

2.1 Site Analysis

The issues which have positive and negative effects on the management of the site

Site Strengths	Site Weaknesses	External Opportunities	External Challenges
<p>Rarity</p> <ul style="list-style-type: none"> The NNR is part of the largest and least fragmented grazing marsh in the SE and an increasingly rare habitat in England. Internationally important wetland The water in the ditch system, comprising over 600Km, is of exceptionally high quality, largely due to lack of intensification in the farming practices on the Levels, but also because the Walled Haven, one of the main water sources, is protected and used for public water supply. This high quality is one of the reasons that healthy aquatic communities survive (Other similar grazing marshes have suffered catastrophic losses of these communities due to agricultural intensification and allied pollution). Supports a wide range of BAP and nationally rare species including European Protected Species. <p>Resources</p> <ul style="list-style-type: none"> Low resource in terms of time input required for site management (grazing leased out) <p>Education</p> <ul style="list-style-type: none"> Good site for education, research and monitoring given international status. <p>Setting</p> <ul style="list-style-type: none"> The site is somewhat of an undisturbed haven for wildlife. The limited access can be seen as a positive as it means that there is no conflict between access and biodiversity, especially in relation to disturbance of wetland birds. Good views from the NNR of the 	<p>Access limitations</p> <ul style="list-style-type: none"> Relatively small site, with Summer breeding birds and Winter roosting birds highly sensitive to disturbance. This limits opportunities to combine access and wildlife. The NNR does not lend itself to public access due to its location. Difficult to park, no PRoW, no pavements alongside the roads, no facilities for the public and public transport options limited. <p>Visibility</p> <ul style="list-style-type: none"> The NNR at Pevensey only requires limited time input. Whilst this can be a positive this means the visibility of NE on the NNR is limited with minimal communication between NNR staff and wider landowners. <p>Dependency on other competent authorities.</p> <ul style="list-style-type: none"> Maintenance of favourable condition of the NNR requires a very fine hydrological balance, dependent on other competent authorities. These include the Environment Agency, who control the IDB feeder ditch supply to the NNR and water companies who extract water from boreholes 	<p>Demonstration</p> <ul style="list-style-type: none"> Work with partners such as the Sussex Wildlife Trust to utilise the NNR as a showcase and use as a demonstration site for other farmers and landowners. Environmental Stewardship management techniques can be demonstrated on the NNR, particularly new / innovative techniques. <p>Education/Access</p> <ul style="list-style-type: none"> Link in with Sussex Wildlife Trust reserve to provide educational program and interpretation across the NNR and potentially use the NNR as a platform for promoting education across the wider SSSI. Link in with local farmers and other stakeholders to improve and drive forward the educational resource. Increase engagement with and actively encourage, interested and supportive local community. <p>Research –</p> <ul style="list-style-type: none"> Creation of research 	<p>Industry</p> <p>Uncertainties within the agricultural industry. Government policy and economic factors affecting the agricultural profitability of livestock farming.</p> <p>Climate change</p> <p>Climate change could possibly impact the site with the increased likelihood of saltwater intrusion. At the same time, increasingly severe seasonal weather patterns, such as drier Summers, may threaten the supply of fresh water to the system. Wetter winters present risk of more frequent river flooding</p> <p>Landowner conflicts</p> <p>In the past the Reserve has suffered from fluctuating water levels as the Environment Agency have responded to adjoining landowners concerns about flooding. This is an example of the challenges faced on a site with multiple ownership. The implementation of the new Water Level Management Plan is likely to bring this issue to the fore during the lifetime of this NNR management plan.</p> <p>Water supply</p>

Site Strengths	Site Weaknesses	External Opportunities	External Challenges
<p>surrounding landscape character.</p> <p>Tenure –</p> <ul style="list-style-type: none"> • NNR freehold owned by Natural England. <p>Site in wider context –</p> <ul style="list-style-type: none"> • Representative part of surrounding SSSI / Ramsar, with on-going value as a demonstration site for owner occupiers <p>Economic</p> <ul style="list-style-type: none"> • The NNR generates income from the grazing licence and so presents a good value for money scenario in terms of costs/benefits to the organisation. • The farmer grazing the site produces lamb and beef for the local market – the NNR thus contributes to the local food production economy. 	<p>upstream of the SSSI.</p> <p>Climate change –</p> <ul style="list-style-type: none"> • The NNR is located in the southern sector of the SSSI, relatively close to the coast, making it vulnerable to future rising sea levels. 	<p>project opportunities to further knowledge about the Reserve, wetland habitats and species.</p> <ul style="list-style-type: none"> • Trial new management techniques and monitor their effectiveness – e.g. cutting footdrains and scrapes to provide feeding habitat for wader chicks. 	<p>With increasing need for drinking water, both directly from the Wallers Haven and from boreholes upstream, future availability of water for the Levels may come under threat.</p> <p>Sea Defences</p> <p>The shingle ridge which is maintained by the Environment Agency as a sea defence, represents a massive engineering project with very high recurring costs. Future decisions about whether to continue maintaining the ridge will have direct consequences for the NNR and SSSI.</p>

