



World Water Safety

## INTERNATIONAL LIFE SAVING FEDERATION

Gemeenteplein 26 – 3010 Leuven – Belgium  
Tel: +32 16 89 60 60 – E-mail: [ils.hq@telenet.be](mailto:ils.hq@telenet.be) - Web: [www.ilsf.org](http://www.ilsf.org)

### LIFESAVING POSITION STATEMENT - LPS 18

## RIP CURRENT SAFETY ADVICE

### PREAMBLE

Over the past 10 years a considerable body of research has been conducted into how rip currents behave in terms of flow circulation patterns and flow speed. Coastal scientists, lifeguards and surf educators have used dye, GPS-equipped drifting devices and swimmers (both real and simulated using computer models) to better understand the dynamics of different types of rip currents in a variety of geographic settings. Collectively, this research has demonstrated and reinforced the complex and variable nature of rip currents with global implications for advice regarding how someone should react and potentially self-escape if caught in one. The primary implication is that a single survival strategy may not work in all situations.

The global effort to better understand the physical behaviour of rip currents as well as recent social science efforts including research on people's experiences being caught in rip currents, has contributed towards standardising safety advice. The International Life Saving Federation (ILS) Rescue Commission brought together leading scientists, researchers and beach safety educators and practitioners to form the RipSafe Committee. Based on a review conducted by the committee of existing rip current research, ILS has endorsed a standard suite of rip current safety advice. This position statement concentrates on rip current safety advice and does not include a discussion on the various types of rip currents that may present at any one location.

### THE RIP CURRENT SAFETY ADVICE

#### **AVOIDANCE** - *Avoid Rip Currents:*

1. Seek information – learn about rip currents so that you can identify and avoid them.
2. Reduce your risk - swim near a lifeguard at a supervised location.

#### **IF IN DOUBT, DON'T GO OUT**

#### **SURVIVAL** - *If you get caught in a Rip Current:*

1. Don't panic - conserve your energy and consider your options.
2. Stay Calm and Seek Help – particularly if you are close to a supervised location.
3. Float – go with the rip current and see if you are returned to shallower water.
4. Swim Parallel to the current – across the rip towards areas of breaking waves.
5. Regularly reassess the situation – confirm your decided course of action is working. If not, try an alternative. *You may need to change your approach several times before reaching safety.*

