

ROCKY MOUNTAIN SPOTTED FEVER AND THE SAN CARLOS APACHE TRIBE

RESULTS OF THE RODEO PROJECT AND BEYOND

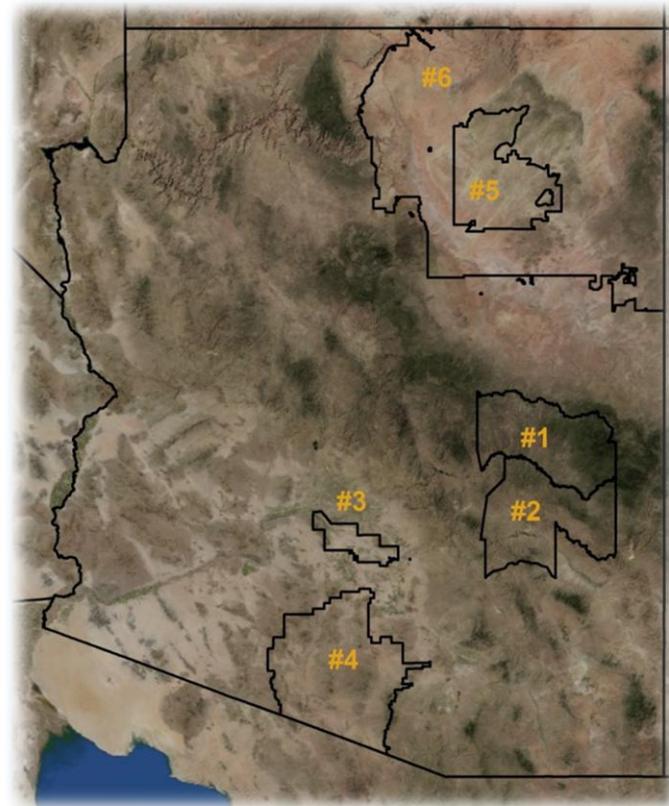


ROCKY MOUNTAIN SPOTTED FEVER

SCAT Rodeo Project

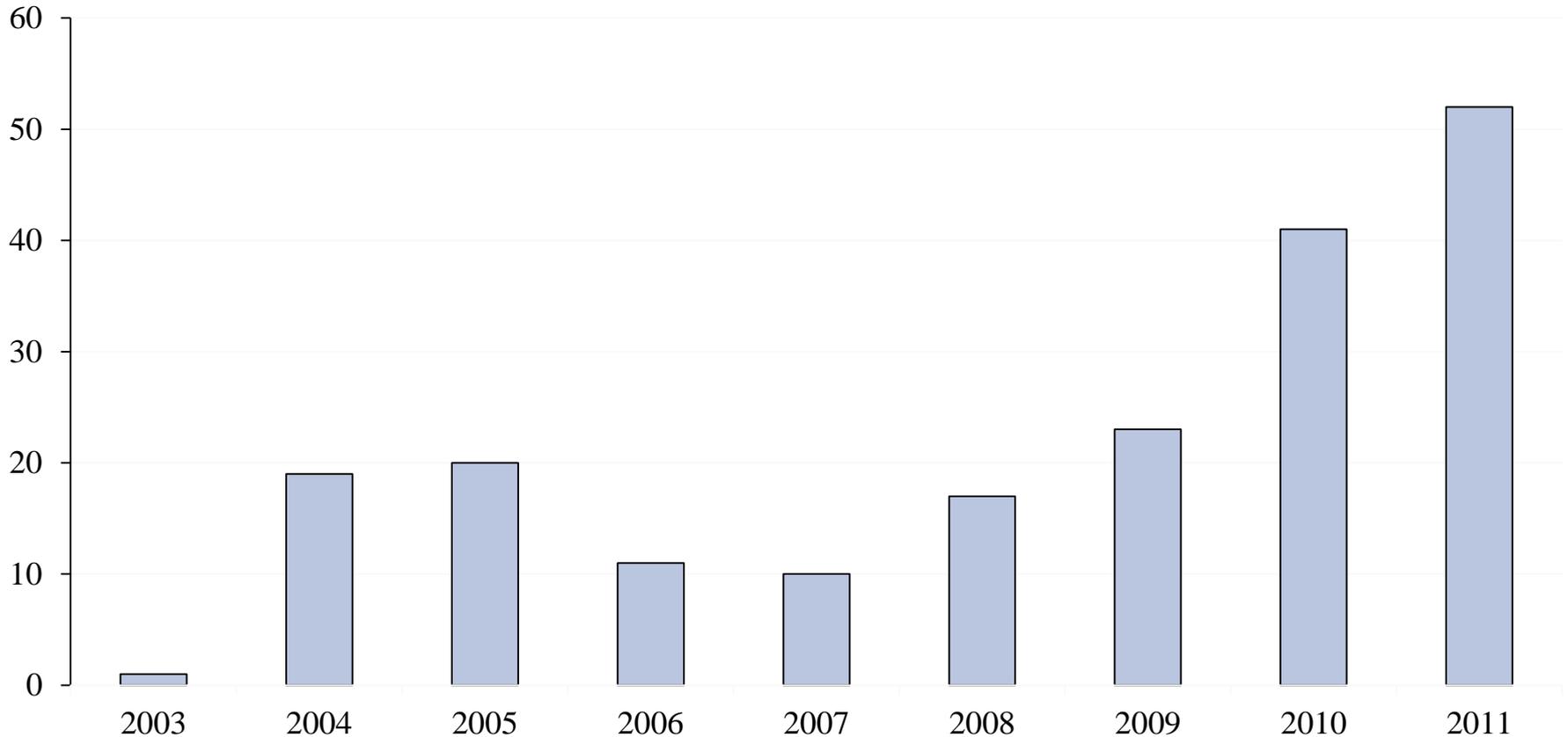
The Brown Dog Tick

- *Rhipicephalus sanguineus*



INCREASING NUMBER OF REPORTED HUMAN CASES IN ARIZONA

SCAT Rodeo Project



****18 Deaths 2003-2012 (7% Case Fatality Rate)***

RMSF SUSPECTED CASES FROM MARCH 20 – JULY 16, 2012

The Tribe has had an average of **greater than 6 RMSF suspected cases per day** from March 20 – July 16, 2012 (118 days)

Age Groups	Cases	Mean Cases/ Day
Children (0-18 yrs)	497 CASES	4.2 per DAY
Adults (>18 yrs)	297 CASES	2.5 per DAY
TOTAL	794 CASES	6.8 per DAY

PREVIOUSLY TRIED INTERVENTIONS

- **1X Year yard treatment**
- **1X Year distribution of tick collars**
 - Propoxur, lasts 3-5 months
 - ~1/5 of dogs collared
- **1X Year spay/neuter program**
 - Rural Area Veterinary Services (RAVS)
- **Strongly recommended the tribe create an Animal Control Program**
 - No funding or federal support
- **Residents buy products**
 - Expensive
 - Not conducted uniformly.



WHY HASN'T IT WORKED?

- **Insufficient prevention activities (scale, timing)**
 - Once a summer applications not frequent enough
 - Household and dog treatments need to be properly timed and applied for sustained tick-killing activity
- **Lack of focus on pets**
 - Strays less a concern (< 10%)
 - Poorly cared for/unrestrained pets
 - No permanent veterinary services on reservation



