

Wakeboats: Impacts/Remedies

**2022 Six-County Lakes & Rivers Conference
VCLRA Annual Meeting
Nicolet College, Rhinelander
Friday, July 15, 2022**

**Presented by Last Wilderness Alliance
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Topics

Hazardous wakes

- Definition

Design features

Wake surfing impacts

- Ballast tanks
- Plowing
- Angle of prop (prop wash)
- Generation of waves
- Environmental
- Safety

Current laws

- Three current regulations

Remedies

- Local
- State

Definition of a hazardous wake

Hazardous wake: A hazardous wake is a boat wake that is intentionally magnified through the use of ballast, design features or operational procedures to amplify the wake's height and consequently generate rogue waves.

Wake Surfing and Wake Boarding



Wake Surfing



Wakeboarding

- **Wake surfing creates hazardous wakes.**

Wake Surfing

- Wake surfing is the fastest growing market of recreational powerboating. Sales are increasing 20% every year.
- There is a competitive battle going on between manufacturers to market boats with ever increasing wake size.
- Each year we can expect more boats, with bigger waves and deeper more powerful prop wash.

Design elements of a wake surfing boat

- These boats have **ballast tanks** and can load **4000 to 5000 pounds** of water ballast in the stern.
- Wake surfing boats have a sufficiently large engine. Engine size varies from **350 to 600 horsepower**.
- The new wake boats have hull designs and addons like **wake shapers** designed especially for making the wake much bigger.
- The larger wake surfing boats weigh around **6000 lbs**.
- They can generate waves over **4ft high**.

Wake surfing operation

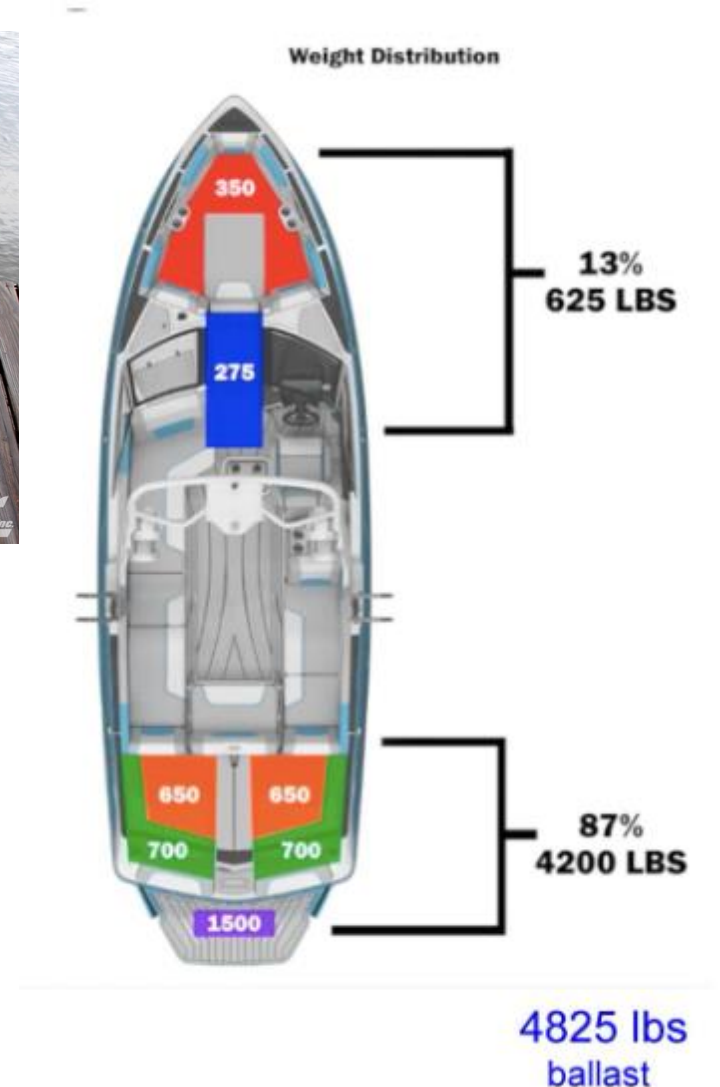
- Wake surf boats measured maximum wave heights of **2-3 times higher than** non-wake surf boats.
- Operational distances **greater than 500 feet from shore** were needed to lessen the measured wave characteristics of the wake surf boats to levels equivalent to the **non-wake surf boats**.

