Correction:
The letter that came with raffle tickets has an error. Where it says the deadline for mail receipt is Friday 9-5-2015 it should read Friday 9-4-2015. The raffle drawing is on Saturday 9-5-2014 at the Village Inn.

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RALALA Lake Association

Roosevelt and Lawrence Area Lakes Association Newsletter

President’s Letter—by Bob Lee

It has been a remarkably quiet summer for RALALA. Our efforts to raise money for the Woods Bay Aquatic Management Area have come to a successful conclusion, and we are all just waiting for the State to work its way through its pre-closing red tape. Our fundraising for inspections to protect the lakes against AIS have been taken over in large part by Cass and Crow Wing Counties.

Does that mean that RALALA is no longer important? The answer is NO! There are always new challenges to the continued health of our lakes that will require the active involvement of a robust lake association.

As far future challenges go, consider the maps on p.3. The small one inset in the upper right is just an enlargement of our area in the main map. This shows the water quality in our lakes is not all we would want it to be. I think we should devote more time and efforts to reducing these TSI values, first by identifying the causes of the higher index numbers, and then by coming up with plans to address the causes. I suspect that we need to pay much more attention to shoreland improvement and restoration, but on some of the lakes much more than that may be the needed. We will keep you posted on what we learn!

We also have a lot of opportunity to grow. Less than 25% of the lakeshore owners are members of RALALA. Please ask your immediate neighbors if they are members. If they are not, ask them for an e-mail address to send me. I will start sending them this newsletter to try to convince them to join us in protecting and preserving our lakes. Thanks for your help!

Cont’d on p.3

Very Bad News and Very Close to Home

On July 13, 2015, the DNR Brainerd office received a call from a man vacationing at a lake home on Ruth Lake in Emily. The caller reported that his 15 year old son had been swimming in the lake on Saturday, July 11, 2015, and found what he thought was a zebra mussel attached to a rock.

DNR Invasive Species Specialist, Dan Swanson and DNR Invasive Species Intern, Luke Thoma, were dispatched to investigate the report on July 14, 2015. The mussel had been kept on ice in a cooler and was positively identified as a zebra mussel.

The 15 year old explained that he had been snorkeling in approximately 3 to 4 feet of water just off the end of the dock. He picked up a rock and when he turned it over he saw the zebra mussel attached to it.

Dan and Luke then proceeded to search various shallow water areas of... Cont’d on p.9
RALALA sold thirty-eight fresh and frozen pork shoulders for delivery at the start of the Fourth of July weekend. Nothing but rave reviews have come back from those who were smart enough to be buyers. On the evening of the 4th of July, little could be heard at my home other than the munching sounds of my guests. Several of them said this was the best pulled pork they had ever eaten!

We want to thank Minnesota Mike BBQ for doing all of the work of preparing and smoking about 300 pounds of yummmm and helping us raise approximately $1000 to put to good use towards preserving and protecting our lakes. Thanks too to Tracy Jones of Emily Meats who obtained and sold us the pork shoulders themselves which were much bigger than the 6 pounds that we estimated at the time we set prices.

The photos on this page illustrate some of the steps taken by Mike Van Straaten in the elaborate process of trimming, seasoning and smoking these culinary delights.

If you missed this event, I feel sorry for you. We will try to convince Mike to do this for RALALA again sometime, but there are certainly no guarantees. He is keeping very busy competing in various BBQ pitmaster competitions around the country. Based on what we have tasted here, he should be pretty successful in these events!
Tests of Area Lake Water -- 2015 Report

Average Trophic State Index Values (TSI) 2010-2014*

HOW CAN I HELP THE LAKE?
- Divert lawn/irrigation rain water from the lake.
- Water runoff carries gas oil, antifreeze, organic matter, pesticides, herbicides, and sediments carrying phosphorus.
- Buffer strips of vegetation slow water runoff and act as a filter for harmful substances.

WAPOA tests water on over 30 lakes. The result is a "TSI number." For every 1 point increase in TSI there is a 10% increase in algae in the water. Rain water running from lawn to lake carries sediment with phosphorus attached. Phosphorus is needed to produce algae. Your lawn's 1 pound of phosphorus will produce 500 pounds of wet algae.

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Pontoon Parade Grows in Popularity

This year’s 4th of July Pontoon Parade was more popular than ever before. More than 20 boats participated, most with full loads of paraders. Kids especially seem to enjoy this event and get a kick out of helping decorate the boat.

Some things never seem to change, however. Kirk Myers and family (see ads for his businesses on this page and p. 5) once again snatched the prize for the best decorated boat. Check out that Statue of Liberty! It is not a statue. It is Kirk himself in full costume. Aficionados of this event will recall that he also won last year dressed as General George Washington. At least he didn’t have to hold that torch aloft for so long!

