Audubon Salton Sea Bird Surveys

Estudios de aves en la Laguna Salton Sea

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APRIL/ ABRIL 2022

Photo: Marcelle Shoop

PACIFIC FLYWAY

CORREDOR MIGRATORIO DEL PACÍFICO

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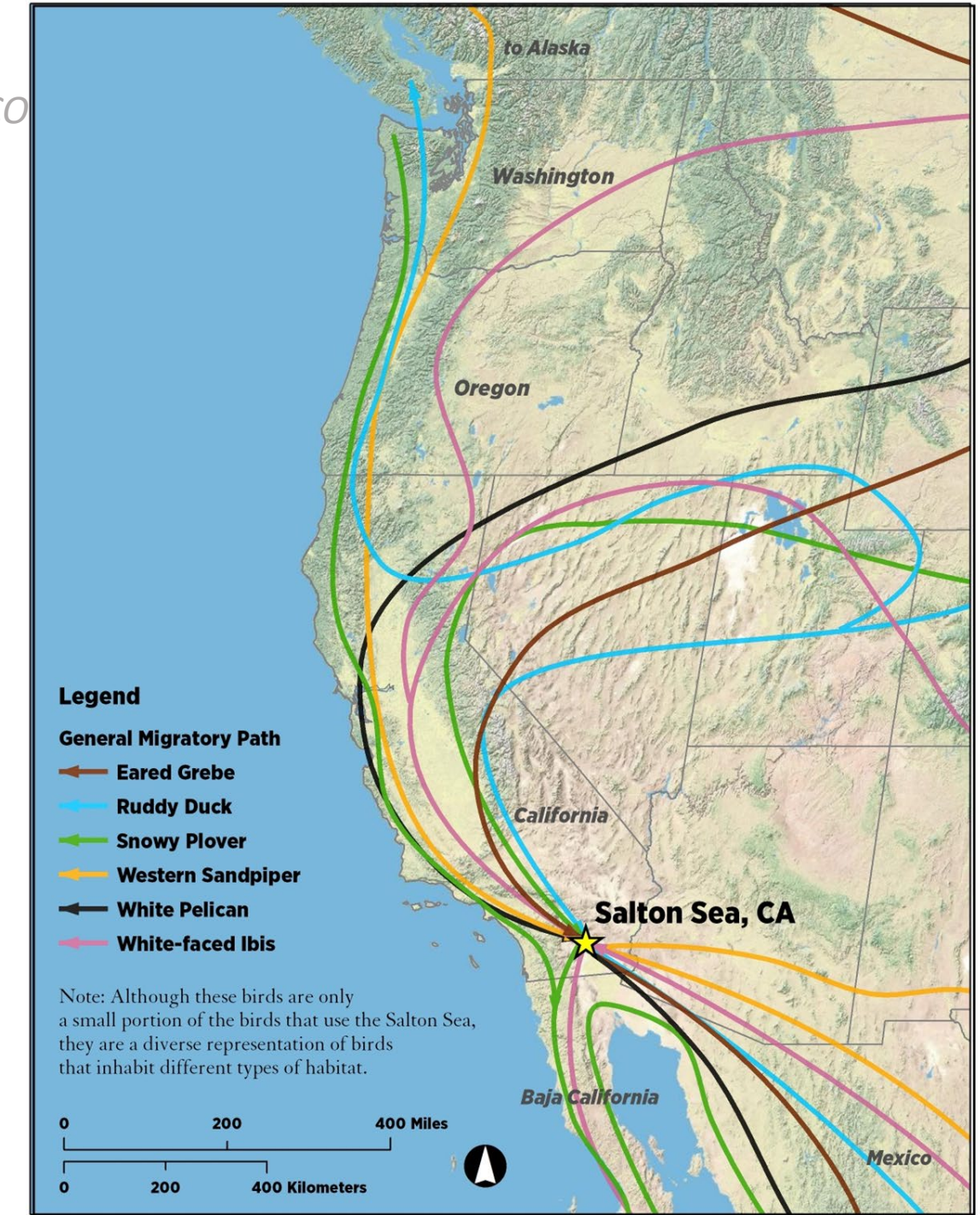

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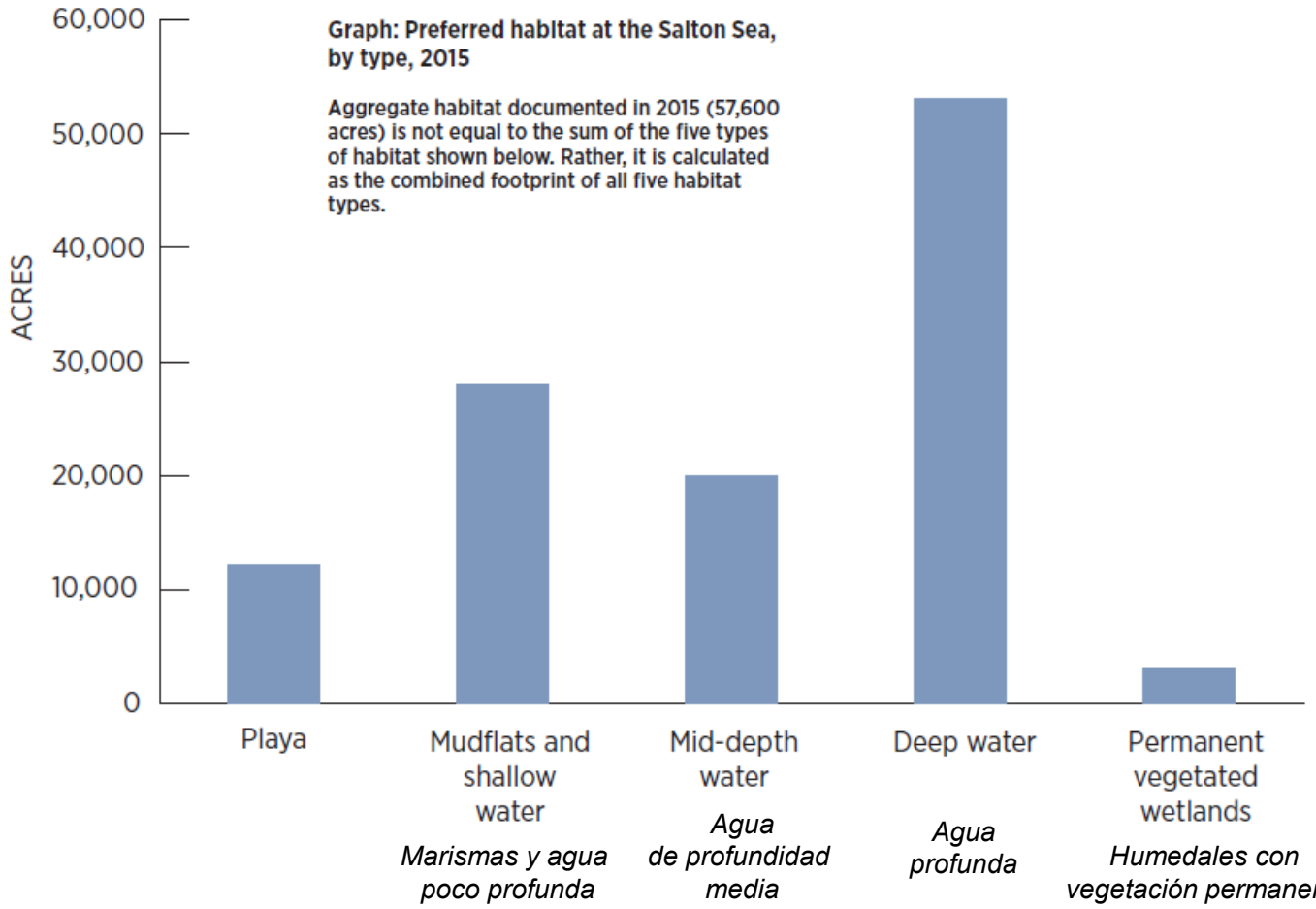
Birds used approximately 57,600 acres of habitat in both 1999 and 2015

