Department of the Environment—Jersey

Habitat Condition Monitoring Objectives
Les Blanches Banques

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DEPARTMENT OF THE ENVIRONMENT - JERSEY

HABITAT CONDITION MANAGEMENT OBJECTIVES LES BLANCHES BANQUES

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This project has been undertaken in accordance with PAA policies and procedures on quality assurance.

Signed

CONTENTS

1 INTRODUCTION

1.1 Objectives

1.1.1 The aim of this exercise is to create a set of habitat condition monitoring objectives (HMO) for Les Blanches Banques. These dunes were assessed using an adapted version of the JNCC sand dune condition monitoring scheme (2004) adapted for the Jersey situation in 2005. Condition objectives were suggested as part of this assessment, but were for consideration and discussion at that time. The Jersey Department of the Environment now wishes to undertake a repeat monitoring exercise for the site to detect any change in the intervening years and has suggested six habitat condition objectives for the habitats listed below, which would cover the majority of the ecosystem on the dunes.

- embryonic dune;
- white dune;
- grey dune, including early and late successional grassland types;
- scrub habitats;
- mixed woodland; and
- rank grassland.

1.1.2 The remit provided asks for a professional opinion on whether the use of these six HMOs for the habitat types listed above would provide an acceptable level of assessment; whether the habitat types listed are the most suitable to describe the site; and if there are other habitat types and objectives that would better define the sand dune ecosystem.

1.1.3 The remit then requires written HMOs for those habitats selected as appropriate to represent the interest of the dunes. These need to be compatible with the approach adopted in 2005 so that comparisons can be made and judgments taken on whether the habitats are declining, stable or improving.

1.2 The Approach

1.2.1 The approach has been to review the sand dune condition assessment already undertaken in 2005 by Penny Anderson Associates Ltd (PAA) and the re-mapping of the dunes that PAA also undertook in the same year. This was based on a suite of vegetation types that are relatively distinctive in the field, and which have been identified and mapped on the dunes at roughly 11 year intervals since 1983. These are assessed against the background of a number of experimental and monitoring projects on the dunes, thus giving PAA detailed knowledge and experience of the area and its flora in particular. Other monitoring objectives produced by JNCC for the country agencies for condition monitoring SSSI sand dunes in Great Britain (JNCC 2004) and the simpler versions for farmers to assess habitat condition when applying for agri-environment support (Natural England 2010) have also been used in order to provide background information and other approaches for consideration. In addition, advice has been sought from a professional colleague who has been involved in similar issues in Wales.

2 CONDITION MONITORING ON LES BLANCHES BANQUES

2.1 The Vegetation Types on the Dunes

2.1.1 The first step is to consider the range of vegetation types listed above and whether they would cover the majority of the dunes or whether there are important ones omitted. The vegetation types (alone or mixed with other types) listed in the mapping and assessment exercises carried out in 2005 are:

Table 1 The Vegetation Types Found on Les Blanches Banques 2005

	Vegetation Type/Bare Sand	Overall Habitat Area	No of Patches
1	Species-rich vegetation (and mixtures with other vegetation types). These were mapped as three different communities	39.46ha	1085
2	Bracken (includes mixtures)	16.62ha	390
3	Rank grassland/mixtures (also in species-rich mixtures)	16.07ha	349
4	Open tussocky marram grass (excluding mixtures as counted in species-rich above)	9.3ha	156
5	Closed marram (including mixtures)	8.9ha	157
6	Gorse scrub (including mixtures)	6.81ha	494
7	Burnet rose dominant (not including mixtures as covered in other vegetation)	7.68ha	197
8	Bare sand (including mixtures)	7.4ha	443
9	Mixed shrubs (not including mixtures which are mostly with gorse and counted above)	6.3ha	233

10	Woodland	0.42ha	14
11	Heathland (excluding mixtures mostly with species-rich grassland)	0.347ha	15
12	Tall herb community of disturbed ground	0.146ha	13
13	Wet rush-grassland	two very small areas	

2.1.2 The totals given in this table are indicative and will not add up to the total area of the dunes that was mapped (104ha) because of the overlap of communities mixed with each other. In addition, they did not include the section of dunes between the coastal road and the sea wall as this was not surveyed. Some include mixtures of communities, whilst others do not, where these are mostly already covered in other categories. The list serves to show the relative extent of the different vegetation types on the dunes.

