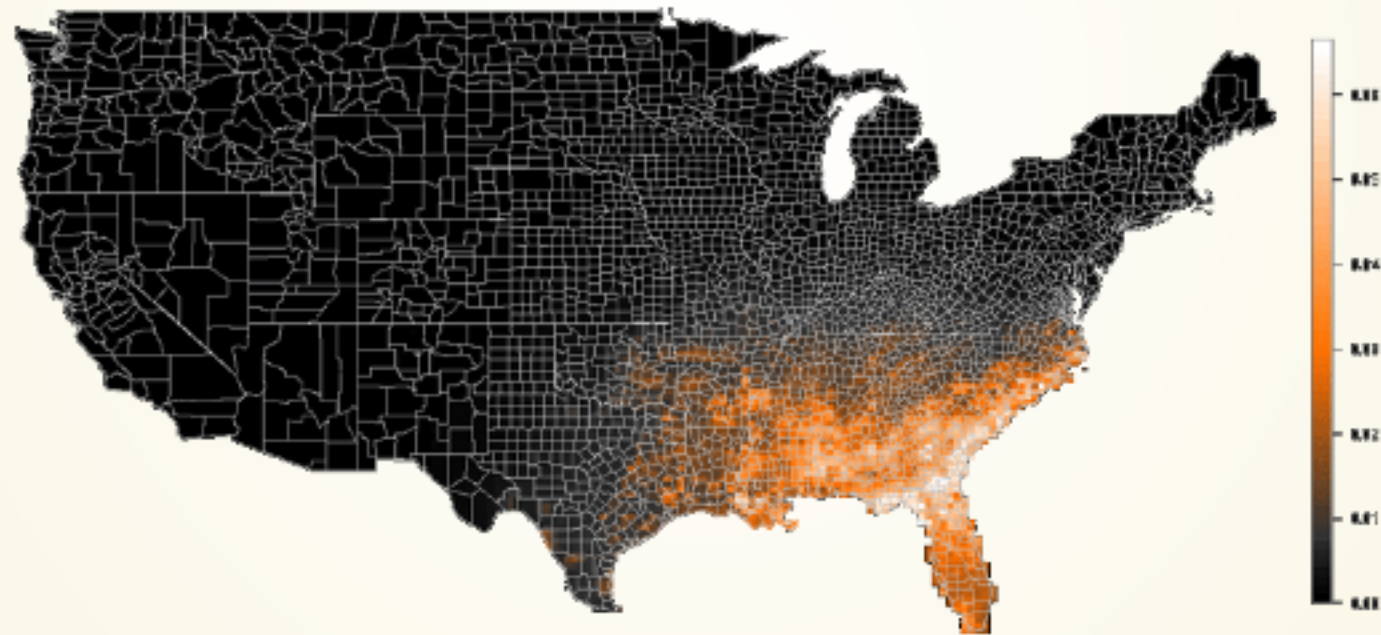


Ecology on the Move

Using Wood Stork Movement to Enhance Conservation Efforts



Mathieu Basille, University of Florida

Wood Storks



Wood Stork in the Southeastern US



Wood Stork in the Southeastern US



Wood Stork in the Southeastern US



Wood Stork Project

Fort Lauderdale

Research & Education Center



**Threatened
& endangered
(T&E) species**

James Watling

Allison Benscoter

David Bucklin

Frank Mazzotti

Carolina Speroterra



Rena Borkhataria



Laura Brandt



Stephanie
Romañach



Wood Stork Monitoring

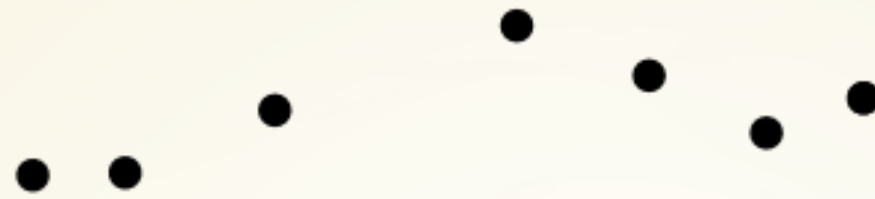
- 115 individuals
- Argos/GPS tags:
one location every
1 or 2 hours
- **~1 million
locations**



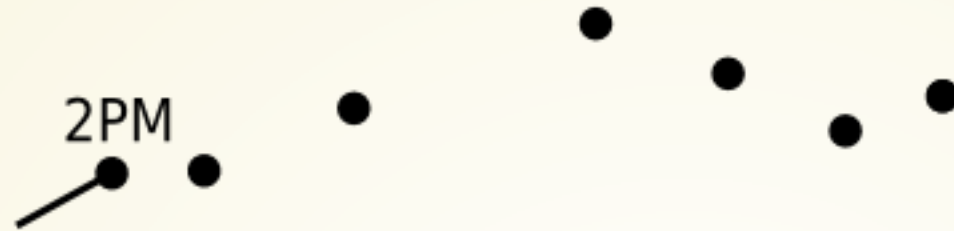
A white ibis is captured in mid-flight over a body of water. The bird's long, straight beak is pointed forward, and its wings are spread wide, showing dark feathers on the underside. The water below is calm, reflecting the bird and the sky. The text "Movement Ecology" is overlaid in a large, blue, stylized font across the middle of the image.

