

Please note the research results presented here
are only preliminary findings

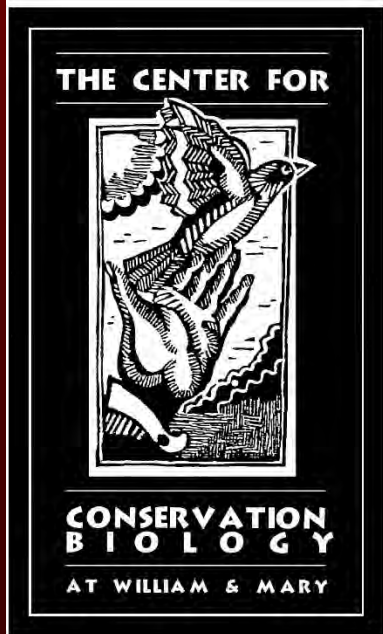
Saltmarsh Bird Trends

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<http://www.cbbirds.org>



Producing information that enables conservation



Tidal Marshes

Salinity

Birds

Salt Marsh

Bird Community

Surveys 1992-2021

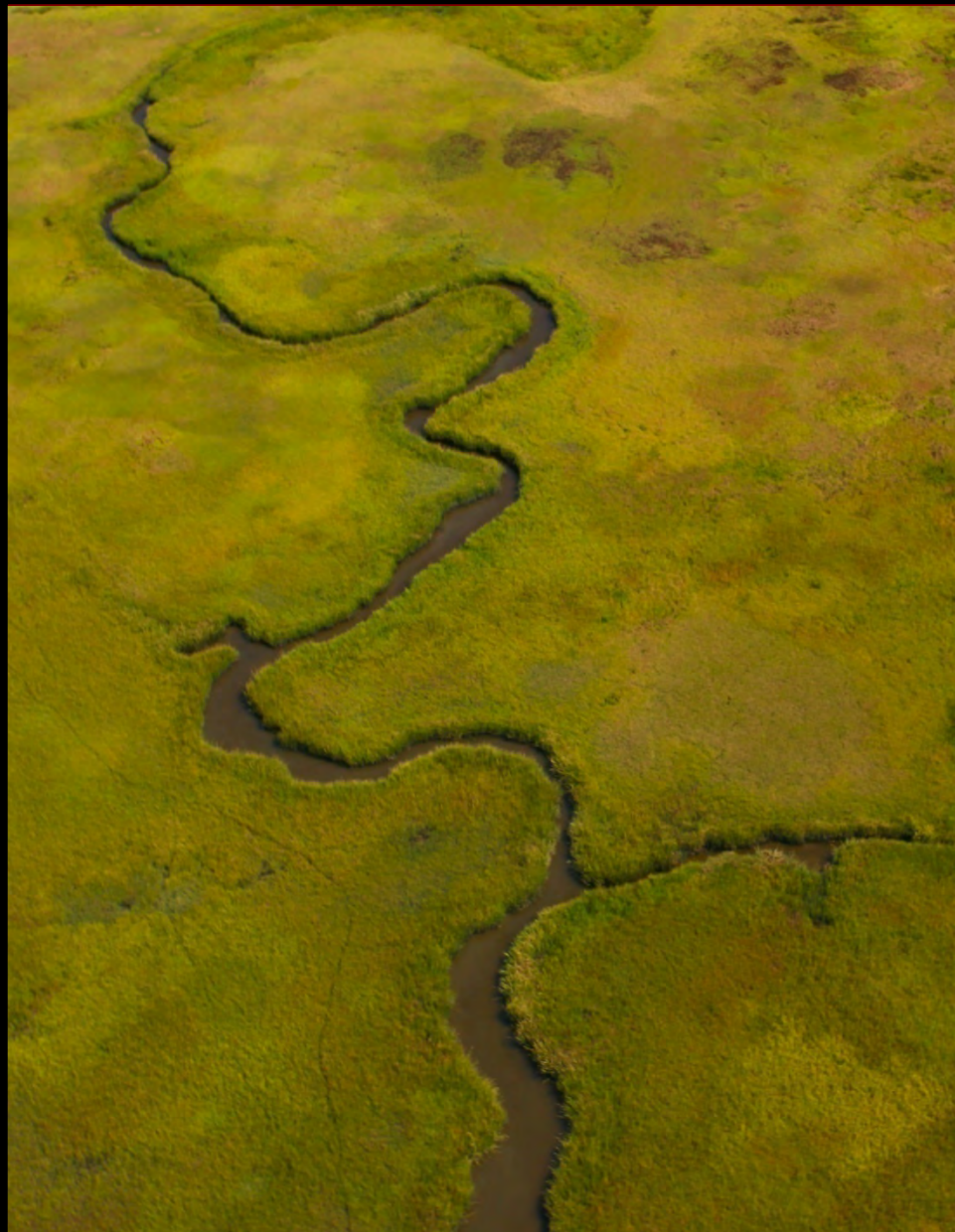
Trends

Causes

Physical Changes

Sea-level Rise

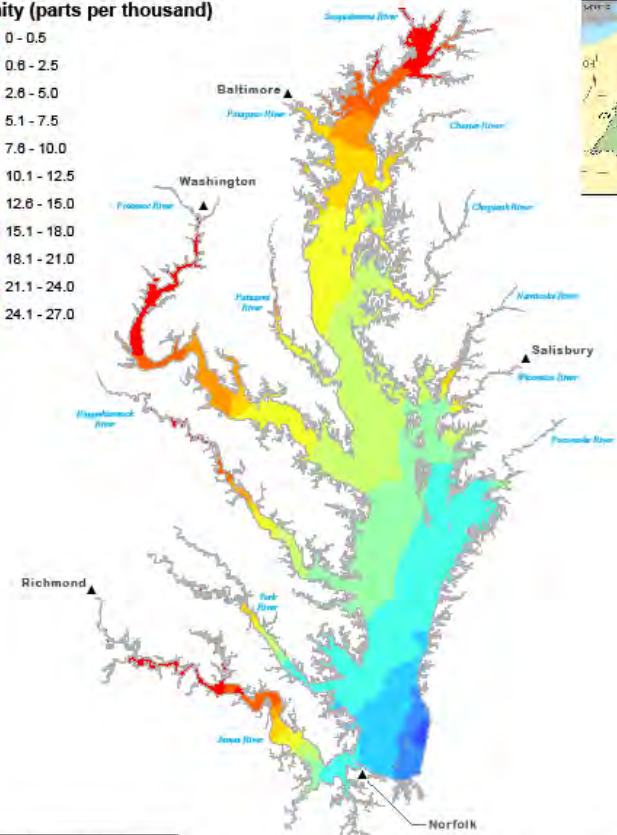
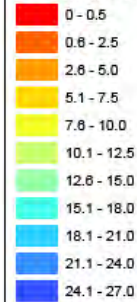
123,000+ ha – emergent tidal marsh



