

Wave Break Island Feasibility Study

Draft Summary Report



Prepared by



Wave Break Island: Meet the gentle tides of adventure in the heart of the Broadwater

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Mosaic Insights recognises and acknowledges the unique relationship and deep connection to Country shared by Aboriginal and Torres Strait Islander people, as First Peoples and Traditional Owners of Australia. We pay our respects to their Cultures, Country and Elders past and present.

Artwork by Melissa Barton. This piece was commissioned by the Alluvium Group, and tells our story of caring for Country, through different forms of waterbodies, from creeklines to coastlines. The artwork depicts people linked by journey lines, sharing stories, understanding and learning to care for country and the waterways within.

The Spit Master Plan

In May 2019, the Queensland Government released The Spit Master Plan following an extensive master-planning process with comprehensive community consultation.

The master plan sets out a shared vision for The Spit's long-term future, reinforcing the commitment to enhancing the area as a valued community asset for generations to come.

With a \$60 million commitment to implementation, the government is delivering key community infrastructure projects, enhancing public spaces, and unlocking exciting new development opportunities.

A total of 138 hectares of green space within the master plan area has been permanently secured, carefully balanced with the release of redevelopment sites to establish a vibrant Village Centre.

Planning regulations ensure that all new developments are limited to a maximum height of three storeys (15 metres), seamlessly integrating with the landscape and protecting The Spit's cherished character.



The Spit Master Plan 2019 - front cover

The eight outcomes sought for Wave Break Island in The Spit Master Plan (2019):

- 2.1 Facilities including toilets, picnic tables and refuse disposal are available for visitors and campers at managed locations on Wave Break Island.
- 2.2 Camping facilities on Wave Break Island are small scale and restricted to one area on the island to enable use to be appropriately managed.
- 2.3 Day use areas are provided at the northern and southern parts of Wave Break Island.
- 2.4 An underwater attraction, located off the north eastern shore of Wave Break Island, provides a significant scuba diving and snorkelling facility for visitors to The Broadwater. The installation of the attraction minimises the disturbance of seagrass.
- 2.5 Wave Break Island is managed as a natural area on which regionally significant vegetation continues to flourish.
- 2.6 Walking tracks meander through the landscape of Wave Break Island and along the cleared navigational sightline. Interpretive signage informs visitors about the importance of protecting the environmental values of the island's flora and fauna.
- 2.7 A viewing platform and jetty on the northern side of Wave Break Island enables spectacular views across the expanse of The Broadwater.
- 2.8 A jetty on the southern side of Wave Break Island provides for ferry access to the island.

The opportunity

The master plan sets the intent for Wave Break Island as a place that provides a natural retreat in the heart of The Broadwater.

Wave Break Island is intended to provide a contrast to the developed coastlines of Runaway Bay, Labrador and Southport, offering low impact eco-tourism opportunities that showcase the island's unique attributes.

These experiences enable visitors to connect with and better understand the natural processes that shape the Broadwater's landscape and ecosystem.



The Spit Master Plan - page 54

The feasibility study

The Gold Coast Waterways Authority (GCWA) is undertaking a feasibility study to assess outcomes 2.1 to 2.8 of the master plan. The study involves comprehensive analysis of land use, precinct planning, and operational management to evaluate the feasibility of master plan outcomes for Wave Break Island.

Based on this evaluation a Feasibility Plan has been created that builds on the master plan intent with small changes like trial cabins to test overnight stays, providing a lower-cost environmentally responsible way to explore opportunities.

This draft Summary Report outlines the Feasibility Plan, the rationale behind it, associated risk mitigation strategies, a costing overview, and key recommendations arising from the study.



Shaping the future

Wave Break Island needs to evolve to meet the changing needs of the Gold Coast community and align with the strategic direction set by The Spit Master Plan.

Historically, the island has faced intense development proposals that threatened its natural and recreational value. These pressures highlight the importance of proactively shaping its future to balance environmental preservation with sustainable use.

Projected population growth in the Gold Coast region adds further urgency, as increasing demand for recreational spaces and marine destinations place significant strain on existing sites.

The master plan provides a vision for Wave Break Island, emphasising improved day-use facilities, low-impact eco-tourism, and vegetation enhancement.

By implementing such changes, the island could serve as a vital destination that meets community needs, support local businesses, and reinforces the Gold Coast's reputation as a sustainable and vibrant waterways city.



About Wave Break Island

Wave Break Island is a man-made island in The Broadwater, created during the construction of the Gold Coast Seaway in 1985. Covering approximately 371,500m², it lies near The Spit and South Stradbroke Island, offering easy vessel access to these key locations.

Managed by GCWA since 2015 under the *Land Act 1994*, Wave Break Island offers a unique blend of natural retreat and urban convenience, allowing visitors to experience a sense of escapism while being centrally located on the Gold Coast.

The island is currently used for recreational activities such as kayaking, snorkeling, scuba diving, swimming and picnicking.

Its **northern** end features a popular anchorage and beach area used by non-powered vessels and tour operators, while the **southwest** corner, known as the "Keyhole," is a favorite anchoring spot, especially each Australia Day.

The **eastern** side boasts a long sandy beach, with snorkelers and divers enjoying its northern stretch for viewing marine life.

