BEFORE THE HEARINGS PANEL

IN THE MATTER OF the Resource Management Act

1991 ("the Act")

AND

IN THE MATTER OF the Proposed Horizons Regional

Council One Plan for the Manawatu-Wanganui Region

(Water Hearing)

SUPPLEMENTARY STATEMENT OF EVIDENCE OF JULIAN DERICK WATTS ON BEHALF OF THE MINISTER OF CONSERVATION

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SUPPLEMENTARY STATEMENT OF EVIDENCE OF JULIAN DEREK WATTS

INTRODUCTION

- 1. The purpose of this supplementary evidence is to provide further analysis and recommendations in the light of issues arising from pre-hearing discussions and supplementary section 42A reports which are relevant to the Minister of Conservation's ("the Minister's") submission and further submission on the Water chapters of the Proposed One Plan ("the POP").
- 2. Unless stated below to the contrary, the opinions and recommendations contained in my evidence in chief still stand.
- 3. References below to the POP are to the November 2009 tracked change (pink) version. Where reference is made to the Environmental Code of Practice for River Works ('the COP') this refers to the November 2009 version.

WATER ALLOCATION

Policy 6-12

- 4. I generally agree with the wording of Policy 6-12 as recommended, except that the words "low flow" in the phrase "will be restricted during times of low flow where the water is surface water" should, in my opinion, be amended to "minimum flow" in order to be consistent with the recommended amendment to Policy 6-19 (now Policy 15-11) on page 14 of Ms Barton's supplementary report.
- 5. The policy should also be made more consistent withthe circumstances under which restrictions would apply in particular to maintain flow variability under Policy 15-10.
- 6. I agree that the detail of Policy 6-12 should be relocated to the Regional Plan part of the POP and the term "justifiable" deleted, since this policy does not encompass what is 'justifiable' under the Resource Management Act 1991 ("the RMA"). In addition, the heading should be reworded to reflect the amended scope of the Policy, since the policy also now refers to efficient use of water and consideration of alternative sources of water.

Recommendation:

7. Policy 6-12 be further amended to read:

"Policy 6-12 Use of water – general

The amount of water taken by resource users shall be reasonable for the intended use. The water must be used efficiently, and, where the water is surface water, use will be restricted during times of low flow when the river drops to or below its minimum flow and in order to maintain flow variability. Consideration must be given to reasonably available alternative water sources"

Policy 6-19 (now Policy 15-11) – Continuation of takes at or below minimum flow

- 8. In my evidence in chief I noted that it was not possible to form a position in response to the Section 42A recommendations on Policy 6-19 until it was made clear when and how this policy would apply. The phrase "in times of low flow" was particularly uncertain. This has now been clarified by the recommendation that the phrase "in times of minimum flow" be used instead which is supported.
- 9. My understanding is that minimum flows have been set on a sound scientific basis, in order to provide for sustainable management of water resources. They set a limit which would enable the Objectives of the POP (in particular Objectives 6-1 and 6-3) to be met, including those relating to safeguarding life supporting capacity. To my mind they underpin the whole POP approach to water allocation and a failure to provide for them is a serious matter which should only be contemplated in exceptional circumstances after all other measures to avoid, remedy or mitigate adverse effects, and alternatives, have been considered.
- 10. The Minister's submission included two concerns that in my opinion have not been adequately addressed in revised Policy 15-11.
- 11. Firstly, the presumption in favour of continuing 'essential' takes covered by the Policy regardless of river flow would not be consistent with the purpose of the RMA, since, as notified, Policy 15-11 provides no ability to consider adverse effects on the environment arising from the wide range of takes covered by the Policy as required by section 14 (3) of the RMA.
- 12. This is because the policy provides no limitations on the total amount of water taken and no provision for consideration of adverse effects. It indicates that such takes "shall be allowed to continue regardless of river flow" (italics added). This is compounded by the absence of reference to the possible introduction of water shortage directions or other qualifiers on 'reasonable use'.
- 13. Furthermore, in order to be consistent with Policy 15-11, decisions under Rule 15-5 in relation to stock drinking water and domestic supply takes would need to allow takes for these purposes to continue 'regardless of flow'. As noted, I do not regard that such decisions would be consistent with the purpose of the Act. I note that revised Policy 6-12 contemplates that surface water takes 'will be restricted at 'at times of low flow'.
- 14. I acknowledge that there may be exceptional and/or temporary circumstances under which takes below minimum flow may be justified, even if they do have

