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Ferry Wetlands

"Ecological Enhancement of RSPB Ferry Field through reprofiling of and extension of existing ditch and footdrains, creation of islands in existing saline lagoon, installing a predator exclusion fence, replacing a hydrological control structure and installing a solar pump."

Planning Application ref: 24/01262/FUL

As part of the Downs to the Sea project funded by the National Lottery Heritage Fund (NLHF)

Watervole Survey Results and Mitigation Statement

August 2024

Survey results:

Two water vole surveys were conducted during 2024, one on 27 May and the other 2 months later on 30 July (in accordance with guidance in the Water Vole Mitigation Handbook), to assess the presence and activity extent of water voles within the proposed project area. (See Survey Report appended). Surveys followed the standard PTES method which involves searching for latrines, burrows, droppings and other signs of water vole presence along the banks of a suitable watercourse. (see National Water Vole Monitoring Programme guidance).

Signs of water vole activity were recorded during the survey undertaken on 27th May 2024, including latrines, feeding stations and suspected burrows, all found within close proximity along one eastern-most section of the central ditch running southwest to northeast across Ferry Field and a perpendicular ditch at the far eastern end next to the road, running north-south. Most of the signs were on or close to a raised bank (referred to in the project proposal as the "existing bund", running along the south and west edges of the ditch) that was earmarked for removal in the original project proposal. The below map (fig.1) shows the extent of the area where the signs were found. It was not possible to determine if the burrows were occupied but the presence of fresh and trampled latrines and feeding stations would suggest that they were.

A follow-up survey conducted on 30th of July revealed no obvious, recent signs of water vole activity, except for three small piles of vegetation with some ends nibbled at a 45 degree angle found at the eastern-most end of the central ditch. These were deemed not to resemble typical water vole feeding stations and may have been the feeding signs of field or bank vole. No fresh latrines or obvious water vole feeding signs were recorded. Some of the burrows showed signs of recent activity in the form of small piles of freshly excavated spoil at their entrances. However, given the absence of water vole droppings, it is possible that another rodent species may have been using the burrows.
Although the taller vegetation may have obscured some signs, the lack of evidence of recent water vole activity in this second survey was expected, given that the ditch had completely dried out, apart from one stretch of boggy, sedge-dominated ditch bed at its eastern extremity (see fig. 2 and fig. 3). It is worth noting that the ditch was wetter than it typically would be in an average year, due to the abnormally high spring and early summer rainfall in 2024.

The following conclusions can be drawn from the survey findings:

1) Water voles use the ditch in the winter and early spring months, during the time when it is replenished with rainwater in October-November up to when it dries out, usually by May-June.
2) A section of the existing bank (or "bund") provides good water vole habitat.
3) Presence of water within the ditches has a strong influence on occupancy by water voles

Mitigation measures:
To avoid any impact on water voles, the planned work will be adjusted, and the way of working and following mitigation will be put in place:

1. The c. 270m section of existing bund where water vole signs have been detected will be retained, with an additional 5m buffer zone at either end of retained bank left alone (Fig 4).
2. The line of the predator exclusion fence will be diverted away from the length of retained bank (bund) and run between the bank and the road, to provide a buffer. (see Fig. 4)

3. The cattle/vehicle crossing point that will be positioned elsewhere along the ditch to a location that away from retained bank, outside of the buffer zone.
4. All construction and excavation work will take place after the end of the water vole breeding season, from August-October 2025.
5. Water vole surveys will be conducted in spring/early summer 2025 to inform an understanding of water vole activity prior to project works commencing to confirm if water voles are present and adjust work timings if required.
6. From the time the ditch dries up, in May/June prior to the works commencing, it will be held as dry as possible, by removing the wooden boards in the old sluice structure to maximise release of water from the ditch system. The boards will not be replaced until the works have been completed.
7. Prior to any works commencing, all contractors will be made aware of the potential presence of water voles and the requirement to retain that section of bank. They will be instructed to cease work if any water vole activity is seen.
8. The retained section of bank will be clearly marked and cordoned off with temporary fencing while groundworks are in progress to serve as a visual barrier and reminder to construction plant workers while operating in the vicinity.
9. Prior to groundworks commencing, the area where vegetation is to be removed will be checked again for water vole signs or burrows. If any signs of recent activity are found, consideration will be given to amending the work plan.
10. Contractors will be instructed not to place any arisings or machinery within the cordoned off area of bank/ditch.
11. RSPB staff will be onsite during the construction phase to ensure compliance with these conditions.

