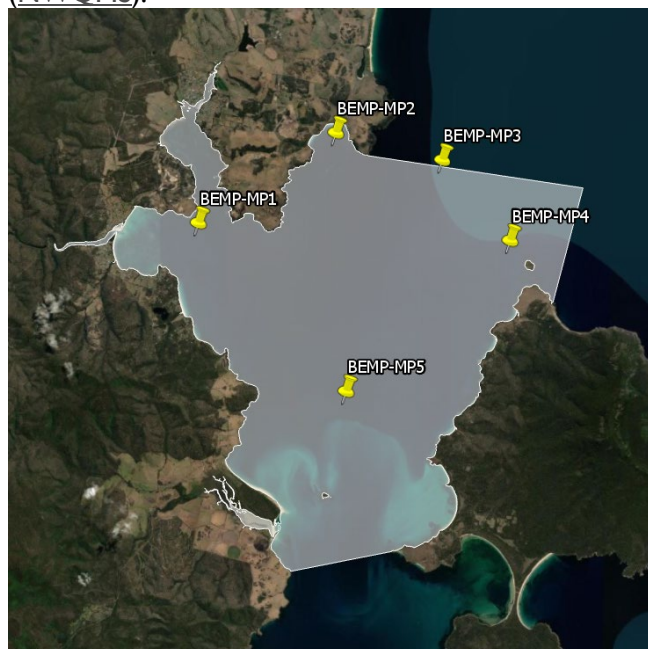


Oil Spill Response Atlas – Segment 72

The default guideline values (DGVs) for aquatic ecosystems presented herein have been derived from site specific information in accordance with the National Water Quality Management Strategy (NWQMS).



Water Body Name: Mercury Passage

OSRA Segment: 72

IMCRA Mesoscale Region: Freycinet

IMCRA Provincial Region: Tasmanian Shelf

Ecosystem Classification: Slightly to Moderately Disturbed Ecosystem

Data Provider: Aquenal

BEMP Sites: MPI, MP2, MP3, MP4, and MP5

Period of record: 27/08/2014 to 28/07/2017.

Default Guideline Values

Data from 5 locations (BEMP-MPI, BEMP-MP2, BEMP-MP3, BEMP-MP4 and BEMP-MP5) have been used in the derivation of the DGVs presented here in. For each site field measurements were taken at the surface, 5 metres and approximately one metre from bottom. Nutrient samples for laboratory analysis were taken at the surface, and near bottom. Chlorophyll a data was collected for laboratory analysis from a 12 metre integrated sample (surface to a depth of 12 metres).

The following tables display the combined data as percentiles for the surface, 5 metre depth and near bottom of the water column. The shaded values represent the default guideline values (DGVs) for aquatic ecosystems for the depth indicated on an annual or seasonal basis. The laboratory data for the surface and bottom waters can be considered for nutrient DGVs for the 5 metre depth range. These can be applied as DGVs for aquatic ecosystems of waters encompassed within OSRA segment 72 (as highlighted above). The DGVs are summarised in Appendix A. The following links provide Information on the [IMCRA spatial network](#) and the Interim [Default guideline values for Coastal and Marine waters](#) of Tasmania.

Annual DGVs for Aquatic Ecosystems for Surface waters (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.4	7.7	7.9	8.4	8.9	9.1	9.4	180
Dissolved Oxygen (%)	94.6	96.4	98.6	102.4	105.1	106.9	108.3	180
Salinity (PPT)	34.3	34.7	35.3	35.6	36.1	36.3	36.4	170
pH field - sensor TC			ND		ND			
Temperature (Celsius)	11.0	11.3	12.0	13.7	16.5	18.0	18.4	175
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*	0.3	0.3	0.6	0.9	1.5	2.1	2.6	180
TAN as N (mg/L)	0.003	0.003	0.003	0.006	0.009	0.011	0.021	180
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.003	0.033	0.044	0.047	125
Nitrate as N mg/L	0.001	0.001	0.001	0.003	0.026	0.036	0.044	180
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.19	0.21	0.23	0.27	0.33	0.35	0.37	180
Phosphorus (Total) as P mg/L	0.02	0.02	0.03	0.03	0.04	0.05	0.05	180
DRP as P mg/L	0.003	0.004	0.004	0.005	0.008	0.010	0.011	180
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	180