- more than minor adverse effects. This would include domestic water supply needs and reasonable and justifiable needs for stock drinking water.
- 15. In my opinion, the concerns raised in this part of the Minister's submission could be addressed by the following further amendments:
 - a. insertion of reference to water shortage directions as an over-riding mechanism. Reference to the issuing of a water shortage direction (under section 329 of the RMA) to maintain life supporting capacity and provide for other values was sought in the Minister's submission (372/36) in relation to Objective 6-3, which refers to 'times of water shortage' but I also believe it is appropriate to deal with that matter in this Policy in order to provide for consistency with that Objective;
 - b. reference to the requirements of Policies 15-8 and 15-9 relating to efficient use and use of alternative sources of water;
 - c. a requirement for 'essential takes' to minimise the amount of water taken and to take all other reasonable measures to avoid, remedy or mitigate adverse effects on the environment.
- 16. The second concern is related to 'essential' takes for industry. The Minister sought the deletion of paragraph 6-19 (b)(vi) (now (b) (iii)) on the grounds of ambiguity and uncertainty. In my opinion, the terms 'industry', 'community', 'significantly compromise' and 'well-being' are excessively general, particularly given the Policy's presumption that activities within its scope shall be allowed to continue to take water regardless of flow (and adverse effects on the environment). Because these terms are so general, the effects on the environment of applying it are difficult to assess, but to my mind there is a serious risk of inconsistency with the intent of the POP (in particular Objectives 6-1, 6-3 and 15-1) and the purpose of the RMA.
- 17. In addition it is not clear whether 'industries' applies as a collective term or relates to individual premises or activities, and the status under this policy of takes for farming (over and above stock drinking water) or other land-based activities, such as vegetable-washing, is also not clear.
- 18. For these reasons I do not consider that this part of the policy provides adequate guidance for decision-makers or certainty that potential adverse effects on the environment will be adequately managed.
- 19. I support the limitation of clause (b) (iii) requiring industry takes to be lawfully established takes since this makes it clearer that the policy is only to apply to existing activities and new activities should be expected to comply with the allocation framework. The addition of a footnote explaining that this policy does not introduce any new requirement to review established takes would in my opinion be useful.
- 20. However, I do not consider that such industry takes should be regarded as 'essential' in the same sense as those required for domestic needs or the needs of animals, or that there should be such a strong presumption in favour of allowing takes to continue 'regardless of river flow'. Such takes should in my

opinion be afforded a lower status than the other more 'essential' takes, and greater discretion afforded to decision-makers in determining whether they are appropriate.

21. Drawing a distinction in policy terms between these types of takes at times when the river is at or below minimum flow would in my view be consistent with the distinction drawn between them 'in times of water shortage' under Objective 6-3(a)(ii) which provides that:

"in times of water shortage, takes are restricted to those that are essential to the health or safety of people, communities or stock, for drinking water and other takes are ceased."

