

Northern Range Expansion of California Coastal Bottlenose Dolphins (*Tursiops truncatus*)

William Keener

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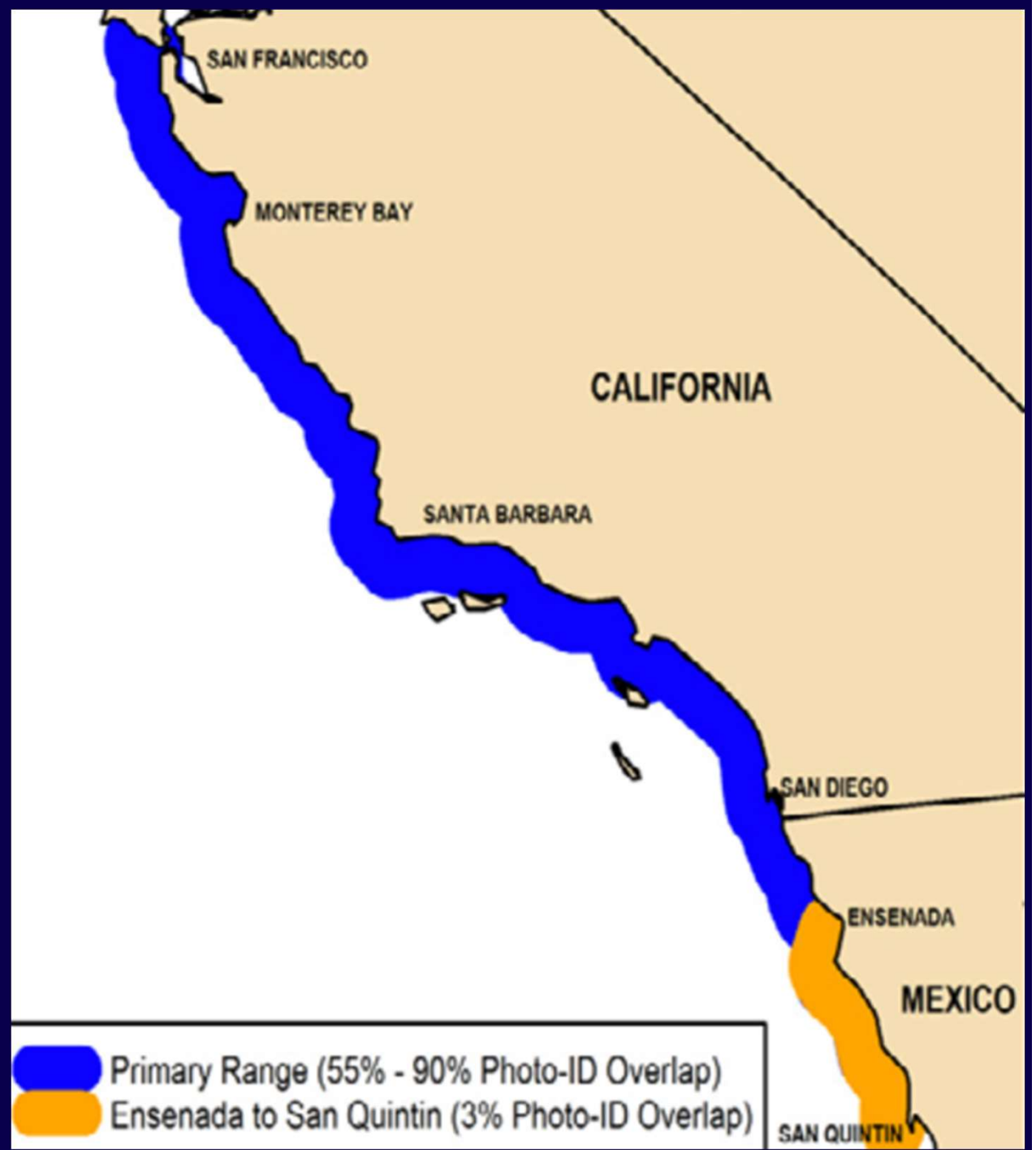
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California Coastal Bottlenose Dolphins

Stock population estimated at 650 (453 marked individuals)

