Rip Currents

By Ben Rayner

This month's safety feature focuses specifically on rip currents. Rips are properly called currents, not tides. They form as a result of wave action on the sand and are one of the biggest factors in drownings that occur on ocean beaches. You can learn how to avoid them and get out of them with just a few simple facts.

Firstly, what is a rip current?

Rip currents occur when wave and wind action deposit sand, building up ridges or sand bars that run roughly parallel to the beach. These sand bars constantly shift throughout the course of a day. They are affected by the tide, the size of the waves, and the direction of the swell. Water collects up behind these sand bars as waves wash up onto the beach and when a section of the bar gives way, this water rushes back out to sea perpendicularly, creating a rip current. According to oceanographers, these currents can extend from 200 to 2,500 feet from shore, but they are typically less than 30 feet wide.

Rip currents can often move at more than 5 miles per hour. Often you can observe this phenomenon from the beach. Sandy or brown colored water can often be seen from shore as it heads out to sea. Keep this in mind if you are going in the water. Many people have a miss conception about rip currents, especially in light of the now defunct term of “rip tides”. These currents are just that-currents that travel from the beach and head back out to sea. However, they have finite power and will not carry you so far out that a swim back is not possible. Most rips travel only a short distance from the beach and as the water behind the bar drains they slowly ebb and stop. In large surf rips can carry a person a hundred yards or more out to sea, but all rips eventually either stall out or ebb away.

Rips can also form along jetties and piers. Contrary to some beliefs about rips they do not pull you underwater or drag you down. If you are standing in a rip, it is certainly possible to be knocked off your feet, but you won’t be forced underwater.

The reason people die is because they panic and furiously begin trying to swim against the current, sapping their strength. Being carried out to sea and away from land will panic even an experienced swimmer, but not even an Olympic medalist can fight against even the most mild rip current. To get a feel of a rip and the power they generate, stand in knee deep water on a beach with just mild waves. You should be able to feel quite a strong counter force as the water rushes back out to sea between waves. Now imagine that in a constricted funnel and it is easy to understand how quickly one can be pulled away from shore.

#1-In the above picture the arrow points to the rip as it flows away from the beach. The current can easily be identified by the brown, sandy water. Also note the swirling water at its terminus, called the head. This part of the rip can continue to confuse swimmers and pose a danger. Calmly swim to either side of a rip and you will eventually be able to freely swim back to the beach.

How can you avoid rip currents?

Avoiding currents is easiest by simply staying out of the water, especially if you are not a strong swimmer or are inexperienced. Only swim at beaches were lifeguards are present. If you are in doubt about whether rip currents are forming, then don't go in the water. Keep in mind that even experienced swimmers drown as a result of rip currents. More than 100 deaths a year are attributed to rips in the US. According to several on-line sources, 80% of beach rescues by lifeguards involve rip currents.

