

Appendix A

Values Associated with Fresh Water Resources

The water resources within the plan area have both tangible and intangible values associated with them in terms of in-stream requirements, ecological, cultural and recreational uses. The following table summarises these resources and the values associated with them, identifies the water quality classification of each water body and major threats to those water bodies, and indicates the desired outcome for each water body of either maintaining or enhancing values.

The resources have been value ranked based on their instream attributes and values (on the basis of information gathered from a wide range of water users) and the vulnerability of the resource to adverse environmental effects.

Water quality classifications are identified to clearly indicate environmental bottom lines to ensure maintenance of surface water flows which safeguard the life supporting capacity of the resource, the integrity of habitats, and recreational and amenity values.

The classification system is important because it provides the basis for using different levels of control via the rules to enable protection of the water resources. Resources of very high value will have very stringent controls placed on them to ensure that use does not compromise the very high value of the resource. Water resources of lower value will not have additional controls placed on them regarding use.

Definitions

Column 5 - Water Quality Classifications

- F - managed for fishing purposes (primary objective being safe consumption of fish).
- FS - managed for fish spawning.
- NS - managed in its natural state (catchments within Conservation Estate).
- AE - managed for aquatic ecosystem purposes.
- CR - managed for contact recreation purposes.
- A - managed for aesthetic purposes.
- DW - managed at drinking water quality.
- WS - managed for water supply purposes.
- SG - managed for shellfish gathering.

Column 6 - Desired Outcome

- M - (Maintain) means that the existing water quality is believed to match the classification and that therefore the present water quality only needs to be maintained.

E - (Enhance) means that the existing water quality is believed to be lower than the classification and that therefore the present water quality needs to be enhanced.

Class - The purpose of this column is to indicate the relative value of the location within the Marlborough District.

Notes

- 1 "Threatened fish" refers to species listed in the Department of Conservation publication "Setting priorities for the Conservation of New Zealand's Threatened Plants and Animals".
- 2 "Regionally significant" refers to fish species that may be common elsewhere, but are not well represented in the Wairau/Awatere area.
- 3 Monitoring will be carried out to establish whether a higher standard is required to meet the shellfish gathering classification in the Coastal Marine Area.

