Starry Stonewort Hits Lake Koronis

On August 28th the Department of Natural Resources (DNR) issued a press release announcing that Lake Koronis has the first known Aquatic Invasive Species (AIS) infestation of Starry Stonewort in Minnesota. It was found upstream into Mud Lake, throughout the Hwy 55 DNR access bay, and extends out into the lake in the Southeast bay to Stone Gate point. They had also taken random samples around the lake and the islands and found no other evidence. As part of the investigation they sampled several lakes within about 10 miles of Lake Koronis just at the access points to see if they could find any more of the invasive, with no positive results.

So what is Starry Stonewort? It is a plant-like macro alga that grows into a large very dense mat. So dense it is thought that it interferes with fish spawning. It is similar to muskgrass which is a native plant that is found in Lake Koronis. It has a green colored stem that goes to a bulb and splits to several branches, sort of like umbrella spines. From one of these spines a very small clear filament could extend that looks like very small delicate fishing line. On that clear filament small white star shaped bulbils can be found. They are very tiny but perfect stars. The clear filament and the stars are not always present. The plant stem and branches feel smooth to the touch and when broken sort of “pop” and the inside of the algae can be squeezed out leaving the remaining “skin” clear rather than green. It is thought that the algae can grow and spread from intact fragments as well as the stars. Muskgrass does not have these stars, will not “pop”, and feels rough/course to the touch.

The nearest lake infestation that is known is in Wisconsin (6 lakes). About 230 lakes are

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Reference: Schloesser et al. (1986)

Illustration: R. K. Brown
Welcome to the Fall Edition of the KLA newsletter. Our perfect summer weather seems to be continuing making this time of the year even more beautiful. My column is short so please read the newsletter to gain the information you will need on our current lake situation. I have highlighted a few topics that I felt were important below.

1. Starry Stonewort – As most of you are aware, it was announced on August 28th that Lake Koronis is the first lake in MN to be infested with the aquatic invasive species “Starry Stonewort.” I am saddened, baffled, and very concerned about where this will take us as we move forward in combating it. The KLA Board is very much taking a proactive approach when dealing with the various government agencies (MN DNR, Stearns and Meeker counties, City of Paynesville, and the Paynesville Township). Some very bold and necessary steps have been taken by these agencies to combat this very aggressive aquatic invasive species (i.e., immediate treatment, closing accesses, etc). The treatment will not be an immediate fix, as they are only going to treat 4 out of the 253 acres, however it will be an indicator as to if it will be effective in keeping it at bay. The KLA Board is working hard to protect Lake Koronis and will continue to do so. Please read the front page article on Starry Stonewort to become informed and up to date on the most recent activities.

2. Membership – I would like to report that our membership was up for 2015 but not yet at the level it should be. As of mid-September our regular individual/family members were at 258 (up 22 from last year) and we had 20 business memberships (up 2 from last year). Our goal was a 50% participation rate and we ended up with 42%. With the recent AIS infestation of Starry Stonewort memberships in KLA are going to become even more important, as the cost of treating this will take up a lot of our funds. This will not be a cheap fix and could be a very long battle. So please keep us in mind and think about increasing your contribution for next year. We appreciate any and all contributions. If you have not joined please give serious thought to being a member.

3. Annual Meeting – The KLA Annual meeting was held at Veterans Park on July 11th. Presentations were made by the KLA Board, Paynesville Township, North Fork Crow River Watershed, and Nick Brown, AIS Specialist DNR – Hutchinson. Two new board members were elected: Matt Brauchler and Jeff Erdmann. See their bio’s in this newsletter. I would like to thank outgoing board members, Diane Rittenhouse and Bert Stanley for their dedication and service to the board. We will miss them but look forward to working with our new members. I would also like to thank the current board for the hard work and dedication that they have put into the year. There are some very challenging issues that we face and they have dug right in to tackle them. Not only do they work well together but they are also a great group to work with!!

Please read the articles in this issue to stay informed and up-to-date on our activities. Enjoy the fall and remember “there is no place like Lake Koronis.”
New Board Members  

By Karen Langmo, KLA President

I would like you to welcome our two new board members. Be sure to introduce yourself if you see them around. They will be great additions to the KLA Board.

