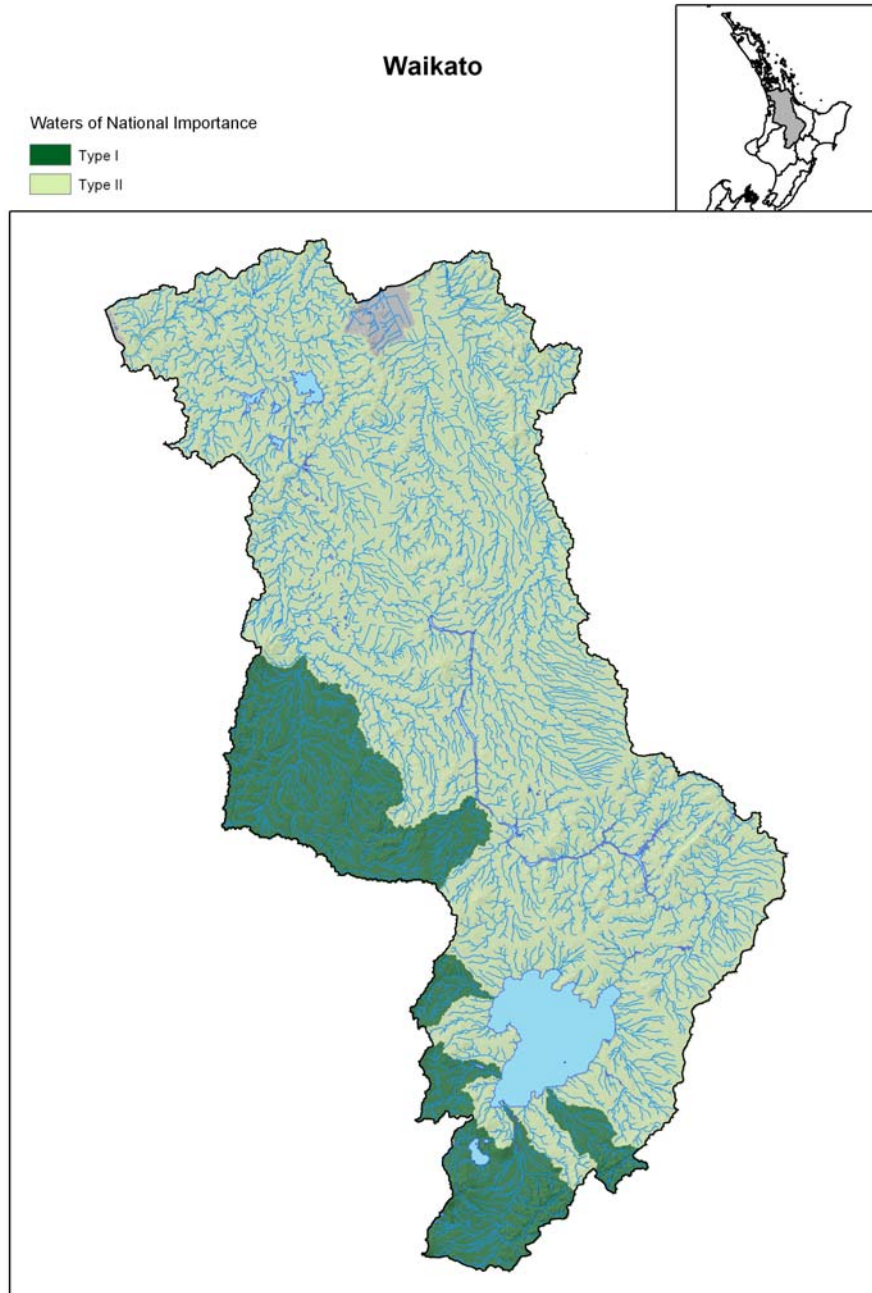


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This unit comprises the streams and small rivers that drain the andesitic strato-volcanoes of Taranaki, Pouakai and Kaitake and their surrounding ring-plain (Leathwick et al. 2003). Two sub-catchments (Patea River and Manganui, a tributary of the Waitara River) are included in this unit. They are subdivided to differentiate sub-catchments draining the volcanic ring plain, from the one draining dissected hill country to the east. Headwater streams generally begin in the native forests of the National Park. Taranaki populations of the mayfly *Acanthopplebia cruentata* show distinct DNA haplotypes from those found in Waikato populations (P. Smith pers. comm.). The unit is noteworthy for the presence of significant stocks of threatened short-jawed kokopu, one of the most notable being the Katikara Stream. The unit also contains important populations of blue duck.

