



FAUNA & FLORA INTERNATIONAL'S

Marine Plastics Programme

Informed solutions to an ocean emergency



A GROWING THREAT TO OUR OCEANS

The extent and threat of marine plastic pollution is now recognised as never before. Species and habitats are affected, from our beaches and inshore waters to the bottom of deep-sea trenches.

Recent reports have highlighted the sheer extent of plastic contamination in our oceans: tiny tropical islands overwhelmed by incoming plastic waste; arctic waters polluted with fragmented plastic particles; whales and seabirds consuming plastic instead of food; turtles and seals ensnared in plastic detritus and drowning.

Furthermore, science is now demonstrating more insidious effects of plastics on ocean life, and potentially in turn on human populations, which could last for generations.

Fauna & Flora International (FFI) has been working on marine plastics since 2009, and was the first biodiversity conservation organisation to address the emerging threat from microplastics in our oceans.

Microplastics are tiny pieces of plastics (<5 mm in size) that come from the breakdown of larger plastic items and also from direct pollution of plastic particles, either released accidentally or used intentionally in products that are then rinsed down the drain.

Global plastic production has increased exponentially since commercial production started in the 1950s. The extent of plastic production and its durability now outstrips society's ability to manage the waste generated, and as a result much of it "slips through the net" and enters the ocean. Plastic reaches the sea from a number of sources – larger plastic items may be lost at sea or transported by wind and rivers (predominantly from coastal zones), while microplastics enter the sea directly through waterways.

We believe that we are at a momentous point when governments and citizens are waking up to the risk posed by the sheer volume of plastic entering our oceans. If we take coordinated action now we can prevent this problem from intensifying.

PLASTICS AND OCEAN LIFE

Plastics can be seriously detrimental to marine wildlife.

We have seen heartbreaking images of larger species – such as turtles, seabirds, marine mammals and fish – trapped in plastic items such as abandoned nets, and of birds and turtles unwittingly eating plastic because it resembles food. Plastic bags, balloons, bottle caps and disposable lighters are all frequently recovered from animals' stomachs.

Entanglement or ingestion of plastics can have drastic effects for the individuals concerned, too often resulting in suffocation or starvation. Additionally, we now know that coral reefs are being suffocated by a blanket of plastic – yet another stressor to these rich but highly threatened ecosystems.

Scientists are now describing an emerging and more insidious risk to marine life. Microplastics are being ingested by a vast array of creatures, including those at the bottom of the food chain such as plankton, mussels and prawns.

There is evidence that eating plastic is bad for these tiny creatures as it affects their feeding and survival, which impacts food availability for other animals in the ocean as a result. Furthermore, consuming microplastics provides a potential route for contamination of animals further up the food chain.

Plastic particles may contain toxic additives that can leach out into animals that eat them. In addition, emerging evidence suggests that plastics may attract the widespread dissolved organic pollutants present in the seas, providing a mechanism to concentrate these chemicals in the predators at the top of the food chain – potentially even including humans.

Marine life faces a number of immediate and longer term impacts from plastics. Creatures may eat microplastics that we release directly into the sea, risk entanglement with larger plastics, and may eat or choke on such items. Furthermore, over time the larger plastics floating in the ocean will fragment and create more microplastics to be ingested by sea life for generations to come.





A CALL FOR SENSIBLE PLASTIC?

We believe that collectively, the world can create momentum for change, to stop the accidental and unseen flow of plastics into our rivers and seas.

This won't be easy, and it needs to happen quickly. Based on tested models of voluntary and legislative intervention developed at a national and regional scale, concerted global action is required. The solution will be manifold but will involve:

- Reducing, and where necessary banning, unnecessary and excessive use of plastic.
- Reducing the creation of new plastic and responsibly reusing the plastic that already exists.
- Developing alternative non-plastic solutions wherever possible, taking into account other environmental trade-offs.
- Recognising that biodegradable plastics and bioplastics persist in marine environments and thus behave in similar ways to normal plastics.
- Turning off direct sources of microplastics, ensuring that they don't flow directly to our seas where they may be immediately consumed by marine life.
- Promoting increased responsibility of manufacturers for the fate of plastics that they produce and a commitment from manufacturers to design recyclable and recycled products.
- Increasing the value placed on plastics, particularly on recycled plastic (using taxation where necessary to achieve this).

