WATER POLLUTION AND WETLANDS

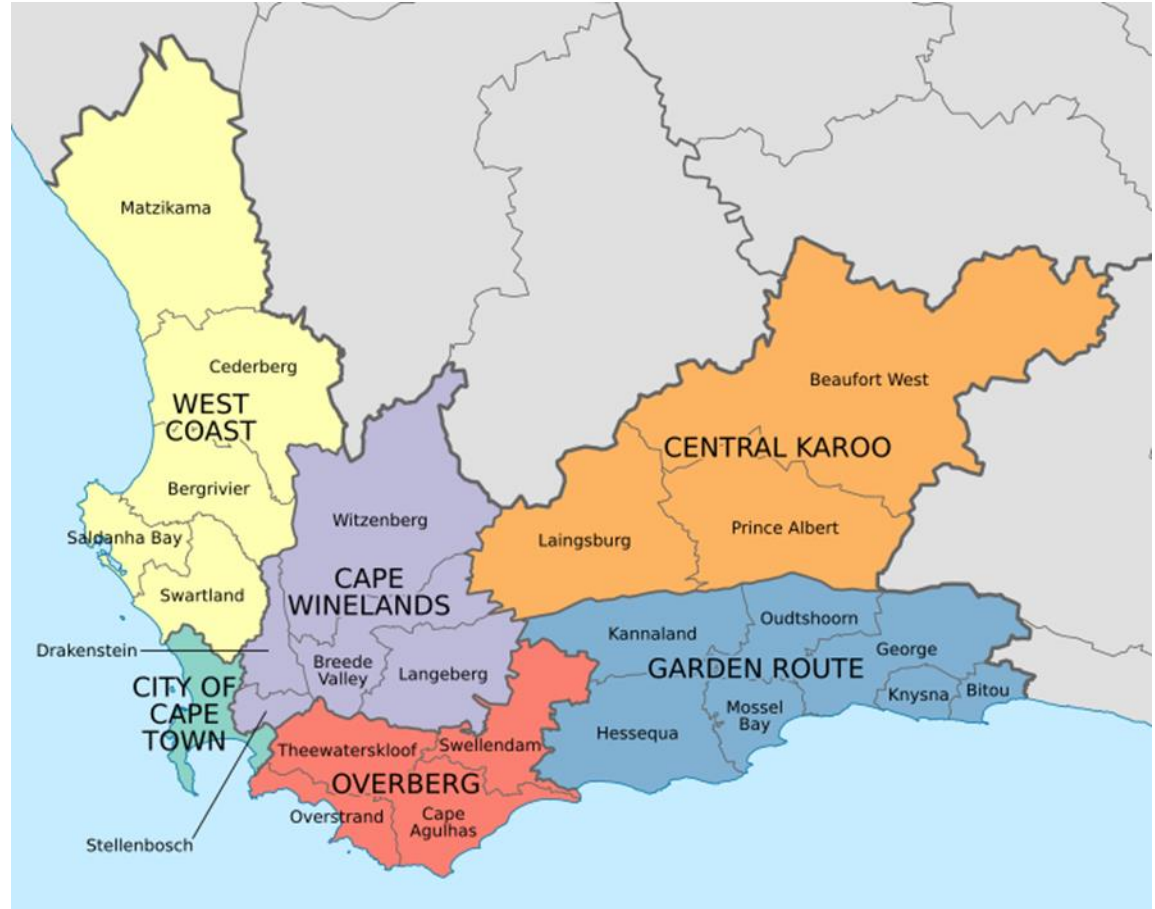XXX

ADD TITLE

Who are we?

CapeNature is the part of government that protects natural occurring plant and animal life (biodiversity) in the Western Cape.

NOW - Introducing our incredible staff…

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What are we going to do today?

- Learn about wetlands

- Listen to a story about water

- Do a water pollution demonstration

- Graffiti Board

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What are the rules for today?

RULES OF ENGEGEMENT

Listen to the speaker

Respect your teacher and classmates

Have fun!

Be safe

Take part in all the activities!

What else?

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What are wetlands ?

- Wetlands are land areas that are flooded with water, either part of the year (seasonally) or (permanently)

- Like us, Wetlands have a birthday every year and World Wetlands Day is celebrated every 2 February

Quick activity: try name as many examples of wetlands as possible…

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How many did you guess right?

