Dangerous Currents in the Great Lakes

Wisconsin Coastal Beaches Working Group Annual Meeting
Green Bay, WI

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Wisconsin Coastal Management Program
Dangerous Currents

- Persistent hazard: 2010-2017 622 fatalities in the Great Lakes (2017 85 fatalities, Lake Michigan 47%)
- Different types of dangerous currents
- Public awareness of rip currents is low
- Certain groups more susceptible
- Majority of Great Lakes beaches do not have lifeguards
- Inconsistent use of rescue and safety equipment
Water/Beach Safety Equipment

In 2015-16 over 2,000 pieces of equipment were distributed in six Great Lakes states (IL, IN, MI, MN, OH & WI)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Purpose</th>
<th>Photo (if available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rescue Throw ring (Type IV Buoy)*</td>
<td>Orange, 24 in. (std.) with grab rope on buoy and 75 ft. rope</td>
<td>On-land emergency assistance-more visible from shore and easier to toss</td>
<td><img src="image1" alt="Rescue Throw ring" /></td>
</tr>
<tr>
<td>Rescue Throwbag (BQ3 Ultimate &quot;No Knot&quot;)</td>
<td>Second-chance float feature with 75 ft. rope</td>
<td>On-land emergency assistance-optimal in high wind conditions</td>
<td><img src="image2" alt="Rescue Throwbag" /></td>
</tr>
<tr>
<td>Adult life vest (Crew Mate)*</td>
<td>Head up design, Type I, min. 22 lbs buoyancy</td>
<td>Trained first responders and others performing in-water emergency rescues</td>
<td><img src="image3" alt="Adult life vest" /></td>
</tr>
<tr>
<td>Youth life jacket*</td>
<td>Head up design, 11.8 lbs buoyancy, 50 - 90 lbs. weight</td>
<td>Youth at the beach – younger programs to encourage use (Could consider multiple sizes)</td>
<td><img src="image4" alt="Youth life jacket" /></td>
</tr>
<tr>
<td>Rescue Board</td>
<td>Carlson, 2 x 7 x 4 ft. ethafoam (9 lbs.)</td>
<td>In-water emergency rescues (to be used with adult life vest)</td>
<td><img src="image5" alt="Rescue Board" /></td>
</tr>
</tbody>
</table>
| Water watcher cards and lanyard | Break-away (no-choke cord) with plastic sleeve | Support a GL regional water watcher program to encourage direct contact at the beach Printed cards for lanyards and 25K for Sea Grant and parks service to hand out | ![Water watcher cards](image6)

*Equipment distributed in 2015-16
**See appendices for MEDA MI Sea Grant sample**
Project Objectives

1) Develop a nowcast (observation) and forecast (modeling) system for real-time rip current warning

2) Provide nearshore in-situ wave observation for improving Great Lakes Coastal Forecasting System

3) Enhance the public rip current awareness through risk communications (outreach and education)
Real-Time Rip Current Watch

Port Washington, WI
Real-Time Rip Current Watch at Port Washington, Wisconsin

<table>
<thead>
<tr>
<th>Current Condition Table</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Update at:</strong> 2017/11/07 4:21 PM</td>
</tr>
<tr>
<td><strong>Wave Height</strong></td>
</tr>
<tr>
<td><strong>Wave Period</strong></td>
</tr>
<tr>
<td><strong>Wind Speed</strong></td>
</tr>
<tr>
<td><strong>Wind Direction</strong></td>
</tr>
<tr>
<td><strong>Air Pressure</strong></td>
</tr>
<tr>
<td><strong>Water Temp. (surface)</strong></td>
</tr>
<tr>
<td><strong>Water Temp. (bottom)</strong></td>
</tr>
</tbody>
</table>

**Rip Current Risk Levels**
- < 1 ft: Low Risk
- 1-2 ft: Moderate Risk
- > 2 ft: High Risk

*Live came view*
Characterizing and Forecasting Dangerous Currents on the South Shore of Lake Superior in Minnesota and Wisconsin

