



FOCUS CATCHMENT MAP SERIES (FCMS) Default Guideline Values (DGV) quick guide

The Australian & New Zealand Guidelines for Fresh & Marine Water Quality (ANZG 2018) is an online platform that provides default guideline values (DGVs) for a range of physical and chemical stressors. You can create your own local guideline values to compare with monitoring results, but this takes at least two years of monthly data from a suitable reference site. Because that's not always possible, most groups use the DGVs instead.

The DGVs are based on the 80th percentile of a collection of historical data sets from across the country. Unlike locally derived guidelines, the DGV doesn't change over time and won't show what's happening in your specific area. However, to ensure the guidelines are as locally relevant as possible, ANZG 2018 provides separate DGVs for Australian and New Zealand freshwater, estuaries, and marine waters. Freshwater DGVs for New Zealand have been developed based on the climate and topography classes of the River Environment Classification (REC).

The DGVs (which are sometimes referred to as trigger values) are values where there is a potential risk of adverse effects. Exceeding the DGVs is an early warning that something might be wrong. It's not meant to be used as a test that can be passed or failed, but rather as an indication that further investigation is appropriate. In most cases, the risk is related to the water quality measure **exceeding** the DGV, e.g., concentrations of nitrate, dissolved reactive phosphorus, and turbidity are more likely to be harmful at **higher** values. However, there are a few measures where **low** values are harmful, e.g., dissolved oxygen and water clarity. In these situations, being **below** the DGV is where the risk of adverse effects is greatest.

In order to use the DGVs to interpret your water quality data, you will need to work out which REC climate and topography class your sampling site falls in. The maps for climate (map 2.1) and topography & flow types (map 2.2) in your FCMS resource will help you do this. Alternatively, you can find this information online, see the link below. You will need to compare the median value from your data to the relevant DGV.

The following DGVs were sourced from the ANZG 2018 online platform (May 2024). There is potential for this online source to be updated over time, so check back in with it every now and again.



FIND MORE INFORMATION ONLINE:

ANZG: Home page – www.waterquality.gov.au/anz-guidelines

NZ rivers & estuaries DGVs tool – www.waterquality.gov.au/anz-guidelines/your-location/new-zealand

Download data table of NZ physical and chemical (PC) stressors, DGVs for selected REC –
www.waterquality.gov.au/anz-guidelines/your-location/new-zealand/rec-pc-stressor-dgvs

More details on how to apply DGVs to your monitoring site –
www.waterquality.gov.au/anz-guidelines/monitoring/data-analysis/derivation-assessment

REC : <https://data.mfe.govt.nz/layer/51845-river-environment-classification-new-zealand-2010>

DGVs¹ as they relate to the FCMS

Category		Turbidity (NTU ²)	Nitrate nitrogen (mg/L)	Dissolved reactive phosphorus (mg/L)
TOPOGRAPHY CLASS (source of flow)	CLIMATE CLASS			
Glacial mountain (GM)	Warm-Extremely-Wet (WX)			
	Warm-Wet (WW)			
	Warm-Dry (WD)	<i>No DGV available</i>		
	Cool-Dry (CD)			
	Cool-Wet (CW)			
	Cool-Extremely-Wet (CX)			
	Mountain (M)	Warm-Extremely-Wet (WX)		
Warm-Wet (WW)		<i>No DGV available</i>		
Warm-Dry (WD)				
Cool-Dry (CD)		2.9	0.030	0.007
Cool-Wet (CW)		4.6	0.024	0.004
Cool-Extremely-Wet (CX)		3.5	0.048	0.005
Hill (H)		Warm-Extremely-Wet (WX)	6.9	0.063
	Warm-Wet (WW)	2.7	0.036	0.008
	Warm-Dry (WD)	<i>No DGV available</i>		
	Cool-Dry (CD)	0.9	0.018	0.006
	Cool-Wet (CW)	2.4	0.087	0.008
	Cool-Extremely-Wet (CX)	2.1	0.054	0.006
	Low elevation (L)	Warm-Extremely-Wet (WX)	4.0	0.080
Warm-Wet (WW)		5.2	0.065	0.014
Warm-Dry (WD)		4.2	0.195	0.007
Cool-Dry (CD)		1.3	0.265	0.008
Cool-Wet (CW)		2.3	0.170	0.011
Cool-Extremely-Wet (CX)		2.6	0.092	0.009
Lake (Lk)		Warm-Extremely-Wet (WX)	<i>No DGV available</i>	
	Warm-Wet (WW)	3.9	0.122	0.016
	Warm-Dry (WD)	<i>No DGV available</i>		
	Cool-Dry (CD)	1.9	0.040	0.007
	Cool-Wet (CW)	1.3	0.011	0.003
	Cool-Extremely-Wet (CX)	2.0	0.047	0.004

1 ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra, ACT, Australia. www.waterquality.gov.au/anz-guidelines

2 NTU = Nephelometric Turbidity unit – the unit used to measure the presence of suspended particles in water.

If you have any questions about DGVs, please ask your 'Wai Connection' Catchment Coordinator