

Scrape creation for wildlife

Above: Wetland invertebrates and birds will benefit from the creation of scrapes on your land

Scrapes are shallow depressions with gently sloping edges, which seasonally hold water. They create obvious in-field wet features that are very attractive to wildlife. They support a wide variety of invertebrates and can provide important feeding areas for breeding wading birds and their chicks.

BENEFITS OF SCRAPE CREATION

Research has shown that wet features can provide very important feeding areas for breeding wading birds such as lapwings and redshanks, and their chicks, which find lots of invertebrate food in and around the wet muddy edges. Other farmland birds such as tree sparrows and yellow wagtails may also benefit from these insect-rich areas.

They support a wide variety of aquatic, terrestrial and aerial invertebrates, such as beetles, bugs and molluscs, some of which can be rare and of conservation importance.

Creating new scrapes, and other wet features, is a great way of enhancing damp grassland for wildlife.



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FOOT DRAINS AND THE ROTARY DITCHER

Foot drains are long, linear scrapes, typically up to three metres wide and 50 cm deep, which are designed to hold surface water and act as important wet features in their own right. They can also be used to channel water to the centre of fields from perimeter ditches and to feed other wet features.

As they are long and narrow, foot drains provide more wet edge relative to the area of the feature, therefore providing more feeding areas for wading birds. Recent studies have also shown that creating such features is highly beneficial for wetland invertebrates, such as aquatic beetles and flies. 'Foot drain floods' are areas where water overtops foot drains in spring, to create areas of shallow splashing which are an important additional habitat feature for waders.

RSPB research (Eglington 2007 & 2010) has shown that:

- fields with high foot drain flood densities attracted significantly higher densities of nesting lapwing, which nested near such features
- later in the season, chick field use increased significantly with foot drain density and chicks were more likely to forage nearer foot drain floods in areas of wet mud created by receding water levels

- in late season, lapwing chick body condition was significantly higher in fields with foot drain densities of more than 150 m/ha
- wet pools and foot drains supported a greater biomass of terrestrial invertebrates, and a greater abundance of aerial invertebrates, than the surrounding grazing marsh.

Foot drains can be designed to minimise impacts on field management. If topography allows, foot drains can be spaced to allow tractors to cut and turn between them. Simple crossing points can be installed to enable machinery to move across the field. Soil type, topography and water level management are all important when designing the layout of foot drains. Combining scrapes and areas of shallow splashing within foot drain layout and function may provide most benefit.

The rotary ditcher



A foot drain with associated areas of shallow splashing



The rotary ditcher

Mike Shurner (RSPB)

Foot drains can be created with a rotary ditcher or 360° excavator. The RSPB imported a rotary ditcher from the USA in 2002 with the support of the Heritage Lottery Fund. A rotary ditcher has several advantages:

- foot drains can be created at a rate of up to 200 m per hour – 10 times faster and half the cost of an excavator
- laser-levelling gives an accurate depth of excavation, with adjustable cutting blades able to create variable foot drain profiles
- spoil is spread up to 30 m away as the foot drain is dug
- the machine can also create ditches and simple scrapes up to 12 m wide
- the rotary ditcher and operator can be contracted to work on your site.

For more information visit www.rspb.org.uk/rotaryditcher

Gary Woodburn (RSPB)

For further information on this and other ways of managing your land for wildlife, please contact:

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Front cover images: Alsoton wetland by Gavin Thomas (RSPB), lapwing by Nigel Blake and great diving beetle by Richard Revels (both rspb-images.com)
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CREATING SCRAPES ON YOUR LAND

Location

The suitability of site for scrape creation may depend on factors such as:

- soil type
- size of site
- land levels and topography
- water sources and quality
- existing land drainage systems and drain locations
- existing flora and fauna, SSSI designations and archaeological/landscape features.

Scrapes for wading birds will usually be located in the lower lying and more open areas of a site, away from tall hedges, woodland and overhead lines. Fields over three hectares are best, while for some aquatic invertebrates a wider variety of situations will be of benefit.

Avoid areas with existing wildlife interest and seek advice about features of landscape, historical or archaeological importance, as scrapes may not be appropriate in some situations. Create a 'cluster' of scrapes of varying sizes and designs, rather than one big one, to provide the greatest benefits for a range of wildlife.



Mike Shurmer (RSPB)

Scrape creation



Gary Woodburn (RSPB)

A simple scrape feature

Scrape design

The most important parts of scrapes for wildlife are the margins. Shallow water and muddy edges provide ideal conditions for wetland invertebrates and plants, and allow access for waders and their chicks to find food. A scrape can be any shape, but edges should always be very gently sloping and with irregular and varied outlines if possible.

Scrapes should be shallow, though not with a uniform depth across the whole area. Deeper areas towards the middle of the scrape should be around 50 cm deep, with humps and hollows throughout to provide as many niches for plants and animals as possible. The suggested minimum size of a scrape is approximately 20 m². Three of these per hectare would represent a good level of habitat provision. Management of the scrape and sward may also be a factor when deciding on design. If mowing is used, keep the scrape layout simple to make tractor operations simple and quick. Shallow scrapes can be mown through.

Soils

Scrapes can be created on a variety of soil types. On low permeability soils, for example clays and silts with poor structure, the objective is to retain 'perched water' in the features. On permeable soils, for example peats, or those with sand or gravel elements, the objective may be to raise the general water table in the soil so that scrapes will 'break through' to the water table, creating obvious in-field wet features.

