

Current Options for American Kestrel Telemetry



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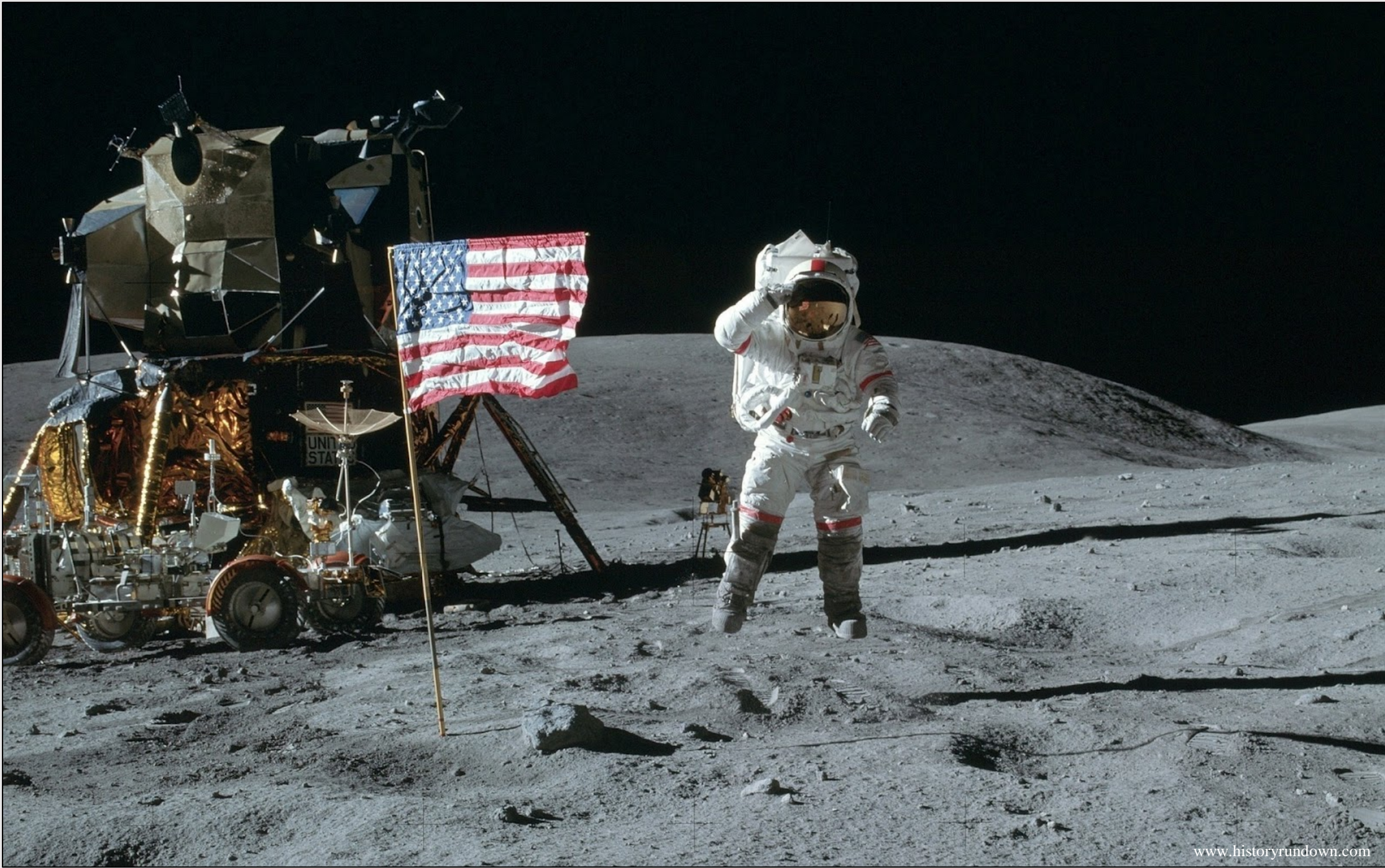
Why use tracking devices?

