

MANAGEMENT & COEXISTENCE BETWEEN
NATURE & URBAN SYSTEMS

El Gouna: a Story of Water



EL GOUNA

RED SEA



35 YEARS OF EL GOUNA

1 9 8 7

Dry desert, coastal wetland with rich Red Sea marine life



2 0 2 2

Landscaped Urban development Controlled impact on marine life
Expanded shoreline

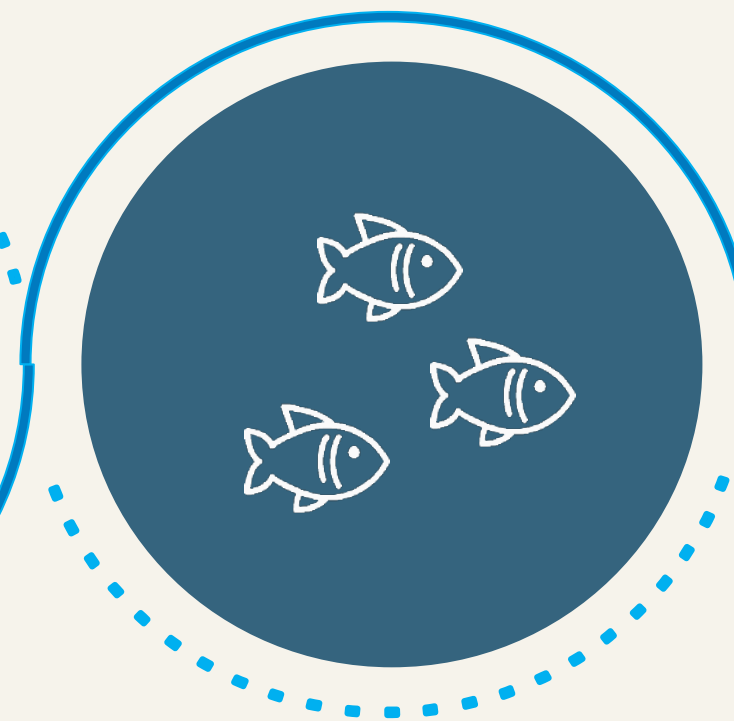




A STORY OF WATER



DESALINATION



BRINE DISPOSAL

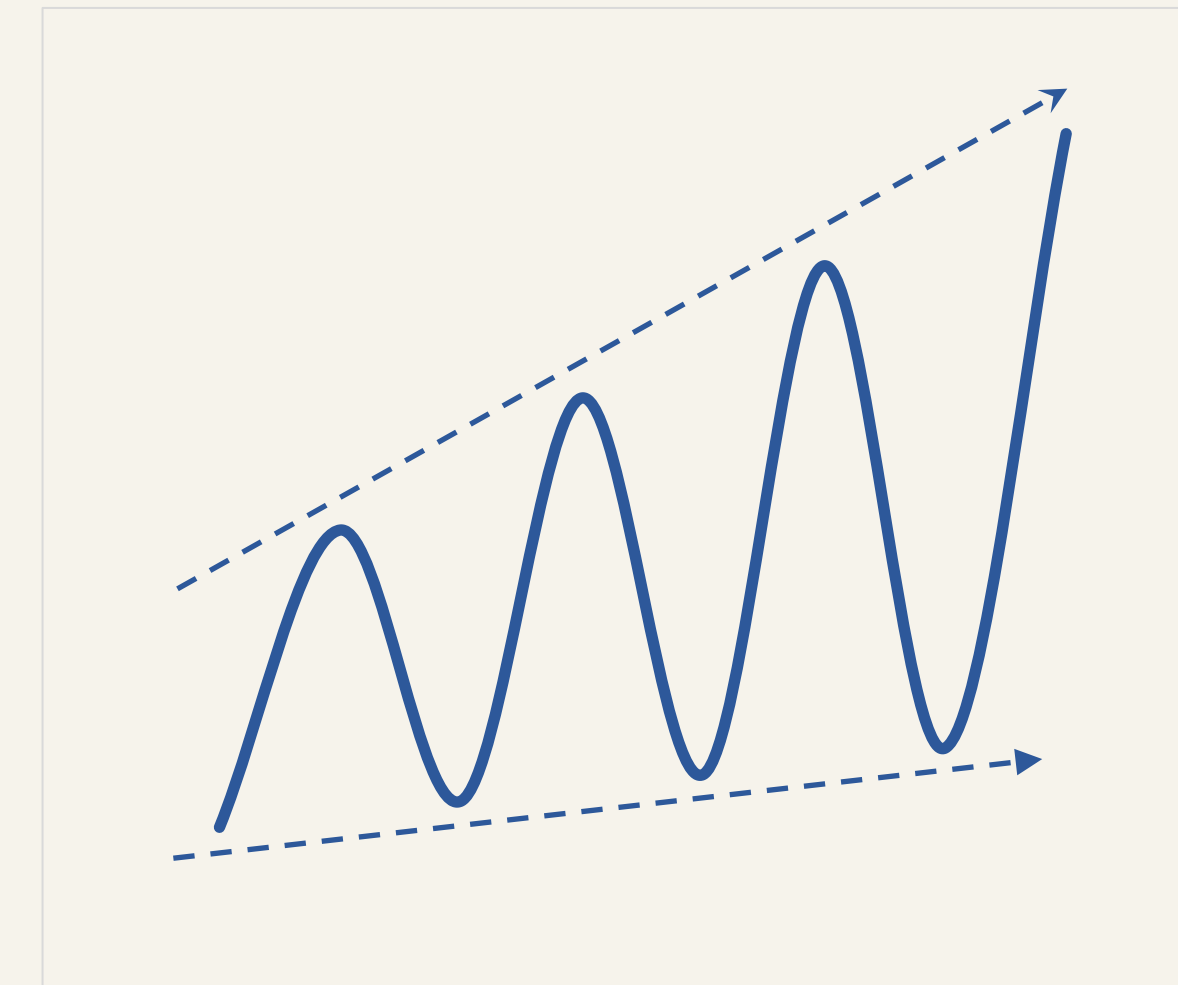


IRRIGATION



MAJOR CHALLENGES

Sustainable growth impeded?



WATER POVERTY

Egypt's government announced in 2022 that the country officially entered water poverty status, and access to fresh water became even more complicated in coastal areas deprived from the Nile's water.

BRINE DISPOSAL

With desalination unavoidable, how can brine be disposed of environmentally, while ensuring the protection of the reefs and marine life?

SEASONALITY

Integrated water cycle requires steady input of sewage water to sustain irrigation. Seasonality poses challenges to touristic townships.

STORAGE

Irrigation needs vary with seasons: a surplus in winter and a scarcity in summer are a stubborn fact. How to store large quantities of water?

LIMITED RESOURCES

The private sector relies on its own resources to meet demands, even during periods when tourism plummets.