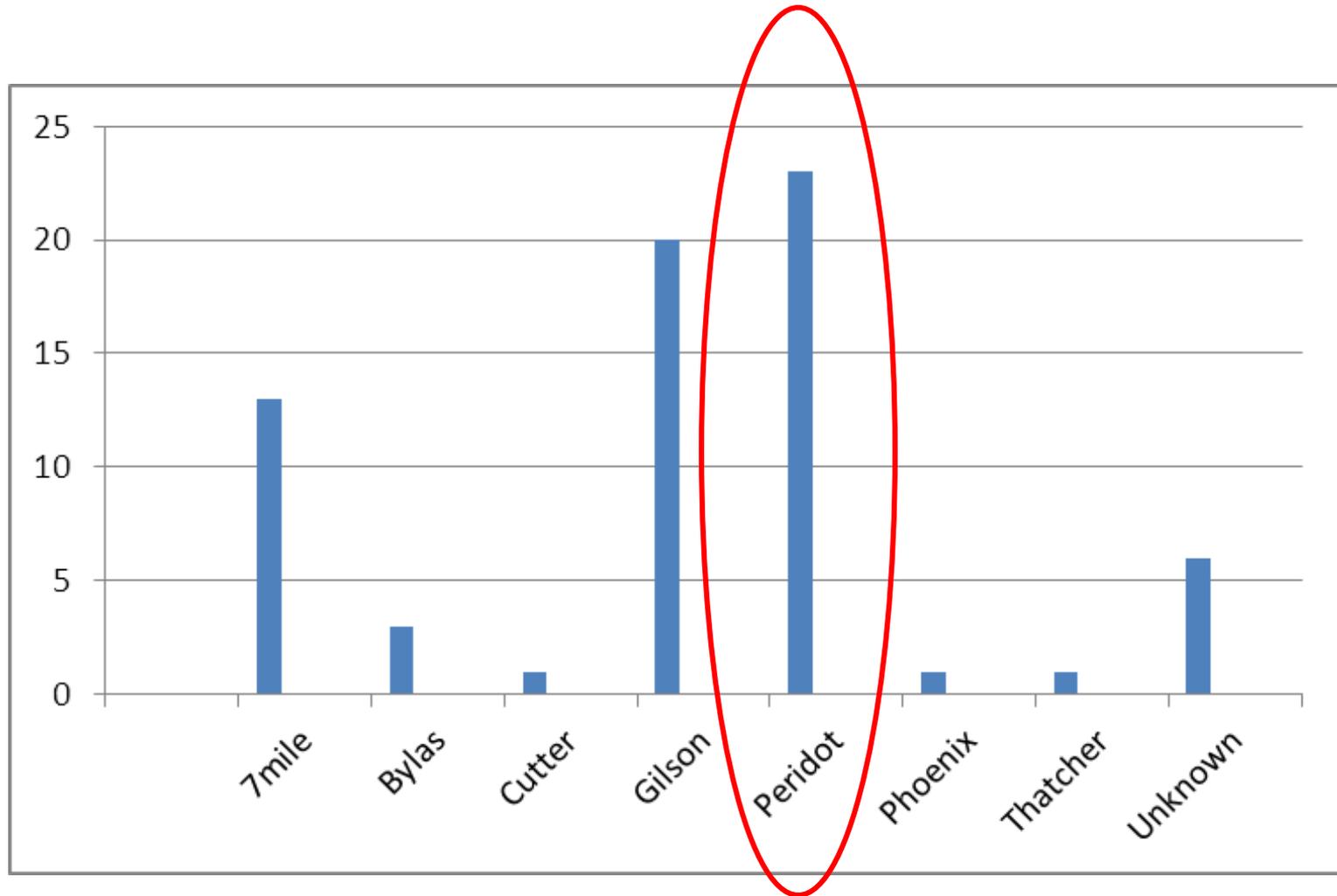
THE RMSF RODEO PROJECT :2012

- **Project divided in six primary rotating phases:**
 - Dog population count
 - Collar and register all dogs in study area
 - Spray each home 4 times
 - Tick counts in environment
 - Spay/neuter clinic
