

Presented by: Megan Flaherty, Restoration Program Manager
Presented to: Pacific Fishery Management Council
November 5, 2018

Agenda Item E.5.b
Supplemental Public Presentation1
November 2018

San Diego Audubon: A Legacy of Protecting CA Least Terns and Other Seabirds Reliant on Northern Anchovy



CA Least Tern with fish. Photo by B. Struck.



Fostering the protection and appreciation of birds, other wildlife, and their habitats...

Presentation Outline

- Introduction to San Diego Audubon Society (SDAS)
- Conservation of the CA Least Tern in Mission Bay
- Importance of Anchovy
- Asks of the PFMC



California Least Tern. Photo: W. Dalton



Fostering the protection and appreciation of birds, other wildlife, and their habitats...

Intro to SDAS: Mission and Vision

- Foster the protection and appreciation of birds, other wildlife, and their habitats
- Inspire a culture of conservation where people appreciate, understand, and actively protect the natural world



California Least Tern, with eggs. Photo: N. Johnston



Fostering the protection and appreciation of birds, other wildlife, and their habitats...

About San Diego Audubon

- Programs:
 - Education
 - Sanctuaries
 - Outreach
 - Conservation



Volunteers clearing coastal dune habitat. Photo: SDAS



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California Least Tern (CLTE)

- *Sterna antillarum browni*
- Small, grey, migratory seabird
- Winter: Central America
Nest: CA Coast
- Forage for anchovies in lagoons, offshore water
- Foraging time = highly sensitive to predation



CA least tern in Mission Bay
Photo: B. Struck



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CLTE Conservation Status

- State and federally-listed endangered (1970)
- Nesting pairs/fledges avg:
 - 2000-2004: 400/125
 - 2005-2009: 200/14
 - 2010-2015: 197/57
- Threats: Human disturbance, veg cover, predation, food availability



California Least Tern feeding chick. Photo: S. Nelson-Embry



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Habitat Restoration

- Remove invasive weeds, install signs, repair fencing
- Benefits multiple species
- 1,000+ volunteers every year



Ternwatchers



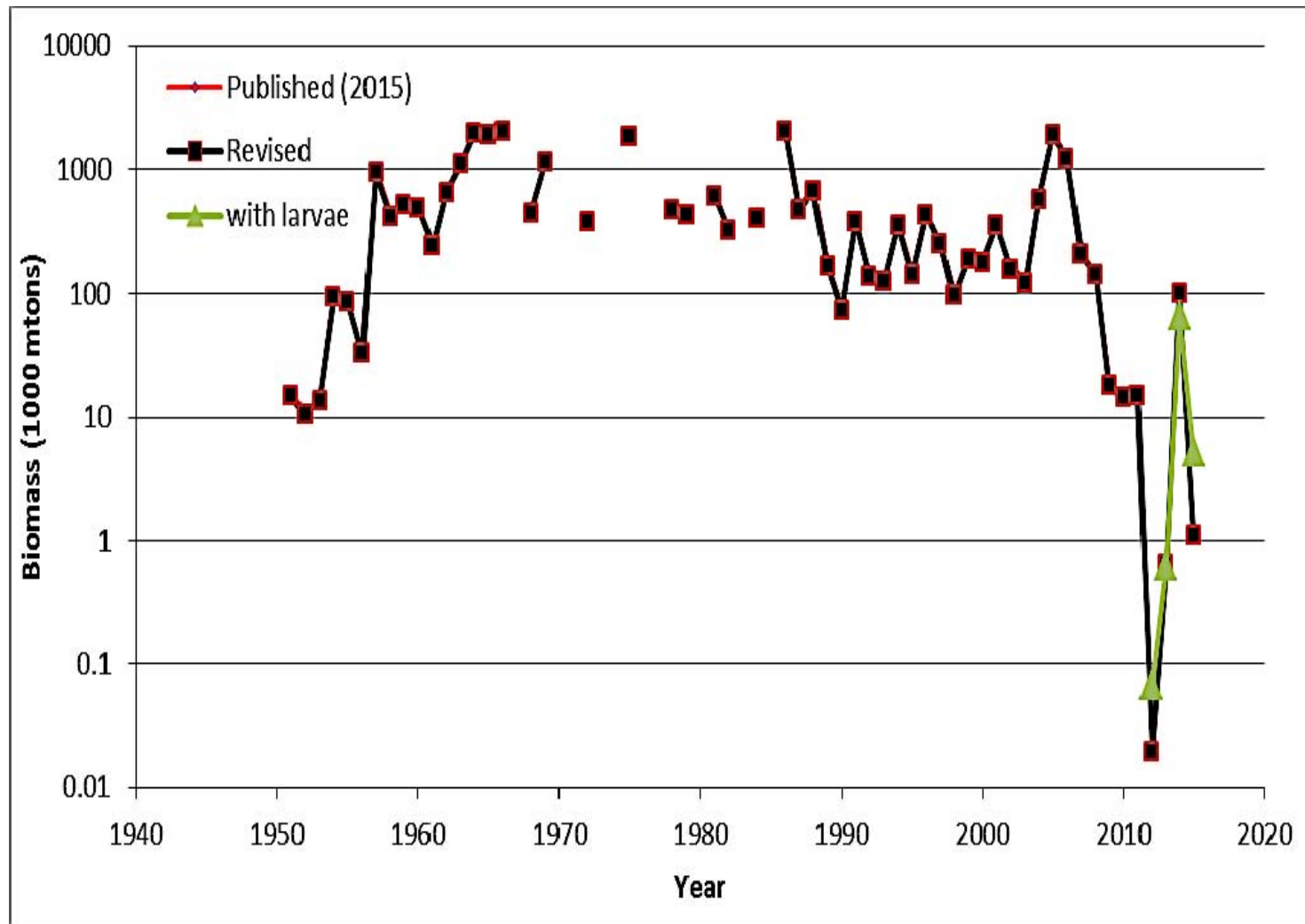
*SDAS staff and Ternwatcher volunteers at Mariner's Point.
Photo: Katie Schoolov*

