

Focus



City leaders say a cruise ship terminal will be a boon for the Gold Coast, injecting millions of dollars each year into a stale tourism economy. But what do authorities need to do to ensure

ocean liners are physically capable of entering the Seaway? **PAUL WESTON** examines the practical issues that must be addressed before the big-ticket dream can be fully realised.

SPECIAL INVESTIGATION:

WHAT COUNCIL AND STATE GOVERNMENT NEED TO DO SO OCEAN LINERS CAN ENTER THE BROADWATER

HOW CAN WE PREVENT THIS?

- Is the 1986 Seaway entrance unstable?
- Have state government and council put their heads in the sand for the past 25 years?

- Can our growing cruise liners pass safely through the Seaway?
- Is Coomera a greater flood risk than the Nerang river?

AS Angus MacLeod sat in the Queensland Co-ordinator General's office, he watched what he called "the cruise ship halo effect". Senior public servants in the Beattie government argued that even if a cruise ship terminal did not create a positive economic outcome, it would produce other long-term benefits.

The trained engineer was passionate about tourism and cruise ships, but MacLeod couldn't help but raise concerns about the cost of building a terminal inside the Broadwater.

"I come from the Gold Coast where if some poor bloke has cancer he has to sit on a bus for two hours to Brisbane to get some form of treatment," MacLeod told the meeting late in 2005.

"Then he has to sit on a bus with his head in a barf bag for two hours to get home, because we can't afford these facilities."

Fast forward seven years and the planned Broadwater cruise ship terminal, initially costed at \$150 million, is being floated again.

At least \$200 million is needed to build it either in the Seaway, off Wavebreak Island or along two other sites, south and north of Sea World.

Both Mayor Tom Tate and Premier Campbell Newman publicly support it, buoyed by a new report which claims the cruise ship industry will inject \$180 million annually into the economy by 2020.

ship *Radiance of the Seas* arriving in Sydney, but how does the Seaway shape up with the Harbour or the more protective waters of Moreton Bay and the Great Barrier Reef?

What practical issues need to be addressed to ensure that projected \$180 million each year is fully realised?

The original wharf facility, terminal building, capital dredging, upgrading the sand bypass system, deepening its pipeline under the entrance and putting a rock wall on Wavebreak required \$118 million in funding.

A council report, released in July, costs initial dredging from \$24 million to \$63 million, depending on which of the four sites is successful. Annual maintenance costs will be \$6.1 million.

What has been learned about the Seaway and what will need to be done to ensure a safe voyage for ships to their Coast destination?

THE DIFFICULT BIRTH AND GROWTH OF THE SEAWAY

Design on the artificial entrance at the Seaway began in 1976 because the original Nerang River bar was considered dangerous.

Construction finished in 1984 about 700m south of the existing bar. Two breakwaters were constructed 320m apart.

A new channel was excavated and a sand bypassing system built to stop a bar forming across the new entrance.

The new navigational entrance

was 250m wide and 6m deep, according to a Griffith Centre for Coastal Management report.

The other major physical factor is the depth of water in the Seaway, around Wavebreak Island and immediately beyond the entrance itself.

Queensland Transport surveys show that settlement and scour has caused the channel bed to vary from 3.5m to 20m in depth.

The cruise ship modelling used in 2005 nominated a depth of 12m along the entire Seaway for a ship.

Council officers, in a 1995 report, estimated that outside the Seaway about 85,000sq m of sand was moving south annually, which had led to a bulge of deposits at the entrance. "Continued growth of the ebb tide delta area may impact on safe navigable boating access through the Gold Coast Seaway," the report warned.

The council estimates 150,000sq m of sand is now travelling annually in the outer entrance channel.

Not much sand remains in the Seaway while 200,000 sq m settles at the proposed swing basin around Wavebreak which will need dredging every two years.

DREDGING AND WHO IS RESPONSIBLE FOR IT

Queensland Transport must protect navigation channels in the Broadwater, while councils must maintain canals, prevent floods and replenish beaches.

In 1998, a five-year dredging program, costed at \$12.8 million,

was recommended by Queensland Transport's Gold Coast division.

"This dredging program was never implemented . . . the estimated cost of it far exceeds funds received by the Queensland government from boating facility fees and marina levies," a 1995 council report said.

