REGEN
NETWORK

Blockchain 101

1

Ecological Agreement

Network Broadcast

Network Verification

2

Verified Information Added to Blockchain

3

Ecological Agreement Verified and Approved

Data Verification Model

DATA PROVIDERS

COMPUTE SERVICES
Run algorithms and protocols

SMART CONTRACTS
Set requirements between land steward and funder

POSITIVE RESULT

NEGATIVE RESULT

MANUAL REVIEW
Field scientists conduct calibration inspections on-site, which continually improve algorithm

REGEN LEDGER
Find consensus, timestamp results to the blockchain

REWARD

SENTINEL 2_REMOTE SENSING

CARBON APP 82%
GOAL 8MT/HA
CURRENT STATE 6MT/HA

REAL TIME SENSOR DATA

METHANE APP 53%
BIOMASS
PH VALUE

WATER TEMPERATURE ✕

SIGNAL DATA
LOCAL SENSING
THREE TEMPERATURE SENSORS
REMOTE SENSING
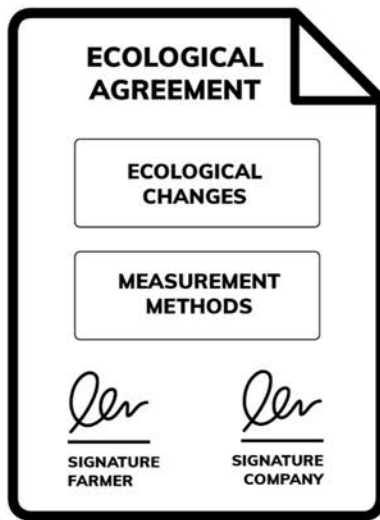LANDSAT 8 / SENTINEL 2
VEGETATIVE INDEX: EVI

REAL TIME SENSOR DATA
TIME 12:23 EST
DATE 12 APRIL 2019
AVERAGE TEMP 30 C
STANDARD DEVIATION 12 C

TIME 12:23 EST
DATE 12 APRIL 2019
AVERAGE TEMP 29 C
STANDARD DEVIATION 12 C

WATER LEVEL
SALINITY
SULFATE CONTENT
CARBON SUPPLY

REAL TIME SENSOR DATA
TIME 12:23 EST
DATE 12 APRIL 2019
AVERAGE TEMP 29 C
STANDARD DEVIATION 12 C

Ecological Agreements are context specific contracts between stakeholders to achieve clear and measurable outcomes.
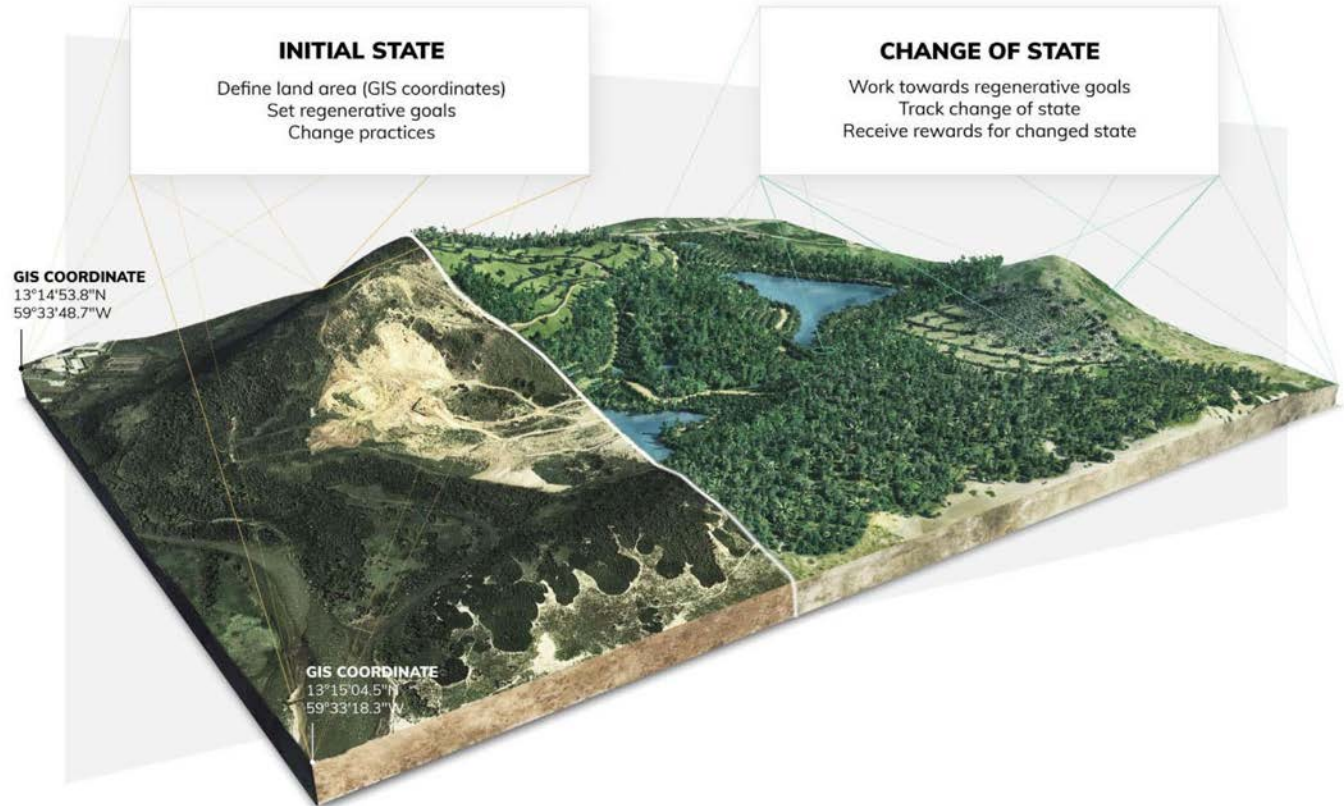

