

NEWSLETTER

FISHERIES, BIODIVERSITY & GEOMORPHOLOGY

Winter 2015

SOLENT AND SOUTH DOWNS AREA

Welcome to our annual newsletter. Behind nearly all the successes set out here, there is a story of collaboration. We enjoy working with a wide range of colleagues and external partners, maximising what we can all achieve with our resources, using wider networks, securing efficiencies, creating opportunities to share good practice and learning during and long after the work, and doing our best for people and wildlife. We wouldn't have it any other way! Thank you to those land and river-owners, our stakeholders and partners who have worked with us this year.

Returning 'Ratty' to the River Meon

The most ambitious Water vole reintroduction to be attempted in the UK has seen 610 animals released onto the River Meon this year. This is the third year of a successful project to return 'Ratty' to the River Meon in Hampshire which has already seen the animals successfully breed on other release sites further downstream. The project is being led by the South Downs National Park Authority and supported by the Agency, Hampshire & Isle of Wight Wildlife Trust, Hampshire County Council and Natural England. Contact: Adam.Cave@environment-agency.gov.uk



A young of the year, born in the wild!



Juvenile water vole

Photos: Adam Cave

Joint Fisheries Enforcement Patrols

Our Officers have been working with Sussex and Hampshire Police and Angling Trust Voluntary Bailiffs to drive down fisheries and wildlife crime. We have patrolled still waters, checking anglers' rod licences, and our rivers looking for signs of illegal fishing. Find out about the Service here: <http://www.anglingtrust.net/page.asp?section=930§ionTitle=Voluntary+Bailiff+Service>

Contact: Charles.Bacchus@environment-agency.gov.uk



Helping the commuters of the Monks Brook!

The Highways Agency has been working to resolve the traffic pinch-point at Junction 5, M27, which causes commuter misery to thousands each day. We've been busy working with them to give a helping hand to wildlife that commutes along the adjoining Monks Brook, a tributary of the River Itchen.

We engaged with the Highways Agency early and throughout the scheme, ensuring the environment was protected and enhanced, and that the works posed no flood risk.

We secured gains for the environment including the creation of pools and riffles in the heavily modified Monks Brook, providing much needed habitat diversity within the historically over-engineered channel. We helped to protect the local otter population by providing an otter ledge under the highway that crosses the Brook.

The habitat works were funded by the Highways Agency and delivered by the Wild Trout Trust.



Typical (before) section. Laminar flow over concrete bed and bank with even 200mm depth



Breaking out re-enforced concrete bed and bank

Below left : View of the competed bottom pool / gravel run with live willow flow deflector. Photos: by Andy Thomas, WTT

Below right : new otter pass installed on the Monks Brook



Contact: Adam.Cave@environment-agency.gov.uk

Invasive Plant removal on Western Rother Catchment

Area FBG staff along with Partners from the Arun & Rother Connections (ARC) HLF project and the local landowner, removed a significant quantity of the invasive aquatic weed Floating Pennywort (*Hydrocotyle ranunculoides*) from an historic on-line cart pond near Petworth, in West Sussex.

FBG staff were also taking a watching brief for any fish that might be present during the operation, but in the event it was just a number of frogs and one toad that required rescuing.

There were concerns that this species could find its way downstream to the main river Rother and wider catchment. After manual removal by machine for composting, the remaining small pieces of material were netted and removed by hand. Any remaining material that shows re-growth will be sprayed on site in the spring of 2016.



Photos: Before and after.

Contact: Damon.Block@environment-agency.gov.uk



Trout-tastic!

Brown Trout have been seen spawning on a new riffle just six weeks after river restoration was completed by the Forestry Commission at Harvestslade in the New Forest. Following our technical advice, river gravels were used in the re-profiling of this section which may explain why the trout moved in so quickly. See more here: <https://t.co/2cV4AKtzTR>

Contact : Rebecca.S.Long@environment-agency.gov.uk

Photo: Brown Trout Redd, Harvestslade. Taken by R.Long

FBG help to secure Heritage Lottery Fund funding

Heritage Lottery Fund has awarded £1.5m to the East Wight Landscape Partnership for a collection of 16 projects called 'Down To The Coast', that will run until 2020, and includes the Environment Agency's plans to restore heavily modified reaches of the Eastern Yar on the IOW. 'Down To The Coast' projects will improve the fragmented East Wight landscape and have a strong focus on community. The wetland projects will seek to address river habitat quality, remove barriers to fish passage, enhance and restore floodplain habitats, and tackle diffused pollution.



Photo left - The Eastern Yar has historically been straightened and made deeper via dredging impact on the morphology of the channel and the wildlife that the river can support.

Contact for further information:

Adam.Cave@environment-agency.gov.uk

Photo below – a heavily modified reach of the Hermitage Stream

We have also work in partnership with Groundwork South and East Hampshire local authorities to submit a second bid worth over £1.5m to support the Restoration of the Hermitage Stream and surrounding green space. We will hear if the bid was successful in December 2015. Fingers crossed!

Below : Artist perspective of how the site might look in the future.



On Twitter?



Follow our activities and successes across East and West Sussex, Hampshire and the Isle of Wight on @TimSykesEA or @EnvAgencySE

Re-meandering the Harebeating Stream, Hailsham

The EA, Wealden District Council and Redrow Homes collaborated on a 5.3 hectare development which included a main river, the Harebeating Stream, at Hailsham in East Sussex. The river was constrained within a straight, narrow steep-sided channel and had minimal ecological or amenity value. There were also flood risk problems and impacts of discharge to the Pevensey Levels SSSI, Ramsar & SAC.

