

BEFORE THE HEARINGS PANEL

IN THE MATTER of hearings on
submissions concerning
the Proposed One Plan
notified by the
Manawatu-Wanganui
Regional Council

**SUPPLEMENTARY EVIDENCE OF MR JAMES STUART LAMBIE
FOR THE WATER HEARING
ON BEHALF OF HORIZONS REGIONAL COUNCIL**

1. INTRODUCTION

1. I have prepared this report as supplementary evidence to my Section 42A Report. It has been compiled in response to:
 - Fish & Game and Department of Conservation (DOC) evidence regarding permitted activity provisions in Table 16.1.
 - Response to DOC evidence regarding additional SOS-A and a name change to SOS-R.
 - Response to evidence by DOC and Tanenuiarangi Manawatu Incorporated (TMI) regarding the Environmental Code of Practice for River Works (the Code).

2. I have read the technical evidence of the following ecological and river morphology experts:
 - Ms Corina Jordan (Wellington Fish & Game Council)
 - Dr Ian Fuller (on behalf of Fish & Game New Zealand)
 - Associate Professor Russell Death (on behalf of Wellington Fish & Game Council and the Forest & Bird Society)
 - Dr Mike Joy (on behalf of Fish & Game New Zealand and the Forest & Bird Society)
 - Mr Gary Williams (on behalf of Wellington Fish & Game Council)
 - Mr Logan Brown (Department of Conservation)

3. I have attended one pre-hearing meeting between Horizons and Fish & Game (F&G) experts where we discussed the broader context of managing river morphology, natural character, and ecological matters in the POP. I have attended two meetings between Horizons and DOC planning experts where we discussed (among other things) the role of the Environmental Code of Practice for River Works for managing the activities of Horizons' Operations Group. I also had a brief pre-hearing meeting with Logan Brown as DOC's ecological expert specifically with regard to the Site Specific Standards in the Code.

4. I have read the further submission from Mr Paul Horton (TMI) dated 20 October 2009. This submission relates to additional conditions to Part Three (Special Standards for Activities Undertaken in Sites of Special Environmental Value) in the Environmental Code of Practice for River Works.

5. After consideration of the technical expert evidence, and subsequent discussions during, or in association, with pre-hearing meetings, I have revised some of my recommendations (underlined).

2. **SUPPLEMENTARY EVIDENCE AND REVISED RECOMMENDATIONS**

Recommendations for Permitted Activity Thresholds relating to sediment release

6. In my statement of evidence (paragraphs 102-107, pp 22-23) I expressed the view that a threshold is needed for sediment released by permitted activities in the beds of rivers and lakes and gave justification for permitted activity provision c) and provision d) (POP Table 16.1). I also expressed in my report the view that empirical data is needed to support the setting of tighter thresholds. This was in light of there being no information that would suggest that the present permitted activity conditions in the current Beds of Rivers and Lakes Plan (on which the POP provisions are based) were deficient.
7. The statements of Associate Professor Russell Death and Dr Mike Joy relating to deposited sediment, and photos in the statements of Ms Corina Jordan and Mr Logan Brown depicting deposited sediment, attest to the undesirable ecological effects of suspended sediment and sediment deposition. On analysis of the evidence presented by Associate Professor Death and Dr Joy, Ms Jordan recommends amending POP permitted activity standards to limit the period of sediment release to a total of 12 hours over five consecutive days, and applying a more stringent horizontal visibility threshold of a maximum visual clarity change of 20%.
8. On reflection, I am in agreement that the permitted activity provisions c) and d) are lax. In reference to my own statement (paragraph 105, pg 23), I highlight that the POP requires a maximum visual clarity change of 20% in some Water Management Zones. The present permitted activity thresholds accommodate short-term sediment releases that may well exceed this change threshold. The weight of evidence suggests that even this short term release has a high level of risk of negative impacts on in-stream ecological values.
9. However, I do not fully support Ms Jordan's recommendations, for the reason that the evidence provided does not specifically highlight a failure of the current Beds of Rivers and Lakes permitted activity thresholds to control discharges of sediment inherent to the bed.

10. Associate Professor Death provides the opinion that the maximum total accumulated time for sediment discharge over a five-day period should be 12 hours (Death, paragraph 64, pg 22). While a tighter threshold is desirable from an ecological perspective, I do not concur that this threshold better balances the risk of effects of sediment deposition while permitting activities in the beds of rivers and lakes. Consider firstly there are other situations (such as under Rule 13-24) where sediment may be permitted to be discharged on an ongoing basis so long as the discharges do not breach the POP water quality standards for water clarity. Consider secondly that some activities, such as the placement of culverts and fords, may take longer than 12 hours of total sediment disruption time to complete, but might not actually breach the POP water quality standards for water clarity where the bed is relatively free of sediment.
11. My recommendation is to swap the order of the permitted activity provisions c) and d) so that the water quality standard comes first and the period of discharge comes second, thus:
- c) Any discharge of sediment directly caused by the activity shall not, after reasonable mixing, cause any conspicuous change in the colour of water in the receiving water body, or any change in the horizontal visibility greater than the standard set in the clarity % change column of Schedule Ba.
 - d) Where it is likely the discharge of sediment directly caused by the activity will breach these standards, any discharge of sediment directly caused by the activity shall be for no more than a total of 12 hours over no more than 5 consecutive days. The activity shall not, after reasonable mixing, cause any conspicuous change in the colour of water in the receiving water body, or change the horizontal visibility greater than the standard set in the clarity % change column of Schedule Ba, after the completion of the activity.
12. A grace period after the completion of the activity would not make any sense if a total discharge time was incorporated into the permitted activity threshold. If a grace period is desirable, then I recommend using the four-hour grace period proposed by Ms Jordan.

Recommendation for Permitted Activity Thresholds relating to channel straightening

13. In my statement of evidence (paragraph 113, pp 25) I expressed the view that a threshold is needed for permanent channel straightening, and give justification for permitted activity provision k) (POP Table 16.1). I believe a minor amount of channel straightening could be permitted, to allow for protection property and infrastructure.
14. The evidence presented by Dr Ian Fuller and Mr Gary Williams on the loss of morphological diversity, as a result of river management, is compelling. On analysis of the evidence presented by Associate Professor Death, Mr Williams, and Dr Fuller, Ms Jordan recommends amendment of POP permitted activity standards so that the activity shall not result in any permanent straightening or channelling of a river.
15. Ms Jordan's recommendation would effectively negate provision k). I do not concur that the result is a better balance between the risks of ecological effects resulting from channel straightening and permitting activities in the beds of rivers and lakes.
16. On reflection, I am in agreement that the opportunity to make permitted changes to channel morphology should be limited to one-off, small-scale events. Provision k) provides for annual increments of change, which is highly undesirable. I concur with Associate Professor Death (Death, paragraph 65, pg 23) and agree with the recommendation to change the period of provision k) from a 12-month period, to a 10-year period.