Who + What + How = Agreement
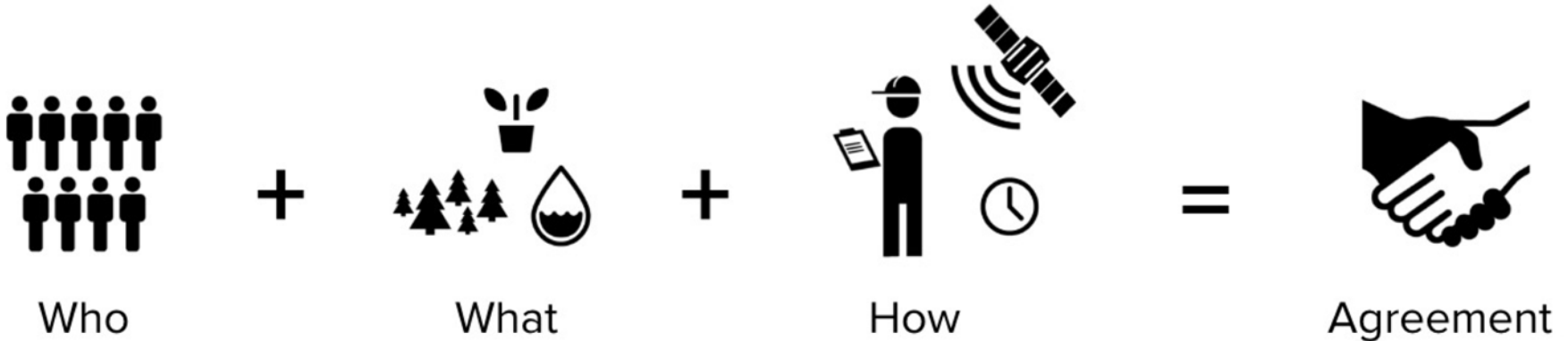
Ecological Agreements

An ecological agreement contains a protocol (what is being measured, when, by whom and how), and digital signatures from two parties. It can also contain information about what happens when a certain outcome (eg. avoided deforestation in a defined location for a set amount of time) is achieved (eg. payments/rewards).