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
1	Source downstream to Wash Bridge	High	River corridor for birds and fish. Trout spawning habitat. Recreational area - boating, rafting, canoeing, swimming, hunting, picnicking and passive. Fishing - trout, salmon and eel - headwater trout fisheries down to Rainbow River confluence. Fish passage and habitat. Bird habitat and passage - species include: black fronted tern, banded dotterel, pied stilts and oyster catchers. Braided river habitat with undisturbed shingle islands. Native biodiversity - galaxidae and fernbirds.	Out of stream use during low flows. Reduction in water quality from adjacent landuse. Flow modification.	F, FS, AE	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
2	Wash Bridge downstream to State Highway 1	High	<p>Braided river habitat.</p> <p>River corridor for fish and birds.</p> <p>Fish passage and habitat - salmon spawning .</p> <p>Lagoons and backwaters.</p> <p>Important trout spawning areas in side streams.</p> <p>Bird habitat - scarce species include: black fronted tern, banded dotterel, black shag, black backed gulls, black billed gulls, pied stilts and oyster catchers.</p> <p>Fishing - trout, salmon and eel.</p> <p>Native biodiversity - 5 species.</p> <p>Recreational area - boating, rafting, canoeing, hunting, swimming, picnicking, passive and jetboating.</p>	<p>Out of stream use during low flows.</p> <p>Flow modification.</p> <p>Reduction in water quality from adjacent landuse.</p> <p>River control works affecting instream flow depth, width and velocity.</p> <p>River control tree planting and rock work, bank protection.</p>	F, CR, FS	M
3	Lower Wairau River from State Highway 1 downstream to sea	High	<p>Tidal estuarine habitat.</p> <p>Lagoons and backwaters providing habitat.</p> <p>Recreational area - boating, rowing, water skiing, nature watch, hunting, picnicking and passive.</p> <p>Fishing - trout, salmon, whitebait, eel, flounder, kahawai.</p> <p>Bird habitat.</p> <p>Native biodiversity.</p> <p>Whitebait spawning.</p>	<p>Reduction in water quality from adjacent landuse.</p> <p>Salinity changes with Wairau Bar changes.</p> <p>Sedimentation.</p> <p>Reduction in flow due to uncontrolled flow split into Diversion.</p> <p>Discharges.</p>	F, FS, CR	E
4	Grovetown Lagoon and Bothams Bend Wetland	High	<p>Bird habitat - waterfowl including mallard, grey duck, grey teal, shoveller, pukeko, black swan, shag, kotuku, white faced heron and cattle egret, spotless crane.</p> <p>Fish habitat - whitebait.</p> <p>Recreation - nature watch, passive.</p> <p>Natural Wetland.</p> <p>Native biodiversity - giant kokopu.</p>	<p>Reduction in water quality from adjacent landuse.</p> <p>Sedimentation.</p> <p>Stock damage to riparian margin.</p> <p>Instream barriers to fish passage.</p> <p>Water levels and flows partially controlled by gates and pumps.</p> <p>Infilling by willows.</p>	F	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
5	Rainbow River downstream to Rainbow/ Wairau River Confluence	High	Trout and salmon spawning. Recreational area - tramping and hunting. Outstanding natural landscape. Fishing - trout. Native biodiversity - 6 fish species.	Out of stream use during low flows. Flow modification.	F, FS, AE	M
6	Alpine Zone of Wairau Tributaries	High	Outstanding natural landscape. Recreational area - tramping and hunting.	Flow modification.	F, FS, AE	M
7	Upper Wairau River Tributaries excluding Upper Six Mile Creek basin and Rainbow Skifield	High	Trout spawning, non-migratory galaxiids. Outstanding natural landscape. Recreational area - tramping, hunting, skiing.	Out of stream use during low flows. Flow modification.	F, NS, FS	M
8	Ski-field Zone	High	Rainbow Ski-field development.	Flow modification. Discharges.	NS	M
9	Branch River, Leatham River, Argyle Lake and Enchanted Stream	High	Fishing - trout. Fish habitat - trout spawning. Recreational area - tramping, mountain biking, canoeing and hunting. Native biodiversity - threatened koaro, 6 species. Outstanding natural landscape.	Instream barriers to fish passage. Low flows due to out of stream use. Flow modification.	F, AE, FS, CR	M
10	Waihopai River	Medium	Trout spawning habitat. Recreational area - rafting, canoeing, swimming and passive. Limited fishing - trout. Native biodiversity - 6 species. Braided river habitat.	Instream barriers to fish passage. Low flows due to out of stream use.	F, CR, FS	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
11	Gibsons Creek and Upper Opawa River above Hammerichs Road	Low	Recreational area - picnicking, passive. Aesthetic landscape. Bird habitat - waterfowl. Limited fish habitat - trout, eel.	Low flows inhibiting fish habitat and passage. Stock pollution and damage to riparian margin. Sedimentation. Reduction in water quality from adjacent landuse.	F, A	M
12	Cravens Creek	Low	Fishing - eel. Food gathering - cress.	Groundwater level change. Reduction in water quality from adjacent land use. River control works that disturbs the channel bed will change the seepage pattern. Instream dams changing sedimentation and seepage pattern and barriers to fish passage.	F, CR, FS	M
13	Spring Creek	High	Outstanding natural landscape - unique spring fed waterway with consistent flow. Fishing - clear water regardless of weather, trout, koura, black flounder, eel. Recreational area - canoeing, picnicking. Fish passage and habitat - native fish, lamprey, giant kokopu. Bird habitat - waterfowl, kingfisher, fantails. Food gathering - cress. Native biodiversity - 5 species. Aesthetic landscape.	Groundwater level change. Reduction in water quality from adjacent landuse. Stock pollution and damage to riparian margin. Instream barriers to fish passage from Wairau River. Infilling by 'crack' willows. Duck population Eel population.	F, A, AE	E

