

## Relationships Among Riparian Vegetation, Aquatic Diversity and Habitat Conditions in the Sundarbans

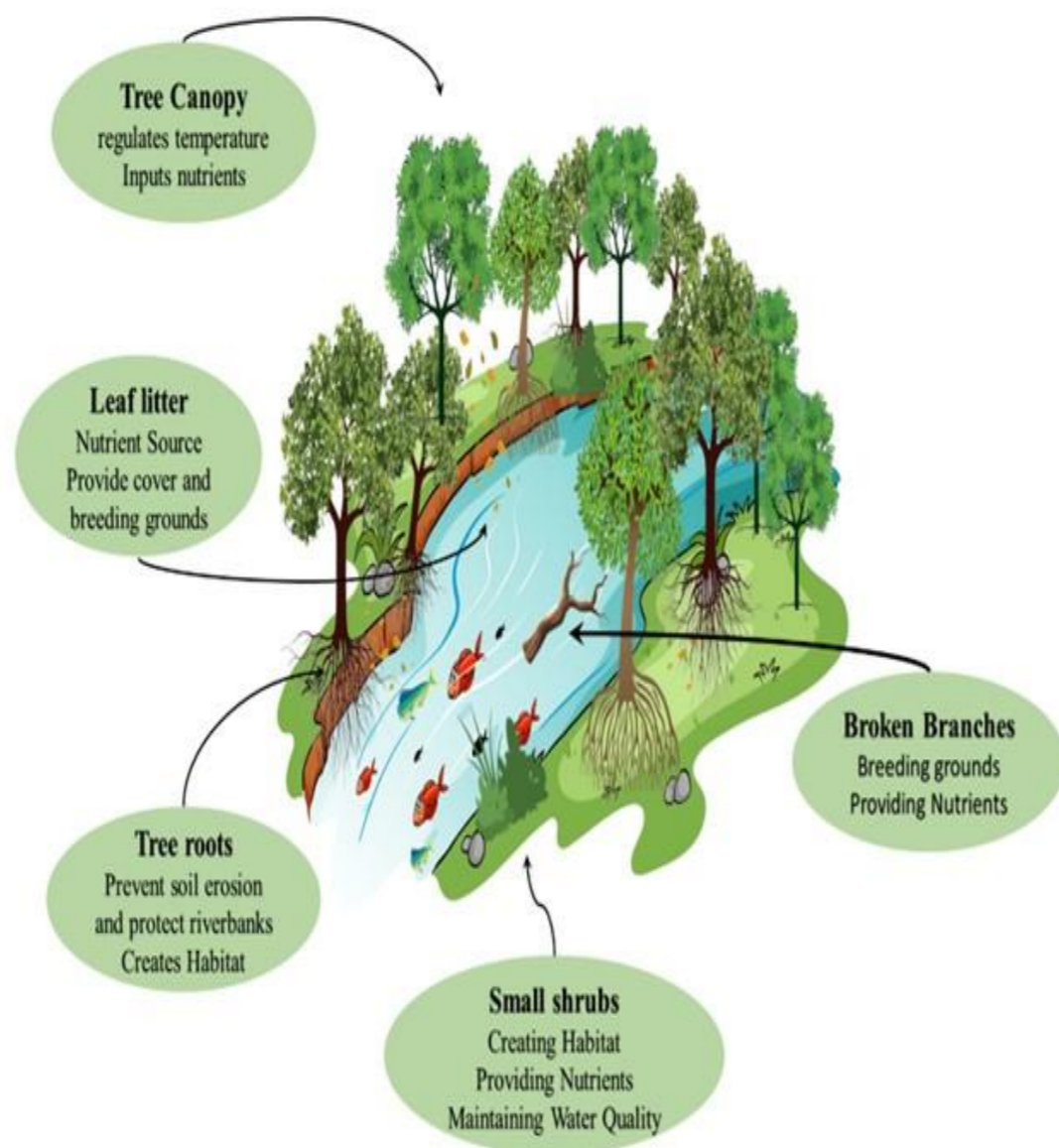
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### INTRODUCTION & AIM

What is Riparian ecosystem?