Additional SOS-A and name change to SOS-R noted (no change recommended)

17. In paragraphs 40 and 41 of his statement, Mr Logan Brown identifies six additional sites to be identified as Sites of Significance – Aquatic (SOS-A) based on the presence of brown mudfish (*Neochanna apoda*) – a species specifically identified by Horizons as fitting the criteria for identification of SOS-A. I agree that the sites identified benefit SOS-A status.
18. Contrary to Mr Brown's evidence, one of the sites is identified as SOS-A. Also, all six sites are wetlands and therefore are protected under the Biodiversity and Heritage provisions of Chapter 12 and Schedule E of the POP. The sites would not gain fuller protection from having SOS-A status, so I have no particular concern about their omission.

19. In paragraph 60, Mr Brown requests that the Sites of Significance – Riparian be renamed ‘Sites of Significance for aquatic bird habitat’. My Report (paragraphs 42-72, pp 9-16) describes the value as being (at present) related only to aquatic bird habitat. This is due to a dearth of information regarding the specific locations of threatened organisms that have obligate or specific riparian habitat requirements. The SOS-R value could be applied to other sites of other organisms with future Plan changes, so I do not see the benefits of a name change.

Response to recommendations to Part Three: Special Standards for Activities Undertaken in Sites of Special Environmental Value (Environmental Code of Practice for River Works)

20. The statements of Mr Brown (Brown, Appendix Seven, pp 83-99) and Mr Paul Horton (TMI, pp 2-3) contain recommended additions to Part Three (Special Standards of Activities Undertaken in Sites of Special Environmental Value) of the Code. I acknowledge that the Hearing Panel is unable to rule on the content of the Code. However, I believe documenting my response to the recommendations of Mr Brown and Mr Horton would be useful to help the Hearing Panel in their decision concerning POP Rule 16-13.
21. (1) In response to Mr Horton with regard to eel/tuna migration, I agree that the longfin eel (*Anguilla dieffenbachii*) is a species in decline and that it is a species that deserves particular consideration when determining the effects of river management activities. However, I do not believe Part Three of the Code is the most appropriate place to deal with the effects of river engineering activities on eel/tuna migrations specifically. That is because Part Three deals with managing threats to values such as SOS-A, SOS-R, and inanga spawning, which occur in **specific places**, as well as managing threats at specific times of year.
22. The distributions of longfin and shortfin eel/tuna are widespread and it can be assumed that most of the Region’s rivers would be subject to the migration of one or both species. I therefore believe that the mechanism to safeguard the ecological requirements of eel/tuna is more appropriately directed at activity standards, with limits and controls to be applied on an activity basis. I am of the opinion that the Code presently has standards that adequately cater for the specific habitat requirements of eel/tuna during the migration period.

23. (2) In response to Mr Horton with regard to the western coast estuaries and water bodies as a stopover place for international migratory species, I concur with the observation that the vicinity of Foxton Beach is a renowned stopover place for migratory birds. However, the site of significance A41 (refer to Figure 1 below) is not known to be a breeding place for bar-tailed godwit (*Limosa lapponica*), Caspian tern (*Sterna caspia*) and 'Siberian' tern (assume Artic Tern *Sterna paradisaea*). I therefore don't believe the requested amendments appropriately address Mr Horton's concerns.
24. The most significant areas for migratory birds in the vicinity of Foxton Beach settlement are Foxton Beach near the Manawatu Estuary and the Manawatu Estuary.
25. For Foxton Beach, while the Himatangi Scheme works area is delimited by the beach, there are no activities undertaken on the beach except maintenance of the outlet of an ephemeral stream arising from Coastal Lakes Station (circled red in figure 1 below).

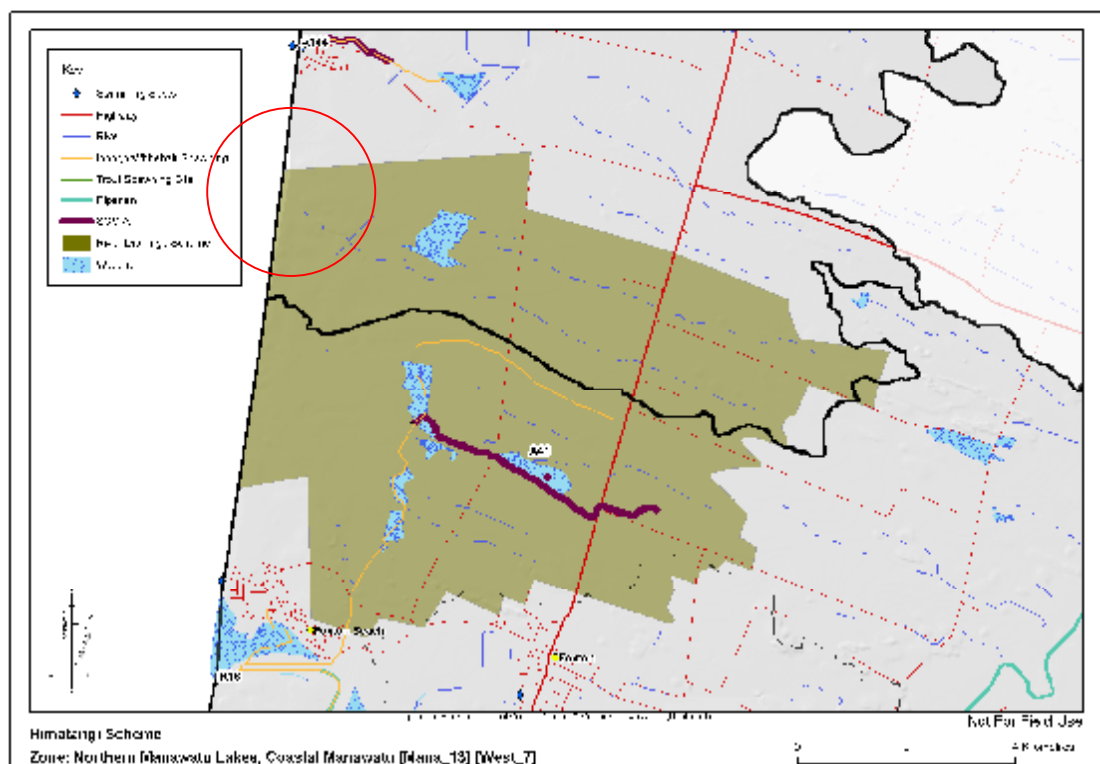


Figure 1. Himatangi Scheme map as it appears in the April 2007 version of the Environmental Code of Practice for River Works, depicting the location of SOS-A site A41 and highlighting the location of the outlet (to the sea) of an ephemeral stream subject to drainage works. Manawatu Estuary is located to the south, in the vicinity of SOS-R R18.

