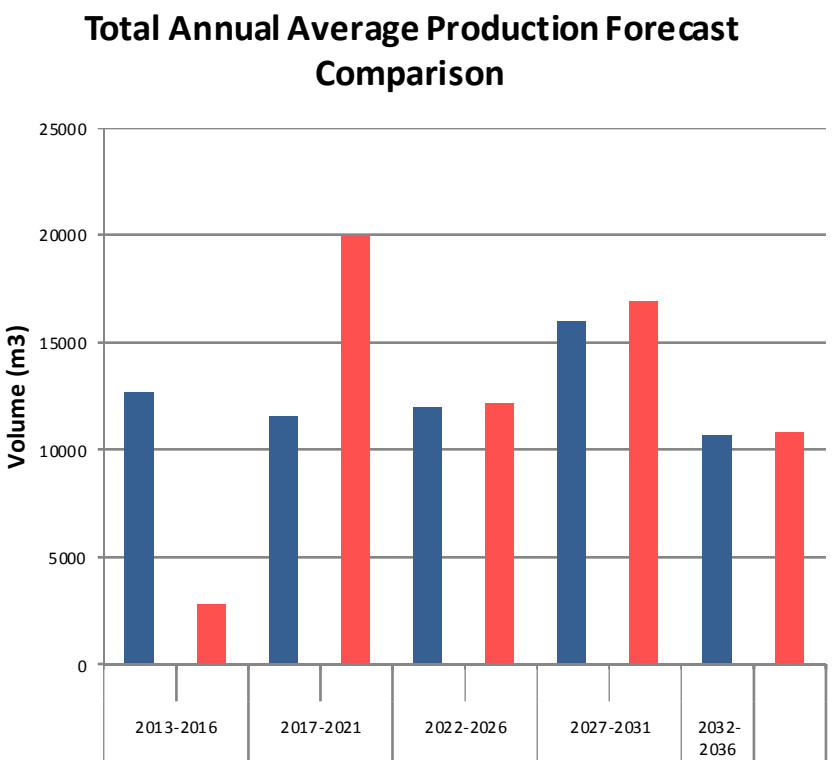
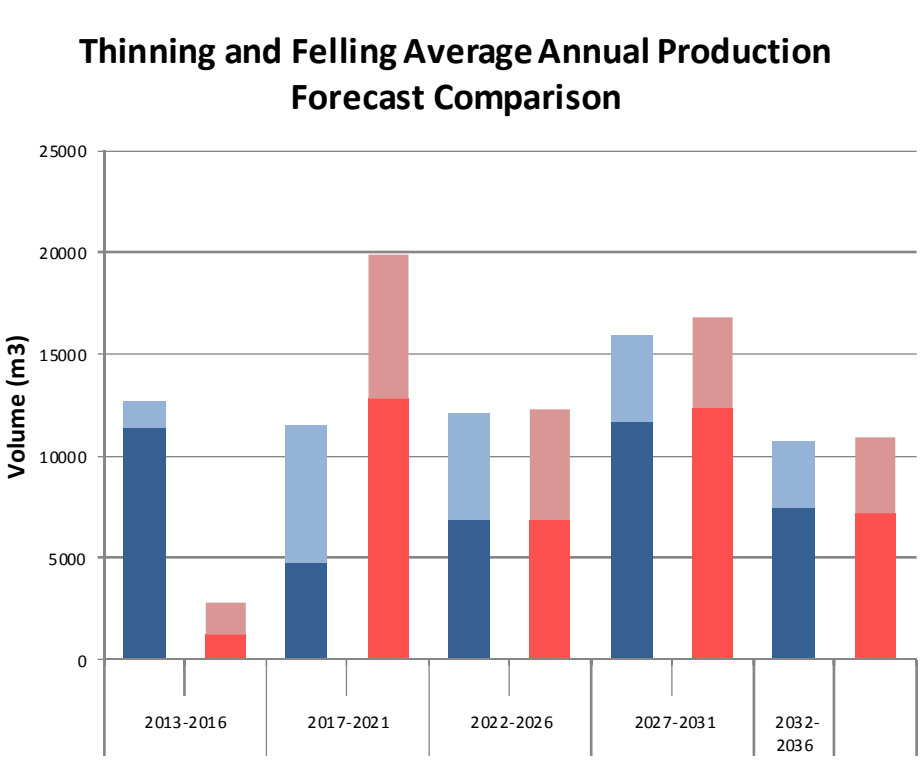
APPENDIX 2 - Option Testing

Option 1 – Current Forest Plan (Master)	Option 2 – Proposed Forest Plan (Scenario)
The continued production of sustainable and marketable woodland products.	
Multiple postponements of programmed felling has led to a backlog in production for 2016. This level of felling in 2016 is unachievable in such a short time frame. Production in the following periods is steady.	The proposals address the backlog in production between 2017-2021 and then restore production back to meet with economic suitability. Crops are reaching a stage where further felling postponement, and thus spreading out of production, is not advisable given windthrow and operational concerns.
To conserve, maintain and enhance cultural and heritage assets and their setting.	
Whilst proposals make acknowledgement of the value of heritage assets, plans to ensure their restoration, preservation and enhancement are lacking. In reality proposals would have minimal impact or improvement on the features.	A clear and measurable set of proposals have ensured the restoration of many of these valuable features. Specific steps to enhance the setting and connectivity of many of the heritage features will make significant contributions to the historic landscape.
The provision and maintenance of recreation facilities.	
The plans and proposals acknowledge and make allowance for recreation in the Plan area. The methods for achieving this are not stipulated or measurable.	The proposals recognise and make provision for the role the forests can plan for recreation and access in the National Park. These are clear, achievable and measurable.
The diversification of woodland species and structure for greater ecological and economic resilience.	
The proposals make no reference or objective to diversify tree species and thus fails to build-in resilience for the future. The presumption is for continued reliance on Sitka spruce. Whilst prescribed in places, the recognition of structure diversification through a mixture of silvilcultural prescriptions is not made.	Proposals make clear and concerted effort to address over reliance on one species. The identification and then suggested application of suitable alternative species ensures that resilience has been built in to the planning of the Dartmoor Forest Plan area.
Protect and enhance woodland and open habitats and their associated species.	
The majority of proposals are based around broadleaf habitat and corridors maintenance. However acknowledgement and further enhancement to habitats and recognition of significant species is not identified.	The significance of multiple dynamic habitats and the significant role they play for particular species is identified and proposals made to ensure the perpetuity of this in a clear and measurable way.
The delivery of well-designed proposals in keeping with the National Park character.	
The proposals acknowledge the importance of delivery of well-designed coupes and management but are, in places, either unachievable in the current climate or operationally unsound. The core coupe shapes are suitable with sequencing being the main hindrance.	The proposals address failed commitments and attempts to soften landscape impact. Instead it looks to implement a set of operationally rational and achievable proposals which address internal and external landscape issues through the creation of dynamic diffuse edges and internal corridor work.