2.2 Site Management Policy

The

broad management policies for the site and the reasons why these options have been chosen

The Reserve was selected as an NNR because it represents an example of unimproved, relatively poorly drained grazing marsh, which is a habitat that is becoming increasingly rare in Britain and is identified as a Biodiversity Action Plan habitat. The ditches are unpolluted, are floristically and entomologically rich and the area is important for breeding, migrant and wintering birds. Evidence from surveys suggests that high, stable water levels are preferable to fluctuating levels. The overall objective of management, therefore, is to maintain a stable, high level water regime, protecting water quality, conserving the aquatic wildlife of the gravity drainage systems, whilst retaining the traditional summer cattle and winter sheep grazing at appropriate levels to allow wetland birds to breed and shelter on the reserve. In conjunction with maintenance and enhancement of the biodiversity the site will be managed to maintain its high landscape value, protect archaeological features and maximise and explore the access and educational opportunities of the Reserve. It is also important that the management demonstrated on the Reserve remains within the realms of feasibility as a farming approach which can also be adopted across the rest of the 3,500 hectare SSSI Ramsar.

Ditch Communities

Due to the number of rare species in the ditches, associated with a range of stages in the natural succession process, a programme of rotational clearing must be maintained to allow a wide range of hydroseres to develop. Ditches will therefore be managed to ensure that there is a good mix of early, mid and late successional ditches across the NNR, ensuring they are appropriately maintained for the flora and fauna. If ditches were not managed on rotation eventually this would lead to silting up and choking of ditches, resulting in a detrimental impact on the ditch quality. Management must include careful dredging of portions of dyke to remove accumulated silt and allow both free flow of water and conditions for plants and animals of open water to flourish. Regular clearing in short sections and only clearing a portion of the width of the ditch, means that the negative effects of this work on the aquatic wildlife are reduced, particularly for the more colonial, less mobile species. The overall consequence of this dredging is an intricate, constantly - changing mosaic of ditch habitats in different stages of natural succession, from open water to dense emergent fen vegetation, providing a wide array of niches for aquatic plants and animals.

Water Level Control

Management of water levels is critical to the management of this site. The target is that water levels held at field surface during winter and no lower than 0.30 metres below mean field level for the rest of the year. Water levels must also be maintained to keep the dykes full, to ensure that the fields are wet at the right times of year and to provide the best possible conditions for birds, flowers, insects and other marshland species. Ideally, the ditches should hold enough water to ensure that lower areas of the fields (rills or grips and hollows) are flooded in the Winter, up until April, and allowed to dry out (under control) by the end of June, exposing muddy edges as prime feeding habitat for wader chicks. In order to achieve this, sluices have been installed to control the flow of water in and out of the Reserve without affecting other neighbouring fields or the nearby Wallers Haven. It is important that the Reserve links in with the Water Level Management Plan which has been developed for the SSSI.

Grassland Management

Grassland management will be tailored to ensure the protection, conservation and enhancement of the grassland habitat (Coastal and Floodplain grazing marsh – BAP habitat), particularly for breeding and wintering wetland birds and invertebrates. It is extremely important to ensure that the NNR continues to be grazed. Cattle grazing is relatively unselective and therefore cattle are excellent for producing the right sward requirements for birds. Grazing is necessary to maintain the open nature of the fields for flowers and insects and to provide the tussocky grassland required by wading birds for nest sites.

Water management on the fields should include some areas (10 -20%) of temporary and permanent flooding with boggy conditions over much larger areas being maintained into June. Muddy margins around pools provide excellent feeding habitat for birds. Repeated flooding over large areas is of limited value as it can eventually lead to a reduction in the invertebrate biomass and it is important to have a good balance of flooded and dry land across the Reserve fields. Prolonged flooding can also damage the existing botanical interest of the grassland. (RSPB – The wet grassland Guide 1997)

All unnatural nutrient inputs into the site must be controlled, including manure applications. No inputs of artificial fertilizers are necessary or desirable. Weeds should be controlled by appropriate cutting.

Landscape and historic features

The landscape considerations on the reserve are significant. The NNR is generally an open area, intersected by wet ditches and needs to remain like this should the landscape continue to be reflective of the coastal and floodplain grazing marsh. By maintaining the biodiversity of the ditches this will inadvertently occur by ensuring that there is no encroachment of scrub and that ditches are managed to ensure that they continue to act as wet fences, maintaining field patterns of the characteristic marsh. A Historic Environment Record report has been commissioned, further management of the site will take into account any findings from the report. Interpretation of the historic elements on the reserve is an important part of the education and interpretation, therefore historic information should be included in any interpretative leaflets. Any archaeological features mentioned in the Historic Environment report will be managed to prevent damage. >

Socio-economic use

Maximising income is an objective of all management where it does not compromise wildlife gain. Currently grazing licenses are let to local farmers who are familiar with the requirements of the site. This policy to date has worked quite well and should continue, providing it remains economically viable. Efficient use of resources is similarly an essential principle. Currently the income from the site is fairly minimal, however we should continue to ensure that maximum income is gained. It is also important that the Reserve represents a viable farmed unit in the eyes of the local farming community.

