A more complete picture of river health in the Fitzroy Basin

fitzroy partnership for river health

CITIZEN SCIENCE IN ACTION

Water sampling & monitoring guide

Get involved in local waterway monitoring

Why Sample?

Waterways have many important ecological values and also provide cultural, social and economic benefits to communities. Some land uses can affect the natural flow of water or impact ground cover levels. These changes can lead to increased run-off or direct release of sediment, salts, nutrients or toxicants into local waterways. Community water quality monitoring conducted by 'citizen scientists' is important. It can help people to better understand and communicate the current state or 'health' of local waterways. It may also provide a record of water quality over time and may identify areas in need of better waterway management.

Equipment Needed

- bucket and rope
- sampling bottle
- sorting trays
- magnifying glass
- pH test strips
- salinity meter
- turbidity tube
- scoop net with handle
- spoons/pipettes
- fish traps
- Guides (waterbugs, fish and weeds – see indicator pages for details)

Waterway Sampling: Health and Safety Warning

Community members or groups using this manual and conducting associated waterway testing do so at their own risk. As such, community members and groups must ensure they have appropriate levels of insurance and conduct activities according to the risk and workplace health and safety procedures of their particular group.

If in doubt, don't test your local waterways!

What are we measuring?

Physical-Chemical Indicators

pH
pH is a measure of the acidity or alkalinity of the water.

Electrical conductivity
EC is a measure of how well the water can carry an electric current, directly relating to the amount of ions in the water. Ions are from dissolved salts and inorganic materials.

Turbidity
Turbidity is a measure of the amount of particulate matter (dirt, algae, plankton etc.) in the water.

Ecology

Water bugs
Waterbugs (macroinvertebrates) are insects and crustaceans that live in the water. The number and type of waterbugs can be one indicator of water health.

Fish
Diversity of native fish is a good indicator of water health.

Riparian vegetation
The riparian zone is the area directly adjoining waterways. Healthy and diverse riparian vegetation is essential for healthy waterways.

Weeds
Weeds are invasive plant species. The presence of weeds is an indicator of biodiversity loss.

Step 1

Collect a water sample

Where to sample - be aware of health & safety risks!

Running water in the centre of the waterway provides the most representative sample because water on the edges or water held in pools is likely to have more variation than the main body of water. It is important not to disturb the area that you are going to sample. This can be avoided by standing downstream or at the waterway edge so as not to disturb sediment.

How to sample

Throw a bucket tied to a rope, from the waterway edge to safely collect a sample of water from the sampling area or use a water bottle to collect a sample, if safe to do so.

Step 2

Test sample for water quality parameters outlined on the following pages.

Allow approximately two hours for the complete session.

Physical-Chemical

- pH
- Electrical conductivity
- Turbidity

Ecology

- Water bugs
- Fish
- Riparian vegetation
- Weeds

Enter data on the field sheet provided or upload your data directly to the website **www.riverhealth.org.au/report_card/community/**

Please help us increase our MyWater dataset! When you do have connectivity, please click on Upload data now, and choose an existing site or create a new site

pH

pH is a measure of the acidity or alkalinity of a solution. It is based on a logarithmic scale ranging from 1 (highly acidic) to 7 (neutral) to 14 (highly alkaline). High pH can lead to increases in the toxicity of ammonia and heavy metals that are dissolved in a waterway. pH changes can have adverse effects on the health of fish and waterbugs.

Step 1

Take the strip from the pack by one end and dip with the other, taking care not to touch the dipping end.

Step 2

Dip the test strip into the water for 1 second, remove and shake off any excess liquid.

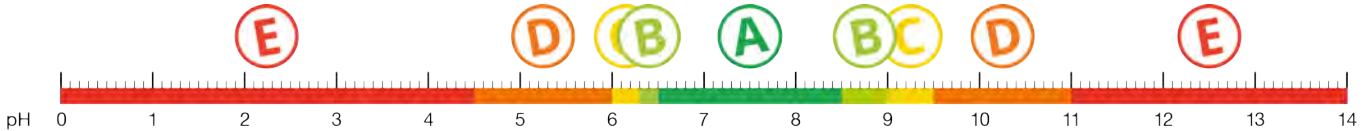
Step 3

Compare colour on the strip with the colour chart on the pH strip container to work out the pH result.

Step 4

Record the result on field sheet or directly into the website if you have a portable electronic device.

