Wolf Cattle Interaction Study

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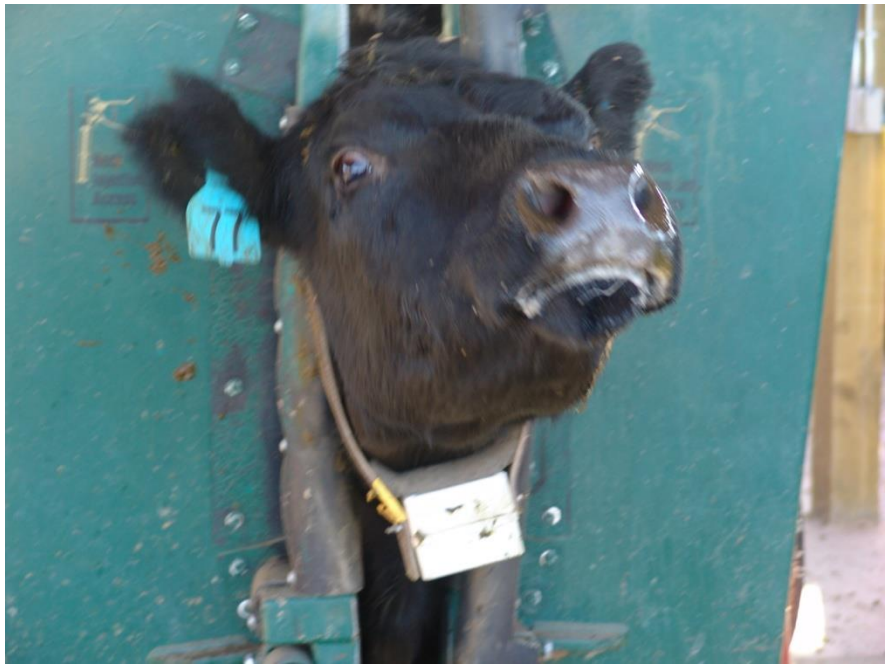
Study Design

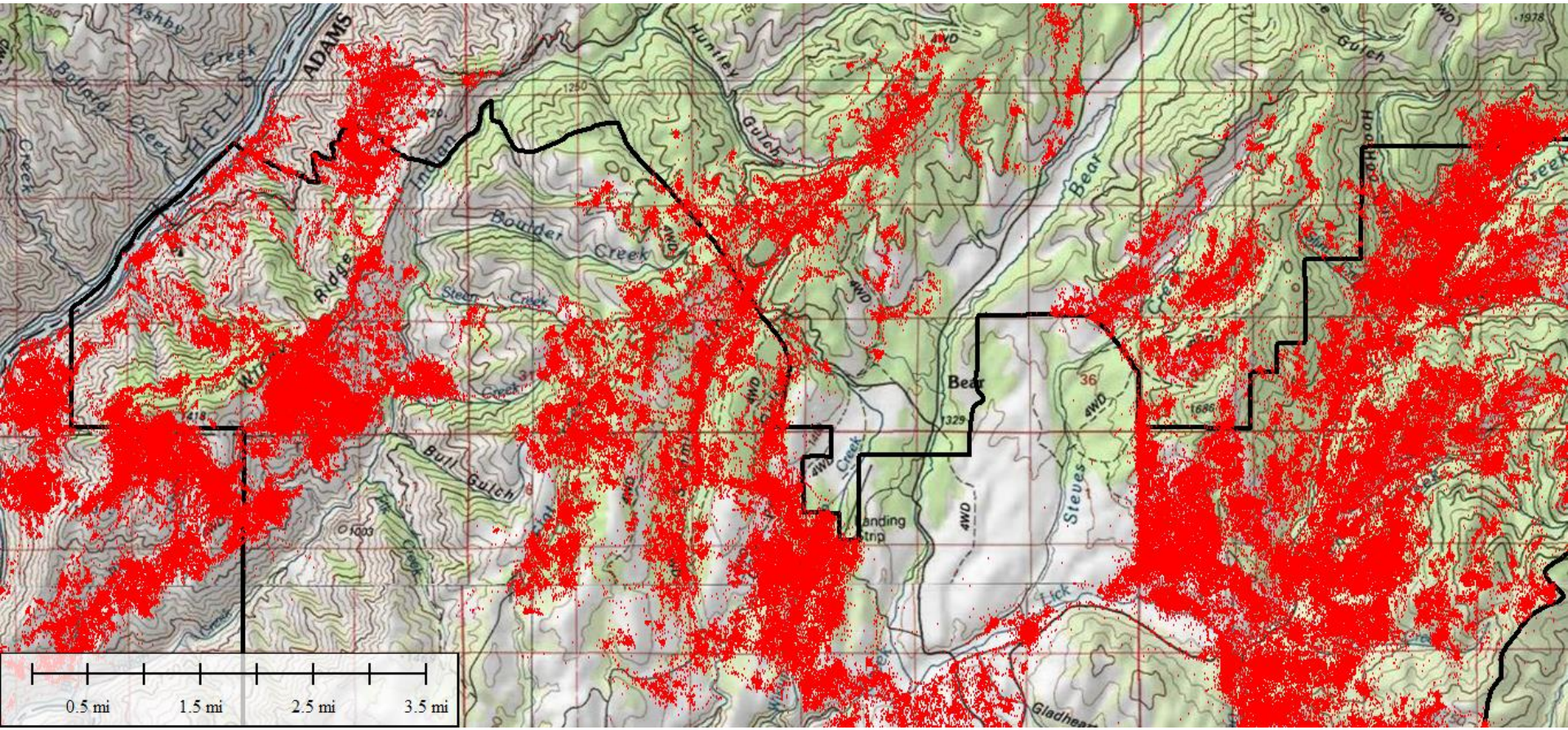
- 3 Site Pairs (Wolf vs. Low or No Wolf) are being Studied (≈70 cow collars)
  - 2011 this will be 4 pairs with 100 cow collars
- We are monitoring and analyzing:
  - Cattle movements
  - Cattle site preferences
  - Wolf movements
  - Wolf site preference
  - Wolf activity pattern
  - Wolf/Cattle interactions