Taranaki										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (34)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
1899	Wairau Stream	I	0.062	0.795	2	5.9	503.7	58.7	65.7	T10
623	Oakura River	I	0.057	0.514	9	26.5	4464.9	61.8	47.8	T10 and threatened fish
377	Waiwhakaiho River	I	0.010	0.275	19	58.8	13589.2	33.1	28.5	T10, B.Duck, threatened plant
634	Punehu Stream	I	0.003	0.185	11	58.8	4247.4	27.3	25.3	B.Duck, threatened plant
259	Manganui River	I	0.002	0.122	24	76.5	29502.1	21.7	18.0	T10 and B.Duck
894	Katikara Stream	I	0.001	0.338	8	76.5	2273.0	22.6	16.5	Threatened fish
682	Taungatara Stream	I	0.001	0.216	12	79.4	3733.7	25.3	19.9	
775	Te Henui Stream	I	0.000	0.316	12	85.3	2905.9	22.5	9.6	
368	Kaupokonui Stream	I	0.000	0.148	16	88.2	14629.2	19.6	18.3	



The Waikato unit consists of the Waikato, Waihou and Piako catchments, all of which have been subject to major impacts from rhyolitic eruptions (Leathwick et al. 2003). However, all three river systems have lower tributaries (e.g., the Waipa flowing into the Waikato) that are either more distant from eruption sources, and/or which have been minimally affected by water-transported eruption debris. These are therefore likely to have provided refugia during periods of otherwise widespread catastrophic devastation (McDowall 1995, 1996). The population of *G. divergens* in the Waihou River catchment provides possible evidence of past refugia.

Populations of the caddisfly *Orthopsyche fimbriata* collected within this unit were genetically distinct from those in Northland (Smith & Collier 2001). More recent evidence from the mayfly *Acanthophlebia cruentata* suggests a similar pattern, with Waikato populations distinct from those in Auckland (Waitakere Ranges), Bay of Plenty and Mokau (P. Smith pers. comm.).

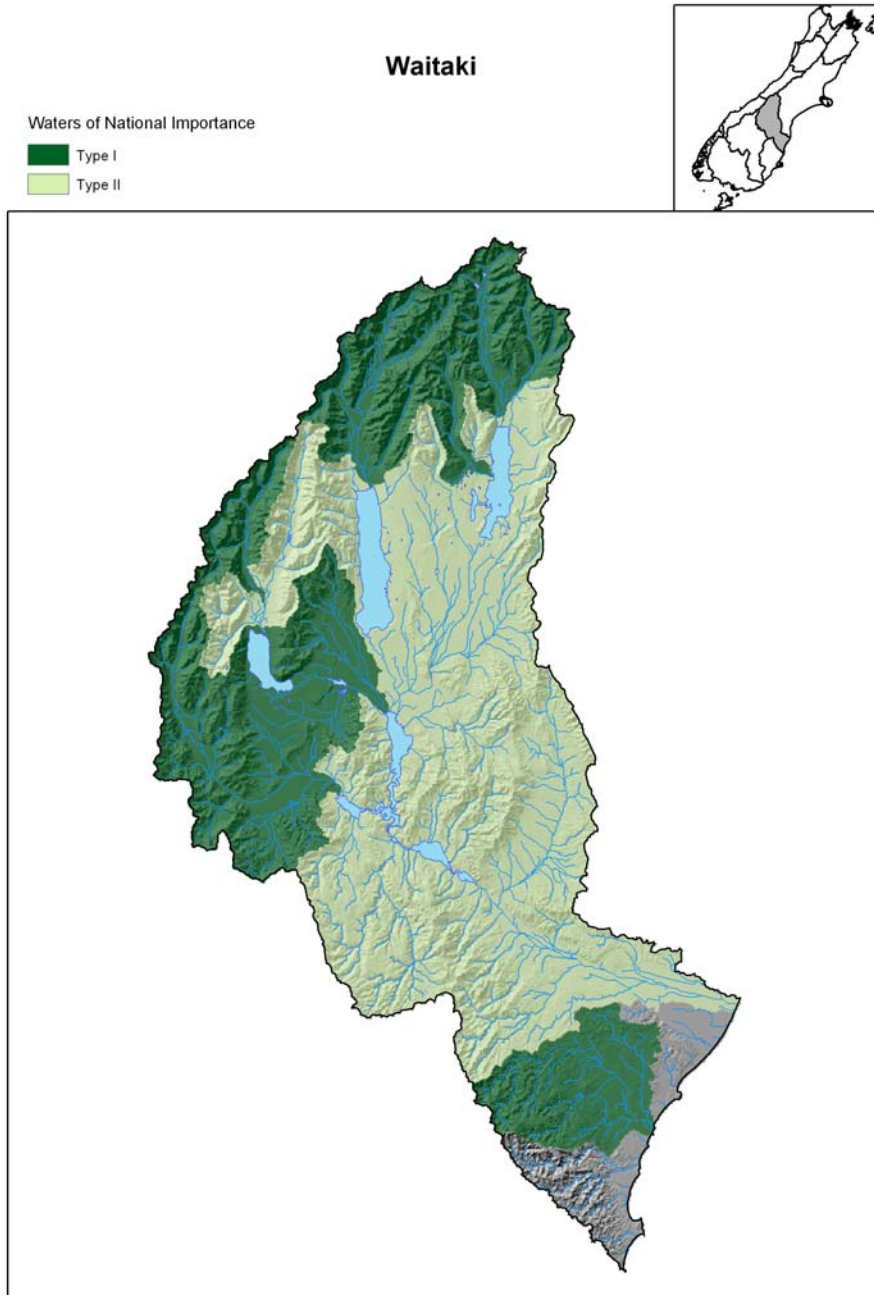
The Lower Waikato River is a nationally unique river type (anastomising: Rosgen 1994) that was recognised by Cromarty & Scott (1996) as internationally significant. Key features include remnant flood plain kahikatea forest (some of the largest tracks on the west coast of North Island), and significant populations of waterfowl and native fish, including populations of giant kokopu and longfin eels. Its general biology is, however, poorly studied. The lower river is also connected to the Whangamarino wetland, a RAMSAR site (internationally important wetland) and the second-largest swamp bog complex remaining in New Zealand (Cromarty & Scott 1996). Inclusion of the Waikato River recognises the importance of the lower river below Rangariri. Important headwater tributaries are identified separately, as is the Whangamarino-Maramaua sub-catchment: it contains the Whangamarino Swamp.