Take care in handling the test strip so it does not become contaminated



Grading ruler for pH results for freshwater in the Fitzroy Region

Electrical conductivity (EC)

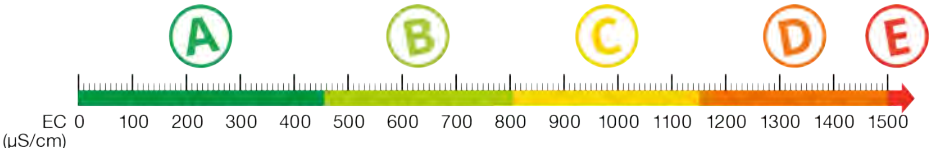
EC is a measure of how well the water can carry an electrical current. This ability depends on the amount and type of dissolved salts present. EC is strongly correlated with salinity and is measured in µS/cm. Salinity can affect both the community structure and function of freshwater ecosystems. It also affects the health and survival of riparian vegetation, waterbugs and fish.

Step 1
Turn meter on and place bottom third of meter into water sample.

Step 2
Allow a minute or two for the meter to adjust to the water temperature.

Step 3
Look at the units symbol, if mS then multiply by result by 1,000. If µS, then use the result as displayed.
1mS = 1,000µS

Step 4
Record the result on field sheet or directly into the website if you have a portable electronic device.



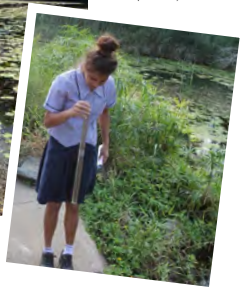
Grading ruler for EC results for freshwater in the Fitzroy Region

The bottom of the probe should be kept clean and rinsed with tap water. Do not touch or wipe clean on clothing or anything similar as this can contaminate and therefore compromise the reading.

Turbidity

Turbidity is a measure of water clarity and relates to the amount of suspended sediment present in the waterway. Excess suspended sediment (high turbidity) can reduce light penetration through the water column and adversely affect aquatic life. Suspended sediments may directly irritate fish gills and may carry contaminants. Changes to availability of light within the water column also also influences the ability of aquatic plants to photosynthesise.

A turbidity tube is used to estimate the turbidity of water.



Step 1

Push the two parts of the turbidity tube together; making sure they fit squarely.

Step 2

Take a sample of water ensuring the sample is well mixed and fill the tube with water.

Step 3

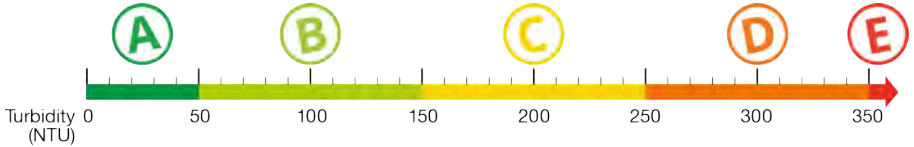
Tip out water until the three black lines are only just visible on the inside of the base of the tube. If you tip too much water out, refill the tube until you can just see the black lines.

Step 4

Look at the water level and record the closest number on the outside of the tube, on your sheet or the website portal.

Step 5

After use, wash the tube in clean water thoroughly and store the two parts of the tube where they cannot be damaged.



Grading ruler for water clarity/turbidity results for freshwater in the Fitzroy Region

Water bugs

Water bugs are animals without back-bones that live in the water and are large enough to be seen with the naked eye (e.g. beetles, bugs, shrimp, and snails).

This is one of the most commonly used indicators of waterway condition because they are widespread, and easily sampled. Different types of water bugs tolerate different stream conditions and levels of pollution, and are a very important part of the food chain.

There are two methods of sampling for water bugs; sweep sampling and kick sampling. Sweep sampling is best suited to the stream edge and habitats with vegetation overhanging from the stream bank, aquatic plants, undercut banks, root mats, leaf packs and woody debris. Kick sampling is designed for sampling stream bed habitats and can be used to sample a range of depths and flows. It is performed most effectively in riffles – fast flowing, rocky sections of the stream bed where the highest diversity of water bugs is generally found.

Approach the sampling area from downstream to prevent disturbing the area and select either sweep sampling or kick sampling.

Use sweep sampling in still waters and pools.
Use Kick sampling in shallow flowing streams.

NOTE: It is best to sample for water bugs after water quality testing so as not to stir up bottom sediments.

