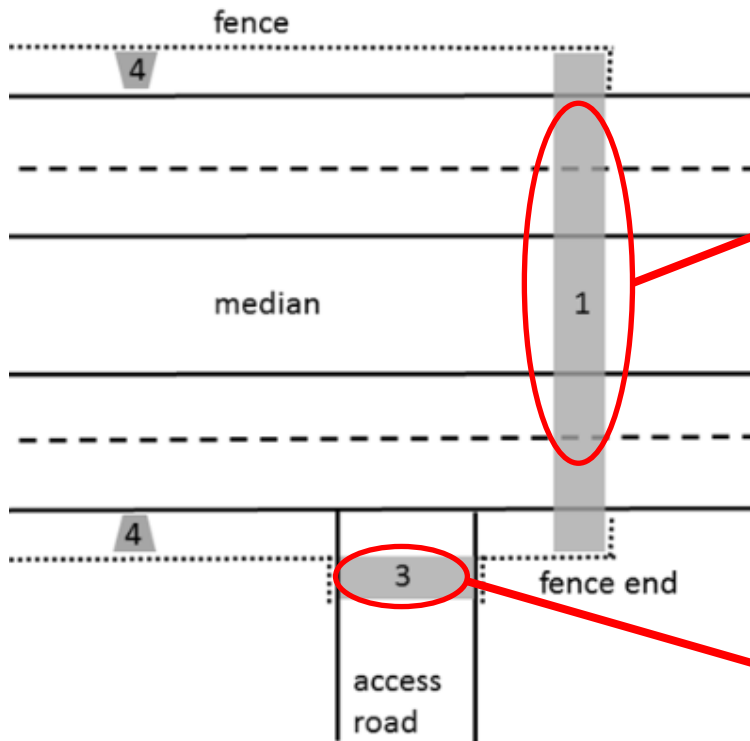


# Effectiveness of low-cost electrified barriers for black bears

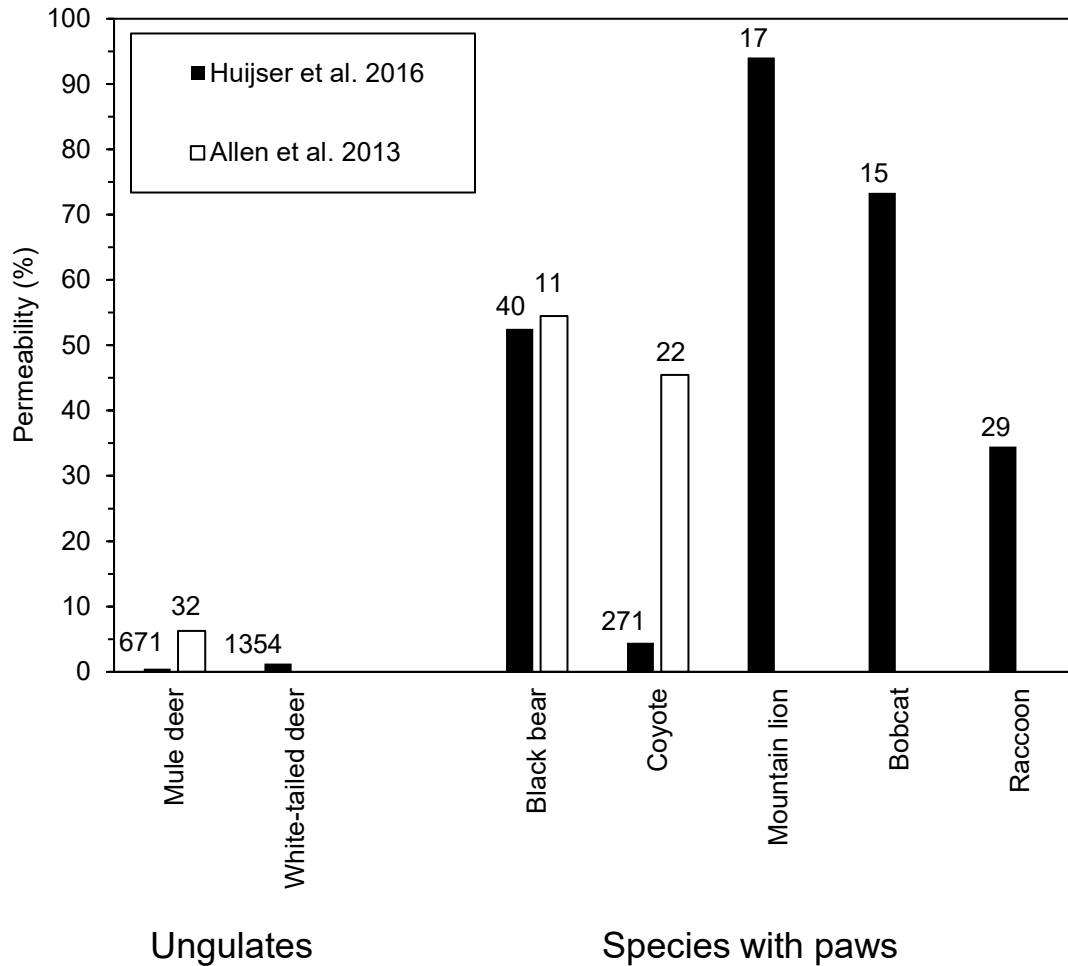


Marcel P. Huijser, PhD  
Samantha Getty, BSc

# Wildlife Guards



# Wildlife Guards



For species N≥10



# Solutions?

Traffic volume/speed

Low



High



# Many low volume access points!



Low cost:  
A few hundred  
A few thousand  
Ten thousand  
Not \$100k+

Not a pain:  
Drive-over  
Drive-thru

# Electrified Barrier BS Fabrication, Fall 2021



# Electrified Barrier Crosstek, Spring 2022



# Signs





# “Power Off” button



# Jump-outs



Marcel P. Huijser, PhD  
Samantha Getty, BSc

# Historic use US Hwy 93

- 32% use by mule deer
- 7% use by white-tailed deer

(Huijser et al. 2016)



Area	#	Height	
		ft	cm
Evvaro	14	6' 8.5"	204
Evvaro	17	6' 0"	183
Evvaro	19	6' 8"	203
Evvaro	20	6' 0"	183
Evvaro	21	6' 1.5"	187
Evvaro	23	5' 6"	168
Ravalli Hill	26	5' 11"	180
Ravalli Hill	27	6' 0"	183
Ravalli Hill	28	5' 9"	175
Ravalli Hill	29	5' 11"	180

# Lower jump-outs

- Face 5 ft
- Bar 18 inches above surface
- 10 jump-outs
- 4 in area with mule deer
- 6 in area with white-tailed deer

