**Version: 3 // April 2024**

# Takutai Kāpiti Social Impact Assessment

KĀPITI COAST DISTRICT COUNCIL

**Version: 3 // April 2024**

Kāpiti Coast District Council

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# Contents

# 1.0 Purpose of this Assessment

The Kāpiti Coast District Council (KCDC) is undertaking a community-led planning process - Takutai Kāpiti Coastal Adaptation Project - to help guide the community response to the impacts of a changing climate and coastal hazards, specifically:

- encourage the Kāpiti community to become more aware of the impacts of climate change and sea-level rise, and
- empower residents to take part in developing solutions and pathways for adapting to future changes.

The Social Impact Assessment (SIA) is part of the Takutai Kāpiti Project and covers the communities of Ōtaki, Te Horo, Peka Peka, Waikanae, Paraparaumu, Raumati and Paekākāriki.

While there are uncertainties regarding the impact of climate change and sea level rise over the long term, the Takutai Kāpiti Project is working to build an understanding of the values and concerns of the community and facilitate a decision-making process that incorporates local knowledge and views on what actions might deliver a resilient future.

The Ministry for the Environment has published the first National Adaptation Plan for Aotearoa New Zealand, Urutau, ka taurikura: Kia tū pakari a Aotearoa i ngā huringa āhuarangi Adapt and thrive: Building a climate-resilient New Zealand[1]. This first Plan focuses on "getting the foundations right" for adaptation and sets out what the Government will do to enable better risk-informed decisions and help communities assess adaptation options (including managed retreat).

Like many coastal communities in New Zealand, the Kāpiti Coast is projected to face significant environmental challenges from the impacts associated with climate change[2]. This report examines at what might be lost if no intervention is taken and did not canvas perspectives on how the community will be impacted if certain solutions were pursued. To understand the impacts of climate change and natural hazards on the Kāpiti Coast, a range of assessments are being prepared:

- Coastal processes, drivers, and hazards (coastal inundation, coastal erosion, and tsunami) and climate change effects.
- Natural Character Assessment.
- Ecological Values Review.
- Cultural Values Assessment.
- Economic Assessment.
- Social Impact Assessment.

The purpose of this Social Impact Assessment (SIA) is to provide:

- A clear understanding of social issues and their impacts.
- Meaningful engagement with community stakeholders.

[1] https://environment.govt.nz/publications/aotearoa-new-zealands-first-national-adaptation-plan/
[2] https://niwa.co.nz/sites/niwa.co.nz/files/Well_NCC_projections_impacts2017.pdf

- Analysis of social outcomes that would occur if there was no further intervention to address coastal and climate risks beyond current interventions (if any).
- Provide advice in relation to social outcomes.

This report and the process followed through the interview stage is aimed at exploring community values and analysing the Community's perception of coastal hazards under the current approach to managing hazards. It draws on New Zealand[3] and International[4] best practice in undertaking impact assessments. It is not within the scope of this SIA to establish how these social outcomes can be mitigated; rather this will be addressed as part of the overall Takutai Kāpiti Coastal Adaptation Project.

**About Social Impact Assessment**

SIA contributes to the process of adaptive management of policies, strategies and projects and offers an understanding of the interconnected social, economic, and biophysical elements including how they interact if a change occurs in one domain. SIA provides the community with improved information to allow them to make decisions regarding natural hazard and climate change events.

The International Association for Impact Assessment (IAIA) has defined social impact assessment as "the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions". The IAIA determine what is considered social impact by:

- People's way of life – how they live, work, play and interact with one another on a day-today basis.
- Their culture – their shared beliefs, customs, values and language or dialect.
- Their community – its cohesion, stability, character, services, and facilities.
- Their political systems – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resources provided for this purpose.
- Their environment – the quality of the air and water people use; the availability and quality of the food they eat; the level of hazard or risk, dust and noise they are exposed to; the adequacy of sanitation; their physical safety; and their access to and control over resources.
- Their health and wellbeing – health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity.
- Their personal and property rights – particularly whether people are affected economically or experience personal disadvantage which may include a violation of their civil liberties.
- Their fears and aspirations – their perceptions about their safety, their fears about the future of their community, and their aspirations for their future and that of their children. (Vanclay, 2003)

According to the New Zealand Institute of Impact Assessment (NZIIA), a development project can have social impacts that result in changes to peoples' way of life, culture, community, political and governance systems, environment, health and wellbeing, personal and property rights and fears and aspirations. (Social Impact Assessment, n.d.)

[3] New Zealand Institute of Impact Assessment
[4] International Association for Impact Assessment

SIA is an iterative process informed by on-going engagement with project proponents and other stakeholders, particularly the impacted community.

While SIA can identify cultural changes or impacts, the SIA for Takutai Kāpiti does not cover cultural impacts and values, which are addressed in a separate cultural assessment report.

Although the domains of cultural and social issues and impacts can be closely linked, the response to impacts and the explanation of why they occur remain distinctly different. Te Ao Māori recognises that storm events and functions of nature are in-fact expressions of Atua (Spiritual and physical deities). Atua Māori are the ancestral forebears of people, and their behaviours are connected to their moods and are often in response to our actions. Mātauranga Māori clearly establishes a hierarchy between people and Atua, with Atua in the ascendant tuakana (elder) space. The Māori knowledge continuum recognises that in forming solutions to climate change and coastal hazards, people need to remove themselves from the spaces where atua are enraged and feuding amongst themselves. To fight against their expressions will only result in the atua becoming further enraged and more severe outcomes. Māori solutions rely on restoring the balance between feuding atua Māori and the empowerment of deities that offer natural protection from coastal forces (Personal Communication with Aroha Spinks, Caleb Royal, 24/8/22).

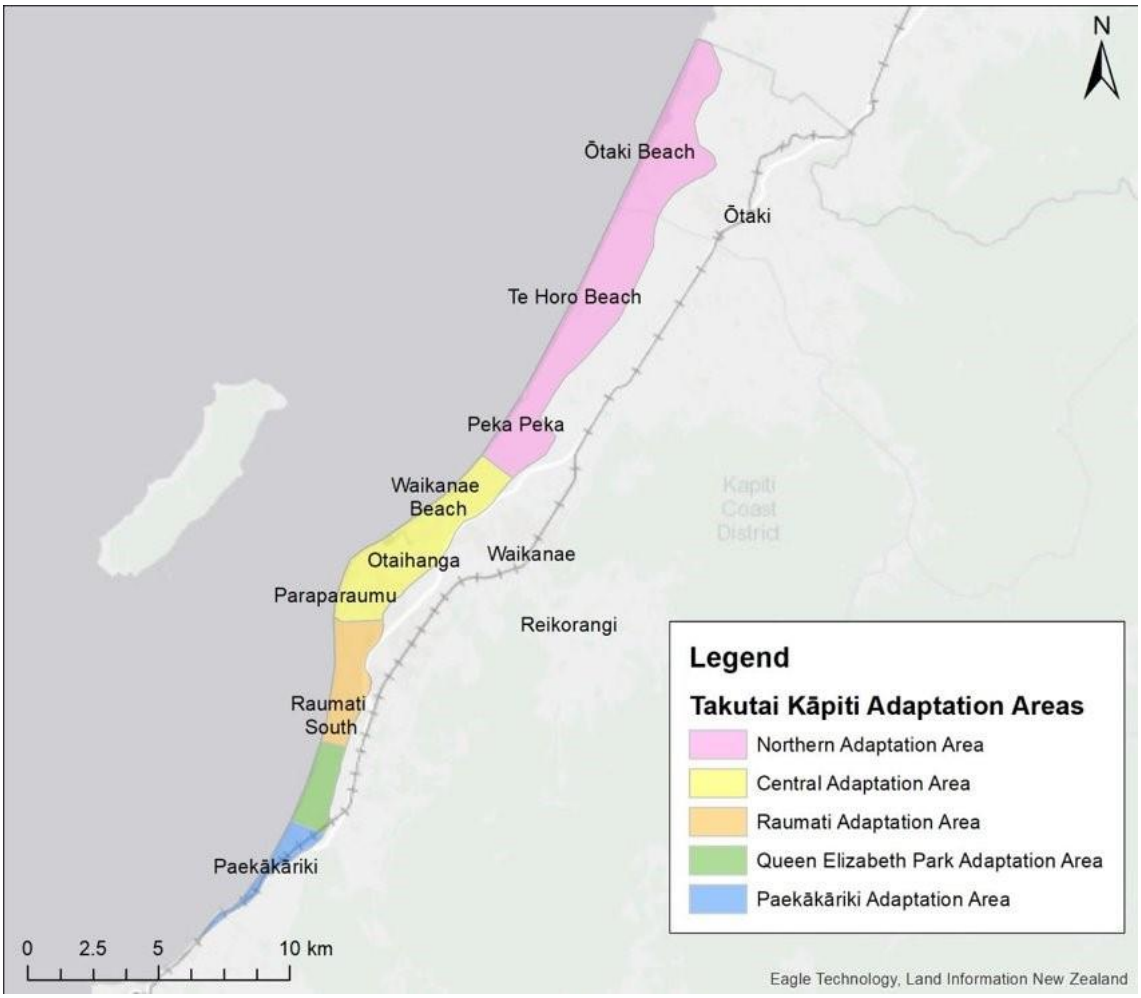

Figure 1: Map of Takutai Kāpiti Adaptation Areas

# 2.0 Methodology

To understand the social impact on the Kāpiti coastal communities, an approach consisting of three phases was completed and informs this Report. These phases are:

- Semi-structured interviews with key stakeholders – based on an agreed set of open questions and definition of status quo. This process and the related engagement are also intended as a 'listening' process and represents the main input into this Report.
- Research and collection of relevant data, as referenced throughout this Report.
- Review of key findings (via selected experts and interviewees).

Through the semi-structured interviews/discussions we identify values and issues, as well as, explored topics and questions such as:

- Why do people choose to live in this area? What makes it special?
- What are the most significant risks (beyond coastal hazards) facing people living in the area?
- To what degree do people feel that coastal erosion and increased flooding is a threat to the area and their way of life?
- How will community social and recreational values be affected by continuing and changing coastal hazards?
- What amenities, values and interactions would be lost or adversely affected?

Interviews were conducted with 35 people in person and via online video calls when it was not possible to have in-person meetings. Those in-person were either individuals or in groups at a location chosen by the interviewees. Interviews were conducted across 2022.

Interviewees were representative of the community and had diverse perspectives and backgrounds. Initial interviewees were nominated by the Takutai Kāpiti Coastal Advisory Panel, through referrals by residents and local businesses, and word of mouth. Interviewees included residents, local business owners, individuals who hold responsibilities in, or are involved in community initiatives and recreational groups. They were selected based on the need to gather a balanced input from across the community, including their knowledge about coastal changes, understanding and interest about community values and awareness about the impact of coastal changes on the community to date. Youth were also targeted though it was not possible to engage at school level.

In addition to interviews and inputs by knowledge holders, the assessment was complemented by a desktop review of relevant studies, reports and secondary data regarding demographics (census data) and social issues.

To understand coastal hazards in Kāpiti Coast, the report published by Jacobs, *Kāpiti Coast Coastal Hazards Susceptibility and Vulnerability Assessment* was utilised alongside map projections from the Greater Wellington Regional Council website and resources from the Kāpiti Coast District Council website. The use of cells as location boundaries that are used throughout this report are aligned with cell boundaries based on the erosion adaptation areas used in the Kāpiti Coast Coastal Hazards Susceptibility and Vulnerability Assessment Report to create uniformity. These cells represent similar hazards and defined community areas. For more information on cell boundaries, see the Kāpiti Coast Coastal Hazards Susceptibility and

Vulnerability Assessment Report here. In the social outcomes summary table (section 13.2), the Kāpiti Adaptation Areas were used.

