

*Use of Public Waters Rule Amendment  
to Regulate Wakeboats:  
Presentation of Draft Rule & Comments*

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Lakes & Ponds Program  
Vermont Department of Environmental Conservation  
Public Hearing  
Richmond – August 1, 2023  
Virtual – August 3, 2023



# Public Meeting Overview

- Housekeeping Notes
- DEC Presentation (20 minutes)
- Comprehension Clarification Questions (10 minutes or less)
- Public Comments (120 minutes)

# Housekeeping Notes

- **Purpose of Meeting:** Provide some background, present the draft rule concept and obtain public feedback on the draft rule
- Meeting is being recorded
- Meeting should finish no later than 7:30 PM, w/ comments starting at 5:30
- Please keep comments to 2 minutes or less; we will ask you to finish at 2 minutes
- Please be civil and respectful in your comments
- We will call people to speak in order in which they signed up, please state name
- You can send a written comment via email by 4:30 PM on August 10, 2023



# Wakeboat Rulemaking Timeline

- March 2022: Petition Submitted
- April 2022: Petition marked administratively complete
- July 2022: Two hearings and Written Public Comment Period on Petition
- August – September: DEC held 10 Meetings with Affected Recreational User Groups
- October: DEC summarized public comments
- November – December: Draft rule concept developed and vetted internally w/ ANR officials
- January 2023: Draft Rule Concept released to Public
- February: Public Meeting to present draft rule in Greensboro VT
- March – May : Develop Draft Rule and Rulemaking Submission
- June: Inter-Agency Committee on Administrative Rulemaking Meeting, Draft Rule Published
- August: Public Hearing and Written Comment Period
- Date TBD: Legislative Committee in Administrative Rulemaking Meeting (Sept – Oct)
- Date TBD: Regulation would take effect via formal amendment to Use of Public Waters Rule





VERMONT DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION  
**WATERSHED  
MANAGEMENT DIVISION**  
LAKES & PONDS PROGRAM



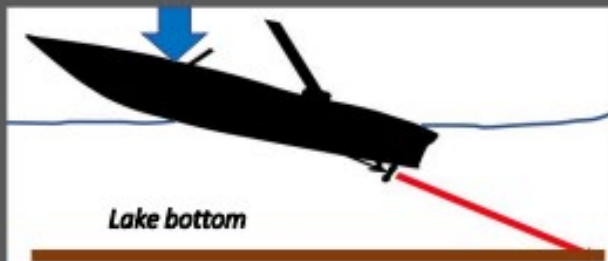
VERMONT

# Wake boats have unique features and impacts

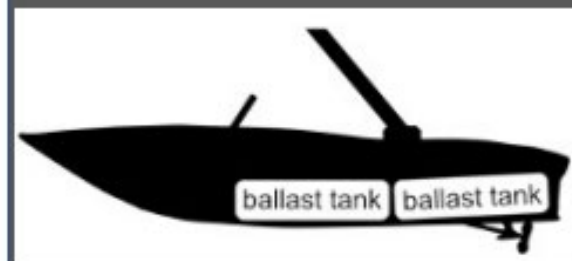
## Enhanced Wake



## Deep Propeller Wash



## Large, Inaccessible, Ballast Tanks



# Background on Use of Public Waters Rule

- Use of Public Waters Rules are derived from Statute - [10 V.S.A. § 1424](#)
- Vermont's public waters are held in public trust for the benefit of all Vermonters and visitors, and public recreational uses are protected
- The Use of Public Waters Rules (Rules) govern aquatic resources management and establish general management rules to protect normal uses on all on Vermont's ***inland*** public waters
- Public waters can be used for a variety of recreational activities, including wilderness and solitude, wildlife watching, winter recreation, fishing, and boating of various kinds
- The Rules restrict the type of motorized watercraft that may be operated on certain waterbodies and set speed limits for motorized watercraft (personal watercraft example)
- Pursuant to the Rules, the Agency is required to manage public waters in a manner that avoids conflict, protects natural resource values (WQS), and gives an appropriate recreational mix