Following pre-app discussions, 250 metres of river improvements at a cost of around £121,000 (to the developer) were factored-in at an early stage. The river is now the central feature of the site, the works have helped to reduce the risk of flooding both on and off site and improved amenity value and wildlife habitat.



Before, in 2012



After, in 2014

Contact: Jane.Birch@environment-agency.gov.uk

Moving on up

Fish on the River Hamble now have a new multi-species fish pass to allow them to swim upstream to reach the upper reaches of the river. The photo shows the recently installed Larinier fish pass at one of the structures at Durley Mill, which have been a barrier to fish passage for several hundred years. The project was initiated with the options and final design work being funded by the Environment Agency in 2014 and approvals in 2015. This enabled the East Hampshire Catchment Partnership to bid to fund the delivery stage of the project through the catchment host, Groundworks with the project being managed by the Wild Trout Trust. The project has been completed just in time for sea trout to use the pass this year with upstream migration being triggered by intense rainfall events in the Autumn months. The final stage of the project will be the installation of an eel pass in the coming months.

Contact: Kerry.Sims@environment-agency.gov.uk





Eels get a helping hand

We've been working with Veolia at Marchwood Incinerator in Southampton Water, to ensure safe passage for eel past their abstraction point. We concluded there were no cost beneficial modifications Veolia could make to their intake in Southampton Water. Instead we have secured £40K of funding which we advised Veolia to award to the Wessex Chalkstream Rivers Trust to allow them to install 15 to 20 eel passes (or structure removals) on the rivers Test, Itchen and Meon. This is a great outcome, ensuring that eels are better able to enter and migrate up these chalk rivers in future.

Contact: Kerry.Sims@environment-agency.gov.uk



Planning processes and monitoring data protect Hampshire's salmon

We work with developers on Marine Licences for activities in estuaries that have potential to impact Atlantic Salmon. We were concerned that a maintenance dredge activity proposed in the narrowest part of the Itchen estuary would negatively impact the migration of salmon in Autumn 2015. The developer agreed to use our Adaptive Management System where we use the latest data from the salmon counters to notify when it is critical that they stop work for 72 hours to allow the majority of the salmon to move upstream. On 30th October one of our fish counters had more than 200 fish (salmon and sea trout) recorded in our initial data. We stopped the dredge operations for 3 days to let the salmon move through the estuary without disturbance and with better water quality. This is a great example of protecting the environment whilst giving flexibility for operators to carry out their activities over a greater period of the year.

Contact: Kerry.Sims@environment-agency.gov.uk

The FBG team don't like creeps!

The FBG Team have been busy controlling Creeping Water Primrose on behalf of Defra (*Ludwigia grandiflora*) at 5 sites in the Solent area (3 sites in the New Forest and 2 on the Isle of Wight).

Creeping Water Primrose originates from South America and was bought to the UK in the 1990's via the aquatic plant trade and unwittingly dumped in ponds across the country. It spreads prolifically, forming a dense mat across ponds, lakes and wetlands.

We have previously been treating it chemically but in 2015 moved to manual removal. As a result of our efforts, 2 sites have been successfully eradicated.

FBG recently presented at a Ludwigia workshop which was attended by European experts and EA project coordinators. The results from this workshop will feed into developing a "Ludwigia Toolkit" to assist in the management of this highly invasive species.



Solent FBG staff helping to eradicate the Creeping Water Primrose at Barton on Sea.

Contact: Claire.Hamilton@environment-agency.gov.uk

Solent Bird Study Releases New App!

The Solent supports internally important populations of overwintering birds. They require dry land to roost whilst the tide is in, covering the saltmarshes and mudflats on which they feed. We are working to understanding how birds use the network of Solent-wide roost sites and the potential impact that change or loss of these sites may cause. The information will help inform our coastal management decisions that protect communities from flooding.



The Solent Bird Movement and Coastal Network Study has now released a new website and App for data collection around our region. This data will play a pivotal role in helping to understand the importance of the network of high tide roost sites and inland feeding areas within the Solent for the conservation of the overwintering bird populations, and how best to maintain and enhance these sites.

Photo – Avocet's in flight by Richard Ford

The project is being led by the East Solent Coastal Partnership. The project website www.solentbirds.org.uk is now live and provides project information and how to get involved. It also provides an online platform for sharing your sightings!

Contact: Adam.Cave@environment-agency.gov.uk



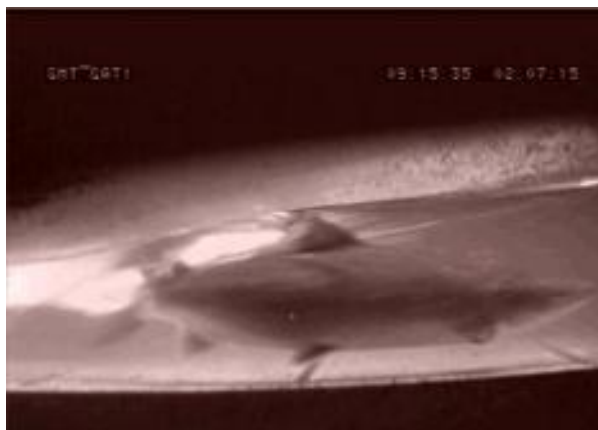
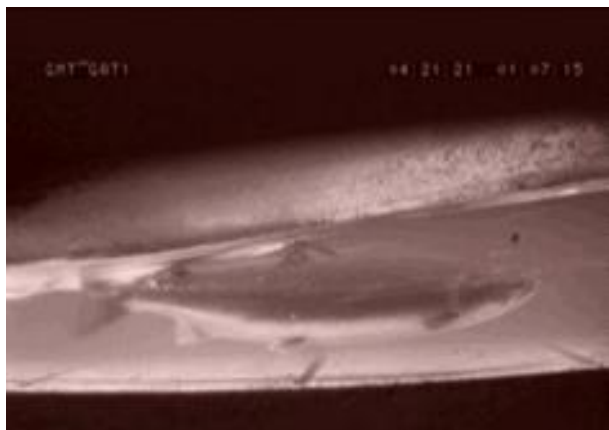
Great Crested Newts – Horse Eye, Pevensey Levels

