Colletes succinctus*). Tormentil on Heathland in West Penwith can support the Red Data book Tormentil Nomad Bee (*Nomada robertjeotiana*). Mixes (mozaics) of flower-rich habitat on the edges (transitions) of scrub and heathland can be important with Angelica supporting the Red Data Book Perkin's Mining Bee (*Andrena rosae*). Bare trampled ground, erosion and scruffy paths can be important for mining bees such as the Large Shaggy Bee (*Panurgus banksianus*). Yellow Hawkbits can be important for the Nationally scarce Catsear Nomad Bee (*Nomada integra*)

Recommendation

Meadow area outside Steeple Woodland LNR (SW51993882) A meadow area was identified with Black Knapweed, Greater Birds-foot trefoil, Meadow Vetchling. This could be an important flower-rich meadow area with management. Manage by cutting and removing cuttings mid-august. Hand weed or cutting ad-hoc weeds (thistles, dock etc.) if become problematic. Consider introduction of Yellow rattle from top of the site. The trees in the meadow should be kept small or removed.

Knill's monument area (SW51623863). At the top of the site ongoing cutting of path margins to promote flower-rich grassland edges, ideally with an annual cut in September after flowering. Although areas with bracken will need more frequent cutting throughout the season. Avoid cutting Angelica before seeding (late sept) and Yellow rattle (late July). Other cutting regimes can be explored such as cutting every 2-3 years random patches to ensure diversity of scrub types.
Bare scrape (SW51823878)
Area of former industrial workings rich in hot bare ground for ground nesting bees. Maintain by

ensuring tree cover does not shade the area. Control bracken cover.

Heathland Clearing (SW51743874)
The Calluna and Bell Heather here should be kept open and unshaded. Cut or bash bracken above the hieght of heather throughout the growing season. Specific herbicides for Bracken may be an option. Encourage other heathland plants such as Tormentil by natural regeneration.

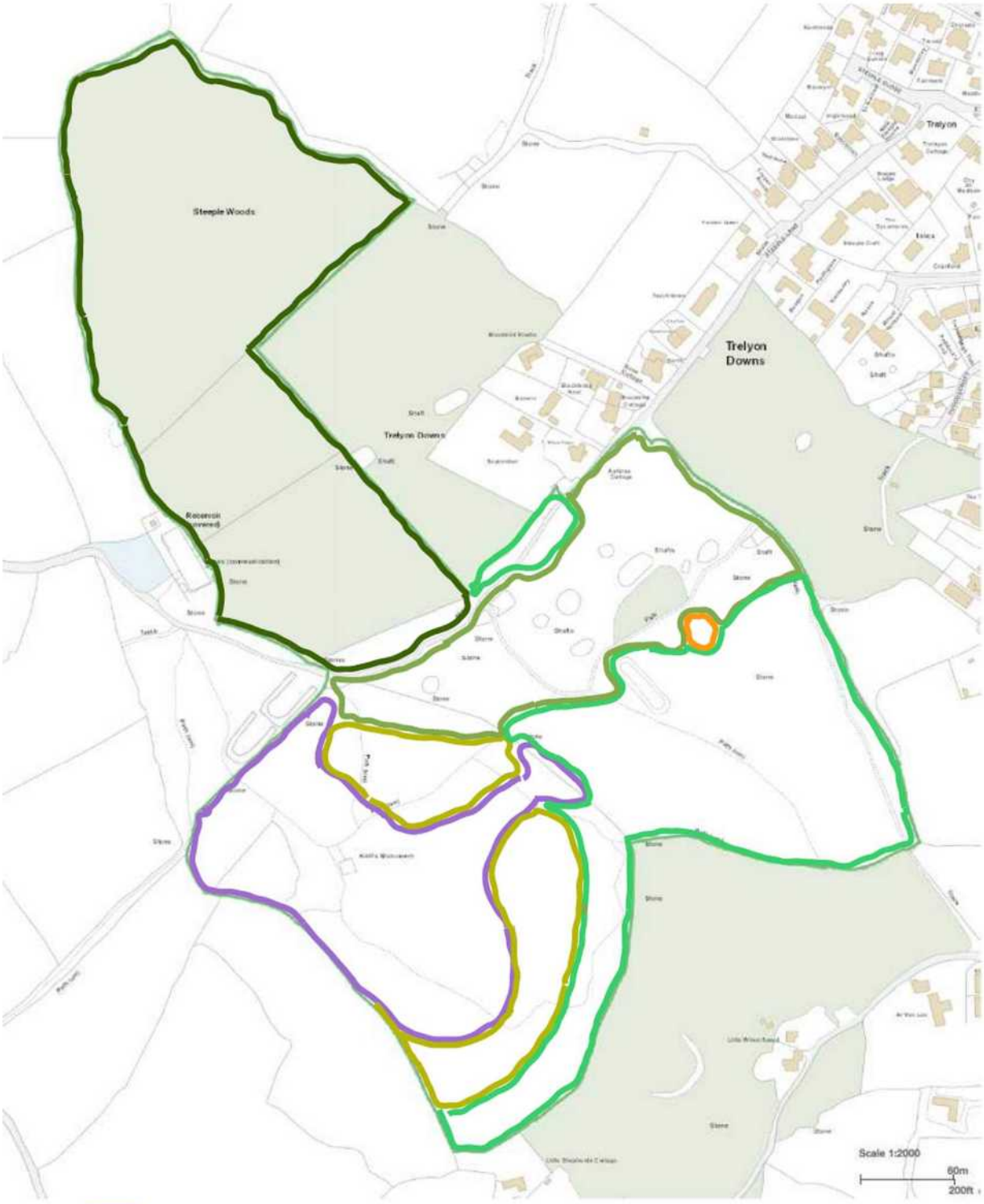
Heather Colletes (*Colletes succinctus*) A heather specialist needs bare ground and open areas of Heather and Bell heather