26. I would consider the nature of Scheme work (occasional mechanical clearance) as having only a minor (if any) effect on migratory birds. They are not known to breed in the vicinity of the stream and therefore are not constrained by a critical nesting period. They would be able to move out of the way of machinery on any occasion that clearance coincides with the migration period.
27. The Manawatu Estuary (located in the vicinity of SOS-R R18 on Figure 1), is classed as a wetland of a type protected under Schedule E of the POP. The Code does not permit activities in the estuary and so consent for any activity would be required. I believe this is the most appropriate response to protecting the values of the Manawatu Estuary, rather than giving Horizons permitted activity status under the Code.
28. I believe it is not necessary to specifically include habitat provisions for bar-tailed godwit, Caspian tern, and 'Siberian' tern in the Code because these species are not at risk from activities controlled by the Code.
29. With regard to Mr Brown's recommendation in paragraph 168 (Brown pg 53) with cross-reference to Part Three: Site Specific Special Standards (Brown, Appendix 7 pp 83-97) and paragraph 166:
30. I disagree with Mr Browns' alternative approach, which is the blanket application of spawning and migration (recruitment) exclusion periods applied consistently across all sites. Applying blanket standards is a broad-brush approach and I am not convinced that protection of the SOS-A values is better served by that approach. The reason for disagreement is that I believe the risk of effects of river management activities to the populations of native fish are best managed on a case-by-case basis. Blanket application of exclusion periods in sites where there are multiple species leads to very little time for Horizons to be able to undertake river management works within SOS-A. Yet an activity that is proposed to be undertaken may not eventuate in the disturbance or disruption of native fish during spawning or migration. For this, and other reasons I outline below, I do not support Mr Brown's request to replace the August 2009 version with his Appendix 7.
31. At the time of developing the Site Specific Special Standards, my colleagues and I carefully considered the potential effects of the river management activities that would generally be undertaken in any given SOS-A on the spawning and recruitment phases of the fish that the SOS-A was proposed to protect. As I pointed out in my S42A Report (paragraph 147), there was need for compromise. Attached to compromise is always a

degree of uncertainty about the risk posed to fish populations. However, I still believe the case-by-case approach and compromise in the Code is the best approach to serving the specific habitat requirements of native fish and providing enough opportunity to undertake river management activities.

32. On reflection on the evidence and argument presented by Mr Brown, I have revised my thoughts on what might be the better compromise. For ease of identifying the shift in my philosophy, I have collated the April 2007 version of the Specific Special Standards, Mr Brown's proposed Standards, and my recommended Standards in Appendix 1. I recommend adopting my revised Site Specific Standards for the Code. These are embodied in Appendix 1. What follows is my justification for changing the Site Specific Special Standards on a case-by-case basis, where my recommendations significantly differ from Mr Brown's or from the original standards.
33. **Site A41 (Roundbush wetland and associated stream and drain).** Roundbush wetland forest is identified specifically as the habitat for mudfish, though the presence of mudfish in the drain and streams leading into and out of the wetland cannot be ruled out. Being wetland of a type covered by the Biodiversity and Heritage provisions of Chapter 12 of the POP, a consent would be required for any work in Roundbush wetland irrespective of the conditions outlined in the Code. However, for the associated streams and drains network, it is useful to have terms that define limits to the scope and timing of drainage work rather than simply state that consent is needed. For this reason, I largely agree with Mr Brown's alternative recommendations, though not without exception.
34. An exclusion period for brown mudfish should be defined using dates rather than the terms "late autumn – spring" because a seasonal description is too vague. I do not concur with the implied length of the exclusion date to include winter and spring. The original exclusion period (1 Feb to 30 April) should be used. These dates suitably accommodate the spawning of mudfish, while allowing for drainage activities at other times of the year. According to McDowell (2000, pg 106) brown mudfish spawn in "...autumn after dry period...". In Horizons' fish calendar, this same statement is interpreted as the period starting 1 March to 30 May. For consistency, the Code might adopt the dates 1 March to 30 May instead, although I maintain that 1 February to 30 April is just as likely to capture the critical spawning period for brown mudfish for most years. The most important shift from the original conditions is to limit the undertaking of mechanical drain clearance to once every five years, which would allow the mudfish to spawn undisturbed four out of every five years.

35. I do not agree with the present wording of clauses associated with the retrieval of “aquatic life” for the reason that the clause has a wide scope that could be misused as an enforcement standard. It would be better that a best practice standard on fish, koura (fresh water crayfish), and kakahi (freshwater mussel) recovery were devised. Such a standard requires time to develop in consultation with DOC and Horizons’ Area Engineers. I recommend leaving the clause out.
36. I also do not agree with the present wording concerning “at least 5 working days” for the notification of Department of Conservation staff, for the reason that it creates an obligation that might not be met due to vagaries of the weather and staff availability. I believe it is possible for Horizons’ Area Engineers and DOC field staff to maintain sufficiently close liaison to accommodate opportunities for DOC staff to be on-site without the need for a specific condition in the Code.
37. **“Whitebait Creek” (from source, through Koputara wetlands and associated connecting drains, to the Manawatu River).** I do not agree that the Whitebait Migration and Inanga Spawning provisions should be sitting among the provisions for site A41, as depicted in Mr Brown’s version of the table. Inclusion of these provisions appears to impose additional extensions to exclusion dates for site A41 that are not supported by the reported extent of the Whitebait Migration and the Inanga Spawning values.
38. **Site A50 (Koputaroa Wetland).** On further review of the location of the mudfish (ie. records of fish within the wetland and no records of fish in surrounding drains) and activities that are undertaken (any works inside the wetland are intended to enhance it), I have concluded that a standard based on POP Chapter 12 (Biodiversity and Heritage) would work very well to control activities at this site.
39. **Site A46 (Makerua Wetland).** It is probably unnecessary to include site A46 in the Site Specific Special Standards table because it can be captured under the overarching requirement for consent for unlisted sites. However, the site is indicated as being in the works area so reference can be retained to avoid doubt. The site should not be bundled with sites A45, A47, R13, and R19.
40. **Site A45 (Tokomaru River between Linton Drain and SH 57).** The special standards for this site were written specifically to cater for kōaro and banded kōkopu migration, and redfin bully spawning and migration. The spawning requirements of kōaro and banded kōkopu were intentionally not catered for because I believe the works area is

not a significant part of the SOS-A in relation to the spawning of these species. The habitat suitable for spawning of kōaro and banded kōkopu is encompassed in the SOS-A upstream of the works area. It should be noted that this reach also has Trout Spawning value and therefore already has a blanket requirement for avoidance of in-stream work from 1 May to 30 September.