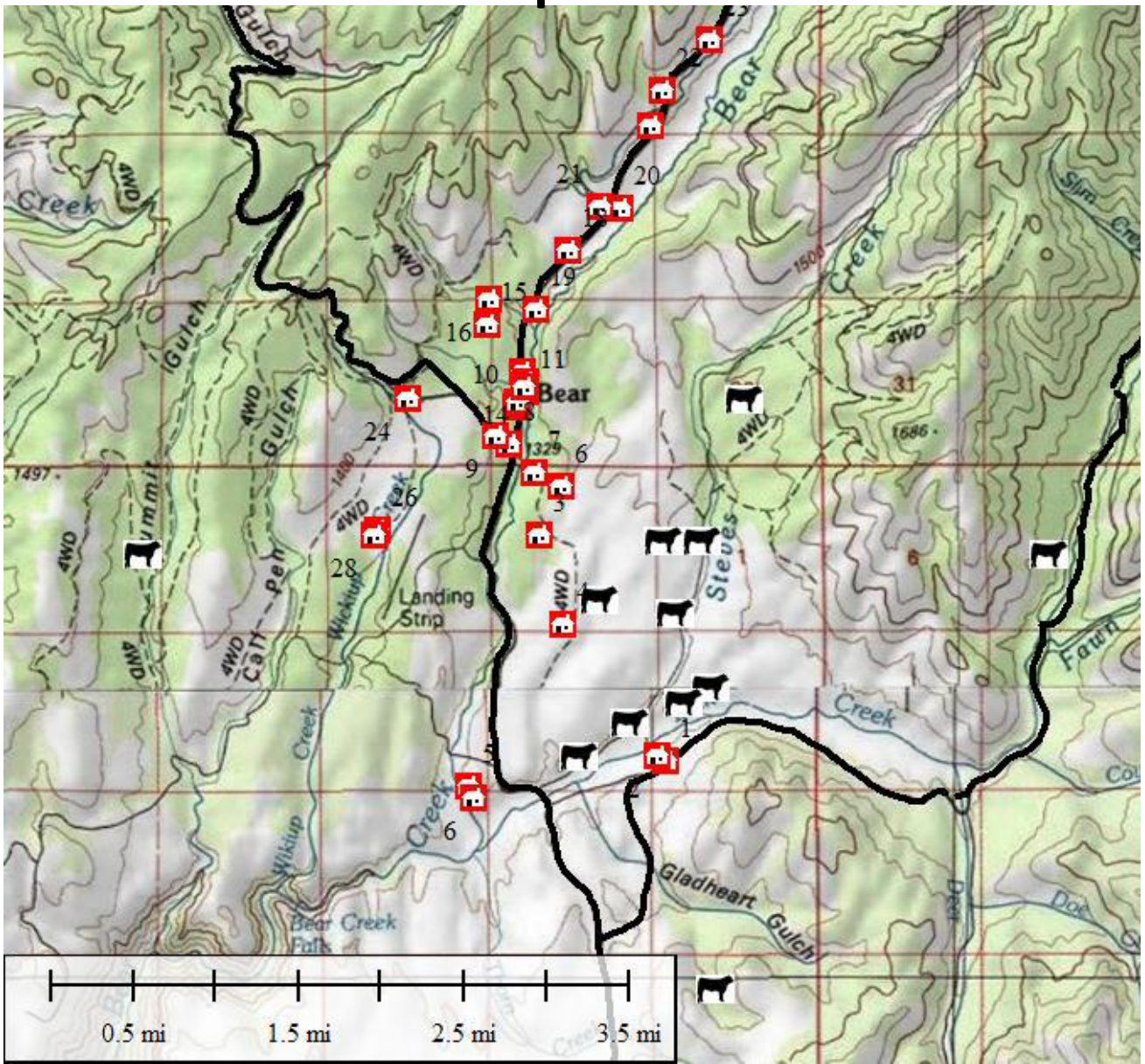

04/16/2010

GPS Cow Collar Data (5 minute)

Each position is a red dot

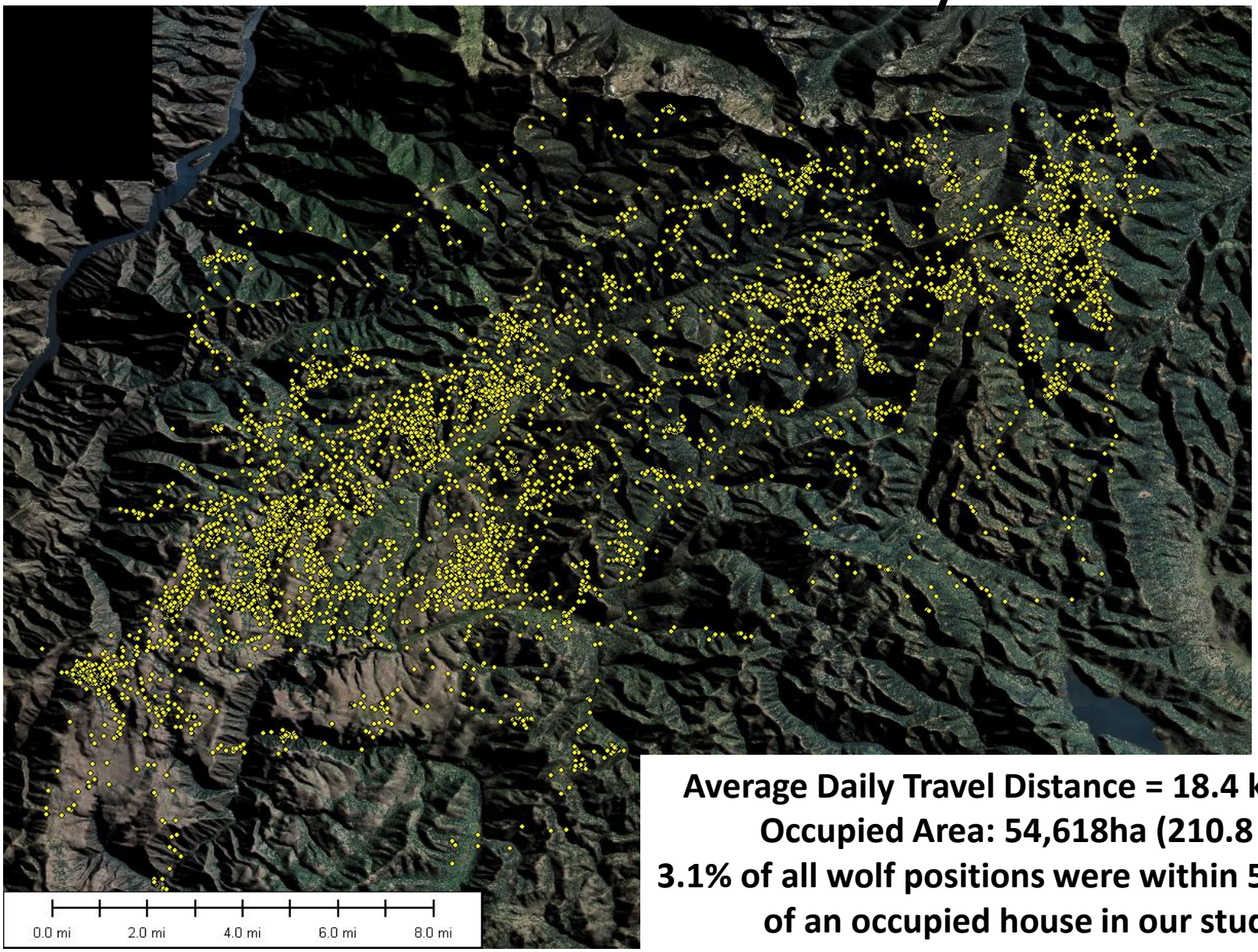


Cow Depredations in Calving Pasture March to September 2009



Main Roads are in Black

Wolf B446 Locations 22 May - Nov 30, 2009



Average Daily Travel Distance = 18.4 km (11.4 mi)
Occupied Area: 54,618ha (210.8 sq. mi)
3.1% of all wolf positions were within 500m (547 yd) of an occupied house in our study area