2.2 The Dune Features of Significance

2.2.1 The importance of the different habitats to the dune biodiversity is also relevant, since it is these that should form the main part of the assessment. In terms of numbers of species and the importance of these on an international scale, the species-rich dunes are the most important within the system as a whole and there are signs that this diversity has declined over the years (Le Sueur 1984 and Le Sueur 1976). Some species seem to have been lost, such as bee orchid, and populations of other species have declined. The reasons are not clear but may include the loss of rabbits after myxomatosis, increased recreation use of the dunes, as well as loss of habitat to development over the last 60 years.

2.2.2 The importance of the dune communities also needs to be linked to the Island-wide commitments derived from the Jersey Island Biodiversity Strategy (2010). This identifies Les Blanches Banques dunes as the last remaining significant area of habitat of this type in Jersey supporting a large number of Red Data Book plant species and habitats of European significance. It also supports important reptile, bird and invertebrate populations in a Jersey context.

2.2.3 In order to fulfil Jersey's commitments under the Convention on Biological Diversity and the international obligations to which Jersey through the UK government is a signatory, there are commitments to conserve, manage and restore key habitats on the Island. In this context, the 1992 Habitats Directive Annex I categories are relevant:

Table 2 The Key Habitats on the Dunes

General Habitat Type	Annex I Type (Habitats Directive)	Normal Vegetation Types
Strandline	H1210 Annual vegetation of drift lines	Often the sea sandwort/sea rocket, spear-leaved orache/sea beat communities
Yellow dune	H2110 Embryonic shifting dunes	Sea lyme grass or sea couch communities
	H2120 Shifting dunes along shoreline with marram	Lyme grass or marram mobile dune communities
Dune grassland	H2130* Fixed dunes with herbaceous vegetation (grey dunes)	Various mixtures of red fescue/lady's bedstraw/marram, or sheep's fescue/common bent/thyme
Acid dry dune grassland	H2030* Fixed dunes with herbaceous vegetation (grey dunes)	Sand sedge or sand cat's-tail/thyme-leaved sandwort communities
Dune heath	H2150* Atlantic de-calcified fixed dunes	Heather/sand sedge/bell heather

* are priority habitats

2.2.4 The strandline vegetation is not well developed on Les Blanches Banques and is better represented further north along the St Ouens' coast. It is not considered to be present in enough cover to merit assessment on Les blanches Banques.

2.2.5 The yellow dune vegetation is represented on Les Blanches Banques more by the open sand/marram communities than any other. Lyme grass does not occur in Jersey (Le Sueur 1984). The yellow dunes occur both near the sea west of the road and on the higher slopes above the dune plain. These are represented by the open and closed marram swards as identified in the dunes vegetation mapping by PAA in 2005. This is not a priority habitat under the Habitats Directive.

2.2.6 The grey or fixed dunes are a priority habitat under the Directive. With reference to the Directive, these can be considered to include a wide variety of vegetation types – all the species-rich categories, the rose-dominated vegetation and the dune plain ranks grasslands. There are patches of the acid dry dune grassland on the site, although they have not been differentiated in the vegetation mapping. There are also areas with recognisable sand sedge/sheep's fescue and common bent vegetation and small patches where sand cat's-tail and thyme-leaved sandwort are present. These too have not been differentiated in the vegetation mapping.

2.2.7 Dune heath is very limited on Les Blanches Banques, but the small areas are still very important communities as evidenced by their being a priority habitat under the Habitats Directive. There are no dune slacks or dune scrub that fit the Habitats Directive types though.