The Piako catchment is identified because it provides a buffer/connectivity function to Kopuatai Peat Dome. This is New Zealand's largest and least disturbed raised bog complex that has been designated as a RAMSAR wetland of international significance (Cromarty & Scott 1996). It flows into the Firth of Thames, another RAMSAR wetland. The Waihou is the largest

Waikato										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (93)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
299	Tauranga Taupo River	I	0.270	0.323	26	28.0	21749.8	68.0	31.9	T10 and B.Duck
356	Waihaha River	I	0.189	0.423	9	29.0	15238.7	88.0	84.5	T10 and B.Duck
120	Tongariro River	I	0.141	0.353	35	43.0	80167.0	81.5	62.3	T10 and B.Duck and Nat.Imp.Site
302	Waipapa River	I	0.076	0.249	14	46.2	21448.0	57.4	48.9	T10 and B.Duck
316	Kuratau River	I	0.004	0.429	11	47.3	19836.7	37.2	16.5	
52	Waipa River	I	0.001	0.212	47	76.3	158951.7	22.5	8.7	Headwaters include Waitomo Limestone Streams, B.Duck, largest unregulated Waikato River tributary
45	Waihou River	II	0.005	0.200	27	76.3	197474.6	29.3	22.4	Forested headwaters
122	Whangamarino River	II	0.001	0.316	43	87.1	79969.1	25.7	8.4	Whangamarino Wetland RAMSAR site
57	Piako River	II	0.001	0.291	26	88.2	147878.7	11.9	9.4	Kopuatai Peat Dome RAMSAR site
2	Waikato River	II	0.015	0.104	93	100.0	1444428.9	27.7	12.2	T10 and Nat.Imp.Site. (Mouth of Waikato - nationally unique), threatened fish and birds

river that flows into the Firth, which is fed by a number of reasonably intact tributaries that drain the Coromandel and Kaimai Forest Parks.