**MATT BRAUCHLER**

Matt Brauchler lives on the east side of Lake Koronis with his wife Becky and two kids. The area used to be his great grandparents resort called “Unger’s Resort” before his time. He has spent nearly every summer day at the lake or on the farm growing up and has many fond memories of the lake and continues to make new ones with his family. He graduated from Paynesville High School in 2000 and went on to complete his undergrad and master’s degree and stayed in Paynesville. He is a technologist as heart and has spent 13 years working in the technology field. He intends to bring that knowledge to the KLA board knowing the future lake owners will demand a more connected KLA and meet their growing tech needs. Matt currently works as a Senior Database Administrator for a company in Lee’s Summit Missouri and works from his home. You’ll often see him fishing off his dock over lunch.

**JEFF ERDMANN**

Jeff has connections to the lake on his father and mother’s sides. His grandchildren and various cousins are fifth generation on one side, and six on the other to enjoy “going to the lake.” Currently lives in St. Cloud with his lovely wife Ann. A long time lake association member, Jeff looks forward to helping maintain the good things and improve the problems facing Lake Koronis.
**AIS...Story from page 1**

infested in Michigan and 1 in Indiana. So it had to have gotten to Koronis via an out of state visitor. It is unknown how long it has been here as it is unknown how fast it grows. It will out compete the native plants and also out competes Eurasian Milfoil. DNR estimates that it has been here over 3 years. Some literature claims that it grows at a rate of 1 acre per 3 – 4 weeks. But it is unsure if what we have will be that aggressive. The reality is that most literature is unsure of many things on this species. It really hasn't been studied much and not a great deal of information is known.

So what is happening? The Koronis Lake Association has three main goals that we are trying to execute against:

**Goal 1** – STOP the spread of Starry Stonewort to other lakes and rivers.

**Goal 2** – MINIMIZE the impact / spreading of Starry Stonewort to other areas within Lake Koronis.

**Goal 3** – STOP the potential addition of other aquatic invasive species into Lake Koronis.

These goals have been supported with letters to the DNR Commissioner and copies to Governor Dayton from Stearns County Commissioners, Stearns Coalition of Lake Associations, and KLA.

The Koronis Lake Association along with the Stearns Coalition of Lake Associations, North Fork Crow River Watershed District, and the Stearns County AIS...Story on page 6
Docks, Boat Lifts, Swim Rafts, and Mooring Buoys are of particular concern because they sit in water for extended periods, giving zebra/quagga mussels an opportunity to attach themselves.

1. If you buy or sell a used boat lift, dock, or swim raft, inspect it for mussels and let it dry for at least 21 consecutive days in open air and full sun before moving it to the next water body.

2. Thoroughly inspect all surfaces of your boat lift, dock or swim raft. If you find any mussels, scrape them off and kill them by crushing them. Dispose of the remains in the trash.

3. Remove all plants and mud from your boat lift, dock or swim raft. Dispose of all material in the trash.

4. Use a Lake Service Provider that has a permit from the Minnesota DNR to take your dock and lift in and out of the water. They have been properly trained by the DNR to avoid spreading Aquatic Invasive Species.

Minnesota law requires a 21 consecutive day drying time before placing a dock, boat lift or swim raft or water-related equipment in another water body.
Committee (Stearns County Commissioners) are working with DNR to come up with a plan of attack. The first thing that all have requested of DNR was the closing of the DNR access at Hwy 55. This area has what is believed to be the heaviest infestation. By stopping the transient boats from coming in and out of this access and staying out of these areas, it reduces the risk of moving the infestation through the lake. More importantly this helps stop movement out of Koronis to other lakes. It is simply a risk reduction tactic. Moving entrance and exit to other access points can only help. DNR initially refused to close this launch and just stationed a DNR inspector 7 days a week at this launch site. Since the initial evaluation, DNR scientists have decided that a chemical treatment of a 4 acre section in the access bay, up into Mud Lake, and into Koronis was warranted and closing of this launch for the re-
remainder of the year would be the best way to make this treatment the most successful. Treatment of this species is new to DNR and this type of experiment is necessary to help Koronis as well as any other discovered infested lakes. Other treatment options were also reviewed, such as seining the plants in small areas. KLA was concerned about the options that are available as each has positives and negatives. Although DNR has the ultimate responsibility, we are concerned that DNR has not acted as urgently as we would have liked in this matter as well as their non-aggressive approach to protecting the lakes of the state. We have had many contacts from other Lake Associations, and Coalition of Lake Associations urging KLA to take swift actions. This urgency issue has been addressed by the DNR’s own AIS Advisory Committee.

