

AQUATIC FRESHWATER PESTS: WHAT TO LOOK FOR



ALLIGATOR GAR
Ex N *Atractosteus spatula*

- large species up to 1.8 m length
- garfish appearance (hence the name)
- large teeth visible along snout
- short broad snout
- usually brown to lighter grey.



CANE TOAD
Ex D *Rhinella marina*

- averages 10 cm but can grow to 20 cm
- heavy build with shortish legs
- rough warty skin
- usually tan dark green or brownish in colour
- prominent sharp-edged ridge above the eye
- poison glands behind eyes.



ASIAN BLACK-SPINED TOAD
Ex D *Duttaphrynus melanostictus*

- stocky toad with small head and short hind limbs
- similar in size and appearance to a cane toad
- back covered in pimple like warts, usually capped with distinctive spines
- poison glands behind eyes.



MARRON
Est Ex *Cherax cainii*

- up to 9 cm carapace length
- usually a dark brown/black colour
- thinner pincers than the native SA yabby
- distinctive raised ridges between the eyes
- established in some waterways on Kangaroo Island and Fleurieu Peninsula.



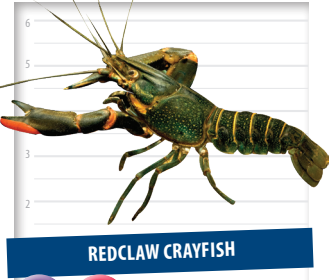
ORIENTAL WEATHERLOACH
Est N *Misgurnus anguillicaudatus*

- up to 25 cm
- slender eel-like fish
- colour varies from yellow, olive green, light brown or grey
- mouth surrounded by three sets of barbels
- established in the River Murray.



RED-EARED SLIDER TURTLE
Ex D *Trachemys scripta elegans*

- up to 40 cm shell length
- carapace usually a dark green background (although light green in juveniles) with yellow markings
- distinctive red or orange line between ear and eyes
- withdraws head straight back into shell when disturbed.



REDCLAW CRAYFISH
Ex N *Cherax quadricarinatus*

- up to 9 cm carapace length
- dark brown to blue green colour
- adult males have distinctive red patch on the outer margins of the claws.



SMOOTH NEWT
Ex D *Lissotriton vulgaris*

- up to 10 cm length head to tail
- pale brown to yellow colour
- males have a single black line running down the centre of the spine
- females have 2 lines.



SNAKEHEADS
Ex N family Channidae

- various sizes depending on the species, can reach up to 1 m in length
- snake-like pattern on upper body, particularly in juveniles
- long dorsal fins
- large mouths with shiny teeth.



TILAPIA (FEMALE)
Ex N *Oreochromis mossambicus*

- various species, with size ranging from small aquarium fish to large fish (up to 60 cm)
- vary in colour from dark olive to silver-grey depending on age and environment
- generally deep bodied fish with long snouts and pronounced lips/jaws
- upper fin tends to be continuous (native fish tend to have a gap/dent)
- belly fins are long and almost touch the front of the anal fin.



SPECKLED LIVE BEARER
Est N *Phalloceros caudimaculatus*

- can grow up to 6 cm
- small fish similar to Mosquito fish
- yellow colour
- distinctive black spots and blotches on the side of the body.



TILAPIA (MALE)
Ex N *Oreochromis mossambicus*

- various species, with size ranging from small aquarium fish to large fish (up to 60 cm)
- vary in colour from dark olive to silver-grey depending on age and environment
- generally deep bodied fish with long snouts and pronounced lips/jaws
- upper fin tends to be continuous (native fish tend to have a gap/dent)
- belly fins are long and almost touch the front of the anal fin.

Note: Species images are for illustrative purposes only and are not to scale.

Help find the most unwanted.
See it. Report it.

Early detection is the key to stopping the introduction and spread of aquatic pests.

If you see:

- an unusual freshwater or marine organism
- illegal activities such as the movement, keeping, breeding and sale of noxious or declared aquatic pests, or
- exotic species being released into the environment

report it to the Department of Primary Industries and Regions immediately:

Fishwatch (24 hours): 1800 065 522

Email: PIRSA.InvasiveSpecies@sa.gov.au

Or report via the Aquatic Pest form on the SA Fishing app.

There are a range of aquatic pests that can impact our environment, economy and communities. For information about exotic or noxious aquatic pest species, requirements within South Australia and the legal keeping of some species of noxious or declared species:

Phone: 08 8207 7900

Email: PIRSA.InvasiveSpecies@sa.gov.au

Web: pir.sa.gov.au/biosecurity/aquatics

Information on marine pest species can also be found at www.marinepests.gov.au



Stop aquatic
pests harming
our environment

Aquatic pests can damage our unique freshwater and marine environments.

Help us track down the most unwanted and stop pests from establishing and spreading.

The introduction of aquatic animals and plants can have a significant impact on biodiversity and native species. They also threaten our valuable seafood, tourism, fisheries and aquaculture industries.

There are a number of declared noxious species in South Australia that cannot be held, traded, moved or released into state waters – this includes certain aquarium species. In addition, there are restrictions on the release of exotic (non-native) species.

If you use our freshwater and marine environments, you should familiarise yourself with exotic and noxious pest species. Your actions could help protect your local environment, economy and community from the harmful impact of aquatic pests.

Why are these species a threat?

South Australia has a global reputation for producing exceptional food. Home to clean waters, our unique environmental assets are free from many of the aquatic pests and diseases that impact other countries and states/territories.

