


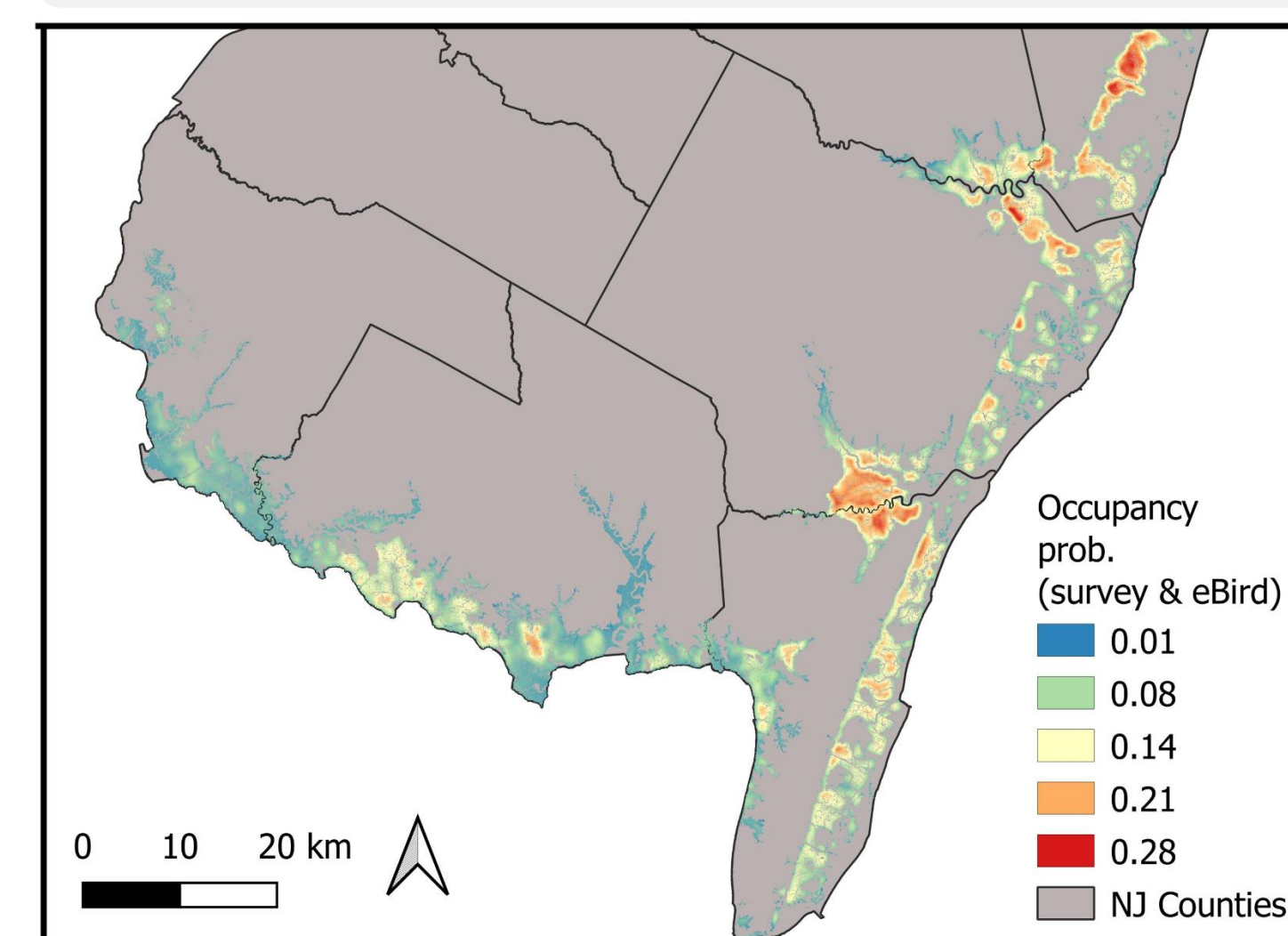
Facilitating joint spatial planning for imperiled species and coastal resiliency with habitat models and social data



