

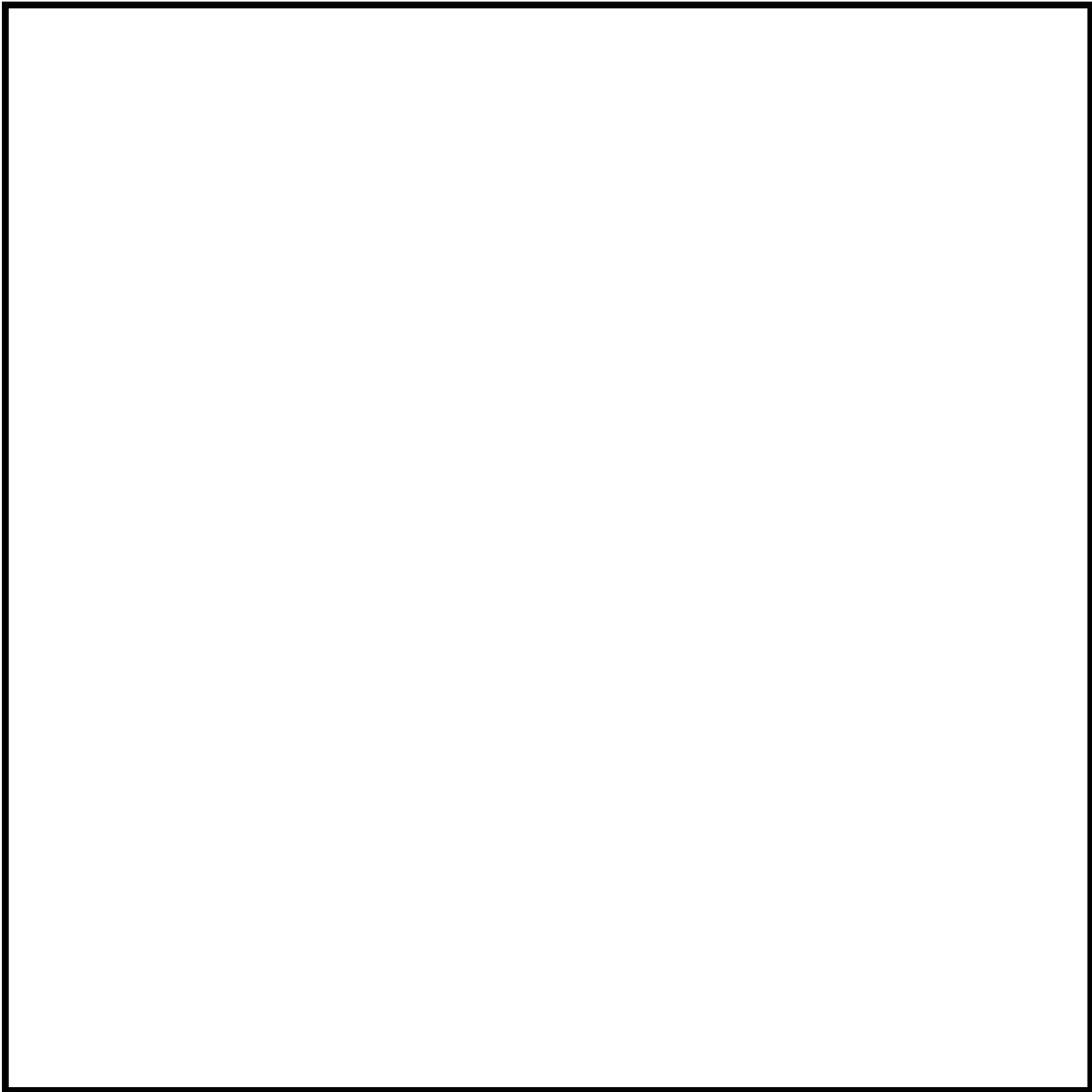
Koi

W O R K B O O K



Picture Perfect

***Identify a special place on the Waikato River.
Either attach a photo or draw it.***



What are some issues you can see that koi may have contributed to that area?

CULTURAL SIGNIFICANCE

The Waikato River is very special to Māori people. It's like a member of their family and holds many stories and history.

Heres why it's important:

Life Source:

The river provides food and water, and is a place where people meet and share stories.

Spiritual Connection:

The river is seen as a living ancestor, a guardian that gives life and protection.

Cultural Heritage:

The river is a living library, holding stories, traditions, and knowledge passed down through generations.



Impact of Koi

Koi are a big problem for the Waikato River. They are like uninvited guests who don't know how to behave, here is why...



Eating Machines:

Koi eat a lot and are not picky about their food. They munch on plants, small fish and bugs, leaving less food for the native animals.