Education, research and demonstration

The NNR should continue to serve as a 'shop window' to illustrate to other managers of grazing marsh, possible alterations to their management which will benefit wildlife. Joint working between NE and partners such as the Sussex Wildlife Trust should increase the demonstration potential of the NNR and will facilitate the demonstration of the wildlife value and necessary stewardship of the Levels to elected representatives, planners, developers or any other influencers in the community and ensure that nature conservation priorities are understood and supported in the local community.

The NNR should be closely monitored both to allow assessment of the effects of management to be made, identify the most bio-diverse and high quality areas and also to enable advice to be given to other landowners and managers on the back of this monitoring. In the current climate of limited resources, NE is unlikely to be able to conduct a great deal of its own research and monitoring. Every opportunity should therefore be taken to liaise with the Environment Agency, who carry out monitoring locally and to encourage research and monitoring on the NNR by universities and other academic / scientific institutions. It is important that this data is collated and if possible put into a useful GIS format.

Public access

The Reserve lies to the West of Rockhouse Bank and is reached by the Pevensy to Norman's Bay road. There are no public rights of way and there are no pavements alongside the roads so access by foot is limited and once you reach the NNR there is no access paths either permissive or permanent. However, you can get good view of the birds on the reserve from the roadside pull-ins. The Reserve doesn't lend itself to the creation of new permissive access rights but resources should focus on providing adequate interpretation for the Reserve and there is scope to improve interpretation both on and off the site. The NNR could be the platform on which to promote other access opportunities on the Levels, this could be done via web information or working with other access providers.

Education and involvement of the public in wildlife management is crucial to the long-term interests of conservation and there is nothing to be gained from preventing controlled bird-watching or controlled access for educational purposes. The current access policy for the reserve is therefore to provide a range of wildlife and countryside experiences to visitors in a controlled way.

Site extension/protection

There is no long term plan to acquire more land on Pevensy Levels at the current time. The Levels now have an Agri-Environment scheme coverage of over 50% which affords some protection to this special habitat and currently the NNR is not vulnerable to the effects of intensive management of surrounding agricultural land. Should in the future it become more important for control and management of land then acquisition should be considered. Environmental Stewardship Schemes should be encouraged on surrounding land and the existing area of NNR should be used to promote good Stewardship of the Levels.

2.3 The Vision

A 50 Year Vision for Pevensey National Nature Reserve

Pevensey National Nature Reserve is approached along the Norman's Bay road. Visitors can enjoy a panoramic view of the land by entering the easternmost compartment on Rockhouse Bank, from where they can appreciate the open field structure of the marsh, with its back-drop of the ancient fort of Anderida in Pevensey Village and the South Downs far beyond. Approach in spring and summer and you'll see the cattle grazed pastures, in winter the characteristic sheep grazing can be viewed from the roadsides.

Local interest in the Reserve is high, neighbouring farmers graze the NNR and the NNR creates income and is economically viable. The NNR's influence has been to ensure that the surrounding land is sensitively managed. The NNR has been the platform for promoting and ensuring effective implementation of Agri-Environment Schemes on the marsh, by its use as a demonstration site for farmers and land managers. The Reserve has long been recognised as an excellent site for demonstration of sustainable methods of wetland habitat management.

The grassland is managed primarily by grazing with cutting only used when necessary. Beef cattle graze until mid autumn when rising water levels require their removal to higher ground. The quality beef which is produced from the NNR is much sought after and sold locally. Sensitive grazing provides suitable grassland sward for breeding birds, wintering waders and wildfowl and a wide variety of wetland plants and invertebrates, it also supports the traditional livestock farming of the marsh. Inorganic fertilizers have not been used on these fields for several decades, helping to protect the water quality and diversity of the grassland.

The Reserve has a comprehensive surveying program in conjunction with key partners, including Environment Agency, Sussex Wildlife Trust and local academic institutions. Regular monitoring, recording and research are undertaken. Baseline data for all the key notifiable features is known and enables changes in populations and species movements to be monitored. This work is increasingly important due to the need to understand the impacts of climate change on the aquatic plant and animal communities.

An extensive education program has been developed, however rather than being concentrated purely on the Reserve it uses a 'joined up' approach and local people assist with a program of educational visits for nearby schools across the Levels. The educational program utilises local facilities on landowner holdings and a network of farmers work together to provide the full educational experience. Universities and other educational establishments use the site for teaching on a variety of subjects and for academic research.

The ditches are diverse continuing to support nationally rare species. Years of sensitive management have helped maintain these rich habitats. Methods and rotations of ditch management have evolved with input from specialists carrying out research in the field.

Water Levels in the field soils remain at a consistently high level, ensuring good grass growth during the Spring and Summer, while in the lower areas, provide wetter, softer soils and mud, providing high quality feeding ground for waders and their chicks during the breeding season. These wetter areas also provide habitat for invertebrates associated with temporary water bodies and wet ground. Some of these invertebrates are rare species – an added reason why the lower, wetter areas of the fields are maintained as such.