# 3.0 Background

The Kāpiti Coast District is located on the West Coast of New Zealand's North Island, approximately 40 kilometres from central Wellington to the most southern township of Paekākāriki. There are seven settlements along the Kāpiti coastline, often with both beach settlements and townships further inland. These communities are: Paekākāriki, Raumati, Paraparaumu, Waikanae, Peka Peka, Te Horo and Ōtaki. There are also several rural areas: Reikorangi, Te Horo, Waitohu and the Hautere Plain[5]. Stretching from Paekākāriki in the south through to Ōtaki in the north and offshore to Kāpiti Island, the district has a total land area of 732 square kilometres[6] and 40 kilometres of coastline[7].

Located 5 kilometres[8] off the coast but dominating the coastal landscape, Kāpiti Island is a treasured taonga[9] in the district and one of New Zealand's few island nature reserves in which visitors require a permit to visit. The Kāpiti Coast District is administered by the Kāpiti Coast District Council[10] and the Greater Wellington Regional Council[11].

The Kāpiti Coast started expanding in the 1950s and had significantly higher population growth that the average for New Zealand in the 1990s[12] [13], with infrastructure such as several retirement villages, libraries and shopping areas establishing during this time[14].

The Kāpiti Coast has a rich Māori history pre-European settlement and continuing into current day[15]. The mana whenua of the Kāpiti district is Te Āti Awa ki Whakarongotai, Ngāti Raukawa ki te Tonga and Ngāti Toa Rangatira, including hapū and whānau[16]. In 1994, the Kāpiti Coast District Council and each of the three iwi signed a Memorandum of Partnership and established Te Whakaminenga o Kāpiti, a forum that works towards decision making and collaborative engagement on mutually agreed priorities[17].

According to the Kāpiti Coast District Council, the Kāpiti District has in comparison to New Zealand, more European residents, and fewer Pacific or Asian residents (Council, n.d.). Based on the 2018 New Zealand census, 12.3 percent of Kāpiti Coast residents identify as Māori. A 2017 Electoral Commission reported that

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[5] https://www.kapiticoast.govt.nz/explore-kapiti/our-towns/
[6] http://www.localcouncils.govt.nz/lgip.nsf/wpg_URL/Profiles-Councils-Kapiti-Coast-District-Council-Main
[7] https://www.wellingtonnz.com/visit/kapiti-coast/discover-the-charms-of-the-kapiti-coast
[8] https://www.doc.govt.nz/globalassets/documents/parks-and-recreation/places-to-visit/wellington/kapiti-island-brochure.pdf
[9] https://www.kapitiisland.com/about-us/
[10] http://www.localcouncils.govt.nz/lgip.nsf/wpg_URL/Profiles-Councils-Kapiti-Coast-District-Council-Main
[11] http://www.localcouncils.govt.nz/lgip.nsf/wpg_URL/Profiles-Councils-Wellington-Regional-Council-Main?OpenDocument
[12] https://rep.infometrics.co.nz/kapiti-coast-district/population/growth
[13] https://www.gw.govt.nz/assets/Documents/2021/12/Greater-Wellington-Socio-Demographic-Profile-1986-2031-Profeessor-Natalie-Jackson-2012.pdf
[14] https://www.kapiticoast.govt.nz/community/heritage/district-history/
[15] https://teatiawakikapiti.co.nz/iwi-history/
[16] https://www.kapiticoast.govt.nz/community/tangata-whenua/
[17] https://www.kapiticoast.govt.nz/community/tangata-whenua/te-whakaminenga-o-kapiti-iwi-and-council-partnership-committee/

"Less than 30 percent of the 7107 residents who report that they are of Māori descent are from local iwi. 70 percent are mātā waka (Māori who come from other areas)." (Cox & Dixon, 2020).

Of those from local iwi:

- 67 percent are Ngāti Raukawa ki te Tonga.
- 22 percent are Ngāti Toa Rangatira.
- 11 percent are Te Āti Awa ki Whakarongotai.

**Ngāti Toa Rangatira (Ngāti Toa)**

From 1822 to 1824, Te Rauparaha led groups of Ngāti Toa iwi from Kāwhia as war ravaged the Waikato and King Country region. Kāpiti Island was established as a fortress for Te Rauparaha. Ngāti Toa's rohe as of present day, extends into the South Island but is centred around Porirua and the Kāpiti Coast. Ngāti Toa Rangatira is also commonly referred to as Ngāti Toa. In present day, Te Rūnanga o Toa Rangatira, represents Ngāti Toa through land, resources, and mana. Redress for New Zealand governmental actions were agreed on in 2012. As of 2013, over 4,500 people have registered their affiliation with Ngāti Toa (Pōmare, 2017).

**Te Āti Awa ki Waikanae (Ātiawa ki Whakarongotai)**

Te Āti Awa ki Waikanae (now also known as Ātiawa ki Whakarongotai) was formed following the migration of Te Rauparaha allies from Te Āti Awa. Migration from Taranaki to south of Ōtaki River occurred between 1825 and 1828. Various hapū decided to stay in the area when Te Āti Awa moved back to Taranaki in 1848 and the tribe became Waikanae affiliated. Approximately 17,000 people have registered their affiliation with Ātiawa ki Whakarongotai, the majority (10,000) living in Taranaki (National Library of New Zealand, n.d.).

The relationship between iwi and rohe forms the identity Ātiawa ki Whakarongotai, in particular the Waikanae River which holds significant historic and cultural significance. The river has many historical and present-day kāinga and mahinga kai sites along its length that have been accessed to sustain and nourish the whānau that reside there (Whakarongotai o te moana, Whakarongotai o te wā, 2019).

One whare rūnanga, Whakarongotai, is located within the Waikanae District.

**Ngāti Raukawa ki te Tonga (Ngā Hapū o Ōtaki)**

As with Te Āti Awa, between the years of 1825 and 1828, Te Rauparaha allies migrated towards the Kāpiti District. Ngāti Raukawa of Waikato moved to inhabit the Manawatū and Horowhenua areas, as well as the northern region of the modern day Kāpiti District. Now, Raukawa ki te Tonga with 25 iwi/hapū groups and 20 Marae within their rohe extends within the Kāpiti District. As of 2013, over 29,000 people have registered their affiliation with Ngāti Raukawa (Raukawa ki te Tonga, n.d.). Ngā Hapū o Ōtaki was established as a mana whenua entity to represent the five hapū of Ngāti Raukawa ki te Tonga within the Kāpiti Coast District – Ngāti Huia ki Katihiku, Ngāti Koroki, Ngāti Maiotaki, Ngāti Pare, Ngāti Kapumanawawhiti.

# 4.0 Demographics

The demographic data used in this report was obtained from the 2013, 2016 and 2018 Census data for the Kāpiti Coast District available from the Statistics New Zealand and the Kāpiti Coast District Council websites. Some insights include:

- Growth in the district is continuing - as reflected by the number of residential consents issued in the Kāpiti District, which increased by 65.6 percent from March to 2021 to March 2022; the average increase for New Zealand was 24 percent during the same period (Infometrics, 2022).
- Although these consents provide information on new buildings and renovation, houses in Kāpiti are commonly used as holiday or part-time homes with unoccupied dwelling sitting at 11.6 percent which is 1.3 percent higher than the national average of 10.3 percent (Stats NZ, 2018).
- The district is made up of several areas of high deprivation according to the New Zealand Index of Multiple Deprivations[18]. Notably, these areas are more prevalent in the north of the Kāpiti District e.g. Ōtaki.
- Although there is disparity between townships, the median income for the district is $29,700 according to the 2018 New Zealand Census, making it the 2nd lowest in the Wellington Region, $6,400 lower than the region median of $36,100 (Stats NZ, 2018).
- The total number of businesses in Kapiti Coast District was 6,108 in February 2023, up 3.6% from a 2022. Growth was greater than the 1.7% for New Zealand[19].
- The tourism sector contributed $101.2m towards GDP in Kapiti Coast District in 2023. This amounted to 3.9% of the District's economic output in 2023[20] and accounts for 5.9% of the District's Employment[21].

[18] 2018 New Zealand Index of Multiple Deprivation (IMD18) - The University of Auckland
[19] Regional Economic Profile | Kapiti Coast District | Business units (infometrics.co.nz)
[20] Regional Economic Profile | Kapiti Coast District | Tourism GDP (infometrics.co.nz)
[21] Regional Economic Profile | Kapiti Coast District | Tourism employment (infometrics.co.nz)

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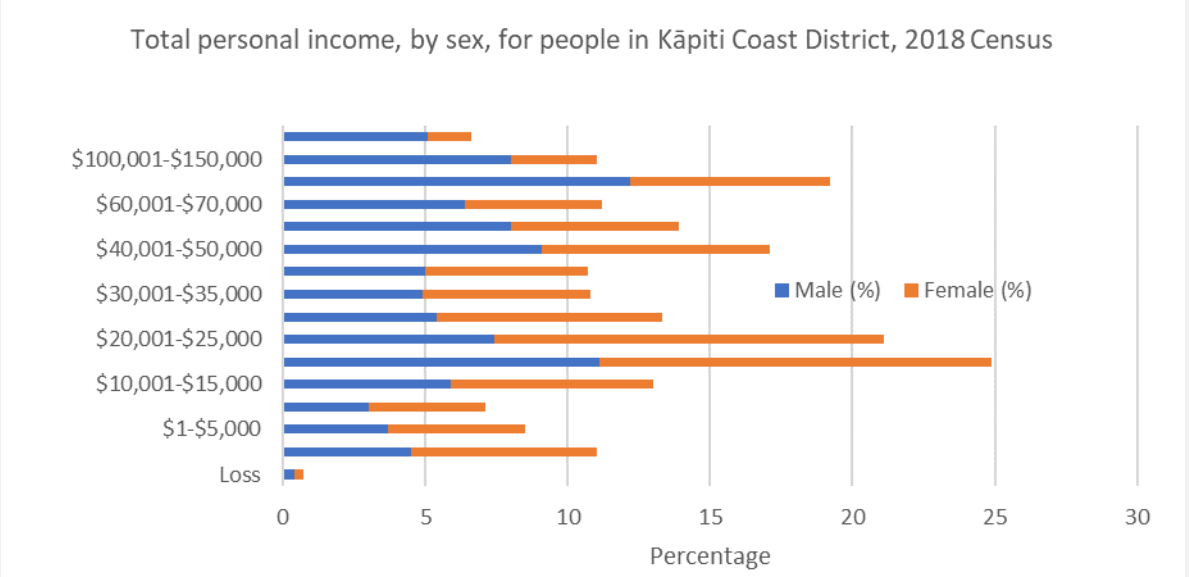
| Kāpiti Coast District Demographics - Population: 53,673 (2018 Census) | | | |
|---|---|---|---|
| **Metric** | **Data and Notes** | | |
| **Residential population** | **2006** | **2013** | **2018** |
| | 46,197 | 49,104 | 53,673 |
| **Age and sex data** | Median age (2018) – 47.9 years | | |
| | Male: | | 25,314 |
| | Female: | | 28,359 |
| | **Category** | **Male (%)** | **Female (%)** |
| | **Under 15 years** | 18.3 | 16.3 |
| | **15–29 years** | 14.9 | 12.7 |
| | **30–64 years** | 42.6 | 42.9 |
| | **65 years and over** | 24.2 | 28.1 |
| **Ethnicity** (2018 Census) | European | | 87.7% |
| | Māori Ethnic | | 14.7% |

| | | |
|---|---|---|
| | Māori Decent | 16.7% |
| | Pacific Peoples | 3% |
| | Asian | 4.6% |
| | Middle Eastern/Latin American/ African | 0.6% |
| | Other Ethnicity | 1.6% |
| **Median personal income** (2018 Census) | Median income (2018) - $29,000 | |
| **Total personal income** |  | |

| | | |
|---|---|---|
| **Dwellings** (2018 Census) | **Category** | **Number** |
| | Occupied dwelling | 21 906 |
| | Unoccupied dwelling | 2,892 |
| | Dwelling under construction | 126 |
| | Occupied non-private dwellings | 90 |
| | Total private dwellings | 24,924 |
| **Median weekly rental** | **Category** | **Amount** |
| | 2006 | $200 |
| | 2013 | $280 |
| | 2018 | $340 |
| **Education** (2018 Census) (>15 years) | **Category** | **Percentage** |
| | Hold a formal qualification. | 83% |
| | Hold a bachelor's degree and level 7 qualification | 13.1% |
| | Full-time study | 17.8% |
| | Part-time study | 3.1% |

| **Employment** (2018 Census) | **Category** | **Percentage** |
|---|---|---|
| | Employed full-time | 42.3% |
| | Employed part-time | 14.5% |
| | Unemployed | 3.6% |
| | Not in the labour force | 39.6% |
| **Travel**[22] (2018 Census) | **Category** | **Percentage** |
| | Work at home | 12.5% |
| | Drive a private car, truck, or van | 51.3% |
| | Drive a company car, truck, or van | 12.8% |
| | Passenger in a car, truck, van or company bus | 3.5% |
| | Walk, bicycle or jog | 5% |
| | Train | 12.7% |
| | Public bus | 0.9% |

[22] Given the effects of the Covid-19 pandemic on working from home and commuting, it is expected this data will change in the 2023 census.