Recommendation:

22. That Policy 15-11 be amended to read as follows:

Policy 15-11: Apportioning, restricting and suspending takes in times of minimum flow

When the river is at or below its minimum flow takes shall be managed in the following manner, <u>subject to the provisions of any water shortage directions</u>, and Policies 15-8 and 15-9:

- (a) **Permitted takes** Takes that are permitted by this Plan (surface water and groundwater takes) or are for fire-fighting purposes shall be allowed to continue regardless of river flow.
- (b) **Essential takes** The following core water allocation takes shall be deemed essential and shall be managed in the manner described.
 - (i) takes greater than permitted by this Plan (and therefore subject to resource consent^) that are required to meet an individual's reasonable domestic needs or the reasonable needs of an individual's animals for drinking water shall be allowed to continue regardless of river flow. Reasonable needs shall be calculated as follows:

 a. up to 250 litres per person per day for domestic needs.
 - b. up to 70 litres per animal per day for stock drinking water.
 - takes greater than permitted by this Plan (and therefore subject to resource consent^) that are required to meet an individual's reasonable domestic needs or the reasonable needs of an individual's animals for drinking water—may shall—be allowed to continue regardless of river flow. Reasonable needs shall be calculated as up to 70 litres per animal per day for stock drinking water.

- (iii) takes required to meet the reasonable needs of hospitals, other facilities providing medical treatment, marae, schools or other education facilities, defence facilities or correction facilities, or other services or facilities which are essential to public health or safety shall be allowed to continue regardless of river flow
- (iv) public water supply* takes shall be restricted to a total public water consumption calculated as follows:
 - (A) an allocation of 250 litres per person per day for domestic needs, plus
 - (B) an allocation for commercial use equal to 20% of the total allocation for domestic needs, plus
 - (C) an allocation which meets the reasonable needs of those facilities listed under subsections (b)(ii) where such facilities are connected to the public water supply* system, plus
 - (D) any allocation necessary to cater for the reasonable needs of livestock that are connected to the public water supply system, plus
 - (E) an allocation for leakage equal to 15% of the total of subsections (A) to (D) above.

All takes which are considered under (b) (i) to (iv) shall be subject to the requirement to minimise the amount of water taken and to take all other reasonable measures to avoid, remedy or mitigate adverse effects on the environment.

(c) Non-essential takes Other takes

- (i) takes which were lawfully established¹ at the time of this Plan being notified which are required for the operation of industries which, if their take were to cease, would significantly compromise a community's ability to provide for its social, economic or cultural well-being or for its health or safety, shall may be allowed to continue regardless of river flow, but shall be required to minimise the amount of water taken and to take all other reasonable measures to avoid, remedy or mitigate adverse effects on the environment to the extent reasonable
- (ii) Other core water allocation takes, including irrigation takes but excluding the essential takes described under subsections (a), (b), and (c)(i) shall be managed in the following manner:
 - water takes shall be required to cease when the river drops to at or below its minimum flow, as set out in Policy 6-16

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¹ "Lawfully established" does not imply that existing consent conditions will be subject to review. This Policy is intended to be implemented when existing consents for such activities expire and new consents are sought for the same activity.

- water takes shall be allowed to recommence once the river flow has risen above its minimum flow.
- (d) **Meaning of 'core water' allocation take'** For the purposes of this policy, a core water' allocation take means a take that has been granted consent in accordance with a core water' allocation made under Policy 6-16, or in accordance with a previous core water' allocation regime. 16

This policy implements Objective 15-1

PROPOSED ONE PLAN - BEDS OF RIVERS AND LAKES

Chapter 6 - Reference to Natural Character

- 23. In my understanding, Chapter 7 of the POP provides for the overall approach to management of effects on the natural character of the coast and rivers and lakes and their margins. As indicated in the evidence of Dr Fuller and Mr Williams, and in the framing of Issue 6-3, activities in the beds of rivers have had, and are likely to continue to have, particular and significant effects on natural character. In my view, it is appropriate to have provisions relating to them in both Chapter 6 and Chapter 7 of the POP, with adequate cross-referencing between them, and with Chapter 16.
- 24. I note that Ms Barton's supplementary evidence recommends that some of the provisions relating to natural character which were sought in the Minister's submission be allowed, but that they be added to Chapter 16, rather than to Chapter 6 as requested. However if this is to occur then in my opinion adequate reference to natural character matters still needs to be is retained in Chapter 6 through Policy 6-27, in order to enable Issue 6-3 to be adequately addressed.