Movement Ecology

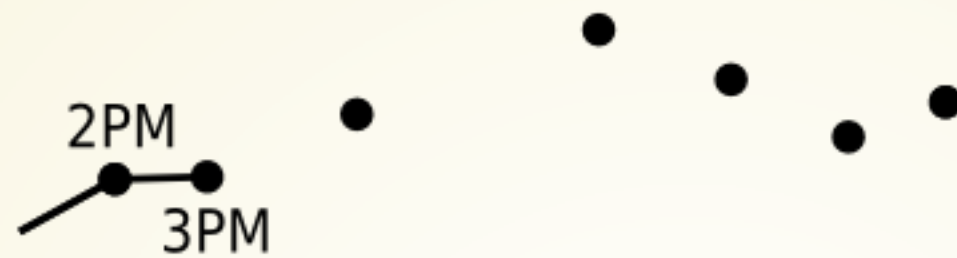
Spatio-temporal Scaling



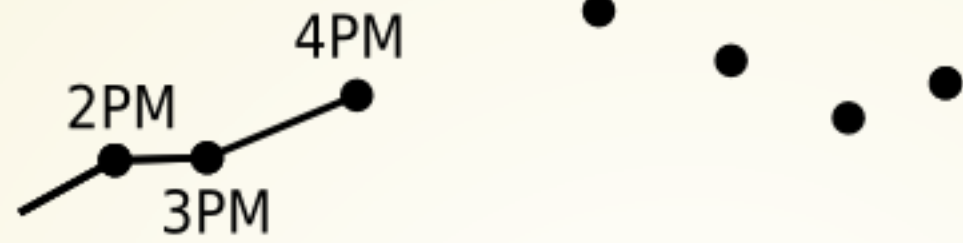
Spatio-temporal Scaling



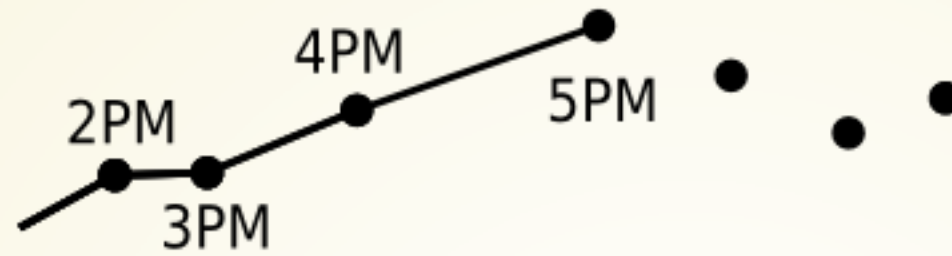
Spatio-temporal Scaling



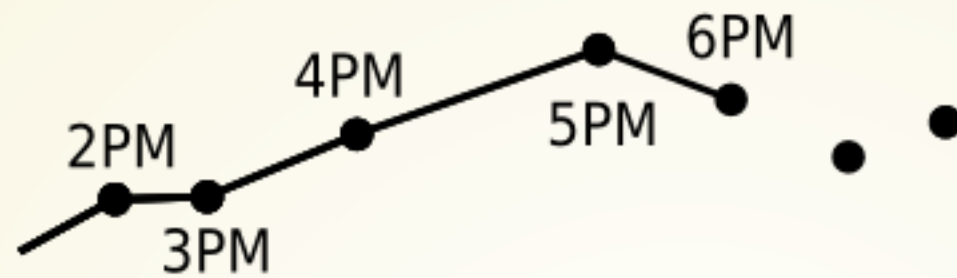
Spatio-temporal Scaling



