

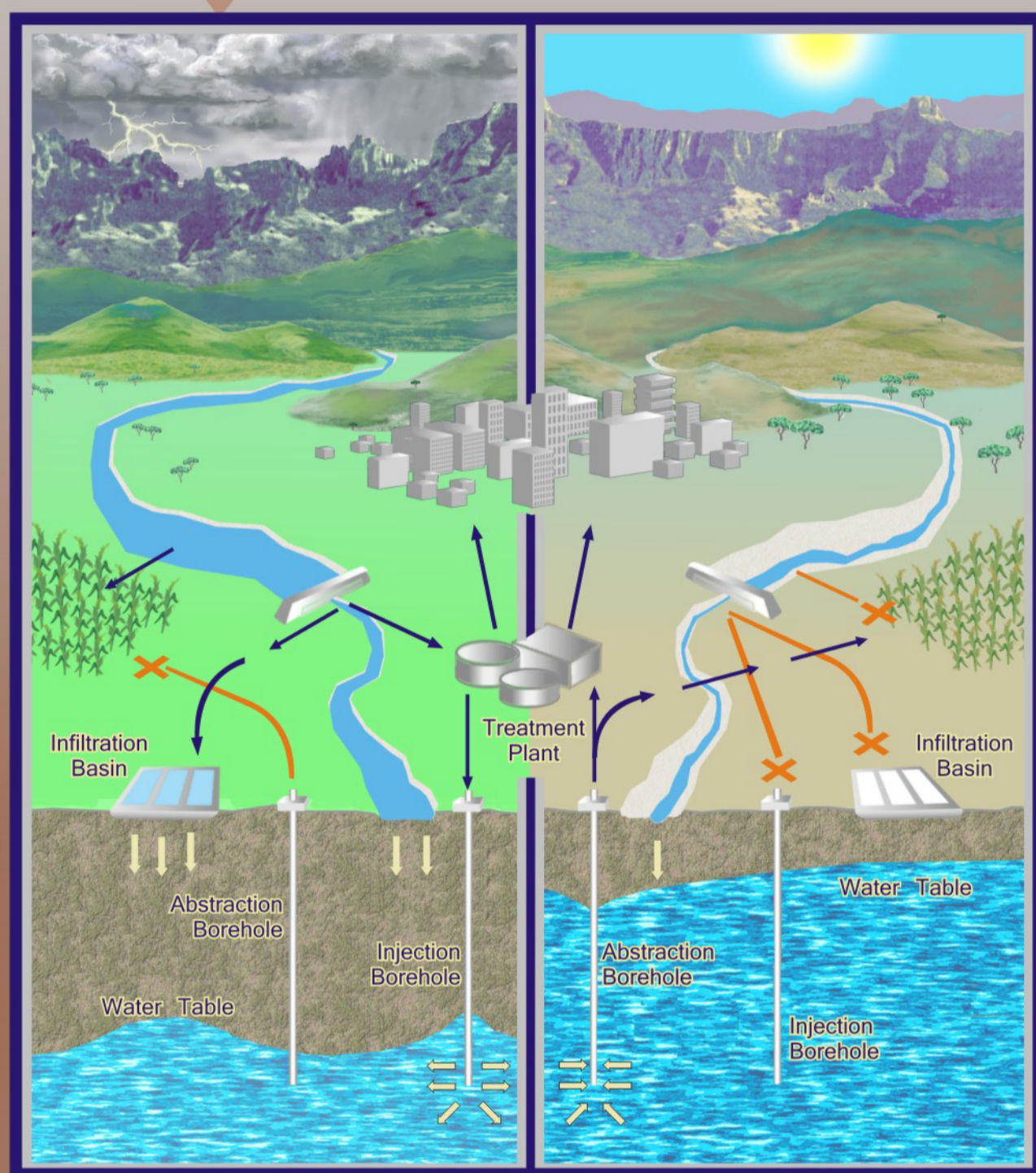
# Artificial Recharge

Artificial recharge involves transferring surface water underground to be stored in an aquifer

## Storing water underground

### ► The principle

When surplus water is available, it is transferred underground via infiltration basins or boreholes. The aquifers are rapidly replenished and the water is held in storage for later use.



In times of need, the stored water is pumped from the aquifer via boreholes to the users.