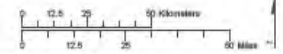
Chesapeake Bay Mean Surface Salinity Spring (1985-2006)



Salinity (parts per thousand)



Data Source: Chesapeake Bay Program
For more information, visit www.chesapeakebay.net
Disclaimer: www.chesapeakebay.net/information/About



Created by HW, 2/13/08

UTM Zone 18N, MAD 83



~150 Bird Species



	Winter	Migration	Breeding
Tidal Fresh	53	75	28
Brackish	75	107	45
Salt Marsh	87	132	49



Activities



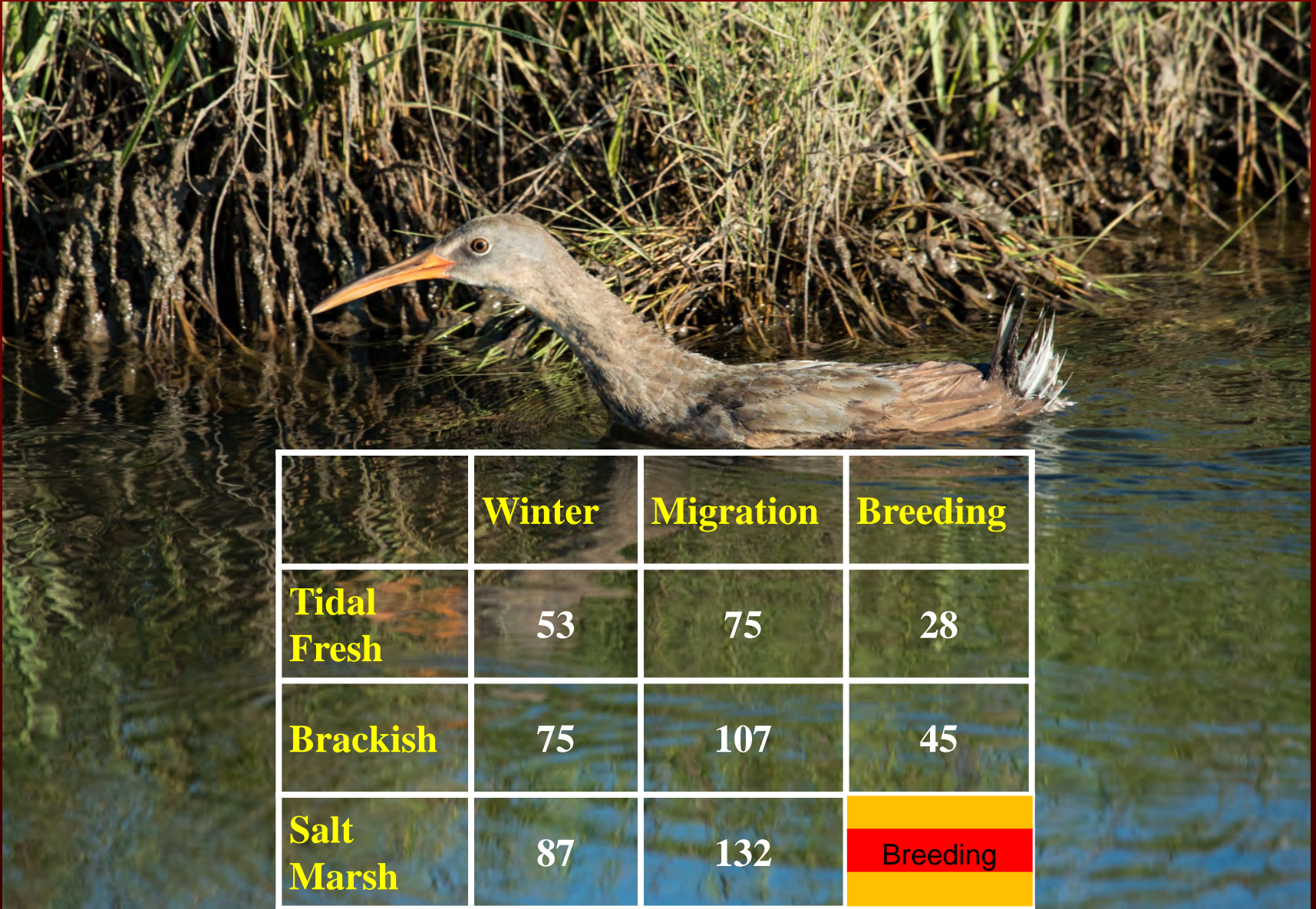
Foraging



Breeding

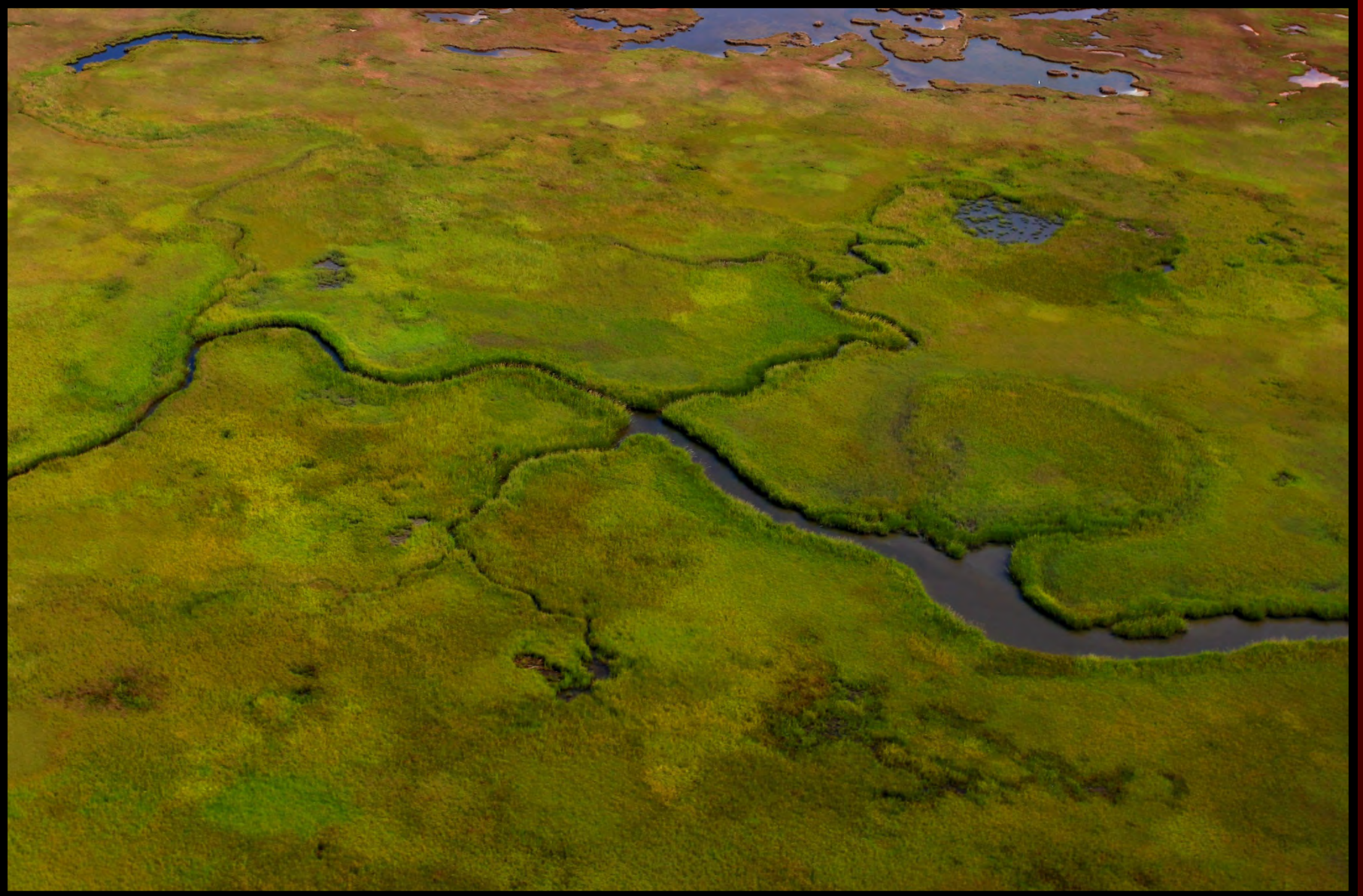


Loafing

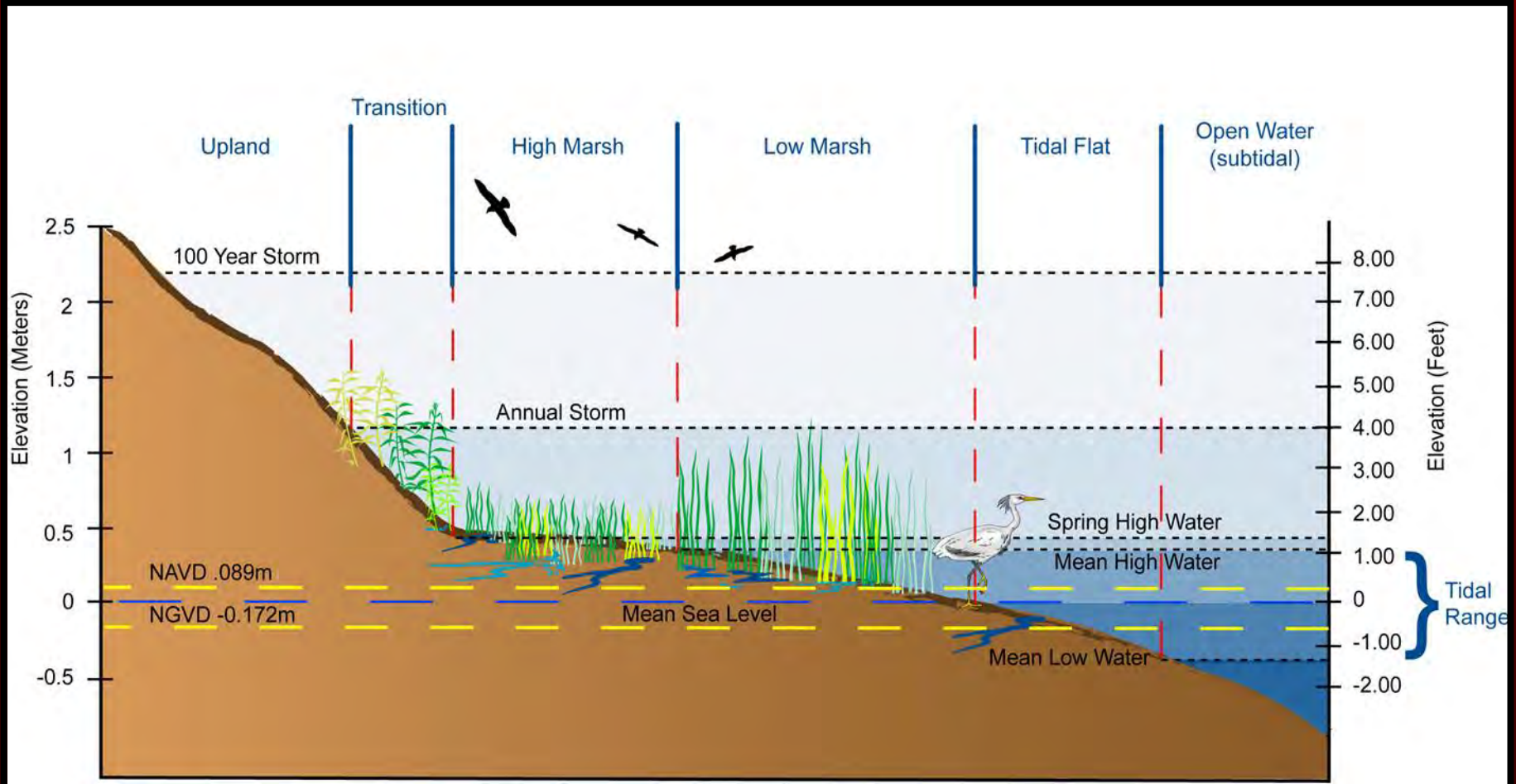


	Winter	Migration	Breeding
Tidal Fresh	53	75	28
Brackish	75	107	45
Salt Marsh	87	132	Breeding

