

The unfettered nature of Whitby

Mark Fisher 24 October 2026







SELF-WILLED LAND

ADVOCACY FOR WILD LAND AND NATURE

Looking for evidence of a self-willed character

I *prompted* Google Gemini AI to create an image of **UNFETTERED NATURE** in Britain



It doesn't have to be sought in some **REMOTE LOCATION** like this

Can be observed where **people are not a factor** and where there is:
- the **autonomous** process of **self-assembly** into **natural self-perpetuating communities**
- the **sociality** and **culture** of **sentient species** and their **communities**

Where do you find it around Whitby?



WOODLAND
Prospect Rise disused railway line
Birch woodland on Ugglebarnby Moor
Cock Mill and Larpool Woods



ESTUARY
Spital Beck saltmarsh



COAST – Rock terraces
Saltwick and Runswick Bays



COAST - West Cliff
Grassland slope
Fulmar nesting colony
Winter friends, West Pier spillway rocks



COAST – Upgang Cliffs
Sand martin nesting colony
Cliff ledge vegetation

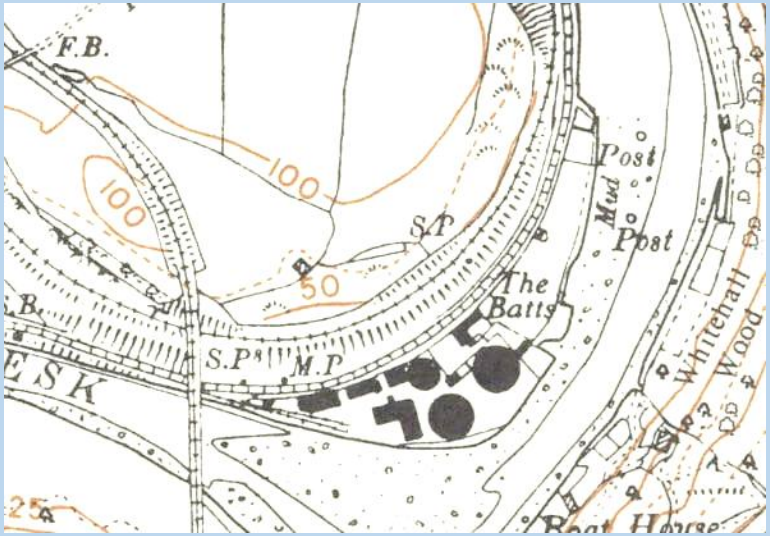
PROSPECT RISE RAILWAY LINE WOODLAND



1890-1900



September 2026



no scrub showing 1958

- railway line closed in 1965



scrub showing 1968

- tracks were fully lifted in 1973

Canopy woodland of mostly **willow** developed over **50 years**

















- many of the willows are **multi-stem**







- **multi-stem** willows prone to **slumping** and **breakage**
- **gaps** in the canopy fill with **phoenix growth** of willows







Elm at the entrance to the woodland is in a cycle of **death** and **new growth** underneath















Narrow path through the woodland











- path filled with cotton-like fluff of willow seeds

Fern, false brome, dog's mercury, wildflowers


















Fungi and a slime mold














Notable wildflowers in Prospect Rise wood





wild arum



moschatel



broad-leaved helleborine









black bryony

Evidence of badger presence



badger sett



latrine







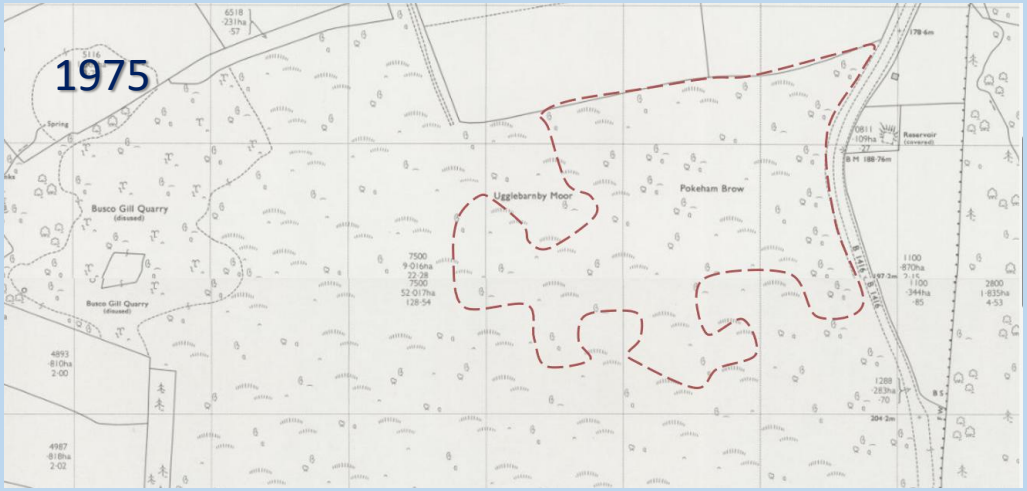
rootling



probably not badger skull

SECONDARY BIRCH WOODLAND ON UGGLEBARNBY MOOR

- **registered common** CL 109 Ugglebarnby Moor
- historical maps from 1853 - 1952 show moor as **heathland** with some areas of **gorse** towards the N boundary
- map shows **scrub** developing within the heathland



- dotted line shows main area of birch woodland today 3.3ha



- moor is **not grazed** by livestock
- scrub development continues



- old evidence of pheasant feeding

birch woodland is < 50 years old

- closed canopy woodland





- ground layer of ferns

Undisturbed self-assembly of a canopy woodland

- predominantly **birch**, some multi-stem, others with **early senescence**
- senescent **multi-stem willow**
- sparse large holly, rowan, oaks and pine, **not seed bearing**
- ground layer **uncompacted**, soft and springy



multi-stem birch

- NO IVY?



pyramidal holly



multi-stem willow slumped with age

Ferns, wood sedge, woodrush, tussock sedge, mosses, lichens















Tree seedlings



rowan

- **rowan** and **holly** berries eaten by birds from **outside** birch woodland and **excreted** inside = **Endozoochory**
- oak **acorns** from **outside** birch woodland **cached** inside by **birds** (blackbird, jay) = **Synzoochory**



oak



holly

Few woodland flowers



bramble

- **ancient woodland indicator** plants **immobile** (Peterken 1974)
- nearest areas of **ancient woodland** as a **seed source** are >1km to the E or W and >1.5km to the S

- but MANY fungi





wood sorrel





stitchwort





honeysuckle

Soil-dwelling woodland fungi


















Wood decay fungi


















Evidence of roe deer






deer trails




deer scrapes



deer toes



chewed holly



bark stripping

Snow as a telltale for deer presence

22 November 2025







fresh deer scrape



deer droppings



deer toe





deer toes on trails

Evidence of badgers





badger latrine in birch woodland



badger rootling





badger latrine under isolated pine at edge of birch woodland



roe deer carcass one week after discovery

Following in the footsteps of Eileen Soper



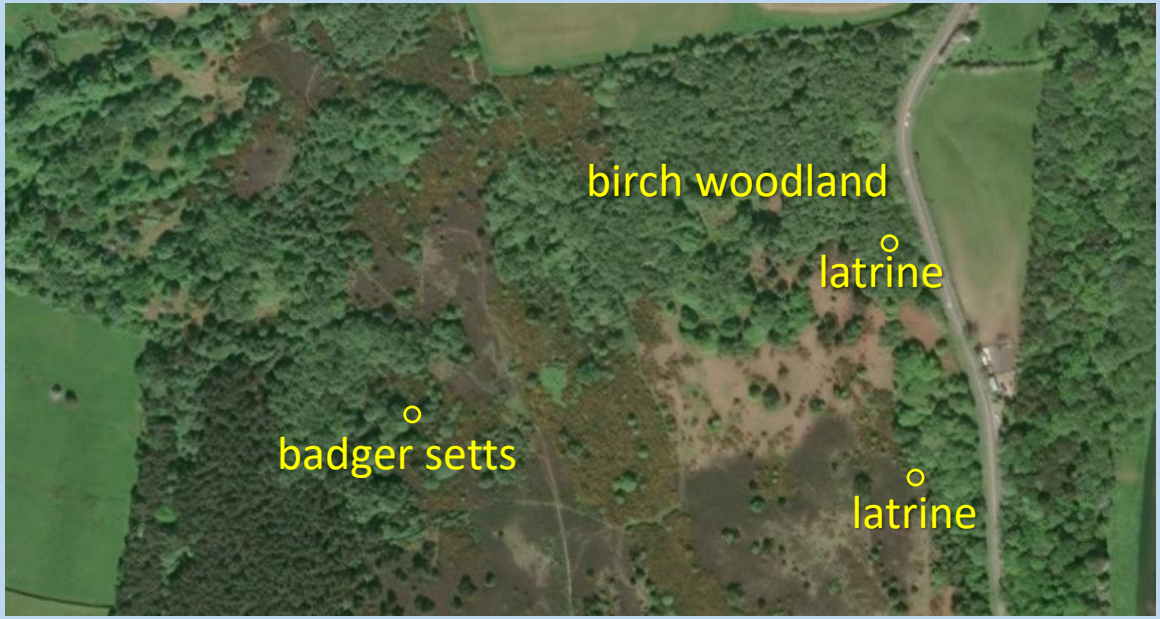
"map of the dell"

- version of this map appears in **When Badgers Wake**, 1955





- stumbled on badger setts **two years later**





~200m from latrines to badger setts

Conifer plantation fungi







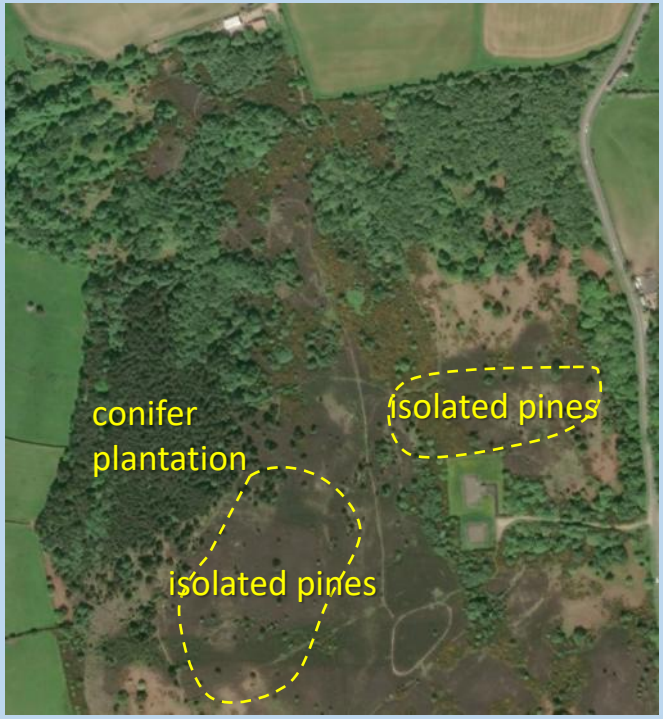
false chanterelle is a **saprophytic** fungus that obtains nutrients from decaying organic matter in conifer litter



sickener is an **ectomycorrhizal** fungus that forms a mutualistic **symbiotic** relationship with the roots of pine

