ALDERNEY WILDLIFE

ALDERNEY wildlife TRUST

WINTER 2019 | NON-NATIVE SPECIES

Protecting Alderney's wildlife for the future

Editorial

By December much of the AWT's monitoring and events work has wound down and preparations are in full swing for the year to come. Report writing and analysis of data collected over the previous months is the main focus, giving us a chance to review as well as look forward. Reviewing the data collected on various species or habitats over the course of the last 12 months helps us establish trends both from that year and over the long term. It is also worthwhile assessing whether all projects continue to meet the AWT's aims (which include promoting research, educating the public on conservation issues and the importance of wildlife and protecting habitats, species and the beauty of our landscape).

Another aspect of these end of year reviews is to identify any new or worsening threats to Alderney's wildlife. One of the threats that gets less attention than it deserves, despite being one that is growing, is that posed by non-native species. The terminology around these non-native species can be quite confusing, so please have a look at our glossary on page five for some definitions and examples.

Islands can be especially affected by invasive species as the wildlife that lives there may have been isolated for many thousands of years and is not adapted to cope with fast-breeding competitive species. The newcomers may predate indigenous species, take over resources and alter habitats.

As the more well-documented threats increase, such as climate change and habitat loss, invasive species continue their spread and the negative impacts are compounded as our natural world is squeezed from all sides.

We hope you find this edition on non-native species interesting. It might inspire you to join us on our next volunteer session removing Hottentot Fig or at least ensure you'll think twice about planting anything other than native species in your garden!

Claire

Front cover: Asian hornet, Andy Marquis. Above Hottentot Fig flower

Contents

A wilder island?

On the 28th September representatives of 7 island jurisdictions and Gibraltar met to sign the Blue Islands Charter, a commitment to protect the biodiversity of the wider British Isles. The Blue Islands Charter could be a major undertaking if we allow it to be, and one signed in Alderney with the full support of our States! In the subsequent months we have seen a move by the States of Alderney to create wildlife and animal welfare protection legislation, something the AWT has been calling for since its creation in 2002. Further, there is now a proposal to create a Scientific Advisory Group to the States of Alderney comprising, we hope, representatives from national and international organisations. They can bring their knowledge and insight to our island, helping guide the stewardship of our wildlife. Yet whilst these are extremely positive outline commitments, we do need to continue to campaign positively to ensure laws are actually passed and when they are, that these laws are strong, appropriate and enforced.

This rapid progression of actions may finally turn the tide, showing Alderney to be an island which takes real pride in being at the forefront of wildlife protection. We must not forget that Alderney faces real and immediate threats such as ash die-back, which will kill significant numbers of our mature native trees, invasives such as Hottentot fig taking over large sections of some of our most biodiverse grasslands or the aquatic invasive Australian Stone Crop swamping our ponds. Government needs to take action now. So, I would ask all our members to please take a moment to speak to States Members, let them know how pleased you are with their commitment to legislate - I doubt they hear that too often - and then emphasise the real need for wildlife law to be passed in 2020. Perhaps add that you do also want them to tackle single use plastics, sewage, the climate emergency and the impacts of herbicides. Fundamentally I suppose I'm asking you to help our government understand how much you care that Alderney becomes a Wilder Island for the future.

Roland Gauvain

News round-up

Cows in the woodland

At the end of Woodland Week in November the small conservation herd made the long journey from Longis common to the glades at the bottom of the woodland. It is the first time the cows have been in the woodland; they were grazing the open area above the scramble track to help control scrub and encourage wild flowers in the spring.

The cows also grazed in areas adjacent to the Longis reedbed in the autumn, again helping to keep back scrub to stop it encroaching on the reedbed. By cutting back, the reeds will regenerate, leading to a healthier habitat for all species the following year. Areas of the reedbed are cut back in rotation to prevent excess disturbance to the whole habitat.

State of Nature Report

The latest State of Nature report was published in October, compiled by many of the conservation organisations working around the British Isles including the Wildlife Trusts, RSPBand Friends of the Earth.

The report is a health check of British wildlife and sadly the report confirmed that pressures on nature have not reduced and species across the board continue to decline. One of the most shocking statistics is that 15% of UK species assessed are at risk of extinction.

The data on wildlife in the UK is some of the best in the world; without this army of citizen scientists reports like State of Nature would not be possible. However, this does not seem to have slowed our loss of species.

There have been some success stories, especially concerning reintroduction and species returning to areas they once bred including beavers to many counties, large blue butterflies in the West Country, avocets breeding in the UK and corncrake in Northern Ireland.

Changes to the climate, introduced species and diseases and over-harvesting of our natural resources are some of the pressures which look set to continue so we must learn the lessons of this report in order to restore the diversity and abundance of wildlife.

Glossary

It is difficult to expect people to care about topics they don't understand and the use of jargon can make some conservation issues seem overly complicated and uninteresting. Non-native species, invasives, aliens, archaeophytes... we hope our quick guide will help make sense of the problem and why the AWT dedicates a lot of time to projects removing these threats.

Alien

A species outside its known natural range, either through accidental or intentional dispersal.


Buddlia

Invasive

See alien species. Invasives are aliens which spread and threaten native species, ecosystems or habitats.


Asian Hornet

Archaeophytes/ Archaeozoics

Flora or fauna which became established before 1500 AD. 1500 is the return of Columbus from America.


Fennel

Native/Indigenous

The species that naturally live in an area, habitat or region.


Ash

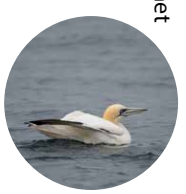
Endemic

A species found only in one area and nowhere else in the world. Endemism is generally highest on islands.


