



Iona Island Wastewater Treatment Plant Projects

BIRDERS MEETING – DECEMBER 17, 2021

Metro Vancouver staff

metrovancouver

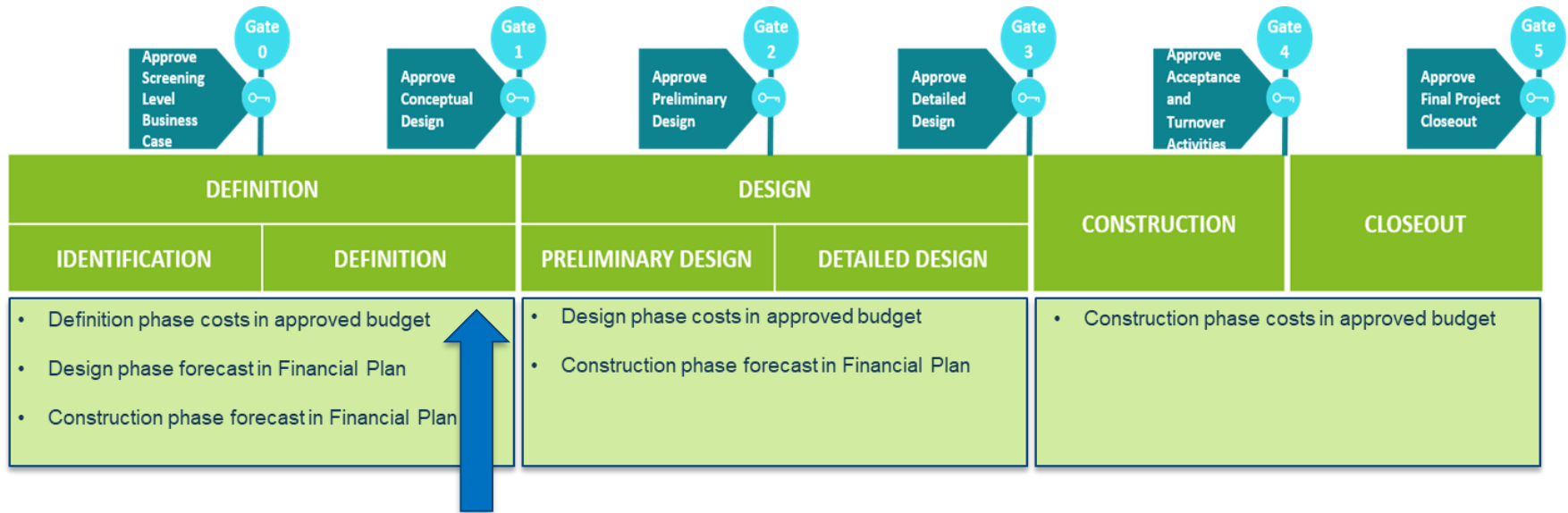
AGENDA

- Project overview
- Lagoon clean out
- Studies and Monitoring
 - Current plans for studies and monitoring
 - Opportunities for collaboration on studies and monitoring at Iona Island
- History of citizen science monitoring at Iona Island
- Next Steps

Project Overview



STAGE GATE PROCESS



Iona Island WWTP Projects

PROJECT GOALS

Wastewater
Treatment

Resource
Recovery

Community
and Park
Integration

REVISED DESIGN CONCEPT

- Concurrent construction of digesters and compact-footprint secondary treatment process (MBR or AGS)
- Endorsed by Board November 26, 2021
- What's not changing
 - Tertiary level wastewater treatment
 - Odour control
 - Ecological restoration projects
 - Resource recovery opportunities
 - Integration with regional park



Reclaimed Water



Heat



Biofuels



Nutrients / Biosolids

IIWWTP Lagoons



IIWWTP LAGOONS



HISTORIC LAGOON CLEANOUT



LAGOON DECOMMISSIONING

- Using mobile dewatering equipment:
 - A floating barge
 - A pump
 - A centrifuge
- Dewatering will occur for 9 months/year. From spring 2022 through 2026
- Water will remain in the lagoons