Isolated pine trees and distribution of fungi

- pines **large enough** to exert enough **shade** to **clear understorey**
- seven had **false chanterelle** or **sickener**, one had neither
- both fungi are **basidiomycetes** that produce **windblown spores** <10 µm
- spores would have had to **travel** between **100-300m** across **open heathland** and over bands of **high gorse**














none





COCK MILL AND LARPOOL WOODS

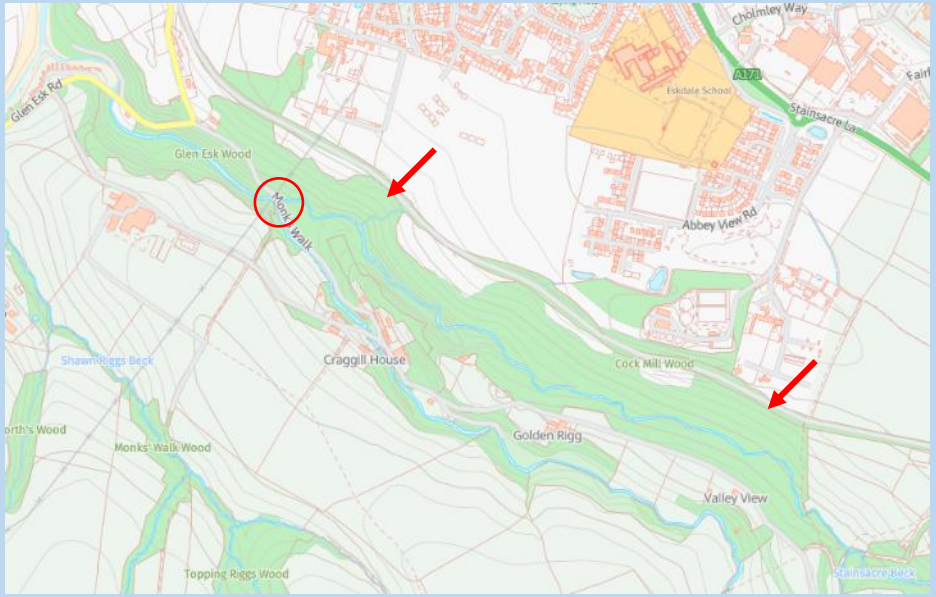


Map released 1853

Canopy woodland in a deep ravine



my entry points from CT

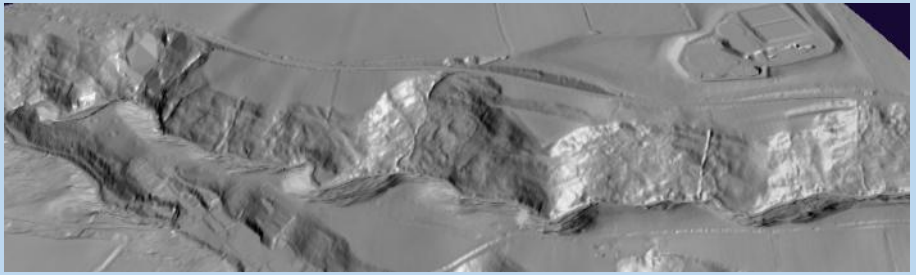


Stainsacre Beck joins **Cock Mill Beck** before flowing into the **Esk**



hillshade LIDAR map

my entry points from CT



3D hillshade LIDAR map

- **narrow, steep-sided valley** ~15m (49ft) deep

First walked in August 2024











- **monumental** feel from **depth of valley** and **size of trees**
- **NO FOOTPATHS** but plenty of ***critter trails***
- **recognised characteristics of ANCIENT WOODLAND by DIVERSITY of trees & shrubs, plus STANDING DEAD TREES, FALLEN TREES and DEADWOOD**

Fallen trees and deadwood

- niche for fungi, insects and other invertebrates (spiders, mites, centipedes, millipedes)



















- could hear **Stainsacre Beck** at the **bottom of the woods**



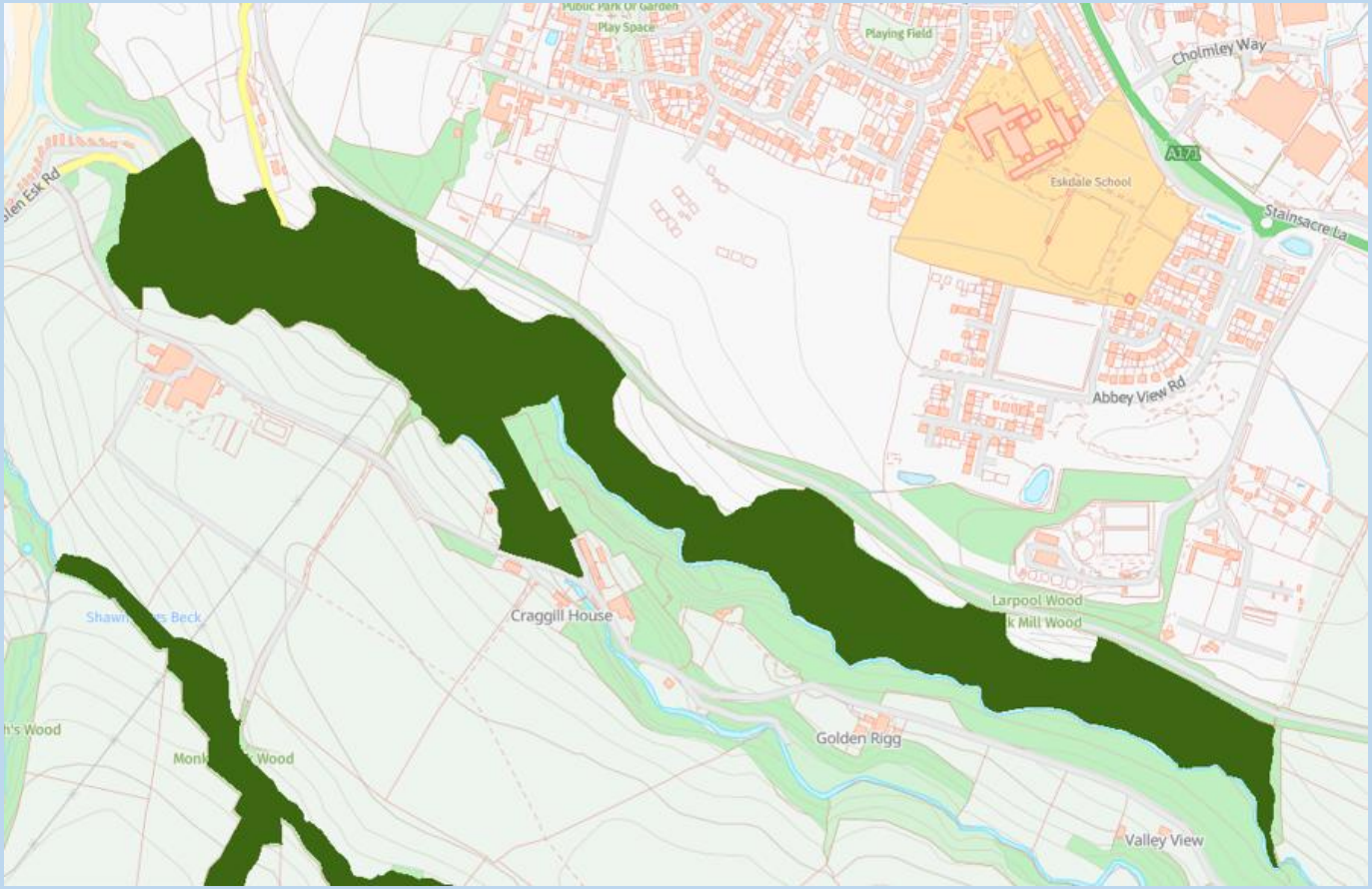

liverworts





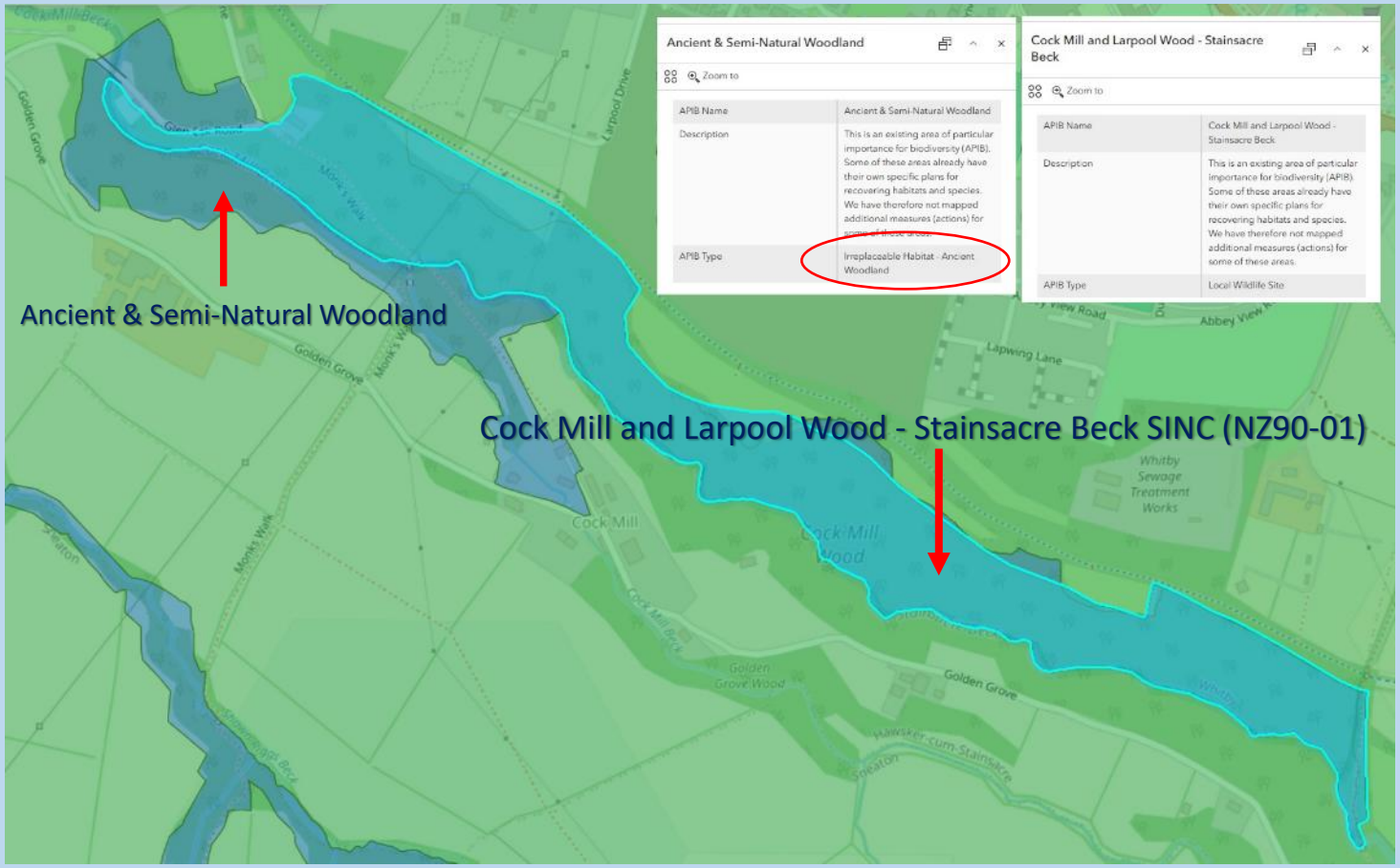

MAGIC MAPS NEWS ABOUT HELP

Multi-Agency Geographic Information for the Countryside (MAGIC) – DEFRA



-**MAGIC** mapping confirmed **ANCIENT WOODLAND** of 17.4ha

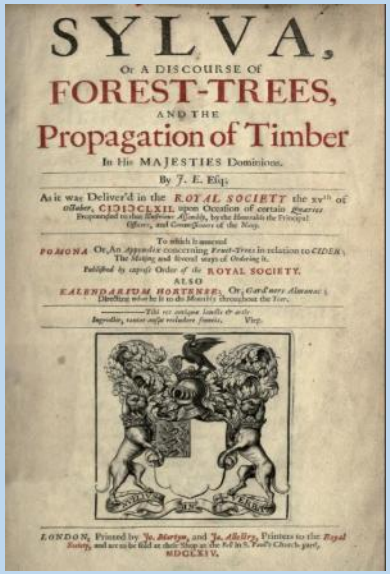
- shows **ANCIENT** woodland area outside NYMNP is a **Site of Importance for Nature Conservation** (SINC)



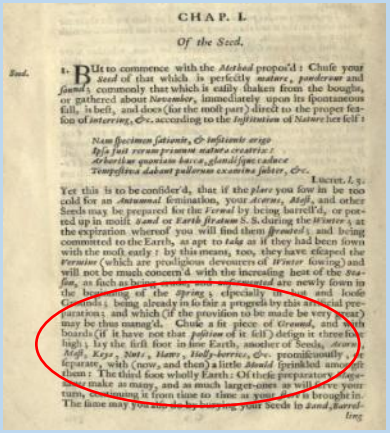
"Irreplaceable Habitat – Ancient Woodland"

North Yorkshire and York Local Nature Recovery Strategy Feb 2026

What makes a woodland ANCIENT?



