

Manifesto for Bugs Scotland



Invertebrates are the foundations of a healthy environment, helping to pollinate crops, improving our soils by recycling and breaking down nutrients, cleaning our waterways, helping to control pests, providing food for other species, and helping to create ecosystems more resilient to climate change impacts. They are essential to ecosystem function and without healthy populations, it is impossible to halt nature's decline.

There is also a moral argument that supports species simply having a right to exist regardless of how they support and enhance our existence, and some of Scotland's most threatened invertebrates are real icons - like the Freshwater Pearl Mussel (*Margaritifera margaritifera*), Great Yellow Bumblebee (*Bombus distinguendus*), and Aspen Hoverfly (*Hammerschmidtia ferruginea*).

The next Scottish Government must:

- **Recognise the rapid decline in insect abundance**, as demonstrated by the Bugs Matter monitoring scheme revealing a 65% fall in insect splat rates in Scotland between 2021 and 2024.
- **Pledge to restore sustainable populations of all invertebrates.**

Binding targets for nature recovery alongside fully resourced delivery plans must be set out through the Natural Environment Bill. Long-term funding must be secured to meet existing targets to rapidly address climate change, end sewage pollution and protect 30% of Scotland for nature. Political parties must also fulfil their promises to end peat use and restore native woodlands.

As well as achieving existing targets and pledges, halting nature loss and reversing invertebrate declines will require the actions and commitments listed below.

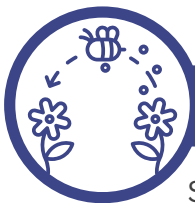
1. **Reconnect our landscape by filling B-Lines with wildflower-rich habitats.**
2. **Set light pollution reduction targets.**
3. **Reduce harm from pesticides and toxic chemicals.**
4. **Restore Scotland's freshwaters.**
5. **Protect peatlands.**
6. **Dedicate new resources to save our most threatened species.**
7. **Improve planning for invertebrates.**
8. **Protect Scotland from invasive non-native species.**



Image credits top to bottom: Machair Grassland © Rachel Richards

Great Yellow Bumblebee (*Bombus distinguendus*) © Jamie Boyle

River Champions © Shreoshi Das



Fill B-Lines with wildflower-rich habitats

Scotland's habitats are significantly fragmented and diminished, particularly grasslands, peatlands, and native woodlands. To address this, **targets for habitat connectivity should be embedded under the Natural Environment Bill**. Over 97% of the UK's wildflower-rich grasslands have been lost since the 1930s resulting in severely reduced mobility for pollinators and other wildlife. The pressures of climate change further increases the need for species to move freely to respond to changing conditions. **B-Lines** offer a strategic opportunity to restore and create networks of wildflower-rich habitats, and **should be prioritised** through habitat restoration projects, agri-environment schemes, and Nature Networks.



Set light pollution reduction targets – “Don’t Neglect the Night”

Light pollution continues to increase at an alarming rate, yet current environmental protections do not effectively control it. To address this gap, **light should be legally recognised as an active environmental pollutant**. The Scottish Government must set binding targets to reduce light pollution and integrate its regulation into existing frameworks, including planning policy and environmental impact assessments.

To fulfil the aims of the Natural Environment Bill, **action to protect the nocturnal environment** must be included. This should encompass reducing artificial light in sensitive habitats, limiting disruptive human activity during night hours, and formally designating quiet zones. Increased investment in research is also needed to expand our understanding of the nocturnal environment and the species that rely on it.



Reduce harm from pesticides and toxic chemicals

The ongoing presence of ecologically damaging toxins in our environment significantly undermines efforts to halt biodiversity loss and restore nature. The next Scottish Government must **commit to reducing the overall risk from pesticides** in alignment with the Global Biodiversity Framework, targeting a 50% risk reduction across all sectors by 2030.

