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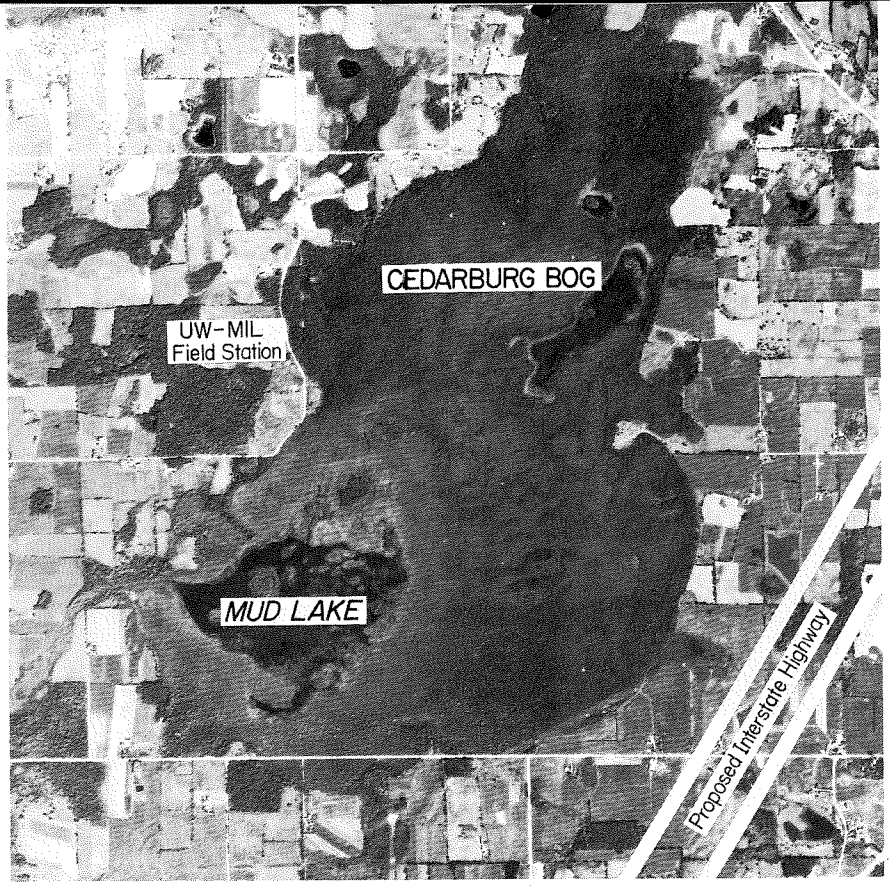
Cedarburg Bog

Bogs in southeastern Wisconsin are uncommon, but a 2,000-acre one supporting a high diversity of plants and animals is "one of a kind." It needs legislative help to survive as do other rare places.



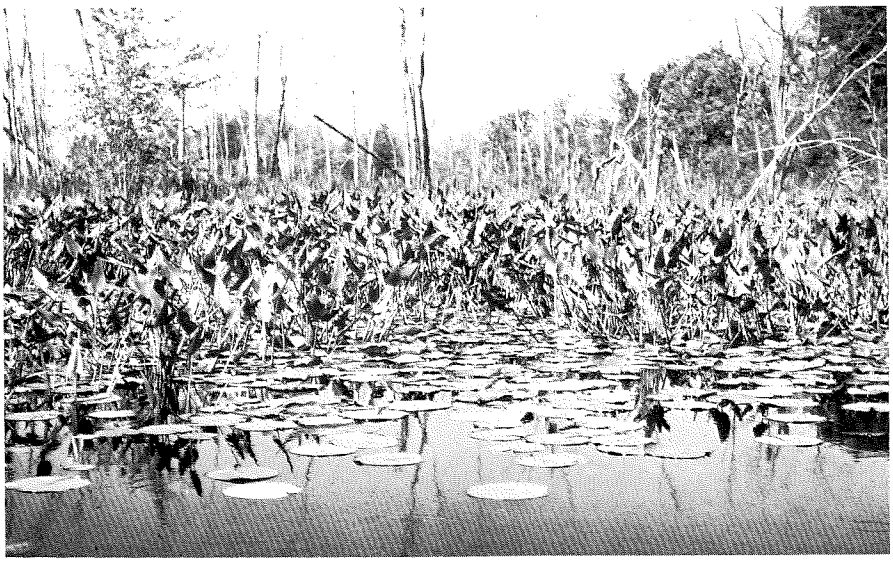
Cedarburg Bog in Ozaukee County fills a glacial lake basin left when ice sheets last retreated from southeast Wisconsin 12,000 years ago. With gradual filling, open water has been reduced to half a dozen small lakes, the largest being Mud Lake, about 200 acres in size, but only four feet in depth.