Marshes
Ponds
Lakes
Rivers
Flood plains
Swamps
Mangroves
Estuaries
Lagoons

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What is source to sea and why does it matter?

Quick activity: can you spot the wetlands?

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Why are wetlands important?

-Provide fresh water for us all

-Clean water

-Home to many plants and animals

-Help fight climate change

How wetlands work

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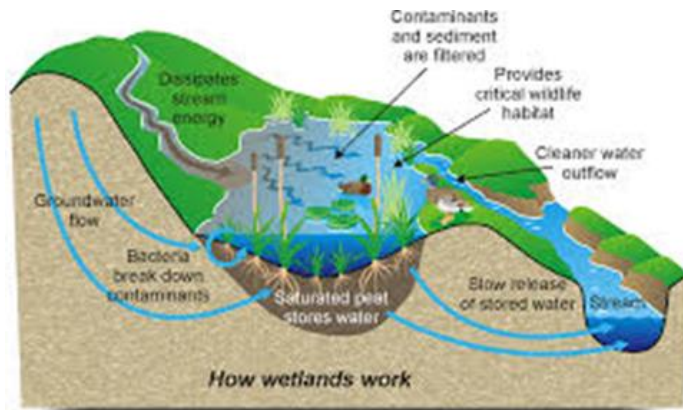
Tuning in activity -

Story time……listen carefully

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Pollution demonstration

(only use if this activity selected, otherwise delete slide)

Throw the items given to you into the water.

See what happens?

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Activity – Water pollution activity

Threats to wetlands

(use only if threats activity used, otherwise delete slide)

- Dumping
- Farming
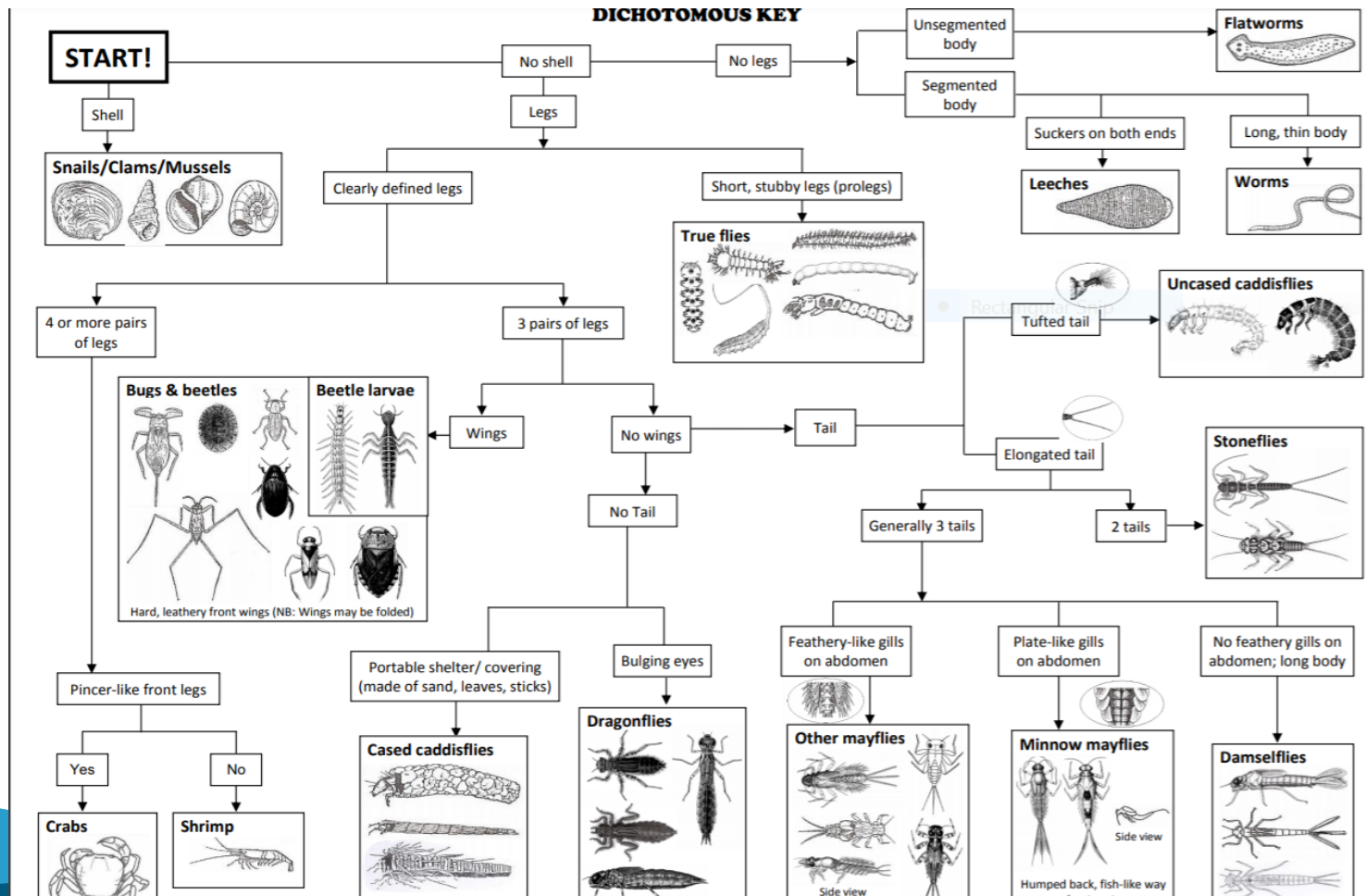- Agriculture
- Pollution

