

# **RECREATIONAL BOAT SPEED SAMPLING**

**JULY 7, 2007 - SEPTEMBER 16, 2007**

**CONDUCTED BY**

**DIVISION OF SAFETY SERVICES**

**MARINE PATROL**

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# RECREATIONAL BOAT SPEED SAMPLING

The Division of Safety Services, as a result of proposed speed limit legislation, undertook a speed sampling program for the 2007 boating season. This sampling was conducted on Lake Winnepesaukee from the period 07/01/07 through 09/16/07. Sample data was collected on 55 days and nights during the 11 week period.

Marine Patrol officers spent a total of just over 135 hours clocking powered vessels, including PWC's. While emphasis was placed on weekend boating activity, data was also collected on weekdays. Additionally, data was collected after 8:00 p.m. on both weekday and weekend nights.

A total of 9 sampling areas were selected, including the two proposed primary survey areas as outlined in the administrative rule proposal. The selection of the 7 additional areas was based upon the following Division criteria:

- a) Topography
- b) Boat volume
- c) Safety concerns, and
- d) Traffic patterns

The areas selected were:

**Area A.** - Bear Island Mail Dock to Light 3.

**Area B.** - Rattlesnake Island Zone

Area 1 - Light 60 to Weirs Channel

Area 2 - Both Directions of Light 28

Area 3 - Light 83 to Light 5

Area 4 - Light 12 to Light 14

Area 5 - Light 49 to Light 17

Area 6 - Light 22 to Light 67

Area 7 - Light 76 to Light 20

# **Radar Use Sampling Results**

## **What We Learned**

The Division confirmed that radar units will work in the marine environment with limitations. Those limitations were primarily related to water conditions. The officers experienced difficulty any time there was wake or wake chop. There were times when the surface of the water was so irregular because of high volume of boat traffic that it was extremely difficult to aim the radar unit.

The radar was generally effective with vessels traveling toward or away from the patrol boat; however, when the target vessel was approaching or leaving at an angle, the reading tended to be inaccurate and those numbers are not included in this sampling.

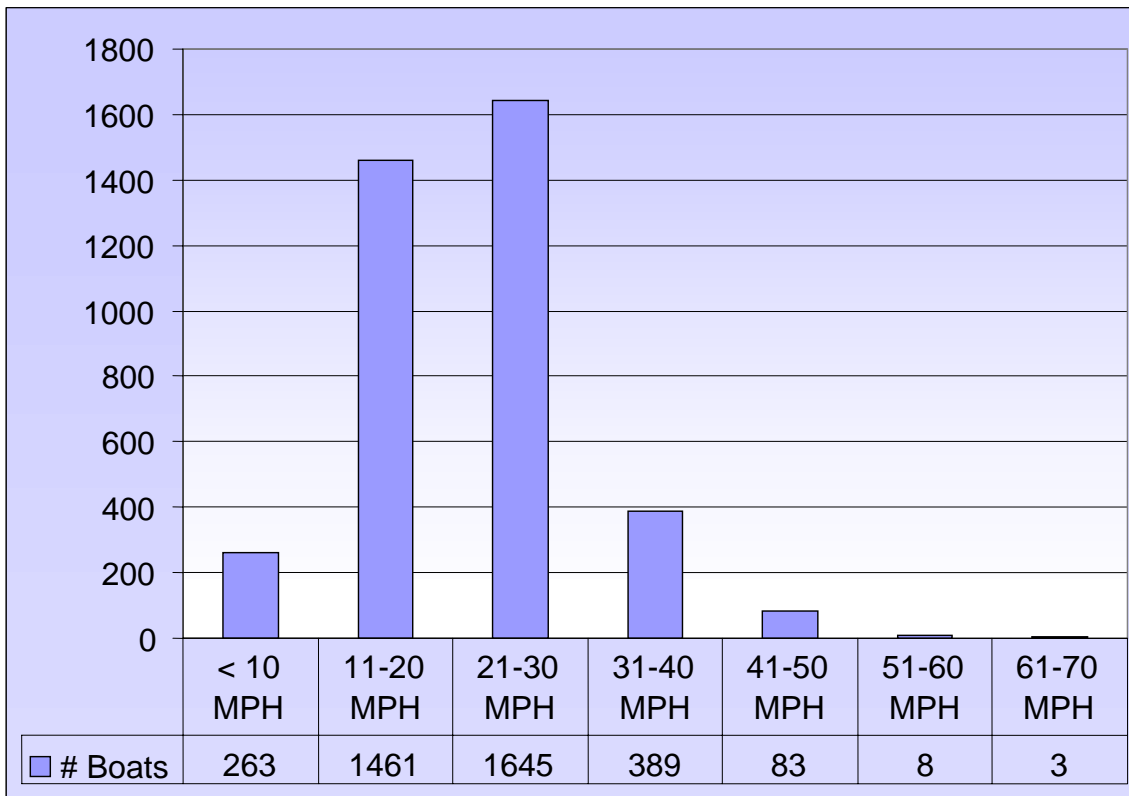
In high traffic areas it would be prudent for safety purposes if radar is employed, to have two officers in the vessel, one concentrating on the radar and the other focused on the patrol boat operation and its relationship to other vessels.