Part of the beauty of the Reserve is that in many ways it is an undisturbed haven. Controlled access through a series of events and guided walks means that there are no conflicts between access and wildlife.

Ornithologically, Pevensey Levels as a whole is nationally important. On the Reserve, birdwatchers can view birds easily from the roadside, and from the higher ground of Rockhouse Bank, without disturbing them. As well as the smaller passerines, nesting in the reed beds and fields, key species including lapwing, redshank, yellow wagtail and skylark breed successfully. Lapwing and redshank chicks find ample invertebrate food along the edges of the grips/rills/foot drains which are maintained in the fields, specifically for this purpose. Significant numbers of wintering wildfowl also use the

A 50 Year Vision for Pevensey National Nature Reserve

Reserve, benefiting from the lack of disturbance it provides, under the aegis of the Reserve staff, ensuring that no disturbing activities occur during harsh weather conditions.

Draft

2.4 Objectives

What we want to do during the period of the plan to take us towards realising the Vision

2.4.1 Geological and Biological Objectives

Objective 1:
Subject to Natural change, to conserve and enhance the ditch system and its associated flora and fauna in favourable condition.
Features addressed by this objective:
1, 2,3,4,5,6 and 7
Attributes/targets for key features:
<p>Feature 1: Ditch system</p> <p>Attribute: Extent</p> <p>Target:</p> <ul style="list-style-type: none"> No reduction in channel length of ditches <p>Attribute: Water levels</p> <p>Target:</p> <ul style="list-style-type: none"> held at field surface during winter and no lower than 0.30 metres below mean field level for the rest of the year <p>Attribute: Water quality</p> <p>Target: Detailed studies of A3 vegetation in English grazing marshes (based on >100 samples) provide the following typical values for certain key chemical parameters of the water: 1 mean <i>pH</i> = 6.6–6.8 (range 4.2 to 8.6); 2 mean <i>electrical</i> = 486.5 μS/cm at 25°C <i>conductivity</i> (range 57 to 943); 3 mean <i>Redox value</i> = +33.3 mV (range -159 to +148). Reference: Environment Agency Ecohydrological Guidelines for Lowland Wetland Plant Communities</p> <p>Attribute: Habitat Structure</p> <p>Target:</p> <ul style="list-style-type: none"> Mix of early mid and late successional ditches, ranging from newly cleared to 7-10 years of successional growth. No increase in bank-side shading Non trapezoidal ditch profiles Cover of aggressive non native plants not exceeding 0% Water should be clear Mean cover of filamentous macro algae and Enteromorpha not more than 10% (Mid June to end of August) Maintaining water level at least 0.3m below mean field level throughout the year <p>Feature 2: Outstanding assemblage of vascular plants</p> <p>Attribute: Community composition</p> <p>Target:</p> <ul style="list-style-type: none"> There should be a mean of at least 7 species per 20 metre stretch. The abundance of these species should be recorded on the DAFOR scale. <p>Attribute: Extent</p> <p>Target:</p> <ul style="list-style-type: none"> No loss of suitable habitat, (totalled across whole Reserve, taking in to account successional stages of the ditches) <p>Feature 3: Locality of <i>Potamogeton acutifolius</i></p> <p>Attribute: Population size</p> <p>Target:</p>

Objective 1:

- The abundance of this species on the NNR should not decrease and ideally should increase on the Reserve

Attribute: Extent

- **Target:** No loss of suitable habitat, (totalled across whole Reserve, taking in to account successional stages of the ditches)

Feature 4: Outstanding invertebrate assemblages**Attribute:** Habitat structure**Target:**

- A single surface, present in no more than 5 out of 10 structural monitoring transects. (See Pevensey Levels conservation objectives for full list of preferred surfaces)

Attribute: Extent

- **Target:** No loss of suitable habitat, (totalled across whole Reserve, taking in to account successional stages of the ditches)

Feature 5: Outstanding assemblage of Odonata**Attribute:** Habitat Structure

Target: Emergent vegetation between 15 and 40%, submerged vegetation between 30 and 50 %, Bankside shading should be no more than 10%

Attribute: Presence/absence**Target:**

- The species abundance and diversity of this assemblage on the NNR should not decrease and ideally should increase on the Reserve

Attribute: Extent

- **Target:** No loss of suitable habitat, (totalled across whole Reserve, taking in to account successional stages of the ditches)

Feature 6: Dolomedes Plantarius**Attribute:** Presence/Absence and population size**Target:**

- The abundance of this species on the NNR should not decrease and ideally should increase on the Reserve
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Feature 7: The Lesser Whirlpool Ramshorn snail *Anisus Vorticulus* is a small aquatic snail with a flattened spiral shell rarely more than 5mm in diameter. The snail is only found within grazing marshes that are drained by ditches or dykes. It is associated with a rich assemblage of plants and other species of molluscs that are rare and vulnerable, including *Segmentina nitida*. It often floats on the surface amongst duckweed *Lemna spp.* It shows a preference for ditches or channels that are greater than 3m in width and over 1m in depth with a diverse flora but with a moderate emergent vegetation. Ditches that are either completely cleared of vegetation or are choked with weed and silt are unsuitable. Winter flooding may be important in enabling young snails to colonise new ditches.