NOAA
Stock Assessment
Report 2016



Northward range expansion from SoCal



Bottlenose dolphins in San Francisco Bay



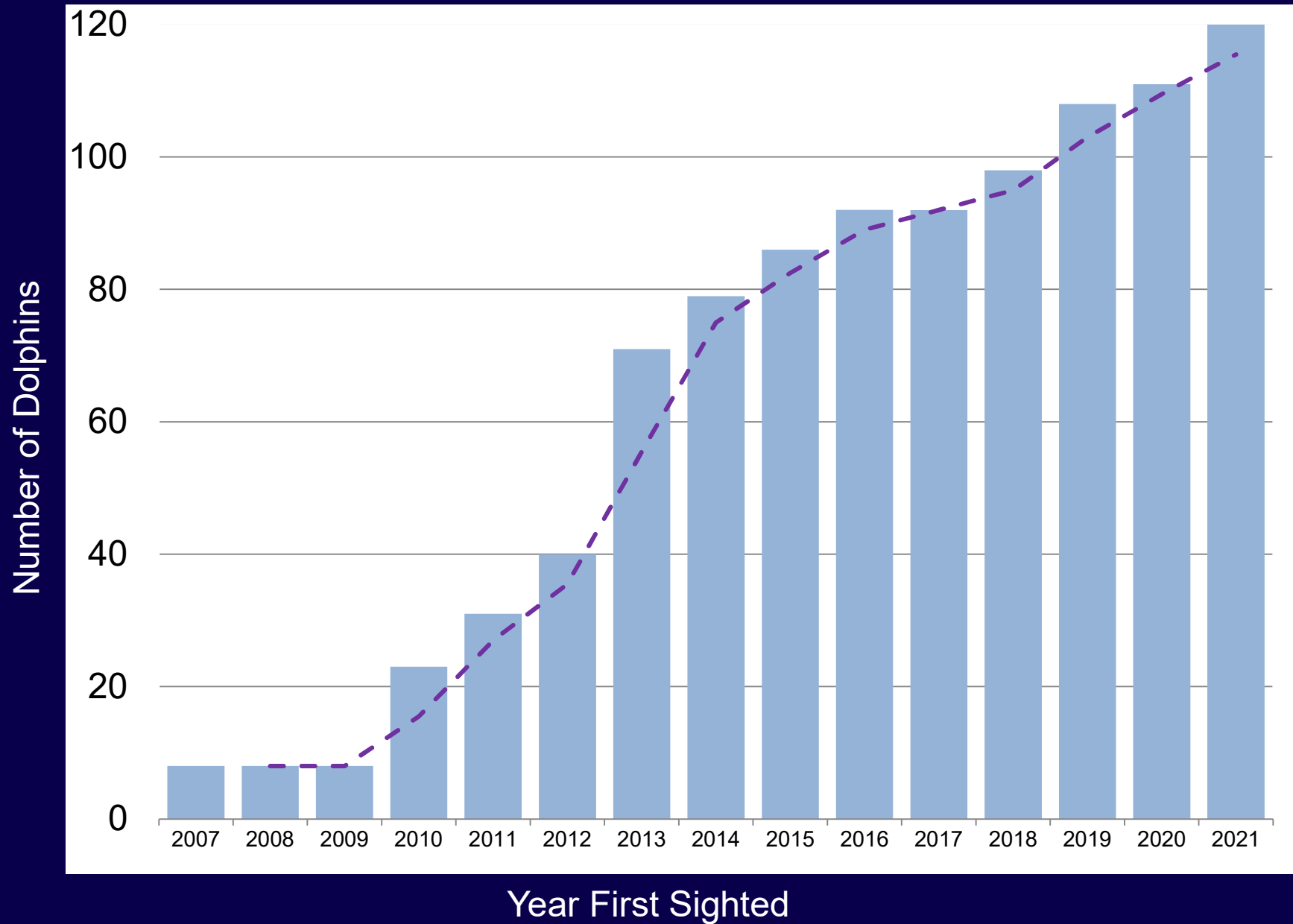
19 September 2017

TMMC Catalog = 120 Adults

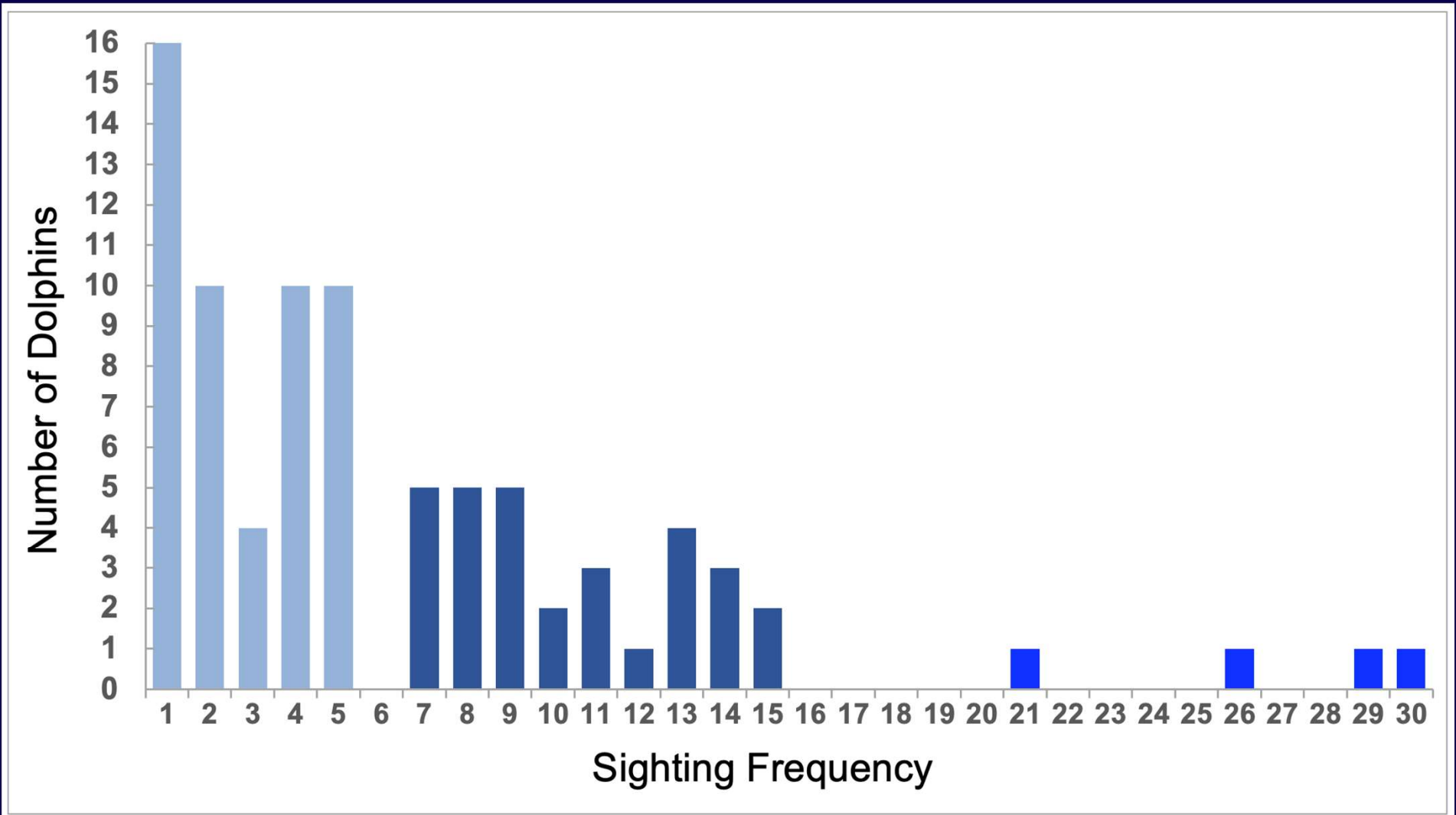


