# Environmental Contaminants

Part 1: Microplastics

### Featuring: Lara Milligan



### **Main Ideas**

- Microplastics are plastic particles that are 5 millimeters in size or smaller.
- Primary microplastics are small spheres of plastic that are used by manufacturers to create other plastic products or for use as stuffing
- Secondary microplastics are sourced from existing plastic products that have broken down into smaller pieces.
- Microplastics have been found in several species of animals as well as humans.
- Recent studies have found microplastics present in the human system can result in cell death, respiratory issues, and decreased immune functions.
- Microplastics serve as a vessel for external contaminants, including chemicals that have previously been banned due to negative health and environmental effects.

### **Discussion Questions**

- 1. How can legislation protect the environment from plastic pollution?
- 2. What are common sources of secondary microplastics?
- 3. How do microplastics negatively impact the environment?
- 4. What risks do microplastics pose for human health?
- 5. How can you reduce plastic use?

## Tips from the Speaker

- Read labels on personal care products to avoid those containing microplastics, most commonly made from polyethylene.
- 2.Use reusable items to avoid single use products like bags, straws, and storage containers.

#### **Other Resources**

<u>https://flseagrant.ifas.ufl.edu/microplastics/</u> <u>https://edis.ifas.ufl.edu/publication/SS649</u> Take the Pledge: <u>https://ufl.qualtrics.com/jfe/form/SV\_1YBvyhl6dy1qnfD</u>

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Part 2: Pharmaceuticals



### Featuring: Dr. A.J. Reisinger and Dr. Lindsey Reisinger

## Main Ideas

- An environmental contaminant of concern is a pollutant found in the environment that has real or potential harmful consequences.
- Pharmaceutical contaminants have been found in multiple ecosystems and in different species, including crayfish.
- Researchers create artificial environments in laboratory settings to learn more about the negative effects of pharmaceutical contaminants.
- As pharmaceutical contaminants accumulate in the environment, animal behavior can be altered and lead to changes in the food web and ecosystem as a whole.
- Further research is needed to uncover the potential environmental impacts caused by pharmaceutical contaminants.

### **Discussion Questions**

- How can studying species like crayfish assist researchers in uncovering environmental contaminants?
- 2. How do pharmaceutical contaminants negatively affect ecosystems?
- 3. How can behavioral changes in organisms affect ecosystems over time?
- 4. Why is it important to replicate or alter future studies like the crayfish study conducted by the Reisingers?

## **Tips from the Speaker**

Manage or limit what chemicals you use and how you dispose of them to avoid contaminating the environment.

### **Other Resources**

https://esajournals.onlinelibrary.wiley.com/ doi/10.1002/ecs2.3527 Reisingerlab.weebly.com <u>Ajreisingerlab.com</u> https://edis.ifas.ufl.edu/publication/SS680

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