Leicestershire & Rutland Wildlife Trust

**Rutland Water Nature Reserve**

**2018 Breeding Wader Survey**

## Introduction

Several species of wading bird breed regularly at Rutland Water Nature Reserve. The aim of this study was to accurately record and map breeding waders across RWNR, with the intention of using the results of the survey to help inform management decisions across the site. Further studies in subsequent years can also use this study as a baseline to help determine population trends.

## Methodology

Wader surveyors were asked to survey each lagoon for 2-4 hours, dependent upon lagoon size and bird activity. The method employed was a fixed-point observation study where the observation points were usually hides. The only exception was on Lagoon 7 where there are no hides. In this case, surveyors were asked to view the lagoon from the bank close to the sluice gate on Lagoon 7. In instances where good maps were available, nest locations were plotted onto maps.

The surveyors were asked to look for specific behaviour associated with breeding waders and enter any findings onto an accompanying recording form. Concrete blocks with numbers painted on were placed in the shallows around the islands to make the recording process simpler. The number of the island on which the breeding behaviour occurred was noted and a note of any chicks present was made later in the season. The behaviours that the surveyors were asked to note were;

*Courtship*

Behaviours such as chasing, courtship flights and territorial displays were noted in this section. Due to the mobility of birds engaging in courtship, it proved difficult to accurately assign an island number to any birds behaving in this way.

*Copulation*

Any records of active copulation were noted in this section. It was normally possible to assign an island number to this behaviour

*Nest scraping*

Surveyors were asked to watch for any evidence of birds scraping out a nest and to note which island this occurred on

*Incubation*

Any observations of birds sat motionless on an island for long periods was a strong indicator of incubation. Roosting waders normally stand upright on one leg so a bird sat on the ground itself was

likely to be incubating. Any suspected incubating birds were observed to see if they were relieved by the other adult bird for confirmation and the island number was noted.

*Brooding*

Once eggs have hatched, adult birds will regularly shelter their young chicks underneath their bodies. Signs of this behaviour were checked for, and recorded if observed

*Notes*

A large notes section was present on the survey sheet to allow surveyors to provide as much associated information as possible. This included any notes on predator activity, disturbance and any other non-breeding waders that were present during the recording period.

## Results

A total of 38 wader nests were recorded during the survey period. See summary table and distribution maps (fig 1 & fig 2) for an overview.

| | Lag 1 | Lag 1 Wet Meadow | Lag 2 | Lag 3 | Lag 4 | Lag 5 | Lag 6 | Lag 7 | Lag 8 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Lapwing** | | | | 1 | 14 | | 3 | 2 | 1 | **21** |
| **Oystercatcher** | | | | | 7 | 1 | 1 | 1 | 2 | **12** |
| **Redshank** | | | | | 3 | | | | | **3** |
| **Little Ringed Plover** | | | | | 1 | | | | | **1** |
| **Ringed Plover** | | | | | | | | | | **0** |
| **Avocet** | | | | | 1 | | | | | **1** |
| | | | | | | | | | Total | **38** |