INTEGRATED WATER CYCLE

Designing an end-to-end water cycle with a focus on conservation



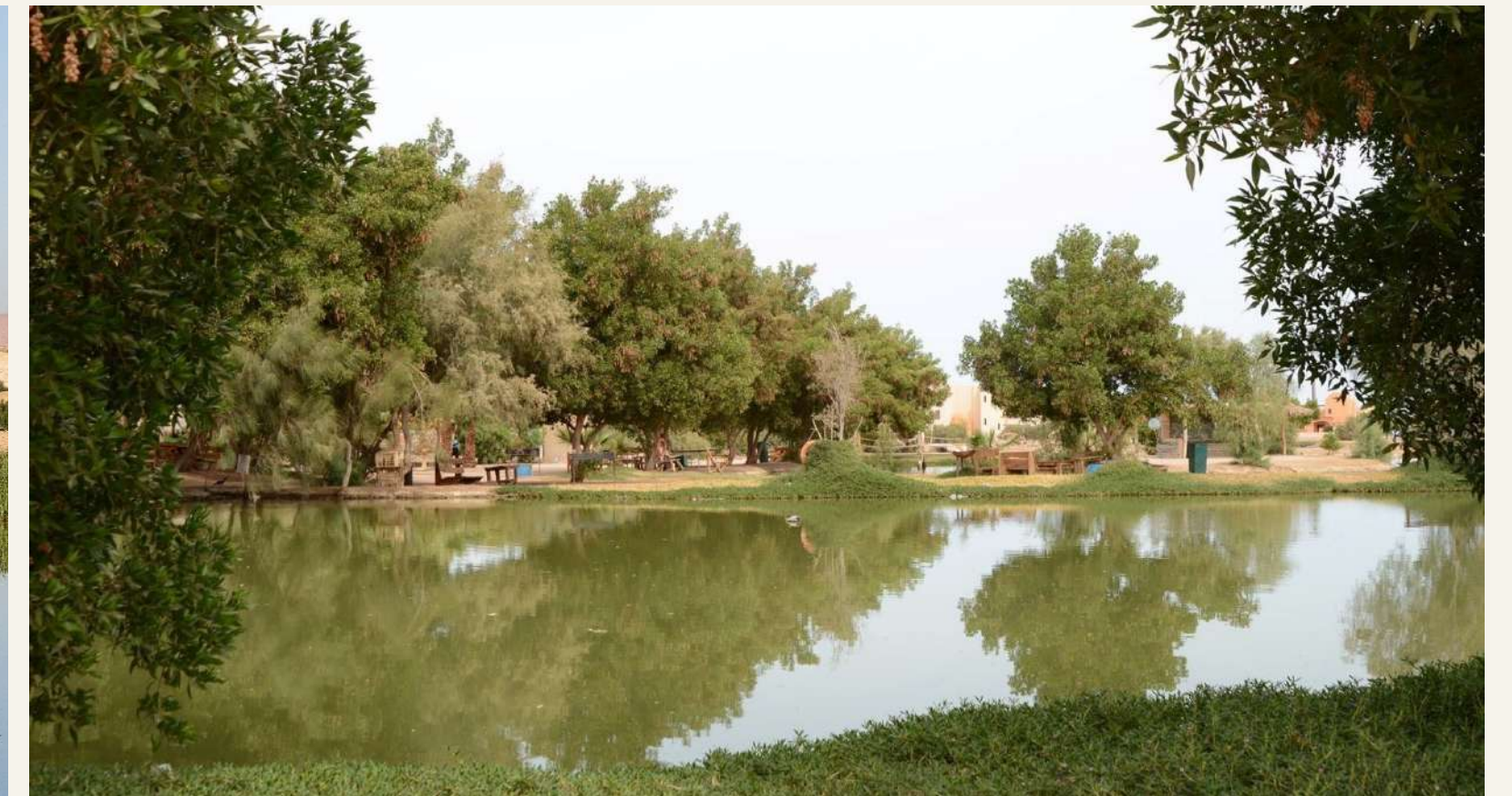
DESALINATION

100% of the town's sweet water needs are from the number of desalination facilities distributed across the territory; a network of carefully selected brackish aquifers that would end up providing a brine with controllable salinity.



BRINE DISPOSAL

Brine is evacuated into a unique fishpond ecosystem that serves as a testing mechanism and a natural haven in the middle of town, catering to wildlife and human needs



IRRIGATION WATER

To help with seasonality, a deal with neighboring townships was struck to obtain volumes of blackwater and treated water to complement the needs all year long.

SURFACE STORAGE

Irrigation water surplus is stored shortly in a farm area, where it stays for the summer season and helps water public and private gardens

GLOBAL IMPACT

Where urban needs impact positively fauna and flora

LIMITING IRRIGATION NEEDS, BOOSTING MANGROVES

In saline ponds where brine is temporarily stored, nurseries with mangroves keep expanding. Also, awareness contributes to community adopting local species less demanding of irrigation.



DESERT GARDENING TIPS AND SUSTAINABLE LANDSCAPING SOLUTIONS!