FBG were asked to assess a redundant weather station, due for decommissioning, after the removal of a similar station had encountered the presence of Great Crested Newts (GCN) despite being sub-optimal habitat. The Horse Eye site also recorded a sub-optimal Habitat Suitability Index but FBG staff maintained a watching brief when works commenced. Almost immediately a juvenile GCN was spotted hibernating under the rubble and works stopped. The site was surveyed and a male GCN found actually in the evaporation tank. FBG are now preparing a GCN mitigation licence application for capture, exclusion and re-location. A new linear pond and compensatory habitat will be created on site. We use this case as an example of good practise, showing how good communication and timely action can prevent environmental incidents.



Contact: Jane.Birch@environment-agency.gov.uk

Salmonwatch latest

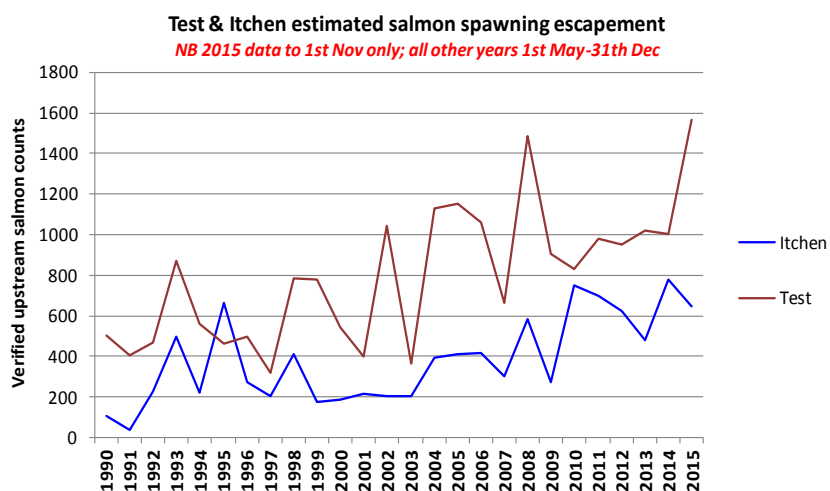


A large hen (left) and cock salmon (right) swim upstream through the Itchen fish counter in preparation for winter spawning – they've swum here from the distant North Atlantic

The Atlantic salmon is one of the most spectacular wild species found in SSD. We have electronic fish counters on the Test & Itchen and by the end of October this year we had already counted more adult salmon returning to the Test than in the whole counting period (May-Dec) in any year since 1990. While the Itchen count is relatively more modest, 2015 already ranks as the fourth best year out of 25.



An otter swam through our fish counter on the River Test, triggering the camera!



The counters also record fish washing downstream, dead & alive; the fish on the left is probably a sea trout “kelt”; a fish that has spawned – some survive to return to sea and repeat the process, this one didn’t. On the right is a small carp, possibly an escapee from a pond that found life in the Test a bit too much of a challenge. Contact: Kerry.Sims@environment-agency.gov.uk

West of Waterlooville River Restoration

FBG have been working with colleagues for a number of years to achieve biodiversity gain from a major housing scheme situated to the west of Waterlooville, named Berewood.

This summer work began on removing over 1km of concrete channel. The restored river channel and new adjoining green space will benefit wildlife and the new residents of the Berewood development for many years to come.

Photo below – before, concrete channel and newly constructed clear span bridge.



Below: Sessingham Weir 'before'



Below: After: Sessingham Weir, the weir gate lowered permanently



Photo above – new channel, with a wide range of in-channel features provide refuge and spawning opportunities and enhanced flow variability.

Contact: Adam.Cave@environment-agency.gov.uk

Sessingham Weir- River Cuckmere

The Cuckmere and Pevensey Levels Catchment Partnership received Catchment Partnership Action Funding to address fish passage at Sessingham Weir.

Sessingham Weir currently forms an impassable barrier to fish passage and impounds the river upstream for several hundred metres causing reduced flow diversity.

Making the structure passable to fish will be a step towards achieving WFD status and will open-up approximately 6.2 km of river to fish and eels.

Unfortunately due to the presence of a South East Water pipe running underneath the weir, full removal is not possible. We are now looking at fish pass options working in partnership with the South East Rivers Trust.

Contact: Rosie.Pyper@environment-agency.gov.uk

Is this the last of the Pennywort in the New Forest?

Fawley Parish Council has been manually removing Floating Pennywort for a few years now at Holbury Manor Ponds in the New Forest. This is the only known location for this invasive non native plant in Hampshire. During a visit in October we only found one small plant well hidden in other foliage. We swiftly removed this plant and plan on visiting next year to see if eradication has been a success.

Photo: Floating Pennywort, Holbury Manor Ponds. Taken by R Long November 2015.