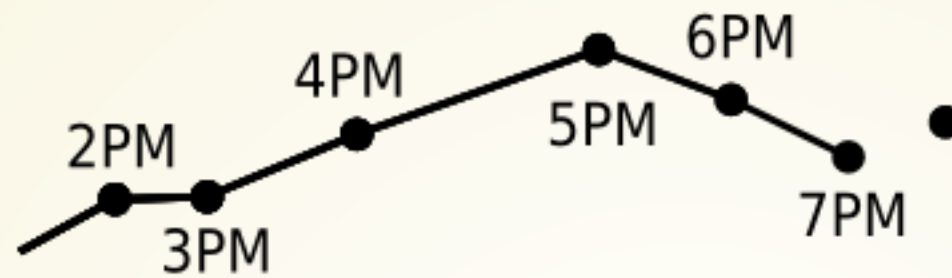
Spatio-temporal Scaling



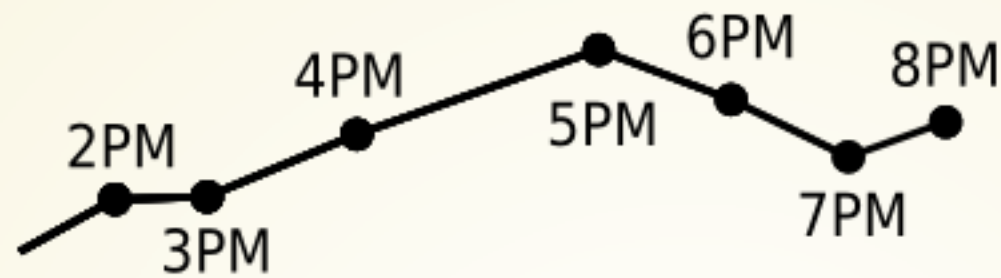
Spatio-temporal Scaling



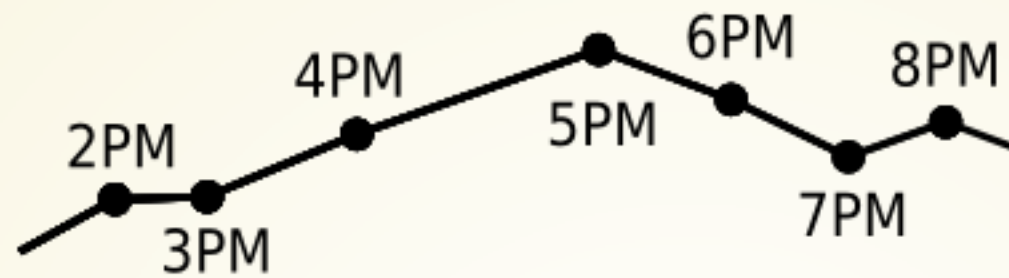
Spatio-temporal Scaling



Spatio-temporal Scaling



Spatio-temporal Scaling



Spatio-temporal Scaling



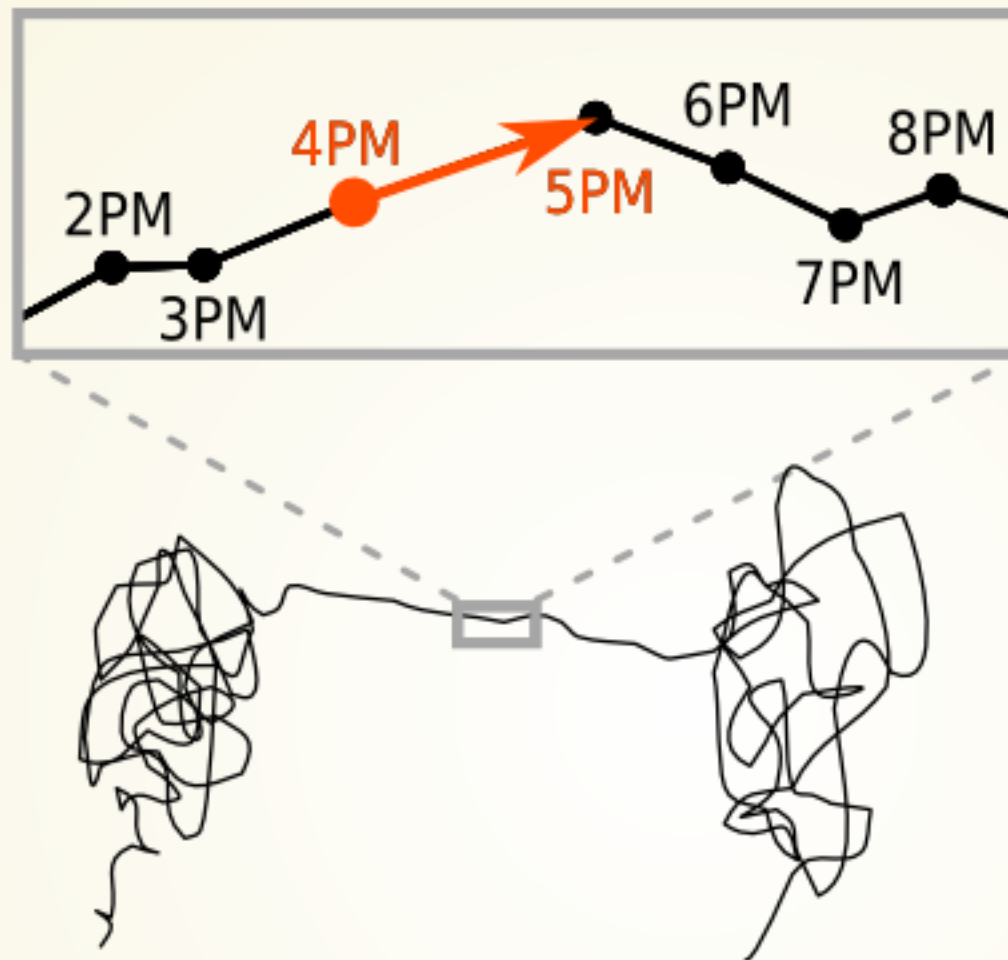
