

# Lake Steward

The newsletter of the WLR Lake Stewardship program Vol. 6, No. 1 Winter 1999



## The King County Noxious Weed Control Program

# Saving our lakes from foreign fiends

We would like to introduce you to our new partners in the "weed war"! In addition to calling the lake stewardship staff, you can get advice on clearing purple loosestrife and other weeds from your property through the King County Noxious Weed Control Program. This weed program can help with water and land weed identification and control.

### What are noxious weeds?

Noxious weeds are non-native plants that have been introduced to our area accidentally or are ornamentals introduced from gardens. They are highly destructive, competitive, and often hard to control. Some noxious weeds can poison humans, their livestock and pets, destroy native habitat, lower lands values, and reduce crop yields.

Aquatic noxious weeds, like hydrilla (*Hydrilla verticillata*), parrotfeather (*Myriophyllum aquaticum*), purple loosestrife (*Lythrum salicaria*), garden loosestrife (*Lysimachia vulgaris*), policeman's helmet (*Impatiens glandulifera*), and Eurasian watermilfoil (*Myriophyllum spicatum*)



Eurasian watermilfoil

can degrade or destroy lakes and other aquatic habitats, clog waterways and impact recreational activities such as boating, fishing and swimming.

### What is the Weed Board?

Noxious weed control is recognized under the state noxious weed law, RCW 17.10. The law requires landowners to control or eradicate noxious weeds on their properties and establishes local weed control boards to achieve control and prevent the spread of noxious weeds. Education, prevention and occasionally enforcement are used to achieve weed control and compliance with the law.

The five-member citizen Weed Board sets the priorities of the King County Noxious Weed Control Program.

### What's the program?

The King County Noxious Weed Control Program is a public (continued on page 3)

## Lake monitors needed ❄️

The King County Lake Stewardship Program needs volunteers. We want dedicated individuals who live on or have direct access to several lakes, including **Burien, Panther, Pipe, Ravensdale, Shadow, and Twelve.**

Volunteer lake monitors record lake level and rainfall daily and make weekly

boat trips onto the lake to measure temperature and water clarity. Depending on the lake, we also need volunteers to collect water samples every two weeks during May through October. Please call **Wendy Cooke at (206) 296-1949** or **Jessica Anderson at (206) 296-8008** to learn more about the monitoring program and to help care for your lake. 🌙

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## Lake monitors report

# El Niño, La Niña, what mean-ya?

### Record breaker

Many of you are well aware that record rainfall fell in the Pacific Northwest this November. Sea-Tac Airport recorded 298 millimeters for the month compared to the average of 152 millimeters, almost double normal levels! This record rainfall pushed up the total average precipitation for the October-December quarter. Precipitation totals were above Sea-Tac Airport's historic average (391 mm) for all participating lakes except for Bitter Lake where monitoring began in mid-November (Figure 1). Fourteen of the 34 lakes illustrated in Figure 1 received total precipitation above the current regional average (616 mm).

### La Niña

So how does a record November relate to the current weather pattern, La Niña? During La Niña years, the equatorial Pacific sea surface temperatures are cooler than normal (in El Niño years they are warmer). In our region, a strong La Niña *may* mean a cooler, wetter winter. The National Weather Service has rated this year's La Niña as moderate to strong. The heavy precipitation we had in November and December and the cool weather at the end of the year fit this description of a La Niña pattern.

### More snow?

Does this mean a lot of snow in our immediate future? Experts say weather conditions this year are

difficult to predict because the Pacific Northwest is currently being influenced by a long term warming trend that offsets some of La Niña's affect. Additionally, even in strong La Niña years, there is only a slightly increased probability of snow.

### On the rise

Lake levels are up again this autumn after an unseasonably dry summer. The resulting minimum lake levels this summer were the lowest in several years, but rose quickly with the heavy precipita-

tion of November and December. These extremes contributed to a large fluctuation in the surface level of many lakes over a relatively short time period. In Figure 2, 1997 and 1998 lake level ranges are compared. The influence of our record precipitation can be seen in the large ranges recorded this quarter verses lower ranges for the drier autumn of 1997.

