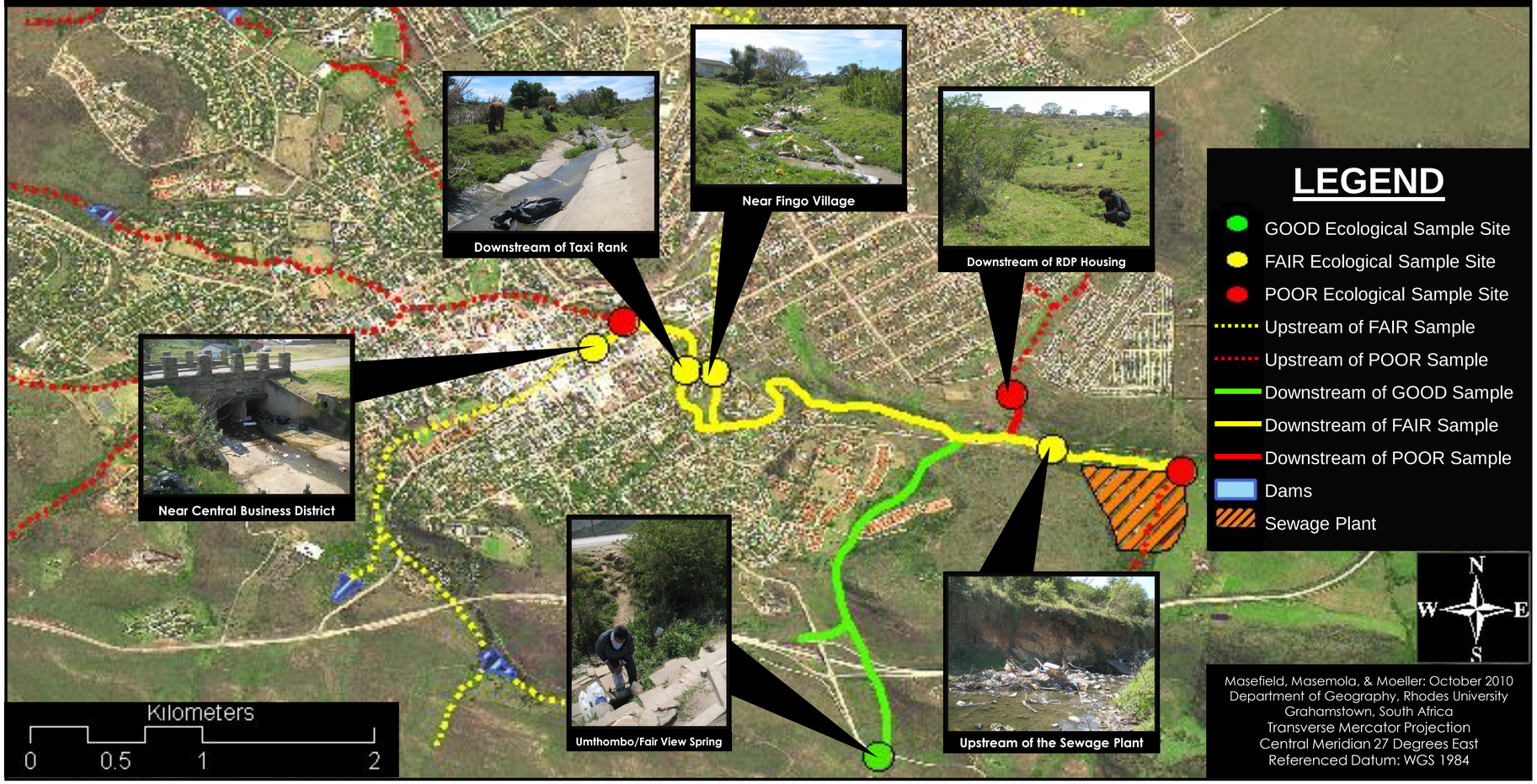
What's in YOUR water?

Stream Integrity in Grahamstown's Water Catchment: September 2010



What is Water Quality?

Water quality is a measurement of the **physical, chemical, biological and aesthetic properties** of water. These factors help determine its appropriate uses for humans, animals and aquatic ecosystems.

Example: The condition of something like water that is clean and can be drunk is described as water with "good/high quality."

Living in a Catchment

A **catchment** is the land area drained by a river and its tributary streams. Grahamstown is in the Bloukrans River Catchment. Pollution seen in the water is often based on the land use in the catchment.

Example: If take-away containers from a fast –food restaurant are not put in waste bins, they could end up as physical pollution in a stream. A car wash that flushes soap suds into streams could expose the water to chemical pollution.

Defining Pollution

Pollution is anything dumped into the environment that does not belong there naturally.

Physical pollution: materials deposited into water sources such as plastic containers.

Chemical pollution: increased concentration of chemicals from fertilizers, homes or industries.

Biological pollution: bacteria, fungi, and other living organisms that live in water and are harmful to humans and animals when they are present in untreated drinking water.

Fitness for Domestic Use

"Domestic water use" refers to human activities such as drinking, household uses, washing and gardening.

Even though some rivers on **this map** are classified as "good" for environmental purposes, they do not meet South Africa's water quality standards for domestic uses.

It is necessary to perform continual water testing at sites along the river, as results tend to vary due to the time of year and rainfall, as well as other environmental conditions and catchment events.

Resources: *South African Water Quality Guidelines; Kowie Catchment Campaign; GroundTruth Biomonitoring Services; Catchment Research Group; and Water Research Commission.*

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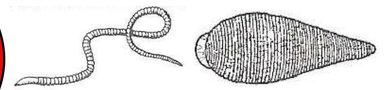
Everyone is responsible for taking care of our catchment. What can YOU do about water quality in Grahamstown?

YOU CAN: Inspect the Invertebrates!

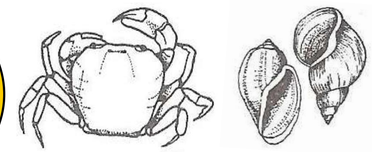
One way to check the health of a river is to see what general types of creatures live in the water. These are known as bioindicators.

HIGH POLLUTION



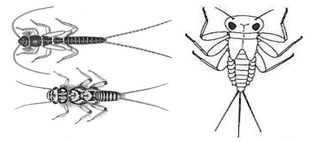
Sludge worms and Leeches

SOME POLLUTION



Crabs and Snails

LITTLE POLLUTION



Some mayfly species and stoneflies

YOU CAN: Watch for Waste!

Rubbish is a form of physical pollution that not only slows water flow, but can affect the quality of the stream.

Common rubbish items seen in Grahamstown streams:

- ☐ **Plastic bags**
- ☐ **Old tyres**
- ☐ **Food wrappers**
- ☐ **Food tins**
- ☐ **Electronics**
- ☐ **Newspapers**
- ☐ **Detergent bottles**
- ☐ **Soap bubbles**
- ☐ **Old toys**

Talk with your school about a STREAM CLEAN-UP DAY!