Spatio-temporal Scaling

Movement
step



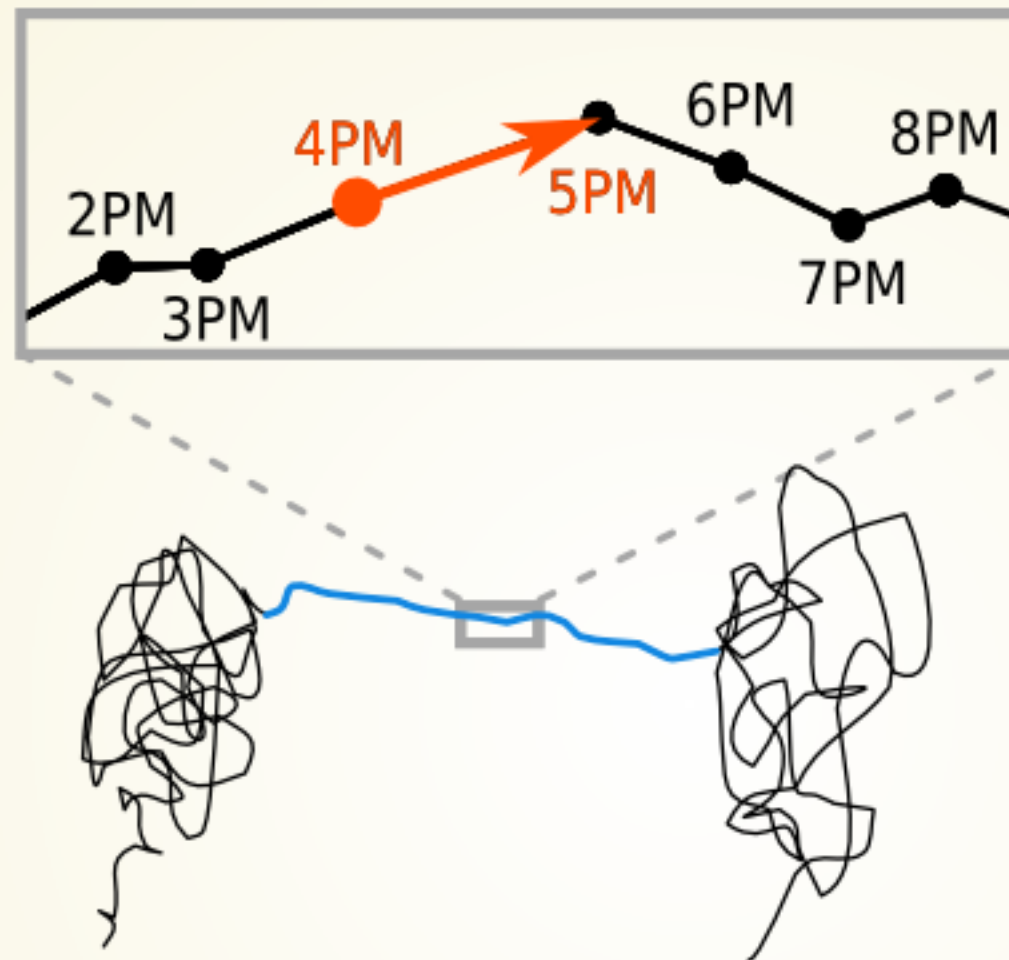
Spatio-temporal Scaling

Movement
step



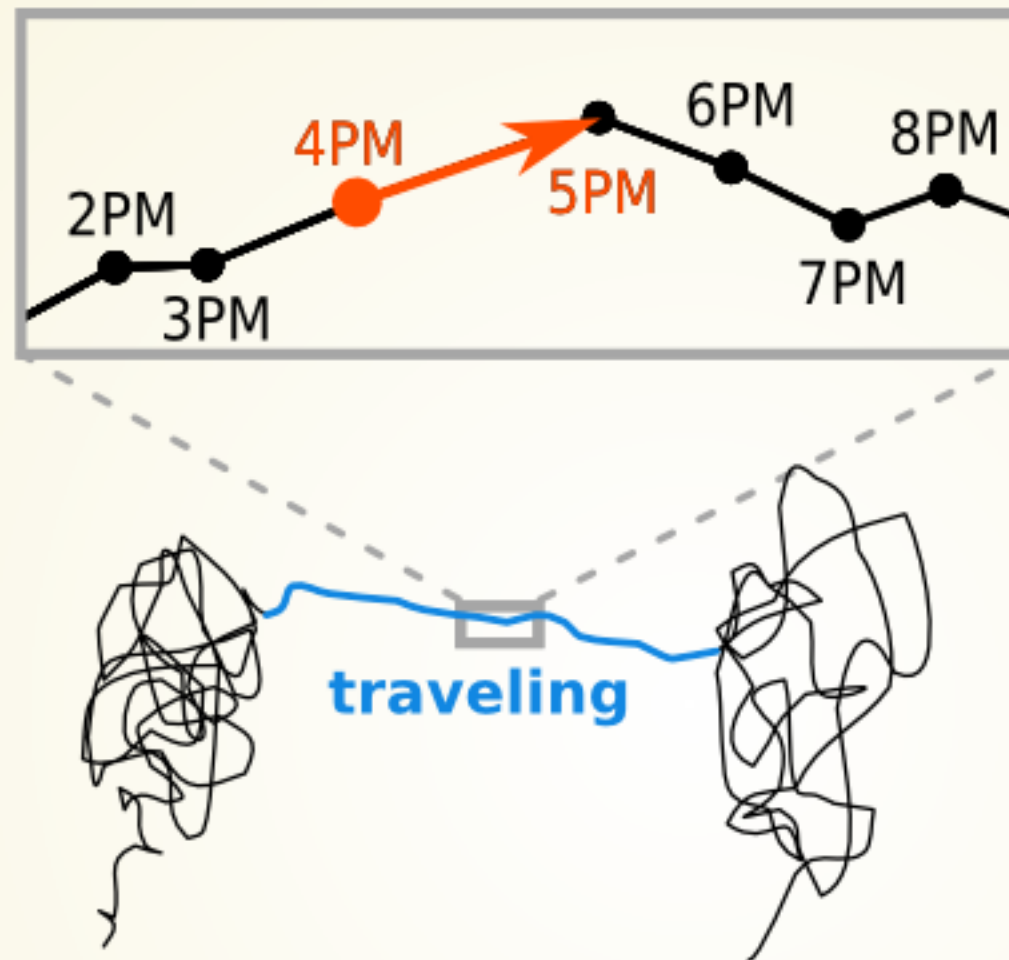
Spatio-temporal Scaling

Movement
step



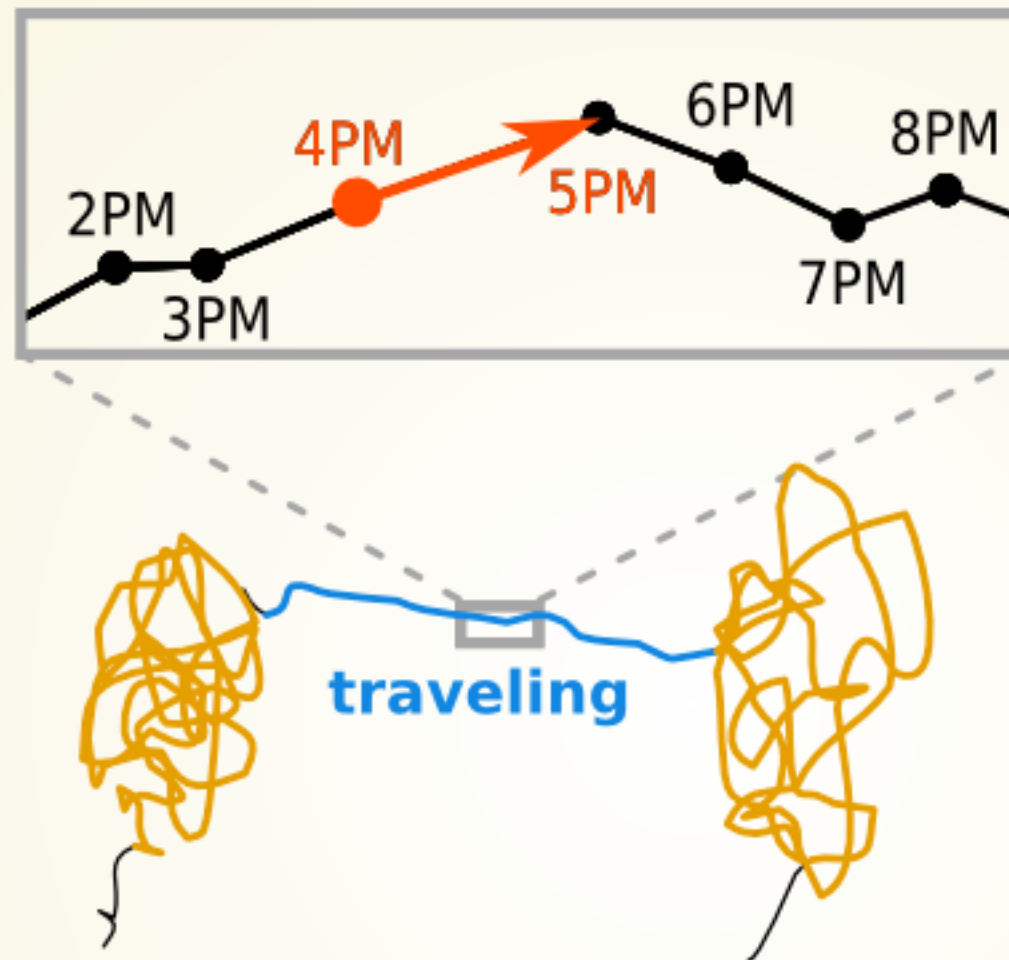
Spatio-temporal Scaling

Movement
step