41. After discussing my reasoning with Mr Brown, and considering the decline of kōaro and banded kōkopu, I have formed the view that the Code should attempt to give stronger preference for the spawning requirements of korao and banded kōkopu.
42. However, I find Mr Brown's recommendations are too complicated and too restrictive to be of practical use in the Code. Also, on one hand, there is requirement for consent for activities in November or December (for banded kōkopu and kōaro recruitment), but on the other, controlled sediment outputs during these months are acceptable (for redfin bully recruitment). I do not believe the blanket requirement for consents to protect the spawning and recruitment period of kōaro and banded kōkopu has resulted in the best approach to safeguarding the values in this SOS-A.
43. I still contend that the works area is not a significant part of the SOS-A in relation to banded kōkopu and kōaro spawning. The problem that concerns me most is the control of sediment outputs that would otherwise prevent kōaro and banded kōkopu moving through the works area during recruitment.
44. A practical compromise is to avoid activities at times coincidental with kōaro, banded kōkopu and trout spawning and to limit activities during recruitment. The exclusion period I propose (1 April to 30 September) covers the critical spawning period of these species, as well as avoiding a part of the redfin bully spawning period. The avoidance where practicable (and consequent limitation of sediment where not practicable) serves to provide for the spawning and recruitment needs of redfin bully and recruitment needs of kōaro and banded kōkopu.
45. **Sites R13, R15, R16 (and R9).** There should not be wader provisions associated with these sites. Mr Brown's table ascribes wader provisions to sites R13, R15 and R16 under the Manawatu Scheme and does not contain site R9, which should be bundled with these sites under the Lower Manawatu Scheme.

46. **Sites R1-R8, and R14-R17.** Reference to a gravel extraction site listed in Table 3.1 should be removed, as I stated in my S42A Report. Reference needs to be made to site R17 which was inadvertently excluded from the original table.
47. **Sites R20 and R29.** I believe it is better that the wader provisions specifically refer to the activity that requires control. In this case, there is unlikely to be gravel extraction in these sites, but there is likely to be bed disturbance associated with erosion protection work.
48. **SOS in the Ohau-Manakau Scheme (Ohau and Waikawa Rivers).** The bundling of sites in Mr Brown's table makes interpretation difficult and the blanket application of conditions is unworkable. Also, Mr Brown has not provided any justification as to why blue gill bully provisions should be applied.
49. Sites A127, A130, A145, A146, and A147 were either originally specified as requiring consent, or are no longer depicted as being in the works area. It is simpler to delete reference to these sites and rely on the overarching statement that activities in unlisted sites require consent. With the removal of site A130, provisions for lamprey are unnecessary.
50. For site 128, I have adopted the timeframes proposed by Mr Brown to protect redfin bully and banded kōkopu.
51. For site 129, by decoupling site A130 and site A129, the provisions need only apply to redfin bully. Provisions relating to lamprey, shortjaw kōkopu and banded kōkopu were included only because they relate to site A130. I believe the original provisions that suit the critical habitat requirements for redfin bully should be retained. These provisions also cater to the migration requirements of shortjaw kōkopu and banded kōkopu.
52. For site 148, by decoupling site A147 and A148, the provisions need only apply to redfin bully and shortjaw kōkopu. Specific provisions relating to kōaro (from site A146) need not apply. I believe all of the original provisions should be retained. These were carefully decided based on the critical spawning and recruitment requirements of both redfin bully and shortjaw kōkopu. I do not believe the blanket application of conditions serves to protect these species any better than the original provisions.
53. **Sites A31, A33, A38 (and 34).** These sites are not in a works area, so provisions specifically catering for the values in these SOS-As are unnecessary. The original

provisions (either by not listing the sites in the case of site A34, or by explicitly requiring consent) better serve to protect these sites in this case.

54. **Site A32.** While this site is identified as SOS-A based on the presence of kōaro, the Pohangina River mainstem in the SOS-A cannot be considered spawning habitat for kōaro. The most critical element for maintaining kōaro populations in and around this SOS-A is to ensure no barriers to their passage are placed in the Pohangina River.
55. **Site A64.** I concur with and adopt the dates Mr Brown proposes as being the critical dates for giant kōkopu recruitment. However, I do not agree that it is necessary to have restrictions covering spawning dates applied to the drain. The critical spawning habitat for giant kōkopu is site A63 (Forest Road Wetland) for which consent is required to undertake work at any time of the year.
56. **Sites A2 to A7.** Mr Brown's proposed provisions do not align with the sites where the fish species (dwarf galaxia) is present. Much work went into devising the original standards to protect dwarf galaxia, balanced with the actual activities that take place in each of these SOS-As. The original conditions provide a much better level of protection than the provisions Mr Brown proposes.
57. **Site A22.** The original provisions give a longer period of protection over the spawning period of shortjaw kōkopu. The main activity (tree layering) is unlikely to disturb sediment, and therefore provisions to protect shortjaw recruitment are unnecessary. A blanket consent requirement over this period does not serve to provide any further protection of this species in this case.
58. **Site A1.** The original provisions serve to protect the spawning period of kōaro and dwarf galaxia. Mr Brown's proposed dwarf galaxia provisions would fail to provide for this species at this site. His extension of the kōaro spawning exclusion date to 30 June is consistent with Horizons' fish calendar, but I believe the earlier date in the Code (1 June) would not result in a significant increased level of risk. This is because, while the site appears in the works area, there is very little river works activity in this SOS-A. Due to the light level of activity in the SOS-A, I do not believe recruitment provisions are necessary.
59. **Sites that require dotterel provisions.** I outlined in my S42A Report (paragraphs 63-65) that there is a small risk that the December 31 date applied to the close-off of the Permitted Activity dotterel provisions will affect the nesting success of some

dotterel. At the time of negotiating the Code standards, this risk was interpreted as being negligible if 10 January was selected as the close-off date. However, on reflection I do not see why the Code should differ from the Permitted Activity standards in that regard. I recommend that the provisions relating to dotterel, throughout the Code, follow the Permitted Activity provisions in Chapter 16 of the POP. I believe Horizons' Operational Staff are sufficiently trained to undertake site inspections to affirm the absence of dotterel. The provision allowing for work when a site inspection shows no dotterel are present should also be retained.