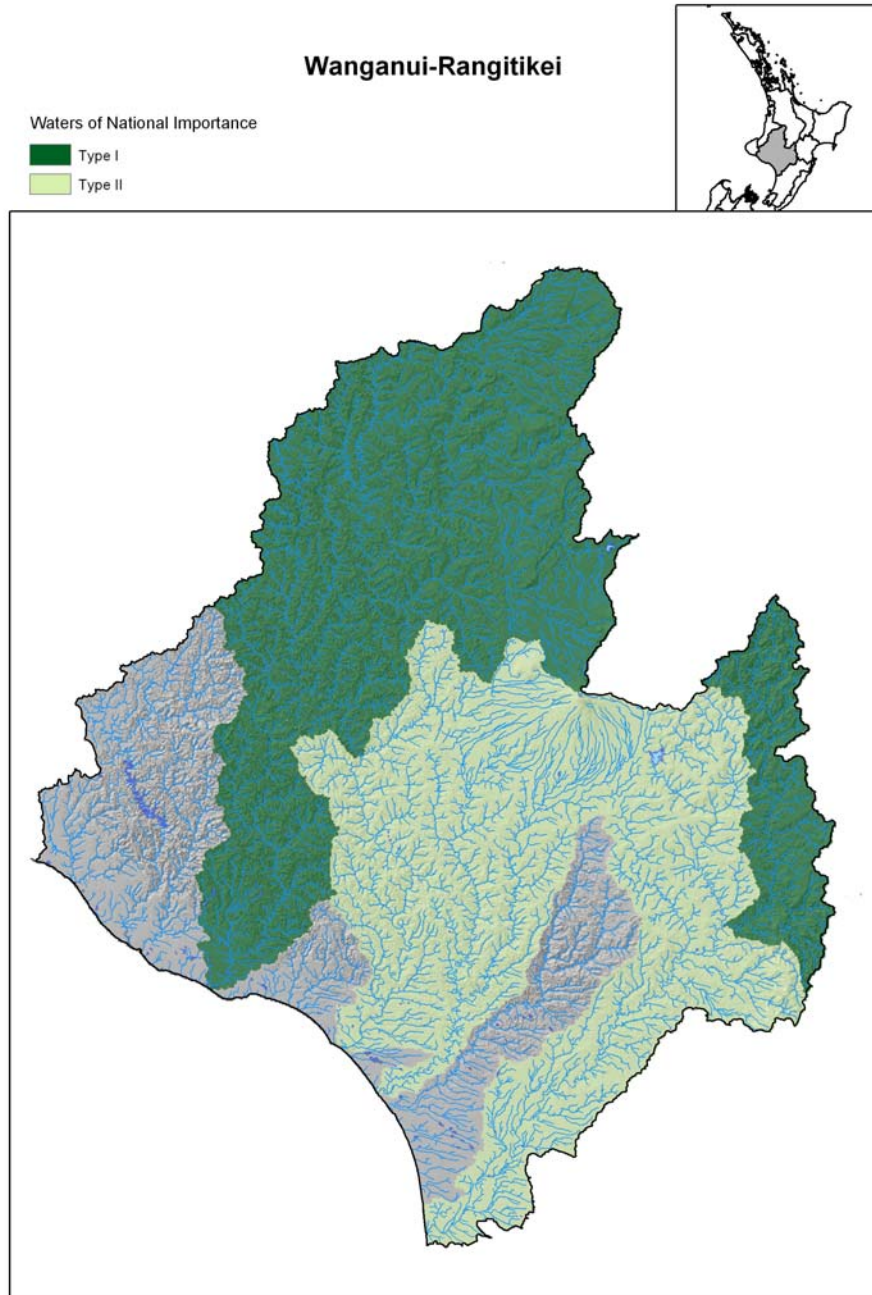
Headwaters of the Waipa include the Waitomo River system, a major limestone, and cave and karst river system. It also includes various tributaries that drain Pureora Forest Park, and river environment classes that appear to be unique to this system within the Waikato biogeographic unit. It is also significant as the largest unregulated river in the Waikato Basin.



This unit includes the main Waitaki River catchment, plus smaller coastal rivers draining into the Pacific Ocean as far south as Shag Point.

Two recently described non-migratory fish species, *G. macronasus* and *G. cobitinus*, are endemic to this unit (McDowall & Waters 2002, 2003). The Waitaki Basin is also the last refuge for the nationally critical black stilt (*Himantopus novaeseelandiae*). The braided rivers and river deltas within the basin are nationally important habitats for numerous bird species including the black stilts, and other threatened endemics like wrybill (*Anarhynchus frontalis*) and black-fronted terns (*Chlidonias albobriatus*). Wetland and lacustrine complexes within the Basin also provide important habitats for black stilts, crested grebe (*Podiceps cristatus australis*), Australasian bittern (*Botaurus poiciloptilus*) and various threatened plant species.

