

TWEED SAND  
BYPASSING

# Redesigning Communications in Coastal Management

An innovative approach using Tweed Sand Bypassing as a case study



Restoring Coastal Sand Drift - Improving Boating Access

# TWEED SAND BYPASSING

*“Nature evokes an emotional response”*

Professor Brian Cox



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# TWEED SAND BYPASSING

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*“sense of place” – we attribute specific meaning to the coast. The ‘sense’ is “made up of experiences, mostly fleeting and undramatic.....a unique blend of sights, sounds, and smells, a unique harmony of natural and artificial rhythms such as times of sunrise and sunset, or work and play” The feel of a place is “registered in one’s muscles and bones”*

Professor Yi-Fu Tuan



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# TWEED SAND BYPASSING



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# TWEED SAND BYPASSING

## The problem

- Needed to determine what the community knows
- To correct misinformation
- Create community understanding, acceptance and support moving forward



In: Swellnet Dispatch | By: Stu Nettle | Thursday, 15 October 2015

### Management meets to 'break the Superbank'

A management meeting later this week may see changes to sand flow on the southern Gold Coast. Swellnet has been informed that management at the Tweed River Entrance Sand Bypass System (TRESBP) are considering changing how much sand will flow to various outflow points of the pumping system. The result would be different volumes of sand – and hence different wave shape – at Duranbah, Snapper, and other waves further down the Superbank.



# TWEED SAND BYPASSING

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## The research

- The why has been lost
- Need to gain community trust in Project governance.
- Need to engage younger generations.
- Shift from creating awareness to building understanding and engagement.



Tweed Sand Bypassing  
Communication Review.

Prepared by Comms&Co. Pty Ltd, January 2016  
**COMMS&Co.**  
Design. Communications. Insights.

# TWEED SAND BYPASSING

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Vision – to implement a communications strategy that **recognises and supports the ongoing operation** of the Project, and **promotes the Tweed Sand Bypassing identity.**



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# TWEED SAND BYPASSING

## Identity / core values

1. Protects coastal assets and the economic viability of the Tweed River.
2. Supports the coastal lifestyle that is an integral part of the region's identity.
3. Demonstrates strong governance.
4. Collaborates, is open, and harnesses the power of citizen knowledge.
5. Builds, shares, and promotes coastal science knowledge.



# TWEED SAND BYPASSING

## Goals

1. Strong and consistent Project identity.
2. All stakeholder groups understand the importance and ongoing need for the Project.
3. Increase community and stakeholder knowledge of the Project's operational environment.
4. Engage in meaningful and effective communication with stakeholder groups.
5. Effective knowledge sharing.

# TWEED SAND BYPASSING

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# TWEED SAND BYPASSING

TWEED SAND BYPASSING

SEARCH



TWEED SAND BYPASSING OVERVIEW

OPERATIONS

ENVIRONMENT MONITORING

ARTICLES AND STUDIES

SCHOOL STUDENTS

COMMUNITY

HISTORICAL IMAGES



**TWEED SAND BYPASSING APP**  
The Tweed Sand Bypassing Smart Phone application (app) provides key information and resources on Tweed Sand Bypassing. [Read more](#)



**WHO WE ARE**



Tweed Sand Bypassing is a joint initiative of the New South Wales and Queensland State Governments. The project's objectives are to establish and maintain a safe, navigable entrance to the Tweed River and restore and maintain the coastal sand drift to the beaches on the southern Gold Coast of Queensland.

