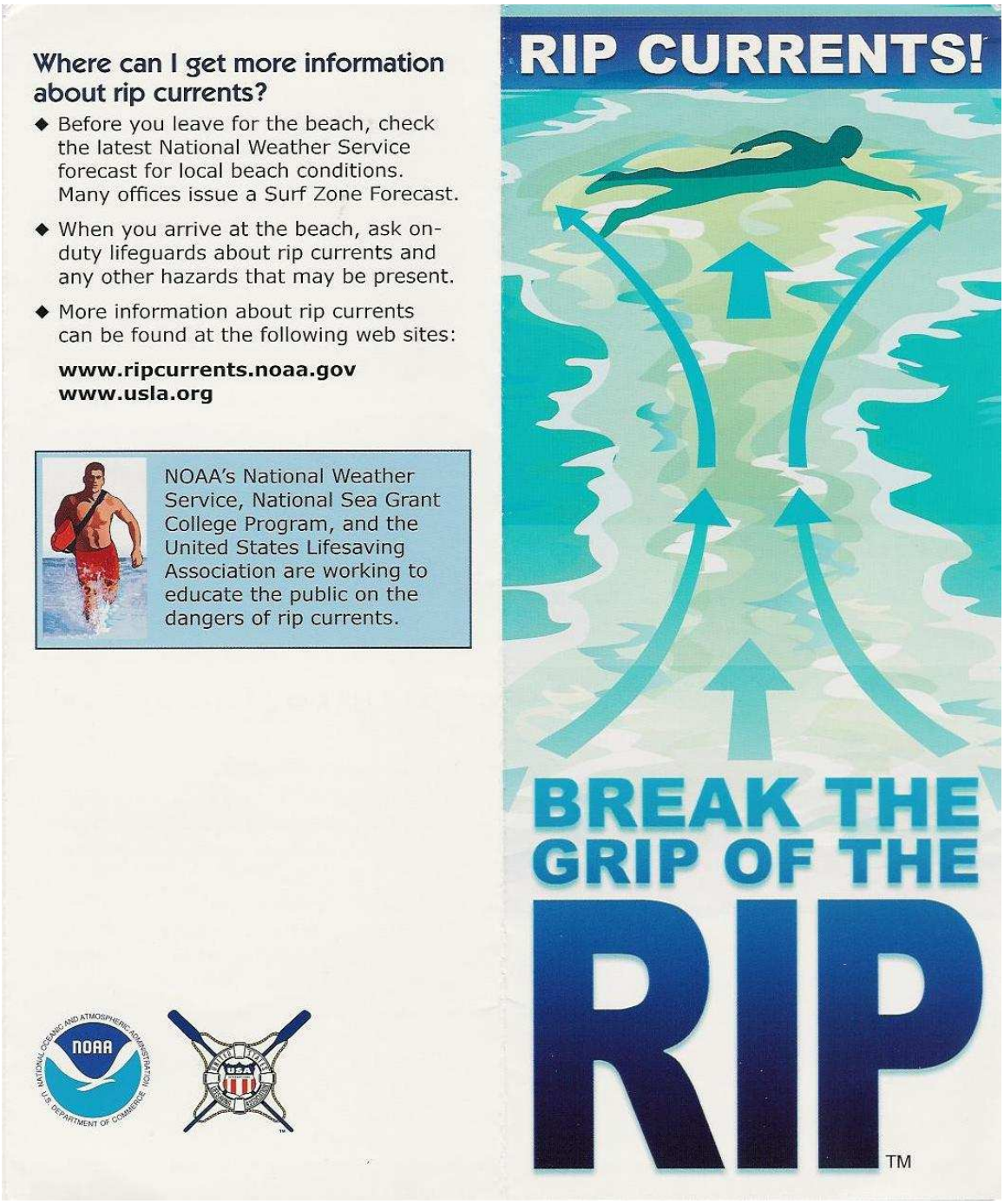
Appendix 1

"RIP CURRENTS! BREAK THE GRIP OF THE RIP"

Presented below is a scanned copy of a brochure published by the NOAA's National Weather Service, the National Seagrant College Program and the United States Lifesaving Association educating the public about rip currents, their danger and what to do when caught in a rip current.



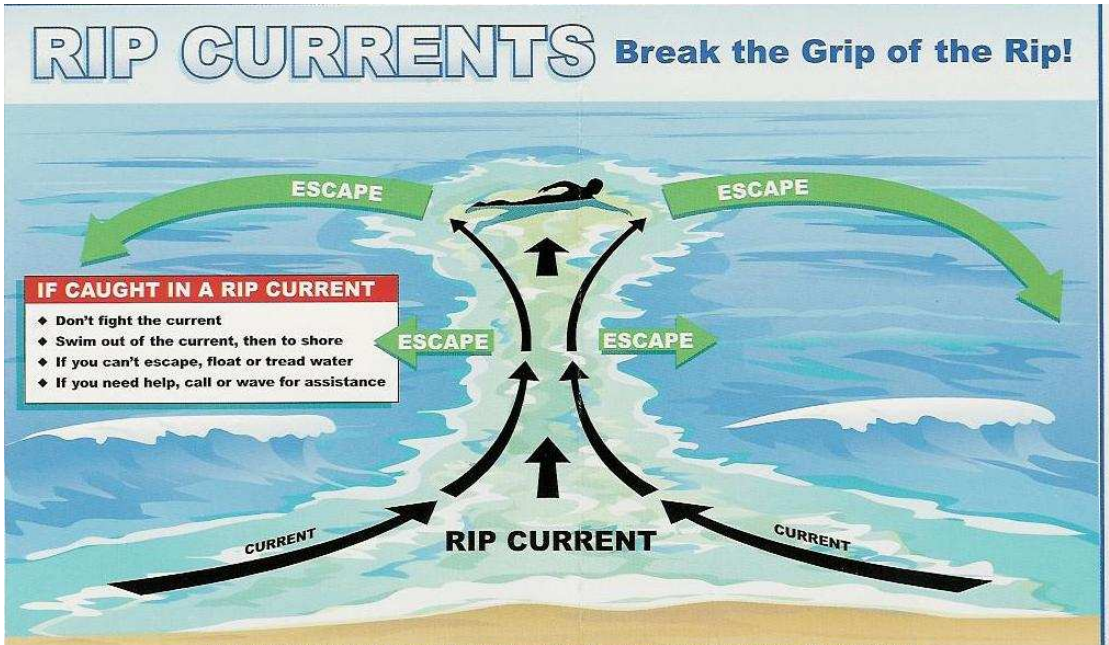
Where can I get more information about rip currents?

