

Considering juvenile NP loggerheads in the eastern North Pacific

Cali Turner Tomaszewicz

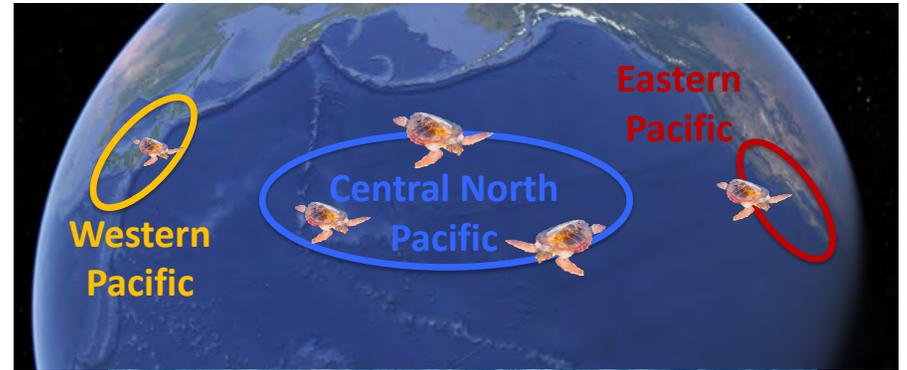
NOAA Fisheries, Southwest Fisheries Science Center
Jeffrey A. Seminoff, Erin LaCasella, et al.

Photo credit: NOAA

10 October 2025 *December 2025*

STRETCH 2025

Some juvenile loggerheads find their way to the eastern Pacific



STRETCH - 2023 turtles

STRETCH - 2024 turtles

On July 10, 2023, we released 25 juvenile loggerheads into the North Pacific Ocean.

Individuals were tracked between July 2023 - April 2024. You can see their completed movements on the map below!



On July 07, 2024, we released another 28 juvenile loggerheads into the North Pacific Ocean!

Track their movements on the map below. Dates and times are displayed in UTC format.

For each turtle, we have adopted names originating from the regions that share their conservation: Japan, Hawai'i, Mexico, and USA.



STRETCH - 2025 turtles

On July 08, 2025, we released another 28 juvenile loggerheads into the North Pacific Ocean!

Track their movements on the map below. Dates and times are displayed in UTC format.

For each turtle, we have adopted names originating from the regions that share their conservation: Japan, Hawai'i, Mexico, and USA.



Eastern Pacific

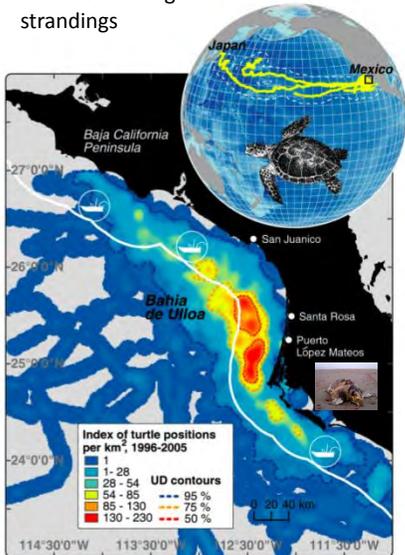
- Aerial surveys
- Boat surveys
- Sightings reports
- Stranding responses
- Satellite transmitters
- Tissue samples
 - Genetics
 - Stable isotopes
 - Skeletochronology

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Baja California Peninsula, Mexico

Habitat use and Bycatch impact

- satellite tracking
- strandings

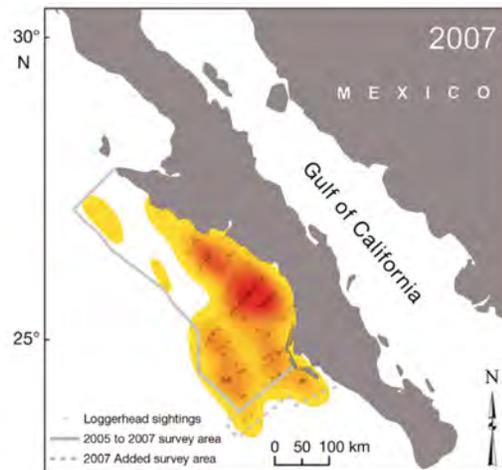


(Peckham et al. 2007)