The Project is a sand transport system that collects sand from the southern side of the Tweed River entrance at Letitia Spit, and pumps it under the river to outlets on the northern side. From there the sand is transported

**CURRENT ACTIVITIES**

- ▶ [Recent beach conditions](#)
- ▶ [Kivra Reef monitoring](#)
- ▶ [Fingal Beach behaviour](#)

**RECENT UPLOADS**

- ▶ [environmental monitoring summary-November-2017 .pdf \[PDF\]](#)
- ▶ [environmental-monitoring-summary-January-2018.pdf \[PDF\]](#)
- ▶ [Monthly monitoring summaries](#)

[View all](#)

**FCR SCHOOL STUDENTS**   **PROJECT VIDEO**

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# TWEED SAND BYPASSING



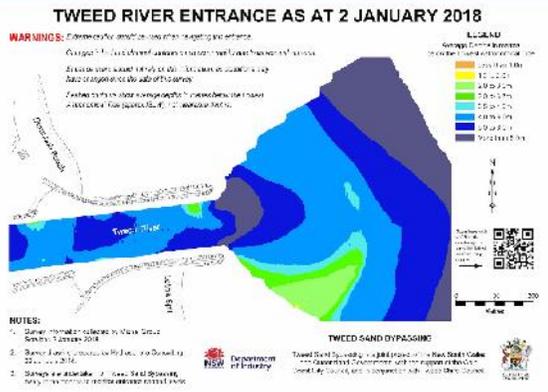
## TWEED SAND BYPASSING

### SAND DELIVERY

**PUMPED**  
0 m<sup>3</sup> (24hr)  
6,547 m<sup>3</sup> (month)  
[View](#)

**DREDGED**  
No activity  
[View](#)

### ENTRANCE CONDITIONS



### WEBCAMS



Duranbah Snapper Rainbow Bay

### NEWS / EVENTS

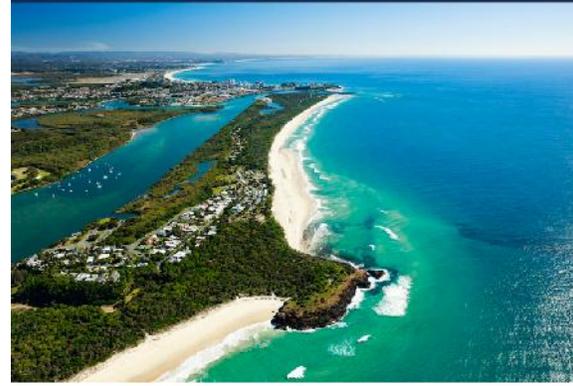
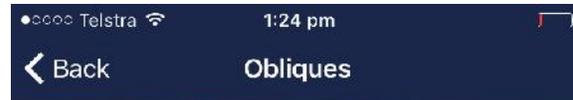
### ANNOUNCEMENTS

ACC Meeting - Thursday 15 February 2018  
Advisory Committee & Community (ACC) Me...

### INFORMATION

Historical Gallery  
Recent and historical photos.

[View](#)



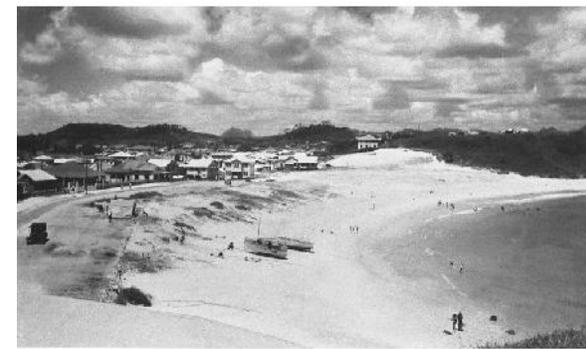
July 2017 - Fingal  
Photo source: Tweed Sand Bypassing



July 2017 - Letitia



1890  
Photo source: Tweed Heads Historical Society



1950  
Photo source: Tweed Heads Historical Society



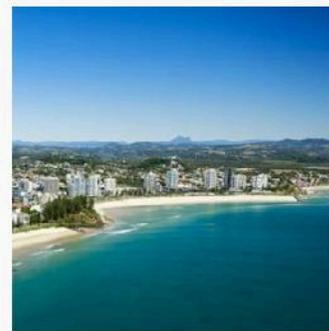
# TWEED SAND BYPASSING



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156 posts 329 followers 246 following

