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COUNTY LOUTH GOLF CLUB
ECOLOGICAL MANAGEMENT PLAN (2022-2027)

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1 Introduction

Background to commission

Oleo Ecology was engaged by County Louth Golf Club in February 2022 to prepare an Ecological Management Plan (EMP) to help inform and direct ongoing management of the out of play areas over the 18-hole facility at County Louth Golf Club, Baltray, County Louth. At present, the semi-natural habitats on the golf course are managed on an ad-hoc basis but County Louth Golf Club wish to undertake more targeted management going forward in order to improve the golf course for both biodiversity and golf. Management must also take into account the conservation objectives of the adjacent designated sites, the Boyne Coast and Estuary Special Area of Conservation (SAC) and Special Protection Area (SPA).

A Site walkover was undertaken over two days from 25-26 April 2022 in conjunction with Wayne Murray, Course Manager, to identify works including grassland management, scrub management, and sand scrape creation. Prescriptions for these works are detailed in this EMP.

This EMP is written to cover a five-year period of habitat management. The EMP represents the interest of the golf club, alongside necessary initial habitat management required to bring the golf course into a more favourable condition for nature conservation. It is recognised that this EMP is not an exhaustive management plan and will likely need to be reviewed and updated after five years.

Site description

County Louth Golf Club lies to the north of the River Boyne and is bordered to the east by the Irish Sea. To the north of the Site lies Seapoint Golf Links and to the west lies the small village of Baltray and arable fields. The golf course at County Louth supports a mosaic of coastal dune grassland of varying vegetation composition and pockets of gorse and hawthorn scrub. The western boundary of the Site supports hawthorn and scattered trees including Scot's pine and sycamore. The golf course is very open with undulating sand dunes of varying heights, becoming taller along the eastern boundary.

The Boyne Coast and Estuary Special Area of Conservation (SAC) and Special Protection Area (SPA) encompasses part of the golf course along the eastern boundary. The Boyne Coast and Estuary proposed Natural Heritage Area (pNHA) encompasses a larger proportion of the golf course, including holes 4, 5, 6, 7, 8, 12, 13, 14, 15 and parts of 2, 3, 9, 10 and 16. See Figure 1 which shows the location of the designated sites and proposed NHA.

The Boyne Coast and Estuary SAC is designated for its numerous internationally important habitats which are listed on Annex I of the E.U. Habitats Directive. The main interests of the SAC which directly affect the golf club include the fixed coastal dunes with herbaceous vegetation - the so called grey dunes which extend well into the body of the golf course. The grey dunes become more transitional inland as a result of human activities and also through natural processes. Towards the coast the dunes become less dominated by coarser grasses such as false oat-grass, cocksfoot and sand couch. The extent of fescue too reduces, leaving marram (*Ammophila arenaria*) and open sand to dominate. Figure 2 shows the sand dune habitats off-site (both qualifying and non-qualifying) mapped by NPWS.

The Boyne Coast and Estuary SPA is designated as it supports nationally important numbers of shelduck, golden plover, lapwing, knot, black-tailed godwit, redshank, turnstone, oystercatcher, grey plover and sanderling. The golf course itself provides important roosting and feeding habitat for wading birds including curlew which were well represented at the time of the April visit. Numbers of waders may increase given the management recommendations provided below, especially if areas of dune slack or seasonally wet grassland can be accommodated.



The proposed NHA is considered to be of significance for wildlife and habitats but as yet is not formally recognised and is afforded limited protection. Despite this, liaison with the National Parks and Wildlife Service (NPWS) will be required prior to implementation of this management plan due to the close proximity of the golf course to other formally designated sites.

Aims and objectives

This EMP has been prepared with the aim of directing ongoing management of the grasslands and other associated habitats, and to ensure that current and future conservation objectives for the site are both recognised and met.

The EMP seeks to ensure that the club addresses and meets their nature conservation objectives for the out of play areas. Specific emphasis will need to be given to reversing the effects of grass disposal and its nutrient enriching effects. In some areas, this will include scraping away vegetation to create bare sand scrapes if a more favourable conservation condition is to be met. The management prescriptions will also ensure that the golf course is more enjoyable for all golfers.

The club must work with statutory consultees (i.e. NPWS) towards restoring and/or maintaining favourable condition of the important habitats and the species of interest that exist on site.

Habitats

Favourable conservation status (favourable condition) of a habitat is achieved when:

- its natural range, and area it covers within that range, is stable or increasing
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable

With regard to the above, the site and its principal habitats are considered to be in good condition overall but a significant number of areas have been impacted over time as a result of anthropogenic disturbance or modification that has resulted in a decline in condition. The majority of this EMP aims to restore these areas through targeted management and ongoing monitoring to enable changes to management methods where necessary.

Prior to any works commencing it will be important to obtain consent for working within and/or adjacent to the internationally designated sites adjacent and partly encompassing the site. Liaising and developing a close working relationship with Louth County Council will also prove valuable so that all works fit with the county's local plan.

Species

Part of the EMP's objectives will also be to achieve favourable conservation status for wildlife.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

At species level, ground-nesting birds such as skylark and meadow pipit are present in good numbers. A breeding bird survey would be beneficial to determine exact numbers of breeding pairs over the site. This



should then be repeated after five years to re-evaluate population size prior to continuing. It is envisaged that there will be a marked increase as works project due to the increase in suitable grassland for nesting being made available and as a result of increased feeding areas achieved through scraping and allowing natural recolonisation over time.

During preparation of the EMP, botanical interests were more difficult to ascertain as the site walkover was undertaken in April, outside of the optimum season for botanical survey. It is therefore considered beneficial to also undertake a botanical survey across both spring and late summer. It again is envisaged that the EMP will result in a marked increase in plant species being recorded over a five year term given the management recommendations provided. Succession will be knocked back through scraping which will allow a greater diversity of early dune successional plants to establish. For example, one species that should benefit from the scrapes would be viper's bugloss. This is a locally rare species recorded within the Baltray dunes.

The EMP also includes recommendations for ecology enhancements by way of bird boxes for little owl and kestrel and habitat banks for sand martin, all of which may be accommodated given slightly more directed management.