Contact: Rebecca.S.Long@environment-agency.gov.uk



Twineham EON enhancements

The South Downs FBG Team in partnership with the Ouse and Adur Rivers Trust (OART) have removed four weirs on the main Adur and Herrings stream in West Sussex opening up 4.8 km's of unrestricted river. The removal of these obstructions has restored river continuity, instigated a more natural dynamic flow regime and removed barriers to fish passage. This work was funded by the Adur and Ouse WFD catchment pilot money and Environment Agency Grant in Aid.

Following this initial success, the South Downs FBG Team negotiated a £15k contribution to enhancement works in the area from the EON Rampion Wind Farm project. These works, compliment the weir removals on the Herrings stream and the River Adur.



Contact: Gareth.Williams@environment-agency.gov.uk

A dozen features have been created by the landowner in a project managed by the OART, building on the relationship formed during the weir removal project which the landowner also carried out.

Five backwaters have been dug to provide shelter for small fish in times of flood, and warm conditions in the shallow backwaters will provide an ideal nursery for fish, invertebrates and amphibians.

Six berms have been installed along a 0.5km straight section of river which has narrowed the channel, sped up flows and increased morphological diversity which will in turn improve the ecology.

10 tonnes of gravel will be placed in two sections of river to provide spawning medium for fish, habitat for invertebrates and it will replace gravel lost over the centuries to dredging of the river.



Southern IFCA Officers now have Salmon & Freshwater Fisheries Act Warrants

Southern IFCA and the Environment Agency (EA) have been successfully working jointly on enforcement issues relating to migratory fish since the IFCAs were created. The Environment Agency Fisheries Enforcement Officers locally are cross-warranted with Southern IFCA warrants issued by the Marine Management Organisation. This enables the EA Officers to address IFCA byelaw compliance issues detected in their routine enforcement patrol work. To retain these warrants the EA Officers undertake regular training to retain their understanding of byelaws and



compliance issues across the Southern IFCA district. In August 2015 the 11 Southern IFCA Officers were trained by the Environment Agency. This training included:- awareness of reporting of environmental incidents, Fixed Engine byelaws, Net Limitation Orders, buyer beware, catch and release agreements, SAFFA and Eel Regulations legislation, salmonid and European Eel biology, Powers of Entry and Regional Byelaws. The Officers all successfully passed the assessments in the training to allow them to be cross-warranted with the warrants usually



held by the Environment Agency Fisheries Officers: Salmon and Freshwater Fisheries Act (SAFFA) warrants. The Officers received their warrants in September 2015 and this will allow them to work even more effectively to address migratory fish concerns in inshore waters with the Environment Agency in the coming years. Both the EA and Southern IFCA will continue to undertake joint patrols and training days to ensure that their skills and knowledge are shared between the two organisations together delivering more effective enforcement for fisheries in inshore waters. Contact: Kerry.Sims@environment-agency.gov.uk



Delivery of 40,000 Tench & Bream, in great condition from our Calverton Fish Farm to Chichester Canal.

Partnership working with Chichester Canal Trust @ChichesterCanal to improve fish stocks and increase anti-poaching patrols day and night to protect a fantastic fishery for present and future generations

Contact:
Damon.Block@environment-agency.gov.uk

Stocking of fish - Site Permits

We had a very busy start to 2015 with new legislation coming into force; The Keeping and Introduction of Fish (England & River Esk Catchment Area) Regulations 2015. After a busy period in the Spring across Solent and South Downs we have now issued 199 Site Permits for stocking of fish in rivers and still waters. Virtually all permits were issued with no end date so that in future there is less red tape and bureaucracy for people wishing to stock native fish to their waters in sustainable numbers. We have considered stocking levels in Protected Areas and ensured Native Crayfish are protected in terms of biosecurity. Contact: Kerry.Sims@environment-agency.gov.uk

#TeamEA

We have been helping with several pieces of work to support the wider business.

We have helped to produce a number of native species factsheet. The factsheets can be accessed by the entire business and it is hoped that they will be a useful source of information to support day to day activities. National permitting colleagues screen hundreds of permits every year and will have a direct link to the factsheets via their screening tools.

Figure right – example factsheet

native species fact sheet

Great crested newt (*Triturus cristatus*)



DESCRIPTION

The great crested newt, also known as warty newt, is the largest of three native newt species. Adult females can grow to 170mm in length. The typical length for adult females is 110mm to 130mm and typical male length will range from 110mm to 120mm.

Adult great crested newts are easily distinguished from the smaller newts, smooth and palmate, by their size and colour. The smaller newts will reach a maximum length of around 100mm. They have unique colouring.

PROTECTION AND STATUS

Great crested newts are fully protected under UK and European Legislation:

Bern Convention 1979: (Appendix II)

EC Habitats Directive 1992: (Annex II and IV)

Natural Environment and Rural Communities (NERC) Act 2006, Species of Principal Importance, Section 41

Fully protected under the Wildlife & Countryside Act 1981, Schedule 5

UK post-2010 biodiversity framework (UK BAP) species

Classified as least concern on the IUCN Red List

DISTRIBUTION

Great crested newts are widely distributed throughout lowland Great Britain. However, they are uncommon in most parts of Devon and Cornwall, the Fens and Pennines. Check with area Biodiversity staff, and on [Easimap](#) for current local distribution. This distribution data is sensitive as great crested