Future management:

It is considered that there will be long-term benefits to water voles following the completion of works, for the following reasons:

- The solar pump will allow the ditches to be replenished with water when required and thus enhance the habitat suitability by providing wetter conditions for longer.
- The predator exclusion fence will protect water voles from meso-predators such as fox and badger.
- The shallow water area linked to the main ditch system will be extended, which will increase the area of available forage for the water voles.

The water vole population will continue to be monitored after completion of the project to assess how well it develops.

Fig 1. Map showing length of ditch with water vole activity in May 2024.

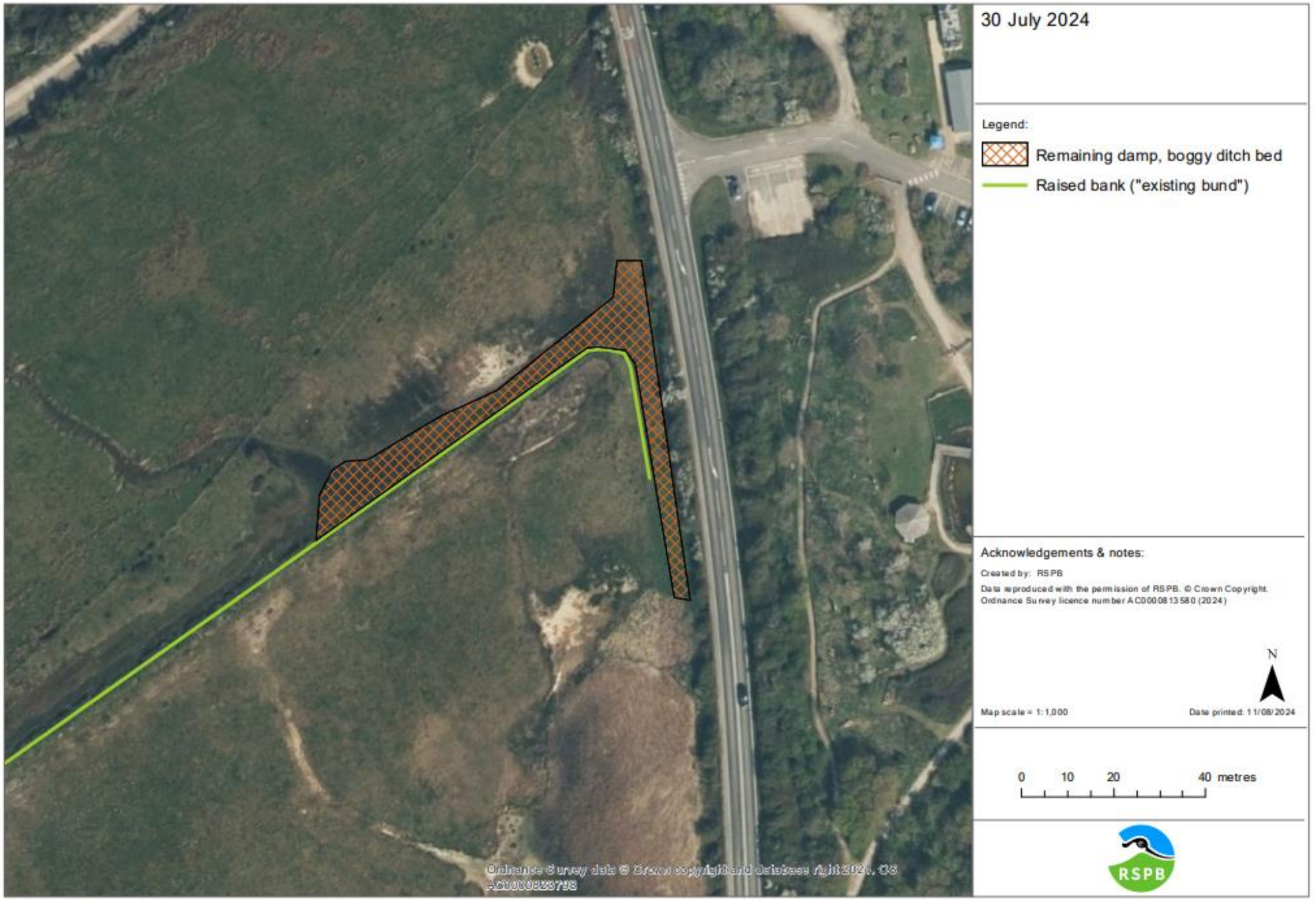

Fig. 2 Map showing remaining damp area of ditch in late July.

