



for birds  
for people  
for ever

# WET GRASSLAND PRACTICAL MANUAL: BREEDING WADERS

**Produced by the RSPB**

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### How to use this practical manual

1. This practical manual is split into four sections:
  - **Section 1**- RSPB fact sheets on the birds and the habitats that they prefer
  - **Section 2**- An annotated photoset showing ideal wet grassland at different times of year for different species
  - **Section 3**- An annotated photoset showing the types of sluice, bund and scrapes which can be used to create ideal wet grassland
  - **Section 4**- Further help/ useful contacts
  
2. It is recommended that you follow the steps below:
  - **Step 1**: Read the background and assumptions on **page 5 and 6**
  - **Step 2**: Using the wet grassland decision tree on **page 7**, decide what species of breeding wading bird species you will be managing your area of land for.
  - **Step 3**: Using the annotated photosets in **section 2**, study the photographs to help you manage your area of land to increase the numbers of your target breeding wading bird species
  - **Step 4**: Use the annotated photoset in **section 3** to help you decide the most effective way of raising water levels and creating an ideal sward for breeding waders

# **Section 1: Factsheets**

# **Section 2: Photosets**

## BACKGROUND

For more detailed information, please refer to: RSPB fact sheets in **section 1**; the 'Wet Grassland Guide' published by the RSPB<sup>1</sup>; the RSPB web-site<sup>2</sup> or the RDS website<sup>3</sup>.

1. This wet grassland manual guide focuses on the four breeding wader species of conservation concern: lapwing, snipe, redshank and curlew.
2. Wet grasslands are valuable for many reasons and great care must be taken not to damage any other environmental feature, for example species rich floodplain grassland. If in doubt, contact an adviser listed in **section 4**.
3. Wet grasslands are important for many other wetland bird species including yellow wagtail and other species including starling and tree sparrow.
4. Wet grassland should not be treated in isolation to the rest of the farm holding. Species such as lapwing may use adjacent arable land to nest on but walk chicks into an insect rich wet grassland area shortly after hatching.
5. The first stage in managing an area of land for breeding waders should always be to assess what the target species for an area of land should be, by looking at the species distribution locally and the ground conditions/potential in the field in question. **Refer to the fact sheets in section 1.**
6. In general, wet grassland suitable for breeding waders can be created in one of two ways:
  - Raise the water table (on permeable soils, eg. peat) so that shallow pools are created in natural hollows in the ground surface and the water table is kept on average to within 30 cm of the ground surface. See **page 15-17** for details of sluices.
  - Where soils are less permeable, (for example on unstructured clays and silts) create features such as 'scrapes' or foot-drains, which will retain surface water through the critical spring period.
  - The amount of water available at different times of year must be carefully considered. If the field to be 're-wetted' is rainwater fed (ie. there are no external streams or springs feeding into the site), then it may be necessary to hold **more** water on the field in the Autumn to provide optimum wetness for breeding waders in the following Spring. If there is a reliable, external water supply then it will be easier to raise and lower water control structures (see **page 15-17**) as required.
7. Variety is crucial for all species, ie. taller areas of vegetation in a predominantly short sward, dry areas in predominantly wet areas etc.
8. There are two main factors to take into account when managing an area of land for breeding waders: where birds will nest and where they will feed and rear chicks. These are illustrated below in the photographs.
9. Fields may be managed primarily for breeding waders but there may well be secondary benefits provided from creating 'splash flooding' conditions through the winter for wintering waterfowl and waders.

<sup>1</sup> Eds. Treweek J., Jose P, Benstead P, 'Wet Grassland Guide: Managing Floodplain and Coastal Wet Grassland for Wildlife', RSPB, EN and ITE, 1997

<sup>2</sup> <http://www.rspb.org.uk/ourwork/conservation/managingreserves/habitats/wetgrassland/index.asp>

<sup>3</sup> <http://www.defra.gov.uk/erdp/schemes/es/default.htm>

10. Wet grasslands are known to provide enhancing feeding/nesting opportunities for several other bird species including reed bunting, linnet, song thrush and starling.