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Summer DGVs for Aquatic Ecosystems for Surface waters (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.3	7.5	7.8	8.1	8.4	8.5	8.6	45
Dissolved Oxygen (%)	95.2	97.7	100.4	102.5	105.0	107.0	108.4	45
Salinity (PPT)	34.6	34.6	34.7	35.5	36.4	36.7	37.0	40
pH field - sensor TC			ND		ND			
Temperature (Celsius)	13.3	14.3	15.4	16.8	18.3	18.8	19.4	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*	0.3	0.3	0.6	0.9	1.4	1.7	2.1	45
TAN as N (mg/L)	0.003	0.003	0.003	0.006	0.007	0.010	0.010	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.001	0.001	0.002	0.003	30
Nitrate as N mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.003	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.05	0.13	0.22	0.26	0.31	0.37	0.38	45
Phosphorus (Total) as P mg/L	0.02	0.02	0.03	0.03	0.04	0.04	0.04	45
DRP as P mg/L	0.002	0.003	0.003	0.005	0.006	0.007	0.007	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Autumn DGVs for Aquatic Ecosystems for Surface waters (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.3	7.4	7.7	8.1	8.6	8.8	9.0	45
Dissolved Oxygen (%)	93.5	94.3	95.9	100.4	104.2	105.0	106.4	45
Salinity (PPT)	34.1	34.2	34.3	35.5	35.9	35.9	36.0	40
pH field - sensor TC			ND		ND			
Temperature (Celsius)	11.8	12.3	13.2	15.7	16.6	17.7	18.5	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*	0.3	0.4	0.8	1.1	1.8	2.4	2.7	45
TAN as N (mg/L)	0.003	0.003	0.005	0.007	0.009	0.011	0.012	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.008	0.026	0.032	0.033	30
Nitrate as N mg/L	0.001	0.001	0.001	0.005	0.019	0.026	0.029	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.20	0.20	0.23	0.29	0.33	0.33	0.34	45
Phosphorus (Total) as P mg/L	0.02	0.02	0.02	0.03	0.04	0.05	0.05	45
DRP as P mg/L	0.003	0.004	0.004	0.005	0.007	0.008	0.008	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Winter DGVs for Aquatic Ecosystems for Surface waters (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	8.2	8.3	8.4	8.9	9.4	9.4	9.5	45
Dissolved Oxygen (%)	95.7	96.7	98.0	102.1	105.2	106.3	107.0	45
Salinity (PPT)	35.3	35.4	35.4	35.8	36.2	36.3	36.3	45
pH field - sensor TC			ND		ND			
Temperature (Celsius)	10.6	10.7	10.9	11.5	12.3	13.1	13.3	40
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*	0.3	0.6	0.7	0.9	1.3	2.5	3.0	45
TAN as N (mg/L)	0.003	0.003	0.003	0.005	0.007	0.008	0.008	45
Nitrite and Nitrate as N mg/L	0.002	0.007	0.020	0.041	0.047	0.053	0.056	35
Nitrate as N mg/L	0.002	0.005	0.013	0.033	0.044	0.046	0.049	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.20	0.22	0.27	0.32	0.35	0.36	0.38	45
Phosphorus (Total) as P mg/L	0.03	0.03	0.03	0.03	0.04	0.05	0.05	45
DRP as P mg/L	0.006	0.006	0.006	0.009	0.010	0.011	0.012	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Spring DGVs for Aquatic Ecosystems for Surface waters (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	8.1	8.1	8.2	8.7	8.9	9.1	9.3	45
Dissolved Oxygen (%)	98.6	98.9	99.7	104.3	106.6	108.6	109.7	45
Salinity (PPT)	35.2	35.2	35.3	35.8	36.2	36.3	36.3	45
pH field - sensor TC			ND		ND			
Temperature (Celsius)	12.1	12.3	12.6	13.6	14.5	15.4	15.8	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*	0.3	0.3	0.6	0.8	1.3	1.7	2.1	45
TAN as N (mg/L)	0.003	0.003	0.003	0.006	0.021	0.030	0.036	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.001	0.003	0.004	0.005	30
Nitrate as N mg/L	0.001	0.001	0.001	0.001	0.003	0.005	0.007	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.22	0.23	0.23	0.25	0.30	0.32	0.33	45
Phosphorus (Total) as P mg/L	0.02	0.03	0.03	0.04	0.05	0.06	0.07	45
DRP as P mg/L	0.004	0.004	0.004	0.005	0.006	0.007	0.010	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.2	0.2	0.2	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Annual DGVs for Aquatic Ecosystems for mid water 5 m (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.4	7.8	7.9	8.5	8.9	9.1	9.4	180
Dissolved Oxygen (%)	95.6	97.0	98.6	102.4	105.6	107.0	108.9	180
Salinity (PPT)	34.4	34.7	35.3	35.6	36.1	36.3	36.4	170
pH field - sensor TC			ND		ND			
Temperature (Celsius)	10.9	11.4	11.9	13.6	16.5	18.1	18.3	175
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)					ND			
Nitrite and Nitrate as N mg/L					ND			
Nitrate as N mg/L					ND			
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L					ND			
Phosphorus (Total) as P mg/L					ND			
DRP as P mg/L					ND			
Silica as Si mg/L					ND			

