South Carolina American Oystercatchers

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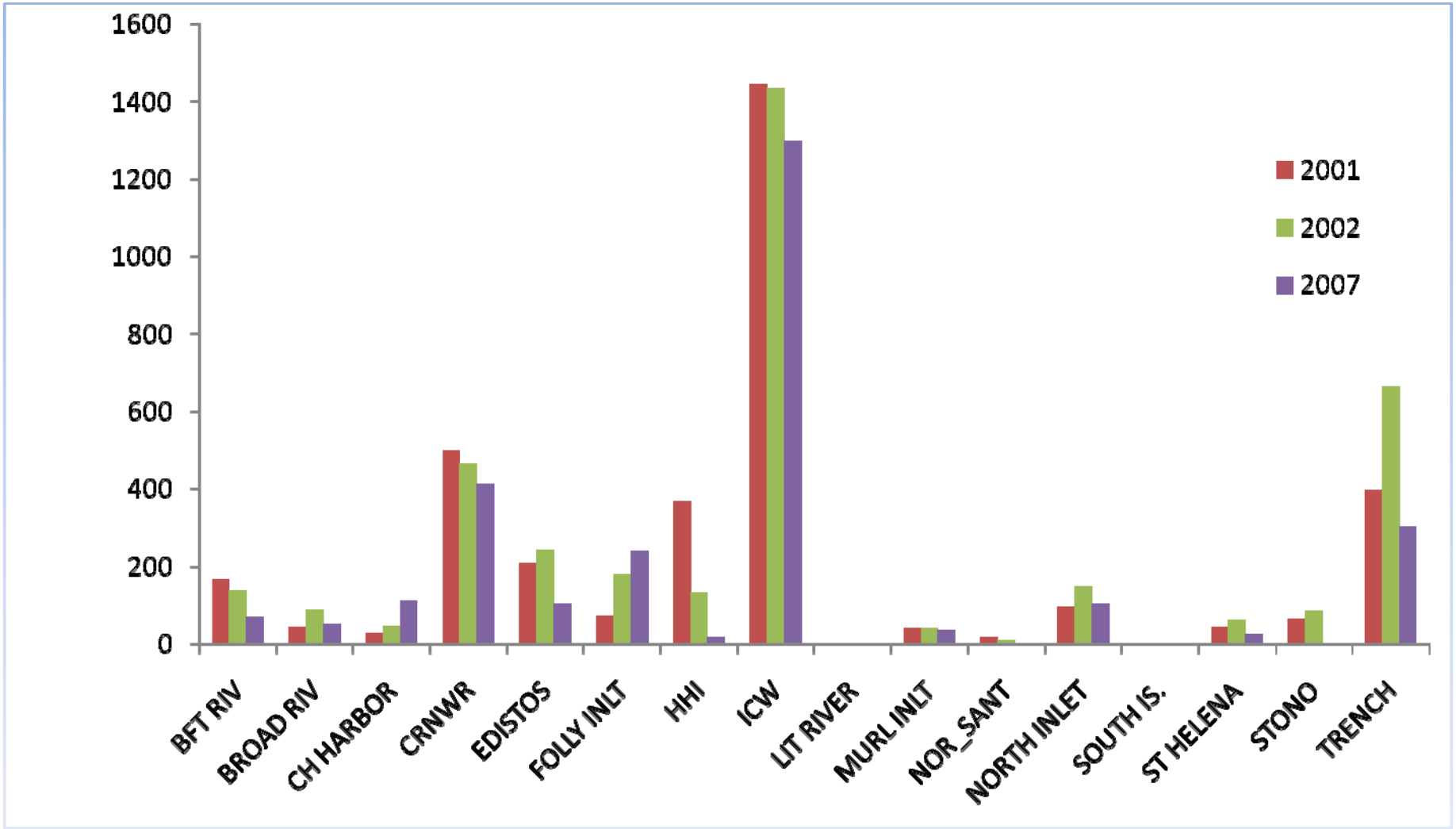
Winter Statewide Surveys

- 1999 – (2459) 3327
- 2001 – (3496) 3547
- 2002 - 3734
- **2007 - 2766 !**
- 2008 - scheduled

Winter Estimates by Area



2007 Winter Weather – Hot!

- December 2007

  Date – max, min

  12/10 – 80, 51

  12/11 – 79, 51

  12/12 – 79, 54

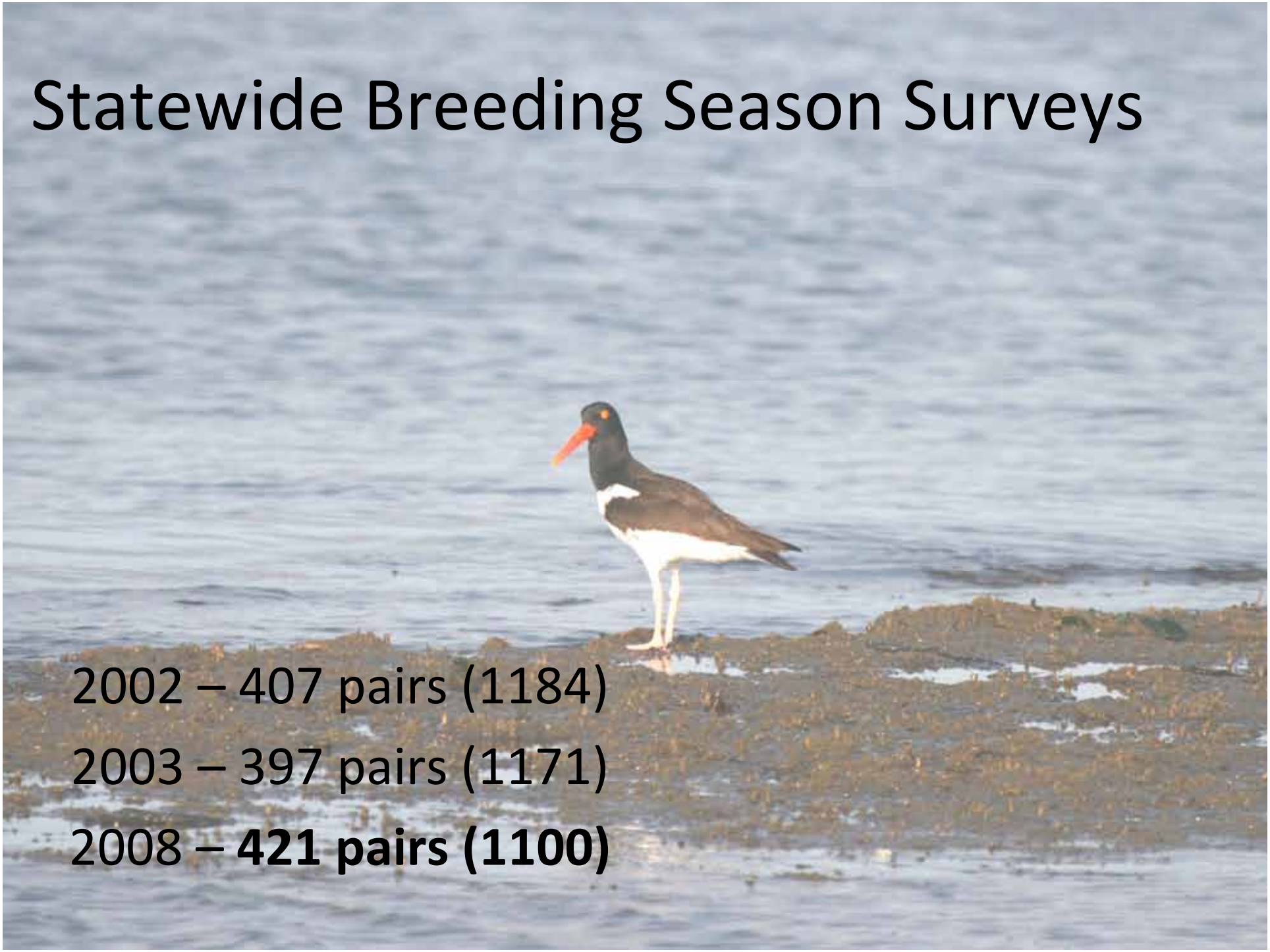
  12/13 – 80, 54

  12/14 – 80, 56
- December average in SC

  High 61

  Low 40

Statewide Breeding Season Surveys



2002 – 407 pairs (1184)

