

Safety Check List

- Listen to surf forecast
- Watch You Tube video of rip currents in action
- Check for warning signs and flags
- Scan water for visible rips & wave conditions from highest vantage point
- Swim near lifeguard if available



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Eastern Long Island Coastal Conservation Alliance, Ltd.

UNDERSTANDING WAVES AND CURRENTS

Your Life May Depend Upon It

Knowledge of waves and currents can help beachgoers be safer at the beach. Big breaking waves that tower over five feet high are too dangerous for most bathers and swimmers, but even relatively small waves (e.g., 2-3 feet) that seem innocuous can generate dangerous rip currents. The Surf Safety Check List helps you read the waves and currents and therefore gauge the situation relative to your own swimming ability. Skilled surfers seek out large plunging breakers for the most spectacular rides, and often utilize strong offshore-flowing currents (e.g., rip currents) to propel themselves seaward so they can catch the next wave. Surfers have the advantage of having a flotation device (e.g., surfboard) so that they are much better prepared than swimmers to deal with ocean forces, but even these thrill seekers must understand and respect the power of the sea.



A typical summer day at Ditch Plains Beach where rip currents may be present but are not always apparent.

SURF SAFETY CHECK LIST

- Listen to the surf forecast.
- Watch videos of rip currents in action on YouTube (www.ripcurrents.com) before heading to the beach.
- Know your location in the event of an emergency; some beach accesses are numbered, while others are named by the road ending or landmarks.
- Check for warning signs and flags; double red flags means the beach is closed, and a red flag indicates no swimming allowed.
- Swim near a lifeguard if possible.
- Scan the water from the highest vantage point when you arrive at the beach.
- Look at the line of breakers for a few minutes for any tell-tale signs of rip currents, which can vary by location:



High vantage point may help determine ocean conditions.

- Areas of less breaking wave activity where the rip is forcing its way seaward through the surf zone.
- Choppy water that extends beyond the breaker zone.
- Change in water color from the surrounding water—lighter color from bubbles and sediment or darker because of an underwater channel where the rip flows.
- Floating objects moving steadily seaward.
- Caution—not all rip currents are visible or apparent.

- Check for the high water mark on the beach as denoted by the wet/dry sand line, which is often the towel and beach chair line. At low tide, the high water mark is far up the beach face, and the depth of water above the sand bar is minimized so people can sometimes stand on it. Rip currents (or rips) tend to be stronger during times of low tide.
- Look for shore-perpendicular structures, such as groins, jetties and piers, which can direct the along-the-shore (e.g., longshore) current offshore as a rip.

- Look for drainage pipes that empty storm water onto the beach and car ramps that channel water to the beach; water that is rapidly-flowing down the beach can cut holes in sand bars, resulting in rip currents.



Wave size determines rip current strength.

- Note the direction of wave approach.
 - If waves are coming straight onshore, there will be an increased danger of rip currents, but no current moving parallel to the shoreline (e.g., no longshore current). If caught in a rip, swim right or left (e.g., parallel to the shore) to escape this strong offshore-flowing current.
 - If waves approach from the east (e.g., with even a slight easterly direction), the longshore current will be moving west. In this case, swim west with the longshore current and out of the rip.
 - If waves approach from the west, the longshore current will be moving east. Swim east out of the rip current.
 - The larger the breaking waves, the stronger the rip and longshore currents.
 - Strong onshore winds blowing at any angle to the shoreline will result in a fast moving longshore current.

- Estimate the size of the waves, remembering that the power of a wave is proportional to the wave height squared so that slightly larger waves are more powerful (e.g., a 3-foot wave is 9 times more powerful than a 1-footer).
- Watch at least 10 waves in a row to see if the size is constant. On many beaches the waves build up and step down. Surfers sit on their boards waiting for the bigger waves to arrive so they will get the best ride. When these larger waves break onshore, they generate more powerful rip currents, which can pulse (e.g., double in strength and carry you farther offshore).
- Note the time in seconds between breaking waves; the longer period of time between waves means that rip currents are more likely. Longer-period waves along the U.S. East and Gulf Coasts are 8+ seconds, probably resulting from an offshore tropical storm or hurricane off Bermuda or farther south. Pacific coast waves normally have much greater spacing (e.g., 12+ second waves are particularly prone to powerful rips).



Coastal engineering structures, such as groins and jetties, can result in rip currents.

PRO-ACTIVE BEACH SAFETY AND RESCUE

Rip currents can be difficult to spot, especially when there are confused sea conditions. When in doubt, stay on the shore or make use of a water tracer to detect dangerous currents (www.ripcurrents.com). In the event of a bather or swimmer in distress, call 911; do not attempt a rescue without a flotation device as many times the rescuer becomes another victim.



For over a decade E.L.I.C.C.A. has produced a number of reports on storm impacts, beach erosion, and rip currents. For more information please visit

www.ELICCA.org