Bliss, a female first seen in San Diego in 1982

Discovery Curve of 120 Dolphins



Frequency of Individual SF Bay Area Dolphin Sightings



$n = 84$ Dolphins

Value of Citizen Scientist Contributions

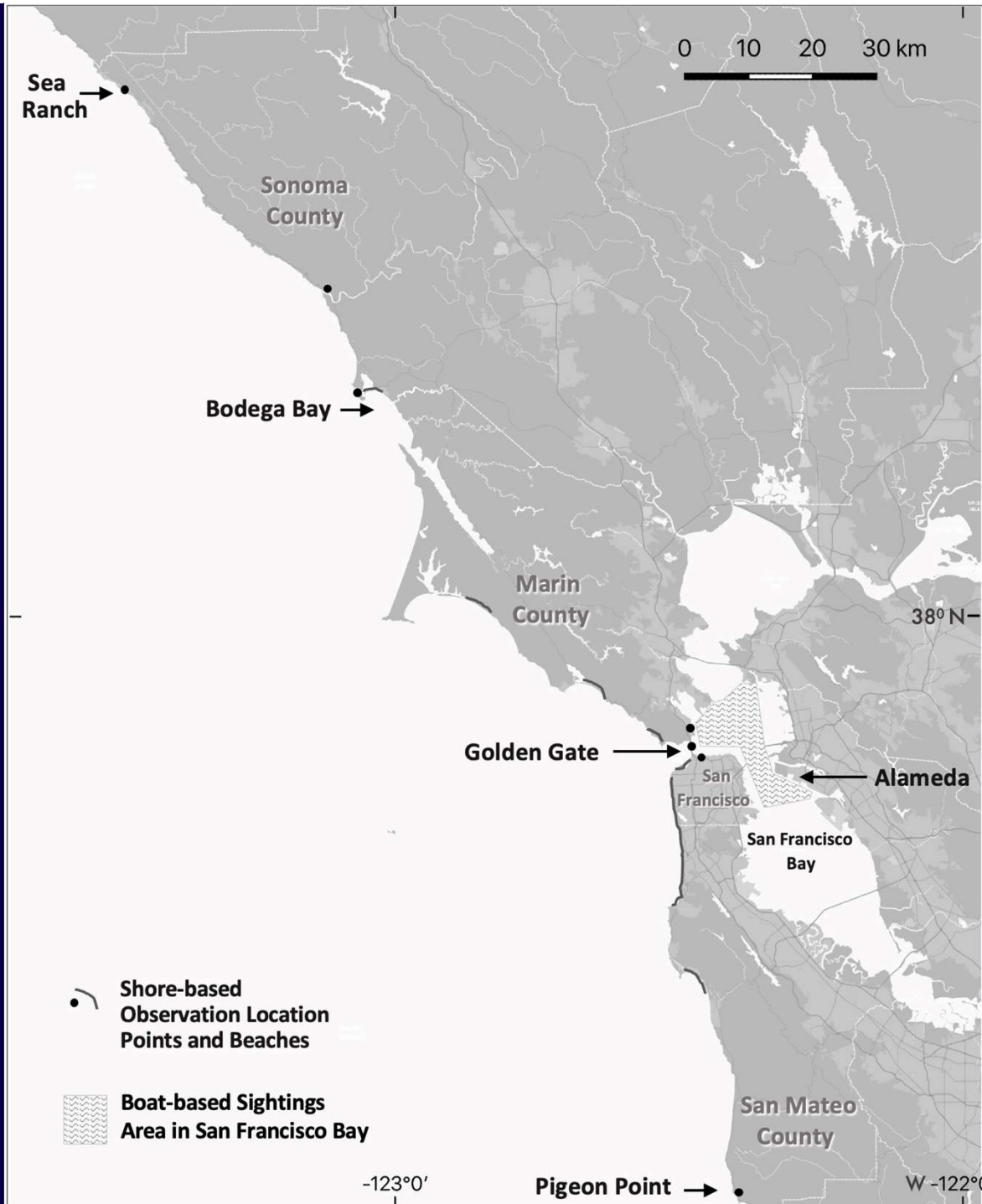


