

# IN CONFIDENCE

Table 1. Master table of the NOF Attributes Proposed for Regulation 2013

Value	Attributes	Attribute Band	Attribute Band Numbers (Annual Median unless otherwise stated)	Attribute Band Descriptors	
<b>Ecosystem Health</b>	Chlorophyll <i>a</i> (Lakes)	A	<2 mg/m <sup>3</sup>	<10 mg/m <sup>3</sup> (annual maximum)	Lakes ecological communities are not at risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		B	2-5	10-25	Lakes ecological communities are at moderate risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		C	5-12	25-60	Lakes ecological communities are at moderate risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		D	>12	>60	Lakes ecological communities are at high risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
	Total nitrogen (Lakes)	A	<160 mg/m <sup>3</sup> (Seasonally stratified & Brackish)	<300 mg/m <sup>3</sup> (Polymictic)	Lakes ecological communities are not at risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		B	160-350	300-500	Lakes ecological communities are at moderate risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		C	350-750	500-800	Lakes ecological communities are at moderate risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		D	>750	>800	Lakes ecological communities are at high risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
	Total phosphorus (Lakes)	A	<10 mg/m <sup>3</sup>		Lakes ecological communities are not at risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		B	10-20		Lakes ecological communities are at moderate risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		C	20-50		Lakes ecological communities are at moderate risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
		D	>50		Lakes ecological communities are at high risk of flipping due to elevated nutrients and/or excessive algal and plant growth.
	Nitrate toxicity (Lakes and Rivers)	A	<1.0 mg NO <sub>3</sub> -N/L	<1.5 mg NO <sub>3</sub> -N/L (annual 95 <sup>th</sup> percentile)	99% species protection level: No observed effect on any species tested
		B	1.0-2.4	1.5-3.5	95% species protection level: Starts impacting occasionally on the 5% most sensitive species
		C	2.4-6.9	3.5-9.8	80% species protection level: Starts impacting regularly on the 20% most sensitive species (6% reduction in growth)
		D	>6.9	>9.8	Starts approaching acute impact level (ie risk of death) for sensitive species
	Ammonia toxicity (Lakes and Rivers)	A	<0.02 mg NH <sub>4</sub> -N/L	<0.03 mg NH <sub>4</sub> -N/L (annual 95 <sup>th</sup> percentile)	99% species protection level: No observed effect on any species tested
		B	0.02-0.18	0.03-0.25	95% species protection level: Starts impacting occasionally on the 5% most sensitive species
		C	0.18-1.2	0.25-1.6	80% species protection level: Starts impacting regularly on the 20% most sensitive species (6% reduction in growth)
		D	>1.2	>1.6	Starts approaching acute impact level (ie. risk of death) for sensitive species
Dissolved Oxygen (Rivers - point sources only)	Statistic	7-day mean minimum (Summer Period: 1 November to 30th April)	1-day minimum (Summer Period: 1 November to 30th April)		
	A	≥8.0 mg/L	≥7.5 mg/L	No stress caused by low dissolved oxygen on any aquatic organisms that are present at matched reference (near-pristine) sites.	
	B	≥7.0	≥5.0	Occasional minor stress on sensitive organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrate species.	
	C	≥5.0	≥4.0	Moderate stress on a number of aquatic organisms caused by dissolved oxygen levels exceeding preference levels for periods of several hours each day. Risk of sensitive fish and macroinvertebrate species being lost.	
Periphyton (Rivers)	A	<50 mg/m <sup>2</sup> Chl <i>a</i> (annual maximum)		Exceeded no more than 2 occasions, with no exceedances in successive months (based on a monthly monitoring regime). Rare blooms reflecting negligible nutrient enrichment and/or alteration of the natural flow regime or habitat.	
	B	50-120		Occasional blooms reflecting low nutrient enrichment and/or alteration of the natural flow regime or habitat	
	C	120-200		Periodic short-duration nuisance blooms reflecting moderate nutrient enrichment and/or alteration of the natural flow regime or habitat	
	D	>200			
<b>Human Health - secondary contact</b>	E. coli (Lakes and Rivers)	A	<260 E. coli/100 mL		People are exposed to a very low risk of infection (less than 0.1% risk) from exposure to water for secondary contact recreation.
		B	260-540		People are exposed to a low risk of infection (between 0.1 and 1% risk) from exposure to water for secondary contact recreation.
		C	540-1000		People are exposed to a moderate risk of infection (between 1 and 5% risk) from exposure to water for secondary contact recreation.
		D	>1000		People are exposed to a high risk of infection (greater than 5% risk) from exposure to water for secondary contact recreation.
	Cyanobacteria (Lakes and Rivers)	Type	Planktonic	Benthic	
	A	Biovolume equivalent for the combined total of all cyanobacteria does not exceed 0.5 mm <sup>3</sup> /L OR The cell concentration of total cyanobacteria does not exceed 500 cells/mL	<10% cover phormidium		Risk exposure from cyanobacteria is no different to that in natural conditions