NEW FOREST

WATERNEWS

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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THE NEW FOREST NON-NATIVE PLANTS PROJECT

Working in Partnership to Stop the Spread of Invasive Non-Native Plants

The aims of the New Forest Non-Native Plants Project (NFNNPP)

NFNNPP is a partnership project, set up in 2009 to help stop the spread of invasive non-native plants in the New Forest area, particularly along watercourses and in wetland habitats. It is hosted by Hampshire & Isle of Wight Wildlife Trust (HIWWT) and supported by a range of national and local organisations. The two project officers, Catherine Chatters and Jo Gore, are employed by HIWWT to:

- Find out where invasive non-native plants are growing in the New Forest area;
- Provide advice to landowners and land managers to help them control invasive nonnative plants on their land;
- Offer practical help by professional contractors or volunteers to stop the spread of invasive non-native plants;
- Commission research into the impacts of invasive non-native plants and methods of controlling them;
- Raise awareness about invasive non-native plants and the problems they cause.

The work undertaken by the NFNNPP helps to implement the GB Invasive Non-Native Species Strategy at the local level.





New Forest Non-Native Plants Officers: Catherine Chatters left (photo by Ashley Basil) and Jo Gore right (photo by Catherine Chatters)



What are invasive non-native species?

Non-native species have been introduced as a result of human activity; some have been introduced accidentally and some have been introduced deliberately, for example for agriculture, forestry or horticulture. A non-native species is considered to be 'invasive' if its introduction and/or spread threatens biological diversity or has other detrimental impacts.

Only about 10-15% of non-native species established in Great Britain cause significant adverse impacts and are considered to be 'invasive' but invasive non-native species can cause serious environmental, economic and social problems. For example, Himalayan Balsam *Impatiens glandulifera* and American Skunk Cabbage *Lysichiton americanus* can out-compete our native flora, Japanese Knotweed *Fallopia japonica* can cause structural damage and Giant Hogweed *Heracleum mantegazzianum* contains a toxic sap which is a hazard to human health.



American Skunk Cabbage was introduced to Great Britain from North America as an ornamental garden plant but has 'escaped' into the wild and thrives in wet woodlands where its huge leaves enable it to dominate and out-compete the species-rich ground flora (photo by Catherine Chatters)



American Skunk Cabbage has been controlled in wet woodland along the Fleet Water using NLH funding (photos by Clive Chatters)

Working in partnership

Partnership working is key to the success of the NFNNPP. The project has benefitted from funding from a wide range of partner organisations and, since 2016, has received National Heritage Lottery (NHLF) funds through the 'Our Past, Our Future' (OPOF) New Forest Landscape Partnership Scheme, administered by the New Forest National Park Authority. The project's activity funded by OPOF focuses on privately-owned land within the New Forest and this is complemented by the project's work relating to the Crown Land, which is funded by the New Forest Higher Level Stewardship Scheme and by Forestry England.

Partnerships with landowners

Control of invasive non-native plants can only be effective if undertaken at the catchment scale. Project Officers have forged positive, long-term working relationships with the large number of landowners along watercourses such as the Lymington River and its tributaries, the Avon Water and the Cadnam River which are characterised by an extremely fragmented pattern of ownership.

Partnerships with contractors

The project works in partnership with professional contractors to control a large number of species associated with waterways and wetlands. Funding from OPOF has been provided for the control of Giant Hogweed along the Avon Water, Japanese Knotweed on the banks of the Cadnam River and American Skunk Cabbage in wet woodland along the Fleet Water (a tributary of the Bartley Water).



Through Our Past Our Future, the National Lottery has provided funding for contractors to control Giant Hogweed along the banks of the Avon Water (photo by Catherine Chatters)

Partnerships with volunteers

Effective partnerships with volunteers are vital to the work of the project, particularly in the control of Himalayan Balsam. Jo and Catherine are extremely grateful for the help generously given by a wide range of people who have participated in volunteer work parties, including local residents, the National Trust's volunteers, youth organisations (Cubs, Scouts, Guides, Explorer Scouts) and corporate groups from local businesses.