Utilities

Legend

- Powerline Overhead
- Powerline Underground
- Gas Pipeline
- Telephone Line Underground
- Telephone Line Overhead
- Drain
- Water courses
- Water supply point
- Water pipeline
- Open water
- Bridges
- Dams
- Quarries
- Reservoirs
- Class A/B Forest Road
- Class C Forest Road
- Legal access/Unclassified
- A Road
- B Road
- Minor Road

0 0.1 0.2 0.4 0.6 0.8 Miles

Plan Period Coupe Prescriptions (Part 1)

Fell 2012- 2016
Fell 2017 - 2021
Fell 2022 - 2026

FERNWORTHY

Coupe	Area (ha)	Existing Crop	Rationale/Prescription	Restock	Area (ha)	Restock Proportion	Rationale/Prescription
82447	0.71	p.35 SS	Identified as an area suitable for felling to enhance the setting of the Froggymead complex, Scheduled Monument whilst maintaining windfirm integrity. Selectively clearfell as agreed with Historic England.	**82447a**	0.71	100% Open	Maintain as open as necessary with forest cover not exceeding 2m in height or 20% of area, to maintain an enhanced setting for the Scheduled Monument in a forest environment.
82737	0.20	p.67 SS	Identified as an area suitable for felling to enhance the setting of the Hemstone Scheduled Monument. Selectively clearfell maintaining windfirm integrity as agreed with HE.	**82737a**	0.20	100% Open	Maintain as open as necessary with forest cover not exceeding 2m in height or 20% of area, to maintain an enhanced setting for the Scheduled Monument in a forest environment.
82298	0.26	p. 71 SS	Area is suitable for felling to enhance the setting of the Assycombe Farm and the Stone Row Scheduled Monuments. Selectively clearfelled as agreed with Historic England.	**82298a**	0.26	100% Open	Maintain as open as necessary with forest cover not exceeding 2m in height or 20% of area, to maintain an enhanced setting for the Scheduled Monuments in a forest environment.
82796	18.88	p.51 SS	Crop is approaching terminal height and experiencing windblow in discrete areas. Clearfell had been programmed to follow 82946 but was delayed due to operational constraints. The clearfelling of this Coupe should be prioritised to ensure timing is maximised in light of adjacent coupe 82946.	**82796a**	12.44	100% Ev. Conifer	Site is elevated and exposed and much sits on a small plateau. Soils are poorly drained, with gleying and peat found throughout. Restocking with resilient, exposure hardy species is needed to ensure establishment. Use Sitka spruce regeneration where evident, restock with conifer where necessary (consider Sitka spruce and Noble fir).
				82796b	6.44	<100% Ev. Conifer	Area is exposed on the crest of the hill. The site will not be restocked but will be allowed to regenerate felling to soften the hard edge. Enrichment planting may occur to add further amenity value. Regeneration will be removed at the age of first thinning of Coupe 82796a, allowance for retention of a few stable trees will be made to enhance diffuse edge.
82337	35.58	p.27 SS p.50 SS p.55 SS P.74 SS	Crops have reached economic maturity and are of considerable quality despite conditions and location. Sporadic windblow continues to occur. Clearfelling of entire crop is required to ensure wind stability of adjacent crops is maintained. This felling should be prioritised to ensure the impact of young crops to the east are minimally detrimentally affected.	**82337a**	35.58	100% Ev. Conifer	Restocking with evergreen conifer will occur eastwards of the track where drainage, soil quality and exposure conditions are more favourable. Use Sitka spruce regeneration where evident, restock with evergreen conifer where necessary (consider Sitka spruce and Noble fir).
82406	23.85	p.54 WH p.54 SS p.81 SS	p.54 crops are of good form having been unthinned on a wet site. Sporadic wind throw is found throughout but crop is fundamentally stable as a block. P.39, 59 and 85 have all be well thinned but required clearfelling to ensure future wind stability. Waterlogged soils and deep peats necessitates consultation with DWT and EA prior to upgrading roading and felling operation to ensure water and soil quality is maintained.	**82406a**	23.85	80% Ev. Conifer 20% Broadleaf	Site is complex with significant issues with very poor drainage towards the north despite quality soil in places. Planting of evergreen conifer, establishment and future thinning will need to account for these complexities (consider Sitka spruce, swamp cypress, with sycamore, alder and willow)
82734	5.19	p.37 SS	Simple shelterwood system with overstorey due for removal as understorey is nearing establishment. Unlikely to reach 2m in height so requires felling consent	**82734**	5.19	100% Ev. Conifer	Restocking anticaticipated to be through naturalregernation of Sitka spruce. Where full restocking is not reached, enrichment with alternative conifer species is expected (consider enriching with Pacific silver fir)
82862	4.85	p.33 SS	Crop has reached economic maturity, is on a wet site and as a result is showing increasing signs of wind blow. Felling of this crop is required to negate this problem.	**82862**	4.85	60% Broadleaf 40% Ev. Conifer	Site is moist to wet and waterlogged in places with soils richer and peaty. Evergreen conifer species choice is key given the site conditions (consider Swamp cypress with alder, willow and Wych elm)
82946	19.29	p.2008 SS p.51 SS p.22 SS	Area of historical open space creation for landscape purposes not achieving objectives and now reaching full stocking. This is to be removed at first economic opportunity for replanting. p.51 and p.22 consistently blowing following previously felling and thinning operations. Clearfell these to windfirm edge.	**82946**	19.29	100% Ev. Conifer	Site is diverse given its gradient from high elevation and exposure in the west to sheltered valley sides towards the east. Soils are rich and generally well drained making it suitable for evergreen conifer replanting (consider Douglas fir, Norway spruce and Wellingtonia)
82661	22.79	p.51 SS	Crops are of exceptional quality and stability considering elevation, age and exposure. Clearfelling will occur upto the track on the eastern side and crop boundary on the western side. This is considered to be sufficiently windstable**.**	**82661a**	12.65	100% Ev. Conifer	Restocking with evergreen conifer will occur on the lower slopes of Assycombe Hill to maximise productive capacity. Soils are poor but relatively well drain. Elevation and exposure are the greatest constraints. Use Sitka spruce regeneration where evident, restock with evergreen conifer where necessary (consider Sitka spruce and Noble fir).
				82661b	10.14	<100% Ev. Conifer	Area is exposed on the crest of the hill. The site will not be restocked but will be allowed to regenerate felling to soften the hard edge. Enrichment planting may occur to add further amenity value. Regeneration will be removed at the age of first thinning of Coupe 82661a, allowance for retention of a few stable trees will be made to enhance diffuse edge.

