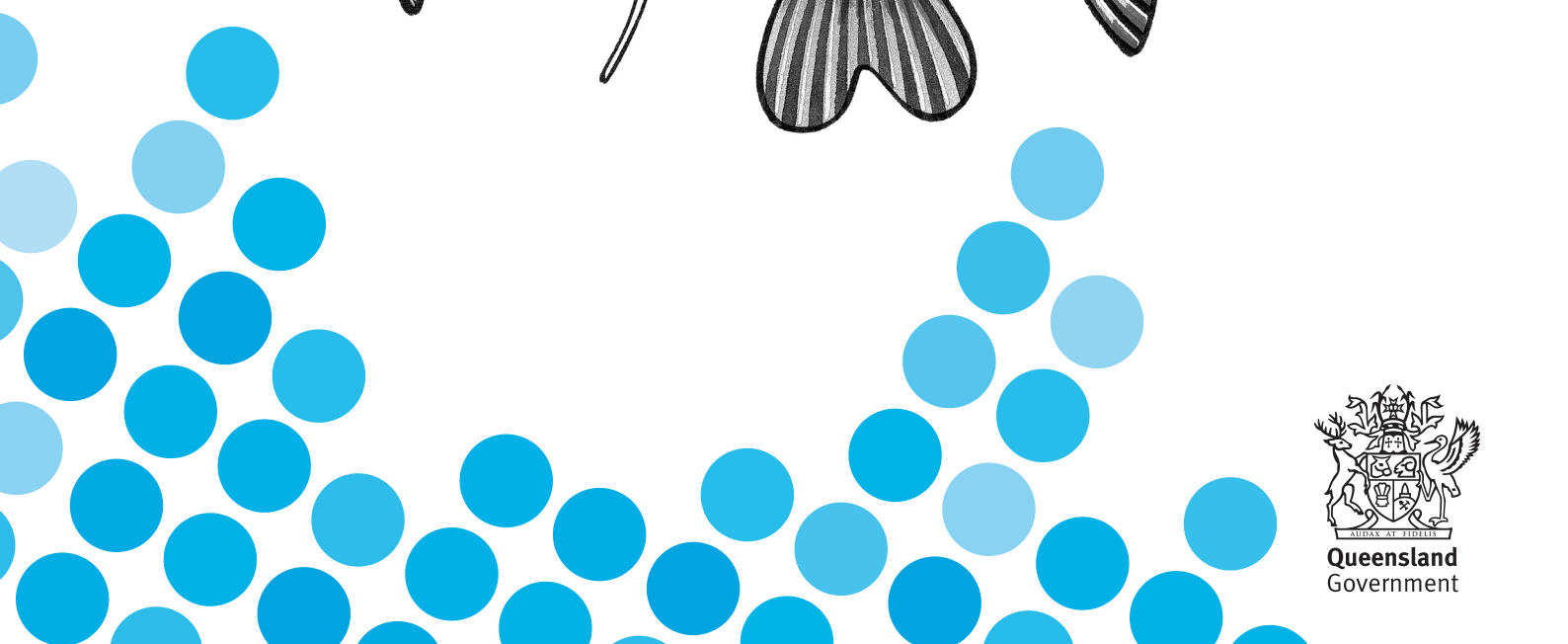
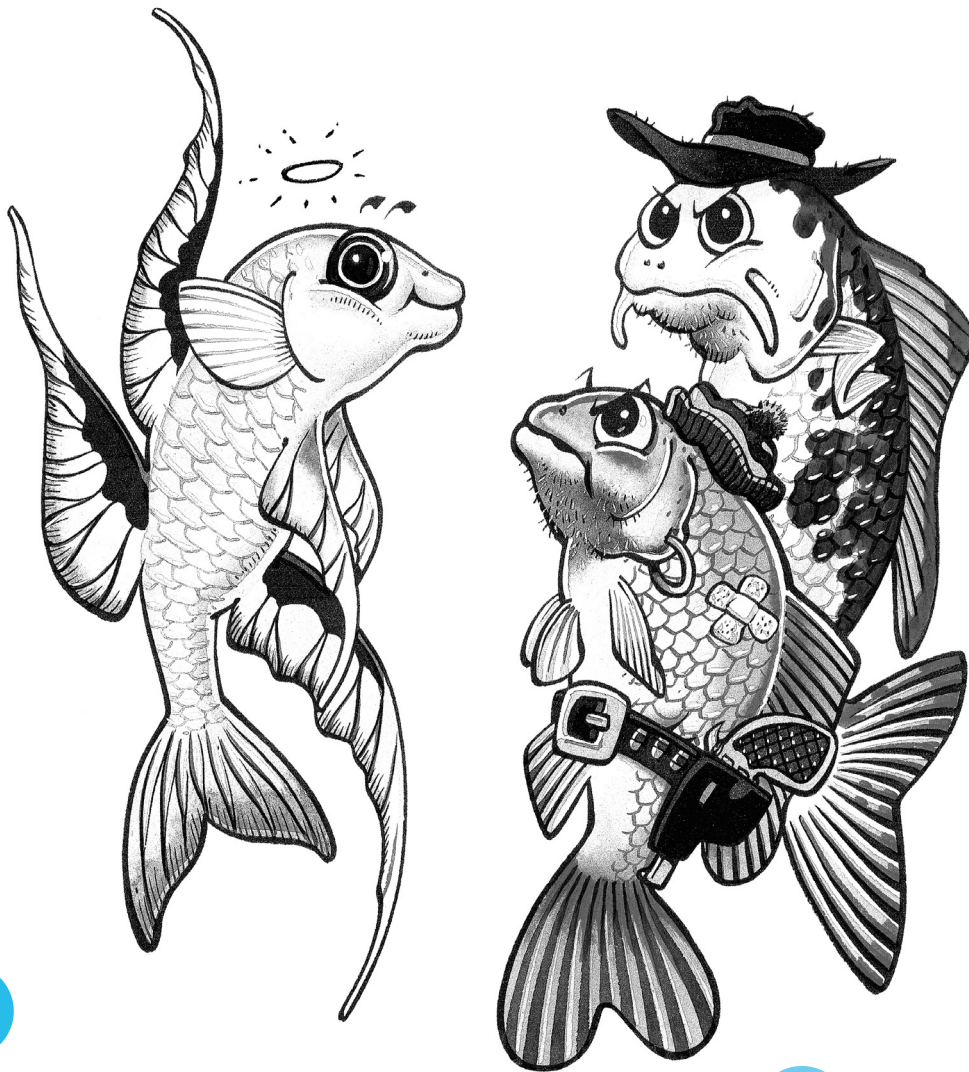
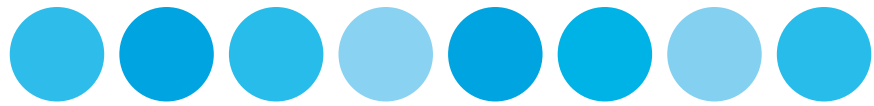