Sweep sampling

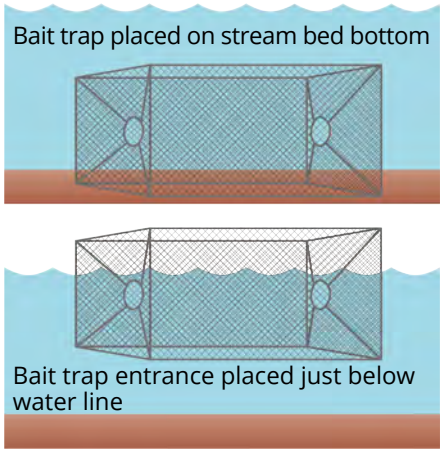
1. Sweep net among differing habitats using a short upward movement at right angles to the bank. Stir up the bottom while doing so.
2. Stop regularly to rinse mud and fine silt out of net.
3. Once finished scoop the net from the water in a forward motion and empty contents into sorting trays.
4. Sort the captured water bugs into groups of similar looking bugs using a pipette or spoon.
5. Identify bugs using magnifying glass and ID sheets on pages 10 and 11.
6. Return water bugs to the stream in a shady spot.
7. Record water bugs found on field sheet or website.

Kick sampling

1. Hold the net downstream with the net mouth facing the sampling area upstream.
2. Disturb the sampling area with your feet as you move slowly upstream. This will cause the water bugs to become suspended and pushed into the net by the flow of the water. If there is little or no flow use a short sweeping action.
3. Repeat this process over a distance of 10m.
4. Once finished scoop the net from the water in a forward motion and empty contents into sorting trays.
5. Sort the captured water bugs into groups of similar looking bugs using a pipette or spoon.
6. Identify bugs using magnifying glass and ID sheets on pages 10 and 11.
7. Return water bugs to the stream in a shady spot.
8. Record water bugs found on field sheet or website.

Fish

Fish are useful indicators of waterway health because they are sensitive to changes in water quality and habitat restructure which can occur as a result of natural causes or human activity. Sampling fish over time can assist in identifying potential impacts of human activities such as stream flow alteration, pollution, poor land use or reduced riparian vegetation.



Step 1

It is best to set the openings at the end of the net just below the waterline for two of the three nets.

Step 2

Bait and set the fish traps in three locations (with different habitats if possible)and leave undisturbed for at least 15 minutes. It is best to set the traps first and then complete the other sampling before returning to the traps after all other activities are completed.

Step 3

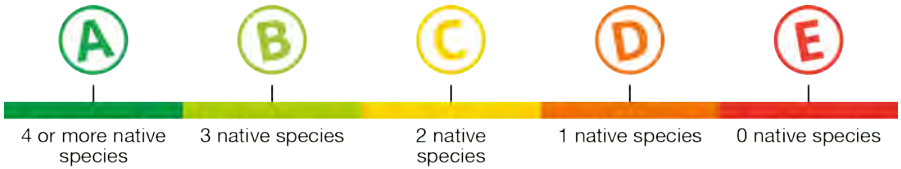
If the water is clear, sit and quietly observe water for five minutes to identify fish not trapped.

Step 4

Check the traps and place fish caught in sorting trays with some water while identifying them using the fish identification guide provided on pages 12-15.

Step 5

Release fish as soon as possible after identification and record fish found on field sheet or website.



Grading ruler for fish results for freshwater in the Fitzroy Region

waterwatch NEW SOUTH WALES
Communities Caring for Catchments

WATER BUG DETECTIVE GUIDE

Macroinvertebrate sampling and waterway health

Sampling will reveal information about the abundance and diversity of macroinvertebrates and their tolerance to pollution. This will provide an indication of the health of the waterway.

ABUNDANCE = the total number of macroinvertebrates present

DIVERSITY = the number of different types of bugs present. Healthy streams usually have a greater diversity of bug types

POLLUTION TOLERANCE = the ability of macroinvertebrates to withstand pollution. This is reflected by its SIGNAL 2 score based on their sensitivity to pollution.

STREAM POLLUTION INDEX = calculation based on the abundance and diversity of bugs and their SIGNAL 2 score.