NB. Whilst 'Restock Proportion' is often prescribed at 100% Evergreen (Ev.) Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places is proposed.

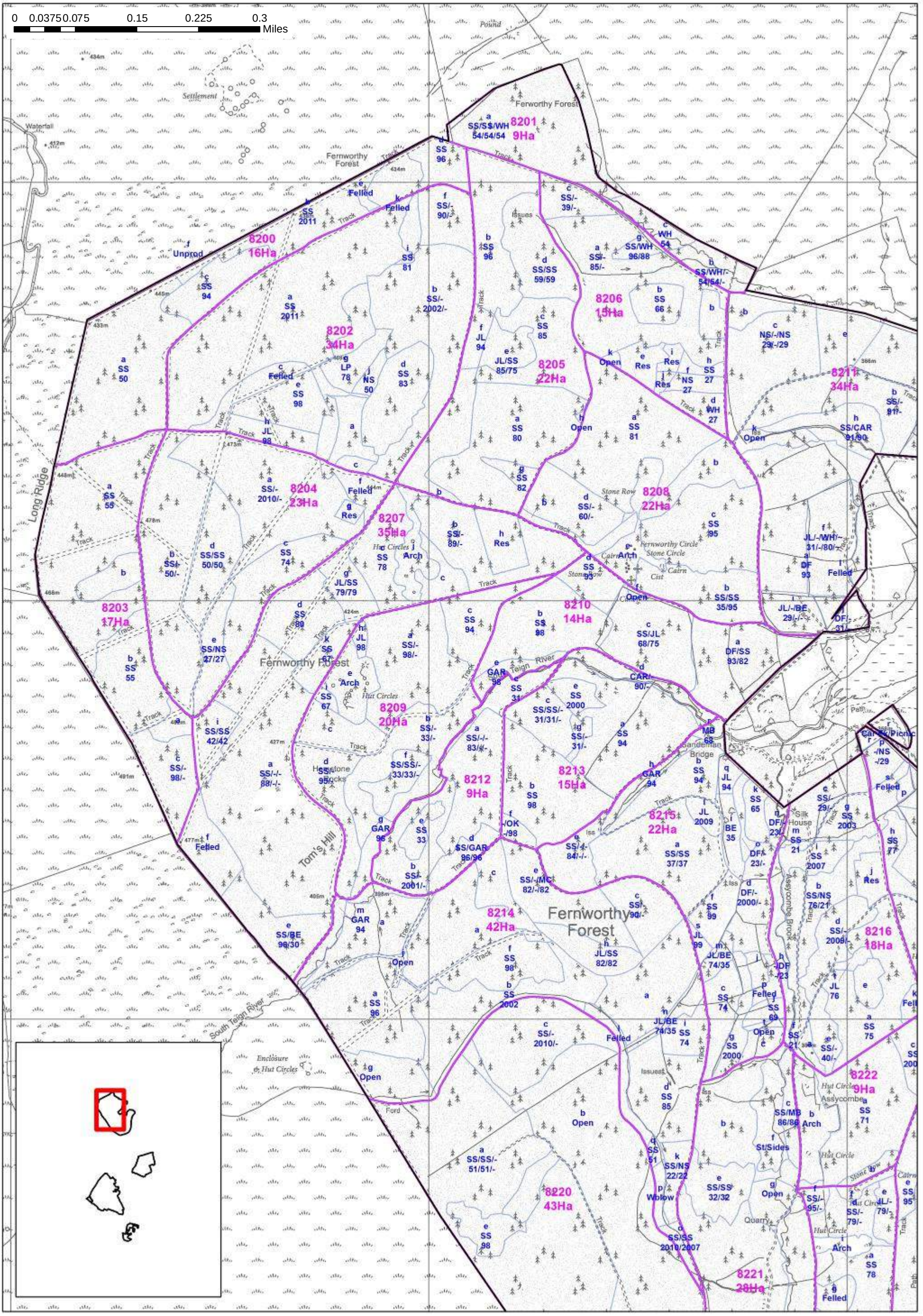
Plan Period Coupe Prescriptions (Part 2)