Walkers Sand Mine

INITIAL STATE

Define land area (GIS coordinates)
Set regenerative goals
Change practices

CHANGE OF STATE

Work towards regenerative goals
Track change of state
Receive rewards for changed state

GIS COORDINATE
13°14'53.8"N
59°33'48.7"W

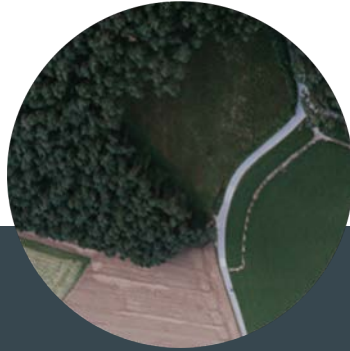**GIS COORDINATE**
13°15'04.5"N
59°33'18.3"W

Walkers Sand Mine

The ESPs assessed so far...

Land conversion

Land cover change assessments for the Time of Interest (TOI). Which land covers were replaced with what?

Landscape diversity

Landscape composition analysis through diversity, richness and evenness indexes.

Carbon sequestration

Potential changes in the Carbon sequestration rates (ton C/ha.yr), according to land cover changes and data from similar systems
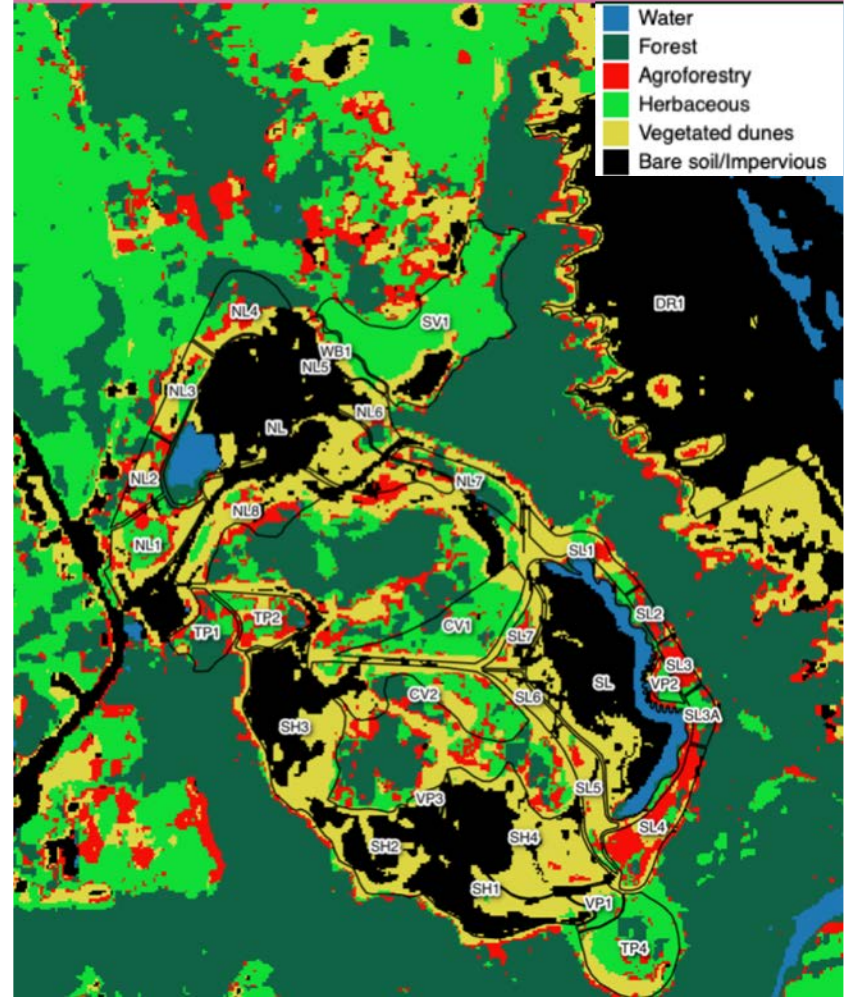
Land regeneration

