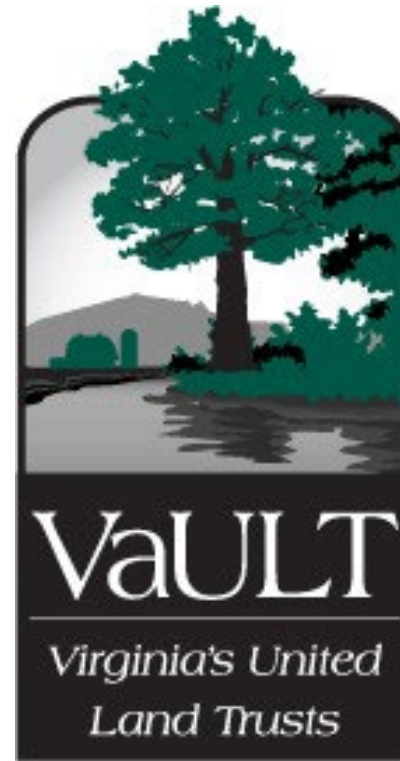


An aerial photograph of a large, forested hill. A white line traces the boundary of the hill. The hill is covered in dense green trees, with some open grassy areas and a few buildings visible on the left side. The background is a dark topographic map with white contour lines and elevation labels such as 1150m, 950m, 850m, 750m, and 650m. The text 'A View from Above' is centered over the hill in a large, white, sans-serif font.

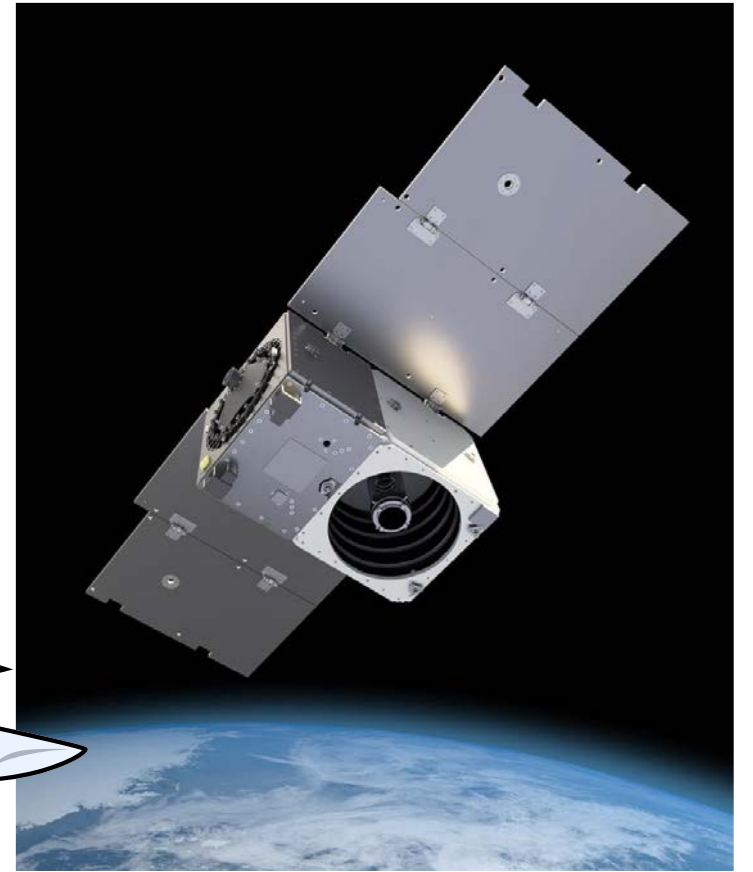
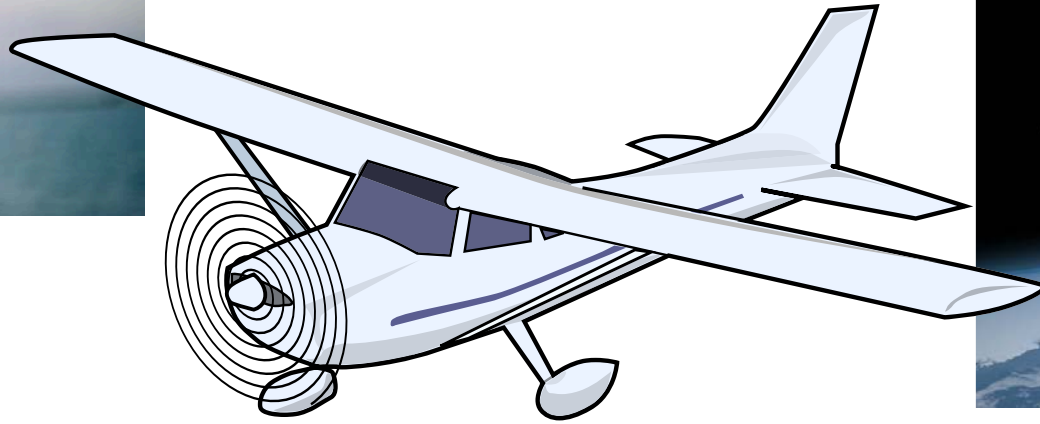
# A View from Above