Fell 2012- 2016
Fell 2017 - 2021
Fell 2022 - 2026

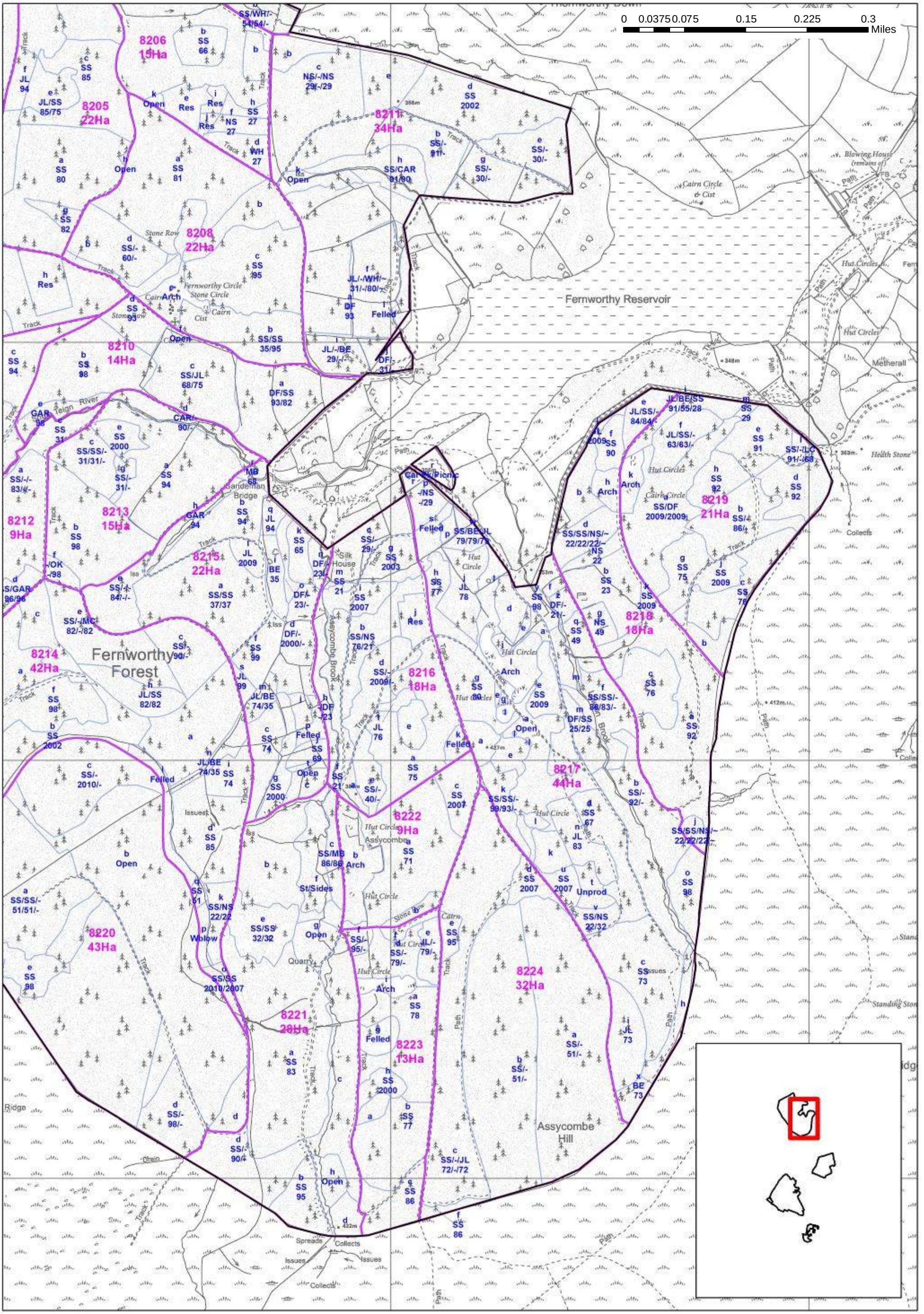
	Coupe	Area (ha)	Existing Crop	Rationale/Prescription	Restock	Area (ha)	Restock Proportion	Rationale/Prescription
SOUSSONS	**82748**	6.39	p.48 SS p.49 SS	Crops have reached maturity, sit within a small valley and parts are on top of a designated Scheduled Monument. Clearfell all crops in consultation with Historic England.	**82748a**	3.66	100% Ev. conifer	Site is exposed, with soils poor and more moist towards the west. Restocking will enhance the forest edge and adjacent Scheduled Monuments (consider Sitka spruce, Scots pine, Pacific silver fir and Grey alder).
					82748b	2.73	100% Open	Maintain as open as necessary with forest cover not exceeding 2m in height or 20% of area, to restore SM .
	82356	8.36	p. 48 SS	Crops are fragmented and windprone following previous felling operations. Removal of remaining trees (once adjacent crops are >2m) will address these issues.	**82356a**	8.36	100% Ev. Conifer	Sites are exposed and frost prone. Restock with hardy evergreen conifer and a small proportion of broadleaf (consider Sitka spruce, Western hemlock and Aspen)
	82953	4.95	p.48 SS p.80 SS	Crops are fairly exposed following previous felling operations. Removal of this economically mature crop is due and to windfirm roadsides.	**82953a**	4.95	80% Ev. conifer 20% Open	Restocking will consist of evergreen conifer will allowance for open space to enhance the setting of Scheduled Monument found at its centre (consider Sitka spruce, Douglas fir and Noble fir)
	82539	8.92	p.48 SS	The crops present a strong hard line on the landscape and have reached maturity. Clearfell to windfirm roadsides and crop boundaries. The timing of this felling is key to limit the detrimental exposure to young crops to the north.	**82539a**	8.92	90% Ev. Conifer 10% Open	Site is extremely exposed to prevailing wind. Restocking should allow for enhancement of Scheduled Monument and amenity improvement in coordination with 82484a planting through open space provision in clumps. Use of hardy conifer is required for restocking (consider Sitka spruce, Noble fir and Wellingtonia pine).
	82484	1.96	-	Currently road side open space delivering minimal ecological or amenity value.	**82484a**	1.96	50% Open 30% Broadleaf 20% Ev. Conifer	Planting of upto 50% of area in clumps to create diffuse edge will seek to minimise the impact of high forest to moorland edge (consider Beech, Aspen, Rowan, Sitka spruce, Scots pine)
BELLEVER	**82218**	3.88	p.52 SS p.53 WH	Felled in 2014	**82218a**	3.88	50% Broadleaf 50% Ev. Conifer	Site is moist and complex with a number of watercourses and relatively sheltered. Restock with a diverse, amenity led pallet with economic productivity in mind (consider Sessile oak, Scots pine Coast redwood, Sweet chestnut and alder).
	82955	3.07	p.2005 SS p.2008 SS p.2011 SS	Crops planted on Scheduled Monument. Clearfell areas designated and create connectivity and enhance setting.	**82955a**	3.07	100% Open	Maintain as open as necessary with forest cover not exceeding 2m in height or 20% of area, to restore SM.
	82798	5.98	p.36 NS p.2003 SS	Crop is suffering from creeping windblow, with open corridor of trees now established exacerbating the issue. Clearfelling coupe only realistic solution. Retain beech where possible.	**82798**	5.98	70% Ev. Conifer 30% Open	Coupe has strong amenity impact so planting should be clumpy with large allowance for open space to created broken edge. (Consider, Norway spruce, Serbian spruce and Wellingtonia
	82496	8.38	p.49 SS	Crop has reached maturity and is adjacent to grazed open area and Scheduled Monument around Bellever Tor. Clearfell as part of a strip -style system, working the leeward edge.	**82496a**	8.38	100% Ev. conifer	Site is moist to fresh with soils peaty and relatively rich. Use Sitka spruce regeneration where evident, restock with evergreen conifer where necessary (consider Sitka spruce, Douglas fir and Western hemlock).
	82552	8.49	p.48 SS p.48 LP p.40 NS	Crop has reached maturity and is adjacent to grazed open area. Clearfell as part of a strip-style system, working the leeward edge and using road as windfirm coupe boundary.	**82552a**	8.49	100% Ev. conifer	Site is moist to fresh with soils peaty and rich. Use Sitka spruce regeneration where evident, restock with evergreen conifer where necessary (consider Pacific silver fir and Norway spruce).
	82583	2.20	p.32 NS p.32 SS	Crop has reached maturity and is increasingly prone to windblow. Site is sensitive given adjacent to East Dart River. Clearfell to windfirm edge.	**82583a**	2.20	100% Ev. Conifer	Site is fresh and soils fertile given riverine location. Restock with evergreen conifer and wet woodland suitable broadleaves (consider Douglas fir, Rowan and Red alder)
	82516	7.21	p.49 SS	Clearfell as part of continued strip-style system, working the leeward edge and using road as windfirm coupe boundary.	**82516a**	7.21	70% Ev. Conifer 30% Open	Site is moist to fresh with soils peaty and rich. Use Sitka spruce regeneration where evident, restock with evergreen conifer where necessary (consider Sitka spruce, Noble fir, beech and aspen).
	82341	11.94	p.48 SS p.48 LP p.40 NS	Crop has reached maturity and is adjacent to grazed open area and Scheduled Monument around Bellever Tor. Clearfell as part of a strip -style system, working the leeward edge.	**82341a**	11.94	100% Ev. conifer	Site is moist to fresh with soils peaty and rich. Use Sitka spruce regeneration where evident, restock with evergreen conifer where necessary (consider Sitka spruce, Noble fir and Western hemlock).
BRIMPTS	**82302**	9.53	p.75 SS p.80 SS p.80 SP	Southern crop is very widely spaced following SPHN with windthrow an increasing issue. The narrow corridor to the north continues to suffer from windblow. These crops should be felled to overcome this issue with the retention of wind stable trees for amenity, at the discretion of the forester.	**82302a**	5.07	100% Ev. conifer	Use Sitka spruce and Scots pine regeneration where evident and restock with evergreen conifer where necessary (consider Sitka spruce, Scots pine and Wellingtonia).
					82302b	4.46	80% Open 10% Broadleaf 10% Ev. Conifer	The site will not be restocked due to significant continued windblow risk and value in creating open space linkage.
	82477	1.48	p.80 SS	Crops at considerable risk from creeping windblow. Clearfell crops prone to windblow back to a windfirm edge.	**82477a**	1.48	100% Ev. Conifer	Site is moist and fairly sheltered with good soils. Use Sitka spruce regeneration where evident, restock with evergreen conifer and broadleaf where necessary (consider European silver fir and aspen).
	82767	8.36	p.72 SS p.75 SS	Crop is stable and well thinned. However a large clearfell to a wind stable edge is required given the issues experienced at Brimpts.	**82767a**	8.36	100% Ev. conifer	Site is fresh with Upland brown earths through out but fairly exposed in places. Use SS regeneration where evident and restock with evergreen conifer where necessary (consider and Noble fir)
	82972	3.27	p.85 SS	Crop is under thinned and difficult to work given slope gradient but considerably visible and geometric in the landscape. Clearfell and retain any suitable broadleaves.	**82972a**	3.27	60% Ev. Conifer 40% Broadleaf	Site has deep fertile and well drained soils, but fairly exposed despite aspect. Restock with conifer broadleaf mixture 60:40 and plan to thin early (consider Douglas fir, Oriental spruce, Sessile oak).