Recommendation:

25. Add the following clause to Policy 6-27:

"Policy 6-27: General management of river and lake beds

Activities in, on, under or over the beds of rivers and lakes shall generally be managed in a manner which:

(b) has particular regard to the objectives and policies in Chapter 7 relating to natural character"

Chapter 16

Cross referencing

26. I agree with Ms Barton's recommended addition of an objective (Objective 16-1) to Chapter 16. However for the reasons noted above in Para 23, my opinion is that this Objective 16-1 should recognise and provide for the objectives and policies of Chapter 7 (and Chapter 12) as well as Chapter 6, since the provisions of Chapter 16 are an important means by which effect is to be given to Chapter 7 (as well as Chapter 6) provisions, and a close interrelationship with Chapter 12, particularly in relation to natural character and biodiversity of rivers, lakes and their margins.

27. For similar reasons Policy 16-1 should, in my view, refer to Chapter 7 and 12 in addition to Chapters 6, 10 and 3.

Recommendations:

28. Amend Objective 16-1 to read:

Objective 16-1: Regulation of certain uses of beds of *rivers*^, *lakes*^ and artificial watercourses

Structures and activities in the *beds*^ of *rivers*^, *lakes*^ and artificial water courses are controlled in a manner that:

- (a) recognises and provides for the water management values set out in Schedule Ba; and
- (b) recognises and provides for the objectives and policies of Chapter 6 and Chapter 7 as they relate to *river*^ and *lake*^ beds.
- 29. Add further sub-clauses to Policy 16-1 to read
 - "(h) recognise and provide for the provisions of Chapter 7 in relation to natural character
 - (i) recognise and provide for the provisions of Chapters 7 and 12 in relation to biodiversity."

Policy 16-3 General management of River and Lake Beds

- 30. Appendix 2 of the Provisional Determination of the Panel on Chapter 7 Landscape and Living Heritage includes a general description and explanation of the term 'natural character' (p 7-1).
- 31. However the Minister's submission (372/45 and 372/46), also sought further certainty that effects specific to river morphology and associated biodiversity values be identified and addressed in terms of the RMA. These effects and values are described in detail in the body of the submission (pp.16 19). Ms Barton's recommendation goes some way towards achieving this in a manner consistent with the evidence of Dr Fuller. Mr Williams and Mr Brown.
- 32. However in my opinion Policy 16-3(c) as recommended by Ms Barton is framed more as explanatory wording rather than guidance on how natural character is to be identified and assessed, and the specific reference to Policy 7-8 is in my view unnecessary.
- 33. In addition, although Policy 16-3 refers to Chapter 7, this is only in relation to avoidance or mitigation of effects on natural character, and the policies in that chapter. In my opinion, reference should also be made to Objective 7-2 which (in the Provisional Determination) also refers to remedying adverse effects (sub-clauses (b) (i) and (b)(ii) and rehabilitation or restoration of natural character (clause (c)).

34. In addition to the above, in my opinion the part of this policy dealing with natural character should be separated from the part relating to public access, since these are discrete issues and relate to different parts of the RMA.

Recommendation

35. Amend clause (c) of Policy 16-3 to read:

Policy 16-3 General management of River^ and Lake^ Beds^

- (c) manages effects on natural character (including cumulative effects) in accordance with the relevant objectives and policies in Chapter 7. Particular regard will be given to the maintenance and where appropriate restoration, at the appropriate geomorphological scale, of
 - natural meander and braiding patterns
 - quantity and quality of bed habitat, including riffle, pool and run sequences
 - connectivity between the river and its flood plain (including riparian margins and wetlands)
- 36. Add new sub clause (d):

"(d) manages effects on public access in accordance with the relevant policies in Chapter 7."

Method 6-9

- 37. In my opinion, Method 6-9, as recommended in Ms Barton's report, would assist in providing clearer guidance on how the relevant provisions of Chapters 6, 7 and 16 relating to the natural character of the region's rivers are to be implemented.
- 38. However the Minister's submission (372/46) sought that indicators for assessing and monitoring changes to the natural character of rivers be linked to management approaches "to optimise both flood hazard reduction and maintenance/rehabilitation of natural values associated with the river corridor". The additional wording which I have recommended in this method (page 62 of my evidence in chief) is intended to provide for this link to river management.