ORGANISATIONAL LICENCE	
Issued to:	Environment Agency
OVERVIEW	This organisational licence is issued to the Environment Agency to enable employees and authorised contractors to undertake various work-related activities potentially affecting a range of protected species in England. The Environment Agency ('the Licensee') is responsible for the conduct of all activities performed under the authority of this licence.
Reference	WML – OR20
Organisational Licence	The following annex is an integral part of this licence: <ul style="list-style-type: none">WML – OR20 (Annex A)
Issued under	The Wildlife and Countryside Act 1981 (as amended) ('the 1981 Act')
IMPORTANT	This licence authorises acts that would otherwise be offences under the legislation referred to above. Failure to comply with its terms and conditions: <ul style="list-style-type: none">may be an offence against the 1981 Act or mean that the licence cannot be relied upon. The maximum penalty available for failing to comply with a condition of a licence under the 1981 Act is, at the time of the issue of this licence, an unlimited fine and/or a six month custodial sentence; andmay result in this licence being revoked and/or the refusal to grant future licences. If the activity that you wish to undertake is not covered by this licence, or if you are unable to comply with any of the terms and conditions which apply to the use of this licence, then you will need to apply to Natural England for an individual licence. This licence is not a consent or assent for the purposes of Part II of the 1981 Act in respect to Sites of Special Scientific Interest. It is your responsibility to get consent or assent if required (see Important Information c). This licence does not derogate against offences for other species.

We have been supporting national biodiversity colleagues obtain an organisational licence for the displacement of Water voles. Water voles are one of the UK's fastest declining mammals and receive full protection under the Wildlife & Countryside Act.

Occasionally due to our works we need to put in place mitigation to avoid impact to Water vole populations. As a last resort we may consider displacing animals where we are confident that there is suitable habitat for them to move into and that there will be no lasting impact.

Where appropriate the new organisational licence will enable us to carry out displacement lawfully and deliver our work more effectively.

Figure left – EA organisational licence



Displacement should only be considered where there is no satisfactory alternative. Displacement will only work over short distances, where there is suitable adjoining habitat and should only be attempted during the period of 15 February – 15 April. At other points of the year water vole will be more loyal to their burrow and unlikely to displace.

Photo -Vegetation removed and burrows marked. Credit: Sandie Moors

Contact: Adam.Cave@environment-agency.gov.uk

Medmerry Smooth-hounds

Contact: Damon.Block@environment-agency.gov.uk



Medmerry is the largest open-coast managed realignment scheme ever in the UK, and was created by the Environment Agency between 2011 and 2013. This summer a school (or shiver) of 50 Smooth hound sharks were filmed feeding in the lagoons there. See it on video at : http://www.rspb.org.uk/news/404484-shark-invasion-at-medmerry?utm_source=rss&utm_medium=feed&utm_campaign=News

Smooth-hounds are a relatively common native shark species around British coastal waters, although they are rarely seen. It is thought that the sharks were attracted by the large number of crabs and other marine life that has colonised Medmerry since the breach was made in September 2013.

Illegal netting in Sussex Rivers

The Environment Agency (EA) and Sussex Inshore Fisheries and Conservation Authority (IFCA) noted an increase in the number of illegal nets being set on Sussex beaches and in our estuaries this summer. Together we mounted extra patrols at sea and from the land to target this damaging criminal activity.

Illegal nets placed across tidal rivers cause environmental damage by catching migrating fish such as Sea Trout in our Sussex Rivers, as well as other important marine fish species such as bass and mullet. These nets are sometimes referred to as fixed engines. The Sussex IFCA has a fixed engine byelaw which prohibits setting such netting in certain locations and at certain times of year. <http://www.sussex-ifca.gov.uk>

Gill net seized from the River Cuckmere Estuary



Contact:
Charles.Bacchus@environment-agency.gov.uk



Illegally set net across the River Ouse

Report suspected illegal fishing-related activities to our Environment Agency incident hotline : Telephone (24 hour service) 0800 80 70 60

Test and Itchen River Restoration Strategy – 2015 Projects

We worked collaboratively with five river-owners in 2015. 1km of river has been restored by the creation of meanders and narrowing. Two structures have been removed and one improved and 4000t of gravel have been used to restore bed-levels in previously dredged sections. Flood risk has also been reduced to urban areas by re-connecting the rivers with their floodplains in rural, open areas of the catchment.

Reversing historic dredging, we put 1600t of gravel in the River Test at Mottisfont to raise the bed, restore heterogeneity of channel form (pools, glides and riffles), increase water velocity and provide the natural substrate required by classic chalkstream invertebrates and plants, and fish spawning habitat.

We collaborated with the National Trust at Mottisfont, and with 50k funding from Viridor. The contractors, Aquascience, did a fabulous job.

This followed two years of modelling by Southampton University students to inform the project design. This was a particularly valuable collaboration, as the University integrated the technical work into the student's course, so they were learning and genuinely contributing.



Left: The gravel being introduced using a 18m reach 360 so as to work over the top of valuable water vole habitat.

Below: Restoring channel form and hydromorphology at Bossington, River Test 2015. We collaborated with the Bossington Estate, and the contractors, Cain Bioengineering, did a tremendous job.