2018, Leslie Flint
Half Moon Bay



72
Taba

Study Area



Analysis:

Comparison
of all California
Photo-ID Catalogs

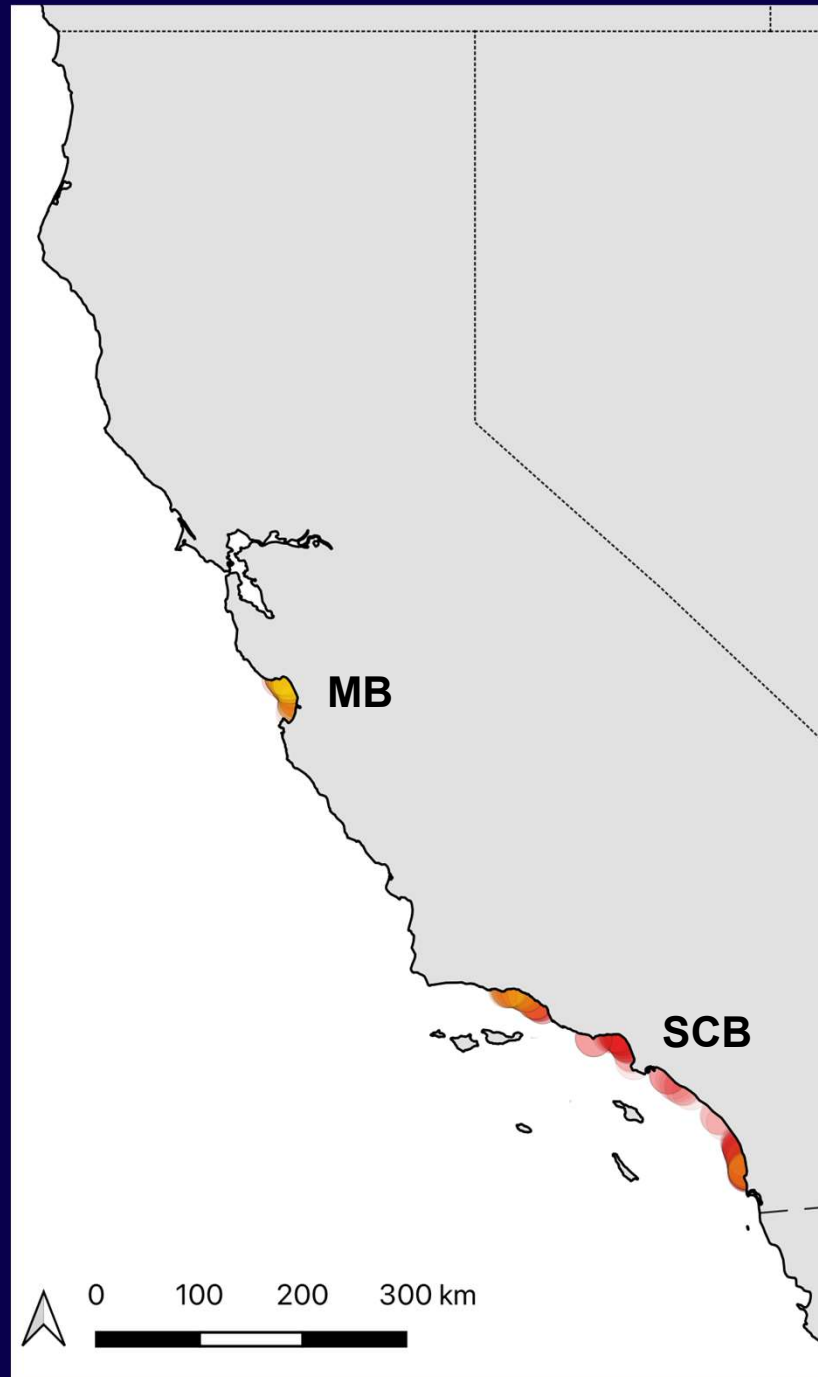
$n = 84$ dolphins
observed in SF Bay
from 2007 to 2018



