

NEW FOREST WATER NEWS

NEW FOREST CATCHMENT PARTNERSHIP NEWSLETTER

The New Forest Catchment Partnership is coordinated by the New Forest National Park Authority and Freshwater Habitats Trust who are working alongside other organisations and communities to protect and improve the special freshwater habitats of the New Forest. This newsletter showcases the work of those who are committed to improving the freshwater environment of the New Forest

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NEW FOREST FRESHWATER AND WETLAND HABITAT RESTORATION: DEVELOPING A STRATEGY

To date, all New Forest wetland restoration has been guided by previous plans, experience and projects to meet conservation objectives for this special place. Two of the key documents are the [Special Area of Conservation Management Plan \(2001\)](#) and the [New Forest Wetland Restoration Plan \(2006-2016\)](#). The SAC Management Plan (2001) was produced during the Life 2 Project (1997 – 2001) and outlines 'how the various habitats must be managed into the future to address current and foreseeable problems and opportunities, and the needs of the special habitats and species, with the ultimate goal of achieving favourable condition for all European features'.

The New Forest Wetland Management Plan was commissioned under the Life 3 project (2003-2006). Its purpose, was to carry forward the work achieved to date and take on board the lessons learnt, to ensure the continued long term sustainability and integrated management of the watercourses and wetland habitats of the New Forest.

The end of the 10 year wetland management plan has provided a good opportunity for the Forestry Commission, Natural England and the Environment Agency to commission experts in their field to undertake a review

of the plan. The team includes: the University of Southampton and GeoData Institute, who are coordinating the process and using their expertise in global geomorphology and New Forest stream restorations; the River Restoration Centre, who have a wealth of knowledge on river restoration across the UK; and Jonathan Cox Associates, who are based in the New Forest and provide specialist skills in ecology and conservation management. Together, they are well placed to provide an independent perspective on shaping the future of wetland restoration in the New Forest.

In November 2017, this consortium hosted a consultation meeting with a number of stakeholders and community representatives to present the review and get feedback on opportunities, priorities, and lessons learned from previous restoration work within the New Forest. From this, they have drafted a framework for how the next wetland management strategy should be developed. The draft framework will be presented to the same consultation group at a further workshop. This will then be analysed to inform how we can shape a new implementation plan for the next decade. We are excited about working with stakeholders to agree a way forward, to ensure the unique habitats of the New Forest are conserved into the future, and to continue the good work that has been achieved to date.

By Nick Wardlaw, Forestry Commission.

Suburbs Wood near Fritham in the North of the Forest. Here the stream has been restored so that in high flow the water can come out of bank to create seasonally wet areas which will provide the perfect conditions for specialist plant species to grow.



Partnership Plan Tour

For the first time a range of organisations in the [Partnership Plan](#) came together to celebrate joint projects in the New Forest

The work of the New Forest Catchment Partnership was one of the many initiatives that were presented during the first New Forest Partnership Plan tour on 4 September. The purpose of the event was to visit successful partnership projects and discuss how potential future challenges can be addressed through a partnership approach between the main stakeholders in the New Forest. The tour started at the Beaulieu Estate and finished at the recently completed visitor centre at Lepe Country Park, with stops for site visits between those venues.



Representatives from many organisations and communities across the New Forest gather at Lepe Country Park.

The event was organised by the New Forest Leadership Group, consisting of the Environment Agency, Forestry Commission, Hampshire County Council, Natural England, New Forest District Council, New Forest National Park Authority, Test Valley Borough Council, the Verderers and Wiltshire Council. Speakers from those and other organisations represented in the Partnership Plan contributed to the success of the day which included a mixture of site visits and presentations. Over 50 people participated in the tour and many attendees took the opportunity to network with representatives from organisations they don't normally work with.



Lord Montague and Dr Naomi Ewald looking at water quality samples.

Dr Naomi Ewald, Freshwater Habitats Trust's Director of Policy and Research, conducted an engaging and interactive demonstration of different levels of water quality of ponds and rivers in the New Forest at an idyllic location on the banks of the River Beaulieu. When she asked attendees for an 'assistant' to help analysing the water samples, Lord Montagu, owner of the Beaulieu Estate, volunteered as a helper. Naomi's talk was followed by a presentation by Sam Orchard, New Forest Catchment

Coordinator from the Environment Agency, who spoke about protecting and improving the water quality in the Beaulieu Shellfish Water Protected Area by addressing sources of diffuse pollution from agriculture and horse pastures. Connecting with the local community is key for the development and success of projects along the River Beaulieu and the Catchment Partnership's work has been encouraged by the interest of the Beaulieu Estate and local residents.