Alderney Sea Lavender

Neophytes/Neozoics

Flora or fauna which arrived after 1500 AD. May be naturalised (reproduce) or survivors (which cannot).


Gannet

Introduced/Exotic

See alien species. Introduced species may never become established or cause harm to native wildlife.


Hedgehog

Non-Native

See alien species. Alien is more commonly used in American English.


Pheasant

Photos: Andy Marquis, Mark Hamblin, Jack Perks, Richard Burkmar

You may see some species referred to as a combination of these terms, the most common being invasive non-native species (INNS).

Sneaky Sargassum

Mel Broadhurst-Allen, Living Seas Coordinator

Sargassum muticum can be considered one of the most infamous invasive species in the marine environment. This notorious seaweed has a plethora of aliases, such as wireweed, japweed, strangleweed, Sargasso and Japans bessenweir.

It is easily recognised across intertidal rocky-shores, as a large, olive-brown seaweed, which can grow to around 3 metres long. It is a perennial, with alternating branches, flattened oval blades and gas bladders. S. muticum first originated in Asia, but quickly spread across to America and then to European shores, through regular shipments of Japanese oysters in the 1940's. Its range now spans from Alaska to Mexico in the NE Pacific and from Norway to Morocco in the NE Atlantic. On Alderney, it is found within most shores, primarily rockpools, including bays within the island's Ramsar Site. Interestingly, new research shows that despite its circumglobal introduction range, it exhibits almost no genome-wide genetic variation.

Spreading through Europe at about 30km/year

Unlike other marine invasive species, it does not lurk, hiding under boulders or piers. This species is brash and likes to show off. Given the right conditions it can form extremely large dense stands, so much so, that the UK JNCC marine habitat classification has created two habitat codes for it: *S. muticum* in eulittoral rockpool habitat and *S. muticum* on shallow slightly tide-swept infralittoral mixed substrata habitat. Its high growth and fertility rates and can adapt easily to

Can you spot the Sargassum in this rockpool?

PICTURE CREDITS: JACK SEWELL, JUDITH OAKLEY

different environmental conditions. For example, in the UK it was recorded to spread 30 km in one year.

And here lies the initial problem with this invasive species; it can quickly outcompete resident marine species for light and space, including important habitat forming species such as eelgrass and kelp. Furthermore, *S. muticum* habitat does not support many other species, thus further reducing biodiversity within the area. It can also increase sedimentation and reduce water flow, which can seriously impact upon neighbouring marine species and habitats. For humans, it is a real nuisance, clogging up boat intake pipes, buoys, fishing nets and oyster beds.

Present in >90% of Alderney's mid and lower shore rockpools.

In terms of its management, sadly, there is currently not a lot we can do. Physical removal (i.e. by hand, trawling, suction or cutting), chemical applications and biological techniques (i.e. using herbivores, such as snails) do not hamper this clever species' presence within our waters. For us on Alderney the most we can do is record and publicise its occurrence and spread through intertidal surveys, such as the Wildlife Trusts' Shoresearch citizen science project. If you would like to help record this annoying, yet interesting invasive species with us next year, please contact marine@alderneywildlife.org.

Invasive disease

Claire Thorpe


Young ash leaves


Elm


Oak leaves

When you think of invasive species, if you ever think of them at all, it's quite likely there's a plant or animal you have in mind. Perhaps you've read about Japanese knotweed creeping up through the foundations of people's houses or have seen red squirrels in their few remaining strongholds after the invasion by the greys. Maybe you know the subject a little more intimately and have helped the AWT pull Hottentot fig on a reserve or dug out pampas grass in the woodland. However, it's pretty unlikely that the first thing you think of will be a disease; but these are some of our most deadly invaders.

Trees are arguably the group of species most at risk, with 47 tree diseases and pests (some of which have the potential to wipe out almost the entirety of multiple species) threatening to arrive in the UK. One of the first deadly tree diseases to arrive and decimate trees in the UK was Dutch elm disease. Dutch elm disease is a fungus, spread by a beetle and was accidentally introduced from Canada in the 1960s. Its spread was rapid and ferocious, killing over 60 million trees in the UK alone and its spread continues to this day. With millions of this native tree species removed from our landscape there were knock-on effects for much of our biodiversity. In particular the white-letter hairstreak butterfly, for which elm is the foodplant of its caterpillars, has undergone correspondingly steep declines since the 70s.

You would think that after the outbreak of such a devastating disease for Britain's trees there would have been lessons learnt to prevent that same thing ever happening again. As an island the UK (and Alderney) is one of the few places it would be possible to evade these plant pathogens – a ban on import of live plants would be entirely possible, with exceptions for tissue cultures grown in labs in sterile conditions. At the very least much tighter regulation of plant import would have helped.

Unfortunately, and as you may have guessed, this is not what happened. Less than fifty years since elms were almost wiped out, chalara ash dieback was found in the UK. Another fungal disease, this time from Asia, it was first found in the UK in 2012. Trees in the fungus' native Asia can tolerate it, but in European ash species did not evolve with the fungus so are usually killed when infected. It is predicted that 95% of ash trees in the UK could be killed by chalara, again having a huge knock-on effect on native wildlife. Ash dieback was found on Alderney in 2018 – many of the saplings planted in the Alderney community woodland are ash so this could set back the plans for increasing tree cover on the island.