Las aves utilizaron aproximadamente 57,600 acres de hábitat *en 1999 y 2015.*



Mudflats and Shallow Water

Marismas y agua poco profunda

Playa

Mid-Depth Water

Agua de profundidad media

Deep Water

Agua profunda

Permanent Vegetated Wetlands

Humedales con vegetación permanente

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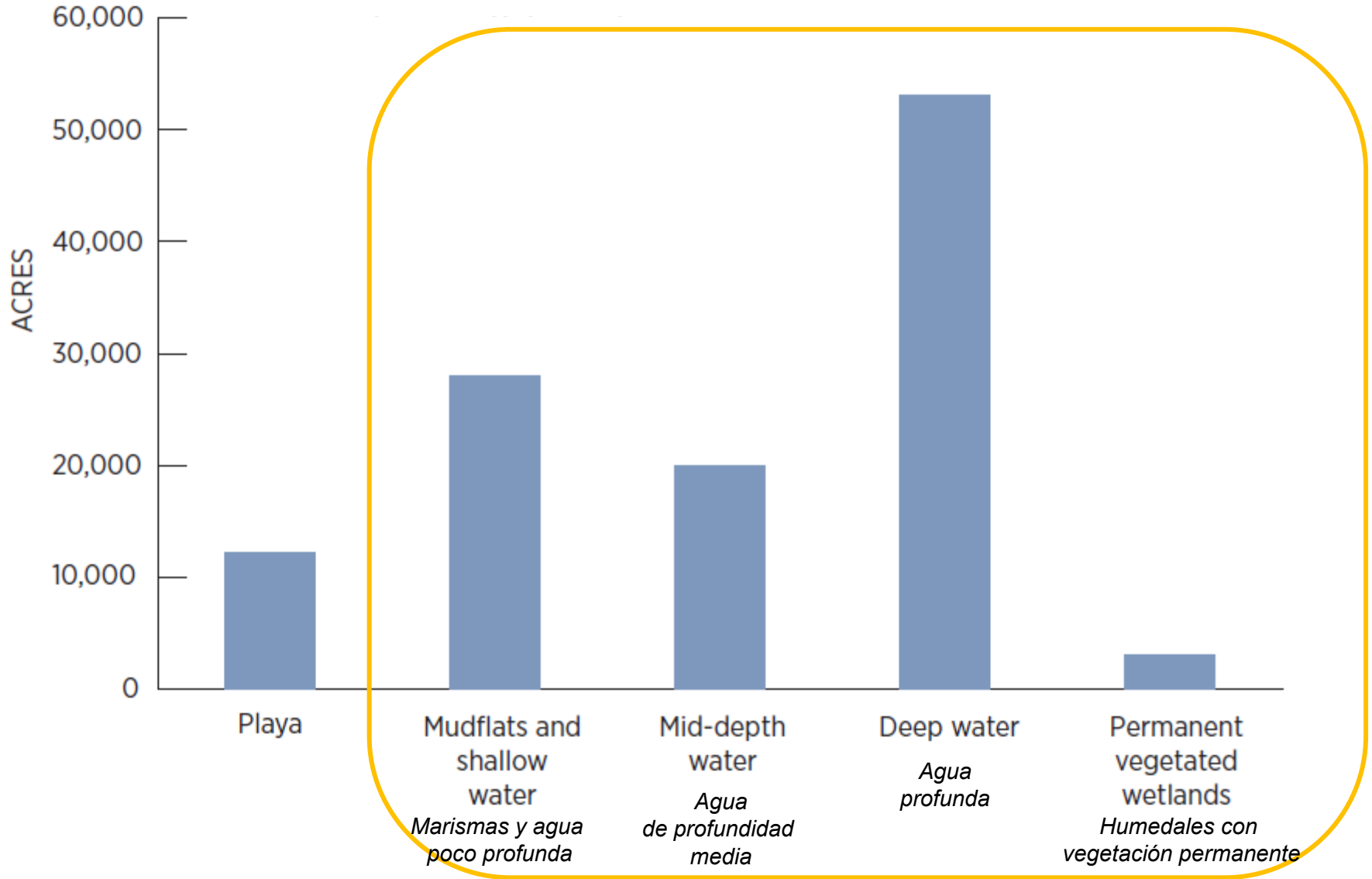
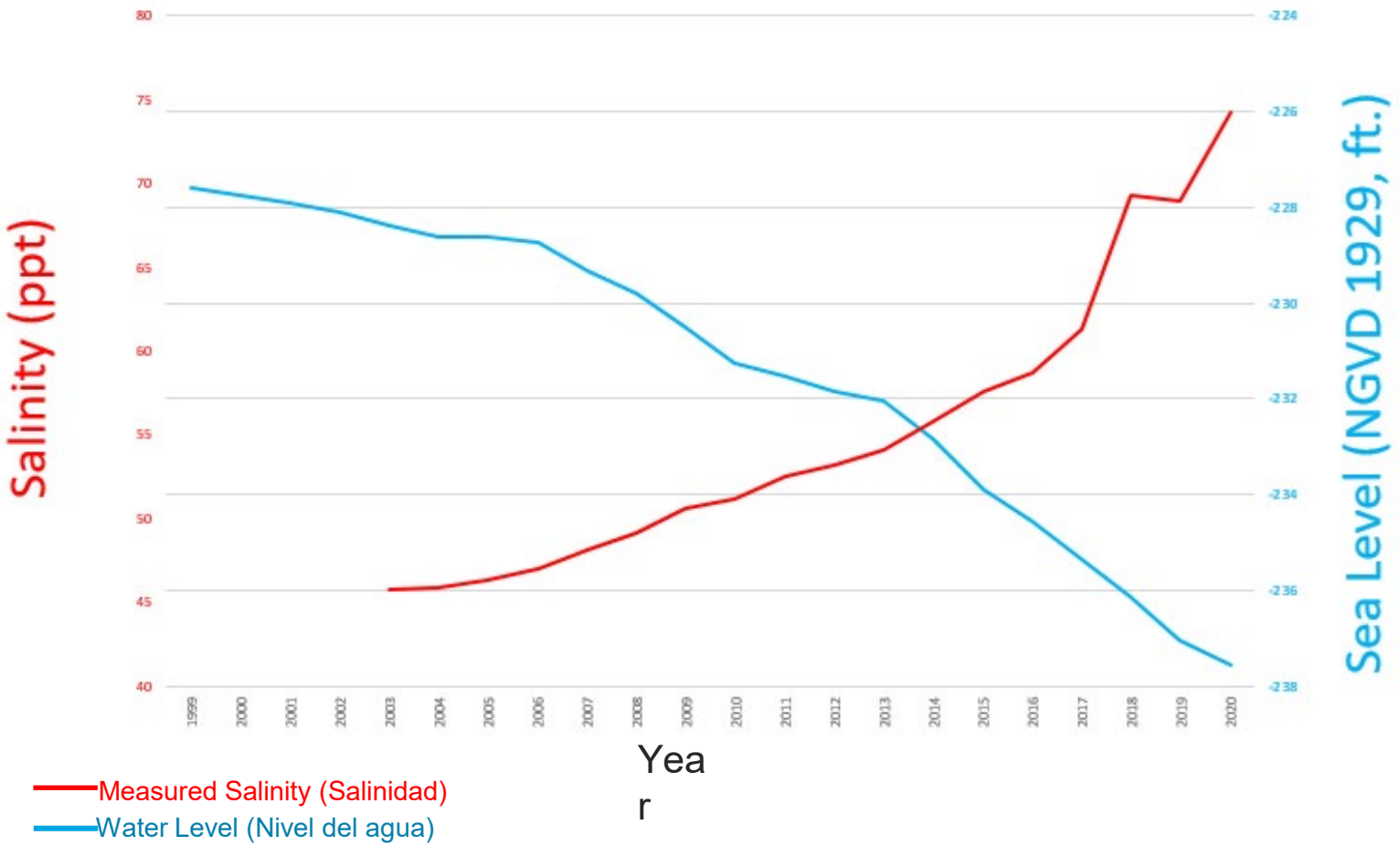
These habitat types also control dust

