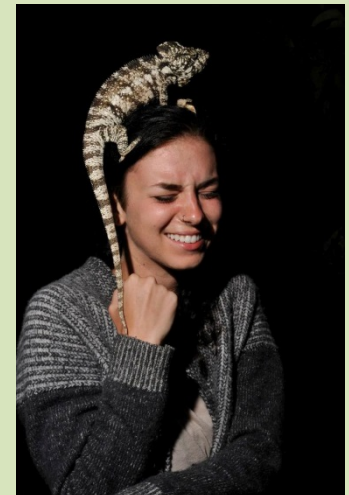


Management and monitoring of invasive exotic Oustalet's Chameleons (*Furcifer oustaleti*) in southern Florida

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Eckles, Michael R. Rochford, Joy J. Vinci,
Dustin C. Smith and Frank J. Mazzotti



Oustalet's chameleon (*Furcifer oustaleti*)

- Native to Madagascar
- One of world's largest chameleon species
- Arboreal, terrestrial, not vagile
- Dry deciduous forest, wet montane savannah, agriculture/disturbed



Ed Metzger

Sexual dimorphism



Leif Boman



Ed Metzger

Reproduction in Florida

- Oviposition: Jun-Oct
- Clutch size: 17-72 eggs (mean = 42)
- Incubation: 285-354 d
- Hatch: Jul-Oct
- Sexually mature in 1 yr



Michiko Squires

Diet

- Madagascar:
Arthropods, small vertebrates including birds
- Florida:
 - Arthropods: weevils, stink bugs, caterpillars
 - Vertebrates: frogs & lizards (see Williams et al. 2015)



Sara Williams

Study site

- 48 ha Avocado grove and adjacent pine rocklands in Miami-Dade County, FL
- Approx. 5 mi from ENP



Background and Objectives

- Discovered in November 2010, firmly established
- Introduced ca. 2000, survived freeze of January 2010
- Objectives: Manage, monitor, eradicate



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Methods: Manage

- Nighttime VES from July 2011 to present
- Monthly, fortnightly, or bimonthly
- Alternate between distance-constrained and non-constrained routes (standard & random)