NB. Whilst 'Restock Proportion' is often prescribed at 100% Evergreen (Ev.) Conifer the use of suitable broadleaves to build in resilience and utilise site conditions is anticipated and in places proposed.

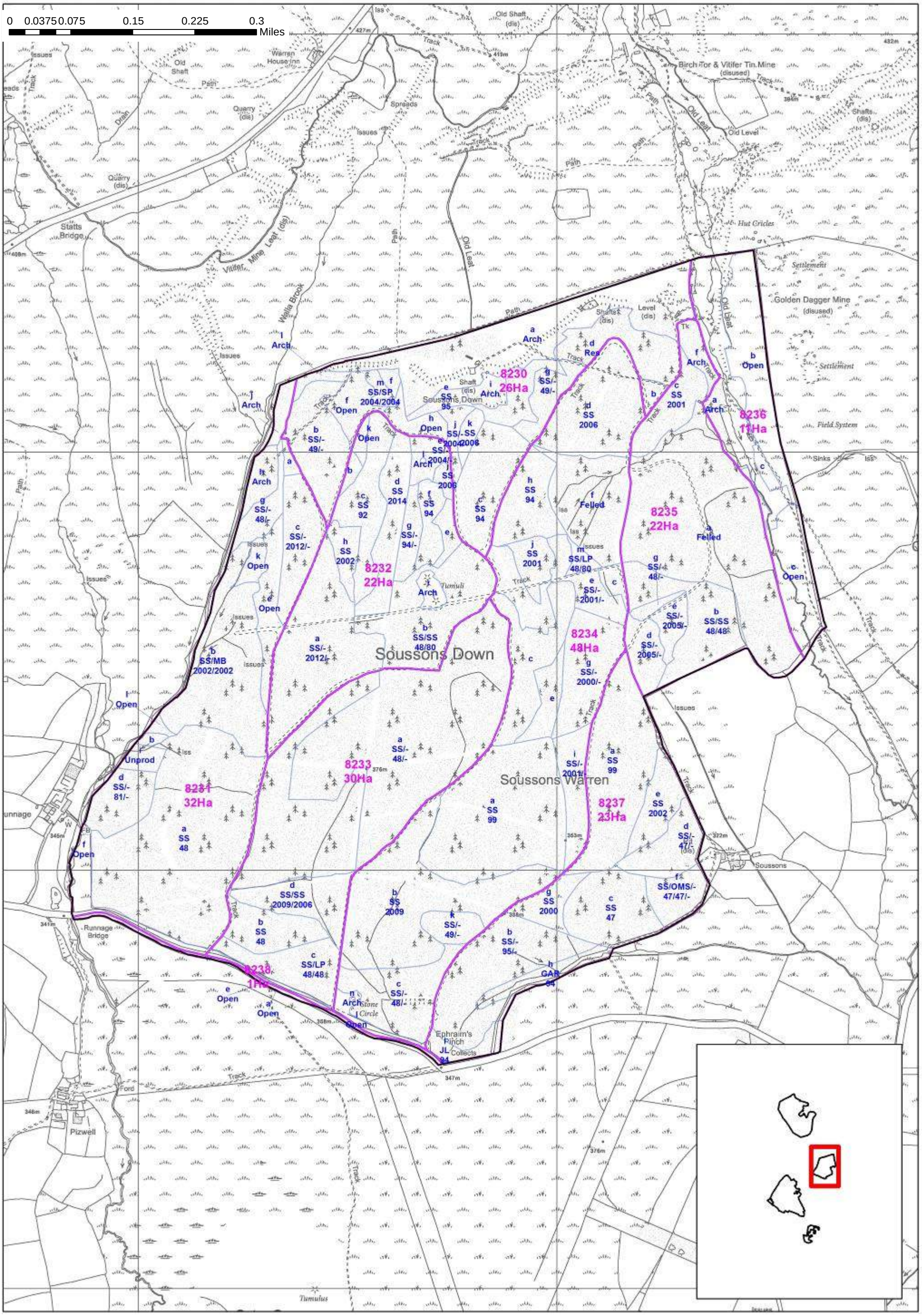