Estos tipos de hábitat también controlan el polvo



WATER LEVEL AND SALINITY
NIVEL DE AGUA Y SALINIDAD



Steady decrease in water level

- Can change habitat availability
- Rising Salinity
  - Impacts habitat
  - Impacts available food

Disminución constante del nivel del agua

- *Cambios en disponibilidad del hábitat*
- *Salinidad creciente*
  - *Impactos en el hábitat y en los alimentos disponibles*

(data from Bureau of Reclamation and USGS)

WATERBIRD SURVEYS, 2016 – PRESENT
ESTUDIOS DE AVES ACUÀTICAS, 2016-PRESENTE

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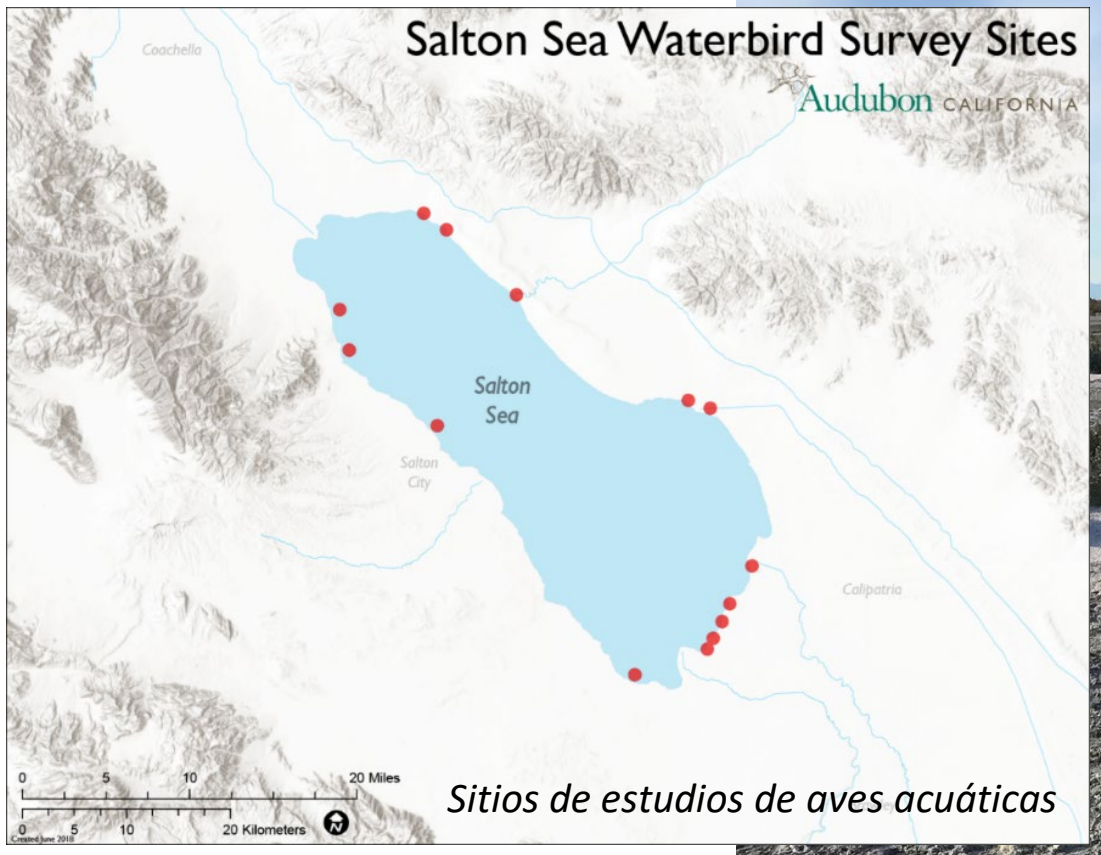
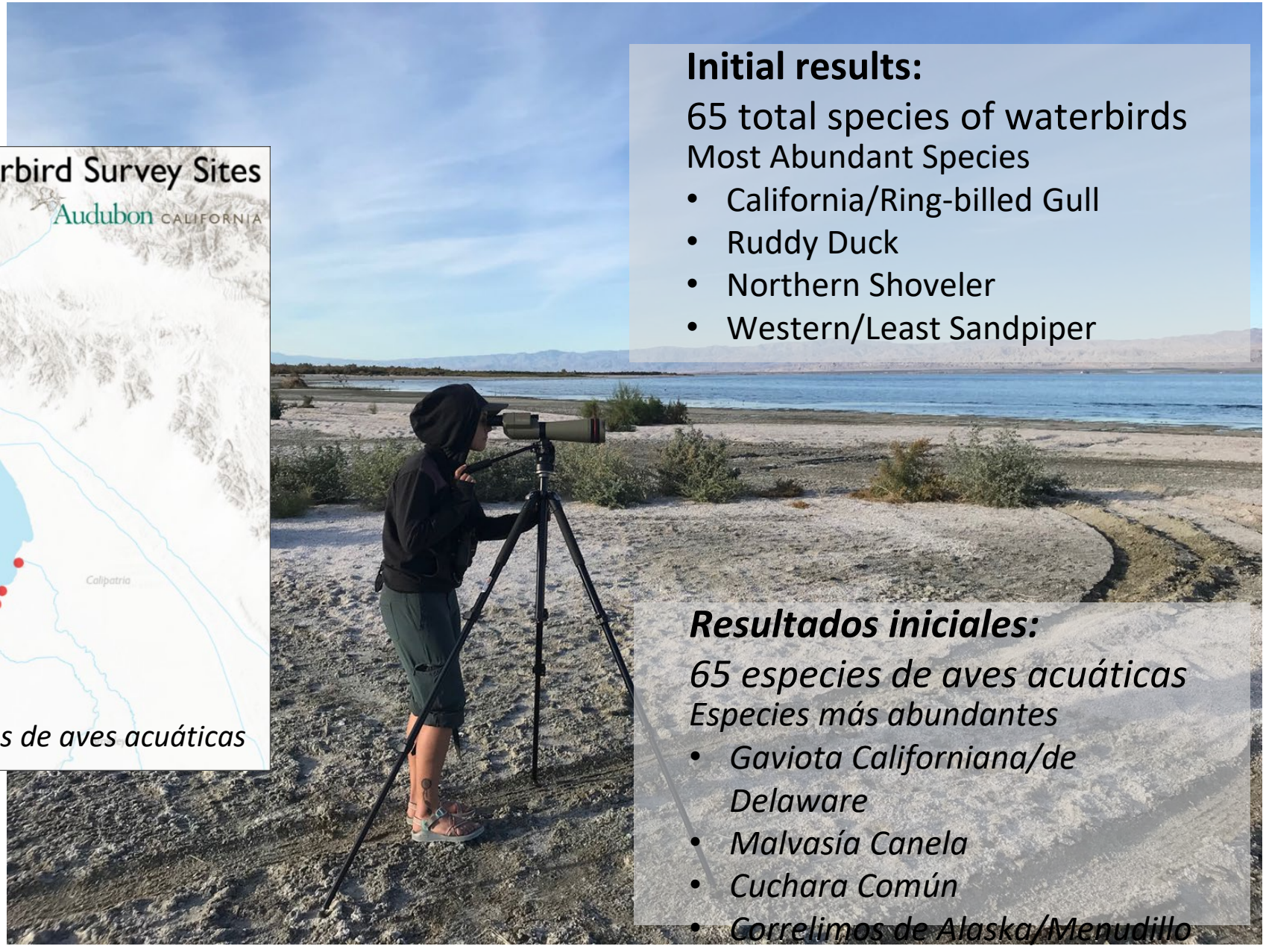


Sitios de estudios de aves acuáticas



Initial results:

65 total species of waterbirds

Most Abundant Species

- California/Ring-billed Gull
- Ruddy Duck
- Northern Shoveler
- Western/Least Sandpiper

Resultados iniciales:

65 especies de aves acuáticas

Especies más abundantes

- *Gaviota Californiana/de Delaware*
- *Malvasía Canela*
- *Cuchara Común*
- *Correlimos de Alaska/Menudillo*