Habitat use and Abundance

- aerial surveys

~ 43,000



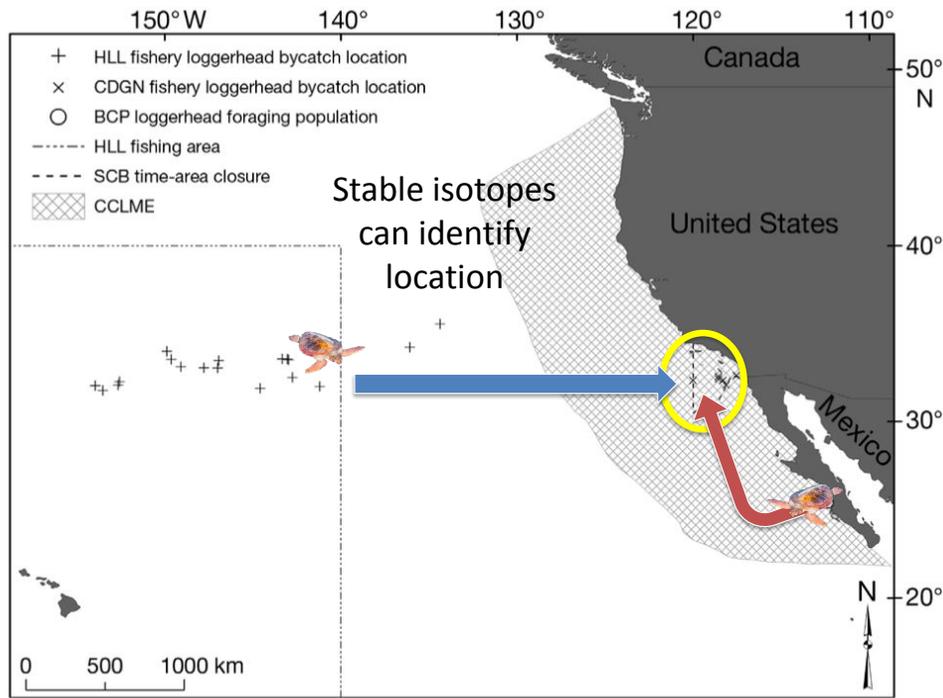
(Seminoff et al. 2014)

Southern California, USA

Comprehensive Large Array-data Stewardship Systems

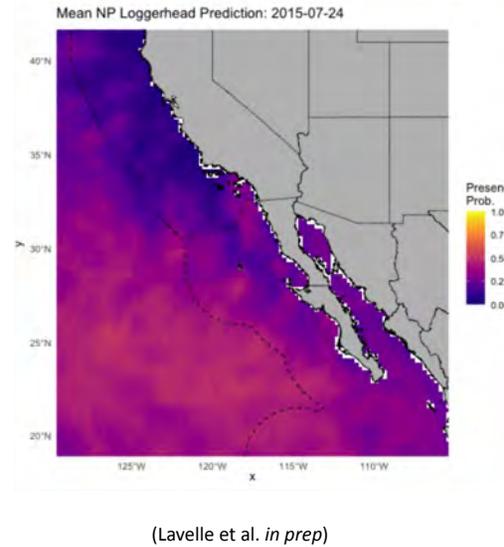
(Eguchi et al. 2018)

US West Coast



(Allen et al. 2013)

Species Distribution Models



Model inputs:

- Aerial surveys
- Boat surveys
- Sightings reports
- Stranding responses
- Satellite transmitters
 - as model validation
- Environmental conditions
 - Sea surface temperature
 - Current front strength
 - Eddies - and more

Community sightings

Stranding responses

Reports to NOAA Sea Turtle Survey <https://tinyurl.com/SeeASeaTurtle>

US West Coast Stranding Network [866-767-6114](tel:866-767-6114)