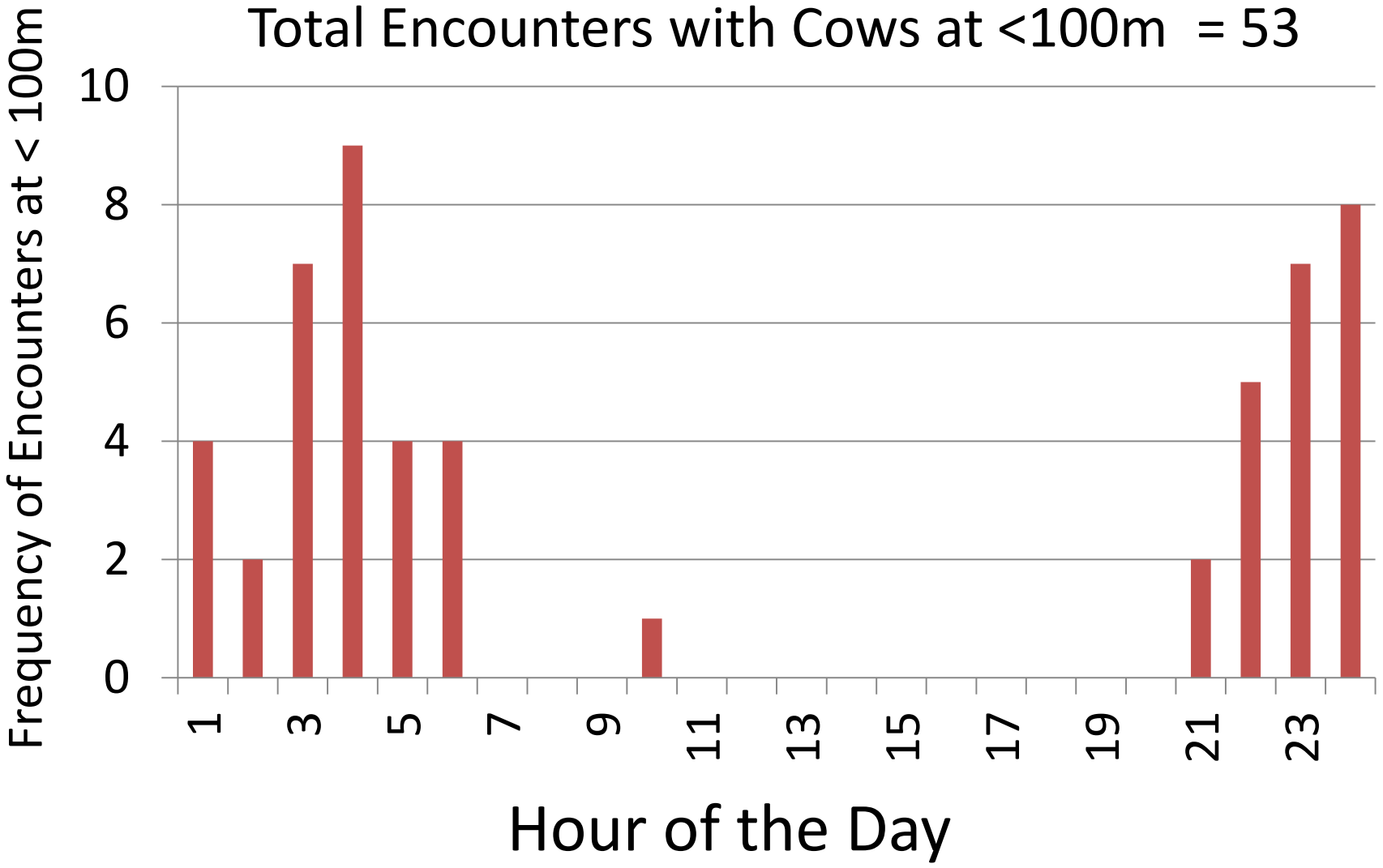
Maximum distance covered in 1 hour was 6.29 mi and in a 2 hours 8.39 mi.