Perkin's Mining Bee (*Andrena rosae*) A Red Data Book West Penwith speciality. It occurs in two broods on foraging scrub in spring and on Angelica in August

Artificial bee bank 2 mining bee nest sites created with handtools on 23/11/16. Both areas were roughly south facing. With areas of both sloping and vertical bare ground. Small parabolic 'dips' were created to boost diversity of micro-climate and niches.

Artificial bee bank Trench about 4-5m long with spoil banked above. height about 2.5m. Using a natural slope feature. A range of Loamy and Peat soils were exposed. This feature was very successful In summer 2017 with over 31 bee or wasp nest holes.

Appendix 8: Map: Habitat Sectors



1. Heathland
2. Mature woodland
3. Young woodland
4. Recently planted woodland
5. Scattered woodland giving way to scrub
6. Orchard area

Appendix 9: Work Plan for Habitat Sectors

Top priority Medium priority Ongoing task

Sector	Winter	Spring	Summer	Autumn	Year-round	Notes
1. Heathland	Heathland management sectors* Thin/clear scrub where appropriate.	Rhododendron control Bracken cutting Spray or weed montbretia	Spray/break up one-year-old rhododendron regrowth Bracken cutting Spray or weed montbretia	Spray /break up one-year-old rhododendron regrowth Thin scrub where appropriate	Pull rhododendron. Remove other invasive plants eg pampas grass, buddleja Litter picking	*See Heathland Management Report (Appendix 9))
2. Mature woodland (Steeple Woods)	Pull rhododendron Remove other invasive plants eg pampas grass, buddleja Tree planting where appropriate		Spray/break up one-year-old rhododendron regrowth Care of planted trees	Clear designated paths.	Pull rhododendron Remove other invasive plants eg pampas grass, buddleja Litter picking	
3. Young woodland (planted before c. 2004)	Clear designated paths. Remove tree guards from established trees	Rhododendron control	Clear designated paths.	Clear designated paths. Remove ivy from young trees, remove sycamore seedlings and monbretia	Pull rhododendron Remove other invasive plants eg pampas grass, buddleja Litter picking	
4. Recently planted woodland	Remove guards from established trees Clear designated paths Clear dead bracken from over bluebell and anemone areas (lower part of 4.a.)	Rhododendron control Care of planted trees – bracken trampling, check guards	Spray/break up one-year-old rhododendron regrowth Clear designated paths. Care of planted trees – bracken trampling, check guards	Remove tree guards from established trees Clear designated paths.	Pull rhododendron Remove other invasive plants eg pampas grass, buddleja Litter picking	Plant screening trees along eastern boundary wall (winter 2017/18)