The Gold Coast Seaway, (pictured below) built under the *Nerang River Entrance Act 1984*, ensures safer boating access and stabilises the Nerang River mouth. Wave Break Island, a key part of its design, reduces wave impact on the Broadwater foreshores and remains essential to the area's hydrodynamic and coastal processes.



Photo "Aerials of Southport Bar and Southport seaway being built in 27/8/1984". Photo supplied by Gold Coast Council. Gold Coast Bulletin

Eco-tourism on the Gold Coast

Eco-tourism, a subset of nature-based tourism, is growing across Queensland, with the Gold Coast offering diverse experiences ranging from guided tours in World Heritage-listed rainforests to exploring its waterways and coastlines.

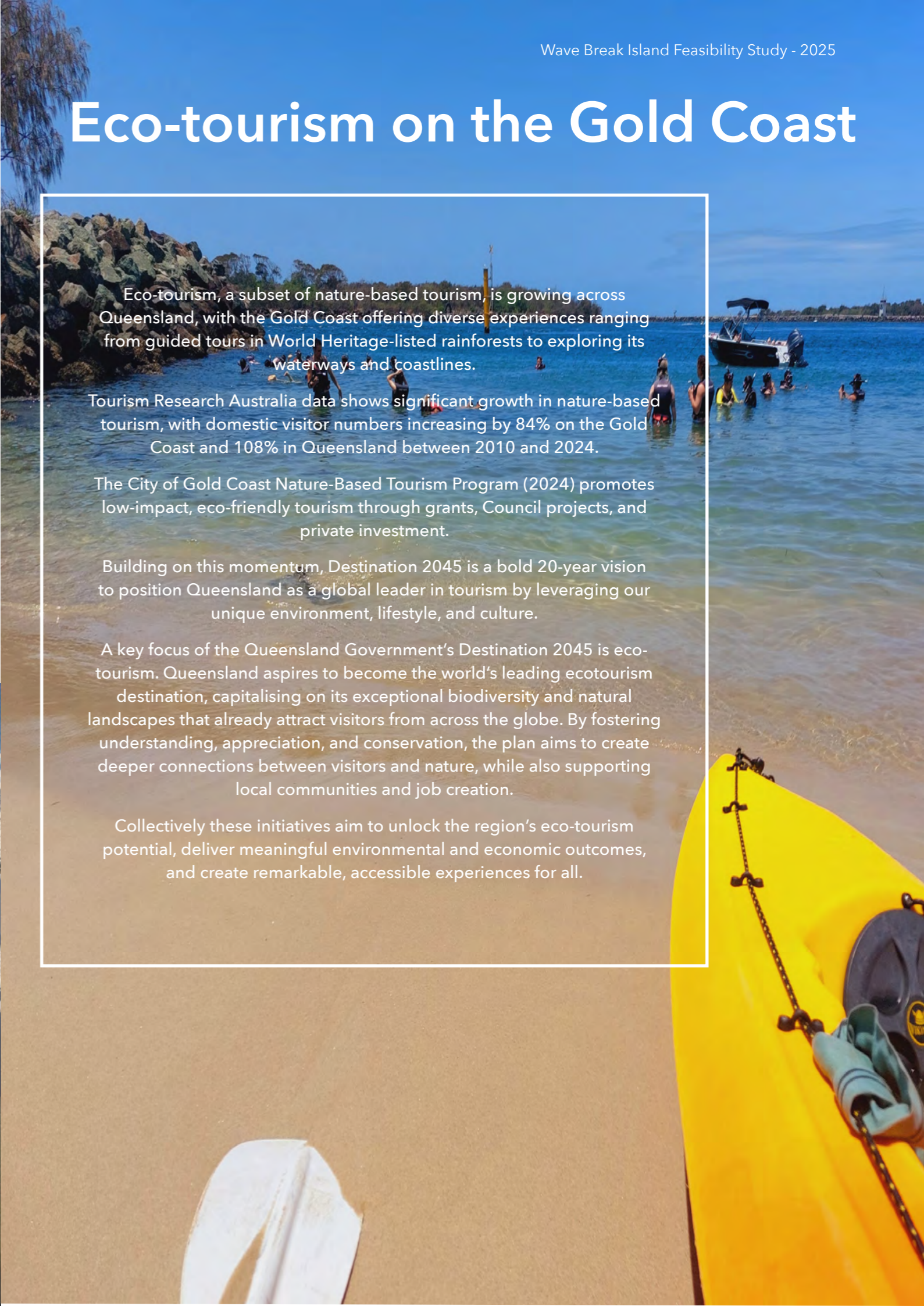
Tourism Research Australia data shows significant growth in nature-based tourism, with domestic visitor numbers increasing by 84% on the Gold Coast and 108% in Queensland between 2010 and 2024.

The City of Gold Coast Nature-Based Tourism Program (2024) promotes low-impact, eco-friendly tourism through grants, Council projects, and private investment.

Building on this momentum, Destination 2045 is a bold 20-year vision to position Queensland as a global leader in tourism by leveraging our unique environment, lifestyle, and culture.