Tweed Sand Bypassing Official page for Tweed Sand Bypassing. A Joint coastal management project between the NSW and Queensland Governments. [goo.gl/PWWJHx](http://goo.gl/PWWJHx)



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# TWEED SAND BYPASSING

## TWEED SAND BYPASSING

Tweed Sand Bypassing continues to support the very essence of the Tweed and Southern Gold Coast Lifestyle – sandy beaches, a safe and navigable River Entrance and world famous surf breaks.



### THE MOST BEAUTIFUL CLASSROOM

Tweed Sand Bypassing has inspired civility systems all over the world. The jetty and surrounding area are regularly visited by coastal engineers who are keen to see if sand bypassing might offer a possible solution to the coastal erosion issues they are facing in their own countries.

The Project provides a dynamic educational case study for secondary and tertiary students in geography, marine science and coastal engineering, and is also the primary case study in the chapter 'Marine Environments', of the recently published 'Geography for the Australian Curriculum 10'.

Students, or members of the public learning about the coastal environment can arrange visits to the jetty and pumping site and access resource material in a 'Schools' Information Package developed specifically by the Project.

You can access the fact sheets and resources from the Project website at [www.tweedandsandbypassing.gov.au](http://www.tweedandsandbypassing.gov.au)



### SAND SUPPLY, SNAPPER AND THE SUPERBANK

On any given day, the regular supply of both pumped and natural sand ensures that Snapper is one of the most reliable and 'funnest' breaks in the country. But this has not always been the case.

#### Pre 1960s – free flowing

Before the Tweed River training walls were extended in 1962 and flowed freely across the shallow Tweed bar, moving around Point Danger in large shoals. It was typical to find three very separate breaks – Snapper was finite, Rainbow Bay was a longboard wave and Greenmount another longboard wave right on the rocks.

#### 1960s to 1990s – obstacles and erosion

The effects of extending the Tweed River entrance walls in 1962 weren't fully evident until five years later when the Gold Coast experienced several cyclones in short succession. The next 30 years saw an ongoing battle with erosion which saw several failed Coolangubra and Kiara, groyne at both Kiara Point and Miles Street, and several large attempts at beach nourishment.

During the time Snapper had the occasional great surf break – but you could wait two years for it. Instead, during the 1970s, and particularly 1980s, with Kiara Point groyne and the severely eroded profile and nearshore reef, the real action was at Kiara.

#### Post 2001 – pumping

Tweed Sand Bypassing commenced in 2001, with the river of sand once again flowing from south of the Tweed River entrance and onto the Southern Gold Coast beaches. The Superbank was born out of sand pumped to the Snapper/Kiara East outlet that was then shaped by waves and currents into a short parallel beach extending from Snapper Rocks all the way through to Kiara.

The Superbank came along as nature's response to a huge injection of sand after such a long period of low sand and changed how the area operated.

#### Today

The sand-up quantity of sand has been shifted north and Tweed Sand Bypassing only delivers the supply of sand that naturally builds up against the jetty at Laticlia Beach. Sand delivered by the bypass combines with that delivered by the natural offshore drift to create a more natural, fluctuating variance to feed beaches and protect the coastline from erosion.



### INTERESTED TO KNOW MORE?

You can find project information, open hours, historical images, environmental monitoring detail and more at [www.tweedandsandbypassing.gov.au](http://www.tweedandsandbypassing.gov.au)



Developed the Tweed Sand Bypassing app on your smartphone for quick access to project information, including how much sand is being pumped and where to find time wave and weather information and to view surf cams at Durabah, Snapper and Rainbow Bay.



You can also follow Tweed Sand Bypassing on Instagram @tweedandsandbypassing for great images of our community and up to date project information.