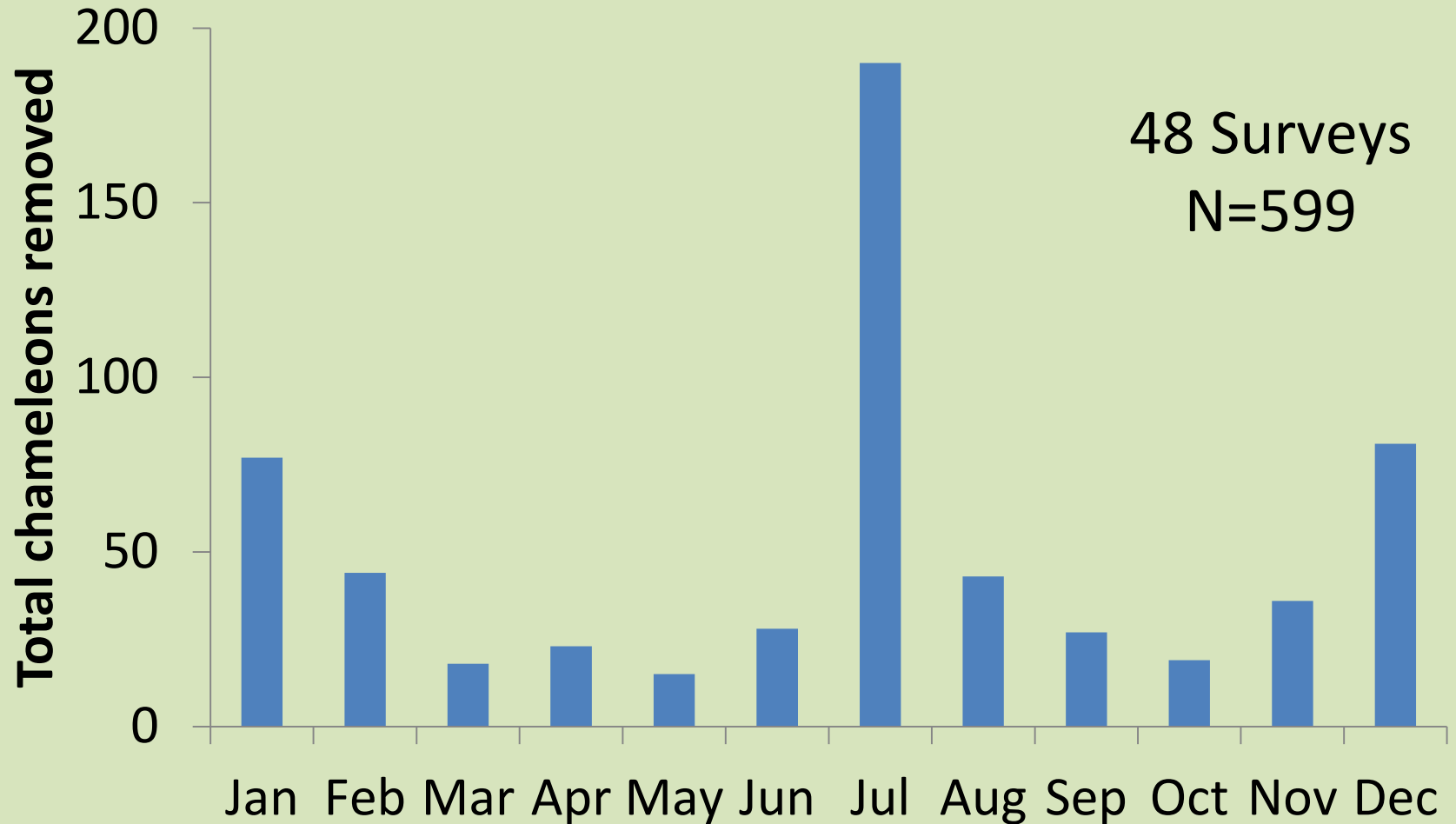


Methods: Monitor