The officers found the Doppler radar units slightly better than the laser units for marine applications as a result of water conditions.

# VESSEL SPEED BREAKDOWN

**TOTAL VESSELS CLOCKED 3852 All Hours**  
**62 After 8:00 p.m.**

Breakdown of speeds by 10 MPH increments



## STATISTICAL RESULTS OF SAMPLING

The speed zone sampling produced the following results:

- The total number of boats clocked was 3852. This number includes both motorboats and PWC's, data collected during the day and at night.
- The average daytime speed for all vessels (powerboats and PWC's) was 22.72 miles per hour.
- The average speed for all vessels after 8:00 p.m. was 20.42 miles per hour.
- The average weekday speed was 25.91 miles per hour.
- The average weekend speed was 28.62 miles per hour.
- The maximum speed recorded for a vessel was 62 miles per hour. A total of three vessels were clocked going this speed, two on Saturday 7/14/07 and one on Saturday, 8/04/07.
- The maximum speed for a PWC was 49 miles per hour.
- The maximum speed after 8:00 p.m. was 44 miles per hour.
- There were a total of 36 boats clocked going over 45 miles per hour which represents 0.9% of the total.
- A total of 62 boats were clocked after 8:00 p.m.
- A total of 13 boats were traveling over 25 miles per hour after 8:00 p.m., which represents 20.96%.

## **Total Boats Clocked by Area:**

<b>AREA A</b>	<b>Bear Island Mail Dock to Light 3.</b>	<b>638</b>
<b>AREA B</b>	<b>Rattlesnake Island Zone</b>	<b>431</b>
<b>AREA 1</b>	<b>Light 60 to Weirs Channel</b>	<b>1,121</b>
<b>AREA 2</b>	<b>Both Directions of Light 28</b>	<b>175</b>
<b>AREA 3</b>	<b>Light 83 to Light 5</b>	<b>351</b>
<b>AREA 4</b>	<b>Light 12 to Light 14</b>	<b>162</b>
<b>AREA 5</b>	<b>Light 49 to Light 17</b>	<b>168</b>
<b>AREA 6</b>	<b>Light 22 to Light 67</b>	<b>592</b>
<b>AREA 7</b>	<b>Light 76 to Light 20</b>	<b><u>214</u></b>
	<b>TOTAL</b>	<b>3,852</b>

# July 2007

Max: - Maximum speed clocked that day - all vessels

Min: - Minimum speed clocked that day - all vessels

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 MAX: 49 MIN: 12	2	3	4	5 MAX: 39 MIN: 14	6 MAX: 50 MIN: 6	7 MAX: 41 MIN: 5
8 MAX: 42 MIN: 9	9 MAX: 34 MIN: 8	10 MAX: 36 MIN: 6	11	12	13 MAX: 38 MIN: 10	14 MAX: 62 MIN: 10
15 MAX: 41 MIN: 10	16 MAX: 41 MIN: 7	17	18	19	20 MAX: 45 MIN: 13	21 MAX: 46 MIN: 5
22 MAX: 44 MIN: 5	23 MAX: 26 MIN: 15	24 MAX: 44 MIN: 6	25 MAX: 47 MIN: 15	26 MAX: 37 MIN: 11	27 MAX: 50 MIN: 12	28 MAX: 48 MIN: 8
29 MAX: 51 MIN: 9	30	31 MAX: 38 MIN: 8				

# August 2007

Max: - Maximum speed clocked that day - all vessels

Min: - Minumum speed clocked that day - all vessels

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2 MAX: 31 MIN: 15	3 MAX: 46 MIN: 8	4 MAX: 62 MIN: 11
5 MAX: 43 MIN: 11	6	7 MAX: 44 MIN: 9	8	9 MAX: 46 MIN: 9	10 MAX: 49 MIN: 15	11 MAX: 40 MIN: 6
12 MAX: 45 MIN: 9	13 MAX: 51 MIN: 12	14 MAX: 39 MIN: 13	15	16 MAX: 39 MIN: 8	17 MAX: 30 MIN: 9	18
19	20	21 MAX: 37 MIN: 6	22 MAX: 52 MIN: 15	23 MAX: 40 MIN: 16	24 MAX: 46 MIN: 8	25 MAX: 50 MIN: 11
26	27 MAX: 38 MIN: 14	28 MAX: 49 MIN: 11	29 MAX: 59 MIN: 10	30	31 MAX: 49 MIN: 14	

# September 2007

Max: - Maximum speed clocked that day - all vessels  
 Min: - Mininum speed clocked that day - all vessels

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 MAX: 56 MIN: 13
2 MAX: 51 MIN: 9	3 MAX: 40 MIN: 10	4 MAX: 33 MIN: 8	5 MAX: 43 MIN: 7	6 MAX: 46 MIN: 14	7 MAX: 50 MIN: 12	8 MAX: 48 MIN: 13
9	10	11	12	13 MAX: 40 MIN: 8	14 MAX: 43 MIN: 32	15
16 MAX: 40 MIN: 15	17	18	19	20	21	22
23	24	25	26	27	28	29
30						