Policy 6-32 (now 16-8) Gravel extraction

- 39. Ms Barton has recommended the addition of new sub-clauses to Policy 16-8. I note that the recommended amendments do not address the fundamental concerns raised in my evidence (paras 158 to 161).
- 40. The recommended new sub-clause (d) provides some guidance for decision-makers in relation to rivers not included in Table 16.1(a). However, the effects to be considered should also include impacts (or, more properly, effects) beyond the boundary of an individual site and include upstream and

downstream and cumulative effects, as has been discussed in my evidence and the evidence of Dr Fuller and Mr Williams.

Recommendation:

41. Sub-clause (d)(ii) of Policy 16-8 (as recommended) be amended to read:

"(d) (ii) the site specific impacts effects and upstream, downstream and cumulative effects"

ENVIRONMENTAL CODE OF PRACTICE FOR RIVER WORKS (COP) AND RELATED MATTERS

Rule 16-13 - Activities for flood control or drainage

Thresholds on scale, frequency and duration for permitted activities

42. In paragraphs 174 to 177 of my evidence in chief I refer to the absence of limits on the scale, frequency or duration of activities which can be undertaken under the COP without the requirement for a resource consent. This issue remains outstanding and so I will focus on it in more detail and recommend how it might be resolved.

Thresholds on scale of activities

- 43. The main reason that I consider the necessity for thresholds on the scale of activities which can be undertaken under the COP without a consent is that the COP is limited to the management of individual site and activity-specific effects. It does not provide for the management of upstream, downstream, cumulative or other 'higher order' effects of river works on the physical characteristics of rivers on a broader geographical scale or a wider time horizon than are covered by the COP. Such effects are described in various parts of the evidence of Dr Fuller, Mr Williams and Mr Brown.
- 44. The absence of thresholds is a particular concern when the activity in question seeks to permanently alter or limit the course of a river through the introduction of 'hard' bank structures or new stop banks. Under the COP there is no limit on the length or geographical scale of such activities which can be undertaken, or the cumulative total length of river which can be affected in this manner without a resource consent. Nor are the standards in the COP directed to managing cumulative effects of works permitted by the Schemes.
- 45. I acknowledge that following discussions with the Department of Conservation and Fish and Game amendments have been made to the COP which are aimed at ensuring that the alignment of works such as lateral walls and gabions are consistent with the natural meander curvature of a river and (in some instances) do not lead to shortening or narrowing of channels or loss of bed substrate diversity. These amendments are strongly supported since they go a significant way towards ensuring that natural character will be preserved.

- 46. However as the scale of such works increases, so too does the uncertainty over whether the appropriate alignment has been selected, and whether there are alternative approaches to flood risk management which have less impact on natural processes. Large scale works are also likely to raise issues relating to visual and amenity values which would be less of a concern if the scale of works is relatively small.
- 47. Such 'higher order' effects are not dealt with through Scheme Plans, since these plans are not prepared under the RMA and focus on the protection of infrastructure, property and land from erosion and flooding and not on the full range of RMA matters. The introduction of thresholds would enable such an assessment to take place for large scale projects.
- 48. In Table 2 of his supplementary evidence Mr Cook notes that I have not proposed any specific thresholds in my evidence. The reason that I did not recommend specific thresholds in my evidence is that I believe that the onus to provide them should lie with the operator or the consent authority in the first instance. During pre-hearing discussions I did put forward suggested threshold for inclusion in the POP to the Operations Group, based on thresholds in other operative plans. These were rejected by Mr Cook and no alternatives have been suggested.