A barge operating on a lagoon

POST LAGOON CLEAN OUT ACTIVITIES

Post lagoon clean out activities:

- Remediation
- Archaeology
- Laydown
- Ecological restoration



Ariel view of IIWWTP lagoons and IBRP ponds

LAGOON ACCESS

Lagoon viewing opportunity from Ferguson Road

- located parallel to the WWTP outfall pipe and southern lagoons



Southern lagoons viewing stairs

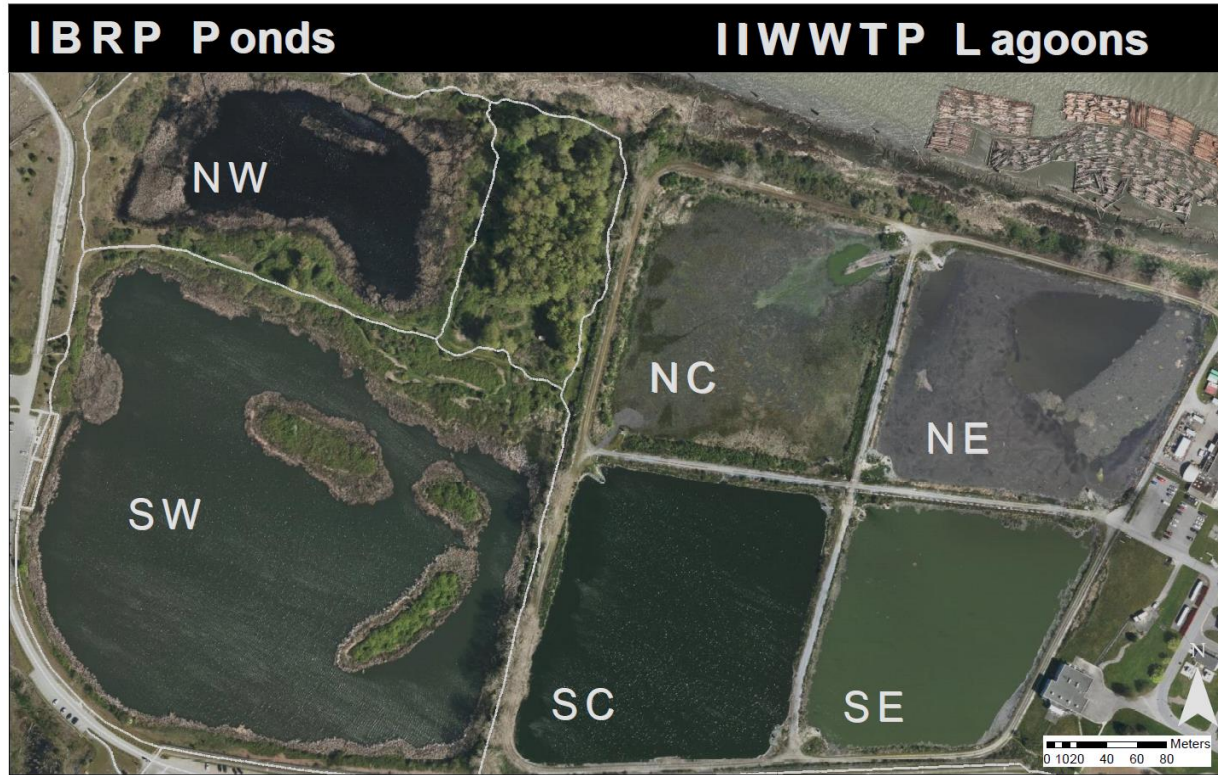
An aerial architectural rendering of a water treatment facility. In the background, a large industrial plant with several tall cylindrical tanks and buildings is situated on a riverbank. A winding river flows through the center of the image, surrounded by lush green wetlands and meadows. A long, low bridge spans the river in the lower-left foreground. To the right of the river, there is a parking lot with several cars and a modern, low-profile building. The overall scene is a blend of natural landscape and industrial infrastructure.

Questions?