Trends of steady changes in quantity, quality and development of vegetation through time, based on NDVI time series
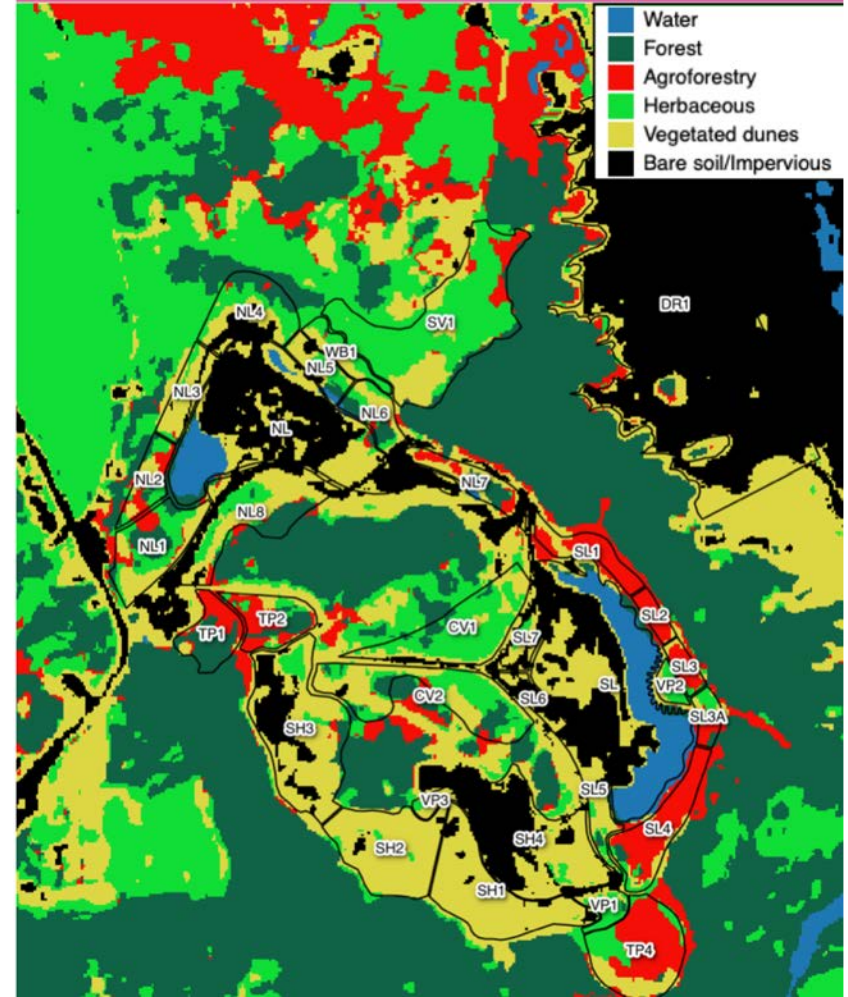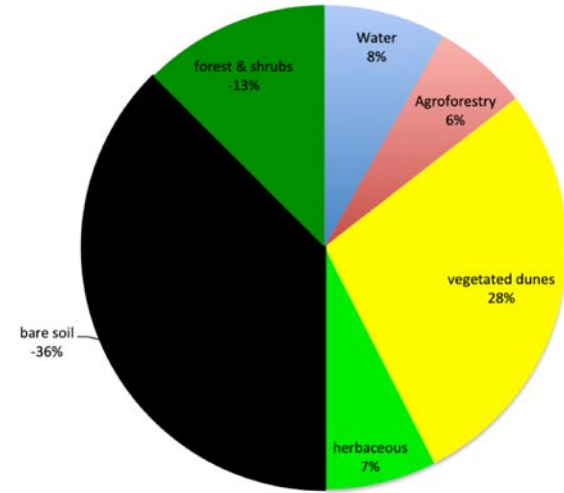
Land
CONVERSION

2017 PS- Knn - Dzetsaka

Water
Forest
Agroforestry
Herbaceous
Vegetated dunes
Bare soil/Impervious

Land
CONVERSION

2018 PS- Knn - Dzetsaka

Water
Forest
Agroforestry
Herbaceous
Vegetated dunes
Bare soil/Impervious

Land CONVERSION

Total areal change of land cover classess between 2017 and 2018

The overall net increase in vegetation cover estimated for the study area has been 3.6ha (8% of the area) between 2017 and 2018 wet seasons, due to:

- An increase in 3.4 ha of vegetated dunes
- An increase of 1 ha of herbaceous cover
- An increase of 1 ha of agroforestry
- Decrease in bushy/forest vegetation of 1.5 ha
- Water cover increased in 1 ha, mostly due to wetlands enlargement and restoration.

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