SLSGB Beach Environment Training Aid

v001 05.15 (SLSGB367)

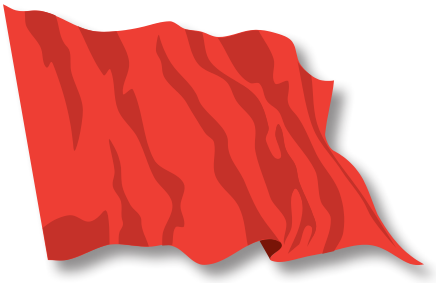
Marker flags

BATHING AREA FLAGS

These flags are rectangular in shape, red over yellow halved. They indicate the patrolled bathing area and should be sited on the section of the beach where the patrol considers bathing is safest. They must be flown on portable flag poles at least 3.5 metres high. Some Clubs may prefer to use discs instead of flags but whichever system is used they must ensure that the area is immediately recognisable to the public.

BOARD AREA FLAGS

These flags are rectangular in shape, black and white quartered. They indicate the area designated on the beach for the use of all large craft. They should be on flag poles similar the bathing area flags. The space between the bathing area and board area should be such as to allow a stretch of 'no-mans land' to prevent danger in either area. Individual authorities will decide if body boarding is to be allowed in these areas since there is a higher head injury risk amongst board riders.



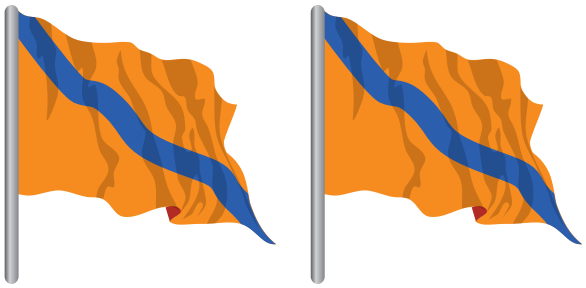
RED FLAGS

The red flag indicates that in the opinion of the lifeguard it is dangerous to bathe when this flag is flown. These flags must be permanently sited, preferably on flagpoles at enough sites to ensure that all beach users can see them. The flags must be of a strong material and large enough to be seen even when limp.

Signals

SIGNAL FLAGS

These flags are rectangular in shape and are orange with a 10 cm blue diagonal stripe. They should be fixed to light poles of at least 150 cm in length. Their prime purpose is to relay messages from the each to swimmers or craft riders in the water.



BEACH TO LIFEGUARD, RESCUE BOATS, SURF SKIS AND SURF BOARDS

TO ATTRACT ATTENTION FROM SHORE

Two flags move up and down and crossing above the head

SHORE SIGNAL – MESSAGE RECEIVED AND UNDERSTOOD

One flag held high and cut away downward to ground

SHORE SIGNAL – MESSAGE NOT CLEAR, REPEAT

Flag waved side to side above head

RETURN TO SHORE

PROCEED FURTHER OUT TO SEA

REMAIN STATIONARY

Flag held at arm's length parallel to the ground.

GO RIGHT

GO LEFT

BOAT TO INVESTIGATE SUBMRGED OBJECT

One flag held horizontal to ground in required direction & other at 45° below horizontal in opposite direction

PICK UP SWIMMERS

Two flags any colour. One waved around the head & other pointed in direction required

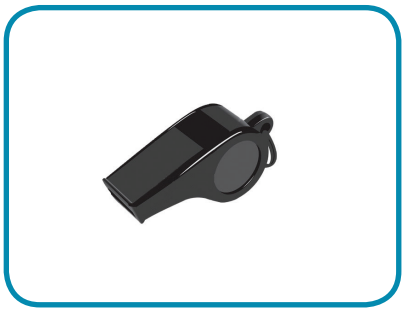
PICK UP BUOYS

Flags raised up and down from 45° below horizontal to 45° above horizontal

ADJUST BUOYS

One flag held 45° above horizontal & other below horizontal. Angle is alternated by moving arms up & down

WHISTLE SIGNALS



ATTRACT ATTENTION OF BATHERS

ATTRACT ATTENTION OF ANOTHER LIFEGUARD

TAKING EMERGENCY ACTION

HAND SIGNALS BY LIFEGUARD OR CASUALTY

ASSISTANCE REQUIRED

Wave arm from side to side above head

SIGNAL FROM SURF BOARDS & SURF SKI

ANOTHER BOARD REQUIRED

DANGER

ALL CLEAR

SWIMMER REQUIRED

Waves

WAVE TYPES

Plunging wave or dumper

PLUNGING WAVE OR "DUMPER" (SHOREBREAK)

This wave breaks with tremendous force and can easily throw a swimmer to the bottom. They usually occur at tidal extremes or when sandbanks are shallow and there is less water for the waves to break onto. Steep shelving beaches also have plunging waves, Shorebreaks of 5 - 8ft have occurred in knee deep water. Breaking waves and the previous wave's backwash cause a vigorous suction effect

- A person can be knocked down and caught up in the next wave.
- A tense & extended body can have serious spinal / neck injury in these waves.

