



# Awatoto Bridge 217

## Ecological Report Summary

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### Transport Rebuild East Coast



**Te Kāwanatanga o Aotearoa**  
New Zealand Government

## Document Control

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# Introduction

## Background and Site Overview

The history of the site is complex and unique, involving multiple flood events, changing river courses, and bridge rebuilds, with written records spanning back to 1872 (Kiwirail 2023). Early survey plans have noted “river mouth liable to change” highlighting the frequent fluctuations of the river’s path (MapsPast, 1959). It is likely this changeability has been reinforced since the diversion of the Tutaekuri from its initial outflow in Ahuriri, resulting in the current confluence of three river systems.

The first recorded mention of bridge 217, or ‘(Waitangi) washout bridge’, is in circa 1897 (Kiwirail, 2023). The bridge currently spans the Waitangi Washout Channel and Waitangi Washout Basin. Multiple flood events since the initial construction of the bridge have resulted in several washout and rebuild cycles of the rail bridge, with the most recent being in 2023 during Cyclone Gabrielle.

United Civil was contracted by KiwiRail to rebuild Bridge 217 after it was washed out during cyclone Gabrielle. After four months of construction the bridge was reopened with an anticipated life span of five years.



Figure 1. An image of the potential site, in red, with the rail bridge 217 pinned.

## Proposed Activity

Circumstances have necessitated the life span of the bridge be extended to fifty years. This will require significant works to strengthen the existing structure, and reduce the potential impacts caused by weathering and flood events.

Specifically, it has been proposed that the water levels of the Waitangi basin are lowered by approximately 1-2 m, facilitated by the removal of earth from the surrounding bank.

## Purpose and Scope

The purpose of this report is to summarise the potential impacts of the environmental alterations proposed under the current plan to increase the lifespan of Bridge 217. This report aims to summarise the values of the different ecological characteristics present at the site. Because of the large scale of the work proposed and the limited details currently available, **no attempt has been made to categorise the magnitude of effects or the potential level of impact as discussed in the EIANZ framework.**

The following scope of the work is proposed:

- Desktop review of relevant databases, reports and plans.
- Field investigation to confirm habitat, flora and fauna.
- Mapping of vegetation and habitat present
- Preparation of report findings

A wetland evaluation has also been undertaken due to the close proximity of the site to the Waitangi Wetland reserve. This is of particular importance because 'natural wetlands' as defined in the National Policy Statement for Freshwater Management (2020), has significant implications for site development.

## Methodology

### Overall Approach

The overall approach used to undertake the ecological assessment involved the application of the "Guidelines for Undertaking Ecological Impact Assessments" (**EclIA**) (Lindsay Roper et al., 2018) using data from two main sources.

- A desktop review of existing data
- Field Survey conducted on the 25<sup>th</sup> of March.

### Desktop Assessment

The desktop assessment involved the following;

- Review of ebird database
- Review of DOC bat database
- Review of marine and freshwater fish
- Google Aerial imagery
- Department of Conservation Herpetofauna Bioweb (accessed from June 2024)
- Purdie (2022) lizard distribution maps
- New Zealand Herpetological Society (2025) lizard distribution maps

### Field Survey

The field survey was conducted on the 25<sup>th</sup> of March, with the following individuals. Senior Ecologist Melanya King, Senior Ecologist Mark Yungnickel, Senior Ecologist Dr. Emily Frost, Environmental Consultant Lisa Arnold, Graduate Environmental Scientist Lucy van Berlo. Local Iwi were also present for the survey.

The field survey consisted of the following:

- A habitat assessment throughout the proposed release area to determine the habitat types, conditions and quality.
- 5-minute bird counts and surveys (x10)
- Identifying vegetation in the zone of impact.
- Extensive manual /opportunistic searches focused on searching habitat for lizards more likely to be directly impacted by the project (see Figure 3-1). Whitaker's (1994) 'searching by day'

- methodology was used which included searching through rank grass and lifting logs, branches, rocks and other natural and artificial cover objects.
- Daytime visual encounter surveys focused on scanning vegetation for arboreal and terrestrial diurnal species. This included searches of the forest edge habitat, the existing walking tracks and through the middle of the proposed release area.
  - Survey effort focused on higher quality habitat where skinks were more likely to be detected and where the project site was likely to be impacted.