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Activity- Threats to wetlands poster activity

Mini SASS

(use only if this activity is included)

- We can test the quality of water by doing an activity called the Mini-SASS

DICHOTOMOUS KEY

SITE INFORMATION TABLE

River name:		Date (dd/mm/yr):
Site name:		Collector's name:
GPS co-ord Lat(S):	Long(E):	School/organisation:
Site description: *e.g. downstream of industry*		Notes: *e.g. weather, impacts, flow, etc.*

pH: Water temp: °C   Dissolved oxygen: mg/l   Water clarity: *info at www.minisass.org*

GPS co-ordinates as degrees, minutes, seconds (e.g. 29°30'25" S / 30°45'10" E) **OR**
as decimal degrees (e.g. 29.50694°S / 30.75277°E) If you don't have a GPS, upload your results at
www.minisass.org, find your site on the map, click to upload your result and the co-ordinates are saved for you!

Scoring

1. On the table, circle the sensitivity scores of the identified organisms.

2. Add up all of the sensitivity scores.

3. Divide the total of the sensitivity scores by the number of groups identified.

4. The result is the <u>average score</u>, which can be interpreted into an ecological category given below.

Interpret the miniSASS score:

Although an ideal sample site has rocky, sandy, and vegetation habitats, not all habitats are always present at a site. If your river had no rocky habitats that were sampled, use the <u>sandy type</u> category to interpret your scores.

GROUPS	SENSITIVITY SCORE
Flat worms	3
Worms	2
Leeches	2
Crabs or shrimps	6
Stoneflies	17
Minnow mayflies	5
Other mayflies	11
Damselflies	4
Dragonflies	6
Bugs or beetles	5
Caddisflies (cased & uncased)	9
True flies	2
Snails	4
TOTAL SCORE	
NUMBER OF GROUPS	
AVERAGE SCORE (miniSASS Score)	
Average Score = Total Score ÷ Number of groups	

Ecological category (Condition)		River Category	
		Sandy Type	Rocky Type
	NATURAL CONDITION (Unchanged/untouched – Blue)	> 6.9	> 7.2
	GOOD CONDITION (Few modifications – Green)	5.9 to 6.8	6.2 to 7.2
	FAIR CONDITION (Some modifications – Orange)	5.4 to 5.8	5.7 to 6.1
	POOR CONDITION (Lots of modifications – Red)	4.8 to 5.3	5.3 to 5.6
	VERY POOR CONDITION (Critically modified – Purple)	< 4.8	< 5.3

Now, upload your results at www.miniSASS.org or use the

www.minisass.org
Version 3.0 – September 2015

miniSASS
STREAM ASSESSMENT SCORING SYSTEM

miniSASS is used to monitor the health of a river and measure the general quality of the water in that river. It uses the make-up of macro-invertebrates (small animals) living in rivers and is based on the sensitivity of the various animals to water quality.

NOTE: miniSASS does <u>NOT</u> measure the contamination of the water by bacteria and viruses and thus does not tell us if the river water is fit to drink.

