

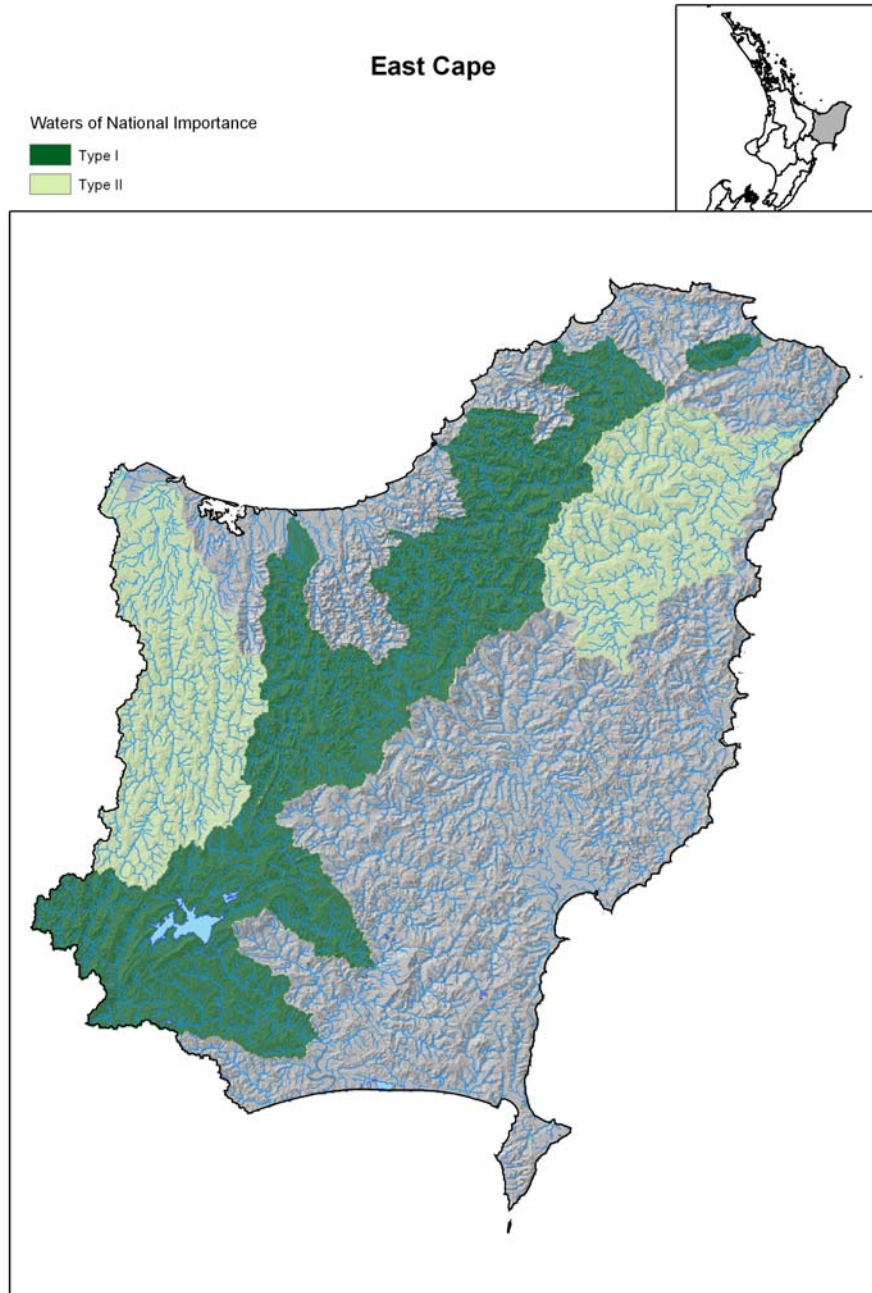
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This unit is centred on the Coromandel Peninsula, extending south to include the Kauaeranga catchment near Thames in the west, and to the northern end of Waihi Beach in the east. Several islands are included in this unit, i.e. the small islands of the eastern Hauraki Gulf, Great and Little Barrier Islands, Cuvier Island, The Mercury and Alderman Islands, and Slipper Island. Larger islands (Great and Little Barrier, Great Mercury) have significant freshwater streams.