# What are the petitioners concerned about?

- Shoreline Erosion from enhanced wakes



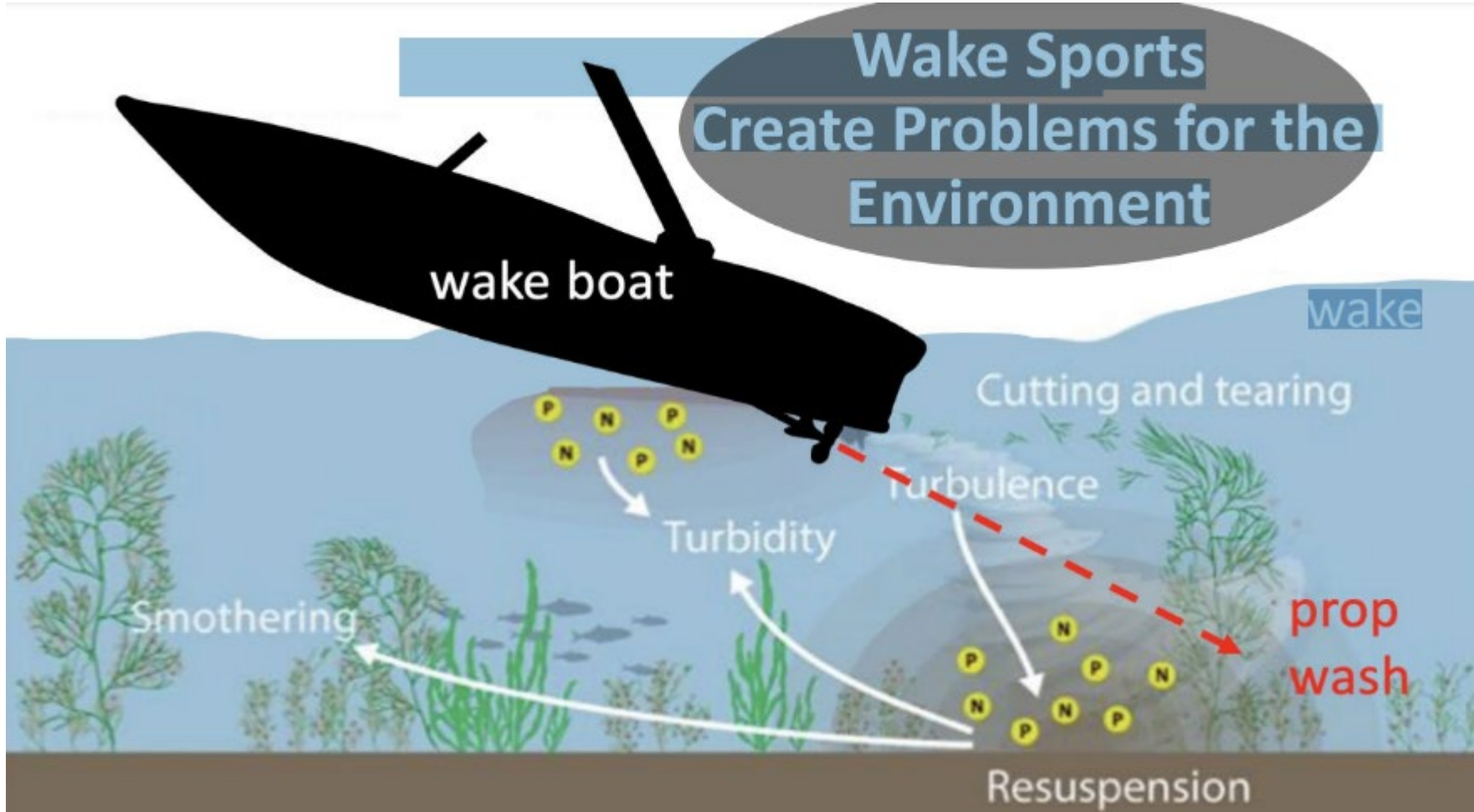
Shoreline damage on Newman Lake, WA with a 150 ft no-wake zone and "heavy" wakeboat use



Shoreline erosion on Lake James, NC, which a heavily boated lakes and has increasing wakeboat use



# What are the petitioners concerned about?

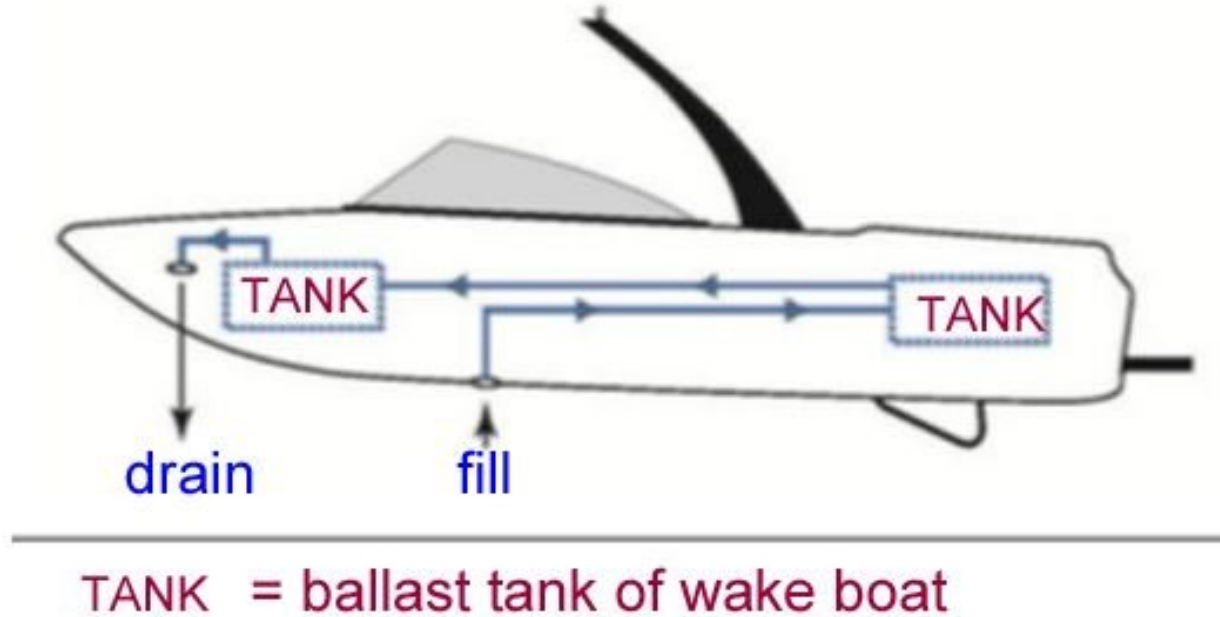


Downward-directed propeller “wash” can disturb lake bottoms at 20 ft & more

- Stir-up bottom sediments creating turbidity, disrupting micro-organism, plant, & fish habitat, and releasing nutrients contributing to toxic algae blooms
- Shred & uproot plants spreading aquatic invasive species, e.g. milfoil