SYLVA,
Or A DISCOURSE of
FOREST-TREES,
AND THE
Propagation of Timber
In His MAJESTIES Dominions.
By J. E. Esq;
As it was Deliver'd in the ROYAL SOCIETY the xvth of October, CIↃIↃCLXII. upon Occasion of certain Queries Propounded to that Illustrious Assembly, by the Honorable the Principal Officers, and Commissioners of the Navy.
To which is annexed
POMONA Or, An Appendix concerning Forest-Trees in relation to CIDER: The Making and several ways of Ordering it.
Published by expresse Order of the ROYAL SOCIETY.
ALSO
KALENDARIUM HORTENSE: Or, Gard'ners Almanac; Directing what he is to do Monthly throughout the Year.
Hîc vos antiqua laudis & arte
Impellat, exstet nulla vetustior ætas. Virg.
LONDON, Printed by Jo. Martyn, and Ja. Allestry, Printers to the Royal Society, and are to be sold at their Shop at the Bell in S. Paul's Church-yard, MDCLXIV.



CHAP. I.
Of the Seed.
Seed.
1. BUt to commence with the Method propos'd: Chuse your Seed of that which is perfectly mature, powderous and sound; commonly that which is easily shaken from the boughs, or gathered about November, immediately upon its spontaneous fall, is best, and does (for the most part) direct to the proper season of interring, &c. according to the Institution of Nature her self:
Nam specimen sationis, & institutio ergo
Ipsa fuit rerum primum natura creatrix:
Arboribus quoniam baccas, glandesque caduce
Tempestivo dabant pulcrum examina fœtor, &c.
Lucret. l. 5.
Yet this is to be consider'd, that if the place you sow in be too cold for an Autumnal fermination, your Acorns, Mast, and other Seeds may be prepared for the Vernal by being barrell'd, or potted up in moist Sand or Earth stratum S. S. during the Winter; at the expiration whereof you will find them brended, and being committed to the Earth, as apt to take as if they had been sown with the most early: by this means, too, they have escaped the Vermine (which are prodigious devourers of Winter sowing) and will not be much concern'd with the increasing heat of the Season, as such as being newly sown and unexperienced are newly sown in the beginning of the Spring; especially in light and loose Grounds; being already in so fair a progress by this artificial preparation; and which (if the provision to be made be very great) may be thus manag'd. Chuse a fit piece of Ground, and with boards (if it have not that position of it self) design it three foot high; lay the first foot in fine Earth, another of Seeds, Acorns, Mast, Keys, Nuts, Haws, Holly-berries, &c. promiscuously, or separate, with (now, and then) a little Sand sprinkled amongst them: The third foot wholly Earth: Of these preparatory Sowings make as many, and as much larger ones as will serve your turn, continuing it from time to time as your Seed is brought in. The same may you also do by burying your Seeds in Sand, Barrelling

John Evelyn's book on **FOREST-TREES** in **1664** was the first to describe **propagation of trees from seed**
- timber production before then relied on woodlands **regenerating by themselves**
- Evelyn's book gave detailed instructions on how to **germinate tree seeds**

Evelyn described **VERNALISATION** of seeds:
- "***Acorns, Mast, Keys, Nuts, Haws , Holly-berries, etc***" in 3ft-high **beds** were **sprinkled** with **leaf mould** and covered with **soil**
- "***The same may you also do by burying your Seeds in Sand, Barrelling***"

Woodland that **existed before this book was published** is assumed to be **self-seeded** and **not planted**

Evidence of seeding in renewal of Cock Mill and Larpool

dead ash in the canopy……





… but ash seedlings below

Definition of ANCIENT WOODLAND

Maps showing **areas of woodland** became more widely available from **1600 onwards**. This date coupled with knowledge of the **cut-off point** at which trees became more **widely planted** provides a definition:

ANCIENT WOODLAND is a woodland that has existed with an **unbroken presence from 1600** until today **based on old maps** and **documentary evidence** like **details of woodland management**



Map of Yorkshire 1577 - Christopher Saxton
(c. 1540 – c. 1610)

Old maps may not always have shown **small woodlands**, but only those that were **landmarks** such as ***"Moulgrave"*** Mulgrave



1853

In practice, **woodland presence** on maps **~1850** has often been taken as evidence

COCK MILL AND LARPOOL WOODS IN THE SCARBOROUGH BAP



Scarborough Biodiversity Action Plan 2005

Woodland Habitat Action Plan

- main areas of **significant woodland** tend to be "*concentrated on the **sides of valleys** that have been **DIFFICULT TO USE** for any other purpose*"
- especially the case **around WHITBY**, which has "***some of the best woodlands** within the plan area*"

"In particular the Larpool and Cockmill Woods have a diverse flora"

I observed >70 plant and tree species over the next year

Species observations in Cock Mill and Larpool

- **ivy-covered** big **oaks** and **ash** in the canopy, as well as **birch**, **elm**, **wych elm**, **holly**, **field maple** and **guelder rose, alder** near the beck
- **hornbeam** E end of Cock Mill
- groundcover of **pendulous sedge** in **wet areas, woodrush** & **false brome**
- large **diversity** of **SPRING WILDFLOWERS**

GROUND LAYER
Arum
Barren Strawberry
Black bryony
Bluebell
Broad-leaved helleborine
Bugle
Celandine
Cleavers
Common Dog-violet
Common rush
Creeping buttercup
Dog's mercury
Early purple orchid
Enchanter's-nightshade
False brome
Figwort
Giant bellflower
Golden-saxifrage
Goldilocks buttercup
Ground elder
Herb robert
Meadowsweet
Moschatel
Nettles
Pendulous sedge
Pignut
Primrose
Red campion
Remote Sedge
Sanicle
St Johns Wort
Stitchwort
Tufted hair-grass
Tutsan
Valerian
Wild Garlic
Wood anemone
Wood dock
Wood horsetail
Wood melic
Wood Speedwell
Woodruff
Woodrush
Wood sedge
Wood sorrel
Yellow Pimpernel

TREES
Alder
Ash
Birch
Gean
English elm
Field maple
Hornbeam
Oak
Rowan
Sycamore
Wych elm
Yew

SHRUBS
Blackthorn
Bramble
Broom
Dog-rose
Guelder rose
Hawthorn
Hazel
Holly
Honeysuckle
Ivy
Spurge-laurel

FERNS
Hard fern
Hart's-tongue
Male-fern
Soft shield

FUNGI
Artist's bracket
Birch polypore
Brown roll rim
Coal fungus
Dead moll's finger
Hoof fungus
Common eyelash
False turkey-tail
Glistening inkcap
Glue fungus
Hairy curtain crust
Jelly ears
Peeling oysterling
Purple jelly disc
Red-belted Bracket
Turkey-tail
Witches butter
Yellow brain jelly


oak


hornbeam


field maple


ivy-covered ash


holly


false brome


wood rush


wood anemones


bluebells

WOODLAND INDICATOR PLANTS



Survey compiled 37 **Ancient Woodland Indicator** Lists

- no vascular **plant species** are found exclusively in **ANCIENT WOODLAND**
- there are species in **ANCIENT WOODLANDS** that are less commonly found in **more recent woodland**
- the more **ANCIENT WOODLAND INDICATOR** (AWI) plants present, the **greater the chance** the woodland is **ANCIENT**



WOODLAND SELECTION GUIDELINES set eligibility for designation as a **SINC**

Ancient semi-natural woodland of 0.5ha or more in size

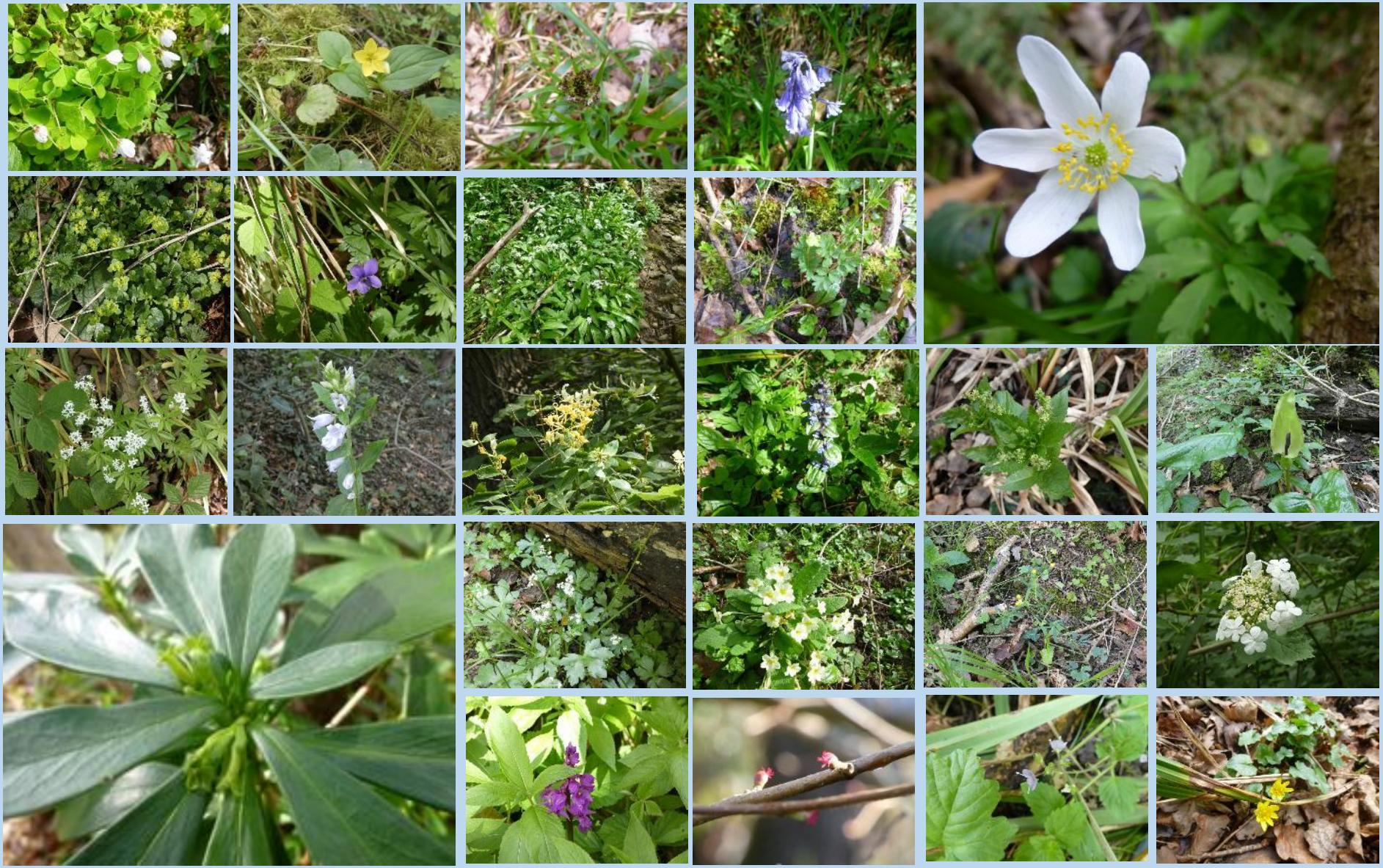
- sites believed to be under *continuous woodland cover* since 1600 supported by maps

*"This guideline reflects the importance of the ecological continuity of such woodlands and the scientific value of ancientness, as **ONCE LOST IT CANNOT BE REPLACED**"*

Woodland sites of 0.5 hectare or more that support field evidence of features of ancient or long standing wet or dry woodland

- **INDICATOR SPECIES lists** are given for acidic, neutral to calcareous, and wet woodland

Which are ANCIENT WOODLAND Indicator plants ……



…. and which are INDICATOR plants for SINC selection?