Much of the unit is composed of andesitic rocks dating from the Miocene. Catchments are typically small and steep with only a few larger rivers having well developed flood plains in their lower reaches (Leathwick et al. 2003). *Gobiomorphus basalis* is the only non-diadromous fish species present. Terrestrial evidence corroborating the distinctive character of this unit includes the occurrence of three endemic plants and at least two large endemic invertebrates restricted to Moehau (J. Roxburgh pers. comm.), and the distinctive genetic character of North Coromandel/Great Barrier populations of Hochstetter's frog *Leiopelma hochstetteri* (Gemmell et al. 2003).

Streams of Great Barrier and Coromandel are relatively unmodified and have healthy stocks of banded kokopu, and rich and diverse invertebrate and algal communities. For instance, Towns (1987) recorded 24 species of mayfly from lowland forested streams on Great Barrier Island.

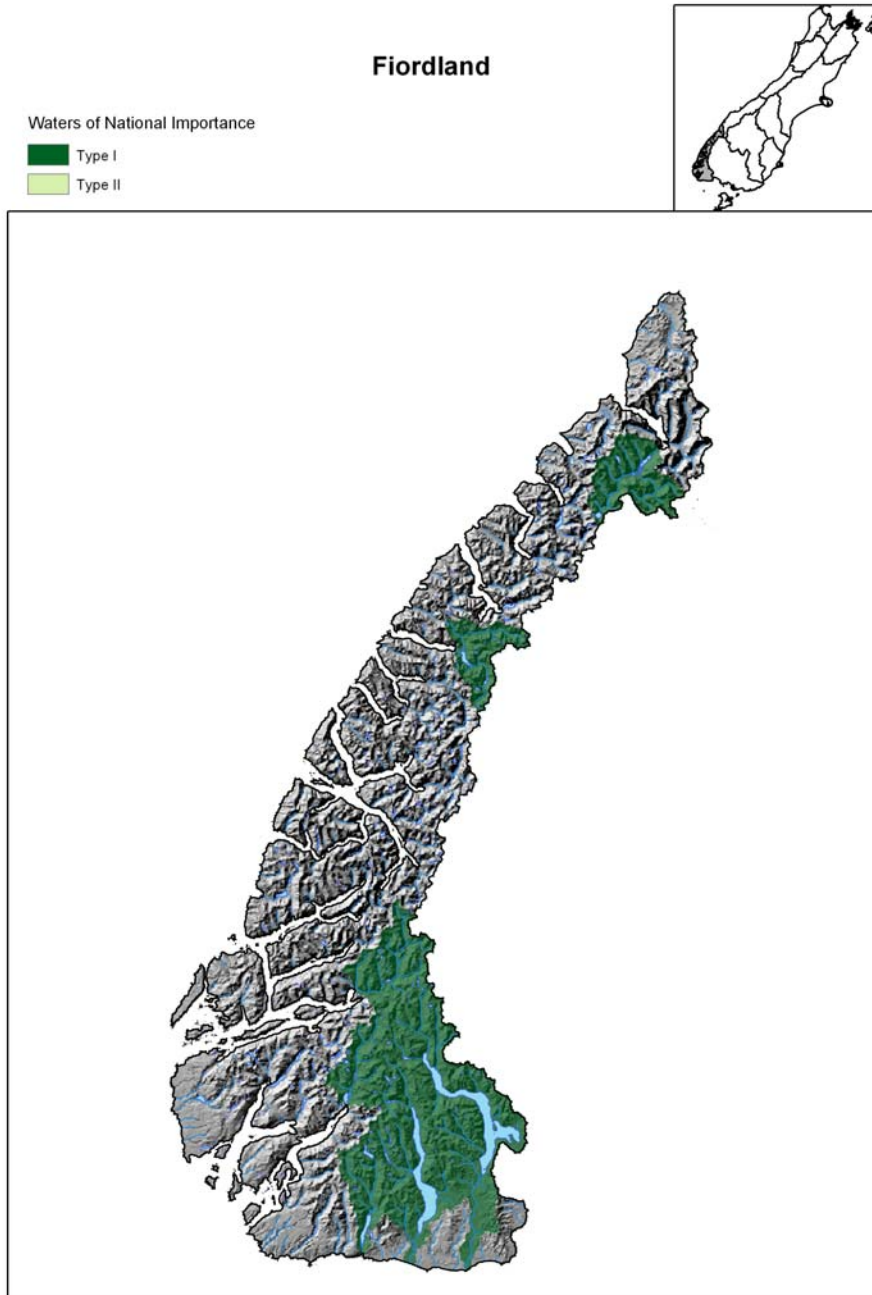
Coromandel										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (37)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
790	Kaitoke Creek	I	1.239	0.212	6	16.2	2788.7	89.5	78.3	T10, highly natural, teal
3649	North East Tutaweka	I	1.226	1.056	1	18.9	152.0	100.0	100.0	T10, highly natural, distinctive, frog
500	Waiharakeke Stream	I	1.095	0.108	12	37.8	7096.4	73.9	62.9	T10, frog
599	Manaia River	I	0.977	0.151	10	43.2	4793.0	94.0	54.5	T10, frog
2970	East Tataweka	I	0.938	0.950	2	45.9	213.7	100.0	99.9	T10, highly natural, distinctive, frog
484	Wangamaroro River	I	0.899	0.109	10	48.6	7640.5	86.8	59.4	T10, frog
389	Kauaeranga River	I	0.786	0.219	12	51.4	12875.0	87.2	78.5	T10, threatened fish, frog
1963	West Tataweka	I	0.765	0.800	3	54.1	466.6	97.6	100.0	T10, highly natural, distinctive, frog
296	Tairua River	I	0.605	0.111	16	56.8	22338.4	74.8	57.7	Frog
1449	Tuateawa Creek	I	0.557	0.288	6	62.2	871.4	98.4	75.7	Highly natural, frog
1135	Stony Bay catchment	I	0.413	0.691	7	70.3	1364.7	96.2	97.0	Frog
1454	Okanutahi Stream	I	0.296	0.426	7	75.7	870.2	94.6	61.5	Teal, frog
1445	Mangatu-Mataiterangi streams	I	0.272	0.366	7	81.1	873.5	95.3	59.8	Frog