POND/LAGOON WATERBIRD STUDY

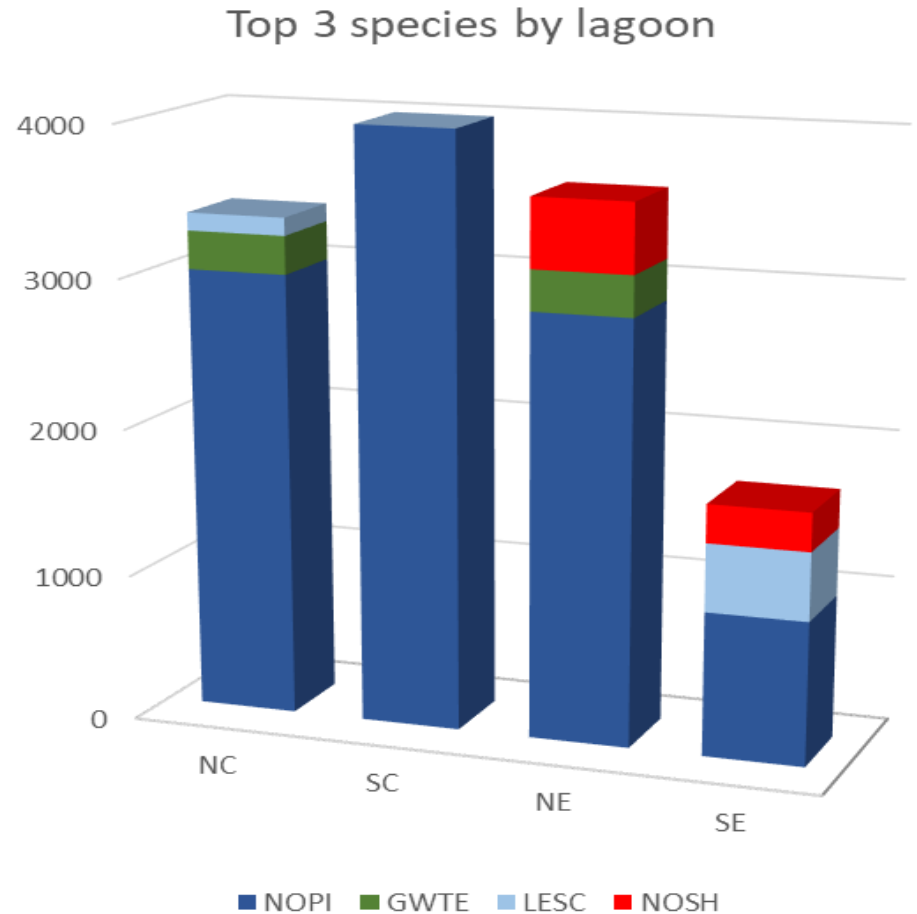


WATERBIRD STUDY



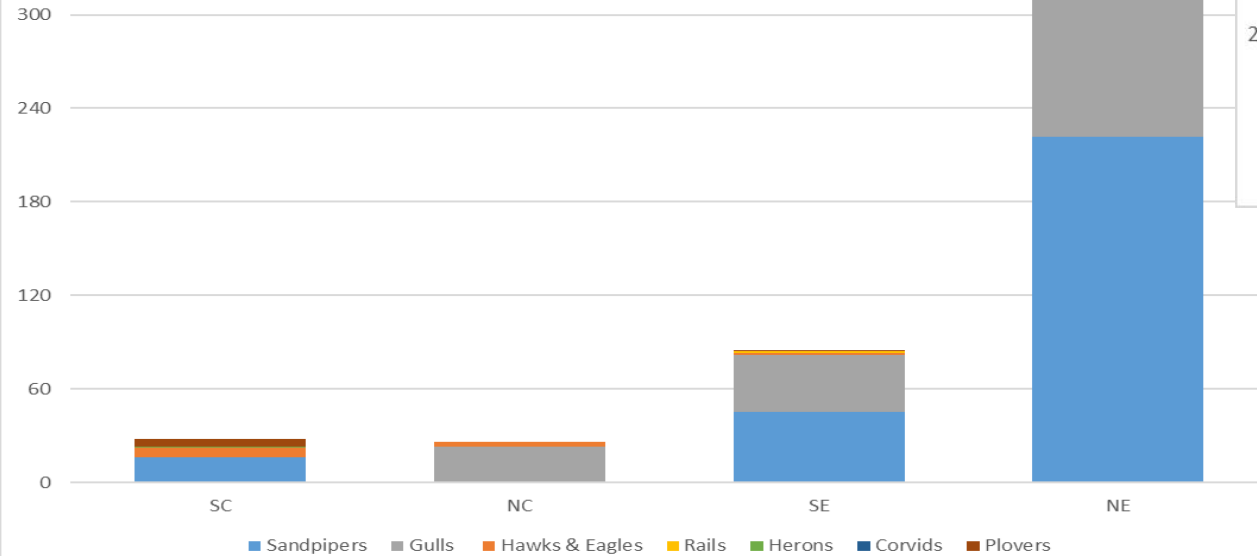
WATERBIRD STUDY

- Top 4 species by lagoon
- No trend in species diversity
- Parks ponds <100 birds

