



# Autumn 2011 Newsletter

**Summary article on the *State of our Oceans* report** *Erin Pettifer, Sussex Wildlife Trust*

Earlier this year the International Programme on the State of the Ocean led a unique international workshop of marine experts, to consider the cumulative impact of multiple stressors on the ocean.



*Photo: Paul Naylor/Sussex Wildlife Trust*

Assessment of the combined effects of ocean warming, pollution, acidification, over-fishing and deoxygenation led to a shocking conclusion: If the current trajectory of damage continues the world's ocean is at **high risk of entering a phase of extinction of marine species unprecedented in human history.**

The three symptoms associated with all five past mass extinctions are occurring now due to human impacts: Warming and acidification of the ocean, with increased hypoxia (low oxygen levels). These are all being exacerbated by multiple stressors acting together putting ocean ecosystems at serious risk. Worryingly, it appears that both the rate and magnitude of impacts have previously been underestimated. Key findings were:

- Carbon dioxide, emitted by human activities, is entering the ocean at a greater rate than during the last marine mass extinction around 55 million years ago, leading to acidification (lower pH levels) of our ocean and detrimental impacts on our marine life
- Climate change is melting Arctic sea ice and the Greenland and Antarctic ice sheets faster than anticipated, risking not only rising sea levels, but the possibility of methane release from underwater deposits
- Marine 'dead zones' (where dissolved oxygen has fallen to such low levels that most marine species can no longer survive) are on the rise
- Overfishing is devastating our marine ecosystems, with some target and bycatch species reduced by 90 percent
- Tiny plastic particles are absorbing chemicals, which are consumed by marine life

Although the challenges are great, we have the technical means available to turn things around if society recognises the need for change and the importance of the oceans for supporting us and maintaining our world in a habitable condition. Delegates recommended that we need to change how we view, manage, govern and protect marine ecosystems, with the following actions needed:



*Photo: Sussex Wildlife Trust*

- An immediate reduction of carbon dioxide emissions
- Reduction of fishing effort to levels allowing long-term sustainability
- Establishment of a global network of marine protected areas
- Tackling of pollution and nutrient run-off
- Reduction and stringent regulation of oil, gas, aggregate and mineral extraction in the oceans
- Adherence to the 'precautionary principle'
- More effective governance and regulation of activities in the high seas, which are beyond any national jurisdiction and make up the majority of the world's ocean

View the report at [www.stateoftheocean.org](http://www.stateoftheocean.org). You can help get effective Marine Protected Areas established around the UK by supporting the Wildlife Trust's Petition Fish campaign [www.wildlifetrusts.org/petitionfish](http://www.wildlifetrusts.org/petitionfish)

### **East Sussex downland bees and wasps get a health check** *Steven Falk*

A major study of the bees and wasps of 15 downland sites in East Sussex was recently completed. 227 species of bee and wasp were recorded including many rarities. Most notable, was a solitary bee *Halictus eurygnathus* (right), which had not been seen in Britain since 1946 and was considered nationally extinct. Reports of its demise however, were clearly premature as it was eventually found at seven sites. Females rely heavily upon Greater Knapweed as a pollen source, and with this new information, it should be possible to conserve this species and hopefully help it to spread.



*Photo: Steven Falk*

The study revealed the important role arable field margins, flowery fallow fields and blossoming shrubs play in supporting bees on the Downs. One of Britain's rarest mining bees *Andrena niveata* was found to forage primarily from Charlock and Hedge-mustard flowers at the edges of Oil Seed Rape; a relationship not previously noted. The study revealed some species are in trouble in East Sussex, including Britain's largest mining bee *Andrena hattorfiana*, which forages on scabiouses. The study also failed to rediscover Culluman's Bumblebee which was last recorded in Britain in 1926 and seemingly had a good population in the Seaford area.



*Photo: Steven Falk*

The work was carried out by Warwickshire entomologist Steven Falk, who also recorded flies, which will be subject to a future report. Hopefully the study will help the landowners and land managers of the South Downs to promote these important insects, especially given the growing international concern regarding declining pollinators. Steven is also keen to encourage local naturalists to investigate less popular insect groups of the Downs.