### **Assumptions/ factors to consider carefully when using this practical manual**

1. If you are in an agri-environment scheme, for example the Countryside Stewardship Scheme, then you will have prescriptions stated in your agreement document which clearly state stocking levels etc. Your agreement document **MUST** be your first point of reference when looking to make changes to your land management. For further guidance, please contact your RDS adviser (see **section 4**).
2. If you are **not** currently in an agri-environment scheme, then before carrying out any management works, please contact one of the advisers listed in **section 4**.
3. Once you are clear about which breeding wader species you are managing your area of land for, use the wet grassland decision tree on **page 7** to help you decide on what management is needed on your area of ground.
4. The five photosets on **pages 9-13** are designed to help give you an idea of what type of sward and wetness features are ideal at different times of year for different species of breeding wading bird. They are to be considered as a guide only. If your land does not look exactly like the example shown in the picture, it does not mean that it does not have a value for breeding wading birds/ other wildlife already.

*Photographs courtesy of the following RSPB staff: Becky Cash (photo 16), Chris Tomson (photo 17), Norman Holton (photo 1 and 2) and Tim Youngs (all other photos)*

### **Justification for pairing breeding wader species in the photosets**

- Areas of land are often managed for one or more breeding wader species, but rarely for all four breeding wader species as their requirements are quite different.
- *Lapwing and Redshank* require a fairly similar sward height and structure for nesting and chick feeding ie. short with scattered tussocks (see RSPB factsheets). *Lapwing* prefer a very short sward whereas *Redshank* prefer scattered tussocks for nesting. *Redshank* more strongly prefer shallow pools of water for feeding but these are used by *Lapwing* too.
- *Snipe and Curlew* require fairly similar sward heights and structure for nesting ie. areas of tall, dense sward and both use shallow pools of water for feeding chicks. *Curlew* prefer to nest on drier ground whereas *Snipe* require dense tussocks close to a pool of open water for nesting.

## Wet grassland decision tree

This is a decision tree to help guide wet grassland management work for the four main breeding wader species of conservation concern: Lapwing, Redshank, Snipe and Curlew. It assumes that you:

- Are in an agri-environment scheme
- Know what wading birds are already breeding in your area and therefore what species are/ could be attracted to your specific field in question
- That you are clear, therefore, about which breeding wader species you are managing your land for

Follow the steps below:

**Step 1:** What species will you be managing your area of land for?

*Lapwing and/or Redshank*

*Snipe and/or Curlew*

**Guidance:** If you are unsure, consult your agri-environment agreement document in the first instance. The factsheets in section 1 may also help you. If in doubt, contact your Adviser (see section 4 for help).

**Decision 1:** The species that you are managing your land for should be the primary driver for wet grassland management work on site → **Go to step 2**



**Step 2:** What time of year is it?

*Spring*  
(see photo page 9/11)

*Summer*  
(see photo page 10/12)

*Autumn/ Winter*  
(see photo page 13)

**Decision 2:** Season → **Go to step 3**



**Step 3:** How does your area of land compare to the photographs showing ideal breeding wading bird habitat? (see below).

*Same*

*Similar*

*Not the same*

**Decision 3:**







- If the '*same*', continue present management and monitor effects on breeding wader numbers.
- If '*similar*' then tweak management (more/less grazing with cattle; raising water tables; cutting rush etc.) accordingly-**refer to the rest of section 2**
- If '*not the same*' then consider more radical intervention (more/less grazing with cattle; raising water tables; cutting rush etc.)- **refer to section 3.**



**Step 4:** Contact your Adviser (see **section 4**) to agree further action **and** seek any permissions/ consent. See wet grassland management planner- breeding wader species and management operations below.