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Summer DGVs for Aquatic Ecosystems for mid water 5 m (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.3	7.5	7.8	8.1	8.4	8.7	8.8	45
Dissolved Oxygen (%)	96.0	98.3	100.3	103.1	105.5	108.0	109.1	45
Salinity (PPT)	34.6	34.6	34.7	35.5	36.4	36.8	37.1	40
pH field - sensor TC			ND		ND			
Temperature (Celsius)	13.4	14.2	15.3	16.8	18.2	18.7	19.2	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)					ND			
Nitrite and Nitrate as N mg/L					ND			
Nitrate as N mg/L					ND			
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L					ND			
Phosphorus (Total) as P mg/L					ND			
DRP as P mg/L					ND			
Silica as Si mg/L					ND			

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Autumn DGVs for Aquatic Ecosystems for mid water 5 m (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.3	7.5	7.7	8.0	8.5	8.7	8.8	45
Dissolved Oxygen (%)	94.4	94.7	96.3	99.8	103.2	103.6	104.7	45
Salinity (PPT)	34.1	34.2	34.3	35.5	35.8	35.9	35.9	40
pH field - sensor TC			ND		ND			
Temperature (Celsius)	11.8	12.3	13.3	15.7	16.6	17.6	18.3	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)					ND			
Nitrite and Nitrate as N mg/L					ND			
Nitrate as N mg/L					ND			
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L					ND			
Phosphorus (Total) as P mg/L					ND			
DRP as P mg/L					ND			
Silica as Si mg/L					ND			

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Winter DGVs for Aquatic Ecosystems for mid water 5 m (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	8.3	8.4	8.5	8.8	9.1	9.4	9.4	45
Dissolved Oxygen (%)	96.7	97.5	98.4	100.9	103.1	106.2	106.4	45
Salinity (PPT)	35.3	35.3	35.4	35.8	36.2	36.2	36.3	45
pH field - sensor TC			ND		ND			
Temperature (Celsius)	10.5	10.7	10.9	11.5	12.3	12.7	13.3	40
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)					ND			
Nitrite and Nitrate as N mg/L					ND			
Nitrate as N mg/L					ND			
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L					ND			
Phosphorus (Total) as P mg/L					ND			
DRP as P mg/L					ND			
Silica as Si mg/L					ND			