EYES ON THE SEA
OJOS EN LA LAGUNA SALTON SEA

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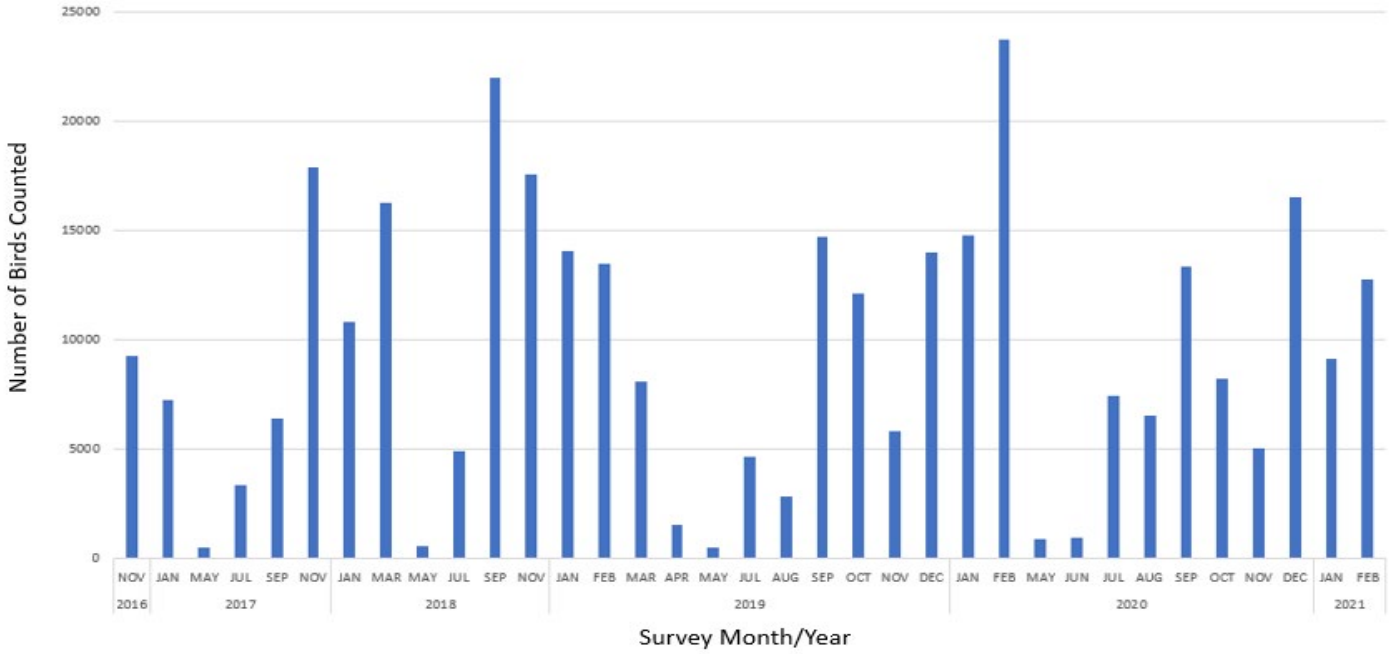
- Habitat changes
- Prey availability

- *Cambios en el hábitat*
- *Presas disponibles*

➢ Few fish eating birds/ *menos aves* piscívoros
(Higher Trophic Level)/ (nivel trófico superior)

➢ Many shorebirds/ más *aves playeras*
(Lower Trophic Level)/ (nivel trófico inferior)



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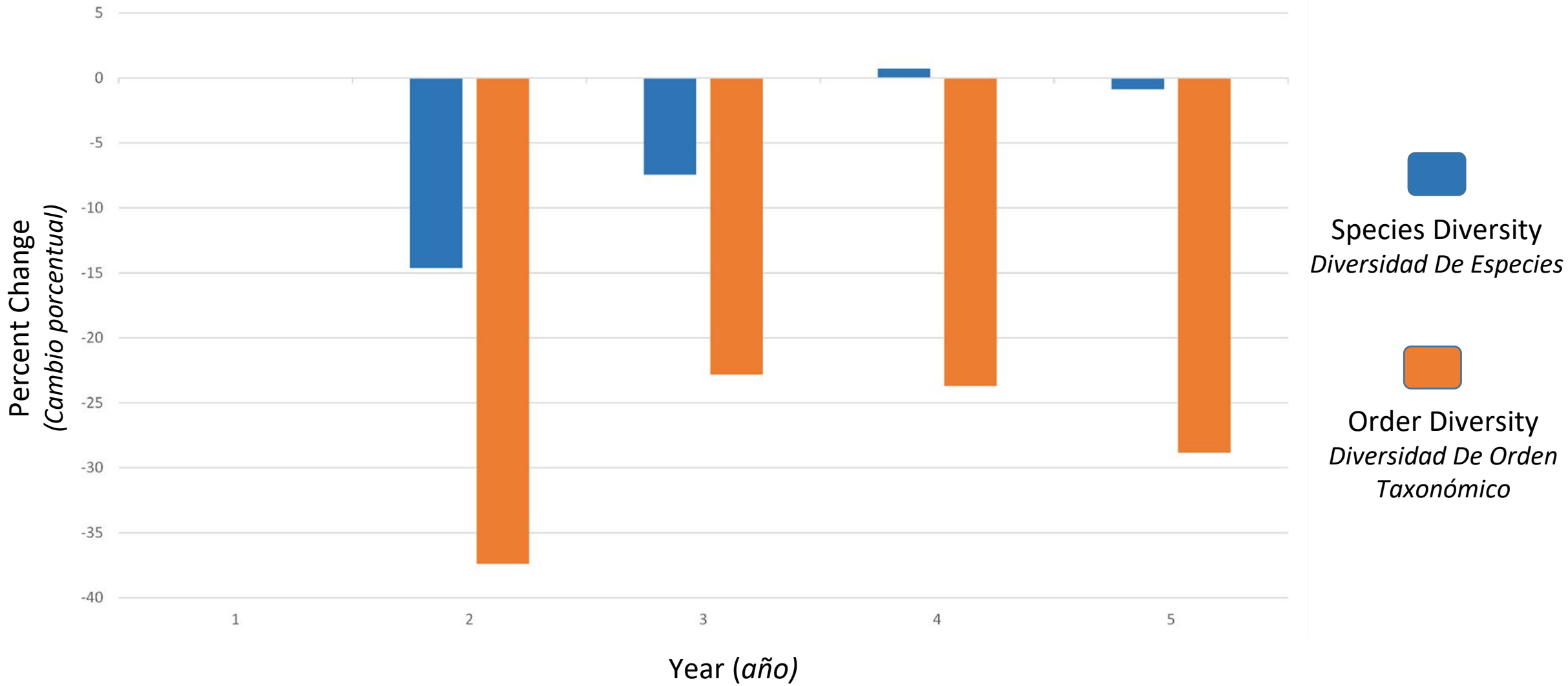
Percent Change in Species and Order Diversity at the Sea-Wide Scale