Volunteers from Calmore Guides enthusiastically pulling Himalayan Balsam along the Cadnam River (photo by Catherine Chatters)



Volunteer Brian Matthews pulling Himalayan balsam along the Avon Water (photo by Catherine Chatters)

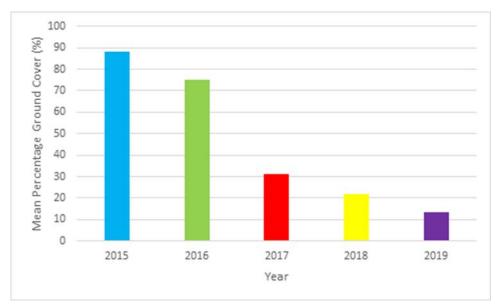
Volunteers also help the Project Officers by submitting records of invasive non-native plants and monitoring the effectiveness of control work.

During 2015 two placement students from Southampton University undertook a baseline survey of ten sample sites where the control of invasive non-native species would be funded by OPOF. Monitoring was undertaken each year by another pair of students to assess the effectiveness of the control work. This gave the students an opportunity to gain valuable experience of ecological surveying and their reports provided useful evidence to demonstrate the success of the work undertaken by volunteers and contractors.



Dominika Murienova and Rebecca Wilson, of Southampton University, who undertook a baseline survey in 2015 of ten sample sites where OPOF would fund the control of Himalayan Balsam, Japanese Knotweed, Giant Hogweed and American Skunk Cabbage (photo by Catherine Chatters)

The monitoring by the students revealed that the work undertaken by our volunteers to control Himalayan balsam by hand-pulling has been particularly positive. For example, where there were dense 'forests' of Himalayan Balsam in the Wildlife Trust's Lymington Reedbeds Nature Reserve at the time of the baseline survey in 2015, native wildflowers such as Marsh Marigold, Opposite-Leaved Golden Saxifrage and Marsh Valerian are now able to thrive.



Following the baseline survey in 2015, this graph, prepared by placement students Sophie Minns and Rachael Anderson in 2019, shows the decrease in American Skunk Cabbage as a result of work undertaken by contractors using NLH funding through the Our Past, Our Future scheme.

The Project Officers are very grateful to the ten students from Southampton University who did the baseline survey in 2015 and undertook the monitoring in subsequent years.

Awareness-raising

The Project Officers have raised awareness about invasive non-native plants and the problems they cause by writing articles, giving presentations at conferences, doing interviews on local radio and giving talks to a wide range of organisations and parish councils. Training events have been hosted for amateur gardeners and professional horticulturists, fishermen and anglers, highway engineers, volunteers and staff working for local authorities and other statutory organisations. The project promotes the Government's 'Be Plant Wise' campaign which aims to stop the spread of invasive non-native species by promoting responsible disposal of surplus garden plants. For further information about the 'Be Plant Wise' campaign see www.nonnativespecies.org

Looking to the future

Excellent progress has been made by the NFNNPP since it began in 2009, but further work is still needed to stop the spread of invasive non-native plants in the New Forest. The Our Past Our Future Landscape Partnership Scheme has now come to an end; however, the work of the NFNNPP can continue due to funding from the Environment Agency's Water Environment Improvement Fund which secures the project for 2021/22. The Project Officers are also very grateful to those organisations which have offered additional funding for 2021 and beyond.

For further information about the Project please contact Catherine Chatters, New Forest Non-Native Plants Officer, at Catherine.Chatters@hiwwt.org.uk or on 07770 923315.

Finally, thank you to all of our partners who have and do support the NFNNP Project.







Hampshire &

Isle of Wight









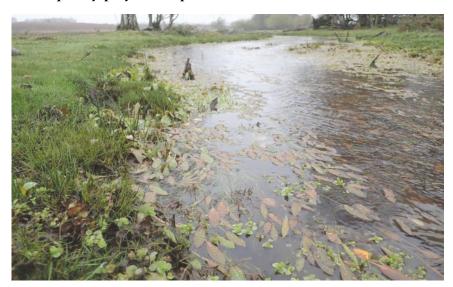
NEW FOREST NURSERIES: HARVESTING MORETHAN JUST FRUIT

Innovative solutions to increasing business sustainability in Balance with nature

An Important Freshwater Area

As you may know, the New Forest is one of the best of the UK's Important Freshwater Areas. Supporting more than two thirds of all of the UK's freshwater species and more than a third of the UK's rarest plants and invertebrates – species which have been identified as declining significantly to a level of conservation concern in the last 50 years. We are also fortunate enough to have alongside this, internationally important coastal and marine habitats.