*Figure 1: Summary table of breeding waders*

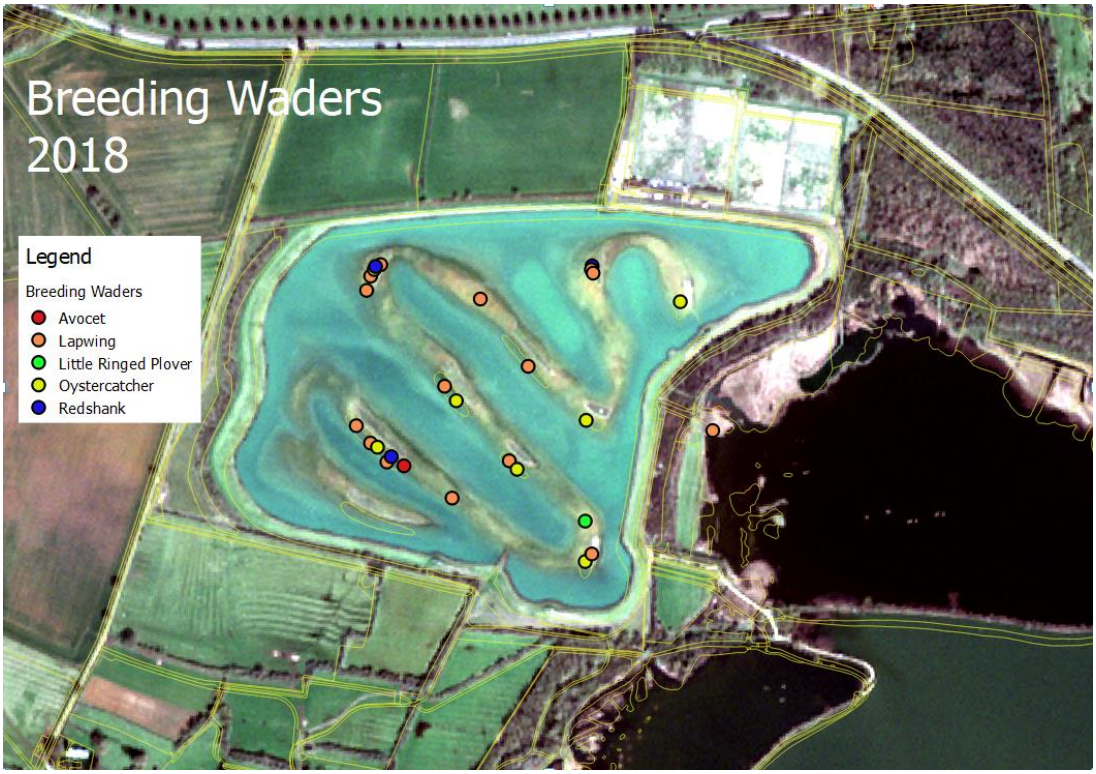


*Figure 2: Breeding Waders on Lagoon 3 & 4*

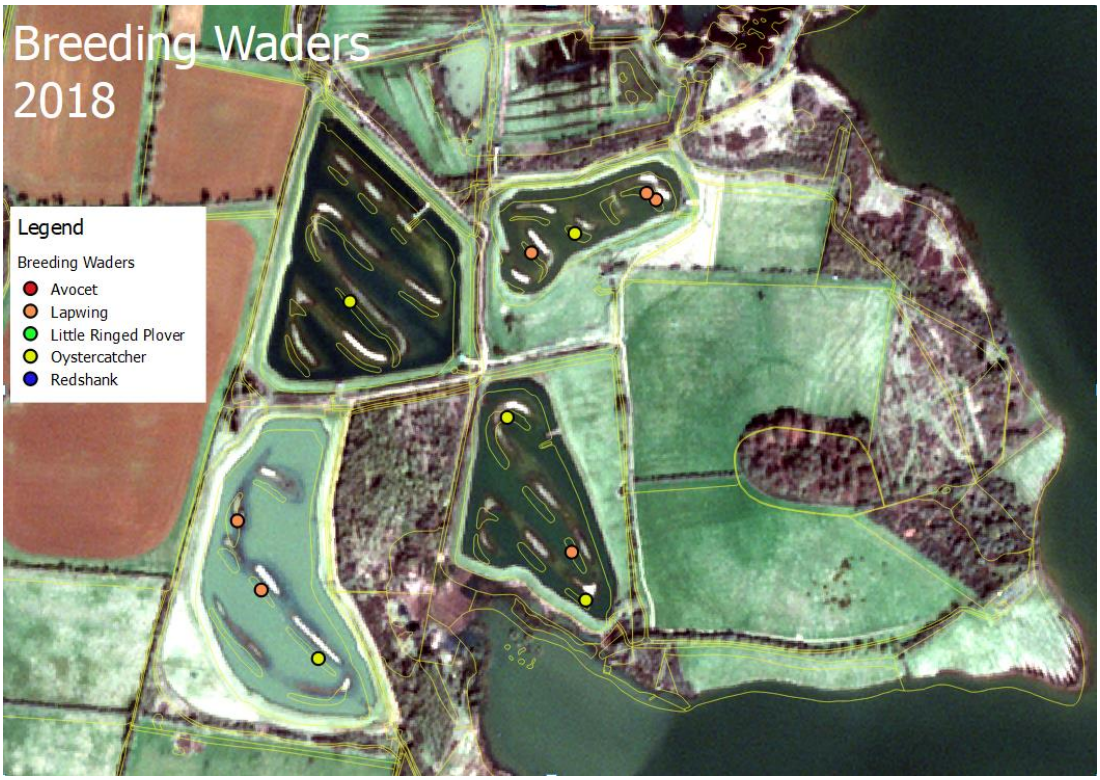


*Figure 3: Breeding Waders on Lagoon 5, 6, 7 & 8*

**Results by species**

Lapwing (*Vanellus vanellus*)

Breeding birds were distributed across entire site. Lapwing was the most common breeding wader recorded during the survey season. Nested across the whole period with many nests recorded later in the season. Most nests were recorded on Lagoon 4 where a good chick survival rate was observed. Two young chicks and an adult were spotted in early June on Lagoon 3, which suggests successful breeding on that Lagoon too. Early nesting birds favoured the tops of the vegetated and gravel islands but as the season progressed, more pairs nested on the exposed rocky/muddy areas between the islands.

Oystercatcher (*Haematopus ostralegus*)

Another widely distributed breeding bird across the site. All of the new Lagoons (4, 5, 6, 7 & 8) had at least one pair on them, with a high of seven nests on Lagoon 4. All observed nests hatched two chicks (despite many having three or four eggs when LP + AN recorded nests) with one chick in all cases surviving to adulthood. Both chicks on Lagoon 5 appeared to have been lost to predation. Oystercatchers were an early nester with birds favouring the tops of islands with a slight favouritism towards the gravel-topped islands. The birds seemed unaffected by slope profile and height of islands.

Redshank (*Tringa totanus*)

Three nests were recorded during the survey period, all on Lagoon 4. Two nests were observed to have hatched chicks and personal observations of two fledged chicks from Shoveler Hide on Lagoon 3 suggests survival to near-adulthood at least. The three nests were located on the vegetated islands, within areas of dense vegetation. One nest on Island 2 was almost certainly predated by corvids.

