

# WATERSHED MANAGEMENT PLAN FOR FOREST LAKE

Prepared by  
Forest Lake Improvement Association

LPL-175





## LAKE USE REPORT : 1970

In 1970, the Wisconsin Department of Natural Resources (DNR) prepared a Lake Use Report for Forest Lake, a land-locked, groundwater seepage lake in Fond du Lac County, Wisconsin. The lake area was about 50.5 acres, and the watershed area draining to Forest Lake was estimated to be 168 acres. The lake itself and other wetland areas covered about 40 percent of the watershed area, woodland accounted for about 16 percent, 23 percent was covered by other open land, 13 percent was in residential use, and 8 percent was classified as agricultural land. The phosphorus levels measured in Forest Lake were considered moderate and the total annual phosphorus load to the lake was estimated to be 62 pounds. The report stated that the major sources of phosphorus loadings to the lake were septic systems (73% of the total load), agricultural land runoff (13%) , and precipitation and groundwater inflow (11%).

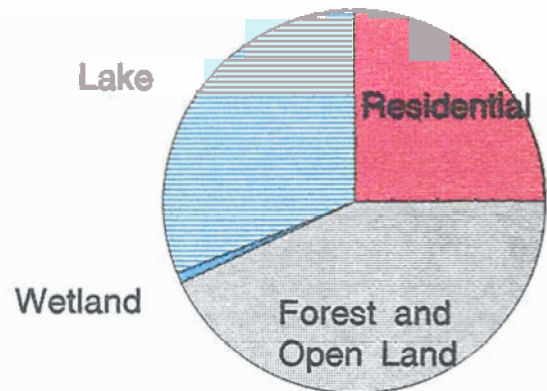




## WATERSHED CHARACTERISTICS:1994

The Forest Lake watershed characteristics were revised based on a 1974 topographic map prepared by the U.S. Geological Survey, an updated land use survey conducted in 1994, and a sanitary survey conducted in 1985. The updated information indicates that the watershed area is about 159 acres, or 9 acres smaller than the area reported by DNR. There are 49 septic systems. (There are 55 residences, but 6 have holding tanks). The 1994 land use is as follows:

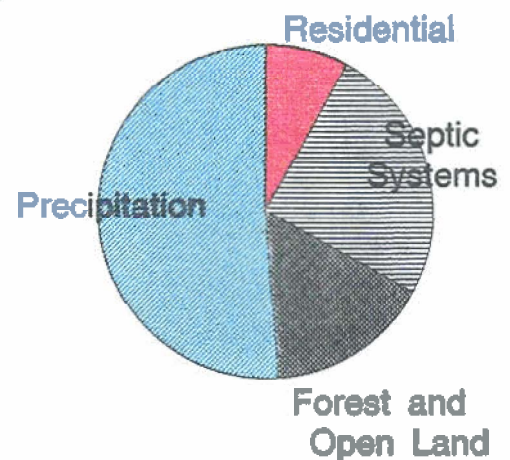
<u>LAND USE</u>	<u>ACRES</u>	<u>% OF TOTAL</u>
Residential	39	25
Forest and Open Land	69	43
Wetland	1	1
Lake	50	31
Total	<u>159</u>	<u>100</u>



## PHOSPHORUS LOADINGS

Phosphorus is the nutrient that generally limits aquatic plant growth in Forest Lake. High phosphorus levels can result in excessive plant growths that interfere with desired lake uses such as swimming and boating. The phosphorus loadings were revised based on updated watershed characteristics and by applying procedures for estimating phosphorus loadings to lakes that were developed by the Southeastern Wisconsin Regional Planning Commission. The revised annual load of phosphorus to Forest Lake is 51 pounds, or 11 pounds lower than that estimated by DNR in 1970. Whereas the DNR concluded that septic systems accounted for 73 percent of the phosphorus load, this updated estimate indicates that septic systems contribute only 25 percent of the total load. The updated septic system loading is lower because the 1985 sanitary survey found few failing septic systems.