Appendix 9 continued: Work Plan for Habitat Sectors

Sector	Winter	Spring	Summer	Autumn	Year-round	Notes
5. Scattered woodland and scrub gradually giving way to heathland towards the top of Worvas Hill	Scrub control if encroaching on heathland areas Remove tree guards from established trees	Spray /break up one-year-old rhododendron regrowth Care of planted trees – bracken trampling, check guards Bracken control particularly on the margins of the heath mosaic on the summit of the hill	Spray /break up one-year-old rhododendron regrowth Care of planted trees – bracken trampling, check guards Bracken control particularly on the margins of the heath mosaic on the summit of the hill	Scrub control if encroaching on heathland area Clear designated paths.	Pull rhododendron Remove other invasive plants eg pampas grass, buddleia Litter picking	Additional tree planting in woodland area to south/near boundary wall (scattered woodland trees eg alder, oak, ash, giving way to smaller scrub species on upper slopes)
6. Orchard area	Scrub control if encroaching on area	Bracken control	Bracken control Cut back ground cover in late summer to encourage flowering plants			This area to be managed to favour bees.

STEEPLE WOODS LOCAL NATURE RESERVE

St Ives, Cornwall

HEATHLAND MANAGEMENT REPORT

May 2017

Looking across Cock's Hill summit towards Trencrom Hill, 27th April 2017

By Martin Rule, Environmental Consultant

On behalf of LNR Management Committee

STEEPLE WOODS LNR – HEATHLAND MANAGEMENT

1. Introduction

Steeple Woods is a 40 acre Local Nature Reserve, lying immediately south of St Ives and west of Carbis Bay.

Since 1999, the Steeple Woodland Project Group has been actively working here to restore habitats – in particular, removing huge amounts of invasive Rhododendron – and to encourage sympathetic public access.

The site was declared an LNR in 2002, thereby creating an official public open space. Local people have responded positively, and the site received a Green Flag award for 5 years' running from 2006.

The site comprises two main habitats; heathland on the top of Cock's Hill, with mixed woodland – mainly beech and oak, on the slopes leading down towards Carbis Bay. Numerous trees of a wide range of species have also been planted.

Management takes place within the framework of a Site Management Plan, which was originally put in place by Cornwall County Council. As part of a regular review of this Plan, the committee considered a need for obtaining external advice specifically on how to manage the heathland part of the LNR.

Martin Rule, a local Environmental Consultant with extensive knowledge of heathland management, was commissioned to provide this advice, via this report.

In addition to a site visit made on 27th April 2017, survey work produced by Noah Hall, a Duchy College student, as well as various other relevant heathland management literature was used to produce this report.

2. Observations

2.1 Setting the environmental context of Steeple Woods

In terms of its total acreage, the heathland at Steeple Woods is small, comprising approximately 5 acres - one eighth - of the site. However, within a conservation context, it certainly comprises the most valuable semi-natural habitat within the LNR.

Lowland heathland is a scarce habitat nationally and is a key UK Biodiversity Action Plan habitat. Cornwall is the second 'heathiest' county, and therefore seeking to ensure heathland within Cornwall is managed as effectively as possible is a priority.

Looking more closely, the Penwith peninsula contains the largest total extent of heathland within Cornwall. The area around Cock's Hill comprises the furthest easterly extent of a band of heathland stretching across the Penwith moors and hills.

This extensive area of heathland provides a habitat for many specialised species of flora and fauna, much of which is currently being assessed by Natural England for designation as a Site of Special Scientific Interest.

Critically, individual heathland blocks are made all the more valuable by their close proximity to other patches nearby. Organisations such as Natural England, the National Trust and Cornwall Wildlife Trust seek to collaborate over site management to ensure that as many sites as possible are subject to the most appropriate actions possible, all for the greater good of the overall heathland resource.