- Providing effective support for waste management and recycling processes in the countries that need it most, and developing locally-led initiatives that harness plastic as a resource.
- Incentivising all sectors and the wider global population to play their part in reducing plastic pollution through careful disposal and handling of plastics. This will include working towards a truly circular plastics economy that ensures that plastic is valued and thus less likely to be lost at sea.
- Specifically focusing on system and behaviour failures that allow plastic to escape to the wider environment, potentially affecting not only the seas but also inland waterways and soils.
- Identifying well-designed and effective solutions to clean up plastics already in our environment while prioritising the need to turn off all sources of ocean plastics.

FFI does not condemn plastic as a material, but wants to ensure that governments, companies and individuals use it sensibly and carefully, regarding it as a valuable resource that should be recaptured and reused, and one that should never be allowed to pollute our rivers and oceans.

In addition, FFI aims to work with all sectors of society, particularly in promoting constructive engagement with relevant industries as a basis for step-wise, informed and practical change.

FFI'S ROLE AND APPROACH

Fauna & Flora International (FFI) is dedicated to the conservation of the world's biodiversity.

FFI's concern is predominantly the impact of plastic when it enters natural habitats and affects the survival of wild species. There are many other arguments being made for reduction in plastic use (such as fossil fuel use and human health), but our focus is specifically to prevent plastic affecting the world's biodiversity. In particular, the overwhelming evidence of the impact of plastics on ocean life frames our engagement on this issue. FFI's approach includes:

- Finding solutions that will demonstrably reduce the risk posed by plastic pollution to marine ecosystems and species.
- Focusing on turning off the ongoing flow of plastic into the ocean, rather than just cleaning up what is already there.
- Aiming to work with others, and looking for partnerships where our skills and knowledge can add value.
- Working constructively with all sectors involved, including business and the plastics industry, and crafting effective and practical solutions.
- Grounding our projects to familiar places and partners and developing locally appropriate solutions with in-country partners.
- Linking local initiatives to national policy and international movements on plastics.
- Supporting voluntary industry-led initiatives, but recognising that sometimes legislation and fiscal measures are key in creating a level playing field.
- Encouraging local communities to play an important role in spearheading changes in plastics management.
- Putting a value on plastic, which could prevent its loss to the environment.
- Identifying niches and opportunities where we can innovate and/or add value, avoiding replication of work that others are doing.
- Recognising that plastic will still have a use in society once measures are in place to reduce, reuse and recycle, and where – above all – it can no longer find its way into our seas.



Jeff Wilson



FFI'S ACHIEVEMENTS TO DATE

- Fauna & Flora International (FFI) has engaged with the issue of marine plastics for over 10 years and established a dedicated Marine Plastics Programme in 2012.
- Since 2009 FFI has focused on the direct risk of microplastic pollution to marine life. When we started championing this issue it was an unrecognised threat. Identifying that microplastics could have implications across the marine food chain, we could see a direct risk for biodiversity. FFI was the first international biodiversity conservation organisation to raise concerns about microplastics in the ocean.
- Our first target was to address the direct and wholesale release of microplastic particles – the so-called “microbeads” from toiletries such as facial and body scrubs, toothpastes and shampoos. Using vehicles such as the “Good Scrub Guide” and working in collaboration with other NGOs, FFI has played a driving role in the UK Government’s enactment of legislation on microbeads in early 2018. We are proud that the UK now has one of the most robust laws preventing release of microplastics from these sources.
- FFI launched the Australian “Good Scrub Guide” in 2014. This is still the key reference point for consumers as Australia moves towards the deadline for businesses to voluntarily remove microbeads from toiletries.
- FFI has been working with the plastics industry, retailers, governments and other NGOs to promote better handling of plastic pellets, also known as “nurdles”. These are commonly ingested by wildlife, but straightforward improvements to handling procedures could prevent their loss into the oceans. We have seen the plastics industry start to put in place better operational procedures for nurdles, but will continue to find new approaches to improve uptake, monitoring and transparency of all involved.

ONGOING ACTION ON PLASTICS

REDUCING MICROPLASTIC POLLUTION

NURDLES

Plastic pellets, also known as nurdles, are the raw material for all plastic products. These can be easily spilled during production, manufacturing, recycling or transport. Once in the environment they end up in the sea, where they are often mistaken for food by birds and fish, perhaps because they look like fish eggs suspended in the water column.

FFI has coordinated a set of activities designed to reduce the ongoing spillage of nurdles.