# 5.0 Industry, Business and Employment

The commercial and retail areas of the Kāpiti District are well established within urban areas with industrial areas typically located in the periphery of towns. Significant commercial and retail centres within the district are the Paraparaumu Sub-Regional Centre, encompassing the District Centre Zone and the outer Business Centre Zone[23]. Additionally, the town centres of Ōtaki Beach, Ōtaki Main Street, Te Horo, Paraparaumu Beach, Waikanae and Raumati Beach and the local centres of Paekākāriki Village, Raumati South and Peka Peka are significant.

Data from Infometrics Regional Economic Profile shows that the Kāpiti Coast District's economy grew by 1.9% in 2023 and averaged 3.4%pa over the previous 10 years. The top 10 sectors of the district's economy are:

1. Professional, scientific and technical services - $303.9m
2. Construction - $266.6m
3. Health care and social assistance - $247.5m
4. Rental, hiring and real estate services - $241.3m
5. Manufacturing - $190.7m
6. Retail trade - $179.4m
7. Education and training - $99.2m
8. Other services - $84.5m
9. Administrative and support services - $81.2m
10. Transport, postal and warehousing - $71.3m.

Professional, scientific and technical services accounted for the largest contribution (7.2%) to overall growth between 2022 and 2023. The next largest contributor was administrative and support services followed by arts and recreation services. The largest growth detractors were manufacturing, and rental, hiring and real estate services.

Employment in the district grew by 2.4% to 19,986 in 2023, which was the same as the national growth rate. The rate of self-employment is the district (27.2%) is substantially higher than the national average (15.9%). Also of note is the low rate of employment in the primary sector (1.8%) versus the national average which is 5.5%[24].

The 2018 Census shows that 73 percent of working Kāpiti Coast residents work within the district, with 4,128 or 27 percent of working residents commuting out of the district for work. The majority of out of district commuters (3,174) worked in Wellington City.

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[23] https://www.kapiticoast.govt.nz/media/b5enqx3d/dp_map1_zones_precincts.pdf
[24] Regional Economic Profile | Overview (infometrics.co.nz)

The type of employment varies by community and in semi-rural areas such as Paekākāriki and Peka Peka around 50 percent are employed as labourers, machinery operators and drivers, sales workers, clerical and administrative workers, community and personal service workers, and technicians and trades workers (Census 2018).

# 6.0 Recreation and Tourism

The Kāpiti Coast provides a range of recreation and tourism opportunities that attract different communities. Its temperate, mild climate means that a wide range of outdoor activities are popular in the district, from beach and water related activities such as fishing, diving and boating, swimming through to golf, walking, hiking and cycling (road, mountain and e-biking).
The district is host to many recreation and tourism opportunities due to:

- Approximately 38 kilometres of beach along the Kāpiti Coast. Mostly sandy, sheltered beaches that provide safe swimming and many recreational activities. There are also two surf beaches patrolled by Surf Lifesaving Clubs, several fishing Clubs and a Dive Club. The 94 Council maintained beach accesses (including several boat ramps) provide access to the beach for residents and visitors.
- Many parks and reserves, along with many trails used for walking, cycling and horse-riding.
- The railway which connects the Kāpiti Coast to Wellington city provides ease of access to the area for recreational activities.
- Kāpiti Island, which is a renowned nature reserve, lies about 5 kilometres offshore and is the Kāpiti Coast's main tourism attraction. Over 15,000[25] visitors per year take the ferry to the Island to observe the many native birds, including those that are threatened or extinct on the mainland.
- Paekākāriki Escarpment Track which offers panoramic views of the Kāpiti Coastline.

This unique natural environment attracts artists and creative industries, many of which are showcased in the annual Kapiti Coast Art Trail, Festival of Pots and many performing arts events.

Prior to the COVID-19 pandemic which led to the closing of national borders and lockdowns, Kāpiti Coast's tourism was steadily growing, and this trend has continued post-pandemic. Due to its proximity to Wellington and the trend towards holidaying closer to home, tourism on the Kāpiti Coast has grown to $101.2m in 2023 which is 3.9% of regional GDP[26].

Key attractions frequently mentioned by interviewees include:

- Nature lovers value the Kāpiti Coast as the only place in New Zealand where several important reserves (Kāpiti Island, Waikanae Estuary and Reserve, Ngā Manu Nature Reserve, Queen Elizabeth Park, Ōtaki Forks and the Akatawara Forest Park) are near each other yet offer such diverse landscapes. Many activities such as the Kapiti Island Nature Tours provide unique connections with nature and culture.
- Many coastal and river trails provide for cycling, running, walking or horse riding, connecting the townships along the coast and providing visitors with views of the sea as well as the coastal wetlands and birdlife. This includes Te Ara o Whareroa (Paekākāriki to Raumati South) trail through Queen Elizabeth Park and the Kāpiti Cycle route (Expressway track) which combined, provide for over 35 kilometres of off-road shared trails.
- The Paekākāriki Escarpment Track, also known as The Stairway to Heaven, is a Paekākāriki to Pukerua Bay nine-kilometre coastal walk that allows for spectacular views of the Kāpiti Coast's

[25] kapiti-gateway-eia-amended-final-0221-appendices-4.pdf (kapiticoast.govt.nz)
[26] Regional Economic Profile | Kapiti Coast District | Tourism GDP (infometrics.co.nz)

native forests and Kāpiti Island. This track is also a section of the national Te Araroa Trail (from Cape Reinga to Bluff) and requires walkers to be of relative health and endurance due to its 1200+ steps.

- Due to the coast's long, flat, and accessible beaches, activities that require space are popular. Highlights include the annual Ōtaki Kite Festival and the highly rated Paraparaumu Beach Golf Club links course.

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"a section of "the Te Araroa Walkway starts/ends in Paekākāriki. This brings tourists into the area and to our local shops on the ocean front."

*– Paekākāriki Resident*

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"The island is a jewel, additionally we are the only place in NZ where you have three protected areas, Kapiti Island, the Marine Reserve and then the Scientific Reserve that all conjoin."

*– Waikanae Resident*

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# 7.0 Values and Social Issues and Concerns

This section describes the positive features of the district, why people like the Kāpiti Coast and the general issues and concerns identified through the interview process.

Interviewees broadly referred to the people on the Kāpiti Coast based on these distinct groupings. These groups are those who:

- are born and bred in the area
- have moved to the area as retirees i.e. Waikanae community
- have holiday homes and visit the area frequently
- have moved to the area and commute to work ("Wellington refugees").

There is interaction and overlap between these different groupings but some of the interviewees noted the different interests that drive these groups and that the population growth across the Kāpiti Coast means that there is low interaction between the groups.

## 7.1 Why people like the area as a place to live

Consistent perspectives on the Kāpiti Coast were identified following the completion of interviews with residents. The consensus was that residents were drawn to the area due to the aesthetic appeal and relaxed, holiday-like lifestyle in comparison to the hustle of larger cities like Wellington or other locations. Those who have lived in the area for generations noted that if opportunities elsewhere led them to move out of the region, they would look to eventually return. The natural environment was the most common discussion point, with interviewees identifying with the many reserves and small parks available for recreational use as attractive features.

| **Common themes of views and perceptions from interviews:** | |
|---|---|
| **What makes Kapiti Special**? | • A small community feel, people know each other (especially within individual townships).<br>• People are friendly and welcoming to newcomers.<br>• Māori history, ancestral land and tūrangawaewae.<br>• Aesthetically appealing with all settlements located between the beach and the mountains.<br>• Spectacular nature (wetlands, offshore island).<br>• A mild micro-climate, warm and shelter allowing for outdoor activities year-round.<br>• Connection to the natural environment - many parks and reserves available.<br>• Relaxed lifestyle and improved wellbeing while living in the area.<br>• Proximity to Wellington and good transport available (e.g. train). |

| | |
|---|---|
| **What do you dislike?** | • Losing the beach town feel with rapid development.<br>• Retirement living overly dominant.<br>• KCDC is highly reliant on rates-as its only real income.<br>• Growth is outstripping amenities available e.g. medical services / hospital.<br>• No unified community view about the future of the area (unclear what bonds together discreet communities).<br>• Increasing house prices pushing long term residents to exit the area or migrate north.<br>• Insufficient activities for young people. |

## 7.2 Differences between the townships of Kāpiti Coast District

There are specific features and aspects such as the beaches, nature reserves, micro-climate, and accessibility to Wellington City that make the area attractive and provide enjoyment for the community. However, it would be flawed to combine the outcomes of coastal hazards impacts felt within Kāpiti Coast in one table. This is due to the diversity in the natural environment such as topography and the variability of the hazards and exposure across communities. Additionally, through the discussions with Kāpiti Coast locals, there is significant difference in community values impacts and how coastal hazards will be felt.

Therefore, the findings are presented based on the cell adaptation areas[27], descriptions gathered through the SIA process and interviews with Kāpiti locals describing their community experiences.

There are key differences between the seven townships that will be considered in this report. These include:

- Economics and disparity
- Demographics
- Service assets available
- Community culture and values.

### Ōtaki and Te Horo

Located in the north of the Kāpiti Coast district are the towns of Ōtaki and Te Horo. Ōtaki Beach[28] and Ōtaki Town[29] are the most populated areas in the northern adaptation area.

> "Residents contributed money and/or time for other residents in need."
>
> *– Ōtaki Resident*

[27] Refer to Figure 1.
[28] https://www.stats.govt.nz/tools/2018-census-place-summaries/otaki-beach
[29] https://www.stats.govt.nz/tools/2018-census-place-summaries/otaki

"Ōtaki was in crisis in 1992 as the freezing works left, railroad closed, forestry closed. Over 50% of Ōtaki community was relying on some type of benefit."

*– Ōtaki Resident*

The Ōtaki community has strong cultural roots and commonly families have lived in the area for multiple generations. There is significant Māori history in the township compared with the other townships, this is also reflected in the census data which show that the Māori population is larger in proportion to other cultures. Of the 3,489 residents, 1,443 are registered as Māori making up 41.4 percent of the Ōtaki and Te Horo ward's population (Statistics New Zealand, 2018). Community groups set up to address local issues receive good local support. These groups lead revitalisation projects, provide support to those in need, or environmental solutions.

Due to the geography of Ōtaki, many recreational activities are available such as rafting and swimming. The Ōtaki Surf Life Saving Club plays a significant role in community activity and safety in both the ocean and at Ōtaki Folks for freshwater swimming. Key events in the area include the Māoriland Film Festival 2022 and Ōtaki Kite Festival.

According to the New Zealand Index of Multiple Deprivation, the Ōtaki district is considered a Q5 decile which is the 'most deprived' quartile[30]. This is reflected by the perception of some of those interviewed that Ōtaki has a lower socioeconomic status than other towns in the district and this is reflected in the older infrastructure and state of private property.