- Before you leave for the beach, check the latest National Weather Service forecast for local beach conditions. Many offices issue a Surf Zone Forecast.
- When you arrive at the beach, ask on-duty lifeguards about rip currents and any other hazards that may be present.
- More information about rip currents can be found at the following web sites:

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

NOAA's National Weather Service, National Sea Grant College Program, and the United States Lifesaving Association are working to educate the public on the dangers of rip currents.

RIP CURRENTS Break the Grip of the Rip!



Rip currents are powerful currents of water moving away from shore. They can sweep even the strongest swimmer out to sea.

Dave Brenner, Michigan Sea Grant

How do I help someone else?

Don't become a victim while trying to help someone else!
Many people have died in efforts to rescue rip current victims.

- Get help from a lifeguard.
- If a lifeguard is not present, yell instructions on how to escape.
- If possible, throw the rip current victim something that floats.
- Call 9-1-1 for further assistance.

Courtesy of Discovery Communications

A lifeguard rescues a swimmer caught in a rip current.

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A break in the incoming wave pattern is one sign of a rip current.

Facts about rip currents

- Rip current speeds vary. Average speeds are 1-2 feet per second, but they have been measured as fast as 8 feet per second—faster than an Olympic swimmer!
- Rip currents can be very narrow or more than 50 yards wide.
- Sometimes rip currents end just beyond the line of breaking waves; however, they may continue to pull hundreds of yards offshore.
- Rip currents do not pull people under the water—they pull people away from shore.
- Rip currents are not "undertow" or "riptides." These improper terms should not be used to describe them.

Safety tips

- Know how to swim.
- Never swim alone.
- For maximum safety, swim near a lifeguard.
- Obey all instructions and orders from lifeguards.
- Be cautious at all times.
- If in doubt, don't go out!

United States Lifesaving Association statistics indicate that the chance of death by drowning at a beach protected by lifeguards is 1 in 18 million.

Appendix 2

US Coast Guard Information and Recommendations Regarding Rip currents

The following information about rip currents is provided by the US Coast Guards on a general website (http://www.uscg.mil/mlclant/Kdiv/kseWaterSafety.htm) providing information on Beach Safety and Ocean Safety.

Rip currents are the most threatening natural hazard along our coast. They pull victims away from the beach. The United States Lifesaving Association has found that 80% of the rescues effected by ocean lifeguards involve saving those caught in rip currents.

A rip current is a seaward moving current that circulates water back to sea after it is pushed ashore by waves. Each wave accumulates water on shore creating seaward pressure. This pressure is released in an area with the least amount of resistance, which is usually the deepest point along the ocean floor. Rip currents also exist in areas where the strength of the waves are weakened by objects such as rock jetties, piers, natural reefs, and even large groups of bathers. Rip currents often look like muddy rivers flowing away from shore.

Rip currents are sometimes mistakenly called "rip tides" or "undertows." These are misnomers. Rip currents are not directly associated with tides and they do not pull people under.

Try to avoid swimming where rip currents are present, but if you become caught in a one, swim parallel to the shore until the pull stops and then swim back to shore. If you are unable to return to the beach, tread water and wave for lifeguard assistance. Stay at least 100 feet away from piers and jetties. Rip currents often exist along the side of fixed objects in the water.

Be aware of ocean conditions. Lifeguards are trained to identify potential hazards. Ask a lifeguard about the conditions before entering the water.

Appendix 3

US Coast Guard Recommendations for Beach and Ocean Safety

The following are recommendations issued by the US Coast Guards for Beach Safety and Ocean Safety as well as information on rip currents. This information can be found along with other information on general water safety and water safety related to activities such as boating and surfing on the web at the following link: http://www.uscg.mil/mlclant/Kdiv/kseWaterSafety.htm.

US Coast Guards Recommendations for Beach Safety:

1. Protect your skin: Sunlight contains two kinds of UV rays -- UVA increases the risk of skin cancer, skin aging, and other skin diseases. UVB causes sunburn and can lead to skin cancer. Limit the amount of direct sunlight you receive between 10:00 a.m. and 2:00 p.m. and wear a sunscreen with a sun protection factor containing a high rating such as 15.

2. Drink plenty of water regularly and often even if you do not feel thirsty. Your body needs water to keep cool. Avoid drinks with alcohol or caffeine in them. They can make you feel good briefly but make the heat's effects on your body worse. This is especially true with beer, which dehydrates the body.

3. Watch for signs of heat stroke: Heat stroke is life-threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly. Signals include hot, red, and dry skin; changes in consciousness, rapid, weak pulse, and rapid, shallow breathing. Call 9-1-1 or your local EMS number. Move the person to a cooler place. Quickly cool the body by wrapping wet sheets around the body and fan it. If you have ice packs or cold packs, place them on each of the victim's wrists and ankles, in the armpits and on the neck to cool the large blood vessels. Watch for signals of breathing problems and make sure the airway is clear. Keep the person lying down.

4. Wear eye protection: Sunglasses are like sunscreen for your eyes and protect against damage that can occur from UV rays. Be sure to wear sunglasses with labels that indicate that they absorb at least 90 percent of UV sunlight.

5. Wear foot protection: Many times, people's feet can get burned from the sand or cut from glass in the sand.

6. Spinal Injury Prevention

- Don’t dive headfirst into any unknown water. Remember, the beach ocean floor may change its shape constantly.
- In shallow water, don’t dive headfirst towards the bottom into oncoming waves.

- In shallow water, don’t stand with your back to the waves.
- Don’t jump or dive from a cliff, pier, jetty or bridge.
- Avoid bodysurfing, bodyboarding or surfing straight "over the falls." Ride the shoulder.
- During a bodyboard or surfing "wipe out," try to hands out in front of you. Don’t dive straight to the bottom.
- While bodysurfing, always keep at least one arm out in front of you to protect your head and neck.

10. Don't swim near piers or breakwaters. The currents here may be very strong, even for the best of swimmers.

11. Stay clear of boats. They take time to change direction, and they may not even see you.

12. Swim parallel to the shore. If you swim out too far, you may be too tired to swim back.

13. Open water is usually much colder than a pool, so don't swim out too far.

US Coast Guards Recommendations for General Ocean Safety:

1. Learn to swim. The best thing anyone can do to stay safe in and around the water is to learn to swim--this includes adults and children.