60. **The bundling of SOS-R and SOS-A into one set of provisions for each scheme.**

As a general observation, I do not favour the approach of bundling the SOS-R with the SOS-A, or SOS-Rs that do not require wader provisions with SOS-Rs that do. This is because the "species" column gives the misleading impression that all of the species are found at all of the SOSs listed. While Mr Brown aids interpretation by listing the species that his proposed provisions would apply to, there is no indication which SOSs contain which species.

61. **Removal of reference to sites no longer covered by the works area.**

Mr Brown's Site Specific Standards table does not list a number of sites that were in the original set of Site Specific Standards. These sites are not listed because they are not in works areas. Reference to the sites (R4, R7, R30-R36, A8, A27, A28, A35, A36, A40, A42-A44, A10-A19, A116-A122, A123, and A124) could be deleted. However, some of the sites (eg. sites A32 and A122) have generic provisions that serve to protect upstream values from downstream activities. I prefer that the reference be retained.

62. In response to Mr Brown with regard to recommendations on the Part Three: Generic Special Standards (Brown, Appendix 7 pp 98-99) with specific reference to Whitebait Migration and Inanga Spawning sites:

63. (1) For Whitebait Migration, I agree with Mr Brown's recommendation to change the exclusion dates in the first clause (for exclusion to occur between 15 August and 30 November) so that they are consistent with the Whitebait Migration exclusion dates in the POP. For that reason, I recommend that the dates depicted in clause 2 should also read 15 August and 30 November.

64. (2) For Inanaga Spawning Sites, I contend that the standards that were introduced in the August 2009 version of the Code adequately cater for the general principles that concern Mr Brown – which is the control of all activities that would preclude riparian

vegetation, and avoiding bank-side activities during the spawning period of inanga. I do not support the adoption of the clauses Mr Brown proposes for Inanga Spawning Sites.

65. Mr Brown expresses concern regarding the mapped extent of the Lower Whanganui Scheme works area (Brown, paragraphs 171-174, pp 54-55) and recommends restricting the works area to an area in which Horizons has a current consent to undertake activities (paragraph 175). The actual area he is concerned about is not depicted in the Lower Whanganui Scheme works area, and is instead depicted in the Matarawa Scheme works area. So the resolution he requests will fail to serve his concerns. I therefore do not support his recommendation as there is no ecological justification for it.

James Lambie
November 2009

Appendix 1. Collation of the Site Specific Special Standards as they appear in the Environmental Code of Practice for River Works, compared to the recommendations of Mr Logan Brown and my alternative recommendations.

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
	Ashhurst	None	Not listed	[Added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
	Forest Road	Inanga Spawning Whitebait migration	Not listed in the table, but apply as Generic Special Standards	Inanga and Whitebait – refer to generic standards	Unnecessary to include in Site Specific Special Standards table
	Foxton East	None	Not listed	[Added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
	Haunui	None	Not listed	[Added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
A41	Himatangi	Brown Mudfish	A consent will be required to undertake in-stream works (drain clearance) between 1 February and 30 April except for the reach upstream of SH1	<p>A consent will be required to undertake works at this site; OR</p> <p>Drainage is to occur on a maximum five year return cycle.</p> <p>No work is to occur during the spawning season (late autumn – spring)</p> <p>Staff with appropriate training are to be present during the operation to retrieve aquatic life, recording numbers and species, then replace them in the stream.</p> <p>Department of Conservation staff are to be made aware of the operation at least five working days before commencement to allow staff to be on site if resources allow.</p> <p>Inanga and Whitebait – refer to generic standards</p>	<p>Mechanical drainage clearance is to occur on a maximum five-year return cycle</p> <p>Drain spraying is to occur on a maximum of two-year return cycle</p> <p>No work is to occur during the spawning season (1 Feb to 30 April)</p>
(Whitebait Creek)	Himatangi	Inanga Spawning Whitebait migration	Not listed in the table, but apply as Generic Special Standards	Inanga and Whitebait – refer to generic standards	Unnecessary to include in Site Specific Special Standards table