2.2.8 This account highlights the importance of the grey dunes – all vegetation types, and dune heath as the priority habitats, but the supporting role at the European level that the yellow dunes also play. The scrub and other dune communities are important as part of the system in terms of the range of species and habitats, but of less note owing to the lack of distinctiveness.

2.2.9 The requirements for Annex I habitats for appropriate conservation are to ensure:

- stable or increasing cover within their natural range;
- existence and continuity for the foreseeable future of the specific structure and functions which are necessary for their long-term maintenance, and
- favourable status for the conservation status of their typical species.

2.2.10 Jersey States is committed to these Habitat Regulations requirements through their support of the Convention on Biological Diversity as set out in the Jersey Biodiversity Strategy. The overall goal given in this is *To conserve and enhance biological diversity in Jersey and to contribute towards the conservation of global biodiversity when appropriate.* The objectives derived from this commitment set out in the same Strategy are:

To conserve and where practicable to enhance:

- *The overall populations and natural ranges of native species and range of wildlife habitats and ecosystems;*
- *Internationally important species, habitats and ecosystems;*
- *Species, habitats and natural and managed ecosystems that are characteristic of local areas;*
- *The biodiversity of natural and semi-natural habitats where this has been diminished over recent past decades;*
- *Increase public awareness of, and involvement in, conserving biodiversity; and to contribute to the conservation of biodiversity on a European and global scale.*

2.2.11 These commitments serve to mould the conservation objectives for Les Blanches Banques. These should be:

- To maintain or restore and expand the grey dunes vegetation as the largest priority habitat on the site;
- To maintain and allow natural change that might expand the area of dune heathland as a priority habitat on the site;
- To ensure that open yellow dunes can develop and re-develop as part of the dynamic functionality of the dunes;
- To maintain or enhance the populations of the nationally rare or special species in Jersey on the site;
- To ensure that the whole sand-dune dynamics, functionality and system incorporating scrub habitats and other dune vegetation are maintained without loss of diversity and variety over time.

2.2.12 These conservation objectives need to be interpreted within the context of the functionality of sand dune systems. A degree of change is inherent in the vegetation and indeed, the yellow dunes would disappear over time without this. The key therefore is for the relative cover of each of the vegetation types to remain the same, or for the grey dunes to expand, but not necessarily in the same locations as this would stifle the dynamicism necessary for the conservation of the system.

2.3 The Habitats to Consider in the Monitoring

2.3.1 The species-rich vegetation of the grey dunes incorporates the first type (1) in the table above, but also the burnet rose-dominant vegetation and mixtures with most of the other vegetation types, including bare sand, but not woodland. The rank grassland would also be considered a

grey-dune vegetation type under the Habitats Directive, not differentiated from the shorter, more species-rich swards. Some of the rare species also occur in the rank grassland (most of the small hare's-ear, *Bupleurum baldense* for example). As far as the key objective is concerned, in the context of the Habitats Directive, it is the grey dunes as a whole that are the feature of importance, thus for this, the different vegetation types do not need to be separated.

2.3.2 Bracken tends to be dominant on the granite inland cliffs that are covered with sand, and these can be removed from the sand dune assessment as they are linked to the underlying granite with a thin sand cover rather than being a fundamental part of the dune system. However, bracken also invades other grassland types or is mixed with scrub or gorse on the dunes. Again, it is often mixed with species-rich grassland and is therefore relevant in these areas. Bracken is a natural component of these swards and should not really be regarded as a negative feature needing control since the environmental conditions provide this control on a cyclical but random basis (as in droughted conditions).

2.3.3 The heathland areas may be very limited, but heathland in a base-rich dune system represents the full suite of vegetation types reflecting the move from high pH nearer the sea to lower pH at the back of the dunes where leaching has reduced the alkalinity so far that acid-loving species can invade. The heathland is therefore a very important element reflecting the full range of vegetation types on the dunes but is usually mixed with species-rich dune vegetation as well.

