Data collected from 1 July 2018 to 30 June 2019

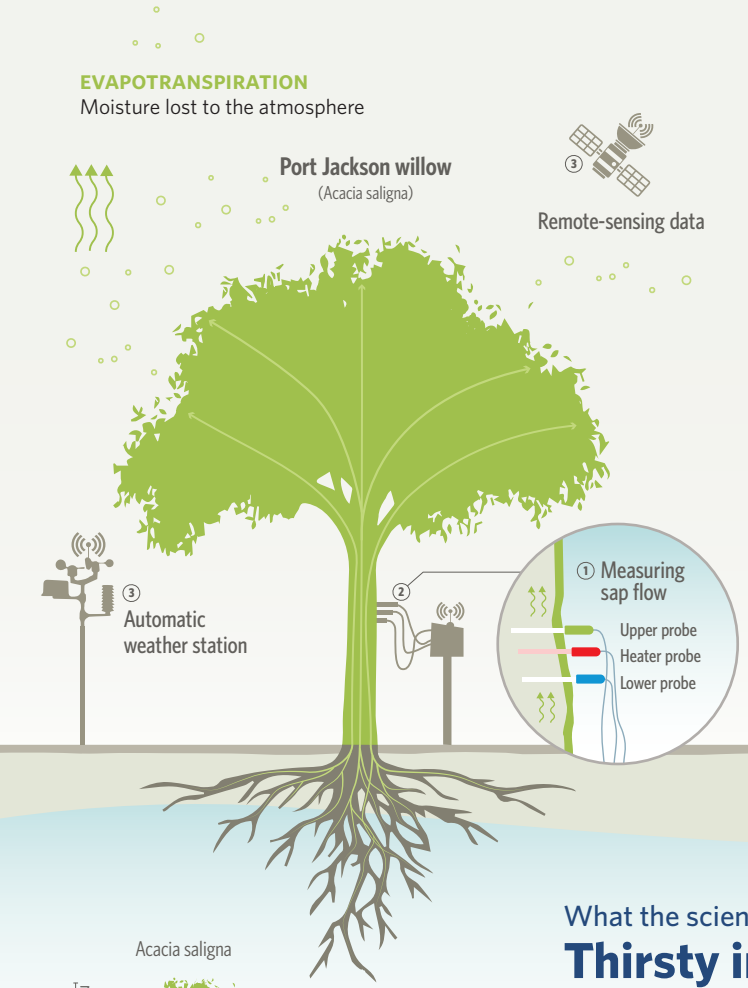
How much groundwater are we losing to invasive trees?

Unpacking the science

A recent study[1] measured how much water is lost to invasive trees. The study was conducted in the Atlantis Aquifer region, approximately 50km north of Cape Town.

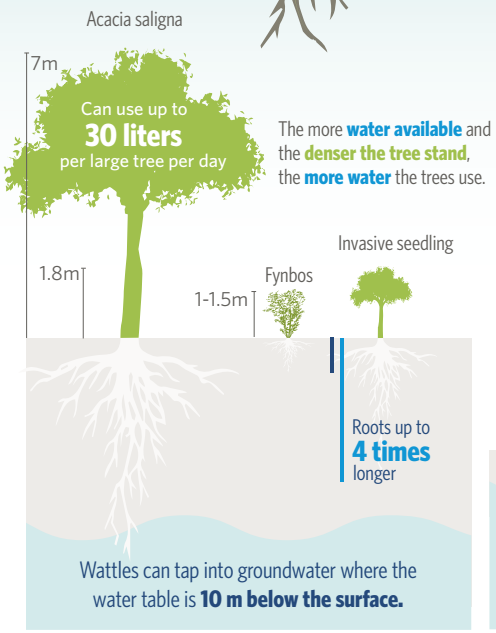
How the data was collected

1. The scientists conducted sap flow measurements to quantify plant water use.
2. They inserted sap flow sensors into the xylem vessels of tree stems. The probes tracked the movement of water through the trees by using heat as a tracer.
3. Remote-sensing and an automatic weather station provided more data.

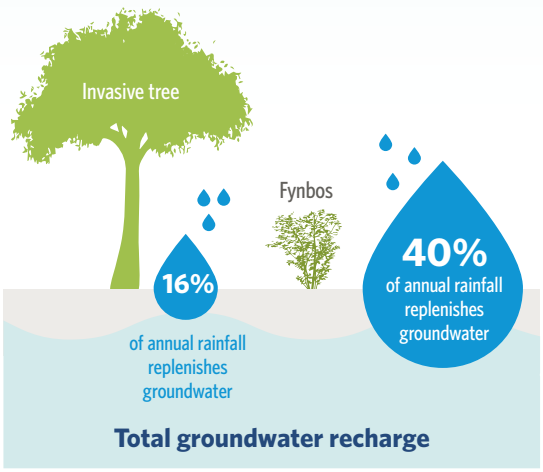


What the science tells us

Thirsty invaders vs water wise fynbos



Atlantis Aquifer



Atlantis Aquifer

RECLAIM UP TO
2 million liters
per hectare per year

Findings

An invasive Port Jackson willow tree uses up to **8 000m³ of water per hectare, per year** in high density stands with access to groundwater.

Removing invasive plants and restoring indigenous fynbos could result in the reclaiming of between **830 000 litres per hectare** and **2 million litres per hectare, per year**.

Cost vs groundwater gains ratio for the Greater Cape Town region[2]

1. Bugan, R. et al. (2019). Assessing water losses as a result of invasive alien plants in the Atlantis Aquifer. Report No ECHS092, CSIR Smart Places, Report prepared for The Nature Conservancy. September 2019.
2. Stafford, L. et al (2018). The Greater Cape Town Water Fund. Assessing the return on investment for ecological infrastructure restoration. Business case. Report prepared for The Nature Conservancy. November 2018.

Clearing invasive trees will yield more groundwater at a lower cost.

The Nature Conservancy

Invest in nature-based solutions