This includes:

- Working with plastics companies and trade associations to encourage take-up of industry best practice in nurdle handling, and development of appropriate monitoring.
- Encouraging the development of standards and certification schemes (associated auditing processes) to demonstrate good practice in nurdle handling along the full plastic supply chain.
- Working with plastics users (including wider retailers and their investors) to encourage them to consider how nurdle pollution can be minimised in their supply chain by application of industry best practice and standards.
- Taking part in working groups and developing dialogue with governments, industry and regulators about the need to ensure better prevention of nurdle pollution to the environment.
- Coordinating UK and European NGO coalitions on nurdles to share experiences across countries and coordinate actions.
- Highlighting the need to address nurdle pollution to close the loop in a future circular plastics economy.

MICROBEADS

FFI has led work on microbeads in the UK since 2012, initially working with industry to convince companies to voluntarily remove microbeads from toiletries, using our “Good Scrub Guide” as a vehicle and developing a comprehensive database of over 1,500 products. Using the growing scientific evidence for the impact of microplastics on marine life and demonstrating the existence of suitable alternatives, we encouraged many businesses to take action themselves.

Recognising that more was needed to address the issue fully, we helped form the NGO coalition that successfully campaigned for a legal ban on microbeads in toiletries in the UK, and provided the necessary evidence to government committees and departments to help enable this decision.

Despite these achievements, there are still ongoing needs for action.

- Having helped facilitate one of the most robust bans on microbeads we want to ensure that it is fully applied. We will continue to monitor the products on sale until we are reassured that the ban is being observed.
- The UK ban focuses on toiletries and does not cover all products that may contain microbeads and get washed down the drain. We are sharing our evidence with relevant government committees and continue to assess risks of microplastic pollution from these sources.
- FFI is sharing experience and learning with groups and agencies in other countries aiming to take similar action, and is sharing advice on the principles for robust legislation on microplastic ingredients.



NEW INITIATIVES

MICROFIBRES

Research has shown that microplastic fibres (sometimes called microfibrils) are present in a large percentage of marine invertebrates and fish, including animals collected from environments once believed to be pristine, such as deep-sea trenches and polar seas.

Microplastic fibres are known to be released to the oceans from synthetic textiles (such as fleece or acrylic) via domestic and industrial washing machines. In addition, there is growing evidence that nylon ropes and nets used in commercial fishing activities may also be a source of such microplastic fibre pollution. Microplastic fibres are thought to pose the same risk to marine life as other microplastics in terms of toxic additives and potentially concentrating background pollutants.

FFI has recently developed a new programme of work that will try to find solutions that would prevent the ongoing release of microplastic fibres. FFI will be working to:

- Engage with textile and garment producers/retailers and washing machine manufacturers to help identify and promote effective pathways to address this issue.
- Collaborate with partners in the textile and garment industries to develop best practice that will reduce shedding of microplastic fibres at key stages in the supply chain, as well as post-sale.
- Provide information and advice to the general public to help inform consumer behaviour and drive markets for clothing less likely to shed microplastic fibres.
- Learn more about microplastic fibre loss from fishing gear and explore where potential solutions might lie.

REGIONAL AND LOCAL PLASTIC PROJECTS

FFI's Marine Programme supports work at around 40 sites around the world, often within Marine Protected Areas and other areas of high marine biodiversity importance. Such sites are often also at risk of plastic pollution, either from local sources or from materials carried in by ocean currents.

FFI collaborates with in-country partners (NGOs or governments) to develop locally appropriate solutions for marine conservation, involving fishers and other community members. FFI is now developing work staff and partners to find local solutions to the risks posed by plastic pollution at our operational sites around the world, in places as diverse as Cambodia, Honduras and Costa Rica.

The interventions designed for each situation will respond to site-specific needs. For instance:

- Surveys at our sites will help us understand the relative prevalence and sources of marine plastics present.
- Reviews of local contexts (including existing commitments and legislation on plastic use) and other plastics projects will help design coordinated solutions.
- Application of experiences and knowledge gained from elsewhere will be used to help shape solutions appropriate for each site – be it engagement in wider plastics campaigns, corporate engagement on specific plastic sources, improved waste management, creating plastics-based livelihoods, or coastal clean-up campaigns.