Stock Data—Fernworthy North



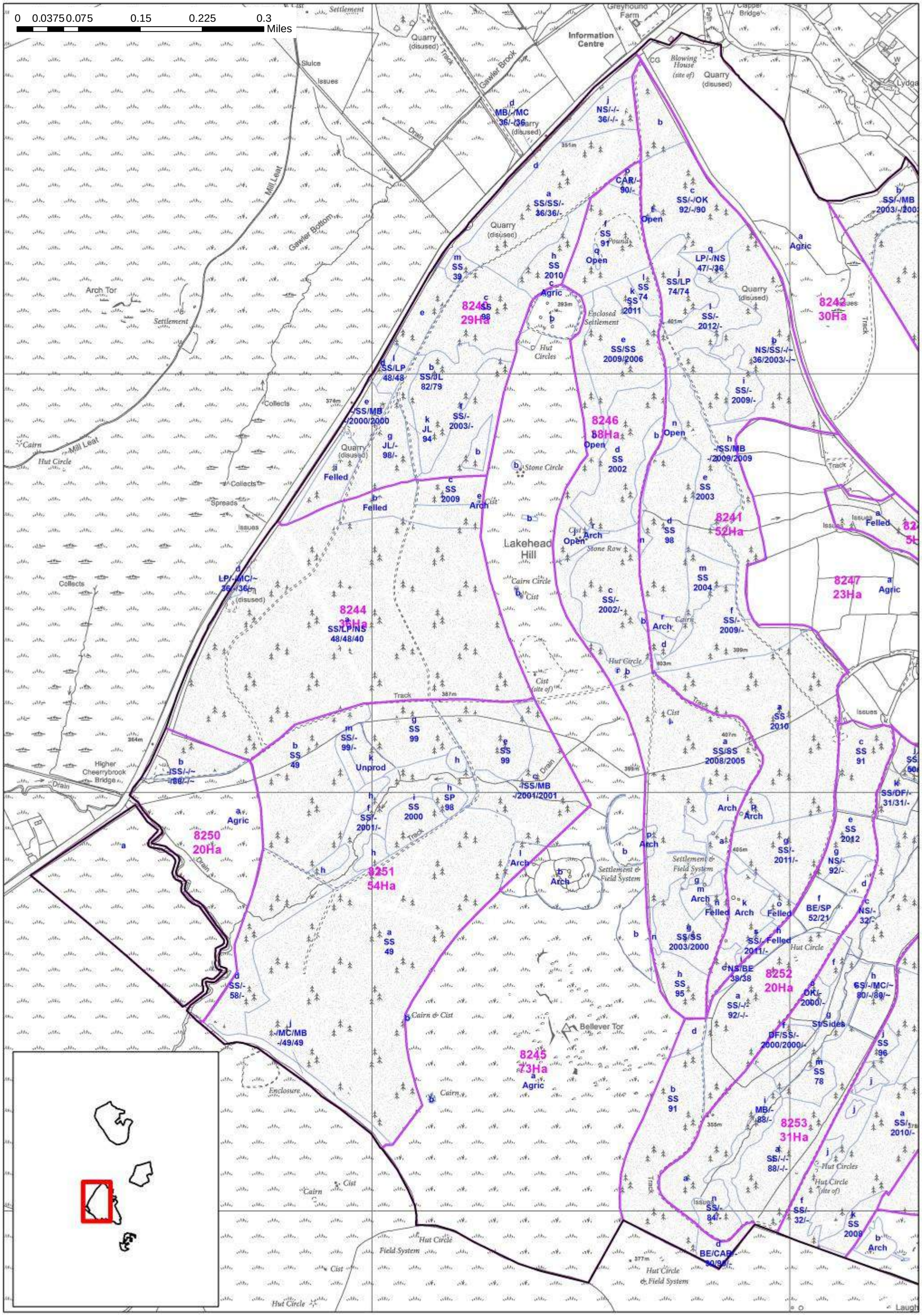
Stock Data—Fernworthy South



Stock Data—Soussons



Stock Data—Bellever West



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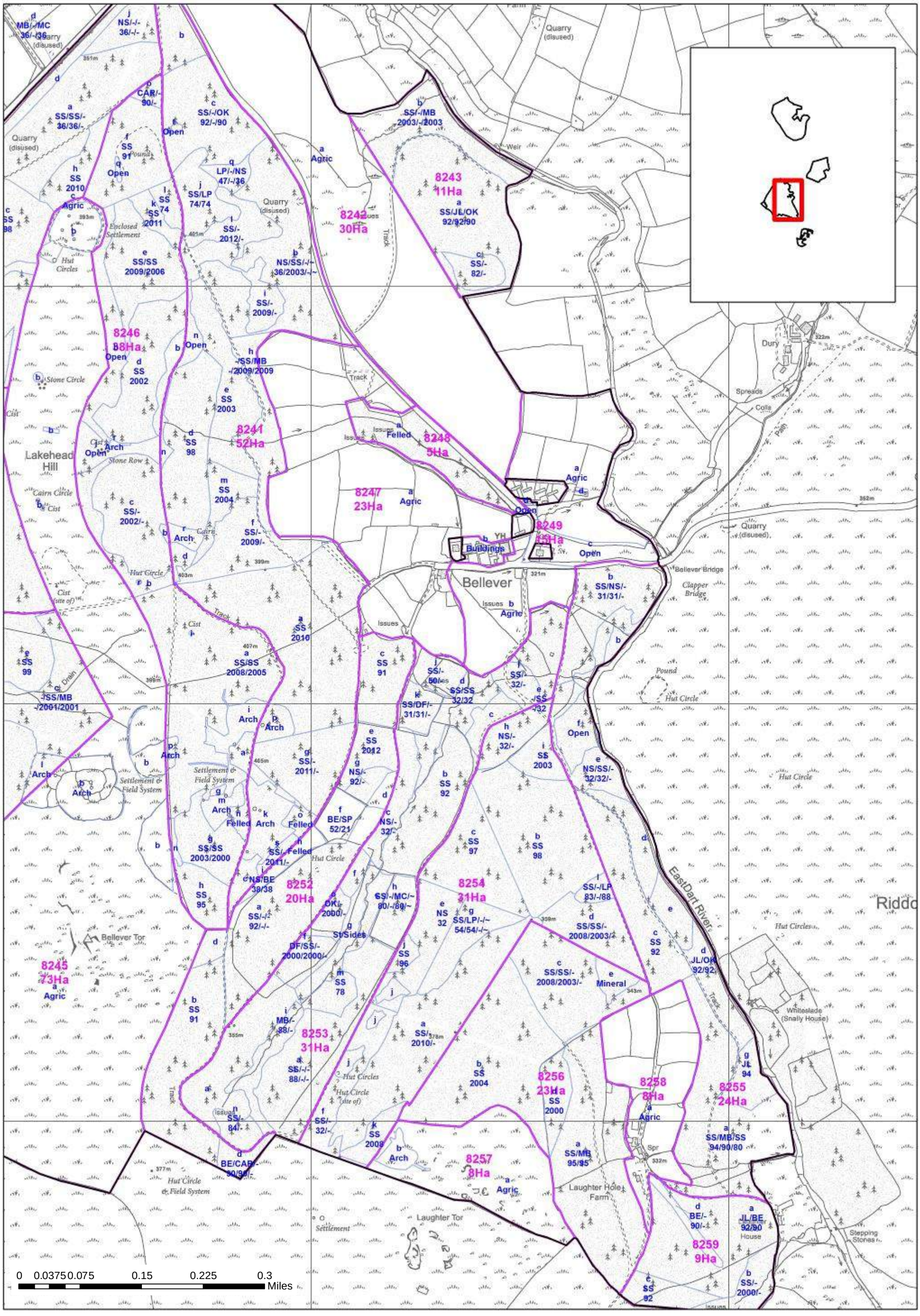