On Sept. 28th DNR asked that the City of Paynesville, the Paynesville Township, Stearns County and Meeker County, the access owners on the lake, along with KLA work together to determine the best launch to leave open the remainder of the year and close all other launches for access and exit to the lake. This action is based on and in agreement with our Goal number 1, to protect the other lakes of the state from the spread of Starry Stonewort. It is not a perfect action but having an inspector at that launch is the best defense for protecting the other lakes as well as helps Koronis from other incoming invasive species. Thanks to the cooperation of each of these groups it will be the Veterans Park launch that will remain open the rest of the year.

So, what can we do? KLA is anticipating bringing in one of the few experts in the US that have studied Starry Stonewort to help us make a decision on our short term action plans as well as our long term plans. DNR has been surveying the rest of the lake, looking for small pockets of Starry Stonewort that can be eliminated for the short term. With so little information available on this species and not knowing how it will behave in our lake, it is difficult to understand what the future holds for the lake. We are in contact with the University of Minnesota AIS Research Center asking for their scientific help. The difficulty faced is that with an infestation area estimated by DNR of 253 acres eradication seems highly unlikely.

At this time, the most prudent actions we can take are to work with DNR to make their treatment successful and educational, get marker buoys in the area showing the highest level of infestation to keep people out of the treated area as well as stopping them from chopping up more of the Starry Stonewort with their motors, move access and exit to a single launch site the rest of the year where an inspector will be located, get ourselves educated, and plan for our attack next spring. We ask for your cooperation in each of these areas, as we are all in this together.

KLA will continue to meet with DNR and work hard to protect Lake Koronis and the other lakes of the state. Hopefully, DNR will allow us to do our best!

The nearest lake infestation that is known is in Wisconsin (6 lakes). About 230 lakes are infested in Michigan and 1 in Indiana. So it had

AIS...Story on page 11
Boat Parade, Fireworks and Picnic

We once again had a fabulous assortment of food for our pot luck picnic held Aug 22 at the Veterans Park. We had a smaller turn out than we would have had if the weather would not have deterred some of you. Hopefully you all had a good time visiting with neighbors and meeting new acquaintances from around the lake. Thanks to all of you for showing interest in our beautiful Lake Koronis. KLA enjoys having this event and will continue to do so next year.

Our fireworks display was a great success again. We will continue to have it from 1st Island (the Saturday before the 4th next year) We wish to thank everyone who helped get the fireworks to the island, for providing transportation and for the Heitke’s for allowing it to occur on the Island. Thanks so much!

6 Fabulous Women

BlessingWell Gallery & Frame Shoppe
320-243-7580 – Area Art, Gifts, Framing
Ben Around Books – Old Fashioned Charm
320-243-7575 – 1000’s of books Must see.
A Little Retail Therapy
320-894-0325 – Clothing, Purses, Home Décor
Just a Little Moody – Open Saturday Only
Soaps, Bath and Beauty Products, Antiques
Sweetwater Cotton Shoppe
320-243-4436 – Quilting Supplies & Quilts
Sweet Nook Bakery
320-243-7888 – Daily Lunch Specials, Bread

Photo Courtesy of the Paynesville Press
The 2015 Watercraft Inspection Program on Lake Koronis continued as it had in the past. Thanks to the help of the North Fork Crow River Watershed District (NFCRWD) who signed the DNR delegation agreement and managed the program we again were able to get many hours of inspection not only on Lake Koronis, but throughout the watershed. This year we had received a DNR Inspection Grant as did Rice Lake. Our funding supporters were Paynesville Township, City of Paynesville, Meeker County, Union Grove Township. The NFCRWD received a very nice grant from Stearns County (State AIS funding passing through the Stearns County AIS Committee.) Lake Koronis, Rice Lake, and NFCRWD all received grants from DNR to help pay for their inspectors at launches. At the time of printing for this article, we still have not received our inspection data from DNR. We will receive that over the winter and will report to you later on the results of our inspection.