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# TWEED SAND BYPASSING

# sand

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## Understanding sand

Sand, or the movement of it, is perhaps the main reason why 85% of the Australian population lives within 50 km of the sea.

There are many natural elements that make coastal living so attractive – but it is sand that keeps things interesting.

It is sand that moves with the break of each wave, the ebb and flow of each tide and the fury of each storm.

It is sand that is moulded into castles, shaped into surfing banks, and creates beaches that allow for relaxing time spent with loved ones.

Sand is integral to our coastal lifestyle, to our identity and relationships; it charges the landscape with the ebb and flow of our lives.

Tweed Sand Bypassing has been part of the unique coastal story of Tweed Heads and Coolangatta for nearly twenty years.

Recognised around the world, the Project was created for two towns in two different States whose very identity, economy and culture depends on sand.

Sand is constantly moving; the way in which it moves is impossible to accurately predict, and the preferred configuration of sand to form beaches and sandbanks is wildly debated.

At the heart of Tweed Sand Bypassing is a desire to understand these challenges and to manage the movement of sand to enhance our coastal lifestyle.



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# TWEED SAND BYPASSING

## Moving sand

Tweed Sand Bypassing has been a part of the Tweed and Southern Gold Coast community for nearly twenty years.

An ambitious infrastructure project, it is owned by both the New South Wales and Queensland State governments (with financial and executive support from City of Gold Coast), and is operated by a private contractor. The Project was designed to address the very real environmental, commercial and social impacts created by a dangerous river entrance and a sand supply interrupted by the construction of river training walls in the 1960s.

Finding a solution that would replenish the natural coastal sand drift and maintain a safe entrance to the Tweed River took time.

Implementing a solution that would support the economic and social growth of the community has involved experts from around the world, professionals from two State Governments and many passionate members of the local community.

But in the 1990s a permanent jetty mounted pumping system, supported by occasional dredging at the River Entrance was decided upon, and Tweed Sand Bypassing came into being.

Since 2001 the Project has operated to move the sand that drifts against its pylons on the southern side of the Tweed River Entrance to the northern side.

With the occasional help from a floating dredge, the eleven submersible pumps connected to the 450 m long Jetty at Little Beach have moved the majority of coastal sand drift, bypasses the Tweed River training walls. This sand then continues on its journey north, feeding and nourishing the beloved beaches of the Southern Gold Coast.

The mixture of water and sand collected is pumped under the Tweed River and discharged predominantly at an outlet located at East Snapper Rocks. Intermittent outlets are located at West Snapper Rocks and Duranbah, with a fourth outlet at Kira.

The quantity of sand moved by the jetty mounted pumps is determined by the coastal sand drift itself. The pumps do not act like a vacuum cleaner on the sea bed, seeking out and sucking up all available sand in their path. Instead, the water-powered pumps create a depression in the seabed, and as sand is forced along the seabed by coastal drift, build up in these depressions. It is then captured by the system and pumped to a designated outlet.

Tweed Sand Bypassing continues to support the very essence of the Tweed and Southern Gold Coast lifestyle – sunny beaches, a safe and navigable River Entrance and world famous surf breaks.

## River of sand

### WHERE DOES THE SAND IN NORTHERN NSW AND SOUTH EAST QUEENSLAND COME FROM?

The sand that forms the wave at Snapper is on an ancient journey that started high in the mountains of northern NSW over 16,000 years ago. During this time the world was in the middle of the most recent ice age and the sea level was 120 m lower than it is today. The mountains of the Great Dividing Range were higher, when compared to sea level, and eroded easily sending large quantities of quartz and other rock down the rivers to the Pacific Ocean.

One of the largest sand reserves in NSW is just offshore of the Clarence River near Yamba. As the ice age ended and the earth's climate began to warm, the sea level rose, bringing the shoreline 20 km landward. The rising sea level, waves, tides and currents pushed the sand that had been deposited offshore towards the land, creating the current coastal landscape.