2.3.4 The minute area of wet ground that is of genuine interest lies in a *Molinia* gully that lies on a small ephemeral stream that passes down from the golf course in the southern end of the dunes. This is not a dune habitat and should really be treated separately. This has supported a Jersey BAP species, marsh pennywort in the past, as well as orchids, but neither could be found in the last survey owing to the vigour of the *Molinia* and invasion by bracken. This could relate to water quality and quantity issues emanating from the golf course and needs investigation. This is the only true wet area on the dunes and important because of this as well as supporting Jersey specialities. It does need to be monitored, but perhaps not as part of the dunes protocol. The other wet area relates to the accumulation of water in Le Carrière car park where some rushes and other wetland plants have colonised. This is not a key component of the dune system but a lucky addition and does not need to be monitored.

2.3.5 Matching the important habitats listed in Table 1 to those in the remit shows that bracken, burnet rose, heathland, bare sand (that is often mixed with different vegetation types) and the minor wet areas are not included but need to be. The embryonic dune needs to be represented by the open marram vegetation, since the strandline vegetation and real embryonic dunes are largely absent on this site, and the white dune should be represented by the closed marram (although white dune is not really the appropriate term since much of the sand is covered in this community). Nevertheless, with marram still dominant, this suggests active sand accretion since it is in these conditions that marram grows most strongly.

2.3.6 The scrub habitats in the remit include both the gorse and other scrub species which have been separated in the vegetation mapping. Since both communities are related but different (in that the mixed scrub often seems to develop from the gorse patches), separating out these types is still useful, particularly since they have been already separated out for Les Landes.

2.3.7 This answers the first questions in the remit. The list provided needs to be augmented by those singled out above to complete the habitat types that need to be assessed to cover their importance open the dunes. The Molinia HMO needs to be prepared separately after another site visit since there is not enough information on this small area available to construct a proforma at this stage and it is not really dune vegetation.

2.4 Some Practical Considerations

2.4.1 In order to devise appropriate monitoring protocols, there are some practical issues that need to be highlighted as these will determine the approach to be taken.

2.4.2 The vegetation types listed in Table 1 all occur individually, but there are nearly equal amounts of land where two vegetation types provide a mixture in a patch. This may be scrub or bracken lying scattered within species-rich grassland, or the latter mixed with rank grassland in such a way that either the scale is too small to map separately or the vegetation too intimately integrated to be separable. This makes assessment against individual community types difficult. It will also be very difficult for a non-specialist not familiar with the details of the variation in communities or the species involved to be able to identify with confidence which community they are surveying. This means that it will not be possible to select patches of any of the individual community types in a representative way across the dunes, partly because of lack of specialist knowledge but also if only the unmixed communities are selected, this will omit nearly half of the dune vegetation which does not fit neatly into the objectives for any vegetation type. This observation will help determine the approach that needs to be taken on the dunes.

2.4.3 It needs to be noted that there are hundreds of patches of all the different vegetation types and that all cannot be sampled. In addition, any sampling would need the surveyor to be able to identify the vegetation type or the pedigree of its mixture in order to be able to pigeon-hole it for assessment. This could be difficult for those with little ecological knowledge.

2.4.4 The re-mapping exercise undertaken between 1994 and 2005 showed quite clearly that the dunes are very dynamic and that vegetation patches move around a great deal. For the open lichen-rich, species-rich grassland communities, for example there was a 35% loss of patches while for the more grassy and stable diverse grassland the amount more than doubled in just 11 years. Other vegetation types showed similar scales of change, both expanding and contracting and changing into mixed from pure or pure from mixed communities. This makes it impossible to identify a patch in one year and expect it to be the same in the following assessment year (perhaps six years later).

2.4.5 The fact that the dunes are dynamic is positive and reflects the need for sand movement on a modest scale to be an integral part of dune form and function. However, it also means that vegetation patches are not fixed and the assessment procedure has to recognise this.