# What are the petitioners concerned about?

- Wake boats can spread Invasive Species when moved between water bodies



# What are the petitioners concerned about?

Safety and impact on docks and shoreland infrastructure



# What did the wakeboat petition ask DEC to do:



## ***Petition cited Use Conflict between wake boats and other uses, Proposed Public Water Rules Amendment***

Use of wake boats for wakeboarding and wake surfing is permitted only in defined areas of water bodies (“Wake Sports Zones”) where all the following conditions are met:

- 1) the distance from shore is greater than 1,000 feet
- 2) the water depth is greater than 20 feet
- 3) the area of the water body satisfying 1) and 2) is more than 60 contiguous acres

Petition would allow wake boats on 15 inland lakes (*personal watercraft allowed on 30+*)



# What is the counterpoint?

- Wake sports are not a major problem in VT, represent less than 5% of all motorized vessels
- VT should start with education and outreach around responsible wake sports use
- The science around environmental impacts is new and inconclusive (different results)
- The proposed rule is overly restrictive and not supported by what little science there is
  - Little evidence showing need for a 1,000 foot offset, industry studies say 200 ft is fine
- Wake sports are fun, safe, accessible to people who can't waterski for health reasons
- Evidence of safety issues is lacking
- Proposed rule is difficult to enforce
- Telling me I can't use my \$90K wake boat on the lake where I live is unacceptable (a taking)



# DEC Petition Review

- Two Public Meetings in July 2022
  - 80+ Comments over two meetings, 60% in favor of regulation
- 300+ Written Comments, (54%) comments supported some form of regulation
  - This tally does not include letter with 1197 signatures submitted by RWVL nor letters of support in original petition
- Meetings with Affected Recreational User Groups & SOV Entities
  - Green Mountain Water Skiers
  - VT Boat Retailers & Marinas
  - Wakeboat Industry (NMMA, WSIA, MRAA)
  - VT Summer Camps
  - FOVLAP
  - Pristine Lakes Group (NEK)
  - VT Center for Ecosystem Studies & VT Audubon
  - F&W & State Police Marine Division
  - Anglers
  - Non-Motorized Boaters
- **Presented Draft Rule in Greensboro in February 2023**
  - Received 60 verbal comments, vast majority in favor of a greater offset than 1,000 ft
  - Received another 35+ written comments, similar perspective to written comments

# DEC Petition Review (continued)

- **Review of Scientific Literature:**
  - Minimum Distance from Shore to Minimize Shoreline Erosion
  - Minimum Depth to avoid benthic sediment disturbance & phosphorus resuspension
  - Minimize risk of Aquatic Invasive Species spread from ballast tanks
  - What about loons?
- **Review of Precedent & Operating Considerations for Minimum # of Contiguous Acres**
- **Review of Regulation in Other States**

# DEC Review of Scientific Literature - Distance from Shore

## Wake Energy Study from St Anthony's Falls Lab Study in Minnesota, 2022:

- When researchers compared the wake waves of the four boats during their most typical mode of operations, the data indicated that wakesurf boats require distances greater than **500 feet** from the shoreline/docks and other boats to decrease their wake wave characteristics to levels similar to the non-wakesurf boats
- When researchers compared the wake waves of the four boats under conditions that generated the largest wake wave, the data indicated that wakesurf boats require distances greater than **425 feet** from the shoreline/docks and other boats to decrease their wake characteristics to levels similar to non-wakesurf boats
- Other studies used a benchmark more conservative than current conditions on VT lakes (i.e wake indistinguishable from natural wind-induced waves) and therefore make recommendations that would subject wake boats to stricter standards than other watercraft.