Through the process of longshore drift, this reserve continues to feed sand along the giant natural conveyor belt from northern NSW towards southern Queensland. The predominant south easterly waves push and drag the sand on and off the beach in and out of the swash zone, moving sand north and creating the region's famous sandy bottom point breaks.

The sand spills around large headlands such as Cape Byron, flows in and out of estuaries, and tracks along the southern Queensland barrier islands until it reaches Fraser Island. Here, the sand finds its final resting place as it slips off the northern end of the island and is lost to the deep waters of the continental shelf.

It isn't really possible to say if you're surfing The Pass at Byron, you may end up surfing over the same grain of sand years later at Snapper.

No one knows exactly how large the Clarence sand reserve is, or how long the sand will continue to flow. What we do know is that the sand volumes moving along the coast of the NSW Queensland border are some of the largest in Australia. With an average of 200 full sized swimming pools of sand moving on this journey beneath the ocean's surface each year.



**YEARS OF OPERATION:** 16

**AMOUNT OF SAND PUMPED:** 8.5 MILLION CUBIC METRES

**AMOUNT OF SAND DREDGED:** 2.2 MILLION CUBIC METRES

**NUMBER OF OSPREYS CURRENTLY LIVING AT THE JETTY:** 4

**10 OSPREY CHICKS HAVE HATCHED SINCE THE JETTY NEST WAS BUILT**

**OBJECTS THAT GET SUCKED UP THE JET PUMPS**

**SURFBOARD FINS** 100 / YEAR

**SUNGLASSES** 60 / YEAR

**GOLF BALLS** 200 / YEAR

**FLIPPERS** 100 / YEAR

**GOPRO CAMERAS** 4 / YEAR

**LENGTH OF THE JETTY** 450 M

**JET PUMPS:** 11

**PROJECT STAFF:** 10

**11,760** AVERAGE NUMBER OF BOATS THAT PASS THROUGH THE TWEED RIVER ENTRANCE PER YEAR PRE-PROJECT (<1995)

**22,246** AVERAGE NUMBER OF BOATS THAT PASS THROUGH THE TWEED RIVER ENTRANCE PER YEAR POST-PROJECT (1996-2016)

**7km** APPROXIMATE DISTANCE THE FIRST DRAIN OF SAND PUMPED TO SNAPPER ROCKS EAST HAS TRAVELLED

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# TWEED SAND BYPASSING

## The Bypass Surgeon

**FOR CIVIL AND COASTAL ENGINEER IAN TAYLOR, WORKING ON TWEED SAND BYPASSING SINCE ITS INCEPTION IN THE 1980s HAS BEEN CHALLENGING, REWARDING AND INFINITELY INTERESTING.**

### How have you been involved with the Project?

I was one of the multiple brains working on solving the twin problems that had presented themselves to the Queensland and NSW Governments during the 1970s – lack of sand supply to the Southern Gold Coast beaches and a treacherous Tweed River Entrance. In 2002 I became the Project Manager for eight years, and have recently returned as a contractor, working on strategic issues for the Project.

### How did the Project come about?

The Queensland Government was concerned about the Gold Coast beaches remaining. It wasn't just amenity that was at stake – it was the inability of the beaches to defend themselves against storms. They couldn't retreat inland because of roads and infrastructure and they weren't receiving nourishing sand. Damage to infrastructure was a real threat.

On the NSW side of the border, even though the training walls had been extended once already, nature was doing what it does best and trying to overcome that. Sand was building up at Lattita Beach and again blocking the River Entrance, creating a dangerous navigation problem.

The problems were two sides of the same coin – creating a mutual need between Queensland and NSW to take action and find solutions for dealing with it. There was a suspicion about the impact of the extended river training walls on natural sand supply to Queensland, and it was clear that a one, they were no longer effective in providing improved mooring conditions at the entrance. So the question was asked – 'What can we do?'