2. Stay within the designated swimming area, ideally within the visibility of a lifeguard.

3. Never swim alone.

4. Check the surf conditions before you enter the water. Check to see if a warning flag is up or check with a lifeguard for water conditions, beach conditions, or any potential hazards.

5. Stay away from piers, pilings, and diving platforms when in the water.

6. Keep a lookout for aquatic life. Water plants and animals may be dangerous. Avoid patches of plants. Leave animals alone.

7. Make sure you always have enough energy to swim back to shore.

8. Don’t try to swim against a current if caught in one. Swim gradually out of the current, by swimming across it.

9. Spinal Injury Prevention

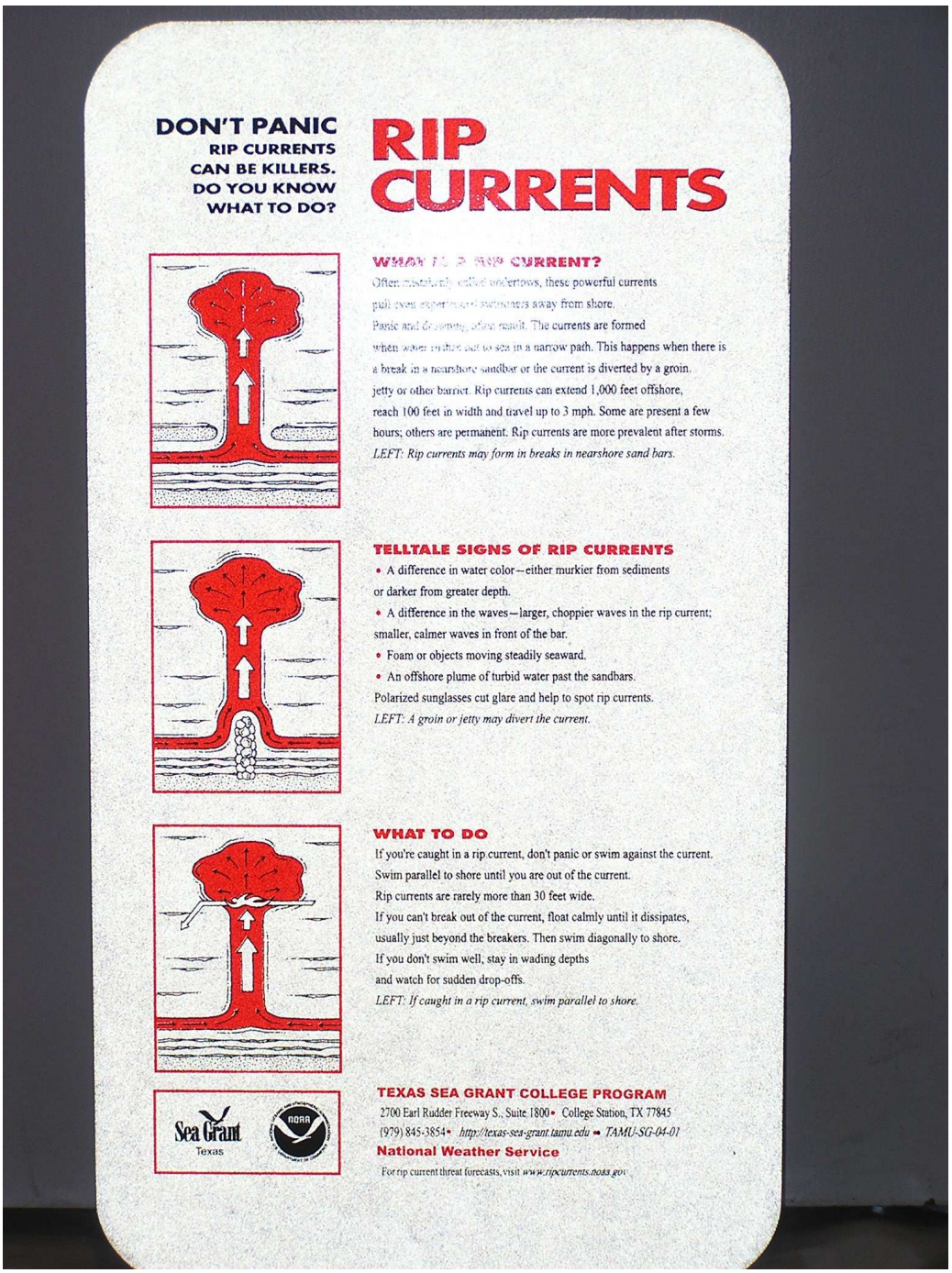
- Don’t dive headfirst into any unknown water-remember, the beach ocean floor may change its shape constantly.
- In shallow water, don’t dive headfirst towards the bottom into oncoming waves.
- In shallow water, don’t stand with your back to the waves.

- Don’t jump or dive from a cliff, pier, jetty or bridge.
- Avoid bodysurfing, bodyboarding or surfing straight "over the falls." Ride the shoulder.
- During a bodyboard or surfing "wipe out," try to hands out in front of you. Don’t dive straight to the bottom.
- While bodysurfing, always keep at least one arm out in front of you to protect your head and neck.

Appendix 4

Texas Sea Grant and National Weather Service "Rip Currents" Placard

This 20" x 11" Rip current placard distributed by the Texas Sea Grant College Program and the National Weather Service can be posted at locations at risk of rip currents and succinctly and graphically explains the basic principle of rip currents and how to react if caught in one.



Appendix 5

Surf Drowning Questionnaire and Collected Answers

The following Rip Current Survey including the short "Introduction to Survey" section was distributed to estimate the prevalence and strength of rip currents in the Texas Coastal Bend. The questionnaire was sent by E-mail and distributed on beaches, surfing and windusrufing locations. The questionnaire was also sent by E-mail to members of local associations whose members frequently visit the local beaches under a variety of conditions. The contacted associations were the Texas Coastal Bend Chapter of Surfrider (surfers), the Corpus Christi Windsurfing Association (windsurfers) and the Coastal Conservation Association CCA (fishermen). Individual interviews based on the questionnaire were also conducted during the 2005 Corpus Christi Velocity games, and at Corpus Christi Oleander Point (windsurfing site). As discussed in the main text of the report only questionnaires from persons having enjoyed the beaches for 3 years or more and visit the beach on average at least 20 times per year were kept for the final analysis for consistency.