- Survival
- Behavior
- Home range estimation
- Migration routes/timing
- Habitat use/selection
- Dispersal
- Seasonal movements



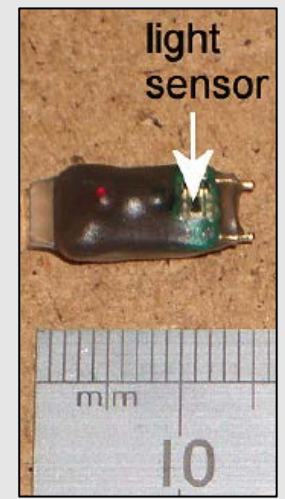
Restrictions and Issues

- 3% of body mass
 - Male American kestrels 111 g (SD = 9; Dunning 1993)
 - Female American kestrels 120 g (SD = 9.2)
 - 3.3 grams for males and 3.6 grams for females (vs. ~105 grams for male golden eagle)
- Battery life!
- Ruggedness of tracking device



Current Options

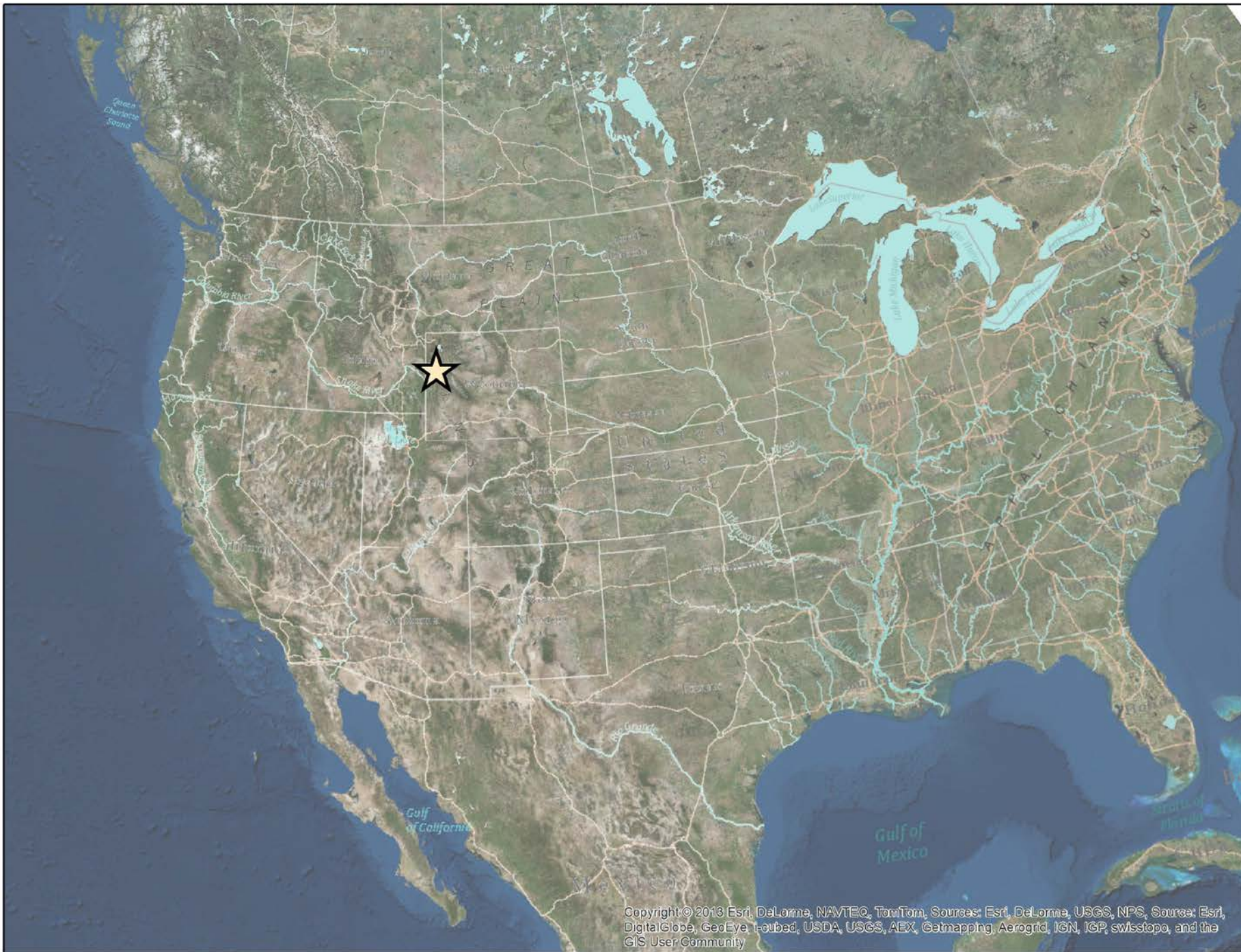
- More options than ever and more coming out all the time
- Options are less than 3 grams and usually less than 2 grams
- Most are in the \$175-\$225/unit range