After years of studies, investigations and review, it was agreed that a jetty mounted pumping system plus dredging system would be implemented. The jetty pumping system isn't 100% efficient meaning that despite operating continually it doesn't capture all of the sand moving northwards, so a dredging component was also required.

**When it was turned on – a lot of things happened. Some good, some not so good.**

A larger than natural amount of sand was moved to the Southern Gold Coast beaches in the early days of the Project and it sat there for a long time. This was done to replenish sand that had been removed by extreme storms and prevent further erosion at the beaches.

It remained there because of the nature of the coastline and a drought of cyclonic events which meant we were confronted with a problem that the community and Project management were unhappy with.

We always knew that the sand would be dispersed but Nature does it in its own time and despite our best predictions that indicated it should have moved quicker than it did – it took a lot longer and was a cause of great community anxiety and concern.

At the end of the day, the Project does more than just pump and deliver sand in isolation. The need to deliver outcomes to different user groups – surfers, fishers, tourists, is built into the Project alongside technical operational outcomes, and we're continually monitoring the environment in order to respond and improve. It's not a stagnant beast like a tunnel or bridge, its dynamic and needs to be constantly fed knowledge.

**Nearly two decades on, how is the Project doing delivering those outcomes?**

Time has shown that Nature responds to this system in its own timeframe. I believe the first fifteen years of the Project were an adjustment phase – which seems an enormously long time for adjustment in terms of community anxiety levels and expectations, but in terms of affecting morphological change on the coastline, it's miniscule.

Looking back on the Project's life, we had a period of over-ambition, then a period of under-supply to try and correct, and now we are where we always wanted to be. "You can't perfectly manage Nature but the Project hasn't given up –

we're constantly gathering knowledge and refining, always trying to make it better, but there's no question it's doing what it is intended to do.

### What keeps drawing you back to the Project?

On a professional level it's a tremendously interesting and rewarding project. The complex coastal processes of the area such as a River with a powerful tidal exchange, the almost 90 degree change in the coastline alignment at Snapper Rocks, and possibly the largest volume of sand movement in Australia means from a technical perspective it is highly challenging.

Then the Project's interaction with a large population, two State Governments and iconic famous beaches adds another layer that makes the technical aspect look like the easy part.

Personally, I feel proud and privileged to work on it. It isn't just a job, I have to pinch myself that I work on such a magnificent and unique coastline. I'm always thinking about it, and how we can improve it. The challenges and changes are almost constant, so there is always so much to do.

**"It's not a stagnant beast like a tunnel or bridge, we're constantly gathering knowledge and refining, always trying to make it better."**  
Ian Taylor



"When they start doing the dredging the bar is nearly flat, you know, there can be a swell and you can just cruise out through the middle."  
Tyrone Foster, 23



"I've been fishing in this area for seven years. You next see when it's so shallow and it doesn't take much swell to not be able to get across it. It's been better since they dredged it."  
Gary Sulway, 24



"The bar closed up all the time but there's a long history of it, silting us. I've read articles that said that in the early 1900s there was three feet of sand on the bar and there were ships stuck in the river because they couldn't get out. That was well before the walls went in."  
Kevin Sulway, 60

# TWEED SAND BYPASSING

## Surfing icon. World champion. Born and bred local.

WAYNE BARTHOLOMEW REFLECTS ON HOW A LIFETIME OF KNOWLEDGE AND OBSERVATIONS ABOUT THE SURF BREAKS THAT HE BELIEVES ARE THE BEST IN THE WORLD BECAME AN INTEGRAL PART OF TWEED SAND BYPASSING.



Wayne 'Rabbit' Bartholomew – three time world champion, godfather of professional surfing and Southern Gold Coast local – has some hard and fast thoughts about the value of sand to Coolangubra, which he reduces down to a simple formula.