Wake surfing impacts, BALLAST TANKS

They fill with up to 5000 pounds (600 gallons) of lake water.

Ballast water is stored in many compartments under the deck (right photo) or in aftermarket bags (left)

While surfing, tanks may be filled and emptied rapidly multiple times to adjust for different surfers or activities.



U of W STUDY “VOLUME AND CONTENTS OF RESIDUAL WATER IN RECREATIONAL WATERCRAFT BALLAST SYSTEMS”

- The study measured water left in aftermarket ballast systems in 13 boats.
- The average was **8 gallons**. Two boats retained over **20 gallons each**!
- Nine of the **13 sampled boats contained live invertebrates** after more than a week.
- They were **unable to collect residual water in 5** other boats with permanent ballast compartments, noting:
 - “The ballast systems are often located in storage compartments and can be difficult, if not impossible, for a boater to drain completely”.
 - “The closed system would not allow any amount of water to evaporate”.
 - “**The spiny waterflea**... has a dormant resting egg ... viable after years of dormancy...suited to survive long periods of time in residual ballast water”.

Wake surfing impacts, plowing

- When wake surfing these boats only travel at 10mph and are **not on plane**, the term for this is **PLOWING**.
- The object is for the boat to make the wake/wave as big as possible.



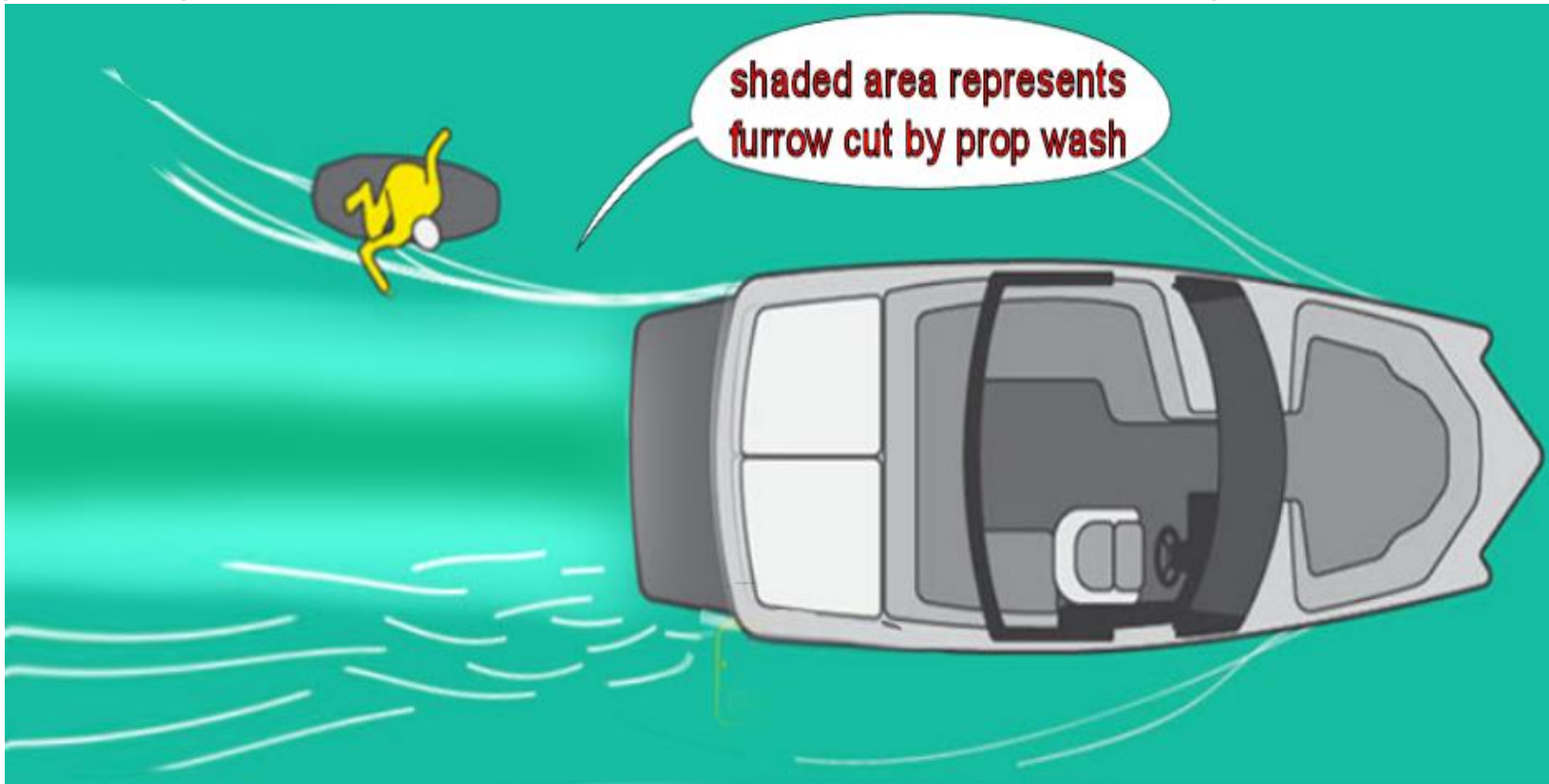
Wake surfing impacts, plowing

- On **Lake Tomahawk**, where the bottom is mostly sand and the water is clear you can see the **furrows**.
- The picture below was taken on 09/26/20 at an area known as “The Boot Jack”.
- This area is 5 to 8 feet deep and has many furrows cut by wake surf boats.



Wake surfing impacts, plowing

- One wake surfing boat can turn over the entire bottom of a 220-acre shallow lake (5 to 8 feet deep) in 22 hours.
- **5 boats** can turn over the entire **220-acre lake** in just over **4 hours**.
