

M Nava

Sustainable Systems

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Reading Response

“How micro plastics make their way up the ocean food chain into fish” by Louise Tosetto, Culum Brown, and June Williamson talks about the effects of microplastics on organisms that live in the ocean. Up to 236,000 tonnes of micro-plastics enter the oceans each year. The concern about this occurrence is the possibility that the toxic chemicals could accumulate in food chains, eventually making their way into humans.

Microplastics are defined as particles less than 5mm across. Once in the ocean, toxic chemicals such as BPA and pesticides stick to and accumulate plastic particles. These toxins can affect hormone levels and behavior of organisms that consume them. Pollutants can cause feminization in males which results in reduced breeding activity and ultimately affecting a populations stability.

An experiment was conducted to prove the hypothesis that micro-plastics pass through the food web. Contaminated micro-plastics were immersed in Sydney Harbor for 2 months then fed to beach hoppers. Hoppers were observed to gain weight and reduced hopping and some died. The fish that were fed contaminated hoppers were observed to show no difference in behavior compared to fish who weren't fed plastic-filled hoppers.

“A Thirsty Colorado Is Battling Over Who Owns Raindrops” by Jack Healy talks about the legal ownership of rainwater and the illegal collection of water at the local level. Colorado

residents proposed a bill with bipartisan support would allow homeowners to buy two 55-gallon water tanks that are capable of collecting up to 650 gallons of rainwater every year. The average American uses that much water in a week.

Conservative politicians and eastern landowners saw this initiative as a plan to steal water from them. They believe that residents collecting rainwater on the western half of the state will reduce the amount of water that reaches farmers lands on the eastern half. Critics have said that millions of gallons of water could be pulled out of the system if the entire state caught a rain-barrel fever.

Colorado laws state that water running along or through someone's property does not give the landowner the same ownership over the water. The state has always struggled with water shortages and this new trend to collect water is threatening a fragile water system. Not enough time has passed to measure the effect water barrels will have on the water system overall. For now, it is left up to speculation and hypothesis.