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
14	Ribbon lagoons/ coastal beach swamps and drains	High	<p>Unique natural wetland habitat.</p> <p>Bird habitat - waterfowl and upland game.</p> <p>Fishing - eel, inanga.</p> <p>Recreation area - nature watch.</p> <p>Biodiversity in landscape.</p> <p>Flora - Nationally vulnerable specie.</p>	<p>Vulnerable to drainage or development.</p> <p>Instream barriers to fish passage.</p> <p>Stock pollution and damage to riparian margin.</p> <p>Reduction in water quality from adjacent landuse.</p>	F	M
15	Wairau Diversion	Medium	<p>Fishing - whitebaiting, kahawai, trout.</p> <p>Recreational area - picnicking, passive.</p> <p>Fish passage and habitat.</p> <p>Bird passage and habitat.</p>	<p>Bar blocking.</p> <p>Instream barriers to fish passage from Diversion.</p> <p>Salinity changes.</p> <p>Inconsistent low flows due to uncontrolled division with Lower Wairau.</p>	F, FS	M
16	Wairau Lagoons	High	<p>Significant for iwi.</p> <p>Nationally significant wetland habitat.</p> <p>Bird habitat - terns, shags, waterfowl, banded dotterel, migrant waders, royal spoonbill.</p> <p>Recreational area - nature watch, passive and hunting.</p> <p>Fishing - eel.</p> <p>Natural biodiversity - 90 species of marine, freshwater fish and birds.</p>	<p>Reduction in water quality from adjacent landuse.</p> <p>Infilling by willows, aquatic weeds and sediment.</p> <p>Partial bar blocking leading to changes in salinity and changes to tidal flushing levels and flows.</p> <p>Stock pollution and damage to riparian margin.</p>	F, SG	E
17	Copp's Wetland	High	<p>Wetland habitat (recognised by QE II Trust covenant)</p>	<p>Reduction in water quality from adjacent landuse.</p>	F	M
18	Roses Overflow	High	<p>Fish habitat - whitebait spawning.</p> <p>Fishing - whitebait, trout.</p> <p>Recreational area - hunting, passive.</p> <p>Bird habitat - crake.</p> <p>Native biodiversity - 9 species.</p>	<p>Reduction in water quality from adjacent landuse.</p> <p>Stock pollution and damage to riparian vegetation.</p> <p>Instream barriers to fish passage.</p>	F, FS	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
19	Lower Opawa River- from Taylor River/Opawa River confluence to Opawa River/ Wairau River confluence	Medium	Trout and whitebait spawning. Migratory bird habitat. Recreational area - boating, canoeing, nature watch, picnicking and passive. Fishing - eel, trout, whitebait, black flounder. Urban recreational landscape. Fish habitat.	Reduction in water quality from adjacent urban landuse. Stock pollution and damage to riparian margin. Instream barriers to fish passage at Wairau River confluence. Groundwater level change. Sewage discharge High Lower Wairau River levels. Stormwater discharges.	F, FS	E
20	Opawa Loop	Medium	Urban recreation. Landscape.	Weed. Low dissolved oxygen levels. Low flows with very low velocities.	F, CR, FS	E
21	Lower Taylor River from Taylor Dam to Opawa River confluence including Doctors Creek and Taylor Dam	Medium	Fishing - trout, eel, black flounder. Recreational area - boating, rafting, canoeing, swimming, picnicking, nature watch, passive. Fish habitat - trout spawning, eel, black flounder, koura. Urban recreational and aesthetic landscape. Taylor Dam bird habitat - black swans, mallard, Australasian coot, NZ scaup. Bird habitat - waterfowl, grey teal, little black shag, pukeko, coot and shoveller duck.	Development of riparian margin. Reduction in water quality from adjacent urban landuse and landfill. Low flows due to out of stream use. Groundwater level change. Stormwater discharges.	F, AE, CR	E