Water quality plays an important role in freshwater and coastal biodiversity



High status, clean, unpolluted water explains why we have the wonderful array or rare freshwater plants and wildlife in the core of the Forest — species now lost from other landscapes across the country.

As the streams and rivers move through the catchments, the land changes from Open Forest to a multitude of uses; Forestry, agriculture, horticulture, horse paddocks, campsites, towns and

villages, and roads. As with all intensified land use, it is inevitable that nutrients, chemicals and sediments end up in local watercourses. This process, known as diffuse pollution, occurs when potentially polluting substances from land use activities, leach into surface water and ground water through either surface run off or soil infiltration.

Some operations can introduce damaging levels of nutrients in a single event. But, much of the time, individually, these occurrences may have a small but tolerable effect on the water environment, yet collectively, at a catchment scale, they can result in major changes in water quality resulting in loss of species and risks to human health.

In a high quality landscape, like the New Forest, it is perhaps easier to pinpoint the individual small sources of nutrients and find innovative solutions to tackle diffuse pollution at the landscape scale critical to support nature recovery and adaptation to climate change.

The Catchment Partnership - identifying and addressing diffuse pollution

Much of the work of the Catchment Partnership involves working with landowners, businesses and communities to identify any sources of diffuse pollution that are, or have the potential to impact on the water environment. Working closely with the Environment Agency and Natural England local teams, using data from their statutory monitoring along with our own walkover surveys it has been possible to target areas and sectors where we can make easy wins towards a cleaner water environment. In this article, we look at how innovative solutions are being used to address multiple challenges for businesses; namely the capture of rainwater to prevent unnecessary nutrient enriched run off entering the highly sensitive fresh and coastal water environment of the New Forest.

Business sustainability and environmental protection through water resource management

Over the past several years landowners and businesses have been seeking advice on water resource and water quality management and have begun to consider how their land management practices and business could be part of a package of work to reduce, reuse and recycle water - saving water, preventing run off and reducing pressure on the water environment.

The horticulture and soft fruits industry are an important part of the New Forest's economy; businesses have been eager to engage, to seek water resource advice and to find solutions to upgrade and future proof how they use water.

As part of the Living Waters project (a sub-project within the NPAs Our Past, Our Future project funded by the National Heritage Lottery Fund and Environment Agency), trial water management measures were installed onto existing infrastructure to capture rainwater and feed into useful water provision systems — either for irrigation or as drinking water for livestock. Building on the success of these trials, Freshwater Habitats Trust with funding from the Environment Agency's Water Environment Improvement Fund (WEIF), has now delivered a project working closely with New Forest soft fruit and plant nurseries at key locations around the Forest.





Left photo: downpipes make the most of the roof space. Pipes carry roof water to newly installed drain leading to new underground collection pit (right photo) and harvesting tank (below photo), which is connected to the irrigation system.



The interventions are clever in design:

- Guttering and downpipes collect rainwater from nursery roofs (polytunnels, greenhouses and sheds).
- Water carried along pipes reaches an underground capture pit fitted with a pump, which on average can deal with pumping 500 litres per minute.
- The water is then pumped into large water tanks connected to existing irrigation systems providing water for plants and soft fruit.
- A pressure valve fitted ensures rainwater is prioritised over mains supply. This ensures that in very dry weather the mains supply switches on. This system maximises the use of harvested rainwater.

Less reliance on nutrient rich mains water and less runoff into the sensitive fresh and coastal water environments in and around the National Park.

Fairweather's Nursery - plant production with a strong environmental ethos

Patrick Fairweather, owner of Fairweather's Nursery, based in Beaulieu, was keen to join the project. The nursery is located on high ground above the Beaulieu River, so the management of water on site is critical to preventing even small amounts of run off from entering the Hartford stream and later into the Beaulieu estuary. Patrick spoke to us about the importance of increasing business sustainability in balance with nature:

Plants are a huge benefit to people and their wellbeing, and it's important for our customers to know our plants come with green credentials. We are striving towards best practice environmental standards and reusing, reducing and recycling is at the heart of what we do. As well as being peat free, 80% of our production is under a capillary sand bed regime. Without the need for sprinklers, the plants sit in a contained sand reservoir. The plants draw from the sand and into the pot – they take what they need and no water is wasted. The benefits of such a regime include reduced run off, reduced water consumption, and reduced humidity requiring minimal chemical treatment.