If you haven’t participated in the last couple of years, you should consider it next year. It is a fun event and the best decorated boat wins a bottle of wine. The competition is stiff, however!

RALALA Golf Shirts!

We have RALALA logo golf shirts available. You can order them on the website, www.ralalalakes.org, or at our booth at the Lion’s Corn Feed where you can see a sample of the shirt.

Online ordering is easy, just select the merchandise tab. You will see the order form that looks like the page at right. Just click on the image, fill out the online form, and pay via PayPal. If you do not have a PayPal account or don’t have internet access, and want one or more of these shirts, call 612-710-2756. We will take your order and give you an address to which you can send your check.

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<thead>
<tr>
<th>Merchandise</th>
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<tr>
<td>Men's Polo Shirt $23.00</td>
<td>Women's Polo Shirt $23.00</td>
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We need a minimum order of 24 shirts and only have orders for 20 so far, so we need orders for another four shirts. We cannot place the order with the manufacturer until we get the minimum order number. If we don’t get them by the end of August, we will refund money to all those who have paid.

These shirts are really a bargain. We are not marking them up, so you are paying our wholesale price for the shirts. What a deal that is!

Your shirts will have to be picked up here in the Emily-Outing area, because we do not have the ability to ship. We will alert you when they are here and ready for pickup.

Don’t be left out. Show your RALALA colors!
Boaters and anglers are encouraged to “Think Zero”: Zero spread of aquatic invasive species (AIS) and zero violations. The Minnesota Department of Natural Resources holds Think Zero weekend annually to raise awareness of efforts to stop the spread of aquatic invasive species in the state.

The number of people violating AIS laws in Minnesota is significantly decreasing each year. The preliminary violation rate for 2015 is 11.6 percent, compared to 17 percent in 2014 and 23 percent in 2013. DNR Enforcement Operations Manager Todd Kanieski said a wide range of factors are contributing to the decline.

“More people than ever before know and follow Minnesota’s laws to prevent the spread of aquatic invasive species,” Kanieski said. “In addition to expanded efforts by conservation officers and the use of AIS-sniffing K9s, we have a record number of watercraft inspectors across the state in 2015.”

In addition to the 100 DNR watercraft inspectors, more than 660 inspectors have been hired by local governments and trained by the DNR. These inspectors are managed locally and have the same authority as DNR inspectors.

Boaters and anglers are reminded of their legal requirements:

- Clean aquatic plants and animals from watercraft.
- Drain all water by removing drain plugs, and keep drain plugs out while transporting watercraft.
- Dispose of unwanted bait in the trash.

The DNR also recommends that boaters:

- Spray boat with high-pressure water;
- Rinse boat with hot water (120 degrees for two minutes, or 140 degrees for 10 seconds); or
- Dry boat and equipment for at least five days.

For more information about aquatic invasive species, visit www.mndnr.gov/ais.
Lessons Learned at Christmas Lake by Dr. Susan Galatowitsch, Director, Minnesota Aquatic Invasive Species Research Center

Many of you have probably already heard – and possibly felt dismayed by – the recent news that divers discovered ten zebra mussels in Christmas Lake after it was treated using Zequanox, copper, and potash last fall and winter.

The efforts at Christmas Lake are not part of a controlled experiment, rather a real-life rapid response attempt by lake managers to kill a newfound infestation of zebra mussels. MAISRC researcher Dr. Michael McCartney has been serving as an advisor to the management team led by Minnehaha Creek Watershed District and the Minnesota Department of Natural Resources.

“Participating in an open lake treatment such as this has been an extremely valuable opportunity,” says McCartney. “It’s more challenging to get the cause and effect data without controlled conditions, but we are still able to learn important lessons that will guide future attempts.” Some of what McCartney says he has learned from this experience includes the following:

- **We now have a better estimate of the short term mortality rates achievable with pesticide treatments.** Under open-water conditions such as Christmas Lake, treatments showed that pesticides killed 100% of zebra mussels in the treatment area, and approximately 98% of zebra mussels in the lake. This is among the highest kill rates ever documented for an open-water treatment of zebra mussels and is overall a very positive outcome. The long-term impact this will have on the lake population of zebra mussels, however, is still unknown, and will require longer-term study of lakes, including Christmas.