Implementing A Remote Monitoring Program for Easement Stewardship



# Grant Support

# Remote Monitoring?





Platforms





Platforms

# Considerations

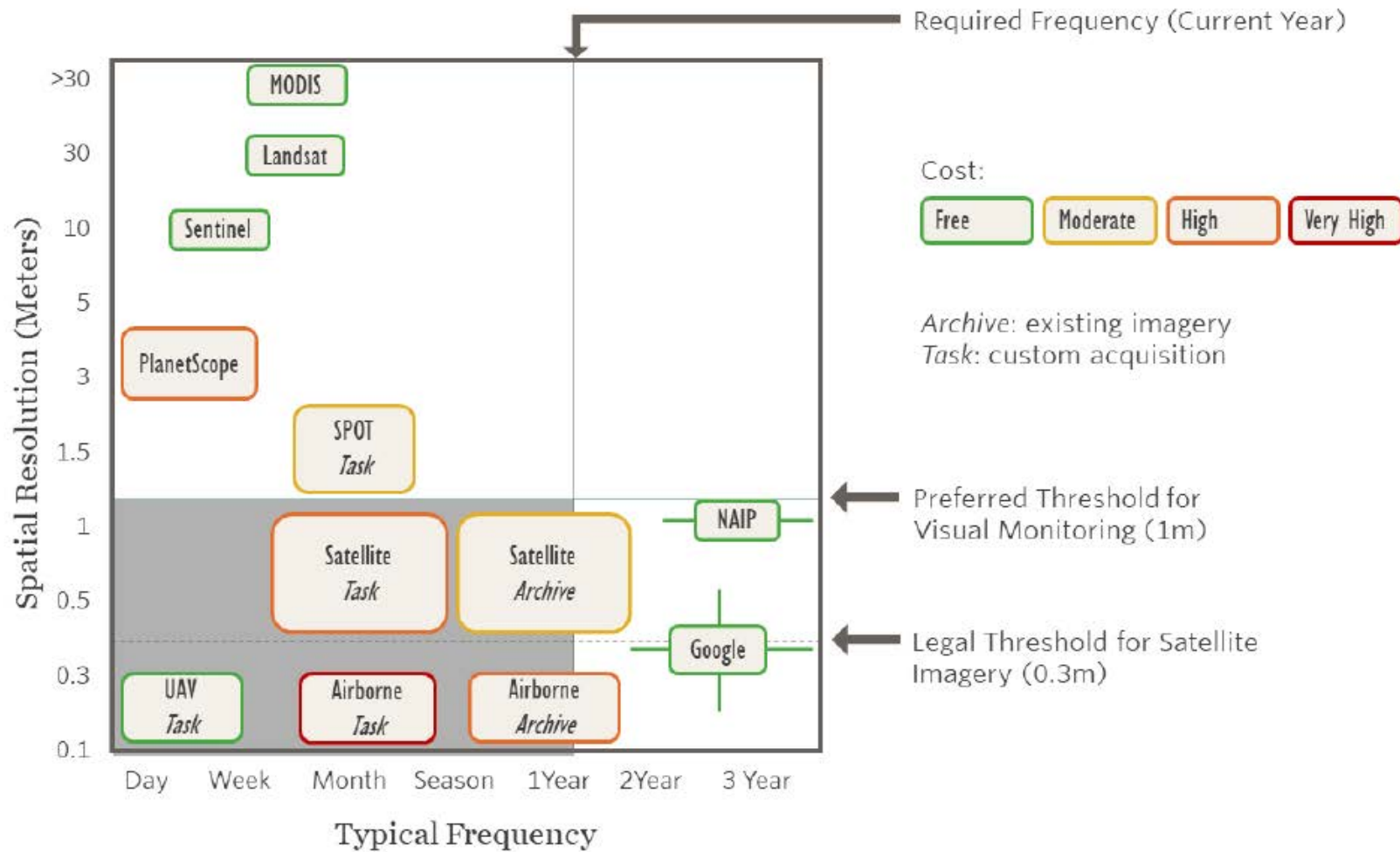
## **Imagery Availability**

- Are your properties near urban centers?
- Does the available imagery meet your resolution needs?
- Does the imagery frequency meet your needs?

## **Cost**

- Travel time vs. Imagery Costs
- Platform costs
- Utilization considerations

# Imagery Availability and Resolution



Interplay of suitability, availability and cost of imagery for conservation easement CE monitoring.