- With the constant agitation of the bottom in the summer months, the aquatic plants have little chance of recovery.



Wake surfing impacts, angle of prop wash

- **POWERFUL MOTOR AND DEEP DOWNWARD ANGLED PROPELLER CAUSE UNSEEN PROBLEMS**
- **Plants damaged or uprooted**
- **Fish and wildlife habitats destroyed**
- **Sediment disturbed**
- **Phosphorus and other pollutants undisturbed for centuries are freed**



Wake surfing impacts, generation of waves



Heavy, powerful wake surfing boats **generate substantially larger maximum wave height, total wave energy, and maximum wave power than non wake surf boats.**

Wake surfing impacts, generation of waves

SHORE DAMAGE FROM SURFING INCLUDES

- Moored boats tossed and damaged
- Damage to docks & structures
- Shoreline erosion

These are the problems you hear most about, because they are the most visible

But that's just the tip of the iceberg!



Wake surfing impacts, environmental

Loon nests are destroyed
by large waves.

**WHAT WOULD THE
NORTHWOODS BE
WITHOUT LOONS!**



Wake surfing impacts, environmental

**Native water plants are
uprooted and destroyed**

**WATER PLANTS ARE VITAL
TO LAKE ECOLOGY**



Wake surfing impacts, environmental

**FISH SPAWNING SITES
ARE DESTROYED BY BIG
WAKES**



Wake surfing issues, environmental

**PHOSPHORUS CHURNED UP BY
PROP WASH AND BIG WAKES
CAUSES ALGAE BLOOMS**



Wake surfing impacts, environmental

SPINY WATERFLEA --THEY CAN UPSET THE ENTIRE ECOSYSTEM AND MAKE THE WATER MURKY

They are in Trout Lake in Boulder Junction



Wake surfing impacts, environmental

INVASIVE PLANTS SPREAD EASILY

**Small fragments shredded
by propellers can cause
new infestations**



Curly leafed pondweed



Eurasian Milfoil

Wake surfing impacts, safety concerns

SEVERAL INCIDENTS WITH WAKE SURFING BOATS IN VILAS CO HAVE OCCURRED

- Anchored canoe collecting water samples for the DNR
- Dragon Boats practices moved off Minocqua Chain