2.4.6 A final issue for assessing the dunes is that there are a large number of species and not all are easy to identity, yet there are many special species rare in Jersey, or for which the dunes are an important habitat within the wider context.

2.4.7 On the other hand, HMOs have been developed for scrub, gorse and mixed woodland that can be used in their new form (presented as part of the review of existing HMOs) or with new protocols to implement (as part of the requirement for new HMOs) which would be equally relevant applied to the dunes as to other habitats. This leaves the marram dunes (open and closed), the species-rich grassland, the burnet rose dominated areas, the rank grassland and the dune heathland as vegetation types in need of special consideration within this project. The very small strip of *Molinia* will require its own HMO since it is a fixed patch.

2.4.8 A final requirement of the protocol being developed in this study is that it needs to be comparable with that undertaken in 2005. In that, following the JNCC protocol for condition assessments, the dunes were divided into three main areas or units: the dune plain, the high dunes and the area south of Le Carrière car park. W-walks were undertaken across each to encompass the site variation and forms completed for each unit which included very similar criteria to those being adopted in the HMOs except they were for the whole unit rather than individual vegetation types. In addition, botanical quadrats were recorded at regular intervals to provide quantitative data that, it was expected, could be re-recorded on future occasions for comparative purposes.

2.5 Conclusions

2.5.1 The outcome from these considerations are that:

- the key habitats to monitor are the grey dunes (all vegetation types), the dune heathland and the yellow dunes (marram vegetation), plus the *Molinia* strip;
- the scrub and mixed woodland HMO already produced should be able to be used on the dunes, so obviating the need for these to be re-written for this site;
- the key features to monitor are the area of the dune habitats in the first bullet point and their diversity in relation to the special species and overall diversity on the dunes. Maintaining or enhancing these are the overall objectives;
- the habitats concerned occur in many small patches and move around the system regularly, thus showing inherent instability which is desirable for the habitat but makes monitoring difficult;
- the range of species is large and many are difficult to identify by non-specialists.

2.5.2 These conclusions determine the nature of the HMOs devised. These are explained in the next section. An HMO has not been developed at this stage for the *Molinia* strip as this requires field assessment and is not a formal part of the dunes.

3 THE HABITAT CONDITION MONITORING OBJECTIVES

3.1 The Units

3.1.1 It is recommended that the dune system is divided into three main units as presented in the PAA 2005 report (see Figure 1). The main units consist of the Dune Plain unit which covers all the flatter area, plus the coastal yellow dunes west of the St Ouens Bay Road. The High Dunes unit covers all the grey and yellow dunes that spread eastwards and south to the foothills of the granite cliffs. The Southern Area lies south of the granite that outcrops between the two areas and contains mostly grey dunes, plus the *Molinia* strip. This unitisation breaks down the system into more manageable areas. Each can be recorded separately, but the overall condition assessment should amalgamate the output from all three. However, although the Escarpment was not formally included in this earlier assessment, it could be as it forms part of the SSI, but consists mostly of heath, scrub and bracken with some sandy heath and grey dune grassland where there is sufficient sand depth over the granite. There are already HMOs to cover these habitats, or the grey or yellow dune HMOs would be relevant.

3.1.2 The grey dunes are present in all three main units, but the dune heathland is only found at the east end of the Dune Plain unit. Yellow dunes are mostly in the High Plains unit, but also along the coast. Scrub is present in all three, but is more extensive in the Southern and High Plain units.

