



Microplastic Monday: Bioaccumulation

For today's [#microplasticmonday](#), we want to talk about **bioaccumulation and biomagnification**, or the buildup of chemicals and plastics within an organism and up through the food chain.

Microplastics are consumed by marine organisms, either mistaken for floating food like plankton, or indirectly consumed while adhered to plant material. Once eaten, microplastics enter the digestive system, and can either be expelled back into the environment, remain trapped in the stomach (where it can cause an animal to feel full and starve), or can, especially in the case of microfibers, be found in organs and tissue. This is **bioaccumulation**.

Biomagnification involves the food chain. **When a predator eats a microorganism containing microplastics, it consumes those plastic particles and any toxins adhered to them.** But it has to eat A LOT of those microorganisms to stay alive (think of a baleen whale eating millions of zooplankton in one gulp). Even if each microorganism contains only a small amount of toxins from microplastics, that larger animal concentrates those toxins within its body. Therefore, **predators highest on the food chain, for example sharks, birds, and even humans, will end up with large concentrations of toxins in their system.**

Microplastics have been found under the carapace of lobster larvae in the Gulf of Maine (Woods et. al. 2020), and in over 50 % of anchovies and sardines tested by Pennino et. al. 2020. One study has even found microplastics at concerning concentrations in fruits and vegetables, especially apples and carrots (Oliveri Conti et. al. 2020).

Choose to Refuse: Awareness of the unseen infiltration of microplastics into the food web, and the inherent health impacts of ingesting plastic and toxins can help us be mindful of our choices when confronted with the many plastic options we encounter each day.

Photo Credit: [Plastic Bag Ban-NL](#)