The relevant freshwater actions in the Partnership Plan include: 'Promote an integrated approach to river catchment management in the New Forest; including wildlife conservation, surface and ground water quality and flood prevention, working with all agencies, communities and landowners (LH7)' and 'Improve the water quality and ecological value of river catchments by carrying out practical enhancements to at least 43km of rivers and 5 ponds, working with land managers (LH8).'

Another event for next year is being planned, which will probably take place in the north of the Forest.

By Holga Schiller, National Park Authority.

Innovative solutions to reducing diffuse pollution

As we've discussed before in 'Water News', the New Forest is an outstanding area for freshwater biodiversity. Supporting greater numbers of species and a greater number of rare species than most other landscapes in lowland Britain. We are also fortunate enough to have alongside some internationally important coastal and marine habitats. Working in partnership to maintain the highest standards and taking practical steps to address any underlying issues has been the core objective of the New Forest Catchment Partnership.



Solent SPA at Plummer's Water ©Jim Champion.

In this article we look at how innovative solutions can be used to address issues of diffuse pollution from the agricultural land which lies between the protected areas of the New Forest's Site of Special Scientific Interest and The Solent's Special Protection Area. Whether livestock or arable, modern farming practices inevitably produce higher levels of nutrients than would occur naturally in the environment. We have been seeking to install measures which will help to reduce inputs and slow the flow, helping sediments and nutrients to remain on the land rather than draining into our rivers or out to sea.

Through walkovers and discussions with landowners and farmers it has been relatively easy to pinpoint individual issues which could be addressed. However, many of the standard solutions and grants are not available or suitable for these land holdings. Ironically more options and grants would be available if they were larger agri-businesses; but if this were the case the results would be less effective because the levels of polluting nutrients would be higher!

One such issue was identified on a landholding to the south of the New Forest. Here the lightly fouled water lagoon was being piped directly out to sea under an EA licence. The preferred option would be to close off this pipe and instead put a system in place to return the fouled water to land.

The solution was simple in its design, an underground pipe would be installed to connect the fouled water lagoon to an existing field irrigation system which was no longer in use. A Briggs Roto System would then spread the slurry on a managed field rotation. The Briggs system uses a 200 meter cable staked to the ground, over a period of time the pumped material rotates the boom, winding in the tethered cable.



The workings inside the Rotorainer.



Briggs Rotorainer Pump now installed by the Lagoon on the Farm

Once completed the system can be re-positioned with a quad bike. For the system to work on this farm a folding boom has been included in the order to aid transporting the system from field to field through the gateways.

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Innovative Solutions in Diffuse Pollution

The fouled water will be tested periodically to ensure that it continues to meet the requirements for discharge to fields and the spreading will comply with good agricultural practice, for example:

- No spreading on waterlogged, frozen or snow covered ground.
- No spreading within 100 meters of all SSSIs across the farm
- No spreading with 10 meters of a water course or ditch

The system has been installed and is working well and the previous discharge pipeline out to sea de-commissioned. Such a simple solution, but one which will have significant benefits for the marine environment, helping towards Water Framework Directive objectives for The Solent

This project, and others in this area, have been made possible because of the support and collaboration of the local farming community. The project was coordinated by Freshwater Habitats Trust on behalf of the New Forest Catchment Partnership and delivered in partnership with the New Forest Land Advice Service, Catchment Sensitive Farming, Beaulieu Estate funding and with technical support and funding from the Environment Agency.

Rhys Morgan from the New Forest Land Advise comments:

“This has been a fantastic opportunity to work with the Fresh Water Habitats Trust, and Natural England on a collaborative approach to tackle an outdated method of dairy farming management to deal with the lightly fouled water from the lagoon.

Discussions with the Environment Agency allowed suitable funding to support the project to a success. The farmer Arthur Rolf is committed to monitoring and maintaining the system into the future and to avoid any high levels of nitrates spreading on the fields to comply with the Environment Agency regulations.

Dean Mason from Natural England also comments:

“It was really encouraging to see the farmer’s enthusiasm in wanting to improve his farming practice with respect to the environment and this project will deliver measurable benefits to the Solent Maritime Special Area of Conservation (SAC)”.