Credit: TNC CA

# Imagery Availability and Resolution

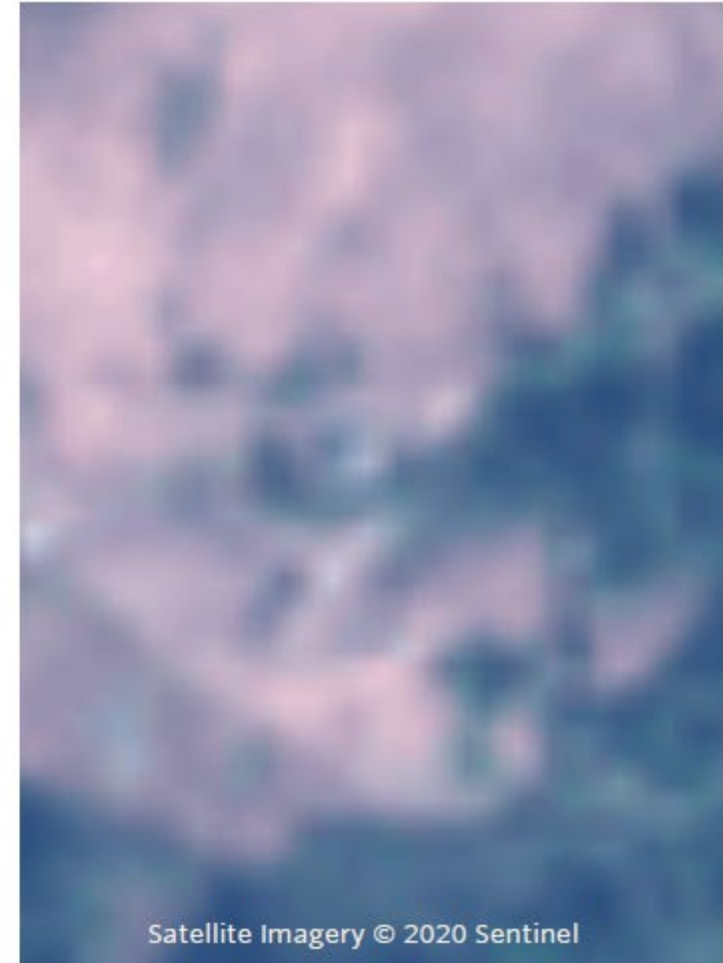
0.5 meter spatial resolution



1 meter spatial resolution



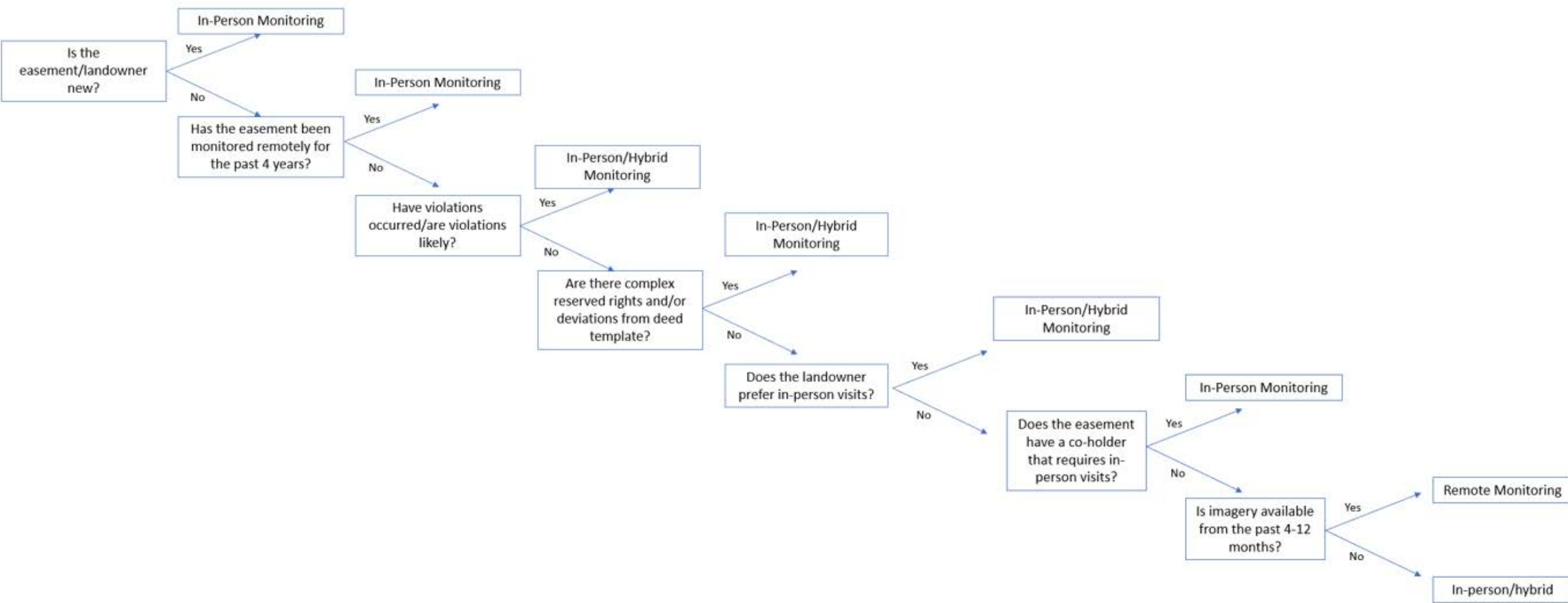
10 meter spatial resolution



*Example of images with varying spatial resolution.*

Credit: TNC CA





Examples





- Order
- Notes
- Details
- Alerts

Property: 63, Layer: HF Truecolor (S2), Mode: Compare, Start Date: 07/27/2021, End Date: 08/11/2022