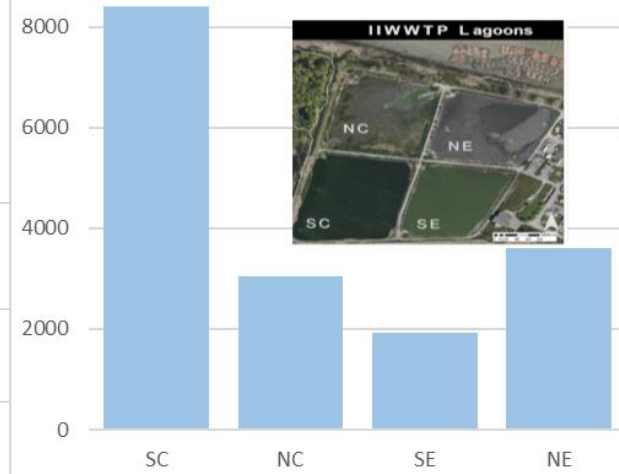


WATERBIRD STUDY

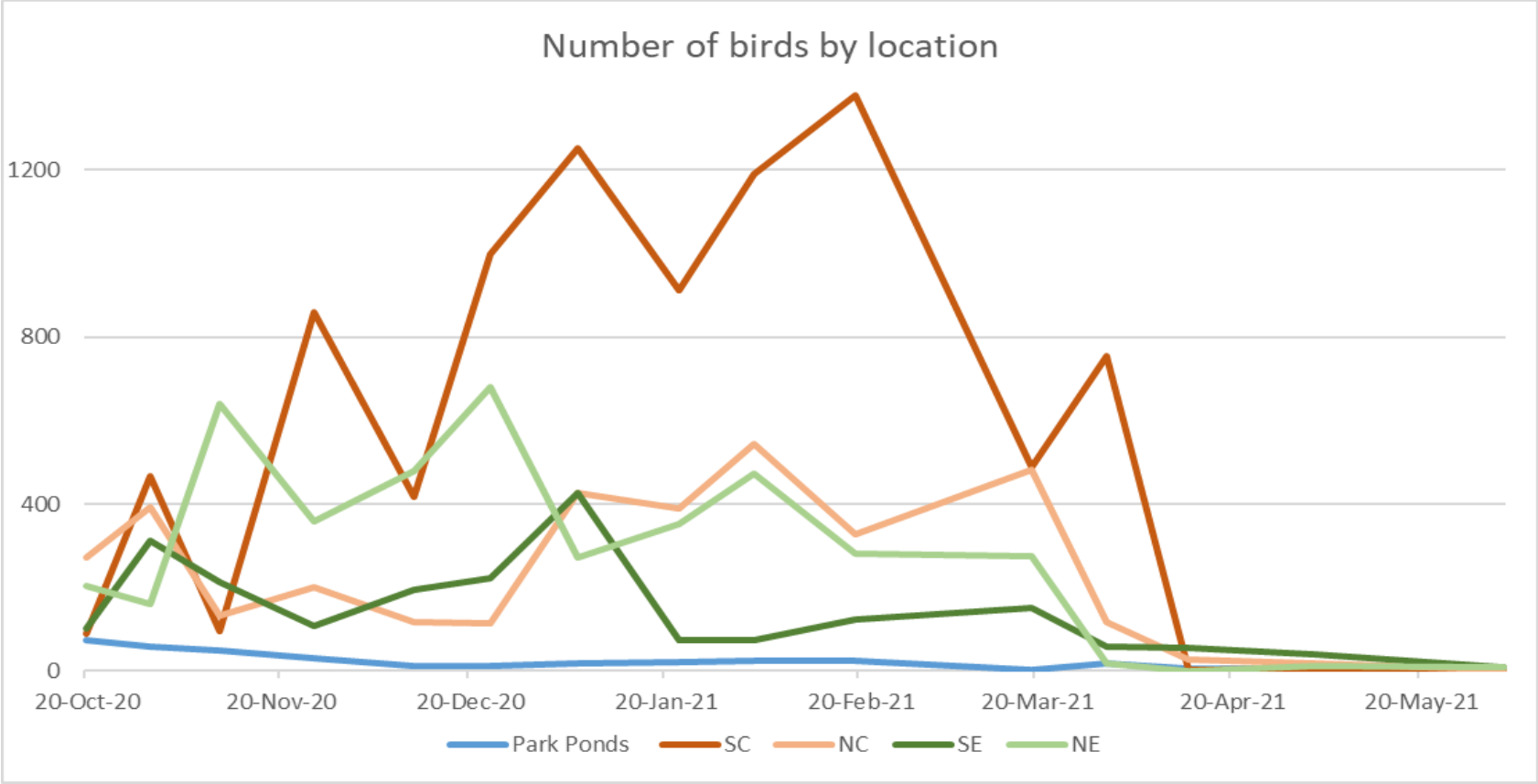
Total count of birds by group in sewage lagoons



Count of Ducks and Geese



WATERBIRD STUDY



An aerial architectural rendering of a water treatment facility. In the background, a large industrial complex with several tall cylindrical tanks and buildings is situated on a riverbank. A winding river flows through the center of the image, surrounded by lush green wetlands and meadows. A long, straight bridge spans the river in the lower-left foreground. To the right of the river, there is a parking lot with several cars and a modern, low-rise building. The overall scene is a blend of natural landscape and industrial infrastructure.

Questions?

An aerial photograph of a wastewater treatment plant. The plant features several large circular tanks, rectangular aeration basins, and various support buildings. It is situated on a grassy area next to a body of water, with a forested hill and mountains in the background. A semi-transparent dark blue box is overlaid on the top left corner, containing the text "Studies and monitoring".

Studies and monitoring

BASELINE STUDIES

- Baseline studies and surveys (current status of development and schedule)
- Long-term monitoring plan



BASELINE STUDIES

First surveys / studies being procured:

1. Vegetation and habitat surveys (TEM, SEI, BCWC)
2. Wildlife and invertebrate surveys*
3. Water quality sampling
4. Others TBD



Previous Terrestrial Ecosystem Mapping (TEM)

BASELINE STUDIES

Bird surveys

- Before, during and after construction
- Standard methods for different bird groups
- Study / survey details being developed (TBC)



Yellow warbler (Flickr CC)