## Wet grassland management planner – breeding wader species and management operations

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
<b>Species of breeding wader</b>												
Lapwing			←→									
Snipe			←→									
Curlew			←→									
Redshank			←→									
<b>Management Operation- see section 3</b>												
Raise water level- lift sluice up	→											←
Lower water level- lower sluice down								←→				
Grazing management			←→					←→				
Rush cutting								←→				
Avoid damaging mechanical operations, eg. harrowing, rolling			←→									
Install sluices, bunds, scrapes								←→				

- Key**
-  Wader breeding season
  -  Management operation (sluices)- lower sluice down or raise sluice up
  -  Grazing intensity (darker tone= heavier grazing)
  -  Rush cutting period
  -  Period in which damaging operations may affect breeding birds
  -  Ideal period in which to install infrastructure to raise water levels



# LAPWING AND/OR REDSHANK

**SPRING** (early March to late June)



## MANAGEMENT AIMS

1. Maintain a short sward (less than 5cm). Maintain scattered tussocks across the field up to 15 cm in height.  
**ACTION:** This may involve increasing or decreasing numbers of cattle/ sheep within the limits defined in an agri-environment scheme agreement. See RSPB fact sheet in **section 1** entitled 'Managing grassland for waders'
2. Keep the field wetness to within 30cm of the surface so that shallow pools are created in natural hollows in the ground surface (to monitor this effectively, a small hole may have to be dug). Maintain 'brimming' pools of water for feeding chicks, especially Redshank- see section 4 (scrape creation in **photos 8,9 and 10** and ditch re-profiling in **photos 11 and 12**).  
**ACTION:** This may involve making MINOR adjustments to a water control structure- see **photo 6 and 7** below in **section 3**