Messy Eaters:

While eating, they stir up the mud at the bottom of the river. This makes the water dirty and murky, which is bad for plants that need sunlight and fish that need clear water.



Too Many Babies:

Koi have lots of babies, which means more koi in the river. This makes it hard for the native fish to find enough space and food to live.

DID YOU KNOW?

Here are some Koi facts specifically to us in the Waikato region...

Koi are in the Waikato, Waipā, Waihou and Piako rivers.

Koi cannot climb waterfalls like native fish! We are looking for areas where building a small waterfall will prevent koi reaching lakes and streams where they don't already live.

Bowhunting is a popular way to remove fish from the river.

Scientists are working on how to count fish using drones. This helps understand populations of fish in the lakes and how work could be modified to.

Community help - Everyone, including kids, can help by doing Check, Clean and Dry of all boats, paddles and boots used in the water. This helps sure their eggs don't spread.



CHECK

Inspect your equipment, boats, and clothing after leaving any body of water for any visible mud, aquatic animals, or plant materials. It's important to remove anything you find and dispose of it properly at the site to prevent moving these materials to new locations.



CLEAN

Clean all your gear thoroughly as soon as possible. This might involve washing with a detergent solution or using hot water to ensure that all organisms are removed, especially from hard-to-reach areas that stay damp.



DRY

Allow all equipment and gear to dry completely, ideally in the sun, for as long as possible before using it in a different waterway. Some invasive species can survive for several weeks in moist environments, so thorough drying is essential.

Lifespan and Growth

Koi are noted for their long lifespan, often living for 25 to 35 years, with some individuals reportedly reaching ages of over 100 years in exceptional cases.

Genetic Diversity

Thanks to extensive breeding, koi carp exhibit a vast genetic diversity in terms of color, pattern, and body morphology. This diversity is much celebrated in koi shows and competitions.

Gills and Respiration

Koi have gills that they use to extract oxygen from water. They can also gulp air from the surface, which allows them to absorb atmospheric oxygen, a useful ability in low-oxygen environments.



Mouth

Koi have a protrusible mouth that they use to sift through mud and debris on the bottom of ponds to find food. They are omnivorous and will eat a variety of food sources.

Size

Koi are known for their large size. They can grow up to 90 cm in length in optimal conditions, but the average size is generally around 60 cm..