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
A149	Hokio	Giant kokopu Inanga spawning Whitebait migration	Left out of original table with preference for relying on the overarching clause that consent is needed for sites that are not listed in the table.	A consent will be required to undertake in-stream works between 1 October and 31 December (whitebait recruitment) A consent will be required to undertake in-stream works between 1 April and 30 July (spawning season). Inanga and whitebait – refer to generic standards.	Unnecessary to include in Site Specific Special Standards table.
A50	Koputaroa	Brown mudfish	A consent will be required to undertake in-stream works (drain clearance) between 1 February and 31 May	A consent will be required to undertake works at this site; OR Drainage is to occur on a maximum five year return cycle. No work is to occur during the spawning season (late autumn – spring) Staff with appropriate training are to be present during the operation to retrieve aquatic life, recording numbers and species, then replace them in the stream. Department of Conservation staff are to be made aware of the operation at least five working days before commencement to allow staff to be on site if resources allow.	A consent will be required to undertake works at this site unless work is for the purposes of wetland enhancement
A46	Makerua	Brown mudfish	A consent will be required to undertake in-stream works at this site	A consent will be required to undertake works at this site.	Retain original provisions in the Site Specific Special Standards table.
A45	Makerua Lower Manawatu	Redfin bully Koaro Banded kokopu	A consent will be required to undertake in-stream works (excluding flood gate outlet clearance) between 1 July and 1 March (this includes anything that is carried out in-stream that could release sediment including, but not limited to, gravel extraction, channel clearance, in-stream	A consent will be required to undertake in-stream works between 1 July and 30 November (redfin bully breeding). Avoid works in-stream between 30 November and 1 February where practicable. Where it is not practicable to avoid works, sediment from those works	A consent will be required to undertake in-stream work between 1 April and 30 September In-stream works between 1 October and 1 February should be avoided where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
			<p>vegetation or debris removal).</p> <p>In January and February in-stream works may be carried out for erosion protection if the discharge of sediment as a result of the works is for no more than five days and for more than 12 hours in any one of those five days.</p> <p>Floodgate outlet clearing within the exclusion time is allowed if work area banded to stop release of sediment.</p> <p>(Note: the effects of clearing of drains that discharge into this area are considered minor and can be dealt with under generic standards in the Code of Practice)</p>	<p>shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards (redfin bully recruitment).</p> <p>A consent will be required to undertake instream works between 1 April and 30 June (koaro spawning).</p> <p>A consent will be required to undertake instream works between 1st October and 31st December (koaro recruitment).</p> <p>A consent will be required to undertake in-stream works between 15 April and 30 June (banded kokopu spawning).</p> <p>A consent will be required to undertake in-stream works between 1 August and 30 November (banded kokopu recruitment).</p>	<p>more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards.</p> <p>(Note: the effects of clearing of drains that discharge into this area are considered minor and can be dealt with under generic standards in the Code of Practice)</p>
A47, A48, A49	Makerua Lower Manawatu	Short jaw kokopu Redfin bully Koaro	A consent will be required to undertake in-stream works upstream of the bridge. Works downstream of the bridge are permitted if carried out under the Code of Practice Standards.	[No comment]	Retain original provisions in the Site Specific Special Standards table.
R13	Makerua Lower Manawatu	Dotterels	<p>Between 1 August and 10 January, gravel extraction and bed disturbance on gravel beaches shall only take place:</p> <ul style="list-style-type: none"> when an inspection of the site shows no dotterel are present; or within 7 days following a flood of the area of beach that is the subject of the activity; or 	[bundles these site with other Makerua SOS but does not comment]	Retain original provisions except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
			<ul style="list-style-type: none"> where the extraction or disturbance commenced at the same location prior to 1 August and has not been interrupted for more than 7 days <p>[these are here-on referred to as the original dotterel provisions]</p>		
R19	Makerua Lower Manawatu	Dotterels	<p>Mud and silt dredging shall only occur as an incidental part of gravel extraction.</p> <p>[original dotterel provisions]</p> <p>[this combination is here-on referred to as the original wader and dotterel provisions]</p>	[bundles this site with other Makerua SOS but does not comment]	<p>The wader value does not have to be attributed to reach R19 but retaining it with R18 is operationally useful.</p> <p>Retain original provisions except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards</p>
A37	Lower Manawatu	Brown Mudfish	A consent will be required to undertake drain clearance 200 m upstream or downstream of this site between 1 February and 31 May	A consent will be required to undertake works at this site.	A consent will be required to undertake works at this site.
R15 R16 R13 Also R9 and R14	Lower Manawatu	Dotterels	[original dotterel provisions]	<p>Mud and silt dredging shall only occur as an incidental part of gravel extraction.</p> <p>Between 1 August and 10 January, gravel extraction and bed disturbance on gravel beaches shall only take place:</p> <ul style="list-style-type: none"> within 7 days following a flood of the area of beach that is the subject of the activity; or where the extraction or disturbance commenced at the same location prior to 1 August and has not been interrupted for more than 7 days. <p>[reference to site R9 is not included in Mr Brown's table]</p>	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards.

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
				[These provisions are here-on referred to as the modified dotterel and standard wader provisions]	
R18	Lower Manawatu Moutoa Scheme	Waders Dotterels	[original wader and dotterel provisions]	[modified dotterel and standard wader provisions]	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards
R16	Te Kawau	Dotterels	[identified above]	[identified above].	[it is not necessary to repeat provisions on per scheme basis]
	Whirikino	None	Not listed	[added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
A137, A138 Also A136, A139	Akitio	Redfin bully Banded kokopu Inanga Spawning Whitebait migration	A consent is required to undertake work [in sites A136 and A137]. Avoid works in-stream between 1 November and 1 March where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards.	A consent will be required to undertake instream works between 1 July and 30 November (redfin bully - breeding). Avoid works in-stream between 30 November and 1 February where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards (redfin bully recruitment). A consent will be required to undertake instream works between 15 April and 30 June (banded kokopu spawning). A consent will be required to undertake instream works between 1 August and 30 November (banded kokopu recruitment). Inanga and whitebait refer to generic standards.	Refer to sites A136 (banded kokopu), and A137 and A138 (redfin bully and banded kokopu) because they are adjacent to the works area. Note in the table that a consent will be required to work at these sites. Delete reference to site A139 because it is well away from the works area.

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
R1	Eastern Manawatu	Dotterels	<p>Except at the gravel extraction sites specified below, between 1 August and 10 January gravel extraction and bed disturbance on gravel beaches shall only take place:</p> <ul style="list-style-type: none"> when an inspection of the site shows no dotterel are present; or within 7 days following a flood of the area of beach that is the subject of the activity; or where the extraction or disturbance commenced at the same location prior to 1st August and has not been interrupted for more than 7 days. <p>The gravel extraction restrictions specified above do not apply at the gravel extraction sites listed in Table 3.1 where gravel extraction may be carried out at any time 100 metres upstream and downstream in accordance with the Code of Practice.</p> <p>[these are here-on referred as the gravel extraction exclusion provisions]</p>	[modified dotterel provisions]	Delete reference to gravel extraction sites and change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards
	Ihuraua	None	Not listed	[added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
R17	Kiwitea Scheme	Dotterels	Not listed in error	[modified dotterel provisions].	<p>Add reference to this site and add the following provision;</p> <p>Between 1 August and 31 December January, gravel extraction and bed disturbance on gravel beaches shall only take place:</p> <ul style="list-style-type: none"> when an inspection of the site shows