Wake surfing impacts, safety concerns

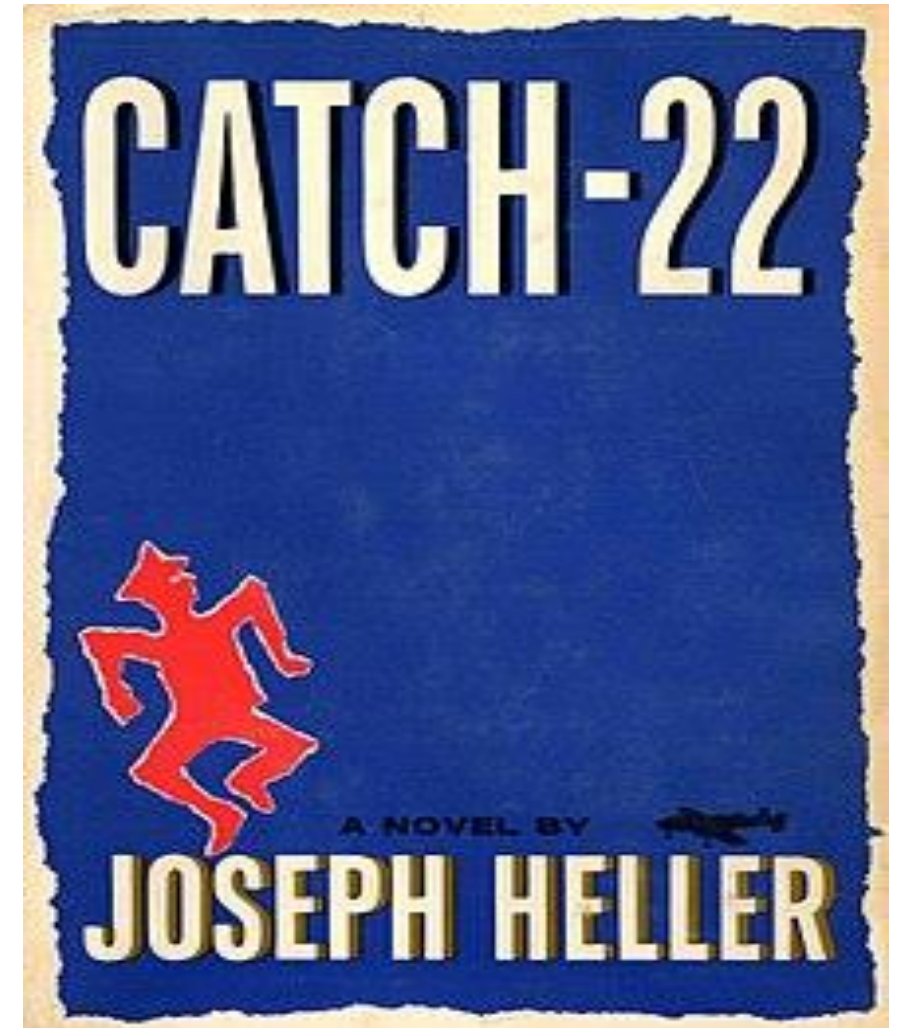
**WHEN IN SURF MODE THE
BOW CAN BE SO HIGH THE
DRIVER CAN'T SEE AHEAD**



Wake surfing impacts, safety concerns

DNR RESPONSE TO COMPLAINTS

- The DNR says they will not record complaints unless a law is broken
- They won't make more laws because there are so few records of complaints



WHAT DOES WISCONSIN LAW PERMIT ?