Te Horo, located south of Ōtaki has a smaller population[31] concentrated in a small beach side settlement. The local Katihiku Marae[32] and Tamatehura meeting house provide a community and social space for local iwi from Te Horo and the surrounding townships of Kāpiti. Also noted by residents are the bridleways which are seen as an incentive for visitors to the area.

### Waikanae and Peka Peka

Waikanae township is located in an open farmland and wetland area, with the many public parks and reserves available to residents and visitors regarded as attractive aspects of the area. Reserves such as the Wi Parata Reserve, Hemi Matenga Memorial Park and Nga Manu Nature Reserve allow for recreational activity and for events. The Waikanae Boating Club is another common place of meeting with many families and iwi coming together for social and recreational activities.

"After living in Wellington, here is warmer, calmer, and an easier place to live."

[30] NZ Deprivation Report (auckland.ac.nz)
[31] https://www.stats.govt.nz/tools/2018-census-place-summaries/te-horo
[32] https://raukawakitetonga.maori.nz/our-iwi%2c-hap%c5%ab-%26-marae

*– Waikanae Resident*

"The people who have moved to Peka Peka want it for what it is, they're not right beside their neighbour and in a natural setting."

*– Peka Peka Resident*

Waikanae has a large elderly population with many retirement homes and villages. These have had a significant influence on the strong community feel to the area. Waikanae West's median age is 61.8 years, which is approximately 10 years older than many other Kāpiti Coast townships (Statistics New Zealand, 2018). Therefore, Waikanae interviewees were mostly older generations who have retired and relocation from Wellington City. The median age of residents on Kāpiti Coast is 47.9 years[33] which is significantly higher than the New Zealand median age of 37 years for men and 39 years for women[34].

Peka Peka can be considered a rural township, with a lower population that is located close to the coast. The beach location behind the dunes and no light pollution has drawn many residents to the area. Birdlife is abundant in the area due to nature reserves and community efforts to control pests and create habitat for the birds[35]. Horse riding is common in this area and a popular activity for visitors.

### Paraparaumu

Paraparaumu consists of three main townships, Paraparaumu Beach which is located along the coastline, Paraparaumu town, which is located slightly inland on the Raumati border, and Otaihanga which is located on the boarder of the Waikanae cell. Kāpiti Island is considered under this cell's zone. Based on the New Zealand Index of Multiple Deprivation, Paraparaumu is classed as majority Q4-5[36], a mix of moderate to most deprived.

People are more welcoming than in larger cities, has a sense of community. When one walks in the area, people smile and say hello.

*– Paraparaumu Resident*

[33] Place Summaries | Kapiti Coast District | Stats NZ
[34] National population estimates: At 31 March 2022 | Stats NZ
[35] https://www.kapitibiodiversity.org.nz/native-birds
[36] NZ Deprivation Report (auckland.ac.nz)

"The climate is nicer, there is some sheltering by mountains and Kāpiti Island so tends to be more still, not as rainy and windy if you go north or south."

*– Paraparaumu Resident*

Paraparaumu hosts a series of important assets for the Kāpiti Coast, including the airport, the Kāpiti Council District Council buildings, Paraparaumu golf club, and large retails facilities with plenty of food and beverage options.

Paraparaumu interviewees discussed the number of families with young children in the area. This is reflected by the number schools in the area. Paraparaumu hosts several schools in addition to the Raumati and Ōtaki schooling clusters.

### Raumati

Raumati and Raumati South have a dense population which is built up closely along the coastline. Educational opportunities are a large attraction to residents with options such as Kāpiti College, Raumati Beach School, and Kāpiti School within walking distance to most of Raumati. These schools provide recreation opportunities in addition to those on public land such as the esplanade walkway in Raumati South. These walkways are highly utilised for a variety of recreational activities according to residents such as dog walking and teaching grandchildren to cycle.

"At first there were no footpaths, it had a holiday feel. Feels like a slower pace of life."

*– Raumati Resident*

"An hour commute was never an issue for many people. Being away in Raumati gave a nice division from work."

*– Raumati Resident*

An interviewee noted that in Raumati, which means summer[37], an increasing number of houses are being used for summer holidays, rather than full-time living. The beach, which Kāpiti Island shadows, is regarded as calmer and more swimmable in comparison with other beaches along Kāpiti's coastline.

[37] raumati - Te Aka Māori Dictionary (maoridictionary.co.nz)

Raumati Beach village reflects the quintessential New Zealand beach town with boutique stores and many cafes and restaurants. Raumati South depicts more residential living, seen as a popular area for long-term residents and those who have recently moved to the township.

### Paekākāriki

The Paekākāriki is a densely populated township that is separated from Raumati by Queen Elizabeth Park. The coastal strip has little space for sprawl with Queen Elizabeth Park to the north and the foothills to the east.

"A world in itself- rocks in the south, reserve to the north, people been here a long time, it is a friendly alternate community."

*– Paekākāriki Resident*

"Families renting are being forced out of Paekākāriki due to threats to sell houses as house prices are high."

*– Paekākāriki Resident*

Historically, Paekākāriki was part of the traveling route along the coastal track for Māori, missionaries and traders and is known as the gateway into the Kāpiti Coast district from Wellington[38]. Visitors to the area are drawn for several aspects including the beach, local cafes, and shops and the Paekākāriki Escarpment Walkway, which is part of the national Te Araroa trail walkway. Although Transmission Gully does bypass the township, the old state highway (SH 59) provides access.

Paekākāriki is known as an arts and culture hub, and a niche for those in the sector such as musicians, sculptures, dancers, and actors, though this demographic has been described by residents as changing. According to interviewees, property prices and rental costs have forced many north to Ōtaki and Levin where it is comparatively affordable. According to the New Zealand Index of Multiple Deprivation, the Paekākāriki district is considered a Q3 decile which is a moderate quartile[39]. The annual increase in house value was 12.9 percent from March 2021 to March 2022 (Infometrics, Quaterly Economic Monitor, 2022).

[38] https://www.kapiticoast.govt.nz/community/heritage/heritage-trail/paekakariki/paekakariki-town
[39] NZ Deprivation Report (auckland.ac.nz)

# 8.0 Coastal Hazards issues and concerns

The Kāpiti Coast is susceptible to multiple natural hazards including coastal erosion, seismic events, flooding, tsunami, landslides,[40] drought and costal erosion[41]. The interviews identified a range of views regarding coastal hazards[42], the risks they pose and how they will impact on the community. Several themes have emerged in discussions with the interviewees and are captured in the diagram below (Figure 2).

Within the context of adaptation and development, there is a sentiment amongst those interviewed that they enjoy things as they are along the coast. However, they accept that there is a need to consider and respond to coastal hazards - recognising their impact beyond the coast. For example, through flooding inland. It is accepted that natural hazards are part and parcel of living along the coast. However, many of those interviewed see a need for more active management of hazards – especially low-cost, pre-emptive measures like dune maintenance and restoration, and drainage and stream clearance.

Flooding[43] as result of storms and heavy rain events (combined with high tide) happen frequently, and can impact properties and households, and lead to business interruptions[44]. This is perceived as something that the community has been coping with, though concerns were expressed about the economic costs including the costs of insurance.  Erosion, on the other hand, is seen as a much more critical hazard with some impacts unavoidable over time for parts of the coast.

[40] https://www.wremo.nz/your-area/wellington-region/kapiti-coast/
[41] https://www.gw.govt.nz/assets/Documents/2009/07/2511_MeasuringUpCh8lo_s4732.pdf
[42] Natural hazards are the threat of naturally occurring events that may have a negative effect on people or the environment. They include earthquakes and extreme weather events such as storms, floods, and landslides.
[43] https://niwa.co.nz/natural-hazards/hazards/floods
[44] https://www.wrc.govt.nz/assets/Documents/2009/07/1508_Kapitifactsheet_s2921.pdf

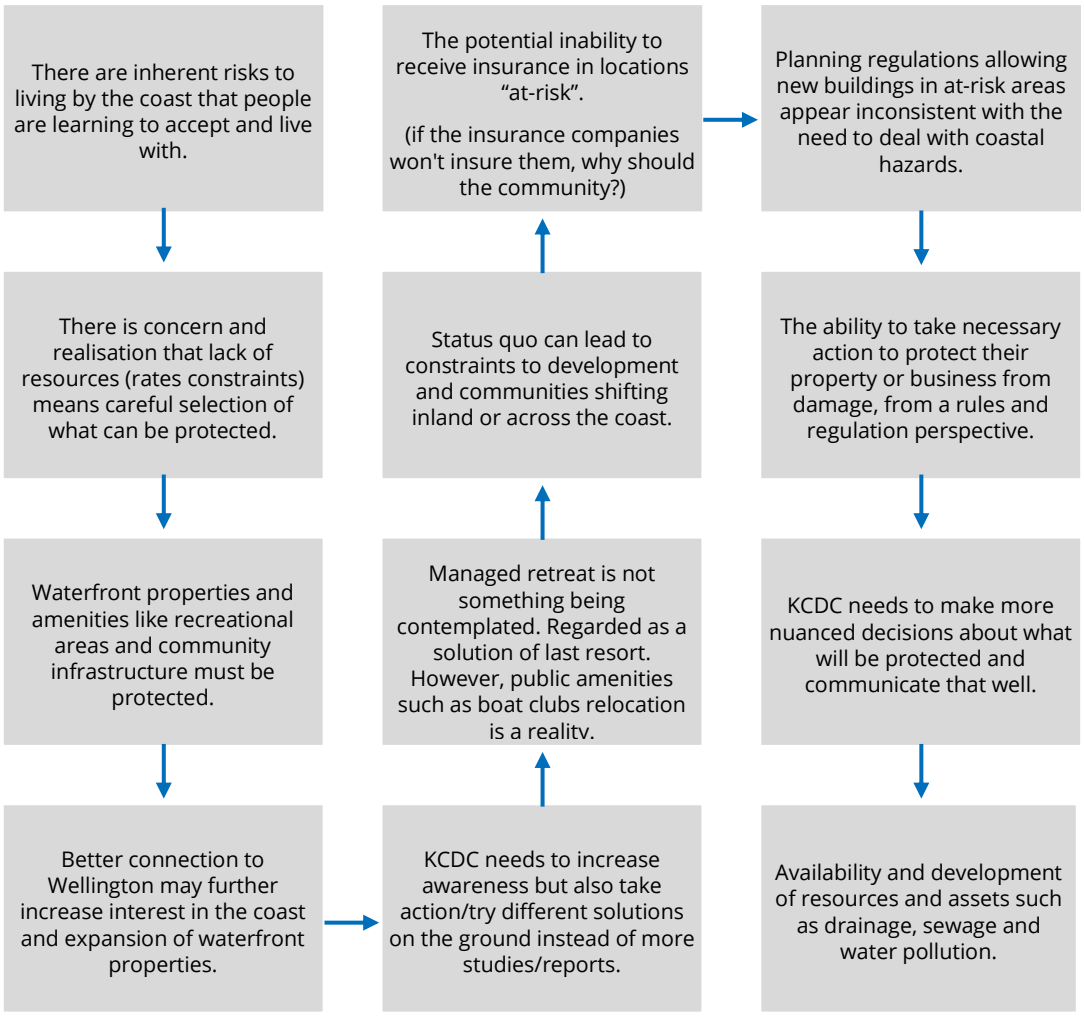


Figure 2: Common Themes of Interview Discussions

## 8.1 Community perception of coastal hazards

Throughout the community there are different perceptions of coastal hazards and the risks they pose. The coast is not changing uniformly, depending on the coastal topography, features (such as rivers and streams) and human interventions. The different perceptions of coastal hazards of those interviewed can be attributed to a range of factors, including the location of dwellings (and whether their own property is at risk), familiarity with the coast, the level of prior information and awareness about coastal hazards. Age is also a factor that influences the level of concern.

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"Who pays for relocation or management measures such as seawalls?"