2003 – 397 pairs (1171)

2008 – **421 pairs (1100)**

Resighting Nonbreeding Season

Statewide (focus is Cape Romain Region)

3000 + observations to date

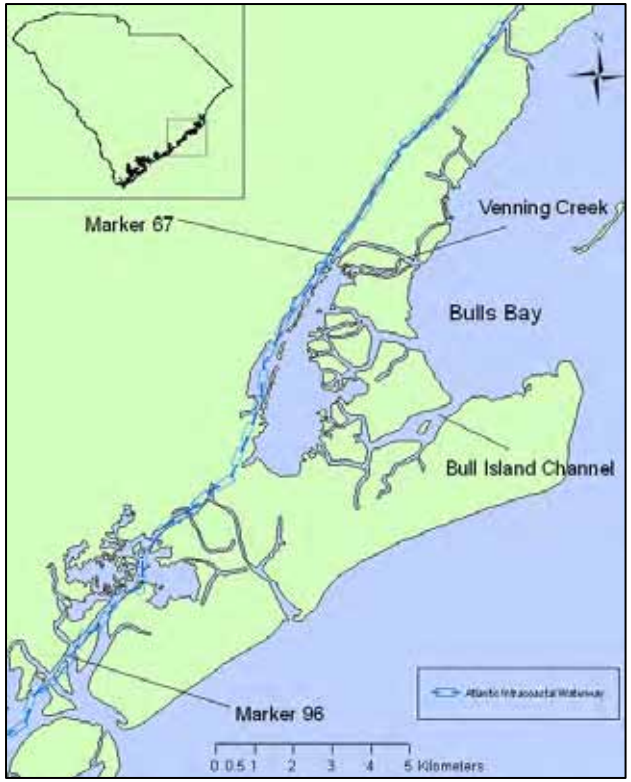
Resighting
Breeding Season

- Adult survival estimate
- Survival 92%
- Only engraved banded birds
- Entire Cape Romain Region (200+ pairs)
- Visit banded adult nest site 3X
- Winter data to confirm mortality
- N = 106
- 6 - adult absent, present next year
- 6 - adult missing, present in winter

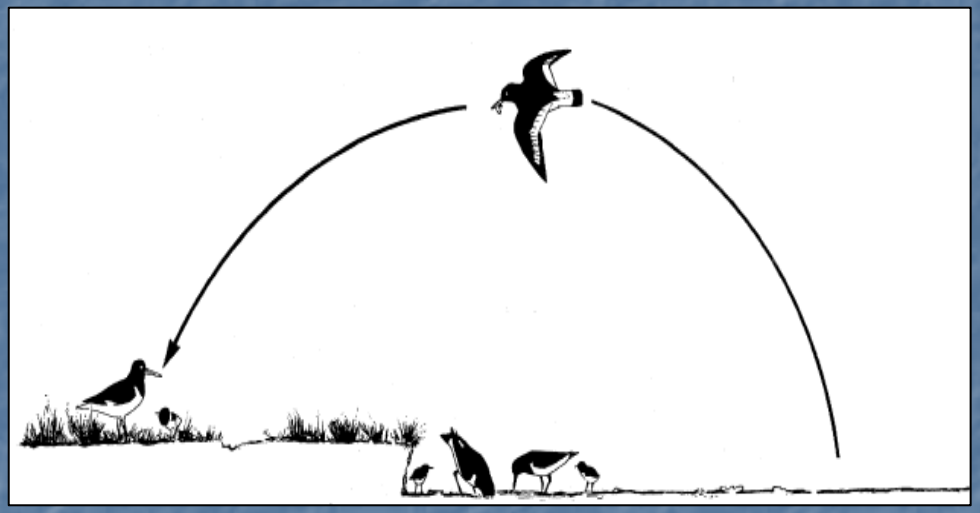
Janet Thibault Graduate Research

Clemson University, advisor: Dr. Pat Jodice

- Compared nest success on ICW and Bulls Bay 2006 and 2007
- Higher nest success in Bulls Bay (including higher chick survival)
- Major cause of loss on both sites – washover
- Some pairs laid 4 clutches



Parental Attendance During Foraging



- Differences in territory quality
- Leapfrog vs. Resident
- Residents raised more chicks than Leapfrogs
- Leapfrogs failed to transport enough food to chicks

Slide credit: Janet Thibault

Ens et al. 1992

ICW = Leapfrog?
Bulls Bay = Resident?

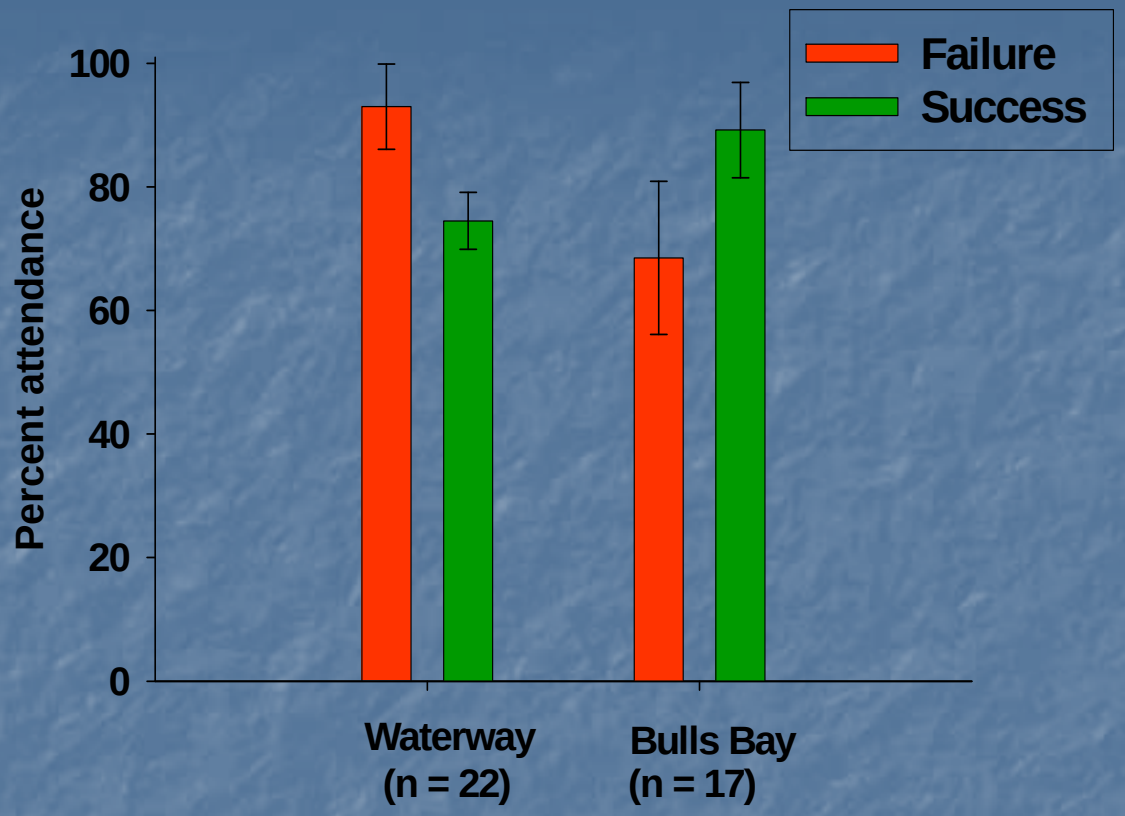
Slide credit: Janet Thibault

Objective & Methods

Determine amount of time parents were absent from territory during the foraging period