Little Ringed Plover (*Charadrius dubius*)

While two pairs had established territories on Lag 4, there was only one confirmed nest, which represents a poor breeding year for this Schedule-1 species across the site. The birds seemed to favour the flats around island 10 on the south side of Lagoon 4 and the flats around island 2 at the north end.

Pied Avocet (*Recurvirostra avosetta*)

Up to three birds were present during the survey period. Breeding behaviour was observed on the Lag 1 Wet Meadow and Lagoon 4, eventually nesting on Lag 4 in front of Dunlin Hide. The nest was sadly predated at the egg stage (Tim A), culprit unknown. The species has been a sporadic breeder at the site over the past few years so is no real surprise that they were unsuccessful this year.

Ringed Plover (*Charadrius hiaticula*)

No records of breeding this year. Birds were present during the recording period but were of the migratory t*undrae* race. The race which breeds at Rutland (*hiaticula),* is an earlier migrant, normally arriving in Feb/March. Due to the cold weather during this period, it is likely returning breeding birds moved elsewhere.

Snipe (*Gallinago gallinago*)

During the breeding season, one Snipe was noted on Lagoon 1 during gull nest monitoring in suitable breeding habitat. No breeding observations were forthcoming but is an interesting record.

Predation

During the wader surveys there were no recorded instances of predation upon wader chicks. Anecdotal evidence suggests some predation almost certainly occurred. Corvids (Carrion Crows and Jackdaws) were regularly spotted systematically combing the islands and it is reasonable to suggest some eggs or chicks will have been predated in this way. I personally observed a Carrion Crow eating a chick on Lag 4 but could not be certain that it was a wader chick. Large gulls (mainly Lesser-black Backed) were nearly always present on Lagoon 4 too and could well have been actively predating wader chicks.