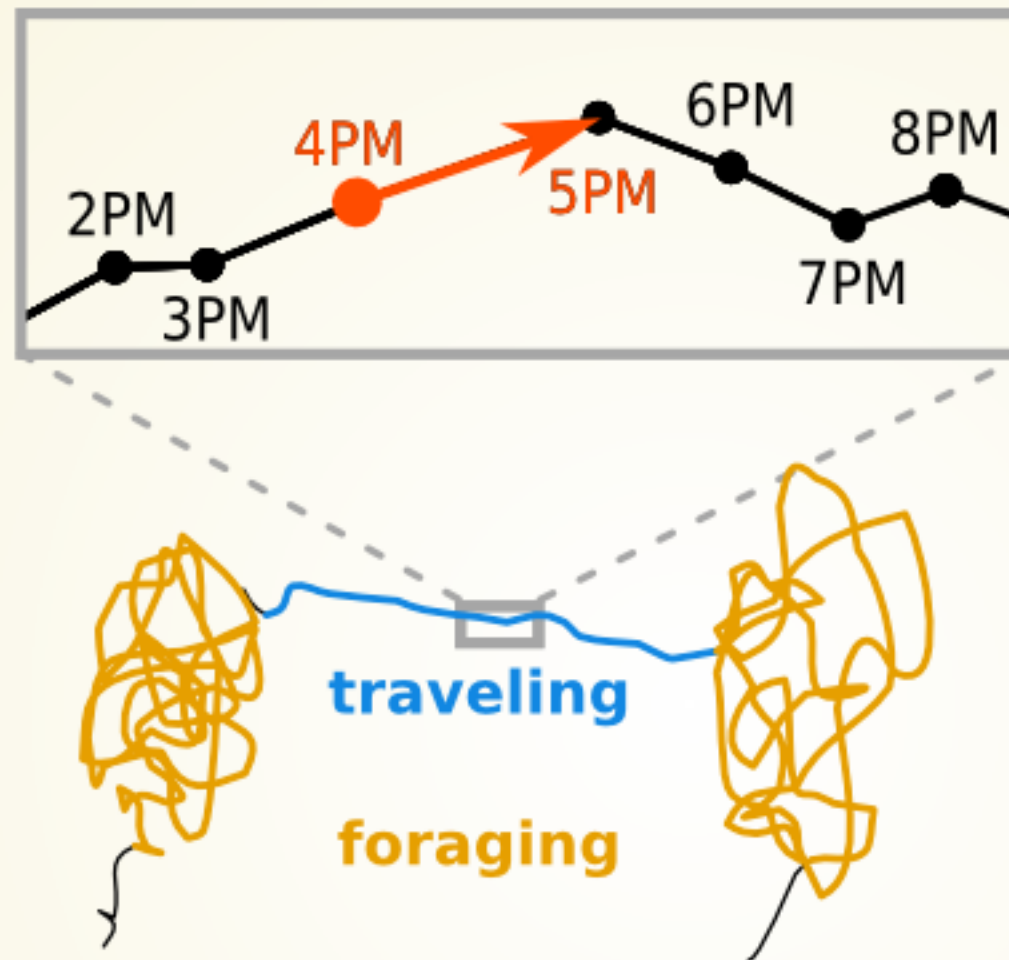
Spatio-temporal Scaling

Movement
step



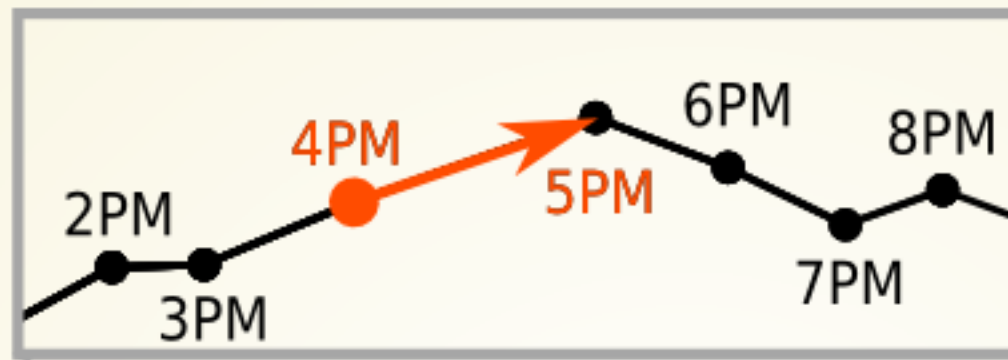
Spatio-temporal Scaling

Movement
step



Spatio-temporal Scaling

Movement
step

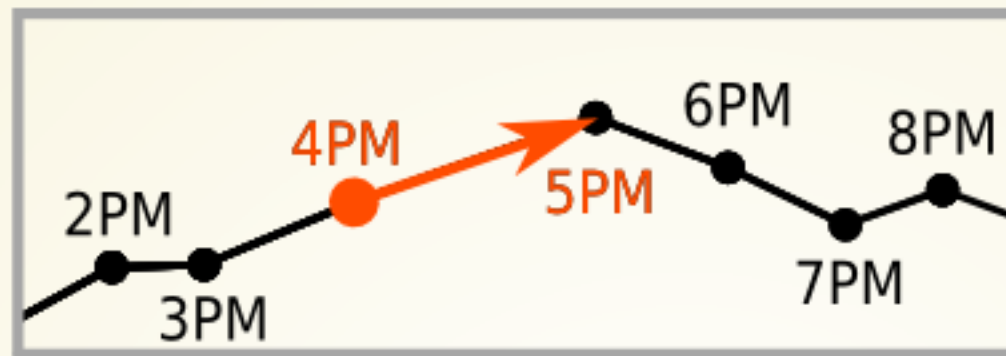


Movement
modes



Spatio-temporal Scaling

Movement
step