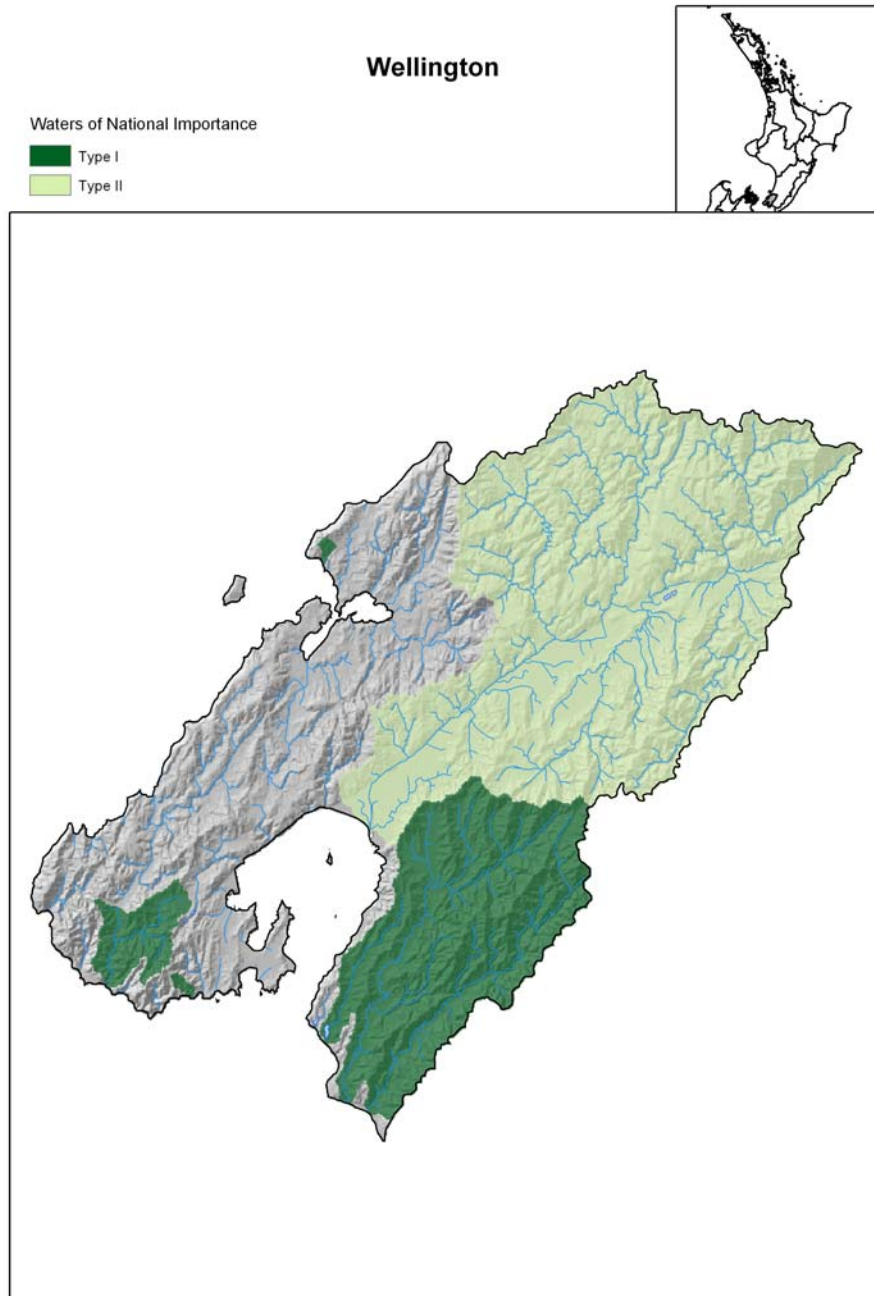
Waitaki										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (105)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
115	Tasman River	I	0.165	0.382	36	34.3	82349.1	91.2	73.8	T10, highly natural, threatened birds
238	Huxley River	I	0.103	0.386	30	35.2	33856.7	92.8	64.2	T10, threatened birds
146	Godley River	I	0.098	0.331	30	36.2	64350.5	88.9	71.3	T10, highly natural, threatened birds
176	Ohau River	I	0.039	0.274	39	50.5	51000.2	53.2	14.8	T10, threatened fish, birds
230	Twizel River	I	0.033	0.302	25	52.4	35299.7	41.9	35.0	Threatened fish, birds
288	Cass River	I	0.033	0.353	21	52.4	23198.7	70.1	35.0	T10 and threatened birds
68	Ahuriri River	I	0.003	0.253	52	61.0	131203.3	29.9	8.2	Threatened fish, birds
105	Kakanui River	I	0.002	0.337	42	83.8	89519.3	7.9	0.1	Threatened fish, birds
56	Tekapo River	II	0.013	0.448	46	86.7	151359.4	48.2	8.1	Threatened fish, birds
3	Lower Waitaki	II	0.121	0.010	99	98.1	1188774.1	37.5	20.3	T10, threatened birds, plants and fish



The Wanganui-Rangitikei unit encompasses rivers and streams draining into the South Wanganui Bight from the eastern margins of the Taranaki ring-plain to the Rangitikei River. Larger rivers such as the Rangitikei, Wanganui, Waitotara, and Patea, arise in the hill country around the western and southern margins of the volcanic plateau. However, a number of these rivers have lower reaches and/or tributaries that arise in younger sedimentary rocks of the Tertiary and Lower Quaternary, below the Volcanic plateau. These would probably have provided refugia for some freshwater biota during the volcanic disturbances (Leathwick et al. 2003).