 - Knowledge, attitudes and practices survey
- **Provide data for tribe to expand reservation-wide**

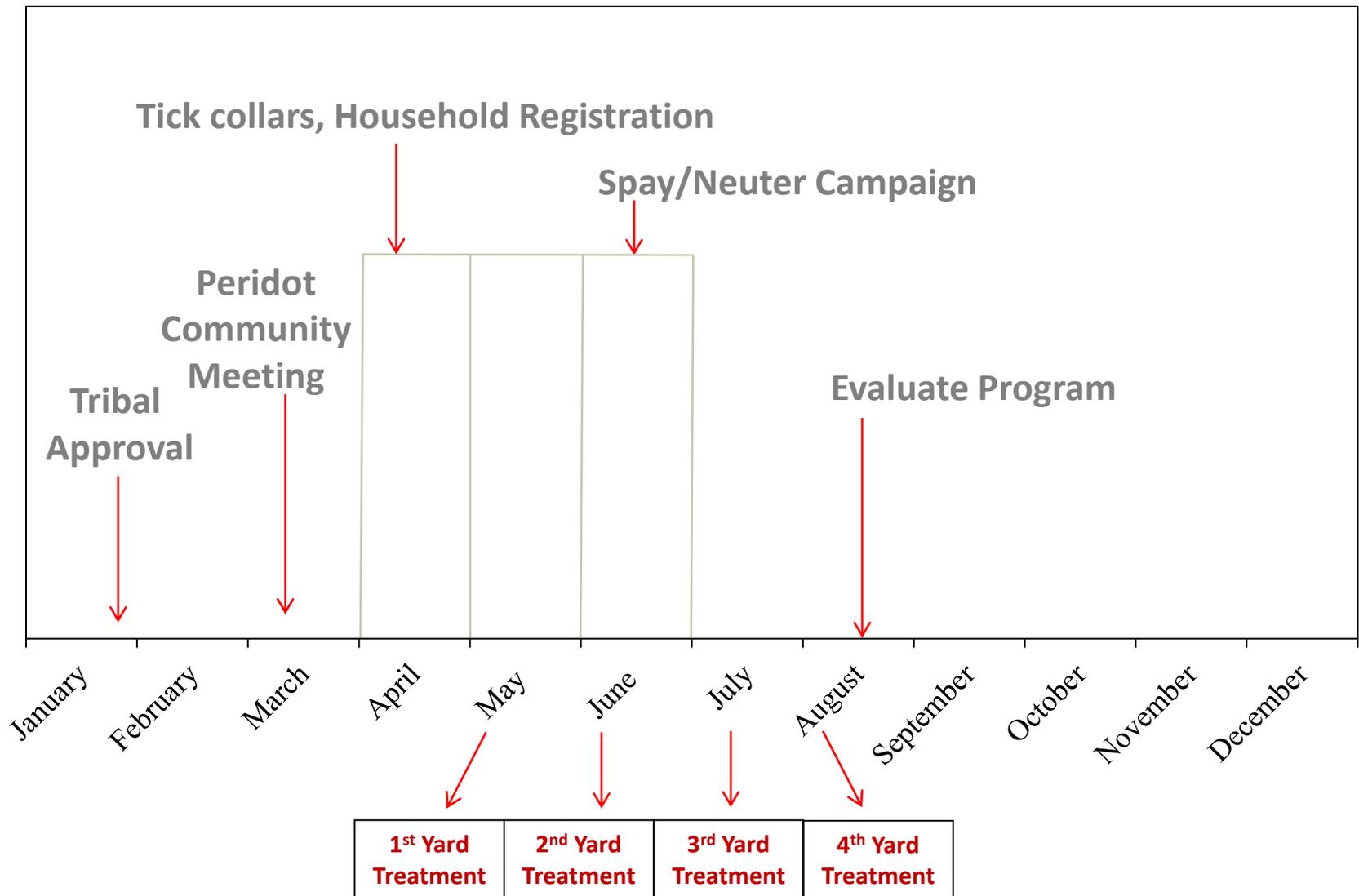


SELECTED RODEO DISTRICT: PERIDOT

RMSF Rodeo Project



RMSF RODEO TIMELINE, 2012



GOAL: PROPERLY TIMED ACARACIDE TREATMENTS

Once a Summer...