Find out more about weather trends at the following websites: <http://www.seawfo.noaa.gov/> and <http://tao.atmos.washington.edu/PNWimpacts/LaNiña.html>. ☽

Figure 1. Oct-Dec 1998 Total precipitation (in millimeters)

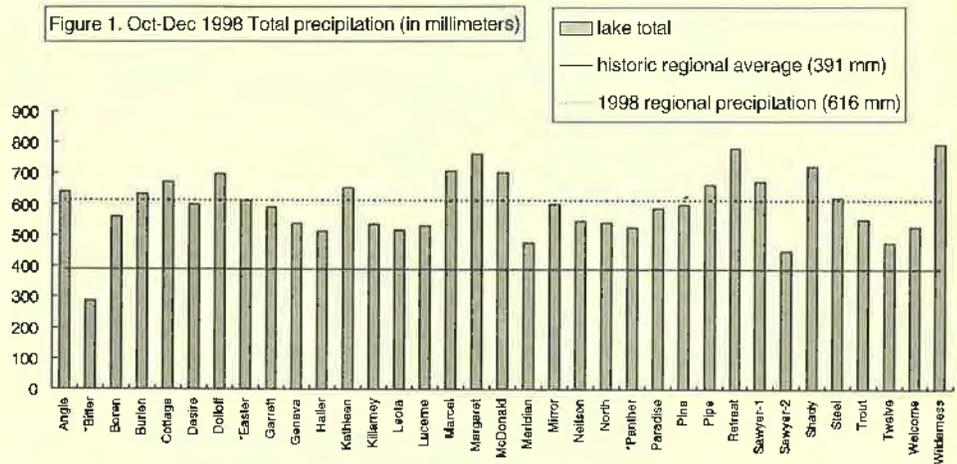
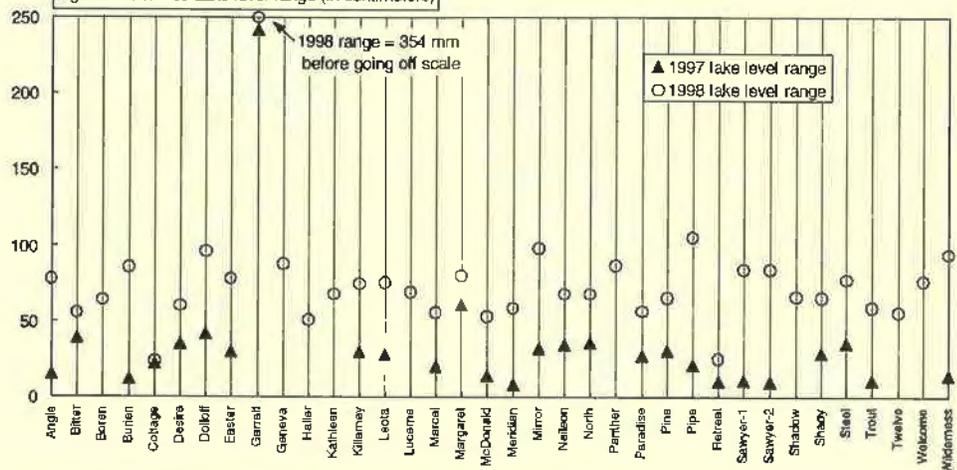


Figure 2. Oct-Dec Lake level range (in centimeters)



# Invading...

(continued from page 1.)

service agency that provides weed identification, control information, educational presentations, and training workshops. Staff also provide technical and consultative support for weed management including information on herbicide alternatives. Weed staff work with lake stewardship staff to help communities remove noxious weeds from their lakes and shorelines.

By conducting field surveys and taking calls from citizens, the weed program collects information on the scope of the noxious weed problem locally.



Purple Loosestrife

Since 1996, confirmed land and water weed infestations have grown from 650 to 2500 reports. If you see or suspect a noxious weed problem, please contact the **King County Noxious Weed Control Program** at (206) 296-0290. Visit these websites for more information: <http://splash.metrokc.gov/wlr/lands/weeds.htm> or <http://splash.metrokc.gov/wlr/waterres/smlakes.htm>.

The King County Noxious Weed Control Board welcomes public input on weed problems. Board meetings are held on the third Wednesday of each month from 4:30- 6:30 PM at the Mercer Island Community Center.

Thanks to Jane Wentworth at the King County Noxious Weed Control Program for this article. 🐾

# Bidding adieu

We regret this is the last issue of the *Lake Steward* that can be mailed to our friends and neighbors at lakes **Pipe, Lucerne** and **Wilderness**. All three of these lakes have incorporated into the cities of Maple Valley or Covington and are no longer part of the service area for the King County Lake Stewardship program.

We have enjoyed many successes working with the communities around these lakes! Together we initiated aquatic weed management on Lake Wilderness and helped form a new lake management district. We are also well on our way to eradicating hydrilla from lakes Lucerne and Pipe.