## EIANZ Guidelines Assessment of Effects Methodology

The 'EIANZ EcIA guidelines for use in New Zealand: terrestrial and freshwater ecosystems' (Roper-Lindsay, 2018), was used to aid in assessing the ecological impacts and effects of the Project. The EIANZ guidelines provide a framework approach for assessing defined actions on ecosystems and their components. This is undertaken by assigning values to ecological features. This assessment framework provides a scientifically defensible approach to informing appropriate ecosystem management. Even so, sound professional judgement is still required when applying the framework and matrix approach.

For this Report the EIANZ assessment criteria has been modified to incorporate the NPS-IB 2023 assessment criteria, the NPS-FM 2023 values.

## Ecological Description and Evaluation

### Vegetation

Vegetation assessed within the proposed zone of impact was found to be a mixture of native and exotic species. No vegetation was found to be classed as threatened or at risk by DOC, and thus the value of vegetation has been classed as **Low**.

### Wetlands

Following the desktop assessment the site visit was undertaken. The site and its 100m buffer were assessed against the wetland delineation protocols (Ministry for the Environment, 2022) to determine if any wetlands were present and or likely to be impacted by the proposal. The rapid test was used to assess the obvious wetland areas located within the site.

#### Ecological description and assessment

The search of MfE's Pre-human wetland layer found the wider area to contain multiple wetlands (Figure 2), however none within the area of interest. The MfE wetland extent layer also identified no wetlands within the proposed impact area.



Figure 2. Pre-human wetlands. Areas overlayed in blue signify marshland, areas in green signify swamp.

During the site visit the fourteen wetland areas were noted within the works area or its 100m buffer (Figure 3). These wetlands were all dominated by common native or exotic species. The different wetland types found are described in Table 1 below. Representative photos are provided in Figure 4 showing examples of each of the wetland types.

Table 1: Wetland types found during the site visit within the impact area or its 100m buffer.

Wetland Type	Description
Raupo Reedland	Discrete areas of raupo reedland dominated by <i>Typha orientalis</i> . These were generally found along the margin of the waterways.
Carex Sedgeland	Wetland areas dominated by either <i>Carex secta</i> or <i>Carex geminata</i> . These areas contained other common native and exotic species at a lower proportion. And were scattered throughout the impact area and its buffer.
Bolboschoenus Sedgeland	Wetter areas dominated by <i>Bolboschoenus</i> sp. Other common native and exotic species were also noted in lower proportions. This wetland type was commonly found closer to the water's edge.
Rushland	Rushlands often dominated by <i>Juncus</i> sp. were noted to occur within the impact area.
Flax swamp	Areas of restoration plantings were common throughout; these areas were dominated by flax ( <i>Phormium tenax</i> ). These areas met the rapid test with flax being a facultative wetland species, however it is important to note that these were planted.
Willow Treeland	An area of willow saplings/trees ( <i>Salix</i> sp.) located on a wet plain. The understorey was common exotic species. The occasional native species was present.

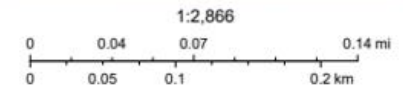
It is likely that many other wetlands exist in the potentially impacted area and its 100m buffer. Wetlands are a national priority for protection and the National Environmental Policy Statement for freshwater (2020) Policy 6 states that there is to be no loss of extent of natural inland wetlands.

Ecology Region Field Maps



03/04/2025, 10:49:00 am

- Culvert
- Wetland Plot
- LINZ NZ River Name Lines - Pilot



Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors, Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

Figure 3. Ecology Region Field map

The wetlands shown in Figure 3 met the criteria outlined in the rapid tests for Natural inland wetlands. The wider area was a mixture of common and exotic species and included many areas of recent restoration plantings.



**Raupo Reedland**



**Carex Sedgeland**



**Bolboschoenus Sedgeland**



**Rushland**



Figure 4 Representative photos of Wetlands on site.