EL GOUNA NATURE CONSERVATION SOCIETY

BY BOTANIST DR. IRINA SPRINGUEL

SATURDAY
Nov 4, 2023
starting at 6 pm
@El Gouna Library

جمعية الجونة لصون الطبيعة
EL GOUNA NATURE CONSERVATION SOCIETY

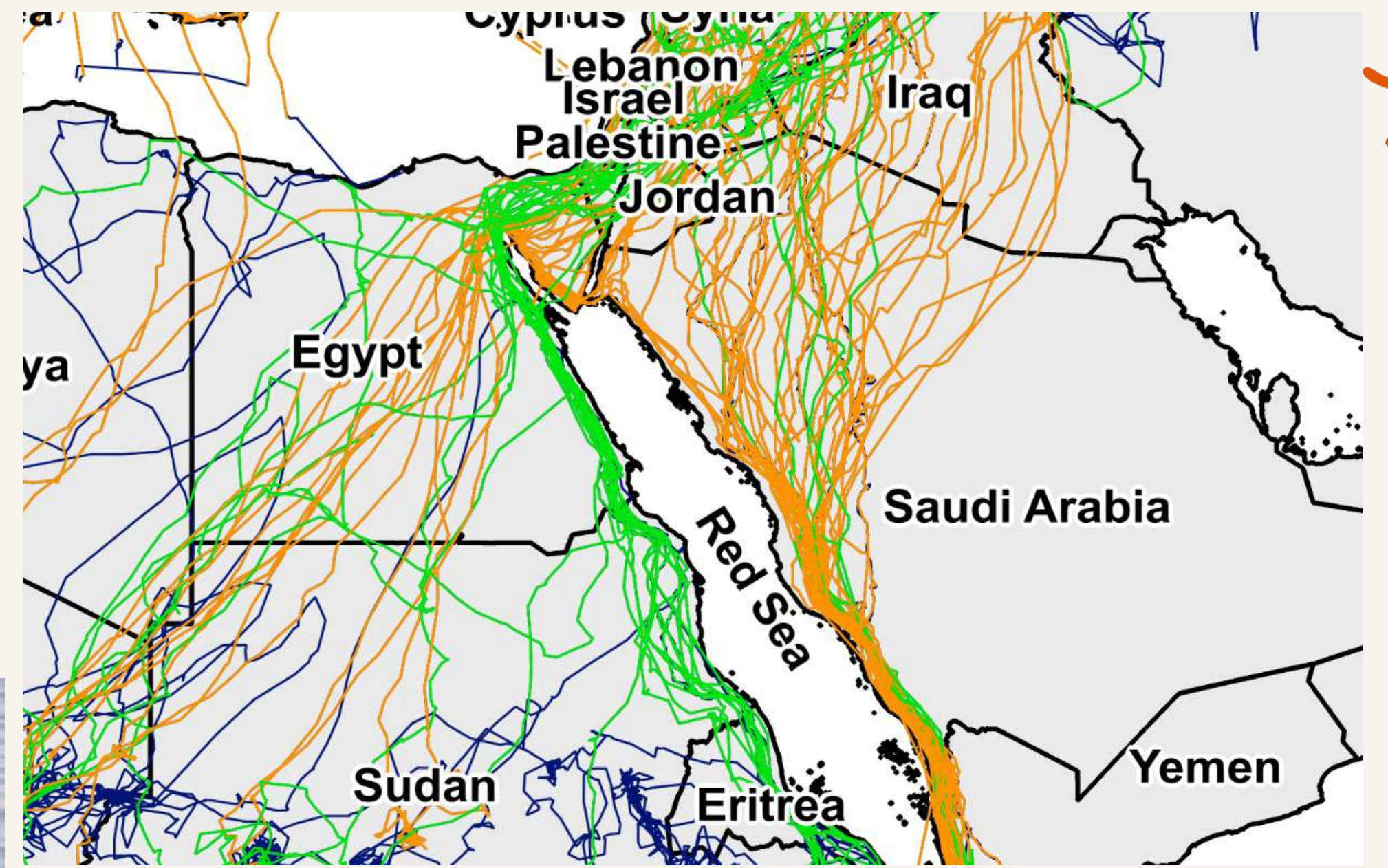


GLOBAL IMPACT

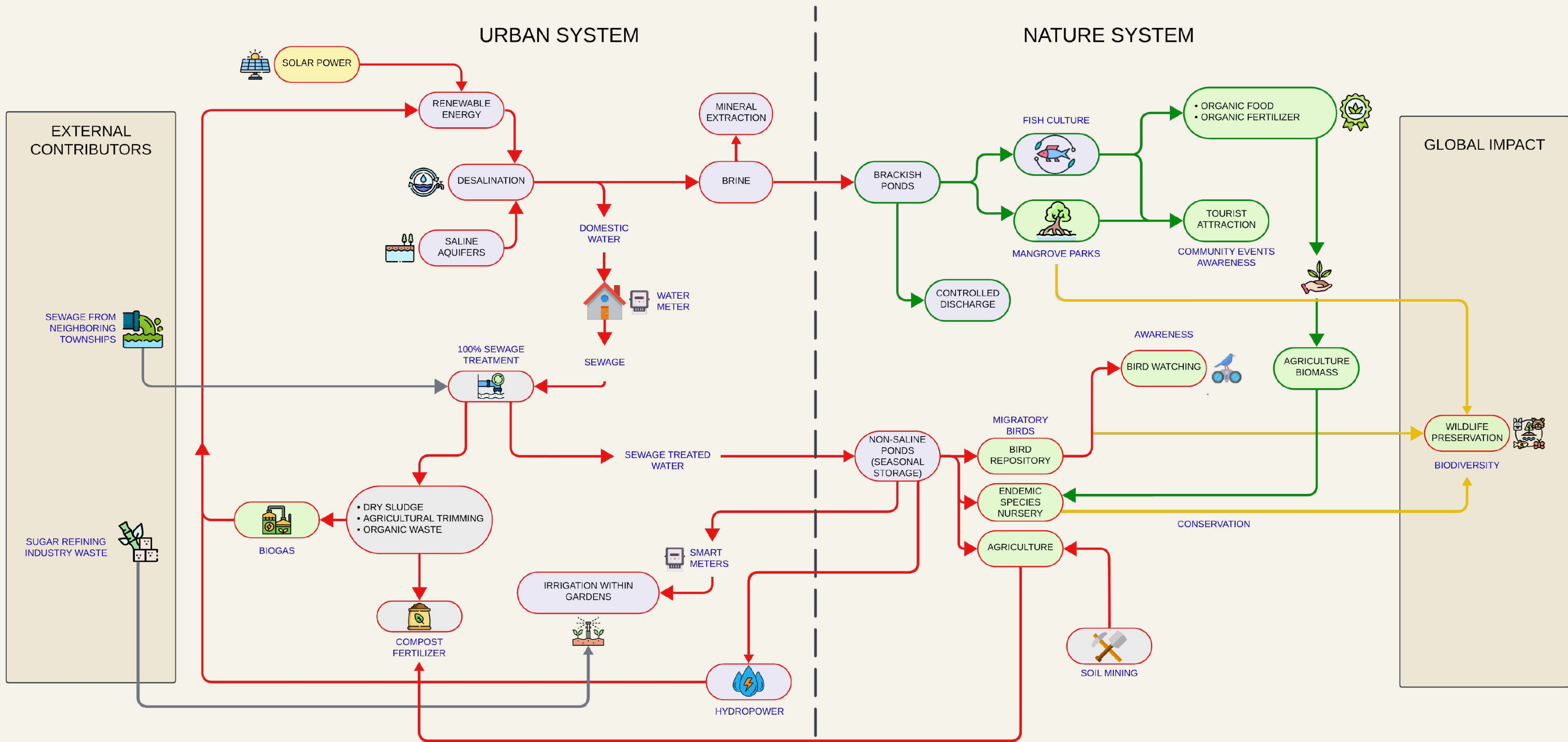
Where urban needs impact positively
fauna and flora

UNEXPECTED SQUATTERS

Ponds act like magnets to migratory birds. With 112 species sighted, the storage system turns into a thriving ecosystem.



INTEGRATION AND COEXISTENCE





EL GOUNA: URBAN & NATURE SYSTEMS

GSTC – Sentosa 2024