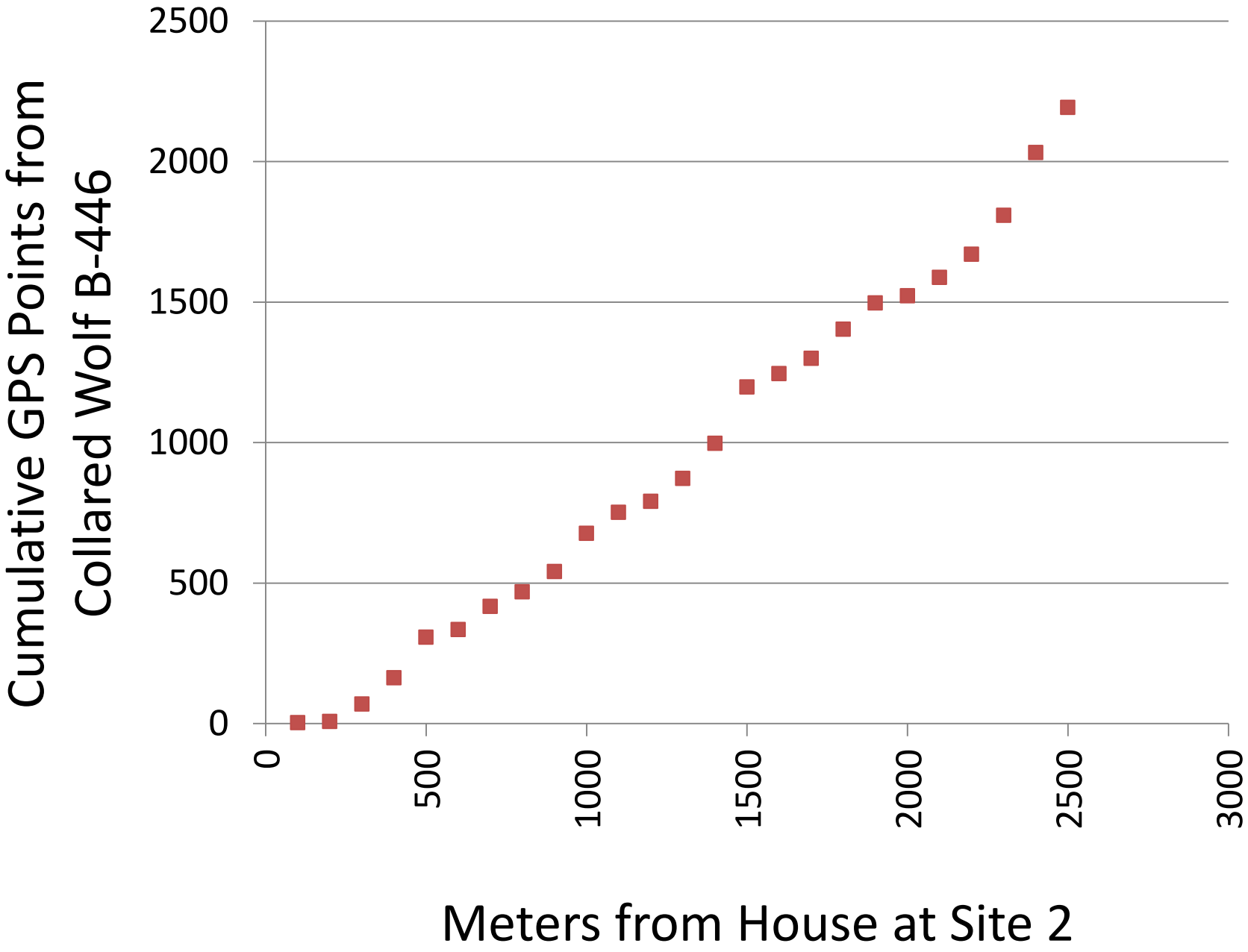
Wolf B446 –Collared Cow Interactions

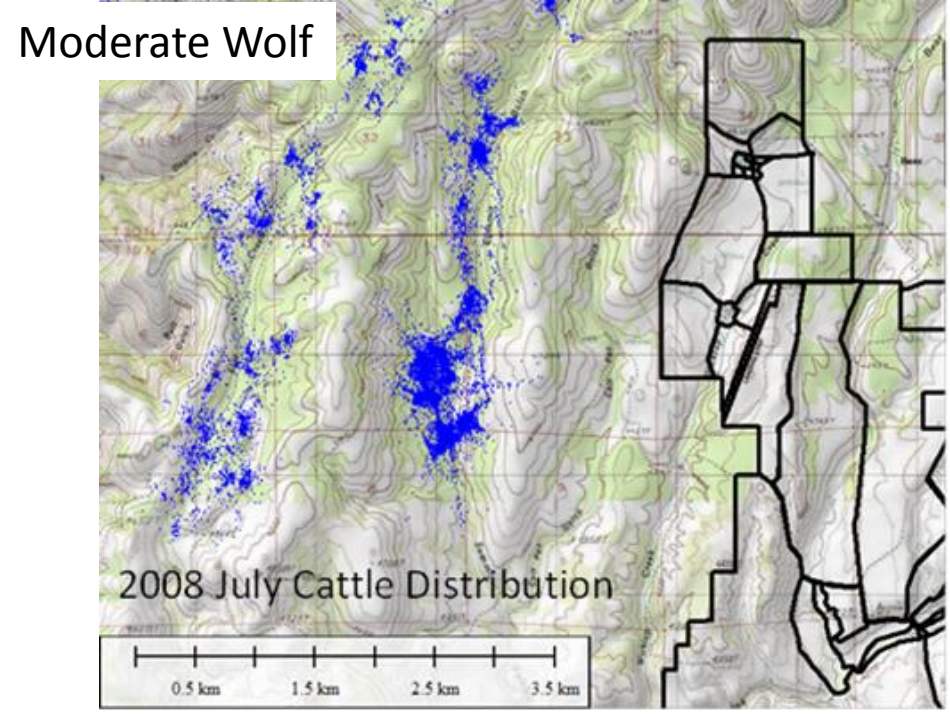
Animal	Cow/Wolf B446 Interactions (Count)		
	547 yd. (500 m)	**273 yd. (250 m)**	**109 yd. (100 m)**
Cow Collar 003	73	24	3
Cow Collar 005	121	43	5
Cow Collar 008*	41	14	3