To assign value to these wetland areas, four matters were considered, as per the EIANZ guidelines. The wetlands onsite were found to be dominated by common native and exotic species and were small in size located in wetter areas along the river margins. Wetlands are a national priority for protection, due to their reduced extent. These wetlands are likely providing some habitat for fauna and provide ecosystem functions to the wider area. As a result, the wetlands within the impact area or its 100m buffer are valued from **Low-Moderate**.

#### Impacts and Requirements:

The proposal will result in total loss of many of the above-described wetlands. Further detail on the proposal and impact area is required to determine the extent of this wetland loss. It is important to note that loss of wetland extent contravenes Policy 6 of the National Environmental Policy statement for freshwater (2020). Wetland offsetting will need to be undertaken due to the actual and potential effects of the proposed lowering of the ground level. The overall level of effect is likely to be **Moderate – High**

The following assessments will be required to determine actual and potential effects on wetlands within the impact area (and its 100m buffer):

- Detailed wetland survey – there is potential for more wetlands to be within the area impacted by the proposal.
- Hydrological assessment to determine current wetland hydrology and proposed hydrology after completion of works
- Offsetting report and BOAM (Biodiversity offsets accounting model) to determine what ecological values need to be offset as a result of the proposal.
- Ecological assessment of suitable offset site.
- Planting plans will need to be prepared for the offset site.

**It is important to note that offsets need to be maintained in perpetuity.**

## Freshwater Fish

The Tutaekuri river system (NZSegment 8206041) and Waitangi basin will provide significant habitat for freshwater fauna breeding and feeding. Because of the likely presence of 'At Risk' species such as the Torrentfish (*Cheimarrichthys fosteri*), Bluegill Bully (*Gobiomorphus hubbsi*), and Giant Bully (*Gobiomorphus gobioides*), the value of freshwater fauna is regarded as **High**.

Fish species likely to be found within the site zone has been sourced from the Hawkes Bay Regional Council freshwater fish data base and is collated in the table below. It should be noted that during field site assessment, Inagna (*Galaxias maculatus*) eggs were found near the bank of the basin, within the site of the proposed works. As this species is unable to tolerate high levels of disturbance and has key ecological and cultural significance, appropriate management should be undertaken by a suitably qualified ecologist.

Table 2. Species list for freshwater fauna likely found within the Tutaekuri river system at the location of the proposed works.

Species name	Common name	Threat classification	Likely Presence
<i>Geotria australis</i>	Lamprey	Threatened, Nationally Vulnerable	Possibly Present
<i>Anguilla dieffenbachii</i>	Longfin Eel	At Risk, Declining	Highly Likely present
<i>Cheimarrichthys fosteri</i>	Torrent Fish	At Risk, Declining	Possibly present
<i>Galaxias maculatus</i>	Inanga	At Risk, Declining	Confirmed Present
<i>Gobiomorphus hubbsi</i>	Blue Gill Bully	At Risk, Declining	Possibly Present
<i>Gobiomorphus gobioides</i>	Giant Bully	At Risk, Naturally Uncommon	Highly Likely present
<i>Anguilla australis</i>	Shortfin Eel	Not Threatened	Highly Likely Present
<i>Galaxias fasciatus</i>	Banded Kokopū	Not threatened	Possibly Present
<i>Gobiomorphus cotidianus</i>	Common Bully	Not threatened	Highly Likely Present
<i>Gobiomorphus huttoni</i>	Redfin Bully	Not Threatened	Possibly Present
<i>Retropinna retropinna</i>	Common Smelt	Not Threatened	Highly Likely Present
<i>Carassius auratus</i>	Goldfish	Introduced and Naturalised	Possibly Present

<i>Gambusia affinis</i>	Mosquito Fish	Introduced and Naturalised	Possibly Present
<i>Oncorhynchus mykiss</i>	Rainbow Trout	Introduced and Naturalised	Likely Present
<i>Salmo trutta</i>	Brown Trout	Introduced and Naturalised	Possibly Present

## Marine Fish

Various ecological criteria have been used regionally, nationally and internationally to determine the significance of marine ecosystems. Within the Hawkes Bay Region, NIWA (2020) report establishes a key set of criteria, based of the national key ecological areas system. Waitangi Estuary has been established as a Significant Conservation Area on the following criteria:

1. Vulnerability, fragility, sensitivity or slow recovery
2. Uniqueness, rarity and endemism
3. Special importance for life history stages
4. Importance for threatened and/or declining species and habitat
5. Biological diversity

The area has been established as being particularly vulnerable to, and threatened by, high human use and continued urbanisation/development. The lower reaches of the estuary, including the lower reaches of the river as well as the adjoining coastal marine area, are a designated wildlife refuge. This area is used significantly by numerous marine species and has been identified as a key area for completion of life-history for Black Flounder.