The rivers and streams in this unit drain steep, dissected hill country formed from ancient Mesozoic greywacke, sandstone and siltstone in the west, as well as younger Tertiary siltstone, sandstone and mudstone in the east (Leathwick et al. 2003). Although the biota of East Cape's streams are poorly documented, populations of Hochstetter's frog (*Leiopelma hochstetteri*) in the East Cape region are genetically distinct from those elsewhere in the upper North Island (Gemmell et al. 2003), suggesting that the area may also contain endemic stream invertebrate or algal species. One species of caddisfly, *Tiphobiosis schmidi*, that appears to be endemic to East Cape, has been recorded (Collier et al. 2002). The unit has suffered periodic disruption by tephra ejected during rhyolitic eruptions from the Taupo Volcanic Zone. The cumulative depth of tephra deposited over the last 50,000 years decreases from approximately 10 m in the headwaters of the Whakatane River to less than 50 cm towards East Cape (Leathwick et al. 2003). This recurrent disturbance history has probably contributed to the paucity of non-diadromous fish species (McDowall 1995, 1996), with only *Gobiomorphus basalis* present.

The unit contains some of the last remaining New Zealand river systems that are entirely free of introduced fish species. The most noteworthy of these is the Haparapara River. The Motu River is the highest ranked river in the North Island, by heritage value score.