- Formation of Riparian Ecosystem**
- Occurs along riverbanks, streams, and wetlands
  - Supports a unique mix of terrestrial and aquatic vegetation
  - Acts as a buffer zone—reducing erosion and filtering pollutants
  - Provides habitat and food for diverse wildlife and fish
  - Plays a key role in nutrient cycling and water regulation

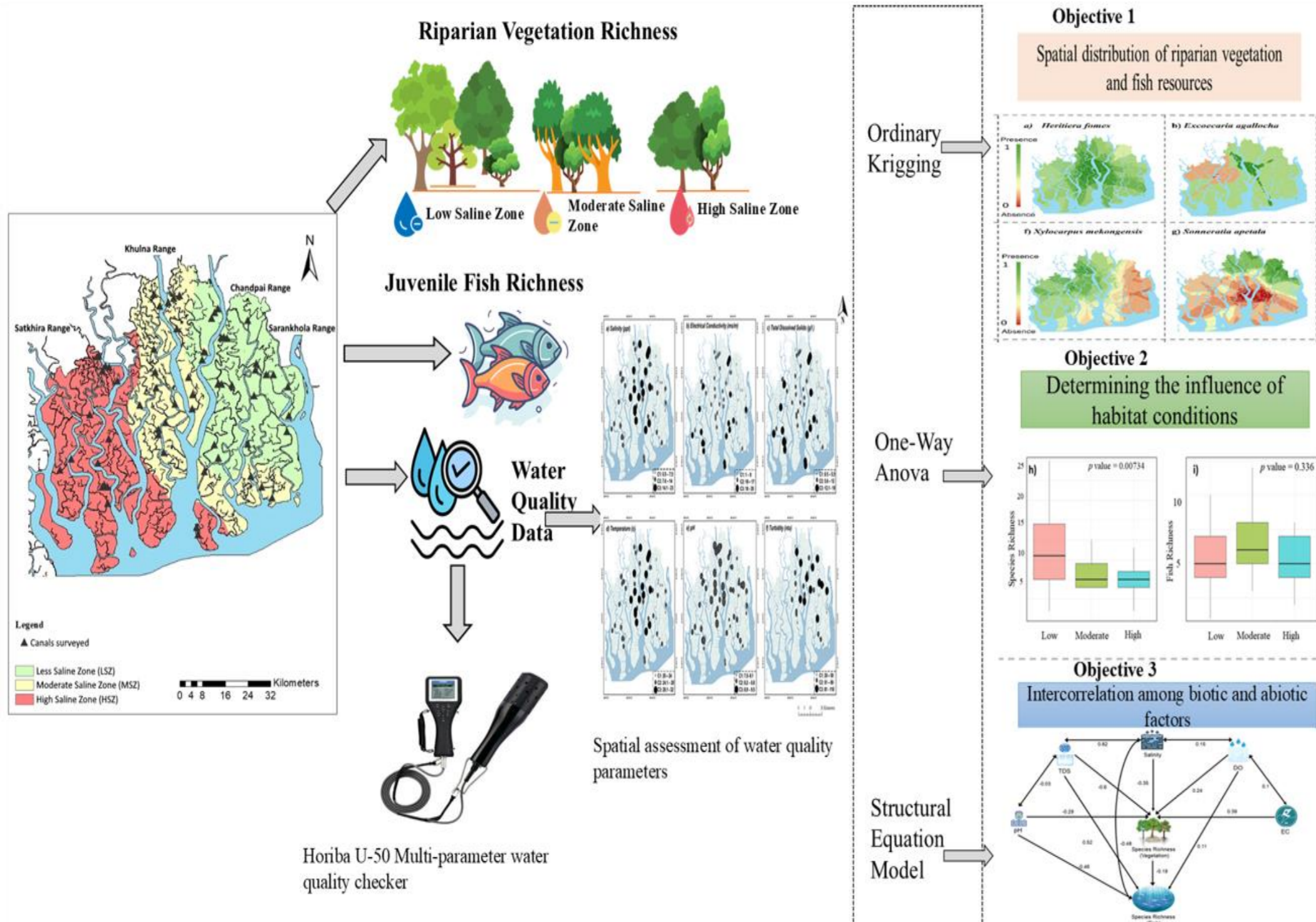


Conceptual Model of Riparian Ecosystem

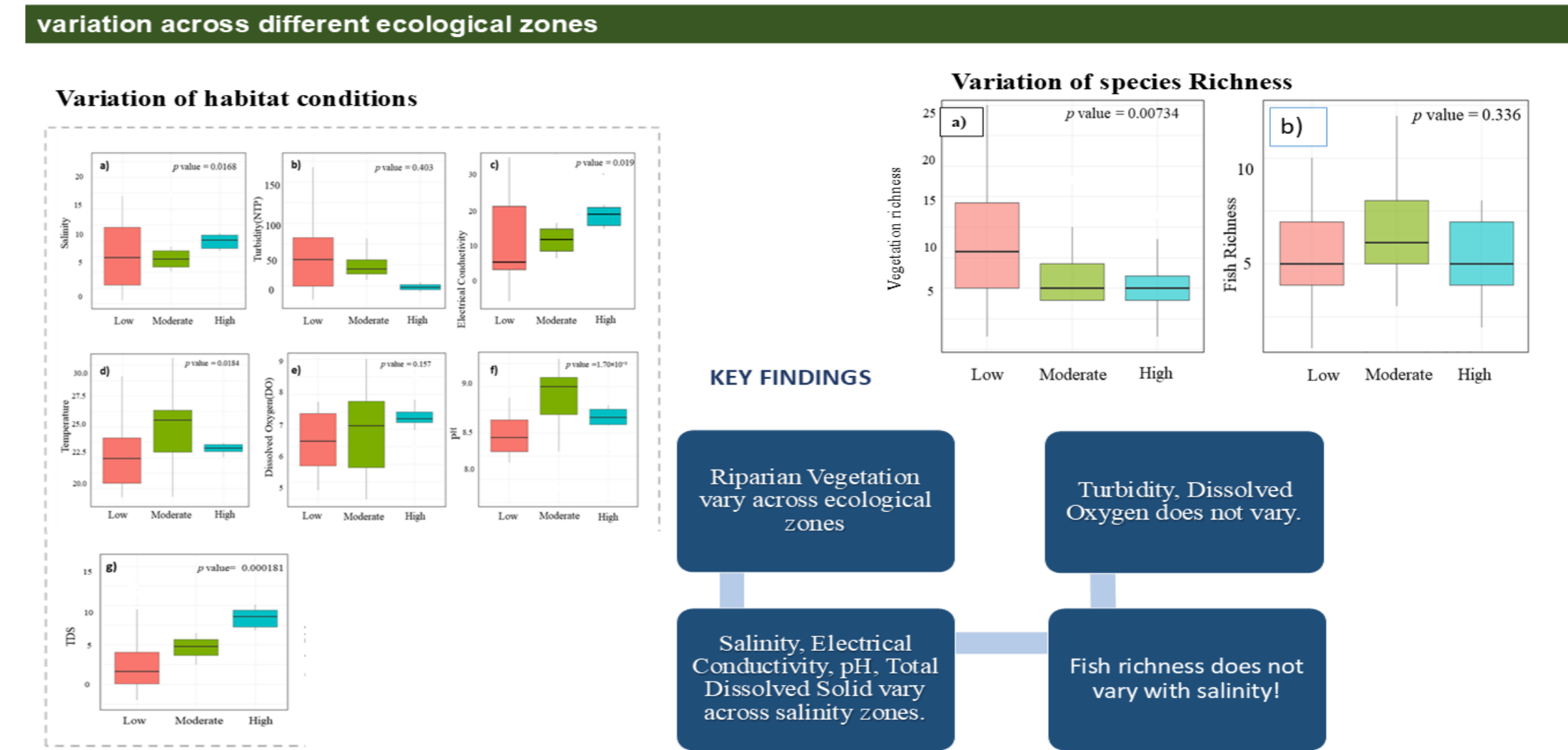
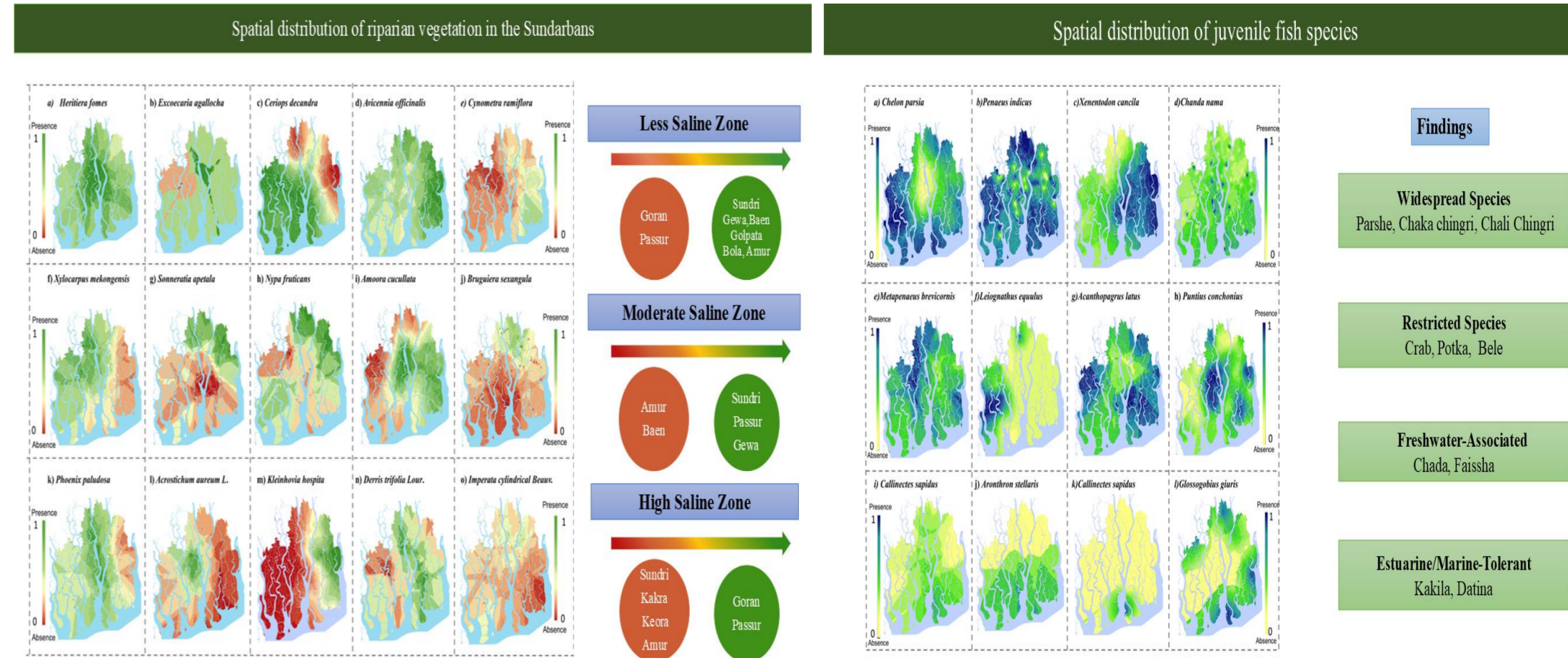
### METHOD