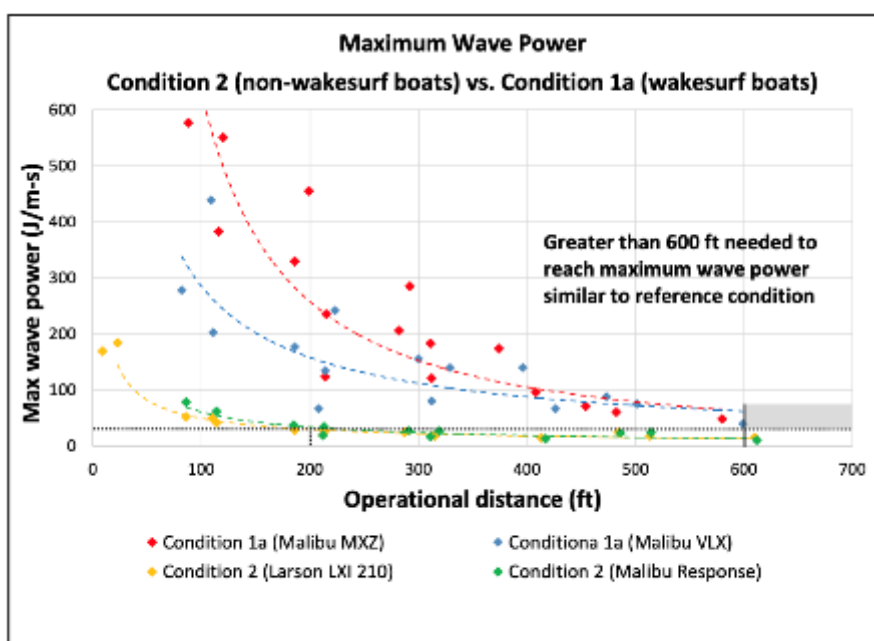


Figure 47. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave power of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

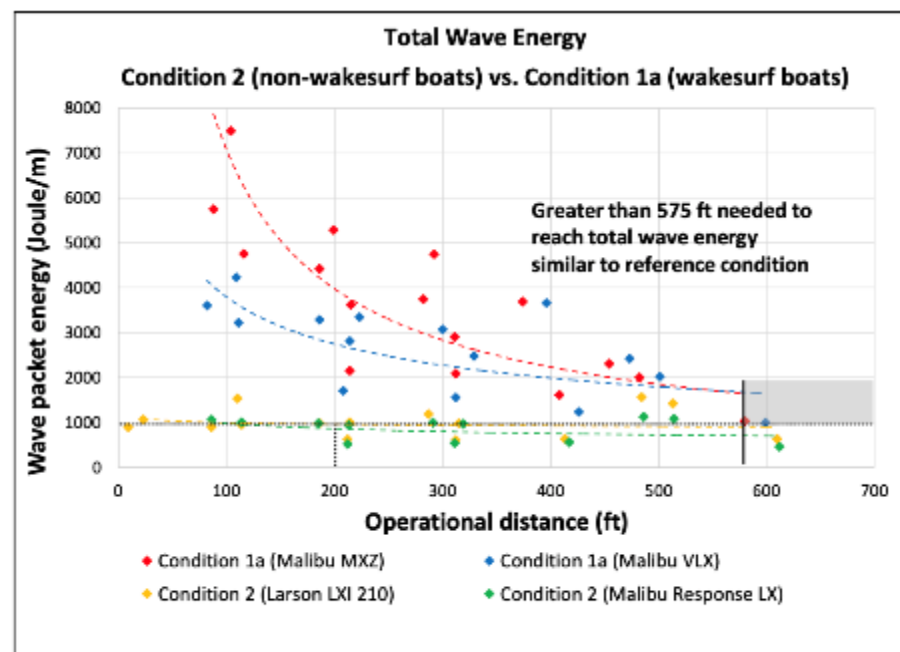


Figure 46. Illustration of a potential method for estimating the operational distance needed to reduce the total wave energy of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

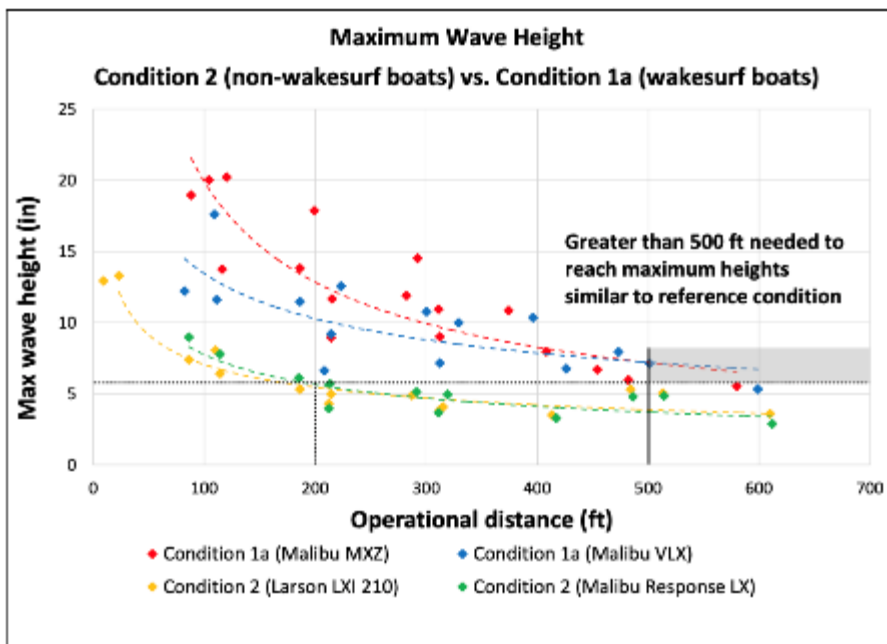


Figure 45. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave height of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

