

Submitted to
IPWEA

National Policy Statement for Freshwater Management

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MWH[®]

BUILDING A BETTER WORLD

Overview of Presentation

- **Focus on water quality not quantity (ie minimum flows)**
- Summary of main water quality issues in NZ
- Outline of the NPSFWM, focusing on policies relating to setting water quality limits
- Presentation of context for the numbers in Appendix 2 “Attribute Tables”
- Implications for owners and operators of infrastructure:
 - Existing long term consents could be reviewed and made more restrictive
 - Limits for new or renewal consents likely to become more restrictive
 - Changes will happen within 10 years, within LTP timeframe



Main Water Quality Issues in NZ

- Nutrients, including nitrogen and phosphorus
- Sediment
- Bacteria



NPSFWM

- NPSFWM supports improved freshwater management
- Directs Regional Councils to establish objectives and set limits for fresh water in their plans for both water quality and quantity.
- Already required by 2011 NPS, but 2014 gave further direction
- No obligations on TAs but has implications for the operation of infrastructure
- 2014 Timeframes changed:
 - Full implementation by 31 December 2025 (rather than 2030)
 - If cannot implement fully by 31 December 2015, then formal adoption of programme to achieve implementation by 2025, with public reporting.



Specific Water Quality Policies

- Section A: 2014 similar to 2011
- Policy A1: RCs to establish FW objectives and quality limits for all **FMUs** (rather than water bodies)
- Policy A2: If FMU not meet FW objectives, specify target and implement methods to assist improvement within timeframe
- Policy A3: Impose conditions on discharge permits and make rules to achieve compliance
- Policy A4: Interim policy on any new or changed discharges
- **FMU: water body, multiple water bodies or any part of a water body at appropriate spatial scale to set freshwater objectives and limits**



New Specific Water Quality Rules

- 2014: New Sections
 - CA: National Objectives Framework
 - CB: Monitoring Plans
 - CC: Accounting for takes and contaminants
- Policy CA1: Establish FMUs
- Policy CA2: Process for developing FW Objectives
 - Values
 - Attributes for that value (similar to parameter, ie nitrate or periphyton)
 - **Attribute state (Grade A, B or C, which is the National Bottom line, NBL)**
 - Numeric attribute state (similar to standard, limit or guideline number)
 - For attributes with more than one value, the most limiting one becomes the limit
 - At all points in process, consider current state, spatial scale, implications, choices between values, timeframes etc
- Policy CA3: Compulsory values have to be above NBL, except if natural or existing infrastructure
- Policy CA4: Transitional phase for FMUs below NBL, with timeframe



Numeric Attribute States (Water Quality Limits)

- Numbers in Appendix 2:
 - Normally apply after reasonable mixing, not end of pipe
 - Trophic state of Lakes are:
 - Similar to the existing guidelines for TN, TP and Chl-a
 - Similar to TN and TP, similar to those specified in Schedule 15 of the ORC Water Plan
 - Less restrictive than current standards in the ES Water Plan for Chl-a
 - Trophic state of rivers
 - Similar to existing guidelines and standards in ES Water Plan for periphyton cover and dissolved oxygen



Ammonia (Lakes and Rivers)

Source	Limits
NPSFWM: Ecosystem Health: toxicity	<i>Max: 0.05, 0.4, 2.2</i>
ANZECC 2000 Guidelines: Toxicity	<i>Chronic: 0.32, 0.9, 1.43, 2.3</i>
ES Regional Water Plan: Appendix G	<i>Max: 0.32 or 0.9 dep on class</i>
Otago Regional Council: Schedule 15	<i>80%ile when flow < median, except lakes Group 1, 2 and 4: 0.1, Group 3 & 5: 0.01</i>



Nitrate (Rivers)

Source	Limits
NPSFWM: Ecosystem Health: toxicity	<i>95%ile: 1.5, 3.5, 9.8</i>
ECan Toxicity Guidelines	<i>Chronic: 1, 1.7, 2.4, 3.6 Acute: 20</i>
ES Regional Water Plan: Appendix G	None specified
Otago Regional Council: Schedule 15	<i>80%ile when flow < median Group 1: 0.44, Group 2 & 3: 0.075</i>
NZ Periphyton Guideline: gravel/cobble bed streams	<i>SIN Range from 0.01 to 0.295</i>



E.coli (Lakes and River)

Source	Limits
NPSFWM: Human Health for recreation	Median: 260, 540, 1000
ES Regional Water Plan: Appendix G	Most classes: max: 1000 FC Bathing areas / sensitive classes: max: 130 EC Mataura 1: median: 2000 FC Mataura 2: median 200 FC
Otago Regional Council: Schedule 15	<i>80%ile when flow < median, except lakes</i> Group 1 & 2: 260, Group 3: 50 Group 4: 126 Group 5: 10
MfE/MoH Recreational Guidelines, MAC Grades	95%ile: 130, 260, 550



National Values (App 1 of NPSFWM)

- Compulsory National Values:
 - Ecosystem health, includes (among others):
 - “management of adverse effects of ... excessive nutrients, algal blooms, high sediment loads, ...”
 - Nutrient effects not considered in limits in Appendix 2, currently no standard specified in Rivers for P.
 - Expect that limit setting process will result in **lower, more restrictive, limits** than those in Appendix 2 if nutrient effects are considered.
 - Human Health for Recreation
 - bacteria
 - cyanobacteria



Conclusion

- Numbers in Appendix 2 will not be the final limits as nutrient effects not considered.



Expect lower numbers for N and P

- The Attribute state assigned to a water body (ie A, B or C) significantly affects the resultant numeric limit
- Important for the TAs to:
 - Be actively involved in the limit setting process required by the NPSFWM
 - Process managed by Regional Council.
 - Understand the implications of any limits on their infrastructure:
 - Review of existing consents
 - More stringent environment for new or renewal of consents
 - Occur within this LTP timeframe