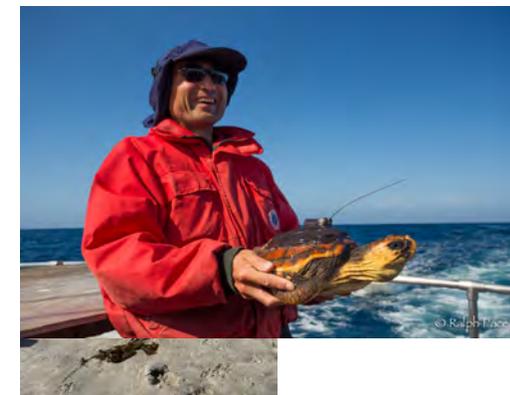
Date:
27 May 2023
Reported by:
L. L.
Location:
12km southwest of Dana Pt

Date:
14 September 2025
Reported by:
D. A.
Location:
Bolsa Chica Lagoon; CA

Date:
13 August 2023
Reported by:
D. L.
Location:
3-4 nm off Dana Harbor; CA

Since 2020, 29 total loggerheads stranded along US West Coast and Canada

- Size: 30 to 84 cm CCL
- 2020: 1 (OR)
- 2021: 3 (1 CA, 2 OR)
- 2022: 3 (1 CA, 2 OR)
- 2023: 6 (1 CA, 4 OR, 1 WA)
- 2024: 12 (4 CA, 4 OR, 2 WA, 2 British Columbia, Canada)
- 2025: 4 (2 CA, 1 OR, 1 WA)



Date:
1 January 2020
Location:
3-4 nm off Dana Harbor; CA

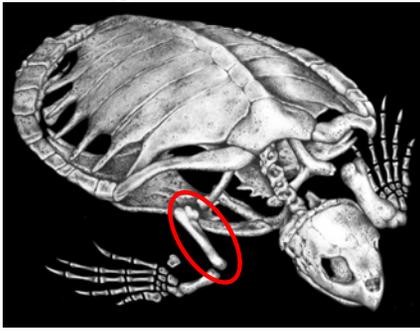
Demographics from dead turtles

- Age range in the eastern Pacific?
- Age-at-maturation?
- Residency duration?
- survivorship implications