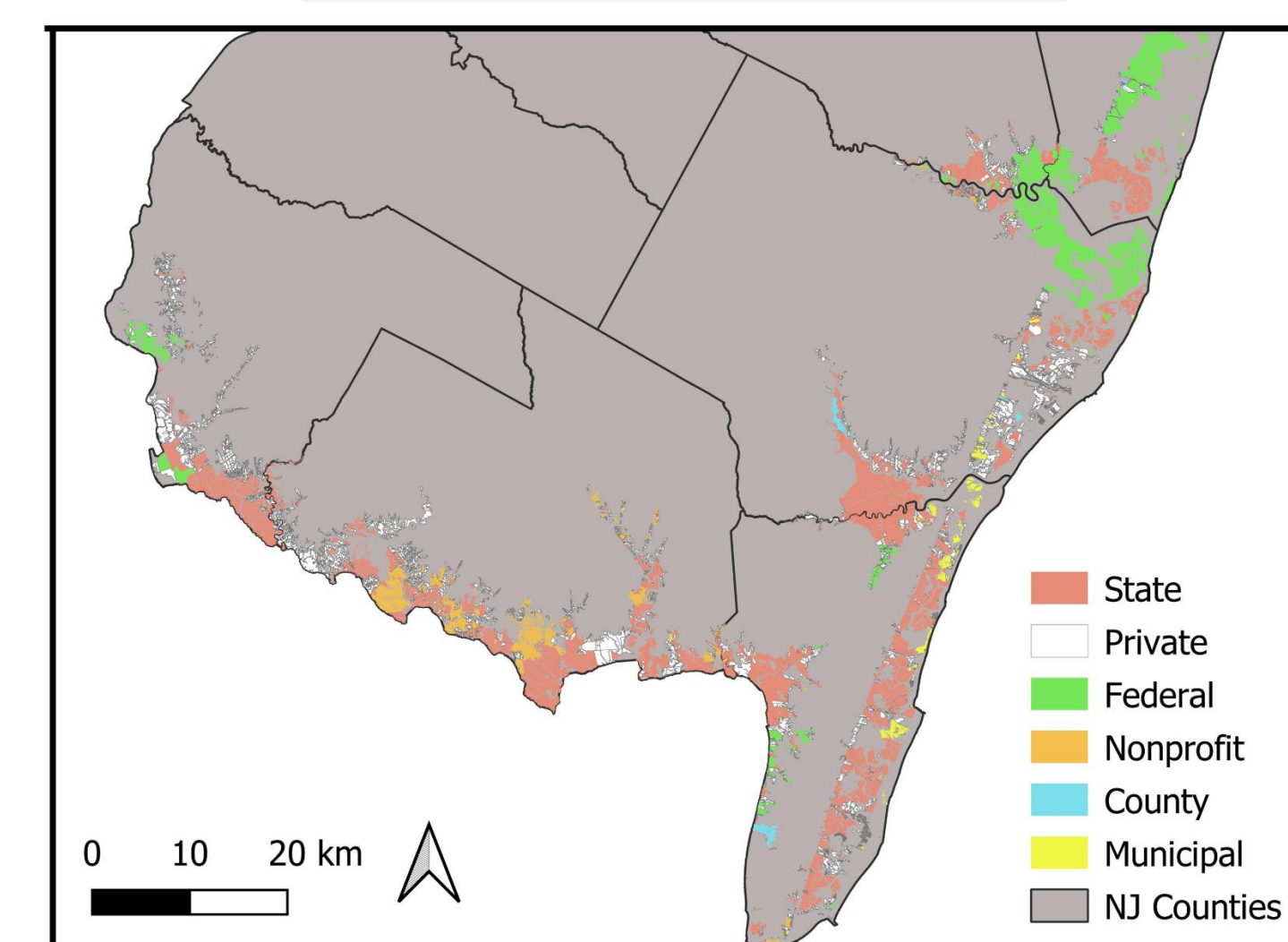
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