COCK MILL and LARPOOL WOODS INDICATOR PLANTS

		AWI	N Yorks SINC woodand indicator			Ellenberg light	Dispersal	Geophyte
			Acid	Neutral-Calc	Wet			
Bluebell	*Hyacinthoides non-scripta*	*		*		5	BAR	*
Broad-leaved helleborine	*Epipactis helleborine*	*		*		4	ANE	*
Creeping jenny	*Lysimachia nemorum*	*	*	*	*	5	ANE	
Dog's mercury	*Mercurialis perennis*	*		*	*	3	MYR	
Early purple orchid	*Orchis mascula*	*		*		6	ANE	*
Field maple	*Acer campestre*			*		5	ANE	
Giant bellflower	*Campanula latifolia*	~*		*	*	4	AUT	
Golden saxifrage	*Chrysosplenium oppositifolium*	*	*	*	*	5	AUT/HYD	
Goldilocks buttercup	*Ranunculus auricomus*	*		*		6	EPI	
Guelder rose	*Viburnum opulus*	*			*	6	END	
Hard fern	*Blechnum spicant*		*			5	ANE	
Hart's tongue fern	*Asplenium scolopendrium*			*		4	ANE	
Hazel	*Corylus avellana*		*			4	END	
Honeysuckle	*Lonicera periclymenum*		*			5	END	
Moschatel	*Adoxa moschatellina*	*		*	*	4	END	*
Pendulous sedge	*Carex pendula*	*			*	5	HYD	
Primrose	*Primula vulgaris*	*		*	*	5	MYR	
Sanicle	*Sanicula europaeus*	*		*		4	EPI	
Spurge laurel	*Daphne laureola*	~*		*		4	END	
Valerian	*Valeriana officinalis*				*	6	ANE/AUT	
Wild garlic	*Allium ursinum*	*		*	*	4	MYR	*
Wood anemone	*Anemone nemorosa*	*	*	*	*	5	MYR	*
Wood horsetail	*Equisetum sylvaticum*	~*			*	5	ANE	*
Wood melic	*Melica uniflora*	*		*		4	MYR	*
Wood sedge	*Carex sylvatica*	*		*		4	MYR	
Wood sorrel	*Oxalis acetosella*	*			*	4	AUT	
Wood speedwell	*Veronica montana*	*		*		4	MYR	
Woodruff	*Galium odoratum*	*		*		3	AUT	
Woodrush	*Luzula sylvatica*	*	*			5	MYR	
					AVERAGE	4.6		

SEED DISPERSAL

MYR: dispersal by **ants**
END: dispersal by animals and birds via **digestion**
EPI: dispersal by **adhesion on animals**
BAR & AUT: **passive** and **active** dispersal by plant
HYD: dispersal by **water**
ANE: dispersed by **wind**

- eight species dispersed by **WIND**
- eight species by **ANTS**
- four species **POOPED OUT**

SLOW COLONISTS

Ancient Woodland Indicators have **poor dispersal abilities** and take many years to **colonise new woodlands**

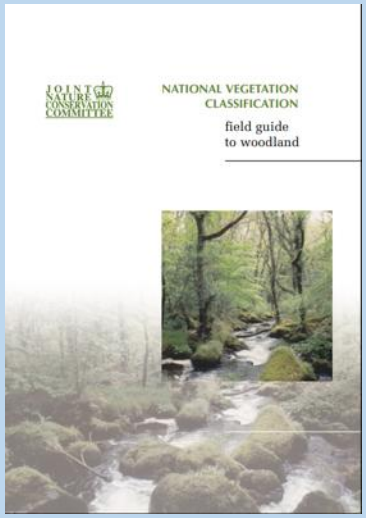
GEOPHYTES

- eight AWIs are
- four non_AWIs

- 24 ANCIENT WOODLAND INDICATORS
- 29 SINC INDICATOR species, 21 for **neutral to calcareous**, seven for **acid** and 13 for **wet**
- neutral to calcareous indicators exceed **threshold** required for **SINC designation**

Acer campestre
Adoxa moschatellina
Aegopodium podagraria
Ajuga reptans
Allium ursinum
Alnus glutinosa
Anemone nemorosa
Arum maculatum
Betula pendula
Blechnum spicant
Carex pendula
Carex sylvatica
Carpinus betulus
Chrysosplenium oppositifolium
Circaea lutetiana
Corylus avellana
Crataegus monogyna
Daphne laureola
Dryopteris filix-mas
Ficaria verna
Filipendula ulmaria
Fraxinus excelsior (c)
Galium odoratum
Hedera helix (g)
Hyacinthoides non-scripta
Ilex aquifolium
Lonicera periclymenum
Luzula sylvatica
Marchantia polymorpha
Mercurialis perennis
Orchis mascula
Oxalis acetosella
Phyllitis scolopendrium
Potentilla sterilis
Primula vulgaris
Prunus avium (c)
Prunus spinosa
Quercus petraea
Rubus fruticosus agg.
Scrophularia nodosa
Sorbus aucuparia
Stellaria holostea
Ulmus glabra (c)
Ulmus procera (c)
Valeriana officinalis
Veronica montana
Viburnum opulus (s)
Viola riviniana

NATIONAL VEGETATIONAL CLASSIFICATION (NVC)



- *phytosociology* was coined in 1896 by Józef Paczoski (Polish botanist) to describe the study of **NATURAL PLANT COMMUNITIES**
- NVC describes **vegetation in Britain** based on the **phytosociological communities** of plants
- **2,648 samples** of **ANCIENT** and recent woods throughout Britain (Dorsley Bank, Great/Little Beck, Grosmont, Hecks woods)
- NVC for woodland has 18 main **woodland** types and seven **scrubs** labelled **W1 to W25**



R Modular Analysis of Vegetation Information System
UK Centre for Ecology & Hydrology

- computer program for assigning NVC communities

Based on 48 tree, shrub, wildflower and fern observations:

W8 Ash-field maple-dog's mercury woodland

W8b wood anemone sub-community
W8d ivy sub-community
W8a primrose–ground ivy sub-community
W8f wild garlic sub-community

W8 are **ash-dominated** woodlands with a **variety of other tree and shrub** species on **neutral to calcareous soils**

Evidence of roe deer and badgers





deer trails




deer toes

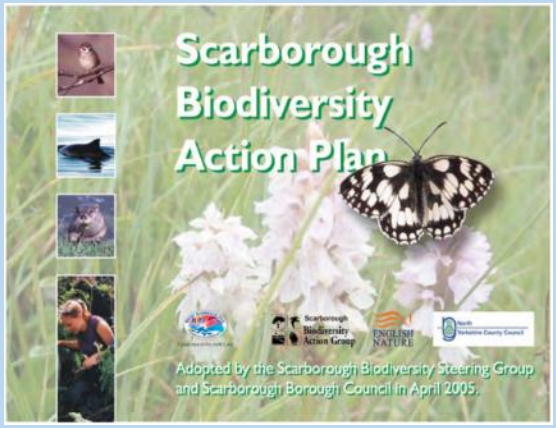



deer scrapes



badger sett

SALTMARSH – SPITAL BECK



Scarborough Biodiversity Action Plan April 2005

*"Within the Borough there is only a tiny fragment of **Coastal Saltmarsh** occurring at **Whitby**, on the California Beck, a small inlet on the River"*

Spital Beck is referred to locally as California or Calla Beck







Low tide in the estuarine beck

Spital Beck saltmarsh plants



sea spurrey



scurvygrass



sea milkwort



sea arrow grass



saltmarsh rush



sea aster



sea couch grass



sea club rush



sea plantain

Saltmarsh is part of a SINC

NORTH YORKSHIRE COUNCIL

North Yorkshire and York Local Nature Recovery Strategy (LNRS)

Document 4: Statement of Biodiversity Priorities, Part II – Priorities and Measures

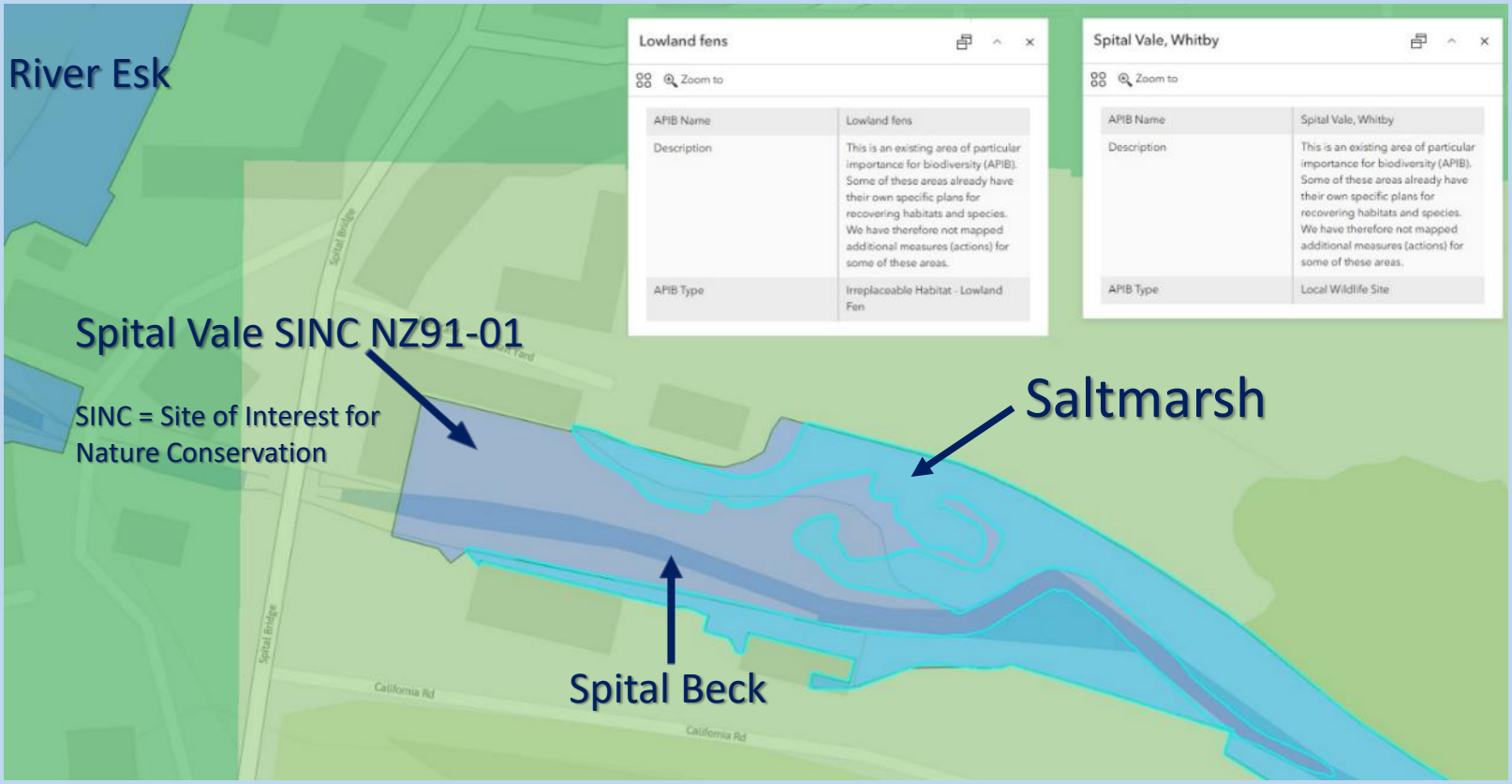
February 2026

8. Coastal Priorities (CST)

North Yorkshire has a very small area of saltmarsh near Whitby, the only location for this habitat on the coast between Middlesbrough and Spurn Point. The uniqueness of this habitat within North Yorkshire must be enhanced to ensure the species reliant upon are not lost.