Once the first evidence of a newly introduced disease has been found the AWT will carry out monitoring to check the spread and estimate the proportion of trees infected. There are some trees that manage to resist infection, although the reasons why only certain trees are not harmed remain unclear. There are ongoing attempts to use these resistant trees as stock for the future and breed any genetic resistance in to future forests. As with everything relating to trees this is slow progress as they take so long to mature. Many of the dead trees will be decades old so replacing them and providing a home for the biodiversity they support is not going to happen overnight.

If there are any positives to be found in the diseases mentioned it is perhaps that dead wood provides a vital habitat for many invertebrates and others including bats and birds, and it is often a habitat in short supply. Our obsession with the natural world looking tidy often means removing any dead and rotting material. Once an area is infected the dying trees should be left to rot down and provide shelter and food – although for some diseases leaf litter must be removed and burnt to disrupt the lifecycle of the pathogen.


ASH LEAVES ON A TREE INFECTED WITH CHALARA

Some other tree invaders-to-be include a beetle that kills spruce (on which the UK forestry industry is heavily reliant), emerald ash borer (another beetle coming for anything left after the outbreak of chalara), oak processionary moth (already in London since 2006) and arguably the most worrying – Xylella. Xylella is a bacterial disease which is decimating olive groves in the Mediterranean. It can be hosted by many types of tree and shrub including oak and cherry and potentially many other species. How many host species it may have is completely unknown and considering our trees are already stressed from drought and the changing climate, the effects of new diseases could create a feedback loop of tree death. Of course, there may also be other diseases which arrive more quickly than predicted, which hybridise with current fungi or bacteria or jump species to create an unprecedented and lethal cocktail for Britain's tree species.

There is presently a lot of talk about the need for tree planting to combat climate change. But until international bodies and national governments take strong action and show leadership in stamping out the spread of non-native pests and their diseases this action may well be futile. Protecting the future of our trees could not be more important, isn't it time we started acting like it?


Emerald ash borer beetle

PICTURE CREDITS: ROSS HODINOTT, MARK HAMBLIN, PHILLIP PRECEY, DAVID MARK

Insect Report

David Wedd

Late Summer and Autumn in Alderney always produce insects of many kinds, and there is no doubt that climate change is causing many species that are normally single-brooded to have two or even three generations.

This year dragonflies have had a brilliant summer and autumn. The commonest species, the Emperor Dragonfly, was on the wing from February until November. The damselflies which usually occur in some numbers at Mannez and Longis Ponds were now also to be seen at various garden pools. Late in the season the Common Darter, which is always found regularly but in small numbers, flew in dozens all over the island, often well away from water.

Painted Ladies on Ivy

Beetles, bees, wasps and flies have appeared in their usual big numbers. We have found several wasps' nests, but fewer Asian Hornets than last year, and very few nests. Whether it is just coincidence or a part-explanation of the hornet's scarcity this year, its very accurate mimic, the hover-fly *Volucella zonaria*, has been seen more commonly than ever before. Another invasive insect is the Harlequin ladybird, which for a few years seemed to be overrunning Alderney, but is now scarce again.

Butterflies are always abundant in the island, for which we must thank the States officials, who ensure that there is always plenty of unspoilt grassland and also trim the lengthy stretches of roadside verges so that wild flowers bloom plentifully there. 2019 was a Painted Lady Year. These occur every decade or so, but this mass-invasion from north Africa was the biggest in recent memory. From March until late autumn these beautiful butterflies could be seen in huge numbers all over Alderney. Besides being very attractive insects, Painted Ladies have the added advantage that their caterpillars eat thistle plants at a remarkable rate!

Moths are known to be more numerous in Alderney than in any equivalent-sized area of the British Isles, something we always enjoy mentioning, and this year was a particularly good one. Last year we had several species that were new to Alderney, and we could not equal this in 2019, but the overall tally of moths was probably even greater, and several kinds that are local or uncommon in the UK appeared in our island's light traps in unprecedented numbers. These include Clancy's Rustic, the Delicate, L-album Wainscot, White Point and Beautiful Gothic, while some of the always-abundant species like Jersey Tiger, Black Rustic and Feathered Ranunculus appeared in dozens.

The Grand Total for the three nights was 1,673 moths of 69 species.

This year's National Moth Nights Weekend was from 27th to 29th September. We put out four traps on the Thursday and Saturday and five on the Friday. All were Robinson's traps except for one Skinner. The Grand Total for the three nights was 1,673 moths of 69 species. We have listed a few of the more interesting insects. This year's 'target species' was the very rare Clifden Nonpareil.

The five sites were:

1. in the Valley, overlooking woodland and gardens. The best night was Friday, with 12 Delicate and 8 Old Lady. The rare micro Palpita vitrealis came every night.

2. The Nunnery trap was in a courtyard by Longis Bay, which had Scarce Bordered Straw on the Friday, and Convolvulus Hawk-moth and Red Underwing on all three nights.

3. The Water Lane site, which was in woodland with a large pond nearby, had Clifden Nonpareil on Thursday and 16 Beautiful Gothic on Friday.

4. Essex Farm, the Wildlife Trust's Headquarters near Longis Bay had Red Underwing every night and Clifden Nonpareil on Friday.

5. The Miller's Orchard trap was set in a garden full of fruit trees, and was operated by Poppy (age 10) and Theo (7). Their 41 Large Yellow Underwings on the Friday was the most of any species in one trap on one night.