Just to make a comment on the recent announcement of Starry Stonewort in Lake Koronis. It is difficult to know just how this invasive came into the lake or how long it has been in the lake. We may never know and for the most part knowing really won’t change our actions. But here is a best guess. From the DNR data it looks like the area of infestation is at the inlet of the North Fork Crow River to the lake. This can mean that it arrived in the lake via a transient boater that launched at the Hwy 55 access. The growth goes quite far out into the bay in this area. This probably means that it has been there for several years, we will never know for sure. Some literature says it grows 1 acre per 3-4 weeks and with the size of the infestation, initial estimate of over 50 acres will be extended, this would indicate that it has been around for several years (4-7 years). This is the third year of our inspection program. So it is most likely that this came in before we even started. (DNR agrees) But the reality is that looking for these tiny stars on a transient boat is very difficult. (See other article in this newsletter describing Starry Stonewort.) So don’t negate the good work our inspection program has done for the lake. Had it not been in place think of the other invasive species we could have in the lake today.

As soon as we get this year’s data, we will share in the newsletter and on our website. Thanks to all of our past supporters and especially to you Lake Association members that have contributed extra money to this program.
Thank You For Your Support

“The KLA Board would like to thank the Lake Koronis residents, families, businesses and organizations listed below who contributed to our association for 2015.”