NORTH YORKSHIRE COUNCIL

LNRS Local Habitat Map



"only location for this habitat on the coast between Middlesborough and Spurn Point"

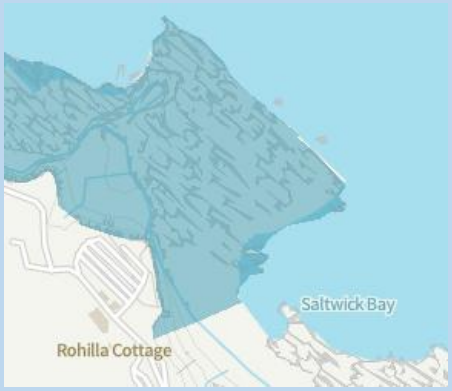
ROCKY SHORES AT LOW TIDE – SALTWICK AND RUNSWICK BAYS



NORTH BATTS – SALTWICK BAY



RUNSWICK

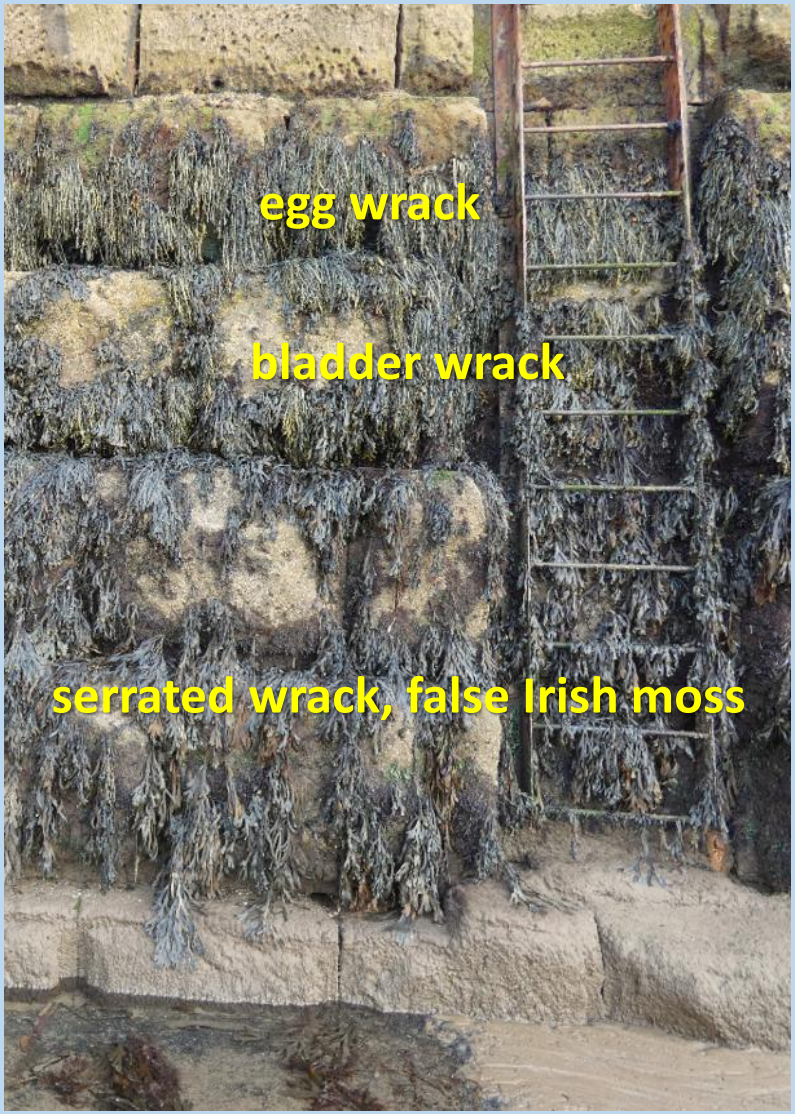


WHITBY-SALTWICK SSSI
Geological and fossil interest



RUNSWICK BAY MCZ
Intertidal area of rocky reefs, boulders and pools exposed at low tide

ZONATION OF MARINE ORGANISMS



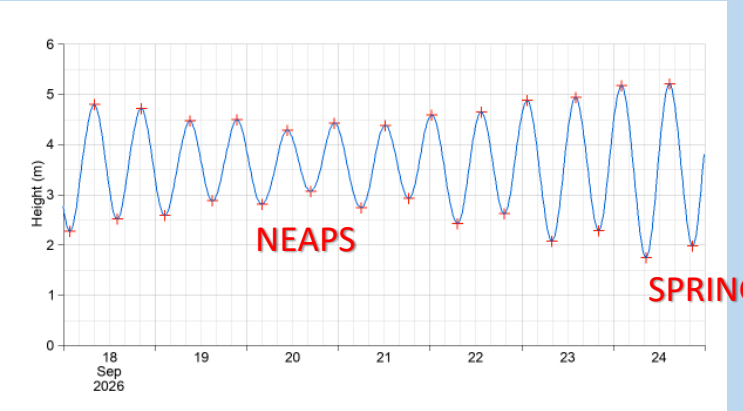
Whitby West Pier

Seaweed species growing on **West Pier** show a **vertical zonation**

This demonstrates how varying **tidal** and **light exposure** effects **species distribution**

Mean inter-tidal range for Whitby

NEAPS	2.91m
SPRINGS	4.41m



FACTORS DETERMINING SPECIES PRESENCE



Community structures of the rocky **intertidal shore** are shaped by**:**

- type of **bedrock**
- extent of **wave action**
- potential for **desiccation**
- diurnal extent of **light penetration**

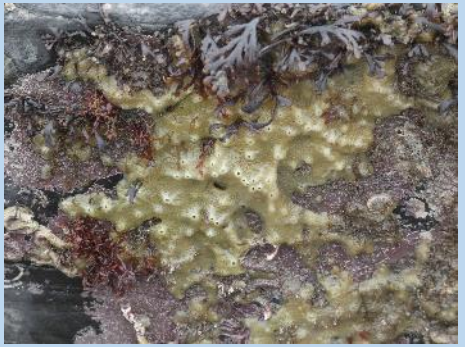
A focus on the **species** of **rocky terraces** and their **distribution**…..

…in the **Low Tide Zone**

…at the edge of the **Subtidal Zone**

SOME ORGANISMS SEEN IN THE LOWER SHORE









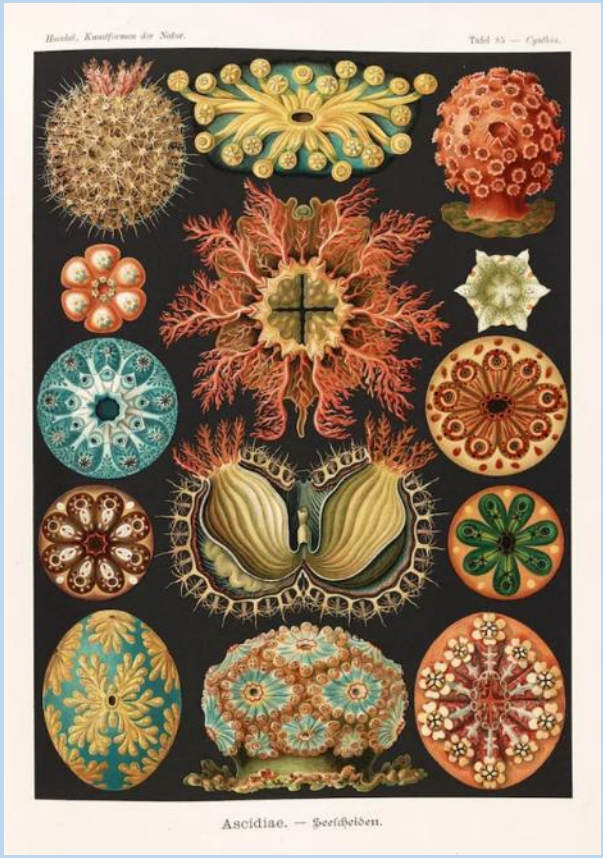






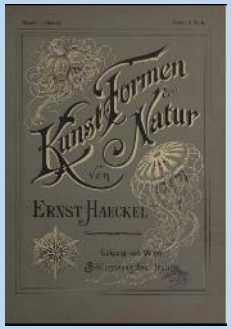


SEA SQUIRTS OF THE LOWER SHORE



'Artforms of Nature'

Kunstformen der Natur,
Ernst Haeckel
Leipzig und Wien :
Verlag des
Bibliographischen
Instituts 1899



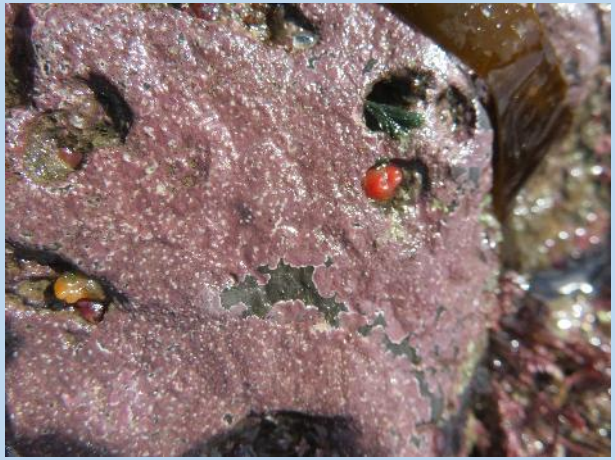
Ernst Haeckel, German zoologist and illustrator, coined the term **ecology** in 1866



- sea squirts (ascidians) are sac-like, chordate marine **invertebrates** that **filter feed** on phytoplankton, **expelling water** through an **exhalant siphon**, hence called **squirts**
- have a gelatinous **tunic-coat** and occur **singly** or in **colonies**
- grow on **shaded** rocks, boulders, ledges and overhangs to **avoid desiccation at low tide**

BAKED BEAN SQUIRTS
(*Dendrodoa grossularia*)