Objective Methods:

In order to ensure that the ditch system and its associated flora and fauna remain in favourable condition it is critical that both the following are achieved on the Reserve;

1. **Stable hydrological regimes** - Lowering of ditch levels suddenly during winter months (sometimes carried out as insurance against flooding) can expose the mud banks to severe frost

Objective 1:

and local damage to plant and invertebrate communities can be severe. Historically, this has happened more than once to the IDB ditch, the Wrenham Stream, on the southern boundary of the NNR. Implementation of the Water Level Management Plan should reduce these events in the future, however it is important that the reserve can operate its own water control measures until the Environment Agency have successfully implemented the Water Level plan. Therefore the following methods will be used;

- Maintain blocks on all existing outfalls from NNR into Wrenham Stream.
- Provide sluice control into and out of Wrenham Stream at one or two points.
- Provide sluice control where necessary to prevent flooding of neighbouring land.
- Operate sluices or pumps as necessary to maintain water levels at a stable level.

2. **A program of rotational ditch clearance** - The ditch communities themselves are inherently unstable, inevitably undergoing natural succession unless cleared out on a regular cycle. Such clearing allows overall a changing mosaic of communities, containing a range of invertebrate and floral life, to be maintained. Therefore, the methods used will be;

- Operate programme of ditch clearing phased to avoid even-aged ditches occurring in close proximity.
- Execute clearing during winter, taking care not to make the ditch sides too steep.
- Restrict clearing to maximum of 15% of ditches in any one year, only clear vegetation from one side of the ditch at any one time.
- Rotation of clearing not to exceed 10 years. If ditch re-cleaned within five years, excavation should not be carried out.
- Clear in c 30m sections where sensitive invertebrate interest occurs
- Manage ditches to maintain diverse physical bankside structures, such as 'berms' (muddy shelves caused by cattle treading down banks) and diverse vegetational structure (e.g. not allowing both sides of ditches to be grazed too heavily at the same time).

References

Water Level Management Plan 2007
Conservation Objectives 2008

Likely Significant Effect:

These proposals are necessary for nature conservation management of the site.

Monitoring Methods:

A proportion of the monitoring for the flora and fauna communities will be undertaken as part of the standard site condition assessment. However, there are limitations with using this assessment alone, and further direct monitoring is therefore required.

Whilst the standard condition assessment ensures that the habitat is in the correct condition to support flora and fauna communities, as a National Nature Reserve it would be beneficial to have more direct monitoring of the key species. The standard condition assessment includes direct monitoring, but due to

Objective 1:

the size of Pevensey Levels, this direct monitoring is only ever carried out on a random sample of units and therefore the Reserve may not necessarily be included within the sample. Efforts should therefore be made to put together a direct monitoring survey plan for the reserve. The monitoring should note locations of species and identify habitat requirements and monitor populations. Two main categories of species will be important in this respect :

- a) Potential indicator species – e.g, species that are sensitive to changes in seasonal water temperature regimes which can indicate change
- b) The rarer species, which tend to be more vulnerable to change

It will become increasingly important to have this information with the uncertainties surrounding climate change impacts.

Setting up a monitoring program will require;

1. Link with National invertebrate and freshwater specialists within Natural England to explore if there are national monitoring contracts and whether the Reserve can be included. Also make links and insure no duplication with the Environment Agency monitoring, Universities, Biological Records Centre and other opportunities where this monitoring could be undertaken for free.
2. Whilst it would be beneficial to have direct monitoring of vascular plant assemblages and invertebrate assemblages, as a minimum it would be good to have direct monitoring of the following nationally rare and European protected species.
 - Ramshorn Snail (*Anisus Vorticulus*) – European Protected Species
 - Fen Raft (*Dolomedes Plantarius*) – Nationally rare
 - Sharp leaved pondweed (*Potamogeton Acutifolius*) – Nationally rare
3. Existing species data needs to be collated and managed and put in a useable GIS format.

Objective 2:
The BAP priority coastal and floodplain grazing marsh will be managed to ensure the provision of a quality habitat which supports wetland birds.
Features addressed by this objective:
8, 9
Attributes/targets for key features:
<p>Feature 8: Wintering waders and wildfowl</p> <p>Attribute: Suitable resting conditions</p> <p>Target:</p> <ul style="list-style-type: none"> • No unnecessary disturbance to the wintering areas between 1 December and 28 February. • No disturbance to resting flocks during harsh weather conditions (In particular, when WWT/BTO harsh weather warnings are issued) <p>Attribute: Extent</p> <p>Target: No loss of suitable habitat for wintering and breeding birds. Conserve temporary aquatic habitats such as wet field corners, grips and temporary pools, of importance to invertebrates and as feeding and loafing grounds for wetland birds.</p> <p>Feature 9: Breeding bird populations</p> <p>Attribute: Appropriate habitat structure</p> <p>Target:</p> <ul style="list-style-type: none"> • Sward structure suitable for nesting lapwing and redshank (Figures 1-3 - lapwing example below – redshank requirement is virtually the same, although the birds favour more tussocky areas in which to nest) This targeted sward structure is most appropriate for the compartments away from the road – Compartments 22, 24, 25, 27, 28, northern section of 30 and southern section of 32.