All of the management work presented is geared to achieving the above over time. Works will need to be undertaken in a phased and ongoing manner (annually) to ensure minimal course disruption, avoid ecological impact and to not overburden available resources. It will also be important to time all works to avoid the nesting bird season (March to August, inclusive).

Structure of the EMP

This Ecological Management Plan is written hole-by-hole with each management prescription given a compartment ID (ie 1A, 1B and 1C) to ensure that the EMP is simple and workable, with the majority of the works to be undertaken by the in-house greenkeeping team. Each compartment is given a timescale and it is hoped that this method of planning will reduce the burden on available time and resources.

Figures 3a and 3b show the management compartments across the golf course and Section 4 provides an Action Plan which summarises the management prescriptions for each compartment.

Not all work can be undertaken over just one or two years, as such a five-year timescale for works has been provided. It is hoped that the works will not prove too overburdening for the greenkeeping team although some of the sand scrapes may require outside experienced contractors.

Monitoring and supervision will be ongoing, provided annually to ensure that the work undertaken is as specified, is being completed appropriately and at a level that will ensure long-term improvements.



2 Fringing Rough Establishment and Management

What is fringing rough?

The fringing rough is a band of transitional rough situated between the in-play semi rough and the offline unmanaged dune grasslands. It provides an important buffer which helps to reduce trampling disturbance to conserve flowering plants, ground-nesting bird and other fauna which inhabit grassland. Management of this band of grassland along each hole will help stop a rolling or bouncing ball before it enters the offline grassland, and it will offer due penalty to the slightly errant shot without resulting in a lost or unplayable shot.

Creating the fringing rough

The fringing rough should generally be managed to promote a more open sward that will encourage a greater range of flowering plants whilst maintaining more open grassland conditions. To achieve this, the continued collection of arisings will be essential and this must be undertaken following any management intervention.

To begin, define where a more open fringing rough can be practically created given the nature and topographical limitations that exist. Determine the width and stick to this when managing. At County Louth there is considerable scope to reduce the width of the fringing rough; noting that 4 m is the stated width in the Set Up Guidelines for The Open Championship. This should be no more than a guide, however, as the shaping of each hole together with known landing areas will influence the extent of the fringing rough retained. In general, it may be possible to reduce the extent of the fringing rough width through the second sections of the golf holes where a more straight shot played with an iron may prevail.

Managing the fringing rough

Manage the fringing rough annually by cutting and collecting during early autumn (September) only. Through coarser areas it may be necessary to continue a programme of intensive raking alongside the cutting programme. Raking or scarification will, if carried out with cutting, reduce the productivity of the sward and lead to further thinning.

Combine the above with sanding through any identified problem areas. Sanding is effective in further weakening and thinning the sward. It will also help to smooth the surface, effectively helping better contact with the machinery used.



3 Management Prescriptions

Hole 1

1A: A large area of amenity turf is present to the right of 1st tees supporting a few pockets of very poorly growing marram. These areas support excessive undesirable species such as creeping thistle and require management.



Amenity grade grassland to right of tees

Recommendations for management: Consider developing a large tract of native grassland rough by relaxing cutting and managing as fringing rough instead. Run this from the right-hand grassland and connect with the hollow to the right of the blue tees – **Year 1, ongoing.**

1B: A large area of grassland to the right of the 1st consisting largely of cocksfoot, false oat-grass and Yorkshire fog with increasing bracken. Several small hawthorns scattered throughout with bramble. Grass waste was noted within the grassland which it is understood has been a regular disposal site for a number of years.

Recommendations for management: Retain the first section of the grassland to the public right of way. After this, consider developing a large sand scrape running almost the length of the hole, ie to the cross-connecting ditch (200 yards). The scrape could be undertaken over time in stages on a three-to-five-year rotation, the object being to remove all coarse and rank grassland then reinstate open, bare, clean sand and allow this to regenerate naturally over time. Consider retaining no more than 6 m of the uncut, rank grassland rough.



Develop linear sand scrape running the length of the 1st hole to restore favourable conservation condition through the wider grassland



The outer section of the grassland supports ground-nesting bird interest. Bracken is increasing markedly through the middle section of this grassland which will dissuade ground-nesting birds. In undertaking the above, remove the unkempt bunds that surround the practice ground and that are clearly out of place within this otherwise important grassland landscape. The spoil from these mounds could be used as sub-fill for any ongoing golf course improvements. Remove and stockpile the soils on an ongoing basis within a more acceptable location.

1C: Similar conditions exist to the left of the hole. Bracken dominates the transitional false oat-grass/cockfoot grassland and fescue remains abundant within the sub-base.

Recommendations for management: The majority of this grassland should be retained with no more than annual monitoring to assess ongoing bracken and scrub spread. One area was identified to complement the sand scrape on the right side. This area is site c.100 yards from the green (left side) and just before the bund. Develop a large sand scrape running back to the tee by 35m and extend the scrape to almost the crest of the bund and back to the maintenance track. This will make the sand scrape very visible from the tee. Bare sand is an internationally important habitat type, identified as such within the EU Habitats Directive. It will provide golfing interest too in this position of the hole.

Grass clippings are an issue in this location and elsewhere over the course but it was encouraging to hear that the club are installing bespoke local collection bays to reduce this problem.



Develop a local sand scrape before the bund left side of the fairway, include the face of the bund to give visibility from the tee.



Grass clippings spread within wider rough through compartment 1C. This practice must cease.

A favourable condition objective for scrub within the grassland at 1C would be no more than 10%. The scrub is clearly important for reed bunting, which showed signs of probable nesting.

Hole 2

2A: The bund to the right of the white and green tees gives only partial separation between the 2nd tees and 1st green. The bund has been created using heavier soils and as such supports a lush and rank grassland cover.



Mound to right of white and green tees

Recommendations for management: Use the soil from this bund for ongoing course renovations, lower the height and reinstate a 0.7-1m cap of sand overall. Introduce marram sprigging with red fescue sown at a rate < 8g/m², to reinstate a more natural area. Extend the landscaping to the margin of the tee and create manageable conditions, cutting no more than 500-700mm only.

Grade the red fescue from 35g adjacent the tee to 20g, 15g and 10g on the mound. In addition and potentially outside of this management plan, it would be beneficial to develop a stronger open sand area to the southwest of the mound.