Low Tide Observations

Slide credit: Janet Thibault

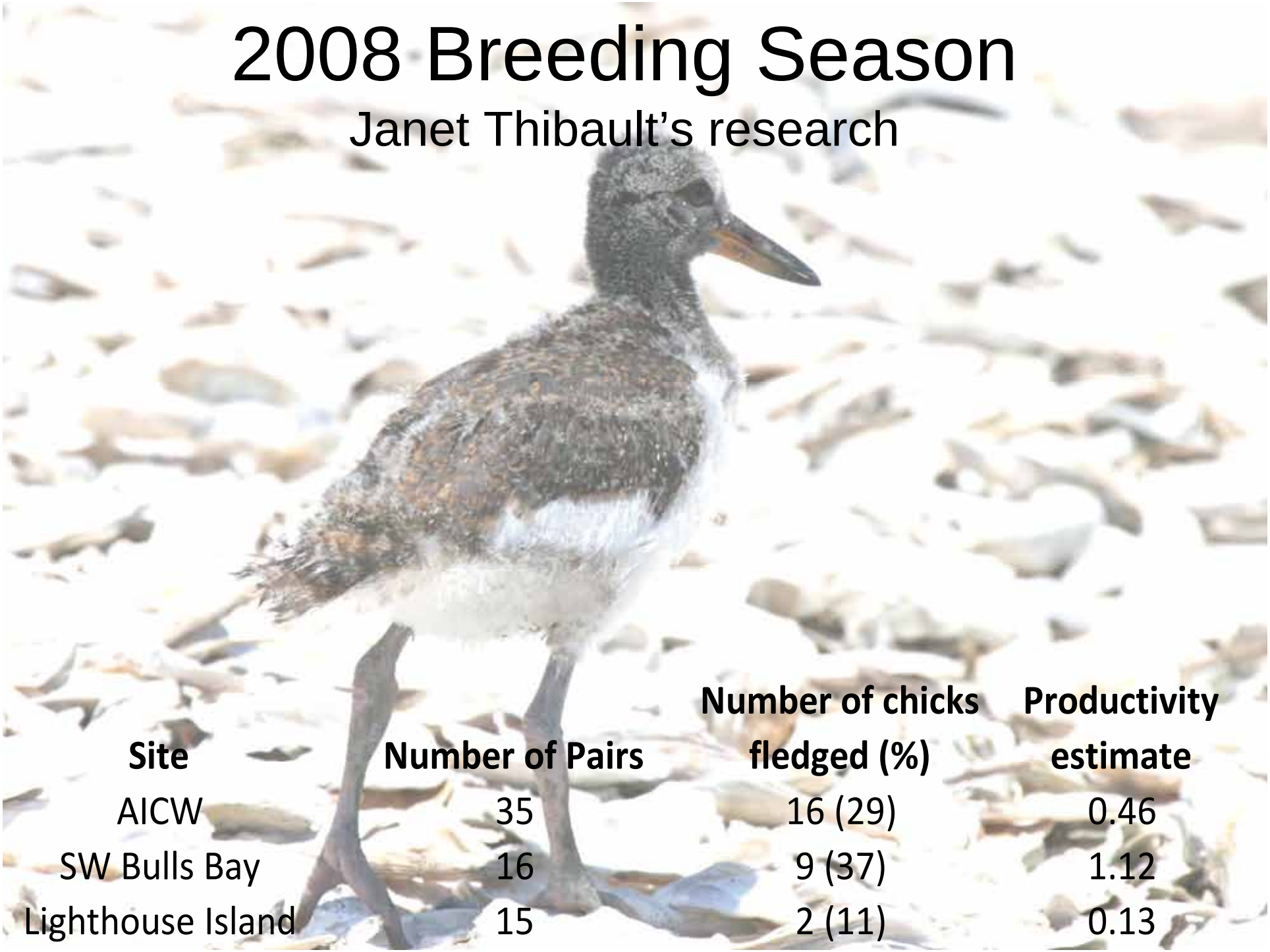


Location	Range (%)	Mean (%) ± SE	Median (%)	Mode (%)
Waterway (n=22)	50-98	81.0 ± 2.7	82	81
Bulls Bay (n=17)	38-100	88.0 ± 2.7	91	100

Slide credit: Janet Thibault

2008 Breeding Season

Janet Thibault's research



Site	Number of Pairs	Number of chicks fledged (%)	Productivity estimate
AICW	35	16 (29)	0.46
SW Bulls Bay	16	9 (37)	1.12
Lighthouse Island	15	2 (11)	0.13

2008 Breeding Season

Janet Thibault's research

- Banded 15 adults, 23 chicks
- Head Starting
  - 16 clutches in incubator
  - 2 clutches fostered
- 12 transmitters placed on chicks
  - 10 survived
  - 1 died - exposure
  - 1 died - unknown
- 2006 – 2008 - Chick survival higher at Bulls Bay (implications for future head starting)

Christy Hand's Research Questions
Clemson University, Advisor: Dr. Pat Jodice

1. Did the foraging behavior of adult oystercatchers differ among bays in a core area of their wintering range?

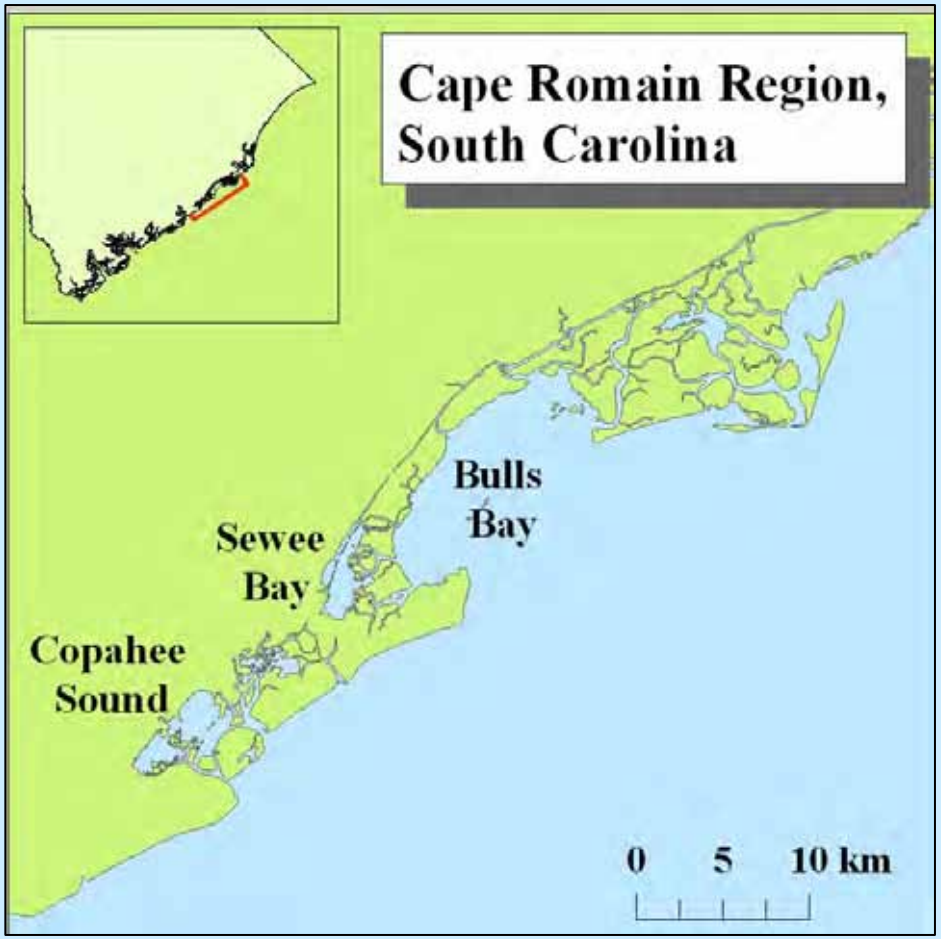
2. Did the foraging proficiency of immature oystercatchers differ from that of adults?