HEALTHY WATERWAYS = a high SIGNAL score and a large number of bug types

Very Sensitive Bugs - 10,9

Stonefly nymph 10
Order: Plecoptera
Description: Two thin tails and gills extending from their abdomens.
Habitat: Found among stones or plants, in fast-moving waters.
Maximum size: 7-15 mm

Mayfly nymph 9
Order: Ephemeroptera
Description: Three long thin tails and gills along the sides of their bodies.
Habitat: Found on or under rocks or among plants and leaf litter in standing water and fast flowing streams.
Maximum size: Up to 15 mm

Sensitive Bugs - 8,7,6

Alderfly larva 8
Order: Megaloptera
Description: Their bodies are fleshy with a a hard-shelled head.
Habitat: Found among rocks, in a variety of flow conditions.
Maximum size: Up to 20 mm

Caddisfly larva 8
Order: Trichoptera
Description: They are often enclosed within a case of twigs and plant material or silk.
Habitat: Found among sediment and rocks in streams, ponds and lakes.
Maximum size: Up to 20 mm

Riffle beetle and larva 7
Order: Coleoptera
Description: Beetle-like, tiny and usually black. Larvae have circular stripes or rings.
Habitat: Fast moving water.
Maximum size: Up to 4 mm

Adult Larva

Water mite 6
Order: Acarina
Description: Mites usually have simple rounded bodies with eight legs.
Habitat: Found among plants or stones on the stream bed in standing or slow-moving waters.
Maximum size: Up to 5 mm

Tolerant Bugs - 5,4,3

Beetle larvae 5
Order: Coleoptera
Description: Larvae are usually elongated with well developed legs and a large head.
Habitat: A variety of habitats including still waters or quiet areas of flowing water.
Maximum size: Up to 35 mm

Dragonfly nymph 4
Order: Odonata
Description: Stout bodies, no external gills and extendable mouth parts.
Habitat: Found within the substrate of rivers and streams.
Maximum size: 12-50 mm

Water strider 4
Order: Hemiptera
Description: Flat spider appearance with long pairs of middle and hind legs.
Habitat: Found on the surface of slow moving rivers and streams.
Maximum size: 8-12 mm

Whirligig beetle and larva 4
Order: Coleoptera
Description: A streamlined oval beetle that swim in circles.
Habitat: Found on the surface around the edges of ponds an streams.
Maximum size: 5-25 mm

Larva Adult

Freshwater yabby/crayfish 4
Order: Decapoda
Description: Fan tailed with well developed claws and prominent front end.
Habitat: Slow flowing and still waters and burrow into sediment.
Maximum size: Up to 400 mm

Damselfly nymph 3
Order: Odonata
Description: Nymphs have three gill structures extending from the tail.
Habitat: Found on plants, among rocks and leaf litter or burrowing into the sediments.
Maximum size: 16-33 mm

Fly larva and pupa 3
Order: Diptera
Description: Larva usually have an elongated body with a small head. They do not have true legs.
Habitat: Found in shallow regions of ponds and stream amongst mud and detritus.
Maximum size: Up to 30 mm

Pupa Larva

Midge larva and pupa 3
Order: Diptera
Description: Often small and C shaped.
Habitat: Attached to debris by their tiny legs and can be found anywhere that water collects.
Maximum size: Up to 50 mm

Pupa Larva

Freshwater mussel 3
Class: Bivalvia
Description: Freshwater mussels have paired hard shells (valves) with a fleshy body between them.
Habitat: Found in or on sandy or muddy stream beds.
Maximum size: Up to 150 mm

Illustrations: Christine Rockley

NSW GOVERNMENT Environment, Climate Change & Water

A	Very sensitive bugs present with lots of diversity (3+ types)
B	Very sensitive bugs present
C	Only sensitive to tolerant bugs present
D	Only tolerant to very tolerant bugs present
E	Only very tolerant bugs present

Guidelines for water bug results for freshwaters

Check out our website for links to good third party waterbug identification materials

Tolerant Bugs - 5,4,3

Nematode 3
Order: Nematoda
Description: Thin elongated worms without segments and can look translucent.
Habitat: Burrow into the substrate.
Maximum size: Up to 12 mm

Freshwater sandhopper 3
Order: Amphipoda
Description: Slightly curled and flattened sideways and have hard segments each with a pair of legs for swimming or walking.
Habitat: The edges of slow moving water amongst plants and stones.
Maximum size: 6-20 mm

Freshwater shrimp 3
Order: Decapoda
Description: Covered by a shell, fanned tail and stalked eyes.
Habitat: Shrimps and prawns are found amongst plants and rocks in permanent slow-moving waters.
Maximum size: Up to 33 mm

Water scorpion/Needle bug 3
Order: Hemiptera
Description: Large grasping forelegs and short breathing tube at the end of their abdomen.
Habitat: Found among plants or on the water surface of slow-moving waters.
Maximum size: Up to 50 mm