2015 KLA MEMBERSHIPS

Ackerman, Tom & Nancy
Altmann, Rob & Lynn
Alwin, Jodie
Ampe, Peter & Donna
Amundson, Paul & Nancy Leitch
Anderson, Algerone & Linda
Anderson, Dan & Jean
Anderson, Karla
Anderson, Louise
Anderson, Mike & Rita
Anderson, Paul & Julie
Arend, Robert & Sue
Arnold, Art & Theresa
Baker, Merrill & Barbara
Balik, Bill & Janell
Bast, Jeanette
Becker, Tim & Edie
Behrends, Scott & Annette
Benson, Keith & Sarah
Biederfwold, Jerry
Blagen, Merrily
Bormann, Gerald & Priscilla
Brachler, Matt
Brock, Steve & Vicki
Brossard, Ron & Rita
Brown, Dave & Andy
Brown, Lori & Blair Hagen
Bueche, John & Sarah
Buer, Philip & Romell
Burlingame, Todd & Mary
Burton, Matthew & Amy
Cameron, Dave
Campbell, Jack & Linda
Carr, Mike
Casky, Steve & Heidi
Christopherson, Vinal & Bev
Clendennen, Charles & Condon, Gary & Delores
Conlin, Phyllis
Daby, Ralph & Kris
Domeier, Connie
Dreyling, Roger & Carol
Drimmel, Jim
Dundore, Steven & Jean
Durant, Doug & Mary
Eben, Roland & Mary
Edmonson, George & Ann Murray
Ellingson, Alden & Jeanette
Elliott, Dan & Gloria
Ellis, Jim & Nancy
Elseth Jim & Lois
Engelmann, Roger & Peggy
Enninga, Daryl & Pamela
Erdmann, Andrew & Vicki
Erdmann, Jeff & Ann
Ernst, Steve
Euerle, Greg & Sharon
Eyre, Ted & Sue
Fagerberg, Paul & Barb
Fangmeier, Harold & Agnus
Farrum, Kevin & Carolyn
Felling, Jim & Becky
Ferrell, Gary & Anne
Fischback, Scott & Michelle
Franta, Michael
Freking, Gene & Marge
Fuchs, Rick
Fuchs, Virgil & Jane
Gaspard, Dale & Terri
Gerlach, Pat
Getzel, Joan
Giff, Jim & Tammy
Gilles, Thomas & Lois
Grages, Don & Mardonna
Grave, Earl & Pearl
Grimsrud, Eric & Melissa
Grotto, Von & Kris
Gustafson, Harold & Beverly
Haag, Paul & Sheila
Haagenson, Dean
Haagenson, Steve & Kris
Haglund, Wesley
Hahn, Gilbert & Judy
Hammer, Dave & Cheryl
Hammer, David & Kathleen
Handt, Mary
Hansen, Calvin & Nancy
Hansen, M.H. & Colleen
Hansen, Steve & Chris
Hansen, Wayne & Pat
Havemeier, Brad & Jennifer
Havemeier, Kenneth & Marion
Hedrickson, Dorothy
Heitke, Shari
Henderson, Bill & Kris
Hendrickson, Richard & Jean Ann
Hendrickson, Tom
Herfindahl, Grant & Hege
Hess, James & Marjorie
Hess, Ken & Lynnae
Hess, Roger & Sharon
Hofmann, Jeff & Kathy
Holm, James & Theresa
Hunter, Gerald & Donna
Huselid, Boyd & Kathy
Ingalsbe, Dave & Barb
Jacobson, David & Stacy
Jacobson, Peter & Lynne
Jensen, Bart & Valerie
Johnson, Dick & Carol
Johnson, Roger & Geri
Johnson, Russ & Susan
Johnson, Todd & Lois
Johnson, Tom & Kari
Kahle, Warren
Kahle, Wayne & Margaret
Keller, Bill & Diane
Klein, John & Deanna
Kobienia, Brian & Kimberly
Kodet, Allan & Diane
Kosel, Gary & Carol
Kramer, Eugene & Carol
Kroells, Jeff & Carlean
Kucera, Brent & Rachel
Lammers, Thomas & Peggy
Langmo, Greg & Karen
Langmo, Keith & Barb
Larson, Howard & Janice
Larson, John & Marcia
Larson, Kirby & Sally
Laubach, Priscilla
Lehman Don & Helen
Lien, Yolanda
Lindbloom, Tim & Deb
Lindmeyer, Gary & Jean
Lindquist, Darrel & Jean
Lindseth, Michael & Karlene
Lokkesmoe, Brian & Kay
Loomis, Jim & Betty
Lopez, Manual & Lil
Lorentzen, Ronald & Patricia
Lura, Paul & Carol
Macon, Marty
Mail, Keith & Sandi
Martinka, Jim & Kris
Masog, Paul & Michelle
Mason, Darrol & Dianne
Mathiowetz, Brian & Ronda
Mathiowetz, Mary Lou
Mayer, Louis & Lilian
Merrill, John & Sheila
Meyer, Dale & Shirley
Meyer, Michael
Michalski, Will & Deb
Milinkovich, Jim
Minar, Cushman
Moldaschel, Charles
Mor, John & Donna
Morgan, Bruce & Anne
Mosely, Ryan & Sandy
Mueller, Norma
Murphy, Kathy & George Daniels
Naujokas, Alex & Laura Baden
Naujokas, Otto & Nancy
Nehring, Wes & Lois
Neyens, Eugene & Carol
Nielson, Phyllis
Nokleby, Bruce & Pat
Nolte, Bruce & Mary
Nonweiler, Gene & Ann
Nugent, Lora Lee
Olmscheid, Lee & Melissa
Olmscheid, Rich & Kathy
Olsen, Jay & Sandy
Olson, Christopher & Kathleen
Oman, Paul & Sharon
Opdahl, Clark & Cindy
Ostend, David & Karen
Paetznick, Dan & Kay
Pagel, Darwin & Marcie
Pederson, Bob & Susan
Peichel, DDS Cabin
Peifer, Art & Daralyn
Peterson, Neoma
Peterson, Ron & Rosie
Peterson, Steve & Mary Wilken
Pietzch, Brandon & Elizabeth
Pietzch, Don & Elvon
Plath, Helen
Putzke, Michael & Susie
Quigley, Tim & Pam
Ramm, Angela
Reinke, Randy
Revier, Charles & Helen
Rittenhouse, Art & Diane
Roback, Robert & Lois
Rome, Dave & Jan
Salz, Gary & Vicky
Sames, Michael & Susan
Scanlon, Leon & Cheryl
Schafer, Randy & Susan
Schmidt, Don & Judy
Schmidt, Shannon
Schmitt, Jim & Lynn
Schmitt, Kris & Penny
Schmitt, Howie & Barb
Schrupp, Timothy & Megan
Schulte, Harry
Schwarz, Bill & Liz
Seller, Wayne & Jill
Seim, Ken & Nancy
Setterberg, Carol
Setterholm, Glen & Carol
Shaw, Tom & Linda
Skotnicki, Tom
Slack, David & Mary
Solum, Allan & Pat
Sonstegard, Jean
Stanley, Bert & Karen Berg
Strate, David & Betty
Strate, Richard
Sullivan, Steve & Arlene
Swenson, Lavoagh
Teigen, Gary & Rishelle
Thein, Gary & Deborah
Theilein, Harold & Patricia
Thompson, Jay
Thompson, Jim & Rosanne
Thompson, Trent & Judith
Thorman, Dick & Carol
Thyen, Wally & Darlene
Tibbits, Jason & Sara
Tollakson, Allen & LaDaonna
Tomsak, Patricia
Topp, Carol
Torborg, Daniel
Torborg, Jim & Vicky
Truwe, Lee
Truwe, Todd & Shelly
Vagle, Virg & Pat
Vandenberg, Robert & Bonita
Vanderpool, Elaine
Vermeulens, Anthony & Heather
Virant, Bill & Jeanne
Warner, Susan
Webb, Ed & Kathy
Weinzeit, James
Weltz, Carolyn
Wendroth, Lyle & Cindy
Weinberger, Barb
White, Mary
White, Richard
Wiese, Donald
Wilson, Craig & Linda
Winberg, Andrew
Winter, Joseph & Mary
Wurm, Douglas
 Zacrep, John & Lori