## RETURN TO SHORE

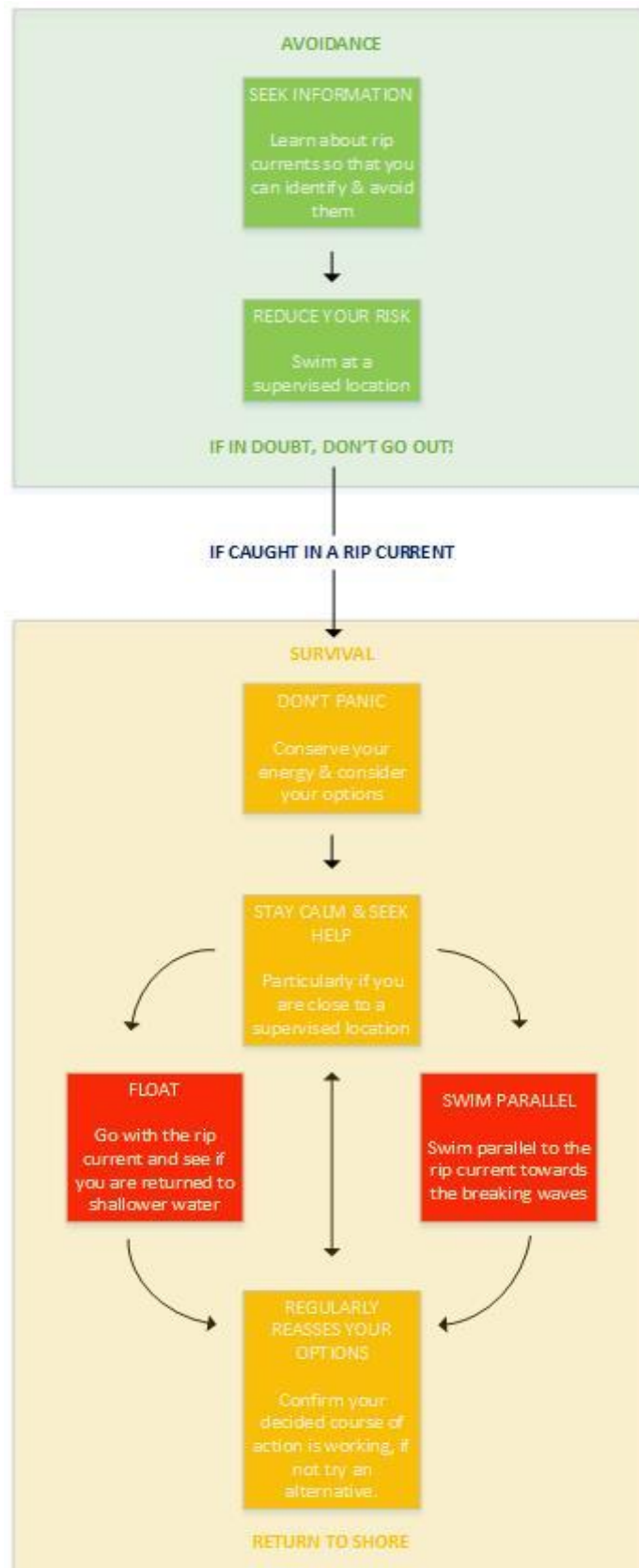


Figure 1 - Rip current safety advice

## BACKGROUND

Rip currents are strong, narrow and seaward flowing currents that occur on any beach or body of water that experiences waves breaking across a wide surf zone<sup>[1]</sup>.

Rip current appearance is highly variable, depending on the local geography, surf conditions, and type of rip<sup>[2] [3] [4]</sup>. Although not restricted just to rip currents, seven common signs that rip currents may exist are:

1. A narrow band of deeper, darker coloured water extending seaward;
2. An narrow offshore band extending offshore with fewer breaking waves;
3. A disturbed and rippled appearance, surrounded by smoother water;
4. Debris floating seaward;
5. Foamy, turbulent or discoloured sandy water extending beyond the surf break;
6. A large bowl shaped embayment carved into the beach and shoreline;
7. The presence of a natural or manmade boundary such as a pier, groyne or break wall.

Rip currents represent one of the greatest risks to swimmers in the coastal environment<sup>[5] [6]</sup>. The risk varies according to a number of factors such as the wave conditions, tide level, natural and manmade geomorphologic features and, the ability and experience of the person in the water. Rip currents continue to represent the major cause of rescues and fatalities at surf beaches around the world. This is due to the fact that many people make poor decisions such as swimming against the current and incur energy loss which is exacerbated by panic. They are then unable to stay afloat long enough to return to shallower water or are rescued.

In attempting to address rip current risk and develop safety advice for the hazard, the challenge presented is that due to the dynamic nature of the environment in which rip currents exist, distilling advice that is concise and easy to recall is complex. Considerable debate has occurred in recent years as to whether a single message “Swim Parallel” or “Float” is the better survival strategy. Research has demonstrated that both are appropriate in certain situations<sup>[7] [8] [9] [10] [11]</sup>.

The dynamic environment has produced a number of rip current types studied and categorised over many years, e.g. topographic, fixed, alongshore, circulating, pulsing, mega rip, etc<sup>[12]</sup>. “The relationship between rip currents and wave action in the surf zone provides a dynamic environment for the beachgoer that can be compounded by a series of hazards working together”<sup>[13]</sup>.

Due to this fact, each rip current is in some way unique. They are often difficult to recognise by people who have not been trained in how to spot a rip current. Different types of rip currents often will require a different survival strategy should a person find themselves caught in one. Without adequate education and awareness of how to spot and avoid a rip current, the various types of rip currents that occur and the options available to survive a rip current, people will continue to drown.