2B: Opportunity exists to strengthen a fringing rough element of the carry, particularly along the left side.



Reduce width of fringing rough fringing rough to 10-12m left of carry

Recommendations for management: Manage no more than the 2m cut rough, retaining 10 to 12m as annually topped fringing rough. Extend from the tee to the fairway, bringing this in at the point of the two irrigation boxes to connect with the existing fringing rough – Immediate and ongoing.



2C: A wide tract of fringing rough extends from the carry to the first bunkers. The grassland condition to the left of the 2nd is good to the first bunkers but after this, bracken continues through and towards the green, reducing the grassland condition to moderate.

Recommendations for management: Develop a stronger unmanaged rough to the left of hole from carry to first bunker. Develop a more convex shaping from the outer unmanaged rough to mirror the shaping of the fairway. Give consideration to extending the offline rough out and towards the fairway by 4-6m. This could be achieved given that the bracken has been controlled and the grassland is in good condition.

2D: Grassland condition on the right side is similar, consisting of tussocky false oat-grass, cocksfoot, sand couch and bracken. Part of the grassland supports overly lush conditions as a result of spoil introduction and possibly grass clippings and also supports locally frequent *Rosa* spp.

Recommendations for management: Consider developing a large V-shaped sand scrape, part of which will run back along the right of the 2nd and part along right of the 9th. Commence working from within the nutrient enriched zone and phase the work over time as labour and resources allow. The sand scrape will be visible from the elevated 2nd and 9th holes. More importantly, it will bring mobile dune conditions further inland whilst improving grassland condition. Develop shapes that are both fitted and natural and not contrived in appearance.



Area of grass clipping deposition – note lush conditions.



Extend the scrapes through 2nd hole to the maintenance track running right of the 2nd hole

2E: The grassland to the back of the 2nd green is of high conservation value. Red fescue and marram predominate, other forbs include wild carrot, field woodrush, dandelion, ribwort plantain, common dog violet, to mention just a few of what will be present within the optimal flowering period. The topography is undulating, bare sand is evident as local ridges cut into the steeper mounds caused as a result of trampling, mammal excavations and dry weather conditions.



Fragmented grassland to back of 2nd green

A steep slope on the dunes to the back-left of the green would benefit from similar fragmented scraping to reduce nutrient enrichment that has arisen through grass dumping and possibly irrigation drift.



Consider sand scrape to back-left of green to reduce rank grass arising through grass clipping disposal

Recommendations for management: Consider developing a sand scape to the back-left of the green to reinstate open sand conditions and to reduce the nutrient enrichment that has occurred over time as a result of grass clipping disposal.



Hole 3



General view of 3rd hole – note wide grassland between 3rd and 8th holes

3A: Even though the fringing rough would normally constitute a relatively narrow band, that being managed to the left of the 3rd carry is entirely appropriate. It fits with the wider dunes and it naturally forms a flatter section of the course running southwest back to the clubhouse. The mounding running back and over the returning holes are more unnatural in what is an otherwise relatively flatter part of the course.

Recommendations for management: The mounding left of the hole through to the dunes is considered unnecessary. The grassland, with ongoing management, will provide excellent wildflower interest. Ongoing cutting, scarifying and raking work is required in late summer to create gaps within the base of the sward to encourage botanical diversity further – Annual and ongoing.

3B: A hollow to the front-left of the tee supports a fairly coarse, rank grassland and will benefit from scraping to reinstate this as a feature.

Recommendations for management: Scrape to develop a clean, open sand banking on the southeast side and through the base – Year 3.

3C: The grassland separating the 3rd and 11th holes consists almost entirely of a fringing-type rough that will be cut annually to maintain its flowering condition. No unmanaged native rough exists.

A number of the cross-connecting mounds running between the holes limit management. These should be considered within the architectural review.

3D: Left of the 150 yard marker there is an artificial bund which is incongruous with this area, likely constructed by the golf club at some point. The grassland thereafter is dominated by ivy, bramble and bracken with a few individual hawthorn.

Recommendations for management: Consider removing the bund in its entirety and scraping back the dune to a clean sand running a minimum of two-thirds up the face. Botanical interest here is relatively low as a result of the bracken, ivy and other coarse vegetation.



Develop a visible sand scrape to the left of the fairway whilst removing the incongruous bund

3E: A similar area that would benefit from scraping is present to the left of the 100 yard marker point.

Recommendations for management: Develop a scrape from 2m off the playing line to a minimum of one-third up the dune banking. This would remove all of the amenity grassland running into the dune and would also remove the bracken that is dominant through the lower two-thirds of the mound. Retain the upper one-third without intervention, this area supports reduced bracken and a high incidence of marram. The scrape could run through to the trackway, ie the narrowing section of the fairway, by 12m in length and c. 10m width. This would improve the condition of the retained coastal dune grassland – Year 2.



Develop and extend scrape to narrowing section of fairway

3F: To the left of the green, a section of rank grassland is present. Bracken is dominant through and towards the 4th tee. The bank of the 4th tee also supports rank grassland.



Recommendations for management: Develop a large scrape running over 30m x 10m to remove the rank mesotrophic grass cover and bracken.

Consideration will need to be given immediately offline to managing a mowable surface which would link well with the sand scrape. Given the high traffic in this area, any scrape would need to be feathered back and towards the playing line so as not to leave any lip that may capture and hold golf balls – Year 3.

Hole 4

4A: A large area of south-facing dunes are present left of the forward tees. This area has become overly dominated by bracken. Management of the bracken is difficult given the steep slopes of the dunes.

Recommendations for management: Consider developing a large south-facing scrape running at least two-thirds up the dune mounds and through the entire section of the dune base – Year 4.



Develop significant dune scrape front-left of tees

4B: The 4th plays into the wider dunescape. The grasslands to both the left and right are generally free of invading bracken and the dunes are undulating, supporting both geomorphological and ecological interests.

Marram dominates throughout with an underlying sub-base of red fescue and these dunes are likely to support good botanical interest. At the time of the site visit, skylark were prolific through these dunes.

Recommendations for management: Monitor three yearly for scrub encroachment only – Ongoing.