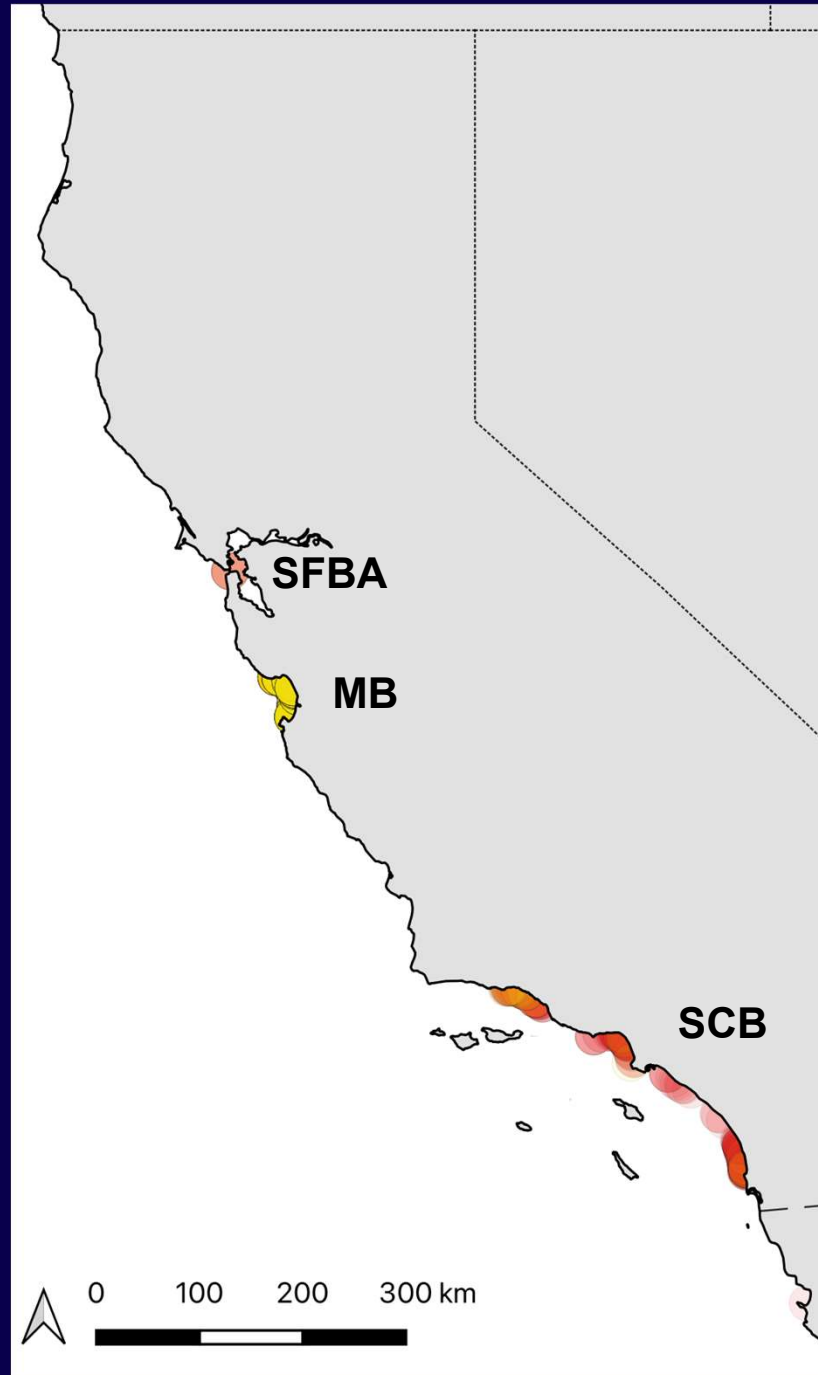
1980s



1980s – 1990s

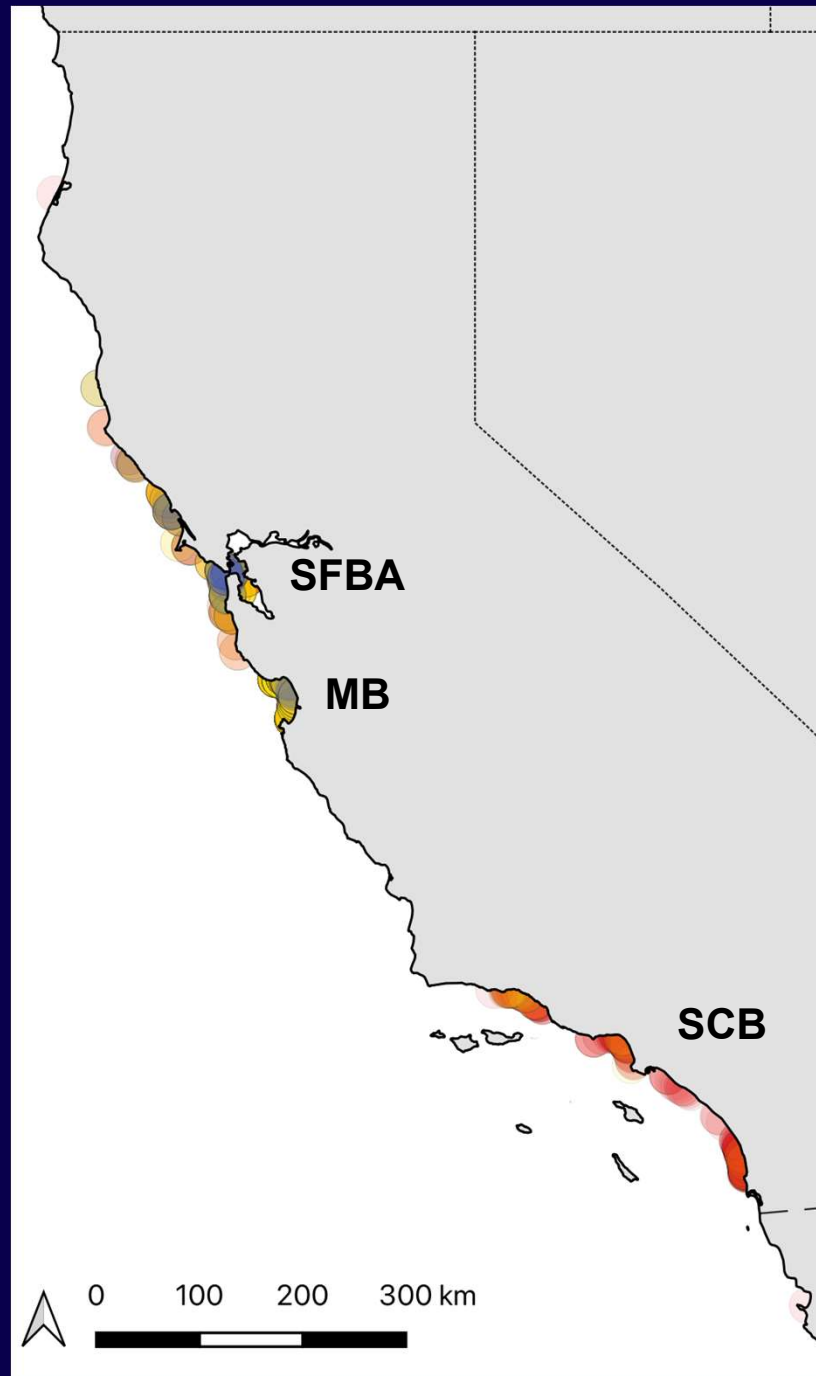


1980s – 2000s



1980s – 2010s

Over 35 years
this stock has
expanded its range
