



# Chapter 1

## Water: a renewable environmental resource



## The blue planet

- Approximately 70% of Earth's surface is covered with water.
- While water appears to be abundant on our planet, only a limited amount is available for human use.
- Of 100% of Earth's water inventory, 97% is saline (salty) and unable to be used for human consumption, agriculture or industry.
- Of the remaining 3%, which is fresh water, 2% is locked up by icecaps and glaciers, leaving only 1% available for human use.



## The importance of water

- Green plants (the basis of all food chains and webs) need water for the process of photosynthesis.
- Animals and humans will perish without drinking water.
- Water is needed for health, sanitation and cleaning.
- Water is necessary to produce food for human consumption through agriculture and fishing.
- Water has spiritual and cultural significance to many of the world's people.





## Classification of resources

- Environmental resources can be classified as either renewable, non-renewable or continuous.
- Water is often classified as a renewable resource because the operation of the water cycle enables the replenishment of ground, surface and stored water sources.
- The status of freshwater as a renewable (unlimited) resource is vulnerable if it is not carefully managed.
- Overuse and pollution are two of the major concerns.



## Water through history

- Water has played a key role in the development of societies throughout history. The settlement of the earliest civilisations along major rivers provided for the economic, social, cultural and spiritual needs of the people.
- Water has since expanded civilisations by means of global travel. Colonial explorers who journeyed over the seas centuries ago have influenced much of the modern world we know today.



## Water cooperation and conflict

- Water connects places as it moves through the environment. More than 250 river basins and countless aquifers cross the political boundaries of two or more countries.
- Shared water resources such as the Nile River in North Africa and the Murray-Darling River system in Australia unite and divide places.



## Water as a commodity

- Historically, water was extracted as a common resource by whichever local community lived around it.
- As societies progressively developed, water became a commodity, bought and sold to satisfy the needs and wants of people.
- Today, in Australia, state governments regulate water supplies and sell to residential, agricultural, commercial and industrial customers.



## Natural resource management

- Two areas of natural resource management are conservation and sustainability.
- Water conservation is about preserving and restoring water resources from loss, damage or neglect.
- Sustainability includes conservation but is also about wisely managing and protecting water resources so they will be available indefinitely into the future.
- Sustainability also requires satisfaction of environmental, economic and social criteria.







## Aboriginal and Torres Strait Islander people's knowledge and management of water

- The first Australians had a deep and holistic connection to 'country'. They learned to read the landscape, using terrain, animals and vegetation as markers for water.
- The Dreaming stories of many mainland Aboriginal nations illustrate the spiritual connection between the people and their places, and the knowledge that people had long ago of local water systems, both ground and surface.





## Custodians of the land

- The spiritual and cultural connections to the land oblige Aboriginal and Torres Strait Islander peoples to look after the sites of their ancestors.
- All Australians have much to learn about water conservation and sustainability from these traditions.