A key focus of the Queensland Government's Destination 2045 is eco-tourism. Queensland aspires to become the world's leading ecotourism destination, capitalising on its exceptional biodiversity and natural landscapes that already attract visitors from across the globe. By fostering understanding, appreciation, and conservation, the plan aims to create deeper connections between visitors and nature, while also supporting local communities and job creation.

Collectively these initiatives aim to unlock the region's eco-tourism potential, deliver meaningful environmental and economic outcomes, and create remarkable, accessible experiences for all.



Feasibility Plan PHASES 1-6

(Full Activation)



Legend

1. Creation of a western channel
2. Nourishment of western beach
3. Enlargement of the Keyhole
4. Underwater attraction
5. Eco-tourism precinct
6. Viewing platform
7. Pontoon
8. Kiosk
9. Picnic shelters
10. Common services corridor
11. Powered campsites
12. Camp amenity block
13. Overflow camping
14. Public toilets

This plan is conceptual in nature and locations are subject to change during further design development.



BEFORE

Existing conditions

The above image shows the existing conditions of the western side of Wave Break Island.



AFTER

- 1. Creation of western channel
- 2. Beach nourishment
- 3. Keyhole enlargement
- 9. Picnic Shelters

Artists impression

This page shows an artist's impression of what Wave Break Island could look like after implementation of Phase 1: Western Beach Enhancement of the Feasibility Plan.



Existing conditions

BEFORE



AFTER

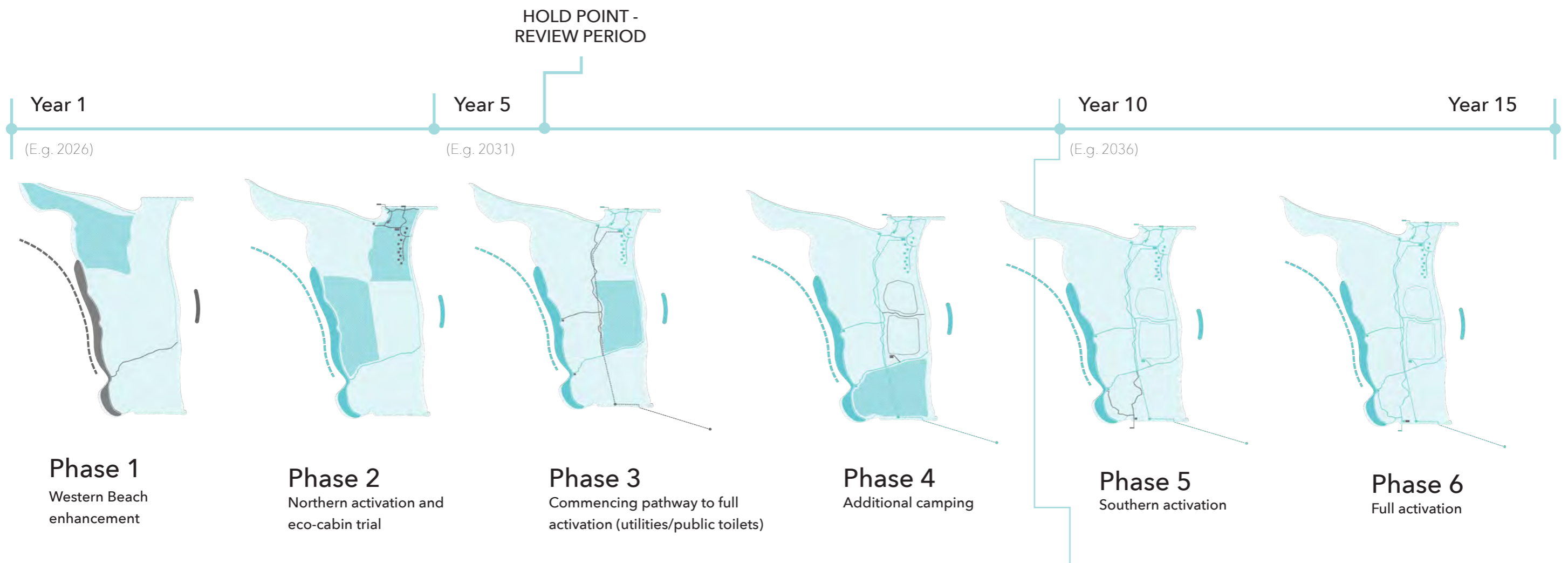
Enhanced vegetation

- 4. Proposed underwater attraction
- 5. Eco-cabin precinct
- 6. Viewing platform
- 7. Pontoon
- 8. Kiosk
- 9. Picnic shelter

Artists impression

The above image shows the northern end of Wave Break Island and what this area could look like after the implementation of Phase 2: Northern activation and eco-cabin trial.






Timing of delivery

It is anticipated that the Feasibility Plan will be delivered across a timeframe of 10-15 years. This is to allow for an iterative approach to implementing the Feasibility Plan where the outcomes of the previous phase will be used to inform implementation of the next phase.

The initial delivery of Phases 1 and 2 will be reviewed after five years. This review will allow GCWA to assess outcomes such as visitation numbers, financial performance, and lessons learned from managing increased visitation to the island.

These insights will help inform any decision to proceed with the next phase of the Feasibility Plan.