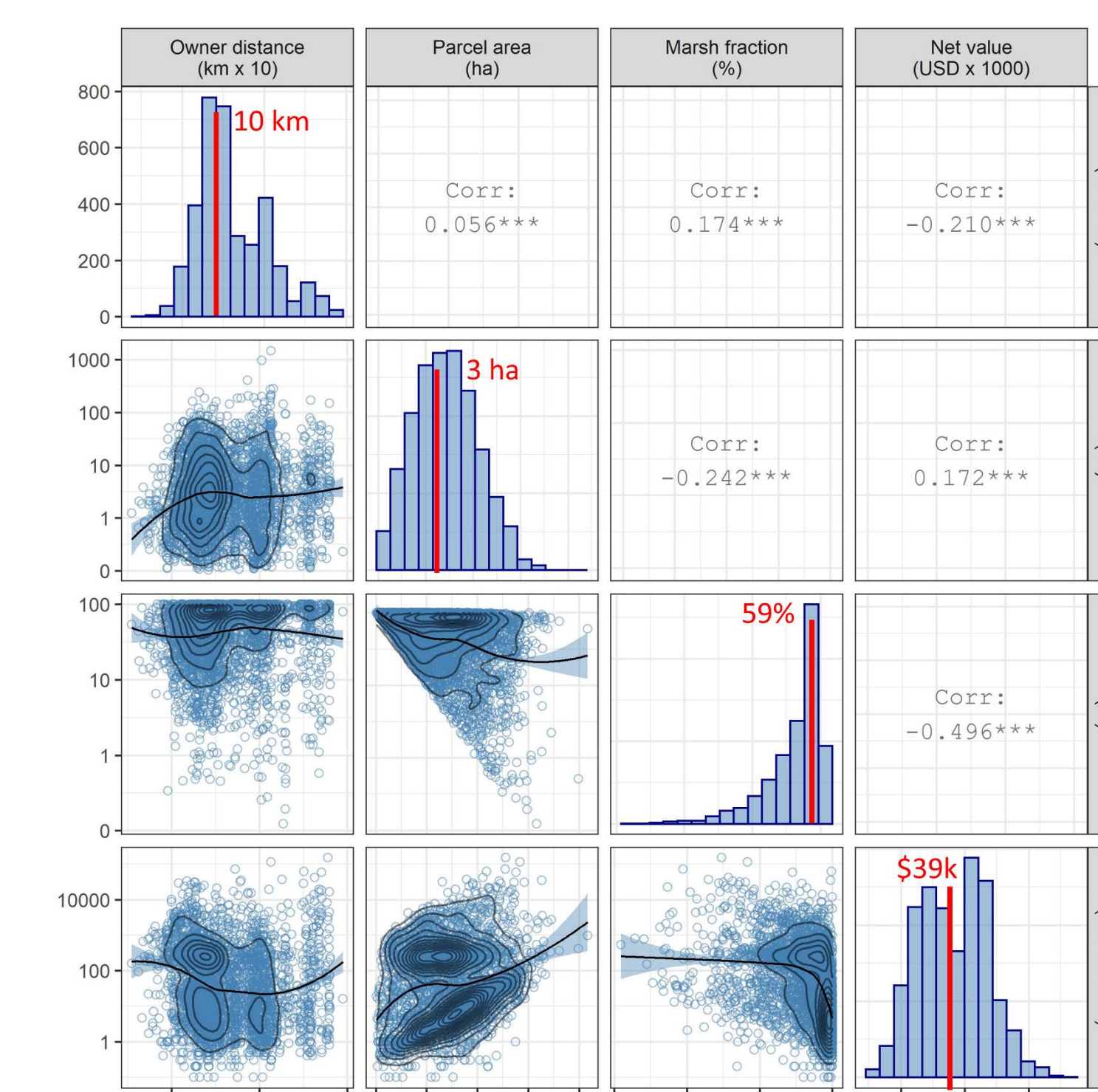
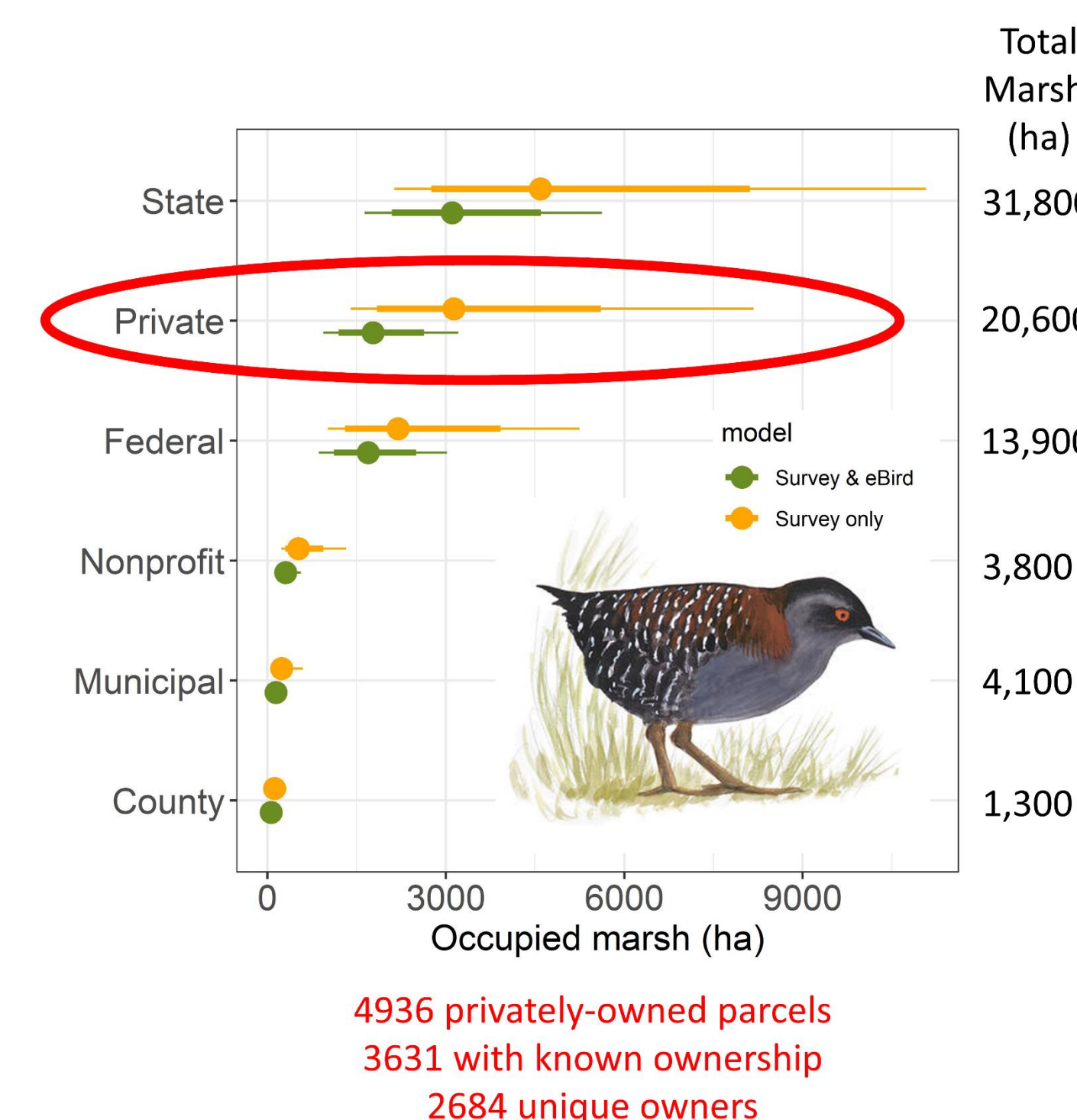