- Understanding spatial distribution and diversity of riparian vegetation and juvenile fish species in the Sundarbans.
- Determining the influence of habitat conditions on riparian vegetation diversity and distribution.
- Understanding intercorrelations among riparian vegetation, water quality and aquatic resources of the Sundarbans.

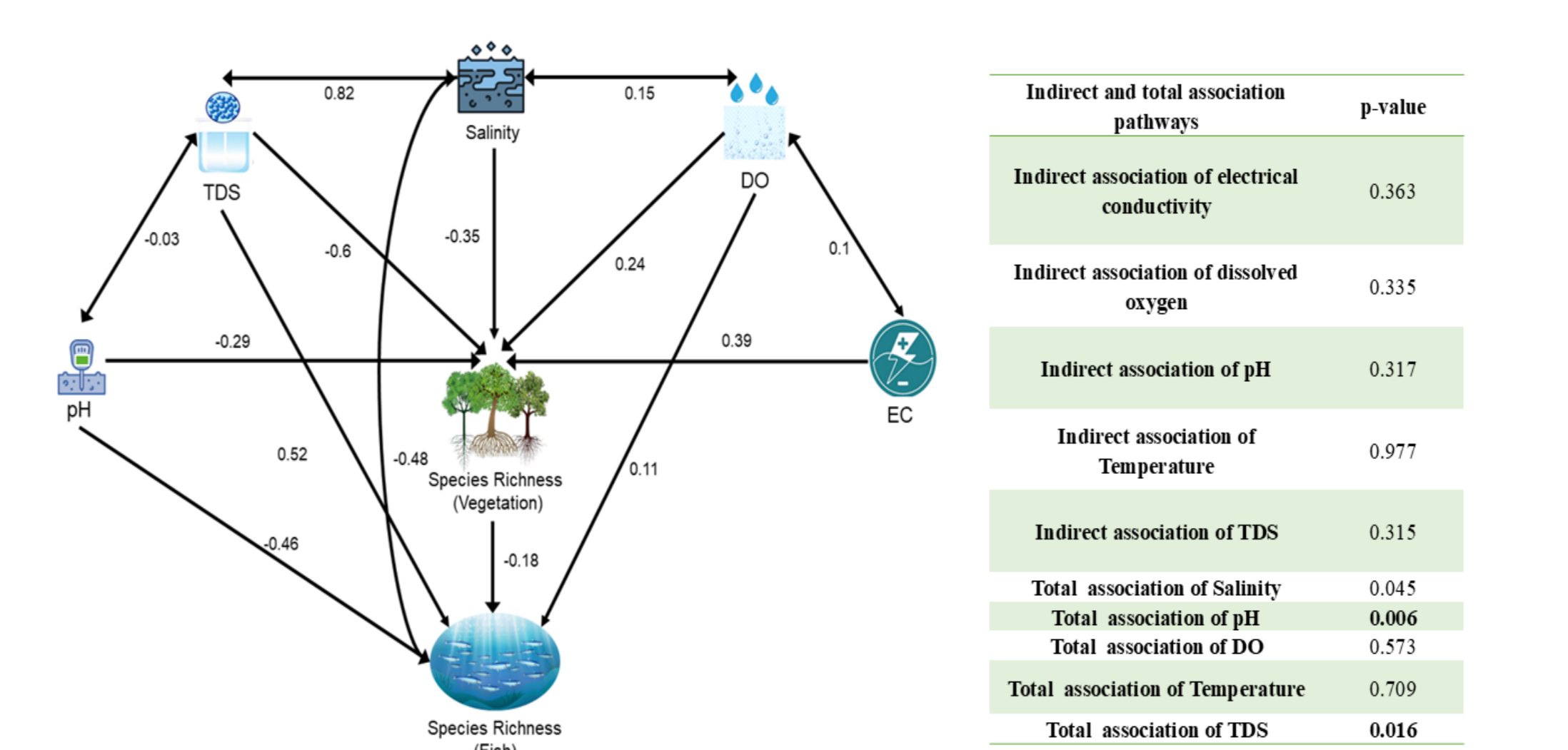
### Research Objectives



### RESULTS & DISCUSSION



### Interconnection between Habitat Quality, Riparian Vegetation and Aquatic resources



### CONCLUSION

#### Implications

- Designating nursery protection zones for conservation of Juvenile fish and riparian vegetation in the Sundarbans
- Riparian vegetation and aquatic resource mapping for conservation
- Targeted Management Interventions for Fish and Vegetation
- Rare and endangered species conservation programs

### FUTURE WORK / REFERENCES

- Inclusion of temporal replication across dry and wet seasons to capture seasonal salinity shifts, monsoonal flushing, and associated biological responses.
- Inclusion of sediment properties (such as organic carbon, salinity, and redox potential) and nutrient profiles (such as phosphate and nitrate)
- Focused studies on the asynchronous relationship between vegetation and fish resources.