from 580 km in
the SoCal Bight
to 1,300 km
as it reached
Sonoma County



Results:

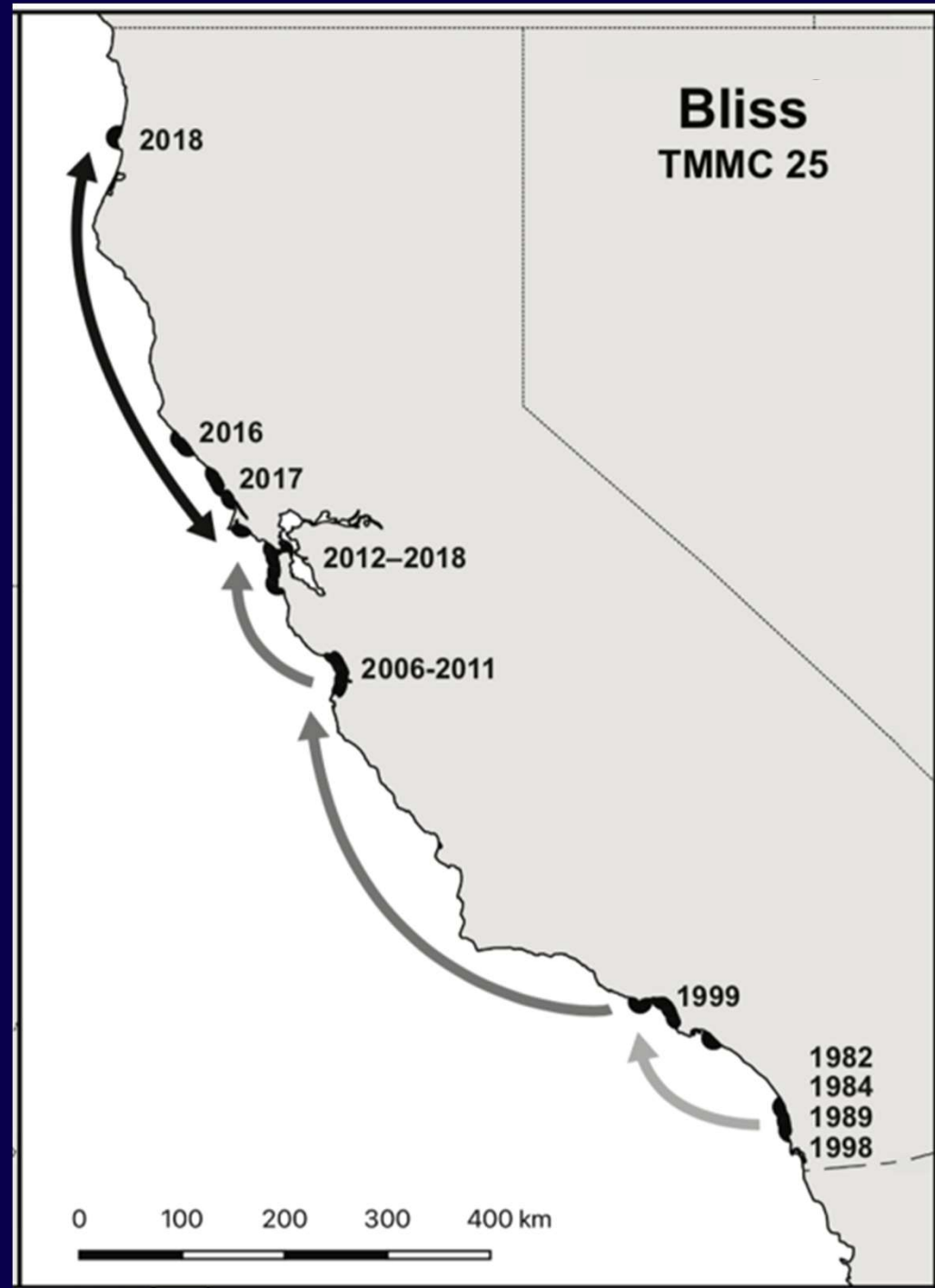
18% of population
been observed in
SF Bay Area