Palpitrea vitrealis

Clifden Nonpareil

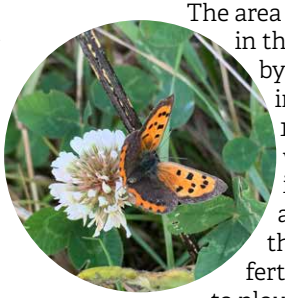
Pesticides

Connor Stapleton Goddard

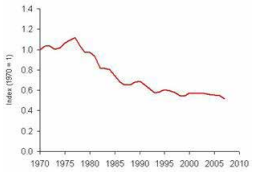
Ever since Rachel Carson published her ground-breaking book Silent Spring in 1962 the wider public has been aware of the havoc pesticides can wreak on the natural world. This book brought to light the particularly damaging effects of DDT, a then-widespread insecticide, on the bird populations of America. As a result of the increasing weight of scientific knowledge and public pressure DDT was banned in America in 1972, but held out in the UK for another 12 years. However, since that time more and more pesticides, like neonicotinoids and organophosphate derivatives, even more toxic than DDT, have been developed.

Agriculture

The biggest use of pesticides comes from the agricultural industry, which uses over half the herbicides sold worldwide and around 90% of the insecticides. While claims that the overall amount of pesticides applied in the UK has reduced are true, they are also misleading. The toxicity of newer substances is orders of magnitude higher than in previous chemicals. Neonicotinoids are a class of chemicals applied to the seeds of many crops as a systemic insecticide. Unlike traditional spray on insecticides, systemic insecticides are absorbed into the plant tissues and kill insects that attempt to feed on the plant or its seeds. Additionally, neonicotinoids are 10,000 times more potent than even DDT. However, in 2018 the use of the 3 main forms of neonicotinoids were restricted by the EU to closed greenhouses after long standing debate about their toxicity, particularly to bees.



The area treated with pesticides in the UK, particularly by herbicides, has increased by 63% since 1990. This, coupled with ever increasing intensification of agriculture (including the addition of synthetic fertiliser and the ability to plough deeper and deeper into the soil) means it is small wonder that farmland bird populations have declined by up to two thirds in some areas of Europe as a result of the widespread loss of insects and habitat.



LEFT: FARMLAND BIRD TRENDS 1970-2017 - RSPB / SMALL COPPER ON CLOVER

Pesticides in the garden

Most gardeners will be familiar with weedkillers, particularly glyphosate, an organophosphorus compound and the active ingredient in Roundup. There has been much debate about the safety of glyphosate for humans and animals and its long-term effects on the environment.

Austria banned the sale of glyphosate in July 2019 with France following suit with a promise to stop sales by 2023 in response to these concerns. Much of the public sale of weedkilling products is unrestricted and gardeners without the proper training and knowledge often over-apply these sprays to the overall detriment of possibly themselves, but certainly the environment.

Metaldehyde is an ingredient in many slug pellets which is toxic to humans and domestic animals. It is highly mobile in the soil and is commonly found in waterbodies over the EU regulation limit of 0.1 µg/litre. Its chemical structure makes it difficult and expensive to remove from drinking water, driving up water bills.

RIGHT: ROUNDUP / CARDER BUMBLEBEE ON BRAMBLE

Alternatives

Many farmers are now beginning to move away from the application of pesticides and fertilisers and shifting towards a more environmentally conscious method of agriculture. Widespread application of insecticides damages not only pest species such as aphids but also their natural predators, ladybirds. Blanket application of pesticides provides a predator free environment where quickly proliferating pest insects can multiply without any natural control. This in turn necessitates further application of insecticides and thus the cycle continues. Resistance to the chemicals can even build up in some 'pest' species. However, managing the farmed landscape by creating habitats for beneficial insects can provide an effective form of pest control without the need for synthetic pesticides.

Similarly, this method of pest control can be useful in the garden. Leave some rougher, grassy areas of the garden as a habitat for insects. If you build it, they will come. If there are still high levels of insects on the plants, more active control can be used in the form of a number of natural but effective sprays.

🌶 A spray containing garlic and chili juices can be an effective repellent to insects when sprayed onto plants. Adding a vegetable oil into this mixture will also kill insects by blocking their breathing holes, effectively suffocating them.

🐌 A ring of ash around sensitive plants or copper tape on the borders of a raised bed will create an effective barrier for slugs and snails without the need for pellets.

🍺 Lager traps can be created by burying a pot half filled with either lager or water, sugar and baking yeast. Slugs and snails will drown in the bottom and can be easily disposed of, though make sure to leave an inch of pot protruding from the surface to avoid trapping beneficial ground beetles.

These alternatives have the added benefit of posing no risk to natural insect predators like hedgehogs and slow worms.

There are also alternatives to conventional weedkiller sprays, some of which are equally effective or even require less effort.

LEFT: PESTICIDE SPRAYING IN AN URBAN AREA- PESTICIDE ACTION NETWORK

Simple boiling water can be an effective and efficient weedkiler, especially on impermeable surfaces like patios and driveways. Adding vinegar and a biodegradable soap into the mix will help keep the heat on the plant for longer for added effectiveness. The longer a plant can be kept at over 57°C the more likely it is to be killed.

Wire brushes can also be effective on hard surfaces. Though it can be more labour intensive, the results are instantaneous and may require fewer treatments than using weedkiller.

Embrace the weeds! The much-maligned dandelion is no less pretty than other flowers and is an extremely important food resource for bumblebees, especially earlier in the year.

Alternative options can also include changes in buying habits. Choose organic options at the supermarket or support companies that have an environmentally conscious ethos. Ask shops that sell harmful chemicals to consider taking them off the shelves.