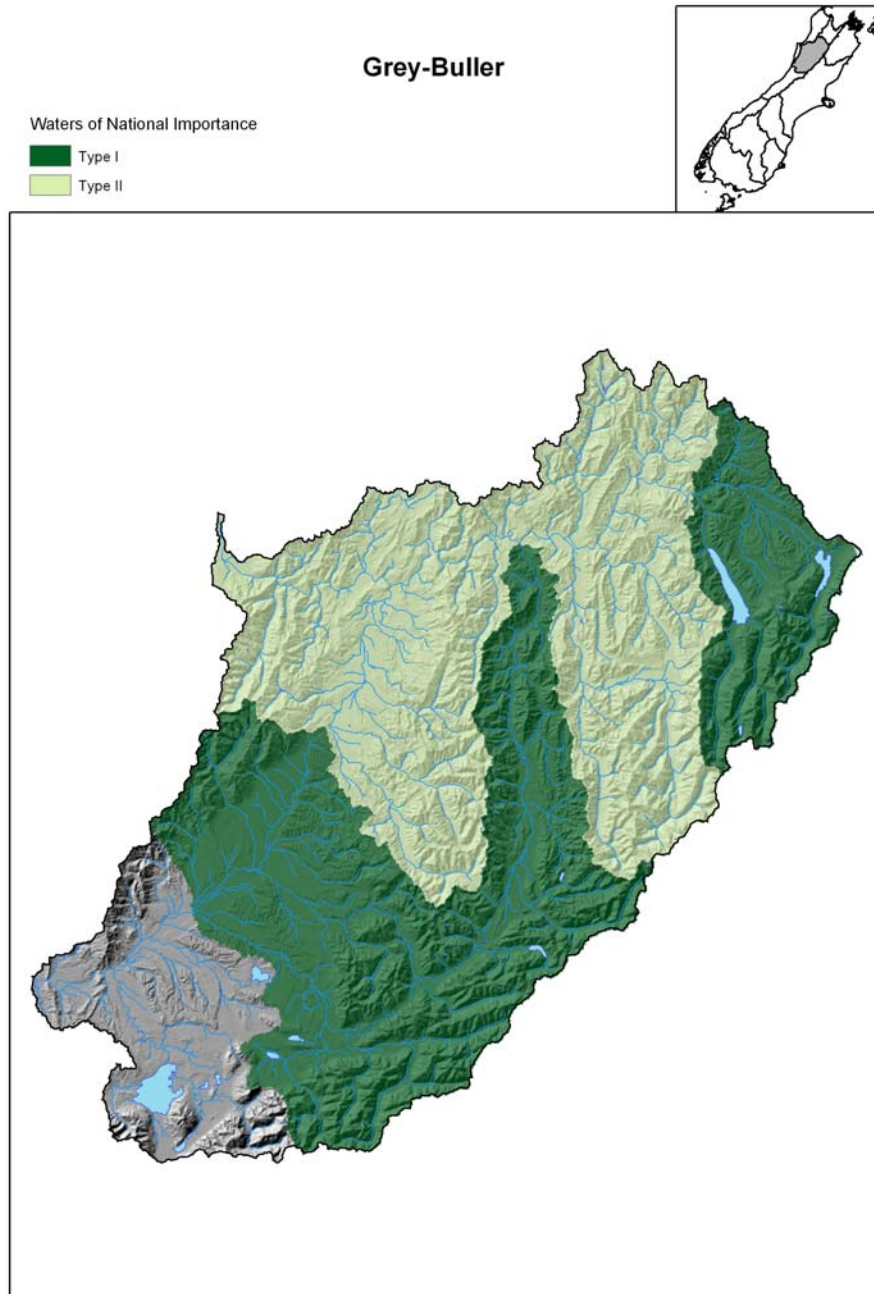
East Cape										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (98)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
339	Haparapara Stream	I	0.859	0.493	12	12.2	16795.5	92.2	30.5	T10, highly natural, frog, no introduced fish
229	Raukokore River	I	0.990	0.376	29	29.6	35367.9	84.1	50.3	T10, B.Duck, frog, highly natural
63	Motu River	I	0.956	0.438	40	54.1	138245.9	76.5	48.5	T10, B.Duck, frog
112	Waioeka River	I	0.801	0.359	39	61.2	83822.0	78.0	68.9	T10, B.Duck, frog
171	Ruakituni River	I	0.376	0.282	45	71.4	52254.4	59.6	52.7	T10, B.Duck
474	Karakatuwhero River	I	0.098	0.286	22	71.4	7876.8	60.4	38.6	Frog
60	Waiiau River (Hawke Bay)	I	0.386	0.100	68	88.8	141061.1	69.1	57.2	T10, B.Duck, Lakes Waikaremoana and tribs
48	Whakatane River	II	0.252	0.325	37	90.8	173283.0	87.7	56.2	T10, highly natural headwaters
53	Waiapu River	II	0.024	0.225	52	95.9	157544.6	42.5	17.4	Frog