Hole 5

5A: The grassland to the back-left of the championship tees is of ecological importance. A large sand scrape cut out many years ago still remains and this is providing good habitat for rabbits, which in turn are helping to keep the vegetation relatively open. The surrounding grassland supports an abundance of bracken and this in time will compromise the conservation value unless managed.

Recommendations for management: Work to reduce the extent of bracken on an ongoing and phased basis. Spot treat annually as can be accommodated to reduce the extent of bracken and in turn reduce competition on the underlying grassland. Commence Year 1 to Year 5, monitor annually.



Rabbit managed coastal grassland to back-left of championship tees – note increasing bracken

Hole 6

6A: The right of the carry is becoming increasingly dominated by bracken which could be improved by scraping.

Recommendations for management: Work with NPWS to create a long scrape over 35m length and increasing width (to 25m) to remove the bracken and reinstate underlying sand conditions for natural regeneration.



Area of possible sand scrape right of 6th carry



Create a large natural triangle-shaped scrape encompassing the corner of the grassland supporting the majority of bracken. Retain the eastern section of this patch working to contain all remaining bracken with the use of Asulox (in accordance with the label and manufacturers instructions). This has proved very successful over a number of areas of the golf course and this could be continued here. Commence Year 3 following consent.

6B: After the first drive bunker, the grassland to both the left and right sides of the 6th hole run over a considerable distance to the unmanaged rough.

Recommendations for management: Reduce the extent of fringing rough to no more than 10m. The wider offline grassland should be left without further management intervention. It will be necessary to periodically control bracken reinvasion. A number of new fronds were evident at the time of our visit and Asulox could be used on a spot basis annually to contain and control new growth.

Bracken bruising (bashing) could also be adopted through this section of the grassland. A utility vehicle would perhaps be sufficient to break the stems without cutting and this in turn will result in a gradual reduction in bracken growth – Annual and ongoing.

Hole 7

The 7th, playing back in a southwest orientation to an elevated green position, is bordered both sides by undulating low-level dunes and marram/red fescue grassland. The grasslands are of significant ecological value for both botany and conservation. No management intervention was deemed necessary through the 7th hole.

Hole 8



Bund to right of general tees

8A: The bund to the right of the general tees supports poor quality grassland that is difficult to manage.

Recommendations for management: Consider removing the bund in its entirety. This will provide fill for oncourse project work going forward. The area could then be scraped down to the base of the hollow and if necessary the sand capped, all to help natural reinstatement. It would be possible to extend the scrape



slightly further out into the hollow to acquire native dune grassland turf for reinstatement along the margin. This would open up local pockets of fragmented sand within the hollow – Year 5.

8B: A large area to the left of the tees has historically been used for organic spoil deposition. This area has become heavily nutrient enriched. The dune slopes support abundant bracken. Opportunity exists to reinstate this area.

Recommendations for management: Move all spoil in this area to a more acceptable location, ideally within the maintenance sheds for composting. Scrape back the entire area to a clean underlying sand and allow to recover naturally over time. The area must be scraped to a clean sand layer so that any remaining nutrients can be readily flushed through.



Large organic waste spoil extreme left side of 8th tees

Some of the spoil may be used for golf course renovation works and the remainder should be moved to the maintenance complex.

Hole 9

9A: The grassland to the left of the 9th carry is of significance for ground-nesting birds, although a number of trackways transect this area to wider detriment of the grassland.

Recommendations for management: The grassland should be left without any management intervention although consideration should be given to closing the paths to both members and greenstaff. In the first instance, this could be undertaken by roping and cordoning and by briefing maintenance staff. Signage may help golfers understand the need for cordoning. The paths themselves could be improved by repeated raking to stimulate grass growth together with verti-draining and the possible use of a wetting agent to promote root growth and recovery.

9B: A very wide fringing rough runs the length of the right-hand side of the 9th hole. Opportunities exist to develop a nominal 4m of offline unmanaged rough simply to screen the maintenance track from the tees.

Recommendations for management: Allow a nominal 4m tract of the fringing rough to grow as unmanaged grassland simply to screen the maintenance track from view.



Looking back through fringing rough right side of 9th hole

9C: The gorse to the right of the 9th is degenerate and the area of grassland beneath is heavily nutrient enriched where grass clippings have been deposited.



Stand of gorse right of the hole

Recommendations for management: Given the degree of degeneration and the possibility of gorse not re-establishing, consider coppicing to 300mm above ground level and scraping around the base of the trees to expose the seed bank. Use an extended flame gun to burn and chit the seed to encourage new growth. Continue in a phased and ongoing manner, coppicing and working in one of three areas on any one occasion. Repeat through the different sections only when reasonable regrowth has been achieved.

9D: A tract of bracken dominated grassland running back to the right of the 1st hole, much of which was considered under Hole 1 above.



Recommendations for management: The scrape could run from the bund just after the gorse running west and back towards the gorse at least to the right side of the dump areas. This would mirror with the scrapes recommended under Hole 1 and would also significantly improve the grassland for conservation interest. Daffodil, bracken, bramble and hawthorn are all present. Overall botanical interest is low at present.



Develop a continuation of the scrape identified under 1st hole

Hole 10

10A: A degenerate area of poor botanical interest is present to the back of the blue tees/left of the white championship tees. This area has been used over a considerable period of time for grass clipping disposal.

Recommendations for management: The whole area requires scraping back to a clean underlying sand to remove the nutrient content. Any retained nutrients within the open sand will readily flush through given adequate rainfall. Spoil should be removed and appropriately disposed of by way of composting as discussed on site. Work from the back to left of the tees over a 25-30m distance with the objective of removing the regenerating bramble. This would effectively link with the bund identified above. Total width = 18-20m. Year 2.



Nutrient enriched grassland to back of 10th tees

10B: The grassland left of the forward tee has been scraped in a first attempt at improving grassland condition.

Recommendations for management: Extend the scrape further towards the tee to incorporate more of the rank grassland and southwest to incorporate more of the abundant bracken. Whilst undertaking this work, cut into the planted marram to ensure removal of all rank and unwanted grassland vegetation – Year 1.

10C: The grassland running from the start of the fairway over c. 150m to before the raised mounds supports relatively low botanical interest. Its condition overall is diminished given the extent of regenerating bracken and bramble through the centre of the grassland.