1. CHURNING LAKEBED WITH DOWNWARD PROP WASH **ALLOWED!**
2. CREATING MURKY WATER **ALLOWED!**
3. DESTROYING WATER PLANTS **ALLOWED!**
4. DESTROYING FISH SPAWNING BEDS **ALLOWED!**
5. FERTILIZING ALGAE BLOOMS **ALLOWED!**
6. SWAMPING LOON NESTS **ALLOWED!**
7. ERODING SHORELINE **ALLOWED!**
8. JETTING PROP WASH INTO THE THERMOCLINE **ALLOWED!**
9. TRANSFERRING INVASIVES VIA RESIDUAL BALLAST WATER **ALLOWED!**

WHAT DOES WISCONSIN LAW PERMIT, CONT. ?

10. ENDANGERING OTHERS THROUGH BAD FORWARD VISIBILITY ALLOWED!

11. ENDANGERING OTHERS THROUGH HAZARDOUS WAKES ALLOWED!

12. MAKING THE LAKE UNUSABLE BY MANY OTHERS ALLOWED!

13. DAMAGING THE LOCAL ECONOMY ALLOWED!

WHAT RELEVANT LAWS DO WE HAVE ? JUST FOUR...

1. A law setting minimum distance from shore, for making wakes
2. A law regarding safety in an “approach or pass” of another boat
3. A law forbidding using a boat in a “careless, negligent or reckless manner”
4. A law permitting anyone harmed by a wake to sue for damages

LAW REGARDING 'NO WAKE ZONE'

- **Wisconsin law sets a 100-foot “no-wake zone” from shore**
- **A few towns have established “no-wake zones” of 200 feet**
- **These laws are generally adequate for ski and fishing boats**
- **Even a 200' no-wake-zone is grossly insufficient for wake surfing**
- **Wake surfing requires 600' to 1000' to decrease wakes to the impact of ski boat wakes at 200'**

LAW COVERING APPROACHING OTHER BOATS

- Wisconsin Stat. 30.68 (4) (a) *“No person shall operate a motorboat so as to approach or pass another boat in such a manner as to create a hazardous wake or wash.”*
- Statute only covers boats near one another– “**approach or pass**”
- The far more powerful waves of wake surfing threaten boats far away. Not covered by “**approach or pass**”

LAW REGARDING NEGLIGENT OPERATION

- Wisconsin Stat. 30.68 (2)-- *“No person may use or operate any boat... in a careless, negligent or reckless manner so as to endanger that person’s life, property or person or the life, property or person of another.”*
- This statute provides no protection to the environment
- This statute could apply where wake surfing “endangers” life, injury or owned property, but ONLY if negligence can be proven
 - It is not clear that Wisconsin law would deem operation of a wake boat in the manner for which it is intended to be used as “careless, negligent or reckless”

LAW COVERING INJURY AND PROPERTY DAMAGE

- Wisconsin Statute 30.68 (4) (b) *“An operator of a motorboat is liable for any damage caused to the person or property of another by the wake or wash from such motorboat...”*

THIS STATUTE IS VIRTUALLY WORTHLESS:

- It does not restrict making a hazardous wake.
- It simply permits anyone who can prove damage or personal injury to file a lawsuit for money damages. (And good luck with that!)
- There is no protection at all for the lake itself or the environment.

SYNTHESIS OF WISCONSIN LAW

IF YOU ARE OVER 100 FEET FROM SHORE AND ARE NOT “PASSING OR APPROACHING” ANOTHER BOAT, WISCONSIN DOES NOT RESTRICT HAZARDOUS WAKES OR WAKE SURFING

If a wake causes injury or private property damage, Wisconsin will let you sue for damages—