Exotic (non-native) aquatic pests have a negative impact on our freshwater and marine environments, native species and associated industries as they can:

- prey on native species, impacting fish stocks
- compete for food and shelter
- destroy natural habitats in our unique marine and freshwater environments
- potentially introduce exotic diseases
- foul aquaculture and industrial infrastructure
- foul vessels or equipment, affecting performance.

How you can help

You can play an important role in helping stop the spread of non-native aquatic pests species by:

- finding out which species you can legally keep
- not being involved in the illegal keeping, breeding or sale of noxious or declared species
- never releasing or disposing of exotic/noxious species or aquarium fish into freshwater or marine waterways without a permit
- never moving fish from one waterway to another (translocating) without a permit
- obtaining the appropriate permits to stock species in private waterways eg. dams
- promptly reporting sightings of exotic/noxious or unusual species
- following recommended vessel and equipment cleaning guidelines to reduce the spread of aquatic pests and disease.

MOST UNWANTED

Definitions	
Ex	Exotic species are not native to South Australia’s aquatic environments. Some exotic species are also listed as noxious species and some have established in SA. For the purpose of this brochure the Ex indicates they are not found in SA.
N	Noxious species are exotic species declared under the <i>Fisheries Management Act 2007</i> and are a severe threat to the natural environment. They cannot be held or traded and must not be returned to the water and should be disposed of humanely.
D	Declared species are pests that are declared under the <i>Landscape South Australia Act 2019</i> . There may be restrictions for keeping, movement, sale and/or release of these species and requirements for control.
Est	Established species are exotic pests that have formed populations in limited areas of South Australia.

MARINE AQUATIC PESTS: WHAT TO LOOK FOR

 <p>ASIAN GREEN MUSSEL</p> <p>Ex N <i>Perna viridis</i></p> <ul style="list-style-type: none">• up to 8–16 cm long• juvenile is bright green• older shells are dark green to brown, may have green edges to shells• smooth with evenly spaced (concentric) grooves.	 <p>BLACK STRIPED FALSE MUSSEL</p> <p>Ex N <i>Mytilopsis sallei</i></p> <ul style="list-style-type: none">• up to 2.5 cm long• unequal sized shells (one side overlaps the other)• smooth, small and easily crushed• forms dense clusters• sometimes zig-zagged or striped.	 <p>CHINESE MITTEN CRAB</p> <p>Ex N <i>Eriocheir sinensis</i></p> <ul style="list-style-type: none">• smooth shell, up to 8 cm wide• hairy mittens on claws (unlike any Australian crab)• 4 spines on either side of eyes• 4 sharp spines in between eyes.	 <p>EUROPEAN FAN WORM</p> <p>Est N <i>Sabella spallanzanii</i></p> <ul style="list-style-type: none">• grows up to 40 cm long• spiralled fan for feeding• fan is white, pale yellowish brown, orange, banded red or brown• flexible, brown, leathery ‘tubes’ from which the worm’s fan can protrude• established in the SA gulfs.	 <p>ASIAN PADDLE CRAB</p> <p>Ex N <i>Charybdis japonica</i></p> <ul style="list-style-type: none">• grows up to 120 mm wide• found in a number of colours - pale olive green, brown, purple• sharp spines between eyes• six spines down each side of the shell• paddle-shaped rear legs (both male and female).	 <p>NORTHERN PACIFIC SEASTAR</p> <p>Ex N <i>Asterias amurensis</i></p> <ul style="list-style-type: none">• up to 50 cm across• yellow to orange with purple markings (juvenile)• yellow (adult)• 5 arms with pointed upturned tips.
 <p>BROWN MUSSEL</p> <p>Ex N <i>Perna perna</i></p> <ul style="list-style-type: none">• around 9 cm long, but can be 5 cm to 17 cm long• dark brown shell• smooth with evenly-spaced growth lines• straight and proportionally long hinge• thin at edges and thickens towards narrow end.	 <p>CAULERPA</p> <p>Est N <i>Caulerpa taxifolia</i></p> <ul style="list-style-type: none">• grows up to 15 cm long (can be over 60 cm in deep water)• flattened fronds• pinnules curve upwards and grow directly opposite each other• established in the Port River System.	 <p>EUROPEAN GREEN SHORE CRAB</p> <p>Est N <i>Carcinus maenas</i></p> <ul style="list-style-type: none">• smooth shell, up to 7 cm wide• green or brown shell with pale orange underside• 5 spines on each side of eyes• back legs are sharp and slightly flattened at tips with no swimming paddles• established in Gulf St Vincent.	 <p>HARRIS MUD CRAB</p> <p>Ex <i>Rhithropanopeus harrisi</i></p> <ul style="list-style-type: none">• body about 1–2 cm wide• greenish brown to olive green• white-tipped claws, unequal size• hairy abdomen• 4 spines on each side of body• eyes not at the widest point of the body.	 <p>VASE TUNICATE</p> <p>Est <i>Ciona intestinalis</i></p> <ul style="list-style-type: none">• grows up to 20 cm long• soft, translucent body structure (column-like)• usually in groups (mass of columns)• jelly feel when out of the water – collapses under its own weight• common on artificial structures in water• established in the SA gulfs.	 <p>WAKAME (JAPANESE KELP)</p> <p>Ex N <i>Undaria pinnatifida</i></p> <ul style="list-style-type: none">• usually up to 1 m long, but can be 3 m• green to golden-brown colour• blades are smooth and thin and stop well short of base• claw-like attachment• obvious strap-like midrib along length of blade• ruffle near base (mature plant).