- Volunteer predator monitoring program
- Record sightings of predators and contact predator control when needed
- Since kicking off in 2014, over 100 volunteers have donated nearly 2,000 hours



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Decline in Anchovy...



...Appears to be Affecting Nesting Productivity

- Point Blue Conservation Science - northern anchovy decreasing near CLTE colonies in Southern CA
- Switch to fish larva and less nutritious food sources
- Nesting productivity goes down



Least Tern feeding chick. Photo by S. Nelson-Embry

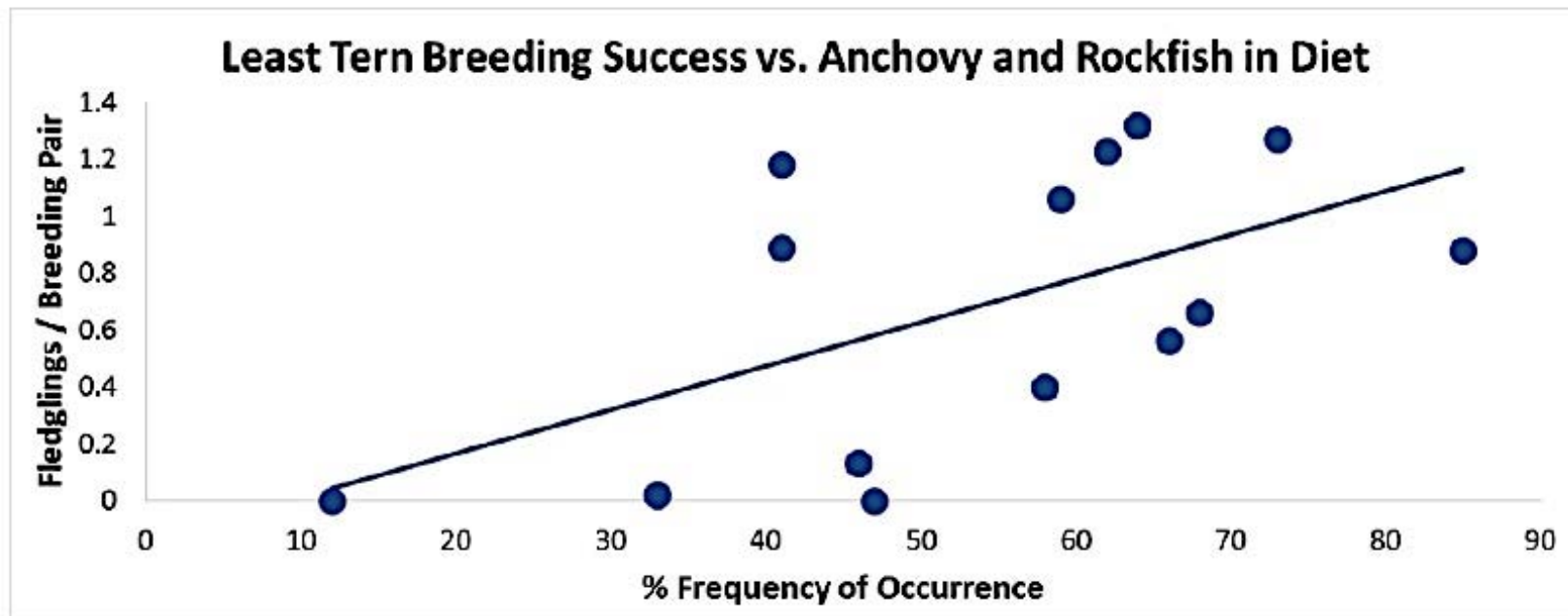


Figure 1. Significant relationship of least tern productivity with the presence of young-of-the-year (YOY) rockfish and age 1 anchovy in the diet in Central California. Figure provided by D. Robinette. Point Blue Conservation Science, 2017.

Need for Ecosystem-based Management

- **Eliminate the Monitored Stock category**
- Same features and updates as Active Stock
- Stock assessments
- Respond to fluctuations in population size
- Protect spawning areas
- Use science-based catch limits



Humpback Whale. Photo by: Anite Ritenour

Brown Pelican. Photo by John Menard.