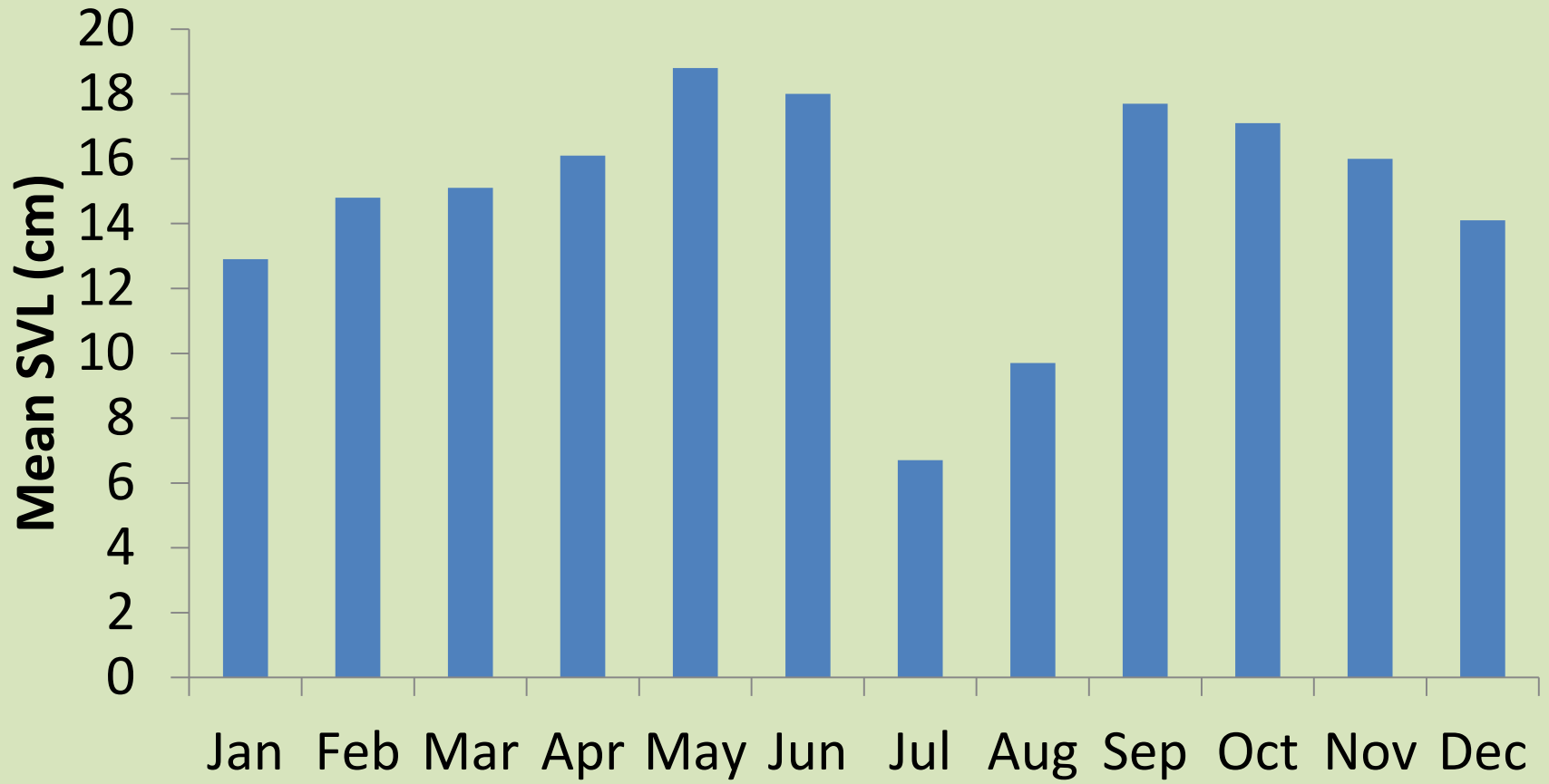
Trends in overall removals & catch per unit effort (CPUE)