This unit extends from just north of Milford Sound south to Long Sound, and east to the start of Te Waewae Bay. The underlying geology of most west coast streams is hard igneous rock, whereas softer mudstones of recent marine terraces are more prevalent in the lower reaches of those on the south coast. Numerous islands are included in this unit, the largest of which are Secretary and Resolution Islands. All rivers arise from highly natural catchments, with only streams in Milford and Doubtful Sounds having any significant anthropogenic influences. The unit also contains the three largest lakes in New Zealand that are free of introduced invasive macrophyte species and still contain intact native macrophyte communities: Lakes Hauroko, Hakapoua and Poteriteri. The absence of introduced macrophytes makes these lakes nationally significant. They also contain some of the largest unfished stocks of longfin eel remaining in New Zealand and are therefore important for the long-term survival of this endemic species (Graynoth & Niven 2004).

This unit includes one of two South Island regions reported as having a high richness of stoneflies (McLellan 1990), and also supports a number of caddisflies of restricted geographic range. *Paranephrops zealandicus* replaces *P. planifrons* as the freshwater crayfish species in this unit. Further evidence of local endemism is provided by genetic studies of a widespread southern South Island freshwater isopod *Austridotea lacustris*, that indicate that the Fiordland populations are distinct from populations on Stewart Island, Southland, Chatham and Campbell Islands (Chadderton et al. 2003b; M. Stevens pers. comm.). Non diadromous fish are absent from this unit.

Fiordland										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (97)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
355	Big River	I	3.119	0.175	21	21.6	15264.1	100.9	100.0	T10, B.Duck and flood forest, Nat.Sign. lakes, threatened fish
334	Stillwater River	I	1.900	0.172	18	26.8	17477.4	101.8	100.0	T10, B.Duck and flood forest
136	Wairaurahiri River	I	1.803	0.303	56	62.9	70858.0	102.2	99.2	T10, B.Duck and flood forest, Nat.Sign. lakes, threatened fish
191	Waitutu River	I	1.680	0.085	40	64.9	46960.4	101.4	99.7	T10, B.Duck and flood forest, Nat.Sign. lakes, threatened fish
280	Arthur River	I	1.576	0.241	32	73.2	24708.1	113.8	100.0	T10, B.Duck and flood forest
342	Long Burn	I	1.148	0.139	28	77.3	16633.1	103.4	100.0	T10, B.Duck and flood forest
279	Seaforth River	I	1.042	0.259	36	79.4	24727.3	106.5	100.0	T10, B.Duck and flood forest