Fig. 3 Photo of remaining damp area in late July

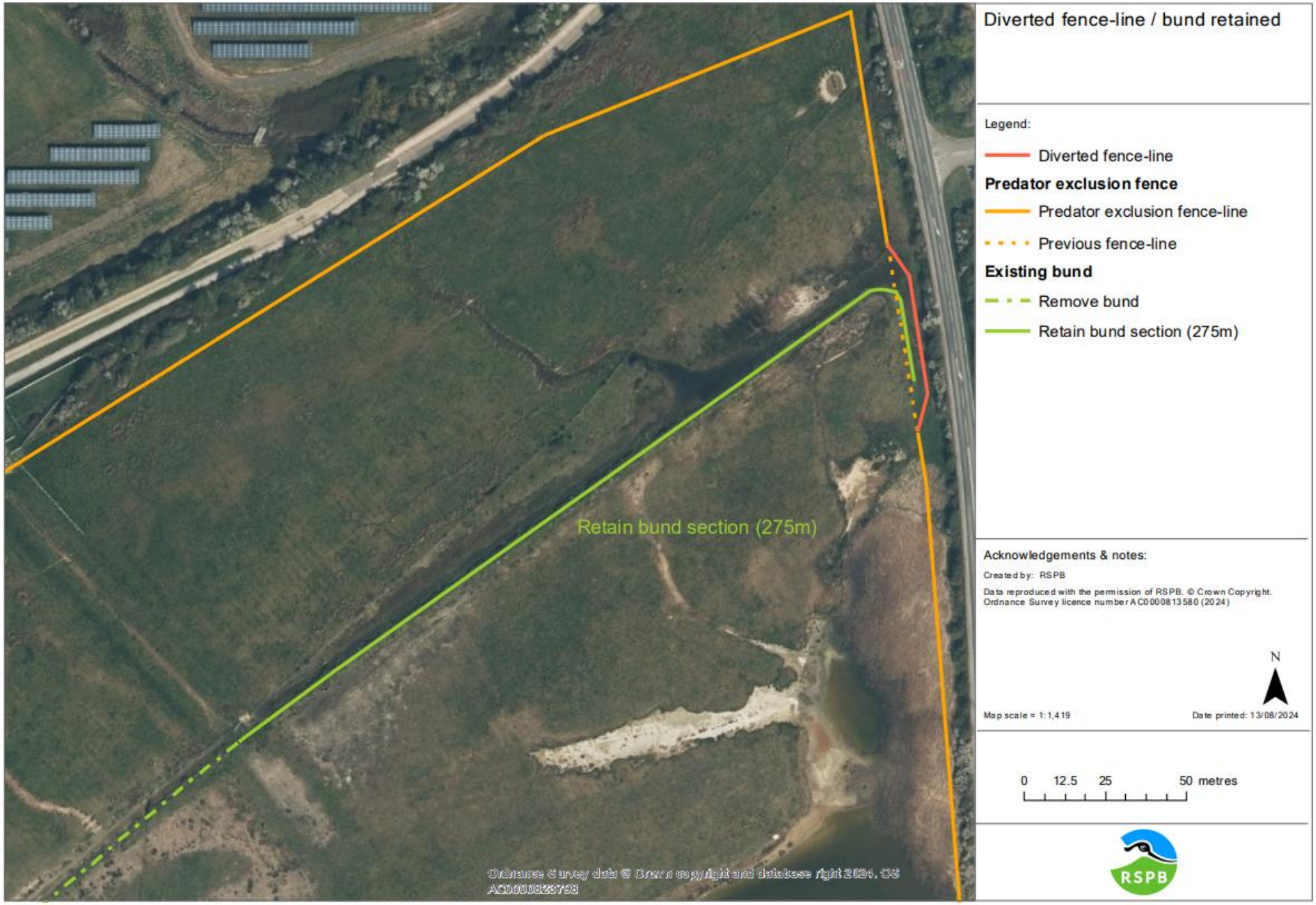

Fig. 4 Planned mitigation showing diverted fence line and bund to be retained

Ferry Field Water Vole Survey May and July 2024

Luke Parham (E Solent Assistant Warden), Anthony Smith (E Solent Warden) and Jane Sears (Senior Ecologist).

Introduction

The proposed development at Ferry Wetlands (part of the Pagham Harbour designated site) seeks to improve conditions for the qualifying features of the designated site and enhance the overall biodiversity value. Primarily, this will be achieved by re-profiling the site, installing hydrological control structures and introducing predator-exclusion fencing.