- Time: Chameleons/man-hour
- Event: Chameleons/person/survey
- Commercial collectors & hobbyists

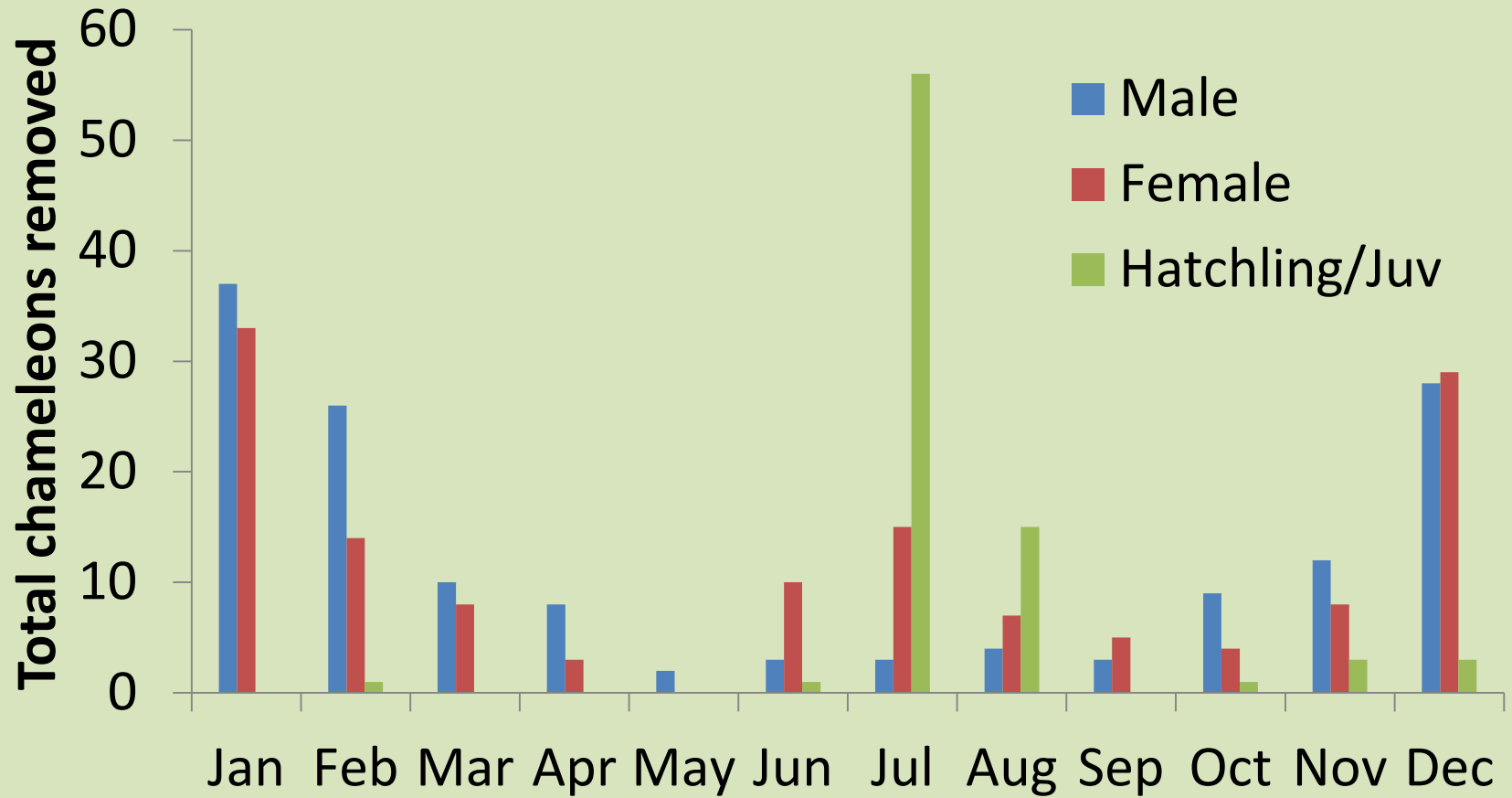
Results: Total removals by month from 2011 to present