Needlebug

Water scorpion

Very Tolerant Bugs - 2,1

Diving beetle 2
Order: Coleoptera
Description: Sleek, shiny beetles with hard-shelled body and hairy paddle-shaped hind legs.
Habitat: A variety of habitats including still waters or quiet areas of flowing water.
Maximum size: Up to 40 mm

Larva

Adult

Flatworm 2
Class: Turbellaria
Description: Flat, thin, slow-moving worms with two simple eye spots.
Habitat: Found gliding over rocks and plants in a variety of flow conditions.
Maximum size: Up to 20 mm

Hydra 2
Class: Hydrozoa
Description: Hydras have a simple sack-like body with a mouth encircled by tentacles.
Habitat: Found attached to rocks, plants or twigs in fast flowing water.
Maximum size: Up to 30 mm

Water treader 2
Order: Hemiptera
Description: Long middle and back legs, and thick body.
Habitat: Found on the water's surface of slow flowing pools near banks and plants.
Maximum size: Up to 5 mm

Freshwater worm 2
Class: Oligochaeta
Description: Segmented worms with rounded ends with no suckers or legs and usually coloured red or flesh coloured.
Habitat: Found in soft sediment rich in organic matter.
Maximum size: Up to 30 mm

Freshwater slater 2
Order: Isopoda
Description: Flattened from top to bottom with no body carapace or shield.
Habitat: Found in still to slow-moving waters.
Maximum size: Up to 20 mm

Waterboatman 2
Order: Hemiptera
Description: Boat-shaped with piercing mouth parts and boat shape appearance.
Habitat: Found among plants on the water surface or swimming freely in still to slow-moving waters.
Maximum size: Up to 10 mm

Backswimmer 2
Order: Hemiptera
Description: Curved back, large eyes, long hairy hind legs and swim on their backs.
Habitat: Found in standing water or slow flowing ponds.
Maximum size: Up to 11 mm

Bloodworm 1
Order: Diptera
Description: Worm-like and C shaped. Only the red ones are called Bloodworms.
Habitat: Found in soft sediment rich in organic matter.
Maximum size: Up to 20 mm

Leech 1
Class: Hirudinea
Description: Leeches are soft bodied animals made up of 32 segments with a sucker on one or both ends.
Habitat: Found in standing or slow moving water.
Maximum size: 7-80 mm

Mosquito larva and pupa 1
Order: Diptera
Description: Thorax wider than the head and breathes through a long siphon at the end of the abdomen.
Habitat: Still water.
Maximum size: Up to 25 mm

Pupa

Larva

Freshwater snails 1
Class: Gastropoda
Description: Snails are soft-bodied animals enclosed in a hard, protective, coiled shell.
Habitat: Found on plants and rocks in slow flowing or standing water.
Maximum size: Up to 25 mm

WATER BUG DETECTIVE GUIDE

Waterwatch NEW SOUTH WALES Communities Caring for Catchments

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FITZROY BASIN ASSOCIATION

FITZROY BASIN NATIVE FISH

SOUTHERN SARATOGA
Scleropages leichardti

Habitat: Long turbid waterholes, with reduced flow and abundant snags, undercut banks and overhanging vegetation
Maximum size: 100 cm

OLIVE PERCHLET
Ambassis agassizii

Habitat: Pools of low velocity and moderate depth. Often associated with aquatic plants and filamentous algae
Maximum size: 6 cm

FLY SPECKED HARDYHEAD
Craterocephalus stercusmuscarum

Habitat: Rivers, stream and floodplain wetlands. Prefers slow-flowing or still habitats with aquatic vegetation
Maximum size: 9 cm

MOUTH ALMIGHTY
Glossamia aprion

Habitat: Rivers and streams, well-vegetated margins and often lives amongst aquatic plants
Maximum size: 20 cm

RENDAHL'S TANDAN
Porochilus rendhali

Habitat: Lagoons, impoundments, river pools, anabranches and tributary streams in catchments
Maximum size: 24 cm

PURPLE-SPOTTED GUDGEON
Mogurnda adspersa

Habitat: Benthic species (live at the bottom of a body of water) preferring cover such as rocks, cobble and aquatic vegetation
Maximum size: 15 cm

Photo: M. Hammer, MAGNT

EMPIRE GUDGEON
Hypseleotris compressa

Habitat: Lower freshwater reaches of rivers, streams and wetlands. Found around aquatic vegetation and woody debris . Prefers high flowing waters.
Maximum size: 14 cm

CARP GUDGEONS
Hypseleotris spp.