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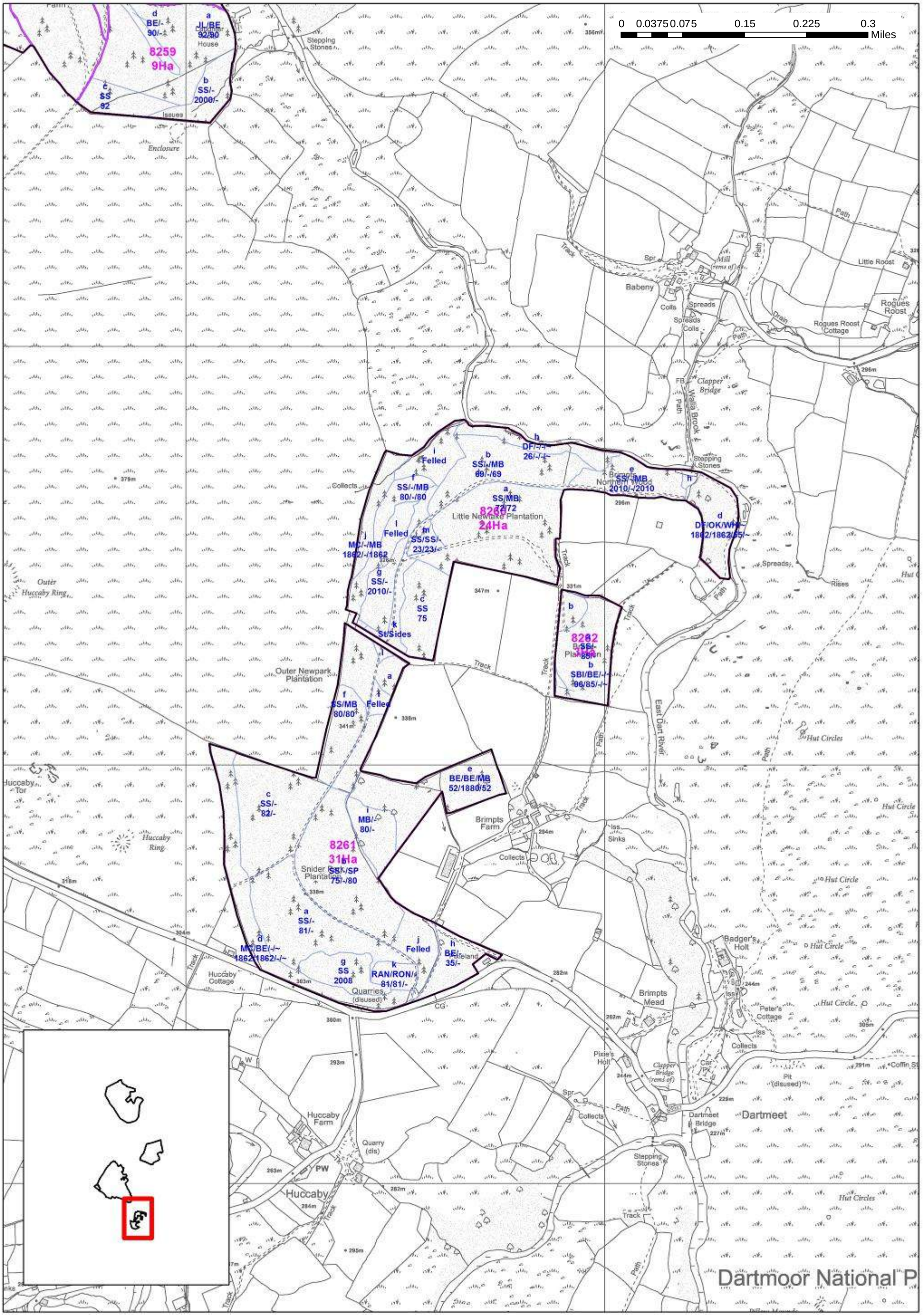
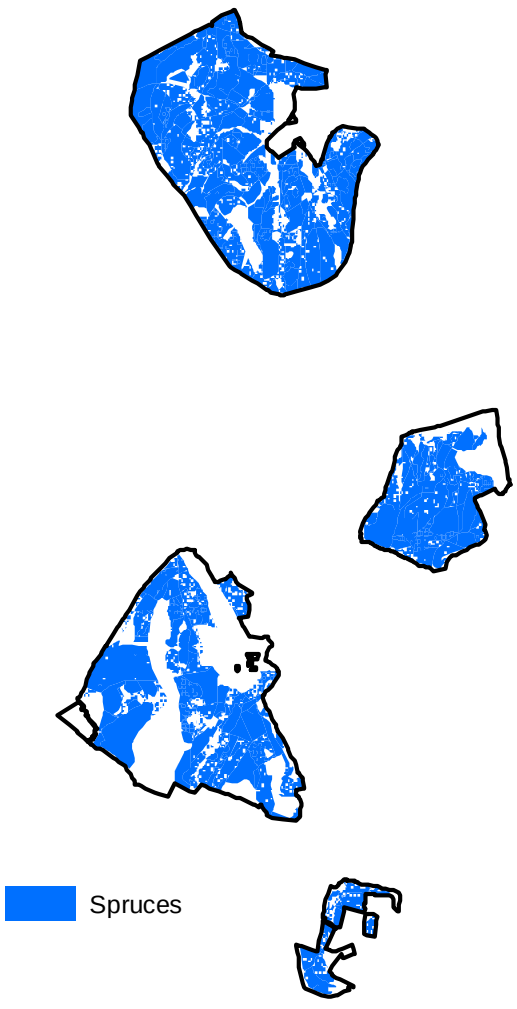