Contact: Heb.Leman@environment-agency.gov.uk

Arun and Rother Connections (ARC)

As a partner in a catchment-wide project which includes the Royal Society for the Protection of Birds, Sussex Wildlife Trust, West Sussex County Council, Arun & Rother Rivers Trust amongst others, we have completed fish passage improvements to three weirs within the Arun & Rother catchment. The ARC Project has secured significant match-funding from the Heritage Lottery Fund towards river habitat improvements on the Upper Arun, which had previously been severely impacted by a pollution incident caused by the release of untreated sewage. Get excited about the #ARCproject app launched in January 2015. Sign up here for info <http://arcexplorer.org.uk/>

Three different solutions were applied at the weirs:

The weir at Harsfold Farm on the River Kird was removed. A Larinier design fish pass was installed on the Arun weir near the A24, Horsham. A low cost baffle solution, as well as the installation of a new eel pass was employed at Hardham weir on the Western Rother, an important gauging weir for public water supply.

Contact: Damon.Block@environment-agency.gov.uk



Improved Access for anglers to Bucks Hole Reservoir



Working with Hastings Bexhill and District Freshwater Angling Society and Hastings Borough Council we have together improved access for anglers to Bucks Hole Reservoir, Alexandra Park, Hastings. Through this project the Society very generously provided free membership for Junior anglers for one year which resulted in 110 juniors signing up with the club.



For more info on membership please go to <http://hastingsandbexhillangling.co.uk/>

Topmouth Gudgeon eradication

In November 2015 our National Fisheries Services Virtual Non-native Species Management colleagues helped us carryout another eradication operation to remove one of the last known populations of the highly invasive Topmouth Gudgeon from a fishery in Hampshire.

The Topmouth Gudgeon, is a small non-native coarse fish from Asia, introduced to Great Britain from mainland Europe in 1984, and first formally identified in the UK at a fish farm in Hampshire in 1986. Following introduction, the species spread, initially through fish farm movements and the ornamental fish trade, subsequently invading stillwater fishery sites across England and Wales. 26 populations have been formally identified from Cumbria & Yorkshire in the North of England, to the Midlands, South Wales, and from Devon to Sussex in the South of England.



The species is considered to be one of the most potentially damaging non-native fish species to invade Western Europe: Red Listed by the UK Task Action Group's Alien Species Group, and classified as a priority species for action under the Great Britain Invasive Non-native Species Strategy. It is highly effective invasive species, dispersing easily,

achieving rapid sexual maturity and breeding prolifically. It's diet is broad, enabling it to out-compete native species; and it preys on native fish eggs. It is able to tolerate exceptionally poor environmental conditions and populations may carry novel parasites and disease that can impact upon native fish species.

This population of Topmouth Gudgeon is the last of three separate sites to be eradicated on a single tributary of the River Test. A piscicide-based eradication was carried out by the specialist national virtual team using boat and bank-based application systems to a total of 42 ponds at this site. 18 Fisheries Officers from across the Agency

joined-us on this operation. Monitoring of the site will continue. Five Officers from the equivalent of Spain's Defra observed our operation, to learn lessons for their own work. Two Officers from Norway's Veterinary Institute helped with the work, applying their extensive experience in this field #sharinggoodpractice

Contact: Paul.Newman@environment-agency.gov.uk

Further information is at: www.nonnativespecies.org

non-natives@environment-agency.gov.uk / 03708 506506 or via AqualInvaders app downloadable at:
<http://naturelocator.org/aquainvaders.html>

Controlling mink to save water voles

The Mink we have in Britain are an introduced species. They are American mink (*Neovision vison*), which originated from mink brought here for fur-farming. Mink have had a severe impact on Water vole populations nationally and have been responsible for local extinctions. Mink will also impact on wider biodiversity for example predating on small mammals and birds.



A comprehensive Mink trapping programme has been underway on the River Meon in advance of the reintroduction of Water voles to the river. The mink control programme has been led by the South Down's National Park (SDNP) and has only been made possible by the hard work of project partners, volunteers and land owners.

The raft used has been designed by the Game and wildlife Conservation Trust and tested on the River Itchen :
<http://www.gwct.org.uk/wildlife/research/mammals/american-mink/the-gwct-mink-raft/>



The raft uses a standardised mixture of clay and sand to record mink tracks. This approach provides unequivocal evidence of the presence of mink and allows action to be taken in an efficient and effective manner. Contact: Adam.Cave@environment-agency.gov.uk

An otter visited one of the mink traps, River Meon. Photo : SDNPS

Fish Monitoring 2015



During our 2015 fish monitoring season, which ran from May to October, we carried out over 90 surveys, in rivers throughout Hampshire and Sussex, as well as Southampton Water and the Adur estuary. FBG Officers support colleagues in other Teams to carry out this important work.

During these surveys we caught over 50 species of fish, with 38 different species from Southampton Water alone!

We especially focussed on eel populations in the river Itchen this year. At ten sites, where we have surveyed every two years since 2009, we have found that eel numbers have dropped each survey year. In 2015 we only had one third of the number of eels caught in 2009.

One real surprise came when we caught a salmon parr (pictured right) in the River Ems, near Emsworth. This is the first time we have recorded salmon parr on this river in our surveys!



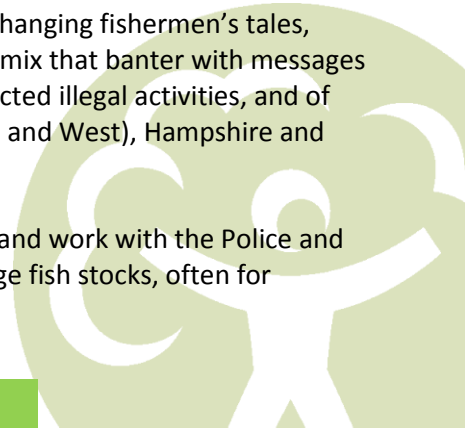
We produce an annual report summarising all of our fish monitoring for the year, comparing our data to climatic conditions and weather events and to previous survey data. We usually disseminate our Fisheries monitoring annual reports to local fisheries interests by e-mail.

