

## THE WATER CYCLE AND WATERSHEDS

"Water is Life!" And that's not only a company slogan. Human beings and all living things need water in order to live. More than 70% of the human body is made up of water, which is essential for nearly all of life's most basic functions. So, it is essential for our survival that we find, understand and care for this most precious commodity.

While about 70% of the earth's surface is covered by water, 97% of this water is salt water - unsuitable for most uses. Most of the remaining 3% is locked in glaciers and ice caps at the north and south poles. In fact, only a mere 0.003% of all the world's water is readily available as fresh unpolluted water for drinking and other sanitary uses!

Of this very limited supply, Jamaica, unlike many other countries around the world, does not have enough raw water available for our use. However, this water is not always easily accessible or available all year round.

Perhaps the best way to better understand water is to start with the water or hydrologic cycle. Water is always moving and changing its form, existing either as a solid, liquid or gas. Through the process of evaporation, water that is heated by the sun becomes water vapour and rises into the air. Like steam rising from a kettle, this water vapour floats in the atmosphere, cooling and gathering together as it continues to rise. As this continues, billions of tiny droplets of water become crowded together to form clouds. This is called condensation. As these cooling water vapours and droplets become too many and too heavy to stay in the air, the water falls back to the earth as rain, snow or sleet. This is precipitation.

Water that has fallen to the ground falls into a watershed and may slowly percolate through small spaces in the earth's surface to collect in areas beneath the surface called groundwater aquifers. Other water tumbles down mountain slopes as surface runoff, forming streams and rivers as it flows towards lakes or the ocean. Like the evaporation from lakes and rivers, plants also release water vapour into the atmosphere through what is called transpiration. With the processes of transpiration and evaporation the water cycle has come full circle as water continues on its never-ending journey.

The watershed is the land area in which rain falls and from which water drains into a stream or river. This area covers not only the mountains and hill slopes, but also includes the valleys, forests, desert lands as well as the farms, industries and housing developments on them. Jamaica is divided into 10 hydrologic basins and 26 watersheds, each usually identified by the name of the major river, which runs through it.

Generally, watersheds are in a good condition when ...

- the trees are not destroyed wantonly
- the hillsides are not bare and soil erosion is controlled
- sewage and other wastes are not disposed of near to the water sources
- industrial chemicals, pesticides and other chemicals are not allowed to contaminate the water resources
- the eco-system is held in good balance

While the NWC is not responsible for managing the state of Jamaica's watersheds, we do have an interest. The state of the watershed is very important in ensuring that there is good quantity and quality water available for our use. The watershed not only has serious implications for water supply services and water supply costs, but also affects a wide range of environment and health related issues. As a result, both on our own and in association with other agencies, the NWC continues to work on a number of watershed management projects.

Our everyday actions affect the watershed and in turn our lives. Remember, a healthy watershed can help to maintain our water supply. Help us to protect our watersheds. Plant a tree, dispose of waste properly, protect our rivers, springs and wells from contamination, and support conservation efforts and you too will be **DOING THE RIGHT THING!**