Recommendations for management: Develop a long and linear scrape to 18m width, cutting out in a variable but informal and natural manner, all to reduce the overall nutrient loading that has built up over time and in so doing improve opportunities for natural regeneration. Year 1.



Opportunities for a linear grassland scrape left of 10th hole that would be visible from the clubhouse

Hole 11



General view of 11th hole – note local sand scape immediately in front of tee

The creation of a smaller sand scape here gives an insight into what could be achieved elsewhere. The scrape looks very fitted, adding further interest within the fixed dune grassland.

11A: The grassland left of the tees has largely lost its coastal interest, particularly through the centre. Bracken is heavily dominant and a number of acute bumps are represented.

Recommendations for management: Opportunity exists to develop a scrape from the back of the tees running left (west-southwest) of the path over c. 30m to the smaller scrape situated front-left of the green tee. Again, a very natural shaping will need to be introduced here as it will be visible – Year 5.



Develop a scrape to the right of the tees

11B: To improve nature conservation interests and grassland condition, consider creating a further local sand scrape from the cross-connecting maintenance track southwest side of the bund running over 40m through to the second grouping of bramble. This scrape could support a maximum 25m width, reducing with its length – Year 4.



Develop scrape left of carry southwest of bund

11C: A second scrape should be considered to the northeast side of the bund to complement the above. This would run over 50m and incorporate the waste dump. This scrape would be guided by the maintenance track that runs through to the 9th green – Year 4.



Develop second scrape to the northeast side of the bund running through and incorporating waste dump area

Again, overall grassland condition is very poor. Sand couch is dominant with false oat-grass. Botanical composition is low and the area supports a large dump site extending over 25m diameter. Bramble extends around the periphery and is spreading.

11D: The grassland through to the green is of similar condition. Some better areas supporting knapweed were noted but bracken tends to remain dominant throughout. Occasional bramble is also represented. This area supports overall poor to moderate conservation value.

Recommendations for management: It is essential that grass clippings are not deposited within this or any other grassland from hereon. To improve the nature conservation value of this grassland, consider cutting, collecting litter and scarifying on a repeating three-year rotation to retain and slightly improve grassland condition. Ensure the work is completed by end of September (autumn treatment only) – Ongoing, Years 1 and 3.

11E: An area of rank grassland is present to the back and left of the 11th tees. This whole area would benefit from management.

Recommendations for management: Cease depositing grass clippings at the back of the tee with immediate effect. Continue work from late August to early spring each year to cut and scarify the grassland followed by removing all arisings and applying a heavy sand topdressing. The sand applied should be sufficient to smother the grass sward. Over time, repeated sand topdressing will remove the coarse grasses in favour of species such as fescue which is much more tolerant of this environment – Annual and ongoing.

Hole 12

The grasslands through the 12th hole are significant in terms of their botanical and ecological interests. The more open nature of the dunes, which are generally south-facing, allow lichen, moss and smaller subordinate plant species such as dune pansy to establish.



Dune pansy common through the dunes on the 12th hole

12A: A large area of flat ground between the dunes (left of 12th) has historically been used by the golf club for a range of different functions – it has for example been a turf nursery – but now in part accommodates the dumping of organic waste.

The area used for turf lifting supports high botanical interest due to its open structure, having been left bare to recolonise naturally. Some areas have been sprigged with marram and the more open sections of these areas support similar botanical diversity.

Recommendations for management: It will be necessary to cease dumping with immediate effect and all existing spoil should be collected and moved for composting to an agreed location within the maintenance complex. The areas used for dumping support a much higher nutrient loading and these areas will need to be stripped back to a clean underlying sand. Allow these areas to recover to naturally recolonise with early successional plants. Further scope exists, with consent, to continue lifting the existing turf which, like the open sand areas, is of high botanical interest. This could be used to reinstate areas out of immediate play. This will help conserve the turf and allow the underlying seed bank to re-establish, as is proven on site. Other golf clubs, such as Saunton in Devon which lies entirely within an SAC and SSSI, successfully continue to grow botanically rich rough turf within areas that are similar to the one left of the 12th hole at County Louth.

The development of the former turf nursery has resulted in soils being removed and stockpiled as bunds and these support coarser, more rank grassland vegetation. It is recommended that these are gradually removed as spoil is required on the golf course for future and ongoing reparation or renovation work. As the bunds are removed, it will be essential that a clean open sand from surface to depth is reinstated.



Botanically rich turf nursery and one of the spoil areas – note the nutrient enrichment



Nutrient enriched bund – a result of soil scraping to procure the turf nursery

Just west of the identified bund, a large area of uneven improved ground was noted (extending over 40m x 30m). This area is nutrient enriched and highly productive, no doubt a result of soil dumping in the past. One open sand area supported common lizard and plant diversity was notably diverse. It is recommended that this area outwith the existing areas of open sand is scraped back to a clean sand, the soils could be used in construction or stockpiled within the maintenance facility for future use.

A section of the tall southeast-facing dune on the west side of this area has formerly been used for sand extraction. Marram has recolonised and is generally quite dense. It would be of benefit to develop a lower vertical sand face for sand martin which are common on the course and which find difficulty in breeding sites annually.



Develop lower section vertical sand face for sand martin which are common on the course during the summer months

Create a vertical face through the lower one-third only, retaining the upper two-thirds to maintain stability. This will connect directly to the open sand scrape created following removal of the nutrient enriched soils. The vertical face will provide vital habitat for these rare birds that are increasingly struggling to find appropriate habitat for breeding. A “do nothing” option within this area will lead to ongoing further decline in dune grassland condition.

Sections of the south-facing dune also support little owl. They have been seen by the greenstaff on occasion at the entrance of disused rabbit holes.

Recommendations for management: Consider introducing a few terracotta or similar pipes that may be spare within the maintenance yard. These could be between 100mm and 150mm diameter and 80cm length, which could be inserted into the dunes at a slight angle to prevent rainwater entering them. This type of work has proved very successful in Scotland at Machrihanish Dunes where similar boxes inserted into the dunes have accommodated wheatear.



Hole 13



General view of 13th hole

13A: Rank grass immediately in front of the championship tees is as a result of past irrigation issues.