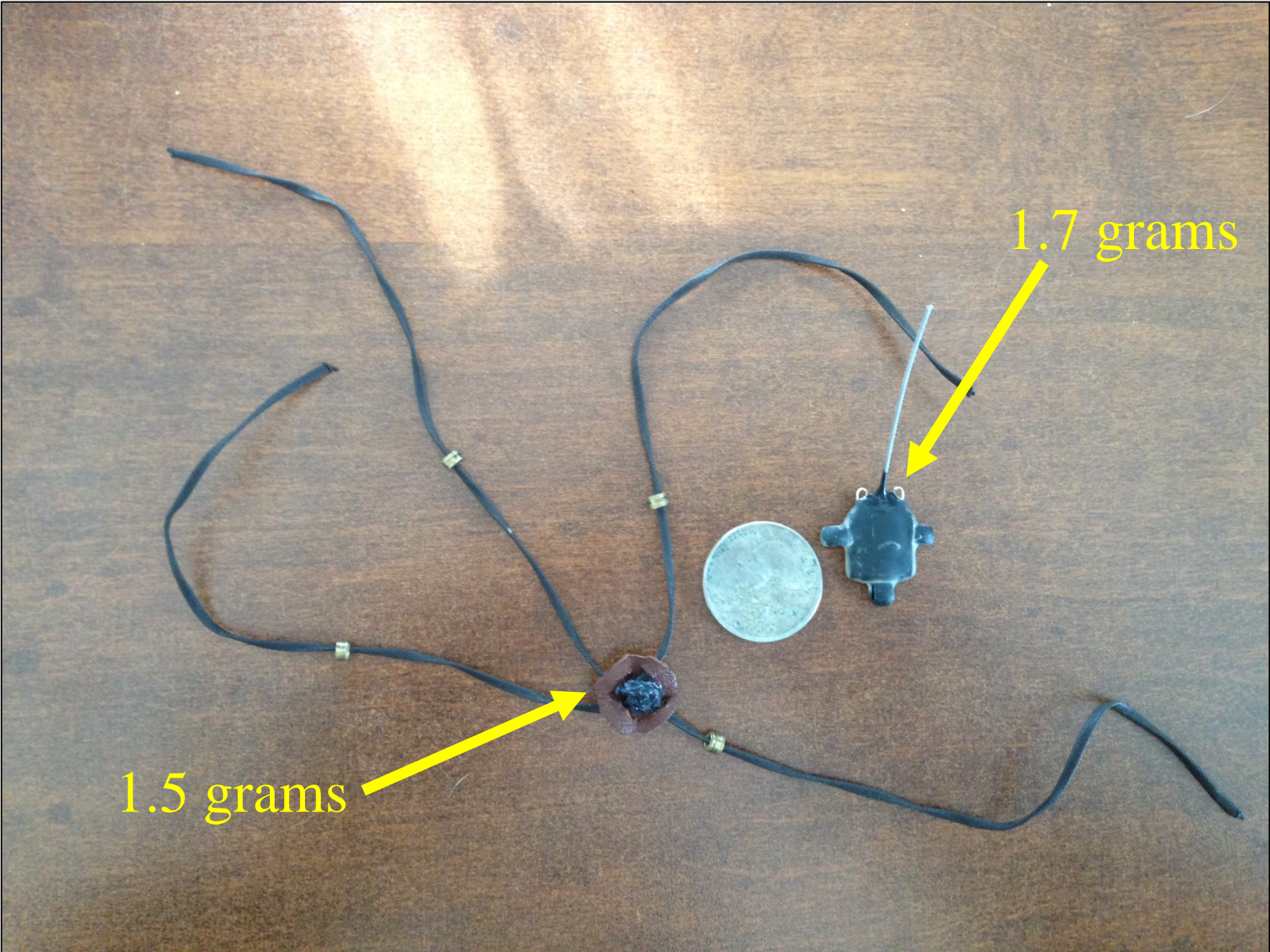
Current Options

	<u>Pros</u>	<u>Cons</u>
VHF	Reliable, Flexible	Limited Battery
CTx (“Smart” VHF)	Extended Batt. Life	Reliability?
NanoTags	Great for migration	Presence/Absence
Geolocator	Easy, data stored	Recovery, fussy
PinPointGPS	GPS-level quality	\$ and recovery
<i>Near Ready</i>	Data access	\$ and weight