22	Taylor River upstream of Taylor Dam, Fairhall River, Omaka River and Mill Stream	Low to Medium	Fishing limited by ephemeral flow conditions - eel, trout. Recreational area - picnicking, nature watch and passive. Bird habitat - waterfowl and upland game. Braided river habitat. Trout spawning habitat.	Low flows due to out of stream use. Stock pollution and damage to riparian margin.	F	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
23	Upper Opawa River from State Highway 1 to Hammerichs Road	Medium	Fishing - trout, eel. Recreational area - swimming, picnicking, nature watch.	Groundwater level change. Reduction in water quality from adjacent landuse. Stock pollution and damage to riparian margin.	F, CR, AE	M
24	Pukaka Stream and Drain	Medium	Fish habitat - eel, whitebait, trout spawning. Native fish diversity - 6 species. Recreational area - tramping, picnicking, passive. Fishing - Eel.	Instream barriers to fish passage.	F, FS	M
25	Tuamarina River including the Blue Spring	Medium	Fish habitat - adult whitebait. Recreational area - swimming, picnicking.	Reduction in water quality from adjacent landuse. Sedimentation. Instream barriers to fish passage from Wairau River.	F	E
26	Para Swamp	High	Fish habitat - adult whitebait, trout spawning. Outstanding natural wetland area. Bird habitat - grey teal, pukeko, mallard, grey duck, shoveller, Australasian bittern. Native diversity includes threatened banded kokopu. Fishing - trout, eel. Flora - nationally vulnerable species. Recreational area - nature watch, hunting.	Instream barriers to fish passage. Infilling by willow, sediment and weeds. Reduction in water quality from adjacent landuse.	F	M
27	Are Are Creek	Low	Fish habitat - depleted at present. Trout spawning, eel.	Stock pollution and damage to riparian margin.	F, FS	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Wairau Catchment					
28	Onamalutu River	Medium	Fishing - trout. Fish habitat - trout spawning, rare native lamprey and giant kokopu. Unique vegetative habitat at scenic reserve. Native biodiversity - 5 species, giant kokopu.	Reduction in water quality from adjacent landuse. Stock pollution and damage to riparian margin. Instream barriers to fish passage from Wairau River. Low flows due to out of stream use.	F, FS	M
29	Bartletts Creek, Cat Creek, Pine Valley Stream, Top Valley Stream, Waikakaho River and Timms Creek	Medium	Fish habitat - trout spawning, adult trout, native species. Bird habitat - blue duck. Fishing - early season trout. Recreational area - tramping, hunting, picnicking, passive.	Instream barriers to fish passage from Wairau River. Reduction in water quality from adjacent landuse. Stock pollution and damage to riparian margin. Low flows due to out of stream use.	F, FS	M
30	Goulter River	High	Fishing - trout. Bird habitat - blue duck. Outstanding natural area. Fish habitat - trout spawning. Recreational area - tramping, hunting.	Instream barriers to fish passage from Wairau.	F, NS, FS, AE	M
31	Lake Chalice	Very High	Outstanding natural area - unique natural habitat. Native diversity - unique koaro population. Recreational area - tramping, hunting.		F, NS, FS, AE	M
32	Eves Creek	Low to Medium	Fish habitat - trout spawning. Recreational area.		F, NS, FS, AE	M
33	Lake Alexander	High	Outstanding natural area - significant geological site. Bird habitat - little pied shag, black shag, grey duck. Recreation area - hunting, tramping.		F	M
34	Avon River	Medium	Recreation area - hunting, tramping.		F	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
35	Fault Lake	High	Bird habitat - wading birds. Natural wetland. Recreational area - nature watch, passive.	Sedimentation. Reduction in water quality from adjacent landuse.	F	M
36	Possum Stream Swamp	High	Outstanding natural area. Bird habitat - fernbirds.	Land development and drainage.	F	M
	Awatere Catchment					