Minnesota and Wisconsin Sea Grant Joint RFP

- Characterize dangerous currents on Minnesota-Wisconsin south shore of Lake Superior and investigate the roles of varying wind and changing bathymetry in generating dangerous currents
- Forecast dangerous currents on Minnesota-Wisconsin south shore of Lake Superior
- Develop an integrated framework for dangerous current watches, warnings, and advisories by building a collaborative community through outreach & education, and coordination & communication
Great Lakes Water Safety Consortium

- Community of practice
- Established in 2015
- Registered nonprofit 501c3 organization
- Governance:
  - Board of Directors (5)
  - Leadership Council (17)
  - Advisory Team representing all eight Great Lakes states and Ontario (300+)
Join an Action Committee

- Education & Training Committee
- Messaging & Media Committee
- Beach Warnings & Rescue Equipment Committee
- Data & Metrics Committee
- Finance & Fundraising Committee
- Awards & Recognition Committee
- Lifeguarding Committee
- Conference Planning Committee
LIFESAVING WATER SAFETY TIPS

The Great Lakes Water Safety Consortium’s mission is to end drowning in the Great Lakes. Here are ways you and your loved ones can be safer in the water.

AVOID DROWNING
BE CURRENT SMART

- Know Before You Go
  Check the National Weather Service for forecasts about dangerous waves and currents.
- Stay Dry When Waves Are High
  Whitewater/waves as little as 2–3 feet high can generate dangerous currents.
- When in Doubt, Don’t Go Out
  Respect the power of the water and don’t take chances.
- Buddy Up
  Never swim alone – there’s safety in numbers.
- Steer Clear of the Pier
  Most current-related incidents occur near structures.

ESCAPE DROWNING
BE A SURVIVOR

- Don’t Fight the Current
  Even Olympic swimmers can’t overcome the power of rip currents.
- Yell for Help
  Call for help as soon as you realize you’re in trouble – the closer you get to drowning, the harder it will be to yell.
- Flip – flip over onto your back and stay calm.
- Float – float to keep your head above water and conserve energy.
- Follow – follow the safest path out of the water – swim to the side (parallel to shore) and if too tired to swim, keep floating.

SAFELY SAVE OTHERS
FROM DROWNING
DON’T BECOME A VICTIM

- Be a Water Watcher
  Designate someone to watch people in the water as their sole responsibility.
- Drowning Doesn’t Look Like Drowning
  Know the signs of drowning – it’s not like Hollywood with lots of yelling and waving – it’s actually subtle and silent.
- Save Yourself First
  Don’t become a victim trying to save someone else – only go out with a flotation device (e.g., life ring, kayak, surf/paddle board, cooler, soccer ball) and keep it between you and the victim; have someone call 911 to get more help on the way. Wear a life jacket if available.
- Preach, Reach, Throw, Row
  Shout to the victim that help is on the way, try to reach them with a pole or rope, throw them a floatable, get to them on a board or in a boat/kayak/canoe.
Order New Universal Warning Sign for Your Beach

Dangerous Currents
Avoid Dangerous Areas:
- Stay in designated swim areas.
- Avoid swimming near piers and breakwalls. Many fatalities have occurred.

If trapped in a dangerous current:
- Swim to the side, out of the current, and then to shore.
- If in danger, call for someone to throw a life ring or anything that floats.

Danger Zone – No Swimming
- Swim in designated area, away from this structure.
- If trapped, call for help.
- Call for someone to throw life ring or anything that floats.
- Get to ladder, if possible.

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Dangerous Current
Beware of Strong Outlet Current

If trapped in a dangerous current:
- Swim to the side, out of the current, and then to shore.
- If in danger, call for someone to throw a life ring or anything that floats.

Emergency Use Only

If swimmer is in distress:
- Yell or blow a whistle to call for help.
- Dial 911.
- Keep the victim in sight.
- Use available safety equipment, staying on shore if possible.
- Put on a life jacket if you must enter the water.

Dangerous Current
Beware of Strong Channel Current

Caution, fatalities have occurred!
Do not attempt to swim to the island.
If trapped in a channel current:
- Swim to the shore, not to the sandbar connecting the beach and island.
- If in danger, call for someone to throw a life ring or anything that floats.

$10 each
Annual Water Safety Conference
Continuing Efforts

- GLWSC 2018 spring and fall conferences
- INFOS Sheboygan
- Community response to dangerous currents