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Spring DGVs for Aquatic Ecosystems for mid water 5 m (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	8.2	8.2	8.5	8.9	9.1	9.2	9.7	45
Dissolved Oxygen (%)	99.0	100.1	103.8	105.6	107.9	108.9	113.9	45
Salinity (PPT)	35.2	35.3	35.4	35.8	36.1	36.3	36.3	45
pH field - sensor TC			ND		ND			
Temperature (Celsius)	11.8	12.0	12.4	13.2	14.3	15.3	15.6	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)					ND			
Nitrite and Nitrate as N mg/L					ND			
Nitrate as N mg/L					ND			
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L					ND			
Phosphorus (Total) as P mg/L					ND			
DRP as P mg/L					ND			
Silica as Si mg/L					ND			

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Annual DGVs for Aquatic Ecosystems for bottom waters (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.2	7.5	7.7	8.3	8.8	9.0	9.1	180
Dissolved Oxygen (%)	92.7	94.0	95.5	99.3	102.3	104.8	105.6	180
Salinity (PPT)	34.3	34.7	35.2	35.6	36.2	36.3	36.4	170
pH field - sensor TC			ND		ND			
Temperature (Celsius)	10.6	11.2	11.5	13.5	16.0	17.2	18.0	175
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)	0.003	0.003	0.003	0.007	0.012	0.015	0.018	180
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.009	0.032	0.042	0.048	125
Nitrate as N mg/L	0.001	0.001	0.001	0.005	0.025	0.035	0.044	180
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.20	0.21	0.23	0.27	0.32	0.34	0.36	180
Phosphorus (Total) as P mg/L	0.03	0.03	0.03	0.03	0.04	0.05	0.05	180
DRP as P mg/L	0.004	0.004	0.005	0.006	0.009	0.009	0.010	180
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	179

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Summer DGVs for Aquatic Ecosystems for bottom waters (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	6.8	7.2	7.4	7.9	8.2	8.6	8.7	45
Dissolved Oxygen (%)	87.6	90.5	93.9	97.7	102.3	104.1	106.4	45
Salinity (PPT)	34.6	34.7	34.7	35.3	36.4	36.9	37.1	40
pH field - sensor TC			ND		ND			
Temperature (Celsius)	13.0	13.6	14.8	15.7	17.7	18.0	18.2	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)	0.003	0.003	0.005	0.006	0.013	0.015	0.019	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.001	0.012	0.023	0.033	30
Nitrate as N mg/L	0.001	0.001	0.001	0.001	0.017	0.030	0.034	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.10	0.16	0.21	0.27	0.31	0.36	0.39	45
Phosphorus (Total) as P mg/L	0.03	0.03	0.03	0.03	0.04	0.04	0.05	45
DRP as P mg/L	0.004	0.004	0.005	0.006	0.009	0.011	0.012	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	44

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Autumn DGVs for Aquatic Ecosystems for bottom waters (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	7.1	7.4	7.6	7.9	8.4	8.6	8.6	45
Dissolved Oxygen (%)	92.8	93.4	94.3	96.7	100.3	101.4	102.2	45
Salinity (PPT)	34.1	34.2	34.3	35.5	35.7	35.8	35.9	40
pH field - sensor TC			ND		ND			
Temperature (Celsius)	11.6	11.9	13.1	15.4	16.5	17.4	18.1	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)	0.003	0.005	0.006	0.010	0.015	0.017	0.018	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.004	0.012	0.025	0.030	0.034	30
Nitrate as N mg/L	0.001	0.001	0.001	0.008	0.019	0.022	0.027	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.20	0.21	0.23	0.28	0.33	0.34	0.36	45
Phosphorus (Total) as P mg/L	0.02	0.03	0.03	0.03	0.04	0.05	0.05	45
DRP as P mg/L	0.003	0.004	0.004	0.006	0.007	0.008	0.009	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Winter DGVs for Aquatic Ecosystems for bottom waters (Shaded)