Questionnaire:

Introduction to survey:

Definition of a rip current: Rip currents are channeled currents of water flowing away from shore. They typically extend from the shoreline, through the surf zone, and past the line of breaking waves. Rip currents can occur at any beach with breaking waves, including the Great Lakes. For more information and safety tips on rip currents consult the following NOAA website: http://www.ripcurrents.noaa.gov/ .

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)?

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…)

4. How often do you typically go to the beach (frequency per year for example)?

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages?

6. Have you ever witnessed a rip current (yes/no)?

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..)

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)?

10. If yes how close was the rip current(s) to the structure?

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 to 5 –

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 to 5 –

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 to 5 –

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 to 5 –

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 to 5 –

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 to 5 –

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 to 5 –

19. Do you have other comments for each of these rip current events?

RC 1 to 5 –

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

Responses to rip current questionnaire in chronological order:

The Questionnaires have been reformatted by removing some spaces and by placing respondents' answers in bold italic. Also only the questionnaires kept for the analysis are presented below. The criteria for accepting or removing the questionnaires and the general analysis strategy can be found in section 4 of the report.

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Respondent 1:

I. General Questions:

1. For how many years have you enjoyed visits to the beach?
   since I was 5 years old, 1954
2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)?
   surfing
   documenting erosion & Texas Open Beaches Act violations
3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…)
   all year
4. How often do you typically go to the beach (frequency per year for example)?
   35+
5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages?
   Surfside Beach - drive 110 miles to the beach, surf, return home
6. Have you ever witnessed a rip current (yes/no)?
   yes
7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?
   since I surf I utilize rip currents to paddle out every time I see one
   I try to find them on every visit

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..)
   Surfside Beach - jetty
   Galveston - Flagship Pier, every groin
   actually, at every groin or jetty on the coast at one time or another
9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)?
   yes
10. If yes how close was the rip current(s) to the structure?
    small rip currents within 30' of structure
    large rip currents within 100' of structure

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

mostly during larger surf or a dominant longshore current.

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 – Surfside Beach

RC 2 – Galveston

RC 3 – Galveston

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 – jetty

RC 2 – Flagship Pier

RC 3 – groins

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 – most storms with east swell

RC 2 – sw swell

RC 3 – most storms

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 – TS

RC 2 – TS

RC 3 – TS

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 – 3

RC 2 – 2

RC 3 – 2

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 – on a number of occasions, I have seen surfers washed up on the Surfside jetty or carried to the end

19. Do you have other comments for each of these rip current events?

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

****

Respondent 2:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?

In Texas, 15 years

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)?

surfing

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…)

all year

4. How often do you typically go to the beach (frequency per year for example)?

50 times per year

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages?

Bob Hall 23% - mostly near pier

Seawall near Whitecap Drive 33% - entire length of seawall

Fish Pass 10% - near jetties

Horace Caldwell - 33% - near pier

6. Have you ever witnessed a rip current (yes/no)? ***yes***

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?

65 times per year

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..)

All locations I listed above

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)?

most (75%) near structures

10. If yes how close was the rip current(s) to the structure?

We use rip currents directly along side of piers to paddle out on days when the waves are most consistent - it's the easiest way to get out since Gulf waves are so close together (short period)

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

The more water that's moving around and being pushed onto the beach (higher seas) always means more rip currents

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 – year round, but as I said, greater seas mean more rip currents so summer (with exception of seas produced by tropical storms) would have the least

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 – Bob Hall - Can be several: there's always a rip current on the "down current" side of the pier (i.e. an East wind generates a North to South drift along the coast, so in this case the South side of the pier would experience the rip that we use to paddle out). There can also be rips about 50 yards to the North of the pier in this case

RC 2 – Seawall - Intermittent rips appear to be interspersed along the length of the seawall about every 50 yards, however, most common spots are about 50 yards to NE of end of seawall, 50-100 yards to SE of Holiday Inn and 25 yards to NE of Southern end of seawall

RC 3 – Fish Pass - Rips always exist along side jetties - location depends on direction of wind swell

RC 4 – Horace Caldwell - Can be several: there's always a rip current on the "down current" side of the pier (i.e. an East wind generates a North to South drift along the coast, so in this case the South side of the pier would experience the rip). Due to the decreased slope of the seafloor when compared to Bob Hall area, rips tend to be weaker.

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 – yes

RC 2 – yes

RC 3 – yes

RC 4 – yes

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 – For all locations, rips can occur with as little as waist high waves

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 – For all locations, storms, frontal passages and high winds create seas which in turn create rips.

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 – Bob Hall - 2

RC 2 – Seawall - 2

RC 3 – Fish Pass - 2

RC 4 – Horace Caldwell - 1

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 – Actually haven't seen much of this in Texas - most swimmers are able to get out of them with out a problem

19. Do you have other comments for each of these rip current events?

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

Please consider that my observations of the severity of rips in Texas are tempered by experiences in much stronger rips on the Pacific Coast. I've saved several swimmers and novice boogie boarders there.

The fact that summer conditions produce fewer seas is probably a factor in the number of swimmers that experience problems with rips. If more tourists were in the water during colder months, I would expect more drownings.

End of the questionnaire

****

Respondent 3:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?
About 3

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)?
Surfing

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…)
All year. More often in winter when the waves are better for surfing.

4. How often do you typically go to the beach (frequency per year for example)?
2 times a week

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages?
Depends on conditions, but often Bob Hall or Fish Pass because of close proximity to Corpus. I stay in Corpus.

6. Have you ever witnessed a rip current (yes/no)?
Yes

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?
Noticeable currents probably 80% of the time I go to the beach.
If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..)
Bob Hall, Port A, Fish Pass, Surfside, Galveston

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)?
Yes. Also usually a smaller rip about 80 yards from the stucture.

10. If yes how close was the rip current(s) to the structure?

Very. Directly abutting the structures.

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?
Surf conditions large enough for surfing.

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):
RC 1 - all times of year

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)
RC 1 – all of the above

14. Was the rip current close to a structure and how close (pier, jetty, …) :
RC 1 –yes. abutting, unless strong sideshore, where it might be pulled away from pier or regular location

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):
RC 1 – waist high conditions and above

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?
RC 1 - sizeable waves, meaning either storm, sustained winds over time, swell, etc.

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:
RC 1 – 2

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?
RC 1 – no

19. Do you have other comments for each of these rip current events?
RC 1 – swimmers generally should not swim within 30-40 feet of piers or jetties.