If caught off balance, push under and towards incoming Shore break, curl up then breakout of this position on the other side of the wave.

Spilling wave

SPILLING WAVE

This wave occurs when the crest (or top) of the wave tumbles down the face (or front) of the wave. As the tide gets lower and the sandbank that the waves are breaking on becomes shallower, this type of wave may form tunnels or "tubes".

Surging wave

SURGING WAVE

This wave may never actually break as it approaches the water's edge. This is because it is very deep beneath the wave and the wave does not lose speed nor gain height. These waves can knock people off their feet and carry them back into deep water. For this reason they can be very dangerous, especially around rocks.

Backwash wave

Shorebreak

BACKWASH

Is obvious at high tide. Water that was pushed in by waves is returned by gravity with momentum gathered going down steep slopes. This can knock people over and drag them to deeper water, where a second uprush of water meets the backwash causing extensive turbulence.

- It may, rarely, meet a rip current to take the person offshore.
- Downward sucking action does NOT occur. Lost buoyancy and poor swimming ability cause submersion.
- "Undertow" is frequently used to describe this and is an incorrect term.

In some situations, for an average swimmer, there is no danger and provides only a free ride down the beach. In other locations these currents can run along and wash into a rip current or gutter with a strong "run out" and drag weaker swimmers with it.

STANDING AND ROGUE WAVES

A standing wave occurs when water flows over object, such as rocks below the surface. This means that when swells pass this point, either;

- A wave can be cancelled flat, crest to trough.
- Or a wave is added, crest to crest, to double the original height.

This explains why rock fishermen can be caught out by large waves. It is really the combining of wave crests into a rogue wave larger than surrounding ones. Headlands and points of bays are areas where these occur due to submerged islands. Hence expect waves to be larger than those found inshore.

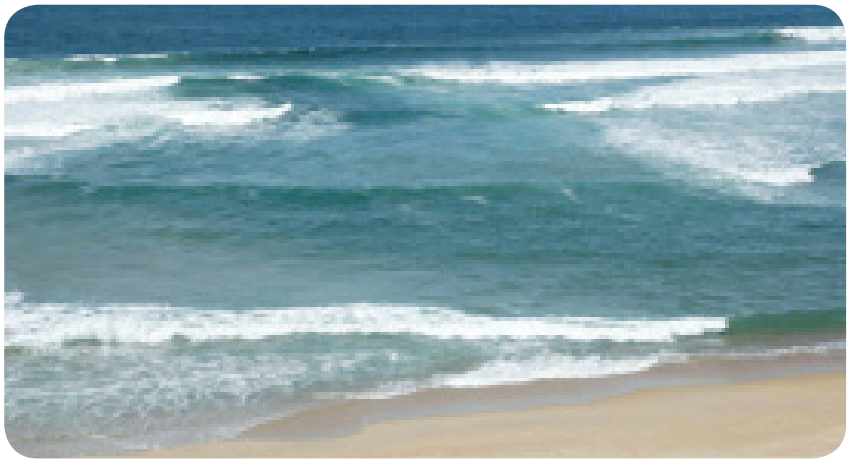
Rip Currents

The term “Rip-tide” demonstrates a lack of understanding of the cause of rip currents. Tidal action only has a peripheral effect on beach currents. The main causes are waves and surf.

Tides cause strong currents at entrances to bays or estuaries, and allow water to run over higher sandbanks (hence deeper channels) due to the new tide height further inshore. The rip current is formed, basically, by water seeking its own level, usually by large sets of waves approaching the beach, causing a transient damming effect by building up water. This later returns to sea under gravity via the ‘path of least resistance’ to find its own level. Thus causing a drag outwards usually where there is a trough or sheltered area e.g. next to piers. The larger the surf, the more intense the rip current. Rip currents are more difficult to pick out on a windy day when the surf is choppy. Frequently, sandbars are formed adjacent to rip currents.

COMMON METHODS OF IDENTIFYING A RIP CURRENT ARE;

- **Discoloured water, (brown in colour) due to sand stirred off the bottom.**
- **Foam on the surface extending beyond the break**
- **Waves breaking further out on both sides of the rip**
- **Debris floating seaward**
- **Rippled appearance, when the water around is generally calm. The lack of surf attracts unsuspecting beach users**
- **Darker, deeper water**