The way to determine the most appropriate rip current safety advice most of the time is enabled by studies that examine the different types of rip currents, how they behave, the frequency of variance, and the conditions in which they occur. In an effort to simplify the safety survival message rip currents have been determined to fit into two main types, those that circulate back to shallow water and those that travel into deeper water.<sup>[14]</sup>

There is one other major influence on the rip current safety advice and that is the variability in human response to being caught in a rip current. This additional dynamic adds further complexity to the safety advice challenge. An individual may choose to float, stay calm,

conserve their energy, wave for assistance and wait to see if the rip current returns them to shallow water or are rescued. This is often difficult to do if the rip current is taking you further away from the shore before circulating towards a position where a person can stand. The other alternative is to take action and swim to safety ensuring they do not swim against the current or tire themselves before reaching safety. This satisfies the human reaction to want to do something (fight or flight), but may lead to exhaustion if the direction is not appropriate and assumes that the person has adequate swimming ability.

Given that each rip current works in a unique way and each person will respond differently, the best advice that remains is to avoid the hazard altogether. Learn how to identify rip currents and avoid them<sup>[15]</sup>, or reduce individual risk by swimming at a supervised location<sup>[16]</sup>. If an individual finds themselves in a rip current, the research supports that knowing your options is the most appropriate advice.

## STATEMENT

1. It is evident from the latest scientific research that rip currents present themselves in varying ways and that individuals will react differently once caught in a rip current. Therefore, no single piece of rip current safety advice will suit all situations.
2. The most appropriate safety advice is to suggest avoidance of rip currents from the outset and reducing individual risk by swimming at supervised locations.
3. ILS endorses the following rip current safety advice:

### **AVOIDANCE** - Avoid Rip Currents:

- a. Seek information – learn about rip currents so that you can identify and avoid them.
- b. Reduce your risk - swim near a lifeguard at a supervised location.

### **IF IN DOUBT, DON'T GO OUT**

### **SURVIVAL** - If you get caught in a Rip Current:

- a. Don't panic - conserve your energy and consider your options.
- b. Stay Calm and Seek Help – particularly if you are close to a supervised location.
- c. Float – go with the rip current and see if you are returned to shallower water.
- d. Swim Parallel to the current - towards the breaking waves.
- e. Regularly reassess the situation – confirm your decided course of action is working. If not, try an alternative. *You may need to change your approach several times before reaching safety.*

### **RETURN TO SHORE**

4. The rip current safety advice needs to be consistently advocated by all stakeholders including practitioners, academics, and drowning prevention organisations to ensure an awareness of the rip current hazard and ways to manage the risk they present.

## LEVEL OF EVIDENCE

This document is based on the latest research into rip current behavior and expert consensus.

## POTENTIAL CONFLICT OF INTEREST STATEMENT

Several members of the ILS RipSafe Committee have been involved in the research mentioned in this position statement as well as contributing to the major reference material

acknowledged in this statement. None of the participants in the consensus process leading to this position statement has a conflict of interest with the stakeholder industry, technology, persons or organisations that are identified and/or impacted by the position statement.

## ACKNOWLEDGEMENT

The debate over rip current survival advice has continued for decades and will no doubt continue. In more recent times progress has been assisted by the investment of time and funds by several grant programs, academic programs and practitioners who have studied rip current behaviour. The RipSAFE Committee would like to extend particular tribute to the following paper, its lead author and co-authors for delivering the current consensus in a concise body of work.

*Anthony Bradstreet, Robert Brander, Jak McCarroll, Barbara Brighton, Dale Dominey-Howes, Danielle Drozdowski, Shauna Sherker, Ian Turner, Amelia Roberts and Jamie MacMahan. (2014), "Rip Current Survival Principles: Towards Consistency", Journal of Coastal Research, No. 72, pp. 85-92.*

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## APPROVAL

Policy Statement approved by the ILS Board of Directors on 03/09/2016.