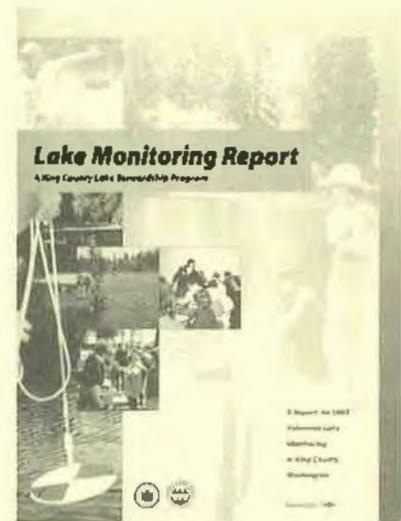
Although volunteer monitoring continues on these lakes through a special appropriation by the County Council, this newsletter is supported solely by the County's surface water management fee that is only collected in unincorporated areas.

When communities incorporate, the new jurisdictions choose which services to provide themselves or contract from the County. Neither Maple Valley nor Covington opted to contract Lake Stewardship services. Thank you for your enthusiasm and interest in protecting these valuable resources! We wish you the best! 🐾

# Lake monitoring annual report

Each year, dedicated volunteers in King County collect data on their lakes. These data are used to assess the quality of area lakes and are reported annually to provide citizens, scientists, lake managers, and other interested individuals with current information on the health of King County lakes.

The 1997 Lake Monitoring Report is now available. This report summarizes lake water quality and quantity information. The report contains a summary of data collection methods, a presentation of water quality by individual lakes, and a comparison of lake quality for participating lakes.



If you are interested in looking at the report, contact your lake monitor, visit your local library, or call **Sharon Walton** at (206) 296-8382 to order your own copy. 🐾

## Report from the shoreline

# Protecting Shady is a community affair

Shady Lake is a beautiful, placid, 21-acre lake on the Soos Creek plateau and is part of the Cedar River drainage basin. It is a great place to raise a family and has a proactive community for addressing local issues. Property owners and our community council are trying to be good land and lake stewards. Like most of the small King County lakes, Shady has the same issues and concerns, such as water quality, development, new services (gas, sewer), pollution, drainage (in/out), weeds, geese, fishing, monitoring, and the need for public education. Shady Lake residents contribute input and help with the issues as needed.

### Monitoring Water Quality

Water quality has been one of the issues that I have supported ever since the Metro lakes program began many years ago. Monitoring, measuring and gathering statistics on the lake will tell if the lake is degrading or improving. I've noticed that although we have new development, more geese and ducks, and septic tanks, the water clarity, phosphorus, and chlorophyll have not changed much from other years. However, the fecal matter from the increasing geese and duck population has impacted many residential beaches and caused swimmers itch.

### Upgrading services

Our Community is in the process of forming a local improvement district for sewer construction



Wintertime view of Shady Lake.

next year. This addition will increase property value, add service costs, increase taxes and promote more new construction. Those changes will bring new residents to the community and affect the lake differently. Lake monitoring will help determine the impact to the lake water quality and help identify root causes.

### Drainage problems

With new homes and schools being built two years ago in our drainage basin, we have less natural filtration and more drainage problems. The stormwater retention ponds failed upon installation, requiring us to pump ponds and install screens on the in-flow to the lake because of the silt and water volume problems. Drainage is now a problem because the 36 inch out-

flow pipe is deteriorating. With the heavy rains our yards are flooding and some homes have been flood damaged. We are working with the WLRD's Local Drainage Services Unit to get the out-flow pipe replaced this summer.

### Noxious weed control

Shady also has a community noxious weed team that got rid of the purple loosestrife around the shores and they presented weed education to our community. Now, curly leafed pond weed and milfoil are the submerged weeds that are our pests. Ongoing land and lake education materials are provided to the new residents and owners of surrounding properties.

*Thanks to Ray Konecke for this article and for his dedicated work monitoring Shady Lake!* 🐾

# The Nature of Nonpoint Pollution

Have you ever wondered where all the particles go from the burning of oil, gas, or wood? How about the chemicals found in fertilizers and pesticides that are used in agriculture and the maintenance of lawns? These particles and associated chemicals become part of the nonpoint pollution "stew" that contaminates our lakes, streams, and other waterways.

## Defining pollution

Water quality is impacted by both "point" and "nonpoint" sources of pollution. Most of us are familiar with pollution that originates from a single source like an industrial factory. These point discharges are easily identified, measured, and regulated. These discharges also have treatment and permit requirements to meet before being released into surface waters.

In contrast, "nonpoint" discharges are a mixture of pollutants that are washed out of the atmosphere or off a multitude of surfaces to nearby streams and lakes. Because it is so diffuse, nonpoint pollution is much more difficult to identify, measure, characterize, and regulate. Typically, treatment of urban nonpoint pollution only occurs in newer residential or commercial areas via stormwater treatment facilities.