Habitat: Carp Gudgeons prefer the shelter of aquatic vegetation, fallen branches, overhanging rocks and tree roots in slow flowing sections of streams
Maximum size: 6 cm

BANDED GRUNTER
Amniataba percoides

Habitat: Found throughout river systems from the headwaters to estuarine areas, common in both fast flowing and still waters
Maximum size: 20 cm

HYRTL'S TANDAN
Neosilurus hyrtlii

Habitat: Benthic species (live at the bottom of a body of water) occuring in floodplain lagoons, waterholes, still river pools and flowing areas
Maximum size: 40 cm, usually <28 cm

PACIFIC BLUE EYE
Pseudomugil signifer

Habitat: Coastal streams, rainforest streams and dune lakes. Also common in coastal lagoons, salt marshes, estuaries and inshore marine habitats
Maximum size: 8.8 cm

BARRAMUNDI
Lates calcarifer

Habitat: Wide variety of habitats, including inshore coastal areas, floodplain wetlands, streams and rivers. Often occupy woody debris and aquatic vegetation
Maximum size: 180 cm

SPANGLED PERCH
Leiopotherapon unicolor

Habitat: Found throughout river systems from the headwaters to estuarine areas, being more common in upper reaches
Maximum size: 30 cm

EASTERN RAINBOWFISH
Melanotaenia splendida splendida

Habitat: Slow-flowing and still habitats, including waterholes and ephemeral rivers
Maximum size: 10 cm

SLEEPY COD
Oxyeleotris lineolata

Habitat: Generally found in the still or very slow flowing waters of rivers, creeks and billabongs and prefers the shelter of undercut banks, aquatic vegetation and woody debris
Maximum size: 50 cm , usually <20cm

PEST SPECIES

TILAPIA
Oreochromis mossambicus

Habitat: Prefers slow-flowing waters, tolerates wide range of salinities
Maximum size: 45 cm

Australian Government

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FITZROY BASIN ASSOCIATION

DON'T FLUSH YOUR FISH!

MOSQUITO FISH
Gambusia spp.

The mosquito fish has a similar story to the cane toad as it was introduced to Australia as a biological control for mosquitos. Like the cane toad, this plan was unsuccessful and has caused massive environmental problems. The mosquito fish prey on the eggs and larvae of native fish and frogs and are known for their aggressive behaviour – nipping fins of other fish, regardless of the size difference.

Mosquito fish have a stout body up to 6 cm long with large, round scales. Females grow larger than males and have a deeper body and have a large, dark spot near the vent. Males are slimmer and have a slender, elongated anal fin.

Their colour is usually olive-brown on the back, blue-grey on sides and white-silver on the underside. Some fish have small dots on the caudal fin, dorsal fin and body. Their caudal fin is truncate or rounded. Their head is flattened and mouth upturned. Their single dorsal fin is short, originates well back on the body and has soft rays.

Flushing or dumping aquarium fish has big consequences for our local waterways.

When foreign fish enter waterways they can bring with them non-native seeds, diseases and eggs. Once in our river system these invasive fish outcompete native fish for habitat and food, and their feeding and nesting habits can degrade water quality.

These problems are hard to overcome as once a pest fish has spread through a river system it is almost impossible to remove them.

Tilapia and mosquito fish are two types of introduced and invasive fish that live in the Fitzroy Basin.

For more information visit fba.org.au

This educational resource is delivered by Fitzroy Basin Association with funding from the Australian Government's Reef Trust.

TILAPIA

Tilapia are listed in the world's 100 worst invasive species. They are regarded as one of the greatest threats to Australia's aquatic ecosystems.

Brought to Australia as an aquarium fish, tilapia are now a declared noxious fish in Queensland. If caught, they must be immediately killed and buried away from the water or disposed of in a bin.

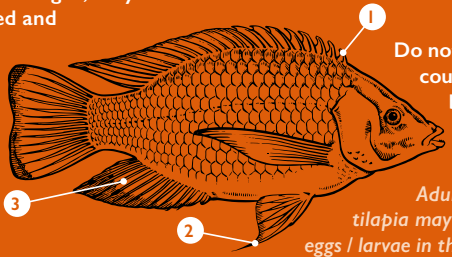
HOW CAN YOU HELP?

1. Know how to identify tilapia

Tilapia are generally deep-bodied fish with thin profiles.

Young juveniles have a small black spot (the 'tilapia spot') at the rear base of their dorsal fin.