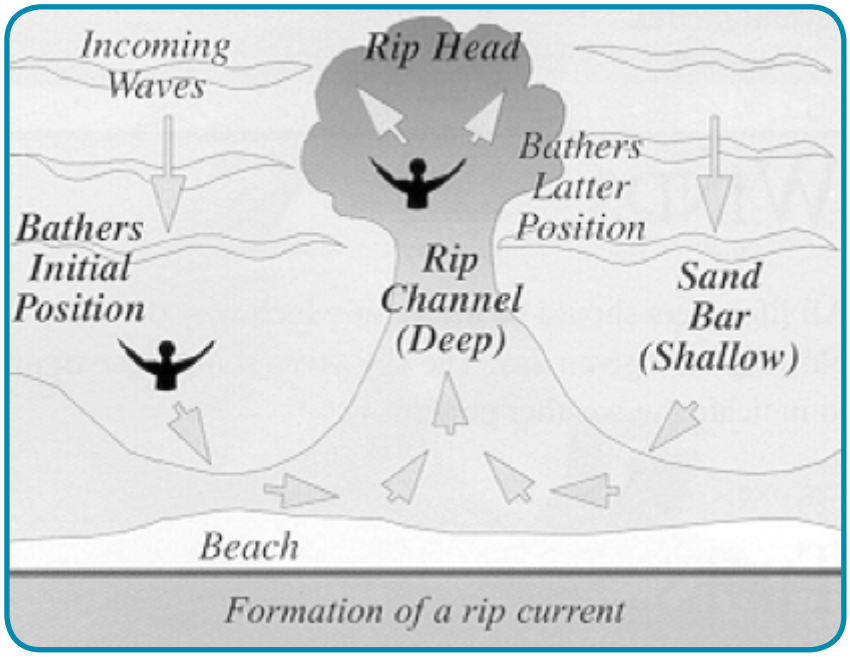
Examples of Rip currents

Multiple Rip currents

RIP CURRENT COMPONENTS

Feeder: water travels laterally along the beach to get to the 'path of least resistance' (rip channel), meets channel / obstacle and goes seawards. Waves breaking either side of a deep channel have two feeders.

Neck: river of water running from beach. Rip's strongest effect. This is where most rescues and drowning occur. Varies in width (m).

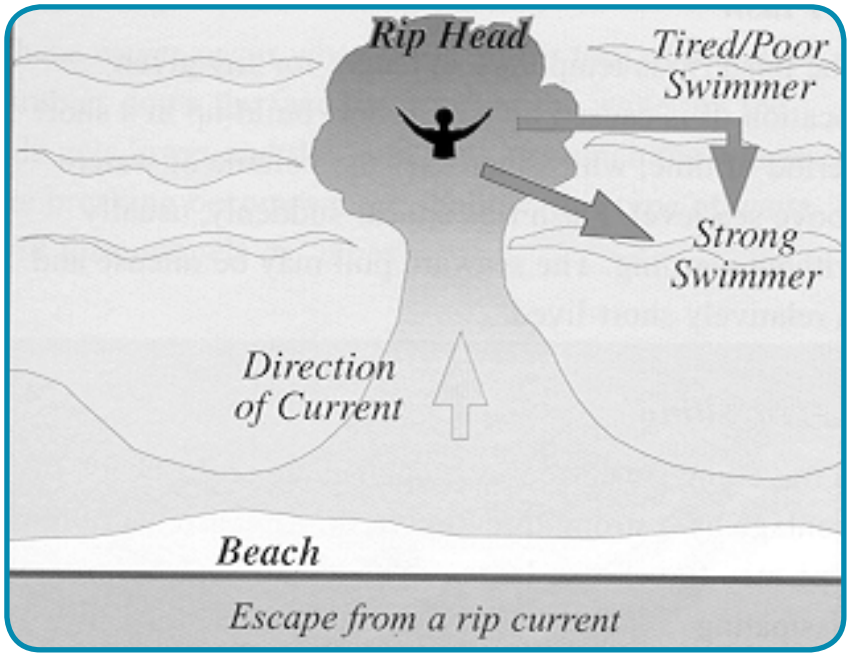


Formation of a rip current

Head: the neck's end of offshore current. Current momentum now exhausted (from waves going in to gravity pulling out).

NOTE: Beach Lifeguards operate in Britain on all types of beaches from long unbroken stretches of open sandy areas to short coves bounded very closely by rocky headlands. Clubs and Local Authorities should endeavour to secure aerial photographs of their beaches to identify potential danger spots.

ESCAPE FROM A RIP CURRENT



Escape from a rip current

If caught in a rip, **DON'T PANIC**. The swimmer with limited ability should ride it out from the beach and swim perpendicular to the pull of the current (usually parallel to the shore) for 30 - 40 metres and return to shore on a perpendicular course where waves are breaking.

Stronger swimmers, after assessing the rip width, should swim at a 45° angle across the rip. After a short swim it pays to probe with the legs to see if a sand bar has formed close to the edge of the rip.

TYPES OF RIP CURRENTS

Rip currents fall into three types:

PERMANENT

Permanent rip currents remain in the same area for months or even years.

The permanent nature is due to the ocean bottom and prevailing conditions changing very little. These vary in intensity with rip power increased over solid stationary rocky channels.

Rip speed and power is proportional to surf size due to the extra water moving.

Rock projections, groynes, drainage pipes or piers force lateral currents seaward to form permanent currents. Rivers and tidal outflow are also permanent type.

FIXED

A hole or gully accompanies these rips on the ocean floor with sand as its primary base. Once established, the rip may last from several hours up to many months. The length of time and channel depth depends on the movement of sand.

FLASH RIPS

The flash rip is temporary in nature for any given location. It is caused by:

- Stormy, heavy surf build-up with long wave sets increasing the volume of water above sea level.
- Sudden change in offshore sandbars/ banks.

It will appear suddenly and usually without warning and is relatively short lived.