Slide credit: Christy Hand

Habitat Quality: Study Area

Compared three bays:

- Bulls Bay (2006, 2007)
- Sewee Bay (2006)
- Copahee Sound (2007)



Slide credit: Christy Hand

Habitat Quality: Food Resources

- Variability within bays
- 2007: Measured oyster characteristics in Copahee and Bulls
- Sewee appeared to be most similar to Copahee

Slide credit: Christy Hand

Habitat Quality: Oyster Characteristics

- Density
  - Number per quadrat
- Shell height
  - Mean per quadrat
- Spatial orientation
  - % vertical
- Analysis
  - t-tests

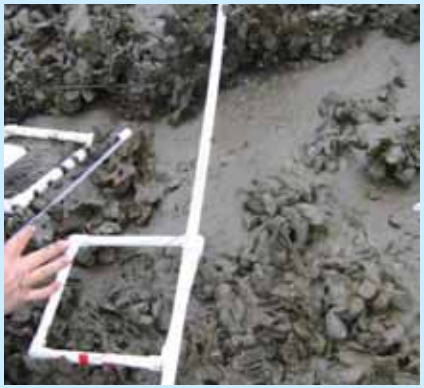
Slide credit: Christy Hand

Habitat Quality: Methods

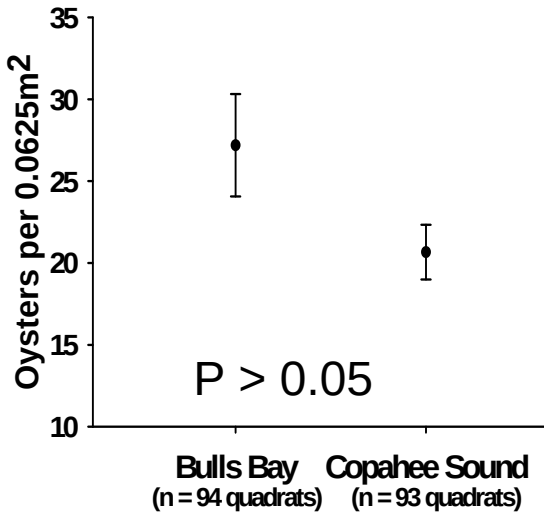
- Focal observations
  - Dependent variables
    - Prey Type
    - Oyster Size
    - Searching Time
    - Handling Time
    - Duration of Feeding Bout
  - Independent variables
    - Bay
    - Date

Slide credit: Christy Hand

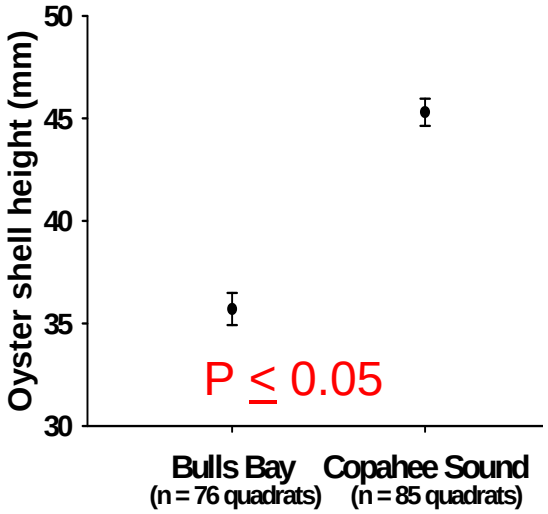
Habitat Quality: Oyster Characteristics



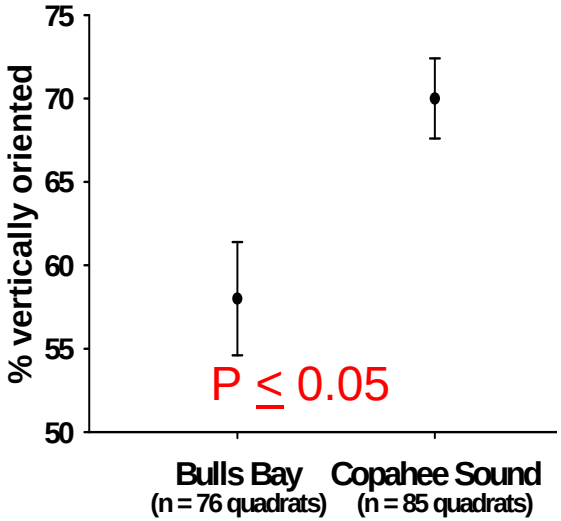
Density



Height



Spatial Orientation



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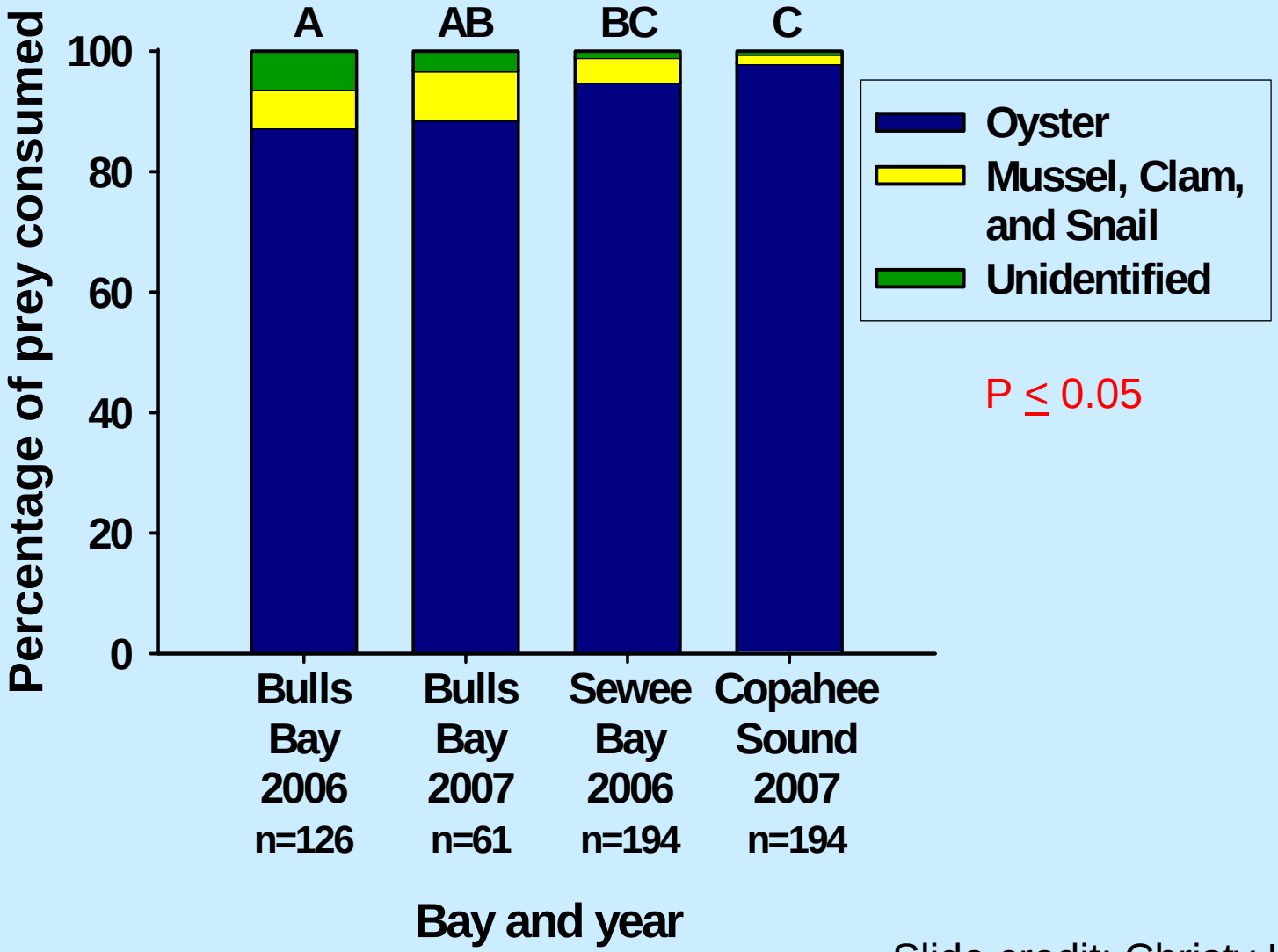
Habitat Quality: Diet Composition



