

DESMOINES LAKE MEETING 1

Dave Ferris, Burnett County Conservationist Tom Boisvert, Burnett County AIS Coordinator

QUICK DESMOINES LAKE FACTS

Approximately 130 land parcels around the lake.

215 acres

Has a maximum depth of 37 feet, and an average depth of 23 feet.

WDNR states bottom is 99% sand

Fish Include: Musky, Panfish, Largemouth Bass, Northern Pike, and Walleye.

Aquatic Invasive Species (AIS): Banded Mystery Snail, Chinese Mystery Snail, Purple Loosestrife.

https://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=2674200&page=facts

DESMOINES LAKE HEALTH

Excellent.

Some of the highest water clarity in Burnett County.

High native aquatic plant diversity is to be expected in DesMoines Lake.

Let's keep it this way!

As with anything, there is always room for improvement. Often times, lake health can be protected by landowners implementing healthy shoreline practices.

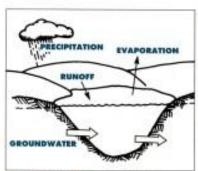
AIS monitoring and control is always an area where work can be done as well.

DESMOINES LAKE - A SEEPAGE LAKE

"A natural lake fed by precipitation, limited runoff and groundwater. It does not have a stream inlet or outlet."

There is no direct way to control water levels – they are under nature's control.

Seepage lakes cycle between "highs" and "lows".



 SEEPAGE LAKE—a notural lake fed by precipitation, limited runoff and groundwater. It does not have a stream outlet.

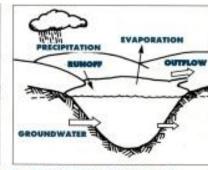


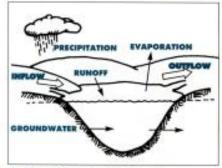
FIGURE 1.

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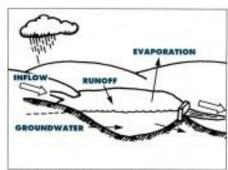
DIFFERENT LAKE TYPES. (LAKGE ARKOWS BYDICATE HEAVY

LAKE TYPES; MAJOR WATER PUPUTS

 GROUNDWATER DRAINAGE LAKE—a natural lake fed by groundwater, precipitation and limited runoff. It has a stream outlet.

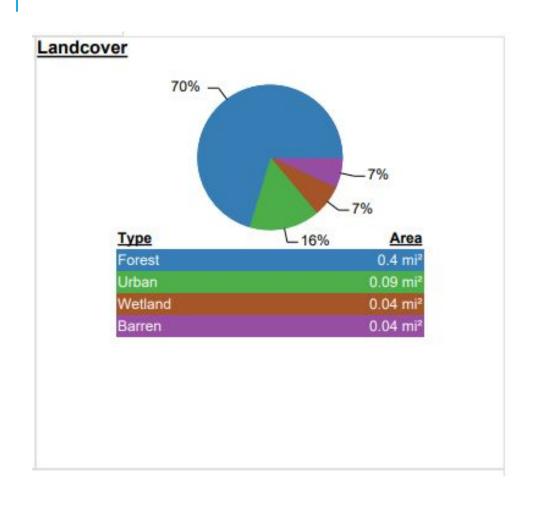


 DRAINAGE LAKE—a lake fed by streams, groundwater, precipitation and runoff and drained by a stream.



 IMPOUNDMENT—a manmade lake created by damming a stream. An impoundment is also drained by a stream.

DESMOINES LAKE – A SEEPAGE LAKE





DESMOINES LAKE – A MESOTROPHIC LAKE

There are three classifications of lakes that describe their trophic state or "productivity."

Eutrophic – Nutrient rich lakes that often have large amounts of plant productivity and high amounts of algae growth.

Mesotrophic – Moderate nutrient levels are present. This leads to moderate amounts of plant and algae growth.

Oligotrophic – Low amount of nutrient levels present. This leads to small amounts of plant growth and very limited algae growth.