Objective 2:

Ideal grassland structure

Most of the field should look like this. When you remove stock for the winter aim for:

- most of the sward to be short with some bare patches for winter feeding.
- a few taller tussocks or clumps to give cover for the chicks next spring.

N.B. It is vital to have this predominantly short sward in place to encourage breeding in the following spring.

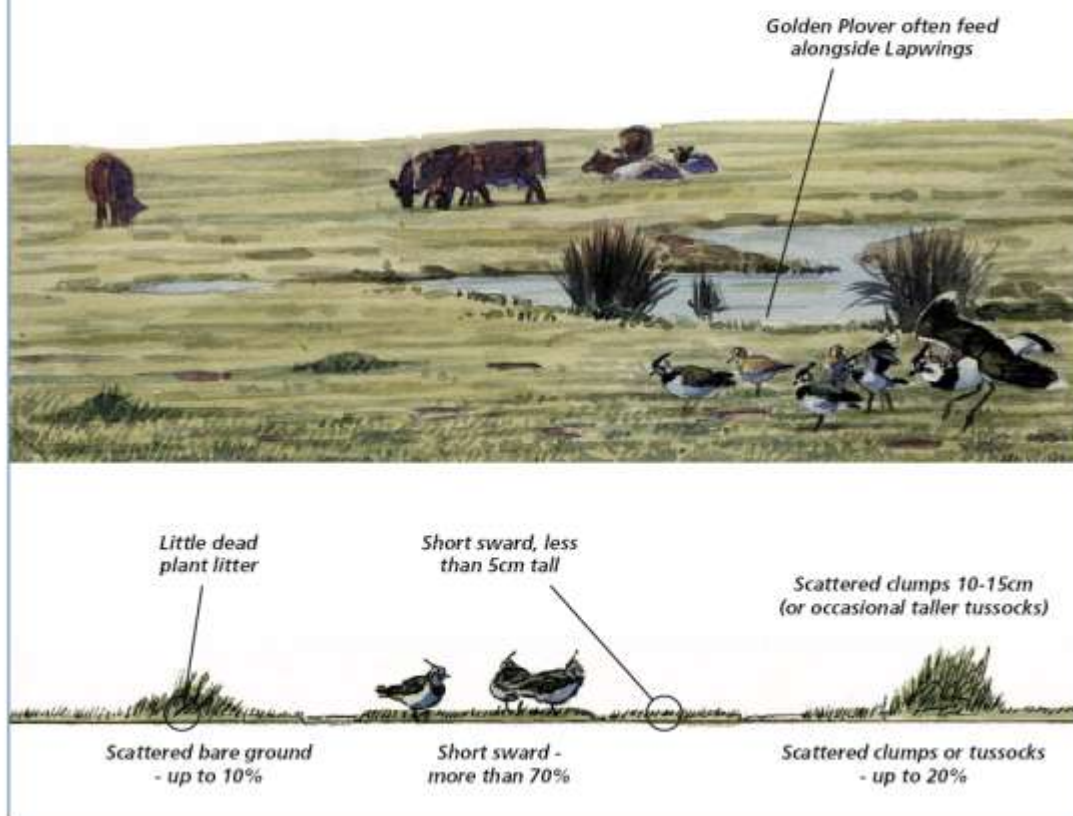


Figure 1 Autumn / Winter

Objective 2:**Ideal grassland structure**

Most of the field should look like this. Aim for:

- a predominantly short sward for feeding and nesting (incubating birds need an all-round view of approaching predators).
- occasional bare patches for nesting.
- a scattering of small clumps or tussocks for chicks to hide in.

Brooding



If you need to roll or harrow, do so before mid-March to avoid damaging nests.



Little dead plant litter

Short sward, 3cm tall or less

Scattered 10-15cm clumps or occasional taller tussocks



Scattered bare ground - up to 10%

Short sward - more than 80%

Scattered clumps or tussocks - up to 20%

Figure 2: March onwards

Objective 2:**Ideal grassland structure**

Most of the field should look like this. Aim for:

- a predominantly short sward (chicks feed on small insects and other invertebrates which they find by sight).
- bare patches for nesting.
- scattered tussocks or clumps for chicks to hide from predators.



Chick searching for food



Scattered clumps 10-15cm, or occasional taller tussocks

Short sward, less than 5cm tall

Little dead plant litter



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Figure 3: May and June

- Low areas of the fields such as grips, hollows and man-made foot-drains to be kept wet from Winter, into April and then allowed to gradually dry out through to the end of June, thus providing optimum supply of muddy edges to the features throughout this period. These muddy edges are a very rich source of invertebrate food and so provide essential feeding areas for chicks.
- Invasive species which threaten the breeding birds should be zero. These include mink, which will be controlled by trapping.