Documents obtained under Right To Know legislation show Broadwater MP Peta-Kaye Croft, in April 2010, sought urgent advice from then-marine infrastructure minister Craig Wallace on dredging projects.

In briefings, Wallace said a four-month \$2.4 million dredge of "the bar at the mouth of the Gold Coast Seaway" would start in May 2011.

He later told parliament: "The dredging . . . is particularly noteworthy, as it is the first dredging done there since the Gold Coast Seaway was opened 25 years ago."

THE WIDTH OF THE SEAWAY

The biggest change since 2005 has been the size of modern cruise liners.

Cruise ships continue to grow, with some accommodating 6000 passengers, according to a council report released four months ago.

"Carnival Cruise Lines have advised that Australia is regularly seeing vessels up to 300m in length with occasional vessels up to 350m," the report said.

Data on these 350m-long ships confirm some have a 53m beam. Veteran master mariners recommend that, for safety purposes, any inner channel needs to be between three to five times the beam of a ship.

At their lowest safety recommendation, the Seaway would allow 30m of navigational channel each side of the largest ships.

Applying the best safety measure, the largest Carnival Cruise Liner will not fit.

In 2005, it was suggested an approach channel, at least 200m wide, would be needed and have to be managed to stop filling with sand.

A master mariner warned: "What a pity to have our magnificent beaches, both north and south of the Seaway, polluted by an oil spill caused by a vessel, far too large for the infrastructure, entering or leaving what is still really only a Nerang River bar crossing."

THE STABILITY OF THE SEAWAY WALLS

As early as 1995 council in a report noted scour holes greater than 18m in depth had developed off the southern training wall just east of the Seaway Control Tower.

Holes were also found off the northern wall, due to the increased flows out from the northern Broadwater.

The scouring could cause subsidence and instability in the rock armour walls, the report said.

"This is, potentially, a very significant issue for any cruise ship terminal located in the Seaway on the southern wall and for hydraulic operation of the Seaway."

In February this year, these problems finally surfaced, with posted warning signs suggesting the boulders could move at any time.

The latest council report, on funding for maintenance, noted: "The Seaway is currently experiencing stability issues associated with scour holes. Exasperating existing problems is not acceptable."

THE FLOODING FACTOR

Flooding is the other factor to come into play since 2005.

The council as early as 1995 had conducted its own hydraulic reports and considered CSIRO storm tide floodwater modelling.

If the Seaway had been built before the great flood of 1974, the water level at the Broadwater would have been 200mm less.

The 1995 council report warned "an accident where a large craft could block or partially block the Seaway . . . is likely to have a catastrophic impact on flooding".

Extending the training walls could also increase peak flood heights, the report said.

The Griffith Centre for Coastal Management has since investigated the impact of extending the training walls by 400m for cruise ships.

Its report concluded the deep holes in the Seaway would become worse and it would lead to a "significant increase in dredging costs".

Another study confirmed the Nerang River had become "less flood dominant" since the Seaway had been built.

However, the tidal range and volume of water had changed in the Coomera River during the past 20 years, suggesting "the estuary will become more flood dominant".

A SEAWAY FAREWELL

Soon after his meeting with public servants, Angus MacLeod told friends about the irony of the Beattie government finally releasing documents consistent with his concerns about the project.

In a letter to friends on December 6, 2005, he said: "These turned out to be prophetic words . . . two days ago, I was diagnosed as having cancer, which may involve treatment in Brisbane."

MacLeod, in notes on a government-funded study using a Star Cruises simulator, worried that the simulated Seaway trials on three ships had been rated as "excellently safe".

He estimated that in at least 37.5 per cent of all runs, the vessel's passengers were exposed to "absolutely unsafe" conditions.

Save Our Spit leader Steve Gratton, who obtained the 2004 navigational report, recalled giving it to the businessman despite concerns from some environmentalists.

Then-deputy premier Anna Bligh in August 2006, after protesters campaigned, cancelled the project.

The government was concerned about cruise ships traversing the Seaway on a daily basis, the impact on the seabed and \$30 million in dredging costs, she said.

MacLeod lost his battle against cancer on April 29, before the Bligh bombshell.

A tree was planted on The Spit at a memorial service on July 30. Diver and photographer Ian Banks suited up MacLeod's brother Alistair.

Angus MacLeod's ashes were spread at the south Seaway wall.