Pests and Diseases



Dendochtronus micans

Also known as great spruce bark beetle, this pest is found throughout continental Europe and increasingly in west England, Wales and southern Scotland. It damages spruce trees by tunnelling into the bark of living trees to lay its eggs under the bark. The spread of *D micans* across west England has been unrelenting having developed a stronghold in north Devon and continues to move ever south and east wards, usually assisted by the wind. The beetle is particularly drawn to the smell of resin and thus fresh cut or broken timber. It prefers moist, warm and therefore unthinned stands of all types of spruce, but particularly Norway and Oriental although its ultimate destructive capability on Sitka is greater. The spread of *D micans* can be controlled by the release of *Rhizophagus grandis,* a natural predator in its native range.

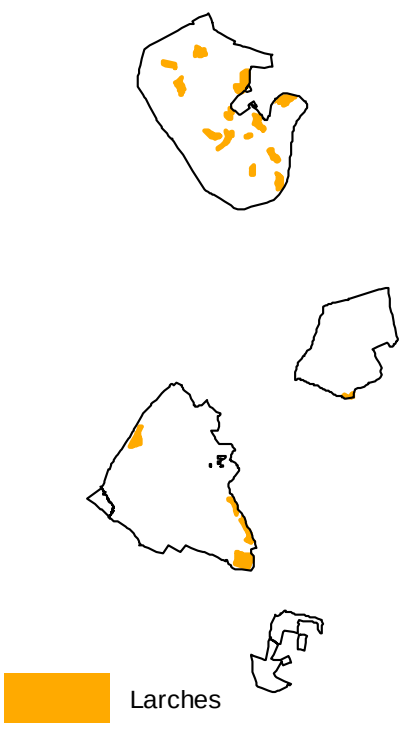
The Dartmoor forests are at significant risk of infection from *Dendochtronus micans* not least because of their extensive reliance on spruce. Therefore steps need to be taken to diversify these crops where site conditions allow. Minimising stress of the spruce through good planting and species choice as well as regular thinning can limit the susceptibility of the spread.

Factor	Increased risk of attack
Location	• Within 7km of infested stands • Close to public roads and forest roads leading from infested areas
Tree/stand age	• Mature and veteran trees
Climate	• Conditions giving rise to tree stress: Low rainfall, low soil moisture, exceptionally dry (or wet summers)
Windthrow	• High incidence of wind-related problems such as snapped top, windthrown trees and root disturbance.
Site	• Poorly suite to spruce growth • Previous management • Extraction damage, brashed trees • Soil compaction • Climber damage
Tree growth	• Poor growth. Malformed trees with multiple forks and other growth irregularities

Phythophthora ramorum

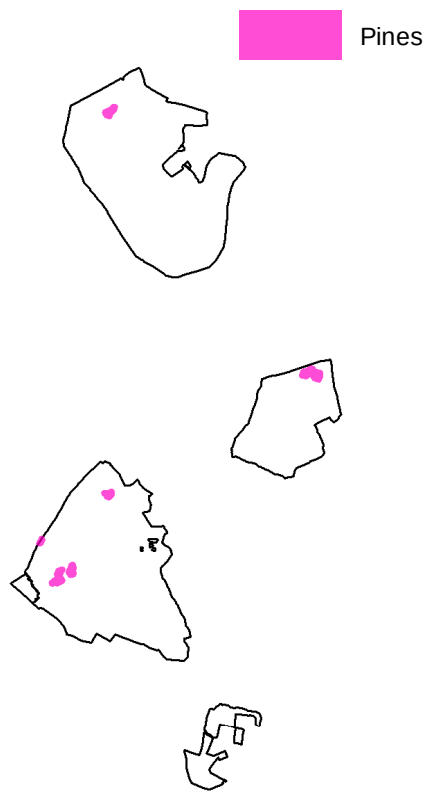
P. ramorum was first found in the UK in 2002 and until 2009 in the woodland environment had largely been associated with rhododendron species acting as a host from which spores are produced. In August 2009 *P. ramorum* was found on number of Japanese Larch in South West England. Following this testing in Devon and west Somerset confirmed the presence of PR in mature Japanese larch as well as species in its under-storey, including sweet chestnut, beech, birch, oak, Douglas fir and Western hemlock. It is now known that Japanese larch can produce very high quantities of disease-carrying spores when actively growing in spring and summer, at much higher levels than those produced by rhododendron. These can be spread significant distances in moist air.

PR is a notifiable disease dealt with by felling the infected area under a statutory plant health notice (SPHN) issued through FERA and the Forestry Commission. To date two SPHNs have been issued for larch removal within the Plan area. One in Soussons and one in Fernworthy. Whilst pre-emptive felling is not prescribed across the area due to the relatively small proportion made up by susceptible species, where in mixture with spruce and other resilient crops, the thinning out of larch will be favoured.



Dothistroma Needle Blight

Often referred to as Red Band Needle Blight (RBN), infection from *Dothistroma septosporum* can reduce growth rates of susceptible species (namely pines) by between 70 and 90%. Effects of RBN are managed through thinning the wood more heavily than you would normally to introduce higher levels of air flow through the remaining crop. The small areas of symptomatic Lodgepole pine have been targeted for felling due to their loss in yield and wind vulnerability.



Sirococcus tsugae

A fungus causing shoot blight found in originally in cedar and now hemlock species. Spread is caused through rain splash and planting stock with one crop in Fernworthy known to be infected. No effective control mechanism is known but given its limited infection or potential spread future retention or new planting of Western hemlock is yet to be compromised.