The above figure provides an overview of how each phase could be delivered across a 15-year timeframe.

 Shaded areas represent staged vegetation enhancement.



Financial Assessment

The financial assessment involves evaluation of both capital and operational expenditures. The capital expenditure (CAPEX) includes delivery of new assets. The operational and maintenance expenditure (OPEX) considers the costs necessary to sustain the island's functionality.

The table on the following page details the projected CAPEX and annual maintenance costs for phases 1 and 2 of the associated scope.

Phase 1 and 2 will seek to establish a sustainable cost recovery model through licensing of an eco-tourism provider to establish private accommodation and associated facilities on the island. This model, built through GCWA partnering with a suitably experienced short-term accommodation provider, will reduce failure risk and provide significant benefit in reducing eco-establishment and operational costs. This is likely to be only achievable by deferring the potential cost recovery consideration until at least the five year review period.

If after the five year review point, the eco-tourism precinct is **financially sustainable**, then negotiation on cost recovery could commence in conjunction with 'Phase 3 - Commence pathway to full activation'.

The cost recovery model to be considered could involve a direct financial return future on eco cabin or campsite bookings made and/or consideration of complementary services associated with island activation management including litter management, public toilet and other infrastructure and maintenance.

Climate risk assessment

Establishment of new coastal infrastructure must consider the potential impacts of climate change. More extreme weather events and sea level rise have the potential to impact any new infrastructure on the island.

Phases	CAPEX	Annual maintenance costs
Phase 1 Western beach enhancement	\$7,030,000	\$1,000,093
Phase 2 Northern activation	\$10,120,000 *	
TOTAL	\$17,150,000	\$1,000,093

Phases 3-6 rely upon cost recovery model

* Includes eco cabin precinct to be funded by accomodation provider.

Wave Break Island is higher on the eastern foreshore making it the preferred side for permanent infrastructure, however setbacks from the beach must be maintained to avoid potential erosion and inundation hazards.

New landings will utilise existing rock breakwalls to access the existing deeper channels on the north and south sides of the island.

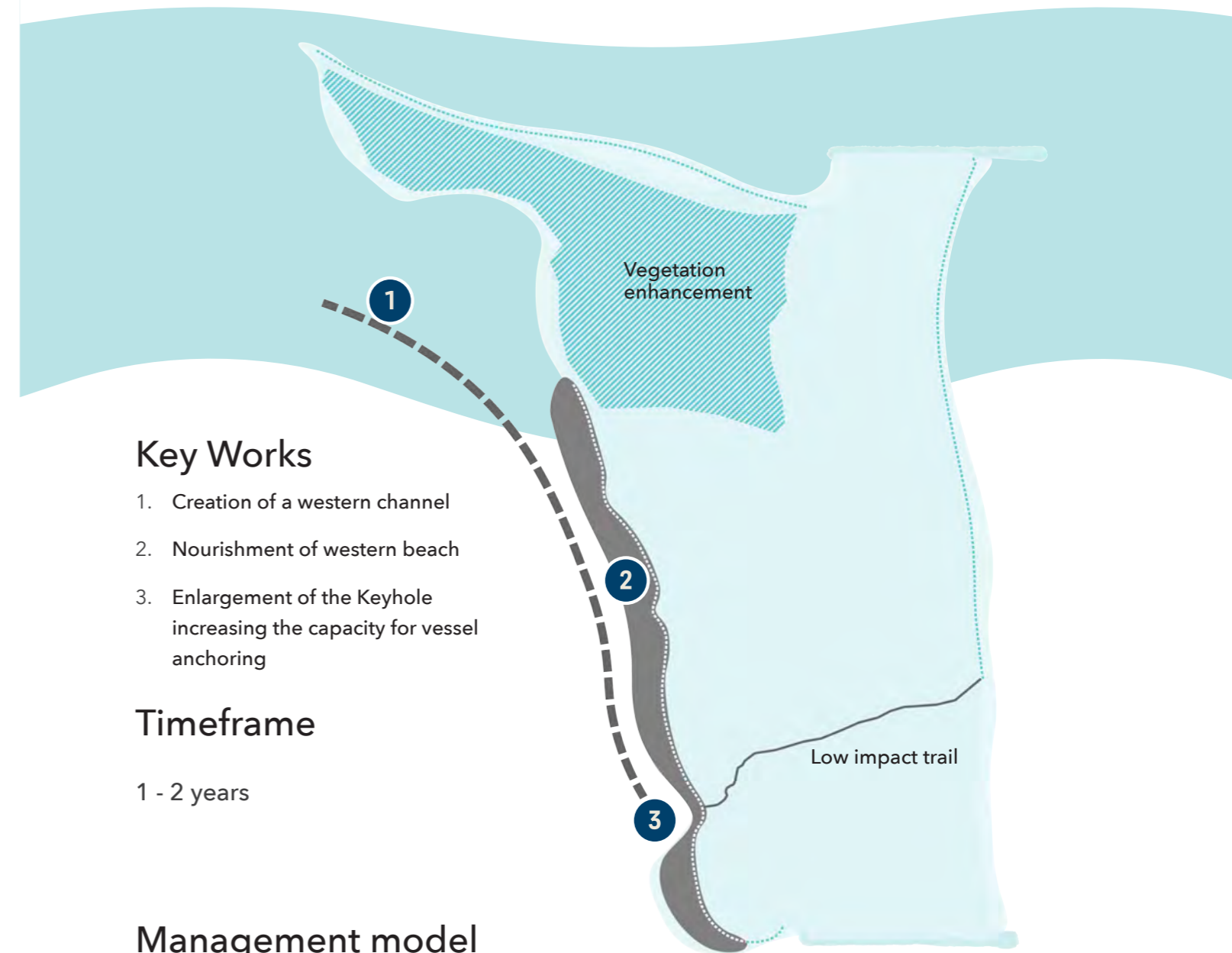
Due to the sandy nature of the island, drainage and overland flow risk in extreme rainfall events are not likely to have any significant impact and the recolonised vegetation on the island is to be drought tolerant.