This year's report will be available in April 2016, for a copy please contact: Philip.Rudd@environment-agency.gov.uk

Tackling illegal fishing

In our fisheries enforcement work we enjoy meeting anglers from all walks of life : exchanging fishermen's tales, anecdotes and advice on the bankside is one of the main reasons we love the job. We mix that banter with messages including the importance of biosecurity, how to pass-on intelligence to us about suspected illegal activities, and of course the need for a rod licence. The vast majority of anglers we meet in Sussex (East and West), Hampshire and the Isle of Wight clearly enjoy their sport responsibly.

Whilst most people fish legally, we take incidents of illegal fishing extremely seriously and work with the Police and other partners to seek out and take action against the few who selfishly seek to damage fish stocks, often for personal commercial gain.



Elsewhere in this newsletter we describe some of our work tackling illegal netting and how we work with the Inshore Fisheries & Conservation Authorities (@sussex_ifca & @SouthernIFCA). We carry out routine (overt) patrols in estuaries, rivers and stillwaters we know to be vulnerable to illegal fishing. And we carry out covert surveillance to tackle known hot-spots for criminal fish-related activity, often working with the Police.



We seized these home-made fishing spears from four men in

Southampton whilst on a routine night-time patrol. They were using torchlight to spot and then spear coarse fish. Catching those involved in criminal fishing activities is also one of the reasons we love the job!

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Sharing what we know



We enjoy attending conferences and workshops, to listen and learn. Sometimes we are also invited to contribute.

This year was no different and we gave presentations to numerous groups, including :- Sparsholt College course???; University of Southampton Engineering and Environment Freshwater Ecosystems undergraduates; The 2016 Vitacress Chalkstreams Headwaters Forum; Hampshire Police Countryside Watch Team; Bournemouth Water ; Brighton University.

Above: FBG Officer training [@HantsPolRural](#) [#CountrysideWatch](#) re non-native invasive plant species [#NNIS](#) [#OneTeam](#)

Right: Brighton University students in their second year, visited our Woodsmill Stream and Twineham river restoration projects to see a 'day in the life' of an FBG Officer, for their careers module.



Bluebells and Brown Trout : in praise of coppicing and coppicers

The Environment Agency is commonly associated with 'wet' habitats – chalkstreams, ponds, wetlands and wet-woodlands. The recent death of Professor Oliver Rackham, pioneering conservation-thinker and inspiring landscape historian, got me to thinking about our relationship with another critical natural capital – woodland; and the Environment Agency's less obvious role in broadleaved woodland conservation.

We use a range of natural materials to restore our chalkstreams, and woody debris is our favourite, to make in-stream conditions more complex, benefitting biodiversity. We also use chestnut stakes to pin-down bundles of hazel sticks, called faggots, and it is the origin of these faggots through coppicing that I think of when I remember Rackham.

Coppicing is the process of cutting trees down, allowing the stumps to regenerate producing many new shoots, rather than a single main stem, and then harvesting the regrowth on a rotational cycle, in 'coups', for a variety of uses, in an elegantly sustainable way. The coppice, or shrub layer, is called the 'underwood', as in 'under the woodland canopy'. After the more exacting needs are taken, the left-overs are bound into faggots - bundles of rods, compressed and trussed, often with twisted hazel.



Left: New coppice,
Sandpit Copse,
IOW

Right: Wood
anemone, Sandpit
Copse

© Jon Cox

Coppicing of
woodland creates



structural diversity: in the early years after cutting, it increases light to the woodland-floor, painting our quintessential 'English' scene - a profusion of sun-dappled bluebells. As the coppice thickens it provides habitat for a succession of woodland plants and animals from nesting birds to woodland mammals. Many of our most threatened iconic woodland species are dependent upon the various stages of coppice growth from wood anemone and woodland fritillaries in the early stages through nightingales and garden warblers in the thicket stage, to dormice – and on the Isle of Wight, Red squirrels and Bechstein's bats in the later stages of the coppice cycle.

The Forestry Commission tell me "one of the key drivers for a lot of coppice work these days is for soft engineering, both rivers and coastal, and this is keeping many of the current work-force in the woods." The Environment Agency is indirectly playing a small part in supporting the conservation of our ancient semi-natural woodlands and the associated rural socio-economy, using locally-sourced hazel faggots for 'soft engineering' wherever possible, especially in river restoration.

Woody debris (WD) are the logs, sticks, branches and other wood that falls or are introduced into streams and rivers. This debris can influence the flow and the shape of the stream channel, kick-starting natural processes that drive the natural state and functioning of the river system in support of biodiversity, recreation, flood management and landscape development. A diverse water flow affects patterns and rates of sediment erosion and transport creating conditions to form riffles, pools, and temperature variations. It encourages silt to be deposited in some areas while other parts of the river bed are scoured of silt by the fastest flows.

This abiotic diversity is vital to fish because it provides the right circumstances to spawn, rest, feed, hunt, and hide. Beds of silt are a critically important habitat for the pre-historic looking brook lamprey, and 'clean' gravels are equally essential as spawning beds for brown trout. Invertebrate and plant communities are more diverse in their structure and species composition when flow and channel-form is more diverse.



Left: River Avon. Hazel coppice
mattress "before".

Right: Hazel coppice mattress "after" –
a silt trap.