Invasive fish

activity book



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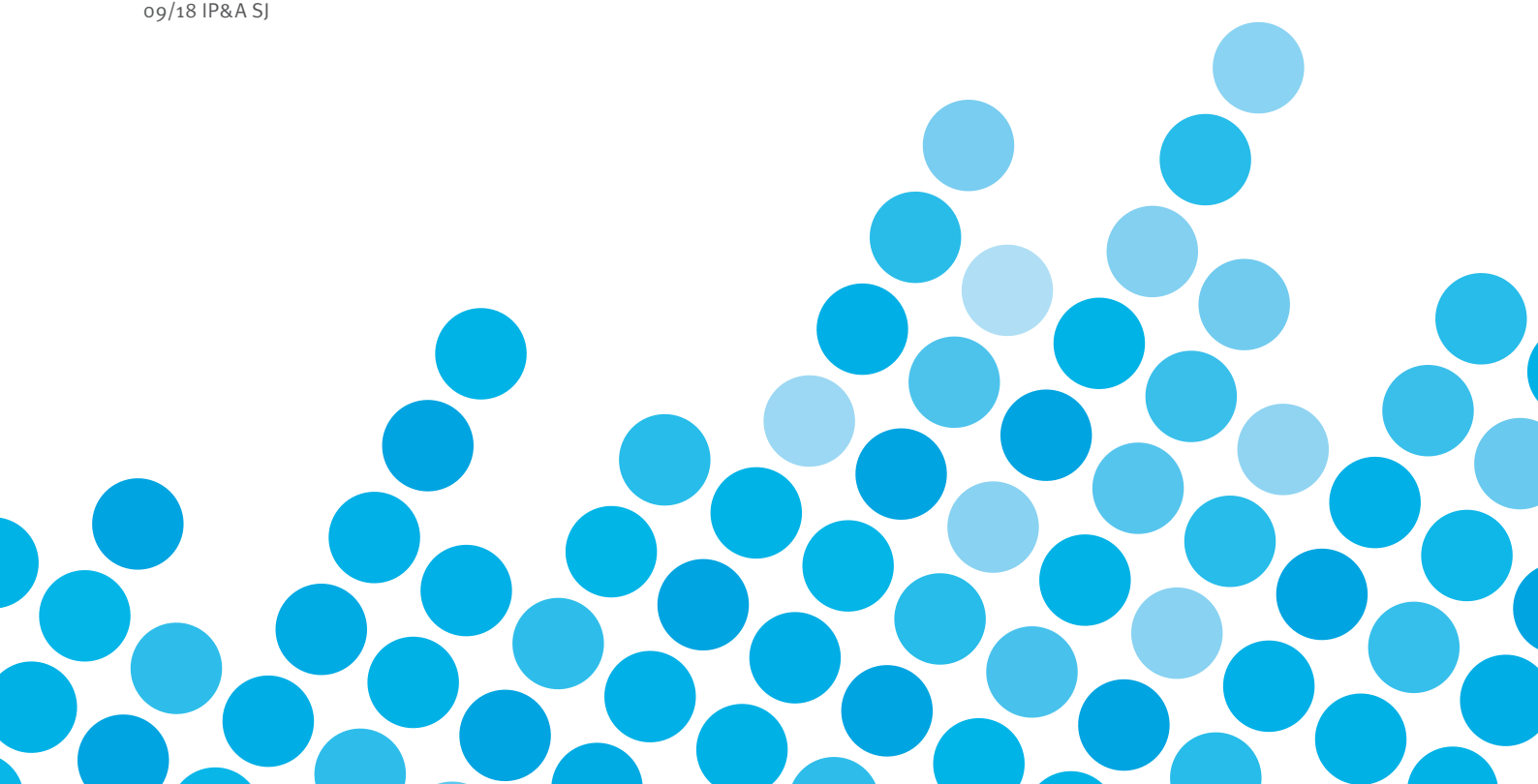


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Introduction

The aim of this activity book is to teach children about the impacts of invasive fish to our native fish and waterways. It is targeted at students aged 7–10 years.

Exotic fish are fish that are not native to Australia. Once they are released into our waterways, they then become invasive fish and outcompete with our native species. Although some exotic fish, snails and plants can be kept in private aquariums, it is illegal to release them into the native environment because of the serious negative impacts they can have on the environment.

The introduction of exotic species into Queensland's natural waterways can affect native aquatic plants and animals through direct competition for food and space, predation, changes to their habitat and the introduction of exotic diseases and parasites.