*– Raumati resident*

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"Generational difference in concern with hazards with the younger generations carrying more of the burden."

*– Paekākāriki resident*

Three groupings are associated with the common themes discussed in interviews, those that are "concerned", those that are "uninformed", and finally those that are "neutral". These groupings are described in Figure 3.

The most common group that residents can be placed in is the 'Concerned' group. This group discussed their unease at reduced accessibility to residences, particularly private properties in flood zones. Those without the ability to relocate easily due to constraints such as rising house prices were highly concerned. The younger people who were interviewed were informed about coastal hazards and drew direct links to climate change and sea level rise.

"We need to change location to the stream cuts which is not natural and the sea washes away, the stream meanders so the cuts need to be different angles, however, are not. As if they don't change then dunes will be affected which are the natural buffer for storm events."

*– Ōtaki resident*

"When I walk along the beach, the sand dunes have moved 5 meters seawards, and there is a drain that runs into the sea that used to be at end of sand dunes and is now 5m up… they must keep it clear. I do wonder how they'll get rid of storm water when sea level comes up."

*– Paraparaumu resident*

The 'Neutral' grouping was less concerned, and many discussed the idea of "moving with the water" and adapting to hazards. Typically, these interviewees were in areas of accretion rather than erosion and / or did not own property in affected areas.

Those in the smaller 'Uninformed' group lacked understanding of coastal hazards. Although some were looking for information, there was confusion on where and how to receive it. An interviewee from an older age group mentioned if they were to own their own beachside home, they would not be worried about it falling into the sea if they got to enjoy it for decades.

"Sand was washing away from under the house... but for now the wall and plantings have stopped this."

*– Paekākāriki Resident*

"People are still buying coastal houses for millions knowing the hazards."

*– Raumati resident*

"I am more worried about extreme events than coastal erosion or sea level rise associated hazards."

*– Ōtaki Resident*

"Community would be massively impacted, as some will have property washed away before others. Each one will make decision on when they move, many won't have the means to move, and so cost on welfare elsewhere."

*– Paekākāriki Resident*

## 8.2 Community outlook on coastal hazards risks

Discussions with individuals and groups within the seven communities in Kāpiti point to a wide range of views regarding coastal hazards. The three groupings above are not aligned on what the impacts of coastal hazards will be if the status quo is maintained.

Many of those concerned are engaged in the topic and are actively implementing their own solutions to coastal hazards and planning for future events. Examples of this are residents on Ames Street in Paekākāriki who have developed their own seawalls in response to eroding land and high tides.

Interviewed individuals expressed differing views based on different coastal hazards. For example, coastal inundation and coastal flooding from storm events were a cause of concern for nearly all those interviewed. However, these coastal hazard concerns were higher for individuals in Raumati, where the high-water table and basin-like geographic location cause concern for residents. In Raumati, houses are located away from the coast, but in an area below sea level, and in an area which the water table rises easily.

This report only looks at what might be lost if no intervention is taken and did not canvas perspectives on how the community will be impacted if certain solutions were pursued. Despite this, interviewees readily offered up their ideas for solutions or the way solutions should be identified or funded. The discussions highlighted that attitudes towards the risk of coastal hazards were tightly linked to the risks posed to their livelihood or own property, and to Council Rates and funding availability for coastal protection.

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"The district council decision is driven by economic constraints (rates) now and in the future. Property insurance will hold for now but not over the long term (for those properties at risks)."

*– Raumati resident*

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"Managed retreat for houses will not work - they have nowhere to go due to geographically available areas around Paekākāriki."

*– Paekākāriki resident*

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Figure 3: Grouping of example community perceptions and opinions of coastal hazards

# 9.0 Social outcomes that may arise in the Status Quo Scenario

This section considers the social outcomes that would arise for the community in the “status quo” scenario. The four key areas for measuring social outcomes considered for this assessment are: place/environment broader community, personal and local economy.

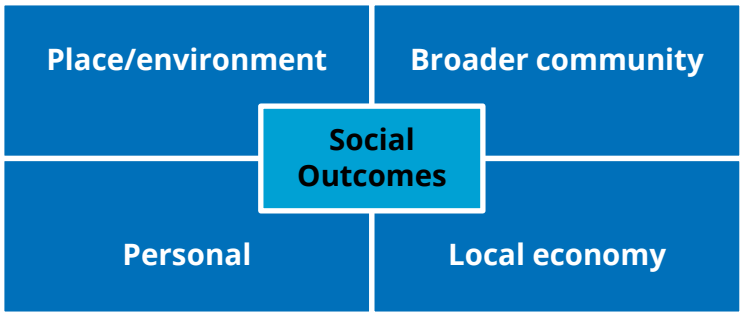


Figure 4:Four key areas for measuring social outcomes.

## 9.1 Defining the Status Quo scenario

The assumption and hazards used for the status quo scenario for the Kāpiti Coast, are outlined below. A ‘Status Quo’ scenario is one where no further intervention is undertaken while natural hazards (e.g. coastal erosion, coastal inundation, rising sea levels and storm surges) continue to occur as projected in the future.

Not all interviewees believed that sea-level rise would occur, or they considered the timeframes were not predictable enough to be able to plan for. All interviewees were willing to express their view on how the status quo scenario may impact on them.

**Predicting social outcomes under *Status Quo* - overview of assumptions**

- Coastal inundation processes reflected the scenarios available from the Greater Wellington Regional Council – Sea Level Rise Modelling for the Wellington Region and the report 'Kāpiti Coast Coastal Hazards Susceptibility and Vulnerability Assessment-Report' published in February 2022.
- Residents and property owners take individual responsibility for the protection of their own properties and assets.
- There is better sharing of information regarding status of beach erosion, dunes, land.
- The Council/s do not construct any further defensive works along the coastline beyond present-day/planned interventions (e.g., replacement of seawall constructed in South Raumati and Paekākāriki, Wharemauku block wall)
- The viability of roads/ streets will be maintained until it is untenable to do so any longer.
- Essential services (power and communications) will continue to provide for coastal properties at risk of coastal inundation and flooding until it is untenable to maintain these services.

### Status Quo Scenario - predicting social outcomes

The tables below provide a synthesis of the information and themes gathered through interviews and reviews of technical report about the potential (direct) impacts and related outcomes for the Kāpiti Coast.

Details regarding the results of the coastal hazards susceptibility and vulnerability assessment for a range of relative sea level rises (RSLR), projected over three time periods of 30, 50 and 100 years are available here.

Pockets of private property owners and families will likely experience increased concerns and well-being reduction (through anxiety stress) from factors such as:

- Insurance availability/cost increases.
- Availability of mortgage finance.
- Anxiety about long(er) term family decisions (stay-go).
- Potential impact on property value.
- Uncertainty regarding action by government and/or ability for the community to mitigate (regulatory obstacles).

Sea level rise, coastal erosion, coastal inundation and storm surges will continue to impact the area during the next five to ten years, with damage to properties and infrastructure.

## 9.2 Kāpiti Adaptation Areas Social Outcome Summaries

Disclaimer: This section is a summary of the findings and themes that were identified through the interviews conducted during the preparation of this Report. It represents the views of those interviewed and not the Author or the Kāpiti Coast District Council.

The Table below is a synthesis of the findings from the interviews, of the potential (direct) impacts and related outcomes for the Kāpiti Coast. A summary of the broad outcomes/themes identified through the interviews are presented below by Adaption Area.

The Northern Kāpiti Adaptation Area (Ōtaki, Te Horo, and Peka Peka) will experience sediment accretion and some erosion. Ōtaki, Te Horo, and Peka Peka will continue to accrete or experience a small amount of erosion (determined by differing scenarios and timeframes and location), with dunes creating some protection along the Ōtaki Beach settlement. The Otaki River currently supplies gravel sediment to Te Horo beach to the south, and it is anticipated that this supply will continue in the future. In Peka Peka, the dune ridge provides protection and the coastal stormwater outfalls are the only critical public infrastructure.

The Central Kāpiti Adaptation Area (Waikanae & Paraparaumu) will experience a mix of impacts depending on location, timeframe and hazard. Waikanae's shoreline is projected to continue accreting under low sea level rise scenarios, with a small amount of erosion. In Paraparaumu, Kāpiti Island enables long-term accretion for the majority of beach length, with some erosion expected in the south. In addition, flooding during large storm events is likely to impact areas that are low lying and close to the Waikanae Estuary and Tikotu Stream.

The coastal processes in the Raumati Adaptation Area, like Paraparaumu, are strongly influenced by the presence of Kāpiti Island. In the last several decades, large-scale erosion during storm events, and the inability to recover due to lack of sediment supply has led to construction of public and private coastal seawalls as a protective response.

For the Queen Elizabeth Adaptation Area and Paekākāriki Adaptation Area, the presence of Kāpiti Island causes large scale erosion through restricting sediment supply along Paekākāriki's coast.

| Event and Direct Impact | Adaptation Area | Outcomes Identified through Interviews | | |
|---|---|---|---|---|
| | | **Environmental** | **Social** | **Economic** |
| **Sea-level rise**<br>Inundation of low-lying land and property (over time – coastal permanent and/or storm inundation) | *Experienced across all adaptation areas* | - Increased salinity impacts on native vegetation, pasture, and coastal aquifers. Native vegetation may die off by being exposed to salinity beyond its tolerance range.<br><br>- Altered estuary habitats as the habitats shift with rising sea level.<br><br>- Shrinking of coastal strip causing potential loss of natural environment. This may be due to population sprawl occurring as there is less land to move into. | - Loss of recreational land and public assets.<br><br>- Community dispersed though relocation due to changing conditions (increased frequency of climate events and sea level rise). This creates undesirable and intolerable conditions for residents. This will result in residents being forced to relocate, either by choice or through a planned process. This may break the social ties that exist within communities.<br><br>- Increased insurance premiums as risks posed by coastal hazards increase with rising sea level. Residents and businesses may not be able to afford insurance cover and will either change their lifestyle, adjust, or consider leaving their community. Those affected would experience negative wellbeing effects | - Land/properties with low elevation, could suffer substantial damage to property and associated assets.<br><br>- As sea level rises, low-elevation residential land and property along the coast, or adjacent to tidally influenced waterways, may gradually be impacted (including from combined events: king tide and storm events for example).<br><br>- Potential loss of tourism revenue if surrounding businesses were closed due to damages, and beachside businesses may be inundated.[45]<br><br>- Sea level rise will cause land in affected areas, such as pasture in low lying farms, to become untenable. Changes to land use to include restoration of wetlands may occur. |

[45] There is insufficient data to quantify this impact.