Cow Collar 018	61	10	0
Cow Collar 019	99	36	7
Cow Collar 020	140	37	12
Cow Collar 021	93	20	5
Cow Collar 022*	23	4	1
Cow Collar 023	52	15	2
Cow Collar 024	80	41	15
Total	**783**	**244**	**53**

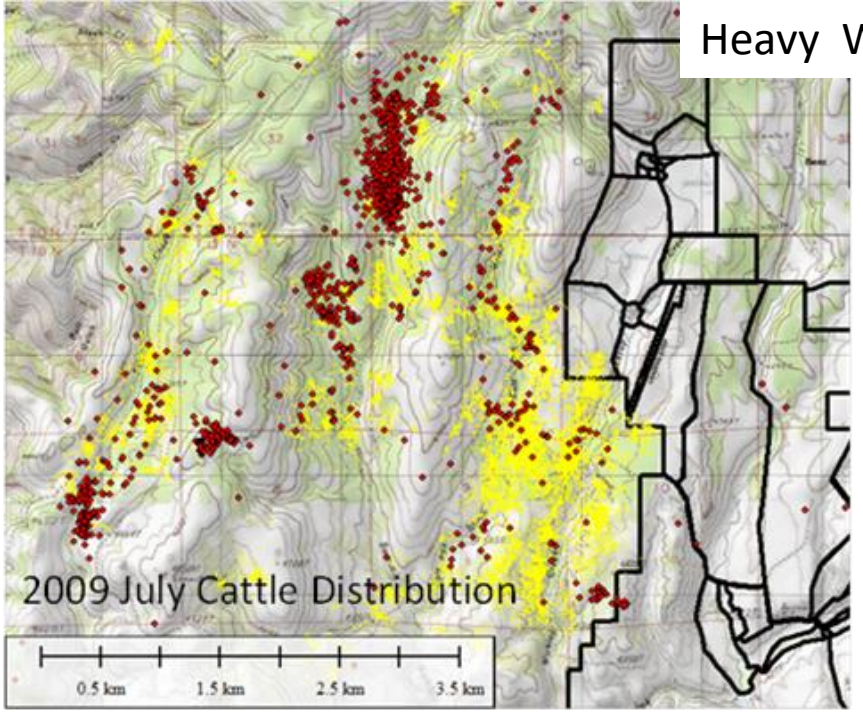
* Animals marked with a star lost calves during the summer grazing season.