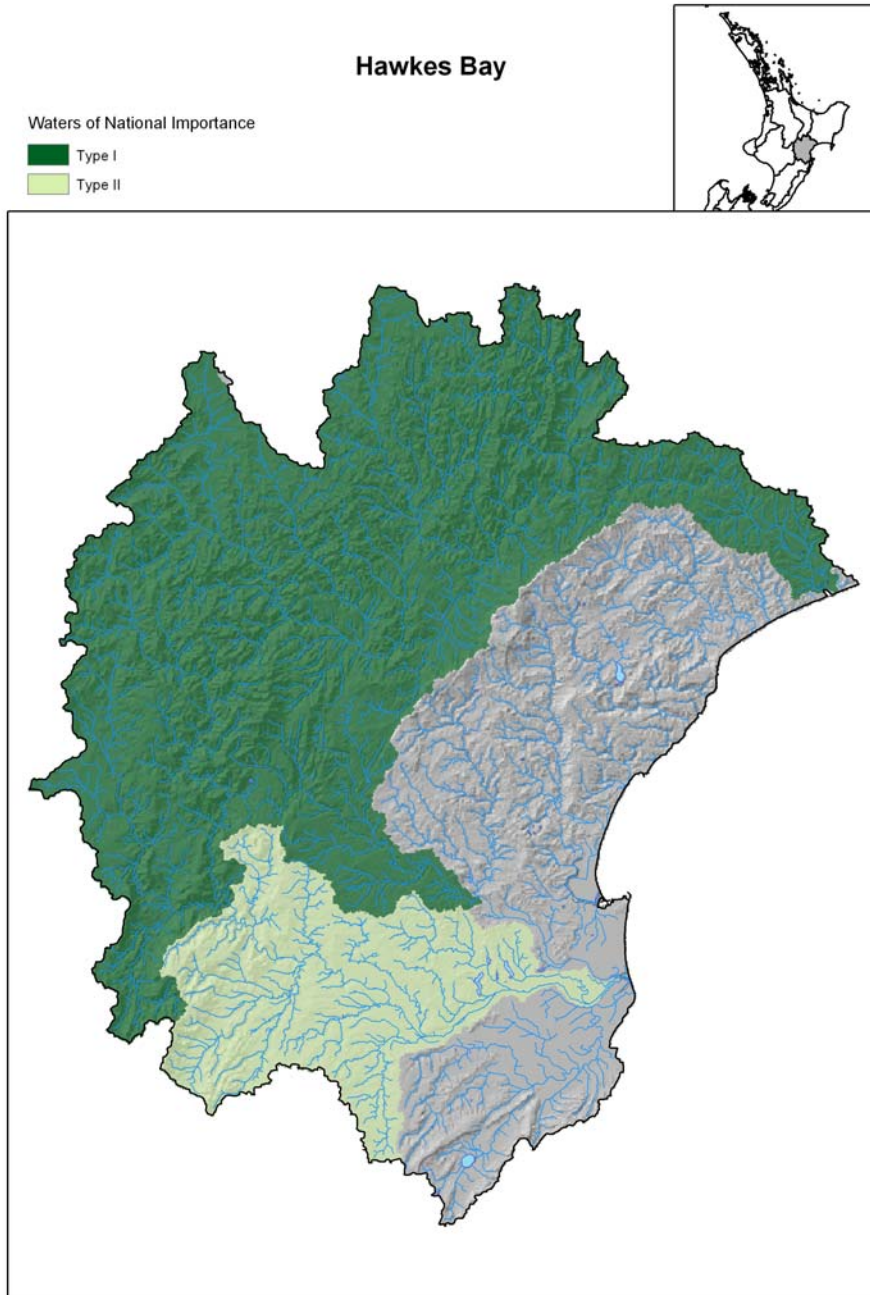


This unit encompasses the two most geographically extensive river systems of the South Island's West Coast, that flow from glacially sculpted, sometimes lake-fed headwaters, through extensive lowland deposits of glacial till and alluvium. Six non-diadromous fish species occur in this unit, whereas—apart from brown mudfish (*Neochanna apoda*)—only diadromous fish species are present in rivers further south in Westland and Fiordland (Main 1989). This is believed to reflect the lesser impacts of glaciation, perhaps combined with the presence of more extensive lowland streams and rivers capable of providing refugia during glacial maxima (Leathwick et al. 2003). *Galaxias divergens* and *Gobiomorphus breviceps* are widespread, but *Galaxias vulgaris*, *G. prognathus* and *G. paucispondylus* occur at only a few sites in the east in the headwaters and upper reaches of the Maruia River. These species are not present elsewhere on the west coast of the South Island. Although the isolated outlier of *Galaxias vulgaris* has been interpreted as indicating historic linkages with Marlborough populations of this species, probably in the vicinity of Nelson Lakes (Waters & Wallis 2000), Soons (1982) argues for historical connection of the Maruia headwaters with the upper Lewis, a tributary of the Waiau River (Leathwick et al. 2003).

The Buller catchment contains nationally important populations of longfin eels and the wider river catchment was the second-highest ranked river in New Zealand by natural heritage score. The lower main stem contains reaches that are of national significance, and the entire catchment is the best remaining New Zealand example of a large unregulated river.

The upper Grey River is also highly natural and contains three nationally significant lakes: Lake Christabel is one of only three New Zealand lakes designated as freshwater reserves under the Freshwater Fisheries Regulations (Faunistic reserves) due the absence of introduced fish. Lakes Ahauru and Haupiri were listed by Cromarty & Scott (1996) as wetlands of national importance.