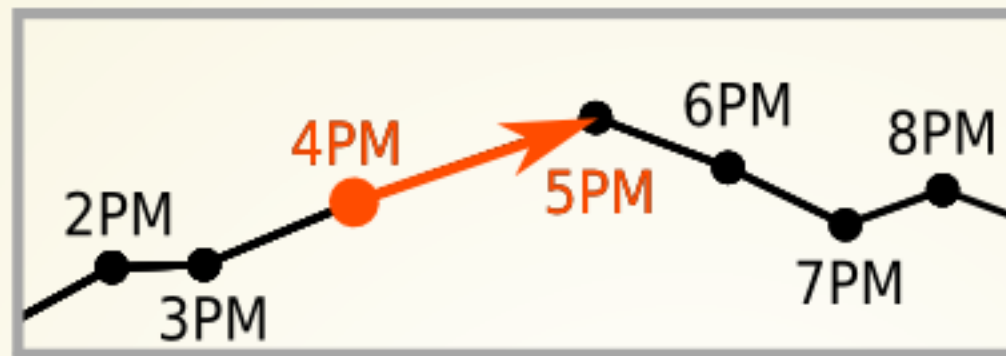


Movement
modes



Spatio-temporal Scaling

Movement
step



Movement
modes

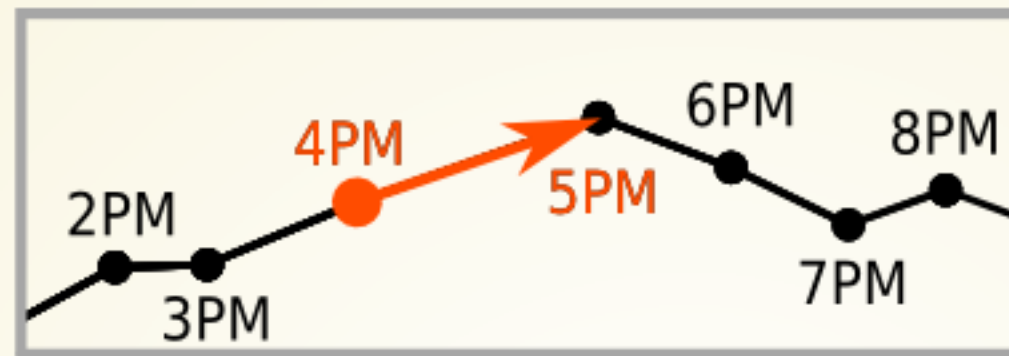


Lifetime
track



Spatio-temporal Scaling

Movement
step



Movement
modes



Lifetime
track



Mechanisms of
geographical
distribution



Movement Ecology Framework



