Static Electricity Sea Microplastic Extractor

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Plastics have always been a part of our lives since its early discovery in the 1930's, making it one of the most ubiquitous problems in today's society. However, everything has its own downside. They are not naturally degradable, so it takes a long period of time to decompose. It gets worse as they take the advantage of physical breakdown and photodegradation where they breakdown into microplastics (<5mm). These usually colourful bits of plastics are usually mistaken for food by the animals, which leads them to ingesting, not digesting the specks of plastic. As smaller animals consume the particles, it travels up the food chain leading to the bellies of humans, contaminating us with it. As far as we are concerned, microplastics could also potentially become carriers of harmful microbes that can bring upon harmful diseases, making the situation worse. As a response to this newly-found issue, an innovative and efficient way in removing microplastics in the water bodies had been developed. The device, Hydrostat, charges the water with positive ions which will then find something inert to attach themselves to, in this case, the microplastics. The now positively charged microplastics will be attracted to the negatively-charged mesh, remaining there as long as electricity is flowing in the circuit. In future, the device can be applied in areas within coastlines such as rivers, harbours and estuaries, places where plastic debris usually flows from. By implementing Hydrostat in rivers and oceans, it is estimated the quantity of microplastics would decrease drastically, paving a greener path for the future of the environment.

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