3.2 The Whole Site Objectives

3.2.1 There are a number of features that need to be monitored for the whole site to ensure the dunes as a whole are meeting their conservation objectives. A recording form has not been devised for this stage, but the criteria are:

- no net decrease in the extent of the dune system as designated as SSI – measured using aerial photographs and on site knowledge/survey;
- the zonation from the sea wall to the edges of the site inland should include:
  - yellow dunes, particularly near the coast and on the high dunes inland;
  - grey dunes with different vegetation types as listed above on them;
  - inland dune heathland;
  - scrub, mostly on north-facing slopes, but also in small patches scattered throughout the dunes;
  - small areas of woodland as shown on the map of the dune vegetation;
  - the small area of *Molinia*;
  - bracken on the slopes onto the granite cliffs.
- There should be no extensive damage from non-natural events such as wildfire; vehicle movements, trampling that alter the vegetation or the balance between the different vegetation types significantly;
- the area of diverse vegetation on the grey dunes should be stable or increase;
- the area of rank grassland should be stable or decline;
- the area of scrub and woodland should not increase at the expense of the grey or yellow dunes.

3.2.2 These criteria can be assessed during a walk-over survey of the dunes except the areas of each vegetation type. This is a key feature to monitor. The only way of achieving this and of comparing the results with previous assessments is to re-map the dune vegetation in the same way as it has in previous occasions and entering it onto GIS to be able to compare areas of each vegetation type. This also means that new, digital aerial photograph cover will be needed.

3.2.3 If there are no specialists to assist in this process, the vegetation classification could be simplified in order to ensure that the amount of the Habitats Directive vegetation types are covered, without the detail that has been collected in the past. This would mean the following categories could be employed:

- yellow dune – all forms of marram dominant or co-dominant where it is growing vigorously (30cms plus) and appears to be in good health, standing tall and not falling over. This combines vegetation types 4 and 5 in Table 1;
- grey dune vegetation – combining all the species-rich, burnet rose and rank grassland vegetation types: types 1, 3 and 7 in Table 1, plus any bare sand that is partly vegetated with these communities;
- dune heathland – any patches where bell heather or heather is abundant at least;
- all scrub (gorse and other species);
- woodland – defined as a canopy that the surveyor can walk beneath rather than the scrub which tends to be impenetrable;
- Bare sand – to show where blowouts were developing or being re-vegetated.

3.2.4 There could still be some habitat mixtures. Where the different habitats are intimately mixed or too small to map, mixtures would need to be labelled, but could be based on the basic habitat types listed above.

3.2.5 This mapping would provide information on the cover of the key and priority habitats, but would lose the detail on the different communities identified in previous surveys. This could also lose the measure of the dynamic relationships in the dunes as it is many of this sub-vegetation types that change from one to the other. The main feature that this mapping would lose is the relationship between the rank grassland and the more diverse types (and it is the latter that are more important). This is important since it indicates the need for active management to increase cover of the species-rich vegetation at the expense of the rank grassland. However, although rank grassland and species-rich version of the grey dunes are easy to separate at each end of the scale of variation, it is much more difficult where these meet in the middle of the continuum.

3.2.6 It is strongly recommended that professionals are employed to undertake the mapping, although it may be possible for local assistance to reduce the costs and to train the Jersey surveyors. This would provide the optimum amount of information to inform future management.

3.3 The Habitat Diversity

3.3.1 As well as the assessment of the whole site and the vegetation mapping to show changes in cover of the different communities, the richness and diversity of these communities and any damaging features cam still be monitored without the mapping exercise. The same principles and approach as set out in the HMO Review should be applied to the assessment on the dunes to ensure that the work is repeatable and comparable in future years.

3.3.2 Three HMOs are provided for completion in each unit as relevant. It is recommended that the unit is assessed using a W or multiple W walk. The HMOs developed depend on identifying habitat patches and assessing these against the criteria set. It is recommended that up to 20 patches each of grey dunes and of yellow dunes (where there are enough of these) in each of the units,

plus about 10 of the 15 patches of dune heathland are assessed. This will make summaries of the results realistic. The patch is defined by paths or changes into other vegetation types. Each patch selected should be shown on a good quality aerial photograph of the site with the unit boundaries shown. The 2005 vegetation mapping could be used for this as the polygons for each habitat patch were entered into the GIS for this exercise.