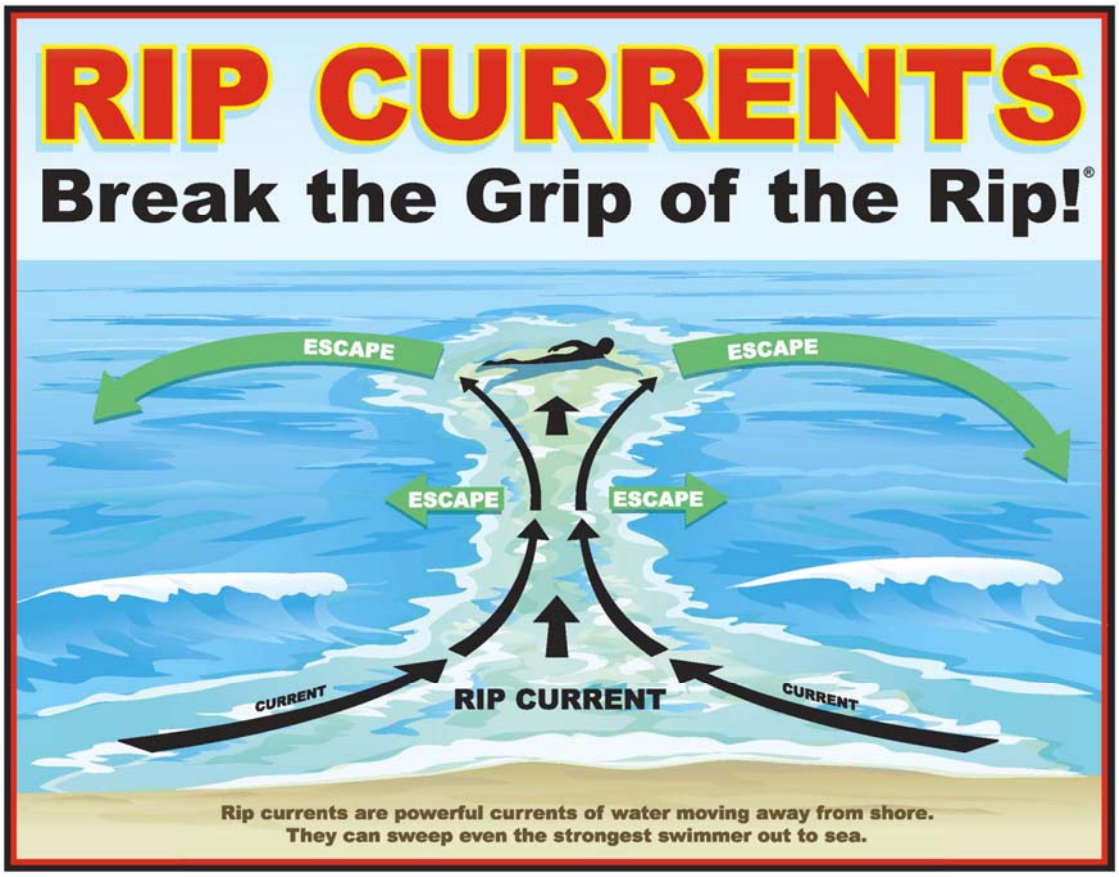
However, should you find yourself being dragged out to sea by a rip, you must do what at first seems the least likely action-enjoy the ride.

No one can fight the power of even a small rip and this is why people drown. The panic of being dragged away from the shore and safety kicks the survivor instinct into gear and swimmers use up their energy in a matter of seconds trying to get back to the beach. As stated, this is what can kill you.

Simply enjoy the ride out. Eventually you will begin to feel the rip easing. When you do, swim parallel to the beach to get out of the rip. However, keep in mind that as the rip ebbs, a large mass of swirling water, called the head, can form. (See picture #1). This water may be swirling in multiple directions, so calmly try and move one way or the other to escape the water action.

The bigger the surf, the bigger and stronger the rip currents, so stay calm and simply move parallel to the beach until you can swim directly in. This is easier said than done, especially for a struggling swimmer. The panic that sets in as you are quickly pulled away from shore is a very real and very intense feeling. But like we instruct here at SSUSA, sometimes safety can be counterintuitive. Though most people would guess that getting your seatbelt off first is the best way to escape during an underwater emergency, we know that move is the last one performed in order to survive. It is similar with a rip. One's natural reaction is to get back to shore as quickly as possible, but like removing the seatbelt, this is what will kill you. Don't fight Mother Nature and eventually she will release you allowing you to calmly swim in.

In some cases a rip current can actually be helpful. Surfers use rips, especially along jetties and piers, to easily get back out beyond the breaking surf in order to catch a wave. This should never be done by those who are inexperienced in the water and should not be done by swimmers at all. This maneuver is for experienced surfers who understand the dynamics of the beach.



IF CAUGHT IN A RIP CURRENT

- Don't fight the current
- Swim out of the current, then to shore
- If you can't escape, float or tread water
- If you need help, call or wave for assistance

SAFETY

- Know how to swim
- Never swim alone
- If in doubt, don't go out

More information about rip currents can be found at the following web sites:

www.ripcurrents.noaa.gov
www.usla.org

Wikipedia, NOAA, the US Lifeguard Association, and the US Lifesaving Association were cited as sources for this article.