Macrofaunal assemblages of the area are dominated by epifaunal bivalves, which provide a key food source to a number of marine fish species.

The immediate coastal area has been recognised as a key area of spawning for 25 marine species, with a total of 39 fin-fish species identified as present within the Hawkes Bay Coastal Marine Area.

Because of the presence of at least eight at risk species, two which are identified as vulnerable (Porbeagle shark and Lig) as well as three which are identified as Near Threatened (Blue shark, Japanese horse mackerel and Grouper), in addition to the identification of the area as an important Significant Conservation Area, the value of marine fauna within the zone of influence is regarded as **high**.

*Table 3. Species list for marine fauna likely found within surrounding coastal area at the location of the proposed works.*

Species name	Common name	Threat classification	Spawning in Hawkes Bay
<i>Lamna nasus</i>	Porbeagle Shark	Vulnerable- Declining	Yes
<i>Genypterus blacodes</i>	Lig	Vulnerable –Declining	Yes
<i>Prionace glauca</i>	Blue Shark	Near Threatened – Largely Depleted	Yes

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<i>Trachurus japonicus</i>	Japanese horse mackerel	Near Threatened- Declining	Yes
<i>Epinephelus daemeli</i>	Grouper	Near Threatened	No
<i>Pelotretis flavilatus</i>	Lemon Sole	Least Concern- Declining	N/A
<i>Rhombosolea plebeia</i>	Sand flounder	Least Concern- Declining	N/A
<i>Parapercis colias</i>	Blue Cod	Least Concern - Declining	No
<i>Odax pullus</i>	Butterfish	Least Concern	Yes
<i>Callorhynchus milii</i>	Elephant Fish	Least Concern	Yes
<i>Epigonus telescopus</i>	Black cardinal fish	Least Concern	Yes
<i>Chelidonichthys kumu</i>	Gurnard	Least Concern	Yes
<i>Mora moro</i>	Ribaldo	Least Concern	Yes
<i>Azygopus pinnifasciatus</i>	Spotted Flounder	Least Concern	N/A
<i>Peltorhamphus latus</i>	Speckled sole	Least concern	N/A
<i>Pseudocaranx georgianus</i>	Trevally	Least concern	Yes
<i>Arnoglossus scapha</i>	Witch	Least concern	N/A
<i>Seriolella caerulea</i>	White warehou	Least concern	Yes
<i>Aldrichetta forsteri</i>	Yellow – eyed Mullet	Not Threatened	N/A
<i>Rhombosolea retiaria</i>	Black Flounder	Not Threatened	Yes
<i>Arripis trutta</i>	Kahawai	Data deficient	Yes
<i>Chelidonichthys cuculus</i>	Gurnard	Data deficient	Yes
<i>Chrysophrys auratus</i>	Snapper	Data deficient	Yes
<i>Engraulidae</i>	Anchovy	Data deficient	Yes
<i>Mycena spp</i>	Barracouta	Data deficient	Yes
<i>Sardina pilchardus</i>	Pilchard	Data deficient	N/A
<i>Polyprion americanus</i>	Bass	Data deficient	No
<i>Colistium guntheri</i>	Brill	Data deficient	N/A
<i>Peltorhamphus novaezeelandiae</i>	New Zealand sole	Data deficient	N/A
<i>Polyprion oxygeneios</i>	Hapuka	Data deficient	Yes
<i>Macruronus novaezeelandiae</i>	Hoki	Data deficient	Yes
<i>Zeus faber</i>	John dory	Data deficient	Yes
<i>Trachurus murphyi</i>	Murphy's mackerel	Data deficient	Yes