Download the report from the Sussex Biodiversity Record Centre.

[http://sxbrc.org.uk/publications/East\\_Sussex\\_Bees\\_Wasps\\_Survey\\_Falk\\_2011.pdf](http://sxbrc.org.uk/publications/East_Sussex_Bees_Wasps_Survey_Falk_2011.pdf)

### **Sowing the Seeds of UK Biodiversity** *Royal Botanic Gardens, Kew*

On 17 August the Royal Botanic Gardens, Kew launched the UK Native Seed Hub at the Millennium Seed Bank (MSB), Wakehurst Place - an initiative that draws on the MSB's extensive collection of native seeds, its horticultural and scientific expertise to support the UK seed industry, and organisations working to restore native plants to the countryside.

The Seed Hub will eventually support restoration across the full spectrum of UK habitats, but will focus initially on lowland meadows. Funding from the Esmée Fairbairn Foundation will establish the project over four years.

The Seed Hub will comprise a dedicated seed store, and approximately one hectare of seed production beds, which are currently being developed. Visitors will also be able to experience a newly restored lowland meadow around the MSB building. Grasslands like these are a precious but vanishing habitat;



*Photo: Alan Price, Gatehouse*

compared to the 1930s, only 2% of species-rich grasslands remain and the potential for restoring these attractive habitats is immense.

Working alongside commercial companies and restoration practitioners, Kew's experts will create high quality seed stocks of selected UK species, stored to international standards to maintain viability and genetic integrity. Samples from these stocks will be made available to seed companies for bulking up for use by conservation organisations in landscape-scale restoration projects. In the event that land management changes alone cannot achieve natural regeneration of the plant community, seed can be highly effective for increasing species diversity in a restoration project.



Photo: Graeme Lyons

The Seed Hub will include research and development to strengthen the quality and diversity of seeds and plants available for restoration; playing an important role in addressing the Government's commitment to protecting biodiversity and improving the UK's ecological network. Knowledge and information generated by the Seed Hub project will be shared freely and training will be provided to landowners and agencies wishing to grow and use native plants.

The project will start with lowland meadow species and restoration work will be carried out in partnership with The High Weald Landscape Trust's Weald Meadows Initiative. The model established for lowland meadows will provide a blueprint for supporting restoration in another 40 priority habitats listed in the UK Biodiversity Action Plan. The success of the Seed Hub depends on partnership with landowners, commercial wildflower seed producers and conservation bodies across the UK.

Professor Stephen Hopper, Director, Kew says, *As the MSB Partnership moves forward into its next decade, environmental challenges are becoming ever more acute. Not only is it now more critical than ever that seeds are stored in Kew's MSB, but it is also essential that we use the collection and our expertise to assist the restoration of lost habitats and the reintroduction of lost species to provide a better environment for future generations. The UK Native Seed Hub is a significant first step on this road.*



Photo: Graeme Lyons

Kew's MSB safeguards around 90% of UK species in its vaults - almost all of the native flora. On a small scale, the MSB has already shown how critical its UK seed collections are to the reintroduction and recovery of threatened species such as the Triangular Club Rush *Schoenoplectus triquetus*, which until last year was extinct in all but one of its former sites on the River Tamar in Devon, and the critically endangered Starved Wood Sedge *Carex depauperata*, reintroduced to a newly-coppiced woodland in Surrey, also last year.

For further information about the Millennium Seed Bank and the UK Native Seed Hub visit <http://www.kew.org/science-conservation/save-seed-prosper/millennium-seed-bank/>

### **Final Recommendations for Marine Conservation Zones** *Balanced Seas*

The Balanced Seas Project reached a significant milestone in September as its Regional Stakeholder Group (RSG), published their final recommendations for Marine Conservation Zones (MCZs) in south-east England.

MCZs, once designated, will protect nationally important wildlife, habitats, geology and geomorphology. Our south-east seas have a wealth of life teeming within their estuaries

and inshore and offshore waters. Sites are being recommended not just to conserve the rare and threatened, but the whole range of marine wildlife and habitats.