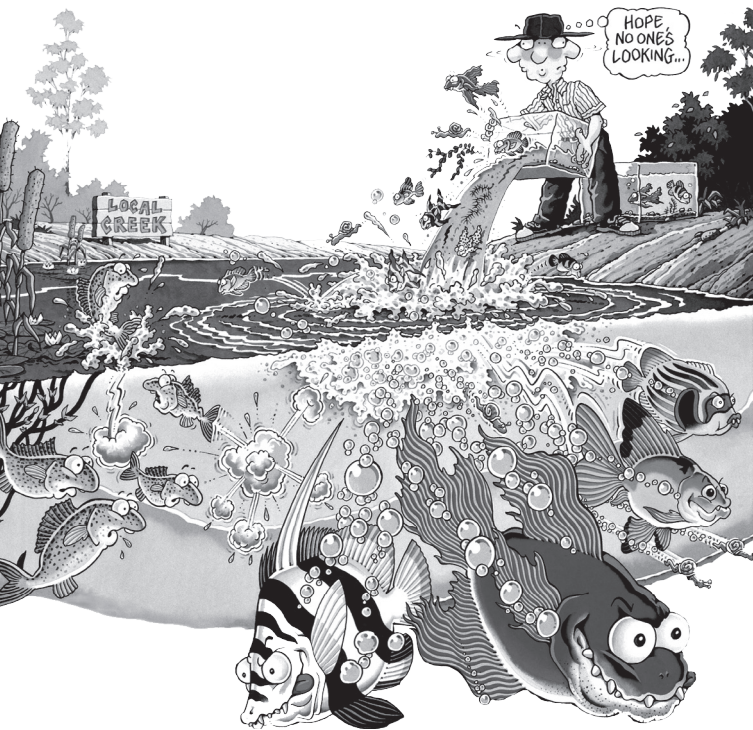
Exotic fish, snails and plants have already established in Queensland. Once established, removal is almost impossible.



Stop the spread!

Do

- Find out what invasive fish look like.
- Find out which fish are native to your local area and use them for dams, ponds and aquariums.
- Report any sightings or catches of invasive fish to Biosecurity Queensland.
- Report anyone you believe is moving or dumping invasive fish to Biosecurity Queensland.
- Get involved in local fish stocking or environmental groups that help boost native fish stocks.



Don't

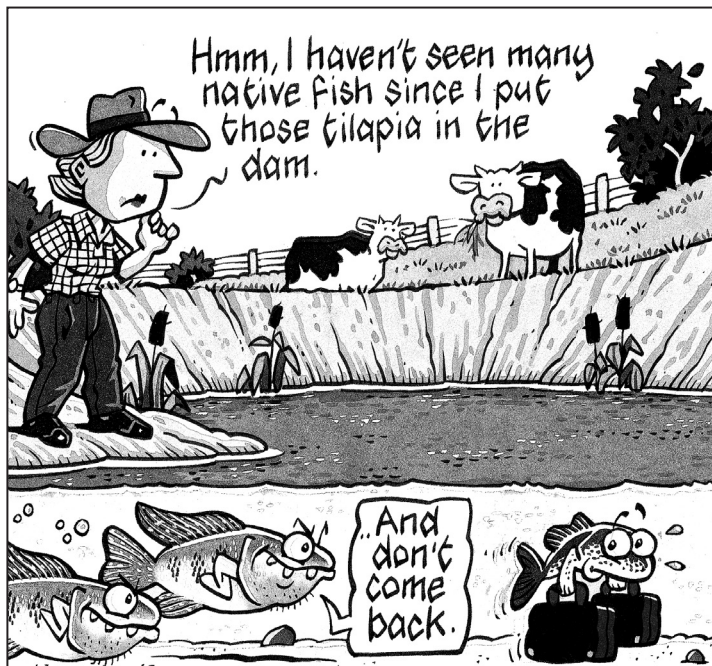
- Don't move invasive fish between waterways.
- Don't use invasive fish—alive or dead—as bait.
- Don't empty aquariums, ponds or dams into waterways or outlets that flow into waterways.
- Don't stock dams or ponds with invasive fish.
- If you catch a invasive fish, don't throw it back—kill it humanely and bury it away from the water.

What makes them invasive?

One of the world's worst invasive fish is tilapia. They can survive in dirty waterways, spread disease and breed much faster than native fish.

Some female tilapia hold hundreds of eggs in their mouths, and these eggs can survive for days after their mother has died. This is why you should never use tilapia as bait or throw tilapia back into the water when you catch them.

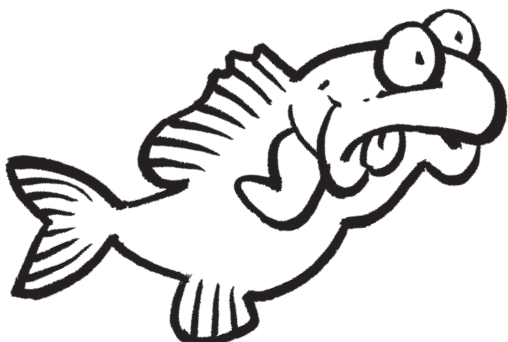
When invasive fish are moved between waterways they take over from native fish. Once invasive fish are established it is very hard to get rid of them.



Invasive fish affect native fish by:

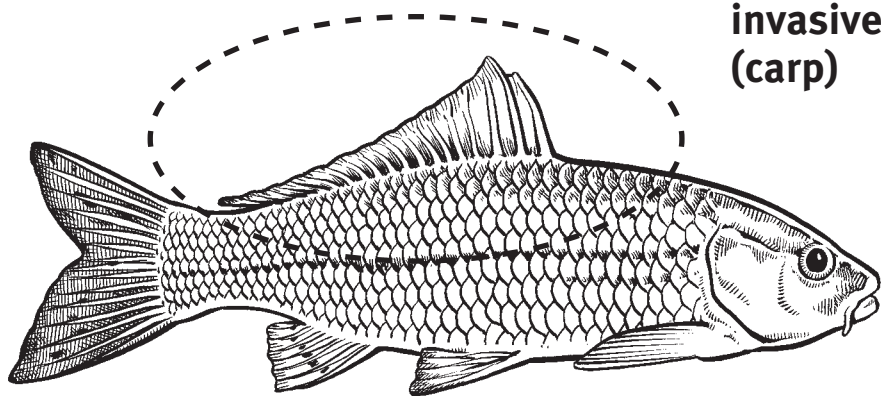
- taking their food and space
- eating their eggs and baby fish
- disturbing their habitat
- being aggressive to them
- introducing diseases.

You can help stop the spread of invasive fish such as tilapia by learning how to identify them and looking out for them in your local waterways.

