



# Guardians of the Future

## Wetland Ecosystems

### Grades 3-5



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#### Hi there kids!

My name is Barnabas and I am a Giant Bullfrog (*Pyxicephalus adspresus*). Today we will be learning about the importance of wetland ecosystems and why we need to conserve them and the animals that depend on them.

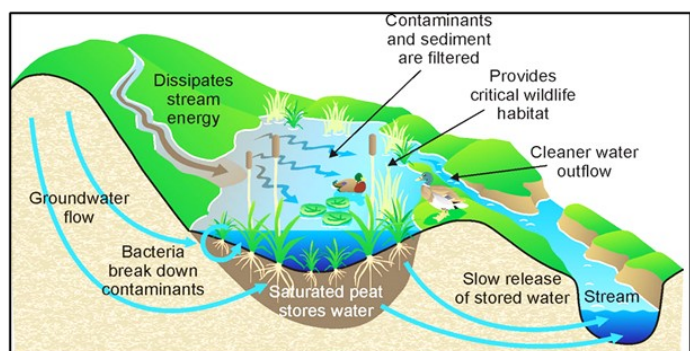


#### What are wetlands?

Wetlands are the links between land and water, where the flow of water, the cycling of nutrients, and the energy of the sun meet to produce a unique ecosystem. In wetlands, water covers the soil, or is stored just beneath the soil. These areas can be dry for parts of the year, and then completely covered with water in others.

Wetlands are unique because they act like giant sponges—they soak up water and store it so that rivers and streams can keep flowing, making it easy for animals, including humans, and plants to survive during the dry seasons.

#### How wetlands work



#### Do you know what an Ecosystem is?

It is an area where different plants and animals live in a particular habitat, and interact with each other and their environments.

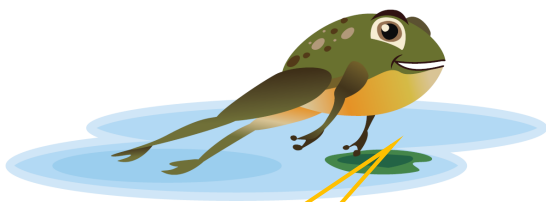
Different ecosystems contain different types of habitats, animals and plants. See how many types of ecosystems you can find in the wordsearch below. Today we will be focusing on wetland ecosystems.

#### Ecosystems

V	S	E	R	A	M	V	N	D	A	I	Y	R	G
T	I	O	M	D	C	A	W	T	E	E	A	S	S
R	M	O	U	N	T	A	I	N	O	S	S	T	O
V	R	V	E	G	I	D	N	A	L	T	E	W	E
S	H	G	G	P	R	S	S	O	R	M	S	R	H
N	A	E	K	S	K	A	I	N	K	I	E	A	T
R	N	A	A	D	K	U	S	A	D	D	V	E	M
O	N	N	T	I	N	D	E	S	O	S	A	E	D
C	A	F	Y	L	A	O	T	D	L	E	N	A	R
K	V	O	L	D	T	E	N	S	E	A	A	E	A
Y	A	R	S	A	E	S	A	V	N	N	N	A	N
R	S	E	A	I	D	N	O	P	L	V	Y	D	N
R	O	S	G	Y	T	R	A	R	U	R	T	O	T
S	S	T	A	L	N	G	S	O	G	M	O	P	R

DESERT  
SEA  
SAVANNAH  
RIVER  
FOREST  
GRASSLAND  
MOUNTAIN  
WETLAND  
ROCKY  
POND

Play this puzzle online at : <https://thewordsearch.com/puzzle/1031844/>



#### Did you know

Giant Bullfrogs depend on wetland ecosystems called pans to survive? They require very specific environmental conditions to forage, breed, and raise their tadpoles.

#### Why do we need wetlands?

When it rains a lot, water can flow very quickly, and if it can't be absorbed by the ground it can cause damage to buildings like houses and schools, and pose a threat to human lives. Wetlands can slow the flow of floodwater by absorbing it and ensuring that the water flows slowly across the landscape, filtering the water as it flows through the plants and soil, into rivers and streams. Wetlands also serve as natural water storage systems - so that we, and animals, have access to clean water. Many people also rely on wetlands for food and resources, so losing a wetland would threaten people's livelihoods.



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## Wetlands and wildlife

Wetlands are a bit like “wildlife supermarkets” because they attract so many different plants and animals. Some animals live in these areas all the time, while others only use them for breeding or feeding.

All plants and animals are adapted to certain environmental conditions. Let’s look at what animals that are built for wetlands, and what particular features help them to survive in this type of ecosystem.



African Grass owl in the nest they build in wetland grasses (Tyrone McKendry)

African Grass owls (*Tyto capensis*) are habitat specialists which means they require a very specific habitat in order to exist. They are known to nest only in a few types of grasses, most of which are found exclusively in wetlands.

## What can wetlands do for you ?



### Clean water

Wetlands are nature’s water filters. The plants, animals and bacteria found in wetlands help clean your water long before it reaches you



### Reduce flooding

During wet periods, wetlands absorb and store excess water. They act as giant sponges, soaking up water, thereby reducing the risk and severity of flooding



### Minimise the effects of drought

During the dry season, wetlands help to lessen the likelihood and consequences of drought by slowly releasing the water they have stored back into surrounding areas.



### Keep water bodies clear

Wetlands absorb and use excess nutrients, reducing the growth of algae and aquatic weeds. Uncontrolled algal growth can make water unsuitable and unsafe for livestock to drink, and aquatics weeds can block waterways and pumps.

Blue cranes (*Anthropoides paradiseus*) roost and feed in shallow wetlands. Cranes have long legs long toes and broad feet that allow them to walk through and over wetland vegetation and mud without getting stuck



Breeding pair of Blue Cranes (*Anthropoides paradiseus*)

## Threats to wetlands and their wildlife

Wetlands are cleared to build roads and urban developments. This destroys habitat for wildlife and makes it difficult for animals to move between wetlands and other green spaces, like bullfrogs!.



- Wetlands are also cleared or drained for farming
- Alien and invasive plant species take too much water and don’t leave any space for indigenous plants (plants that live in South Africa naturally)
- The soil in and around wetlands is easily eroded when disturbed by grazing cattle or agricultural vehicles.

## Wetlands

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

BLUE CRANE  
FILTER  
WETLAND  
FILTER  
HABITAT  
GIANT BULLFROG  
GROUNDWATER  
ECOSYSTEM  
SPONGE  
FLOOD