Taylor Evans

- Zoom in
- Zoom out
- Full screen
- Layers
- Measure
- Info
- Home

mapbox 500 ft

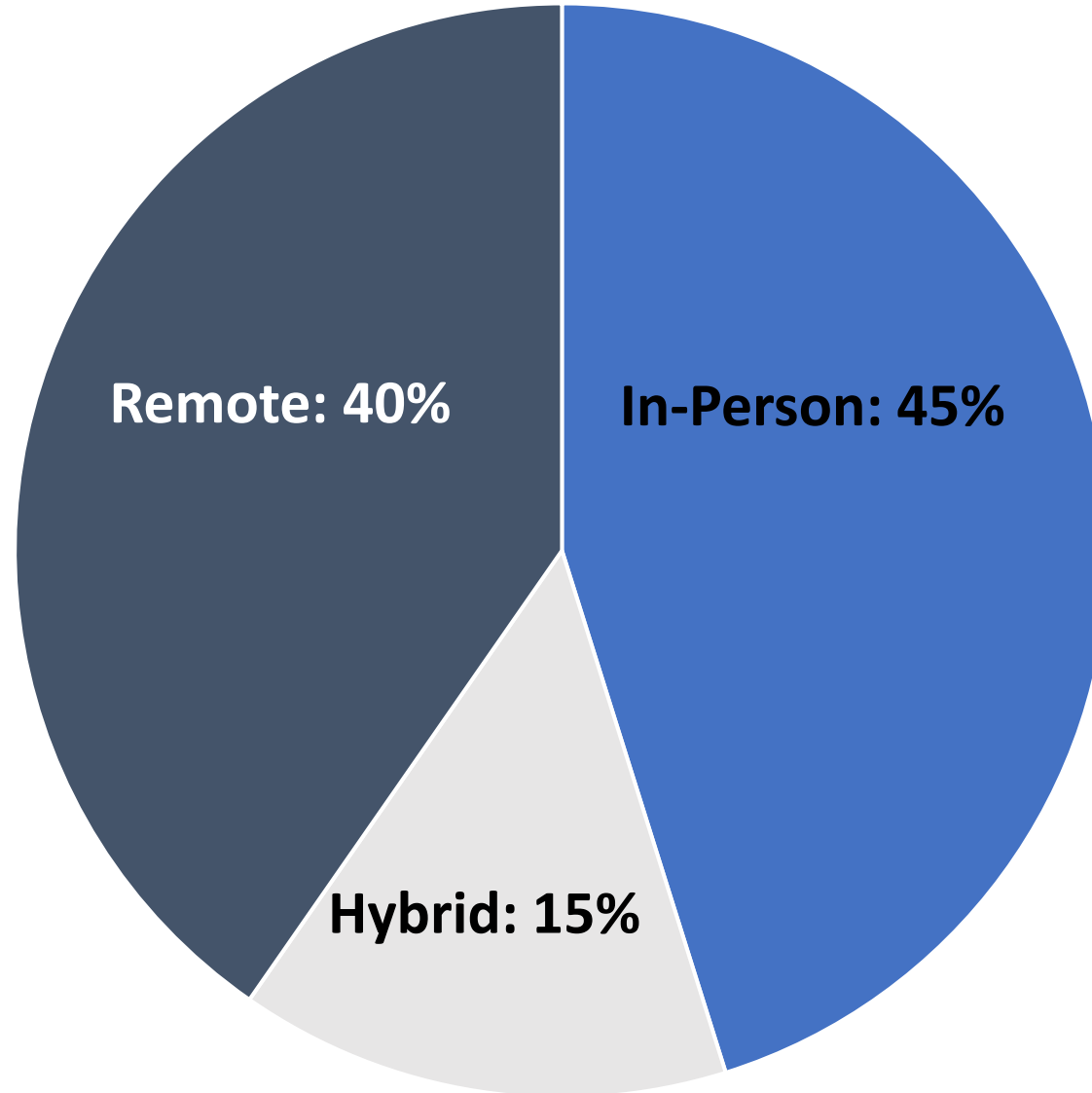
ESA Sentinel, ESA Sentinel | © Mapbox © OpenStreetMap Improve this map



# Other uses

- Fee simple monitoring and vegetation health analysis
- Inclusion in Baseline Documentation Reports
- Multiple monitoring sessions/year
- Checking on violation remediation

## 2022 Monitoring Method



Average Image Cost: \$3.77

Mileage Equivalent: 6.44 miles

# Costs

2021

2022

Mileage:	\$970	\$690
Staff Time:	\$4665	\$3975
Imagery:	\$0	\$203
Platform:	\$0	\$6000
<b>TOTAL:</b>	<b>\$5,635</b>	<b>\$10,869</b>



# Cost per Easement

**2021: \$92.38**

**2022: \$167.38**

# Strategies to Improve ROI in 2023

- Reduce platform subscription level to \$2000
- Better utilize remote monitoring for easements – aim for 66%
- Make better use of multiple remote monitoring events for increased utilization of platform and more effective stewardship

# Sources

*Remote Property Monitoring at the Nature Conservancy in California,*  
TNC (2020)

*Remote Monitoring of Conservation Easements,* Nancy Thomas, UC  
Berkeley (2020)

*Recommended Practices,* TNC CA (2020)

Questions?