We have gratefully received funding from the Environment Agencies WEIF for a water harvesting system, which captures rain and reduces run off from areas of hard standing and roofs. As well as the environmental benefits we are also seeing small signs in the reduction of mains water supply. This is not conclusive and we will be monitoring this over the longer term.

Over the years during heavy rainfall neighbouring land floods. The harvesting system installed on site has alleviated localised flooding. Harvesting water is a great way for businesses and landowners to adapt to the changing climate, protecting watercourses and utilising a resource so readily available with the right infrastructure in place.

Putting water to good use ticks many boxes and we would recommend this type of system to other similar businesses. Our careful management of water on site will have a positive impact downstream.



Innovative ideas implemented on site are having a positive impact on water quality further downstream. The orange pipe transports water from roof surfaces to a 216,000l tank which then feeds into the existing irrigation system on site.



Lavender is grown under a capillary sand bed regime shown above. Water seeps through the sand bed providing for the plants. Using this system mosses and liverworts are kept at bay naturally and reduces the need for the usual chemical controls.





Timber logs from the estate have been utilised to create a secure leaky dam structure in channel to intercept nutrients and sediments. These installations also slow the flow backing up water increasing the potential for natural processes.

Project Summary

Over the course of the project, Freshwater Habitats Trust has provided expert advice to five nurseries and soft fruit producers and installed rainwater-harvesting systems at four. Through this project, these businesses, located across three catchments, Beaulieu, Lymington and Sowley, have increased their water storage capacity from 120,000 litres to 570,000 litres.

The project has also funded leaky dams, an in channel structure using wood to slow the flow of water and reduce nutrients entering Sowley Pond, a Special Protection Area, Ramsar site and a Water Framework Directive (WFD) water body.

Initially a project to tackle water quality, there have been multiple benefits including:

- Reduced nutrient input across three catchments contributing towards enhancement of WFD water bodies and Protected Areas which were failing or at risk, under statutory monitoring.
- Natural flood management and adaptation to climate change.
- Relationship building within the industry and raising awareness of issues and opportunities to encourage further investment from business and sharing of ideas and best practice.
- Connecting business owners to water resource management companies to promote future working, further improve water quality and reduce water waste.

Although this project has finished, FHT, the Catchment Partnership and Environment Agency have come a long way since its inception. A project like this has many benefits and outcomes and we aspire to continue to build on the work that has been achieved so far, as a model to inspire and encourage other land and business owners across the New Forest Catchments.

DRAINAGE AND WASTEWATER MANAGEMENT PLANS

HIGHLIGHTING LOCAL CONCERNS THROUGH SOUTHERN WATER'S DRAINAGE AND WASTEWATER MANAGEMENT PLAN CONSULTATION PROCESS

Readers of Waternews may recall that we've previously reported on the <u>Catchment Partnership's input to Southern Water's Drainage and Wastewater Management Plan (DWMP) process.</u> This has been continuing throughout the winter and spring in order to meet Ofwat's (the water industry watchdog) timetable. The local catchment plans are due to be finalised for early customer consultation later this autumn.

Engagement to date has been via online workshops and dissemination of information via Southern Water's website. The New Forest Catchment Partnership has a dedicated area on their website which summarises the different stages as well as results of analysis following stakeholder feedback New Forest catchment DWMP (southernwater.co.uk). In addition to the Catchment Hosts, several national and local partner organisations are represented on stakeholder groups.

In our input, the Catchment Hosts have been highlighting the concerns we hear from partners as well as contributing local information on impacts and the scope of local activity to address issues. Perhaps the greatest concerns at this time are the issues surrounding storm overflows and the performance of wastewater treatment works. These are often cited to us by concerned stakeholders, and can unfortunately act as a barrier to engagement from landowners who we are seeking to work with us to address diffuse sources. It's difficult to ask a landowner to invest in a scheme to tackle small inputs of nutrients when in their experience they regularly see the waterbodies flowing through their land impacted by sewage.