Grey-Buller										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (105)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
49	Grey River headwaters	I	1.309	0.130	73	69.5	169874.5	86.9	78.7	T10, Nat.Sign. lakes in headwaters
87	Maruia River	I	1.153	0.092	62	81.0	104664.2	87.6	76.8	T10, B.Duck, threatened fish
154	Upper Buller River	I	0.814	0.233	40	84.8	60158.5	83.5	73.0	T10, B.Duck, threatened fish
101	Ahaura River	I	0.680	0.223	55	88.6	91351.8	94.9	88.9	T10, B.Duck, threatened fish
208	Gowen River	I	0.624	0.358	30	91.4	41432.0	96.1	93.2	T10, B.Duck, threatened fish, Nat.Sign. lake
6	Buller River	II	5.941	0.082	94	98.1	637954.8	90.0	82.0	Second-ranked NZ catchment: Threatened fish (whole catchment)

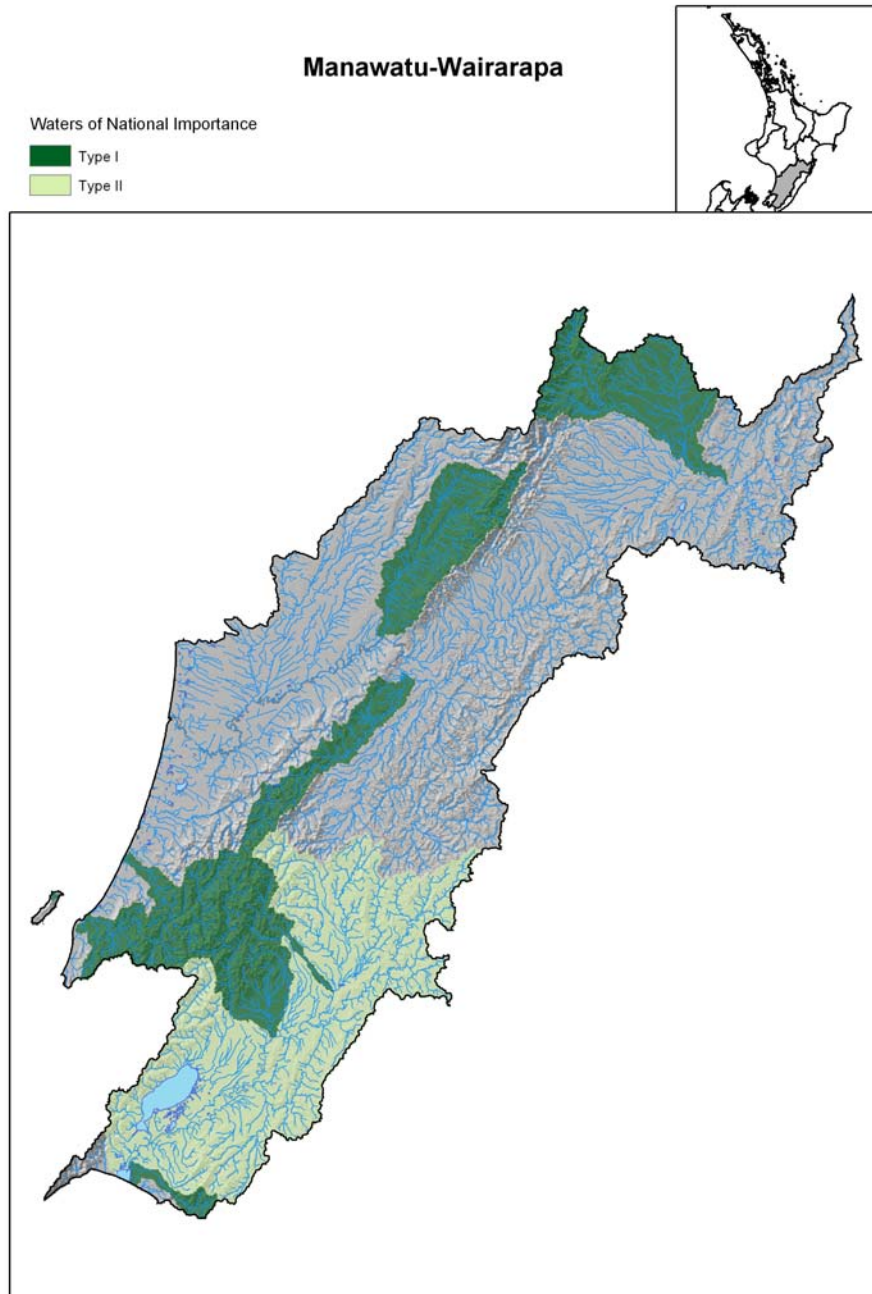


This unit is dominated by the Mohaka and Ngaruroro Rivers, whose headwaters arise in the older greywacke rock of the Kaimanawa, Kaweka and Ruahine Ranges. Headwater streams received moderate to deep deposits of rhyolitic flow material (e.g., Wai-tu-pirita, Oamaru, Waipunga) during the Taupo eruption of around AD 181. Three species of non-diadromous fish (*Galaxias divergens*, *Gobiomorphus breviceps* and *G. basalis*) occur only infrequently.

The southern limit of this unit broadly coincides with major changes in caddisfly assemblages and the southern limits of several mayfly species (Henderson 1985; Hitchings 2001; Leathwick et al. 2003).

Headwaters of the Mohaka River arise from both the Kaweka and Urewera Forest Parks and are highly natural. The river offers a wide diversity of river classes.

Hawkes Bay										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (103)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
80	Mohaka headwaters	I	0.149	0.198	38	36.9	112482.8	65.9	32.1	T10, highly natural headwaters, B.Duck
183	Ngarururo River tributaries	I	0.491	0.319	28	43.7	48217.6	100.0	57.9	T10, highly natural headwaters, B.Duck
34	Mohaka River	I	0.227	0.173	59	64.1	243500.8	67.1	29.4	T10, highly natural headwaters, B.Duck, threatened fish
182	Taruarau River	I	0.113	0.164	35	68.0	49478.9	69.2	15.0	T10, B.Duck
206	Tutaekuri River	I	0.029	0.156	43	70.9	41490.2	38.9	27.5	T10, B.Duck