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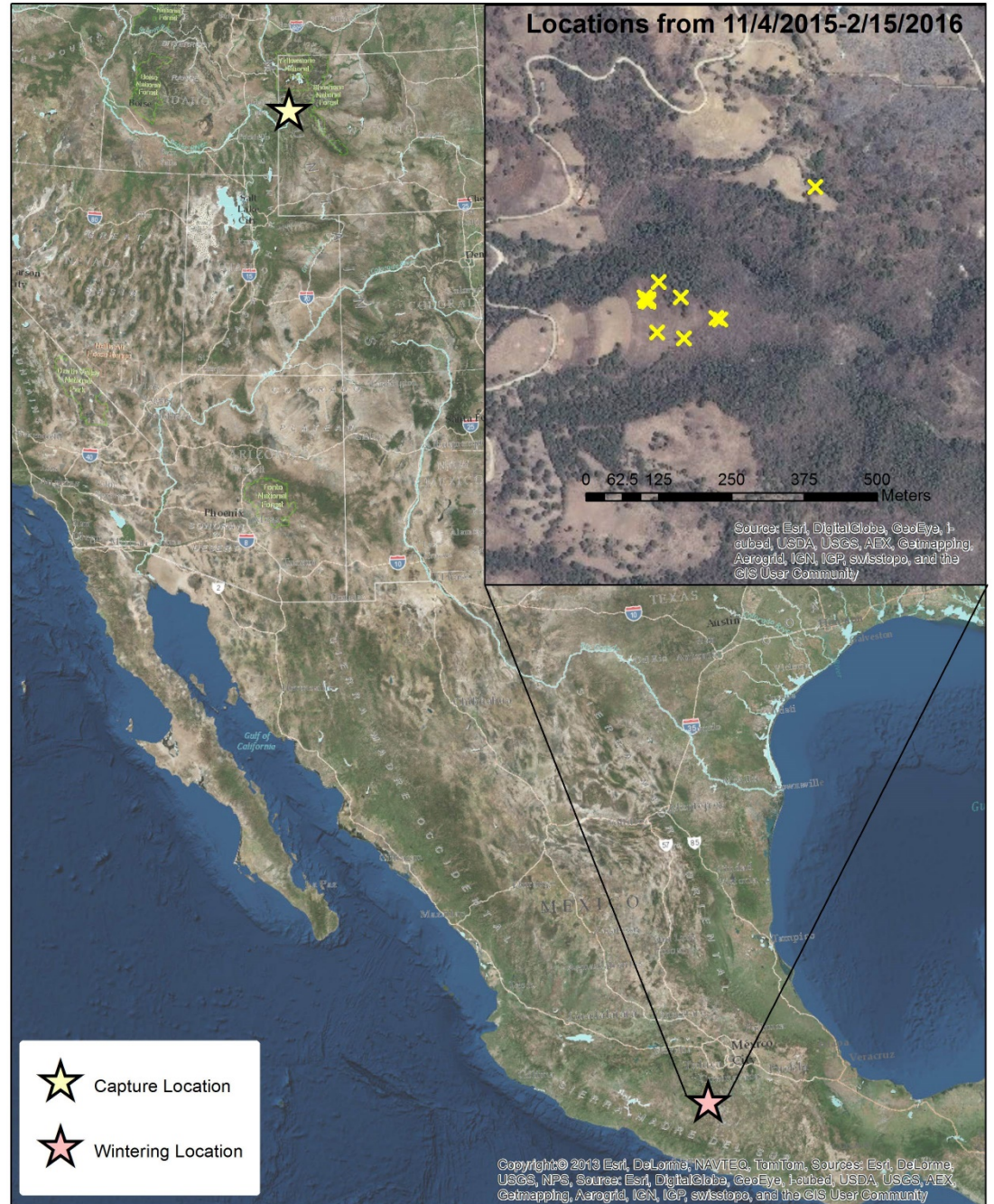
1.5 grams