Recommendations for management: Implement a programme of repeated cutting/strimming followed by raking to remove all arisings and apply heavy sand topdressings on at least three occasions per annum with sufficient sand applied to smother the majority of the vegetation. A light brush would be valuable in exposing some of the sward to maintain weak growth – Year 1 and ongoing.



Nutrient enriched grassland on downward slope of elevated tee

13B: The tall dunes right of the hole extend by over 30m to the coastline. The dunes give resilience to coastal processes and whilst it may be thought that the dunes are eroding due to the sheer cliff face on the coastal side, sand does tend to accrete and is subsequently lost on a regular basis such as the ebb and flow of the coastline. However, any erosion here seems to be slight with no significant immediate threat to the course.



Recommendations for management: No immediate management required.

13C: The back-right side of the green is nutrient enriched. This area has developed as a result of irrigation use in the past as per 13A.



Nutrient enriched section of the backdrop to 13th green and close-up of nutrient enriched improved grassland

Recommendations for management: Implement an ongoing programme of cutting, litter removal and heavy sand topdressing – Ongoing and annual.

Hole 14



General view through 14th hole

The 14th is surrounded by a continuation of the taller and moderate height dunes. Gorse is prominent within the dunes immediately right of the forward tees but it remains sporadic and fragmented, at little detriment to the coastal dune grassland.

No management requirements above those already carried out have been highlighted through the 14th hole.



Hole 15



General view of 15th hole

15A: A sand scrape in front of the tee is visible whilst playing this hole. A small bund has been constructed around the scrape which could be removed along with the small island of vegetation. Going forward, aim to create additional scrapes, taking influence from the topography. It is important that the scrapes look natural. Whilst vertical faces will be important for mining bees, invertebrates and possibly common lizard, they should be avoided where golf balls are likely to be captured.

Hole 16

16A: The grassland to the right of the forward tee is enriched and would benefit from similar management to that identified under 13A above.



Grassland hollow to right of forward tee

16B: A sand scrape has been created between the walkways and this could be further expanded towards the forward tee.

Recommendations for management: Continue to develop a larger and more visible sand scrape, reducing the bund around the margin – Year 4.



Extend hollow eastwards towards forward tee and reduce bund

16C: A second scrape is present left of the walkway in front of the 16th winter tee.

Recommendations for management: Extend the scrape towards the driving range by a further 18-20m, ensuring the bund by the walkway is also reduced. Whilst removing the remaining section of vegetation, work to create low undulations through the surface to give interest – Year 1.



Consideration will need to be given to retaining a tongue of vegetation through the centre of the scrape to maintain the position of the newly installed irrigation box.

The sand extracted from the above could be utilised to the back of the driving range where a spoil heap is currently present. This would benefit from being pulled together into a low sub-base for new dunes. Raise the new dunes to >1m at intervals along the width of the driving range, extending to <8m. Use the sand extracted from 16C to cap the dunes, ensuring 1m minimum cap over the entire area. Ensure an undulating dune is created, possibly raised to the right and left and lower through the centre which will give a view of the backdrop of the taller dunes.

Retain the wood within the dune base as a hibernaculum (see Appendix 1), but the plastic reinforcement sheets will need to be moved to the maintenance complex for disposal.



Large former waste and spoil heap back of driving range

16D: This large area between holes is heavily dominated by bracken. A few individual hawthorns are present and bramble is also occasional. The area is of moderate bird interest, providing nesting for reed bunting at the time of the site walkover.



Large area of scrub and bracken to left of 16th approach

Recommendations for management: This area could be used, at least in part, as a natural sand scrape or a sand win area but any scraping would need to be through the lower section only, around and not through the bramble. Retain the more discrete groupings of bramble for bird, invertebrate and reptile interest.

Follow the lower reaches of the hollow only and create a natural, informal and irregular shape which is fitted to the margin of the bramble. Prior to commencing, it will be necessary to assess the sand quality and depth as well as the groundwater. Any sand removal may create dune slack conditions which would be of biodiversity value. Work would need to continue to contain bramble encroachment once the scrape or slack has been established. Year 5.

Hole 17



General view of 17th hole



The 17th, playing back in a westerly orientation, takes on a very different character. The hole becomes more dominated by scrub, particularly the right side, but this gives good separation and interest between the two managed holes. Bramble is dominant with individual low-growing hawthorn, and gorse is also well represented around the boundary and right of the carry.

The grassland through the right side of the 17th carry is becoming increasingly transitional to mesotrophic and sections to the left of the green have become improved. Scrub, including gorse, hawthorn and bramble, is encroaching. As a result, much of the dune grassland characteristics has been lost with the exception of sand couch which remains dominant through the slightly more elevated ground, particularly around the tees.

Minimal management is required through the 17th hole beyond existing methods. It will be necessary to monitor scrub invasion, particularly along the right side where bramble should be contained in discrete groupings and any further adventitious growth should be removed.

The gorse around the margin is in reasonable condition. Management could be provided but this will need to be on an ad-hoc basis, taking no more than 20% of stems from any discrete grouping at any one time. Coppice individual limbs to c. 200mm above ground and allow to regenerate. Over time and as each stand regrows, it will be possible to scrape around the margin to remove nutrient enrichment and allow new gorse plants to establish from seed.

Gorse is important for nesting birds and invertebrates. Linnet was noted which is a red listed bird species of conservation concern and is clearly benefitting from the discrete patches of gorse.

West of the lower pitching area



Grassland to the west of the lower pitching green – given the low-lying nature of the terrain this area may be considered as potential dune slack

A large section of bracken dominated, false oat-grass and cocksfoot grassland west of the green is transitional, becoming increasingly mesotrophic and supporting low botanical diversity.

Recommendations for management: Consideration could be given to excavating this entire area to form one large sand scrape. Scraping would need to follow the contours of the dunes and would need to be monitored annually for scrub encroachment.



Possibility exists to extend this scrape back in a southwest orientation to the young willow which would incorporate the improved grassland section. The presence of willow suggests near surface groundwater and it is therefore recommended that a dipwell is installed prior to works commencing to ascertain summer and winter water table levels. The sand scrape could extend down and into the winter water table if conducive to create seasonally wet conditions that would create a dune slack habitat – Year 3.