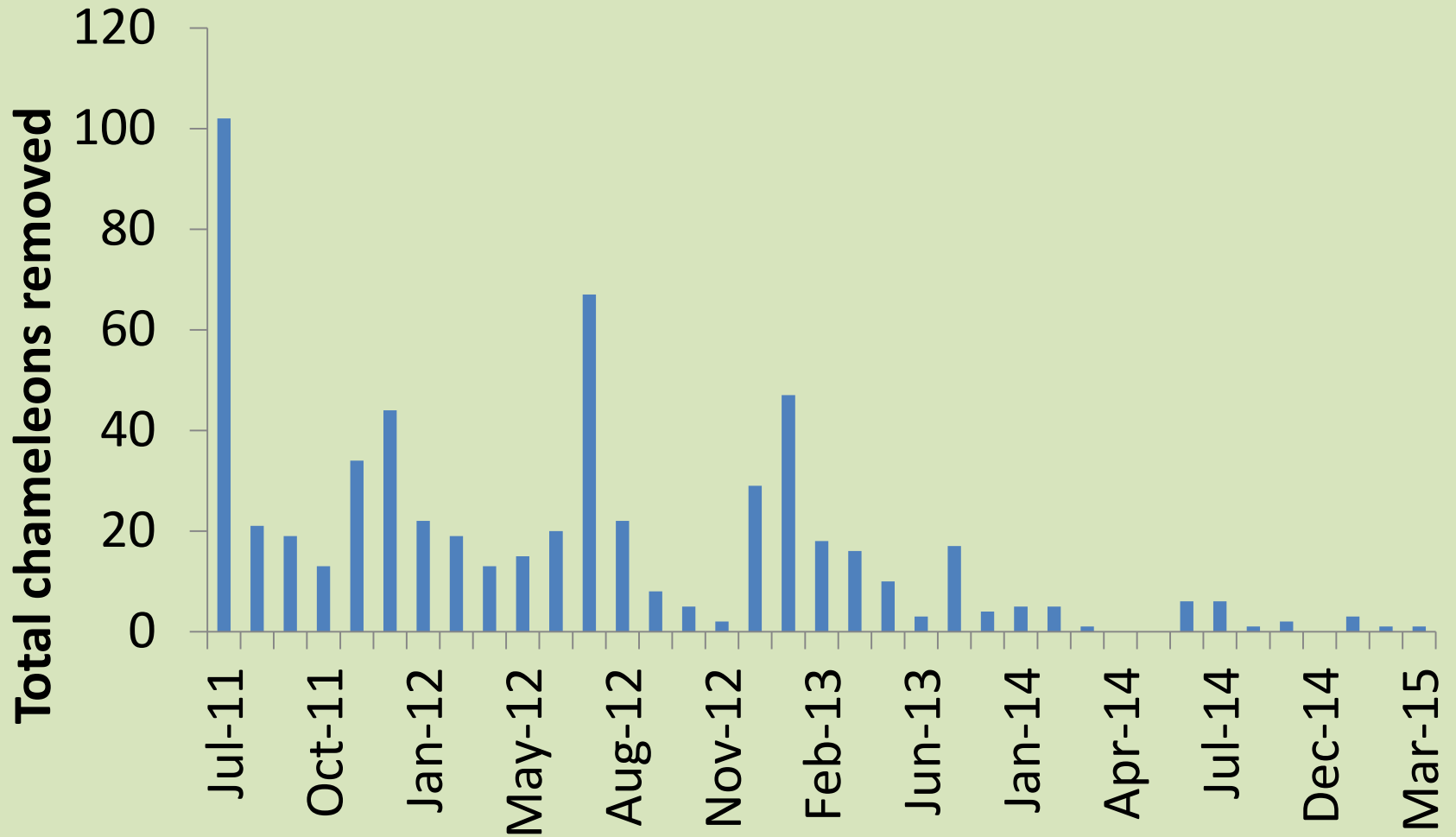
Mean SVL by month



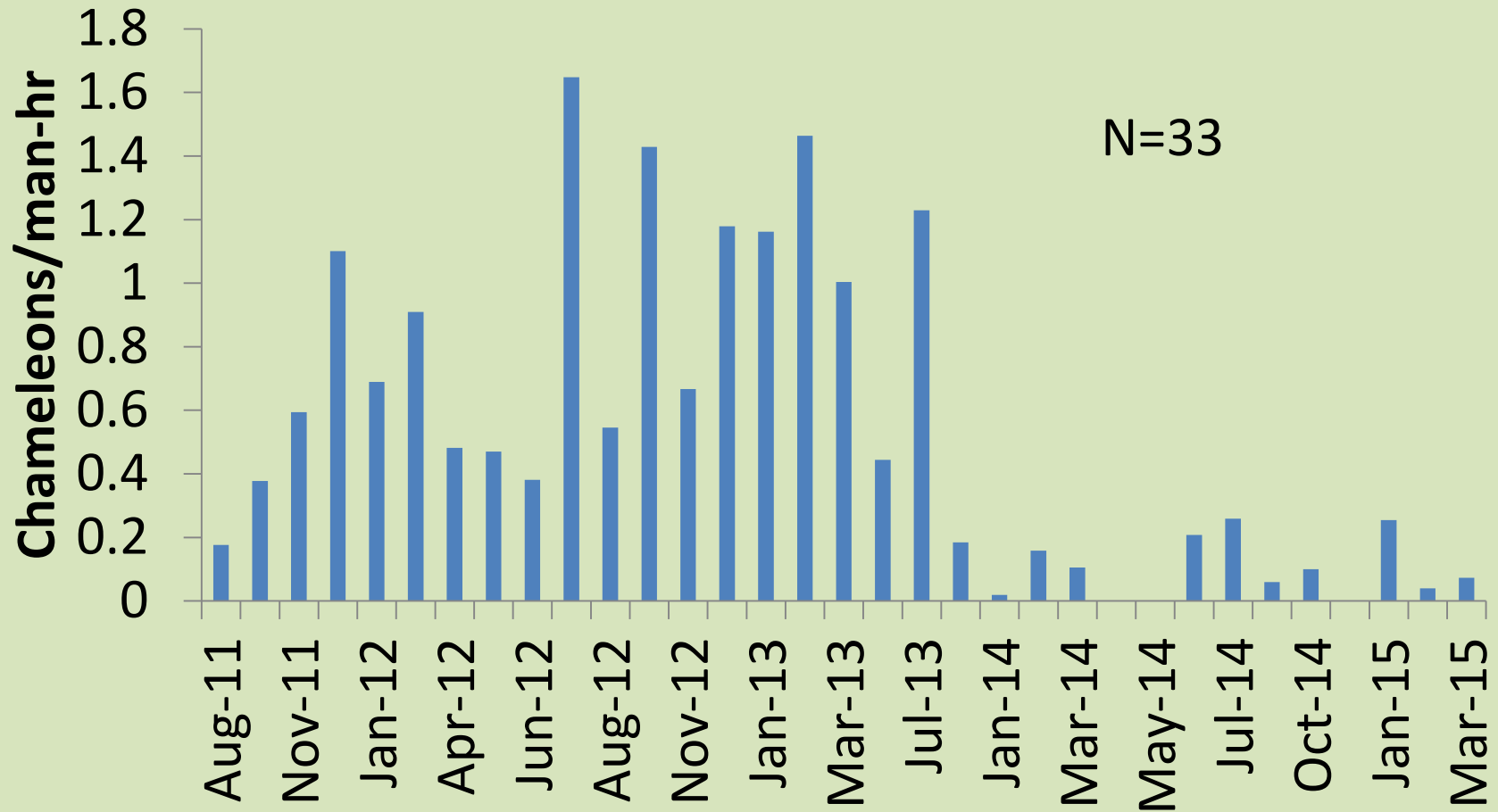