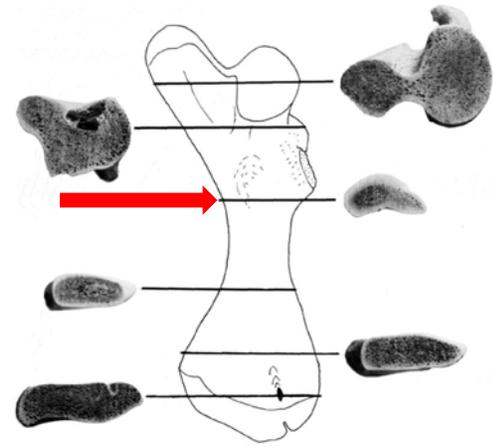


C. Turner Tomaszewicz

Skeletochronology: Age estimated from growth rings

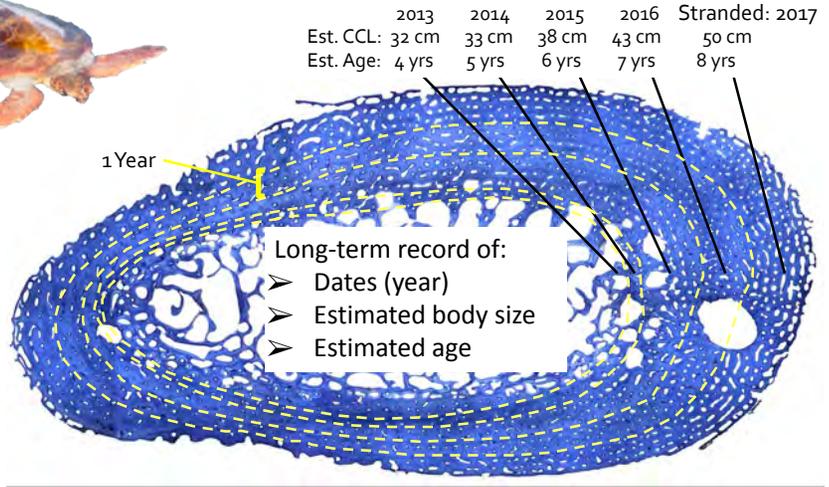


"Mattox (1936) was the first to recognize the potential of bone growth rings or marks as a means of aging turtles..."
Zug et al. 1986



Zug et al. 1986

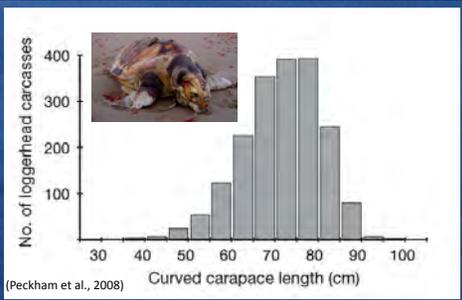
Skeletochronology: Age estimated from growth rings



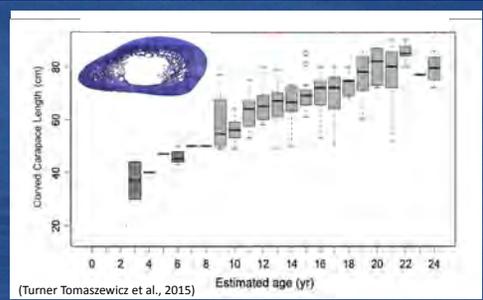
Long-term record of:
 ➤ Dates (year)
 ➤ Estimated body size
 ➤ Estimated age

Backcalculate size (Snover et al. 2007); Estimate Age (Avens et al. 2012)

Size: ~30 to 90 cm CCL



Age: ~3 to 25 years



➔ Stage duration: >20 years
 Age-at-maturation: ~25 years

For turtles that forage in Baja

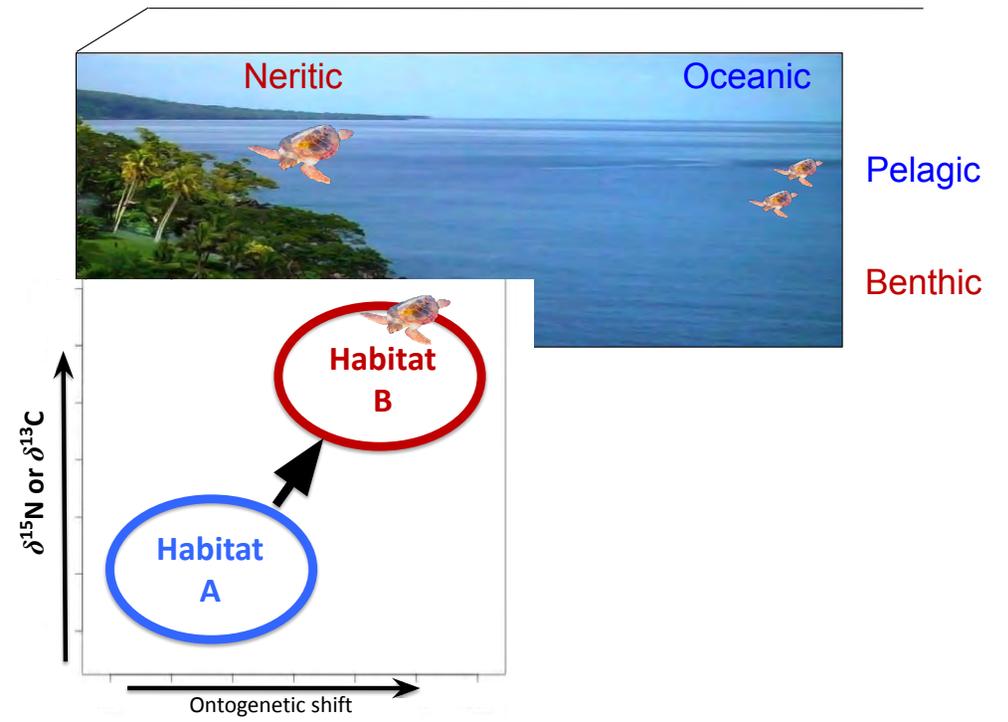
Photo credit: NOAA

(Turner Tomaszewicz et al., 2015 Bio Con)