May

June



July

August



TICK COLLARS FOR DOGS

- **Seresto®**, new pre-market tick collar provided by Bayer
 - 4.5% Flumethrin, 10% imidacloprid
 - Visible marker of treatment
 - Utility in harsh environment unknown
 - Expected to last complete season (8 months)
- **Applied with tribal/owner consent**



FIELD TEAMS

RMSF RODEO

- San Carlos CHR's
- San Carlos Animal Control
- Indian Health Service
- Arizona Department of Health
- USDA
- CDC



FIELD TEAM OBJECTIVES

1. Visit every home
2. Collar, register, tie-outs, follow up on dogs
3. Educate homeowners
4. Treat yards for ticks

Eliminate Ticks!



YARD TREATMENT

- Bayer Ready To Spray Product
- 3 Gallon Sprayers
 - Spray around the house
 - Spray dog areas
- ATVs





RMSF RODEO PRELIMINARY RESULTS AND STATISTICS

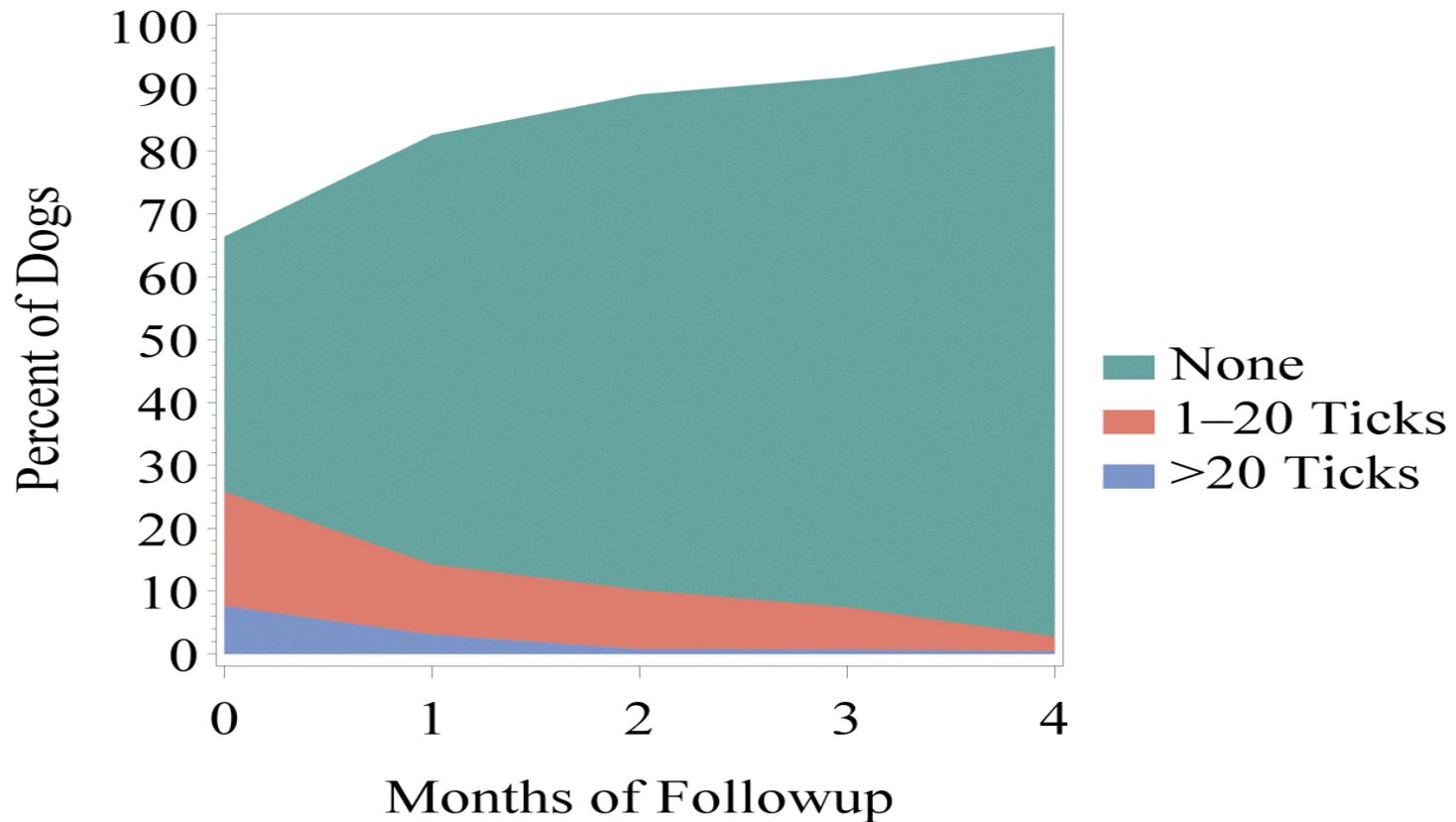
•576/582 (99%) of homes in Peridot Heights registered/participated