Photo: Paul Naylor

The report is the result of two years hard work by the RSG, supported by three advisory Local Groups. Balanced Seas have worked with numerous individuals and organisations who use, or have an interest in the sea, including fishermen, recreational users, conservationists, and representatives of the ports, aggregates and renewable energy industries. Engaging so many sectors in identifying sites for marine protected areas from the beginning is a first for the UK.

The recommendations evolved over the course of 50 stakeholder group meetings, run by independent professional facilitators, 3KQ. Richard Harris, 3KQ Director said *For a new challenge like building consensus around MCZs to be successfully met, the people involved have to embrace a new approach, take a risk and leave behind some old habits about the way 'business' is so often done. I think the Balanced Seas Regional Stakeholder Group showed that was possible.*

These final recommendations will be reviewed by the Joint Nature Conservation Committee (JNCC) and Natural England (NE) who will advise on the scientific evidence underpinning the recommended sites. The independent Science Advisory Panel (SAP) will also provide its assessment on the extent to which the resulting network of MCZs and existing Marine Protected Areas is likely to achieve the goal of ecological coherence. Over the coming months, Balanced Seas will produce detailed assessments on social, economic and environmental impacts of the recommendations.



Photo: Caroline Weir

In 2012, all final recommendations and advice from the SAP, the JNCC and NE will be put forward to the Government which, following a public consultation, will determine which sites are designated as MCZs. The MCZ Project has given a unique insight into the opinions, concerns and valuable knowledge of local people around the country, and Balanced Seas would like to thank everyone involved in the south-east for their incredible commitment and achievement in reaching this milestone.



Photo: Paul Naylor

Balanced Seas Project Manager, Sue Wells, said *stakeholder group meetings involved over 100 active sector representatives who gave many hours of their time to attend meetings, provide information, review reports and work with the project team. The project was supported by hundreds of others who provided their views and contributed to the amassing of one of the largest collections of ecological and socio-economic information and data sources for the seas of south-east England. This is an astonishing amount of work over a challenging timescale and a huge debt of gratitude is owed to all those involved.*

To view the Balanced Seas Final Recommendations Report, visit [www.balancedseas.org](http://www.balancedseas.org)

#### *Summary of recommended Marine Conservation Zones in Sussex*

- 13.1 Beachy Head East is designed to protect the Sovereign Shoals which consist of chalk and sandstone reefs, providing a home for abundant marine life.

- 13.2 Beachy Head West runs along the base of the Seven Sisters from Beachy Head to Brighton and is aimed at protecting some of the best examples of subtidal chalk gullies and ledges in the region, as well as a range of species, including seahorses.
- 16 Kingmere Rocks consists of sands and gravels with scattered chalk rocky outcrops, which form reef like features, and provides ideal nesting sites for Black Bream.
- 25.1 Pagham Harbour is the only site where Defolin's Lagoon Snail occurs in the project area, and one of only three places where it is found in the UK. It lives in the huge shingle bank that separates Pagham Harbour from the sea.
- 25.2 Selsey Bill and the Hounds is a rocky reef area, which includes the famous Mixon Hole, thought to be a segment of an ancient river gorge, its near-vertical 20m cliff with numerous ledges and crevices providing home to a rich diversity of marine wildlife.
- 29 East Meridian is mainly sands and gravels and would also protect part of the bed of the ancient river that once flowed between England and the continent.
- 31 Inner Bank would protect primarily rocky seabed.

## News

Defra has published the new **England Biodiversity Strategy** *Biodiversity 2020*. It outlines how England will meet internationally agreed targets to reduce the loss of species and habitats by 2020 and achieve plans set out in the Natural Environment White Paper. The strategy includes a commitment to *halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people*. A significant aspect is its focus on a sectoral-based approach where it promises to integrate protection and restoration of biodiversity into those sectors that have the greatest potential for direct influence. <http://www.defra.gov.uk/publications/2011/08/19/pb13583-biodiversity-strategy-2020/>

An outbreak of **American Foulbrood**, a notifiable disease affecting honey bees, has been found in an apiary in Perthshire. The infected hive has been destroyed as there is no permitted treatment for the disease in the UK.

***Phytophthora ramorum*** outbreaks in Larch have been confirmed in two new areas of Great Britain; Lancashire and the island of Mull.

