

# Water Quality Assessment Sheet

Site - \_\_\_\_\_

## Pre-assessment questions

1. Have a quick look around the first study site. From what you can see do you think this site looks 'healthy'? If so what are the *characteristics* that make it healthy/unhealthy?

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2. Did you notice what the surrounding land was being used for on the way here? What were the land uses? (*E.g. Urban areas, a type of farming, industrial, forest?*)

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3. You have read through the types of field studies that will be completed today. In the space below come up with 3 questions that we can investigate *scientifically* using today's techniques (E.g. *Is the water in the stream/creek more acidic or more basic? Is the water drinkable?*)

**Question 1**

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**Question 2**

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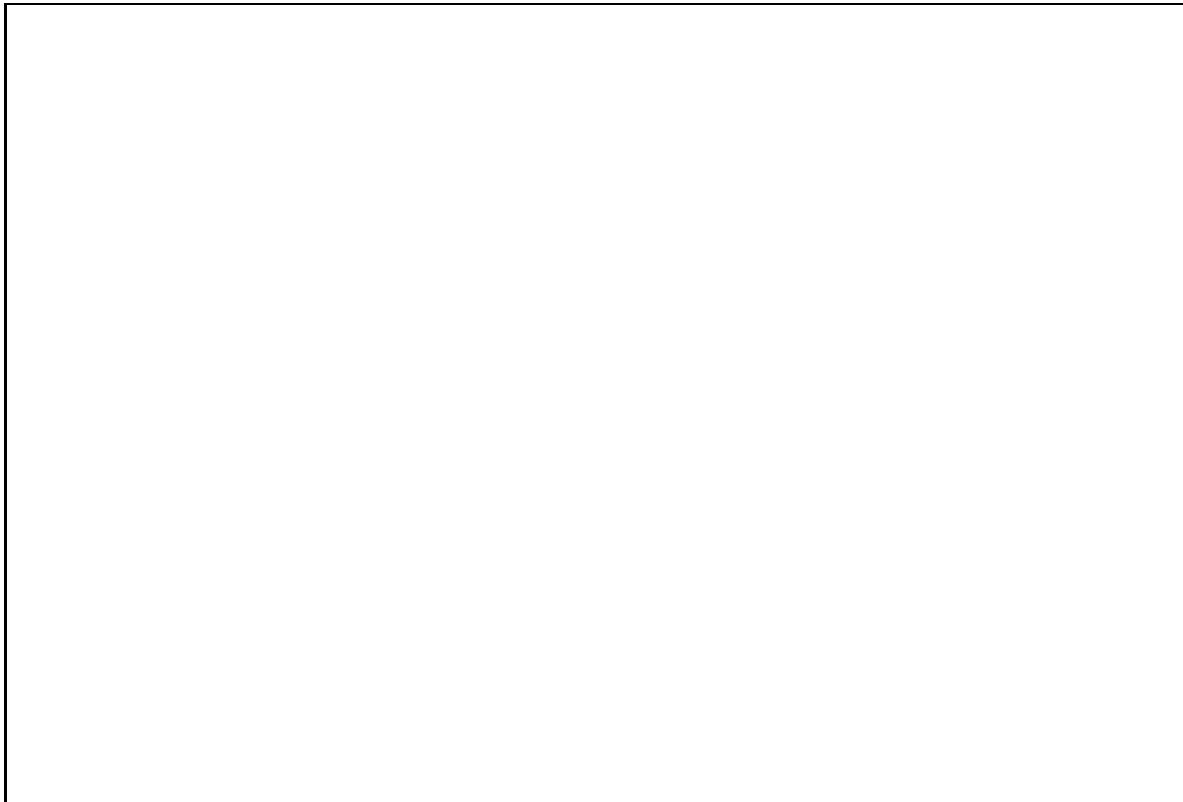
**Question 3**

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4. In the space below sketch an aerial (birds-eye view) diagram of the site.



## Water quality sampling recording sheet

Name of Stream:	Name of Site:	Lat:
		Long:

Date: __ / __ / ____	Time: __ : __
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Flow (estimate):	Still	Moderate	Fast	m/s - _____
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**Current weather (Circle)**

<b>Current rainfall:</b>	Nil	Light	Medium	Heavy
<b>Wind:</b>	Nil	Light	Moderate	Strong
<b>Sky:</b>	Sunny	Cloudy	Overcast	<b>Air temperature:</b> _____°C

**Water quality parameters**

Depth of sample (if less than the standard 20cm)	Temperature	EC	pH	Turbidity	Turbidity 1/20 (diluted reading for sample with >400 NTU's)
_____ cm	_____ °C	_____/cm	_____	_____ NTU's	_____ NTU's

Please note any other parameters if taken (e.g. DO, PO<sub>4</sub>):

**Rainfall prior to (and including) day of sampling**

(Please circle any applicable and include mm if known)

Past 24hrs: _____ mm	Past week _____ mm	Past month _____ mm
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Table 1 below summarises trigger values for basic water quality parameters. By definition, trigger values are concentrations that, if exceeded, would indicate the presence of detrimental water quality and trigger the need for further investigation.

Situation		Turbidity (NTU)	Electrical Conductivity ( $\mu\text{S}$ )	pH	Nitrogen	Phosphorus	Dissolved Oxygen
Drinking water		5	<800	6.5 – 7.5	<50mg/L nitrate <3mg/L nitrite	Check suite of organo-phosphate group	No guideline set but 85% saturation is recommended
Aquatic eco-systems	Upland rivers	2-25	30-350	6.5 - 8.0	215mg/L	20mg/L	90-110% saturation
	Lowland rivers	6-50	125-2200	6.5 - 8.0	500mg/L	50mg/L	85-110% saturation
Irrigation	Crops ranging from sensitive to tolerant	-	<300 - 1200	6.5 – 7.5	<5mg/L	<0.05mg/L	NA
Livestock	watering	-	2000-4000	6.8 to 7.5.	<400mg/L nitrate <30mg/L nitrite	As above – to minimize algal blooms	NA

Table 1: Trigger values (adapted from ANZECC guidelines)

Note: The trigger values for nitrates and phosphates are provided as mg/L. The conversion to ppm gives approximately the same value (mg/kg = ppm)

**Worksheet adapted from the QMDC Habitat Investigation Program Student Field Manual 2013.**