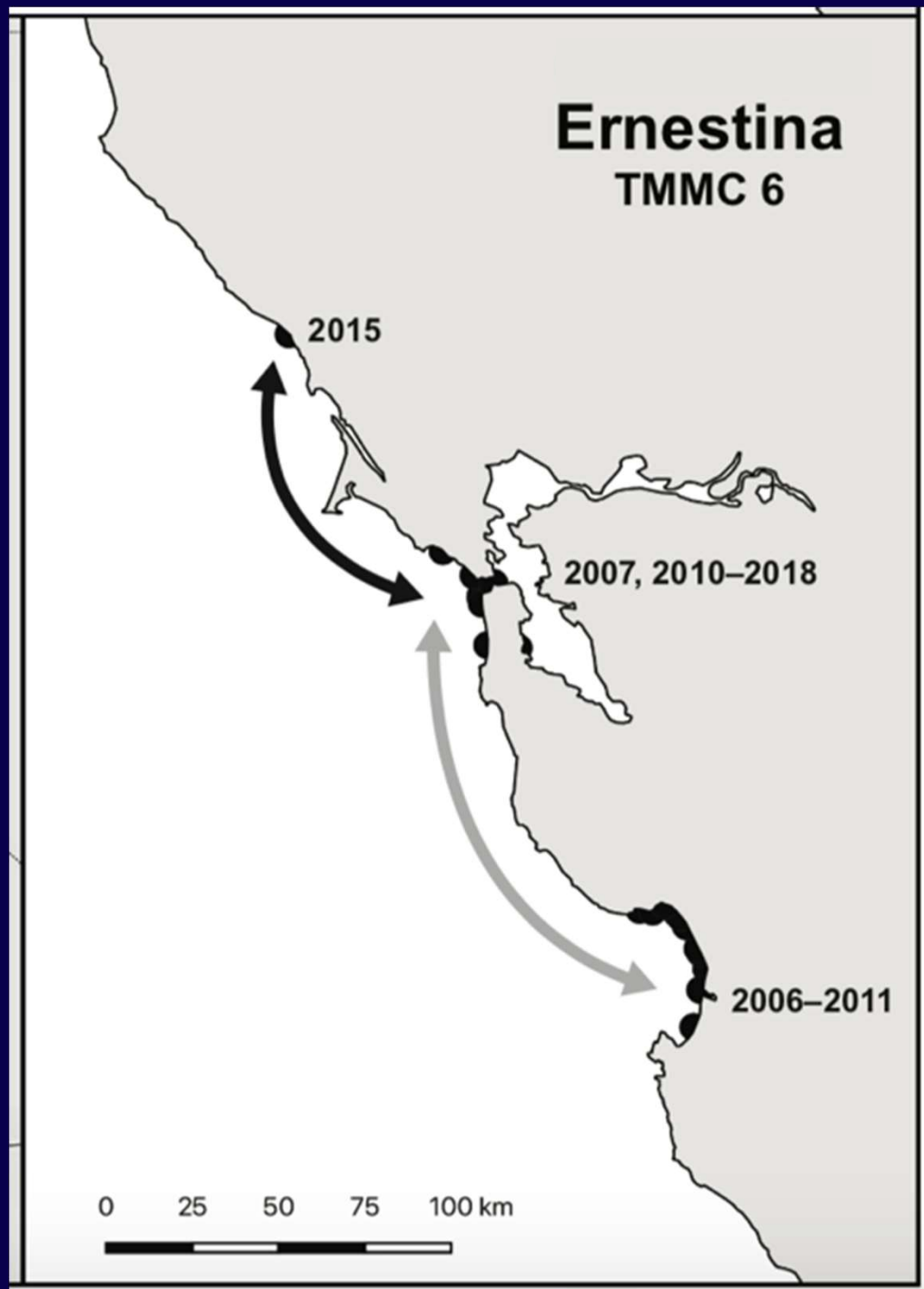
93% overlap with
Monterey Bay

39% overlap with
SoCal Bight

124% increase
in length of
coastal habitat

Case studies

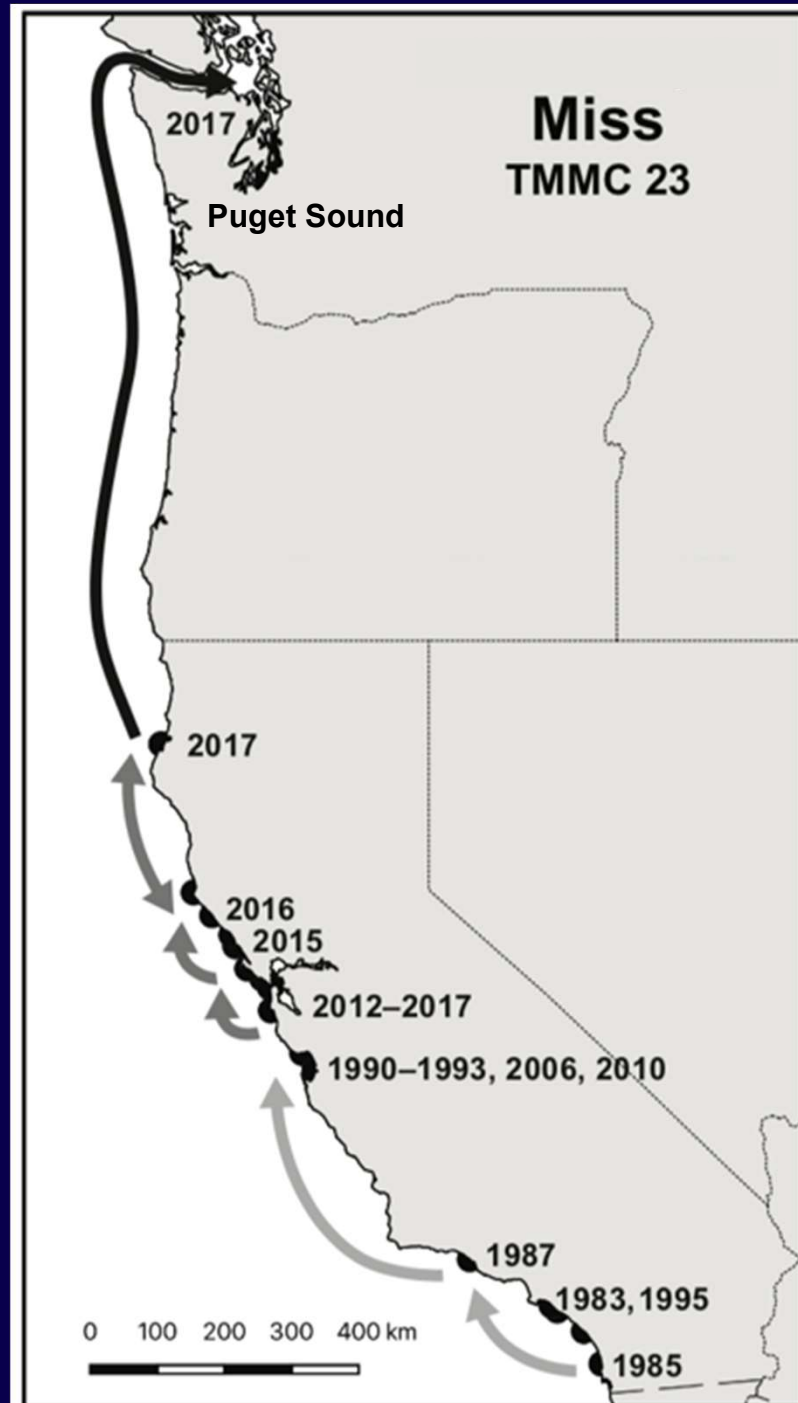




Smootch TMMC 24



New Long Distance Record for Coastal Bottlenose Dolphins!





November 2017
in Puget Sound
Island Adventures





Conservation Issues:

1. Climate-driven northward trajectory
2. Small distinct subpopulation may be vulnerable

Thank You

- Greater Farallones National Marine Sanctuary
- American Cetacean Society, S.F. Bay Chapter
- SFSU Estuary & Ocean Science Center
- California Academy of Sciences
- Oceanic Society
- Citizen Scientists



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Activities authorized by
NOAA Fisheries permit # 20386