

## DESIGNATED BEACH POLICY

### **Designated Beaches**

Throughout the Michigan State Park and Recreation system there are a number of waterfront areas that are designated as swimming areas commonly called a “swimming beach.” The swimming beach designation refers to a regulated area that the public is permitted to utilize for swimming activities. The regulated swimming areas are designated by buoys.

The Great Lakes, with their unique hydrology, border so much of Michigan that designated beaches are further categorized into two types: Great Lakes, and inland lakes/rivers. This policy establishes a reasonable standard of care regarding these designated beaches. This policy first addresses general provisions applying to all designated beaches followed by specific considerations/requirements for beaches on inland lakes/rivers followed by those specific to Great Lakes Beaches.

### **Marking Designated Swimming Beaches**

Water frontage areas that may be approved as a designated beach require local approval of a beach permit application and the placement of buoys, or buoys and markers, identifying the swimming area. Types of buoys or markers, spacing, and proper marking and wording of the buoy must conform to existing established regulations, as per [MCL 324.80198b](#). The permit required for the placement of buoys is obtained from the Marine Safety Section of the Law Enforcement Division or the District Law Supervisor.

A map or sketch that includes the location of the buoys, with measurements showing distance between the buoys and the distance from the shoreline, must be submitted with the permit application. A copy of the approved buoy permit is to be kept on file in each park office, and annual replacement of buoys must conform to the permit requirements. A copy of the permit shall be forwarded to the Division Safety Officer.

### **Emergency Plan**

A written emergency plan must be established for each designated beach area, and posted in a highly visible location. The plan must be posted near the rescue equipment station(s) at the beach. The plan must include directions for employees and the public to follow in case of an emergency situation and include the listing of emergency services telephone numbers. The plan must be updated each year prior to the summer use season and reviewed by the District Supervisor. The plan must include information explaining the legal duty to rescue.

### **Rescues**

In the State of Michigan no “duty to rescue” exists, meaning that citizens are not required to rescue one another. However, once a citizen volunteers their service in a rescue, they assume a duty to continue to aid the victim until professional help arrives. The reason for this requirement is that it has been determined that once an individual begins a rescue, others may

perceive the victim is obtaining adequate attention from the rescuer that began the aid, and may not stop to assist. Thus, the victim has lost the opportunity to be rescued by others.

It is of the utmost importance to reduce the risk of anyone performing a rescue. There is significantly less risk performing a land-based rescue, than an in-water rescue. Thus, a key component of emergency rescue equipment is the use of U.S. Coast Guard-approved ring buoys placed in strategic locations near the shoreline.

It has been determined that in-water rescues fail in part, due to the rescuer not using a flotation device when performing an in-water rescue, and/or the physical exertion necessary to perform a rescue when dangerous currents and other swimming hazards are present. Thus, the use of flotation devices is critical in both water safety as well as emergency use.

State employees may only attempt the rescue of swimmers in distress to the extent they are confident of their abilities to perform a successful rescue. When a beach activity exists requiring the implementation of the unit emergency plan, Parks and Recreation Division (PRD) employees are expected to activate the emergency plan and assist emergency response personnel as directed.

### **Structures**

Any structures in the immediate vicinity of the designated beach area such as revetments, seawalls, skid piers, navigational piers, docks, or erosion control devices will be posted to discourage inappropriate activity such as walking, jumping, swimming, or diving. Posted warnings will include the specific reason for limited activity and specific risks to swimmers, such as: shallow water, underwater objects, dangerous currents, etc.

Under no circumstances will structures such as docks, piers, or rafts (i.e., swim platforms) be allowed within the buoyed swim area.

### **“No Beachguard” Signs**

Signing, placed in strategic locations, must be posted stating “No Beachguard.” This posting requirement will include a sign at the main entrance to the designated beach area.

## **INLAND LAKE/RIVER DESIGNATED BEACHES**

### **Placement/Monitoring of Buoyed Swim Areas**

For inland lakes and moving water beaches, swimming buoys will be placed in accordance with the approved application so that the water depth in any marked swimming area will not exceed five (5) feet anywhere within or along the outer buoy line designating the swimming area. Water depth within the designated swim area and at the buoys will be checked approximately every 14 days or as directed by the unit manager, the buoys will be adjusted accordingly, and the inspection documented using form PR3013. Any deep water or drop-offs greater than five (5) feet, or underwater obstacles inside the swimming area will be posted or marked with appropriate buoys, markers, or signs.

## **Rescue Equipment**

For inland lake/river beaches, emergency equipment will include **but not be limited to:** lifeboats (with oars and life jackets) and Coast Guard – approved throw rings. Additional emergency equipment may be procured with District Supervisor and Division Office approval.