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

! Thank you for your help !

Would you mind potentially answering follow-up questions?
(if yes, please indicate an E-mail address or phone number)
jbuche@alumni.southwestern.edu

****

Respondent 4:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?
40

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, ...)?
Surfing and surf clinics for kids

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,...) ***Year round with good surf, rarely on calm days***

4. How often do you typically go to the beach (frequency per year for example)?
Probably average twice a week

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, ...) and where do you usually stay (near pier, near hotel, away from structures...) If many locations please try to indicate approximate percentages?
Port Aransas - Horace Caldwell Pier usually although between the pier and the jetty during some hurricane swells

6. Have you ever witnessed a rip current (yes/no)?
Yes

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?
Any time there is surf, there are rips. There is almost always a rip along the pier and along the jetty.

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass.....) ***Horace Caldwell Pier, Bob Hall Pier, Port Aransas Jetties***

9. Was the rip current(s) close to a structure (pier, jetty, ...) (yes/no)?
Yes, but there are also mild currents in areas away from structures.

10. If yes how close was the rip current(s) to the structure?
Probably 10-20 feet on either side. It varies with size and direction of waves. During hurricane swells there is a rip several hundred feet wide flowing out adjacent to the south Port Aransas jetty. I heard someone(s) were swept out on the big Wednesday of the last hurricane swell. I use it to get out when the surf is too big to paddle through.

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?
High surf from whatever source generates the rips. I think it is a function of what comes in must go out.

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, ...) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 - This is in general - there are always rips with waves. The bigger the waves, the stronger the rips. They're year round but probably of most concern during warmer weather when more beachgoers are in the water.

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, ...)

RC 1 - Port Aransas - three areas: Pier, Jetty, and open water in general.

14. Was the rip current close to a structure and how close (pier, jetty, ...) :

RC 1 - During storm swell, there is a strong rip along either side of the pier and a very strong and wide rip adjacent to the jetty. There are mild currents all up and down the beach that flow through the break.

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 - Wave height on days when rips are strongest are shoulder high and larger.

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 - Tropical storms & hurricanes

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 - The pier rip is probably a 2. One could swim out of it without too much difficulty. The beach rips are probably a 2 also depending on depth, waves, sideshore currents, etc.. The jetty rip is definitely a 3 with strong currents flowing north along the beach and then out at the jetty. In hurricane swell, the rip adjacent to the jetty can be several hundred feet wide and difficult to deal with even on a surfboard.

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 - I heard about surfer(s) getting swept out at the jetty. I witnessed a lady being rescued after she nearly drowned after getting caught in the pier rip on a moderate day.

19. Do you have other comments for each of these rip current events?

RC 1 - I use the general rips along the beach to paddle out. They can be found by looking for spots where the waves aren't breaking. I think they may actually flow in random channels - the deeper water would explain the waves not breaking in those spots.

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?
Perhaps some observations of floats in the suspect areas.

End of the questionnaire

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Respondent 5:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful
I. General Questions:

1. For how many years have you enjoyed visits to the beach?
   42 years.
2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)?
   Surfing & fishing.
3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…)
   All year.
4. How often do you typically go to the beach (frequency per year for example)?
   Three to four times a week, approx. 160 days a year.
5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages?
   I surf at the Fish Pass the most but also surf at Port Aransas quite often. When I'm at the Fish Pass I'm always very close to the jetties. When I'm at Port Aransas I'm usually very close to one side of the pier or the other.
6. Have you ever witnessed a rip current (yes/no)?
   Yes!
7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?

Being a surfer I have witnessed rip currents many times. It is very common for surfers to use the natural rip currents that are created by jetties and piers to take us out to the surf lineup on our surfboards. It is the easiest way to paddle out to the lineup to catch waves. I don't consider these rips to be extraordinary so I will not count them in this survey.
In the past year alone I can recall at least three different rip currents that I thought were extraordinary.

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..)

Port Aransas & Fish Pass

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)?

Yes!

10. If yes how close was the rip current(s) to the structure?

At Fish Pass the rip was always next to the jetty and at Port Aransas the rip was usually next to the Pier pilings. At certain times the rips were down between the pier and the jetty at Port Aransas.

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?
Most of the rips that I have encountered have been during tropical storms but I have also experienced them in high surf and during frontal passage in the Fall & Winter seasons.

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):
RC 1 – ***Spring of 2002****.*
RC 2 – ***Sept. 2004***
RC 3 – ***November 20 & 21, 2004***
RC 4 – ***November 27, 2004***
RC 5 –

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)
RC 1 – ***Port Aransas***
RC 2 – ***Port Aransas***
RC 3 – ***Fish Pass***
RC 4 – ***Port Aransas***
RC 5 –

14. Was the rip current close to a structure and how close (pier, jetty, …) :
RC 1 – ***Close to the Port A. Pier***
RC 2 – ***Broad area between the Port A. Pier and the South Jetty.***
RC 3 – ***North side of North jetty****.*
RC 4 – ***Very large area between Port A. Pier and the South Jetty.***
RC 5 –

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):
RC 1 – ***Waist to shoulder high surf****.*
RC 2 – ***Very large Hurricane Ivan surf in the 10-foot size range.***
RC 3 – ***Chest to head high surf***
RC 4 – ***Shoulder high***
RC 5 –

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?
RC 1 – ***No special event of any kind, that was why I remember it so well. It was a total surprise to me that it happened.***
RC 2 – ***Category 4 Hurricane Ivan was in the Gulf of Mexico****.*
RC 3 – ***A strong South wind blowing prior to a north frontal passage.***
RC 4 – ***A strong West to Northwest wind almost straight offshore after a north frontal passage.***

RC 5 –
17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:
RC 1 – ***2***
RC 2 – ***3***
RC 3 – ***2***
RC 4 – ***3***
RC 5 –
18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?
RC 1 – ***No***
RC 2 – ***No***
RC 3 – ***No***
RC 4 – ***Yes***
RC 5 –
19. Do you have other comments for each of these rip current events?
RC 1 – This was a very unusual rip because there was no apparent reason for the rip to occur. It was a lateral current running from South to North at a very fast rate of speed. I personally was caught up in it while I was paddling in toward the shore after a long surf session. The current was approx. 15 yards wide and it carried me about 200 yards.
RC 2 – This rip was mostly due to the water rushing toward the face of very large waves that were advancing toward the shore. It was a current that was pulling directly straight out from the beach with only a slight sideways drift.
RC 3 – A moderate rip moving from South to North but very consistent for two days.
RC 4 – This was one of the strongest rip currents that I have ever experienced in the 42 years that I have been surfing. The whole area between the Port A. Pier and the South Jetty in Port A. had a very strong rip pulling straight out from the beach. I believe that it is what many Texas locals call an Undertow. Sitting on a surfboard it was almost impossible to sit in one area without being pulled out to sea. Another surfer and myself had to rescue two young and inexperienced surfers who were being swept out to sea by the strong rip.
RC 5 –
20. Do you have other general comments/suggestions/recommendations for our study of rip currents?
I would think that surfers would be the best people to contact about rip currents since they're in the water a great number of days out of the year.
End of the questionnaire
! Thank you for your help !
Would you mind potentially answering follow-up questions?
I would be glad to answer more questions and help in any way.
(if yes, please indicate an E-mail address or phone number)

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Respondent 6:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?
25 years

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, ...)?