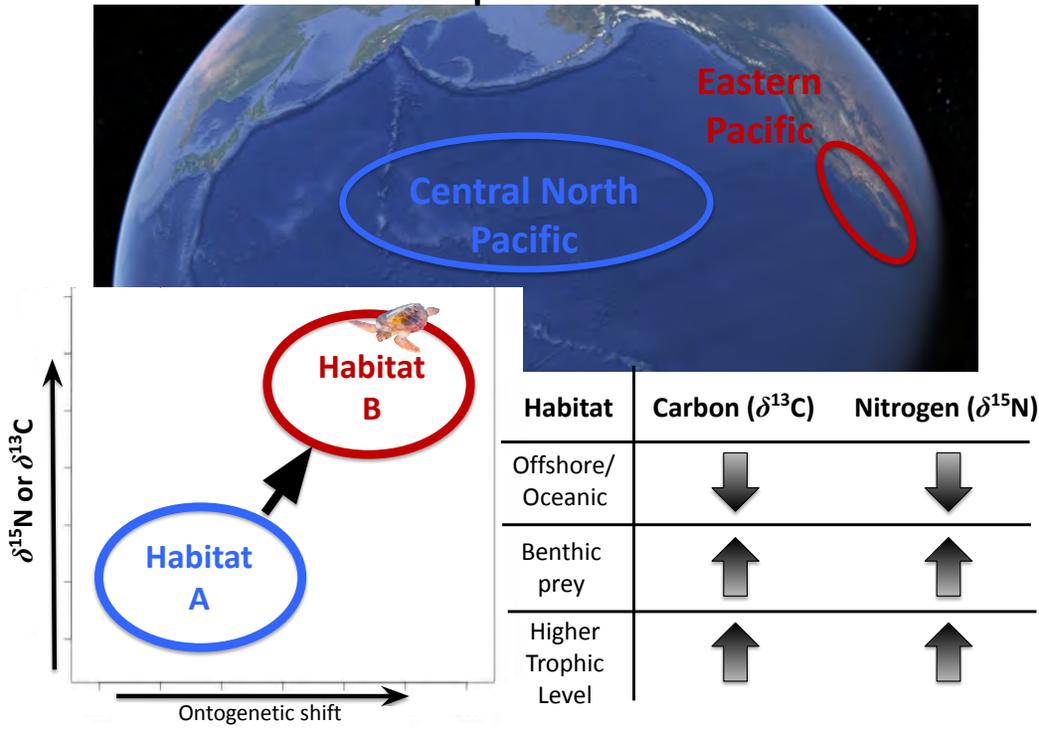
Skeletochronology = TIME
 LOCATION = ?