Salt Marsh 18-30 ppt, 52,750 ha



Land-Water Interface



High Marsh – saltmeadow hay, saltgrass



Low Marsh – tall cordgrass



Low Marsh – black needlerush



Marsh-Upland Ecotone – saltbush, wax myrtle





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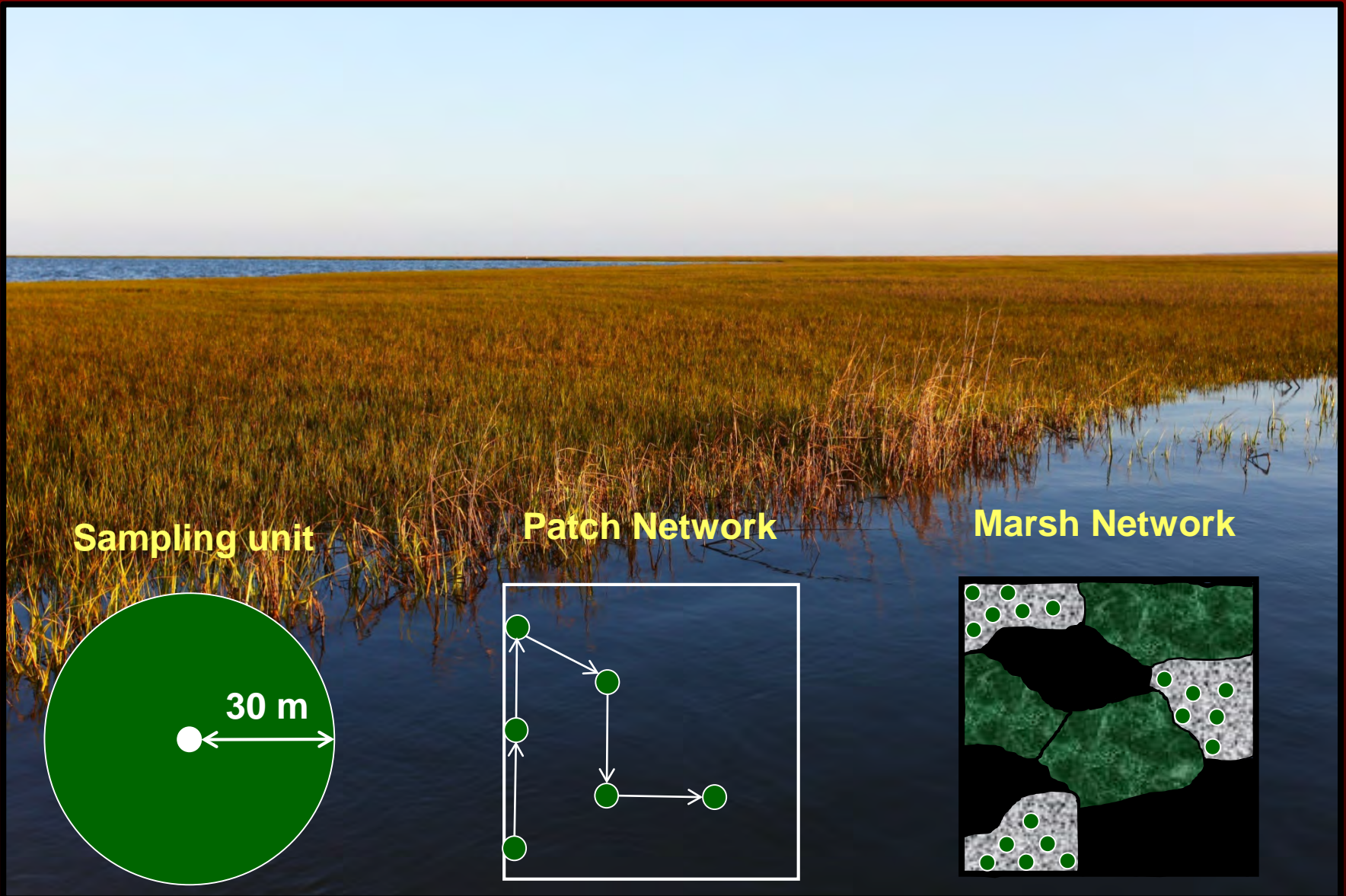
Marsh Surveys

Years
1992
2021

Marshes
12

Points
186

Rounds
4



Sampling unit

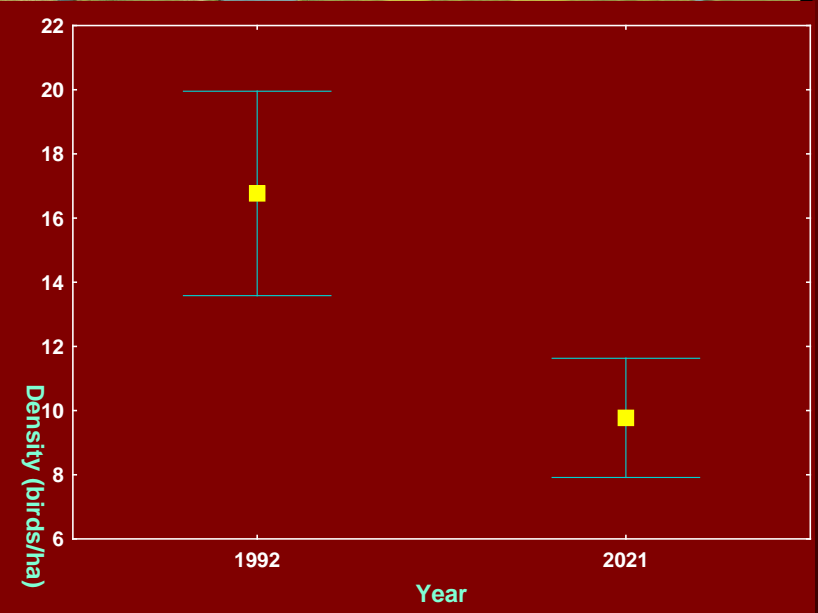
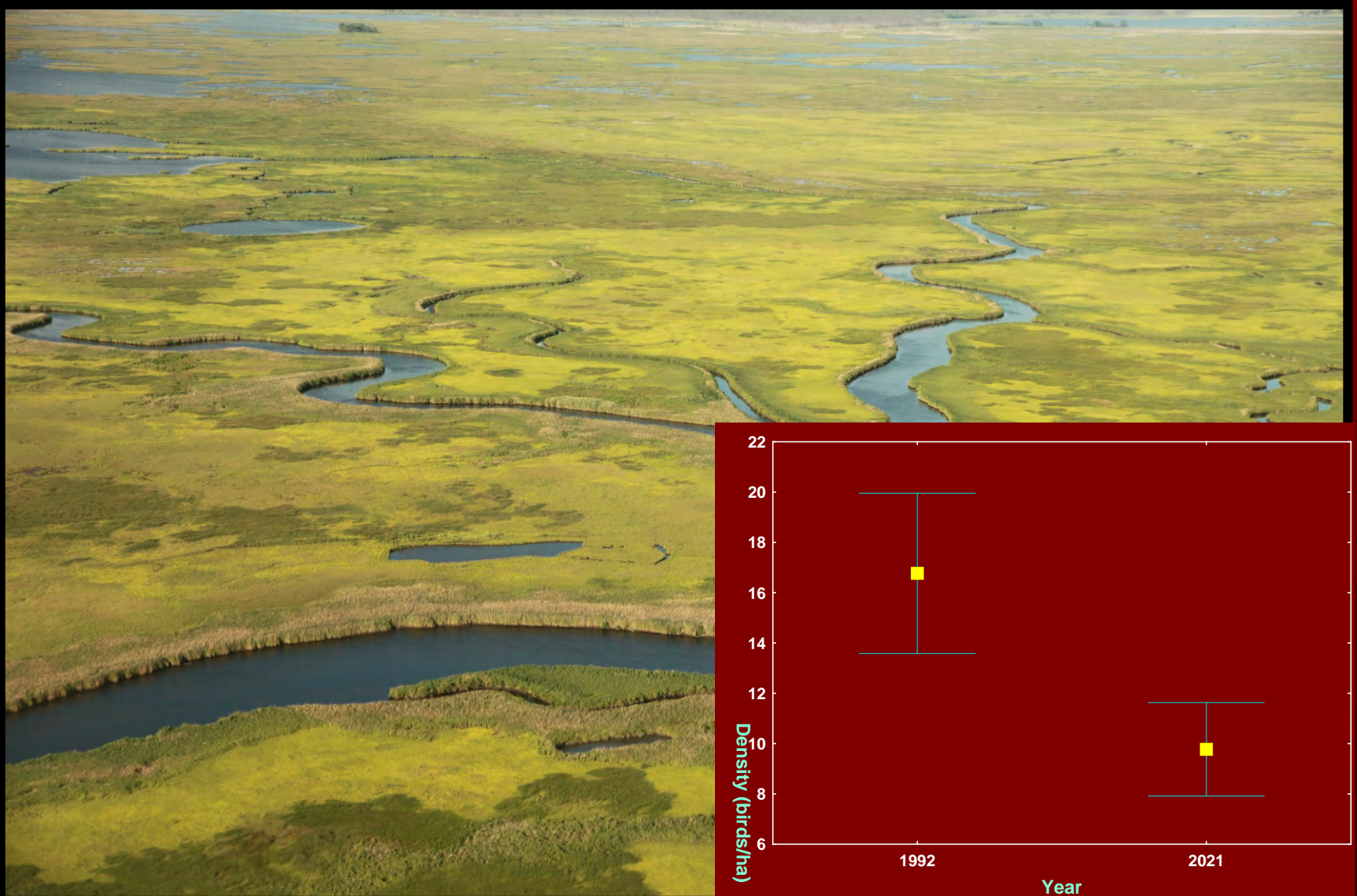
Patch Network