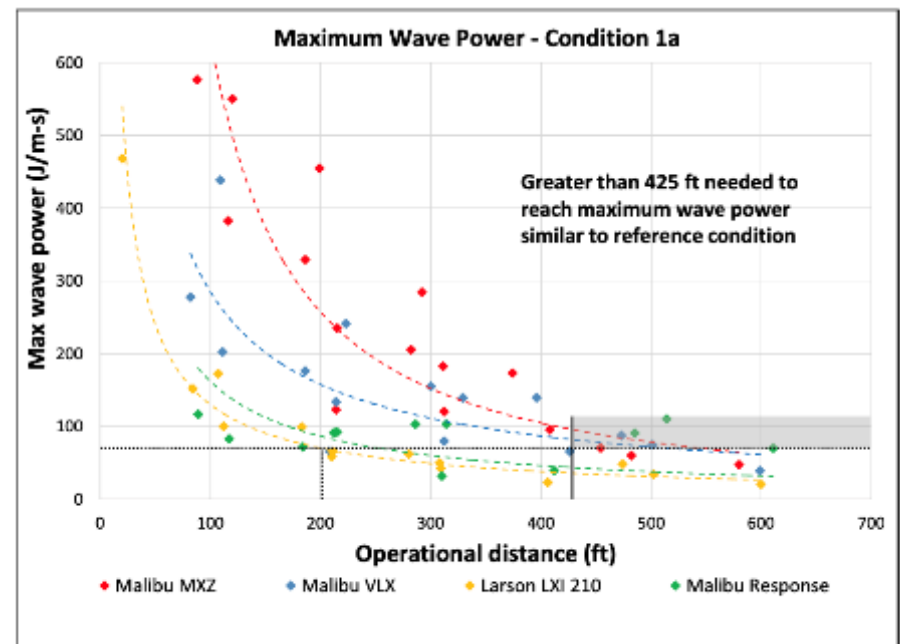


Figure 50. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave power of the wakesurf boat to reference levels associated with Condition 1a (largest wave) of the non-wakesurf boats (black horizontal dashed line).

# DEC Review of Scientific Literature - Depth

## **Water Quality & Wave Propagation Study from Wisconsin (Tyre & Mortensen, 2022)**

- Propeller downwash characteristics have been measured showing significant bottom effects from Wakeboard boats in “surf mode” at depths up to 20 feet. This depth effect is not observed from the other three categories of vessels owing to reduced engine power, propeller angles, hull design, lack of ballasting, and the mode of operation (“planing”)
- Bottom impacts from Wakeboard boats in surf mode have a significant impact on sediment redistribution and nutrient release into the water column after periods of less than 30 minutes (25% increase in phosphorous). This effect was measured in depths of 5-8’. The wakeboard survey course was in 15’ to 25’ of water at 200’ from shore.

# DEC Review of Scientific Literature - AIS

## Transport of Aquatic Invasive Species in Ballast Tanks

- Peer-reviewed scientific research (Campell et al 2016) has found that due to the presence of ballast systems, which are difficult or impossible for a boater to completely drain, wake boats maintain and transport relatively large volumes of residual water (mean water volume 31.7 L) even after drain pumps run dry and that live organisms can be found in residual water for at least a week after use.
- Ballast tanks from wake boats operated on a lake infested with the Zebra Mussel (*Dreissena polymorpha*) typically carried 247 Zebra Mussel veligers per sample (Doll 2018), which was much greater than stern drive motor compartments (13 veligers per sample), outboard motor lower units (1 veliger per sample), live wells, or bilges.

# Review of Precedent & Operating Considerations: Contiguous Acres

UPW Rules: High speed boating requires **>75 acres** lake size and **30 contiguous acres** outside of the shoreline safety zone

- NH: 75 acre lake size, no minimum size outside shoreline safety zone
- Wisconsin: 50 acre lake size, no minimum size outside shoreline safety zone

Wakeboats operating 500 feet from shore on wake-eligible lakes will allow non-motorized boat users space to recreate safely, away from wakeboats if they so desire by staying outside the wakesports zone (0-500 ft from shore);

Petition proposed 60 acres which seemed arbitrary; what is the justification to deviate from 30 contiguous acres in UPW Rule?

Wakeboats generate large wakes in wakesurfing mode (10-12 mph) or in wakeboarding mode (20-25 mph)