<i>Latridopsis ciliaris</i>	Blue Moki	Data deficient	Yes
<i>Pseudophycis bachus</i>	Red Cod	Data deficient	Yes
<i>Rexea solandri</i>	Gemfish	Data deficient	Yes
<i>Peltorhamphus tenuis</i>	Slender sole	Data deficient	N/A
<i>Kathetostoma giganteum</i>	Giant stargazer	Data deficient	Yes
<i>Nemadactylus macropterus</i>	Tarakihi	Data deficient	Yes
<i>Latris lineata</i>	Trumpeter	Data deficient	N/A
<i>Colistium nudipinnis</i>	Turbot	Data deficient	N/A
<i>Seriolella brama</i>	Warehou	Data deficient	No
<i>Rhombosolea leporina</i>	Yellow-belly flounder	Data deficient	Yes

### Fish migration and spawning

Fish spawning periods, detailed below, should be used to inform timeframes for the proposed works to minimise potential impacts.

Table 4. Spawning Periods for “At Risk, Declining’ indigenous and protected sports fish

SPECIES	SUMMER			AUTUMN			WINTER			SPRING		
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Blue Gill Bully												
Inanga												
Lamprey												
Torrent Fish												
Rainbow trout												
Brown Trout												

 = Peak spawning months  
 = Range of spawning months

Table 5. Migration periods for 'At-Risk' indigenous and protected sports fish.

SPECIES		SUMMER			AUTUMN			WINTER			SPRING		
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Blue Gill Bully	Upstream (juvenile)												
	Downstream (larvae)												
Inanga	Upstream (juvenile)												
	Downstream (larvae)												
Lamprey	Upstream (juvenile)												
	Downstream (larvae)												
Torrent Fish	Upstream (juvenile)												
	Downstream (larvae)												
Rainbow trout	Upstream (adult)												
	Downstream (juvenile)												
Brown Trout	Upstream (adult)												
	Downstream (juvenile)												

= Peak migration months  
 = Range of migration months

### Birds

The work’s proposed area of impact consists of habitat for numerous native bird species. In particular, a number of species identified within the zone of impact are classed as “Threatened – Nationally Critical” or “Nationally Endangered”, such as the White Heron (*Ardea modesta*), New Zealand Falcon (*Falco novaeseelandiae*), and Black Fronted Tern (*Chlidonias albostratus*). These classifications lead to bird species have a value of **Very High**.

Table 6. Table showing bird species presumed within the Zone of Impact.

Species name	Common name	Threat classification	Months of breeding/nesting													
			J	F	M	A	M	J	J	A	S	O	N	D		
<i>Ardea modesta</i>	White Heron	Threatened, Nationally Critical														
<i>Falco novaeseelandiae</i>	Falcon	Threatened, Nationally Endangered														
<i>Chlidonias albostratus</i>	Black Fronted Tern	Threatened, Nationally Endangered														











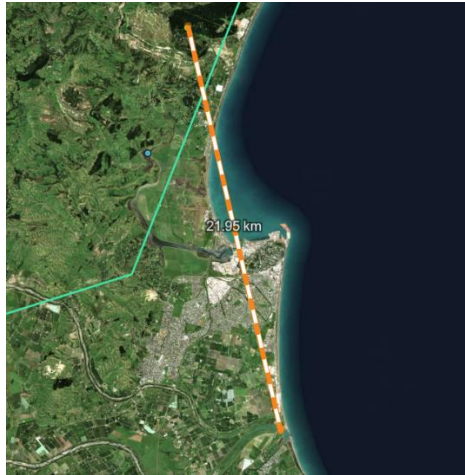


Figure 5. Image showing the distance to the closest recorded location of native bats.

## Lizards

### Desktop Assessment

A desktop assessment included review of aerial imagery, DOC BioWeb herpetofauna database<sup>1</sup>, Purdie (2022) and NZHS (2025) distribution maps. The site falls within the geographic range of 3 gecko and 6 skink species (Table 3.1). The closest records of native lizards are ‘Not Threatened’ northern grass skink (*Oligosoma polychroma*) and ‘At Risk, Declining’ northern spotted skink (*Oligosoma kokowai*) approximately 2.7km north of the site from along the Napier foreshore. The unwanted ‘Introduced and Naturalised’ rainbow / plague skink (*Lampropholis delicata*) has also been recorded from the Napier township approximately 7km from the site.