Pesticide Free Cities

As the public's perception of pesticides has changed, so too has the management of public spaces in cities. Ghent has been pesticide free in its public spaces since 2009 and through integrated weed management and public education this city is succeeding not only in maintaining their public spaces to a similar standard as before but receiving widespread local support. Ghent is far from alone in its pesticide free ethos and practice; Paris, Barcelona and Copenhagen have all adopted pesticide free zones and are on the way to completely ending its use in public spaces. In the UK too the movement is gaining momentum with Glastonbury stopping the public use of glyphosate in 2016, Bristol beginning a three-year phase out of pesticides, and many London boroughs on similar courses.

The changes in attitudes and practice since 1962 have been slow and incremental. However, with increasing public knowledge and pressure, and major cities like Paris and Ghent as beacons for the pesticide-free movement, the speed of change has increased and we are starting to see the improvement in spaces for wildlife as a result.

Over to you

1. Make sure anything you use at home is what you think it is - and ditch the chemicals if you were using them.
2. Check out the Pesticide Action Network's website (pan-uk.org) for more details on stopping pesticide use.

Hottentot Fig

Lindsay Pyne

Attractive ground cover or invasive thug!

Hottentot Fig (***Carpobrotus edulis***) originates from South Africa. It has been known in the Channel Islands since the mid 19th century and was first recorded in the wild in Alderney in 1953, though it is thought to have been present before this date, introduced as an ornamental ground cover species or to cover up some of the concrete fortifications.

Hottentot Fig is a large spreading succulent perennial with attractive daisy-like magenta or yellow flowers. It forms dense mats of thick fleshy green leaves and its procumbent woody stems can extend up to 3 metres trailing over cliffs and walls.

Hottentot Fig grows in thick mats , choking out other species

A similar species in the same family is the Australian plant, Angular Sea Fig (*Carpobrotus glaucescens*): this is a smaller prostrate creeping succulent with deep pink-purple flowers and grows to form a ground cover that can extend over a large area.

The extremely fast growth rate of the *Carpobrotus* species (it is able to grow at a rate of up to 1m per year) is an attribute that makes the plant such a danger to wildlife. It rapidly spreads over coastal turf and cliff tops, swamping smaller native species and quickly reducing biodiversity and feeding opportunities for other wildlife. It can also be spread by animals such as rabbits and gulls and by people via discarded garden material. Stems can be removed by nesting seabirds such as shags and cormorants and incorporated into nests, further spreading the invasion. *Carpobrotus* thrives in temperate conditions and in poor, sandy soil, and is very tolerant of salt spray. It is frost sensitive, however, but of course this is rare on Alderney.

Carpobrotus is therefore a major threat to some of Alderney's delicate rare coastal flora such as Sand Crocus, Small Hare's-ear, Bastard Toadflax and Small Restharrow. Many of these vulnerable plants are situated in coastal locations where the fig can easily establish and outcompete other species. A study carried out in 2012 estimated that some 2.6% of the island, much of this delicate coastline, was covered by varieties of the invasive succulent and it is almost certainly a far greater area now.

Another problem is the fact that many people dislike the removal of this plant and plant it in their gardens for its attractive flowers. The brightly coloured cliff tops are often admired by visitors even from the sea, and until relatively recently pictures of the plant were even used to promote the island in its annual brochure!

Control of *Carpobrotus* is a mammoth task, however. Whilst it is often not deep rooted and large areas can be pulled by hand, this is time consuming and labour intensive, and where other vegetation is present, removal is more difficult due to the way Carpobrotus tangles around other plants. Furthermore, the sheer quantity - and weight - of plant pulled is itself an enormous challenge as it must be completely removed and ideally burned to prevent it from re-spreading. Raking of dead material is also recommended due to the changes in soil properties it can cause and thereafter sites must be regularly checked for re-growth as just one remaining shoot can re-colonize an area.

The AWT's Conservation Volunteers have spent many hundreds of hours over the past 15 years hand clearing the plant. Historically the main area of focus has been within the Longis Reserve, primarily the east coast path stretch between Houmet Herbe and Raz Causeway and around Cats Bay. The east coast path, other than some pockets of private land, is now mostly clear of the plant although regular visits are made to tackle any regrowth. An example of the success here can be seen from the attached photo of an area which had only a year earlier been almost completely covered in Hottentot.

Clearance is problematical where the plant is growing on steep, often inaccessible, coastal cliffs, and expensive if specialist equipment/ personnel is required. On Alderney the spread of the fig across the south cliffs is becoming a major issue. Large areas of the cliff are smothered and this not only impacts on the local biodiversity, but can also have an impact on the stability of the cliffs. In 2018 some clearance began on the south cliffs above Telegraph Bay following dramatic spread into the grassland there; however, this is necessarily limited to controlling spread rather than extensive removal due to the inherent difficulties and dangers of working near the cliff edge. Future clearance effort will focus on the habitats rated as having highest conservation value.

HOTTENTOT FLOWERS CAN BE PINK OR YELLOW. BELOW: A MAT OF HOTTENTOT CHOKES OUT NATIVE PENNYWORT

Hottentot varieties covered 206km² of Aldemey's coastline in 2012

A word on the law...

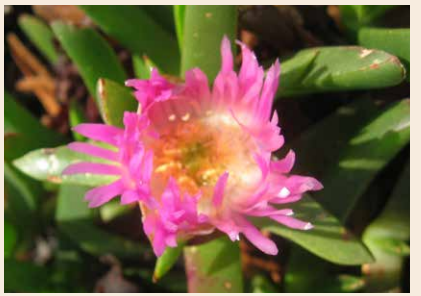
Invasive plants are plants which have been introduced, either inadvertently or deliberately, from other regions and tend to spread out of control in their new habitat. This may be due in part to the fact that the natural controls – insects, diseases, climatic conditions etc. – which would be present in their native lands are absent or less prevalent in their new environment.