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
					<p>no dotterel are present; or</p> <ul style="list-style-type: none"> • within 7 days following a flood of the area of beach that is the subject of the activity; or • where the extraction or disturbance commenced at the same location prior to 1 August and has not been interrupted for more than 7 days.
A46, A45, R18, R19, R13, R16, R15, R8	Lower Manawatu	[Various]	[Sites A45, A46, R13, R15, R16, R18, R19 are addressed above. R8 is in the Upper Manawatu and is addressed below]	[An extensive list of conditions already described which are bundled under the Lower Manawatu Scheme]	[It is unnecessary to repeat provisions per scheme. Site R8 should not be ascribed to Lower Manawatu]
R29, R29	Lower Whanganui	Waders Dotterels Inanga Spawning Whitebait migration	Not listed as this Scheme was added after the original Code was developed	<p>Mud and silt dredging shall only occur as an incidental part of gravel extraction.</p> <p>Between 1 August and 10 January, gravel extraction and bed disturbance on gravel beaches shall only take place:</p> <ul style="list-style-type: none"> • within 7 days following a flood of the area of beach that is the subject of the activity; or • where the extraction or disturbance commenced at the same location prior to 1 August and has not been interrupted for more than 7 days. <p>Inanga and whitebait refer to generic standards.</p> <p>[reference to site R20 instead of site R28 is assumed to be in error]</p>	<p>Mud and silt dredging shall only occur as an incidental part of bed disturbance associated with erosion protection work.</p> <p>Between 1 August and 31 December, gravel extraction and bed disturbance on gravel beaches shall only take place:</p> <ul style="list-style-type: none"> • when an inspection of the site shows no dotterel are present; or • within 7 days following a flood of the area of beach that is the subject of the activity; or • where the extraction or disturbance commenced at the same location prior to 1 August and has not been interrupted for more than 7 days.
	Makirikiri	None	Not listed	[added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
R5	Mangatainoka	Dotterel	[gravel extraction exclusion and original dotterel provisions]	[modified dotterel provisions].	Delete reference to gravel extraction sites and change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
	Matarawa	Inanga Spawning Whitebait migration	Not listed	Inanga and whitebait refer to generic standards.	Unnecessary to include in Site Specific Special Standards table
A127, A130, A145, A146, A147	Ohau-Manakau	[Various]	[Sites A127, A128, A145, A146 – consent required] [Site A130 – refer to provisions for site A129 below] [Site A147 – refer to provision for site A148 below]	[Bundled blanket conditions for all species present – refer to provisions for site A129 below]	These sites are either not in the works area, or the original specification was for consent to be required. Delete reference to these sites and rely on the overarching provision that unlisted sites require consent.
A128	Ohau-Manakau	Banded kokopu Redfin Bully	A consent will be required to undertake work at this site	[Bundled blanket conditions for all species present – refer to provisions for site A129 below]	A consent will be required to undertake instream works between 15 April and 1 March.
A129	Ohau-Manakau	Redfin bully	A consent will be required to undertake in-stream works in the Makiokio Stream (A130). A consent will be required to undertake in-stream works in unnamed Muhunoa East trout spawning tributary of the Ohau River. A consent will be required to undertake in-stream works in Ohau River or Tributaries between 1 September and 1 November. Avoid works in-stream between 1 November and 1 March where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and	A consent will be required to undertake instream works between 1 July and 30 November (redfin bully breeding). Avoid works in-stream between 30 November and 1 February where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards (redfin bully recruitment). A consent will be required to undertake in-stream works between 15 April and 30 June (banded kokopu spawning). A consent will be required to undertake in-stream works between 1 August and 30 November (banded kokopu recruitment).	A consent will be required to undertake in-stream works in Ohau River or Tributaries between 1 September and 1 November. Avoid works in-stream between 1 November and 1 March where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring Standards.

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
			monitoring standards.	<p>A consent will be required to undertake in-stream works between 1 May and 30 June (shortjaw kokopu spawning).</p> <p>A consent will be required to undertake instream works between 1 November and 31 December (shortjaw kokopu recruitment).</p> <p>A consent will be required to undertake instream works between 1 September to 31 February (blue gill bully spawning)</p> <p>A consent will be required to undertake in-stream works between 1 November and 31 January (blue gill bully recruitment).</p> <p>Before starting work on a reach, record the number of pools and ensure that works do not reduce the total number of pools within that reach.</p> <p>Indigenous vegetation shall only be removed if it has fallen into the bed of the stream.</p> <p>Willows shall be selectively cleared in accordance with the Code of Practice.</p> <p>A consent will be required to undertake in-stream works (excluding floodgate outlet clearance) between 1 September and 31 December. This includes anything that is carried out in-stream that could release sediment including but not limited to gravel extraction, channel clearance, in-stream vegetation or debris removal (lamprey spawning).</p>	
A148	Ohau-Manakau Scheme	Redfin bully Shortjaw kokopu	A consent will be required to undertake in-stream works in Waikawa River	[Bundled blanket conditions for all species present – refer to provisions for site A129	Retain original provisions for this site.

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
			<p>upstream of where it is crossed by North Manukau Road.</p> <p>A consent will be required to undertake in-stream works in Waikawa River upstream of where it is crossed by State Highway 1 between 1 March and 30 June.</p> <p>A consent will be required to undertake in-stream works in the Waikawa River downstream of where it is crossed by State Highway 1 between 1 September and 1 November.</p> <p>Avoid in-stream works in the Waikawa River between 1 November and 1 March where practicable.</p> <p>Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards.</p>	above]	
R39 R42	Ohau-Manakau	Dotterels Waders Inanga Spawning Whitebait migration	<p>[original wader and dotterel provisions]</p> <p>No removal of riparian vegetation downstream of confluence with Kuku Stream</p>	<p>[standard wader provisions].</p> <p>[modified dotterel provisions]</p> <p>Inanga and whitebait -refer to generic standards.</p>	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards.
A125	Pakahi	Whio	A consent will be required to undertake work at this site.	<p>Between 1 July and 1 March, works that disturb the bed or riparian margin shall only take place:</p> <ul style="list-style-type: none"> when an inspection of the site using suitably qualified avian expert or a 	Retain original provisions or remove reference altogether – this site is not in the works area

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
				who dog shows no who are present.	
A31 A33 A38	Pohangina- Oroua	Brown Mudfish Koaro Redfin bully	A consent will be required to undertake works at these sites	[Bundled blanket conditions for all species present – refer to provisions for site A12 above] [Reference to site A34 is included]	Retain original provisions. Do not refer to A34 – it is not in a works area.
A32	Pohangina - Oroua Scheme	Koaro	No barriers to fish passage in the Pohangina River	A consent will be required to undertake works at [the site for brown mudfish] A consent will be required to undertake in-stream works between 1 April and 30 June (koaro spawning). A consent will be required to undertake in-stream works between 1 October and 31 December (koaro recruitment). A consent will be required to undertake in-stream works between 1 July and 30 November (redfin bully - breeding). Avoid works in-stream between 30 November and 1 February where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards (redfin bully recruitment).	Retain original provisions
R11 R12 R10 R14	Pohangina - Oroua Scheme	Dotterel	[original dotterel provisions]	[modified dotterel provisions]	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards
	Porewa	None	Not listed	[added to the list to indicate no concern]	Unnecessary to include in Site Specific Special