Equipment list

- Net (see www.minisass.org)
- white container / tray / ice-cream box
- magnifying glass
- pencil
- shoes/gumboots
- hand wash / soap

Method

The best sites have rocks in moving water (<u>rocky type</u> rivers). Not all sites have rocks, but may be largely sandy (<u>sandy type</u> rivers).

1. Whilst holding a small net in the current, **disturb** the stones, vegetation, sand etc. with your feet or hands.

2. You can also lift stones out of the current and gently **pick** organisms off with your fingers or forceps.

3. Do this for about **5 minutes** whilst **ranging across the river to different habitats** (biotopes).

4. Rinse the net and turn the contents into a plastic tray. **Identify** each group of organisms using the identification guide (see insert: start with the dichotomous key, then use the identification guide for more information).

5. Fill in the site information and **mark** the identified organisms off on the scoring sheet (back page).

6. **Add up** the sensitivity scores and determine the **average score**.

7. Interpret your miniSASS score.

8. Remember: **WASH** your hands when done!

https://www.youtube.com/channel/UCub24hwrLi52WR9C24uTbaQ

Don't have a net? Make your own – it is easy!

Take any piece of wire, for example an old clothes hanger, and bend it into the shape of a net. Then tie the netting (which can be any porous material) to the wire

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Consolidation

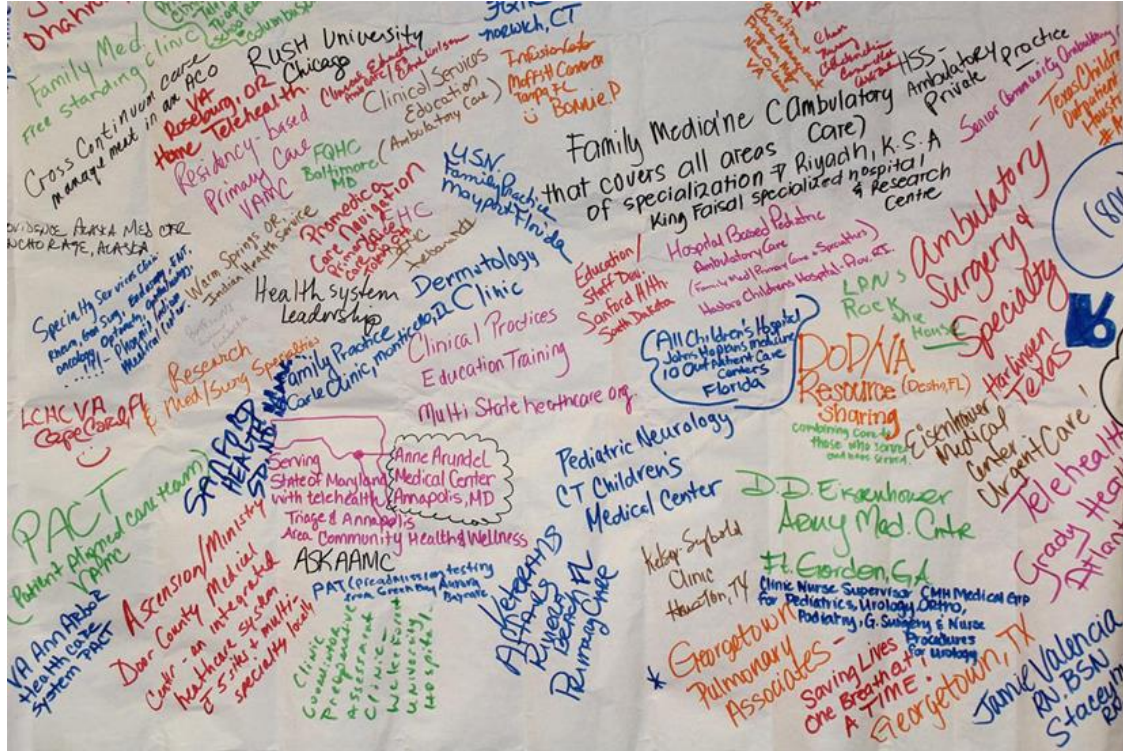# What can you do?

1) Educate others
2) Organize a wetlands clean-up
3) Take everyday decisions with the environment in mind
• Buy sustainably raised or caught seafood, organic produce and meat
• Take shorter showers
• Recycle household trash, make sure batteries do not end up in landfills
• Select native plants and use organic fertilizer in your own garden
4) Get involved in World Wetlands Day

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Graffiti board

THANK YOU.