SOURCE	PHOSPHORUS (lbs./yr)	% OF TOTAL
Residential Runoff	4.3	8
Septic Systems <sup>a</sup>	12.7	25
Forest and Open Land Runoff	8.3	16
Precipitation <sup>b</sup>	25.5	51
Total <sup>c</sup>	<u>50.8</u>	<u>100</u>



<sup>a</sup> Assumes average property owner resides on Forest Lake for about three months per year.

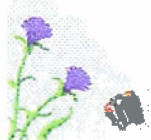
<sup>b</sup> Precipitation that falls on the lake itself.

<sup>c</sup> Groundwater inflow loading assumed to be negligible.

## WATERSHED MANAGEMENT PRACTICES FOR FOREST LAKE

Forest Lake property owners and other lake users can take actions to minimize the amount of phosphorus and other pollutants that enter the lake. Proper management of lakeshore property can help preserve the high quality of Forest Lake.

### Protect Your Shoreline



Establish a vegetated "buffer" zone along your lakeshore to filter out pollutants.



Frequently rake up weeds and remove them from the lake.



Protect your shoreline with good vegetative cover, rock, logs, or similar protective material to prevent erosion by waves.



Do not store materials such as fuel, oil, paint, or varnish on your dock or shore.



Do not burn leaves, wood, or trash near the shoreline. Do not allow ash to wash off into the lake.



Do not paint, clean, or sand your boats in or near the water. Move the boats as far as possible away from the lake before performing maintenance.



Clean up pet wastes near the shoreline and bury at least 25 feet away from the lake or flush down your toilet.

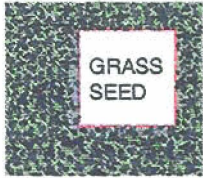
## Manage Your Lawn



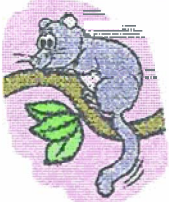
Do not use pesticides or fertilizers near any drainage ditch or near the lakeshore. If you wish to fertilize, have your soil tested every three or four years to determine exactly how much fertilizer you need. Do not overfertilize.



Dispose of pesticide and fertilizer containers properly in accordance with manufacturer's instructions.



Maintain a dense, healthy plant cover which acts like a sponge to absorb water and nutrients.



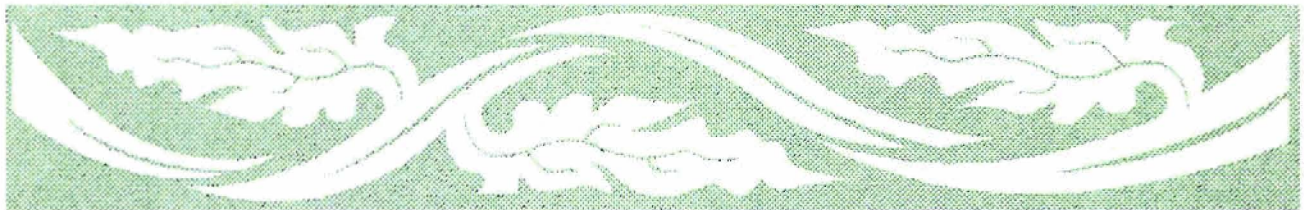
Plant shade-tolerant ground cover and native woodland plants in shady bare areas.



Rake up and dispose of leaves in fall to prevent washing into lake. Leaves can be composted, tilled into your garden, or used as mulch.



Leave grass clippings on the lawn which act like a mulch.



## Keep Your Septic System in Good Condition



Reduce the amount of water entering your system by conserving water and using water saving devices.

**3 YEARS**



Pump your tank out every three years.



Do not connect a basement sump pump to your system.



Avoid placing grease, coffee grounds, disposable diapers, oil, paint, pesticides, or toxic substances into your system.



Use non-toxic household cleaners and products.

## General Management Practices



Keep slopes well vegetated to reduce erosion.

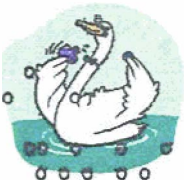


Divert runoff from rooftops and paved areas away from the lake towards flat, vegetated areas.



Use practices such as straw bales, mulching, and filter fences to reduce erosion during new construction or remodeling.

Wash your automobile in an area that drains to a grassed area away from the lake.



Do not use detergents or soaps in the lake.

# FOREST LAKE WATERSHED: 1994