Early settlers in the county cleared the upland surrounding the bog and cut some tamarack and cedar out of it for fence posts, but the bog remained essentially a wilderness. Later, near the turn of the century, drainage was attempted, but failed.

Early recognition of natural values led to a commitment to preserve Cedarburg Bog in 1946. The Wisconsin Conservation Department (precursor of the Department of Natural Resources) approved purchase of a 519-acre core portion for $6,350 ($12.22 per acre!) on recommendation of Commissioner Aldo Leopold and Parks Director C. L. Harrington. In 1952, it was designated one of the first state scientific areas.

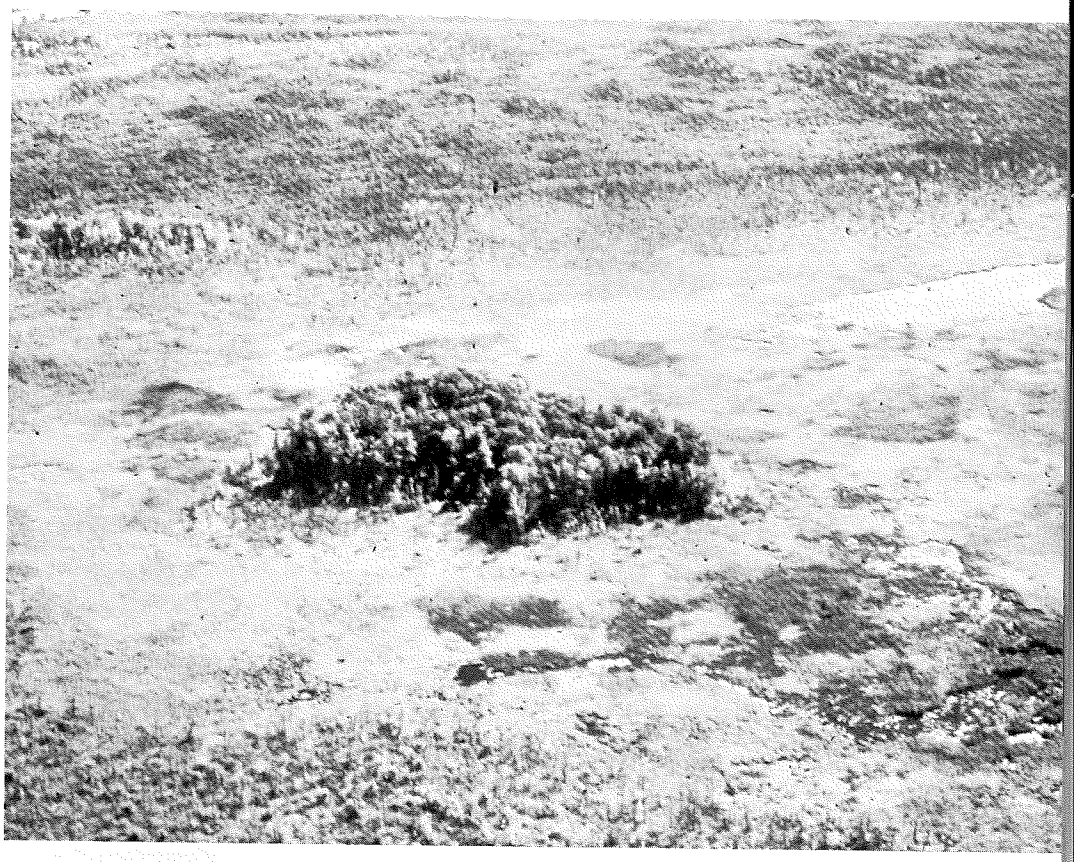
The Department of Natural Resources preservation effort was was boosted in the mid-60's when the University of Wisconsin-Milwaukee, assisted by The Nature Conservancy, acquired land for a biological field station on the northeast edge. To date, 1,300 of the 2,000-acres have been acquired by the Department and an additional 100 acres is included within the field station boundaries.

Despite this seemingly large public ownership, survival of the bog as a teaching and research facility depends on preventing encroachment, first by completing acquisition and second by restricting development in a buffer zone of surrounding upland. A planned interstate highway only one-half mile from the bog's edge and new residential development are both serious future threats.



The bog forest advanced on Mud Lake during the past century when water levels declined, perhaps due to clearing of uplands, but accentuated by the long drought period in the 1930's. However, increased precipitation and several man-made obstructions at the lake outlet resulted in return of higher levels in the late 1950s. The encroaching forest was drowned, leaving rampikes of dead tamarack, white cedar, and black ash. The dams have now been removed and water levels will be allowed to fluctuate naturally as in the pre-settlement era.