Land-based predators were certainly active on some of the Lagoons, with all Black headed Gull nests on Lagoon 5 lost to predation, along with all of the gull nests on the Lagoon 3 Islands. No observations were made of the predation events, but were likely to have been by Foxes (*Vulpus vulpus*), Badgers (*Meles meles*) or Otters (*Lutra lutra*)

**Conclusions**

Lagoon 4 had a very good year for breeding waders. The total number of 29 wader nests for that Lagoon far surpasses that of the other Lagoons combined. This is likely to be due to the sheer size of the habitat combined with the suitability of the habitats present for several species. Waders prefer to nest in loose colonies spread out over a large area of suitable habitat and Lagoon 4 caters for those needs best at Rutland Water.

Lagoon 5 and the Wet Meadow on Lagoon 1 had a poor year, with very little breeding behaviour noted in either area. Lagoon 5 had issues with predation and is less suitable for breeding waders than other areas but the Wet Meadow performed worse than expected. The habitat looked in good condition for breeding birds and the breeding behaviour exhibited by Avocets in this area suggests the suitability of the habitat is good, but no breeding records were forthcoming.

The old lagoons (1, 2&3) had a poor year for breeding waders (one Lapwing nest on Lag3) which suggest the suitability of the habitat is poor for breeding waders. There is a large population of Black-headed gulls that nest on most of the islands, and their presence could have deterred waders from breeding. The highly vegetated nature of the islands on these Lagoons could have also deterred waders from breeding.

**Recommendations for habitat/remedial works**

Wet Meadow Lagoon 1

The wet grassland habitat of the Wet Meadow, although small in size, should be perfect for breeding waders. Possible works that could be undertaken to enhance the habitat could include extending the scrapes at either end of the area and re-profiling of the ditches that run between the two hides. Tweaking the grazing regime to promote better sward structure and variation is an option too.

Re-profiling of islands

Using an excavator, the profile of the islands on some of the Lagoons could be altered to become more attractive to waders. Due to erosion many of the islands have developed steep sides and high tops. Re-profiling the islands to create lower, wider areas would be beneficial to breeding waders.

Lowering the overall height of the islands will have the advantage of being able to flood them out during the winter to a greater degree. Flooding the islands during the winter will kills off a lot of the vegetation, meaning that vegetation cover will be sparser during the breeding season and more attractive to waders. Lowering the height of the islands and flooding them completely/near completely during the winter will also lessen the effects of wave erosion on the islands.

If budget restrictions allow, the existing gravel islands could also be re-profiled with additional gravel added to enhance the suitability of the habitat. The islands on Lagoon 5 are in particular need of re-profiling as many are very high and the lack of wader breeding behaviour during the survey period is an indication that the habitat is sub-optimal.

The islands on Lagoon 4 are also in need of re-profiling. Wave erosion is particularly prevalent on this lagoon and the steep bluffs that have formed on many of the islands must be inhibitive towards chick feeding behaviour and predator evasion.

*Predator fence Installation*

The costs implications of installing predator fencing around all of the lagoons would be unfeasibly high so is not a realistic option across the whole site but some funding could be available for a smaller area. Lagoon 4 would benefit most from such works, due to the high density of breeding birds and the suitability of the habitat for the less-common breeding waders at Rutland Water (Avocet & Little Ringed Plover). Predator fencing can be effective in excluding land-based predators such as Foxes and Badgers but has no effect on avian sources of predation such as corvids and large gulls. Lagoon 5, which suffered heavily from predation (largely Black-headed Gulls rather than waders) would be another strong candidate for a predator fence.

Corvid control

A regime of Larssen trapping could be employed around the lagoons to reduce corvid numbers. Habitat management to remove perches and overlooking trees from around the Lagoons could also be utilised.

Geese

It can also be hypothesized from personal observations during the survey period that Greylag Geese (and to a lesser extent Canada Geese) are having a detrimental effect on breeding waders across the site. Due to the highly aggressive nature of the geese, any suitable habitat within the immediate (c. 15m) area of a goose nest is rendered uninhabitable to waders or any other birds for that matter. Methods to reduce breeding geese numbers such as egg-pricking, exclusion areas & even lethal control could be employed.

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