

# Cameras and seals: quantifying effects of human disturbance



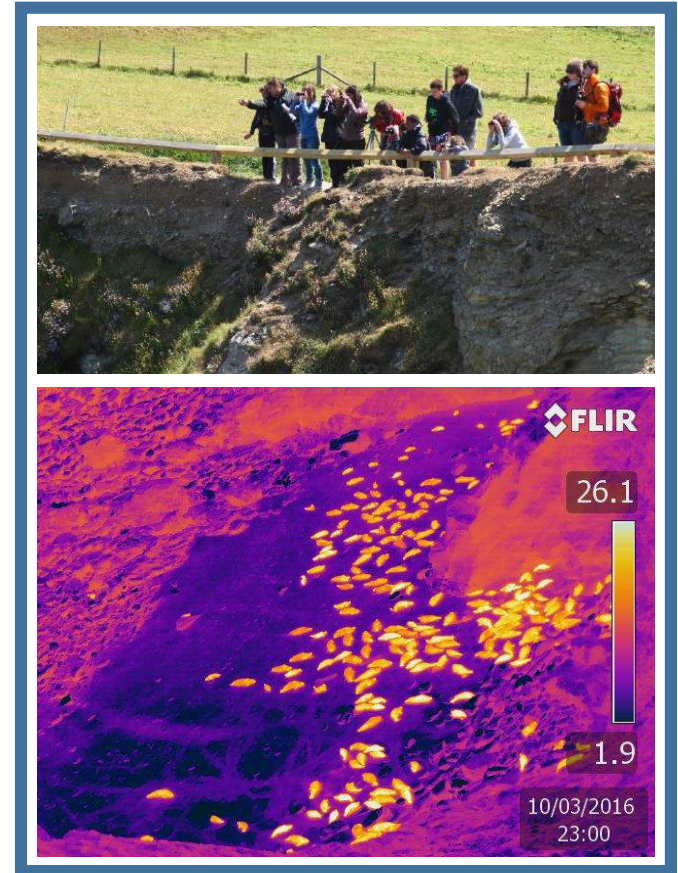
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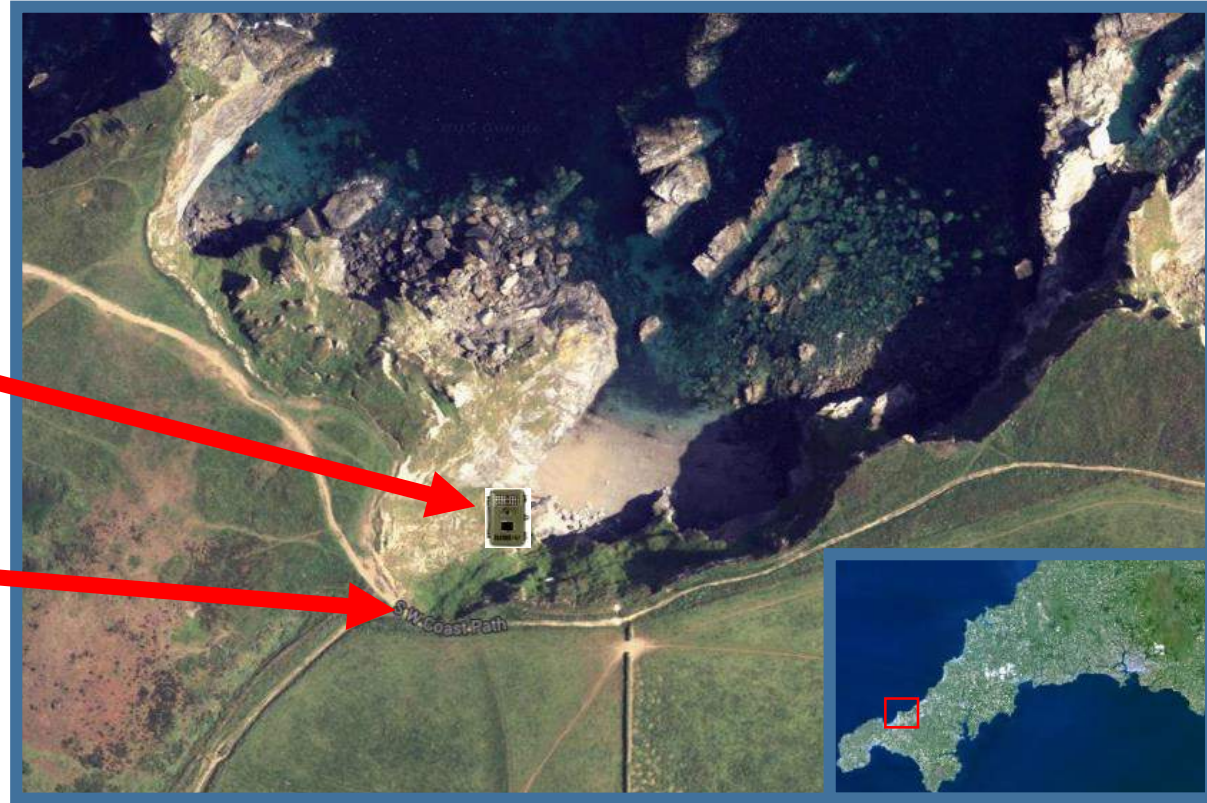
# Objectives