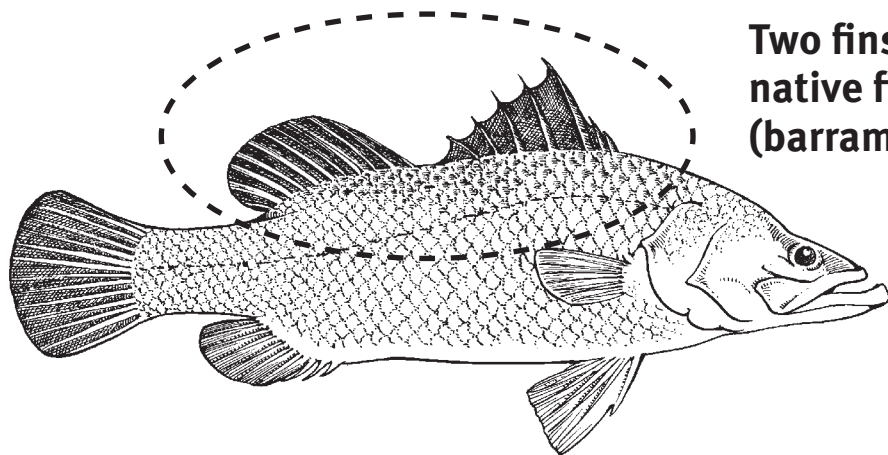


Invasive and native fish

Generally, the biggest difference between invasive fish and native fish is that native fish have two fins on their back while most invasive fish have one.



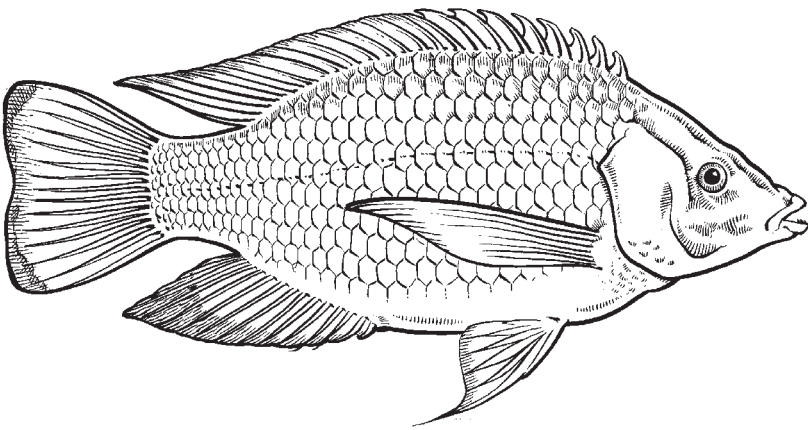
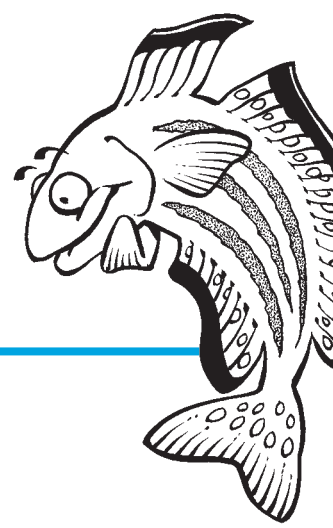
**One fin
invasive fish
(carp)**



**Two fins
native fish
(barramundi)**

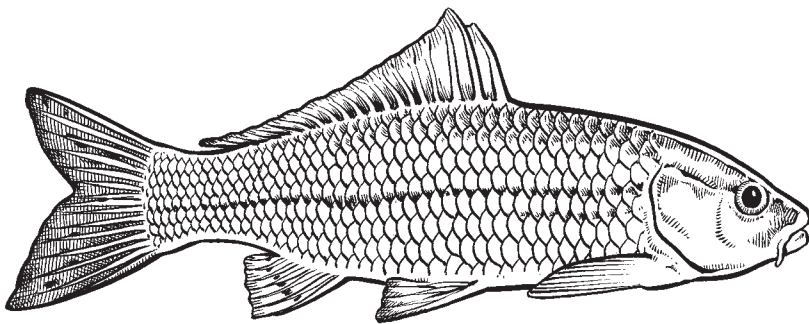


Colourin' in



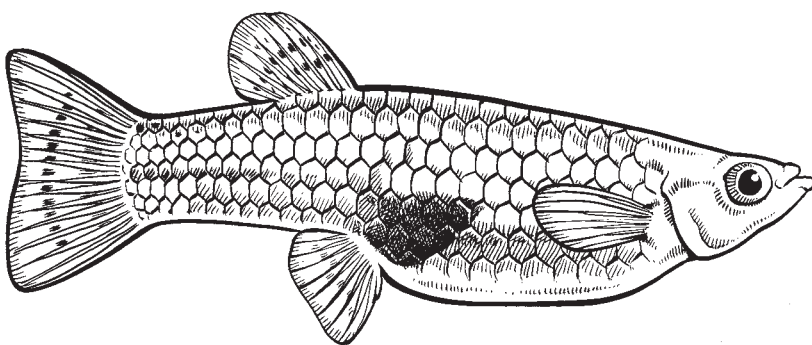
Tilapia

There are two types of tilapia in Queensland. Both have one fin on their back. The *Mozambique tilapia* has a green-black body and males have red edges on their fins. The *spotted tilapia* has stripes on the head and body.



Carp

Carp can have a whisker (barbel) on either side of their top lip. They also have a forked tail, a single fin on their back and large scales. They are usually bronze or olive-green with a pale belly.