Hole 18

18A: The 18th hole could be improved if the outer margin of the hole (right side) could be developed in a more convex manner to marry with the fairway, which itself assumes a slightly convex profile.

Recommendations for management: The above could be achieved by allowing a more unmanaged rough to develop, extending this out from the boundary by 10-12m at the widest point, fading back by the right-hand mounding adjacent the fairway bunker to around 5m only. A second swathe of unmanaged rough could then continue from the mounding through to the green in a similar convex manner. This would add interest and shape, and allow for a more attractive delineation of the hole right side. This would also extend the area of unmanaged grassland for small mammals and invertebrates.

Note: Whilst not an ecological concern, it would be worthwhile discussing the positioning of the first fairway bunker situated in the centre of the fairway with the retained golf course architect and how this could be linked with the left-hand rough to bring a fringing rough around the back of the bunker and gradually fading back and towards the existing line. See map for indicative rough positioning.

18B: The area to the back of the 18th green consists of an over-fixed grassland supporting a predominance of red fescue, forming a tussocky sub-base. Both cocksfoot and false oat-grass are also heavily represented, creating optimal habitat for arachnids, other invertebrates and small mammals. Such grasslands are also of value to ground-nesting birds, even if relatively low in botanical interest. Species present within the grassland include germander speedwell, red clover, curled dock, ribwort plantain and occasional hawthorn.

Recommendations for management: Retain without further intervention.

Walkway to clubhouse

Scope exists to develop a hawthorn hedge along the boundary between the walkway and the driving range. This would screen the post and wire fence and create vital bird nesting habitat. A double-spaced hedge of five trees per metre would cost no more than £200-300.

Recommendations for management: Turf strip along the fence and reinstate the turves upside down and notch plant hawthorn purchased as 1+1 45-60cm bare-rooted plants in a double row at 30-45cm along and between rows (five trees per metre). Protect the new hedge with a post and chicken wire fence. Ensure that all trees are root dipped into a mycorrhizal root dip suspension prior to planting to assist early establishment.

Mulch around the bases of new trees as necessary through the first year of establishment.



Opportunity to develop a wide hawthorn hedgerow



4 Action Plan

Compartment	Action Summary	Year				
		1	2	3	4	5
1A	Develop fringing rough.	■				
1B	Develop a sand scrape and remove bunds.	■	■			
1C	Develop a sand scrape.	■				
2A	Lower bund and cap with 1 m sand. Re-seed.	■				
2B	Develop fringing rough.	■				
2C	Develop fringing rough.	■				
2D	Develop a large V-shaped sand scrape.		■			
2E	Develop a sand scrape.			■		
3A	Cut, scarify and rake in late summer.	■	■	■	■	■
3B	Develop a sand scrape.			■		
3C	Consider re-design of pathways.	■				
3D	Remove the bund and develop a scape.			■		
3E	Develop a scrape.		■			
3F	Develop a scrape.			■		
4A	Develop a scrape.				■	
4B	Monitor scrub.	■	■	■	■	■
5A	Reduce bracken via spot treatment.	■	■	■	■	■
6A	Develop a scrape.			■		
6B	Reduce fringing rough and manage bracken.	■	■	■	■	■
8A	Remove bund and develop a scrape.					■
8B	Move spoil and develop a scrape.	■				
9A	Cease grassland management and reduce number of paths.	■				



9B	Cease management through 4 m of rough to screen maintenance track.				
9C	Coppice to 300 mm above ground level and scrape to expose seed bank. Chit seed with a flame gun. Work through 1/3 gorse stand per annum.				
9D	Extend scrape.				
10A	Develop a scrape and remove all spoil.				
10B	Extend the scrape.				
10C	Develop a scrape.				
11A	Develop a scrape.				
11B	Develop a scrape.				
11C	Develop a scrape.				
11D	Cut, collect and scarify.				
11E	Cut, collect and scarify. Follow by heavy sand topdressing.				
12A	See main report for series of recommendations.				
13A	Cut, collect and sand topdress.				
13B	No management intervention.				
13C	Cut, collect and sand topdress.				
15A	Develop additional scrapes.				
16A	Cut, collect and sand topdress.				
16B	Develop a larger scrape.				
16C	Extend the scrape. Use sand to soften driving range spoil. Build a hibernaculum.				
16D	Develop a scrape/dune slack.				
17	Manage 20% gorse per annum.				
West of the lower pitching area	Develop a scrape/dune slack.				



18A	Cease managing part of the rough.				
18B	No management intervention.				
Walkway to clubhouse	Develop a hawthorn hedgerow.				



Figures



Key

- Boyne Coast and Estuary pNHA
- Boyne Coast and Estuary SAC
- Boyne Coast and Estuary SPA