Arthur Rolf (Farmer) and Rhys Morgan (New Forest Land Advice Service discussing good agricultural practice and buffer zones around ditches, watercourses and SSSIs.



Preparations on the farm for the installation of the new system.



Briggs Roto System © Briggs Irrigation.



From left to right: Rotorainer spreader situated in the field, Arthur Rolfs (Farmer), Rhys Morgan (New Forest Land Advice Service), Dean Morgan (Natural England)

By Dr Naomi Ewald, Freshwater Habitats Trust.

NEW MONITORING METHODS: MORPH SURVEYS

For some people the word ‘Morph’ is a well-known clay model character which sprang to life in the late 1970’s. But in the New Forest, a ‘MoRPh survey’ is used to monitor streams being restored under the Higher Level Stewardship (HLS) scheme.

Since 2010 more than 10 miles of waterways have been restored through HLS, reducing and reversing the damage caused by artificial straightening of streams since the Victorian era.

MoRPh in this context is an acronym for the ‘MODular River PHysical survey’ that was developed by academics from Queen Mary University of London in collaboration with the Environment Agency. The aim was to provide a simplified way of surveying the channel form and physical habitats of a river that can be applied by citizen scientists.

As the name suggests, MoRPh surveys can capture the physical habitat features of rivers at different scales. A MoRPh module survey captures physical habitat features along a short length of river (length approximately twice the river channel width) and is suitable for monitoring physical habitat at a freshwater invertebrate (Riverfly monitoring) sampling site. The [survey records](#) details of the river bank tops, bank faces, and bed including the sediments that are present, the physical structure of the channel and bank vegetation, and the main human interventions and pressures. When 10 contiguous MoRPh modules are surveyed, they capture a longer length of river (length approximately 20 channel widths) sufficient to capture the typical sediments, habitat features and vegetation structure that are present and allow some interpretation of the physical processes that are influencing the river channel.

Since 2017, the HLS Monitoring Officer has been using MoRPh to record the features present along selected New Forest streams prior to full restoration. A standard MoRPh module length of 20 m has been used so that 10 surveys capture information along 200 m of river. For each 20 m MoRPh module, fixed point photography at the mid-point provides a record of the appearance of the channel and measurements of the channel’s cross-section record its size as well as the depth of water it contains. The presence and extent of sediments, vegetation and physical features on the bank tops, faces and channel bed are recorded mainly using a simple abundance score (Absent, Trace <5%, Present 5-33%, Extensive >33%), although in some cases counts are used or dominant features are observed. Although MoRPh captures structure of plants rather than species, the abundance of some widespread non-native, invasive plant species are recorded.

All of the measurements and photographs for each MoRPh module are entered through a website (www.modularriversurvey.org) into a database. Once the data are entered, the values of 14 key indicators are automatically calculated for each module and can be viewed on a map. The values of each indicator fall in the range 1 to 10. The raw survey data and values of the indicators can also be downloaded via the website.



This is a fixed point photo taken from 2017 before restoration. This tributary of the Beaulieu River was once artificially straitened. MoRPh surveys have been carried out using BACI, Before, After, Control and Impact to assess many aspects such as riparian and channel vegetation complexity and physical habitat complexity.



This is a fixed point photo taken in 2018 not long after the restoration. It corresponds to the same landscape position as above just at a slight different angle as the stream is now following the route of its historic meander. Over the next few years the banks will become vegetated with aquatic and wetland plants now the water can connect with the floodplain in high rainfall.

SPECIES PROFILE: LARGE MARSH GRASSHOPPER

Results have recently been published from a comprehensive survey of a large and colourful New Forest resident, the Large Marsh Grasshopper, *Stethophyma grossum*, on land managed by the Forestry Commission under the Higher Level Stewardship Scheme. This survey aimed to study all known and potential sites for this rare species and to assess the status of the populations and habitats found. The results were encouraging, with little evidence of decline since the 1990s.

The Large Marsh Grasshopper (LMG) is the largest of the UK's native grasshoppers, and one of the rarest, currently known in the UK only from the New Forest and a small area of Dorset. Populations have declined dramatically elsewhere in England over the past 50 years, largely due to the widespread drainage of wetlands.