Recommendation:

49. In the absence of agreed alternatives, I recommend that the relevant performance standard relating to 'hard' bank structures in the Operative Plan for the Beds of Rivers and Lakes in the Horizons Region (BRL Rule 22 (c)(i)), with the addition of reference to 'permanently fixed' structures should form the basis for a permitted activity performance standard in the One Plan (by way of exclusion) either within the COP itself or within Rule 16-13; i.e.

"This Rule excludes new or additional solid or permanently fixed bank protection structures within the beds of rivers with a a linear length of more than 100 metres for any new continuous section, or for extensions to existing works, a linear length of more than 100m per annum and a cumulative maximum continuous linear length of 500 metres. Such structures include lateral walls, rip rap, groynes, permeable mesh units, rock linings and stopbanks."

Thresholds on frequency and duration of activities

50. Managing the cumulative effects of regular or frequent bed disturbance is one of the main reasons for introducing thresholds on frequency and duration of activities. I understand that pre-hearing discussions have taken place on the issue of frequency and duration of bed disturbance in relation to activities in the beds of rivers and lakes in general, in relation to Table 16-1, and a draft amendment to the performance standard (c) and (d) in relation to Life Supporting Capacity has been agreed between Horizons, Fish and Game and Department of Conservation experts as follows:

- "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.
- (i) 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 and no more than one event in any 12-month period. 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."

Recommendation:

51. In my opinion, the above permitted activity standard would also be appropriate to activities undertaken under Rule 16-13 of the POP and should be generally applied to them (as a generic standard).

Other Issues relating to the COP

52. In the light of Ms Barton's and Mr Cook's supplementary evidence, I have reviewed my position on the concerns raised in the Minister's submission on the COP. I agree with their analyses and conclusions on a number of points and my response and recommendations are now as follows.

Sections of the COP to be referenced from or within Rule 16-13 (and any other relevant parts of the One Plan)

- 53. I agree with Mr Cook that sections 1-6 inclusive of the COP (pages 1 to 22 of the November 2009 version) should not be referenced from or form part of Rule 16-13. This is because I do not consider them relevant to, or appropriate for, determining whether an activity is permitted by Rule 16-13.
- 54. I agree with Mr Cook that Parts Two and Three of the COP (pages 35 to 152 of the November 2009 version) should be referenced from or form part of Rule 16-13.
- 55. The Definition of Terms (pages 181 to 187 of the November 2009 version) should also in my opinion either be referenced from Rule 16-13 or form part of the Glossary in the POP. Otherwise I agree that Parts Four and Five and the Appendix (which I understand replicates material already in the POP) should not be referenced from Rule 16-13.
- 56. My opinions differ from Mr Cook's with respect to Part One (pages 25 to 32of the November 2009 version). I make the following comments and

- recommendations in response to the recommendations in Table 2 of Mr Cook's supplementary report:
- 57. Section 7 in the August 2009 version (to which I assume Mr Cook is referring) has been moved to page 25 of the November 2009 version as subsection 1. I agree that reference might appropriately be made to the various types of standards and the need for a consent if they cannot be met. However I do not agree that evaluative statements such as "they constitute the best methods" or "they constitute the environmental bottom line" are relevant or appropriate. This page should in my opinion either not be referenced from the POP or should be amended to simply provide a factual statement of how the standards apply.
- 58. With respect to Part One Section 2.1 Planning (p. 27), the first sentence of 2.1 is not in my opinion consistent with the wording of Part 2 of the RMA particularly with respect to 'minimising' the environmental impacts of the works rather than avoiding, remedying or mitigating them. Whilst I would not have any significant concerns with the wording following the bullet points in the rest of this section, they do not in my opinion cover all of the matters to be 'taken into account' and the phrase 'taken into account' is not in all cases consistent with Sections 5, 6 and 7 of the RMA, e.g. it is not adequate simply to 'take account' of such matters as preservation of natural character. In my opinion this section as drafted should not be referenced from the One Plan or form part of it.
- 59. Inclusion of Section 2.2 (Morphological Characteristics) as part of a permitted activity performance standard is in my opinion and on further reflection problematic, despite the stated intent to monitor the effects of river works, which I would strongly support. In addition to the methodological concerns raised in my evidence I am concerned that a monitoring standard of such a wide-ranging nature (with a lack of certainty over how it would be implemented) would not be appropriate as a performance standard in a rule. I therefore recommend that the issues which it seeks to address should be considered during the implementation of Method 6-9 instead (through the changes to that method recommended on page 62 of my evidence), and that it is not referenced from Rule 16-13.
- 60. Sections 2.3 to 2.4.1 (ie p.30 and 1st para of p.31) are in my opinion internal procedural matters for the Operations Group. Compliance with POP standards which are subject to 'practicability' should be determined by the consent authority. The criteria listed in paragraph 2.4.1 may assist operators in their reporting procedures but they should not in my opinion be implied to be a substitute for determination of compliance or constitute performance standards. I therefore recommend that they are not referenced from Rule 16-13.
- 61. I agree with Mr Cook's recommendation that Section 2.4.2 on Generic Standards (pages 31 to 32 of the November 2009 version) should be referenced from or form part of Rule 16-13. In general these standards are in my view appropriate standards which should be applied to all activities.