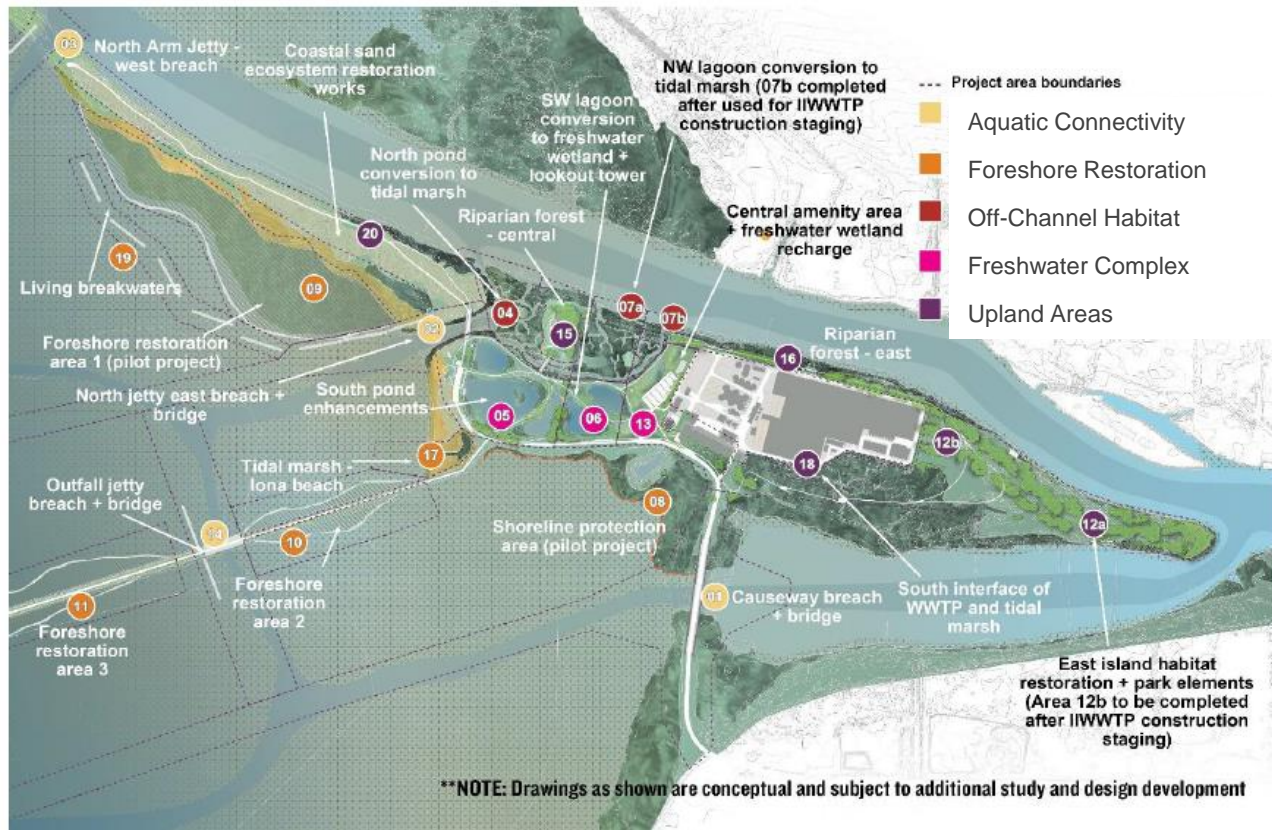
FORESHORE STUDIES & DESIGN

- Hydrodynamic modelling & sediment transport evaluation
- Biophysical baseline data
- Preliminary design
- Sediment reuse, risk management, access,
- Engagement



Beach west of the causeway

FORESHORE STUDIES & DESIGN



STUDIES AND MONITORING

Opportunities for studies and collaboration on Iona Island.



The bald eagle pair using the western nest

An aerial architectural rendering of a water treatment facility. In the background, a large industrial complex with several tall cylindrical tanks and buildings is situated on a riverbank. A winding river flows through the center of the image, surrounded by lush green wetlands and meadows. A long, straight bridge spans the river in the lower-left foreground. To the right of the river, there is a parking lot with several cars and a modern, low-rise building. The overall scene is a blend of natural landscape and industrial infrastructure.

Questions?

HISTORY OF CITIZEN SCIENCE MONITORING



Pond at Iona Beach Regional Park



Next Steps

NEXT STEPS

- Special Meeting of the GVS&DD Board (February 3, 2022)
- Present conceptual design and project definition report to GVS&DD Board (March 2022)
- Future engagement opportunities





Thank you

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Together we make our region strong