- Over 1000 Seresto® collars distributed
- 80% (95% CI: 72-88%) of enrolled households reported the grey Seresto® collar was still on all dogs at the end of the study
- Tethers distributed to restrain dogs
- All dogs provided tribal license and collar
- Houses Treated 4 times (May-Aug)

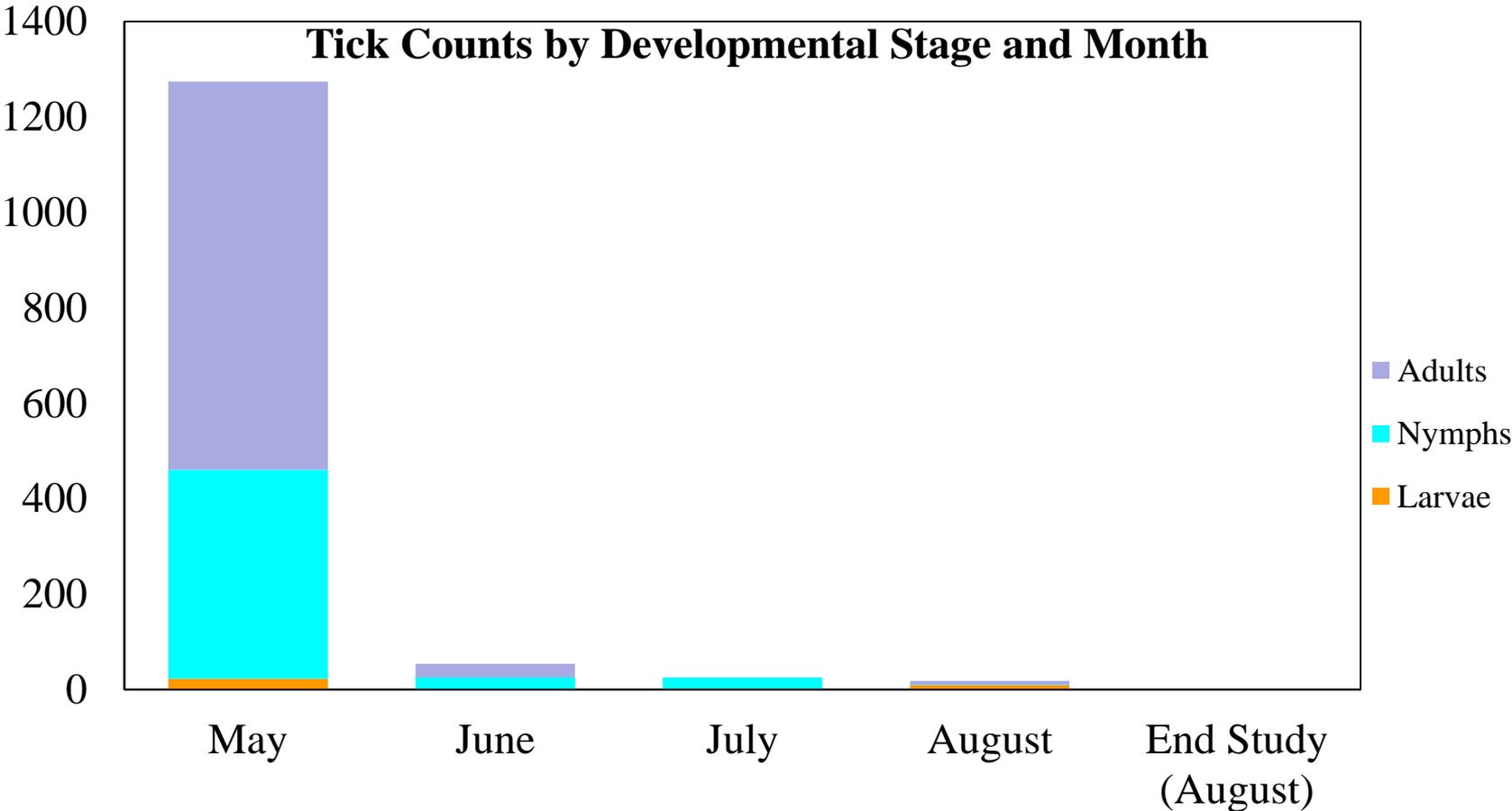
•>2,800 home-site visits

TICK COUNTS ON DOGS DURING HOME VISITS

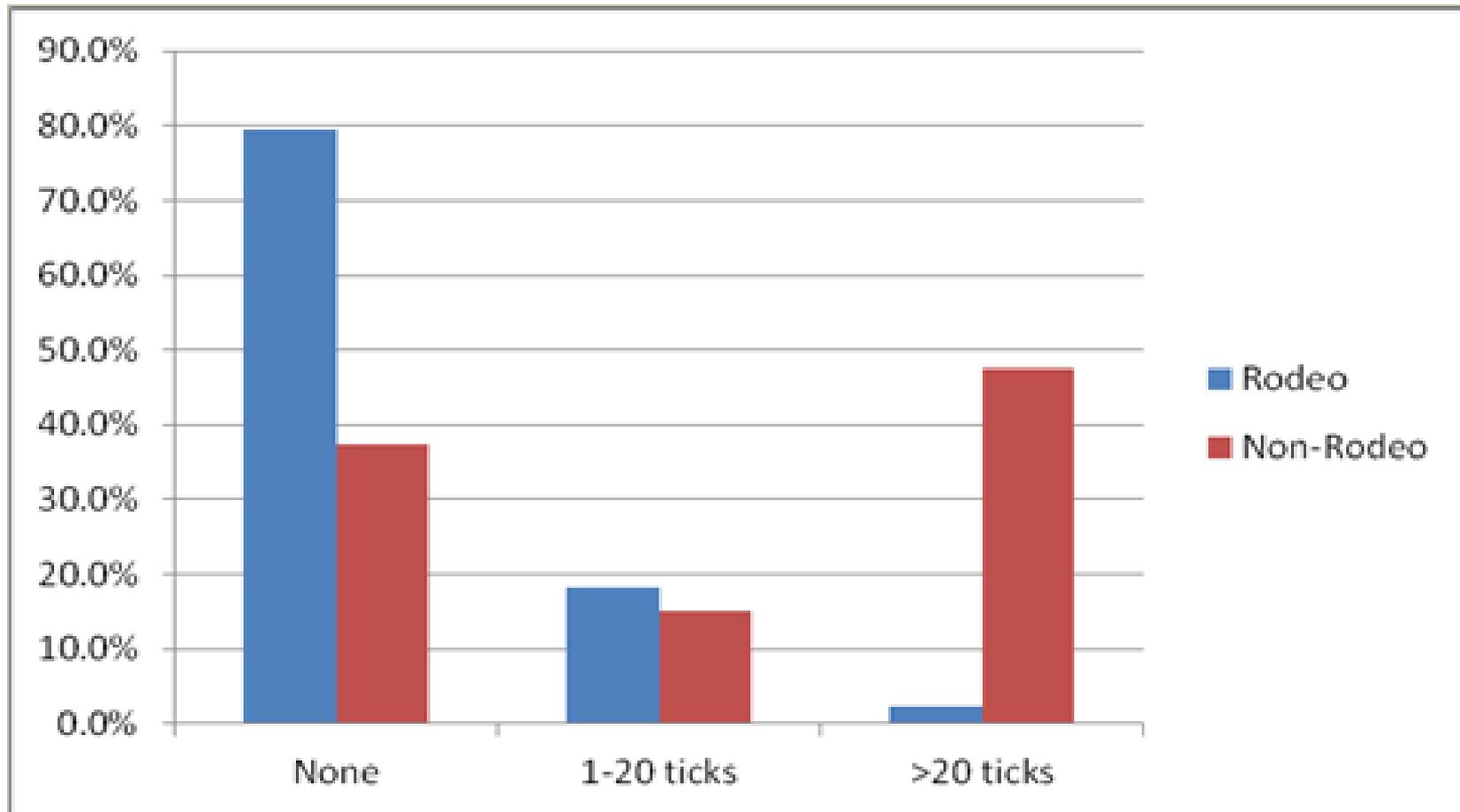
Percent of Dogs with Ticks after Registration in Months