Water supply and quality

Scrapes should hold water from March through to the end of June to provide feeding areas for waders and their chicks. These features will usually remain wetter for



Nigel Blake (rspb-images.com)

Redshank



Gary Woodburn (RSPB)

A scrape created on an old ditch line, with water control pipe

longer than the surrounding grassland, and so become increasingly important as the rest of the site dries out as summer progresses. Wader chicks may be particularly reliant on these areas to ensure they can find enough food before fledging.

Some scrapes will simply be fed by rainfall and winter floodwater, where this is sufficient. Scrapes can also be created along in-field ditch lines where they are fed by water from the ditch, or connected to them by a footdrain or similar water carrier. Providing an outflow with a control sluice will allow levels in the scrape to be controlled.

Connecting the scrape to a water source may be preferable for wading birds, as the feature is likely to retain water and its associated muddy feeding margins for longer. However, this may be less beneficial for other associated wildlife, if such water contains excessive nutrients, chemicals or silt. Allowing some scrapes to completely dry up at the end of summer will also benefit some invertebrates by limiting larger predators and maintaining early successional habitat stages. A variety of connected and non-connected features are probably best.

Scrape management

Once the scrape is created, it is important to maintain open, muddy margins where wading birds can find and access food. If the margins become too overgrown with plants such as rush, wader use will decline rapidly. Allow livestock to graze and poach the margins at low levels, and do not fence the scrape off. Mowing all, or some of, the margins each year may also be required.

Maintain a small proportion of longer marginal vegetation to provide additional habitat variety, which will benefit invertebrates and plants and provide cover for chicks.

Consents and licensing

Creating water-retaining features such as scrapes may require consents, licenses or permissions. Consult with the relevant statutory body at an early stage, which may be able to provide advice and help with your project.

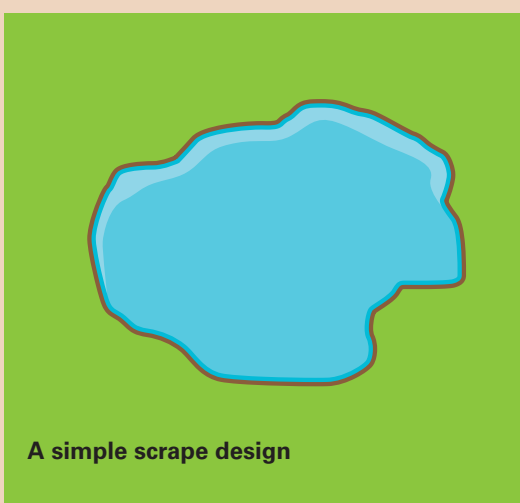
Funding

The scrapes, foot drains and grazing management outlined in this leaflet may be eligible for grant funding under current agri-environment schemes.

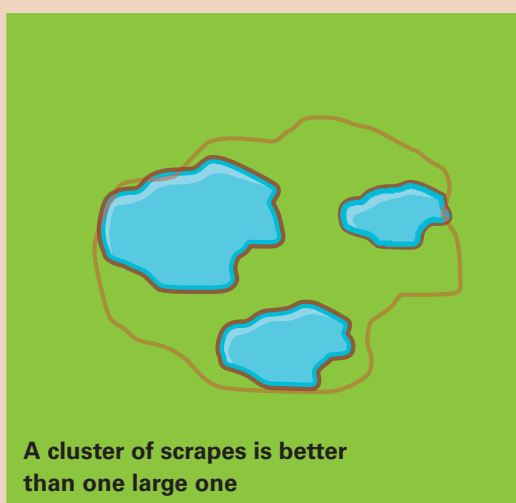


Chris Knights (rspb-images.com)

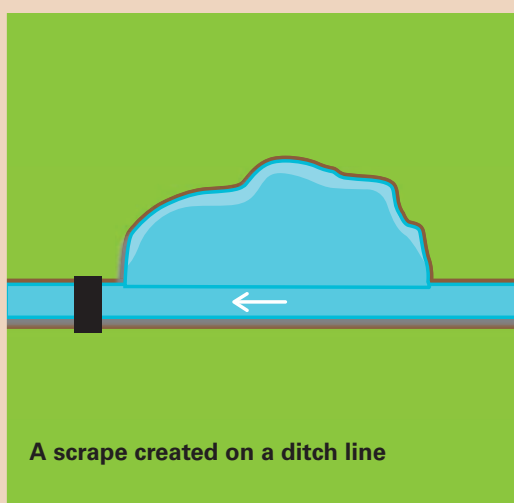
A lapwing chick feeding at the muddy margins of a scrape



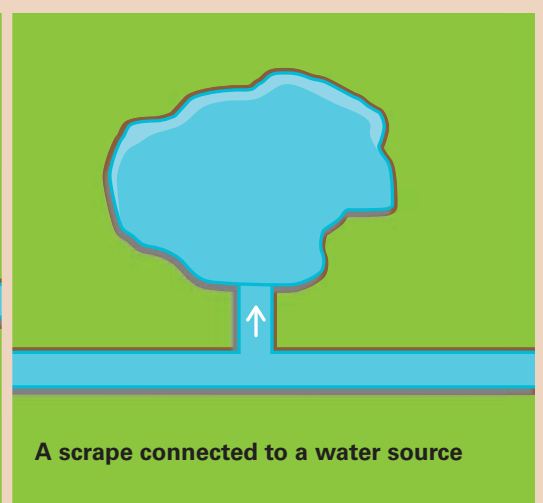
A simple scrape design



A cluster of scrapes is better than one large one



A scrape created on a ditch line



A scrape connected to a water source