

## Home Storm Water Management

### How Low Impact Design Protects Candlewood Lake

Here's the challenge...take the water that hits your roof, driveway and any other impervious surface at your house and get it to soak into the ground before it runs off your property. A few storm water control features make that possible, and they can be low maintenance and simple in design.

When it rains at your house, where does the water go? Chances are that now it runs off of impervious surfaces, follows gravity to lower ground and gains speed along the way. If you're on a hill, the volume of water and the speed gained can quickly turn a rain event into an erosion event. If you live on Candlewood, that water may be picking up contaminants from your driveway or lawn, and carrying them right into the Lake. If you live away from the lake, but within the watershed, your contaminants may be going to the street gutter, into a storm drain, and then towards Candlewood.

When we have significant rain events, such as those we've seen this year alone, the problems are compounded. You have much more water, more erosion and in many cases, so much water running off impervious and other surfaces, into storm drains and to local streams and rivers, that massive flooding is the result.

So how do we take the rain that falls at our homes and help ensure it doesn't contribute to the problem? Paula Moliterno, a homeowner in New Fairfield on Candlewood Lake, has carefully designed their property with that challenge in mind. The Moliterno's were adding on to their home and decided to work with engineer Steve Trinkaus to implement features on her property to deal with the water runoff that rainstorms create. We met with Paula and Steve in September after the recent rain storms, and got a first-hand tour of the property and a closer look at how her "low impact development" (LID) storm water management plan functioned.

The Moliterno's property, like other homes around Candlewood, slopes down to the Lake. Their water runoff started at the road where their driveway began and extended several hundred feet down to the water. Here's how they handled the situation.

1) They installed a rain garden along the side of their driveway. A rain garden is a man-made depression in the ground (usually no more than 18" deep), planted with vegetation, that collects water that runs off impervious surfaces and allows it to absorb into the ground. Water that runs down the driveway is channeled into the rain garden.



Rain garden along driveway

2) Since they have a long driveway, they installed a catch basin at the bottom of it, near the house, which leads to two

See "Home..."pg. 6

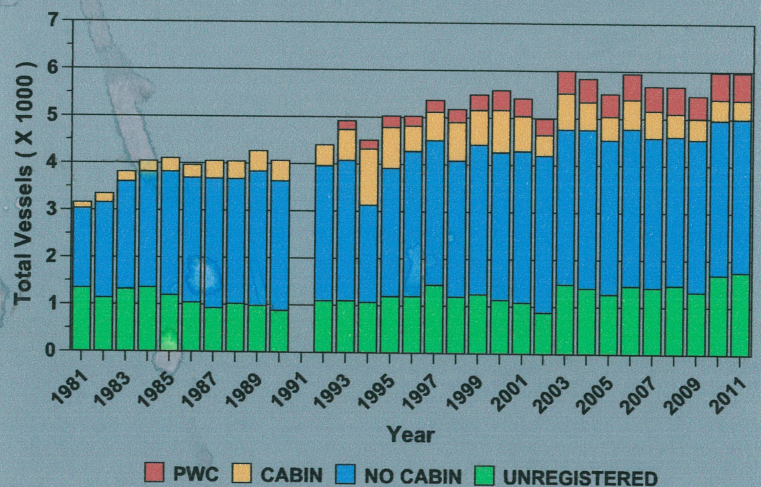


Vegetative filter strip runs along hill's base.

## Candlewood Lake Boat Count

Chart shows historical changes to resident vessels.

2011's numbers look similar to 2010. Total resident vessels in 2011 were 5973, compared to 5978 in 2010. There was a slight drop in boats with and without cabins, and a slight increase in unregistered vessels, which includes vessels such as kayaks, canoes and sailboats that don't require registration.



Year	Other	W/O	W/	PWC
2007	1407	3177	575	527
2008	1458	3151	491	577
2009	1317	3231	452	477
2010	1683	3284	433	578
2011	1748	3245	398	582



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(continued from pg. 5) more connected rain gardens along the north side of their house.

3) They installed a fourth rain garden along the south side of their house to deal with the runoff coming from that part



Filter strip captures runoff.

of their property, which has an overflow drain that leads to the dual rain gardens on the north side of the house.

4) They have a steep slope that runs from their home down to the water so they installed a "filter strip" of planted vegetation just above the 440' line. This planted barrier helps to collect and slow the water that runs down their lawn, before it enters the Lake. The water is absorbed and filtered by the plants and soils there, removing potential contaminants along the way. There is a diagonal path that runs through the filter strip to allow them to pass through on their way down to the water.

The Moliterno's LID stormwater management plan has worked great in its first season with normal rain events and even did well with the recent extreme 100 year type storm events seen recently, though they do plan to make minor modifications (such as adding water bars to redirect water) for those rare massive rain events.



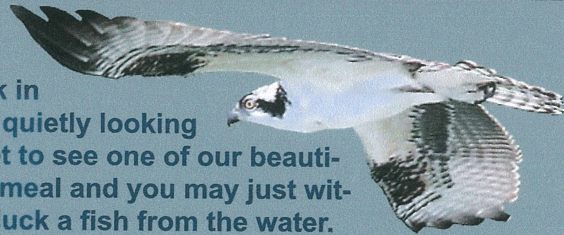
Catch basin collects driveway runoff and directs it to two rain gardens on side of house.



## Get Out and Look Around!

You might be surprised what's in the trees and sky above Candlewood.

That's right, get out on the water when it's quiet and just look around. Slowly cruise the forested shorelines and look in the trees. Turn off your engine and sit quietly looking up in the sky. With any luck you will get to see one of our beautiful bald eagles or osprey looking for a meal and you may just witness one of them swooping down to pluck a fish from the water.



Candlewood osprey takes flight.

The biggest birds you're likely to see high in the sky are the turkey vultures, often seen circling high above, as the warm thermal air rises up off the hillsides pushing them higher and higher into the sky. Keep an eye out for grey heron peacefully watching along the shores, on rocks or in trees, waiting for their next meal to come within range.

What about the many cormorant that populate our active lake? These black birds dive under the water and swim to catch their meals, and when they're not riding low in the water they can often be found standing on rocks or in dead trees (especially on Pine Island) drying their wings.

Candlewood Lake has so those who love nature...just pick a quiet time to head out and observe what's probably already observing you! Do photos on you have any great wildlife

Candlewood? Mail them to [clainfo@earthlink.net](mailto:clainfo@earthlink.net).

A pair of Candlewood osprey watch closely on a dead tree along Vaughn's Neck.

According to Mr. Trinkaus, "One of the beauties of rain gardens is that they can be designed to suit a homeowner's particular taste." They are also low maintenance, as Mrs. Moliterno noted, only occasionally requiring her to skim off a little silt and sand brought in by the runoff.

Looking for more ideas on how to control runoff on your property? [Click here.](#)



Larry Marsicano speaks with Paula Moliterno and Steven Trinkaus about LID design on the property.