Securing successful heathland management on Cock's Hill will contribute another valuable part to this jigsaw.

2.2 Existing condition of heathland at Steeple Woods

The heathland at Steeple Woods clothes the hill-top above the woodland. It is dominated by extensive mature plants of western gorse *Ulex gallii,* along with frequent common heather *Calluna vulgaris* and European gorse *U. europeaus.* Other frequent species comprise bell heather *Erica cinerea* and saplings of grey willow *Salix cinerea* and downy birch *Betula pubescens.*

A number of non-native species, notably butterfly bush *Buddleia davidii* and *Cotoneaster spp.* were also common.

A small area to the west of the Knill Monument was cut around 18 months' ago by the LNR volunteer group. As well as regenerating shoots from the gorse and heather plants, this area also contained several acid grassland species such as bristle bent *Agrostis curtisii* and tormentil *Potentilla erecta.*

The vast majority of the heathland here is currently in the 'mature phase' category; there is minimal age-structure diversity within the habitat. This has implications for the management of the habitat, as will be discussed below.

3. Discussion

3.1 Heathland age-structure

Left unmanaged, heathland tends to move through the following life stages:

- **Pioneer phase** – 0-2 years' old – occurs following a fire, ground-scraping or direct seeding with heathland seeds;
- **Building phase** – up to about 5 years' old; during this phase grass and gorse plants tend to start to out-grow heather plants due to their faster growth rates;
- **Mature phase** – from 6 to about 12 years old, sometimes longer, heather and gorse plants reach maturity, set seed each year; canopy often closes between plants, often making heathland areas quite impenetrable – this phase predominates at Steeple Woods at the moment;
- **Degenerate phase** – usually after 15years' or so from the pioneer stage, some of the large heather and gorse plants collapse and die, often creating small clearings, often also then re-growing from their bases, but not always – sometimes a bare patch, or clearing develops instead.

Each phase provides a distinct habitat niche, for example:

- Pioneer phase contains much bare ground, which is ideal for basking reptiles and butterflies, nest sites for mining bees and beetles and opportunities for herbs such as tormentil to germinate; It also encourages lichens and bryophytes – mosses and liverworts – to appear;
- Building phase often appears quite open and 'grassy', making it ideal for ground-nesting birds such as meadow pipit and skylark;
- Mature phase provides dense cover for reptiles to hibernate and for birds such as stonechat and linnet to nest;
- Degenerate phase provides dead wood habitat for fungi and a range of small creatures from beetles to wood mice

Seeking to provide a range of age structures within the heathland on a given site is exactly the same principle as the well-understood establishment of a coppicing rotation within a woodland.

Some illustrations of heathland age groups

Heathland at Madron Carn, entering the building phase from the pioneer phase, 2.5 years' after topsoil with extensive *Rhododendron* litter was mechanically removed using a swing shovel. On a smaller scale – such as at Steeple – similar conditions could be achieved through hand raking and burning.

Controlled burning of mature-phase heathland at Sancreed Beacon, March 2014. Note the essential provision of a closely-cut or grazed firebreak, which, as well as controlling which areas are burnt, also enables access for management, and can become a useful part of a site's path network.

There are several additional important reasons for trying to break-up an extensive area of mature-phase heathland, as exists at Steeple Woods:

- **Reduction of fire risk -** it renders the area much safer from the risk of accidental or un-planned fires. The younger phase blocks act as fire breaks, and the amount of fuel - heather and gorse material - that might be available to a wild fire is removed during scheduled site management activities. Wildfires occurring during the late spring and summer months, when the vegetation is often more flammable, can have a severe impact on nesting birds, other wildlife and visitor safety;

- **Access improvement** – by reducing the amount of dense vegetation, the heathland area will become easier to access both for recreation as well as for site management activities – see picture above;

- **Archaeological discovery and enjoyment** – quite often, when dense vegetation on heathand sites is reduced, historic remains become uncovered. This has proved to be the case many times on sites in Penwith, which is one of the richest cultural landscapes in the country. Be ready to call in the experts if some odd looking stones are uncovered within the site – you may be surprised what they are! Undergrowth reduction enables the historic features on a site to be more easily viewed also – see picture below.