## Accumulation of pollutants

Pollutants are generated from a variety of activities including the burning of fossil fuels, land clearing, driving automobiles, and

the spread of fertilizers and pesticides. Through these actions, we generate dust, heavy metals, petroleum hydrocarbons, and nutrients that are introduced into the environment and accumulate on surrounding surfaces. In the urban environment, these pollutants accumulate on our lawns, streets, roofs, driveways, and sidewalks. With the next big rain, these pollutants are washed away to nearby streams and lakes.

## Washing pollutants away

A hard surface that prevents or restricts the movement of water to the underlying soil is defined as an impervious surface. Examples of impervious surfaces include roofs, walkways, patios, gravel roads, and highways. As the impervious surface area increases, the rate of flow or movement of water from that area to a stream increases while evaporation to the atmosphere decreases (Figure 1).

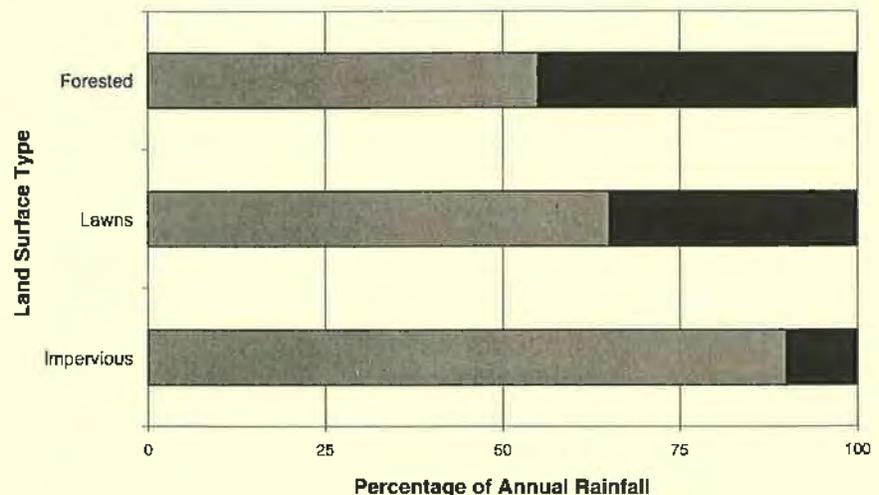
One of the primary ways urban watersheds differ from rural watersheds is in the amount of impervious surfaces present. In a rural, forested watershed, the movement of rain to surface waters is much slower. A notable exception is poorly maintained and compacted pasture areas where manure and soil can be washed into nearby streams, creating a rural nonpoint water quality problem.

## Lake and stream impacts

Nonpoint pollution's impact to surface waters is sometimes hard to detect right away. This detection is slowed both by the variety of pollutants present and the low concentration of individual pollutants in the "stew". However, as these pollutant levels build up over time, the water quality impact increases, resulting in added plant and algal growth and the contamination of bottom sediments.

*(continued on page 6)*

Figure 1. Movement of water from various land surface types



Data from KC Surface Water Design Manual ■ Flows to Stream □ Evaporates to Atmosphere

# Nature of Nonpoint...

(continued from page 5.)

## Protecting water quality

To reduce the impact of nonpoint pollution, many jurisdictions have adopted some form of surface water management guidelines. These guidelines emphasize the collection of stormwater runoff from impervious surface and the treatment of this water in a stormwater facility. These facilities can be found throughout many newer residential neighborhoods but may be totally absent in older developed areas. Additionally, owners of livestock are required to protect water quality by implementing farm management plans.

Most agencies and environmental organizations have educational programs to teach people that their

daily activities and choices affect water quality. You can do your part by maintaining as much of your land as possible in open-space covered with vegetation rather than patios, roofs, and driveways. You can fix oil and gas leaks and reduce the introduction of combustion related particles into the air by using high efficiency furnaces and fuel economical vehicles.

In many instances, nonpoint pollution is a reflection of the choices we make each day. By making small adjustments in our individual habits like carpooling or taking public transportation, we can do our part to maintain good water quality for our lakes and streams. ♻️

## Upcoming events:

### King County Noxious Weed Board

Wednesday, February 17, 1999  
Mercer Is. Community Center  
Public hearing on the 1999  
Weed List; call (206) 296-0290  
for more information

### Naturescaping workshop

Saturday, April 10, 1999  
Learn how to landscape with  
native plants. Call Polly  
Freeman at (206) 296-8359.

### Salmon speakers

Schedule a speaker for your  
group on the Endangered  
Species Act and what you can  
do to help salmon. Call Chris  
Hughes at (206) 296-8029.



KING COUNTY  
Department of Natural Resources

## Water and Land Resources Division

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