Scottish rivers are contaminated with pharmaceuticals at potentially dangerous levels, and neurotoxic pesticides, banned for use in agriculture, but commonly used domestically in veterinary flea treatments. Concentrations of these chemicals far exceed accepted safe limits and are highly toxic to all insects and other aquatic invertebrates. The sale of **fipronil and imidacloprid as domestic pet flea treatments and ant pesticides should be banned** to prevent further environmental harm.

Reducing the amount of pharmaceuticals entering public sewer systems and private sewage treatment facilities is critical. Environmental monitoring must also be expanded to include veterinary medicines, pharmaceuticals, and persistent pollutants such as PFAS. These efforts must be matched by **substantive regulatory and remedial responses** to address the associated environmental risks.



Restore Scotland's freshwaters

The legal rights for rivers should be recognised, such as the right to flow, be free from pollution and be restored. Legal status empowers communities to defend ecosystems vital to biodiversity, climate resilience and human wellbeing.

Free-flowing rivers and functioning floodplains can lessen the impact of flooding, as well as contributing to biodiversity restoration through habitat creation. The Scottish Government should **support projects that aim to restore freshwater habitats, including native riparian woodland creation for climate adaptation, and to remove unnecessary or defunct structures from rivers.**



Protect peatlands

Legislation to end the commercial extraction and trade in peat for horticulture must be tabled without further delay.

Peat bogs are home to many rare and threatened invertebrates, such as the Bog Sun-jumper Spider (*Heliophanus dampfi*) known from only five sites in central Scotland, one site in western Wales and one site in north west England. Increased **monitoring and research for invertebrates associated with peatlands** is required to help us understand how to conserve them.



Dedicate new resources to save species

We need to **restore viable populations of Scotland's rarest and most threatened invertebrates**. 41% of insect species are in decline and a third of species are at risk of extinction. Many of Scotland's endemic invertebrate species, those found nowhere else in the world, are at risk of global extinction meaning we have an international responsibility to guarantee their survival. More **funding is required for monitoring schemes and independent research** for invertebrate groups to investigate the causes of species declines and help us understand how to conserve them. **Guaranteed, long-term resources are needed to deliver practical conservation**, to halt extinctions and drive species recovery, achieve 30x30 targets, and bring protected sites into favourable condition.

The Scottish government should **recognise and integrate citizen science into national environmental research and policy frameworks** by establishing dedicated funding, infrastructure support, and data-sharing standards that empower public participation in environmental monitoring and decision-making.



Improve planning for invertebrates

The next Scottish Government should commit to a **targeted review of protected sites for invertebrates** with inadequate coverage and representation, strengthening the policies set out in the National Planning Framework (NPF4).

Important Invertebrate Areas (IIAs) are the best places in Scotland for our invertebrates. They support some of our rarest and most threatened species, vulnerable habitats, and unique assemblages of invertebrates. **Important Invertebrate Areas must be formally recognised**, to enable better decisions about protecting nature. The next Scottish Government should take a **merit-based approach to planning**, where sites of high value for wildlife, whether brownfield or greenfield, are protected from development.

Pumped Storage Hydro (PSH) schemes offer a renewable and reliable energy source crucial to the transition from fossil fuels, but they can cause significant environmental harm, particularly to invertebrate habitats, diversity, and abundance. **Before permitting PSH schemes, seasonally informed invertebrate surveys and cumulative ecological impact assessments, at species-level resolution, across the full hydrological zone of influence, must be undertaken.**



Protect Scotland from invasive non-native species

Invasive non-native species (INNS) are one of the five drivers of biodiversity decline. Climate change increases the risk of non-native species moving northwards, establishing and posing a risk to the natural environment.

Scottish specific biosecurity action plans must be implemented without delay to prevent the establishment of INNS. A **Scottish INNS Inspectorate must be expanded and fully resourced** to facilitate a more strategic approach to invasive species biosecurity and management. The **importation of growing media should be banned**, reciprocating biosecurity measures elsewhere to close this pathway and prevent terrestrial invasive invertebrates spreading through Scotland.

A programme of action to **remove and prevent further invasion of non-native plant species onto peatlands** is required to protect peatland degradation.