Parameter	5 th %ile	10 th %ile	20 th %ile	Median	80 th %ile	90 th %ile	95 th %ile	Sample Number
Dissolved Oxygen (mg/L)	8.2	8.2	8.3	8.7	9.1	9.3	9.4	45
Dissolved Oxygen (%)	95.5	95.8	97.1	99.7	101.9	104.5	105.5	45
Salinity (PPT)	35.2	35.3	35.3	35.8	36.2	36.2	36.3	45
pH field - sensor TC			ND		ND			
Temperature (Celsius)	10.3	10.4	10.6	11.3	12.1	12.8	12.9	40
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)	0.003	0.003	0.003	0.005	0.007	0.008	0.010	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.010	0.032	0.045	0.048	0.050	35
Nitrate as N mg/L	0.001	0.001	0.007	0.025	0.039	0.045	0.045	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.20	0.21	0.27	0.31	0.34	0.35	0.36	45
Phosphorus (Total) as P mg/L	0.03	0.03	0.03	0.03	0.04	0.04	0.05	45
DRP as P mg/L	0.005	0.006	0.007	0.008	0.009	0.010	0.010	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Spring DGVs for Aquatic Ecosystems for bottom waters (Shaded)

Parameter	5th %ile	10th %ile	20th %ile	Median	80th %ile	90th %ile	95th %ile	Sample Number
Dissolved Oxygen (mg/L)	8.1	8.2	8.3	8.6	8.9	9.1	9.1	45
Dissolved Oxygen (%)	97.1	98.1	99.3	101.0	104.9	106.0	106.3	45
Salinity (PPT)	35.1	35.2	35.3	35.9	36.3	36.3	36.3	45
pH field - sensor TC			ND		ND			
Temperature (Celsius)	11.3	11.3	11.6	12.7	13.8	14.6	14.9	45
Turbidity (NTU)					ND			
Chlorophyll a (µg/L)*					ND			
TAN as N (mg/L)	0.003	0.003	0.003	0.007	0.014	0.016	0.017	45
Nitrite and Nitrate as N mg/L	0.001	0.001	0.001	0.004	0.018	0.027	0.037	30
Nitrate as N mg/L	0.001	0.001	0.001	0.002	0.011	0.023	0.033	45
Nitrite as N mg/L					ND			
Nitrogen (Total) as N mg/L	0.22	0.22	0.23	0.25	0.28	0.30	0.30	45
Phosphorus (Total) as P mg/L	0.03	0.03	0.03	0.04	0.04	0.05	0.05	45
DRP as P mg/L	0.004	0.004	0.004	0.005	0.007	0.009	0.009	45
Silica as Si mg/L	0.1	0.1	0.1	0.1	0.1	0.2	0.2	45

*Integrated sample 0 to 12 metres, TAN=Total Ammonia Nitrogen (NH₃ and NH₄⁺), DRP= Dissolved Reactive Phosphorous. ND = No data collected.

Appendix A

Surface	Physico-chemical indicators and default guideline values for aquatic ecosystems																		
	DO (mg/L)		DO (% sat)		Salinity	pH		Temp (°C)		Turb	Chl a	TAN as N	NO _x as N	NO ₃ as N	NO ₂ as N	Total N as N	Total P as P	DRP as P	SiO ₂ as Si
	lower	upper	lower	upper	(PPT)	lower	upper	lower	upper	NTU	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)
Annual	7.9	8.9	98.6	105.1	36.1	ND	ND	12.0	16.5	ND	1.5	9.0	33.0	26.0	ND	0.33	0.04	8.0	0.1
Summer	7.8	8.4	100.4	105.0	36.4	ND	ND	15.4	18.3	ND	1.4	7.0	1.0	1.0	ND	0.31	0.04	6.0	0.1
Autumn	7.7	8.6	95.9	104.2	35.9	ND	ND	13.2	16.6	ND	1.8	9.0	26.0	19.0	ND	0.33	0.04	7.0	0.1
Winter	8.4	9.4	98.0	105.2	36.2	ND	ND	10.9	12.3	ND	1.3	7.0	47.0	44.0	ND	0.35	0.04	10.0	0.1
Spring	8.2	8.9	99.7	106.6	36.2	ND	ND	12.6	14.5	ND	1.3	21.0	3.0	3.0	ND	0.30	0.05	6.0	0.2