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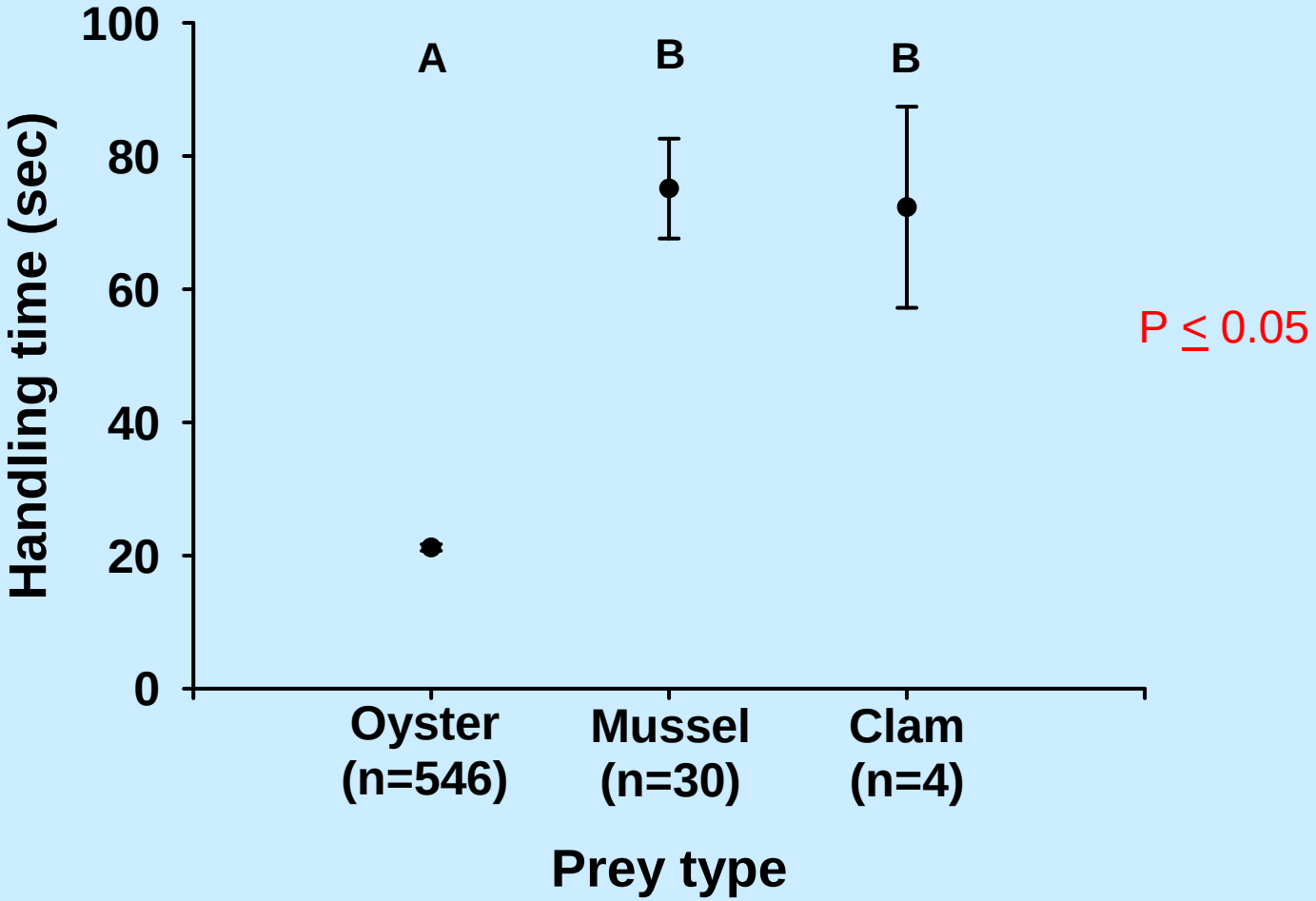
Habitat Quality: Prey Type and Handling Time



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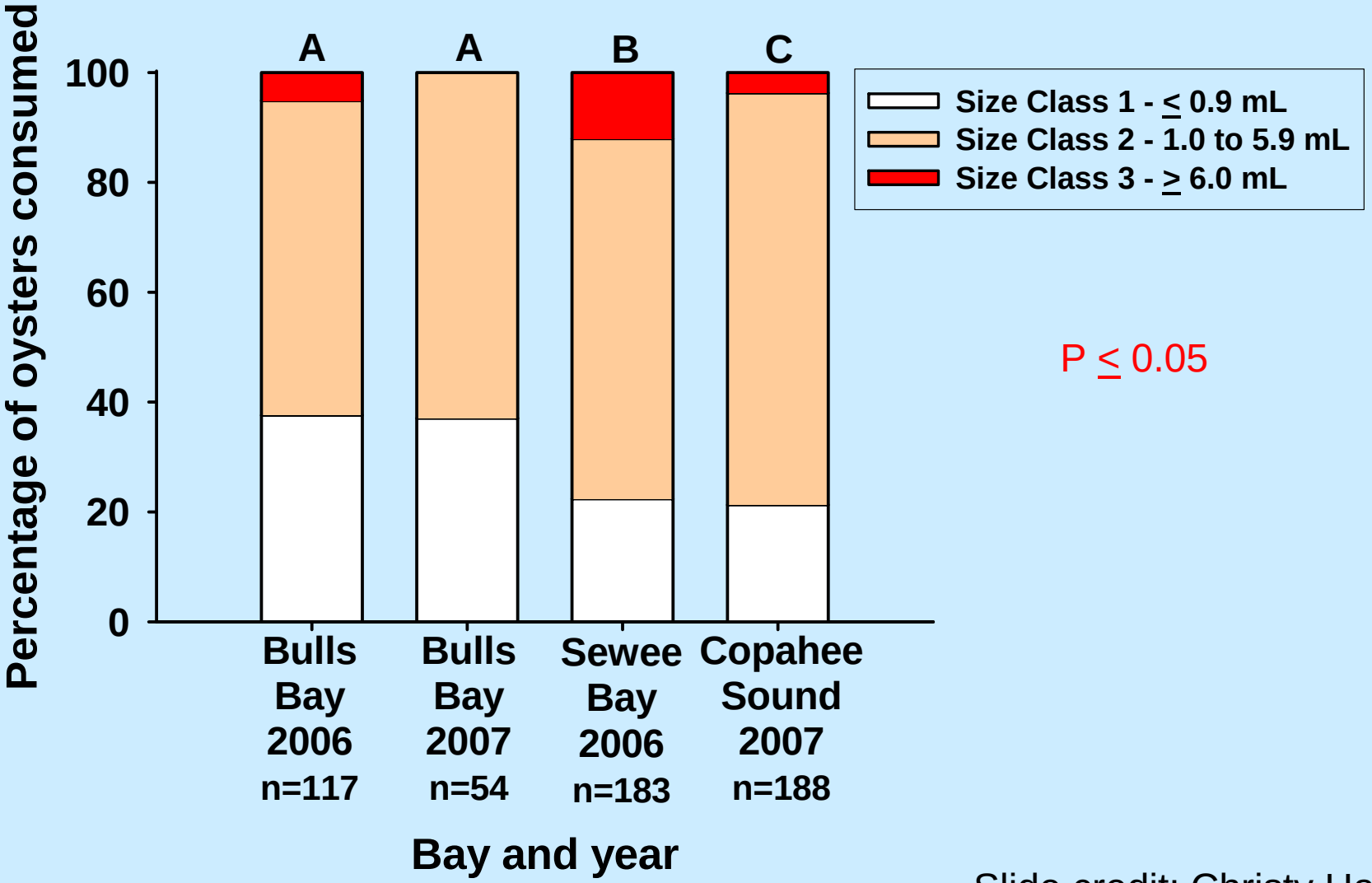
Habitat Quality: Oyster Size