After habitat destruction, invasive non-native species are probably the most serious threat to global biodiversity. Invasive plants are often bigger, faster-growing or more aggressive than native species and compete so successfully against other plants that they overwhelm the indigenous vegetation, creating a monoculture which prevents the growth of any other species.

In the UK The Wildlife & Countryside Act (1981) recognises the need to control certain species of invasive plants and animals and it is now a criminal offence to plant or cause to grow a non-native species that is listed on Schedule 9 in the wild. The EU Regulation on Invasive Alien Species, which became law in 2015, has a provision for a list of species of EU-wide concern. Alderney is merely covered by the 1933 "Loi Relative aux Mauvaises Herbes" (Law Relating to Weeds); however, in November 2003 an ordinance was passed which reduced the schedule under this law to a single species, Common Ragwort, a native plant! We hope that the proposed Alderney environmental laws will include provision for the control of invasive species.

Stop the spread

The control of invasive plants is difficult and costly, yet many of these species are widely available with little indication of the damage they can do if allowed to escape from gardens or are disposed of carelessly. This means there is an urgent need to raise awareness and understanding of the risks – and even a few simple Do's and Don'ts can help engender a more responsible attitude and positive results



So please:

- DO know what is growing in your garden and manage invasive species on your land
- DO know what you are buying
- DON'T buy plants or seeds known to be invasive, particularly non-native aquatic species
- DON'T distribute invasive non-native plants to other gardeners
- DON'T introduce non-native species into the wild or into areas where they may escape.
- DO dispose of non-native plant waste responsibly and prevent the escape of invasive non-native plants into the wild

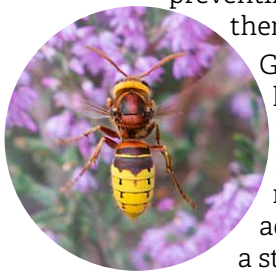
Asian hornet

Jamie LaBand (States of Alderney) & Justin Hart

ASIAN HORNET - ANDY MARQUIS

The Asian hornet, *Vespa vetulina*, is native to South-East Asia and was first introduced by accident into France in 2004 through imported goods from China. Since then it has spread rapidly through France into Germany, Italy, Portugal, and Spain. The Channel Islands are at the leading edge of its northwards expansion although a few occurences have already been recorded in the UK too.

The Asian hornet is a highly effective predator of honey bees and other important pollinators. The huge size of its colonies (up to 10,000 individuals per season) means that they can rapidly decimate entire beehives. Western honey bees have not evolved an effective defence against them. Observations in France noted losses of 14,000 honey bees per hive per month. Due to its aggressive nature and feeding habits, it could have a serious impact on native insect biodiversity and on pollination services in general. Controlling and preventing its expansion is therefore a priority.



EUROPEAN HORNET - JON HAWKINS

Given that queen hornets are highly mobile (they can fly up to 200km non-stop) and very adaptable, there is a strong risk that the species will spread rapidly, causing significant economic and ecological damage. EU-level action seeks to prevent this spread through the rapid destruction of its nests and, where the species has become established, appropriate management measures.

The Asian hornet is a bit smaller than our native European hornet, V*espa crabro*. Its abdomen is mostly black except for a yellow band towards the rear. It has characteristically yellow legs and is sometimes also called the 'yellow legged' hornet.

In spring the queen emerges from its winter hibernation and begins building a small embryonic or 'primary' nest (about the size of a cricket ball). During this phase she is alone and vulnerable but rapidly begins laying eggs to produce her future workforce. As the colony and nest size increases, a larger nest is either established around the primary nest or, more often, they relocate and build another 'secondary' nest elsewhere. Secondary nests can grow to the size of a dustbin and produce on average 6000 individuals in one season.

From July onwards, predation on honeybee colonies begins and

COMMON WASP - BOB COYLE

increases until the end of November. Hornets typically hunt honey bees by 'hawking' or hovering outside a hive entrance, waiting to grab returning foragers. Caught bees are decapitated and 'processed' before being carried back to the colony. At the colony protein rich bee thorax is then transformed into flesh pellets and offered to the hornet larvae.

In autumn, the colony's priorities shift from foraging and nest expansion to producing the next generation. Up to 600 queens and drones can be produced for mating per colony. Once mated, the newly fertilised queens leave the nest to find somewhere suitable to over-winter while the old queen dies and leaves her nest to dwindle. The following spring, any surviving queens then emerge from hibernation and the process begins again.

The situation so far in Alderney

Since the first nest was discovered in Alderney on July 11th 2016 there has been a keen interest on this invasive species with real concern about the threat posed to our bee colonies, native insects and the general public. Following the discovery of the second nest in the Petit Val area (through the keen eye of one of the island's bee keepers), but also the on-going rapid rate of colonisation in Northern France, it was clear that Alderney was now in the battle with the Asian hornet and that an operation would have to be conducted to monitor and control the situation. The hornet invasion has increased throughout the Channel Islands since its introduction, even following the big freeze in early 2018. In Alderney alone the SoA caught 55 queens in early spring 2018 and, although all known nests on Alderney have been located and destroyed (5 in 2018 and 2 this year), the situation is worse in Jersey and mainland France. The threat of further invasion remains and we will need to keep vigilant for the foreseeable future.