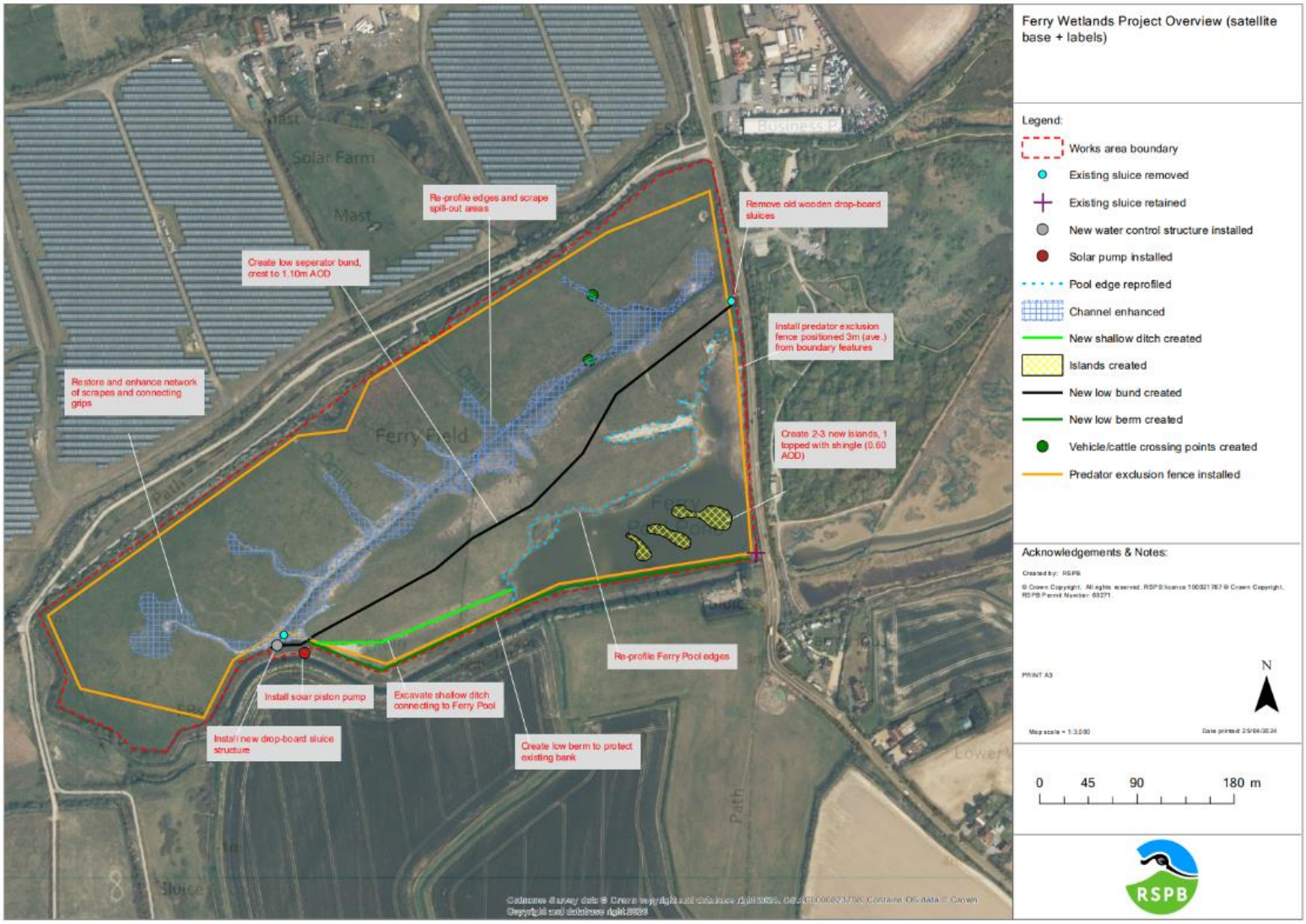

Fig A. Proposed site plan.

Water voles occur on the Manhood peninsula (Reeve 2016) and are known to occur in the vicinity of Ferry Field as there was one previous record close to the site. Although the Ecological Impact Assessment (Wallace 2024) considered that the habitat was sub-optima for breeding it was considered possible that they could use the site for foraging. It was therefore necessary to establish if and how the work area is used by water voles and whether mitigation is required.
Luke Parham and Trevor Gibson-Pool are experienced water vole surveyors and contributors to the National Water Vole Monitoring Database. They were advised by Jane Sears who is a member of the National Water Vole Steering Group and advises projects affecting water voles on other RSPB reserves.

Methodology

Detailed searches were made of all the potentially suitable habitat along the 2 main ditches and the smaller footdrains from SZ 85609646 to SZ85089632. Both banks were surveyed and were visible from walking along the edges of the ditches as they are only 1-2m wide. All signs of water vole activity were recorded and mapped including, burrows, latrines and feeding signs/caches (following National Water Vole Monitoring Programme guidance). A sample of photographs was taken. In total c 1000m of ditch (500m either side) plus the shallow footdrains and the perimeter of a pond was surveyed each survey. Two surveys were carried out, two months apart, as per the guidance in The Water Vole Mitigation Handbook (Dean *et al* 2016). At the time of the first survey on 27 May 2024, the ditches held water, but by the second survey on 30 July 2024, they were dry with only one area of damp mud remaining at the eastern end of the central east-west ditch.

Results

One kilometre of ditch and the perimeter of a pond were surveyed during each survey.
1st Survey 27 May
During the survey undertaken on 27th May 2024, signs of water vole activity were recorded, including latrines, feeding stations and c17 suspected burrows. (see images -some atypical shape so possibly not all made by water voles). All were found in close proximity along the southern bank of the central ditch running southwest to northeast across Ferry Field, at its north-eastern end (from SZ8540196422 in west to SZ8559296550 in east). In addition, feeding stations and burrows were found along a perpendicular ditch running north-south at the far eastern end next to the road, from SZ8559296550 to SZ8560896469). Feeding signs were also seen at the top of the very small shallow ditch flowing across the field from the north at SZ8545196563 but there was no suitable burrowing habitat there. No signs were found at the pond, To the south of point SZ8560896469 the ditch widens into a reedbed in which Reed Warblers were breeding so the survey did not extend beyond this point.
The below map (Fig. B) shows the extent of the area where these signs were found. It was not possible to determine if the burrows were occupied but the presence of fresh and trampled latrines and feeding stations would suggest they were.

Fig B. Survey results from 1st survey on 27 May 2024.