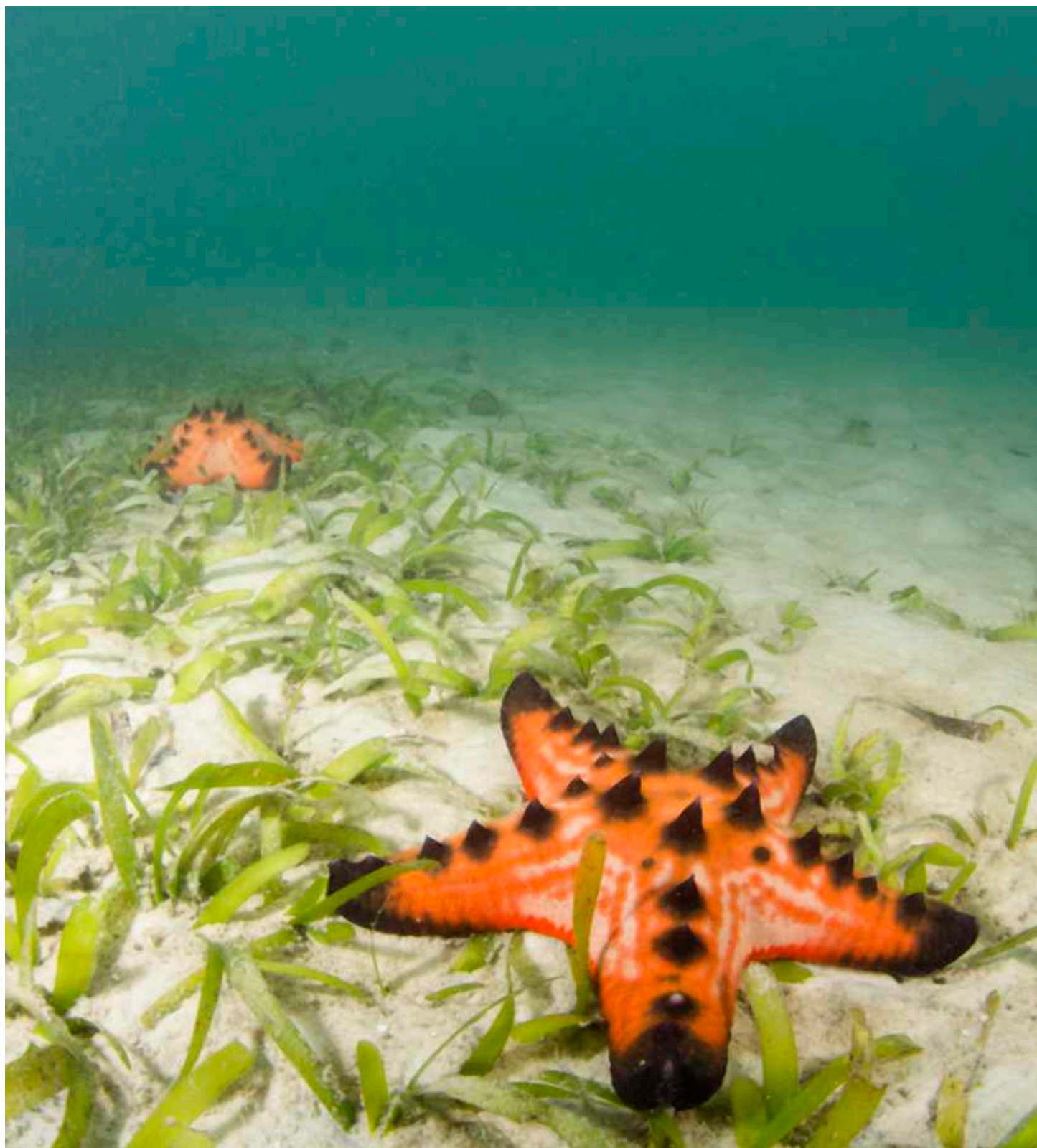




FFI'S PLANS FOR THE FUTURE

The world is now waking up to the threat that plastics pose to our oceans. We want to ensure that we keep this issue in the global spotlight and drive meaningful changes in policy and practice that will turn off the flow of plastic to our seas. FFI's plans for the future include the following:

- Widening the scope of our marine plastics work and collaborating with partners working in important marine sites around the world to find locally relevant solutions to their marine plastics problems.
- Continuing to focus on threats posed by microplastics, specifically on immediate sources of microplastics that are still being released to the oceans – such as nurdles, microbeads and microplastic fibres.
- Sharing the experience we have gained in driving changes in policy and practice for microplastics to catalyse similar changes in other countries around the world.
- Convening new groups to solve specific problems relating to marine plastics, bringing new allies to this challenge while looking for innovative, market-based and technological solutions.
- Providing well-informed, balanced and pragmatic assessments of potential solutions, taking into account wider environmental trade-offs and overall environmental footprints.
- Focusing debate specifically on the impact of plastics on wildlife – for example, by highlighting the risk to particular animal groups, such as seabirds.
- Continuously bringing the debate back to the risks of plastics escaping from waste management and threatening ocean life, keeping ongoing attention on this issue until necessary systemic change has been made.



If you have any questions or would like more information about the Marine Plastics Programme, please contact:

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