Fly-fishing

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,...)

March-November

4. How often do you typically go to the beach (frequency per year for example)?

25 times per year

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, ...) and where do you usually stay (near pier, near hotel, away from structures...) If many locations please try to indicate approximate percentages?

PINS

6. Have you ever witnessed a rip current (yes/no)?

Yes

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?

10 times per year

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass.....)

PINS surf- north end of park between 2mm and 16mm

9. Was the rip current(s) close to a structure (pier, jetty, ...) (yes/no)?

Rips around bars perpendicular to beach and in washouts

10. If yes how close was the rip current(s) to the structure?

On either side of structures

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

High surf, falling tide, or strong longshore currents

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, ...) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 – Spring during high wind events

RC 2 – Fall during high wind events

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, ...)

RC 1 - Corpus- PINS beach, north end of park

14. Was the rip current close to a structure and how close (pier, jetty, ...) :

RC 1 – rips usually associated with unusual beach features- j-hooks, washouts, pinches

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 – Above average wind/wave conditions

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 – Front passage or approaching low pressure system
RC 2 -

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 – Many "1's"

RC 2 – Several "2's"

RC 3 – Few "3's"

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 - no

19. Do you have other comments for each of these rip current events?

RC 1 - Lots of fish around those currents!

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

****

Respondent 7:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?
44, whole life

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, ...)? ***fishing***

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,...) ***all year***

4. How often do you typically go to the beach (frequency per year for example)? ***10-25 times a year***

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, ...) and where do you usually stay (near pier, near hotel, away from structures...) If many locations please try to indicate approximate percentages? ***Padre Isle Natl Seashore***

6. Have you ever witnessed a rip current (yes/no)? ***small ones***

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year***)***? ***I see small, 30' wide and a foot deep into the bar, ripcurrents that dissipate after a short time more than every other trip. I've seen larger, more pronounced rip currents that have cut through the bar completely, only a couple times.***

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass.....) ***PortA and PINS(padre)***

9. Was the rip current(s) close to a structure (pier, jetty, ...) (yes/no)? ***no***

10. If yes how close was the rip current(s) to the structure?

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)? ***normal 3' surf***

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, ...) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 - most every memorial day and Labor day in PortA for the past 5 years(small ripcurrents)

RC 2 - summer and spring a couple larger rips about 2 &3 yrs ago

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, ...)

RC 1 -PortA

RC 2 - PINS

14. Was the rip current close to a structure and how close (pier, jetty, ...) :

RC 1 - no

RC 2 - ""

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 - 3' seas

RC 2 - 2-3' seas

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 - no

RC 2 - ""

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 - 1

RC 2 - 1

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 - I was standing in many of the smaller ones fishing chest deep and would see the water going out and also step down into the cut. It was easy to get out of it.

RC 2 - no

19. Do you have other comments for each of these rip current events?

RC 1 - On the smaller ones you can usually see the sandy water heading out. In the two larger ones I really only saw a cut in the bar where no waves would break.

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

****

Respondent 8:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach?

43 years

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, ...)?

Fishing and studying eco-system

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,...)

An average of 120 days a year for the past 15 years. All conditions and times of the year.

4. How often do you typically go to the beach (frequency per year for example)?

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, ...) and where do you usually stay (near pier, near hotel, away from structures...) If many locations please try to indicate approximate percentages?

Now days; PINS. But have traveled and camped extensively Galveston, S. Padre and Boca Chica.

6. Have you ever witnessed a rip current (yes/no)?

Certainly.

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?

See them daily. Any and all conditions. How many stars are in the sky?

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass.....)

Every where I ever was.

9. Was the rip current(s) close to a structure (pier, jetty, ...) (yes/no)?

Not relevant. They exist all the time; structure MAY have an influence in nearby area but often one will be just a few feet away from structure and ignoring it entirely..

10. If yes how close was the rip current(s) to the structure?

We already did that.

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

Strong tidal movement, high surf and many other things effect the velocity of rips but some could be dangerous to the unknowing even at 4' seas and 20 knot winds.

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, ...) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, ...)

14. Was the rip current close to a structure and how close (pier, jetty, ...) :

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

19. Do you have other comments for each of these rip current events?

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

Seems as if you guys have a lot of generalization going on here. Rips are known locally to old timers as "OUTSUCKS." How's that for 3rd. world, limited gene pool definitions? Ha. Rips in untold #s exist daily on PINS. When it is dead calm and slicked off is the best time to observe their # and locations for you can see the nervous water/moving water of them moving clearly offshore. I often see them within 40 or 50 ft. of each other and can sometimes see as many as 10 or 12 within my range of vision. The water comes in and when it goes back out it forms rips. How dangerous they are varies with wind/surf/tide intensity. Thusly; excessive conditions lead to excessive velocity in the rips and increasing danger to swimmers. HOWEVER: when you get a hard wind blowing 30 mph+ for any period there are likely to be the fewest of rips of all. The high velocity wind over a rather short period of time will destroy the "holes" and very shallow, extended bars that are present at rips. The littorial drift/long shore current builds up speed and rips all the temporary sand structure away until moderate conditions return. When moderate conditions return the holes, extended bars and rip currents will return as mandated by the existing conditions. They will continue to change daily as conditions change. IT REALLY REALLY REALLY NEEDS TO BE UNDERSTOOD THAT FAST MOVING LITTORIAL DRIFT/LONG SHORE CURRENT GETS MORE HUMANS IN TROUBLE THAN RIPS DO. WHAT ACTUALLY HAPPENS JIS THE LITTORIAL DRIFT DRAGS PEOPLE OFF THEIR FEET AND THEY ARE SWEPT DOWN CURRENT BY IT UNTIL THEY REACH A RIP; WHICH THEN PULLS THEM STRAIGHT OFFSHORE. BUT, LONG SHORE DRIFT CAN DROWN WITH NO HELP FROM A RIP CURRENT AT ALL. Best to ya.'