PHASE 1

Western Beach Enhancement



Key Works

1. Creation of a western channel
2. Nourishment of western beach
3. Enlargement of the Keyhole increasing the capacity for vessel anchoring

Timeframe

1 - 2 years

Management model

Phase 1 will maintain the existing GCWA management (i.e. waste collection, maintain navigational sight line, compliance) with additional capital investment for dredging of the western channel and Keyhole enlargement. The western beach enhancement will likely result in an increased number of visitors to the island that may increase litter and other on-site management activities.

Description of the Feasibility plan

Phase 1 of the Feasibility Plan focuses on enlarging and enhancing the capacity of the Keyhole site, improving vessel access along the western side and nourishing the western beach to provide more area for day visitors to enjoy.

A low-impact walking track will be implemented along the cleared navigational sightline, allowing day visitors to walk comfortably between the eastern and western sides of the Island.

Wave Break Island, despite hosting mature native vegetation communities, is heavily infested with exotic weed species. Vegetation enhancement efforts will need to be staged and focus on weed control and biodiversity enhancement to help improve habitat and natural amenity.

The northwest of the island is an appropriate location to commence vegetation enhancement activities as it will be least disturbed by implementation of the subsequent phases on the Feasibility Plan.

Rationale

- To increase capacity for short-term anchoring in response to popularity of boat ownership and population growth.
- To reduce vessel congestion at peak times and minimise conflicting uses.
- To encourage visitors to connect with the island's environment and heritage.
- Creating a more enjoyable and accessible beach for local boaties and visitors on the western side of the island.



Photo " Wave Break Island Australia Day

Navigational access



New and expanded navigational access to Wave Break Island will improve usability for a broader range of vessels and increase capacity.

Nourishing the western beach with dredged sand will provide a more inviting and functional space for day-use activities such as swimming, picnicking and relaxation.

Together, these enhancements will elevate Wave Break Island's appeal as a key destination within The Broadwater, offering greater capacity for the local community, boosting local tourism businesses, attracting new visitors, and reinforcing its value to the Gold Coast.



PHASE 2

Northern Activation and Eco-tourism trial

Key Works

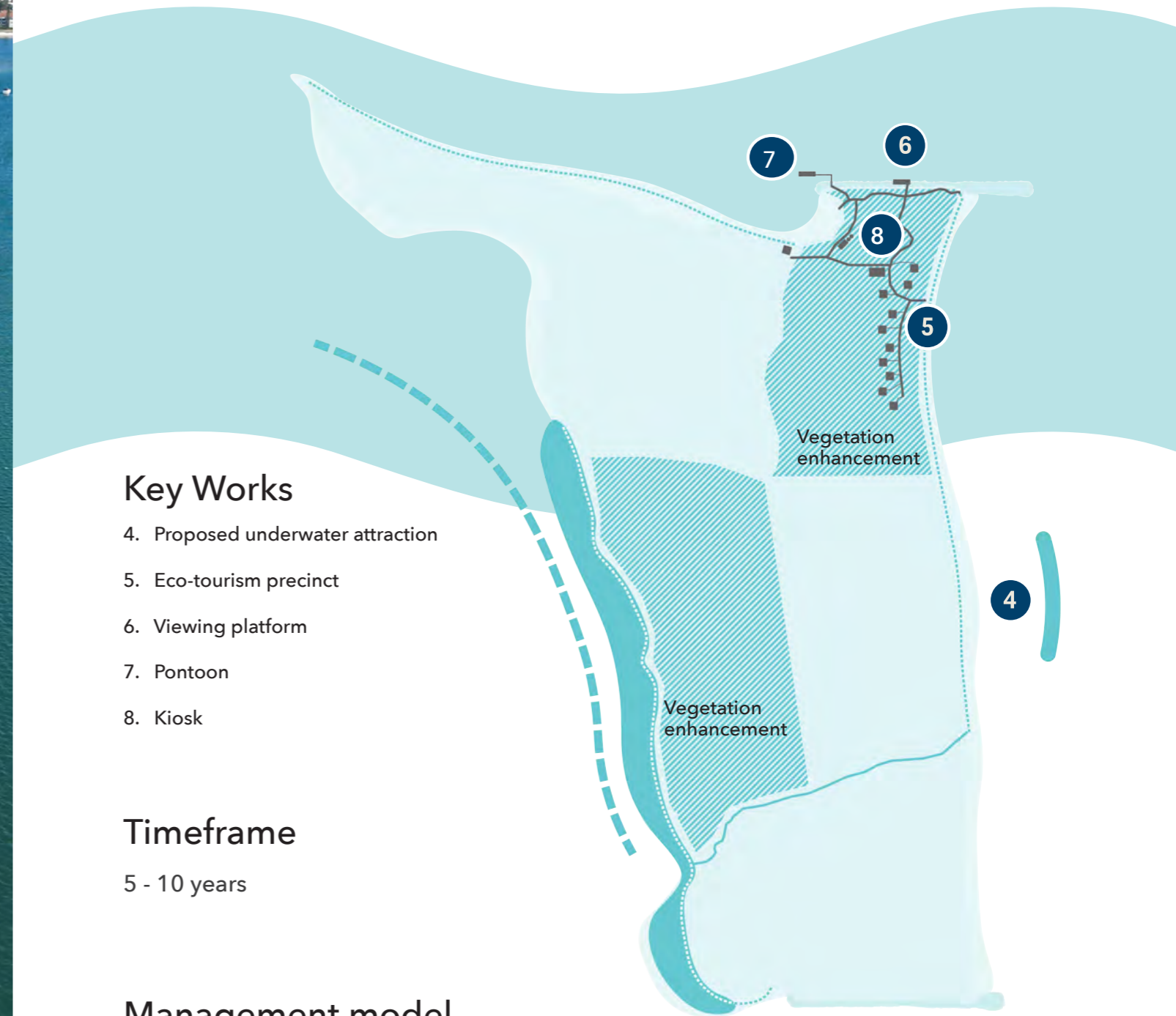
- 4. Proposed underwater attraction
- 5. Eco-tourism precinct
- 6. Viewing platform
- 7. Pontoon
- 8. Kiosk