Objective 2:**Objective Methods:****Grazing –**

The traditional form of grazing has been that of summer fattening which creates minimum poaching of the turf but can have serious effects on nesting birds early in the season if stocking rates are too high. Lack of grazing, however, would eventually allow the area to revert to carr woodland, while non-intervention in shallow water areas would lead to a similar result after invasion by reed. It is therefore necessary to achieve a balance across the Reserve.

- Maintain zero, or reduced stocking densities between March and July to minimise risk of nest trampling in compartments 22, 24, 25, 27 and 28.
- Avoid the use of fertilisers or insecticides (this includes any persisting forms of anti-helminthic treatments, such as sub-cutaneous or boluses, from the Ivermectin groups with residual insecticidal properties in animal dung)
- Control invasive species such as thistles by regular mowing

Water Level Maintenance

Maintaining stable high water levels will help create the right breeding and feeding habitat for birds.

- Use the clay bunds and sluice structures, keep as much water in the system as is feasible and maintain as high a sustainable water table as possible, particularly in to the Summer, from March to July.
- Create new foot drains according to RSPB guidelines to achieve ~300m per hectare of straight, parallel drains, at 60-75 metre spacing, with piped vehicle crossing points at field edges where necessary.

References**Likely Significant Effect:**

These proposals are necessary for nature conservation management of the site.

Monitoring Methods:

A breeding bird survey was carried out in 2008, this builds on historic data but gives more information on required nesting conditions. Breeding bird survey should continue to be undertaken each year and information collated in a useable format.

Wader and wildfowl populations should be monitored monthly through WEBS counts.

2.4.2 Landscape and Cultural Objectives

Objective 3:
To conserve the pattern and structure of the ditch habitat by conserving existing field patterns
Features addressed by this objective:
10
Attributes/targets for key features:
<p>Feature 10: Open grazing marsh intersected by wet ditches Attribute: Extent Target:</p> <ul style="list-style-type: none"> • There should be no loss of the area of open grazing marsh. (Ha) • There should be no increase in the existing scrub cover. (add percentage % scrub cover in) • There should be no reduction in ditch length (add metres in)
Objective Methods:
<p>The open grazing marsh and existing network of ditches will be maintained by continued grazing of the site and rotational ditch management to prevent encroachment of scrub.</p>
Likely Significant Effect:
<p>These proposals are necessary for nature conservation management of the site.</p>
Monitoring Methods:
<p>Monitoring of these attributes will be undertaken as part of the standard condition assessment monitoring.</p>

> INSERT OBJECTIVE FOR ARCHAEOLOGICAL DEPENDING ON HER<

Objective 4:
To encourage local community interest and involvement in the site and ensure economic return from the grazing
Features addressed by this objective:
11,12
Attributes/targets for key features:
<p>Feature 11/12: Socio - Economic use Attribute: Community events Target: One community event per year. This might be a joined up event with Sussex Wildlife Trust</p> <p>Attribute: Volunteer involvement Target: Set up local volunteers to undertake survey/monitoring on the NNR.</p> <p>Attribute: Local grazing leases Target: To maintain the grazing agreements with local farmers.</p>
Objective Methods:
<p>Further partnership working should help facilitate increased community involvement in the site. Working with Sussex Wildlife Trust to deliver a community event per year. This event does not necessarily have to be on the Reserve land but it should be driven and led by Natural England. In addition, links should be made to develop a local volunteer group which could help with monitoring of the site. The current Natural England resource for delivering events should be considered through use of the LMAS team and other initiatives such as walking for health.</p>
<p>Likely Significant Effect: These proposals are not necessary for nature conservation management but will have no significant effect on the internationally important nature conservation features of the site.</p>
Monitoring Methods:
<p>Community events and volunteer involvement could be monitored and driven forward by the Pevensy Levels Working Group. The NNR could lead this group and ensure its future existence to keep alive community interest and involvement. It is normally these kind of objectives which do not get achieved due to time and resources so links should be made with other teams and colleagues within Natural England who could deliver against this objective.</p>