### Sand+Surf = success for Coolangubra

"Sand supply is what our bread is buttered with around here – it doesn't just impact on the surf breaks, it directly affects our economy, our businesses, our enjoyment of the area," said Rabbit.

### Changing flows

In the mid sixties and seventies, even while Snapper and Rabbit were making their mark on the world surfing stage, the supply of sand to the surf breaks and beaches of southern Gold Coast was changing.

A prolonged period of cyclonic activity, combined with the extension of the Tweed River training walls in 1962 resulted in severe coastal erosion all along the Southern Gold Coast – taking beaches and surf breaks with it.

"By the end of the sixties, and after a few good storm seasons, it was hard to ignore the nagging thought that the walk had impacted the sand flow to the detriment of the surf breaks," Rabbit remembered.

Over the next two decades sand continued to build up behind the training walls and on the Bar at the Tweed River entrance, meaning its normal course of travel around Point Danger was interrupted and interrupted, starving the surf breaks and beaches to the north.

"I remember in the early nineties we had a period of two years without sand coming around to Snapper," said Rabbit. "We'd been waiting and waiting and finally I saw a sand slug released off the bar that started moving around the point like blood moves through a heart valve – bringing life to Snapper."

"With every tide the bank built up, and surfing was great. Then after waiting two years and enjoying only a week of great surfing, a storm came through and washed it all away, and there was no surf again for over a year."

And the new behaviour of the local surf breaks wasn't just a dilemma for surfers.

"I remember people in town would say 'why are all these businesses failing?' It was simple to me – you could correlate it with no sand and no surf."

### The Project takes shape

Rabbit was in the first public meeting of the Tweed Sand Bypassing Project in 1992 because he was "a mixture of interested, curious and concerned about what the new plan for sand in the area would mean."

"I went, along with fellow member of Snapper Rocks Surfriders Club, Bruce Las," he said. "We raised enough questions that the Project Management saw us either as troublemakers or perfect examples of community stakeholders – so decided to get us involved, and I've been involved ever since."

While not disagreeing with the nuts and bolts of what the Project was tasked with doing – removing sand from the entrance of the Tweed River and using it to replenish Southern Gold Coast Beaches, Rabbit was committed to ensuring protecting wave quality was a recognised outcome.

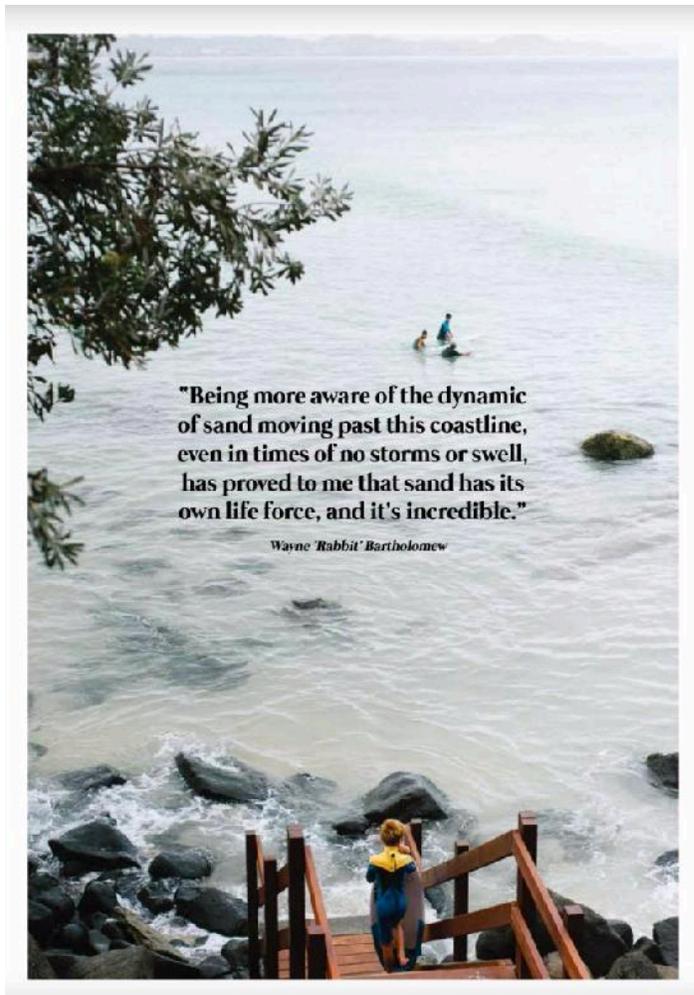
**"I don't know why people won't accept it's always going and responding to the natural sand drift."**