NB: DO (dissolved oxygen), Turb (turbidity), Chl a (Chlorophyll a – Lab analysis), TAN (Total Ammonia Nitrogen (NH₃ and NH₄⁺)), NO_x (Nitrite and Nitrate), NO₃ (Nitrate), NO₂ (Nitrite), DRP (Dissolved reactive phosphorous), SiO₂ (Silica), ND = No Data. Figures shown above are based on data collected from 27/08/2014 to 28/07/2017.

5 metres	Physico-chemical indicators and default guideline values for aquatic ecosystems																		
	DO (mg/L)		DO (% sat)		Salinity	pH		Temp (°C)		Turb	Chl a	TAN as N	NO _x as N	NO ₃ as N	NO ₂ as N	Total N as N	Total P as P	DRP as P	SiO ₂ as Si
	lower	upper	lower	upper	(PPT)	lower	upper	lower	upper	NTU	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)
Annual	7.9	8.9	98.6	105.6	36.1	ND	ND	11.9	16.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Summer	7.8	8.4	100.3	105.5	36.4	ND	ND	15.3	18.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Autumn	7.7	8.5	96.3	103.2	35.8	ND	ND	13.3	16.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Winter	8.5	9.1	98.4	103.1	36.2	ND	ND	10.9	12.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Spring	8.5	9.1	103.8	107.9	36.1	ND	ND	12.4	14.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NB: DO (dissolved oxygen), Turb (turbidity), Chl a (Chlorophyll a – Lab analysis), TAN (Total Ammonia Nitrogen (NH₃ and NH₄⁺)), NO_x (Nitrite and Nitrate), NO₃ (Nitrate), NO₂ (Nitrite), DRP (Dissolved reactive phosphorous), SiO₂ (Silica), ND = No Data. Figures shown above are based on data collected from 27/08/2014 to 28/07/2017.

Bottom	Physico-chemical indicators and default guideline values for aquatic ecosystems																		
	DO (mg/L)		DO (% sat)		Salinity	pH		Temp (°C)		Turb	Chl a	TAN as N	NO _x as N	NO ₃ as N	NO ₂ as N	Total N as N	Total P as P	DRP as P	SiO ₂ as Si
	lower	upper	lower	upper	(PPT)	lower	upper	lower	upper	NTU	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)
Annual	7.7	8.8	95.5	102.3	36.2	ND	ND	11.5	16.0	ND	ND	12.0	32.0	25.0	ND	0.32	0.04	9.0	0.1
Summer	7.4	8.2	93.9	102.3	36.4	ND	ND	14.8	17.7	ND	ND	13.0	12.0	17.0	ND	0.31	0.04	9.0	0.1
Autumn	7.6	8.4	94.3	100.3	35.7	ND	ND	13.1	16.5	ND	ND	15.0	25.0	19.0	ND	0.33	0.04	7.0	0.1
Winter	8.3	9.1	97.1	101.9	36.2	ND	ND	10.6	12.1	ND	ND	7.0	45.0	39.0	ND	0.34	0.04	9.0	0.1
Spring	8.3	8.9	99.3	104.9	36.3	ND	ND	11.6	13.8	ND	ND	14.0	18.0	11.0	ND	0.28	0.04	7.0	0.1

NB: DO (dissolved oxygen), Turb (turbidity), Chl a (Chlorophyll a – Lab analysis), TAN (Total Ammonia Nitrogen (NH₃ and NH₄⁺)), NO_x (Nitrite and Nitrate), NO₃ (Nitrate), NO₂ (Nitrite), DRP (Dissolved reactive phosphorous), SiO₂ (Silica), ND = No Data. Figures shown above are based on data collected from 27/08/2014 to 28/07/2017.

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