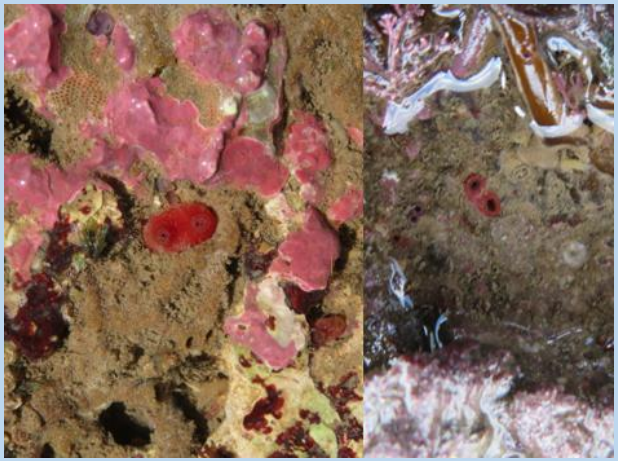
- a **solitary** squirt
- two circular **siphons** near the apex, buccal (inhalant) and exhalant
- siphons **closed** when exposed at **low tide**















NOT to be confused with the wrinkled rock-borer (*Hiatella arctica*)

LADDER ASCIDIANS (*Botrylloides leachii*)

- **colonial tunicate** filled with **pairs of zooids** that tend to form **parallel chains**
- each zooid has a **buccal** (inhalant) siphon but the groups **share an exhalant siphon**

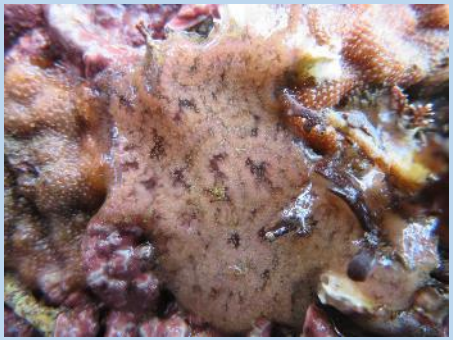
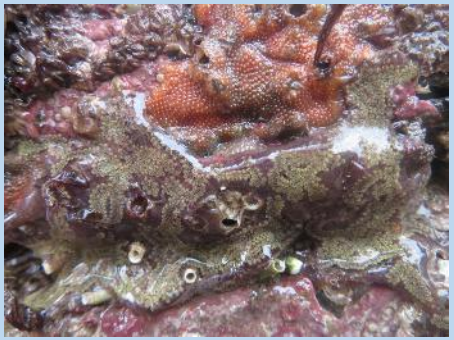


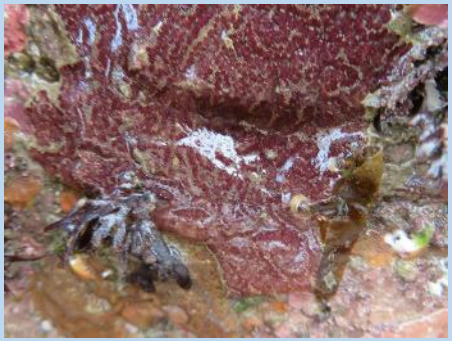


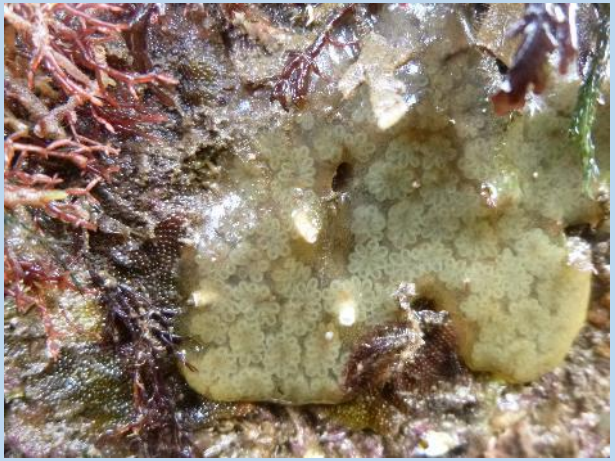


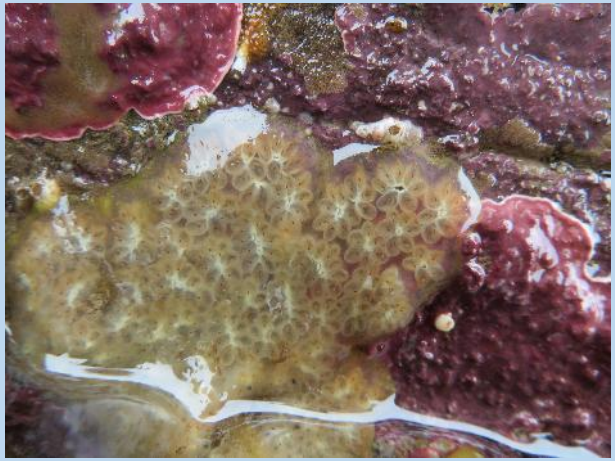




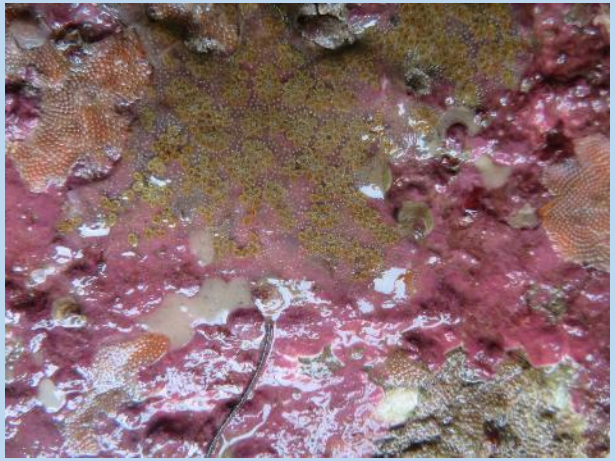






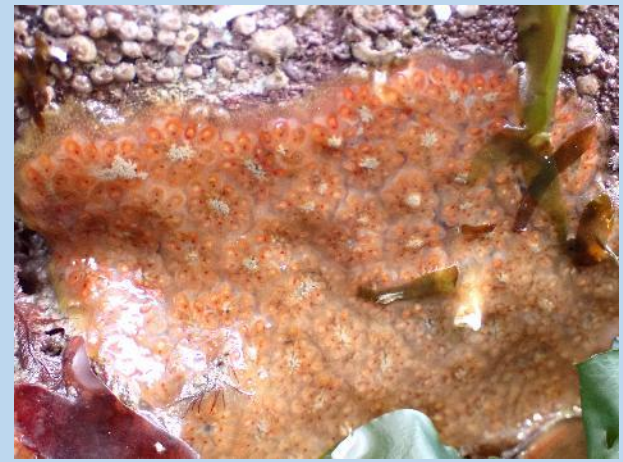
STAR ASCIDIANS
(*Botryllus schlosseri*)

- **colonial tunicate** filled with *star-like* groups of zoids that share an **exhalant siphon**
















Cowrie, a sea snail (*Trivia monarcha*) is a **predator** of star ascidians

WILDFLOWERS ON WEST CLIFF COASTAL GRASSLAND SLOPE



COASTAL EXPOSURE is a MAJOR DETERMINANT of what species are there



- successional flowering in the **coastal grassland** of West Cliff shows **undisturbed** expression of **native plant life**
- **intrinsic properties** to **trap sunlight**, grow, flower, and **attract pollinators**
-exemplifies an **autonomous process of self-assembly** and **perpetuation**

2026 chronology

coltsfoot
celandine
dandelion
daisy
horsetail-fertile
scurvygrass
horsetail-infertile
pepperwort
ribwort plantain
hogweed
kidney vetch
Welsh poppy
bird's-foot trefoil
early purple orchid
mouse-ear chickweed
common vetch
black medick
sea plantain
clover white
hawkbit
clover red
marsh orchid
hybrid orchid
common spotted orchid
meadow vetchling
tufted vetch
knapweed
cotton grass
pendulous sedge
false brome
yellow rattle
cats ears
rough hawkbit
lesser trefoil
hedge mustard
bee orchid
pyramidal orchid
scotch thistle
wild carrot
restharrow
self-heal
creeping cinquefoil
centaury
eyebright
lady's bedstraw
ragwort
rough hawkbit
fleabane
bindweed
yarrow
zig-zag clover
creeping thistle

… early flowerers



coltsfoot (*Tusilago farfar*)



celandine (*Ficaria verna*)

… later flowerers



restharrow (*Ononis repens*)



fleabane (*Pulicaria dysenterica*)



wild carrot (*Daucus carota*)



knapweed (*Centaurea nigra*)



yarrow (*Achillea millefolium*)



ragwort (*Senecio jacobaea*)

West Cliff grassland slope has -

TWO forms horsetail (*Equisetum arvense*)



fertile spore-bearing



infertile

TWO plantains



ribwort plantain (*Plantago lanceolata*)



sea plantain (*Plantago maritima*)

TWO hemiparasites



eyebright (*Euphrasia spp.*)



yellow-rattle (*Rhinanthus minor*)

TWO thistles



spear thistle (*Cirsium vulgare*)



creeping thistle (*Cirsium arvense*)

West Cliff grassland slope has at least ELEVEN legumes



kidney vetch (*Anthyllis vulneraria*)



bird's foot trefoil (*Lotus corniculatis*)



common vetch (*Vicia sativa*)



black medick (*Medicago lupulina*)



red clover (Trifolium pratense)



meadow vetchling (*Lathyrus pratensis*)



lesser trefoil (*Trifolium dubium*)



white clover (*Trifolium repens*)



tufted vetch (*Vicia cracca*)



restharrow (*Ononis repens*)



zig-zag clover (*Trifolium medium*)

West Cliff grassland slope has FIVE orchids and hybrids



early purple (atypical - *Orchis mascula*)





marsh (*Dactylorhiza purpurella*)









marsh x common spotted hybrid?



common spotted (*Dactylorhiza fuchsia*)



bee (*Ophrys apifera*)





pyramidal (*Anacamptis pyramidalis*)

BIRDS, BUGS, AND RODENTS (?) – users of West Cliff grassland slope



linnet (*Linaria cannabina*)



snow bunting (*Plectrophenax nivalis*)



meadow pipit (*Anthus pratensis*)



northern wheatear (*Oenanthe oenanthe*)



stonechat (*Saxicola rubicola*)



house martins (*Delichon urbicum*) collecting mud



red-tailed bumblebee (*Bombus lapidarius*)



burnet moth (*Zygaena filipendulae*)



kestrel (*Falco tinnunculus*) hunting rodents

WEST CLIFF FULMAR (*FULMARUS GLACIALIS*) NESTING COLONY

- fulmars spend months in **open sea**
- feed in **large flocks** by **surface-seizing** and **shallow dives**
- **rest in rafts** on the **sea surface**

return to coastal cliffs to breed



- **31 fulmars** appeared on the **sandstone ledges** at West Cliff on **3 December 2025**
- occupied **three long term nesting locations**

Feeding, resting together, and **colony breeding** are evidence of **SOCIALITY**



bill-waggling and cackling as bonding behaviour (3 Dec 25)



Returning to the cliffs

- monogamous **breeding age pairs** return to the same nest each year
- nesting places are **bare patch of soil** on a ledge or in **small gully** on cliff face
- **young fulmars** spend their **first four to five years at sea** before **revisiting the colonies** where they were born
- young do not breed until **eight to 10 years old**