All items shall be kept in good condition and available at the beach area. Boats, oars, throw rings, and other equipment will not be locked up. Boats will be painted white and identified as a lifeboat with a red cross on it, along with the park's name. Equipment should be marked/inscribed to deter theft. Inspections of equipment shall be performed daily during the beach operating season using form PR3013. Completed forms shall be retained at the unit in accordance with the department retention schedule.

## **GREAT LAKES DESIGNATED BEACHES**

**Risks Specific to Great Lakes Beaches** Dangerous Nearshore Currents (DNCs) are composed of three wave-induced nearshore flows:

- i) **Longshore Currents:** These currents flow parallel to the beach, with along-shore velocities directly proportional to the incident wave height. Longshore currents can move a swimmer swiftly up or down a beach. These currents may become dangerous when combined with rip currents or structural currents as they have the potential to move swimmers unknowingly into the path of rip currents or toward structures thereby getting the swimmer into the hazardous structural current area.
- ii) **Rip Currents:** Strong, very localized currents flowing back out to open water with intense offshore velocities. Rip currents form when waves break over a sandbar near the shoreline and the water and its momentum get trapped between the sandbar and shore. When the water and the momentum build up, the water has to go somewhere. The pressure is relieved when water returns to sea (either through a pre-existing rip channel or by breaking a new rip channel through the sand bar) in the form of a rip current, a narrow but powerful stream of water and sand moving (ripping) swiftly away from shore. Rip currents will not pull a swimmer under the water, but will carry them out to the open water, away from shore;
- iii) **Structural Currents:** Caused by either natural or manmade structures which act to interrupt and deflect the longshore currents to artificially cause an intense rip current immediately adjacent to the structure. While it can be difficult to predict when and where most currents will occur, this is not true for structural currents. Structural currents may always be present, but intensify with increased wave conditions. These currents can be dangerously strong and challenging for even the strongest swimmer. There often exists no good escape path from a structural current as swimming parallel to shore can cause one to have to fight the longshore current and swimming toward the structure can cause one to encounter hazards at the structure including large rocks and concrete hazards.

These types of hydrological activities occur on Great Lakes beaches when strong winds form large waves, which crash onto the beach. Incoming waves produce both, flow in the direction of wave travel (under the wave crest), and in the offshore direction under the wave trough. These strong winds may also create a type of “tidal movement” that either draws the water edge away from the beach or pushes more water up on the beach. At times it is possible for strong underwater currents to create narrow deep channels on the lake bottom, which produce even stronger lake ward currents. Dangerous Nearshore Currents at times travel in excess of 120 feet per minute. This condition results in swimmers being drawn up, down or away from the shoreline with the swimmer being unaware of their movements.

### **Placement/Monitoring of Buoyed Swim Areas**

For Great Lakes designated beaches, swimming area buoys will be placed in accordance with the approved application, so that at the times of installation the water depth within the designated beach area is no greater than five feet when the Great Lake is calm. Where the water depth remains less than five feet for more than 300 feet from shore, the unit manager may direct the swimming area to be limited to the water depth at 300' +/-20 foot from shore. Water depth within the swim area and at the buoys will be checked approximately every 14 days or as directed by the unit manager and the inspection documented using form PR3013.

Any deep water or drop-offs greater than five (5) feet, or underwater obstacles inside the swimming area will be posted or marked with appropriate buoys, markers, or signs.

### **Rescue Equipment**

For Great Lakes beaches, individual (or in-combination) rescue equipment stations shall include, **but are not limited to:** Coast Guard-approved throw ring(s) with lanyards and information posters. Additional emergency equipment may be procured with District Supervisor and Division Office approval. All such equipment shall be kept in good condition and available at the beach shore area at no greater than 450 foot intervals along the shoreline and also must be no further than 100 feet from the water’s edge. The rescue stations at the ends of a series of stations shall be no more than 450 feet from the ends of the designated swim beach. Equipment should be easily accessible – located on the beach without requiring the responder to climb stairs, significant dune features, or other obstacles. Equipment should be marked/inscribed to deter theft. Inspections of equipment shall be performed daily during the beach operating season using form PR3013. Completed forms shall be retained at the unit in accordance with the department retention schedule.