TICKS TRAPS AT RODEO HOMESITES

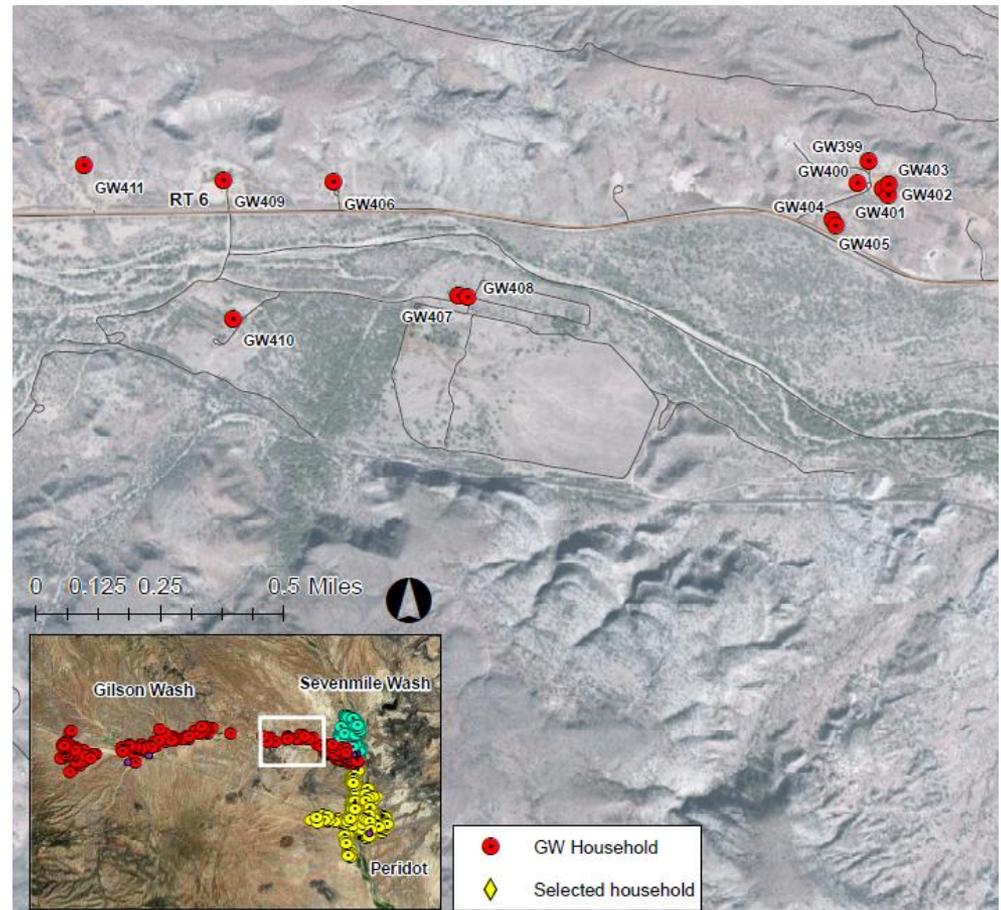


NUMBER OF TICKS ON DOGS (N=166) AT THE SPAY/NEUTER CLINIC AT PROJECT MID-POINT (JUNE)



PROJECT EVALUATION: SURVEY DESIGN

- Using GIS identified houses from aerial footage
- Sampling strategy:
 - Stratified by housing district
 - Oversampled for routine treatment areas
- Questions addressed:
 - Knowledge
 - Attitudes
 - Practices



PROJECT EVALUATION: SURVEY IMPLEMENTATION

- 426 surveys : House-to-House
- Piloted mobile data collection with tablet technology
- Survey team of 26 people from CDC, IHS, state, tribe
- 1 week
- 100+ degree temperatures



EVALUATION: OVERALL KNOWLEDGE, ATTITUDES AND PRACTICES

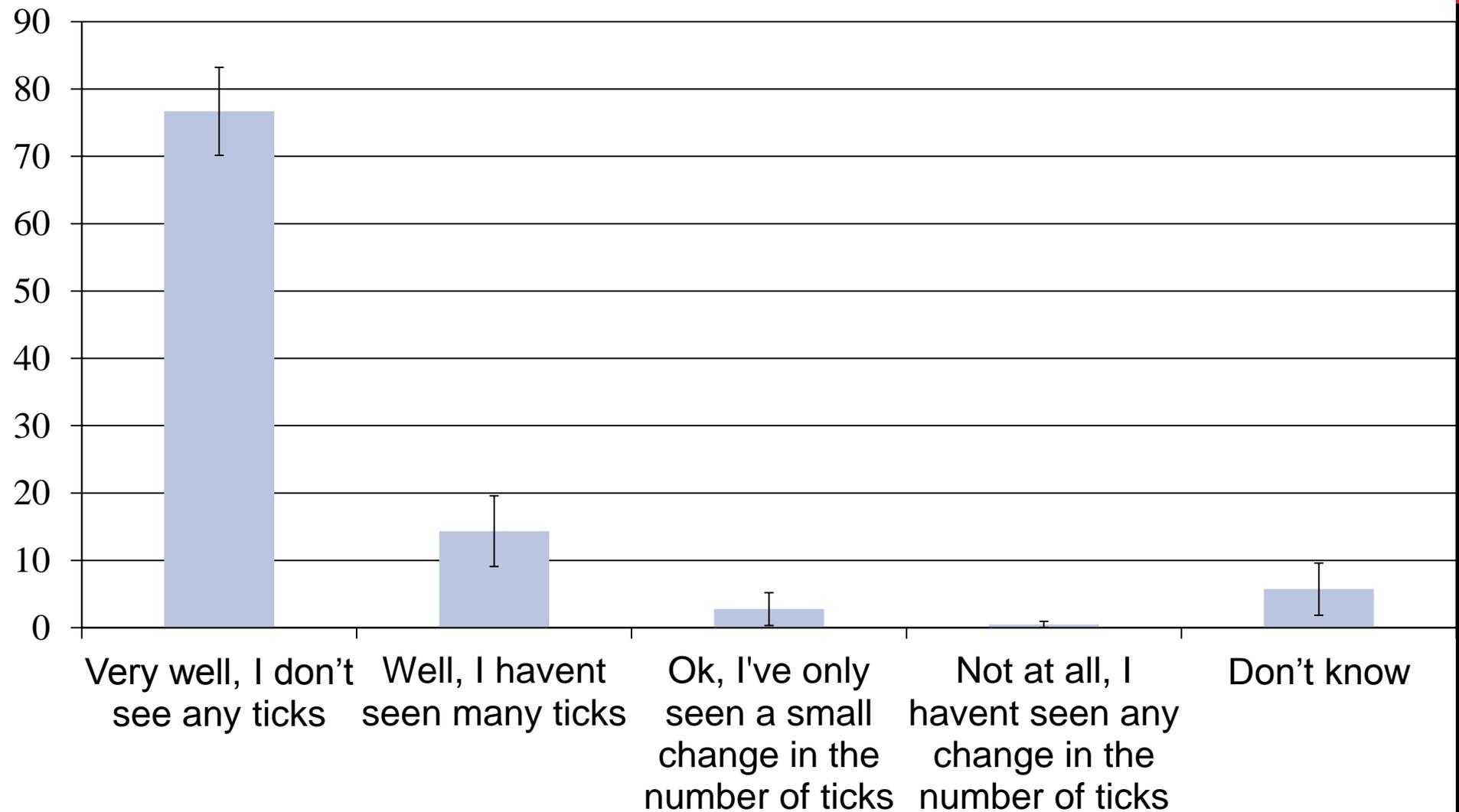
- **Knowledge**

- 95% (95% CI: 94-98%) of persons had heard of RMSF
- 42% (95% CI: 37-47%) of persons said they knew someone who had had RMSF