- How do seals use haul-out sites?
- What survey techniques can we use to investigate this?
- What threats are at the haul-out?



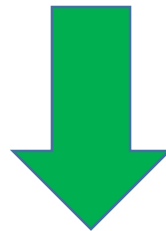
# Study Site

- Mutton Cove, Godrevy (SSSI)
- Time-Lapse Camera
- Night-time observation point





# Equipment



Human disturbance and haul-out use

# Count Method

Image (5 mins)



Seals



Hour



ImageJ



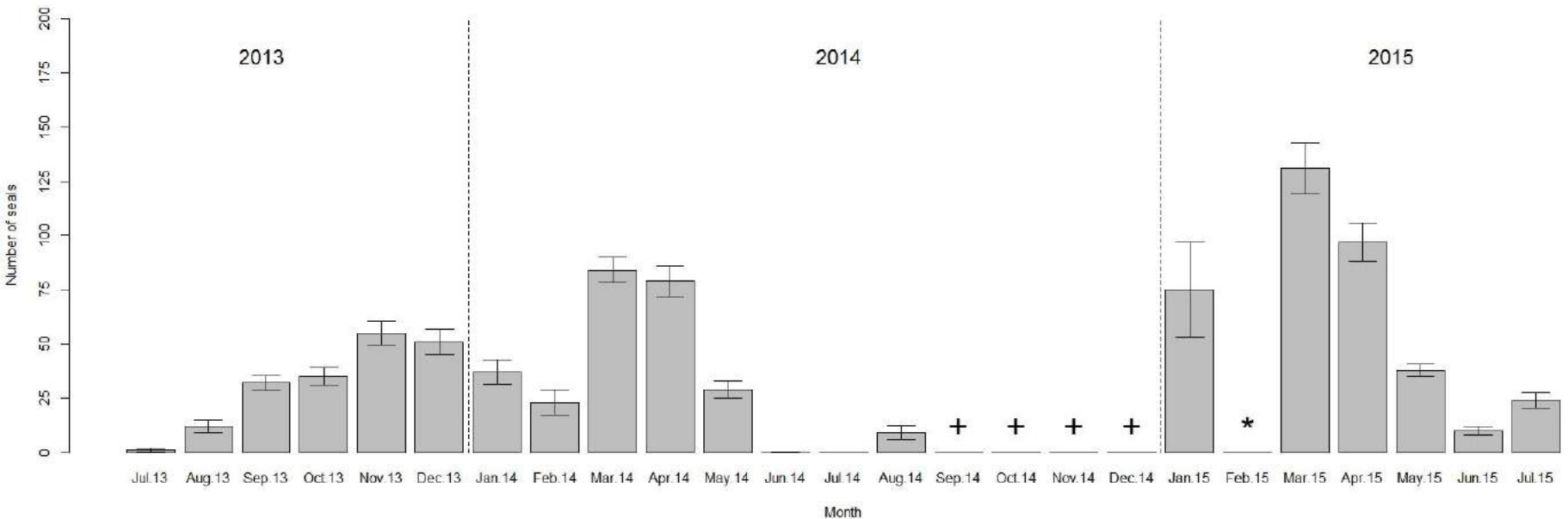
Results



**ImageJ**  
Image Processing and Analysis in Java



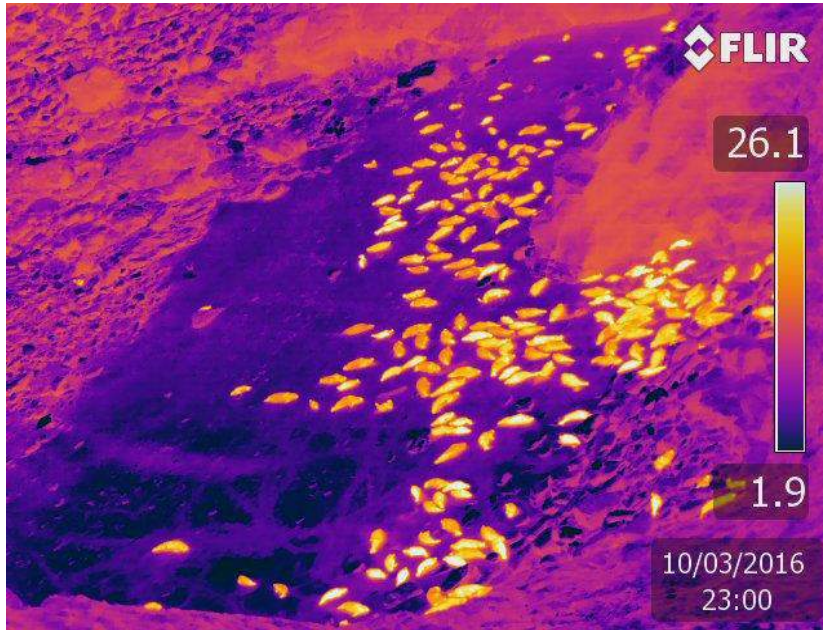
# Seasonal Trends



**Figure 1.** Daily mean maximum number of *Halichoerus grypus* hauled out as determined from time-lapse camera (July 2013- July 2015), error bars (standard error).

**Key:** + data still being analysed.  
\* camera not functional