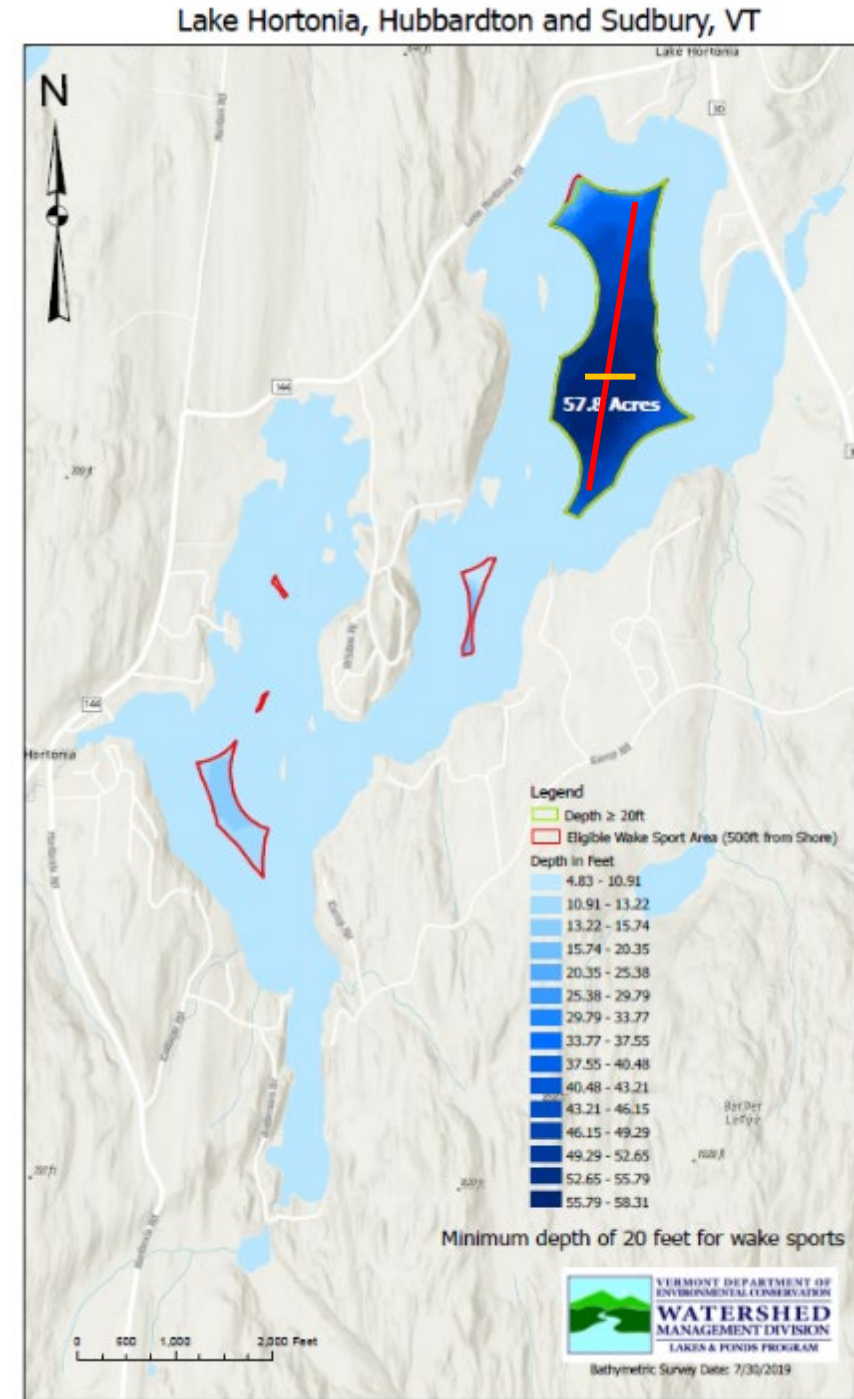
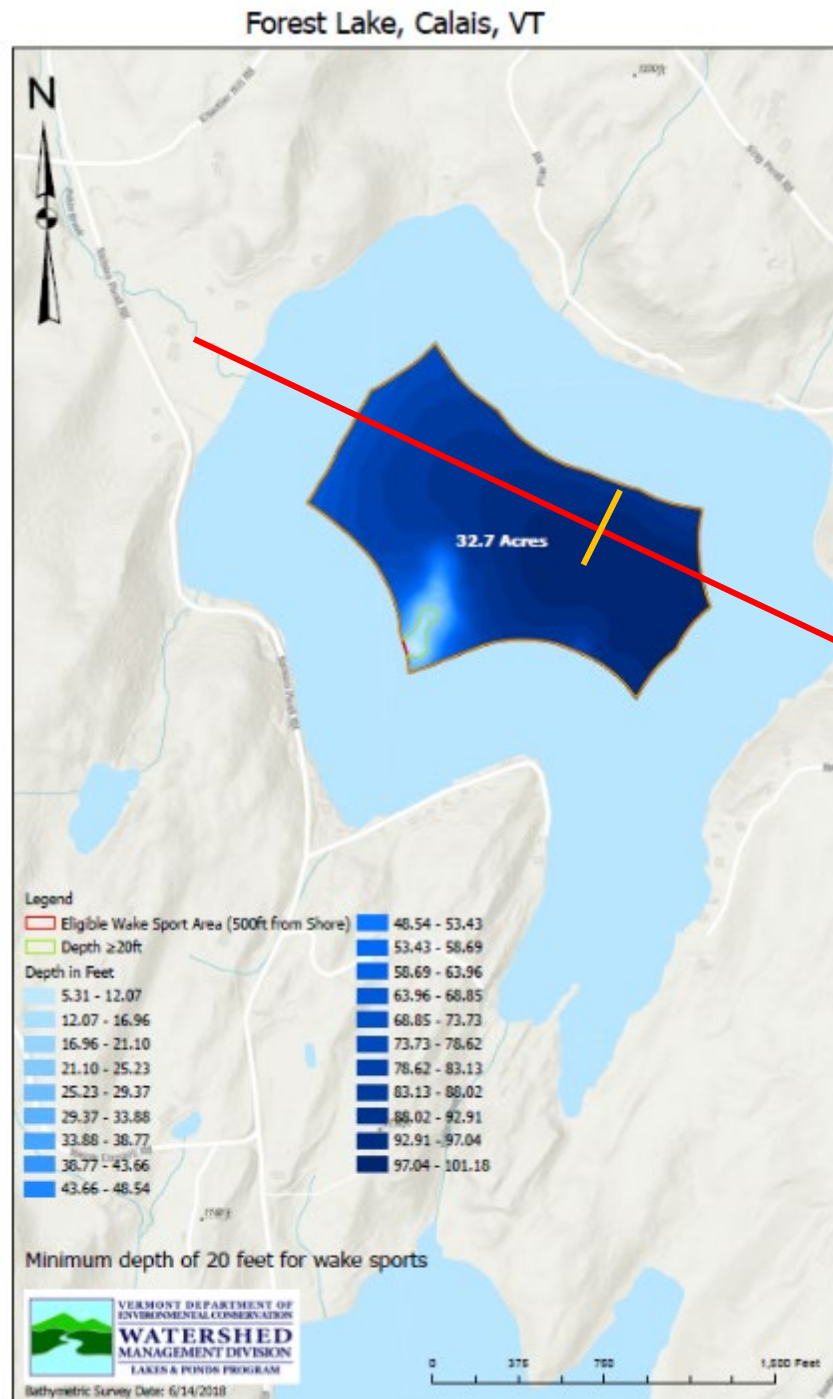
- Wakesports generate a larger wake than conventional motorboats, so zone larger than 30 contiguous acres may be needed
- Wakesports are conducted in linear manner, suggesting a new take is needed on the 30 contiguous acres (water skiing)
- Typical “run” lengths are 2,000 – 4,000 feet, but can be longer; use mean for purpose of regulation (3,000 ft)