- **Attitudes**

- 88% (95% CI: 85-91%) would support an animal control shelter on San Carlos
- 80% (95% CI: 76-84%) would support a complete animal control shelter (includes euthanasia)
- No difference by respondent age

PERCEIVED RMSF RODEO EFFICACY



EVALUATION: COMPARING RODEO AND NON-RODEO AREAS

	Rodeo Area (95% CI)	Non-Rodeo Area (95% CI)
House treated for ticks in the last year	93% (89-96%)	48% (42-54%)
Currently treat dog for ticks	90% (84-96%)	70% (62-77%)
Always tie up, fence in or keep dogs inside	40% (32-46%)	28% (21-35%)
Think there should be a limit to the number of dogs a person can own	69% (63-74%)	75% (69-80%)

EVALUATION: TICKS REPORTED FOUND ON TICK CHECKS

- In Non-Rodeo areas within the last month, ticks were found during a tick check at 13% of homes. (95% CI 7.3–18%)
- In the Rodeo area within the last month, ticks were found during a tick check at 5% of homes. (95% CI 0.6–9.0%)

RODEO SUSTAINABILITY

- **91% (95% CI: 87-95%) of persons reported they would continue to treat yard**
- **96% (95% CI: 92-99%) of persons reported they would continue to treat dogs**
- **92% (95% CI: 86-97%) said they would buy Seresto® collar**

THE TRIBE'S PROGRESS: 2012

Outside project area:

- Sprayed each tribal home 4 times from May to October 2012
- Treated 526/554 IHS referrals
- 1575 tick collars distributed
- Collected 325 stray dogs (only three from study area)
- 25 Presentations to the community
- Seven articles in paper
- Organized tribal-wide large item clean up:
- Spay and neuter clinics.....

2012 RAVS CLINICS

- **March 2012 Vaccination Clinic**
 - 386 animals vaccinated
- **May 2012 Spay/Neuter/Vaccination Clinic**
 - 534 animals treated
 - **Dogs Spayed/Neutered: 168**
 - **Cats Spayed/Neutered: 38**
 - **Dogs vaccinated: 281**
 - **Cats vaccinated: 47**
 - **Estimated savings:**
 - ***\$158,025.00***



SECURED GRANT FUNDING FOR FY 2013 FROM FEDERAL AND PRIVATE FUNDING SOURCES

IHS: \$200,000

HUD \$268,000

Freeport TBD



**FREEPORT-McMoRAN
COPPER & GOLD**



2013 GOALS: RMSF PROJECT

- **Increase number of dogs to be sterilized by 25% from previous year**
- **Place tick collars on 65% of owned dogs**
- **Increase the number of stray unwanted dogs for collection/adoption by 15%**
- **Treat each home on the reservation four times**
- **Offer 3 community presentations /month**



WHAT WILL THE MONEY BE USED FOR?

Five primary products:

1. Tick collars
2. Pesticide
3. Spay/Neuter Clinics
4. ATVs
5. And of course...
MAN Power!!!



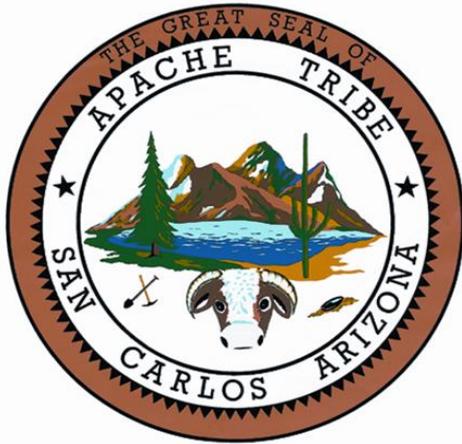
FY 2013 RMSF PROJECT

Monthly spay/neuter service offered by mobile vet clinic: November 2012

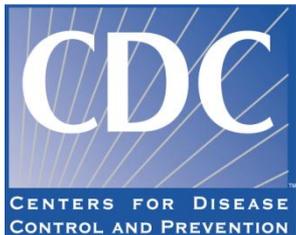
- **March 2013**
 - 3 Day Wellness Clinic RAVS
 - **Collar** and register dogs
- **April/May 2013**
 - Begin spray campaign
 - May – week long spay/neuter RAVS clinic
- **June/July/August**
 - Spray, collar and educate....



RMSF RODEO PARTNERS



Virginia-Maryland
Regional College of
Veterinary Medicine



Bayer HealthCare





**THANK
YOU!**