End of the questionnaire

Respondent 9:

I. General Questions:

1. For how many years have you enjoyed visits to the beach?
5 years

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, ...)?
Fishing (

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,...)
all year

4. How often do you typically go to the beach (frequency per year for example)?
75 days per year

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, ...) and where do you usually stay (near pier, near hotel, away from structures...) If many locations please try to indicate approximate percentages?

all of the above but Pins 75% of the time

6. Have you ever witnessed a rip current (yes/no)?
yes- daily

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)?

Most days when the surf is any where normal i.e not blown out 0r dead flat

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass.....)

all of the above

9. Was the rip current(s) close to a structure (pier, jetty, ...) (yes/no)? ***yes***

10. If yes how close was the rip current(s) to the structure?

jetties & piers create rip currents the water runs out on the structure

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

Tidal movement (falling or rising) creates rip currents. If you use tide charts you will see that the rips occur when the water is really moving. The stronger the water movement the stronger the rip & more will occur.

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, ...) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 -
I will use the fish pass jetty as a example- Most days with normal tidal movement there will be a very strong rip on the south side of the south jetty.
You can watch the water start moving & watch the rip form.

RC 2
Holes in the first bar- you can drive the beach on low tide where there is a lot of structure & see holes in the first & second bars- rips will form in most of these spots on a falling tide. A good fisherman can drive the beach on low tide & predict where the rips will form on a falling tide. I look for these spots because that is where the fish will be when the water moves. Some of these spots will last several days & some will move as you stand there. The beach is very dynamic & will change right before your eyes.
Most fishermen call rips- suck outs. As I said before we look for them because we catch fish from them. Capt Billy is my mentor in many ways on surf fishing & identifying rips (suck-outs) is one of the first things he taught me.

****

Respondent 10:

I. General Questions:

1. For how many years have you enjoyed visits to the beach? ***12 years***

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)? ***Windsurfing***

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…) ***Year round***

4. How often do you typically go to the beach (frequency per year for example)? ***About 50/year***

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages? ***Bob Hall Pier to Access Rd 4 or Port Aransas***

6. Have you ever witnessed a rip current (yes/no)? ***yes***

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)? ***Strong ones: observed one, was in one***

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..) ***in Bob Hall Pier area (1) between access rd4 and Pier and other south side of BHP***

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)? ***no and yes***

10. If yes how close was the rip current(s) to the structure? ***Close for the second one***

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)? ***For the case on the south side of BHP, long term SE winds***

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 to 5 – ***?***

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 to 5 – ***(1) Between BHP and Access Rd 4***

(2) South of BHP, close to the structure

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 to 5 – ***See above***

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 to 5 – ***(1) Big surf > 6 ft***

(2) 5-6 ft swells and

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 to 5 – ***(1) TS and high tide, the BHP parking lot was closed***

(2) After many days of 20-25 mph winds

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 to 5 – ***(1) 3***

(2) 3

In both cases for people who do not know what it is.

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 to 5 – ***NA***

19. Do you have other comments for each of these rip current events?

RC 1 to 5 –

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

Important to watch out for currents in between bars

End of the questionnaire

****

Respondent 11:

I. General Questions:

1. For how many years have you enjoyed visits to the beach? ***About 20 years***

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)? ***Windsurfing, Surfing, Fishing***

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…) ***All year***

4. How often do you typically go to the beach (frequency per year for example)? ***50-60 per year***

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages?

BHP, JP, Port A

6. Have you ever witnessed a rip current (yes/no)? yes

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)? ***About twice per year***

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..) ***Jetties at Port A and once at BHP***

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)? ***For Port A, can be 50 ft wide also end of entry road at BHP***

10. If yes how close was the rip current(s) to the structure? ***Close for Port A, not for BHP***

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)? ***Prolonged strong SE winds***

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 to 5 – **?**

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 to 5 – ***(1) Port Aransas***

(2) Bob Hall Pier

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 to 5 – ***(1) Next to the Jetty***

(2) In front of the entrance road to the park (little deeper water there, washout)

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 to 5 – ***(1) Overhead (big but slow)***

(2) Waist to shoulder high

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 to 5 – ***(1) Prolonged SE winds***

(2) Prolonged SE winds

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 to 5 – ***(1) 3***

(2) 2

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 to 5 – ***No***

19. Do you have other comments for each of these rip current events?

RC 1 to 5 –

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

****

Respondent 12:

I. General Questions:

1. For how many years have you enjoyed visits to the beach? ***5 years***

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)? ***Windsurfing, Surfing, Walking***

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…) ***All year***

4. How often do you typically go to the beach (frequency per year for example)? ***150/year***

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages? ***Bob Hall Pier, Port Aransas, Malaquite***

6. Have you ever witnessed a rip current (yes/no)? ***yes***

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)? ***3 big rip currents***

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..) ***All at Port Aransas***

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)? ***By the Pier, by the Jetty but also inbetween***

10. If yes how close was the rip current(s) to the structure? ***Not all close***

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)? ***All associated with Tropical Storms***

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 to 5 – ***(1) TS ?***

(2) TS ?

(3) TS ?

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 to 5 – ***(1 In between the pier and the jetty at Port Aransas)***

(2)At the end of the pier at Port Aransas

(3) At the end of the pier at Port Aransas

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 to 5 – ***(1) Somewhat***

(2) Yes

(3) Yes

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 to 5 – ***(1 Mast high)***

(2) Mast high

(3) Mast high

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 to 5 – ***(1 TS)***

(2) TS

(3) TS

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 to 5 – ***(1) 3***

(2) 2

(3) 2

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 to 5 – ***(1) 5 High school age kids, 2 guys, 3 girls all in good shape were swimming and they were first entrained laterally and then pulled seaward by a strong rip current. They were***

not able to extract themselves from the current and were frantic and looking for help. Jason rescued two of the kids by pulling them with his windsurfer and a long boarder came to help and rescue the others

(2)

(3)

19. Do you have other comments for each of these rip current events?

RC 1 to 5 – ***(1)***

(2)

(3)

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

In all three strong rip current cases at Port Aransas, the current was not just moving seaward but forming a loop between the pier and the jetty with the seaward arm closest to the jetty. In the case of the rescue the rotation was taking place in the half closest to jetty.