Based on actual VT Lake geomorphology, a **50-acre zone** will allow for a minimum wakeboarding run of 3,000 feet, which allows for a 3 minute run at 11.5 miles per hour (16.7 feet / second) before leaving the area eligible for wakesports **and** allows for the wakeboat to be 200 feet from other vessels / swimmers without leaving wake-eligible area as required by law



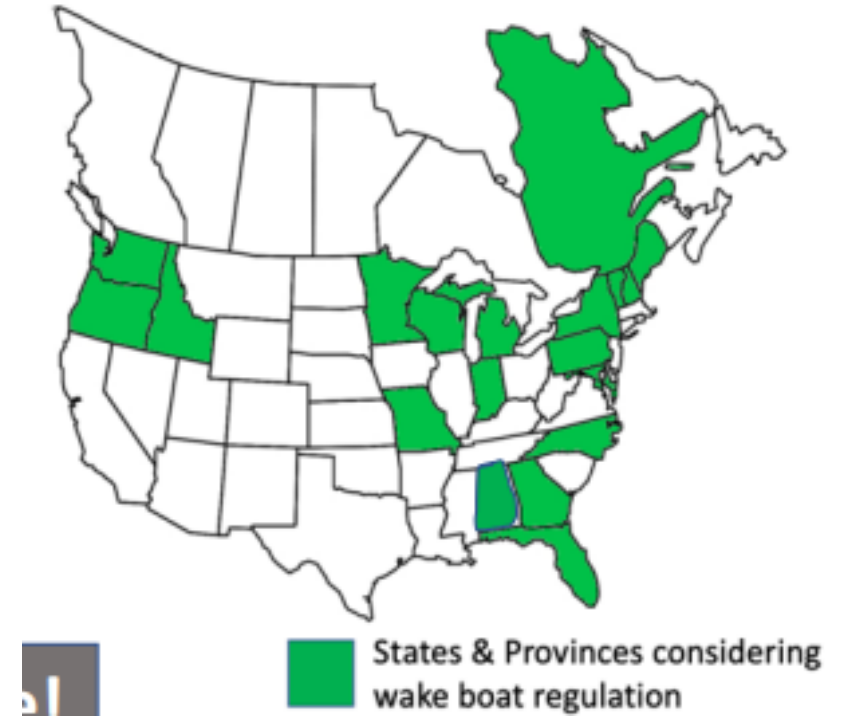
# Contiguous Acres

- Red line is 3,000 feet
- Orange Line is 400 feet (200 ft offset from other vessels required)
- Minimum number of acres needed for a safe wakesports run is 50
- Forest Lake in Calais with a wakesports zone of 33 acres is too small
- Lake Hortonia with a wakesports zone of 57.8 acres is eligible
- Note: maps have different scales



## What are other states doing:

- **Michigan DNR:** Study recommends 500 feet from shore offset, 15-foot depth, no action taken yet
- **Alabama:** Bill limits wakeboating to lakes >50 acres, 200 feet from shore offset, 400 ft width
- **Tennessee:** Bill limits wakeboating to lakes >50 acres, 200 feet from shore offset, 400 ft width
- **South Carolina:** New law prohibits "wake surfing" on all state waters within 200 feet of a dock, a person in the water or an anchored watercraft
- **Oregon:** Wakesurfing prohibited in Lower Willamette River, wakeboarding with a 200 ft offset
- **New Hampshire:** Commission studied issue, agreed to increase outreach & promote safety legislation