Marsh Network

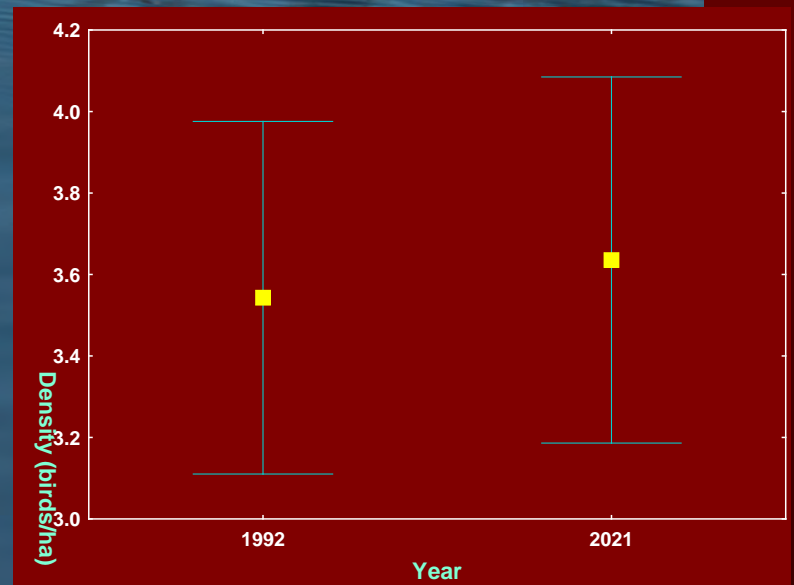
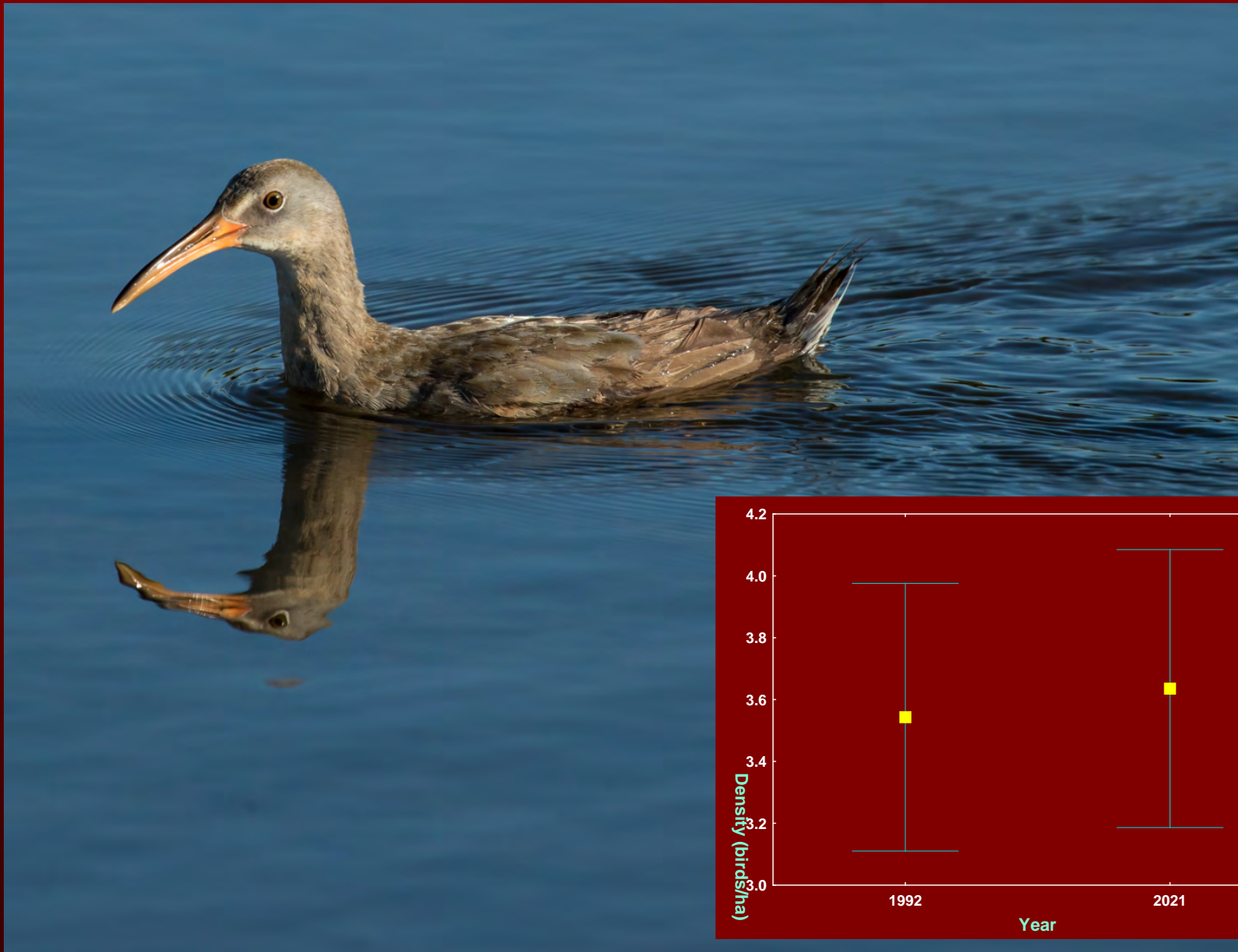
High Marsh Birds Lost