Cambio porcentual en la diversidad de especies y orden taxonómico a escala de Laguna



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Birds feeding lower on the food chain
Aves de nivel trófico inferiores

American Avocet
Avoceta Americana

Northern Shoveler
Cuchara Común

Least/Western Sandpiper
Correlimos de Alaska/Menudillo

Ruddy Duck
Malvasía Canela

- Appear to be stable or increasing based on five years of data
- *Parece estable o en aumento basándose en cinco años de datos*

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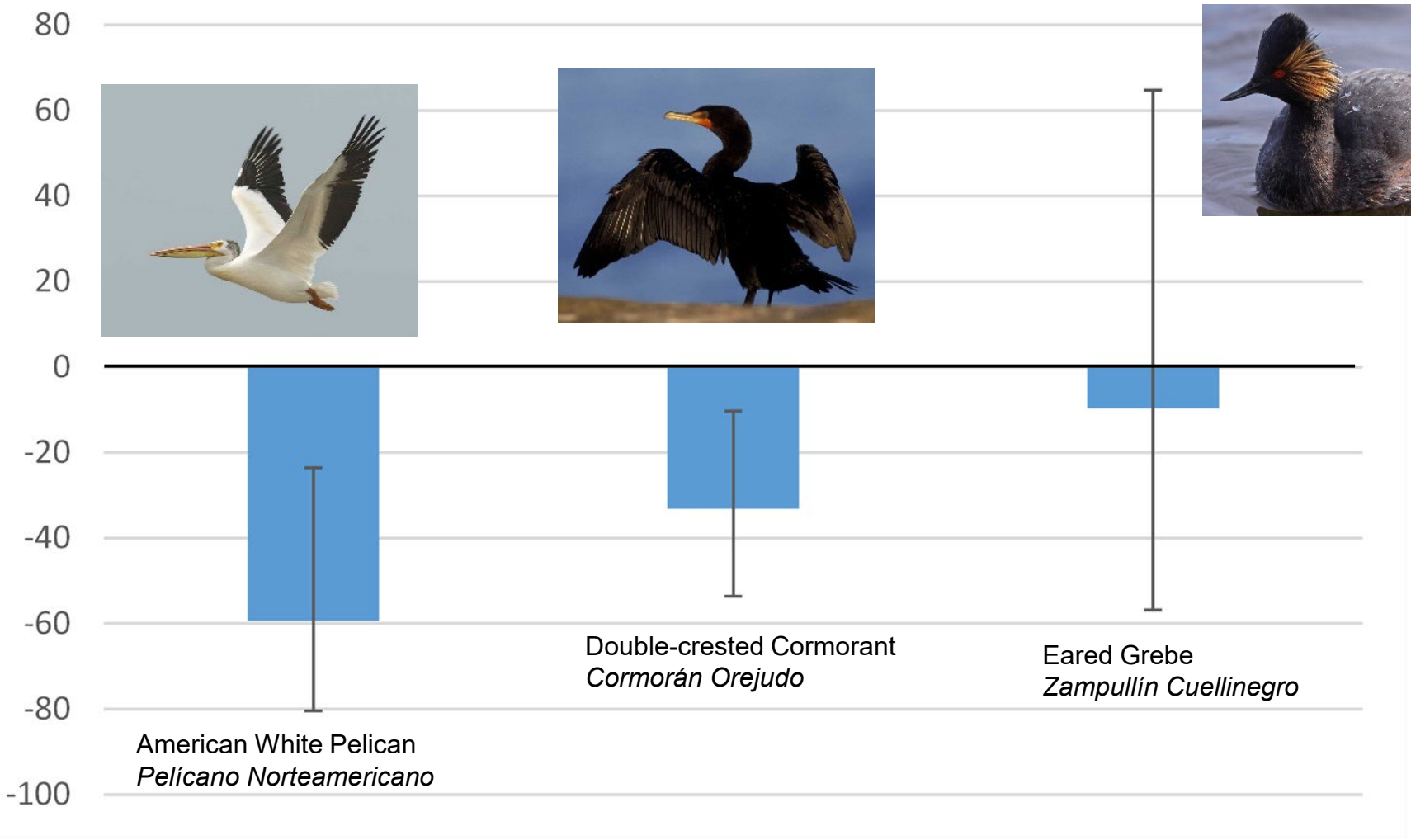
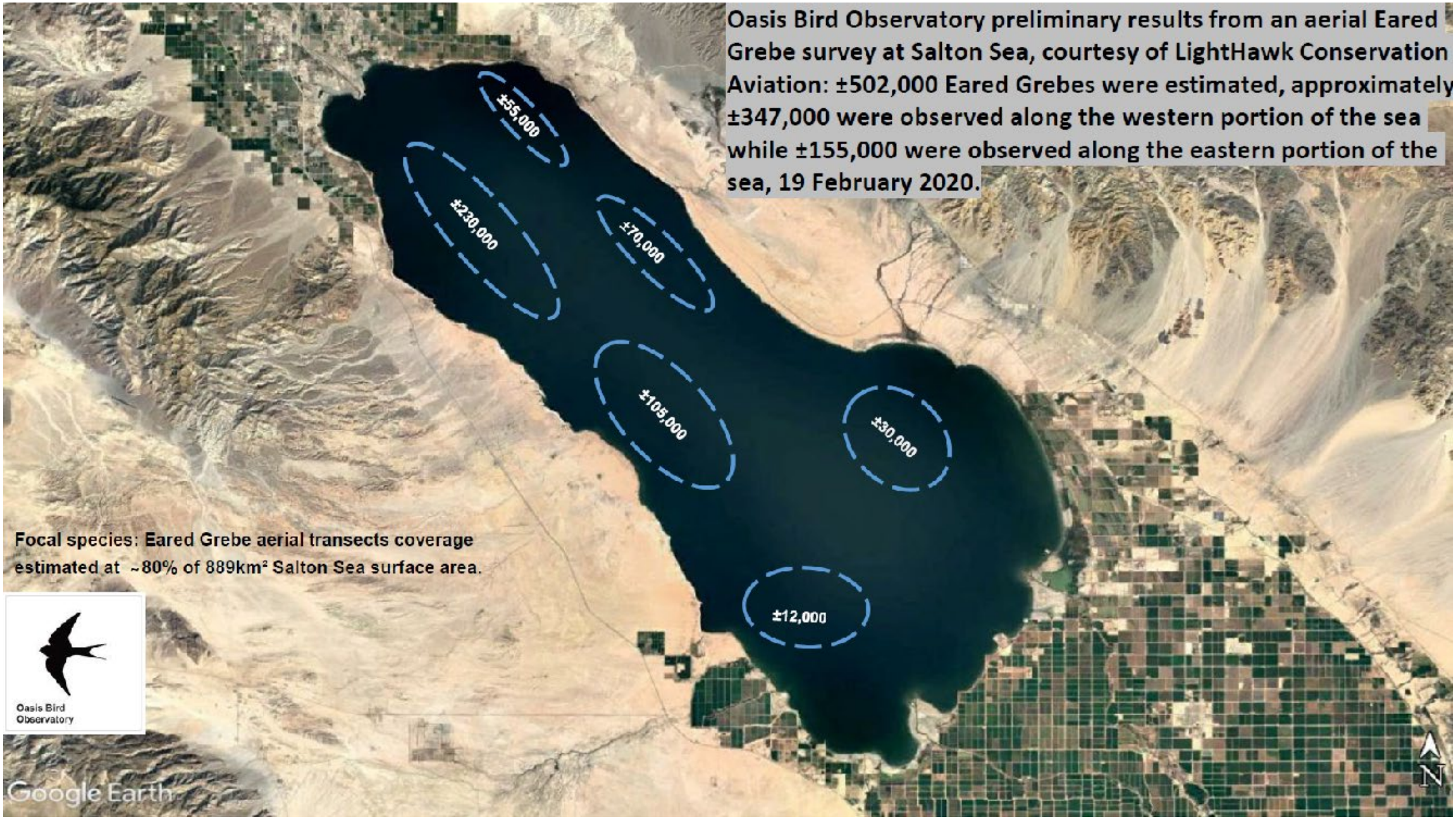
Decrease in birds feeding higher on the food chain