Objective 5;
To encourage use of the site for education, research and demonstration as so far as this is compatible with the wildlife of the site.
Features addressed by this objective:
13,14,15
Attributes/targets for key features:
<p>Feature 12 :Education Attribute: number of visits Target: Minimum of 2 education visits a year (link in with SWT)</p> <p>Feature 13: Research Attribute: availability Target: Program of research projects to be available for potential users. Proactive in approach to Universities/academic colleges for research on this international site.</p> <p>Feature 14: Demonstration Attribute: availability Target: At least one demonstration event per year.</p>
Objective Methods:
<p>Education There are already educational facilities available on Pevensy Levels and these should be utilised and promoted by the National Nature Reserve. A new project is currently underway to create an education centre at Chilley Farm shop. This will provide the facilities such as toilets and an indoor learning area which is lacking and is not feasible at the Reserve. The NNR can be the platform on which education on the wider Levels can be promoted.</p> <p>There is also scope to improve the web information which we currently have on the reserve. This could encompass information on educational opportunities across the wider levels, so although the reserve land is not directly delivering educational visits, the NNR is seen as a leader in promoting the educational opportunities across the site.</p> <p>Education on the National Nature Reserve should link with the wider Natural England agenda and work that is being undertaken in other parts of the Country.</p> <p>An educational leaflet should be made available – possibly in PDF format and loaded onto the Web.</p> <p>Demonstration Within the SSSI, the NNR serves as a ‘shop window’ as it is considered to be typical of the low input, low output pastoral farming system that has been practised on the Levels for centuries. The species that occur also characterize this habitat. For this reason, the NNR serves as a valuable demonstration site for other owner/occupiers on the grazing marsh, illustrating in practice, the effects of particular management regimes. Partnership working with Sussex Wildlife Trust and the RSPB should increase the scope for using the NNR as a demonstration site and there is potential for more active engagement with the public.</p> <p>Research The Reserve should develop a list of potential research projects and these can then be promoted to local and national academic institutions.</p>
Monitoring Methods:
The Pevensy Levels Working Group could be the basis on which to monitor the success and

Objective 5;
development of research, education and demonstration on the site and could take an active role in ensuring it happens.
Objective 6:
Use the NNR as a catalyst for promotion of quiet enjoyment and access across the wider levels.
Features addressed by this objective:
16
Attributes/targets for key features:
Feature 16: Public access Attribute: Accessibility Target: Use NNR skills/staffing to promote access across the wider levels.
Objective Methods:
<p>Natural England should work with partners to help promote quiet enjoyment across the wider levels. The reserve does not lend itself to increased access provision but the NNR could be used to promote existing walks across the marsh and explore production of some walk leaflets. These could link in with other Natural England work areas such as Walking to Health Initiative and Objective 2 work.</p> <p>The reserve web page could be developed and improved to provide information on access across the wider levels, so rather than just finding out that there is no public access they are given alternative options.</p> <p>Partners: English Heritage (Pevensey Castle) East Sussex County Council -1066 Sussex Wildlife Trust</p>
Likely Significant Effect: These proposals are not necessary for nature conservation management but will have no significant effect on the internationally important nature conservation features of the site.
Monitoring Methods:
Again, the best way to monitor this could be through the Pevensey Levels Working Group.

2.4.3 Estate Asset Objectives

Objective 6:	
To fulfil all legal and other obligations arising from Parliamentary acts, conveyances etc and safeguard estate assets.	
Features addressed by this objective:	
17, 18, 19, 20	
Attributes/targets:	
<p>Feature 17: Licences and conveyances Attribute: compliance with legal obligations and terms of above Target: 100% compliance</p> <p>Feature 18,19, 20: Infrastructure Attribute: Condition Target: Make sure all site infrastructure is maintained and kept in good condition.</p>	
Objective Methods:	
<p>The various conveyances relating to the acquisition of the reserve, subject Natural England to a series of covenants, rights and obligations; these will be detailed in the Estate Terrier. It is important that Natural England honors these and all other legal and moral obligations.</p> <p>Compliance with health and safety legislation is essential to minimise risks to visitors and to provide a safe working environment for staff, volunteers and contractors. No operation which does not comply with the Health And Safety At Work (HASAWA) legislation should be undertaken by staff.</p> <p>Compliance with wildlife and environment legislation is of the utmost importance.</p> <p>NE are responsible to ensure that we and any contractors only apply those herbicides which are permitted to be used by water</p> <p>Extraction of water from the IDB ditch (The Wrenham Stream) is limited to 20 cu. metres per day, by licence from the EA.</p> <p><u>Legal:</u> Occupiers Liability Act: Care must be taken to ensure the safety of the visiting public, research workers and visiting EN staff. Particular sources of danger include: deep water in ditches with steep sides, injury from cattle, disease from contact with dirty water, e.g. Weil's disease, tetanus.</p> <p><u>Legal:</u> Control of Hazardous Substances Act: Any chemicals used, such as herbicides, must be used strictly in accordance with legal procedure and by trained personnel.</p> <p><u>Legal:</u> Health & Safety at Work Act - All necessary safety procedures must be adhered to by all staff and contractors working on the reserve.</p> <p><u>Non-legal:</u> There is an access across compartment 31 which enables farmers to get stock in and out of compartment 56 (off the NNR). This has been used for many years.</p> <p><u>Legal:</u> Obligations of others: Various restrictions are contained in the annual grazing licence which must be adhered to.</p> <p>Visitors to the reserve must abide by the restrictions of the Wildlife and Countryside Act as regards collecting of specimens etc.</p> <p><u>Legal:</u> Wildlife and Countryside Act: 1.5</p>	

Objective 6:

Several species specifically protected under this Act occur in the Reserve. Issuing of licenses for research work etc. is necessary. See annex 1 for list of species.

Likely Significant Effect:

These proposals are necessary for nature conservation management of the site.

These proposals are not necessary for nature conservation management but will have no significant effect on the internationally important nature conservation features of the site.

Monitoring Methods:

Legal compliance is monitored through corporate systems and the NNR reporting system.