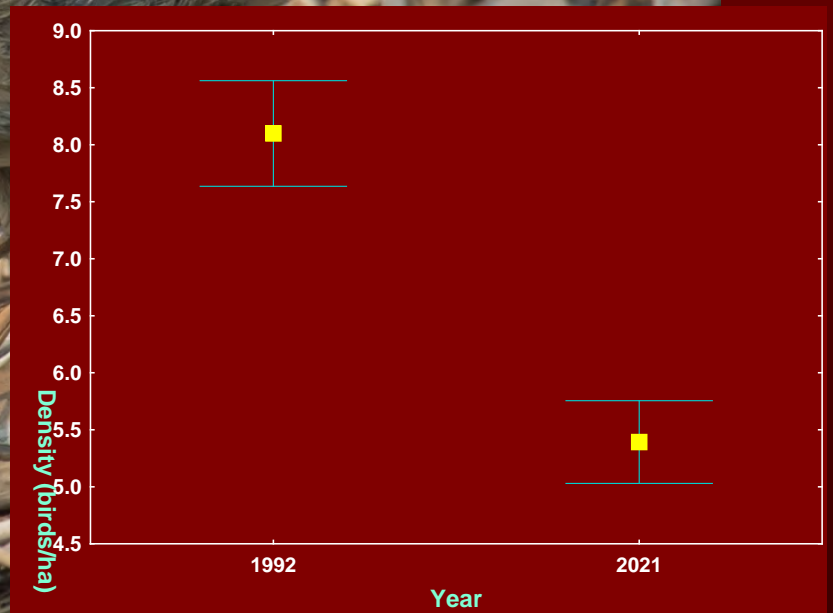
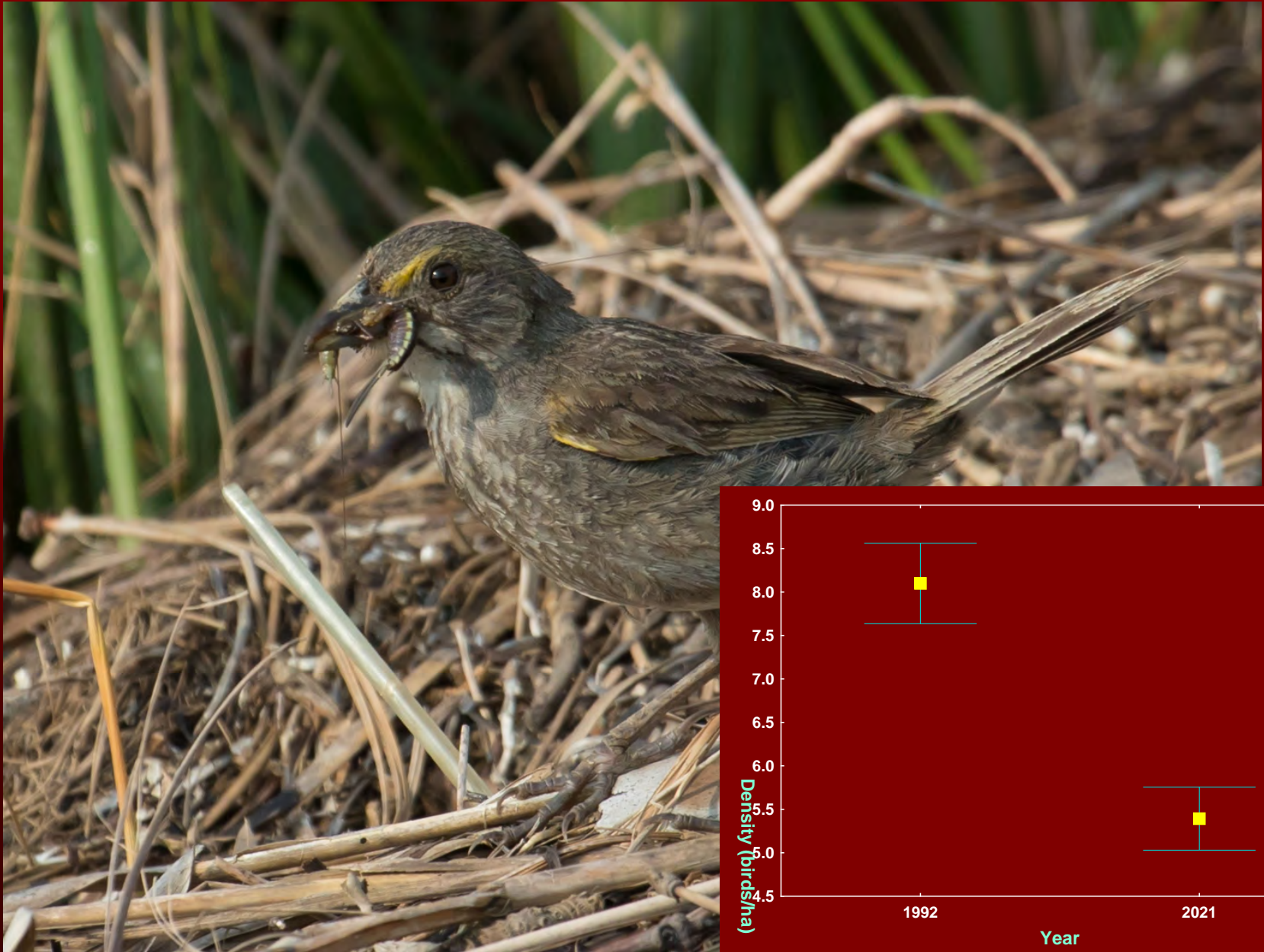
Bird Community (-42%)