2015 Businesses/Organizations

A & C Farm Service Inc.
Ark Agency
Bank of the West
Bug-Bee Hive Resort
Central MN Credit Union
Farmers & Merchants State Bank
Haines Electric
James Anderson Insurance
Koronis Ministries
M & M Lumber
Patrick Flanders Realty
Paynesville Press
Paynesville Sportsman’s Club
Sandy Point Park
Stei Insurance Services
Stony Point Koronis Assoc.
Teal’s Market
Valley Industries
Voss Plumbing & Heating
West Central Sanitation
to have gotten to Koronis via an out of state visitor. It is unknown how long it has been here as it is unknown how fast it grows. It will out compete the native plants and also out competes Eurasian Milfoil. DNR estimates that it has been here over 3 years. Some literature claims that it grows at a rate of 1 acre per 3 – 4 weeks. But it is unsure if what we have will be that aggressive. The reality is that most literature is unsure of many things on this species. It really hasn’t been studied much and not a great deal of information is known. So what is happening? The Koronis Lake Association has three main goals that we are trying to execute against:

**Goal 1** – STOP the spread of Starry Stonewort to other lakes and rivers.

**Goal 2** – MINIMIZE the impact / spreading of Starry Stonewort to other areas within Lake Koronis.

**Goal 3** – STOP the potential addition of other aquatic invasive species into Lake Koronis.

These goals have been supported with letters to the DNR Commissioner and copies to Governor Dayton from Stearns County Commissioners, Stearns Coalition of Lake Associations, and KLA.

The Koronis Lake Association along with the Stearns Coalition of Lake Associations, North Fork Crow River Watershed District, and the Stearns County AIS Committee (Stearns County Commissioners) are working with DNR to come up with a plan of attack. The first thing that all have requested of DNR was the closing of the DNR access at Hwy 55. Since this area has what is believed to be the heaviest infestation by stopping the transient boats from coming in and out of this access and staying out of these areas, it reduces the risk of moving the infestation through the lake, but more importantly helps to not move it out of the lake and carried to other lakes. It is simply a risk reduction tactic, moving entrance and exit to other access points can only help. DNR has refused to close this launch and at this time has scheduled a DNR inspector 7 days a week for several more weeks.