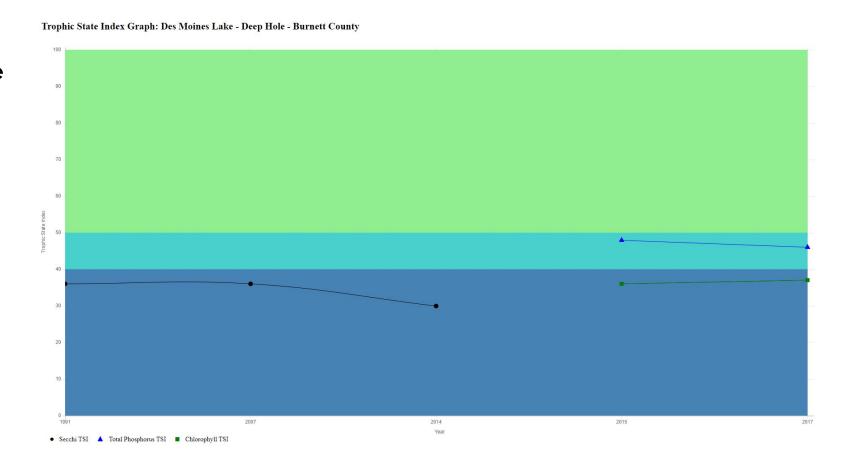
DesMoines Lake would be classified as a mesotrophic lake. DesMoines is in the "middle" for productivity, but leans towards the oligotrophic end.

DESMOINES LAKE – A MESOTROPHIC LAKE

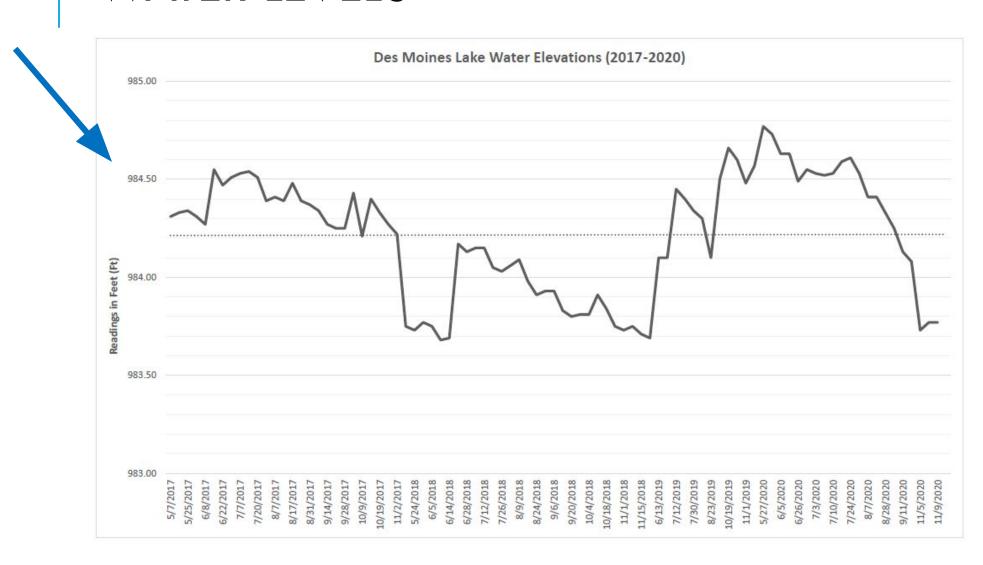
The clearer the water the less algae are present. This can give insight to the lake's productivity.

We use Secchi disks to measure this.

More consistent secchi disk monitoring will show this relationship clearer.



WATER LEVELS



WHY CAN HIGH WATER BE A PROBLEM?

High water often leads to excess erosion on vulnerable shoreline areas.

A combination of high water and high boating activity can expedite erosion problems – the local boating ordinance on DesMoines Lake does help mitigate this to some extent.

When sediments enter the water, nutrients such as phosphorous and nitrogen enter the water as well. Excess nutrients can promote excess plant and algae growth over time.

Once nutrients are in the water they cannot be removed.

1 pound of phosphorous = 500 pounds of aquatic plant growth.

SO WHAT CAN BE DONE ABOUT THE HIGH WATER?

Nothing can be done about the high water levels on seepage lakes like DesMoines. However, steps to mitigate shoreline erosion can be taken.

Restoring/preserving shoreline buffers, rip-rap, shoreline socks, erosion logs, etc. can be used to mitigate erosion problems caused by high water.

Lake users should limit their wake to deeper areas away from shore.