Their dorsal (upper) fin 1 is continuous and ends in an extended point. (Most native species have a dorsal fin with a dent/gap in the middle and a rounded end.)



Their pelvic (belly) fins 2 are long and almost touch the front of their anal (bottom) fin 3 (this is unlike most native species, which have short pelvic fins).

2. Don't spread tilapia

Tilapia infestations are usually caused by people moving the fish between waterways.

Do not do anything that could spread tilapia between waterways:

Don't use tilapia as bait (dead or alive). Adult Mozambique tilapia may be carrying viable eggs / larvae in their mouths, even if they are dead.

Don't empty aquariums into local waterways.

Don't stock dams or ponds with tilapia. Use local native fish instead.

Don't return a catch of tilapia to the water. If you catch any tilapia, kill them humanely and either bury them or put them in a bin.

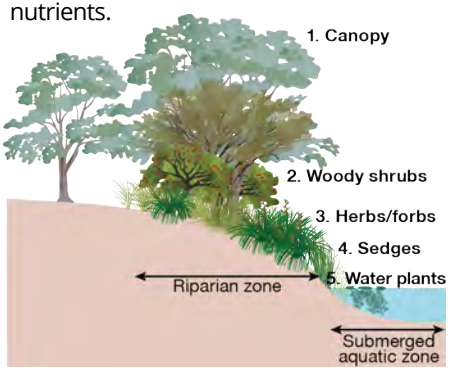
3. Report tilapia sightings

The government tracks pest fish infestations. If you catch or sight any tilapia, or if you suspect someone of stocking or moving tilapia, report it. You will need to provide information such as the date, the location, a description of the fish, a photograph (if possible) and a description of the waterway.

Learn more by visiting fba.org.au

Riparian vegetation

Riparian vegetation is any flora, native or introduced, growing around water bodies that is directly associated with the moisture provided by the water body. It is recognised as one of the most important indicators for assessing the condition of waterways, as it fulfils many important functions including; stabilising banks, providing shade and shelter, providing leaf litter and other organic debris to the stream and providing a buffer zone for intercepting sediments and nutrients.



Step 1

Inspect the riparian zone (see diagram) for the presence of the five different types of vegetation strata including;

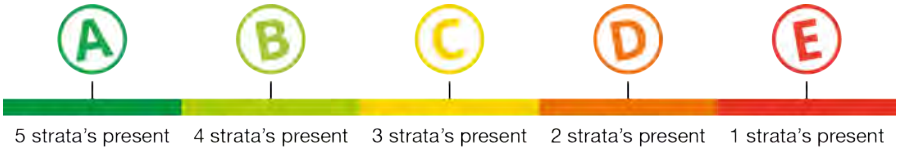
1. Canopy Trees
2. Woody Shrubs
3. Herbs/Forbs
4. Sedges and
5. Waterplants

Step 2

If possible, identify plants within the strata types using an appropriate field guide such as Plants of Capricornia by Melzer and Plumb.

Step 3

Record plants found and the number of strata types present on the field sheet or website.



Grading ruler for riparian vegetation results for freshwater in the Fitzroy Region

Weeds

Weeds can be extremely invasive and contribute to biodiversity loss, alter ecological processes and damage riparian environments.

Step 1

Inspect the riparian zone and use an appropriate weed identification guide to classify weeds (Grow Me Instead and Priority Weeds of the Capricorn Region are useful guides for Central Queensland).

Step 2

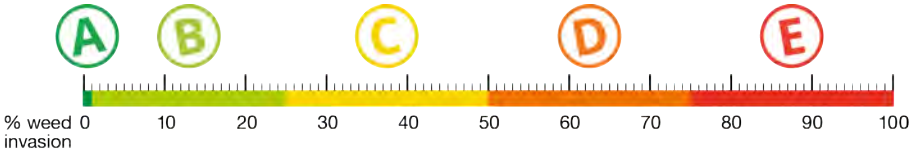
Determine the percentage of weed invasion.

Step 3

Remove weeds and dispose as rubbish (where possible).

Step 4

List weeds found and results on field sheet or website.