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| | | | through the anxiety and concern caused.<br><br>- Tension between different groups in communities on how to manage or adapt. As solutions are proposed to combat or adapt to sea level rise, members of the community may experience inequitable outcomes, i.e. rates spent on building a sea wall which only protects some of private properties. | |
| | *Northern Kāpiti Adaptation Area (Ōtaki, Te Horo and Peka Peka)* | - In Ōtaki, shellfish will be negatively impacted by sediment transportation.<br><br>- Inundation of Pine Forest and Ōtaki Beach (recreational area).<br><br>- Increased salinity in recreational reserves located on the seaward side of Ōtaki settlements. Altered habitat around the Ōtaki River mouth.<br><br>-Increased salinity impacts on native vegetation found in Peka Peka's Ngawhakangutu Reserve. | - Potential loss or damage to the Ōtaki Surf Lifesaving Club (on the seaward side of the Parade in Ōtaki), as result of erosion. Reduced ability of surf lifesavers to fulfil their duties causing unknown risks to beach goers.<br><br>- Loss of use or access to the Ōtaki Beach Recreation Reserve has negative impacts on quality of life and health of residents. Residents stated that the reserve is important to their physical and mental health.<br><br>- Potential damage of Katihiku Marae in Te Horo as a place to gather and provide connectivity to ancestral lands.<br><br>- Loss of public infrastructure. Examples cited were the Ōtaki River Estuary viewing platform and public | - Impacts on businesses, and those who use their services. Examples cited include the Ocean View Residential Care and Ōtaki Beach Store. Low-elevation residential property, such as those along Marine Parade in Ōtaki and Sea Road in Te Horo, and pastures north of the Waitohu Stream will be affected by sea-level rise. |

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| | | | toilets located beside the Ōtaki Surf Lifesaving Club. | |
| | *Central Kāpiti Adaptation Area (Waikanae and Paraparaumu)* | - Altered estuary habitat around the Waikanae River mouth.<br>- Increased salinity impact on the Waikanae Estuary Scientific Reserve and altered habitats around Waikanae River mouth. | - Potential loss or damage to coastal roads. Examples cited include Marine Parade and Manly Street. Streets and roads that run parallel to the shoreline within the adaptation cell are potentially vulnerable to coastal impacts.<br>- The Paraparaumu Beach Golf Club lies 200 metres from the shoreline and is vulnerable to potential damage which would impact the community's recreation and social options. | - Low lying pasture farms in Peka Peka would be affected, and low-lying residential land in Peka Peka and Tutere Street affected by sea-level rise.<br>- Manly Street Superstore affected by sea level rise<br>- Low-lying residential property along Marine Parade affected. |
| | *Raumati Adaptation Area* | - Increased salinity impacting Raumati Marine Gardens. | - Potential loss or damage to coastal roads. Examples cited streets running seaward from Rosetta Road. Streets and roads that run parallel to the shoreline within the adaptation cell are potentially vulnerable to coastal impacts. | - Sea-level rise impacting stores in the Raumati Village area. Interviewee cited Minnie + Ree as an example (which is in the Central Kāpiti Adaptation Area). Erosion and sea-level rise impacting low lying residential property along Rosetta Road. |
| | *Queen Elizabeth Adaptation Area* | - Increased salinity affecting native vegetation in Queen Elizabeth Park. | - Potential loss or damage to facilities used by the community e.g., shared pathways located in Queen Elizabeth Park. The Kāpiti Aeromodellers Club was also cited as an example. The impact to the community would be a loss of organisational and activity networks for many residents. | |

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| | *Paekākāriki Adaptation Area* | | - Loss or damage from erosion and sea-level rise to the Paekākāriki Surf Lifeguards building located on the seaward side of the Parade. Social impacts of this would be community, quality of life and health.<br><br>- Potential loss of high visitation rates and associated recreational values from local residents and visitors to the coastline, parks and walking areas. | - Beach side businesses inundated e.g., the Fisherman's Table Restaurant.<br><br>- Possible loss of tourism revenue generated by the Paekākāriki Holiday Park if affected by inundation or erosion. The site is a popular low-cost accommodation option.<br><br>- Risks to low lying residential property such as those along The Parade and Ames Street, and pasture in low-lying farms north of Paekākāriki Beach residential areas. |
| **Flooding from coastal inundation (storm events)** Extreme waves overtopping roads and reserves (and dune breaks). Storm surge damaging coastal properties and native vegetation along the coast | *Experienced across <u>all</u> adaptation areas* | - Foreshore vegetation along the coast, will be physically damaged by storm surge.<br><br>- Increased salinity of the soil and typically freshwater environments making the environment unable to grow pasture or usual native vegetation. | - Loss of, or damage to, recreation assets along coast and rivers will reduce recreational opportunities in the area. This may have ongoing negative impacts on health and wellbeing.<br><br>- Increased tension, overlapping mandate and opposing views between part of the community and KCDC and Greater Wellington Regional Council, regarding stop bank management. Individuals wanting to obtain resource consent or permission to carry out activities to protect their property and/or manage storm surge are likely to come into conflict with local government, especially during events when tension is high. | - Loss of tourism revenue and the impacted ability for business to operate if storm surge prevents access.<br><br>- Economic cost to individuals to pay for repairs to damaged infrastructure or assets, e.g. through an increase in rates or direct costs for repairs.<br><br>- Private business/property owners will incur costs to repair damage to their property caused by storm surges.<br><br>- Loss of productive pasture on farms and other low-lying areas flooded with seawater. Reduced revenue from loss in productivity.<br><br>- The increased cost of insurance for property owners and businesses, or |

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| | | | - Loss of jobs on farms that experience loss of pasture.<br>- Loss of jobs in horticulture if land is lost.<br>- The increased cost of insurance causing anxiety and worry for property owners.<br>- increased community concern/worry over safety of visitors, residents, and staff in the affected areas, including injury or loss during storm surges.<br>- Coastal restoration groups disappointment at failed planting efforts. | lack of available insurance cover. May reduce or eliminate the ability to raise capital for purchasing business assets. |
| | *Northern Kāpiti Adaptation Area (Ōtaki, Te Horo and Peka Peka)* | - Foreshore vegetation along the coast, e.g., at the Recreation reserve located south of the Ōtaki Beach Recreation Reserve, will be physically damaged by storm surges.<br>- The shifting of sediment from the coast by storm surge up onto the land and across Marine Parade in Ōtaki and Sea Road in Te Horo.<br>- Foreshore vegetation along the coast, such as the Recreation Reserve located south of the Ngawhakangutu Reserve (Peka Peka) physically damaged in storms. | - Damage to the Ōtaki Surf Lifesaving Club and Ōtaki Beach Recreational Reserve will reduce recreational opportunities in the area.<br>- Safety of visitors, residents, and staff in the affected areas. E.g. The Ōtaki River Bridge for transport and the rest home unit Ocean View Residential Care.<br>- At the north end of Waikanae Beach, flooding in the dune swale that runs parallel to the coastline. Susceptible road cited was Paetawa Road and residential homes located nearby. | - Loss of tourism revenue due to storm surge blockages e.g., along Marine Parade in Ōtaki, Beach Road in Te Horo and in Peka Peka streets such as Paetawa Road.<br>- Economic cost to individuals to pay for repairs to damaged infrastructure or assets through an increase in rates, such as the bridge network.<br>- Private businesses, e.g., Ōtaki Beach Store, incurring costs from storm surge damage.<br>- Loss of productive pasture on farms flooded with seawater north of Ōtaki beach residential area, north of Peka Peka residential area and in other |

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| | | | | low-lying areas, leading to reduced revenue from loss in productivity. |
| | *Central Kāpiti Adaptation Area (Waikanae & Paraparaumu)* | - Sediment being moved from the coast and seafloor by storm surge up onto the land and across Marine Parade, Manly Street and Rosetta Street and across Tutere Street in Waikanae.<br><br>- Foreshore vegetation along the coast, such as the Waikanae Scientific Reserve will be physically damaged by storm surge. | - Waikanae Beach is susceptible to flooding from storm tides. The Waikanae Estuary and Waimeha Stream are pathways for flooding from the sea.<br><br>- The key evacuation route, Te Moana Road, becomes increasingly susceptible to inundation in extremely large storm events. Residents are concerned they maybe cut-off and isolated by large events.<br><br>- Loss or damage of recreation assets along coast and rivers, i.e., Waikanae Golf Club, Pharazyn Reserve and playground, and the Paraparaumu Beach Golf Club, near the Mazengarb stream. This will reduce social and recreational opportunities in the area. This may have negative impacts on health and wellbeing.<br><br>- Safety of visitors, residents, and staff in the affected areas. E.g. freedom camping sites along Waikanae Beach and Paraparaumu Beach.<br><br>- Potential damage or loss of the Otaihanga Boating Clubrooms, would have major cultural and social impacts on the community. Loss of | - Loss of tourism revenue and the impacted ability for business to operate if storm surge prevents access along Tutere Street, such as holiday accommodation (The Sand Pit) and eateries (Tuk Tuk Waimea) in Waikanae Beach.<br><br>- Private business owners, such as Long Beach Tavern, and private property owners will incur costs to repair damage to their property caused by storm surges.<br><br>- Loss of tourism revenue and impacted ability for business to operate if storm surge prevents access along Marine Parade.<br><br>- Economic costs to repair damaged infrastructure or community assets such as the Kāpiti Boating Club.<br><br>- Private business owners and accommodation providers such as Beachside Studio will incur costs to repair damage to their property caused by storm surges. |

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| | | | access to the Arapawaiti cultural/ historical site. | |
| | *Raumati Adaptation Area* | - Sediment being moved from the coast and seafloor by storm surge up onto the land and across Rosetta Road and those near to the Wharemauku Stream mouth.<br><br>- Along the Raumati shoreline, flooding could occur along the Wharemauku Stream and from the stormwater network which drains into local streams and the sea. | - Loss or damage of recreation assets along coast and rivers. The example cited was the Raumati Bowling Club. The Wharemauku Stream track may also be effected and would reduce recreational opportunities in the area. This would impact the local community who use this asset, in particular, their quality of life.<br><br>- Damage and hazards due to flooding from river backflow (sea-level rise will slow down discharge). Specifically, Wharemauku Stream causing an impact on the local community who use facilities, infrastructure, or their own property/ assets.<br><br>- Loss or damage to recreational areas and public spaces, which impacts users. Example cited was the Raumati Bowling Club. | - Loss of tourism revenue and the ability for impacted business to operate if storm surge prevents access along Rosetta Road.<br><br>- Economic cost to individuals through an increase in rates for repairs to damaged public infrastructure or assets such as the bridge network and the Garden Road public toilets.<br><br>- Cost of repairs and future flood protection/reduction will come from an increase in rates e.g., flood reduction works for Wharemauku Stream.<br><br>- Private business owners, such as the Waterfront Bar and Kitchen and private property owners will incur costs to repair damage to their property.<br><br>- Cost of damaged or lost infrastructure. Mapping shows an increased area susceptible to both direct inundation from the stream along the Wharemauku Stream, and through the stormwater network – Matatua Road for example – as far upstream as the stormwater ponds on either side of the Kāpiti Expressway. (Jacobs, 2022) |

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| | *Queen Elizabeth Adaptation Area*<br><br>*Paekākāriki Adaptation Area* | - Foreshore vegetation along the coast, such as Queen Elizabeth Park will be impacted by storm surges. | - Loss of, or damage to, recreation assets along coast and rivers, e.g. Queen Elizabeth Park.<br><br>- Loss of, or damage to, recreation assets along coast and rivers, i.e., Paekākāriki Surf Lifesaving club<br><br>- Safety of visitors, residents, and staff in the affected areas. E.g., the Paekākāriki Holiday Park. | - Loss of tourism revenue and the impacted ability for business to operate if storm surge prevents access along The Parade.<br><br>- Private business owners, such as The Fisherman's Table, and private property owners will incur costs to repair damage to their property caused by storm surges. |
| **Extreme Weather – increase in extreme rainfall and fluvial flooding**<br><br>Potential damage to:<br>• Critical infrastructure e.g., wastewater network, power lines, roads<br>• Private property e.g., individual septic tanks | *Experienced across <u>all</u> adaptation areas* | - Increased nutrients entering waterways and streams.<br><br>- Sediment plumes running into the estuaries and ocean, reducing the water quality and water clarity.<br><br>- Increased sediment supply to the coast, impacting erosion and accretion zones. | - Damage and hazards due to flooding from river backflow (sea-level rise will slow down discharge).<br><br>- Potential for damage to culturally significant areas.<br><br>- Loss of recreation areas and public space impacting the wellbeing of residents.<br><br>- Flooded businesses forced to close, impacting people's ability to make a livelihood and potential loss of employment in the community.<br><br>- Flooding of infrastructure, i.e. electricity network, resulting in loss of services to residents.<br><br>- Public health risk posed by sewage overflows/failures, including septic tanks. | - Cost of repairs and future flood protection/reduction will be reflected in increasing rates<br><br>- Closure of affected businesses.<br><br>-The cost to individuals through rates to repair damaged infrastructure or assets such as the bridge network.<br><br>- Private business owners, and private property owners will incur costs to repair damage to their property caused by storm surges.<br><br>- Increased cost of insurance for property owners and businesses or lack of insurance cover. Which could reduce or eliminate the ability to raise capital for purchasing business assets. |