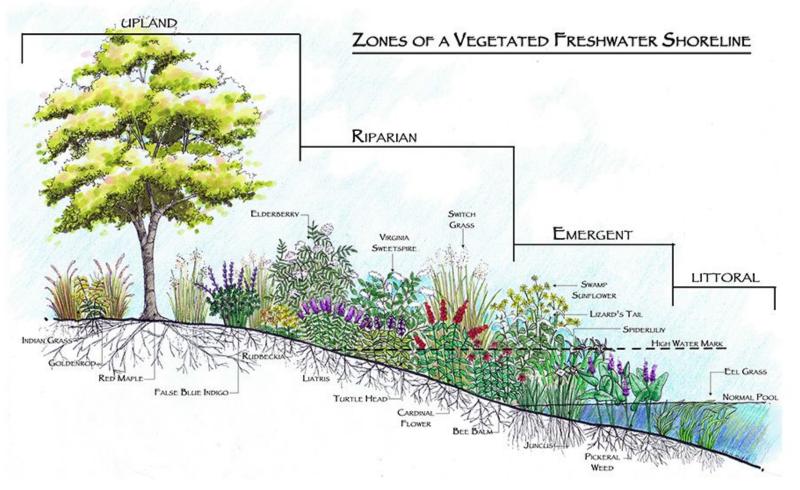
Each shoreline site may need a different solution, and permitting may be required.

WDNR rip-rap website:

https://dnr.wisconsin.gov/topic/Waterways/shoreline/lake_erosion.html

VEGETATED SHORELINE BUFFER

https://www.burnettcounty.com/index.aspx?NID=1121







RIP-RAP



Native vegetation to be seeded from the OHWM to the top of bank along entire shoreline. Woody vegetation, such as shrubs, will compose at least 50% of the seed mixture.

2:1 Side Slope

Filter Fabric

Varying sizes of clean field stone from 6-24" in diameter

SHORELINE INCENTIVE PROGRAM (SIP)

A Burnett County program that promotes natural shorelines, and provides tax incentives and cost sharing assistance to landowners.

Over 750 parcels have been enrolled in the Burnett County Shoreline Incentive Program since it began in 2000. Owners of these parcels receive an annual payment in return for ensuring permanent protection of the shoreline.

For more information please contact the Burnett County Land Services Department at 715-349-2109, email dferris@burnettcounty.org, or use the link below.

https://www.burnettcounty.com/index.aspx?NID=1123

BURNETT COUNTY INVOLVEMENT ON DESMOINES LAKE

Aquatic Invasive Species (AIS) Monitoring:

- AlS Early Detection surveys around the perimeter of the lake (2020 most recent)
- ☐ Boat landing AIS inspections (yearly)
- ☐ Zebra Mussel Monitoring (2020 most recent)
- Purple Loosestrife Control via beetles and manual removal (2020 most recent)

We will discuss AIS further in meeting 3



FISH STOCKING

https://infotrek.er.usgs.gov/doc/wdnr biology/Public Stocking/State MapHotspotsAllYears.htm

Wisconsin Department of Natural Resources Fish Stocking Summary DNR Hatcheries, Ponds, and Coop Ponds

Please Note: The stocking records for the current stocking year will be posted annually after verification by our fisheries biologists. Please contact your <u>local fisheries biologist</u> if you have questions about our current stocking practices.

<u>Year</u> ₹↓	Stocked Waterbody Name	Local Waterbody Name	Location	Species	Strain (Stock)	Age Class	Number Fish Stocked	Avg Fish Length (IN)
2012	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UPPER CHIPPEWA RIVER	LARGE FINGERLING	115	12.80
2010	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UPPER CHIPPEWA RIVER	LARGE FINGERLING	51	12.30
2008	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UPPER CHIPPEWA RIVER	LARGE FINGERLING	230	10.60
2006	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	LEECH LAKE	LARGE FINGERLING	115	11.50
2006	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UPPER CHIPPEWA RIVER	LARGE FINGERLING	115	12.40
2001	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	220	11.30
2001	DES MOINES LAKE	Sucker	41N-14W-28	WALLEYE	UNSPECIFIED	SMALL FINGERLING	11,450	1.70
1999	DES MOINES LAKE	Sucker	41N-14W-28	WALLEYE	LCO X WINN	SMALL FINGERLING	11,450	1.30
1991	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UNSPECIFIED	FINGERLING	300	12.00
1982	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UNSPECIFIED	FINGERLING	916	9.00
1977	DES MOINES LAKE	Sucker	41N-14W-28	MUSKELLUNGE	UNSPECIFIED	FINGERLING	7,700	5.00

CONTACTS

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