

2004 ENVIROTHON ORAL TOPIC

Natural Resource Management in the Urban Environment

The following is a HYPOTHETICAL problem based on a real-life situation and location.

Given:

According to a 1998 Sierra Club report, cities in six of the Great Lake states account for six of the top 20 sprawl threatened cities in the US. Sprawl can damage ecological systems and their natural functions. Pollution is also a cost of urban sprawl. Stormwater must now runoff across roadways, parking lots and buildings, collecting damaging pollutants along the way.

Current Situation:

Ulao Creek begins at the Ulao Swamp just south of Port Washington, and north of Milwaukee in Wisconsin. The creek flows approximately 8.5 miles south through Grafton, Cedarburg, and Mequon, where it joins the Milwaukee River. This 16 square mile watershed supports the following valuable resources:

- The Ulao Swamp is a 490-acre wetland that has been designated as a Significant Natural Area and serves as critical species habitat.
- The Southeastern Wisconsin Regional Planning Commission has identified most of the creek corridor as Primary Environmental Corridor.
- Portions of the creek are vital spawning habitat for northern pike.
- The U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources own 95 acres of Waterfowl Protection lands within this watershed.
- Butler's garter snakes – a state threatened species – has been observed in this watershed.
- Over 200 bird species have been recorded in this area.

The Ulao Creek watershed, located just north of the city of Milwaukee, is becoming degraded by many of the elements associated with urban sprawl.

- Flow rates of the creek have been affected, resulting in increased flashiness and flooding.
- Invasive species are slowly out-competing native species within the wetland habitats.
- Farmland is being converted to residential development.
- There is evidence of sedimentation, lack of cover, and scouring within the creek corridor.
- Residential development is the second largest land use in the watershed, and is the fastest growing land use.
- The number of spawning northern pike has plummeted over the last decade.
- Water quality has decreased significantly over the last decade.

For informational purposes, SEWRPC calculated the following land use coverage in 1995 within this watershed.

1995 Land Use	Percent of Watershed
Agriculture	52
Open land	14
Residential	13
Wetlands	112
Woodlands	4
Commercial	2
Industrial	2
Other	1

Ozaukee County maintains three flow monitors along the length of the creek, and measure water quality parameters quarterly.

A local Partnership of concerned citizens and landowners, as well as staff of the municipalities occurring within the watershed, have been actively working to address these issues. Some site-specific work has already been completed, and the Department of Natural Resources has supported and assisted in the projects.

Problem:

Develop a set of priorities for the local municipalities to help them protect the creek corridor and manage the resources within the Ulao Creek Watershed. Address land use policies, construction methodologies, and land use management techniques.