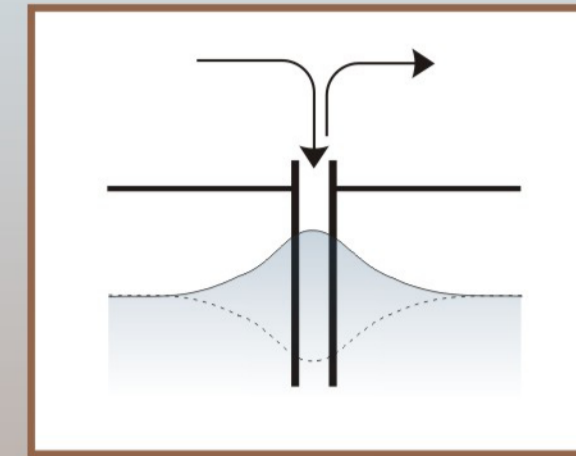
*Maximise aquifer storage*

*Replenish heavily pumped aquifers*

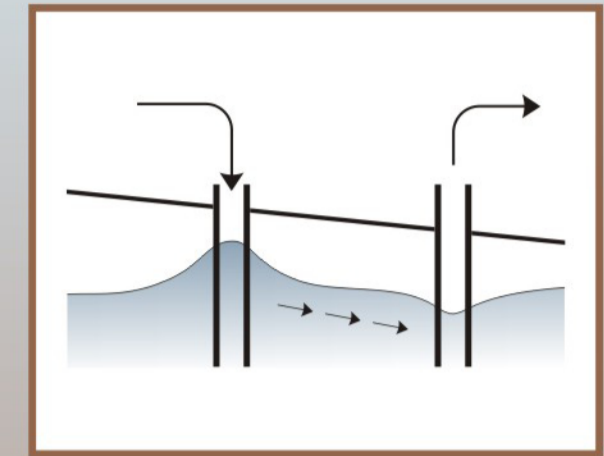
*Capture flood runoff*

*Store urban waste water and storm runoff*

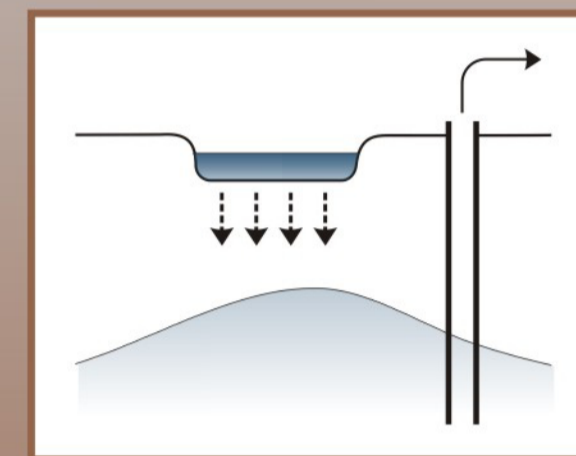
### ► The types



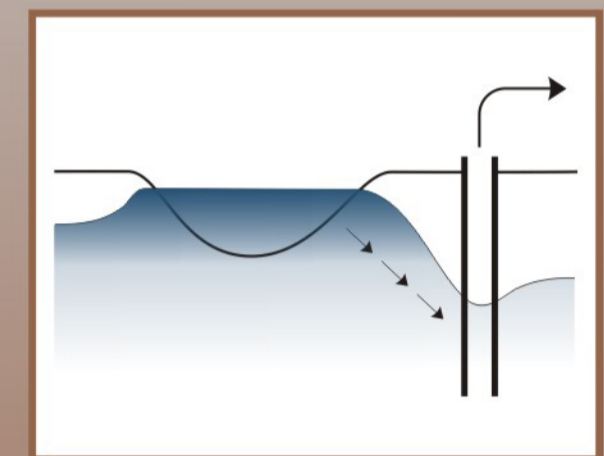
Borehole injection with recovery from the same place



Borehole injection with down-gradient recovery



Infiltration basin



Bank filtration



Injection borehole, Windhoek, Namibia



Drilling deep (500m) abstraction boreholes, Windhoek, Namibia



Infiltration basin, Phoenix, USA



Injection/ abstraction borehole, Las Vegas, USA



Infiltration basin, Omdel, Namibia



Sand filter and injection/ abstraction borehole, Namaqualand, RSA



Infiltration basin, Atlantis, RSA



Injection/ abstraction borehole, Adelaide, Australia

### ► The Main Applications

Find out more about artificial recharge  
Visit South Africa's Artificial Recharge site:  
[www.artificialrecharge.co.za](http://www.artificialrecharge.co.za)

Download DWAF's artificial strategy from their webpage:  
• <http://www.dwaf.gov.za>  
• Documents  
• Other: Integrated water resource planning - National Documents

Compiled by: R Murray, Groundwater Africa  
Layout & design: Magdel van der Merwe, DTP Solutions  
All photos by R Murray except Omdel by G Tredoux



**water & forestry**

Department:  
Water Affairs and Forestry  
REPUBLIC OF SOUTH AFRICA