What's being done about it

Since the first discovery of the hornets on Alderney the SoA, led by Jamie Laband, has developed a successful strategy for dealing with the invasion. In the first year the SoA simply acted on the reported sightings from the public which proved adequate, but in 2017, after increased presence, they also began to trap the hornets in an attempt to deplete numbers. Then in 2018 the latest and more effective approach was instigated by Jamie after he attended a conference that presented the idea of grid trapping for rat control. Jamie recognised that there was an adaptability in the method that could be applied to help him find the Asian hornet nests too.

The new approach involves using a grid of 45 traps deployed across the island. The traps are set no more than 500m apart (within the foraging range of a worker hornet) and are monitored regularly to count the numbers of hornets caught. If a significant number (more than ten) are caught in a trap then the surrounding

PRIMARY NEST AROUND 10CM DIAMETER

area is searched for a nest. The grid of traps is checked each week and the numbers of hornets caught are recorded into a database. This allows determination of more populated areas which are therefore more likely to have nests. Once these 'hotspots' of activity have been deduced the search areas can be better targeted.

Finding the nests is crucial. Ideally, they should be found and destroyed before the new queens emerge in autumn so persistence is important. The nests can be sought directly but they are often too well hidden to do so. A more successful method is to follow worker hornets when they are carrying prey back to the nest. This method works because hornets fly back to their nests in a straight line. Therefore, by noting the orientation of the flight path it is possible to use the bearing to triangulate onto a nest's position. Fortunately, Asian hornets are large insects with a distinct appearance (particularly when carrying prey) so tracking them by eye or with binoculars is entirely possible. Once Jamie has identified where to look, anyone with a keen eye can help find the nest. The AWT have been giving him a hand and so far, all the nests located in the last two years have been found by us in this way.

In 2018 three of the four secondary nests were within about 400m of each other. These were on the southeast coast in scrub (bramble thickets and young white poplar) and probably came direct from France following a persistent spell of easterly winds. The fourth nest was on York hill and was servicing traps up to 700m away.

This year trapping began in early April to replicate the success of the spring trapping in 2018 and around 15 queens were caught. No primary nests were found but two secondary nests were both treated and destroyed before they were able to release queens. The number of hornets caught in traps reached zero within two days of the final nest being destroyed on October 1st, and no more were found up until monitoring stopped six weeks later.

SECONDARY NEST IN A TREE AND LATER DESTROYED

Nest are destroyed using a potent insecticide powder. This is delivered under pressure through the nest wall via an extendable lance that keeps the operator at a safe distance. The queen and all the workers in the nest are killed rapidly. Two hours later the nest can be removed and burnt.

The future.

There is confidence in the methodology and it will continue to be used in 2020 albeit with the latest improved version of the traps. These are designed to catch fewer non-target species and allow smaller insects, including honey bees, to escape. They also enable trapped hornets to be caught alive. This could be useful as miniature tracking devices are now available that can be fitted to trapped hornets to help find nests in the future.

Changing Shores

Joshua Copping

In our ever-changing world, the marine environment faces serious threats. Plastic pollution and climate change have been thrust into the public eye, but there is a lesser known, equally damaging threat; the spread of non-native invasive species.

Connected Seas

Our seas are all connected, meaning marine species could theoretically live anywhere. However, a species' tolerances keep it in specific biomes, such as clown fish in the tropics or kelp in temperate zones. Another factor in determining range is dispersal ability. Most species from the Pacific could not easily get to the North Atlantic, especially when their movements are often dictated by currents and wind. However, this does not tend to be the case anymore and the movement and subsequent invasions of marine species are occurring at an alarming rate.

Spread

Nowadays, with over 50,000 ships in the oceans around the world, the movement of species happens daily. The main pathway is "stowing away". Species might stick to the hull of a ship or be sucked up in the ballast water (used to balance the ship). Ballast tanks are filled at the loading location, often with water containing species in the larval stage. On arrival the water is released, introducing new species to the environment.

Add to this the warming of our oceans which allows species to thrive in areas that would have previously been unsuitable and creates new links where ice has melted.

ASIAN SHORE CRAB
Present since the year 2000, it is now widespread around our coast.

Impacts

Upon arrival some may perish, but the constant cycle of release puts enormous pressure on marine ecosystems. Eventually the hardiest species become established, and the problems start. Invasive species may have no predators in their introduced range and can reproduce prolifically, outcompeting native species and altering habitats. Removal of newly established species would require huge time and financial commitment. But there are ways to prevent further spread including ballast filters and better biosecurity.

Top tips
3 SPECIES TO SPOT

Slipper Limpet
Introduced to Europe from North America in the 19th century. They form stacks of up to 12, with the largest at the bottom, decreasing in size up the stack.

KEITH HISCOCK

Orange Ripple Bryozoan
Originally from Japan, they can be white, pink or bright orange. They form extensive colonies and quickly outcompete and outgrow native species.

C. WOOD © MBA

Pacific Oyster
Introduced in the mid 20th century, they are highly fecund, so outcompete native species and have the ability to alter habitats, reducing species richness where they are present.

PAUL NAYLOR

- **Join us on an invasive species hunt where we record the presence of any of these creatures!**
- **If you spot them when out and about please report it to the AWT**

Watch news

This autumn we have had lots of fun activities for the Alderney Watch group. At the end of September, it was the Great British Beach Clean, which is coordinated by the MCS.
We also had more cleans in October as part of the Surfers Against Sewage autumn clean, removing 31kg of debris from the beaches, and protecting lots of our marine life. The results of the MCS clean have just come out and it is positive to see that the amount of litter on beaches fell in 2019 - by 38% in the Channel Islands (and 7% across the UK) - compared to the previous year. Plastics however seem to still be on the increase despite overall litter declines. But it is encouraging to see that beach cleans, combined with pressure on governments and manufacturers to improve rubbish collection, recycling and use of materials, does seem to be having an effect.