We were pleased to see the potential of such impacts recognised during the initial screening stages of the DWMP process and the risk and vulnerability assessment (BRAVA) which seems fit for purpose. The challenge in current stages is to establish a prioritisation for tackling these that recognises the potential risks to the biodiversity of the New Forest, and the opportunities improvements could deliver for nature recovery. We and our partners would suggest this merit early delivery and allocation of resources. Representatives of local organisations can assist this by supporting local prioritisation during current and future consultation phases.

We have expressed a view on behalf of the partnership that both Lyndhurst and Brockenhurst wastewater treatment works would merit more urgent prioritisation in the strategy given they are linked to protected sites whose biodiversity is likely to be suffering from nutrient pollution. We have also supported partners such as New Forest District Council in highlighting the value of particular works (e.g. Ashlett Creek WWTW) to help address nutrient neutrality issues.

The Partnership's work with landowners and managers in the Beaulieu, Sowley and Hatchet sub-catchments would also benefit from early improvements at the East End works. Despite such works being relatively small compared to others in Southern Water's network, we believe local communities and bodies would support the view that the importance of the New Forest's environment, and ecosystem services it provides to people, is such that their improvement would deliver results of significance. The special nature of the New Forest's freshwater resources often means it 'punches above its weight'.

The challenge for the bodies involved in the DWMP strategy is to provide the evidence and representation that supports this and allows Southern Water to make a case to Ofwat for expenditure. Working together we hope we can all assist Southern Water in further development of the DWMP to achieve the improvements quality the New Forest catchment merits in a timely fashion. Keep an eye out for updates on progress with this work in WaterNews and via our social media. If you or your organisation has any specific views on the DWMP, please do let us know: ian.barker@newforestnpa.gov.uk / gstride@freshwaterhabitats.org.uk

NEW FOREST FRESHWATER AND WETLAND HABITATS RESTORATION STRATEGY

DEFINING THE PRINCIPLES THAT UNDERPIN FUTURE RESTORATION PLANS

The freshwater and wetland habitats of the New Forest contribute to one of the most important sites for wildlife in the United Kingdom. Their importance for nature conservation is reflected in the high level of protection afforded to the New Forest under national and international legislation. Despite this, many of the wetland habitats and stream systems have been affected by historic drainage and in some cases, this has led to ongoing habitat deterioration and loss.

Wetland restoration work in the New Forest has a fundamental aim to improve the condition of these internationally important wetland habitats. The work has been guided by previous projects and plans, including the New Forest Wetland Management Plan 2006-2016.

As reported in an earlier edition of Waternews, Forestry England is now working with stakeholders to agree a new wetland management strategy for the New Forest.



Harvest Slade Bottom, restored in 2015 under the Higher Level Stewardship scheme.

The New Forest Freshwater and Wetland Habitats Restoration Strategy 20191 sets out a refreshed approach to restoring freshwater and wetland habitats within the New Forest National Park area.

The Strategy emphasises the need to work in closer partnership with stakeholders, develop a shared understanding of the needs and benefits and, as far as possible, to achieve outcomes through the adoption of natural processes and assisted natural recovery. It also proposes a series of principles that will underpin future restoration plans. These include taking an integrated catchment-based approach and adopting an evidence-based approach to restoration actions that are co-designed, flexible, responsive and adaptive.

A forum of stakeholders was established in 2019 to help shape further development of the Strategy. The Freshwater & Wetland Restoration Forum (FWRF) has an independent Chair and members representing New Forest organisations, key statutory bodies and parish councils².

Although progress has been slower than expected due to Covid-19, the forum has continued to meet virtually. Work is ongoing to finalise a strategic approach to evidence and monitoring requirements, which will inform the next phases of restoration planning, and a communications strategy will also be developed. We look forward to sharing more updates in a future edition of Waternews.

- 1. Hill, C.T., Sear, D.A., Wardlaw, N., Cox, J. and Naura, M. (2019) New Forest Freshwater and Wetland Habitats Restoration: Strategy 2019.
- 2. Natural England, Forestry England, Verderers of the New Forest, Commoners Defence Association, Environment Agency, New Forest National Park Authority, New Forest Association, National Trust, Freshwater Habitats Trust, Hampshire County Council, RSPB, Hampshire and Isle of Wight Wildlife Trust, a number of New Forest Parish Councils and Independent members.