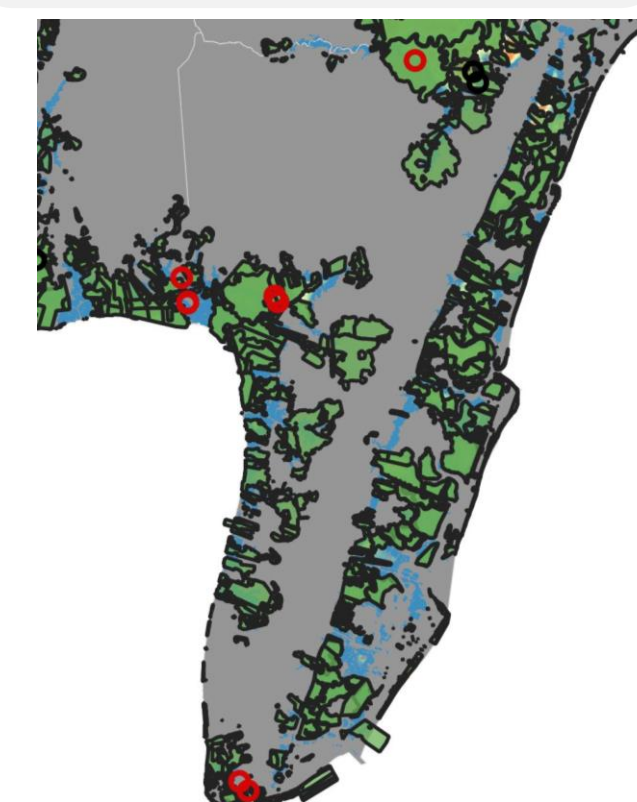
Species distribution models