Timeframe

5 - 10 years

Management model

Tendered process for attracting a commercial entity to establish and operate an eco-tourism precinct with full-time on-site manager. The commercial entity will be closely monitored by GCWA to ensure adherence to the lease conditions and eco-tourism standards. A five year review period is recommended prior to exploration of further development and cost recovery models.



Description of the Feasibility Plan

The northern end of Wave Break Island is already well used by tour operators and day visitors.

Visitor experience and access will be enhanced through implementing a northern jetty with trails linking to the east of the island, and a viewing platform and a day use area with seating and shelter.

A new underwater attraction site is proposed for the central/northern area of the eastern beach. This will provide a snorkeling opportunity that is additional and complementary to the area that is currently used by scuba divers and snorkelers.

The location of an underwater attraction will be subject to further technical assessment.

During this phase an eco-tourism precinct will be implemented and trialled for overnight stays.

Rationale

- Expansion to meet increased demand and provide longer stays/different experiences.
- Location of eco - cabins based on proximity to underwater attraction and pontoon.

- Enhance the experience of day visitors through additional amenities and facilities.
- Improve access to the Island for all abilities through implementation of a Disability Discrimination Act (DDA) compliant pontoon.
- Support overnight visitation through the provision eco-cabin accommodation.
- This approach represents a strategic compromise, where carefully integrated commercial offerings support the island's long-term sustainability while maintaining a strong focus on public enjoyment and access

Locating the northern pontoon along the rock breakwall is the most feasible location as the breakwall provides a stable shoreline position while minimising disruption to navigation in the North Wave Break Island Channel.

The location of the new underwater attraction site is chosen as the most appropriate as this is the site with the highest demand for snorkeling activity and with high water clarity.

However, this location can experience strong currents and large swells. It is important that further safety and risk investigations are conducted prior to implementing an underwater attraction.