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National Water Vole Monitoring Programme survey form

Site Number: Ferry Field	Transect No. (if applicable):	Bank surveyed (N/S/E/W):
Start grid ref:	End grid ref:	Transect length:
Survey date:	Surveyor:	

Water vole signs in each 100m section of the transect
(complete as many as is applicable to the length of your transect)

Field sign	0-100m	100-200m	200-300m	300-400m	400-500m	500-600m
Number of trampled latrines (trodden flat on top)				1		
Number of untrampled latrines				III		
*Please note the location of the **first** latrine that you encounter (Grid Reference or GPS)*				W3W: serves. sending. puncture SZ85479646 (roughly)		
*Please note the location of the **last** latrine that you encounter (Grid Reference or GPS)*				W3W: viewing. phones. storyline SZ85419642 (roughly)		
Water vole feeding signs	21	12	3	21		
Burrows/nests (approximate no.)	☐ None ☑ 1-5 ☐ 6 - 10 ☐ More than 10	☐ None ☑ 1-5 ☐ 6 - 10 ☐ More than 10	☐ None ☑ 1-5 ☐ 6 - 10 ☐ More than 10	☐ None ☐ 1-5 ☐ 6 - 10 ☑ More than 10	☑ None ☐ 1-5 ☐ 6 - 10 ☐ More than 10	☑ None ☐ 1-5 ☐ 6 - 10 ☐ More than 10
Sighting:	☑ No ☐ Yes, if so how many:	☑ No ☐ Yes, if so how many:	☑ No ☐ Yes, if so how many:	☑ No ☐ Yes, if so how many:	☑ No ☐ Yes, if so how many:	☑ No ☐ Yes, if so how many:

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Field sign record form *(optional)*

Please record the field sign detected (trampled/untrampled latrine, feeding station, burrow, sighting) and its GPS location			
Field sign	**Location (Grid Reference or GPS)**	**Transect section: e.g. 1st 100m, 3rd 100m**	**Comments**
e.g. *trampled latrine*	*SN6447725383 or Lat: 51.910444 Long: -3.9716113*	*1st 100m section*	*Fresh droppings*
• Feedings signs start	W3W: afraid. cabinet. blaze	1	
• Burrow	W3W: trumped. bowhead. foot	1	on road side of bank
• Burrow	W3W: warp. handicaps. undertine	2	on South side of bank -as are all proceeding this.
• Burrow	W3W: removal. builders. tips	2	
• Burrow	W3W: contracts. everybody. friends	3	
• Latrine	W3W: serves. sending. punches	4	Look like fresh droppings
• Burrow & latrine	W3W: Mixed. weeknight. drilling	4	Latrine also trampled
• Burrow	W3W: lanes. loafing. host	4	
• Burrows	W3W: detergent. month. mouth	4	3 in this location
• Burrows	W3W: scribbled. swims. kebabs	4	2 in this location
• Burrow	W3W: lateral. enveloped. almost	4	
• Latrine	W3W: streamers. dark. contained	4	
• Trampled latrine	W3W: viewing. phones. storyline	4	Also lots of feeding stations in this area. Feeding stations stop.
• Burrows	W3W: junior. fancy. stood	4	2 burrows

Data should be submitted by the 31st October each year
Please enter all data online at www.ptes.org/watervoles

Fig C Feeding station with 45 degree cut ends. Fig D Latrine with tic-tac sized green/brown droppings

Fig E Trampled latrine

Fig F Burrows in ditch bank

Fig G & H Burrows – both atypical shapes for water vole

2nd Survey 30 July

A follow-up survey conducted on 30th of July revealed no obvious, recent signs of water vole activity (Fig I), apart from three small piles of vegetation with some ends nibbled at a 45 degree angle found at the eastern-most end of the central ditch in a sedge=dominated damp area (Figs 3 & J). These were deemed not to resemble typical water vole feeding stations and may have been the feeding signs of field or bank vole. No fresh latrines or obvious water vole feeding signs were recorded. Some of the burrows showed signs of recent activity in the form of small piles freshly excavated spoil at their entrances (Fig K), and given the absence of water vole droppings, it is possible that another rodent species may have been using the burrows.