**Analysis:** DEC considering a rule that would be by far the most restrictive rule in the USA

# Draft Rule

## 3.8 Wakesports

- a. Wakesports are prohibited on lakes, ponds, and reservoirs that do not have a defined wakesports zone as defined at Section 5.18 and listed in Appendix E.
- b. A wakeboat shall only engage in wakesports within a wakesports zone.
- c. A wakeboat must have one “home lake” for a given calendar year and display on the wakeboat’s port side bow a current Agency-issued decal identifying the wakeboat’s “home lake” for the calendar year. A wakeboat’s “home lake” is the only lake, pond, or reservoir at which that wakeboat will be used for the calendar year, except when the decontamination requirement of Section 3.8.d. has been satisfied.
  - Subsections 3.8.c.- 3.8.e. apply to Lake Champlain, Lake Memphremagog, Wallace Pond, the Connecticut River Reservoirs, and the waterbodies with a defined wakesports zone listed in Appendix E.



# Draft Rule

- d. Prior to entering a Vermont waterbody other than the wakeboat's home lake, and prior to reentering the waters of the home lake after use of the wakeboat at any other waterbody, the wakeboat must be decontaminated at an Agency-approved decontamination service provider. A wakeboat user may be requested to provide proof of decontamination at public access areas.
- e. All provisions of 10 V.S.A. § 1454 regarding aquatic nuisance species inspection apply to wakeboats, and wakeboat users shall drain the ballast tanks of their boats to the fullest extent practicable after leaving waters of the state.
- f. The above prohibition on wakesports (subsection 3.8.a.) may be modified on a case-by-case basis in response to petitions filed pursuant to 10 V.S.A. § 1424.





# Draft Rule

- 5.16 “Wakeboat” means a motorboat that has one or more ballast tanks, ballast bags or other similar devices used to enhance or increase the size of the motorboat’s wake.
- 5.17 “Wakesports” means: A. to operate a wakeboat with ballast tanks, bags, or similar devices engaged to enhance the boat’s wake or with someone riding the wake directly behind the boat; or B. to use a surfboard, wakeboard, hydrofoil, or similar device to ride on or in the wake directly behind a wakeboat with or without a rope.
- 5.18 “Wakesports zone” means an area of a waterbody that has a minimum of 50 contiguous acres that are at least 500 feet from shore on all sides and at least 20 feet deep located on a lake, pond, or reservoir on which, per Appendix A, vessels powered by internal combustion motors are allowed and may be used at speeds exceeding 5 miles per hour.



# Impact

- VT Rule would be most restrictive in USA, however many will say we aren't going far enough
- 31 inland lakes out of 800+ eligible for wakesports
- Champlain, Memphremagog, & 7 CT River Reservoirs also eligible

No.	Name	Total Acres	Size of Eligible Area (500 ft in with 20 ft depth) in acres
1	SUNSET (BENSON)	205.1	74
2	SHADOW (GLOVER)	217.3	86.2
3	MILES (CONCORD)	221.1	66.9
4	IROQUOIS (HINESBURG / WILLISTON)	247.0	53.3
5	PARKER (WEST GLOVER)	253.1	88.4
6	HOLLAND	329.1	104.5
7	PEACHAM	347.4	94.9
8	HARVEYS (BARNET)	357.2	136.4
9	MOLLYS FALLS (CABOT / MARSHFIELD)	402.4	74.4
10	JOES (DANVILLE)	405.0	64.2
11	GROTON	435.4	50.0
12	FAIRLEE	461.8	116.6
13	FAIRFIELD	463.3	171
14	LITTLE AVERILL	470.2	261.3
15	HORTONIA (SUDBURY, HUBBARDTON)	500.9	57.8
16	ECHO (CHARLESTON)	546.5	315
17	MOREY (FAIRLEE)	549.8	285.2
18	ISLAND (BRIGHTON)	614.2	271
19	MAIDSTONE	755.8	402.6
20	CRYSTAL (BARTON)	771.6	420.5
21	SALEM (DERBY)	776.4	318.3
22	CASPIAN (GREENSBORO)	789.8	461.2
23	GREAT AVERILL	835.0	423.8
24	WATERBURY	869.2	121.7
25	ST. CATHERINE (WELLS)	885.4	405.5
26	DUNMORE (SALISBURY)	1039.6	330.5
27	CARMI (FRANKLIN)	1415.2	755.2
28	WILLOUGHBY (WESTMORE)	1733.6	1079.3
29	SEYMOUR (MORGAN)	1777.2	1150.0
30	HARRRIMAN (WHITINGHAM)	1949.4	535.5
31	BOMOSEEN (CASTLETON, HUBBARDT.)	2415.1	TBD but >50

# Next Steps

- Incorporate feedback from public hearings and written comments
- Develop final rule for approval by ANR Secretary
- Present final rule to LCAR, with summary of any changes
- If LCAR approves, rule would take effect at a designated date, likely late spring 2024
- Launch public outreach campaign to inform public and prepare for implementation
  - Identification of decontamination service providers
  - Development of wakeboat zone maps for Avenza Mapping App
  - Appropriate signage placed at access areas
  - Establishment of home-lake identification and sticker issuance process



**Thanks for your attention!**

**Clarifying Questions?**