# How much are we missing?





# Consequences of Human Disturbance?

## Human disturbance at haul-out sites

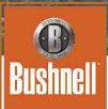


1) Reduced time ashore in optimal conditions for hair regeneration. → Prolong the duration of the moult.

2) Forcing animals into the water when skin temperature is high. → Incur an energetic cost.



# Disturbance



Ⓢ Camera Name 70°F21°C



06-23-2015 11:50:55



# Disturbance



Ⓢ Camera Name 70°F21°C

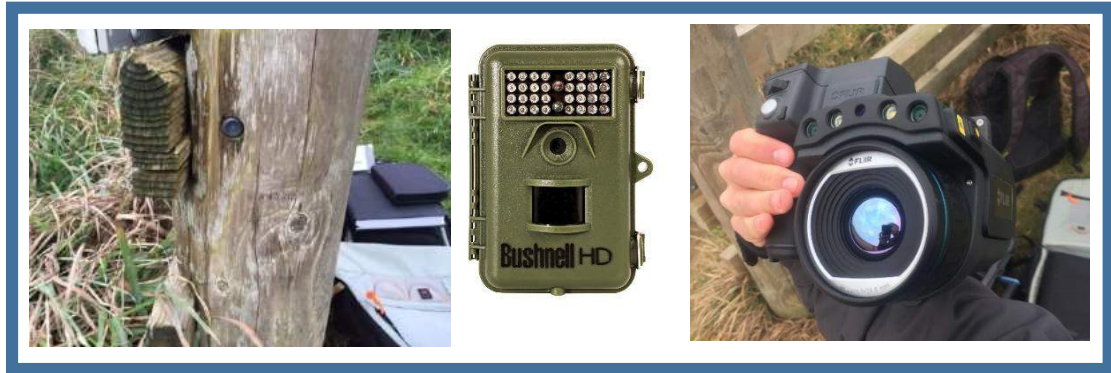


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# Summary

Technology is successful in determining Grey seal haul-out use at Godrevy, both day and night.

Gathering information regarding human disturbance, from which we can feed back to the National Trust.



## Acknowledgements:

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Anthony Bicknell  
Sue Sayer  
Nick Holden





# Thank you for listening!