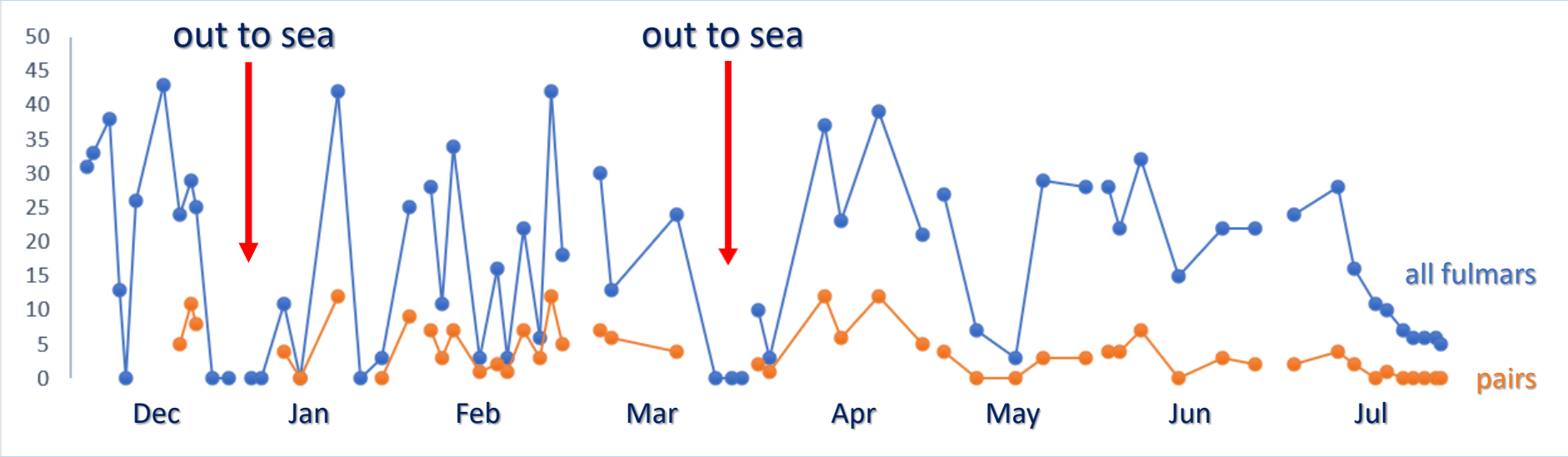








Logging fulmar numbers over the breeding season DEC to SEPT



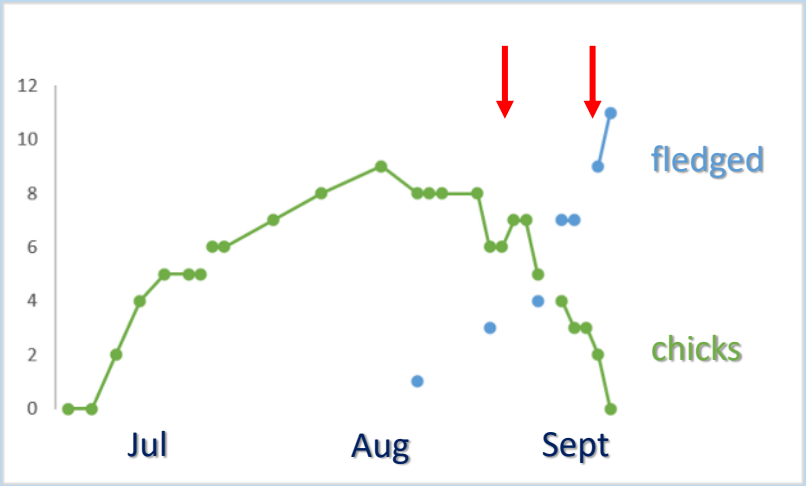
- **peak number** of ~40 fulmars
- largest number of **pairs** was **12**
- fulmars **disappeared** out to **sea** to **forage end-Dec into Jan** and **second half of March**
- **bonded pairs mate** just before the **second disappearance**
- **single** egg laid on return and **incubated** from 47 to 53 days
- **non-breeders** return to open sea



allopreening (social grooming) as bonding behaviour (17 Dec 25)

Eleven fulmar chicks fledged 2026





- chicks only become **visible** some weeks after **hatching**
- **first** two chicks observed 24 July
- two chicks **observed late** as **hidden** behind **cliff vegetation**
- chicks **fed** by **both parents**
- **fledge** at 49 to 58 days









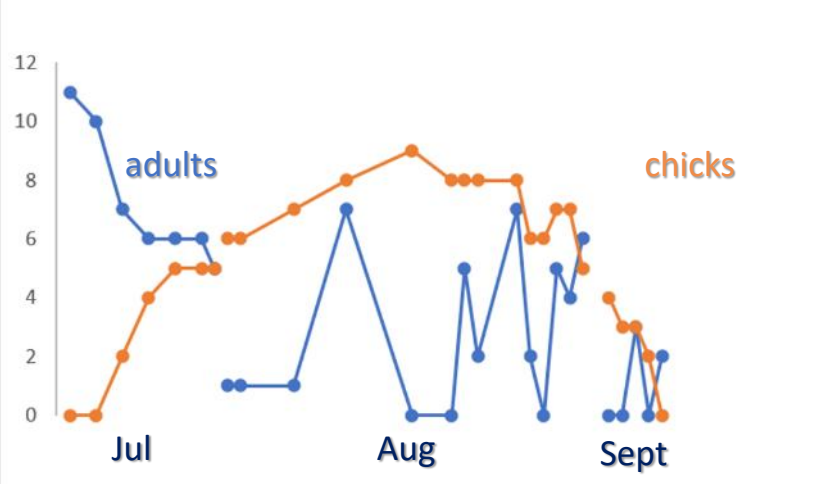


Position of the SIX fulmar chicks near Nab 2



fulmars feign obliviousness to the hordes of holidaymakers below

Feeding fulmar chicks



- adult count **drops** as **chicks hatch**
- chicks **unattended** while **parents feed at sea**
- **regurgitate semi-digested marine prey** and **stomach oil** into **begging** chick's smaller beak
- **stop feeding** 4 to 5 days before **fledging**









chick taps adult's beak to encourage feeding

Fulmar chick development towards fledging





- losing juvenile fluff and maturing wing feathers




- preening

Exercising wings









early flexing of wings



facing in to cliff for **safety**

Thinking about flying off…….





characteristic **hesitancy** and **dipping head**



……. then they are gone and the cliffs are bare

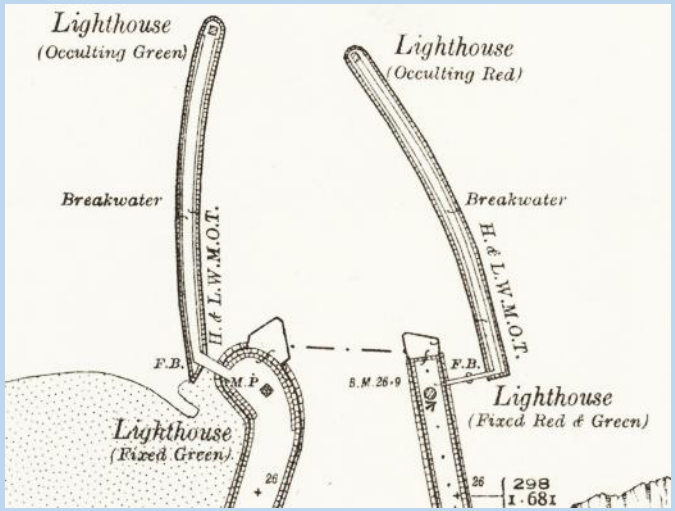
WINTER FRIENDS ON WEST PIER SPILLWAY ROCK ARMOUR

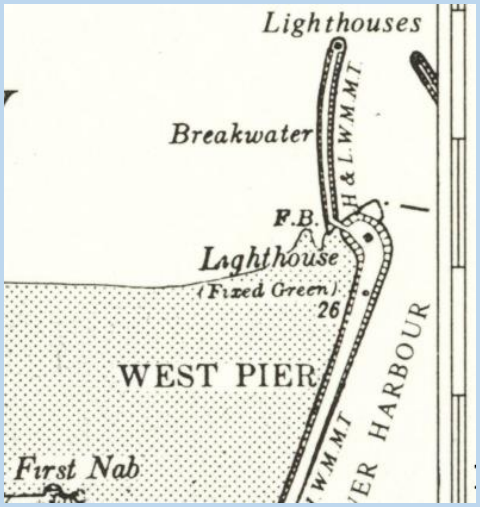
Summer breeding birds give way to the **returning winter feeders**

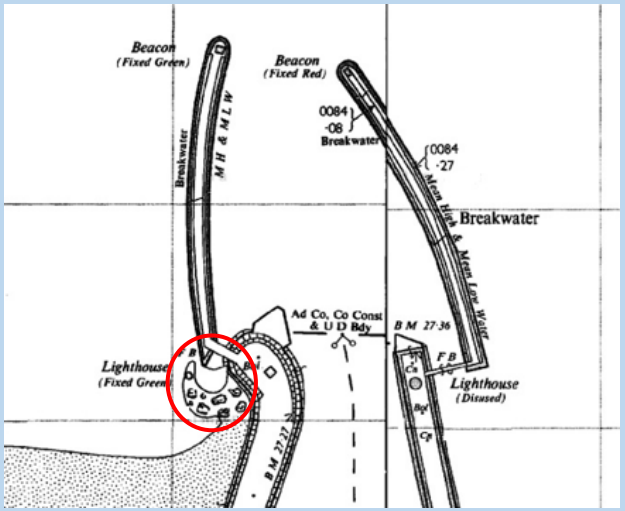


Whitby Pier in the 1890s before the major **pier extensions** were built between **1908 and 1914**

Dating the rock armour associated with the West Pier spillway







1928 - after extensions built

1958

rock armour appears early 1970's











Foragers – turnstones, purple sandpipers, and rock pipits





- **turnstone**s (*Arenaria interpres*) appear on the rocks from September having returned from **breeding** in High-arctic Canada and Greenland







- **purple sandpipers** (*Calidris maritima*) return in September from their summer **breeding** in eastern Canada, Scandinavia and Svalbard



- both winter friends gone by end of April







- **rock pipits** (*Anthus petrosus*) are UK residents that likely nest over on the sandstone of West Cliff

- **turnstones** forage in the **rocks**, **pebbles** and **seaweed debris** in the pool













pebble bank and seaweed debris in pool

- and turn stones in the pebble bank



- **purple sandpipers** mostly forage amongst the rocks











- **rock pipits** forage amongst the **rocks** and **seaweed debris** in the pool











Avian sensitivity to human disturbance

- **imperative** for foragers to feed for the **few hours of exposure at low tide**
- **unconcerned by my presence**, an indication of their **tolerance** and **sensitivity** to **human disturbance** ……. I make no sudden moves

Flight Initiation Distance
- distance at which a bird **moves away** from a source of **human disturbance**
– **behavioural response** that is a **trade-off** between **risk of predation** and eating **sufficient food**


NatureScot NàdarAlba Scotland's Nature Agency Buidheann Nàdair na h-Alba

NatureScot Research Report 1283 - Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species

Cite as: Goodship, N.M. and Furness, R.W. (MacArthur Green) Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

Keywords

Human disturbance; bird behaviour; Flight Initiation Distance; Alert Distance; Minimum Approach Distance; Buffer zones.

Likely sensitivity to disturbance:
low/medium - **purple sandpiper**, kestrel
medium - oyster catcher, red knot**, turnstone**, redshank, Little tern, Arctic tern
medium/high - common tern
high - curlew, Sandwich tern, red-throated diver, ringed plover

- **habituation** to disturbance may lead to **toleration** of **shorter distances**
- difference in **sensitivity to disturbance** between **breeding** and **non-breeding** seasons
- **buffer distances** based on **sensitivity** can be used to **protect** birds from **human disturbance**

What makes the rocks a draw for the purple sandpipers, turnstones and rock pipits?