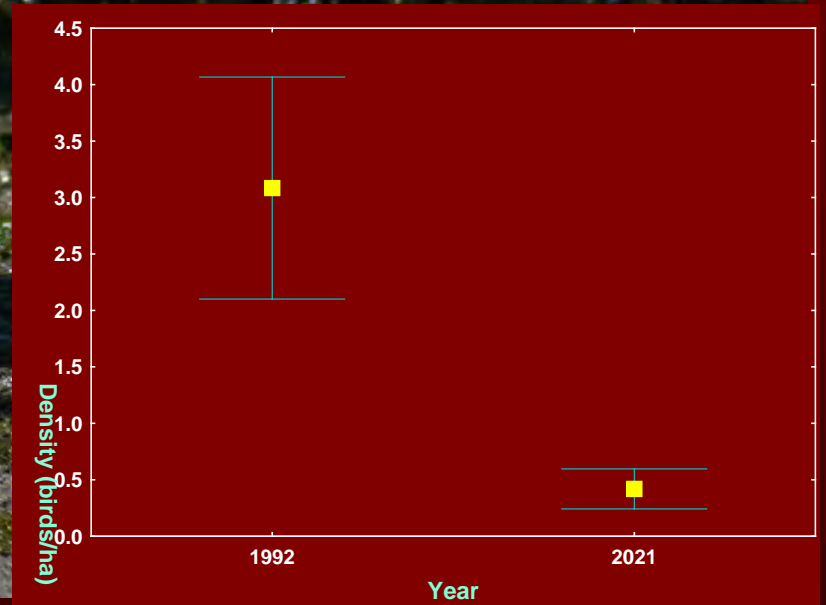
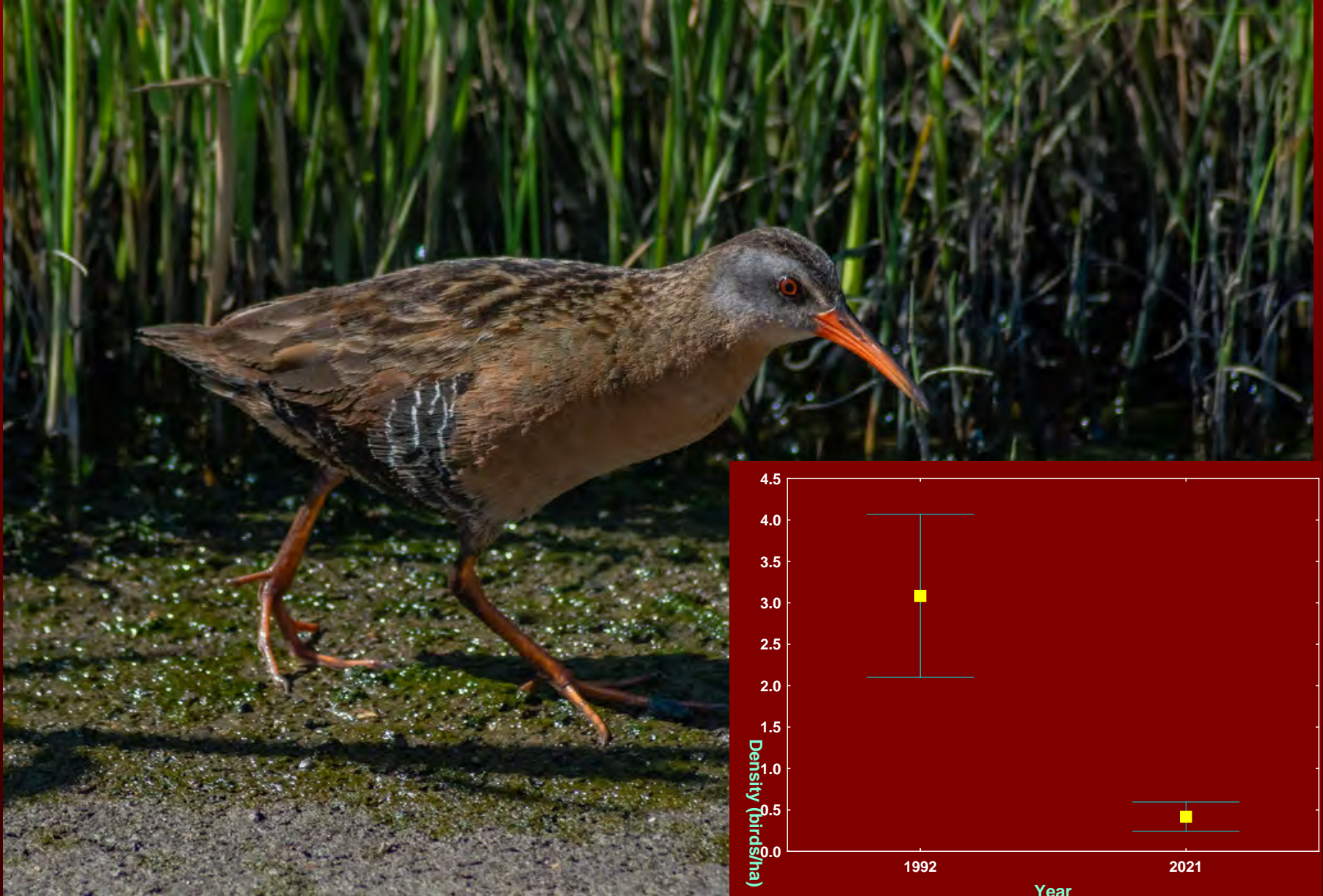
Clapper Rail (+3%)



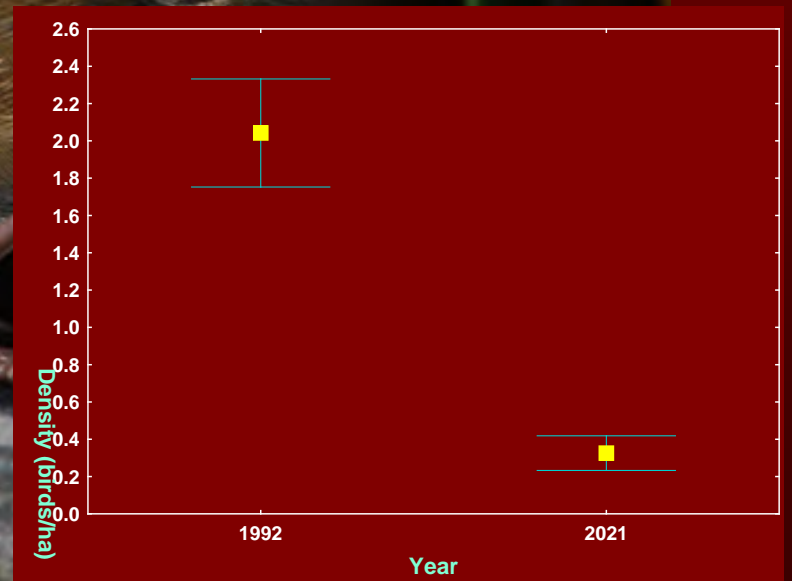
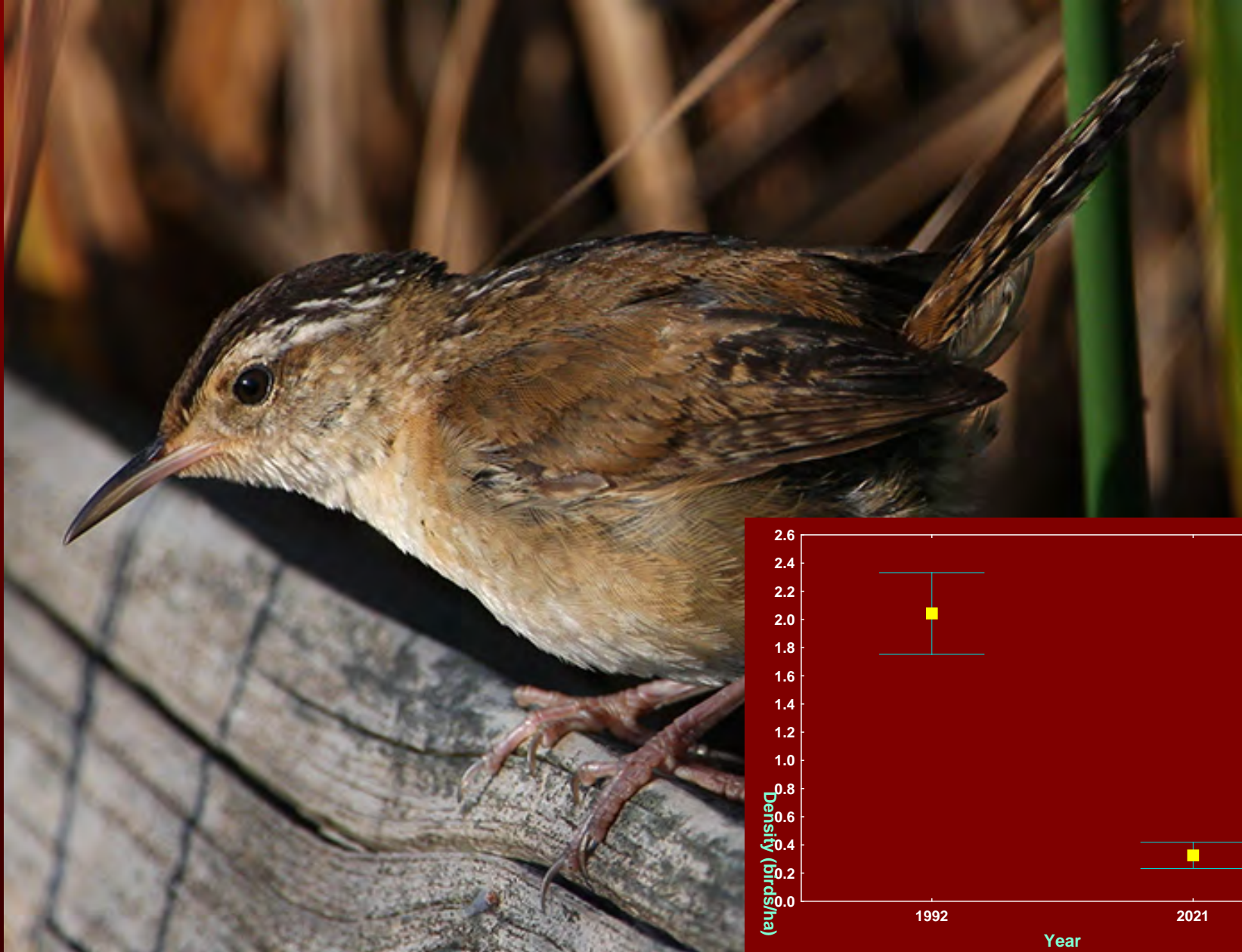
Seaside Sparrow (-33%)