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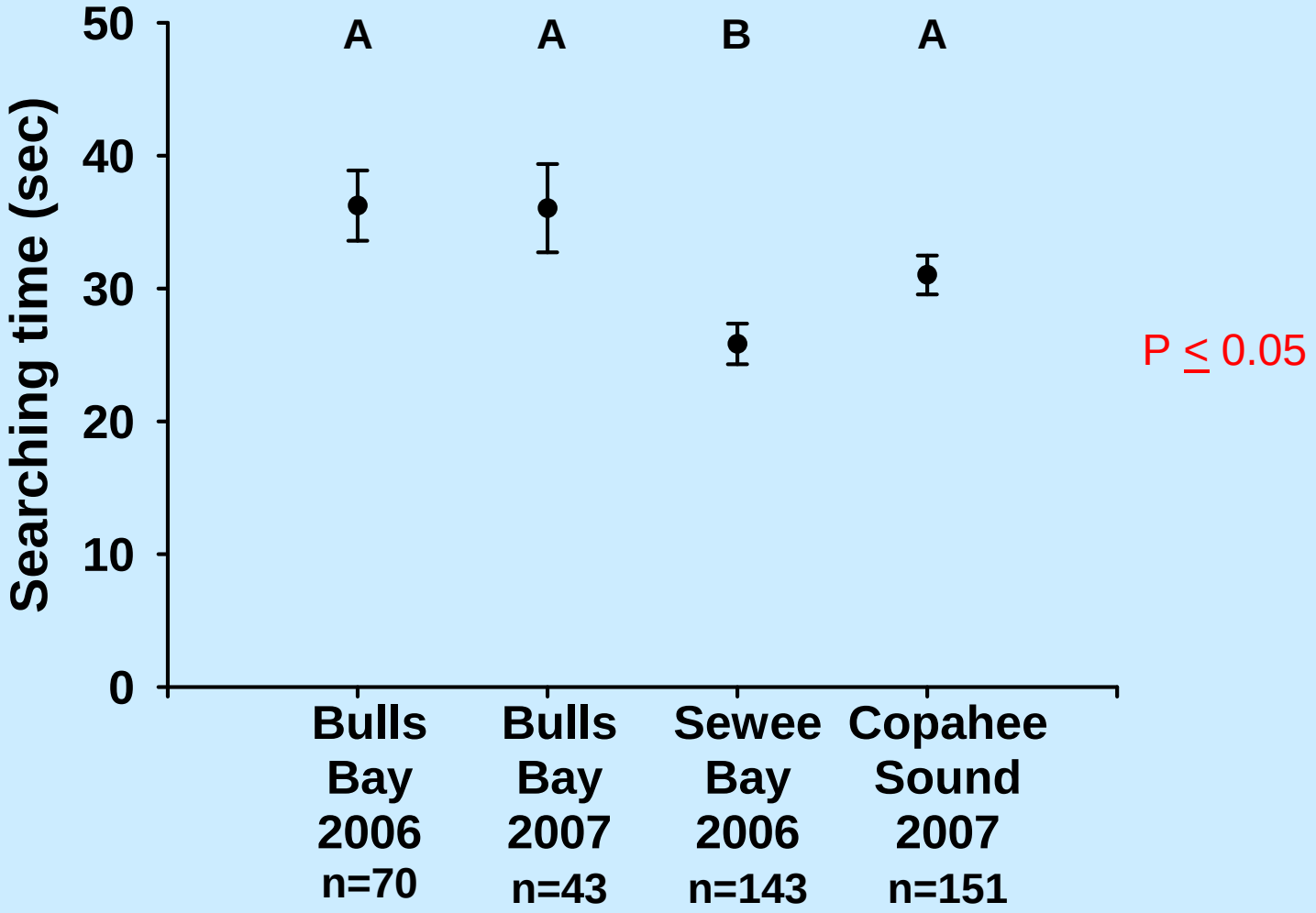
Habitat Quality: Bay and Searching Times



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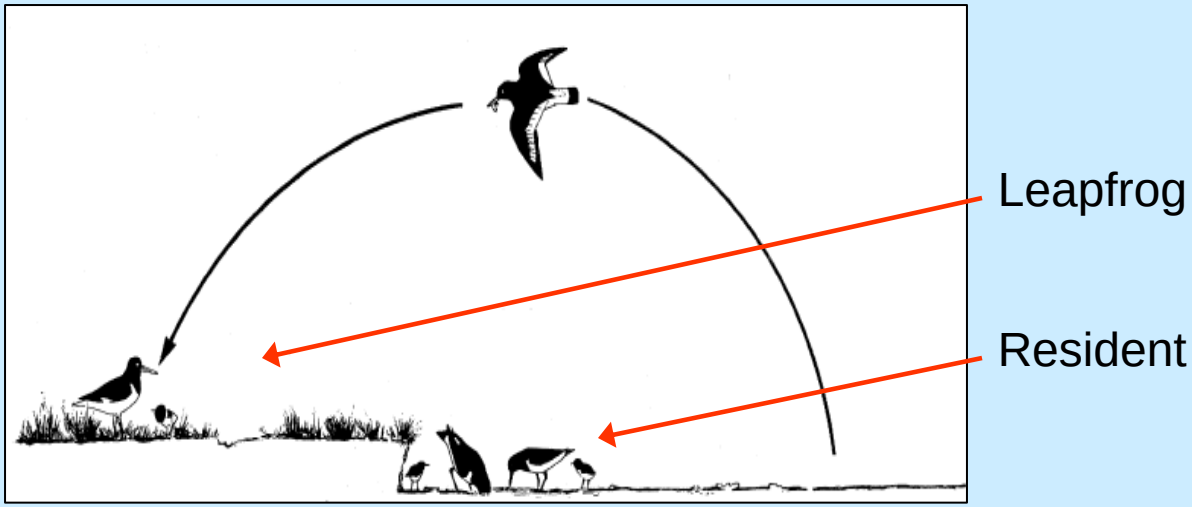
Habitat Quality: Summary

- Habitat quality appeared to differ among bays
  - Lowest in Bulls Bay
- Other factors influence distribution:
  - Nesting habitat
- Management implications



Slide credit: Christy Hand

Ens, B.J., M. Kersten, A. Brenninkmeijer and J.B. Hulscher. 1992. Territory quality, parental effort and reproductive success of oystercatchers (Haematopus ostralegus). Journal of Animal Ecology 61: 703-715.