3.3.3 The 2005 data analysis provides an overall dafor scale for each species found in the sample patches recorded in each unit for comparison with new data. However, only grey dunes were sampled in the Plain and Southern Units and yellow dunes in the High Dunes unit, since these were the main vegetation types in each. Additional features are recorded across the whole unit within the vegetation type concerned.

3.3.4 If there are specialist botanists available, then the 2x2m quadrats could be re-taken where they were in 2005. Their locations are shown on Figure 1 and co-ordinates can be derived from the GIS layer for this map. This would provide direct comparison with the 2005 data and be more detailed, preferably to species level (as far as possible).

3.3.5 There follows a simple key to identify which habitat type the surveyor is in so that the correct HMO is completed. If 1a does not apply, go to 1b. Similarly, if 2a does not apply, go to 2b.

1a Marram co- or dominant, vigorous, growing upright – forming more than 50% of the vegetation (bare sand may be more than 50% cover of the patch) – use the yellow dune form.

1b Marram less than 50% cover, usually weak and falling over as ground stabilises, bare sand in small patches and fairly stable – go to 2.

2a Bell heather and or heather abundant, dominant or co-dominant in the patch – ie forms at least 30% of ground cover – use form for dune heathland.

2b Bell heather and heather absent or less than 30% cover in the patch – use grey dune form.

The Yellow Dunes HMO

3.3.6 The objective to maintain the area of yellow dune vegetation can only be gauged through the vegetation mapping. As the patches change from one assessment to the next, there will be a need to review where they appear so that not more species-rich grassland is lost than develops.

3.3.7 The limit of 90% of patches to be in good quality is based on the view that most will achieve this standard. There are not many negative factors affecting this vegetation type. However, this may need to be tested first.

3.3.8 The criteria for each patch are based on the growth form of marram and the need for it to be flowering strongly as a good indicator of sand accretion. This means that the assessment needs to be carried out when marram is on flower in early/mid summer. (This will also be a good time to assess some of the grey-dune grassland characteristics).

3.3.9 The 30-40% bare sand shown also needs to be tested and may need to be broader to accommodate more or less bare sand. Large areas of bare sand tend to be mapped separately, so the scale is in relation to individual marram clumps.

3.3.10 The species listed are those that were recorded in this vegetation type in 2005 and should still be present. They are the common and widespread species in general, but need some identification skills.

3.3.11 The negative features are generally the same for all the HMOs for the dunes.

The Grey Dunes HMO

3.3.12 Like the yellow dunes, the extent of the grey dunes can only be gauged through the vegetation mapping and use of aerial photographs over time. A high 90% lower limit for quality is adopted as this is a priority habitat. This needs to be tested as it also needs to be realistic in terms of what improvements can be achieved.

3.3.13 Some criteria have been provided that seek to separate the patches into those dominant or co-dominated by burnet rose, those which are species-rich without so, much rose and the rank dune grasslands. The idea is that this will help give some idea across the patches randomly selected for assessing what the proportion of each might be along the W routes. Emphasis will need to be made that the patch selection should be fairly random or this will not aid in this measure. The degree of representativeness can be gauged by the patch distribution and number on the vegetation maps. An alternative method would be to select the patches from the vegetation mapping before venturing on site and the results of the site assessment would reveal whether the patches are likely to be the same classification as in 2005 or not. This could some measure of change without re-mapping the whole dunes.

3.3.14 The HMO effectively combines the burnet rose, species-rich and rank grassland communities through asking for different numbers of the more common associates for each type. The burnet rose and species-rich grasslands can be equally rich – it is the rank grassland that tends to be more homogenous.

3.3.15 The assessment asks for location and abundance (or a spike/plant count) of the species of local distinctiveness. The following table lists the species of note that would need to be identified and located. This element may be better carried out by good botanists as some are difficult to determine or easy to overlook, and many need to be searched for at different times of the year. The aim is to make notes on where these are found – or to GPS main populations and to mark on the aerial photographs where they are found. There are additional species that are important within the Jersey context, either being protected, or being rare such as green-winged orchid, sea stock, early purple orchid, autumn lady's tresses, and some of the rare clovers which are much more difficult to identify accurately. These could be added to the list below if desired.

