



# A swamp rat finds his dream job...in our state's wetlands

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Curt Kleist is pictured in one of his favorite places: Minnesota's wetlands. Kleist makes his living as a wetland consultant, helping people navigate the rules and regulations involved when working with wetlands. Submitted photo.

As a child, I never expected to grow up crossing chest-high swamp water with a \$8,000 GPS in my waders. But here I am living the dream! I couldn't have imagined my life any other way. My colleagues once referred to me as the "Swamp GOAT" (Greatest of All Time) and I hope to live up to this nickname for as long as I can.

I grew up in Ely with the Boundary Waters Canoe Area Wilderness in my backyard. I am passionate about the outdoors, and this formed a foundation for my career. I attended Vermilion Community College and the University of North Dakota for my Bachelor of Science in fisheries & wildlife biology. I also attended Itasca Community College for my Associate of Science in geographic information systems (GIS).

For many years, I conducted waterfowl and wetland research surveys throughout the U.S. Most recently, I started a wetland consulting business based out of Chisholm. I am currently licensed as a Professional Wetland Scientist by the Society of Wetland Professionals, and also certified as a Professional Wetland Delineator by the Minnesota Board of Soil & Water Resources.

People always ask me what I do, and it's not always a simple response. I'm a wetland consultant, and although most people know what a wetland is, they don't exactly know what I would consult about. Wetland consulting is a very broad label for what I do. My job consists primarily of wetland delineations, permitting, and GIS mapping. So, what exactly are those things?

The wetland consulting profession really flourished during the early 1990s. In 1991, responding to concern about Minnesota's disappearing wetlands, governor Arne Carlson signed the Minnesota Wetland Conservation Act. It was passed to preserve wetlands (previously not protected) and aimed for a no-net-loss of wetlands. This law is one of the most comprehensive state wetland protection laws out there.

I support a variety of clients (private, government, and commercial) through the regulatory processes and agencies who are responsible for wetland enforcement and approval. Most of my clients are private entities that are looking to build on or near a wetland. This could include building houses, cabins, driveways, commercial structures, solar panels, wind turbines, bridges, boardwalks, or even "she sheds."

My job is to minimize and avoid (if possible) wetland impacts per the Minnesota WCA of 1991. As required through the WCA, people are required to get a formal wetland delineation before they develop the property. A wetland delineation is a determination of the boundary of the wetland and is based on the soils, vegetation, and hydrology.

When people contact me for a delineation, the first step is to look at maps for the elevation profile, USDA soil survey, USFWS national wetland inventory, DNR public waters and watercourses, and aerial imagery. Then I conduct a site visit. At the site visit, I GPS and flag the wetland boundary, and collect data points throughout the property. In addition, I sample the soil for its depth, color and texture, which indicates a potential wetland.

I also examine plant species in various habitats. Plants can be another strong indicator of wetland activity. Finally, wetland hydrology is assessed by areas that are saturated at or near the surface for at least 14 consecutive days during the growing season in most years. A soil may be considered saturated if the water table is within even 12 inches of the surface.

After the field work, I create a map set and comprehensive report. They are submitted to various agencies for review (ACOE, BWSR, SWCD, DNR, county/city). Agencies may also do a site visit for final approval of wetland boundaries. Once approved, my clients can plan their developments while avoiding and minimizing wetland impacts.

When a large portion of wetlands will be drained or filled, a wetland replacement plan is required through the purchase of wetland credits through a wetland bank. For any wetland that does not meet the exemptions, a client will typically use a wetland bank to replace the wetlands that have been impacted. In essence, a client will pay to replace the equal number of wetlands that have been removed.

Why do we care about wetlands? There are many benefits to preserving wetlands including: erosion control along lakeshores, flood control along streams and rivers, groundwater recharge, improved water quality by removing pollutants, and opportunities for recreation activities such as hunting and fishing. Wetlands provide habitat for species of various aquatic and terrestrial plants and animals. They provide amenities that no other ecosystem can!

I love that I spend my time outdoors in a mix of environments, ever-fulfilling my Swamp GOAT mantra. It's never a dull day! Every project is unique and it's nice to see the final outcomes of each project.

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