Movement Ecology Framework



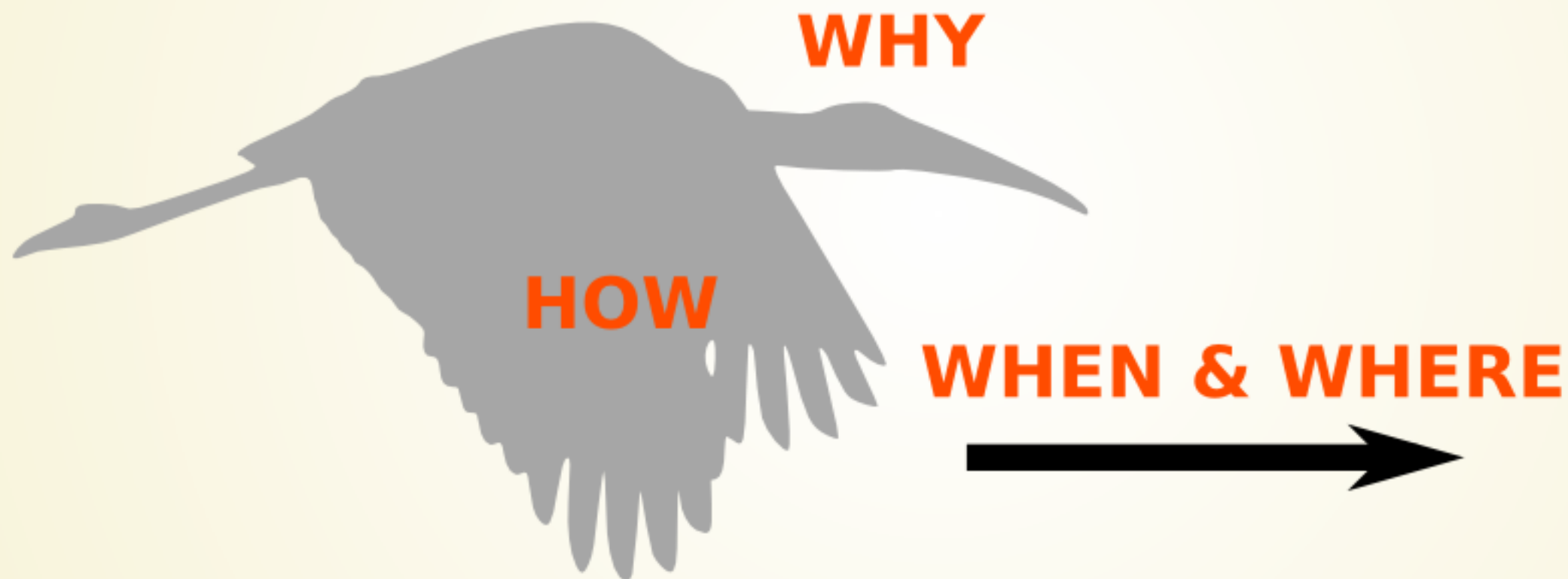
Movement Ecology Framework

WHY

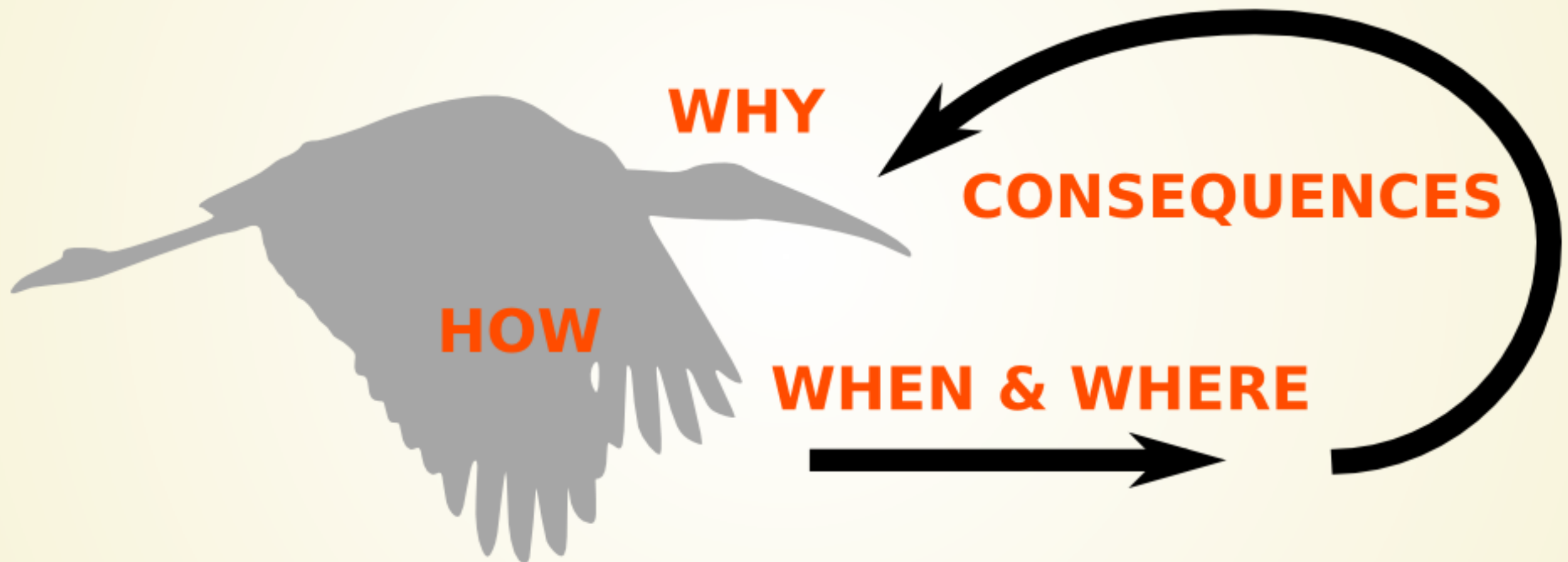
HOW



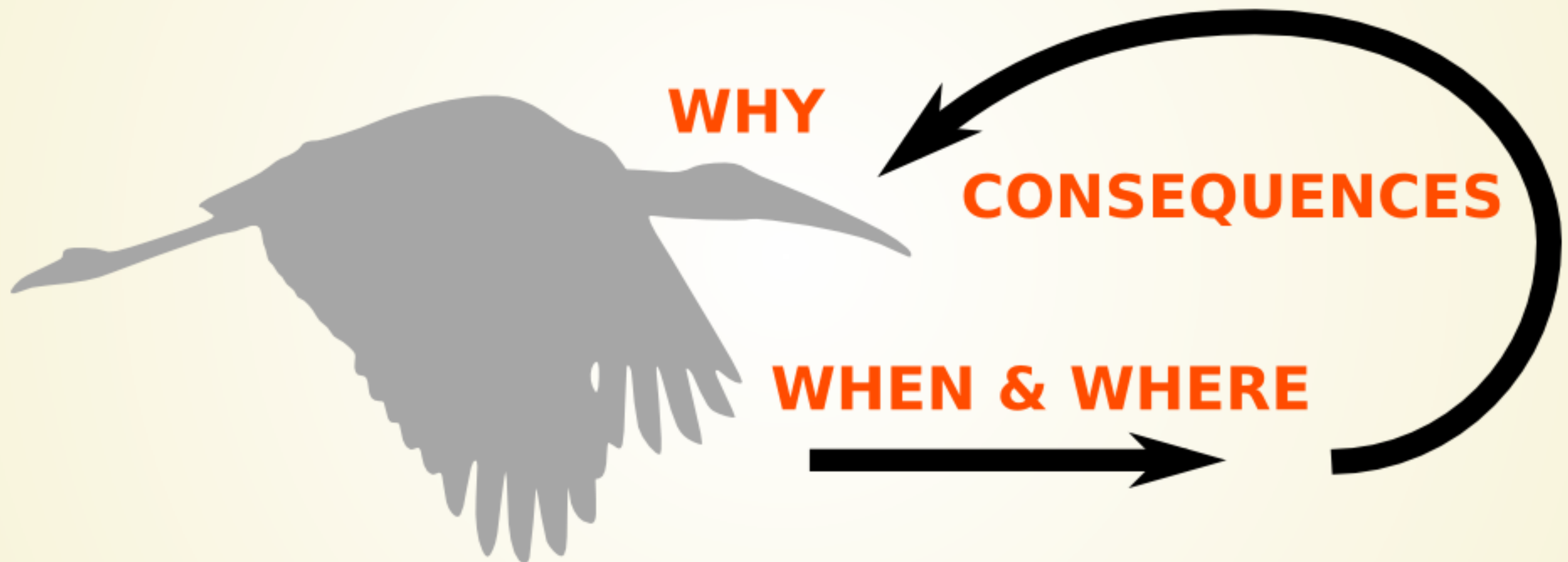
Movement Ecology Framework



Movement Ecology Framework



Movement Ecology Framework



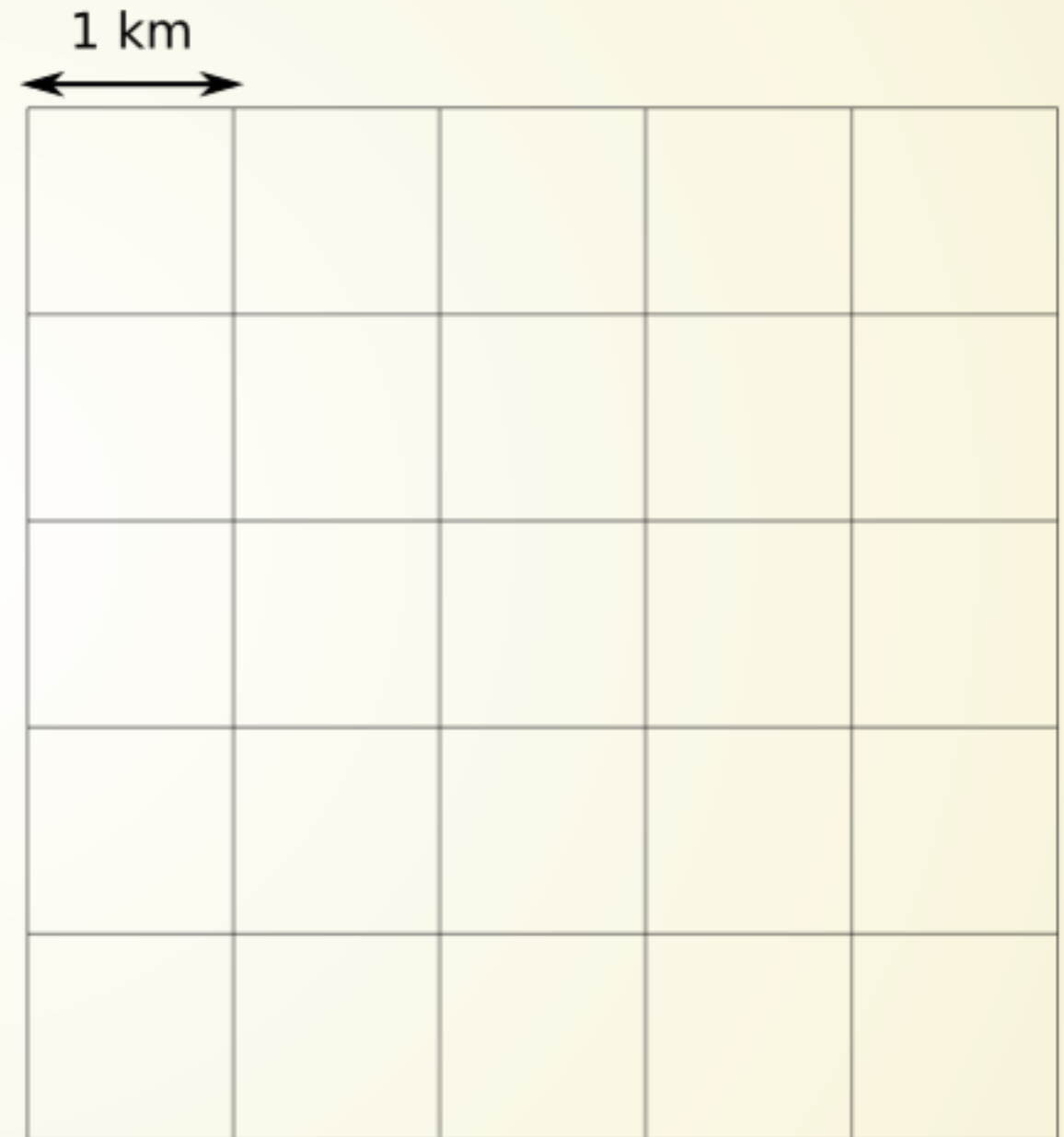