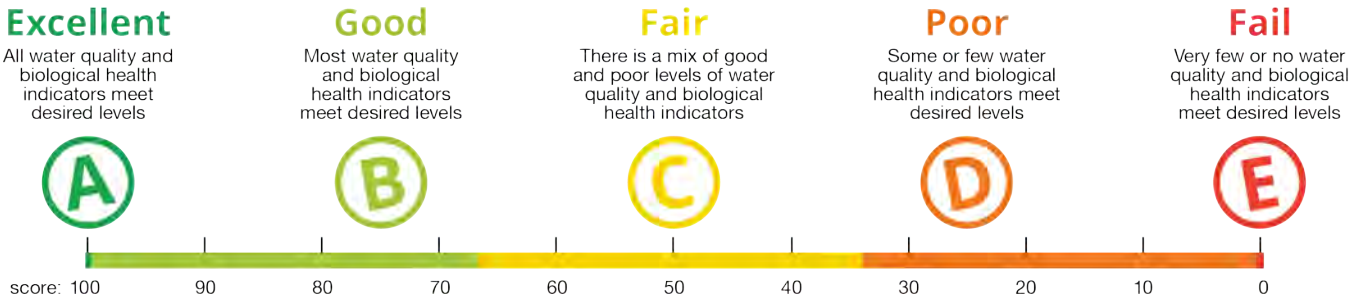


Grading ruler for weed results in riparian zones in the Fitzroy Region

Understanding your results

For each water quality indicator tested, a grade can be determined by using the grading ruler on each page. Once the raw data for all physical-chemical and ecological indicators have been entered into the MyWater community portal an overall grading of A-E (as shown below) will be awarded to the sample. An A grade means the result is equal or above the Water Quality Guidelines (WQG) and a grading of E means the result is equal or worse than Worst Case Scenario (WCS).

DATA WARNING: The results displayed in the MyWater community portal are based on data collected by enthusiastic and dedicated members of the community. The results are provided for education and awareness of the contributors to waterway health. No quality control measures have been applied to the data. As such the data is not fit for use beyond the stated purpose. There is no training requirement for community members or groups to enter data into the MyWater portal.



Enter sample results

Enter results on Fitzroy Partnership for River Health website

Fitzroy Partnership for River Health (FPRH) website has a community portal (MyWater) where raw water sample results are uploaded and each of the parameters measured are awarded a grade from A-E.

1. Navigate to the FPRH MyWater portal www.riverhealth.org.au/report_card/community/ and click on **Upload data now**
2. Select an existing site and click 'Continue' if one for your site already exists, or create a new site by:
3. Clicking on the 'Create a new site' tab.
4. Enter details of site (longitude and latitude can be selected by dragging red marker to site location on the map) and then click 'Continue'.
5. Select a recorder. (If you are new then select 'Add new'... then add your group's name and email contact.)
6. Enter the date and time for your sample along with the results.
7. Submit the results and then add more records or explore your results.

If you have a tablet or smartphone with wireless in the field, you can enter this information directly into the MyWater portal at www.riverhealth.org.au/report_card/community/ otherwise use this field sheet as a guide to write your notes.

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Citizen Science Field Sheet
MyWater Community Portal

If you have a tablet and wireless connectivity available in the field, you can enter this information at our MyWater Community Portal at www.riverhealth.org.au/report_card/community/. Otherwise use this sheet to record your data, then upload your site results on the MyWater Community Portal afterwards.

Recorder:	
Site Name:	
Date:	
Time:	
pH (1-14):	
Salt (µs/cm):	
Turbidity (10 to 240):	
Water Bugs (select one)	Bugs Found:
	Very sensitive bugs present with lots of diversity (3+ types)
	Very sensitive bugs present
	Only sensitive to tolerant bugs present
	Only tolerant to very tolerant bugs present
	Only very tolerant bugs present
Fish (select one)	Fish Found:
	4 or more native species
	3 native species
	2 native species
	1 native species
	0 native species
Riparian Vegetation (select one)	Plants Found:
	5 strata's present
	4 strata's present
	3 strata's present
	2 strata's present
	1 or no strata's present
Weeds (select one)	Weeds Found:
	0% weed invasion
	1 to 25% weed invasion
	25 to 50% weed invasion
	50 to 75% weed invasion
	75 to 100% weed invasion
Observations	

This community monitoring initiative is provided by Fitzroy Partnership for River Health with the generous support of our valued partners.

Major Partners

Queensland Government

Australian Government

BHP

BMA
BHP Mitsubishi Alliance

Peabody

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Jellinbah Resources

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Rockhampton Regional Council

Ensham Resources

COTTON AUSTRALIA

CQ University Australia

Queensland resources council

fitzroy australia resources

CQG Consulting

sunwater

NEW HOPE GROUP

KESTREL COAL RESOURCES

stanmore IP Coal

This guide has referenced elements of the Queensland Government's Queensland Community Waterway Monitoring Manual, August 2007

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