

A stylized graphic of a waterway, featuring flowing blue and green shapes that represent water and vegetation, set against a dark blue background.

Ipswich City Council

# **WATERWAY HEALTH ACTIVITY SHEETS**

A learning resource for teachers and students about waterway health and catchment management in Ipswich

# Waterway Health **Activity Sheets**

The Waterway Health Activity Sheets have been developed to assist school groups and teachers to gain a greater understanding and appreciation of waterway health and catchment management issues through a series of informative and interactive activities.

The activities are aimed at student groups from grades four to seven, focusing on topics such as:

- understanding your catchment and how it functions
- the water cycle
- chemical analysis and physical assessment of water quality and the riparian zone
- human activities and land use practices that impact on our waterways
- forming a catchment care group to improve water quality and increase community awareness

## HOW TO USE THE ACTIVITY SHEETS

The Activity Sheets have been designed to use as 'one-off' activities or in a sequence throughout the year to complement the school curriculum for environmental studies. Some of the activities are interactive and will require students to venture outdoors, while others can be done within the classroom.

Many of the activities require students to use reference material and explore other avenues for obtaining information. The students are encouraged to take an initiative in investigating the impacts of different land uses on waterway health and to research ways in which these land uses can be improved. The activities will help students develop their understanding of the environment and the natural surroundings.

## KEY WORDS FOR WATERWAY HEALTH

Within each activity there are words and terminologies that you will come across that may not be familiar, or have a specific meaning within the context of waterway health. These Key Words have been underlined in each activity sheet; you will find their meanings and other relevant terms on Activity Sheet 11 – Waterway Definitions.

## WHAT STUDENTS WILL NEED TO PROVIDE

Some of the equipment needed to complete the activities, include:

- Clipboard folder
- Pens and pencils
- Sunscreen
- Ruler
- Scissors
- Hat
- Graph paper
- Covered shoes and/or rubber boots
- Eraser
- Magnifying glass – for viewing small, aquatic insects (macro-invertebrates)
- Note paper / book
- Glue
- Gloves

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## PAGES TO PRINT

Some of the activities will require the student to complete an assessment sheet or identification card. The following pages may be printed for each student.

<b>Activity Sheet 2.</b>	Water Quality Assessment Sheet
<b>Activity Sheet 3.</b>	Habitat Assessment Sheet
<b>Activity Sheet 3A.</b>	Riparian and Stream Vegetation Sheet
	Riparian Vegetation Key
	Stream Vegetation Key
	Riparian Assessment Key
<b>Activity Sheet 3B.</b>	Bank Stability and Erosion Sheet
<b>Activity Sheet 3C.</b>	Benthic Macro-invertebrate Diversity Sheet
	Macro-invertebrate Tolerance Sheet
<b>Activity Sheet 4.</b>	Catchment Land Use Assessment Sheet
<b>Activity Sheet 6.</b>	Weed Identification Card
<b>Activity Sheet 9.</b>	Understanding the Water Cycle
<b>Activity Sheet 10.</b>	Waterway Crossword

## THE WATER QUALITY MONITORING TEST KITS

Water quality monitoring test kits are available free of charge, to help students undertaking monitoring activities. The kits need to be used under adequate adult supervision at all times. Easy to follow instruction sheets have been included in the kits, divided into three levels and colour-coded for easy reference.

## WATER QUALITY MONITORING TESTING LEVELS

LEVEL	RECOMMENDED AGE GROUP	PARAMETERS	COLOUR
Primary (Level 1)	6 - 9 years	Temperature Flow Rate Turbidity	Yellow
Intermediate (Level 2)	9 - 13 years	Level 1 plus pH Conductivity Dissolved Oxygen	Yellow and Pink
Secondary (Level 3)	14 years and above	Level 2 plus Nitrates Phosphates	Yellow, pink and blue

# Waterway Health **Activity Sheets**

## REFERENCES

Gould Leage. *Weeds – A Weeds Activity Kit for Schools*, The Gould League of Victoria, Moorabbin.

Low, Tim. (1993) *Dinkum Gardening*, Greening Australia, Brisbane.

Nicholson, Nan., Nicholson, Hugh. (1987) *Australian Rainforest Plants*, Terania Rainforest Nursery, Lismore.

Queensland Museum. (1995) *Wildlife of Greater Brisbane*, Queensland Museum, Brisbane. [www.qm.qld.gov.au](http://www.qm.qld.gov.au)

Robinson, Martyn. (1996) *A Field Guide to Frogs of Australia*, Reed Books Australia, Port Melbourne.

Waterwatch Queensland. *Waterwatch Queensland Technical Manual*, Department of Primary Industries, Brisbane. [www.qld.waterwatch.org.au](http://www.qld.waterwatch.org.au)

Waterwatch Queensland. *Waterwatch and Your Catchment*, Department of Primary Industries, Brisbane. [www.qld.waterwatch.org.au](http://www.qld.waterwatch.org.au)

Williams, K.A.W. (1989) *Native Plants of Queensland*, Printcraft, Brisbane.

## OTHER RESOURCES

Brisbane City Council. *Weed Identification Tool*. [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au)

Department of Natural Resources and Water. *Education Resources*. Queensland, Australia. [www.nrw.qld.gov.au](http://www.nrw.qld.gov.au)

Department of Primary Industries and Fish. *CRC Weed Management*. Queensland, Australia. [www.weedscrc.org.au](http://www.weedscrc.org.au)

Healthy Waterways. *Education Resources*. [www.healthywaterways.org](http://www.healthywaterways.org)

South East Queensland Catchments. [www.seqcatchments.com.au](http://www.seqcatchments.com.au)

Sunmap. *Mapping and Surveying*. Department of Environment and Resource Management. [www.derm.qld.gov.au](http://www.derm.qld.gov.au)

Weeds Australia. [www.weeds.org.au](http://www.weeds.org.au)