The southern limit of this unit broadly coincides with major changes in caddisfly assemblages and the southern limits of several mayfly species (Leathwick et al. 2003). The brown mudfish *Neochanna apoda* occurs in the lower Rangitikei and *Galaxias divergens* is recorded from the upper reaches of catchments draining the western side of the Ruahine Ranges. The Whangaehu River is nationally unique because of its heavy geothermal influences.

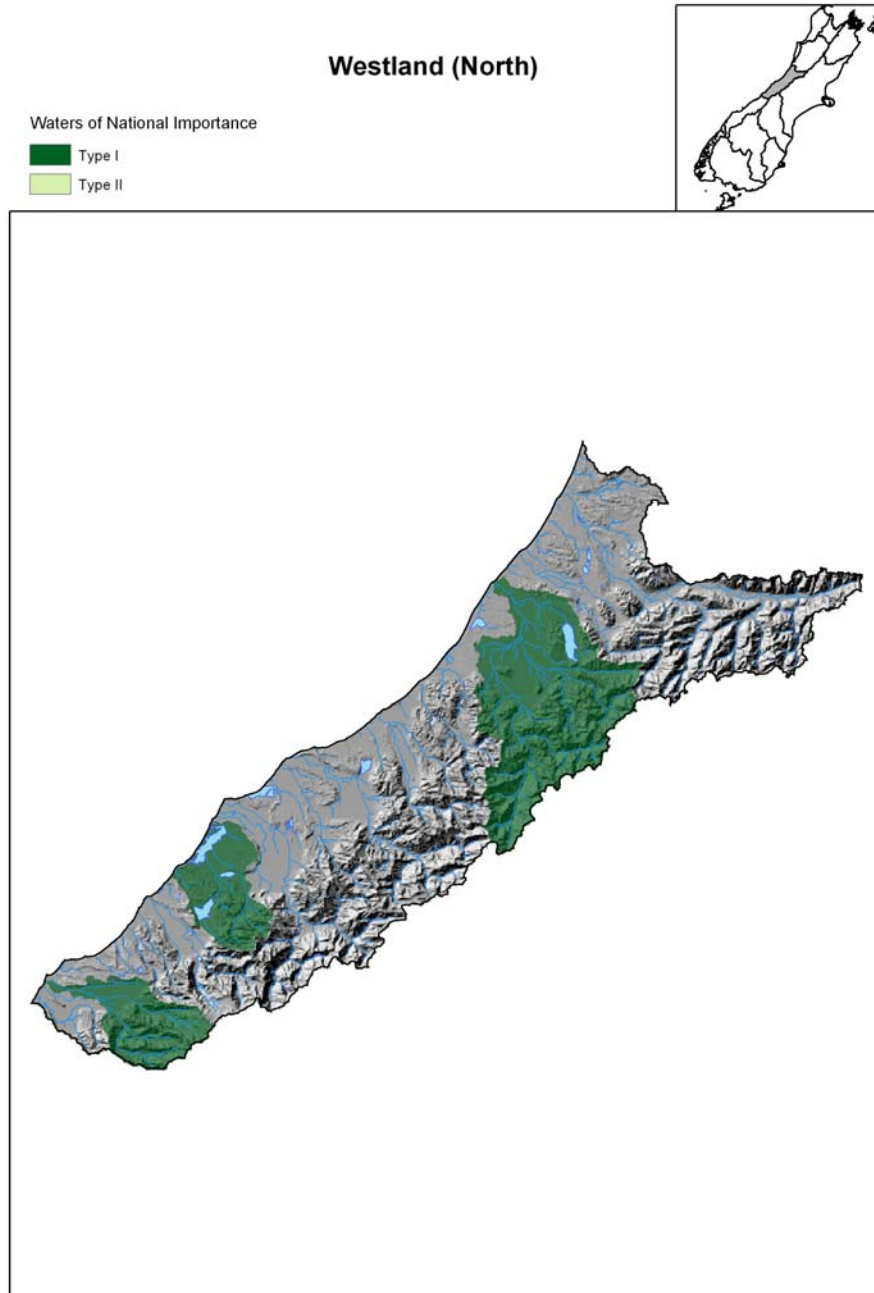
Wanganui-Rangitikei										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (96)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
150	Tangarakau River	I	0.249	0.242	38	39.6	62403.8	71.8	46.9	T10
289	Whangamomona River	I	0.194	0.363	19	40.6	23160.0	79.1	57.4	T10
97	Whanganui River Headwaters	I	0.149	0.285	27	57.3	95677.6	65.7	51.2	T10, B.Duck, threatened plants and fish
12	Whanganui River upper	I	0.157	0.097	63	65.6	520303.7	54.5	36.8	T10, B.Duck, threatened plants and fish
88	Rangitikei River Headwaters	I	0.116	0.262	42	82.3	104310.4	62.9	30.6	T10, B.Duck, Moawhanga Gorge
75	Waitotara River	I	0.110	0.412	28	88.5	116196.4	69.1	33.1	T10, B.Duck, threatened plants and birds
15	Rangitikei River	II	0.079	0.156	78	97.9	392454.8	38.1	13.2	T10, B.Duck, threatened plants and birds
44	Whangaehu River	II	0.013	0.159	51	97.9	198908.8	26.3	12.0	Geothermal influence, highly natural headwaters. Threatened plants and birds
5	Whanganui River	II	0.258	0.092	66	99.0	711429.2	55.4	34.3	B.Duck, threatened plants, and birds