### Lift off

The Project started moving sand off the Tweed Bar in 2000, and had an immediate impact – but it just wasn't one the locals were largely happy with.

"I can kind of see that it was nearly inevitable that it was going to have a rocky start," said Rabbit. "With 30 years of build up, the sheer volume of sand being moved off the Bar meant it appeared to be a dump job."

"There was so much sand being pushed into the Bay there were like sea mounts, waves were breaking a long way out in the Bay and all sorts of unfavourable rips and currents and sand formations were created and that created a lot of fear and concern that it was going to be that way forever."



**"Being more aware of the dynamic of sand moving past this coastline, even in times of no storms or swell, has proved to me that sand has its own life force, and it's incredible."**

Wayne 'Rabbit' Bartholomew

# TWEED SAND BYPASSING

## Rainbow Bay

**QUEENSLAND'S SOUTHERNMOST BEACH, RAINBOW BAY, IS KNOWN FOR ITS ICONIC BEAUTY AND WORLD CLASS SURFING CONDITIONS. IT IS ALSO ONE OF THE FEW BEACHES ON THE EAST COAST OF AUSTRALIA THAT FACES NORTH.**

The shoreline at Rainbow Bay is constantly moving but the overall beach width and shape generally fall into two distinct patterns.

In the first half of the year, the wave direction is more southerly. After being captured by the Jetty and discharged on the northern side of the River Entrance, or traveling offshore of Lettis in deeper water, large quantities of sand makes its way northward around the headland at Snapper Rocks.

Once sand has moved around Snapper Rocks, it slows down and temporarily builds up at Rainbow Bay. The beach continues to increase in width until sand at the northern end of Rainbow starts to flow around Greenmount Headland.

In the second half of the year the average wave direction typically shifts more to the north, accompanied by strong northerly winds. This causes the lost sand moves around Snapper Rocks and into Rainbow Bay and the beach begins to wash away. This creates a deeper Bay with a large separation between the swimming and surfing areas. As

signals of sand begin to move back around Snapper Rocks, a lagoon is sometimes seen as the sand migrates from the seaward to the beach.

Rainbow Bay, although always beautiful, naturally fluctuates with the changing seasons. Tweed Sand Bypassing has captured beach conditions on the southern Gold Coast beaches since the late 1940s. This information is used to track changes to the beaches caused by the impact of the seasons, storms, and sand delivery.

Image: Rainbow Bay's seasonal pattern of retreat was clearly evident in January 2017. The almost constant stream of northerly winds and lack of swell throughout late 2016 and early 2017 reduced the natural northward flow of sand around Snapper Rocks. As a result, Rainbow Bay continued to change shape with the ocean moving closer to the curbs. Rainbow Bay should begin to increase in size once wave conditions become more southerly, and sand is pushed along the coast and around Snapper Rocks.



# TWEED SAND BYPASSING



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## Take home messages

- Have a hard hitting communications plan
- Design is essential
- Invest in photography for visual storytelling
- Embrace various communication methods such as infographics, interviews, illustration, poetry and narratives
- Don't be afraid of social media
- Consider developing school resource material

# TWEED SAND BYPASSING

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*“Give me miles and miles of mountains and I’ll ask for the sea”*

Damien Rice



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