# LAPWING AND/OR REDSHANK

**SUMMER** (late June onwards)

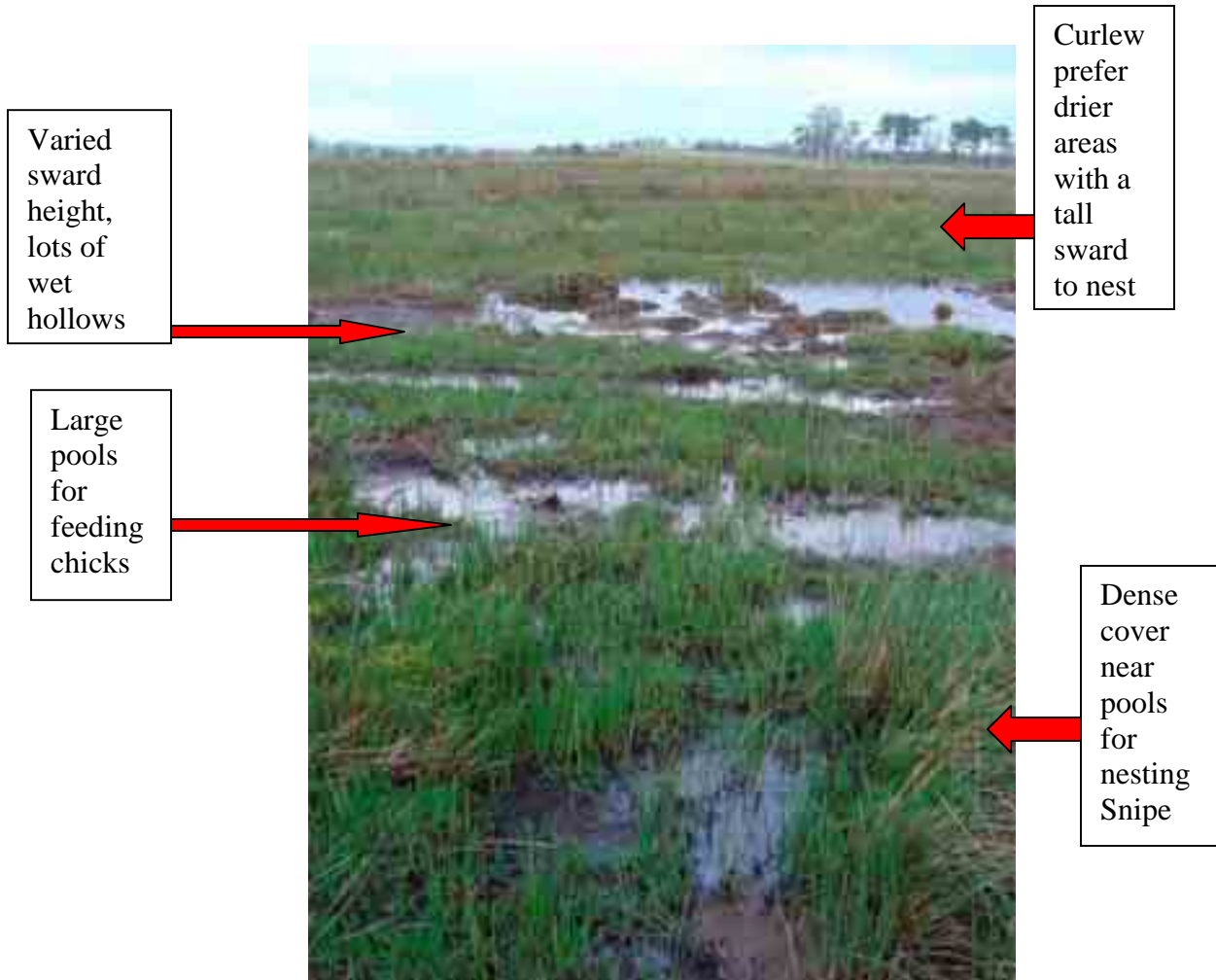


## MANAGEMENT AIMS

1. Maintain a short sward (5- 10cm). Maintain scattered tussocks across the field up to 15 cm in height.  
**ACTION:** This may involve increasing or decreasing numbers of cattle/ sheep within the limits defined in an agri-environment scheme agreement. See RSPB fact sheet in **section 1** entitled 'Managing grassland for waders'  
**ACTION:** After 15 July, this may involve carrying out rush control (see **photo 13-17 in section 3**) and grazing management.
2. Allow water levels to draw down to allow agricultural operations to take place, eg. hay cutting.  
**ACTION:** This may involve making MAJOR adjustments to a water control structure- see **photo 6 and 7** below in **section 3**

# SNIPE AND/OR CURLEW

## SPRING (early March to late June)



### MANAGEMENT AIMS

1. Maintain a medium/long sward (15-30cm) interspersed by shorter areas of sward 5 cms. long.  
**ACTION:** This may involve increasing or decreasing numbers of cattle/ sheep within the limits defined in an Agri-Environment scheme agreement. See RSPB farming for birds factsheet in **section 1** entitled 'Managing grassland for waders'
3. Keep field wetness near field surface level so that shallow pools are created in natural hollows in the ground surface. Maintain pools of water for feeding chicks, especially for Snipe- see section 4 (scrape creation in **photos 8,9 and 10** and ditch re-profiling in **photos 11 and 12**).  
**ACTION:** This may involve making MINOR adjustments to a water control structure. See **photo 6 and 7** below in **section 3**

# SNIPE AND/OR CURLEW

**SUMMER** (late June onwards)



Allow soil to dry out to allow for heavier grazing or hay cutting **by mid July**

## MANAGEMENT AIMS

1. Maintain a medium/long sward (15-30cm) interspersed by shorter areas of sward 5 centimetres long.  
**ACTION:** This may involve increasing or decreasing numbers of cattle/ sheep  
**ACTION:** After 15 July, this may involve carrying out rush control (see **photo 13-17 in section 3**) and grazing management.
2. Allow water levels to drawdown to allow agricultural operations to take place, eg. hay cutting.  
**ACTION:** This may involve making MAJOR adjustments to a water control structure- see **photo 6 and 7** below in **section 3**



# BREEDING WADERS AND WATERFOWL

**AUTUMN/ WINTER** (Late October to late February)

Raise water table again to create 'splash flooding'



## MANAGEMENT AIMS

1. Graze sward (where possible) to ensure that optimal sward heights (which vary depending on bird species- see two 'Spring' photo-sheets above) are achieved by the start of the following year's grazing season.  
**ACTION:** This may involve increasing or decreasing numbers of cattle/ sheep within the limits defined in an Agri-Environment scheme agreement. See RSPB factsheet in **section 1** entitled 'Managing grassland for waders.'  
**ACTION:** This may involve carrying out rush control (see **photo 13-17** in **section 3**) and grazing management.
2. Keep field wetness at field surface level so that extensive shallow pools are created in natural hollows in the ground surface.  
**ACTION:** This may involve making MAJOR adjustments to a water control structure- see **photo 6 and 7** below in **section 3**