# Lower jump-outs



# Lower jump-outs



# Lower jump-outs



# Prototype bar













# Final bar design























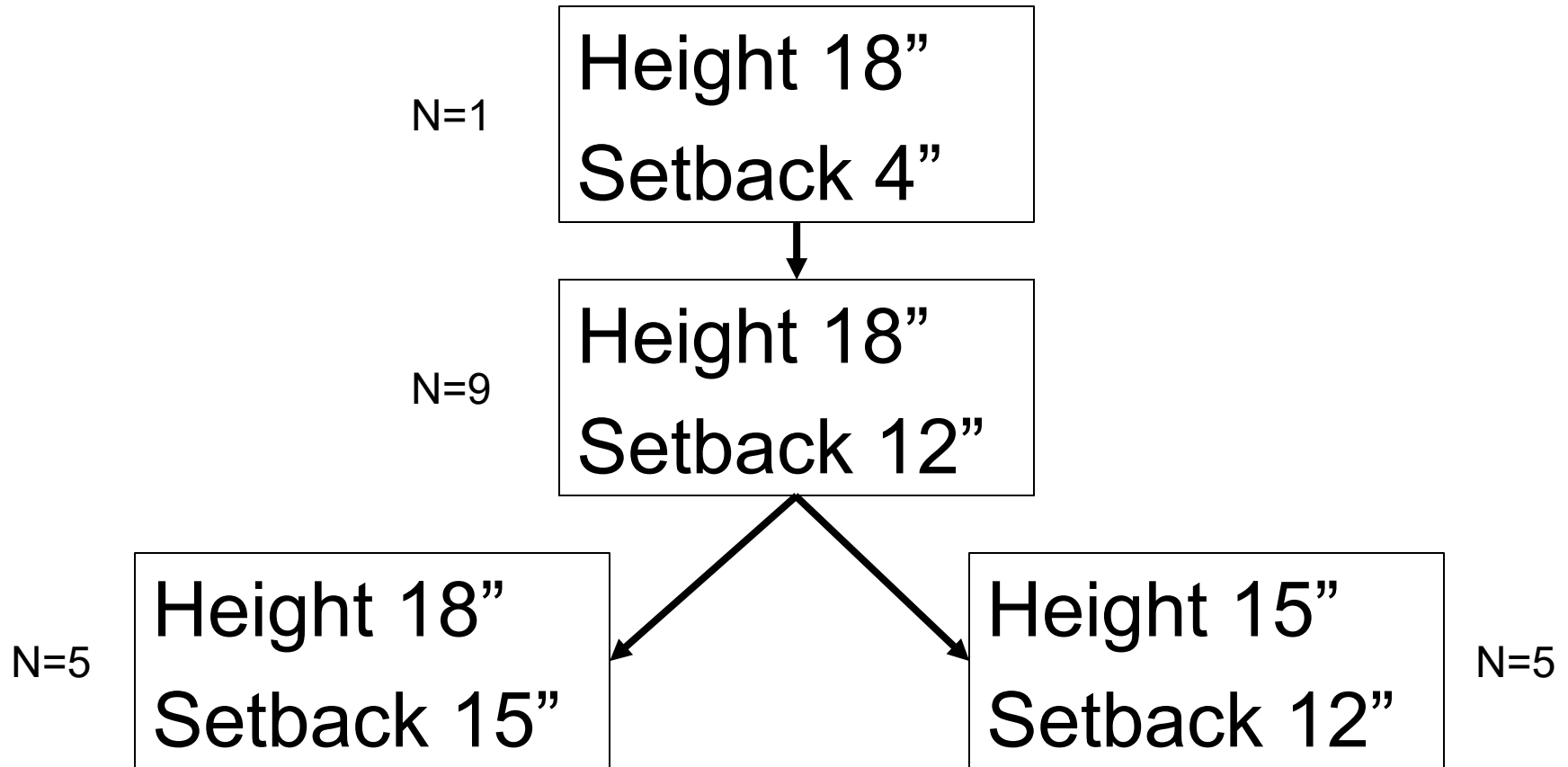








# Experiment



# Overall

**Table 4:** The overall effectiveness of the lowered jump-outs in allowing species to jump down (desired behavior) and jump up (undesired behavior).

Species	Total	Jump down (N)	Jump up (N)	In r-o-w (N)	In Habitat (N)	Jump down (%)	Jump up (%)
White-tailed deer	341	4	0	73	268	5.48	0.00
Mule deer	153	52	5	81	72	64.20	6.94
Bear black	37	14	2	21	16	66.67	12.50
Coyote	23	4	0	19	4	21.05	0.00
Bobcat	21	10	5	16	5	62.50	100.00
Elk	7	1	0	1	6	100.00	0.00
Mountain lion	6	3	3	3	3	100.00	100.00
Red fox	2	1	0	2	0	50.00	N/A
Moose	1	0	0	0	1	N/A	0.00
Raccoon	1	0	0	1	0	0.00	N/A
Wolf	1	1	0	1	0	100.00	N/A