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
					Standards table
A62	Rangitikei Scheme	Redfin bully	Avoid in-stream works in the Waikawa River between 1 November and 1 March where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be documented in accordance with the Code of Practice reporting and monitoring standards.	[not addressed]	Retain original provisions
A63, A64	Rangitikei	Brown mudfish Giant kokopu	A consent will be required to undertake work in site A63 A consent will be required to undertake in-stream works (drain clearance on the Amon Drain/Paranui No. 2 Drain between 15 August and 30 November. Drain spraying of the Forest Road Main Drain shall be undertaken when the drain is not flowing.	Brown mudfish: <ul style="list-style-type: none"> A consent will be required to undertake works at this site. Giant kokopu: <ul style="list-style-type: none"> A consent will be required to undertake in-stream works between 1 October and 31 December (whitebait recruitment) A consent will be required to undertake in-stream works between 1 April and 30 July (spawning season). Drain spraying of the Forest Road Main Drain shall be undertaken when the drain is flowing. 	Retain existing condition for site A63. Change the drain clearance restriction dates to between 1 October and 31 December as proposed by Mr Brown. Change the specification for drain spraying to when the drain IS flowing as proposed by Mr Brown.
R22 R23	Rangitikei	Dotterels	[original dotterel provisions]	[modified dotterel provisions] [reference to site R21]	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards Do not include site R21 – this site is not in the works area.

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
R24	Rangitikei	Waders Dotterels Inanga spawning Whitebait migration	[original dotterel and wader provisions]	[modified dotterel provisions] [wader provisions have been inadvertently overlooked] Inanga and whitebait refer to generic standards.	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards
A2 A3 A4 A5 A6 A7	South East Ruahine	Dwarf galaxias	<p>A consent will be required to undertake instream works in Tamaki East between 1 May and 1 March.</p> <p>A consent will be required to undertake in-stream works in the Kumeti site of significance between 1 September and 31 December.</p> <p>A consent will be required to undertake in-stream works in West Tamaki, Rokaiwhana, Mangapukakakahu, Otamarahu and Oruakeretaki sites of significance between 1 September and 31 December. Machinery used for planting and layering work will be driven up the dry bed of the river in accordance with the standards in the Code of Practice, crossing the wetted channel a minimum number of times.</p> <p>Avoid in-stream works in site of Significance (A3) in Tamaki upstream of Top Grass Road between 1 September and 31 December where practicable. Where it is not practicable to avoid works, sediment from those works shall not discolour more than 25% of the width of the wetted channel at the works site and the reasons why works have been undertaken shall be</p>	<p>Dwarf galaxias:</p> <p>A consent will be required to undertake instream works in the Mangaatua Site of Significance between 1 September and 31 December (dwarf galaxias spawning and recruitment).</p>	Retain original provisions for these sites

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
			documented in accordance with the Code of Practice reporting and monitoring standards.		
A22	South East Ruahine	Short jaw kokopu	No barriers for fish passage (temporary or permanent) will be introduced into the Mangaatua. A consent will be required to undertake in-stream works in the Mangaatua Site of Significance between 1 March and 1 June	A consent will be required to undertake in-stream works in the Mangaatua Site of Significance between 1 May and 30 June (shortjaw kokopu spawning). A consent will be required to undertake instream works in the Mangaatua Site of Significance between 1 November and 31 December (shortjaw kokopu recruitment).	Retain original provisions for this site
A1	South East Ruahine	Dwarf galaxias Koaro	A consent will be required to undertake works between 1 April and 1 June.	[Reference to this site is not in Mr Brown's table, but provisions for it are]. [Dwarf galaxias conditions as reported above] Koaro: A consent will be required to undertake in-stream works between 1 April and 30 June (koaro spawning). A consent will be required to undertake in-stream works between 1 October and 31 December (koaro recruitment).	Retain original provisions for this site
R1 R2 R3	East Ruahine Scheme	Dotterels	[original dotterel provisions] [original gravel extraction exclusion provision]	[modified dotterel provisions]	Delete reference to gravel extraction sites and change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards.
	Tawataia-Mangaone	None	Not listed	[Added to the list to indicate no concern]	Unnecessary to include in Site Specific Special Standards table
A63	Tutaenui Scheme	Brown mudfish	A consent will be required to undertake works at this site.	A consent will be required to undertake works at this site.	Retain original provisions for this site.
A20, A21	Upper Manawatu Scheme	Koaro Shortjaw kokopu	Not listed	A consent will be required to undertake in-stream works between 1 April and 30 June (koaro spawning).	These sites are not in the works area. It is unnecessary to include them in Site Specific Special Standards table

Site	Scheme	Species	Current Code Special Standards	Mr Brown's Recommendation	My Recommendation / comment
				<p>A consent will be required to undertake in-stream works between 1 October and 31 December (koaro recruitment).</p> <p>A consent will be required to undertake in-stream works in the Mangaatua Site of Significance between 1 May and 30 June (shortjaw kokopu spawning).</p> <p>A consent will be required to undertake in-stream works in the Mangaatua Site of Significance between 1 August and 31 December (whitebait recruitment).</p>	
R6, R8, R3, R2, R1,	Upper Manawatu Scheme	Dotterels	<p>[original dotterel provisions]</p> <p>[original gravel extraction exclusion provision]</p>	[modified dotterel provisions]	Delete reference to gravel extraction sites and change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards.
A65 to A76, A80, A81, A82, A85, A105, A102, A103	Upper Whanganui	Whio	<p>Between 1 July and 1 March, works that disturb the bed or riparian margin shall only take place:</p> <ul style="list-style-type: none"> when an inspection of the site shows no blue ducks are present; or within 7 days following a flood of the area of beach that is the subject of the activity; or where the works or disturbance commenced at the same location prior to 1 July and has not been interrupted for more than 7 days. 	<p>Whio:</p> <p>Between 1 July and 1 March, works that disturb the bed or riparian margin shall only take place:</p> <ul style="list-style-type: none"> when an inspection of the site shows no whio are present; or by the use of a suitably qualified avian expert or the use of a whio dog. 	<p>The whio sites are not in the works area.</p> <p>There is no risk in retaining the original provisions (preferred outcome) or having the requirement for consent for these sites.</p>
R37	Whangaehu Scheme	Dotterels Waders Inanga Spawning Whitebait Migration	[original wader and dotterel provisions]	<p>[standard wader provisions].</p> <p>[modified dotterel provisions]</p> <p>Inanga and whitebait -refer to generic standards.</p>	Retain original provisions, except to change the exclusion dates for dotterel to between 1 August and 31 December to align with Permitted Activity Standards

3. REFERENCES

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