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| | | | - Loss of access to homes and experiencing temporary or permanent displacement. Worry and anxiety experienced by residents affected by such events.<br><br>- Anxiety and worry generated for residents due to increased insurance premiums or lack of insurance, and the fear of losing their homes to the next flood.<br><br>- Safety of visitors, residents and employees who are in the affected areas or need to pass through flooded areas. Already seen with slip-prone areas. | |
| | *Northern Kāpiti Adaptation Area (Ōtaki, Te Horo and Peka Peka)* | -As the shoreline in this cell is orientated to the WNW it is exposed to the full impact of dominant north-west ocean swell and storm waves which are generated by weather systems crossing the Tasman Sea (Jacobs, 2022) .<br><br>- Increased nutrients entering waterways and streams that run down from the Tararua Forest Park and Tararua Ranges.<br><br>- Potential future migration at the Waitohu Stream mouth. | - Damage and hazards due to flooding from river backflow (sea-level rise will slow down discharge). Specifically, Ōtaki River, Mangaone Stream in Te Horo, Te Kowhai Stream, Waimea Stream, and Ngārara Stream in Peka Peka, and areas highly effected by natural hazards e.g., landslides in the Ōtaki Gorge Road.<br><br>- Potential for damage to culturally significant areas such as the racecourse where the Ōtaki -Māori Racing Club is based (the only Māori racing club in New Zealand).<br><br>- Public health risk posed by potential sewage failure (septic tanks). | - Risk to Ōtaki Golf Course which lies just north of the Waitohu Stream.<br><br>- Risk to the Ōtaki racecourse which lies approximately 400m north of the Ōtaki River.<br><br>- Cost of repairs and future flood protection/ reduction will be reflected in increasing rates. e.g., Works may include flood reduction works for Ōtaki River, Waitohu Stream and Mangaone Stream and Te Kowhai River in Peka Peka.<br><br>- Private business owners and private property owners will incur costs to repair damage to their property caused by fluvial flooding (and storm |

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| | | | | surges). Example cited was the River Cottage Café. |
| | *Central Kāpiti Adaptation Area (Waikanae and Paraparaumu)* | - Damage and hazards from flooding from river backflow (sea-level rise will slow down discharge). Specifically, Tikotu Stream and Waikanae Estuary. | - Damage and hazards due to flooding from river backflow (sea-level rise will slow down discharge). Specifically, Waimeha and Ngarara Streams in Waikanae and around the edges of the Waimanu Lagoon.<br><br>- Loss or damage of recreational areas and sports fields such as Paraparaumu Beach Golf Club and MacLean Park. | - Damage from flooding of Waimeha Lagoon to surrounding property.<br><br>- Cost of repairs and future flood protection/reduction will cause an increase in rates e.g., flood reduction works for Waimeha and Ngarara Stream in Waikanae, and Tikotu Stream in Paraparaumu.<br><br>- Closure of affected business e.g. Paraparaumu Beach Golf Club.<br><br>- Private business owners, such as the owners of Wrights By The Sea who are located at stream mouth, and private property owners will incur costs to repair damage to their property caused by storm surges. |
| | *Raumati Adaptation Area* | | - Damage and hazards due to flooding from river backflow (sea-level rise will slow down discharge). Specifically, Wharemauku Stream causing an impact on the local community who use facilities, infrastructure, or their own property/assets.<br><br>- Loss of, or damage to, recreational areas and public space such as Raumati Bowling Club. This would have an impact on the local | - Cost of damaged or lost infrastructure. Along the Wharemauku Stream mapping shows an increased area susceptible to both direct inundation from the stream and through the stormwater network for example Matatua Road, and as far upstream as the stormwater ponds on either side of the Kāpiti Expressway. (Jacobs, 2022).<br><br>- Cost of repairs and future flood protection/reduction will come from an increase in rates e.g., flood |

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| | | | community who utilise this facility, in particular their quality of life.<br><br>- Public health risk posed by potential sewage failure (septic tanks). | reduction works for Wharemauku Stream.<br><br>- Cost of repairs and future flood protection/reduction will come from rates e.g., flood reduction works for Wainui and Waikākāriki Streams.<br><br>- Localised depressions within the Paekākāriki settlement, which could be susceptible to flooding from stormwater outfalls or storm surges damaging private and public property. |
| | *Paekākāriki Adaptation Area* | - Due to the high land elevations in Paekākāriki, the present-day flood hazard in the same size event is very minimal and localized to the Wainui Stream and Waikākāriki Stream mouths. | | |
| **Saltwater intrusion**[46] Saltwater intrusion into freshwater ecosystems including wetlands, floodplains, and farmland (both groundwater and aboveground)[47] | *Experienced across <u>all</u> adaptation areas* | - Loss of habitat, including shorebird feeding grounds.<br><br>- Reduced habitat which is already squeezed between the coast and foothills.<br><br>- Damage to vegetation from saltwater intrusion in extreme weather events.<br><br>- Exacerbating non-climatic pressures e.g. decrease in water quality. | - Loss of jobs due to loss in farming and horticulture production.<br><br>- Farmers will experience negative wellbeing as concern/anxiety/anticipatory-fear of losing farm assets.<br><br>- Water from bores, rivers, and aquifers potentially made undrinkable or unusable.<br><br>- Increased likelihood of local food systems impact e.g. food grown for personal sustenance. | - Productivity of farms reduced through increased salinity of the soil, making it difficult or impossible to grow pasture or crops. |
| | *Northern Kāpiti Adaptation Area* | - Reduced habitat which is already squeezed between the coast and | | |

[46] Ingham et al., (2006)
[47] Gudsell (2015)

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| | *(Ōtaki, Te Horo and Peka Peka)* | foothills and is also impacted by developments such as the Peka Peka to Ōtaki expressway. | | |
| | *Central Kāpiti Adaptation Area (Waikanae and Paraparaumu)* | - Reduced habitat which is already squeezed between the coast and foothills and is also impacted by developments such as Transmission Gully. | | |
| | *Raumati Adaptation Area* | - Reduced habitat which is already squeezed between the coast and foothills and is also impacted by existing infrastructure such as SH1. | | |
| **Erosion**<br>Dune, beach, and foreshore erosion | *Experienced across <u>all</u> adaptation areas* | - Loss of dunes which are providing protection between ocean and residential areas<br>- Removal of beach sediment changing the natural make up, resulting in loss of habitats for local species/shorebird foraging grounds.<br>- Loss of forest cover and habitat along the coast<br>- Large amounts of organic matter entering streams and coastal area potentially changing the course of streams and rivers. | - Loss or disruption of access to community service organisations and emergency services.<br>- Loss of aesthetic of the beach environment reducing its popularity and impacting on the visual aesthetic of the area that the residents along the coast value.<br>- Risk that residential properties and essential services are no longer able to be accessed. | - Costs of repair and protection of roads and infrastructure. |
| | *Northern Kāpiti Adaption Area (Ōtaki, Te Horo and Peka Peka)* | - Loss of dunes which are providing protection between ocean and residential areas and Marine Parade (Ōtaki Beach). | | - Costs of repair and protection to roads and infrastructure. Examples cited were Marine Parade (Ōtaki Beach) and Ōtaki Gorge Road. |

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| | | - Loss of forest cover and habitat along the coast (Pine Forest, Ōtaki Beach and Ōtaki Beach Recreation Reserve). | | |
| | *Central Kāpiti Adaptation Area (Waikanae and Paraparaumu)* | | Risk that residential properties and essential services are no longer able to be accessed. E.g. Marine Parade and Manly Street. | - Costs of repair and protection of roads and infrastructure impacted by erosion e.g. Marine Parade (Paraparaumu Beach).<br><br>- Six to nine coastal stormwater outfalls are projected to be potentially affected by coastal erosion within the next 30 to 50 years, increasing to over 12 within 100 years[48] |
| | *Paekākāriki Adaptation Area* | | - Loss or disruption of access to community service organisations due to erosion e.g., Paekākāriki Surf Lifesaving Club. | |
| **Changes to weather patterns[49]**<br><br>Less predictable patterns of wet and dry weather – resulting in periods of drought and extreme wet weather | *Experienced in all adaptation areas* | - Reduced or infrequent freshwater inputs increasing the salinity of streams and surrounding soil. Nutrient and sediment flows will be of higher concentration.<br><br>- Estuaries and wetlands throughout the project area will experience greater extremes of high and low | - Increased visits to the coast in hot, dry periods resulting in greater use of the recreational assets in the district. This may result in increased frequency of maintenance costs and will potentially impact/reduce the "rural and low population feel" of the district. However, increased visits can | - Damage to property and assets during extended wet or dry spells e.g. droughts or inundation of pasture.<br><br>- Decline in the predictability of weather for farming systems reliant on rainfall and a favourable climate.<br><br>- Increased visits to the coast in hot, dry periods resulting in greater use of |

[48] https://www.kapiticoast.govt.nz/our-district/our-environment/coastal-adaptation/coastal-science/
[49] https://environment.govt.nz/publications/our-atmosphere-and-climate-2020/chapter-3-changes-in-our-climate-and-environment-are-being-observed/

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| | | freshwater input. The greater variability will push ecosystems to tolerance limits more often and impact on the resilience of the ecosystem.<br><br>- Reduced water quality from sediment and nutrient runoff, as mentioned above. | also have very positive impacts such as on restaurants and cafes.<br><br>- Increased likelihood of local food system impacts e.g. food grown for personal sustenance. | the recreational assets in the area like Raumati Beach, Waikanae and Paraparaumu Beaches, increasing maintenance costs. This could potentially reduce the "rural and low population feel" of the area, however a positive outcome could be increased use and revenue for restaurants and cafés. |

# 10.0 Conclusions

This report has considered the social impacts from coastal hazards in a *Status Quo* scenario for the communities of Ōtaki, Te Horo, Peka Peka, Waikanae, Paraparaumu, Raumati and Paekākāriki within the Kāpiti Coast. Social impact approaches and principles, based upon those of the NZAIA and IAIA, have been applied in identifying stakeholders and carrying out interviews.

A broad range of key social outcomes have been identified related to community wellbeing. Interviewees who have experienced direct impacts and those informed or interested in coastal areas were able to identify the key social outcomes for communities. The outcomes were linked to coastal hazards, such as:

- Decreased wellbeing (anxiety and stress) associated with concerns related to:
    - Damage to (own) property.
    - Personal safety.
    - Increased insurance costs or insurance exclusion.
    - Lack of access to mortgage finance.
    - Falling resale values (or even non-saleability).
- Economic concerns including:
    - Disruption to business activities and farming.
    - Loss of revenue and increased insurance costs/exclusion.
    - Lack of access to (business) financing and falling resale value (of farm, land etc.) Could also occur but not expected in the short to medium term.
- Community concerns:
    - Loss of sites of value and amenities as foundations for community identity, cohesion and growth.
    - Many of those interviewed expressed the need for identifying 'fair' measures and acting with determination and coordination towards timely response and solutions.
    - While this assessment includes tangible information and references, much of the insights are qualitative in nature and empirical data could be enhanced in the future.

## 10.1 Potential Next Steps

The current Takutai Kāpiti project is creating opportunities for engagement and dialogue with communities, starting with enhancing awareness about coastal hazards and adaptation options. There is a desire in the community for tangible measures and solutions – including clarity, transparency and fairness regarding the decision-making process.

While parts of the community are concerned with coastal (and climate) hazards, concerted and long-term communication and engagement is required to engage those uninformed and neutral, and bring the entire community along and build resilience in face of long-term risks.

Below are potential next steps on how the insights of this report can be used.