- **Removing the impermeable barrier in a timely fashion is important.** Marrone Bio Innovations (the manufacturer of Zequanox®) recommends leaving an impermeable barrier in place around the treatment area for a maximum of 24 hours. When left longer, as happened at Christmas Lake, a decline in dissolved oxygen can occur for as long as the barrier is retained, which increased the risk of impact to non-

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target organisms. This also complicated the conclusion that zebra mussel mortality in the first treatment was due to Zequanox® and not also to the lack of available oxygen, and it confounds the evaluation of Zequanox® mortality from this open water treatment.

- **There are challenges in maintaining proper pesticide concentrations in open water scenarios.** The second treatment at Christmas Lake used the EarthTec QZ® brand of copper sulfate. Workers discovered that upon application, concentrations of the pesticide dropped rapidly – to below the lethal level for zebra mussels. This prompted the need for continued monitoring and adjustment of concentration of the pesticide to maintain the lethal dose. It is hypothesized that this drop is due to uptake of the copper sulfate by lake organisms – probably algae – however this remains to be further studied.

- **Under-ice application of Potash is not a viable option at this time.** Researchers discovered that it was too difficult to maintain evenly dispersed, toxic doses of potash when applied under the ice. It is not clear to what extent these problems related to cold water or to restricted water circulation. Potash may still be a viable option during warmer months if permitting and labeling regulations allow for it.

- **Scientifically-based survey methods are needed to establish treatment areas and to evaluate treatment outcomes.** When divers searched for signs of mussels in April, they came up empty, suggesting that no mussels remained in the lake after treatment. In May, workers searched again and found ten adult mussels just outside the treated area. Survey and census methods prior to treatment may be improved as a result, to give future workers a better chance of making the treatment area large enough, given uncertainty in the spatial extent of an infestation. Improved survey methods after treatment, developed in part from lessons learned on Christmas Lake, are expected to also give future workers a clearer view of the abundance and distribution of the lake zebra mussel population. This information is needed to better evaluate how the lake population responds to the treatment, and to plan any follow-up efforts.

- **Prevention is still the best option.** The scenarios being tested at Christmas and other lakes are those in which the infestation has been detected before the zebra mussel population has expanded or dispersed beyond a very small area (in Christmas Lake, infestation was initially believed to be confined to ~0.1 acres). Whole lake treatment by any of these three pesticides is not a viable option due to cost, non-target impacts, and technical challenges including those described above. Much work is needed to understand potential controls for zebra mussels. In the meantime, the best option for our lakes and rivers is to prevent these species from being introduced in the first place.

While McCartney continues his research on understanding pathways of zebra mussel spread in Minnesota, he is also working to expand his research portfolio by evaluating the long-term effectiveness of pesticide use to control lake populations of zebra mussels. As part of this additional effort, McCartney will focus on developing and refining sampling protocols to be used in future pesticide treatments. Not only will this potentially improve treatment results, it also will allow for the collection and sharing of data so other managers around the state can learn from these early efforts at Christmas – and other lakes as well.
Crow Wing County Land Services has released test results confirming 30 area lakes remain free from Zebra mussels. Partnering with local lake associations to collect water samples, testing was conducted on many lakes within the county for veligers, larval-state Zebra mussels, an aquatic invasive species (AIS). No veligers were detected in any lake tested.

“These results show boaters are all doing their part to prevent the spread of Zebra mussels,” stated Mark Liedl, Land Services Director. “Boaters are meeting the challenge and committing to doing the right thing to limit the spread of AIS in county waters.”

Veliger testing is the best method of early detection for the possible presence of zebra mussels in a body of water. Samples were collected during late June through August, when the concentration of veligers in the water column is the highest. The presence of veligers was not detected in any lake sampled, including popular lakes such as Bay, Hubert, Kimball, Horseshoe, Edward, Clearwater, Crooked/Portage, Upper & Lower South Long, Upper & Lower Mission, Crow Wing, Platte, Rabbit, and East/West Fox. Land Services plans to complete testing on additional lakes before the end of the summer.

Information about county AIS prevention efforts, including a complete list of lakes tested, interactive maps to search for the status of area lakes, and a map showing the location of the County’s AIS decontamination station in Crosslake can be found on the web by visiting www.crowwing.us, and searching for “AIS.”
the lake for zebra mussels. Luke did find one more zebra mussel attached to a tree branch.

Both zebra mussels found were adults (18 mm & 21 mm in length). A GPS was used to record way-points at the locations where the two zebra mus-sels were found. The initial search track and loca-tion of the mussel finds are shown at right. The DNR has done additional, more extensive surveys of the infestation in Ruth Lake. See, however, the results of veliger testing described on page 8. Ruth was among the lakes tested and results were negative. The DNR’s subsequent searches (including veliger testing of water samples) have all come up negative. No one has yet been able to offer an explanation for the adult mussels found versus these subsequent negative test results.
RALALA
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