This unit comprises the hill country of Wellington and the southern parts of the Tararua Ranges, the largest catchments being the Hutt, Wainuiomata and Orongorongo Rivers. Mana and Matiu/Somes Islands are also included in this unit. Populations of *Gobiomorphus breviceps* and *Galaxias divergens* are genetically distinct from populations in the Manawatu-Wairarapa unit (Allibone 2002; P. Smith pers. comm.). Henderson (1995) identified the Rimutaka and southern Tararua Ranges as a centre of caddisfly diversity. Gollans Stream is notable for the presence of one of the Pencarrow lakes, extensive wetlands and giant kokopu. The Pencarrow Lakes are significant for their intact native macrophyte communities and absence of significant invasive macrophyte species.

The Hutt River is the most diverse river system within the unit, and its headwaters above Kaitoke Weir are almost entirely within native forest of the Tararua Ranges. Brown trout, although present, do not appear to be abundant in headwater streams, and populations of threatened short-jawed kokopu continue to persist.

Wellington										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (34)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
445	Orongorongo River	I	0.747	0.449	9	26.5	9427.2	96.0	46.5	T10, threatened plants, highly natural
3577	Stream west of Happy Valley Stream	I	0.097	0.722	1	26.5	157.4	82.9	0.0	T10, highly natural
381	Wainuiomata River	I	0.090	0.158	13	47.1	13380.8	80.1	13.7	T10
3860	SE Mt Porirua 261 m	I	0.032	0.561	3	52.9	139.1	58.6	0.0	T10
946	Gollans Stream	I	0.029	0.453	3	52.9	2039.7	82.8	1.7	T10, threatened fish
760	Karori Stream	I	0.002	0.307	7	55.9	3070.8	73.7	0.2	
147	Hutt River	II	0.464	0.146	31	94.1	63803.8	67.9	2.1	T10, natural headwaters, threatened fish, plants