Table 3 Indicators of Local Distinctiveness

Scientific Name	English Name	Abundance in 2005	Status	Where Found
Armeria arenaria	Jersey thrift	lf	Absent from Britain	Dune plain and Southern unit
Bupleurum baldense	Small hare's ear	lo	RDB	Dune plain and Southern unit
Centaurea aspera	Rough star thistle	lf	Neophyte, rare in S. England	Dune plain
Corynephorus canescens	Grey hair grass	lo	RDB	All areas
Himantoglossum hircinum	Lizard orchid		RDB	High Plain near Le Carrière car park
Hypochaeris glabra	Smooth cat's ear	f	RDB	All units
Mibora minima	Early sand grass	lo	RDB	All units

Scientific Name	English Name	Abundance in 2005	Status	Where Found
Petrorhagia nanteuilii	Childing pink		RDB	Dune plain near paths
Poa infirma	Early meadow grass		Nationally Scarce	Dune plain
Polycarpon tetraphyllum	Four-leaved all-seed	r	RDB	various
Romulea columnae	Sand crocus	r	RDB	Dune plain
Scrophularia scorodonia	Balm-leaved figwort		Nationally scarce but neophyte	Scrub
Thesium humifusum	Bastard toadflax	r	Nationally scarce	Dune plain
Veronica officinalis	Heath speedwell		Rare in Jersey	Granite cliffs above Le Carrière car park
Viola kitaibeliana	Dwarf pansy		RDB	Grey dunes

Dune Heathland

3.3.16 This is fairly straight forward as it is obvious when a patch is dune heath owing to the presence of heather or bell heather (mostly) in the dune grassland vegetation. It can be labelled dune heath if the proportion of these heathland shrubs is over about 20% cover in the patch. Again the patches can move with time, but others should develop to take their place. A high quality threshold is set as most patches should meet this objective and the dune heath is a priority habitat. This needs to be tested in the field though. The accompanying dune grassland species are those most likely to be in fixed dune grassland rather than the open lichen-rich swards as the heathland is mostly mixed with more stable mature dune grassland. These species should be field tested and others added or removed if required.

3.3.17 The range of negative features is the same as for other habitat types.

Other Habitats

3.3.18 It is recommended that the W walks are designed to include filling in HMOs for the scrub and woodland at the same time to optimise time efficiency. It is suggested that about 20 patches of gorse and other scrub forms are completed, along with 5 or so for the woodland. This is the least important habitat on the dunes and only covers 0.045ha in 17 patches. Some of these are pine dominated with dune grassland amongst them, whilst others have a denser canopy.

3.3.19 With an HMO for the *Molinia* grassland strip, these HMOs would cover the whole of the dune habitats within the SSI.

4 REFERENCES

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FIGURE

33500 34000 34500 35000

67500

67000

66500

Scale: 1:6,000 @ A3

0 100 200 300 400 Metres

E

JTM (Jersey Transverse Mercator)
Projection: Transverse_Mercator
False_Easting: 40000.000000
False_Northing: 70000.000000
Central_Meridian: 357.865000
Scale_Factor: 1.000000
Latitude_Of_Origin: 0.000000

Legend

Units

- Dune Plain
- High Dune
- Southern Area
- Escarpment

Quadrat Locations

- Dune Plain, Qn
- High Dune, Qn
- Southern Area, Qn

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Consultant Ecologists

Title: Figure 1
Condition Assessment Units
& Quadrat Locations

Client: States of Jersey, Planning & Environment Department

Project: Les Blanches Banques Dune Vegetation Condition Assessment

Date: March 2006	Dwg: Figure 1
Author: CC	Rev: A
PAA Ref: G:\Jersey_Les_Landes_dune_vegetation_survey_2005\Maps\Figs	PAA Dwg:

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