1.7 grams

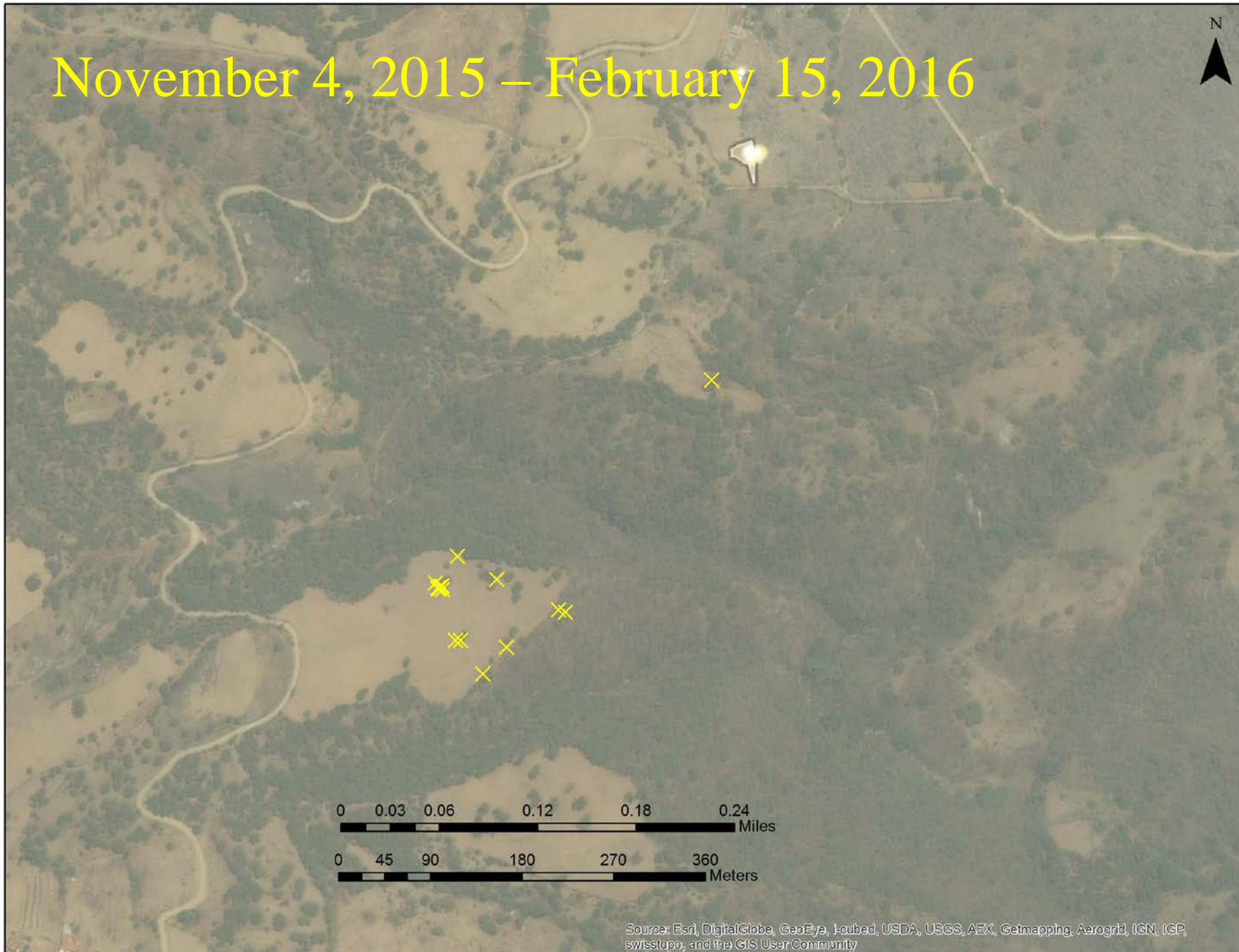




Male American Kestrel Wintering Locations



November 4, 2015 – February 15, 2016



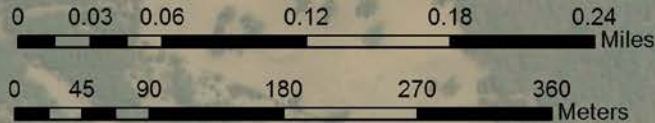
0 0.03 0.06 0.12 0.18 0.24 Miles

0 45 90 180 270 360 Meters

Source: Esri, DigitalGlobe, GeoEye, I-sat, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



0.023 km² or 0.009 miles²



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Final Thoughts

- A lot to be excited about for the future of kestrel tracking
- More options now than ever before
- Bleeding edge of highly informative and flexible tracking devices
- Things are only getting better

Acknowledgements

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