PROJECT NUMBER: OE22-120

PROJECT TITLE
COUNTY LOUTH GOLF CLUB

DRAWING TITLE
Figure 1: Designated Sites Location Plan

DATE: 13/05/2022	CHECKED: RST	SCALE: 1:10,000
DRAWN: SO	APPROVED: RST	VERSION: 1.0

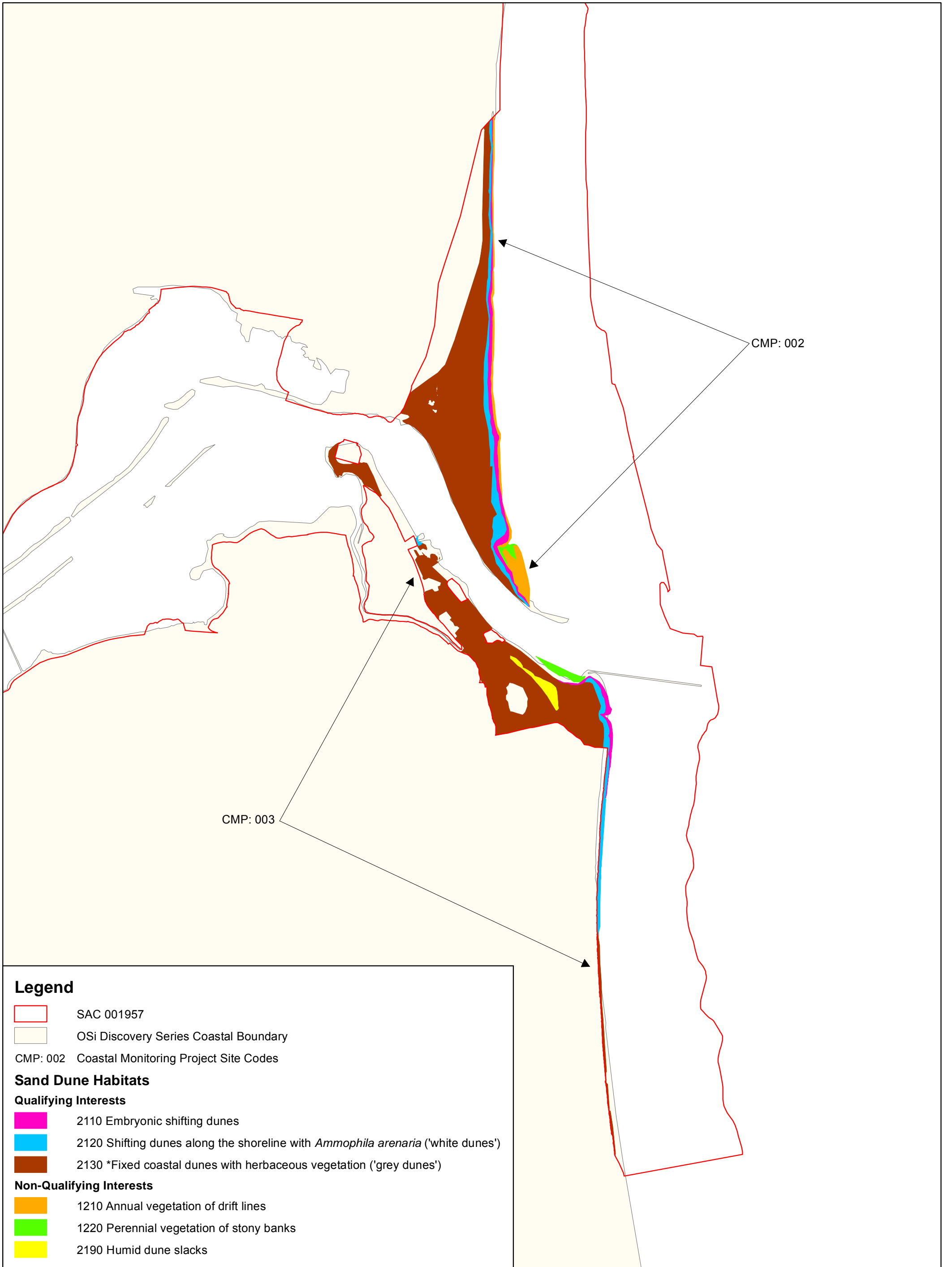
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Sources: Oleo Ecology survey data



Legend

- SAC 001957
- OSi Discovery Series Coastal Boundary
- CMP: 002 Coastal Monitoring Project Site Codes

Sand Dune Habitats

Qualifying Interests


- 2110 Embryonic shifting dunes
- 2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes')
- 2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')

Non-Qualifying Interests

- 1210 Annual vegetation of drift lines
- 1220 Perennial vegetation of stony banks
- 2190 Humid dune slacks



Key

 Management Compartments





PROJECT NUMBER: OE22-120

PROJECT TITLE
 COUNTY LOUTH GOLF CLUB

DRAWING TITLE
 Figure 3a: Ecological Management Plan

DATE: 13/05/2022 CHECKED: RST SCALE: 1:5,000
 DRAWN: SO APPROVED: RST VERSION: 1.0

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Key

 Management Compartments





PROJECT NUMBER: OE22-120

PROJECT TITLE
COUNTY LOUTH GOLF CLUB

DRAWING TITLE
Figure 3b: Ecological Management Plan

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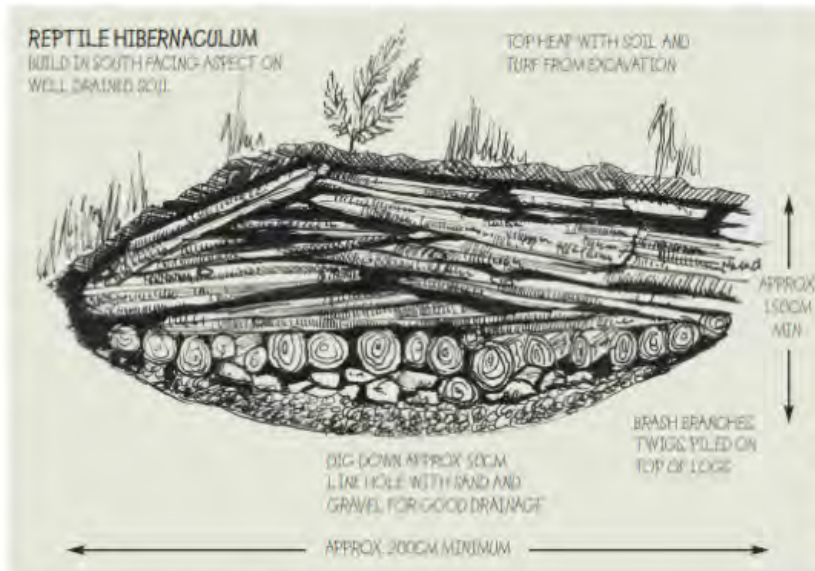
Sources: Oleo Ecology survey data



Appendix 1: Hibernacula Instructions

6.2. Hibernacula

Artificial hibernacula can be created. Site selection is essential for the success of this, and the hibernaculum should preferably be situated on a south-facing site with well-drained soil.



(Image copyright Nigel Hand)

reptiles to enter and exit the finished hibernaculum.

It is essential to avoid any risk of flooding, and for this reason, underground elements should be avoided on peatland and other wet sites.

For the underground chamber, excavate a hole from around 2.0-4.0m in diameter, and 0.5m deep, and line it with sand and gravel to improve drainage. Then loosely back fill the void with stones, rocks and logs, and pile branches and brush over the top, creating nooks and crannies where the adders can hibernate. Finally, place soil and turfs from the excavation over the top of the pile to form an insulating layer and to

protect it from frost. Ensure small gaps are left for