Table 7. Lizard species identified in the desktop assessment, their threat classification, and likelihood of presence within the project site ZOI.

Species	Common name	Maori Name	Ecological Value <sup>2</sup>	Threat Status <sup>3</sup>	Overall likelihood onsite
<i>Oligosoma auroraense</i>	Hawke’s Bay skink	-	Very High	Threatened - Nationally Endangered	Unlikely
<i>Oligosoma microlepis</i>	small-scaled skink	-	Very High	Threatened - Nationally Vulnerable	Unlikely
<i>Mokopirirakau</i> “southern North Island”	ngahere gecko	-	High	At Risk - Declining	Unlikely
<i>Naultinus punctatus</i> *	barking gecko	kākāriki	High	At Risk - Declining	Unlikely
<i>Oligosoma kokowai</i>	northern spotted skink	-	High	At Risk - Declining	Possible
<i>Oligosoma zelandicum</i>	glossy brown skink	-	High	At Risk - Declining	Unlikely
<i>Oligosoma polychroma</i>	northern grass skink	mokomoko	Low	Not Threatened	Likely
<i>Woodworthia maculata</i>	raukawa gecko	moko pāpā	Low	Not Threatened	Possible

<sup>1</sup> accessed during June 2024

<sup>2</sup> Values are based on the conservation status of each species, apart from pacific gecko. While pacific gecko has been assigned a ‘Not Threatened’ conservation status based on stable populations on offshore islands, based on their rarity in the ecological district their value has been elevated to ‘Moderate’.

<sup>3</sup> (Hitchmough et al. 2021)

<i>Lampropholis delicata</i>	Rainbow / plague skink	-	Unwanted pest species	Introduced and Naturalised	Possible
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**Field Assessment**

The lizard survey in the vicinity of the Awatoto Bridge at the Tutaekuri River mouth occurred on an overcast day with little wind, no rain, with a daily high of 23°C, and low of 16°C. There has been rain the previous day so the vegetation and habitats were wet/damp.

**Habitat Assessment**

Overall, the habitats on the Northern and South banks were similar, largely dominated by dense rank grass with scattered cover objects such as wood located, and disturbed areas of largely gravel and weeds (see Figure 3-1, Appendix A). Further detail on habitats which are described below.

*South Bank*

There were numerous areas of low or unsuitable quality habitat for native lizards such as the gravel areas between the railway bridge and State Highway 51 (SH51) (Photo 3), the access tracks where machinery has undertaken past and recent work, areas of mown pasture and a pedestrian path, and wet habitat with little or no vegetation on the edges of the waterbody.

There were numerous areas of low to moderate quality habitat for native lizards such as disturbed areas west of the railway bridge where rank grass was less dense and there was more weed cover (Photo 8), and the approximately 10m strip along the water’s edge which has an incised 1m drop which also includes areas of cobble, less dense vegetation and various scattered logs and debris (Photo 4 & 5).

There were two areas with moderate to high quality habitat for native skinks and potential habitat for Raukawa gecko (east of SH51 only). This includes habitat dominated by a mix of dense rank grass, and native shrubs that were planted approximately 10 years ago between the rocky beach and SH51. The groundcover also consists of scattered pieces of large driftwood and other debris (Photo 6 & 7). It also includes an area west of the railway line that consists of very dense rank grass with scattered bits of driftwood and other debris throughout. There has been an attempt to plant small native seedlings such as manuka, kowhai, lemon wood, flax and other grasses but these plants are being overtaken by the rank grass (Photo 10). Also, there is a small area of flowing from south to north isolating part of this habitat (Photo 9).

There is also connectivity of rank grass habitat and wooden debris from the cyclone under both the railway bridge and SH51 bridge on the south bank.

*North Bank*

There was an area of low or unsuitable quality habitat for native lizards along the stop banks and pedestrian path, which is periodically mown, and an area dominated by gravel that is highly disturbed likely based on previous maintenance works around the bridge (Photo 12). There were areas of low to moderate quality habitat for native lizards which had less dense vegetation and were largely dominated by weeds (Photo 14).

There were two areas with moderate to high quality habitat for native lizards west of the railway bridge and east of the SH51 where dense rank grass was present and scattered driftwood throughout (Photo 11 & 15).