62. In addition to the above, Mr Cook recommends that Section 1.3 'Scope of the Code of Practice' (p.2) is inserted into Part One of the COP and hence is referenced from Rule 16-13. In my opinion Section 1.3 provides useful explanatory background but would not normally be appropriate to include within or be referenced from a rule. It might perhaps be included in the POP as background text elsewhere in the plan instead (or be referenced from elsewhere in the plan).

Detailed wording of Standards

63. In the light of Ms Barton's and Mr Cook's supplementary evidence, and changes made to the COP August 2009 version I have also reconsidered and revised my position on the Generic and Activity-specific standards in the COP. I agree with Mr Cook's recommendation regarding Generic Standard 2 (Table 2, last paragraph of his supplementary evidence). The table below is a list of the other changes to activity descriptions and/or standards which I would still consider necessary in order to address the concerns raised in the Minister's submission.

Heading and Activity Description	Recommended amendments to standards.
Gravel Management (Including Channel	9 The activity is not to
Realignment and Diversions):	permanently shorten the channel or
	to cut off meanders.
Stopbanks within the beds of rivers:	
Construction of new earth embankments or	
<u>extending</u> or upgrading existing earth	
embankments or other flood retaining	
structures The purpose of this activity is to	
provide for flood protection purposes within	
the beds of rivers. This includes stripping	
vegetation and topsoil from affected areas,	
importation and placement of fill material,	
compaction, shaping, trimming, top soiling	
and re-grassing. {NB Stopbanks outside the	
bed of a river are to be deleted from this	
activity]	
Tied Tree Edge Protection (Trenched and	2A The activity is to be
Anchored Willows):	undertaken using sterile or non-
	invasive willow species only.
	6 The extent of bank shaping
	and contouring will be the
	minimum required to establish the

Edge Vegetation Management, Layering and Removal:	Tree	plants and alignment will be on a curvature that fits the natural meander curvature of the channel. 7 Trees of non-native species which are reducing the channel capacity or are undesirable species such as grey or crack willow shall be removed where practicable and replaced with native species to maintain plantings where appropriate and practicable. Removal of native trees shall be avoided where practicable.
Tree Planting:		6 Planting shall aim to produce a multi-tiered canopy consisting of ground cover, shrubs and trees that will reduce the opportunity for weeds to flourish and to utilise species native to the locality as far as practicable.

Alternative approaches

- 64. Ms Jamieson's legal submissions will address the issue of whether the above material should sit in relation to the POP.
- 65. An alternative to referring to such sections of the COP could be the inclusion of relevant sections of the COP in the body of the POP (possibly as a schedule or annex to Chapter 16). This alternative may be preferred given legal uncertainty over the ability to amend a document incorporated by reference through decisions on submissions.

That concludes my supplementary evidence. I am happy to answer any questions on it

Julian Watts March 2010