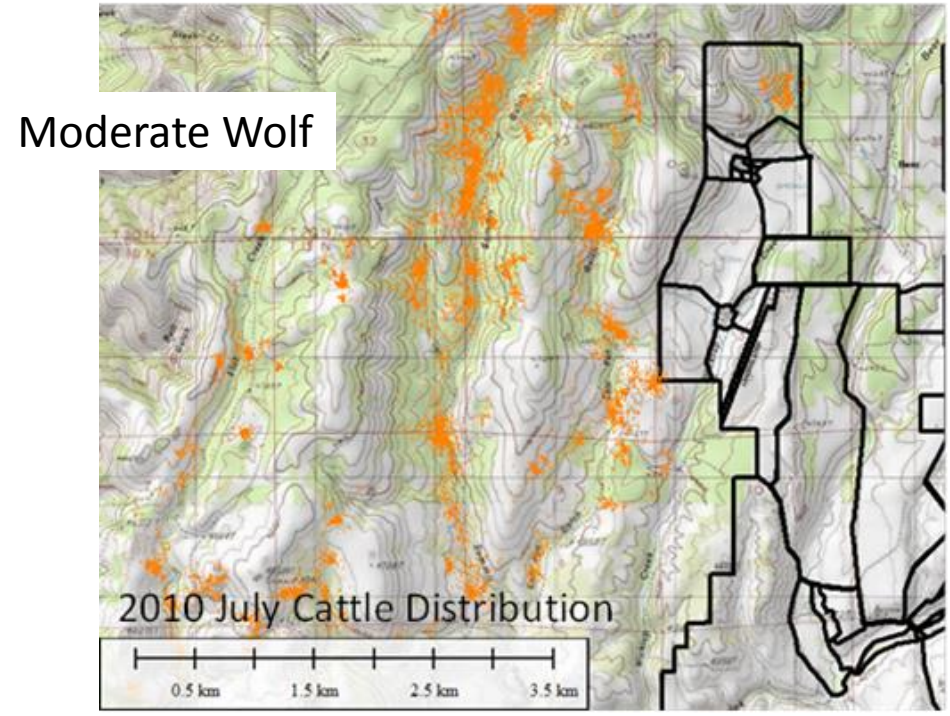
Wolf B-446/Cow Encounters <100m




Cumulative GPS Points from Collared Wolf B-446
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
Meters from House at Site 2