Disminución en aves de nivel trófico superiores

Statistically significant / Estadísticamente significativa



- Eared Grebe trends indicate reduction at site scale but not significant at Sea-Wide scale.
- *Tendencias del Zampullín Cuellinegro indican una reducción a escala del sitio, pero no significativa a escala de la Laguna.*


Oasis Bird Observatory preliminary results from an aerial Eared Grebe survey at Salton Sea, courtesy of LightHawk Conservation Aviation: ±502,000 Eared Grebes were estimated, approximately ±347,000 were observed along the western portion of the sea while ±155,000 were observed along the eastern portion of the sea, 19 February 2020.
±55,000
±230,000
±70,000
±105,000
±30,000
±12,000
Focal species: Eared Grebe aerial transects coverage estimated at ~80% of 889km² Salton Sea surface area.
Oasis Bird Observatory
Google Earth
N

Corroborated by longer term trends from CDFW aerial surveys

Corroborado por tendencias a largo plazo parte de estudios realizados por el estado

Georgia Wilson / Great Backyard Bird Count;

Photo: Matt Filosa/Audubon Photography

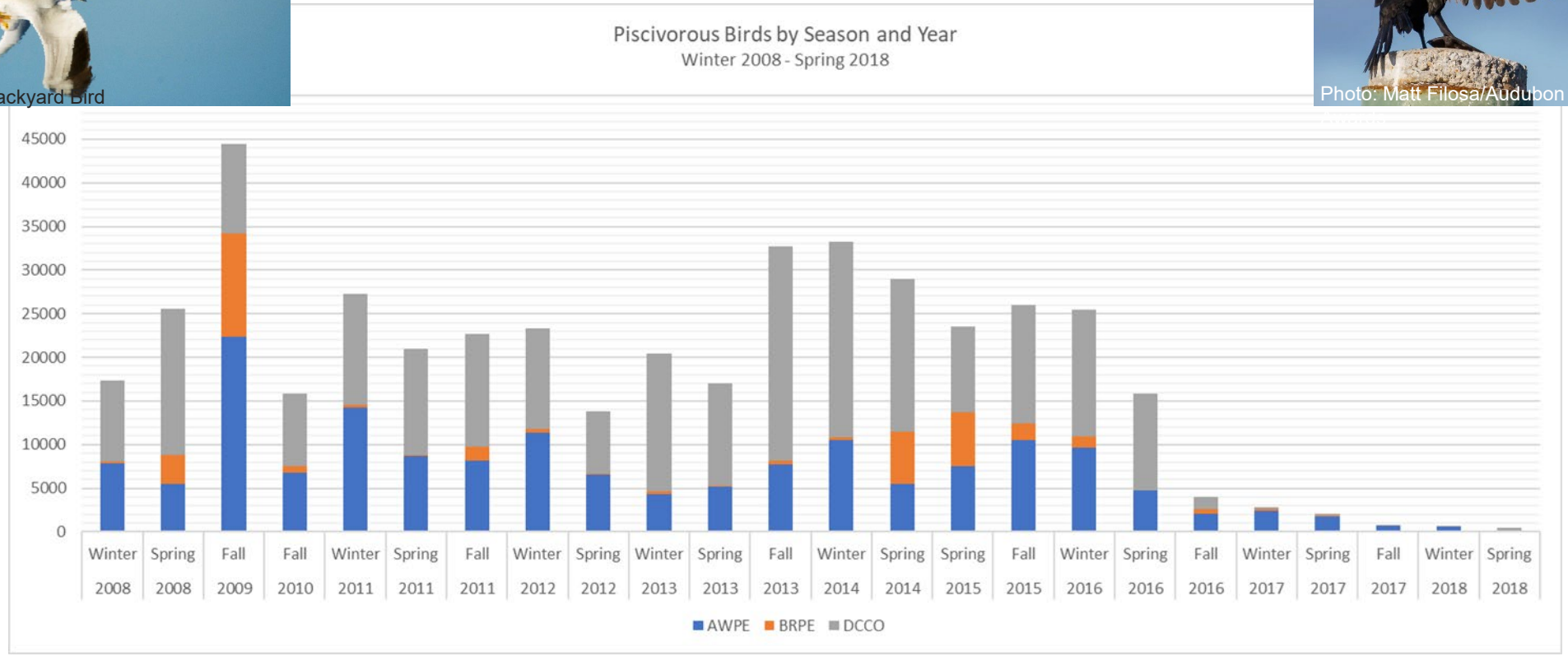
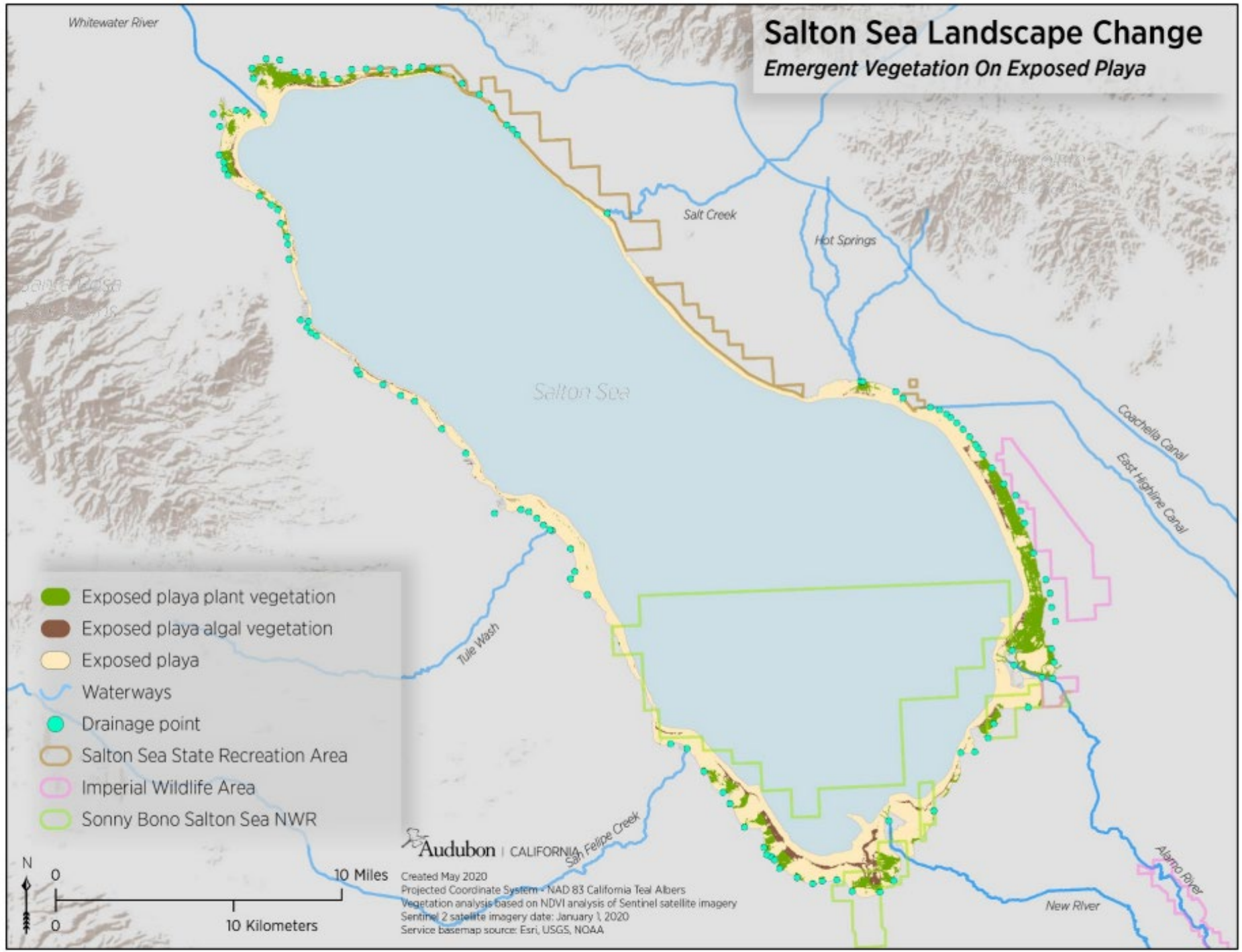


Figure courtesy of California Department of Fish and Wildlife


Salton Sea Landscape Change
Emergent Vegetation On Exposed Playa
Whitewater River
Salt Creek
Hot Springs
Salton Sea
Coachella Canal
East Highline Canal
Tule Wash
San Felipe Creek
Alamo River
New River
Exposed playa plant vegetation
Exposed playa algal vegetation
Exposed playa
Waterways
Drainage point
Salton Sea State Recreation Area
Imperial Wildlife Area