Sex by month



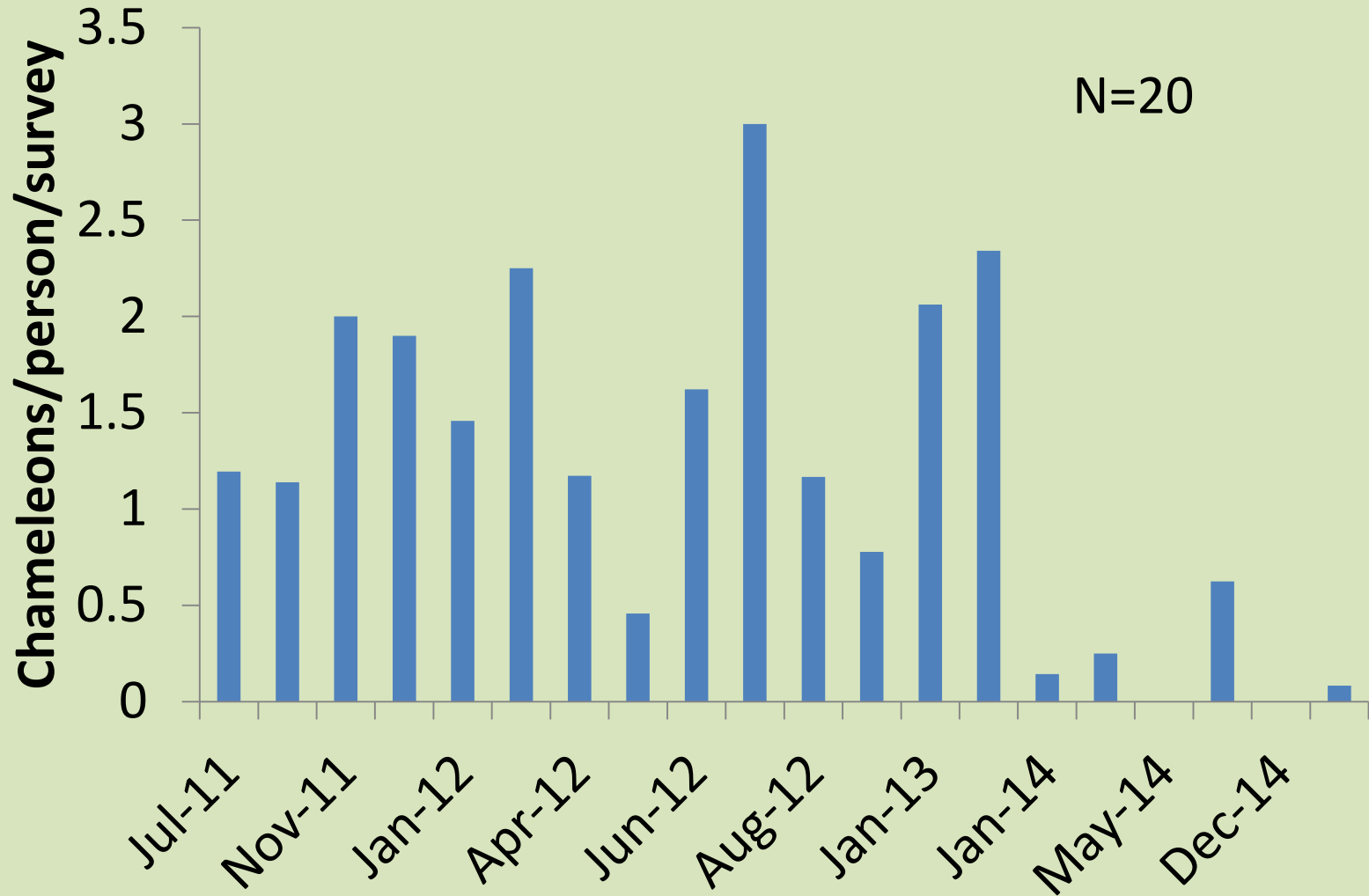
Total monthly removals from July 2011 to present