Several other options are being evaluated, chemical treatment of the area and/or seining the plants out of the lake. Eradication seems highly unlikely.

KLA is anticipating bringing in one of the few experts in the US that have studied Starry Stonewort to help us make a decision on the action plan. We are concerned about the options that are available as each has positives and negatives. Although DNR has the ultimately responsibility, we are not pleased with their lack of urgency in this manner and their non-aggressive approach to protecting the lakes of the state as well as Lake Koronis.

KLA will continue to meet with DNR and work hard to protect Lake Koronis and the other lakes of the state. Hopefully, DNR will allow us to do our best!
Lake Koronis 2013 Monitoring Summary

Early season rainfall of 5+ inches in the watershed contributed to high lake levels for most of the summer. It also brought nutrients and sediment down the NFCR into Rice and Koronis Lakes, increasing the amount of algae and decreasing the water clarity (observed from monthly lake samples) during the 2014 summer.

During the 2014 open water season the NFCWD along with volunteers collected lake samples at two locations (LKS-211 and LKN-206) (see map).

In this report you will find a summary of the monitoring results for 2014, along with some long term trends. If you have any questions about these results please contact NFCRWD Chris Lundeen, 320-346-2869, technfcrwdsd@tds.net.

Lake sites are monitored every month during the open water season for water clarity (Secchi disk); temperature, pH, dissolved oxygen, conductivity (YSI multipurpose probe); chlorophyll A, phosphorus and total suspended solid material (Lab samples) contained in the water. Phosphorus content is the primary benchmark used to determine whether lakes are overly inundated with nutrients while chlorophyll-A is useful in determining the amount of algae in a lake. Lake monitoring is accomplished using a cooperative effort between lake association volunteers and NFCRWD staff.

A measure used to quantify these results is Carlson’s Trophic Status (TSI), which is a benchmark for lake water quality. Eutrophic (TSI 51-70): Decreased transparency, lack of oxygen in the lower levels during the summer, weed problems evident, warm-water fisheries only. Mesotrophic (TSI 41-50): Water moderately clear; some probability of no oxygen in the lowest levels during summer.

Aquatic Invasive Species (AIS) - The NFCRWD hired DNR trained AIS boat inspectors, for the summer of 2014 to inspected boats coming into and out of public boat access throughout the NFCRWD. The inspectors went through a survey this each boater and inspected boats to make sure it was CLEAN of plant material and water. Doing these inspections not only protected the waters within the NFCRWD from getting AIS but also educated the boaters about affects of AIS and MN AIS laws. Make sure to inspect your own boat (CLEAN, DRAIN and DRY) before you enter or exit any body of water.

Thank you to the lake associations and their members who assisted with water quality monitoring this year, especially John Hanson, Al Schmidt Bauer, Karen Langmo and Tom Weber.
Lake Koronis Water Quality

The Secchi depth is a measurement of water clarity. Water transparency directly affects the amount of light penetration into a lake. Algae and suspended particles from erosion make the water cloudy and decrease the Secchi transparency in a lake; therefore, the lower the Secchi depth, the higher the algal concentration and lake productivity. (from RMB labs)

Below are the trends (red line) from the Secchi readings for both the LKN-206 and the LKS-211. Although there is not enough years to show a statistical significant trend. You can see a slight increase in water clarity at the LKN-206 site over these years, the LKS-211 site shows no change over these years. It is promising to see the increase in highest readings during the year, this usually happens in the spring of the year.

A healthy lake in this region will have an oxycline during the summer months, this process starts in the spring. Which is shown in the graphs when the DO levels read around zero. This oxycline layer also helps keep the nutrient (phosphorus) rich soil from mixing with the top layer of water, where the phosphorus can increase algae growth during the growing season. During fall the lake turns over and the lake mixes from top to bottom, seen in the graphs, where the temp and DO are more uniform from the top of the water column to the bottom.

YSI Multi parameter probe, is an instrument used to collect water chemistry data. The instrument is lowered into the water column. At each meter the temperature, dissolved oxygen (DO), pH and conductivity, is recorded. The graphs to the right show the temp. and DO readings from 2014.