The ditch had almost completely dried out during the summer. A single area of damp mud remained in the area at the eastern extremity of the ditch at the elbow bend of the bank.

Fig I Map of water vole signs 30 July 2024

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National Water Vole Monitoring Programme survey form

Site Number:	Transect No. (if applicable):	Bank surveyed (N/S/E/W):
Start grid ref:	End grid ref:	Transect length:
Survey date:	Surveyor:	

Water vole signs in each 100m section of the transect
(complete as many as is applicable to the length of your transect)

Field sign	0-100m	100-200m	200-300m	300-400m	400-500m	500-600m
Number of trampled latrines (trodden flat on top)	1	1	1	1	1	
Number of untrampled latrines	1	1	1	1	1	
*Please note the location of the **first** latrine that you encounter (Grid Reference or GPS)*						
*Please note the location of the **last** latrine that you encounter (Grid Reference or GPS)*						
Water vole feeding signs	2					
Burrows/nests (approximate no.)	☒ None ☐ 1-5 ☐ 6 - 10 ☐ More than 10	☒ None ☐ 1-5 ☐ 6 - 10 ☐ More than 10	☐ None ☒ 1-5 ☐ 6 - 10 ☐ More than 10	☐ None ☒ 1-5 ☐ 6 - 10 ☐ More than 10	☒ None ☐ 1-5 ☐ 6 - 10 ☐ More than 10	☐ None ☐ 1-5 ☐ 6 - 10 ☐ More than 10
Sighting:	☒ No ☐ Yes, if so how many:	☒ No ☐ Yes, if so how many:	☒ No ☐ Yes, if so how many:	☒ No ☐ Yes, if so how many:	☒ No ☐ Yes, if so how many:	☐ No ☐ Yes, if so how many:

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Field sign record form *(optional)*

Please record the field sign detected (trampled/untrampled latrine, feeding station, burrow, sighting) and its GPS location

Field sign	Location (Grid Reference or GPS)	Transect section: e.g. 1st 100m, 3rd 100m	Comments
e.g. *trampled latrine*	*SN6447725383 or Lat: 51.910444 Long: -3.9716113*	*1st 100m section*	*Fresh droppings*
• Burrow	SZ855965 Lat 50.762129 Long -0.787980	3rd 100m	
• Burrows (x2) + 1 Feeding	50.76206450 -0.78816490	3rd 100m	• Feeding material was similar to that normally found by bank voles however head 45° angle at base of stem & in proximity to what we suspect are water vole burrows
• Burrow	50.761821 -0.788718	4th 100m	
• Burrow	50.76167970 -0.78897160	4th 100m	
• Burrow	50.76155900 -0.78928760	4th 100m	
• Burrows (x2)	50.76139380 -0.78967350	5th 100m	
• Feeding evidence	50.76118950 -0.78767730	1st 100m	In reedbed
• Feeding evidence	unloaded. mixed. observers	1st 100m	In reedbed

Data should be submitted by the 31st October each year
Please enter all data online at www.ptes.org/watervoles

Fig J Feeding material in pile

Fig K Burrows with freshly disturbed soil – atypical of water vole burrows

Conclusions

The following conclusions can be drawn from the survey findings:

1. Water voles use the ditch in the winter and early spring months, during the time when it is replenished with rainwater in October-November up to when it dries out, usually by May-June.
2. A section of the existing bank (or "bund") provides good water vole habitat.
3. Presence of water within the ditches has a strong influence on occupancy by water voles

References

Dean, M., Strachan, R., Gow, D. and Andrews, R. 2016. Te Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series). Eds Fiona Matthews and Paul Chanin. Mammal Society, London.

Reeves, J. 2016, HLF Manhood Peninsula Water Vole Project Final Summary Report 2012-2015.

Wallace, L. 2024, Ecological Impact Assessment for Downs to the Sea RSPB Ferry Wetlands.