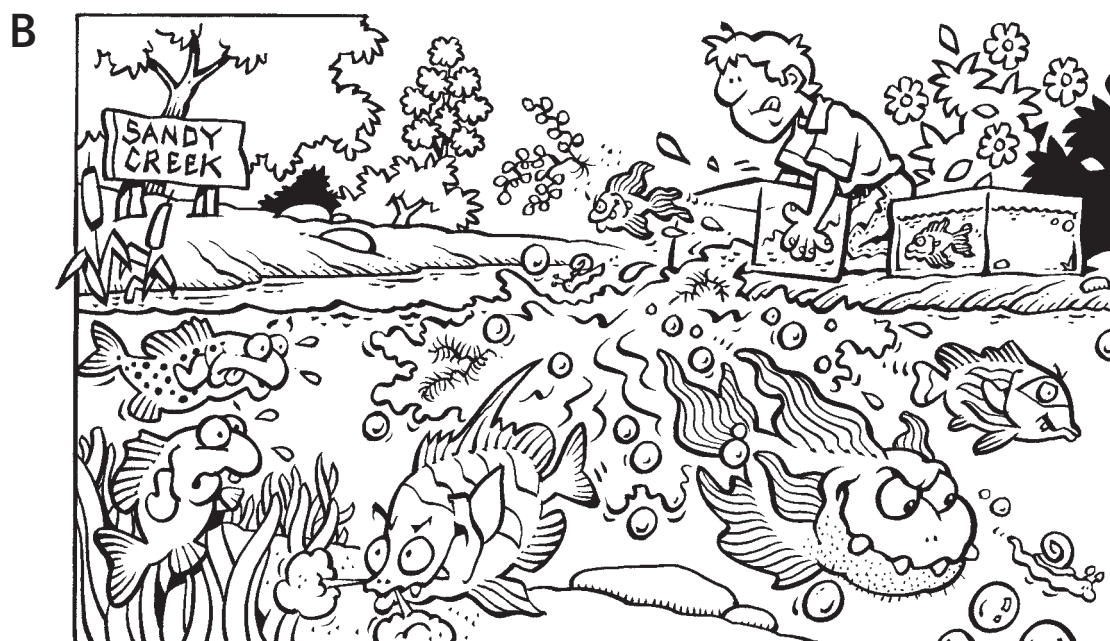
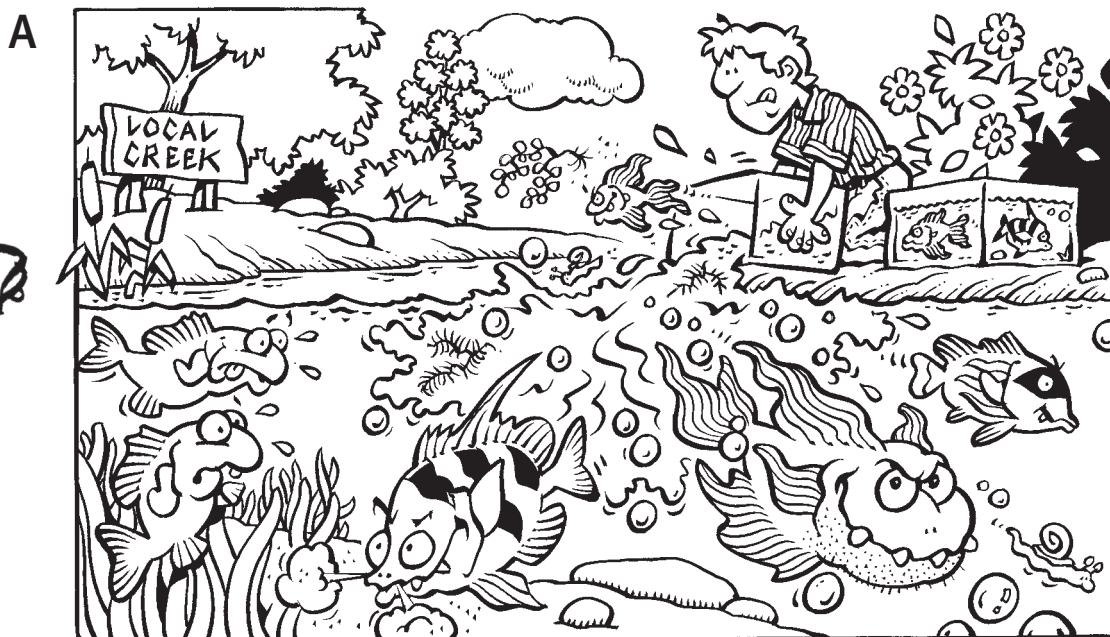
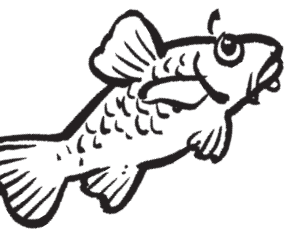


Gambusia

Gambusia are small fish, never growing more than 3–4 cm long. Females are plain coloured with a silver belly and greenish back. Males are similar but they may have shades of red, pink, blue, green or purple over the body and tail.