A healthy lake in this region will have an oxycline during the summer months, this process starts in the spring. Which is shown in the graphs when the DO levels read around zero. This oxycline layer also helps keep the nutrient (phosphorus) rich soil from mixing with the top layer of water, where the phosphorus can increase algae growth during the growing season. During fall the lake turns over and the lake mixes from top to bottom, seen in the graphs, where the temp and DO are more uniform from the top of the water column to the bottom.

What you can do to Improve Water quality

Native Shorelines – Native plants can be a good way to decrease erosion and reduce runoff. Native plants have deeper roots than turf grass, which will help in reducing erosion on your shoreline. When most people think of native grasses they think of weeds, but many native grass and flowers can provide a visually appealing shoreline. Native plants also attract wildlife. Taller grasses and flowers will also deter geese from coming on your shoreline.

No-Mow Zone (buffer zone) – A cheaper version to planting a native shoreline, but will take a longer time for the native plants to grow. There is a seed bank in most shorelines, so even though your shoreline could be turf grass right now, if you stop mowing or weed wiping a stretch of shoreline (5-10 feet or more from the waterline), the native plants and flowers will have a chance to grow.

Other Practices: Rain Gardens, Rain Barrels, low or no fertilizer

There may be cost share dollars to install these practices on your property. Contact the NFCRWD for more information.

All water monitoring data is provided to the Minnesota Pollution Control Agency each fall and combined into a database for use in water quality assessment (http://pca-gis02.pca.state.mn.us/eda_surfacewater/index.html). Current and historical lake data for each site monitored by the district is available online by visiting RMB Labs at www.rmbel.info and utilizing the lake data portion of that site.

2014 NFCRWD work to Improve water quality (Reducing erosion and nutrients transpiration)

Agricultural Practices

• 19 Rock Inlets approved (replacing open tile inlets)
• 3 Drainage Control Boxes
• Wetland Restorations
• Project Development at 2 Locations
• 2 Water Retention/Bank Stabilization areas
• Lake Koronis (Partnered with County SWCDs, CROW and local Lake Associations)

Board Meetings

are the second Monday of each month.

7 p.m.

April - November

1 p.m.

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Brooten MN, 56316

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Fax: (320)346-2410
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Office hours: 8:00-4:30 M-F

YSI Multi parameter probe, is an instrument used to collect water chemistry data. The instrument is lowered into the water column. At each meter the temperature, dissolved oxygen (DO), pH and conductivity, is recorded. The graphs to the right show the temp. and DO readings from 2014.
Please take a moment to thank your legislators for this most important legislation. Even if your legislator did not vote in favor of it, he/she needs to know that it is valued, appreciated, and critical for the health and preservation of our lakes and rivers. A list of our Minnesota legislators is available at www.leg.state.mn.us/leg.districtfinder.aspx.
Lake Quality Committee

By Sue Eyre

Recently Lake Koronis has experienced an abundance of weed along the shoreline. We contacted Scott Mackenthun, a fisheries habitat specialist. He tells us that when bothersome plants that are taking over the water are native, a largescale, offshore treatment would not be allowed. However, residents in the area are encouraged to apply for an APM permit. APM permits extend all the way to 150 feet lakeward and allow channels to open water. I would encourage lakeshore owners to get a channel to open water that could be shared. Users could treat their dock areas to open water that could be shared.

We would achieve a balance in protecting the native plants that are valuable for wind erosion control, nutrient absorption, and fish habitat while also providing recreational access to lakeshore owners. Apply for APM permits here: http://files.dnr.state.mn.us/fish_wildlife/fisheries/apm/apm-app.pdf (check the box to state interest in a channel to open water. Once locations are requested, channels can be created.)

You need both a permit from the city of Paynesville to use the compost site AND a permit from the DNR if you are transporting lake weeks to a compost site. See the KLA website for more information.
“An Association formed to promote the protection and improvement of Lake Koronis”

The KLA Board of Directors does not endorse any of the products or services advertised by businesses in the KLA Newsletter.

“The views and opinions in this newsletter are those of the author’s and do not necessarily reflect the official policy or positions of the Koronis Lake Association.”