## **Section 3: 'How to' guide**

# Sluices

## 1. Recommended designs of sluice and installation

### **Design 1: A rigid pipe with right-angled collar**

*Photo 1*



*Photo 2*



## Installing the rigid pipe with right angled collar

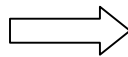
*Photo 3:* Exposing the tile drain



*Photo 4:* Tile drains removed, plastic pipe ready to be installed

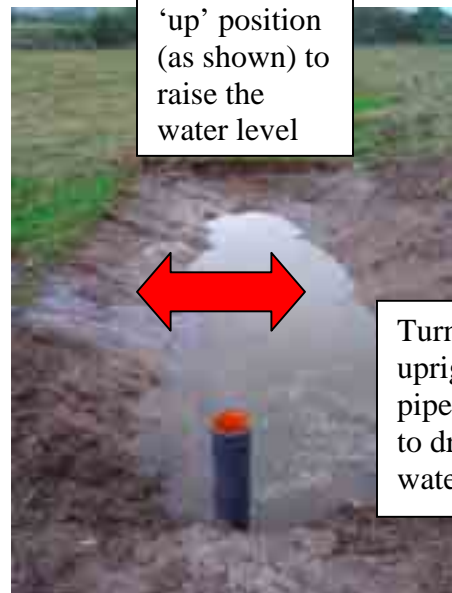


*Photo 5*



*Photo 6*

Turn pipe upright to the 'up' position (as shown) to raise the water level



Turn upright pipe down to drop the water level



**Design 2: Flexi-pipe (arrows = movement direction)**

*Photo 7*



Pull pipe  
up, water  
level in  
ditch rises



Push pipe  
down,  
water level  
in ditch/  
drain falls

## Re-creation of scrapes

Spring/ early summer

*Photo 8:* During excavation....



*Photo 9:* After excavation



...late summer- (drying out)

*Photo 10*



Plenty of  
shallow  
muddy  
margins for  
feeding  
chicks

## Creating a re-profiled ditch (with sluice)

Before....

*Photo 11*



After....

*Photo 12*



Shallow sided ditch edge to allow access for feeding wader chicks

Sluice retains water in the ditch

## Rush control

Before....

*Photo 13*



Too rush  
dominated  
for  
breeding  
wadens:  
30%+

After....

*Photo 14*



Mosaic of  
rush height  
and  
structure,  
less than  
30% dense,  
tall rush

## Rush control (continued..)

There are two main ways of controlling rush: cutting and chemical control.

### a) Cutting

A conventional flail/ topper may be able to tackle clumps of rush which aren't too dense:

Denser, more tussocky rush may require a contractor with a flail machine:

*Photo 15*



*Photo16*



### b) Weed wiping

Spraying of herbicide to control rush is perhaps best used when restorative measures are required in heavily rush-infested fields. MCPA and Glyphosphate are two approved chemicals very effective in managing rushes. However, both are broad-spectrum herbicides that will also kill other non-target plants. One of the most appropriate method of applying herbicide is through a contact applicator, such as a weed wiper (see example below). No boom spraying is permitted if the land is in an AE scheme.



*Photo 17*

## **Section 4: Further help/ contacts**

## **Specifications and approximate costs**

**Twin walled rigid pipe** supplied in 4 metre lengths:

- 12 "/300mm= £6.10/metre

- 8"/225 mm= £4.10/metre

Right angled collar for rigid pipe:

12"/300mm= £50.00

8"/225mm= £30.00

**Flexi pipe**

8"/225 mm bore (without holes!)= £128.00 for a 30 metre roll

## **Further advice in Cumbria**

For further help and advice, contact the following advisers in the first instance:

### **The Rural Development Service**

Agricola House

Cowper Road

Gilwilly Trading Estate

Penrith

Cumbria

CA11 9BN

Telephone 01768 865900

### **The RSPB**

Cumbria Wetland Bird Recovery Programme

Tonia Armer

C/O English nature

Juniper House

Murley Moss

Oxenholme road

Kendal

Cumbria LA9 7RL

Telephone 01539 792800

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