Madron Cross on Madron Carn above Penzance. It would only take about 5 years' of complete cessation of management here for this valuable cross to be lost underneath a sea of gorse, bracken and bramble. Mysteries may lie undiscovered at Cock's Hill…

3.2 Target heathland age structure proportions

So, now we have an understanding of the benefits derived by diversifying the age structure of heathland on a site, the next question that arises is 'what proportions of each age class should we aim for on the site'?

Natural England has developed the following guide as an ideal mix of age classes for landowners to aim for through Higher Level Stewardship agreements in Penwith:

Pioneer phase heather	**10-15%** (of the whole heathland area)
Building phase heather	**25-80%** (with mature phase)
Mature phase heather	**25-80%** (with building phase)
Degenerate heather	**10-30%**

The proportions above illustrate the ideal 'end point' that should be aimed for at the end of a 10 year HLS agreement. Of course, heathland on a site will continue in existence beyond 10 years, and may well take more than 12 years to reach maturity anyway, as described in 3.1 above.

This is not an exact science. The key point to be grasped is that the creation of age-structure diversity within existing blocks of single-age heathland, should become adopted as a key part of heathland management, for the reasons described in 3.1 above.

4. Proposals for Heathland Management at Steeple Woods

4.1 Plot size

The site map overleaf indicates the area of heathland at Steeple Woods. As stated in 2.1, this equates to around 5 acres, or 2 hectares.

Such an area could be broken down into 22-25 plots of about 30m x 30m, which roughly equates to the area cut by the LNR volunteers about 18 months' ago.

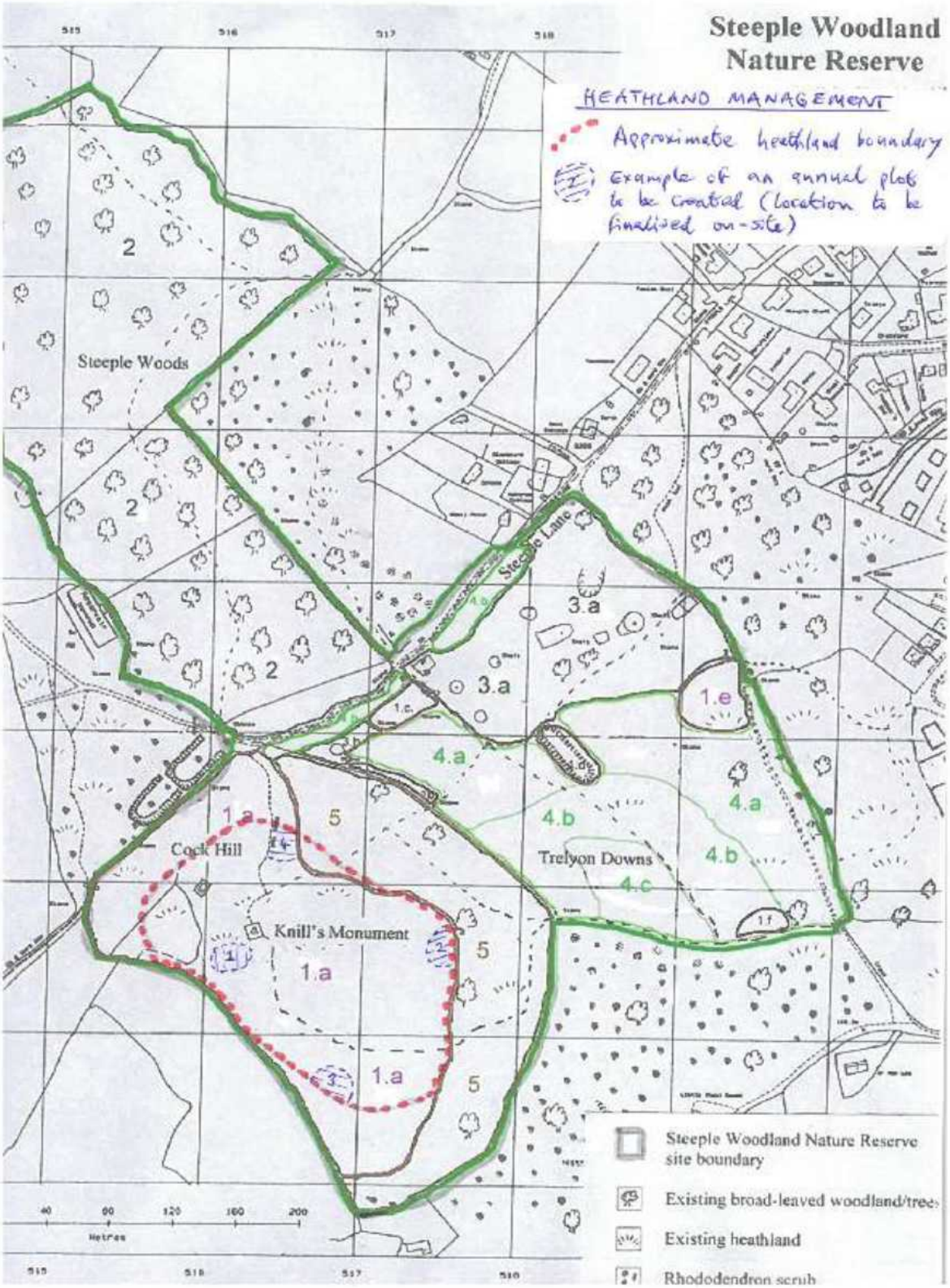
Site management has to be realistic, reflecting the resources available. It would appear that creating one, two or perhaps even three similar-sized plots each winter would be achievable at Steeple, therefore commencing a cycle of heathland 'coppicing' that would deliver a sustainable diversity of age structure across the habitat.

