# NESTING ON THE VERGE:
# The impact of roads on nesting success of Eurasian Oystercatchers in Iceland

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## 1 INTRODUCTION 54

Iceland's road infrastructure is continuously expanding, with many roads bisecting coastal and inland habitats that serve as important nesting grounds for waders.

Road construction can damage or eliminate existing habitats, but roadside features such as gravel slopes and sparse vegetation may also create new nesting opportunities. This proximity exposes nesting birds to potential traffic-related risks including collisions and disturbance, though for tolerant species roads may also provide benefits such as altered predator behaviour patterns[1,2,3].

*This project examines the relationship between roads and nesting Oystercatchers in rural Iceland. We present preliminary results on nest fate in relation to three road-related factors: (1) distance from road edge, (2) average daily traffic volume, and (3) posted speed limit.*




## 60 STUDY AREA 2

Nests were monitored in W and NW Iceland along two major road networks: approximately 100 km along the coastal road through the Westfjords (NW, red, Fig. 1-A) and approximately 80 km along the northern coast of the Snæfellsnes Peninsula (W, orange, Fig. 1-B).

Both regions are rural, and infrastructure development is largely limited to coastal areas due to geographical constraints. The Westfjords is Iceland's least trafficked region, however both regions experience increased road use in summer due to tourism.



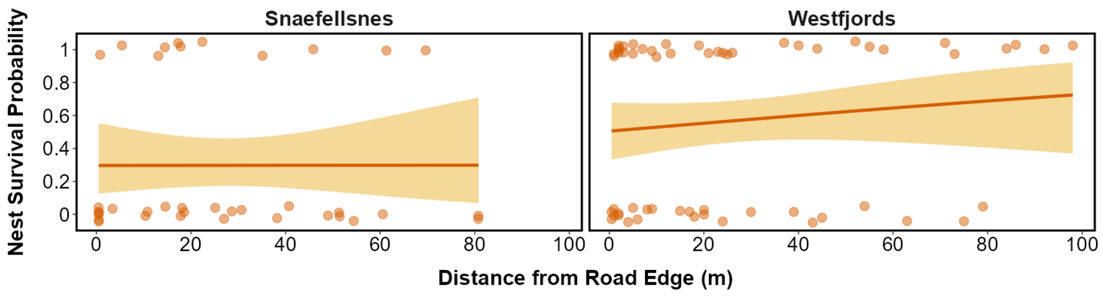
## 3 METHOD 61

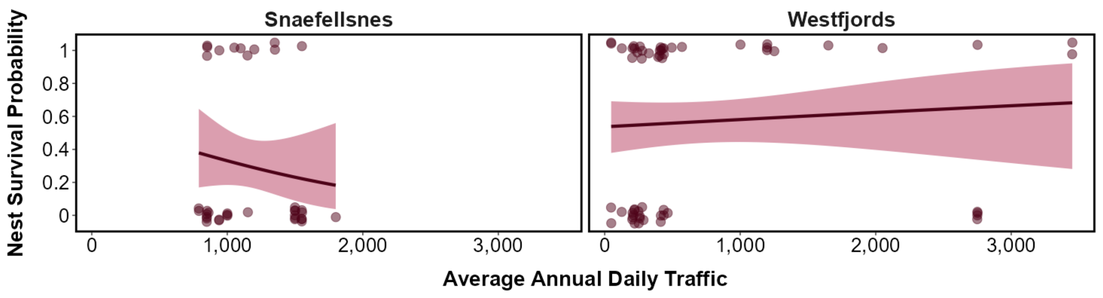
The fate of Oystercatcher nests ≤ 100 m from road edges were monitored weekly from April to July 2026. Coordinates of nests were recorded using handheld GPS devices.

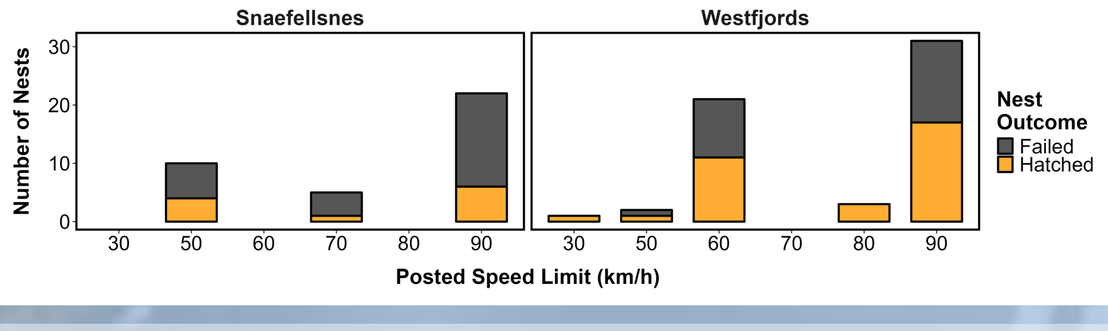
Nests were mapped using QGIS 3.42.1. Distances between each nest and the nearest road edge were measured. Average daily traffic data (ADU) from 2025 were obtained from the Icelandic Road and Coastal Administration[4]. Speed limit data was determined for each road segment. A total of 95 nests were included in analysis.

We fitted generalised linear models (GLMs) using ADU and distance as predictors of nest fate. These models were tested against a null model using ANOVA with chi-squared test.






## 574 RESULTS 4

### *Distance From Road Edge*

- Snæfellsnes: Nest survival probability remained similar across all distances from road edge.
- Westfjords: Slight increase in nest survival probability as distance from road increased, but not statistically significant.
- Reduced number of data points at greater distances limit the certainty in results, particularly with only one nest found beyond 80 m in Snæfellsnes.

### *Traffic Volume*

- Snæfellsnes: Nest survival probability declines with an increase in average daily traffic, but not statistically significant.
- Westfjords: Slight increase in nest survival probability as traffic volume increases, but not statistically significant.
- Both regions have fewer data points on roads with high traffic volumes, reducing certainty in estimates.

### *Speed Limit*

- Snæfellsnes: Majority of nests located along 50 km/h and 90 km/h roads, with a slightly higher failure rate in higher speed categories.
- Westfjords: Majority of nests located along 60 km/h and 90 km/h roads, with similar success and failure rates within these categories.
- Both regions have small sample sizes across numerous speed categories.

## 5 DISCUSSION 639

Our preliminary findings reveal that road effects on Oystercatcher nest success vary regionally in Iceland. Overall, the 2026 data give no evidence that traffic volume or distance to the road affects Oystercatcher hatching success in either region. As the sample is small, especially on Snæfellsnes (11 hatched nests), only strong effects could be detected. The contrasting trends between regions—such as opposite patterns for distance and traffic volume effects—suggest there are additional factors governing nest success that must be further investigated.

### *Where we're heading...*

- More robust analysis including previous years of data and additional regions in Iceland.
- Examine additional variables - nest substrate, surrounding habitat, road type, etc.
- Extend nest observation beyond hatching, exploring the impacts of roads on chicks.

## REFERENCES

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