There was connectivity under railway bridge with rank grass and structural habitat (Photo 13) but reduced connectivity between habitats based on a ditch that had been dug and is full of water under the SH51 bridge.

*Beachfront*

The area of beach between the water and the ocean was dominated by cobble habitat with scattered bits of driftwood which is suitable for native lizards (Photo 1 & 2). However, this site is subject to a vehicle

movement (cars and 4wd motorbikes) and pedestrian access across the beach with reduces the quality of habitat.

### **Manual searches and visual encounter survey**

Active manual/opportunistic habitat searching and visual encounter survey resulted in total of approximately 3 hours of search effort by a recognised herpetologist. No lizards or evidence of lizards were observed.

There were numerous crickets found under cover objects such as driftwood and debris on both the north and south banks. On the south bank a mouse (*Mus musculus*) was observed running into a burrow near the water edge, and a rat (*Rattus* sp.) was observed under a large piece of driftwood.

### **Species possibly present**

The site provides suitable habitat for some native skinks and geckos. Northern grass skinks are considered likely present, northern spotted skink and Raukawa geckos are considered to be possibly present.

Northern grass skinks are diurnal and often sun-bask in exposed areas. They occupy a wide range of habitats including coastal vegetation, rock piles, grassland, flaxland, shrubland, screes, forest margins tussock and modified urban / suburban habitats which are present within the project area. They often take refuge in dense vegetation or under rocks and logs when not active (NZHS, 2025). Some of these habitat types are present within the project area but have been subject to modification and disturbance. This species is considered the most likely present within the project area and potentially recolonised this habitat after flooding from cyclone Gabrielle.

Northern spotted skinks are avid sun-baskers. They prefer open/sunny areas such as boulder beaches, sand dunes, open coastal forest and scrub, as well as grassland, shrubland and scree slopes at inland sites. When not basking or foraging, northern spotted skinks will take refuge under coastal debris, rocks, logs, in dense vegetation such as thick grass or flax (*Phormium* spp.) (NZHS, 2025). Some of these habitat types are present within the project area but have been subject to modification and disturbance. This species is considered possibly present within the project area and is less likely to have recolonised the site after cyclone.

Raukawa geckos are primarily nocturnal, but are known to cryptically bask at the edges of retreats. They can be found in a vast array of habitats, from sandy or rocky coastlines right through to inland beech and broadleaf forests. Some of these habitat types are present within the project area but have been subject to modification and disturbance. This species is considered possibly present within the project area and is less likely to have recolonised the site after cyclone.

While the site also provides suitable habitat for glossy brown skink (*Oligosoma zelandicum*) (e.g. coastal areas, in coastal pebble banks, grassland, and shrubland) their potential presence is considered unlikely based on no records being present in the wider area of the project site. Furthermore, the site is considered unlikely to support terrestrial geckos (e.g. ngahere and barking gecko) as the native shrubs have been planted within the last 10 years, there has been high disturbance at the site and there is little connectivity with other suitable habitats.

It is likely only 'Not Threatened' low value northern grass skink are present at the site. However, based on the limited survey effort undertaken during marginal weather conditions, the possible presence of suitable habitat for 'Not Threatened' and 'At Risk, Declining' native skinks and terrestrial geckos, a **high** value has been assigned for lizards.

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Figure 6 Site location of the Tutaekuri River mouth and different habitat quality present within the extent of works. Green = unsuitable to low quality; Yellow = low to moderate quality; Orange = moderate to high quality.

## Discussion

### *Species Potentially Present and Additional Survey Work*

No lizards or evidence of lizards were recorded during the site walk over lizard survey at the Awatoto Bridge at the Tutaekuri River Mouth in March 2025. The weather conditions were marginal, and the ground habitat was relatively damp at the time of survey. However, if lizards were present in high abundance it is expected that at least one lizard would have been detected across the project area.

The likelihood of lizards being present is further reduced based on the location of the site within the river flood plain. It is understood floods that cover the banks of the river are extremely rare. However, cyclone Gabrielle impacted the Hawkes Bay in February 2023 and caused widespread flooding and damage particularly along the plains between the Ngaruroro and Tutaekuri Rivers. This resulted in the breach of stopbanks, and the habitat within this area was likely entirely inundated. Therefore, this would likely have resulted in the loss of any lizard population at this site. It has been approximately 2 years since cyclone Gabrielle, therefore it is possible native lizards have moved back into this habitat, and in particular northern grass skink which are considered more mobile.