Marine species show **COMMUNITIES OF ASSOCIATION** based on what they **grow** on, the **intertidal position** and the level and energy of **wave exposure**



Sand binder (*Rhodothamniella floridula*)



Bladder wrack *(Fucus vesiculosus*)



Serrated wrack (Fucus serratus)



False Irish moss (*Mastocarpus stellatus*) and Serrated wrack (*Fucus serratus*)



Egg wrack (*Ascophyllum nodosum*) with **epiphytic** siphon weed (*Polysiphonia lanosa*)

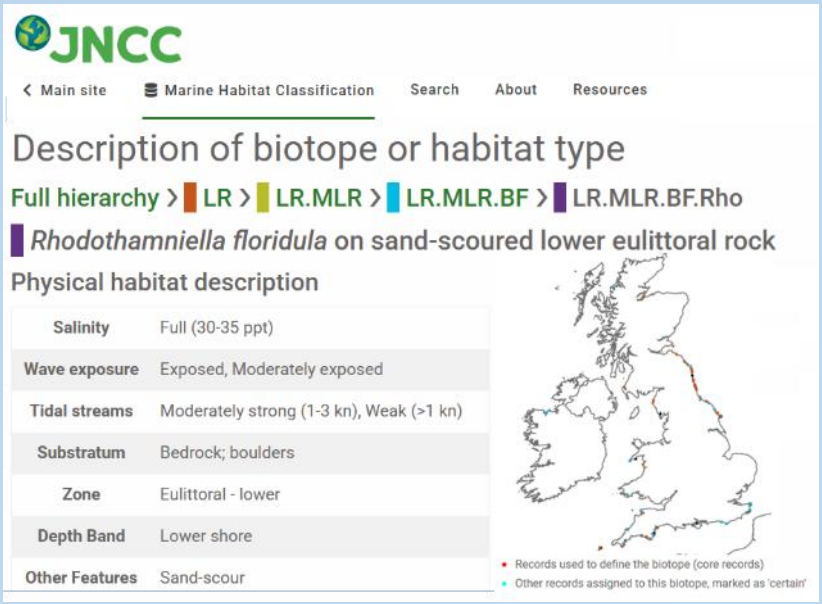


Bead-weed (*Lomentaria articulata*)

Intertidal zone of the spillway amour rocks appears to be just into the **lower shore** based on the length of time it spends **exposed** and the **seaweeds** that exist on the rocks

Nearest MARINE COMMUNITY fitting the observed species list





Sand binder (*Rhodothamniella floridula*) on sand-scoured lower eulittoral rock

-habitat of **intertidal rocks** with **barnacles** and **brown seaweeds** on **moderately exposed** shore


sand binder


barnacles


brown seaweed
(and limpets)

Community and **pebble bank** support **invertebrates** foraged by the **birds:**

- **seaweed flies** (*Coelopa frigida*)
- **crustacea** including **small crabs** and **amphipods**
- **molluscs** such as **periwinkles** (*Littorina littorea*)
- **marine annelid worms** (*Polychaeta*)

UPGANG CLIFFS – SAND MARTINS AND COASTAL VEGETATION









Sand martin nesting colony



Sand martins



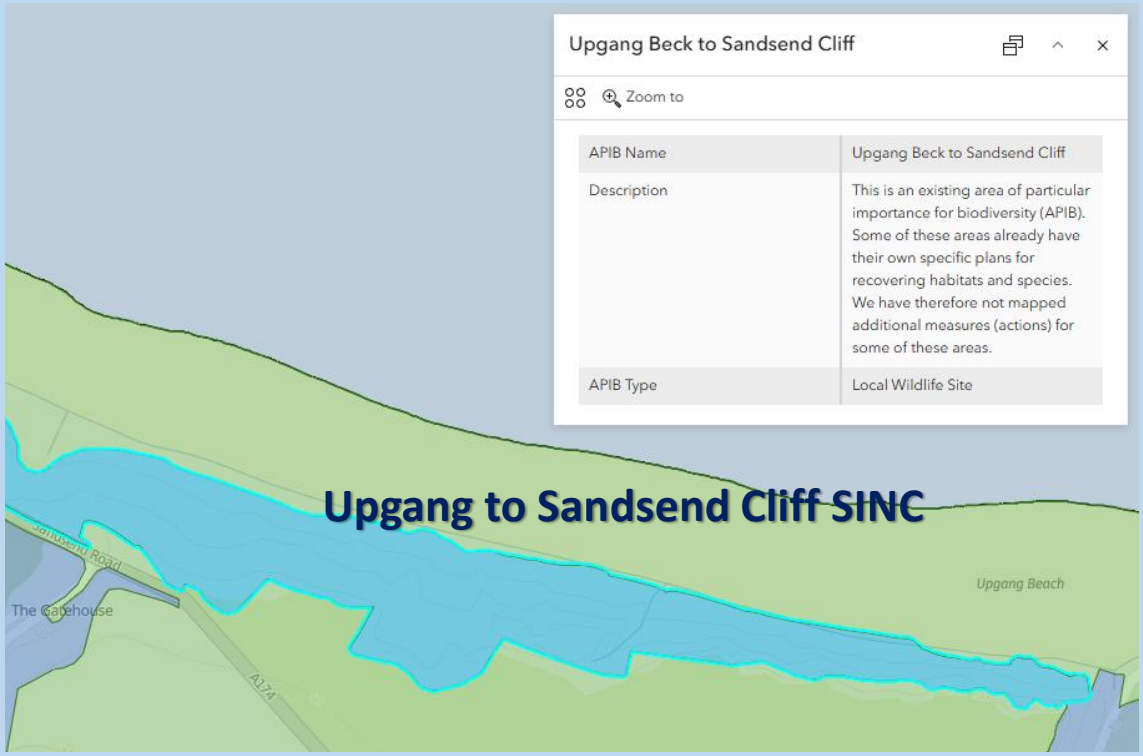
Coastal slump ledges

UPGANG CLIFFS ARE A SINC

NORTH YORKSHIRE COUNCIL

LNRS Local Habitat Map





North Yorkshire and York Local Nature Recovery Strategy

- "**soft coastal slopes** made of calcareous clays, with the variety of **exposures and slip features** enabling a complex mosaic of habitat types with a **STRONG MARITIME INFLUENCE"**
- "**lack of interference** on the slope itself has enabled species associated with **old, unimproved habitats** to survive"

SAND MARTINS – *SWOOPING* SPRING ARRIVALS



7 April 2026

- first sand martin (*Riparia riparia*) **arrivals** 7 April
- large group next day ***SWOOPED*** on new and old sand lenses
- the *swoop* was collectively checking out the suitability of **new lenses** for **digging burrows**, avoiding either too compact or loose sand
- **colony development** was **surprisingly fast**



16 April 2026



burrow digging 16 April 2026

Pattern of *swooping* continued until mid-May



checking out an old colony - 16 April 2026

Swooping behaviour and sociality

- ***swooping*** behaviour and **burrow digging** is evidence of **sociality**
- assures success of **nesting colony development**
- **young** (one year old) sand martins learn from **peers** in assessing **sand penetrability** and **stability**, observing **excavation patterns** so that the burrows are not **too close**



THE BURROW-EXCAVATION PHASE IN THE BREEDING CYCLE OF THE SAND MARTIN RIPARIA RIPARIA

R. A. O. Hickling **Volume 101, Issue 3-4** July 1959 Pages 497-502



*"Burrow excavation occurs only as the climax to a form of **group display**. **Digging is communal in character**....The mounting excitement and mutual stimulation of the display period induces a climax at which the birds begin to build nests and lay. This period of display produces **close synchronization** which seems to be a necessary condition for the **communal behaviour** of the birds during the rest of the **breeding cycle**"*










Excess colony development

- 5 colonies in use in 2025
- 8 new colonies dug in 2026

Only **3 colonies used**, 1 old and 2 new



old colony



new colony

Colony activity – evidence of breeding

- sand martins **incubate** eggs 14-15 days
- first evidence of **hatching** when begging chicks appear at **burrow entrances** (21 July)







adult with insect in beak



multiple chicks increasingly seen



female can lay four to five eggs

Colony activity – evidence of feeding and caution



- chicks being fed by **both parents** 7 August



- chicks **retreat** in **caution** between feedings
- fearful of **carrion crows** and **kestrels**





FOUR EXPECTANT FACES – a *chorus* of sand martin chicks



fledge 19 to 24 days after hatching……

…. and gone by the end of August

LEDGE VEGETATION – EROSION AND LANDSLIDING CONTINUE ON SOFT CLIFFS





Ledge #2 is 80m long and has a **permanent seepage area**

















- sedges, rushes, marsh foxtail

-flowering order 2026





coltsfoot



field horsetail



primrose



bird’s foot trefoil



kidney vetch



creeping cinquefoil



sea plantain



meadow vetchling



common spotted orchid



spear thistle



knapweed



restharrow



creeping thistle



selfheal



centaury



wood sage



hawkbit



ragwort



fleabane



wild carrot



yarrow



carline thistle



devil's bit scabious



hemp-agrimony



- there were >30 Carline thistle (*Carline vulgaris*) on ledge#2 this year

POSSIBLE NVC GRASSLAND COMMUNITIES



R Modular Analysis of Vegetation Information System
UK Centre for Ecology & Hydrology
- computer program for assigning National Vegetation Classification (NVC) communities

2025 Observations – 13 species

H7b Maritime cliff and slopes
MC8f Maritime cliff and slopes
CG8c Lowland calcareous grassland
MC9a Maritime cliff and slopes

Anthyllis vulneraria
Carex flacca
Carlina vulgaris
Equisetum arvense
Hypochaeris radicata
Lathyrus pratensis
Lotus corniculatus
Plantago lanceolata
Plantago maritima
Potentilla reptans
Trifolium pratense
Tussilago farfara
Vicia cracca

Sites of Importance for Nature Conservation in North Yorkshire
(Outside the Yorkshire Dales and North York Moors National Parks boundaries)
Guidelines for Site Selection
North Yorkshire SINC Panel, August 2002. Updated 2009, 2017

"The **PLANT COMMUNITIES** of the sea cliffs of North Yorkshire are **locally distinctive**. They **DO NOT CORRESPOND** closely with **COMMUNITY DESCRIPTIONS** in the published volumes of the **National Vegetation Classification"**

2026 Observations – 34 species

MG5c Lowland meadows
CG8b Lowland calcareous grassland
MG5b Maritime cliff and slopes
CG2b Lowland calcareous grassland

Achillea millefolium
geniculatus
Anthyllis vulneraria
sylvaticum
Carex caryophyllea
Carex flacca
Carex riparia
Carlina vulgaris
Centaurea nigra
Centaurium littorale
Cirsium arvense
Dactylorhiza fuchsii
Daucus carota
Equisetum arvense
Eupatorium cannabinum
Hypochaeris radicata
Jacobaea vulgaris
Juncus acutiflorus
Lathyrus pratensis
Leontodon hispidus
Lotus corniculatus
Ononis repens
Onopordum acanthium
Plantago lanceolata
Plantago maritima
Potentilla reptans
Primula vulgaris
Prunella vulgaris
Succisa pratensis
Teucrium scorodonia
Trifolium medium
Trifolium pratense
Tussilago farfara
Vicia cracca

JOINT NATURE CONSERVATION COMMITTEE
Common Standards Monitoring Guidance
for
Maritime Cliff and Slope Habitats
Version August 2004

"On the basis of the **FEW STUDIES** that have been carried out, much of the **coastal vegetation of soft cliffs** may **not fit** any of the currently recognised **NVC communities**"

The unfettered nature of Whitby



Thank you for braving the weather

Any questions?

SELF-WILLED LAND

ADVOCACY FOR WILD LAND AND NATURE