4.2 Plot location

Plots do not have to be rigidly laid out next to each other, or to be exactly the same size – indeed, it would be more pleasing to the eye if they were not.

Practicality should be the key – it may be best to select locations for each year's plots based in sites where the densest gorse or heather occurs, so as to reduce fire risk, or at the edges of plots created in recent years, as they are easier to access.

Sketch map showing the heathland location at Steeple Woods



Thin, linear plots could be created – for example, this might be useful alongside footpaths, by widening the existing pathway, thereby creating some degree of firebreak in the process.

It would be useful to utilise various features such as trees or rocks to define the edges of plots in order that volunteers understand where they should be working. Provision of new posts to aid in this might be useful.

4.3 Management techniques

Heathland within a plot should be cut as low to the ground as possible using hand tools such as loppers and bow saws. A brush-cutter may prove valuable, but may best be operated when other people are not present.

Cuttings should be gathered up and burnt within the plot itself. The act of burning will help to remove litter from the soil and to expose the seed bank.

Ideally, a thorough rake-over over the plot should take place, with rakings added to the fire, as again, this will reduce the amount of litter on the ground surface, thus exposing the seed bank. Substantial volumes of heather and gorse litter build up underneath mature heathland, which, if not removed, can hinder the development of pioneer phase heathland.

Usually, it is more convenient to feed cuttings onto a fire as soon as they are generated, rather than leaving cut piles on-site for several weeks, else animals might take up residence and be at risk of burning, or the cuttings might become targeted for arson. It also helps to keep the working area free of trip hazards.

With care, fire could be used directly in the clearance of standing vegetation. It is advised that help is obtained from trained, experienced contractors, as great care needs to be exercised in planning and carrying out such operations.

Several invasive species occur within the heathland at Steeple Woods, notably butterfly bush *Buddleia davidii, Rhododendron* and *Cotoneaster spp.* These should be specifically cut during heathland management and burnt, and, ideally, their stumps painted within 15 minutes with a systemic herbicide.

5. Legal Framework under-pinning this Plan

Several environmental regulations and requirements should be followed when carrying out specific site management activities at Steeple Woods. These are listed below.