The **Institute of Ecology and Environmental Management** has published a report *Ecological Skills: Shaping the Profession for the 21st Century*. It concludes that, whilst many areas of ecology knowledge and skill are adequately covered by existing higher education and training provision, there are gaps that need to be addressed. Many relate to specialist understanding including a continuing deficit in expert identification skills, taxonomy and systematic biology. <http://www.ieem.net/skillsreport.asp>

Dedicated **river access points for dogs** have been installed on the Itchen Navigation by Hampshire & Isle of Wight Wildlife Trust to help prevent disturbance to wildlife along the river bank; the first of their kind to be installed in the UK.

## Funding Deadlines

- American Express Fund (grants up to £5000) **14 October 2011**
- Southern Water Fund (grants of £500-£2000) **14 October 2011**
- HLF Heritage Grants (grants of £50000+) **16 October 2011**
- SITA Fast Track Fund (grants up to £10000) **21 October 2011**
- Veolia Environmental Trust (grants of £25000-£40000) **21 October 2011**
- PTES UK Mammals Grants (grants of £250-£3000) **1 November 2011**

- PTES Worldwide Continuation Grants (grants of £10000-£250000) **1 November 2011**
- Royal Society Partnership (grants up to £3000) **4 November 2011**
- SITA Enriching Nature Programme (grants up to £120000) **4 November 2011**
- CABE Educational Grants (grants up to £1500) **5 November 2011**
- SITA Core Fund (grants up to £50000) **28 November 2011**
- HLF Heritage Grants (grants of £50000+) **19 December 2011**
- British Entomological and Natural History Society (up to £1000) **31 December 2011**

## Look out for

Information about **Local Nature Partnerships** and Nature Improvement Areas in the south east <http://www.sebiodiversity.org.uk/pages/natural-environment-white-paper.html>

The West Weald Landscape Partnership's new ***Wild Walks in the West Weald Landscape*** guide which can be downloaded from <http://www.westweald.org.uk/>

The Institute of Ecology and Environment Management's ***Competencies for Species Survey Technical Guidance Series*** <http://www.ieem.net/competencies.asp>

Brighton and Hove City Council's revamped **CityWildlife** website [www.citywildlife.org.uk](http://www.citywildlife.org.uk)

The **Ivy Bee *Colletes hederæ*** survey; for further information about this species visit <http://www.bwars.com/> or go straight to the survey <http://www.livingrecord.net/index.cfm?key=SWKFKPKJKIVJHYCLOAIDWKRHCNGNWM>

## Upcoming Events

- **15-23 October:** Wildlife in the Gardens will be held at The Sir Harold Hillier Gardens, Romsey, open daily from 10-00hrs to 17-00hrs, admission is free
- **October 28:** An IEEM masterclass *Protected Species: how local planning authorities should discharge their legal duties* takes place in London [http://www.ieem.net/docs/EPS%20Masterclass%20Flier\\_Local%20Authorities.pdf](http://www.ieem.net/docs/EPS%20Masterclass%20Flier_Local%20Authorities.pdf)
- **November 18:** The NBN Conference *Evolution or revolution?* Takes place in London <http://www.nbn.org.uk/News-and-Events/NBN-news/NBN-Conference-%281%29.aspx>
- **November 19:** Amphibian and Reptile Group South East and London regional meeting takes place in Kent <http://www.arguk.org/events>
- **November 25:** IEEM legal training seminar on European Protected Species takes place in London <http://www.ieem.net/protectedspeciesconsultants.asp>
- **January 6 2012:** Sussex Wildlife Trust is hosting a Sussex Wetlands Conference with Brighton University. We would like to invite professionals, academics and landowners who are currently involved in wetland, coastal and water conservation work in Sussex. For further information contact Fran Southgate [fransouthgate@sussexwt.org.uk](mailto:fransouthgate@sussexwt.org.uk)
- **April 14 2012:** Wild About Mid Sussex takes place at Oakmeeds School, Burgess Hill.



Photo: Alan Price, Gatehouse Studio/  
Sussex Wildlife Trust

Is there something we should know about?  
Got an article you would like us to include?

Contact Laurie with the details if you would like something included in a future newsletter  
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The deadline for submissions for the next edition is 25 November 2011.