Mud Lake is shallow and freezes out in winter, preventing establishment of even hardy rough fish species. This favors a luxuriant growth of aquatic plants such as pickerel weed and water lily—habitat for waterfowl, wading birds, and muskrats. Recreational use is limited by difficult access, and except for waterfowl hunters in fall, the solitude is enjoyed by those interested in nature hikes and bird study.



White Birch "Island" rises above the shallow marsh bordering Mud Lake, providing habitat diversity. A comprehensive study of Mud Lake vegetation by Thomas Grittinger identified eight distinct plant community types. Included in these community types is a unique string bog or patterned bog visible in the upper left portions of this aerial view. A string bog consists of a series of low, parallel ridges which support tamarack and cedar alternating with swales of bog shrubs and sedges, and which develop at right angles to surface water movement. This string bog near White Birch Island is unique in southern Wisconsin since it is several hundred miles south of similar types in Canada, Minnesota and Michigan.

Because of this and other unique features, Cedarburg Bog was recently designated as a National Natural Landmark following nomination by the Scientific Areas Preservation Council. Drs. Forest Stearns and Phil Whitford stated in their report to the National Park Service recommending the tract, "Cedarburg Bog is the largest and most outstanding bog in southeastern Wisconsin."

This boardwalk across the small stream entering Mud Lake reaches into the interior of the bog and connects several "islands." It provides access for research projects and class use, and yet protects fragile bog vegetation from trampling. The boardwalk was installed by the University of Wisconsin-Milwaukee biological field station in cooperation with the Department of Natural Resources. Development of the field station on the bog periphery has provided outdoor laboratory facilities for thousands of earth science students of universities and high schools in southeastern Wisconsin. More than 30 research projects are in progress, ranging from studies of bird behavior to investigations of groundwater flow rates and direction. These studies are only the beginning. If preserved, the bog will be even more useful to future generations of scientists.

The water-logged, low nitrogen soils of Cedarburg Bog provide habitat for several types of "carnivorous", insect-eating plants. The largest is the pitcher plant with tubular leaves holding pockets of water which trap insects. Enzymes secreted by leaves of the pitcher plant digest nitrogen and other nutrients from the insects, allowing the plant to flourish in an otherwise nutrient-poor environment.

The large size and variety of plant community types at Cedarburg Bog provides both upland and wetland habitat for many birds and mammals.

A thriving deer herd in the region seeks cover in the bog forest during hunting season. In years of deep snow, deer remain in the bog all winter. In this photo, Paul Matthiae, UW-Milwaukee field station manager, examines a clump of Canada yew or ground hemlock, a preferred winter deer food, nearly browsed out of existence. The field station, assisted by the Department, has constructed several wire exclosures to protect the few remaining clumps of yew.

The state-owned portion of Cedarburg Bog is open to waterfowl, small game, and big game hunting. While complete preservation and no hunting may be necessary for some scientific areas, hunting is compatible and even desirable on larger units to prevent overpopulation of grazing and browsing animals.

Cedarburg Bog is threatened as never before by the fruits of urban sprawl—new highways, residential development, and transmission lines. UW-Milwaukee field station director, Dr. Millicent Ficken, commenting on the planned interstate highway within one-half mile of the bog stated, "The effects of the proposed freeway on the environmental quality of the Cedarburg Bog scientific area would be disastrous in terms of scientific research and preservation of this unique area."

The Scientific Areas Preservation Council and the Department of Natural Resources have requested that if the new highway is built, it be located at least one mile away from the bog. Highways, buildings, and other man-made developments can avoid fragile natural areas like Cedarburg Bog, but the bog can't be moved out of the way to a safe location.

The high scientific and educational values of Cedarburg Bog should be enough to justify preservation. Of equal importance is its value to the surrounding farms and villages. Studies by University hydrologists have shown that the bog functions like a huge sponge, soaking up rainfall and surface runoff which seeps down and outward, recharging the groundwater table over an area including much of Ozaukee County.

Preservation of the Cedarburg Bog Scientific Area in the face of southeastern Wisconsin urbanization is an awesome but necessary task. Problems there crystalize those that someday will be encountered on many of the other 117 state scientific areas in Wisconsin. At present, outright purchase by public and private agencies is the most logical way to save these small but very important natural areas. However, acquisition has been slowed due to soaring land prices. For this reason, land use legislation should be enacted to protect unique natural areas with state zoning where local zoning is inadequate. This would temporarily protect an area until permanent preservation could be arranged.

Cedarburg Bog and areas like it have survived thousands of years of climatic extremes including floods, droughts, and wild fires, but they cannot survive continuing encroachments by man.