Then in the last week of November we had woodland week, part of the UK's national tree week. We've done lots of planting recently so this Woodland Week we were mainly doing maintenance and upkeep, including removing old tree guards (when the young trees get too big for them) and felling some non-native trees. The cows in our conservation herd moved up to the woodland and you can read more about why they were there on page 4. We also did bug box making, which gives small invertebrates somewhere to shelter in the colder months.

Given all the rain we've had, with still more to come, it is the perfect time to make a pond in your garden. Even if you have one already you could always add a smaller secondary one using the instructions to the left. Or create a brand-new habitat and see what creatures it attracts. If you add plants to your pond make sure they are always native species.

Visiting a UK reserve

Joshua Copping

The National Parks are the largest protected areas in the UK. Unlike smaller National Nature Reserves or SSSI's which are solely managed for wildlife, National Parks are designated for their natural and cultural heritage. This ensures large areas of countryside remain accessible to people and a range of activities are permitted which may be (rightly or wrongly) restricted in smaller nature reserves. Whilst this management style has its critics, the UK's National Parks are still great areas to get out in nature and spot wildlife.

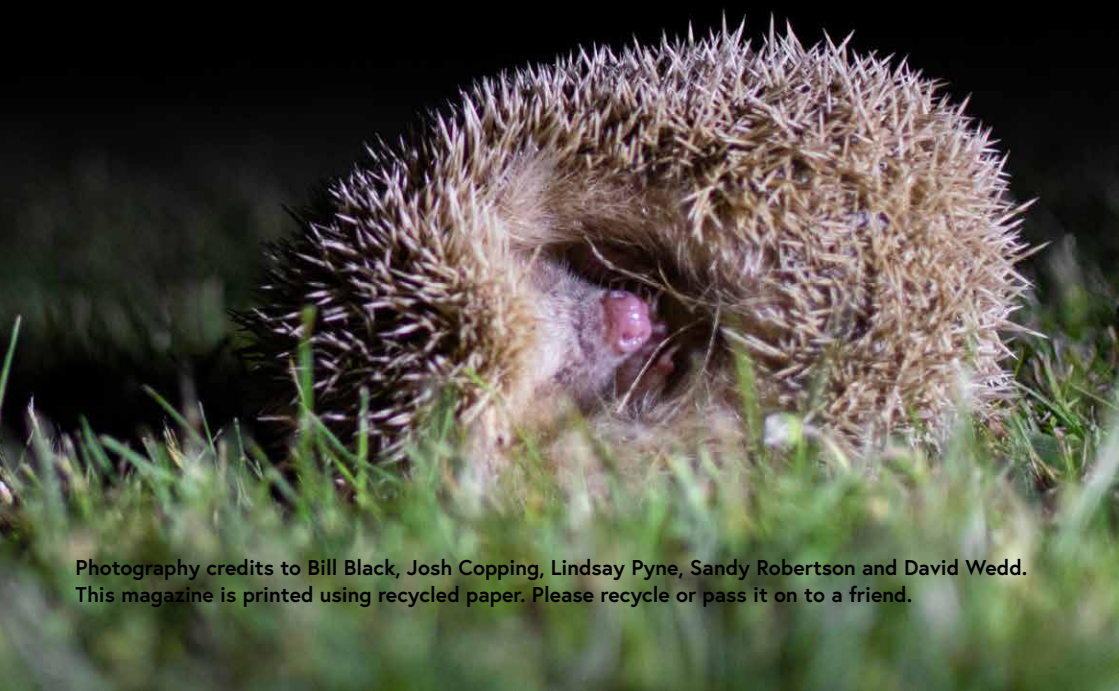
Of the fifteen British National Parks, the Peak District was the first to be designated and contains a rich and unique mix of species and habitats. The northern half of the park, the Dark Peak, is the area I find the most interesting. It lies at the southern end of the Pennines and contains deep valleys of ancient oak woodland and upland areas of blanket bog and moorland. These upland regions contain flora not commonly seen throughout the rest of England, such as the Bilberry, Crowberry, Hare's-tail Cotton Grass and Dark-red Helleborine. The Dark Peak is also home to interesting fauna such as the Adder and Common Lizard and has breeding Short-eared Owls and Golden Plover. But there is one species which in England is only found in the highest parts of the Peak District, and watching this species is the reason I keep returning to the Peaks.

This unique mammal is the Mountain Hare, Britain's only native lagomorph (both the Rabbit and the Brown Hare were introduced to the UK). Mountain Hares are specially adapted for life in extreme conditions - their thick coats (usually grey-brown) turn white for winter, helping them blend in with the snow. However, with the warming of our planet, there are concerns for the Mountain Hare. Snow won't last as long in these upland areas, but their coats will still remain white, making them an easy target for predators. But perhaps a bigger issue is the increased accessibility for other species such as rabbits which may spread myxomatosis and Rabbit Haemorrhagic Disease, further threatening the hare's already vulnerable population. If you're ever near the peak district, I'd highly recommend heading to the high dark peak for a day's walking, and hopefully you'll spot some of the species mentioned. If not there's always the fantastic views to enjoy.

Get in touch

We would love to hear your thoughts, questions and ideas

Alderney Wildlife Trust
48 Victoria Street
GY9 3TA
01481 822 935
admin@alderneywildlife.org



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