- **The Heather and Grass Burning Code, 2007.** This is a Defra/Natural England Code, with several specific best-practice guides. Three of the most critical aspects of controlled-burning are to produce a Fire Plan at the outset, to ensure that enough trained, properly-equipped people are present and that weather conditions are suitable.

- **Environmental Stewardship: Rougland Management Guidelines, 2011.** This is a Natural England guidance document produced by the Cornwall Team in 2011 with specific details and requirements on managing rough-land in Penwith. One specific example of a best-practice recommendation in Penwith compared with other parts of the UK is that birds often begin nesting earlier. Therefore in Penwith, **it is recommended that scrub control operations should aim to be completed by the end of February.**

Martin Rule

28th June 2017

British native trees and shrubs and their status in Cornwall

With the increasing emphasis on planting native trees and shrubs for biodiversity and to maintain local character and distinctiveness it is important to understand which species are native and common in and within Cornwall. This list contains those trees and shrubs generally considered to be British natives (Based upon Forestry Commission Practice Note 8) and comments on their status in Cornwall (based upon L J Margetts and R W David - A Review of the Cornish Flora 1980). Some additional comments are included from experience of Cornwall Council staff.

Cornwall Council encourages the use of locally native trees and shrubs for planting in rural areas and around the urban fringes - **"Bring the countryside into the urban rather than the urban into the countryside!"** Natural regeneration is encouraged where feasible and stock from local provenance (Cornwall if possible. If not, SW England, native seed zone 305) is preferred for planting. There may be occasions where native trees and shrubs are not sufficient alone to meet the planting objectives. In all cases trees and shrubs commonly found in the locality should be favoured to maintain the character of the area. We have included a few commonly found climbing plants but we would recommend that these are generally not planted but allowed to colonise naturally.

Common name	Latin name	Native to Cornwall?	Notes
Maple, field	Acer campestre	V. rare	Present mostly in planted hedges possibly native in a few stations in the N and SE
Alder, common	Alnus glutinosa	Yes	Common and widespread by rivers and streams
Birch, silver	Betula pendula	Yes	Frequent and widespread
Birch, downy	Betula pubescens	Yes	Frequent and widespread, prefers damper ground than B. pendula
Box	Buxus sempervirens	Introduced	
Hornbeam	Carpinus betulus	Introduced	Frequent but nearly always planted
Dogwood	Cornus sanguinea	Localised	Only in E, frequent in Tamar Estuary
Hazel	Corylus avellana	Yes	Common and widespread
Hawthorn, Midland	Crataegus laevigata	No	Extremely uncommon
Hawthorn, common	Crataegus monogyna	Yes	Common and widespread (possibly subsp. nordica)
Broom	Cytisus scoparius	Yes	Common throughout in suitable habitats
Spurge laurel	Daphne laureola	Very Rare	Mostly bird introductions
Spindle	Euonymus europaeus	Localised	Widespread and frequent in east, less so in west and absent from West Penwith
Beech	Fagus sylvatica	Introduced	Frequent throughout but decidedly uncommon in far west.
Buckthorn, alder	Frangula alnus	Yes	widely distributed E of Hayle and Helston but never common
Ash	Fraxinus excelsior	Yes	Common and widespread
Holly	Ilex aquifolium	Yes	Common and widely distributed
Juniper	Juniperus communis	Extremely localised	Native to one part of the Lizard, in a distinct form
Privet	Ligustrum vulgare	Yes	Frequent throughout County
Apple, crab	Malus sylvestris subsp sylvestris	Probably introduced	Extremely rare
Pine, Scots	Pinus sylvestris	Introduced	
Poplar, grey	Populus canescens	Introduced	
Poplar, black	Populus nigra var. betulifolia	Introduced	Not known in Cornwall
Aspen	Populus tremula	Rare	Except area between Bodmin Moor and Tamar
Cherry, wild /gean	Prunus avium	Yes	Scattered but absent from West Penwith
Cherry, bird	Prunus padus	Introduced	Uncommon and always planted
Blackthorn	Prunus spinosa	Yes	Common and widely distributed