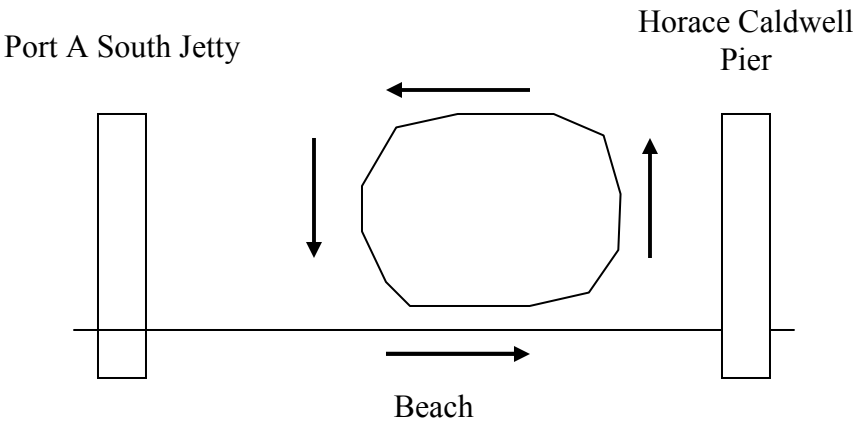

Figure based on schematic drawn during interview

End of the questionnaire

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Respondent 13:

Rip Current Survey:

Precise answers are great but general/approximate answers are very helpful

I. General Questions:

1. For how many years have you enjoyed visits to the beach? ***25 years***

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)? ***Windsurfing / Surfing***

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…) ***All year***

4. How often do you typically go to the beach (frequency per year for example)? ***About 50/year***

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages? ***Port Aransas and Bob Hall Pier***

6. Have you ever witnessed a rip current (yes/no)? ***Yes***

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)? ***Always at the piers but rare***

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..) ***Always at the Piers, Bob Hall Pier and Horace Caldwell Pier***

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)? ***Mostly however sometimes outside the pier maybe a total of 12 times.***

10. If yes how close was the rip current(s) to the structure?

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)? ***Sizeable surf, about 5 feet and bigger***

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 to 5 – ***(1) Summer situation, Pier at Port Aransas***

(2) Case of eddies around the T heads of both Port A and BHP piers

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 to 5 – ***(1) Port Aransas***

(2) Port Aransas and Bob Hall Pier

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 to 5 – ***(1) Beyond the pier about 70 yards pass the pier***

(2) Right next to the structures

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 to 5 – ***(1) Overhead***

(2) Not so much a function of the waves but also the currents

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 to 5 – ***(1) ?***

(2) General conditions with high winds

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 to 5 – ***(1) 2***

(2) 2.5

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 to 5 – ***no***

19. Do you have other comments for each of these rip current events?

RC 1 to 5 – ***At Port Aransas, the rip current seems to be always on the right side of the pier.***

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

End of the questionnaire

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Respondent 14:

I. General Questions:

1. For how many years have you enjoyed visits to the beach? ***28 years***

2. What is your typical activity at the beach (fishing, sunbathing, surfing, swimming, accompanying children, …)? ***Surfing and fishing***

3. When do you typically visit the beach (all year, summer, good surf, sunny calm days,…) ***All year***

4. How often do you typically go to the beach (frequency per year for example)? ***250 / year***

5. Which beach do you typically visit (Port Aransas, Fish Pass, Bob Hall Pier, …) and where do you usually stay (near pier, near hotel, away from structures…) If many locations please try to indicate approximate percentages? ***(1) Fish Pass (2) Port Aransas***

6. Have you ever witnessed a rip current (yes/no)? ***Yes***

7. If you have witnessed rip currents, how many times have you witnessed rip currents (if many times state frequency per year)? ***About 10/year***

If you have observed one or more rip current(s) please answer questions in part II and III of the questionnaire.

II Rip current specific questions:

8. Please list the locations where you have observed at least one rip current (Bob Hall Pier, Port Aransas, Fish Pass…..) ***Fish Pass, Port Aransas, Saint Joseph Island, Bob Hall Pier, Sea Wall***

9. Was the rip current(s) close to a structure (pier, jetty, …) (yes/no)? ***near structures but respondent is surfing near structures***

10. If yes how close was the rip current(s) to the structure?

11. What were the general circumstances likely leading to the rip current(s) observed (regular conditions, high surf, frontal passage, tropical storm, other)?

For specific rip current events that you remember please answer the questions below to the best of your recollection, but general comments are very welcome as well. If you remember several rip current events please answer the questions for each of them.

III Detailed Rip Current event (RC 1, RC 2, …) questions:

12. Approximate date of the rip current (as precisely as you can remember, if not date state month or season with year):

RC 1 to 5 – ***(1) After Brett (1999)***

(2) Always next to structures

(3) During strong side shore winds

13. General location of the rip current (Port Aransas, Fish Pass, Bob Hall Pier, …)

RC 1 to 5 – ***(1) In front of the Seawall***

(2) & (3) Near Structures (Piers and Jetties)

14. Was the rip current close to a structure and how close (pier, jetty, …) :

RC 1 to 5 – ***Yes for all***

15. Wave climate when the rip current was observed (descriptions such as shoulder or waist high waves for example or other description):

RC 1 to 5 – ***(1) Shoulder high dropping to waist high as westerly winds increased***

16. Was there a special event associated with the rip current (tropical storm, frontal passage, high winds ...)?

RC 1 to 5 – ***(1) Hurricane and increasing strong west wind***

17. Approximate strength of the rip current on a 1-3 scale with 1: not a problem for swimmers 2: could place average swimmers in difficulty 3: a danger for all swimmers:

RC 1 to 5 – ***(1) 3***

18. Did you witness swimmers in trouble or swimmers needing help to escape the rip current?

RC 1 to 5 –

19. Do you have other comments for each of these rip current events?

RC 1 to 5 – ***(1) It was very hard to stand or walk***

20. Do you have other general comments/suggestions/recommendations for our study of rip currents?

Natural passes such as San Luis Pass and Pass Cavayo near Port O'Connor and Cedar Bayou have very strong currents and have the reputation of being quite dangerous.

End of the questionnaire