It is a herbivorous insect, feeding on grasses, rushes and sedges. Eggs are laid in late summer at the bases of grass tufts, where they remain until hatching the following May or June. The preferred habitat is wet, *Sphagnum*-dominated mires (typically described as bogs or quaking bogs), and the species is negatively associated with higher levels of heathers and small shrubs. Within *Sphagnum* bogs, a positive association with areas of small open water bodies was found.



Large Marsh Grasshopper female, purple form, rarely seen.



Good habitat for Large Marsh grasshopper, open with plenty of sphagnum.

The survey method involved direct searching in suitable habitats, and listening for calling males (the call is a distinctive 'ticking' sound. This is often several bursts at a rate of two or three a second, a sound quite unlike other British grasshoppers). LMG is most active in favourable weather conditions (sheltered, warm and sunny), when males are calling and both sexes will be visible in the vegetation and may fly.

All Photos © Paul D Brock

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SPECIES PROFILE: LARGE MARSH GRASSHOPPER

Of the 50 sites surveyed in 2017, LMG was found at 25, four of which were judged to hold 'strong' populations, with a further 15 'moderate' populations. Of the 30 sites that had been resurveyed since the 1990s, two had apparently lost their populations, and two had seemingly gained populations, lending weight to the idea that this species may exist in the New Forest as a dynamic metapopulation.



Good habitat for Large Marsh Grasshopper with wet mire in the centre, grading to drier heathland. Well-sheltered.

The report concludes that there is no sign of decline in the New Forest as a whole, and that current efforts to restore mire habitats through the HLS's wetland restoration programme could in future help to strengthen populations of this species, which could be considered a flagship species for the conservation of its mire habitats.

To find out more about the work of the HLS scheme in the New Forest or to read the full Large Marsh Grasshopper report, visit www.hlsnewforest.org.uk. The 10-year HLS agreement with Natural England is held by the Verderers of the New Forest. The scheme is managed by them in partnership with the Forestry Commission and the New Forest National Park Authority.

Harvey, M.C., and Brock, P.D. 2017. New Forest Large Marsh Grasshopper (*Stethophyma grossum*) 2017 Survey Report. Higher Level Stewardship Agreement The Verderers of the New Forest AG00300016.

A brief summary of the above mentioned report was published in:

Sutton, P. & Beckman, B. 2018. Wildlife reports: Grasshoppers and relatives. British Wildlife 29(6): 440-441.



Large Marsh Grasshopper female, Crockford, 10th August 2017

All Photos © Paul D Brock

By Sarah Oakley, Forestry Commission Ecologist.

PARTNER REPRESENTATIVE PROFILE: SAM ORCHARD, CATCHMENT COORDINATOR—ENVIRONMENT AGENCY

This is a long overdue opportunity to introduce myself. I have now been Catchment Coordinator for the New Forest for a little over a year and there is still much to learn and many more people to meet.

I have been at the Environment Agency (EA) for around 15 years now, in a variety of roles, most recently focused on marine water quality. I studied Social Anthropology however, so combine a love of nature and the outdoors with a keen human interest.

As catchment coordinator, I provide a route into the EA for people and organisations in the New Forest. If I don't know the answer, I will know someone who does! I bring together the key people from within the EA to share our priorities in The Forest, making sure we work together and with partners to make most of all our resources.

The Catchment Partnership is key to my work. They do a fantastic job of bringing together the vast knowledge and experience from across the New Forest, helping us pool resources to improve the catchment.

When I accepted the job, I didn't know which catchment I would be working in. I was thrilled when I found out. I have spent many happy days with family and friends in the New Forest, and now take my children as often as I can. This is a really special place, with a unique history, culture and environment. I feel genuinely privileged to be playing a part in shaping its future.



VOLUNTEER OPPORTUNITIES

Our Past, Our Future (New Forest National Park Authority)

Volunteer for a variety of activities across the National Park, including wildlife surveys and practical conservation tasks.

W: [Volunteer](#)

E: richard.austin@newforestnpa.gov.uk

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THE NEW FOREST CATCHMENT PARTNERSHIP

The partnership is a group of organisations that are working with local communities to protect and improve the outstanding freshwater environment of the New Forest.

W: freshwaterhabitats.org.uk/projects/catchment-projects

E: gstride@freshwaterhabitats.org.uk

Key partners include:



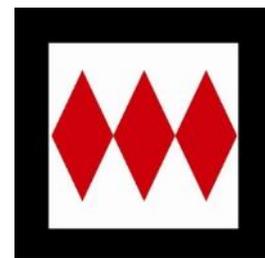
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