

BEFORE THE WEST COAST REGIONAL COUNCIL

IN THE MATTER

of the Resource Management Act
1991

AND

IN THE MATTER

of the proposed Plan Change 1 to the
West Coast Land and Water Plan.

**STATEMENT OF EVIDENCE OF DR JANE MARSHALL
FOR THE DIRECTOR-GENERAL CONSERVATION**

Submitter Number #14:

Dated: 7 June 2018

Department of Conservation
Private Bag 4715, Christchurch 8011
Attention: K Murray
Email: kmurray@doc.govt.nz
Telephone: 03 3713759
Counsel Acting: D van Mierlo

Introduction

1. My name is Jane Elizabeth Marshall. I hold the degrees of Bachelor and Master of Science from the School of Biological Sciences at Canterbury University and Doctor of Philosophy from the Botany Department of Otago University.
2. I have been employed as a terrestrial ecologist for the Department of Conservation (DOC or the Department) on the West Coast since 2006. Prior to this, I was employed by DOC as a field assistant in Otago and Southland.
3. In my role with the Department, I provide technical advice about terrestrial ecology internally to West Coast Operations, Planning and Statutory Land Management teams with regards particularly to plant ecology, flora values and ecological significance assessments. I also provide advice to community groups engaged in conservation.
4. Since 2012 I have provided on going advice to the WCRC on the variations sought to boundaries of wetlands identified in Schedules 1 and 2 of the Land and Water Plan.
5. This statement provides information on my provision of expert opinion to the WCRC on the identification of wetland boundaries for sites described in Schedule 1 and 2 of the Land and Water Plan.
6. Although this is not an Environment Court hearing, I have read and agree to comply with the Code of Conduct for Expert Witnesses produced by the Environment Court. My qualifications as an expert are set out above. Other than any matters identified within my evidence as being from other experts, I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Wetland Boundary Assessments

7. Between 2011 and 2017 the WCRC as the lead agency, in consultation with DOC responded to land owner requests to adjust boundaries of many wetlands listed on schedule 1 and 2 of the Land and Water Plan (the Plan).

There was a process undertaken with each land owner at each site and this statement outlines my involvement in that process.

8. My role in this exercise was to provide expert ecological advice on the physical extent of the wetland on the ground. The goal was not to determine the ecological significance of a wetland with reference to Appendix 3 of the Plan.
9. Initially the staff member for WCRC visited landowners and did a site visit to the disputed boundaries. With each site visit WCRC staff prepared a report that described the sites, provided maps of the initial wetland extent and the proposed changes, and provided photos taken from different aspects of the sites. The reports were forwarded to DOC and were assessed by ecological advisors. Reports were assessed as either 1) providing enough information and the Department could agree to the proposed boundary change or 2) did not provide enough information to make an informed decision. Where the latter was the case landowners were asked if they would allow a site visit by a DOC ecological advisor.
10. Where the landowners wished to proceed with further assessments by DOC staff, then WCRC staff arranged another site visit with the land owner and myself.
11. During the second site visit, most often with the landowners the site was traversed, site characteristics were discussed and noted, in many instances lines were drawn on maps to reflect proposed changes discussed on site. Following the site visit the WCRC staff would prepare further notes which reflected proposed boundary changes and reasons why those changes were made.
12. The approach taken to determine where the boundary of the wetland lay, considered a combination of wetland characteristics: hydrology, soils and topography, and the vegetation of the site. A site, or part of a site was, considered to be, or be a part of a wetland on the balance of evidence. Main drains were in many instances proposed as the boundary for wetlands, as activities that occurred to the farm side of the drains were

buffered by those drains. Relevant literature^{1,2} was consulted when necessary, as was the Land Environments of New Zealand classification (Leathwick et al. 2002).

13. The primary ecological driver of wetlands is the hydrology (Gerbeaux and Johnstone 2004), and the hydrological systems associated with the wetland were assessed including farm drains, creeks, ponds and lakes.
14. The vegetation cover was noted by walking transects, across the disputed boundaries, and assessing the vegetation at several sites along that transect. Where appropriate and possible an inspection of the length of the boundary was undertaken as well. Vegetation was assessed as either wetland specialist, or tolerant of wetland conditions, or not wetland species.
15. Proposed amendments were discussed on site in many instances. On the occasions where this wasn't possible due to the complexity of the hydrology and/or vegetation on site, further investigation was completed with reference particularly to the Landcare guide to delineation of wetlands and other relevant research. In these instances, I would communicate my final assessment of the site to the WCRC and their staff would finalise the reports with their recommendations.

Conclusion

16. The final reports and recommendations made by the WCRC in respect of the wetland boundaries³ reflected, in the significant majority of cases proposed changes that were made following site visits, and which reflected my ecological advice. In four instances (identified in the D-G's submission) questions as to the most appropriate boundary remained, but I understand all those sites have now been resolved, and that this will be confirmed in legal submissions to be presented for the Director-General of Conservation.

Dr Jane Marshall

7 June 2018

¹ Clarkson, B.R. 2013. A vegetation tool for wetland delineation in New Zealand. Landcare Research.

² McGlone, M. 2009. Post glacial history of New Zealand wetlands and implications for their conservation. *NZ Journal of Ecology* 33 (1).

³ Sec32 Report WCRC 2016

References

Leathwick, J. L. et al. 2002. The Land Environments of New Zealand
Classification.

Johnson, P and Gerbeaux, P. 2004. Wetland Types in New Zealand.
Wellington. DOC.