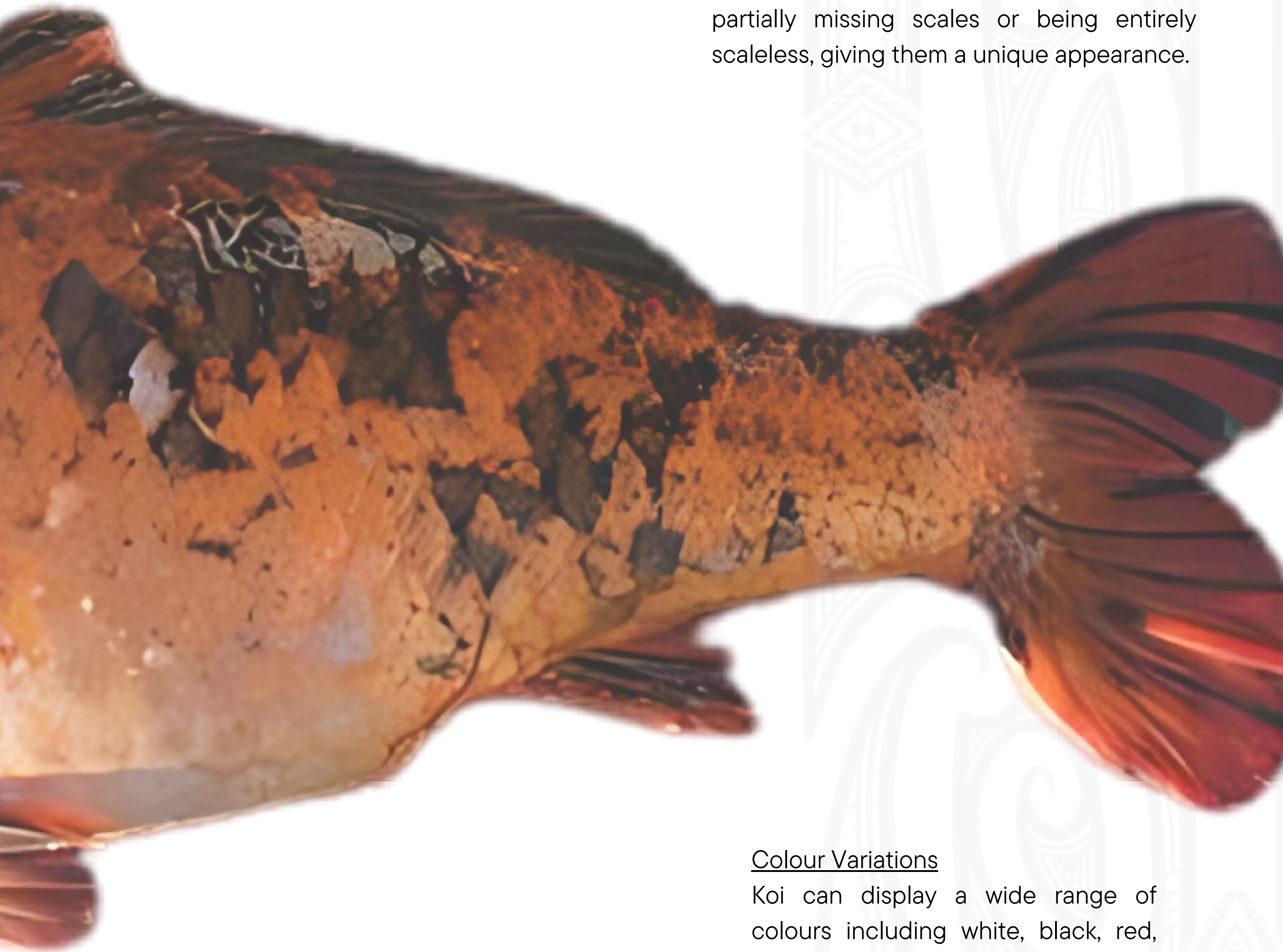
Adaptability

Koi are adaptable fish that can survive in a range of climatic conditions, although they thrive in temperate climates. Their body is designed to store fat to survive through colder months.

Koi are not only admired for their aesthetic qualities but are also appreciated for their resilience and adaptability, which make them a fascinating subject of study and a beloved addition to aquatic gardens around the world.

Scales

Most koi have a complete set of scales, but some varieties are known for having either partially missing scales or being entirely scaleless, giving them a unique appearance.



Colour Variations

Koi can display a wide range of colours including white, black, red, orange, yellow, blue and cream. Their colouration is the result of selective breeding.

Fins

Koi have several types of fins, including dorsal (back), pectoral (sides), pelvic (bottom near the head), anal, and caudal (tail) fins. Their fins can be long and flowing, especially in ornamental breeds.

Body Shape

They have a streamlined body shape which allows for efficient movement in water. Selective breeding has also led to variations in body shapes and sizes among different koi varieties.

CONSERVATION EFFORTS

Here's how we could help remove them...



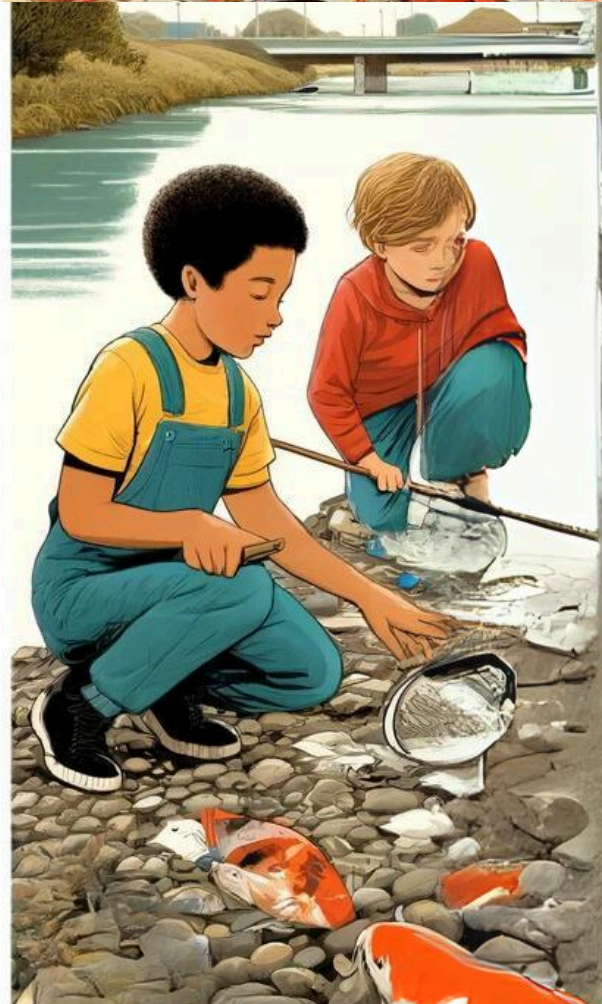
Catching Them:

People use nets and traps to catch koi and remove them from the river. (Don't forget to use the 'check, clean, dry' method.)



Research:

Scientists are studying the river to understand how to protect it better. One day, this could be you!



Community Help:

Everyone, including kids, can help by being careful not to put anything harmful in the river and by learning about how to keep the river healthy.