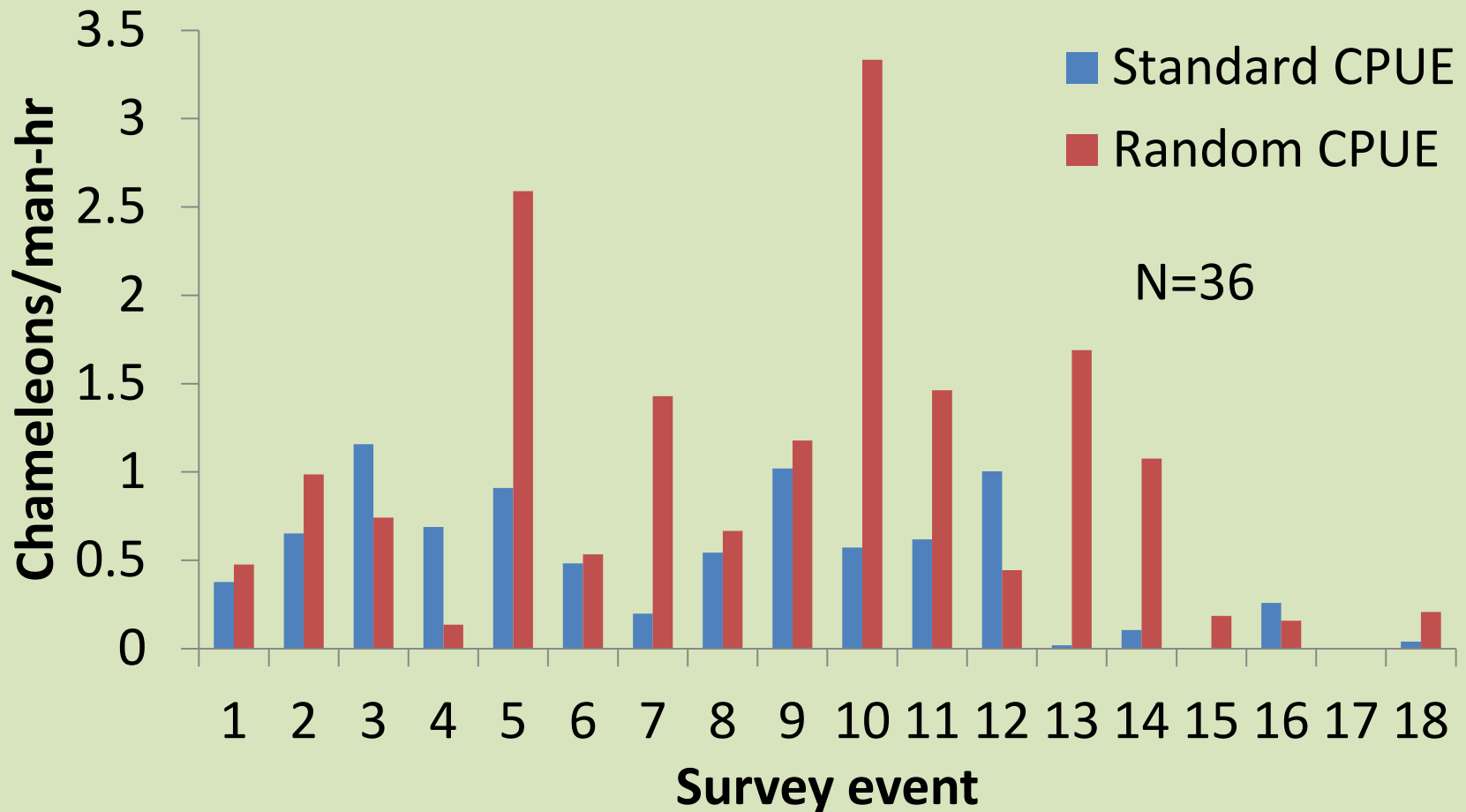
Monthly CPUE from Aug 2011-present



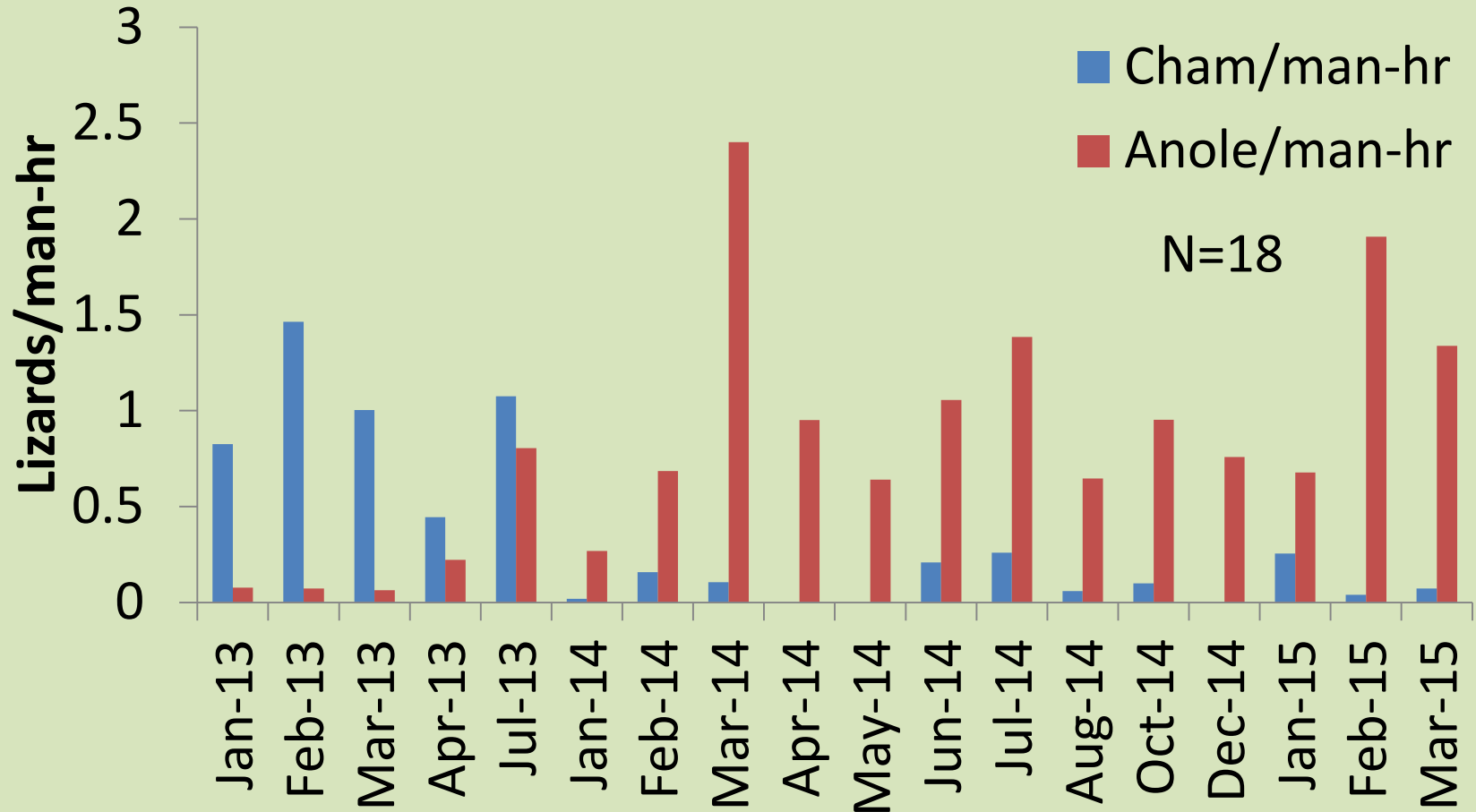
Monthly CPUE from Jul 2011-present



CPUE standard vs. random routes from Aug 2011-present



CPUe chameleon vs. knight anole from Jan 2013 to present



Discussion

- Manage: 599 chameleons removed

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- Monitor: Removal efforts are effective

Discussion

- Manage: 599 chameleons removed
- Monitor: Removal efforts are effective
- Eradicate: It's feasible
 - How many more surveys?
 - Cover the whole grove

Lessons learned

- Jun/Jul/Aug hatchlings & gravid females

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- Jun/Jul/Aug hatchlings & gravid females
- Quality of data increased through time
- People move chameleons
- Same species, new locations. New species, new locations.

You're invited!



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Acknowledgements