© Simon Cain

Hence, we work with others, including the Wild Trout Trust, Wildlife Trusts, and Rivers Trust and expert environmental contractors to restore rivers, and frequently do so using woody debris, including faggots. This winter we used 350 hazel faggots from woods near Stockbridge, in habitat enhancement projects in the Rivers Test and Itchen.



We've also worked with Cain Bio-Engineering using 5,000 hazel faggots and 1,800 sweet chestnut posts to restore sections of tidal embankment in the Rother estuary SSSI (littoral sediment), which had been scoured by exceptional high winter flows. Faggots were staked-out in a lattice, waffle formation and tied-down using specially manufactured hemp rope, to interrupt flows in the estuary and promote accretion of sediment.



Before : 2004: Erosion of the flood bund in the Rother inter-tidal channel

© Simon Cain

During : 2005: Hazel faggot installation on the Scots Float flood bund – Rother inter-tidal channel

After : 2012: Upstream view of hazel faggot mattress (cannot see it due to the accretion) showing sediment accretions 7 years after project completion

Nationally, the Agency has used another 2,000+ hazel faggots (and more if one includes coppice willow and ash faggots) over the last year in river enhancement works.

In this way, we are promoting the natural linkages between habitats and across living landscapes: in this case the flow of woody materials, nutrients and energy from our woodlands to our rivers/wetlands and estuaries. So, the next time you hear of the Environment Agency's river restoration work, consider the benefits to hazel coppice woodlands, those who work in them, and woodland wildlife, as well as chalkstreams: *think bluebells as well as brown trout.*



Photo: Charlotte Sams/WWF-UK. Hazel faggots, like all woody debris, diversifies habitat, benefitting chalkstream flora and fauna.

This is an extract of an article by Tim.Sykes@environment-agency.gov.uk in March 2015 for Green Hampshire (@GreenHampshire) . The full article can be found here:

http://greenhampshireblog.blogspot.co.uk/2015/04/bluebells-and-brown-trout-in-praise-of_4.html?m=1

Who knew conkers can kill fish?

FBG were called to a fish kill on a tributary of the Western Rother recently where a number of brown trout had been killed following a "first flush" of heavy rain after a long dry spell. Nothing unusual in that maybe but we struggled to find anything nasty that might have entered the system. A lead for investigation came from a fortuitous conversation with a reporter and Andy Thomas of the Wild Trout Trust who related a story of fish killed similar circumstances.





Further digging revealed that a giant Horse Chestnut tree at the source of the stream had recently shed its fruit which had in turn been crushed by passing cars. Add heavy rain and it's likely that an active piscicide called *Saponin* was released from the crushed nuts and entered the stream through several drains, poisoning the fish in the process.

Sceptical? Ok, maybe, but a quick Google search shows that North American native tribes have used this method to stupefy fish for generations...

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A personal perspective from Lewis Swift

I have worked for the Sampling and Collection Team of the Environment Agency since leaving University, in 2012. I love all aspects of the work, particularly the fisheries side of things. The job has been everything I always wanted, working in an outdoor environment and doing something that I am passionate about. Not many people can say that they look forward to going to work, but I am one of those, and feel very lucky.

In 2014, I secured the role leading the fisheries monitoring work in Blandford, Dorset, and after an extremely busy year catching Salmon Parr on the Hampshire Avon, I headed east to work in Solent and South Downs Area, based in Sussex. The work here has been a huge learning curve for me as sampling techniques vary massively to match the rivers that we are surveying.

However, after working closely with Phil Rudd the year was a success. We had some extremely long (70hrs+) weeks, some horrendous weather conditions in which to work, caught a few thousand fish and had a lot of laughs but we finally made it back into the safety of the office in one piece for the winter.



The next couple of months will be focused on analysing the data we collected and producing the annual report for all of the customers and partners that we worked with this year. I am also going to try and revive my invertebrate identification skills with my Analysis & Report Team colleagues in the lab and hope to begin fisheries enforcement training in the New Year so I can support the FBG Team with that important work.

I've loved angling since childhood and now I'm

fortunate enough to write in the magazines I used to read when I was younger, and have even made the front cover and appeared on Sky Sports a couple of times! I am heavily involved within the carp angling scene, in particular the competition aspect. Many of my Agency colleagues struggle with the concept of this due to their more 'purist' ways but then I guess staying up for 48 hours straight and using 60kg of bait in a weekend isn't everyone's cup of tea.

2015 saw me reach the final of both the big national competitions with the highlight being our 2nd place finish in the British Carp Angling Championships. One day I aim to be crowned British Champion! I will be sure to keep you updated on how things go.....

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Woods Mill Stream : getting better with age



In 2009 we completed the restoration of over 600m of the Woods Mill Stream, allowing more natural processes to occur, creating better habitat for fish and aquatic life. The only management being applied now is limited grazing. This project was funded by Landfill Tax through the Biffaward scheme. The work at Sussex Wildlife Trust HQ, Woods Mill is open to the public and we think looks stunning.

Photos:

Above – before, taken in 2009

Right – the excavated new watercourse

Below – after, taken in 2015



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Sea Trout, River Ouse. 2015.
<http://paulsharmanoutdoors.com>

The most recent editions of our Solent & South Downs Area Fisheries, Biodiversity & Geomorphology Teams Newsletters can be found here:-

Summer 2014 - <http://www.anglingtrust.net/news.asp?section=29&itemid=2298>

Winter 2014 - <http://www.wildtrout.org/news/sussex-hants-and-iow-ea-newsletter>

SSD FBG Newsletter December 2015

www.gov.uk/environment-agency