Virginia Rail (-86%)



Marsh Wren (-84%)





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Marsh Erosion



Sand overtopping



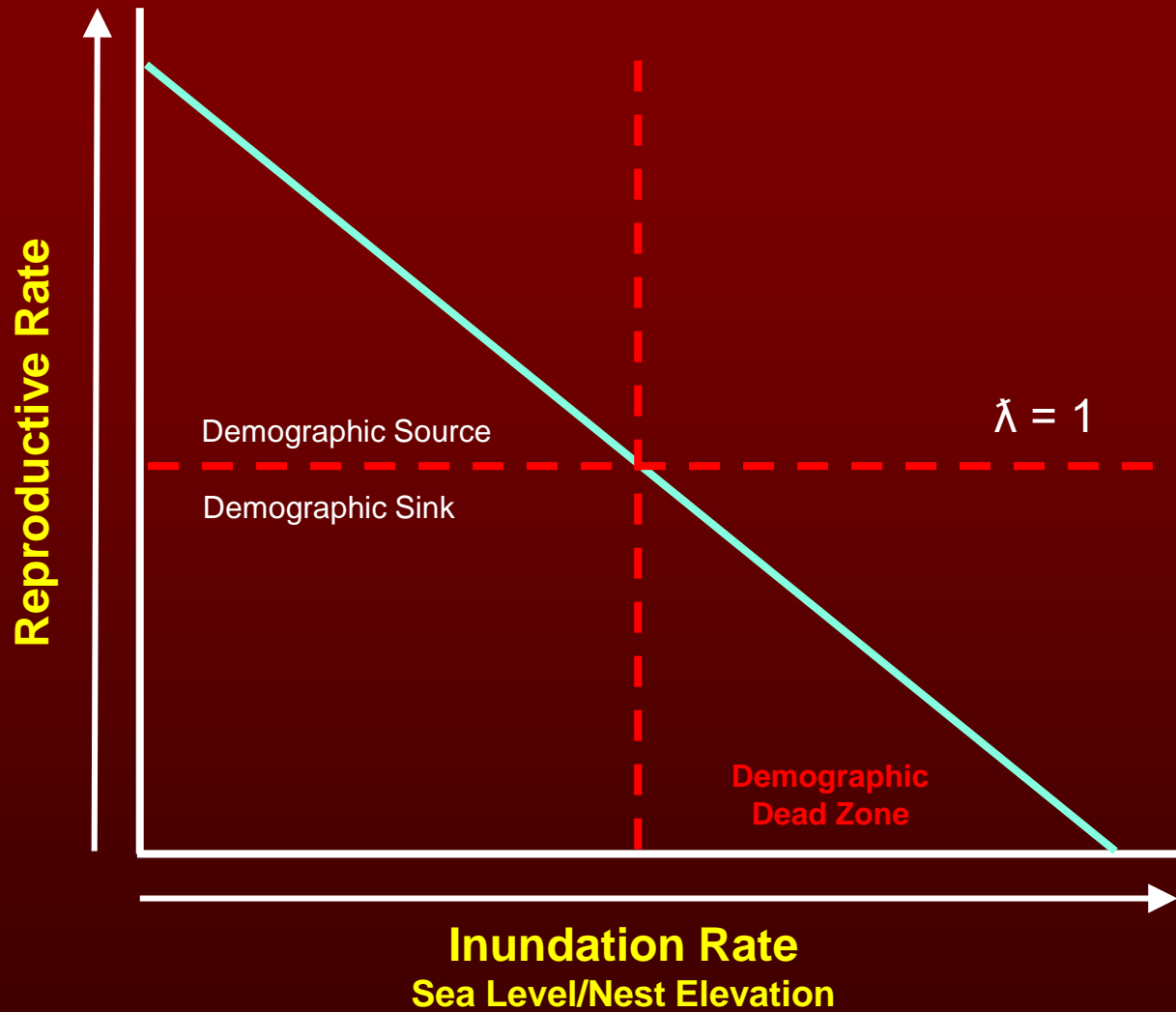
High Marsh squeeze



Inundation Frequency and Duration



Sea Level/Demographic Framework



**Why are some species
doing better?**

Clapper Rail



Seaside Sparrow





Comments

Significant marshlands

Marshes are changing

Impacting some birds

Why some and not others?

What can we do?