- 1. IF YOU CAN PROVE WHO CAUSED THE DAMAGE... AND**
- 2. IF YOU CAN PROVE THE DAMAGE DID NOT PREVIOUSLY EXIST ... AND**
- 3. IF YOU CAN AFFORD THE ENORMOUS COST OF A LAWSUIT ... AND**
- 4. IF YOU CAN WAIT THE TWO TO FOUR YEARS IT TAKES TO GET TO TRIAL ... AND**
- 5. IF YOU CAN AFFORD THE GREAT EMOTIONAL TOLL OF A LAWSUIT**

REMEDIES

- **EXISTING WISCONSIN LAW IS INADEQUATE**
- **IT IS NECESSARY TO CREATE APPROPRIATE LOCAL LAWS**

SHOULD LAWS BE LOCAL OR STATEWIDE?

- **BOTH!!**
 - **LAWS AT STATE LEVEL WILL LIKELY BE A LONG TIME COMING**
 - **INDUSTRY LOBBYISTS WORK HARD IN ALL STATES TO PREVENT OR NEUTER STATEWIDE LEGISLATION**
- **DAMAGE TO LOCAL LAKES IS OCCURING NOW, WE CANNOT WAIT FOR STATEWIDE LAW**
- **WE MUST PASS LOCAL LAWS TAILORED TO LOCAL CONDITIONS**

CAN LOCAL LAWS PASS?

- **YES! YES! YES!**
- **FIVE TOWNSHIPS IN SAWYER COUNTY HAVE PASSED LAWS PROHIBITING 'HAZARDOUS WAKES' WITHIN 700 FEET OF SHORE**
- **OTHER WISCONSIN TOWNSHIPS HAVE PASSED SIMILAR LAWS**
- **WHY HAS NO TOWNSHIP IN VILAS COUNTY DONE ANYTHING?
OUR LAKES ARE OUR FUTURE**

WHAT REGULATIONS SHOULD TOWNSHIPS CONSIDER?

1. DISTANCE FROM SHORE

- Require at least a 700 foot from shore rule for hazardous wakes

2. DEPTH OF LAKEBED WHERE SURF BOAT OPERATES

- Require that wake surfing not occur in less than 20 feet of water

3. MINIMUM SIZE OF LAKE

- Require at least 1500 acres or larger lake size for wake surfing

AREAS WITH ONLY SMALL LAKES SHOULD BAN HAZARDOUS WAKES COMPLETELY

RESTRICTIONS ON HAZARDOUS WAKES HAVE STRONG PUBLIC SUPPORT

THE 2022 WISCONSIN CONSERVATION CONGRESS SURVEY RESULTS:

- **78% OF VILAS CO. PARTICIPANTS SUPPORT A BAN ON “INTENTIONALLY MAGNIFYING A WAKE FOR WAKE SURFING” ON LAKES UNDER 1500 ACRES**
- **79% OF VILAS CO. PARTICIPANTS WOULD PROHIBIT INTENTIONALLY CREATING AN ARTIFICIAL WAKE WITHIN 700’ OF SHORE OR ANOTHER BOAT**
- **94% OF DANE CO. PARTICIPANTS SUPPORT A BAN ON MAKING HAZARDOUS WAKES ON ANY LAKE OF 1500 ACRES OR LESS**

What should we do?

- Wake surf boats can be used in full compliance with existing Wisconsin law, yet still they profoundly damage our lakes and are unsafe to others.
- It is unrealistic to expect state action in the near term.
- We have a stark choice— regulate wake surfing locally, or see our safety jeopardized, our lakes harmed, and run off other lake users.
- Local laws for local lakes can pass, if citizen groups press the issue.

OTHER WISCONSIN TOWNS REGULATE HAZARDOUS WAKES. WE MUST MAKE THIS HAPPEN HERE



The purpose of the Last Wilderness Alliance is to conserve, enhance, and protect natural resources and support the economic viability in the north lakeland region of Wisconsin through education, communication and awareness of sound environmental practices based on a commitment to the principles, practices, and processes of democratic decision-making. The Last Wilderness Alliance is a 501c(4) non-profit organization.

Visit our website at www.lastwildernessalliance.org

We depend on your contributions.