Spot the difference

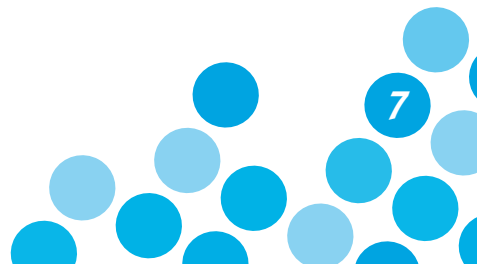
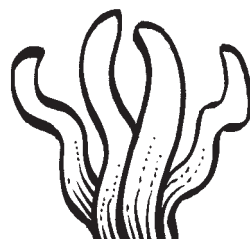
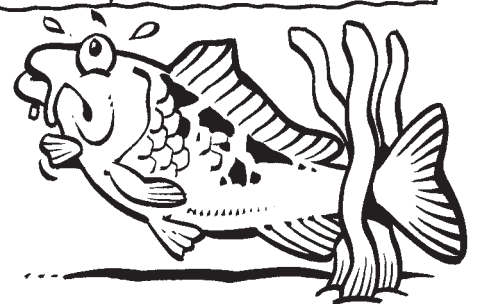
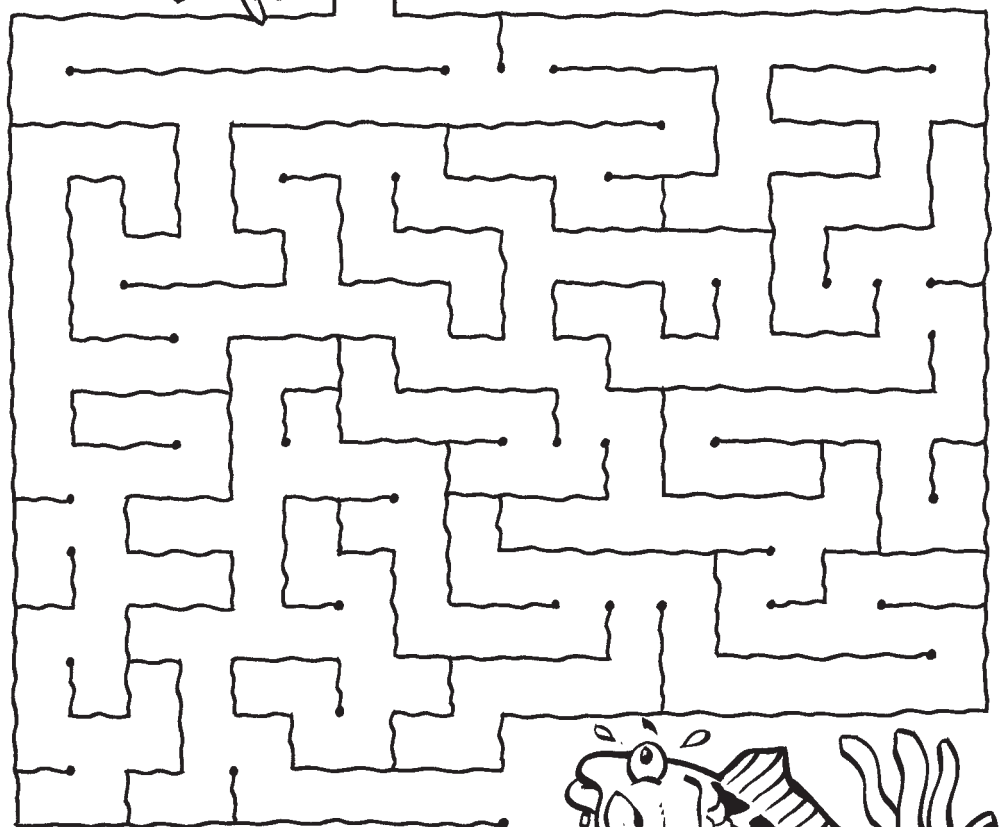
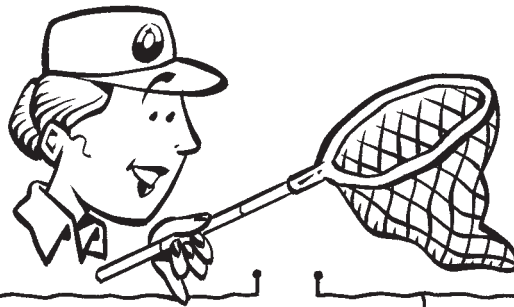
It's easy to spot the villain in this picture—he's ruining our waterways by illegally dumping his fish—but can you spot the 10 differences between the two pictures?



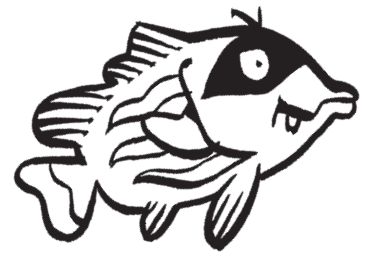
Crazy maze

Tilapia, carp and mosquito fish are invasive fish that compete with our native fish and damage our rivers and creeks.

Draw a line through the maze to help lead our Biosecurity Officer to the invasive fish.

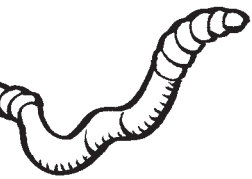
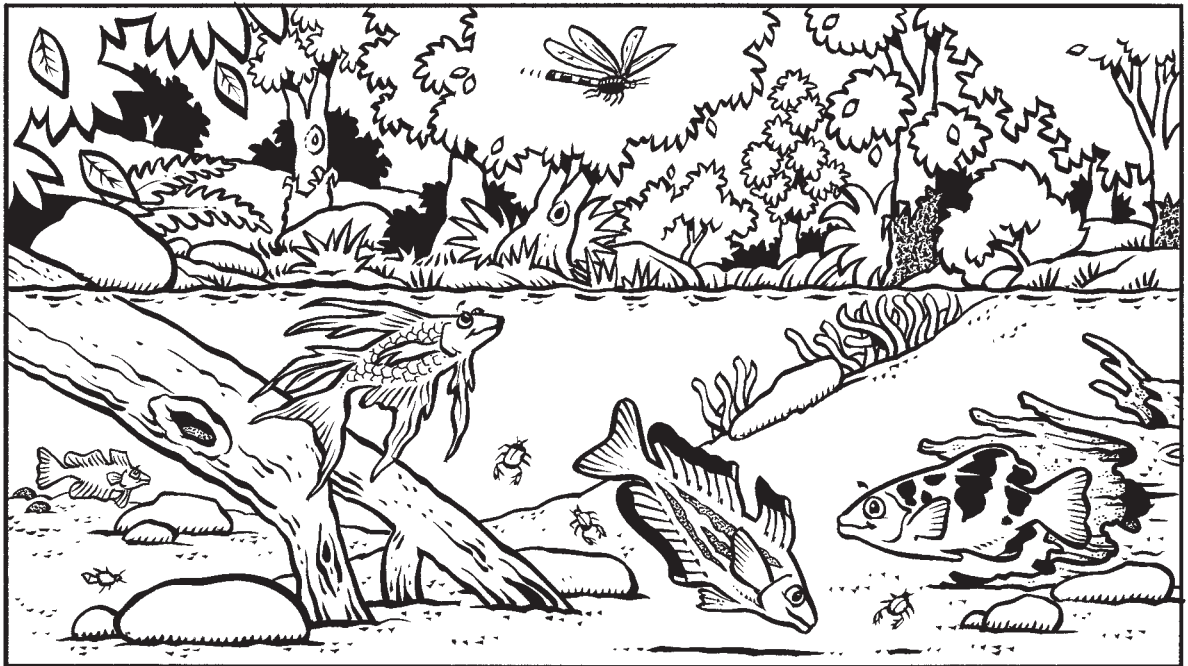


Crafty corner



Healthy streams have clear water, native fish, plants and shade. Unhealthy streams are dirty, have invasive fish, no plants and are littered with rubbish.