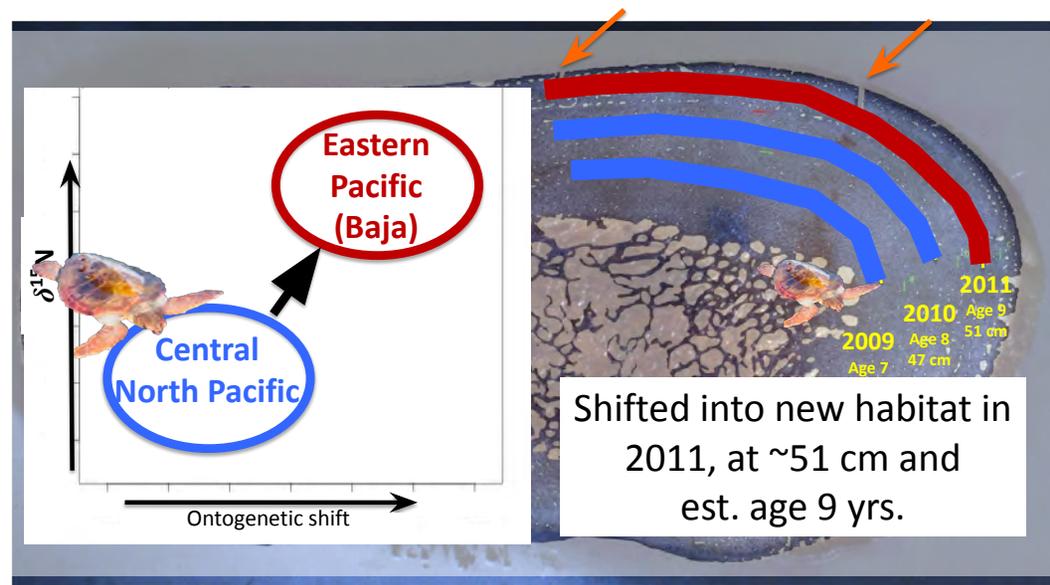
Stable Isotopes = LOCATION



Stable Isotopes = LOCATION



Skeletochronology + Stable Isotopes
 TIME in each LOCATION

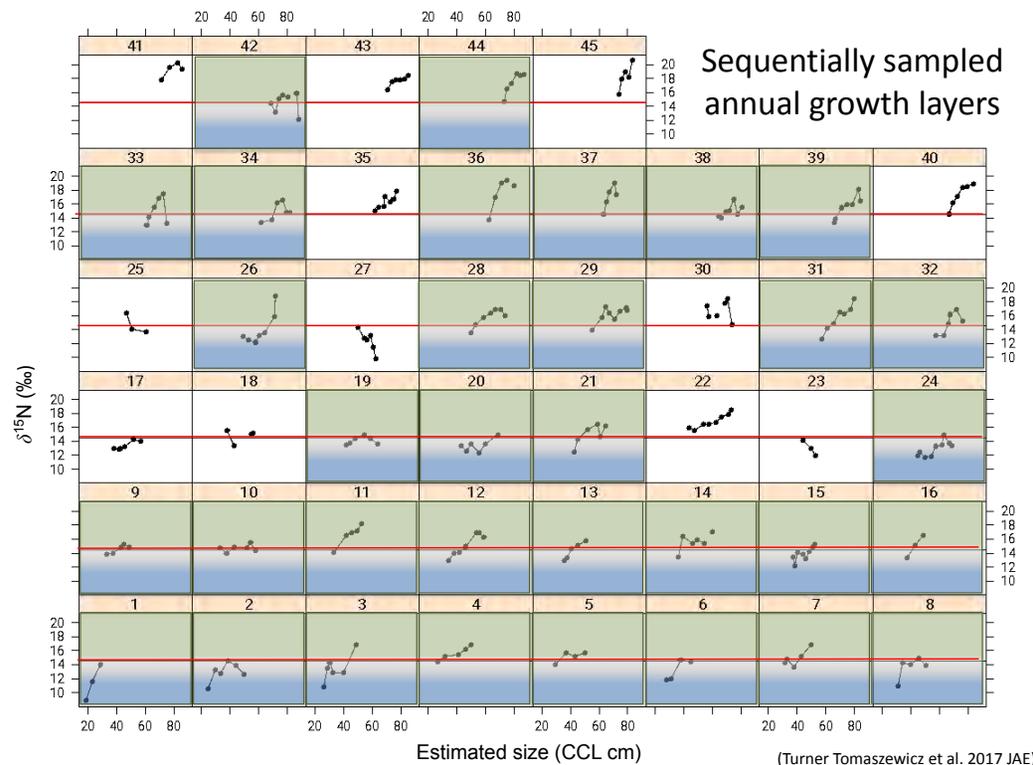
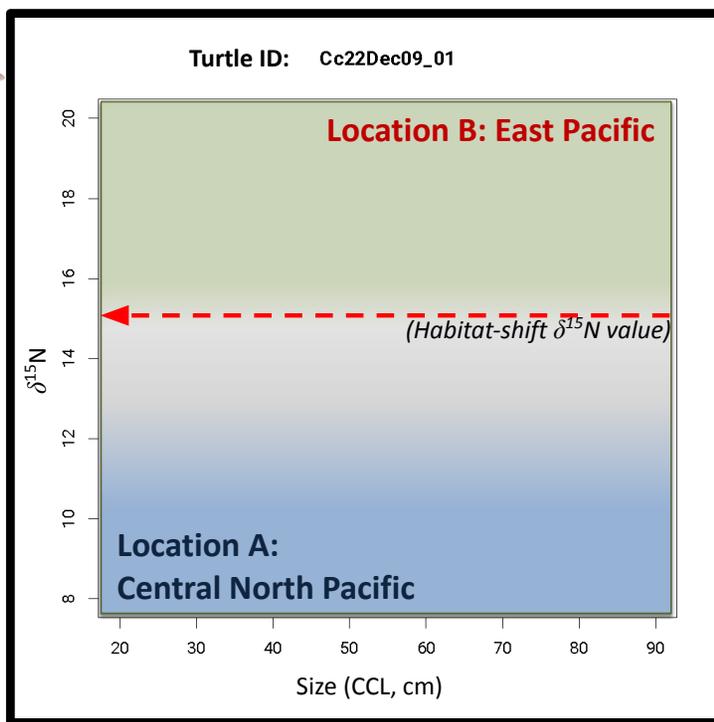