If this project commences it is recommended that additional lizard survey methodology takes place to better inform the likelihood of lizards being present onsite. This should include the use of gee minnow (funnel traps) and/or pitfall trapping for native skinks, and nocturnal spotlighting for Raukawa gecko during suitable weather conditions.

### *Potential Ecological Effects*

If lizards are present the potential temporary and permanent adverse effects from construction and operation of the stop bank flood management include:

- Modification and loss habitat
- Fragmentation of habitat
- Injury, mortality or disturbance of lizards during earthworks and vegetation removal
- Disturbance from noise, vibration, lighting and dust.

### *Potential Ecological Mitigation to avoid, minimise and remediate*

The following may need to be considered to avoid, minimise and remedy effects on the ecology prior to, during and post construction.

- Habitat creation and enhancement of other nearby habitats not impacted by the works
- Animal pest control
- Vegetation removal protocols: progressing mowing grass to encourage lizards to move away from impact areas to adjacent habitat
- Lizard salvage and relocation

### *Ecological Constraints and Enhancement Opportunities*

#### *National Policy Statement Implications*

National Policy Statement for Indigenous Biodiversity (NPS-IB) gives effect to key policies such as:

- NPS-IB Policy 3: A precautionary approach is adopted when considering adverse effects on indigenous biodiversity.
- NPS-IB Policy 8: The importance of maintaining indigenous biodiversity outside SNAs is recognised and provided for.
- NPS-IB Policy 13: Restoration of indigenous biodiversity is promoted and provided for.

#### *Seasonal Ecological Constraints*

Field surveys to verify species, and habitats present to support resource consent applications may be restricted by ecological seasons. From example, lizards surveys are often completed between September to May during favourable weather conditions (for particular species) as they are more likely to be detected.

The construction activities will also likely need to be restricted by ecological seasons and species confirmed to be present. E.g. timing of earthworks and vegetation removal for both passive management and lizard salvage will likely need to occur during the warmer months (summer and shoulder season).

### *Wildlife Act Authority/Permit*

Native lizards generally are considered to have small home ranges and therefore if present will likely need to be relocated. A specific release site will need to be identified which will likely need to be in close proximity to the site, have protection (e.g. covenant, significant natural area), and will likely require enhancement and animal pest control.

It is noted that native lizards are absolutely protected under the Wildlife Act 1953 from killing or injury. Wildlife permits issued by DOC are required when physically disturbing or relocating wildlife. Wildlife Authorisations are required for carrying out lizard surveys, salvage and relocation. The application process can greatly exceed six months (e.g. 80% of applications completed within eight months during 2022).

### *Enhancement Opportunities*

There are opportunities to enhance nearby habitats that potentially support lizards and/or where lizards could move back into the area in the near future. This could include introduction of numerous cover wood piles and large rocks that would provide additional refuge and invertebrate resources for terrestrial species.

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# Appendix A: Lizard Habitat Site Photos

		
Photo 1: Beach habitat: scattered driftwood east of SH51	Photo 2: Beach habitat: dominated by cobbles east of SH51	Photo 3: South Bank: gravel dominated habitat between the railway bridge and SH51
		
Photo 4: South Bank: vegetation along the water edge east of SH51	Photo 5: South Bank: structural habitat along the water edge east of SH51	Photo 6: South Bank: dense rank grass and native shrubs east of SH51
		
Photo 7: South Bank: dense rank grass and native shrubs east of SH51	Photo 8: South Bank: rank grass west of the railway bridge	Photo 9: South Bank: flowing water isolating habitat west of the railway bridge
		
Photo 10: South Bank: dense rank grass west of the railway bridge	Photo 11: North Bank: dense rank grass and scattered wood west of the railway bridge	Photo 12: North Bank: gravel dominated habitat between the railway bridge and SH51
		
Photo 13: North Bank: driftwood debris under the bridge	Photo 14: North Bank: weed dominated habitat between the railway bridge and SH51	Photo 15: North Bank: rank grass habitat east of SH51

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