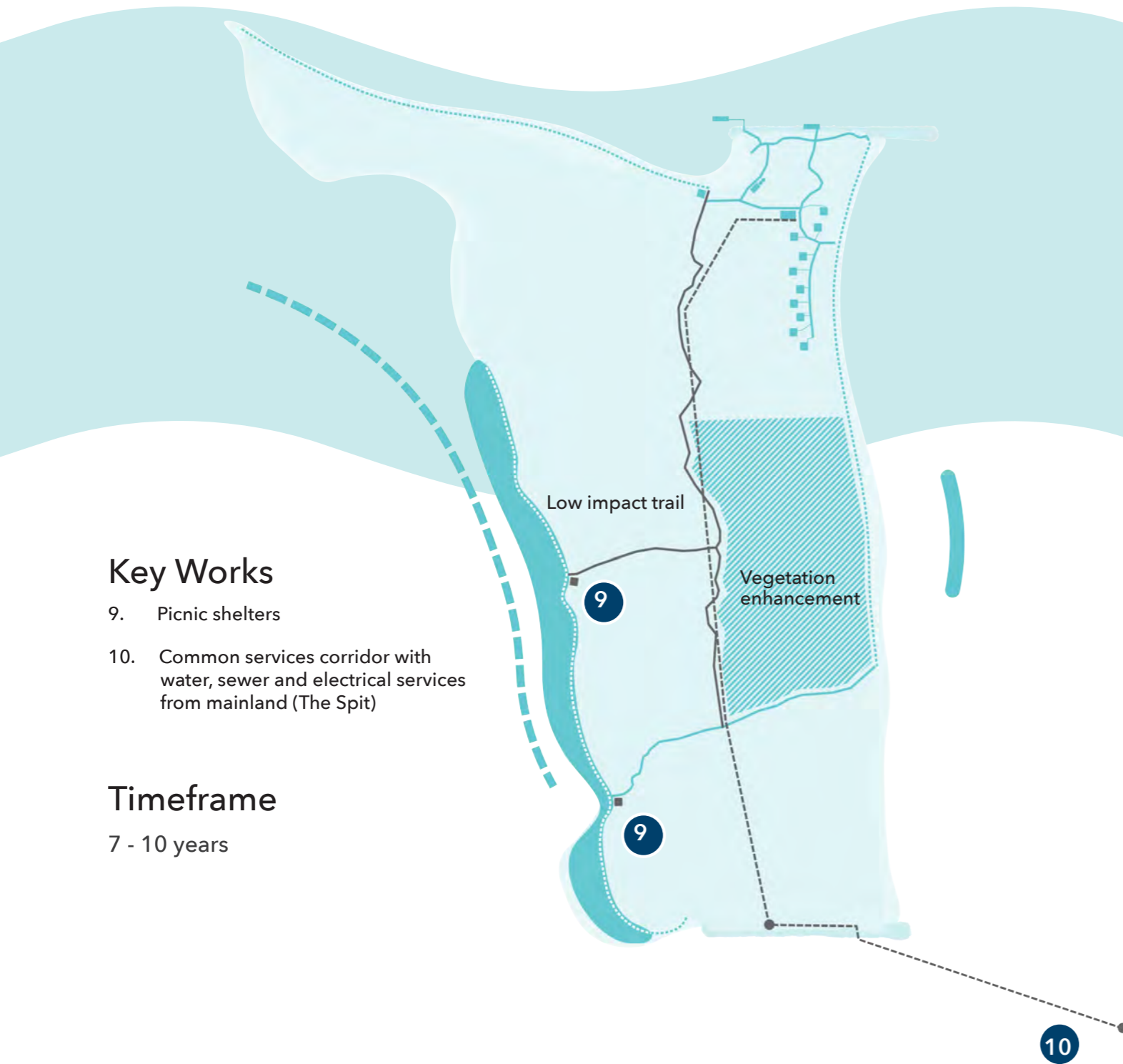
New underwater attraction

The underwater attraction could feature a series of purpose-built structures made from precast or 3D-printed concrete, offering flexibility and creativity in design for snorkeling and diving experiences.



PHASE 3

Commencing pathway to full activation



Key Works

- 9. Picnic shelters
- 10. Common services corridor with water, sewer and electrical services from mainland (The Spit)

Timeframe

7 - 10 years

Review

Following five years of operation of the eco-tourism precinct trial, a comprehensive review will be undertaken to assess the trial's success and future potential. This review will evaluate key factors such as visitor demand, environmental performance, operational sustainability, and overall user satisfaction. The findings will guide GCWA's decision on whether to proceed with Phase 3.

This evidence-based approach will ensure that any future development aligns with environmental sustainability principles, visitor expectations, and the strategic vision for Wave Break Island.

Description of the design

Power, water and sewer services will be provided to Wave Break Island, either from the mainland or emerging renewable technologies.

A walking trail connecting the north and south of the island will be created with trails connecting to the Keyhole and the center of the enhanced western beach.

Day use areas with seating, shelters and rubbish disposal will be added where the trails emerge at the Keyhole and western beach sites. Wayfinding and interpretive signage will be implemented along the trails in accordance with The Spit Wayfinding and Interpretive Guidelines.

Staged vegetation enhancement will continue to occur across the island providing potential opportunities for visitors to engage in conservation initiatives.

Rationale

- Establish power, water, and sewage connections to support future camping amenities and public toilets.
- Enhance eco-tourism offering by developing bushwalking trails with wayfinding and interpretive signage.

Management model

As activity on Wave Break Island increases, a structured and sustainable management approach will be essential. The objective is to establish a low-impact operational model for the powered camp sites and amenities block that minimises environmental impact, conserves resources such as energy and water, and promotes waste reduction and recycling.

This will include setting clear sustainability targets, conducting regular energy and water audits, and implementing effective waste management practices. Education of staff and visitors on sustainable behaviours will be critical, along with clear communication of the island's environmental values and initiatives. This approach will ensure that increased visitation enhances, rather than detracts from, the island's environmental integrity and visitor experience.

PHASE 4

Additional accommodation

Key Works

- 11. Powered camp sites
- 12. Camp amenity block
- 13. Overflow camping area

Timeframe

7 - 10 years



Description of the design

Based on the findings from the eco-cabin trial, the accommodation offering on Wave Break Island may be expanded to include additional eco-cabins and/or powered camping facilities. An amenity block will also be implemented with toilet and shower facilities that will service both day and overnight visitors, with easy access from the western beach and Keyhole day use areas.

PHASE 5

Southern Activation

Description of the design

Phase 5 of the Feasibility Plan focuses on activating the southern end of Wave Break Island through providing additional trails, public toilet facilities and improving access through the provision of a southern ferry pontoon.