37	Source to Estuary/Mouth	Medium	Bird habitat and passage - waterfowl, black shags, pied stilts, black-fronted terns, white faced herons, south island pied oyster catcher. Limited fish habitat. Fishing dependant on conditions - trout, eel, whitebait. Braided river habitat.	Low flows due to irrigation abstraction. Stock pollution. Reduction in water quality from adjacent landuse. Development of riparian margin. Low flows and discolouration.	F, FS, CR	M
38	Estuary/Mouth	Medium	Bird habitat - waders, waterfowl, wrybill plover, banded dotterel, white and black fronted terns. Fish habitat. Fishing - trout, eel, whitebait. Recreation - nature watch.	Low flows and discolouration. Development of riparian margin. Reduction in water quality from adjacent landuse.	F, FS	M
39	Lake Jasper	High	Outstanding natural area - raupo and flax vegetation. Bird habitat - mallard, paradise shelduck, shoveller, pukeko, grey teal, crake. Recreational area - hunting.	Land development and drainage. Stock damage to riparian margin. Reduction in water quality from adjacent landuse, and maybe natural causes.	F, NS	M
40	Lower Awatere Tributaries including: Black Birch Stream, Blairich, Scrub Rough Creek and Ring Creek, McRae River, Ises Stream	Medium	Higher water clarity than Awatere River. Limited fishing. Fish habitat - endangered Koaro in Ring Creek, non-migratory galaxiids. Significant areas of indigenous vegetation.		F, FS	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
	Awatere Catchment					
41	Upper Awatere Awatere tributaries including: Hodder River, Tone River, Kennet River, Castle River, Boundary Stream, Penck River and Enchanted Stream	Medium	Recreational area - tramping, hunting. Fish habitat - limited trout spawning, koaro in Penck River, non-migratory galaxiids. Significant areas of indigenous vegetation. Bird habitat - waterfowl, black shags, pied stilts, black-fronted terns, white faced herons, South Island pied oyster catchers. Wilderness area.	Development of riparian margin. Stock pollution.	F, FS	M
	East Coast Catchments					
42	Waima (Ure)River	Medium	Bird habitat. Limited fishing - whitebait. Gorge represents outstanding natural feature. Significant areas of indigenous vegetation. Wilderness area in upper reaches.	Out of stream use during low flows. Stock pollution.	F	M
43	Flaxbourne and Blind Rivers	Low	Recreational area - tramping, picnicking. Fishing - whitebait. Recreational fisheries at mouths. Limited fish habitat.	Development of riparian landscape. Low flows due to out of stream use. Stock pollution.	F	M
	Clarence Catchment					
44	Tarndale Lakes including Bowscale Tarns, Lake Sedgemere, Island Lake, Fish Lake (Fish Lake is in the Wairau Catchment)	Very High	Bird habitat - paradise duck moulting site, Canadian goose, waterfowl and waders including endangered southern crested grebe. Fish habitat - Tarndale bully . Outstanding natural area - intact native aquatic plant community, tussock land, raupo swamp. Recreational area - hunting, tramping, mountain biking, passive. Wilderness area.	Land development and drainage. Stock pollution and damage to riparian margin.	FS, AE	M

#	Location	Class	Important Values	Concerns	Water Quality Classification	Desired Outcome
45	Lake McRae	Very High	Habitat for endangered southern crested grebe. Outstanding natural area - nationally important scientific feature. Intact native aquatic plant community. Recreational area - hunting, tramping, mountain biking, passive.	Land development. Stock pollution and damage to riparian margin.	FS, AE	M
46	Acheron River, Severn River, Alma River and Saxton River	High	Fish habitat - salmon/trout spawning and adult trout, koaro in Alma River. Fishing - headwater trout. Bird habitat - wetland species. Recreational area - hunting, tramping, mountain biking, passive, canoeing, rafting.	Land development.	FS, AE	M