Sonny Bono Salton Sea NWR
N
0
10 Miles
0
10 Kilometers
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Created May 2020
Projected Coordinate System - NAD 83 California Teal Albers
Vegetation analysis based on NDVI analysis of Sentinel satellite imagery
Sentinel 2 satellite imagery date: January 1, 2020
Service basemap source: Esri, USGS, NOAA

Summary Results
Resumen de resultados

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- Variability in salinity across the Sea and within the year
- Dissolved oxygen declining
- >90% of invertebrate samples are *Trichocorixa reticulata (water boatman)*
- Total number of waterbirds not declining but species composition shifting
- Species diversity has changed at a site level but not sea-wide
- Loss of many fish-eating birds
- Return of some species – Eared Grebe
- **Emergent wetlands provide valuable habitat for waterbirds**

18 January 2018, Salt Creek outflow. R. McKernan. OBO

- *Variabilidad en salinidad a lo largo del año en la Laguna*
- *Oxígeno disuelto está disminuyendo*
- *Más de 90% de las muestras de invertebrados son Trichocorixa reticulata (water boatman)*
- *El número total de aves acuáticas no está disminuyendo, sino que la composición de la especie está cambiando.*
- *Diversidad de especies ha cambiado a nivel del sitio, pero no en escala de la Laguna.*
- *Pérdida de muchas aves piscívoros*
- *Retorno de unos especies- Zampullín Cuellinegro*
- ***Humedales emergentes proporcionan un hábitat valioso para las aves acuáticas***

Questions? ¿Preguntas?

https://ca.audubon.org/salton-sea

Credit: Tara Tanaka/Audubon Photography