Moderate Wolf
2008 July Cattle Distribution
0.5 km
1.5 km
2.5 km
3.5 km


Heavy Wolf
2009 July Cattle Distribution
0.5 km
1.5 km
2.5 km
3.5 km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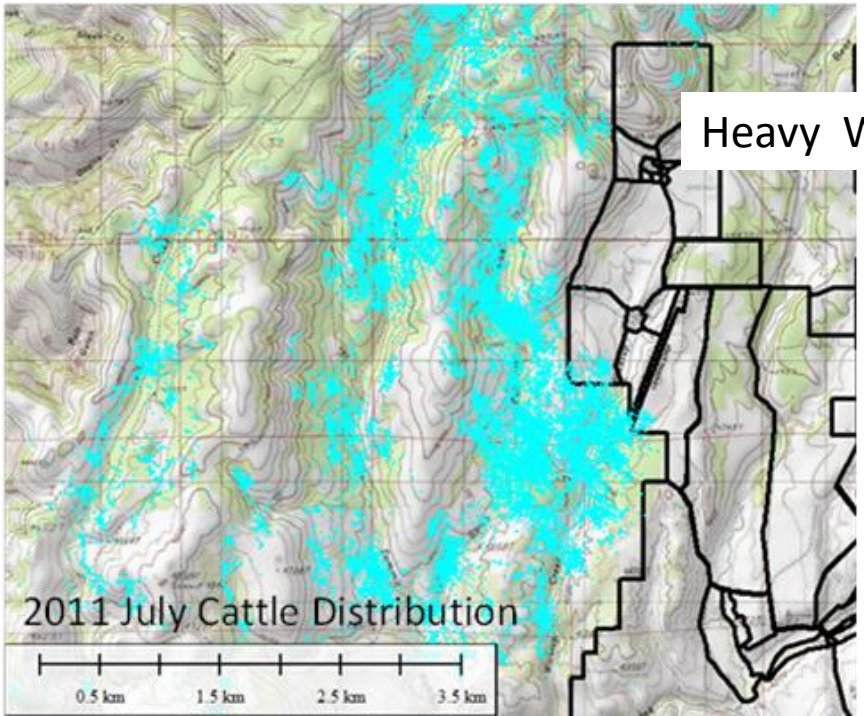
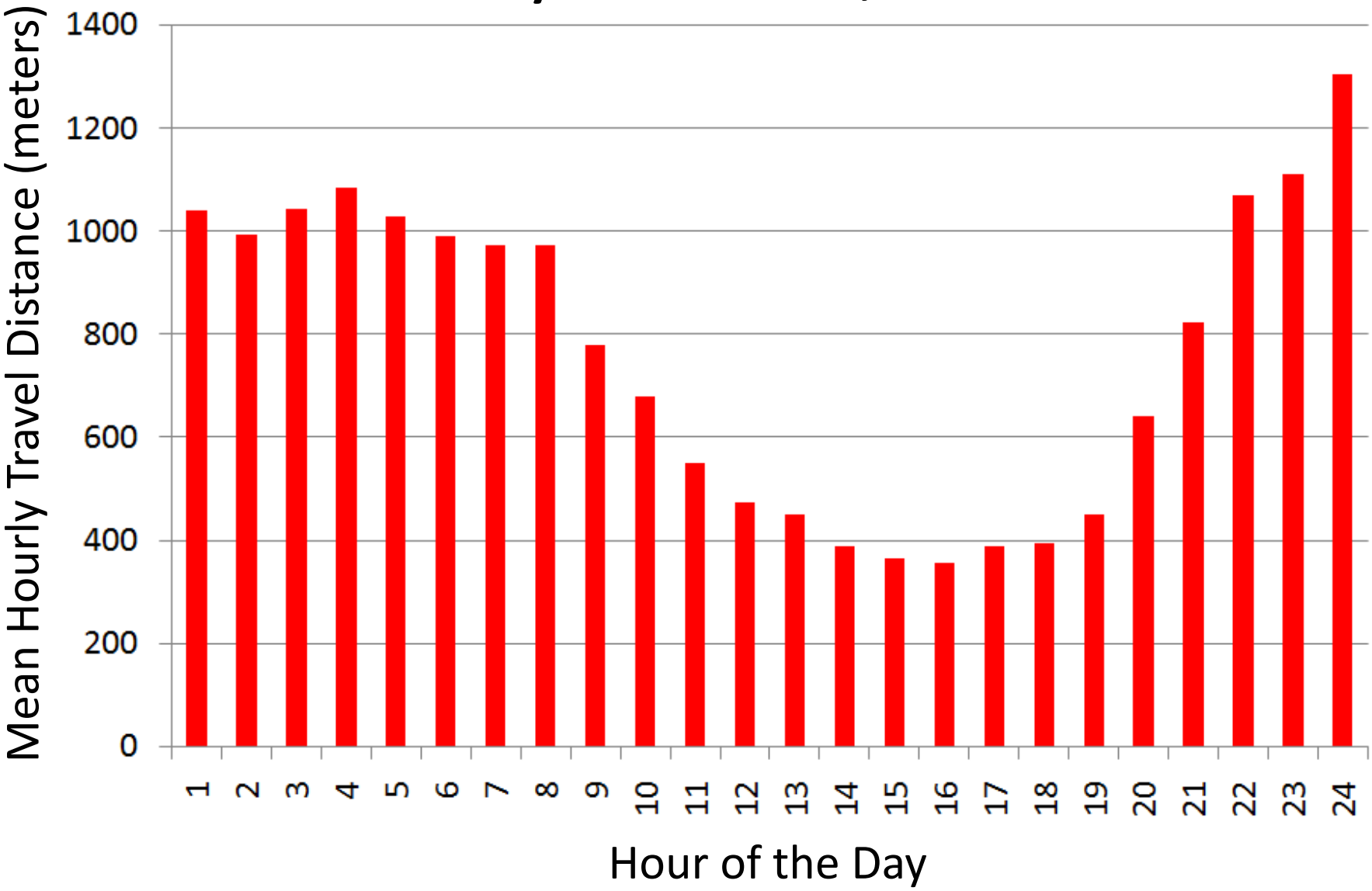

Heavy Wolf
2011 July Cattle Distribution
0.5 km
1.5 km
2.5 km
3.5 km

Wolf B446 Mean Hourly Travel Distance
22 May - Nov 30, 2009



What we have found

- Wolves can frequently interact with livestock, mostly at night,
- Wolves alter livestock behavior
  - Spatial
  - Temperament
- Wolves increase the cost of livestock rearing on extensive rangelands
- No easy fixes
- With different ranching/agricultural systems methods of protecting livestock change
- We have to have solid data to make rational decisions

Collaborative Project
Using an Adaptive Management Approach

- USDA Agricultural Research Service Boise - Dr. Pat Clark
- Oregon State University – Dr. Douglas Johnson & Mr. John Williams
- University of Idaho – Dr. Neil Rimbey
- Funding Provided By:
  - USDA ARS
  - OSU & Oregon Experiment Station
  - Oregon Beef Council
  - Idaho National Laboratory (Engineering Grant)
- Other Collaborators
  - Boise State University College of Engineering
  - Oregon State University College of Engineering
  - Other Universities & Consultants