

A series of feature articles examine the diverse careers within the Department of Natural Resources. This month, learn of the work of Ecotoxicologist Beth Whetsell.

We Are DNR

As an ecotoxicologist, Beth Whetsell delves daily into assessing the effects chemicals may have on the environment. “Ecotoxicology is a combination of the studies of ecology and chemistry,” Whetsell explained. Countless experiences sparked her interest in the natural resource field, starting with growing up on a farm in Fulton County. An internship with the Illinois Natural History Survey, Forbes Biological Station, triggered her interest in both ecology and chemistry. Other experiences included a wren nesting ecology study while a biology student at Illinois State University

Ecotoxicologist Beth Whetsell (above left and below right) combines the sciences of ecology and chemistry to understand the potential impacts of toxins on the environment.



and a DNR residency at Midewin Tall-grass Prairie (former Joliet Army Arsenal).

“The more I delved into the projects, the more questions I had,” said Whetsell. “Wanting answers to such questions as ones surrounding the vitality of nesting success drove me toward pursuing a master’s degree in environmental science.”

At the University of Illinois, Whetsell examined the effects of agrichemicals on resident and neotropical migratory birds. While she couldn’t draw conclusions that chemicals used in the Midwest were lethal, she found that migrants contained potentially injurious levels of chemicals banned in the United States—suggesting the birds were picking up chemicals on their wintering grounds.

Within the Office of Realty and Environmental Planning’s Contaminant Assessment Section, Whetsell primarily protects the public’s interest through the Natural Resource Damage Assessment and Restoration process.

During a typical work day, Whetsell determines what resources may be impacted due to a release of oil or hazardous substances, reviews literature on hazardous substances and writes assessments. In coordinating each project, Whetsell communicates with Illinois Environmental Protection Agency staff, lawyers, chemists, biologists, land managers, economists, corporations and environmental activists.

Unfortunately, Whetsell’s work outdoors often comes after an unexpected

release of oil or hazardous substance and involves monitoring an area to document how it is recovering, either naturally or after a clean up or restoration effort. Working with resource experts, Whetsell may take water samples, shock for fish, or survey for mussels or other species.

“A lot of my time is spent trying to tell the story of a particular incident and the chemical’s fate once it comes into the environment,” Whetsell said. And because new chemicals are developed every day, she must remain vigilant in her understanding of chemistry.

In Whetsell’s world, damage to the environment may occur in the blink of an eye, but reaching agreement on a restoration plan can take years, possibly even a decade, depending upon the degree of contamination and injury to natural resources. The ability to multitask, work with a variety of personalities and above all else, to be patient, are musts to improve degraded habitats.

“It is a tremendous accomplishment when all parties—DNR, Illinois Environmental Protection Agency, Attorney General and the party responsible—agree upon how to compensate the public in a way that is beneficial to the environment and the local communities.”



For more information on the Natural Resources Damage Assessment and Restoration process visit dnr.state.il.us/orep/contaminant_assessment.

