Water Cycle

Evaporation, transpiration and rainfall play a significant role in the overall water balance in the dune system. Water is lost from the site by evaporation from the wetland system and transpiration from the vegetation, rainfall provides recharge into the groundwater systems, lakes, wetlands and springs.

Rehabilitation

Once landforming is complete, the rehabilitation process commences with spreading topsoil which promotes germination of seedstock, and planting of native vegetation to establish biodiverse ecosystems and habitat for native animals.

Reject Sand Stacking

Reject silica sand will be stacked using a "Cyclone Stacker" to re-form sand dune shapes to mimic pre-mining landforms.

Clearing and Mining

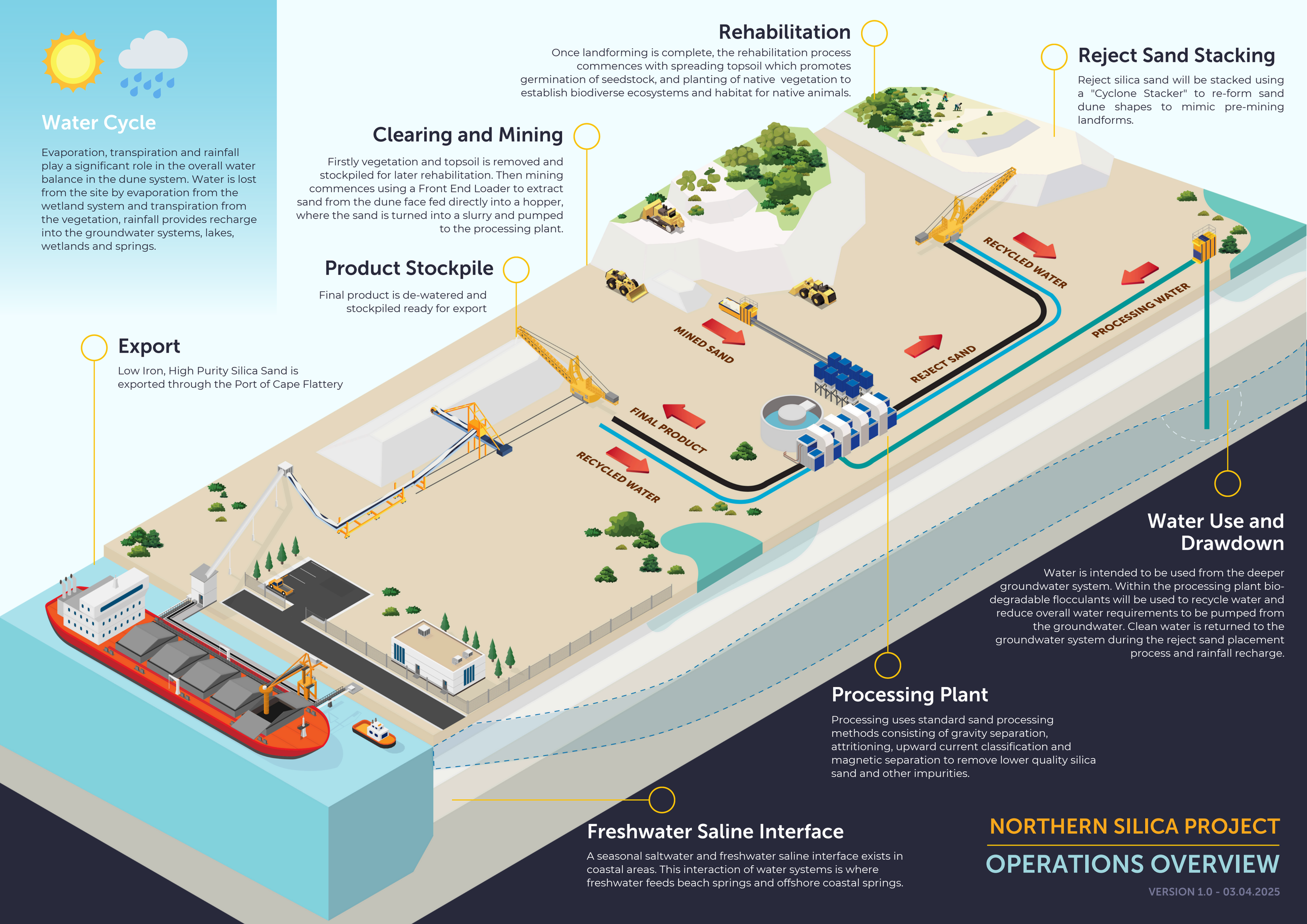
Firstly vegetation and topsoil is removed and stockpiled for later rehabilitation. Then mining commences using a Front End Loader to extract sand from the dune face fed directly into a hopper, where the sand is turned into a slurry and pumped to the processing plant.

Product Stockpile

Final product is de-watered and stockpiled ready for export

Export

Low Iron, High Purity Silica Sand is exported through the Port of Cape Flattery



Water Use and Drawdown

Water is intended to be used from the deeper groundwater system. Within the processing plant bio-degradable flocculants will be used to recycle water and reduce overall water requirements to be pumped from the groundwater. Clean water is returned to the groundwater system during the reject sand placement process and rainfall recharge.

Processing Plant

Processing uses standard sand processing methods consisting of gravity separation, attritioning, upward current classification and magnetic separation to remove lower quality silica sand and other impurities.

Freshwater Saline Interface

A seasonal saltwater and freshwater saline interface exists in coastal areas. This interaction of water systems is where freshwater feeds beach springs and offshore coastal springs.

NORTHERN SILICA PROJECT

OPERATIONS OVERVIEW

VERSION 1.0 - 03.04.2025