### **Beach Flag Warning System**

A beach flag warning system will be used at designated beaches along the Great Lakes. It must be maintained throughout the swimming season as defined by use patterns and seasons. The flag system used will indicate the potential for adverse swim conditions. Park supervision will assign an employee with wave/water action recognition training or experience to check the NOAA weather and beach hazard forecast, and monitor on-site conditions of the designated swimming beach conditions and fly the appropriate flag. It is

critical to regularly monitor changing conditions. Wave/water action monitoring frequency will depend on use, volume, and weather conditions. While no specific training in water hazard analysis is legally required, staff may seek training opportunities by contacting their local Coast Guard or reviewing training opportunities at [www.weather.gov](http://www.weather.gov) (search for “Michigan Weather Spotters.”) Michigan Sea Grant has developed a “dangerous currents” on-line training module, which is available for our use at <http://www.miseagrant.umich.edu/dc/resources/training/>. Additional information regarding rip currents can be found at [www.dangerouscurrents.org](http://www.dangerouscurrents.org) and [www.ripcurrents.noaa.gov](http://www.ripcurrents.noaa.gov).

A beach flag warning system and explanatory sign will be located near the park entrance booth to the designated beach. Additional flag(s) and explanatory signs will be strategically located along primary access routes and on the beach itself. All beach flag warning systems shall have at least one explanatory sign posted on the flag staff or in the immediate vicinity (within 25 feet) of the beach flag warning system. Flag staffs shall be a minimum of 15 feet in height, with the exception of the beach flag warning system at the park entrance booth, which may be lower to offer a more prominent view at vehicle level. The number and placement of flag staffs on the beach are to be designed so that a visitor anywhere in the designated swimming area will have clear vision of at least one flag. For beaches having high bluffs or dunes, at least one beach flag warning system shall be placed on the open beach between the shoreline and the base of the bluff or dune feature. Faded or tattered flags are to be replaced as needed.

Flags are to be rectangular in shape and a minimum of 29.5” (750 mm) on the side parallel with the flag staff and extend a minimum of 39.3” (1000 mm) when measured at right angles to the flag staff edge. The color of all green and yellow flags shall be embroidered/printed in the center of the flag using 4-inch high white lettering. Red flags will display the “no swim” symbol printed in center of flag with the symbol being approximately 26 inches in diameter.

Assigned PRD staff should use both on-site assessments of wave and current conditions along with other available information, including forecasts (<http://www.weather.gov/greatlakes/beachhazards>) and warnings provided by the local National Weather Service Office.

Criteria for determining the color of the flag to fly and expected action by the unit staff are as follows:

**Green:** Wave heights 0-2 feet. Lake conditions generally considered low or normal risk; dangerous nearshore currents, including rip currents not expected; however, weak currents could still pose risk to children; minimal wave action; minimal wind; longshore currents undetectable. Unit staff will be prepared to assist swimmers in distress to the best of their abilities if the emergency plan is initiated. Keep people away from shoreline structures and river outlets.

**Visual Clues:** Water surface appears “glassy” with little or no white capping of waves. Winds are generally light and constant, waves breaking on inner sand bar only.

**Yellow:** Wave heights 2-4 feet. Waves and currents may be hazardous for many swimmers. Dangerous nearshore currents, including rip currents and structural currents are possible. The probability of dangerous currents increases as waves reach the upper end of the spectrum. Strong offshore winds may be present; therefore, inflatable devices are not safe in the water. Unit staff will increase their awareness of the potential for emergencies to exist, and will assist swimmers in distress to the best of their abilities from a distance of thigh deep water or less if the emergency plan is initiated.

**Visual Clues:** Water surface increasing in agitation with moderate white capping of waves. Winds are relatively brisk and increasing, waves breaking on second and inner sand bars. Noticeable current flowing in longshore direction, rip or structural currents may be visible.

**Red:** Wave heights 3-5 feet, or higher. Lake conditions considered to be high risk and dangerous; very strong longshore currents, rip currents, and structural currents (where applicable) expected. Unit staff will increase their attempts to notify visitors that dangerous water conditions exist, and will only assist swimmers in distress from a distance of thigh deep water or less if the emergency plan is initiated. Red flag may also be flown for contaminated water advisory. NOTE: PRD staff have no statutory authority to **require** visitors to exit the water under red flag conditions.

**Visual Clues:** Water surface appears highly turbulent with significant white capping of waves. Winds are generally strong and may continue to increase, waves breaking from far offshore to the beach. Strong current flowing in longshore direction; rip or structural currents may also be visible.

### **Beach Safety Signs**

Beach safety signs should be posted at each Great Lakes designated beach providing information about dangerous currents and/or other pertinent swim risks. Unit Supervisors will determine appropriate locations based on park/beach layout and routes used by the public to access the beach. Beaches susceptible to structural currents or river outlet currents should include signs providing information specific to the relevant hazard.

(Questions or concerns with any designated beach relating to design, operation, or potential hazards should be brought to the attention of the Parks and Recreation Division Safety Officer through proper channels)

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updates to, or rescission of, the Designated Beach Policy so that proper notification may be provided to the NOAA.

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