Colour in the following drawings of a healthy stream and an unhealthy stream.



Fishy quiz

1. How many tilapia species are there in Queensland?

2. How many fins does a native fish usually have?

3. How many fins does an invasive fish usually have?

4. Why can't you use invasive fish as bait?

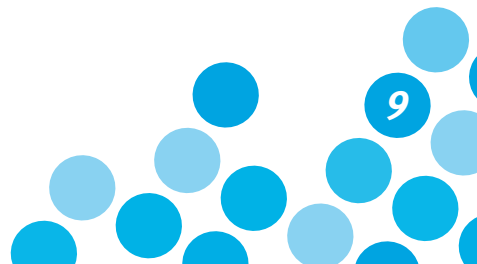
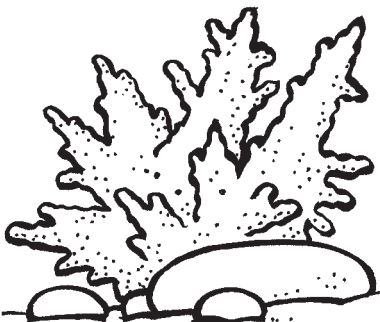
5. Name three ways invasive fish compete with native fish.

6. How does an invasive fish become established.

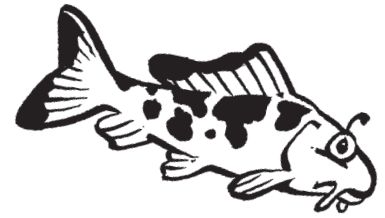
7. _____ in our waterways threaten the future of Queensland's native fish species.

8. Where do female tilapia hold their eggs and how many can they carry?

9. What is a barbel?



Anglin' for words



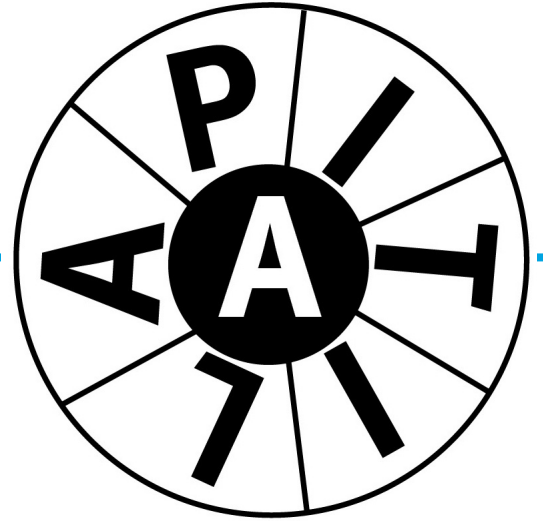
All the words listed below appear in the puzzle, either horizontally, diagonally or vertically.

tilapia compete impacts water
degraded eggs exotic invade
pest fish barbel carp gambusia

z	d	m	o	u	v	h	r	o	n
o	e	b	w	a	t	e	r	l	c
c	g	a	t	i	l	a	p	i	a
m	r	r	h	n	c	u	p	g	r
e	a	b	o	v	o	t	e	a	s
x	d	e	d	a	m	t	s	m	e
o	e	l	o	d	p	l	t	b	t
t	d	c	n	e	e	e	f	u	h
i	m	p	a	c	t	s	i	s	o
c	a	e	s	r	e	n	s	i	l
e	g	g	s	c	p	o	h	a	d



Word wheel

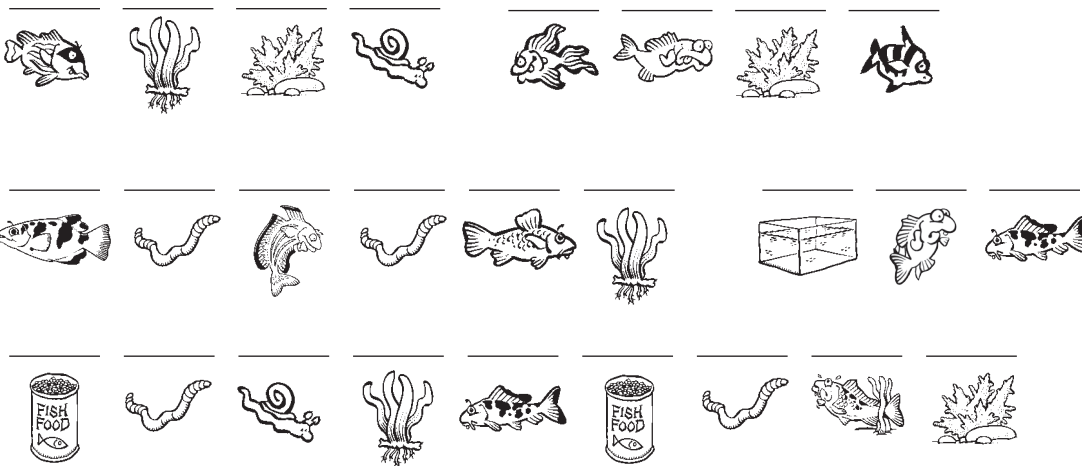


How many words can you make, with at least two letters, from the word wheel? All words must include the letter 'a'.

