

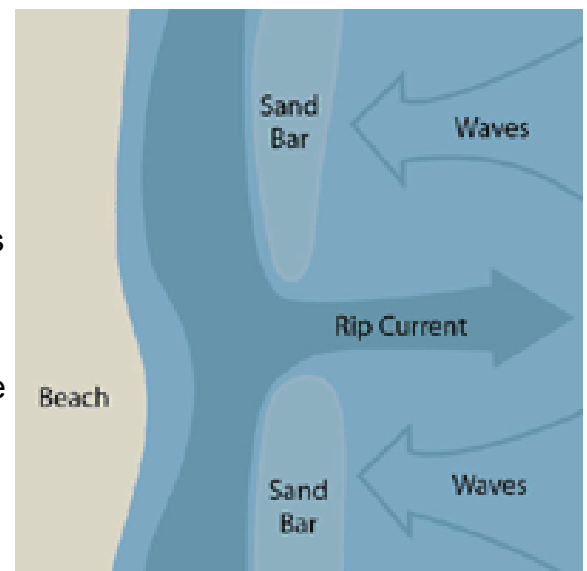


Rip Currents

Aside from risks to swimmers associated with polluted waters, some physical coastal processes can pose a risk, particularly to inexperienced swimmers (but even seasoned swimmers too!).

A **rip current** is a narrow, powerful current of water running **perpendicular** to the beach, out into the lake. Rip currents occur in a low spot in a sandbar or near a structure such as a pier or jetty and a narrow band of fast moving water heading offshore. People often associate rip currents - channel currents that can sweep them from shore - with oceans. However, they happen on the Great Lakes as well, and have claimed numerous lives over the years.

Rip currents can occur along any coastline where there are breaking waves. Scientific investigations of wave and current interactions have shown that rip currents are likely present on most beaches every day as a component of the complex pattern of nearshore circulation. As waves travel from deep to shallow water, they eventually break near the shoreline. As waves break, they generate currents that flow in offshore (away from the coast) and the alongshore (up and down the beach) directions. Currents flowing away from the coast are called rip currents.



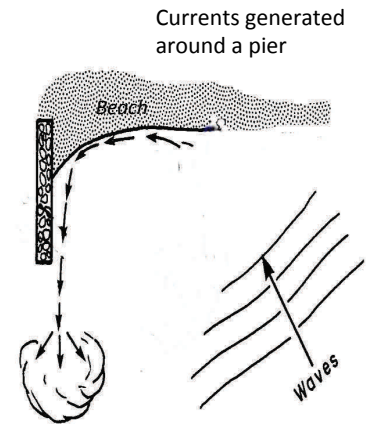
Under most lake conditions the current speeds are relatively slow. However, under certain wave and beach profile conditions the speeds can quickly increase to become dangerous to anyone entering the surf. The strength and speed of a rip current will likely increase as wave height increases.

They are most likely to be dangerous during high surf (big wave) conditions.

Man-Made Structures

Rip currents may occur at fixed locations such as groynes, jetties, piers, or other man-made structures where water can be funneled out to the lake in a narrow channel. In coastal areas with structures, a rip current may result when currents running parallel

to the shore are deflected offshore by the structure. As waves approach the shoreline, they usually break at an angle, generating a longshore current that flows parallel (along) the beach. When the longshore current (moving along the shore) encounters coastal structure (such as a groyne, jetty, or pier) it is deflected in an offshore direction. This offshore-directed flow of water is called a rip current.



Rip Current Myth

A rip current is a horizontal current. Rip currents do not pull people under the water—they pull people away from shore. Drowning deaths occur when people pulled offshore are unable to keep themselves afloat and swim to shore. This may be due to any combination of fear, panic, exhaustion, or lack of swimming skills.

What to Do

If you get caught up in a rip current, **it's crucial that you keep your wits about you**. Your first instinct may be to swim against the current, back to shallow waters. In most cases, even if you're a strong swimmer, this will only wear you out. The current is too strong to fight head-on.

Instead, **swim sideways**, parallel to the beach. This will get you out of the narrow outward current, so you can swim back in with the waves helping you along. If it's too hard to swim sideways while you're being dragged through the water, just wait until the current carries you **past the sandbar**. The water will be much calmer there, and you can get clear of the rip current before heading back in.

Knowing how to deal with rip currents makes for smart swimming. If you see someone in trouble, get help from a lifeguard. If a lifeguard is not available, have someone call 9-1-1. Throw the rip current victim something that floats and yell instructions on how to escape. Remember, many people drown while trying to save someone else from a rip current.