43	Ngaruroro River	II	0.074	0.106	81	88.3	200925.7	53.4	24.9	T10, B.Duck, threatened fish



This extensive unit is dominated by large river systems that have at least some tributaries that arise in steep upper catchments of the Ruahine, Tararua and Rimutaka Ranges formed from uplifted Mesozoic greywacke. Other tributaries drain extensive lowland alluvial plains. The largest catchments are the Tukituki draining into Hawke Bay; the Manawatu, Ohau, Otaki and Waikanae Rivers draining into the Tasman Sea, and the Ruamahanga River and its tributaries that flow into Palliser Bay. The non-diadromous fish fauna is one of the more diverse in the North Island, consisting of *Galaxias divergens*, *Gobiomorphus breviceps*, *G. basalis* and *Neochanna apoda* (Leathwick et al. 2003).

Past linkages between the Tukituki, Manawatu and Ruamahanga Rivers are reflected in genetic similarities between their current populations of *Galaxias divergens* (Allibone 2002) and *Gobiomorphus breviceps* (P. Smith pers. comm.). The Rimutaka and southern Tararua ranges were identified by Henderson (1995) as a centre of caddisfly diversity.

Manawatu-Wairarapa										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (89)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
2897	Waiorua Stream	I	0.435	0.682	3	3.4	223.7	96.3	69.7	T10, threatened plant
231	Otaki River	I	0.361	0.471	22	24.7	34958.3	88.3	78.9	T10
361	Mangatainoka River	I	0.185	0.347	18	28.1	14965.7	72.4	66.0	T10
496	Turanganui River	I	0.153	0.309	17	32.6	7286.6	56.0	50.7	T10, threatened plant and fish
217	Raumahanga / Waingawa River	I	0.130	0.221	29	38.2	39312.6	63.3	55.4	T10
354	Waikanae - Ngatiawa	I	0.078	0.369	23	43.8	15326.9	54.6	21.2	Threatened plant
244	Mangahao River	I	0.034	0.282	31	47.2	32954.5	57.2	49.3	
162	Pohongina River	I	0.023	0.244	41	60.7	55089.7	41.4	0.0	B.Duck, Headwaters - Ruahine ranges
137	Waipawa River	I	0.014	0.174	53	76.4	70509.3	27.6	20.3	B.Duck
22	South Wairarapa basin	II	0.032	0.101	52	89.9	336001.9	32.4	23.5	Lake Wairarapa, Lake Ponui, Oneke Lagoon, Nat.Sign.bird pops, threatened plants

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