Here is one word to get you started.

lap

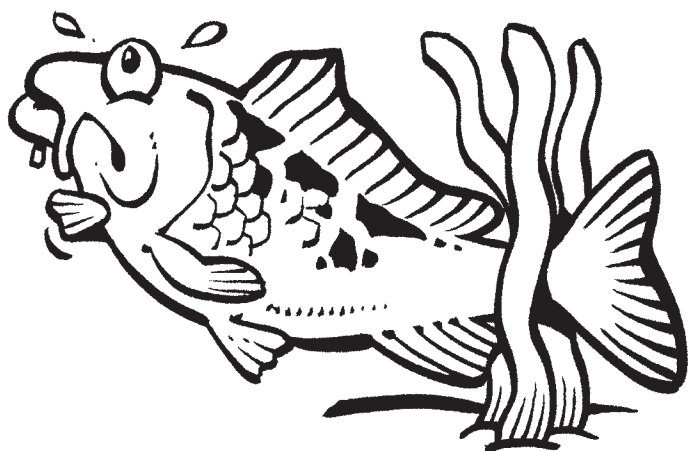
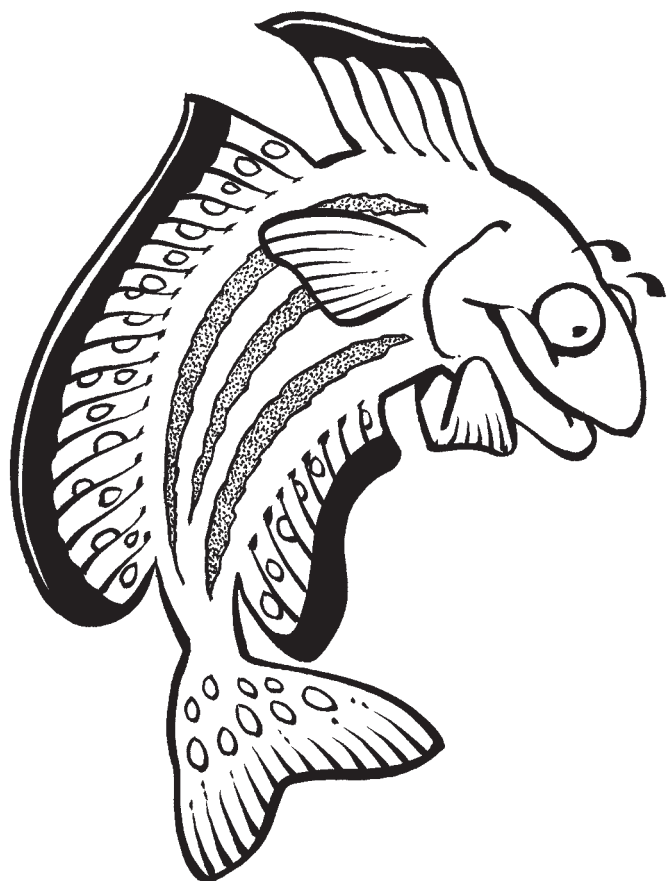
Code breaker



A	D	E	F	G	H	I	J	M
N	O	P	R	S	T	U	W	Y

Drawathon

Complete the pictures of the fish below.



Did you get 'em right?

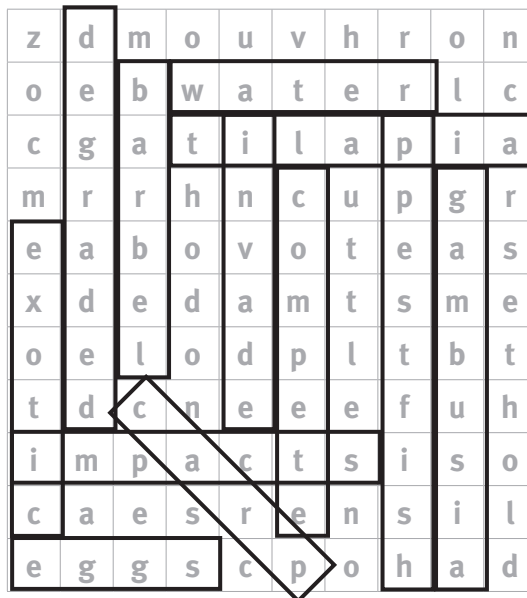
Spot the difference (page 6)

1. Stripes on shirt.
2. Black mask on fish.
3. Stripes solid on fish.
4. Spots on fish.
5. Name of creek.
6. Cloud missing.
7. Fish missing from tank.
8. Eyes on fish.
9. Extra branch on pond plants.
10. Rock missing.

Fishy quiz (page 9)

1. Two.
2. Native fish usually have two fins.
3. Invasive fish usually have one fin.
4. Because invasive fish can escape into our waterways and female fish used as bait release eggs from the mouths.
5. Any three of these:
 - they take their food and space
 - they eat native fish eggs and baby fish
 - they disturb their habitat
 - they are aggressive towards native fish
 - they introduce diseases.
6. Any of these:
 - when people move invasive fish between waterways
 - when invasive fish is used as bait, whether dead or alive
 - when aquariums, ponds or dams containing invasive fish are emptied into waterways or outlets that flow into waterways
 - when dams or ponds are stocked with invasive fish.
7. Invasive fish
8. They can carry hundreds of eggs in their mouth.
9. A whisker on either side of a carp's top lip.

Anglin' for words (page 10)

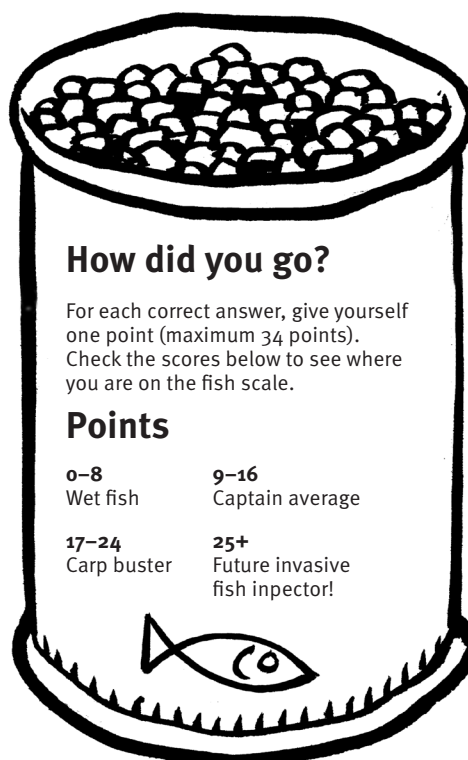


Word wheel

tilapia, pat, apt, tap, pail, tail, plait, plat, tala, ail, alt

Code breaker (page 11)

Invasive fish damage our waterways



Report an invasive fish!

Department of Agriculture and Fisheries

13 25 23

Visit daf.qld.gov.au

Email pestfish@daf.qld.gov.au