(Turner Tomaszewicz et al. 2015 RCMS; Turner Tomaszewicz et al. 2016 MEE; Turner Tomaszewicz et al. 2017 JAE)

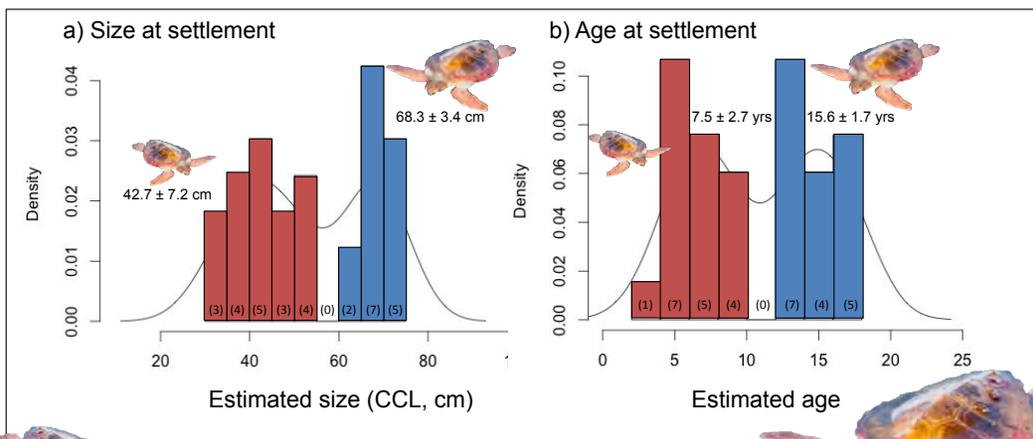


Recruitment to Baja:
~18 yrs,
70-75 cm CCL

(track from age 16 to 22 yrs old)



Recruitment timing



- 1) Small settlers shift ~43 cm and ~7 years
- 2) Large settlers shift ~69 cm and ~16 years

Demographics from dead turtles

- Ages 3 to 25 (sizes 30-90 cm CCL)
 - Estimated age-at-maturation (25+ yrs)
- Long residency duration (>20 yrs)
 - survivorship implications
- Some variability in recruitment timing
- This can improve survivorship of some turtles



Returning "home"



(Nichols, Seminoff et al. 2000)



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Thank you

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