Common name	Latin name	Native to Cornwall?	Notes
Oak, sessile	Quercus petraea	Yes	Common and widely distributed
Oak, common	Quercus robur	Yes	Common and widely distributed
Buckthorn, purging	Rhamnus catharticus	No	
Rose, field	Rosa arvensis l	Yes	Common
Rose, dog	Rosa canina	Yes	Common
Pear, Plymouth	Pyrus cordata	Extremely rare	Confined to one locality and heavily protected. Do not propagate or plant
Butcher's broom	Ruscus aculeatus	Localised	Widespread as a plant of rocky cliffs along S coast, also occurring as an introduction elsewhere
Willow, white	Salix alba	Localised	Widely scattered in a few localities
Willow, eared	Salix aurita	yes	Common
Willow, goat	Salix caprea	Yes	Common
Willow, grey	Salix cinerea subsp oleifolia	Yes	Widespread. Our common willow
Willow, crack	Salix fragilis	Localised	Scattered in a few localities
Willow, bay	Salix pentandra	Introduced	Rare
Willow, purple	Salix purpurea	Probably introduced	Extremely rare
Willow, creeping	Salix repens	Rare	Dune slacks and coastal marsh
Willow, creeping	Salix repens/arenaria	Yes	A common heathland plant
Willow, almond	Salix triandra	Very rare	Very rare and localised
Willow, osier	Salix viminalis	Yes	Frequent and widespread in marshy places and by streams
Elder	Sambucus nigra	Yes	Common and widespread.
Whitebeam	Sorbus aria sensu lato	Introduced	Uncommon
Rowan	Sorbus aucuparia	Yes	Frequent but more common in wooded valleys in the east
Wild service tree	Sorbus torminalis	V. localised	More frequent in extreme NE and SE
Lime, small-leaved	Tilia cordata	Introduced	Always recognised as planted
Lime, large-leaved	Tilia platyphyllos	Introduced	Always recognised as planted
Gorse	Ulex europaeus	Yes	
Elm, wych	Ulmus glabra*	Yes	Common and widely distributed (probably the only native)
Wayfaring tree	Viburnum lantana	Introduced	
Guelder rose	Viburnum opulus	Yes	Frequent but less so in west and absent from west Penwith
Traveller's joy	Clematis vitalba	Localised	Common and widely distributed along coast, rarely far inland
Honeysuckle	Lonicera periclymenum	Yes	Common and widespread.

Some non British native species found in the Cornish countryside

Common name	Latin name	Notes
Poplar, white	Populus alba	Often planted near the coast and for colour. Frequently prone to windblow
Poplar, Italian	Populus x canadensis	Widely planted in a number of clones but can be prone to canker
Chestnut, sweet	Castenea sativa	Frequent as a planted tree but also self sown
Oak, evergreen	Quercus ilex	Widely planted and occasionally regenerates from seed
Oak, Turkey	Quercus cerris	Widely planted and occasionally regenerates from seed
Elm, Cornish	Ulmus minor var. Cornubiensis*	Common and widespread
Elm, Davey's	Ulmus minor var. Daveyi*	Localised across County and showing some resistance to elm disease
Sycamore	Acer pseudoplatanus	Common and widespread naturalised tree (most common non woodland tree)
Chestnut, Horse	Aesculus hippocastaneum	Frequent as planted tree
Lime, common	Tilia x europaea	Frequent and widespread introduction in more wooded parts of the County

* Elms are notoriously difficult to identify and there is little agreement on naming. Most elms have been decimated by elm disease since the late 1970's and only a few mature trees survive although young regeneration from suckers is frequent throughout the county and should be encouraged.

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www.cornwall.gov.uk

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one and all
CORNWALL COUNCIL

Appendix 12: Annual Risk Assessment Proforma

Designated Paths: Check for subsidence, instability, dangerous trees etc.					
Hazard	Risk	Risk rating	Proposed Mitigation	Who Responsible	Date completed
Trees: Check for overtly dangerous trees along paths and areas frequented by the public.					
Hazard	Risk	Risk rating	Proposed Mitigation	Who Responsible	Date completed

Signed:

Date:

Review Date:

Copies to be sent to CORMAC and Cornwall Council