Ownership maps



Tax parcel databases

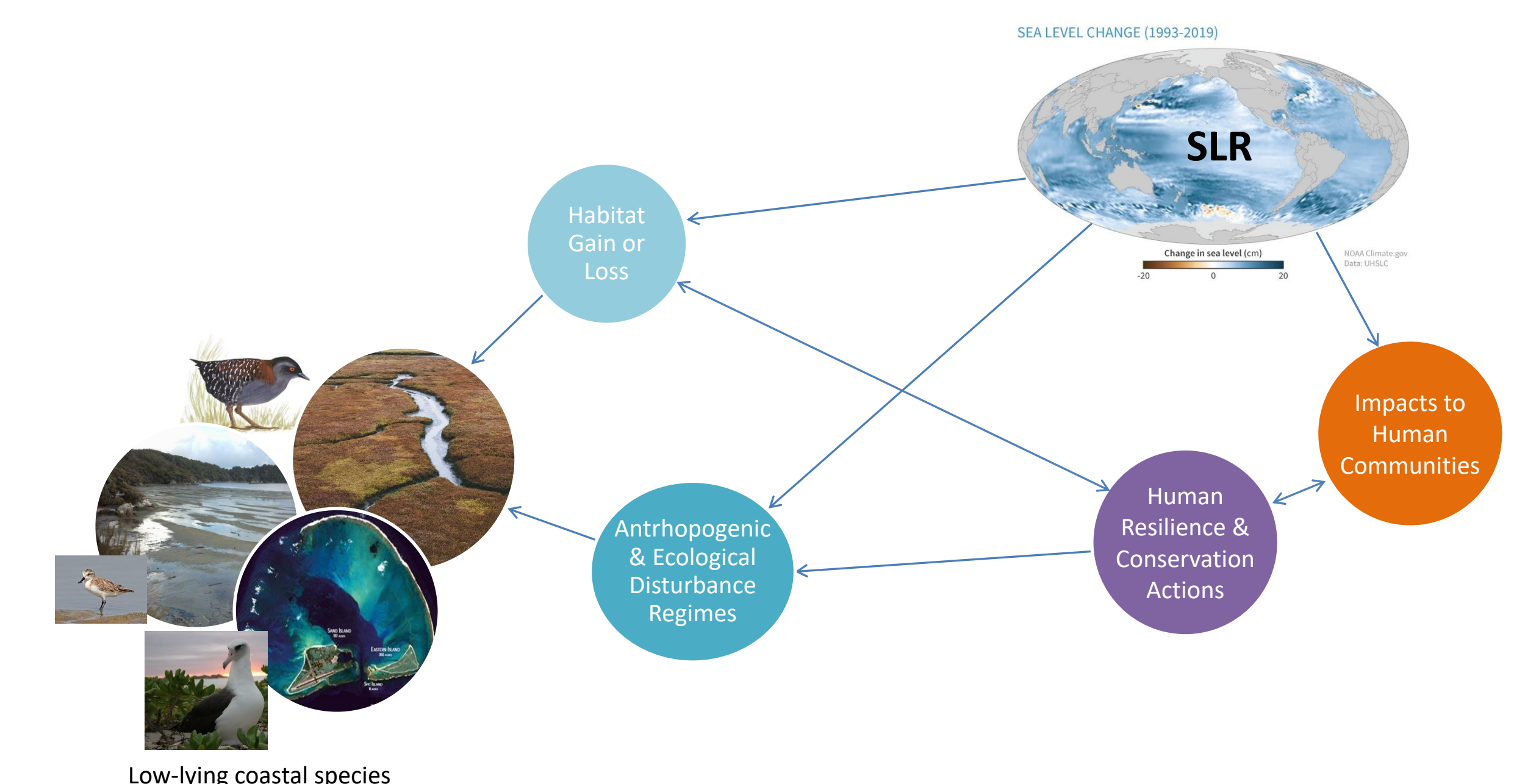


Private parcel characterization

Take-homes

- Coastal resiliency projects will increasingly intersect with threatened species habitat.
- Where imperiled species occur, who owns the land, and key information about stakeholders** informs hurdles and synergies between conservation and resiliency actions making the information both **available and useful to coastal planners**.

Methods. The eastern black rail (*Laterallus jamaicensis jamaicensis*) is a saltmarsh-dependent bird threatened by sea level rise. We mapped their habitat in urban coastal New Jersey, USA using NJDEP-collected survey data and Bayesian occupancy models. We illustrate how these models can be integrated with social information (tax map data) to inform spatial planning for sea level rise. We use these data to tabulate who owns black rail habitat and richly characterize privately owned land at the parcel level.



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Sea level rise compounds extinction risk for coastal species while posing an existential threat to expanding coastal human communities. Resiliency actions to protect human life and property can further exacerbate threats to biodiversity.

Joint spatial planning is needed to reconcile resiliency and conservation efforts but this requires integration of spatially-explicit data from disparate domains, namely: species **biology** and occurrence; the geography of **physical threats**; and the **social landscape** in which management and restoration decisions will occur.