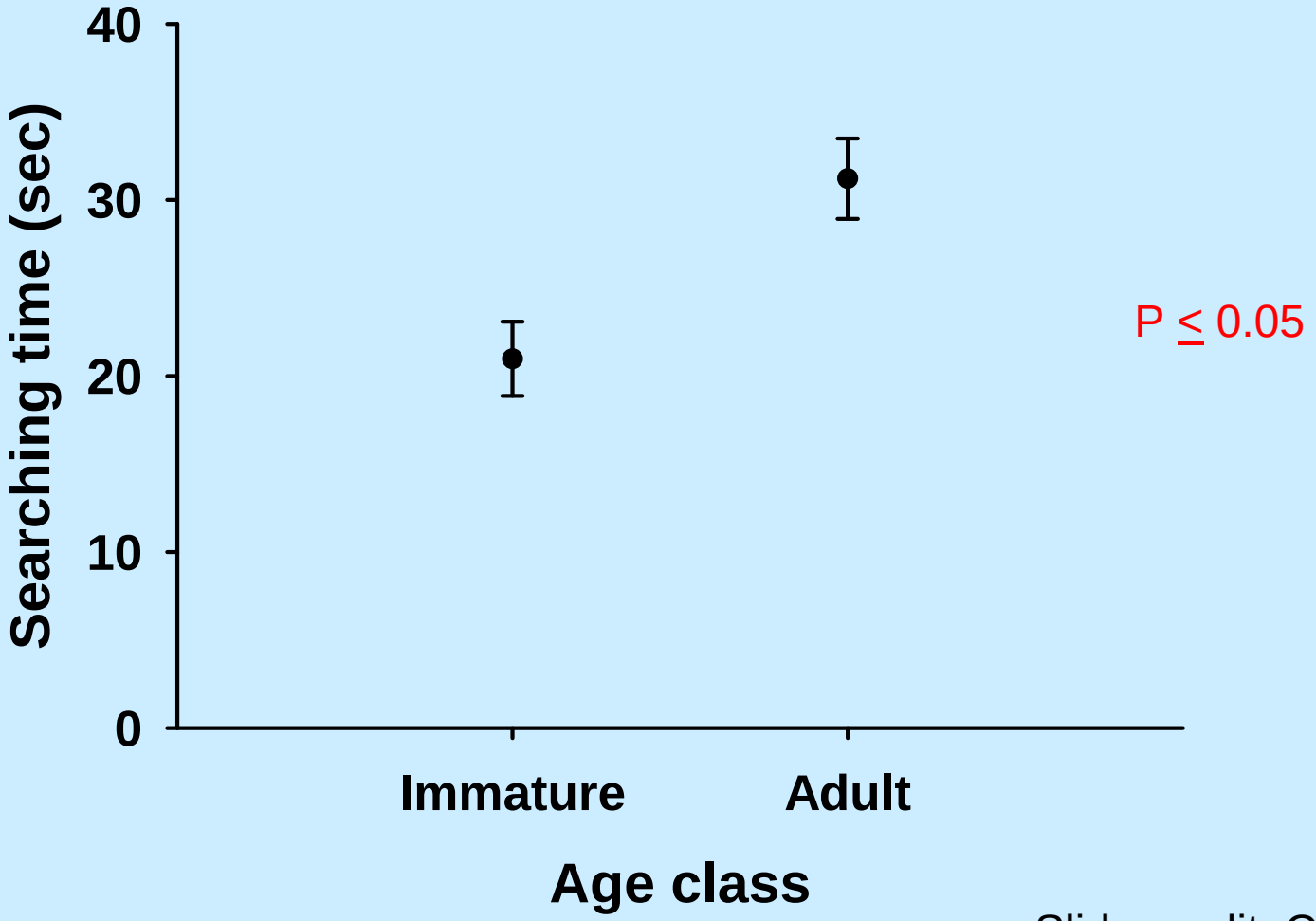
Foraging Proficiency: Methods

Focal observations

- Dependent variables
  - Prey Type
  - Oyster Size
  - Searching Time
  - Handling Time
  - Feeding Rate
  - Unsuccessful Handling
  - Aggressive Interactions
- Paired observations of adults and immatures
- Independent variables
  - Age
  - Date
- Age distinguished by bill color

Slide credit: Christy Hand

Foraging Proficiency: Searching Times



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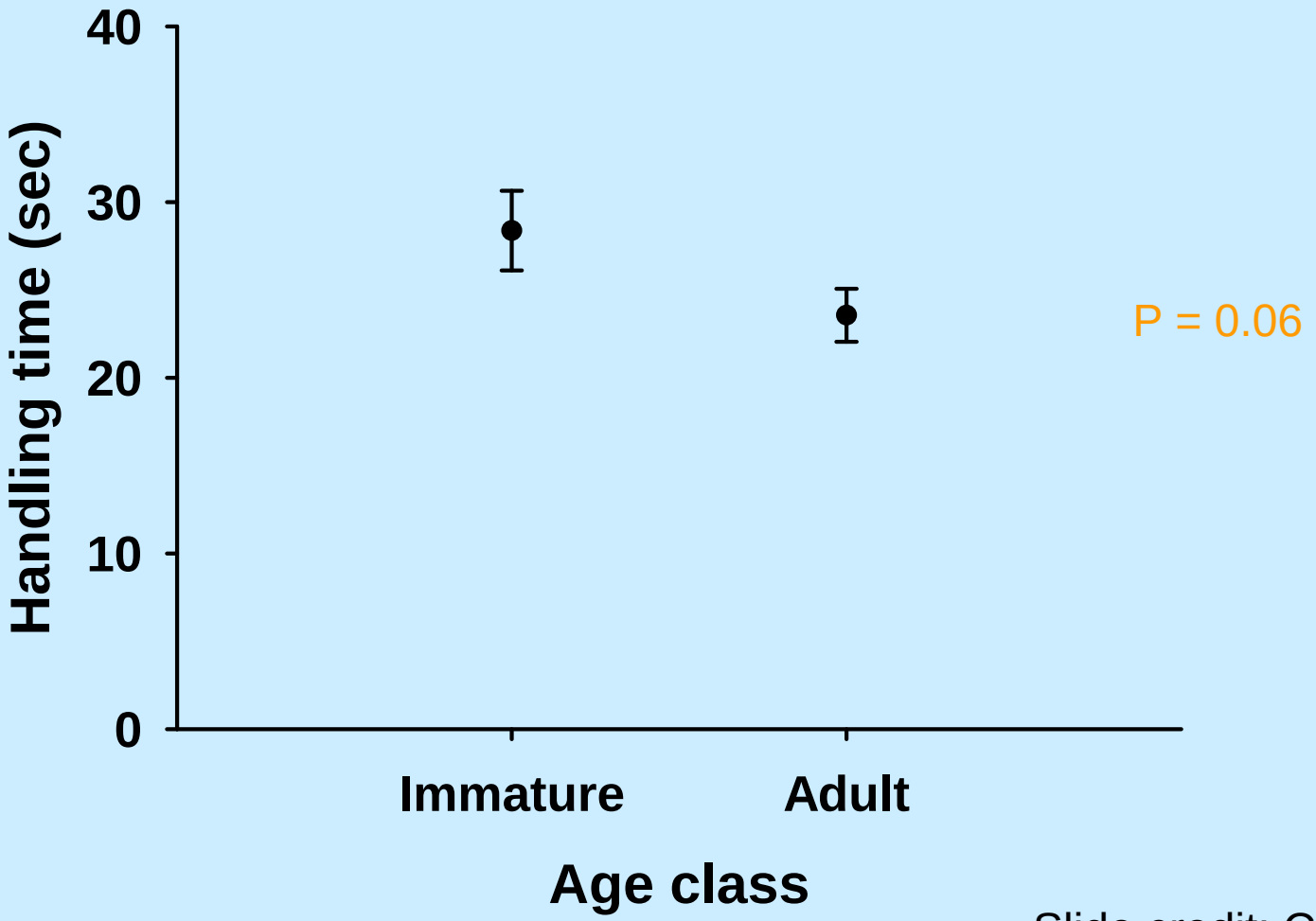
Foraging Proficiency: Handling Times