**Equity considerations in adaptation processes for Kapiti Coast**

- A challenging issue to consider in the coastal hazards adaptation strategy is how to fund responses to coastal hazards. It is important to understand and review the extent to which public funds should be allocated between private and public benefit, especially when using ratepayers' contributions. It is important to have clarity about where the costs are coming from and who benefits from a certain intervention, since this can determine if the intervention is viable.
- If a maladaptive process results in the financial burden of any mitigation efforts not being equitably spread, then those that are already vulnerable may become more vulnerable. This can aggravate socioeconomic and cultural inequalities already existing in Kāpiti communities.[50]

**Information provision, engagement, and knowledge communication**

- Interviews with, and opinions expressed by residents suggest a need to enhance information provision to communities regarding the status of the coastal hazards, actions taken and options for communities in the future – to build their capacity to engage and contribute to solutions.
- Appropriate means of communication need to be identified (digital vs in-person meetings), recognising the diversity of the communities along Kāpiti Coast and whether they are 'concerned', 'uninformed' or 'neutral'. Following up on feedback is important so the perception by the communities that decisions by KCDC have already been made is reduced.
- Engagement needs to be much more tailored to be effective, and current efforts by the Coastal Advisory Panel and the Takutai Kāpiti team provide a good foundational start.
- Information for the community needs to clarify some technical concepts – for instance that of 'managed retreat', or the connection between sea level rise to inland flooding or groundwater changes.
- Equally important is the need to communicate rates and costs aspects which are interpreted differently by communities. Such clarifications will ultimately help build trust while reducing anxiety in communities.

**Leveraging the national climate adaptation plan**

- The New Zealand Government has prepared the first National Adaptation Plan 2022 for adapting to the irreversible effects of climate change (covering the period of 2022-2028). Adaptation actions

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[50] *"Some conceptualisations of SIA are related to protecting individual property rights, with clear statements of adverse impacts required to ensure that individual rights are not transgressed. Where these rights are violated, SIA could be seen as contributing to mitigation and compensation mechanisms. In these situations, SIA tends to concentrate on the negative impacts. It is recommended that greater focus is placed on maximising social utility and development potential, while ensuring that such development is generally acceptable to the community, equitable and sustainable. The improvement of social wellbeing of the wider community should be explicitly recognised as an objective of planned interventions, and as such should be an indicator considered by any form of assessment. However, awareness of the differential distribution of impacts among different groups in society, and particularly the impact burden experienced by vulnerable groups in the community should always be of prime concern" - (Vanclay, 2003)*

in New Zealand will be based on those described in this first Plan, some of which are already underway.51

- The actions in the Plan cover adaptation in several areas relevant to Kāpiti Coast communities, including the built environment and the economy. It states the need for adaptation costs to be shared between asset and property owners, local and central government, insurance companies and banks.
- While the Plan does not answer clearly who will pay for the cost to adapt to climate change or how adaptation will be financed, the Government indicated that it would develop new legislation to address managed retreat – an important step for residents whose homes are at risk.
- Early effort should be made in establishing information-sharing pathways and communications between different policy makers, e.g. local, regional and national level climate adaptation policy. The work undertaken by Takutai Kāpiti – including the process for decision making and associated assessments, will provide valuable information at the national level and for other councils.
- Access to finance to support adaptation could be an important goal for KCDC and the Takutai Kāpiti project team to engage with central government and other stakeholders.

**Quality and reliability of data**

- Efforts to value some of the social outcomes for communities is hindered by the lack of reliable data – particularly empirical evidence such as changes in insurance costs and property values, economic costs of flooding.
- Data gaps should be identified and linked to the process of monitoring and evaluation for the adaptation plan currently in development.
- A longitudinal community survey could be considered to monitor community perception and views, including with a view to values and behaviour. This is a relatively resource intensive activity but would provide valuable insights. There may be opportunity to link such an activity with central government efforts on climate adaptation or other regional projects for coastal adaptation to be able to benchmark solutions.

[51] https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/adapting-to-climate-change/national-adaptation-plan/

**Tangata Whenua considerations**

- Cultural impacts for tangata whenua that arise from coastal hazards were not in the remit for this assessment. They are the subject of a separate assessment effort focused on cultural values.
- Best practice for Social Impact Assessment is to give special attention to the social diversity that exists within communities and to ensure that any planned intervention does not lead to a loss of social and cultural diversity or a diminishing of social cohesion.
- Iwi have expectations regarding their relationship with the Crown/Government at all levels - local, regional and central. It is critical and vital that mana whenua are centrally involved including direct involvement in decision-making.
- Mana whenua have special ties to lands and natural resources. There are a number a Māori land blocks and Marae (include figures from cultural assessment). These are a tangible link of tangata whenua to the land, those with shares in the land blocks will have associated collective ownership rights. The collective ownership structure will likely require special consideration so that negative impacts are avoided.

# 11.0 Glossary Terms

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| **Accretion** | Beach growth which results in the reference shoreline moving in a seaward direction. |
| **Cell boundary** | The boundary between coastal erosion or coastal inundation assessment cells in which townships are located. |
| **Ecosystem services** | The varied benefits to humans provided by the natural environment and from healthy ecosystems. Classifications as provision, regulating, supporting and cultural services. |
| **Erosion** | The natural processes of gradual destruction by wind, water, or other natural agents. Coastal erosion is the process in which actions of the sea and wind wear away coastal land, resulting in landward retreat of the shoreline. |
| **Flooding** | Flooding refers to the process when an area (and related infrastructure) is temporarily covered with water. |
| **Hydro-system** | Includes river/ stream mouths and estuaries where both coastal and fluvial processes influence the morphology and other environmental conditions of these environments. |
| **Impact** | The social or economic changes at the societal level. Changes are typically referred to a specific region or part of society. |
| **Inundation** | Coastal inundation is when sea water floods land, infrastructure and buildings. An event or process where the sea intrudes inland of its normal high tide range, either over land or up waterways such as rivers or streams causing them to overflow their normal banks. |
| **Long-term accretion** | Long-term beach growth in shoreline towards the sea. |
| **Long-term erosion retreat** | Long-term erosion of the beach causing the reference shoreline to move landward |

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| **Social impact assessment** | The processes of analyzing, monitoring, and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. |
| **Social impact** | The change that happens for/to people due to an action or activity. |
| **Status quo scenario** | The scenario where no intervention is undertaken while natural hazards (e.g., coastal erosion, coastal inundation, and rising sea levels) continue to increase as projected. |
| **Susceptibility** | Likelihood of the hazard event occurring, covering both frequency of occurrence (incorporating consideration of duration and intensity of the event, and uncertainty of occurrence, and the spatial extent of the areas affected by the erosion or inundation within specified timeframes. |
| **Vulnerability** | Measure of the extent to which a structure, community, service, or location is likely to be damaged or disrupted on account of its nature or location by the impact of a particular disaster hazard. |
| **Wellbeing** | Referring to both mental and physical health that is determined by material and psycho-social factors. |

# 12.0 Appendix 1

A range of issues and concerns were raised by interviewees (outside of coastal hazards) as social concerns. These concerns are described below:

**Actions and capabilities of the local government –** In most interviews with residents, the role and performance of KCDC was raised, including in relation to the current work to address coastal hazards. Many expressed mixed views regarding the ability of KCDC to make decisions for the long term – balancing the appeal to the electorate with the reality of rates constraints (paying for solutions). There were references to plans and previous technical studies commissioned by KCDC that did not seem to lead to tangible actions or urgency in dealing with issues in the community. This lack of trust for coming up with solutions was also expressed in relation to the current social impact assessment ("would it be better to spend the money on something tangible than studies by experts").

Other concerns raised included:

11. The community is not adequately engaged or informed by KCDC; more effort is needed to communicate (explain) decisions to the people.
12. The age of governmental and advisory groups which make decisions is high, and there is insufficient youth involved decisions. Also, there is a perception that higher age groups throughout townships have led to infrastructure based on this aspect, limiting options for young people.
13. With many retirement living options however, there is a lack of playcentres and accommodation for students or young professionals. Greater range in living choices for differing demographics would help integrate society. KCDC is taking steps to identify options though its Housing Strategy[52]

Some of the interviewees also expressed support for KCDC's work and communication – for example with respect to dune and ecosystem restoration.

**Rising property prices –** Concern about the affordability of living on the Kāpiti Coast is a major issue for many residents, with property and rental prices leading concerns. Prices are driving residents out of townships, and younger generations cannot afford to rent or buy**.** While this is not limited just to the Kāpiti Coast area but all of New Zealand, there is a sense that gentrification and rising property prices will have deeper impact on the makeup and outlook of Kāpiti Coast communities.

**Loss of town and community character –** The townships of Kāpiti have low populations and many interviewees expressed appreciation for the concept of beach towns, where everyone knows each other, there is community trust and residents engage and support each other. Community groups are also prevalent throughout the townships from arts and culture to environmental restoration. There is concern that rapid growth and planning decisions to accommodate growth is impacting the character of Kāpiti communities (tranquil, laid back and accessible lifestyle) – with some of these values being lost. Loss of youth across the area for a variety of reasons such as education, rising prices and job opportunities is also

[52] Kāpiti Coast District Council Housing Strategy

a concern for those in the townships. The interviewees, however, also stated their understanding that things need to evolve and change.

> "Local businesses are losing land to large chain organisations such as supermarkets."
>
> *– Paekākāriki Resident*

> "People who have been long term residents, renting, who want to buy and stay in the community, the house prices are now impossible. I know people who have been made to leave as they can't find a place to rent and can't afford to buy…It is gentrification."
>
> *– Paekākāriki Resident*

**Loss of assets such as the airport –** Several interviewees expressed their concern about the assets which incentivise people to live or visit the area. In particular, the sale of the Kāpiti Coast Airport was mentioned frequently as an example of a poor outcome for the community. The airport is located between Paraparaumu and Raumati and helps the district be more accessible for residents and tourists. The change from airport to future housing was not necessarily a negative idea to some interviewees – however, there was concern about the potential for flood risks and liabilities in the future.

**Ambivalence towards change –** Many of those interviewed expressed mixed feelings regarding the need for change (in response to, or, to facilitate growth) versus their own interest in maintaining the status quo. For example, those that chose to move to the area for what it offered – tranquillity and unimpaired views to the sea – are dissatisfied with intensification and building of infrastructure and services that may obstruct views or bring about changes. There is concern about "turning into a Gold Coast", and increased light and noise pollution. However, there is also recognition that changes are needed – including in relation to dealing with climate change impacts.

**Beach access and use issues –** Although not perceived as overtly prevalent within townships, interviewees discussed the occurrence of crime on the coast - including, people driving in cars and motorbikes along the beach and on sand dunes causing impact on dune formation. Concerns were expressed about deterioration of dunes (from driving and walking over them) given their significant role in the management of coastal hazards and the efforts by residential groups in creating or maintaining them.

**Lack of essential services –** Due to the Kāpiti's Coast district's historically low population, some services and assets are unavailable or are insufficient - specifically, not having a local hospital and infrastructure services such as wastewater (sewage) and water supply across some towns in the district. Locals must travel for hospital care to Wellington City, this has led to petitions and many discussions within community groups about the need for quick access to necessary medical care – especially as the number of older people in the district is increasing.

Also, several townships in Kāpiti Coast rely on septic tanks for wastewater treatment, many of which are old and damaged. As these townships also rely on river or bores for their water supply, this creates a potential health problem.

**Transmission Gully –** Response to Transmission Gully varies. There is broad recognition of the benefits for the community – not just for connecting and reduced commuting time but also for mitigating the risks of being reliant on a single access road. Some of the interviewees suggested that the long-term impacts of the highway are still to play out, with views that not all communities will benefit in the same way and that increased traffic will have a negative impact on some areas (noise, pollution). Townships such as Paraparaumu will see an increase in economic benefits as result of more foot traffic and the membership for the local golf club is already increasing. However, the township of Paekākāriki is completely missed by the new highway with likely impact on patronage of the local shops.

While the highway creates a better connection between the two districts, it was mentioned that Transmission Gully does not offer the breath-taking views of Kāpiti Island and the visual transition that happens for those that use the coastal route (SH 59) that helps commuters create the break with work life in Wellington.

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"The weekend after the highway was put in you couldn't find a carpark as people tried the highway and stopped for a coffee".

*– South Raumati Resident*

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