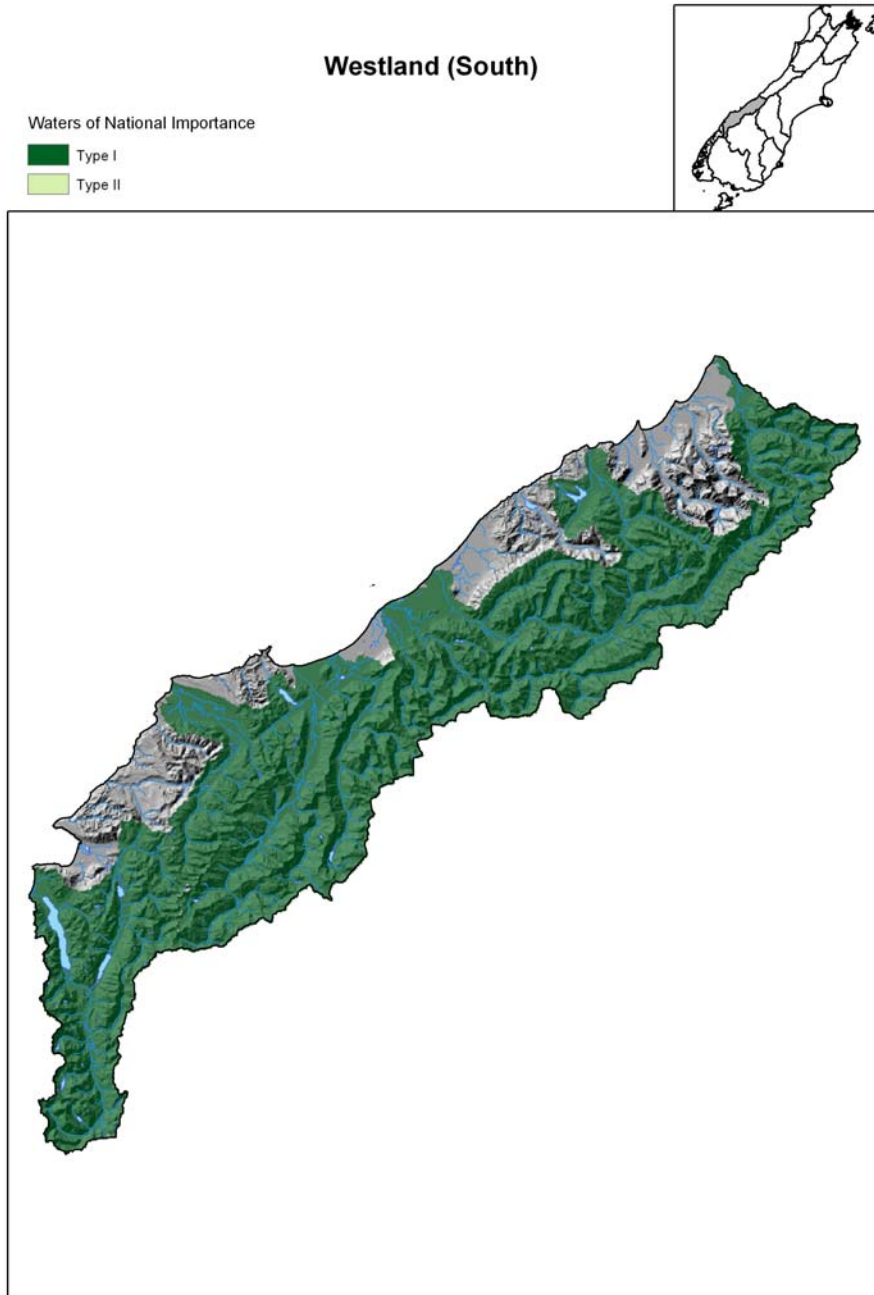


The Westland unit extends along the South Island's west coast from the Taramakau River in the north to the Hollyford River in the south, encompassing along the way such major systems as the Hokitika, Whataroa, Karangarua, Paringa, Haast and Arawhata Rivers. It represents the southern limit on the West Coast for *Paranephrops planifrons*, as well as *Galaxias divergens* and *Gobiomorphus breviceps*, which both occur south to the Hokitika River.

The unit contains many of the largest, least-disturbed river systems in New Zealand. These have retained connectivity to their floodplains, including some of the best surviving sequences of floodplain (kahikatea) forests and riverine-wetland systems (e.g. Hokitika-Grove and Harman Swamps—a wetland of international importance: Cromarty & Scott 1996). Westland streams are national strongholds for giant and short-jawed kokopu and longfin eels. These populations are critical to the long-term survival of these species. Headwater catchments are also important habitat for blue duck. A number of small coastal streams are likely to be free of all introduced fish. Company Creek that flows into Five Mile Lagoon, South of Okarito, is the largest presently known.

The Cook River is the larger and more distinctive of the two major glacial rivers on the West Coast.

Westland										
Catchment number	Name	Type	Heritage value score	Euclidean distance	Total REC classes (145)	Cumulative % REC classes	Area (ha)	% Natural cover	% DOC	Special features and notes
201	Cascade River	I	2.753	0.129	53	36.1	43592.4	97.0	94.6	T10, B.Duck, threatened fish, highly natural
211	Karangarua River	I	2.449	0.170	32	40.1	40815.7	97.6	95.9	T10, B.Duck, threatened fish, highly natural
192	Turnbull / Okura rivers	I	2.433	0.117	32	41.5	46792.8	100.3	92.7	T10, B.Duck, threatened fish, highly natural
168	Waiatoto River	I	2.427	0.155	36	45.6	52915.2	101.2	98.9	T10, B.Duck, threatened fish, highly natural
100	Arawhata River	I	2.301	0.183	39	48.3	93060.9	101.2	92.6	T10, B.Duck, threatened fish, highly natural
221	Paringa River	I	2.274	0.157	43	52.4	36557.7	97.4	97.2	T10, B.Duck, threatened fish, highly natural
64	Haast River	I	2.272	0.176	39	53.7	135563.6	100.7	98.2	T10, B.Duck, threatened plants, includes Landsborough River
79	Hollyford River	I	2.115	0.243	94	83.0	112988.5	101.2	99.4	T10 and B.Duck, threatened fish. Highly natural
84	Hokitika River	I	1.390	0.113	65	88.4	106658.6	85.9	80.3	B.Duck, threatened fish, Nat.Imp.wetland, highly natural
247	Cook River	I	1.345	0.204	34	89.1	32369.5	89.0	86.8	Large glacier-fed river, highly natural
255	Okarito River	I	1.156	0.281	34	89.8	30184.2	96.9	84.1	Threatened fish, Nat.Imp.Site. (Lagoon), highly natural
825	Cockabulla Creek	I	0.326	0.517	5	89.8	2612.1	99.8	96.0	Free of all introduced species, threatened fish



For ease of presentation, Westland is divided into two figures, North and South. It is, however, a single biogeographic unit.