SPECIES PROFILE: HIMALAYAN BALSAM

AN INTRODUCED ORNAMENTAL GARDEN PLANT CAUSING HAVOC WITH THE COUNTRYSIDE

Himalayan Balsam *Impatiens glandulifera* is a nonnative species which was introduced to Great Britain in the early nineteenth century as an ornamental garden plant due to its attractive pink or purple flowers but it has 'jumped the garden fence' and invaded the countryside. It's an annual plant, germinating in late February or early March and by mid-summer, in favourable situations, it can reach an astonishing height of at least five metres.

Himalayan Balsam thrives in damp habitats along riverbanks and on the margins of lakes and ponds. When its seed pods ripen they 'explode' to release the seeds up to seven metres from the plant and if the plants fall in to a nearby watercourse they are carried downstream and germinate in suitable conditions to form dense colonies which can outcompete the native vegetation.

In the New Forest, Himalayan Balsam has invaded the banks of many watercourses. On the Open Forest, grazing by commoners' animals plays an important role in keeping Himalayan Balsam under control; the Balsam only thrives in situations out of their reach, for example on a steep-sided river bank, in extremely muddy areas or in the tangle of scrub that can develop around a fallen tree. In contrast, on privately-owned land the riverbanks are sometimes left un-managed or are fenced-off from stock, leaving a strip of land between the fence and the riverbank that can fill up with Himalayan Balsam and other vigorous species.

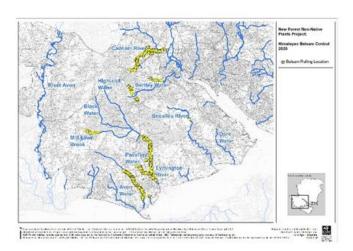
Recognising that effective control and eradication can only be achieved by working at the catchment scale, the New Forest Non-Native Plants Project (NFNNPP) has been liaising with landowners and land managers since 2009 to offer advice and practical help to implement a co-ordinated programme of control.



Himalayan Balsam (photo by Ashley Basil)



Himalayan Balsam can form dense colonies, such as this population along the Cadnam River photographed on 16 July 2020 (photo by Catherine Chatters)



Control of Himalayan Balsam undertaken by the New Forest Non-Native Plants Project during 2020

Fortunately, Himalayan Balsam has short roots and is relatively easy to control manually by pulling it up before it forms ripe seeds. The pulled-up plants can be put in heaps in situ to rot down (or desiccate in hot, dry weather) although it's important to ensure that the heaps are not located on bare ground, as the plants can produce roots at the nodes along the stem and start to re-grow if they are in contact with the soil. Repeat visits throughout the summer and early autumn are recommended, to control late-germinating plants or those which were hidden by taller vegetation earlier in the season.

Balsam-pulling can be very satisfying, making it an ideal activity for volunteers. With funding from 'Our Past, Our Future' (OPOF) the New Forest Non-Native Plants Officers have led volunteer work parties to pull Himalayan Balsam along the Avon Water, the Cadnam River and the Lymington River and its tributaries the Mill Lawn Brook and the Passford Water. Volunteers have included local residents, the National Trust's volunteers, youth organisations and corporate groups from local businesses.





Himalayan Balsam can form dense colonies, such as this population along the Cadnam River photographed on 16 July 2020 (photo by Catherine Chatters)

Other methods can be used to control Himalayan Balsam. For example, in appropriate locations, it can be strimmed or scythed but it is necessary to cut the plants low down, below the first node, to prevent them producing new shoots. Research into a method of biological control is currently being undertaken by CABI (a not-for-profit organisation) involving a rust fungus which infects the stem and leaves of Himalayan Balsam; to find out more about this research see www.cabi.org/projects/biological-control-of-himalayan-balsam/

Himalayan Balsam is a 'species of special concern' and is therefore subject to The Invasive Alien Species (Enforcement and Permitting) Order 2019 which implements the requirements of Regulation (EU) No. 1143/2014 on the prevention and management of the introduction and spread of invasive alien species (commonly referred to as the EU Invasive Alien Species Regulation). This means that it is now banned from sale and subject to a range of other restrictions which aim to prevent its spread into the environment.

More information about Himalayan Balsam and other invasive non-native species can be found on the excellent website of the GB Non-Native Species Secretariat at www.nonnativespecies.org

THE NEW FOREST CATCHMENT PARTNERSHIP

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

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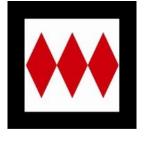














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