The trails will use existing informal access points and pathways to minimise disturbance and vegetation clearing. The southern pontoon is located at the western end of the existing southern rock breakwall. Locating the southern pontoon at the western end of the rock breakwall is the most feasible location as the rock breakwall provides a stable shoreline position while minimising disruption to the sand dunes and vegetation.

Key Works

- 7. Pontoon
- 14. Public toilets

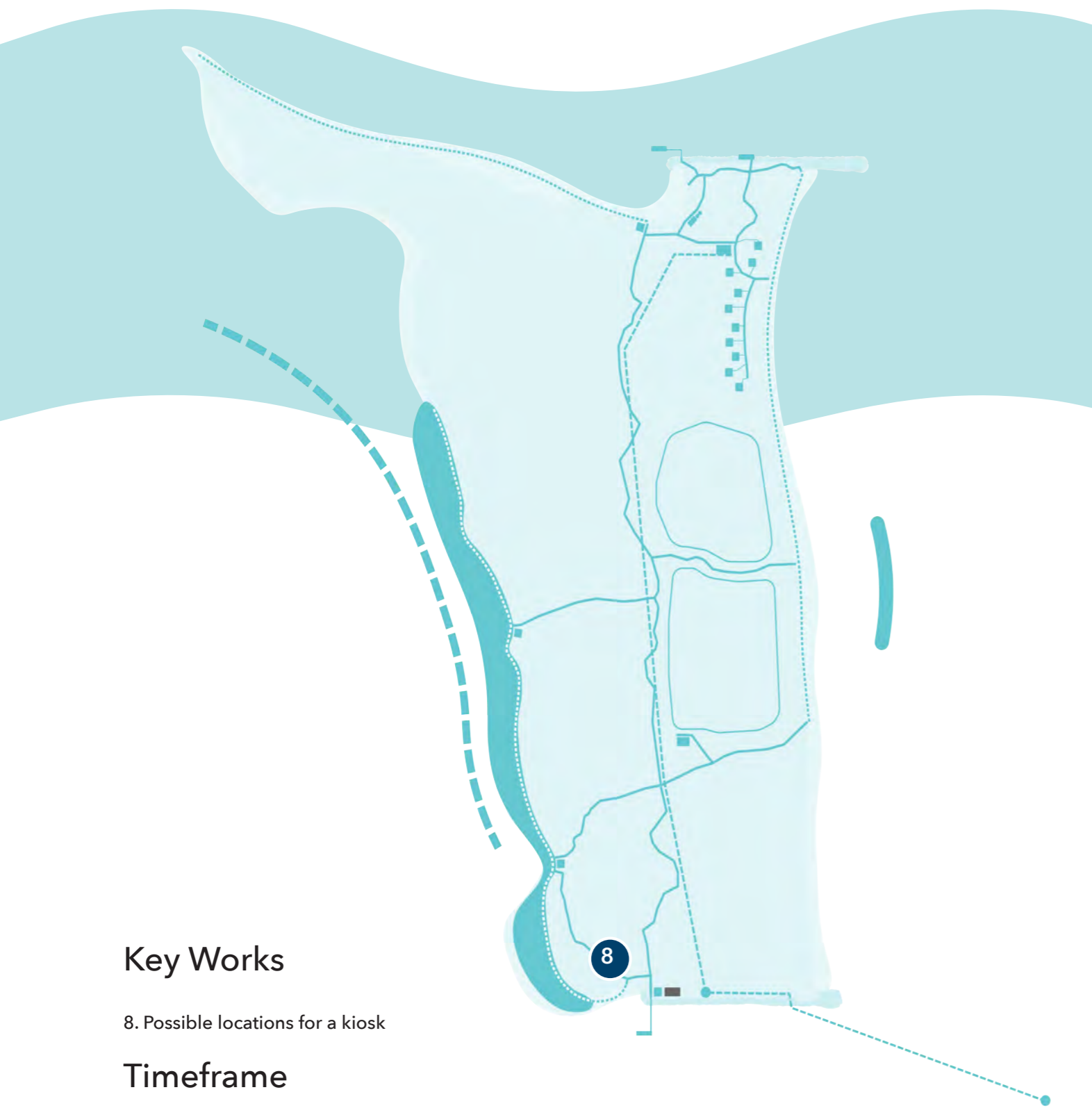
Timeframe

10 - 15 years



PHASE 6

Full Activation



Key Works

8. Possible locations for a kiosk

Timeframe

10 - 15 years



Description of the design

The final phase of the Feasibility Plan aims to include an additional commercial operation for the Island with the inclusion of a kiosk. The kiosk will be a small scale commercial operation selling food, drinks and potentially small items (for example, sunscreen, insect repellent, fishing supplies).

The location of the kiosk will be determined based on the outcomes of the previous phases and insights on how visitors are using the Island. The kiosk could potentially be located close to the northern day use area to service visitors using the northern beach and snorkeling area as well as service eco-cabin guests and tour operator customers. Alternatively, the kiosk could be located near the southern ferry pontoon to service visitors accessing the Island through the southern pontoon and visitors to the Keyhole area.





Wave Break Island
Feasibility Study
Draft Summary Report 2025

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insights