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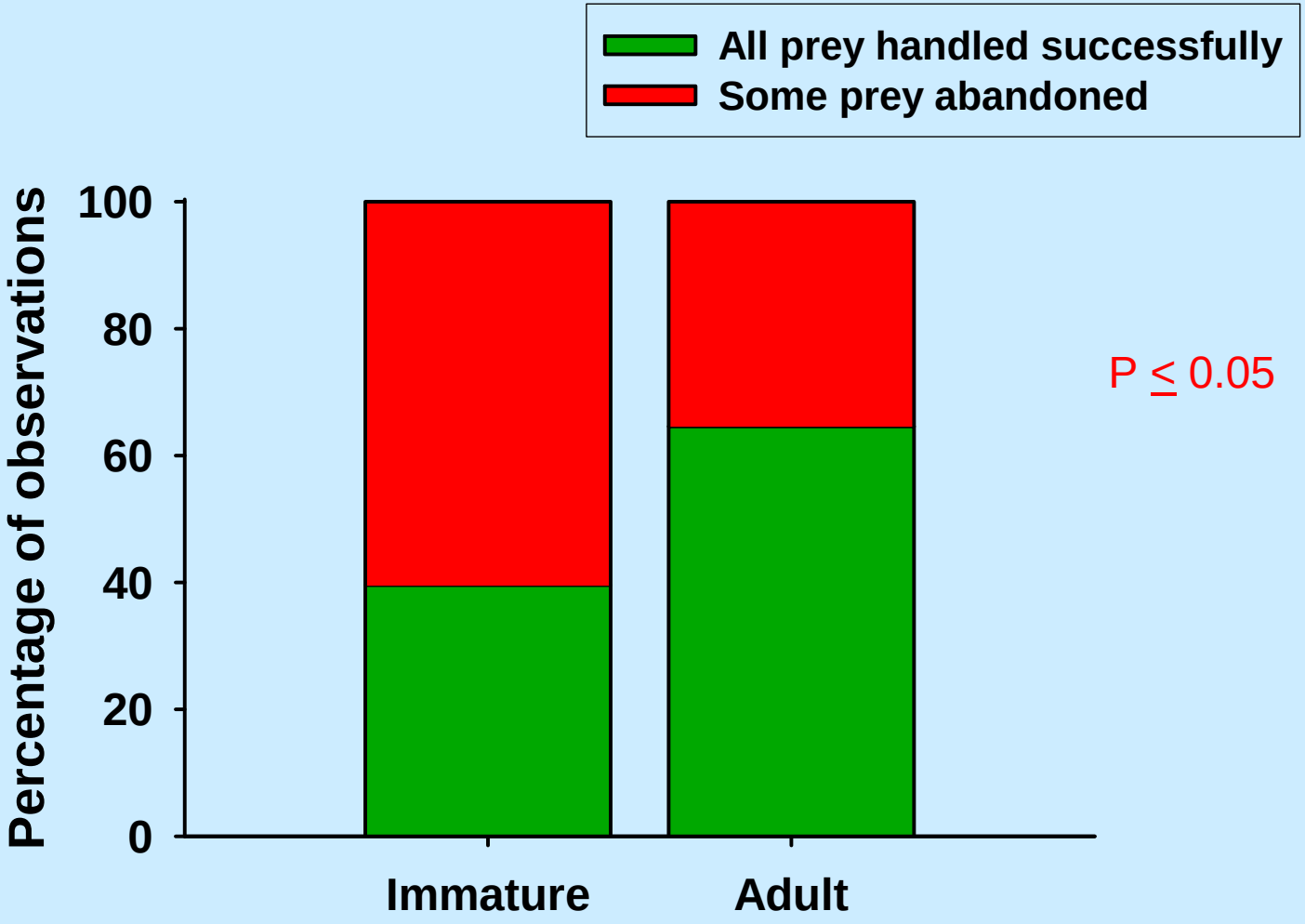
Foraging Proficiency: Handling Success



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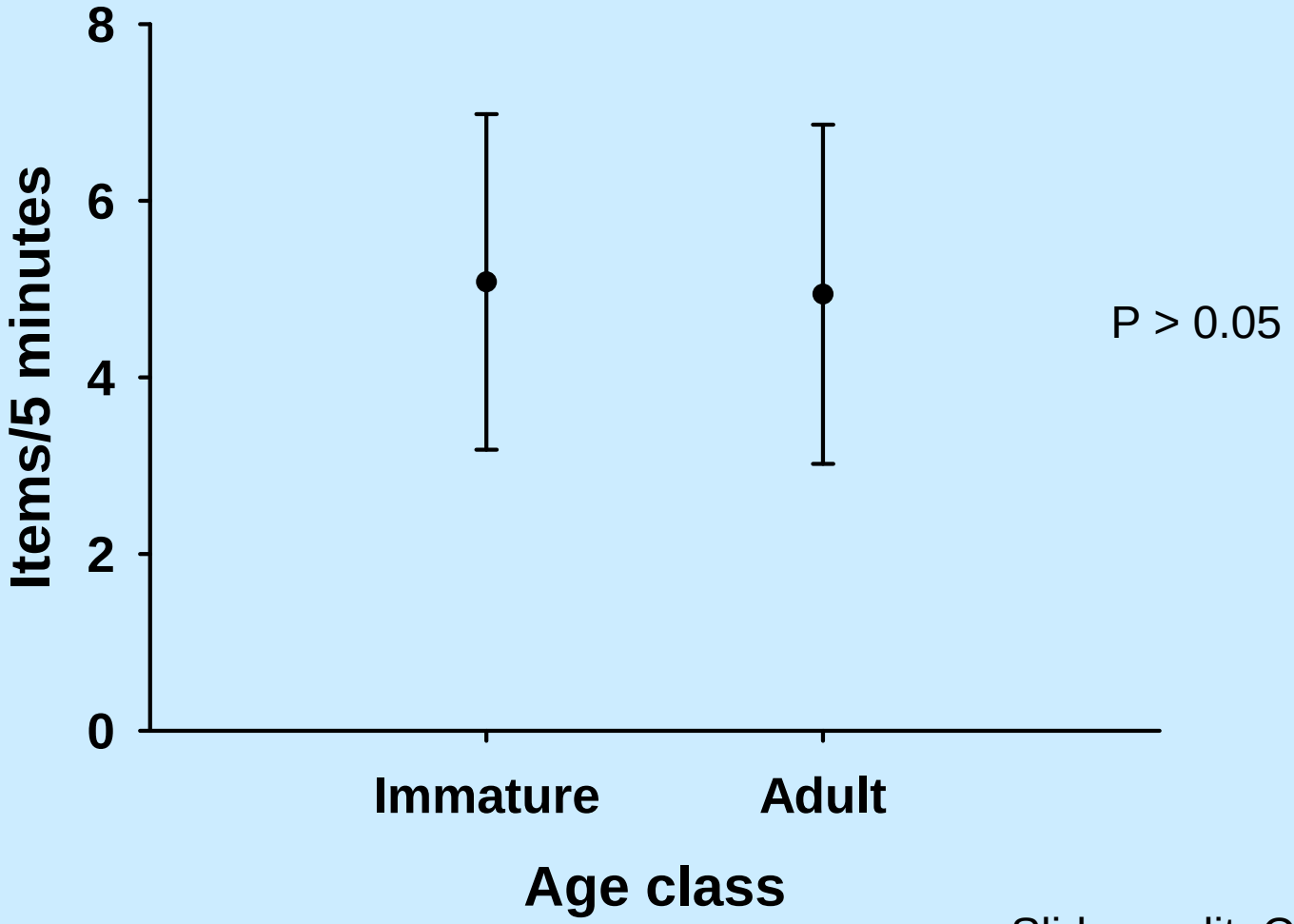
Foraging Proficiency: Feeding Rates



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