Behavioral movement modes



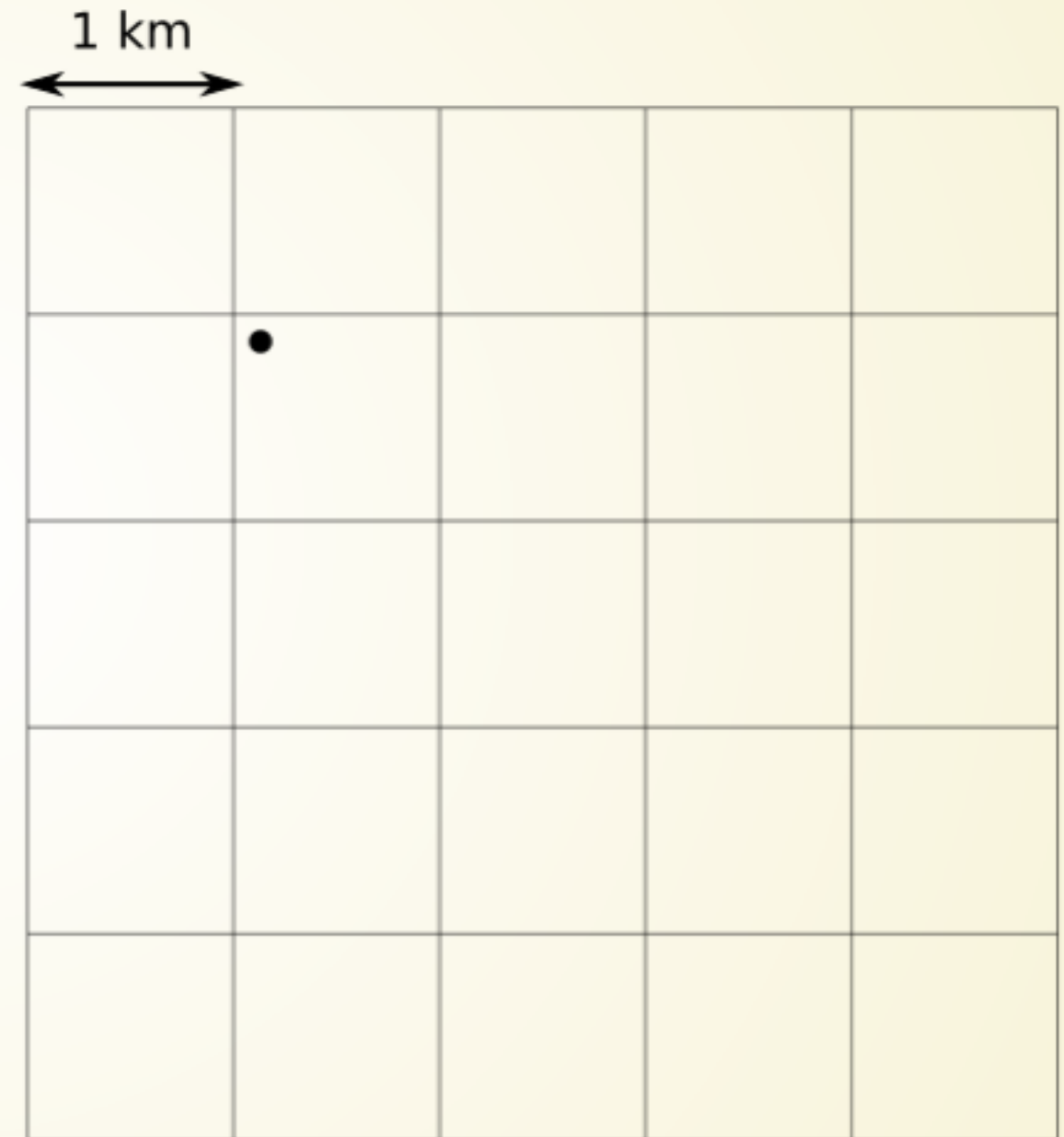
Stork Movement Modes



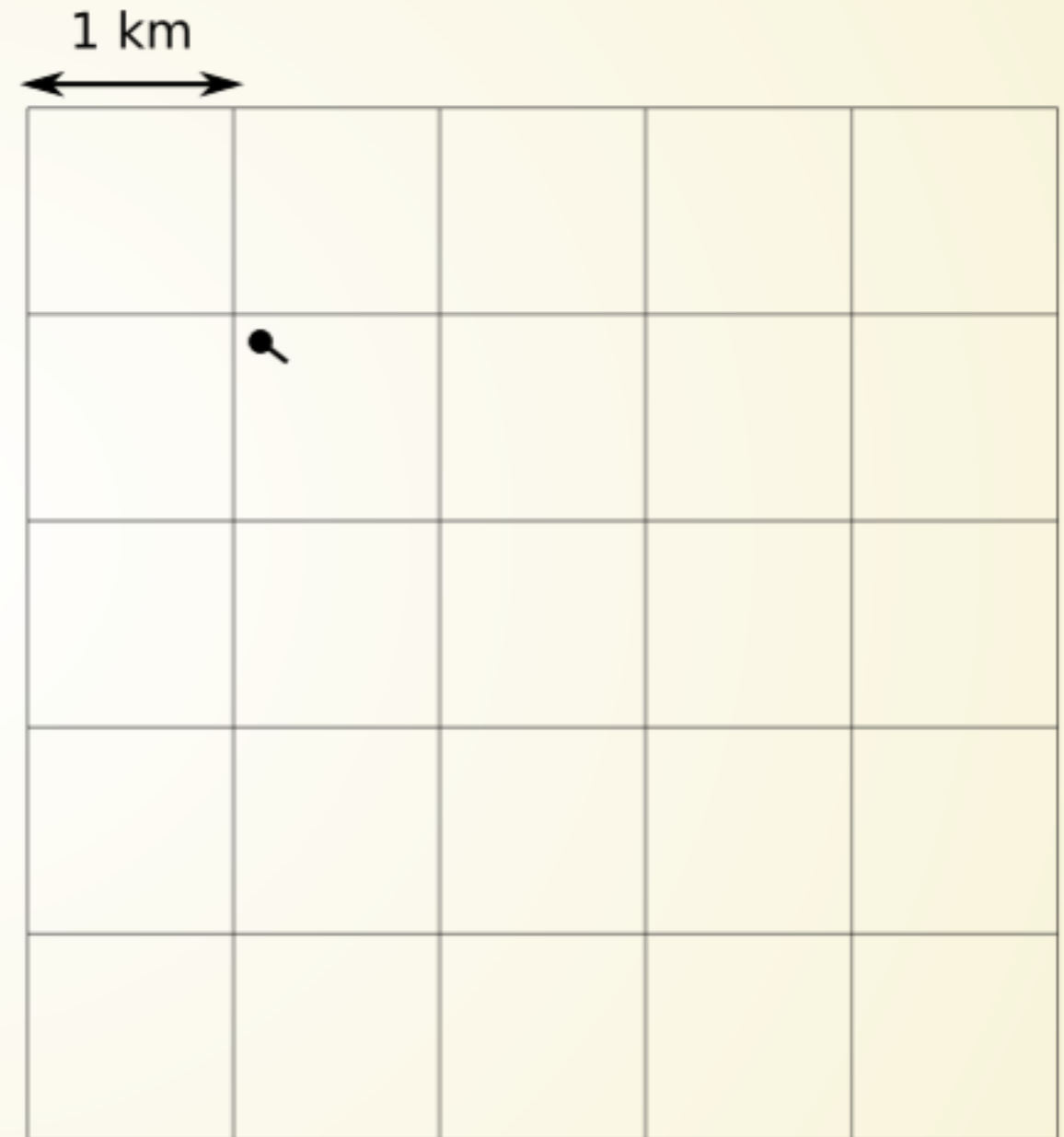
Stork Movement Modes



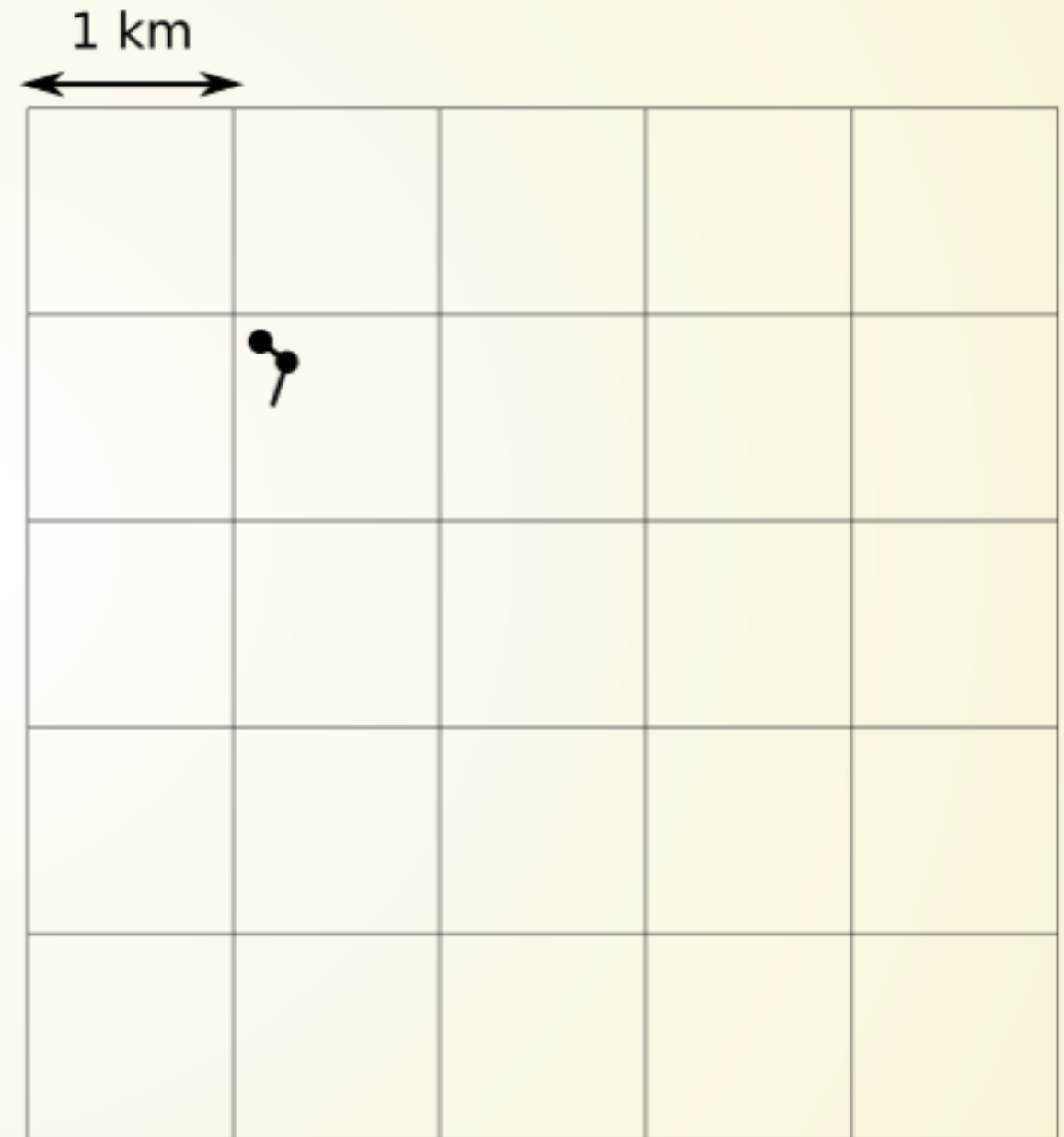
Stork Movement Modes



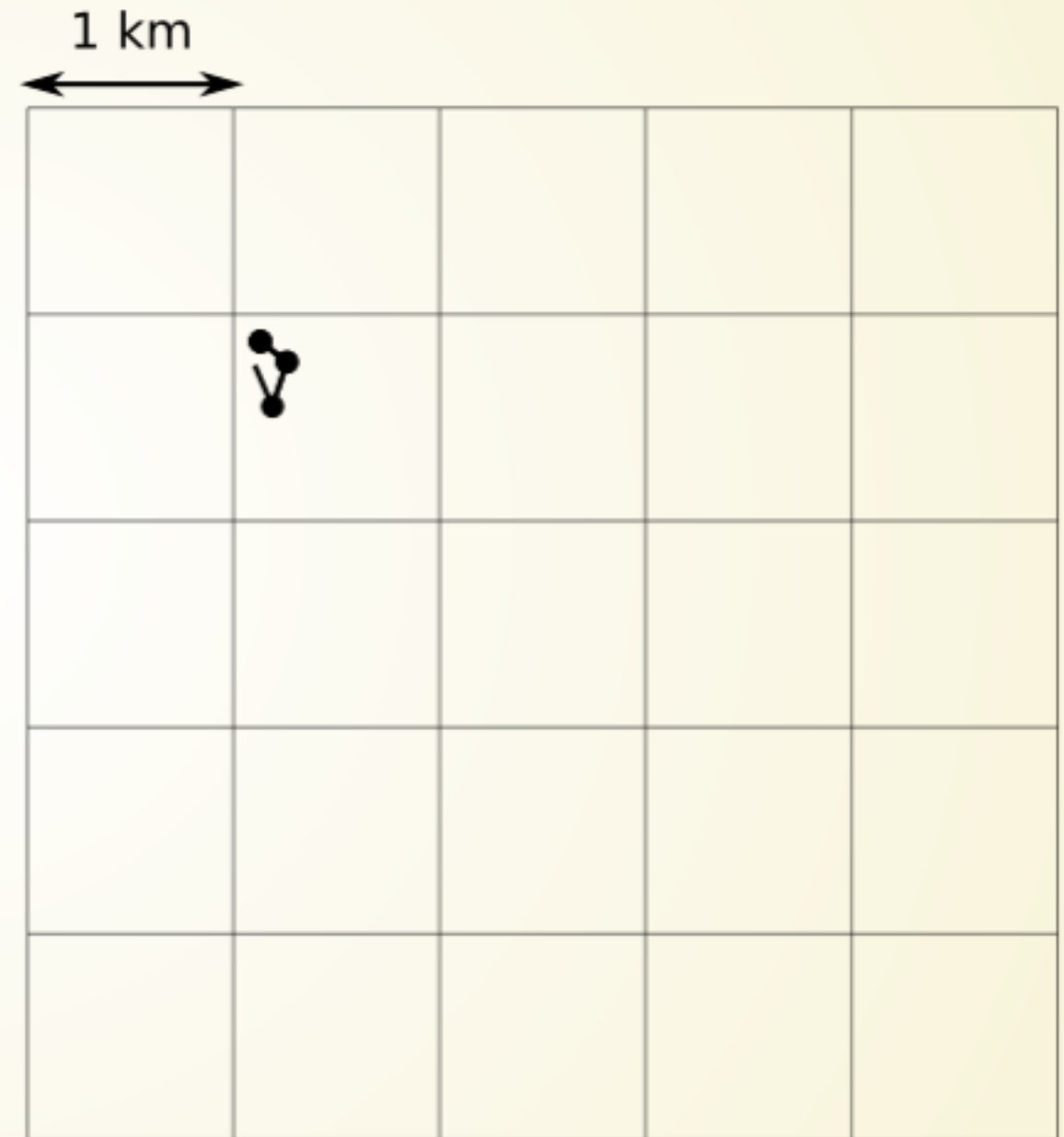
Stork Movement Modes



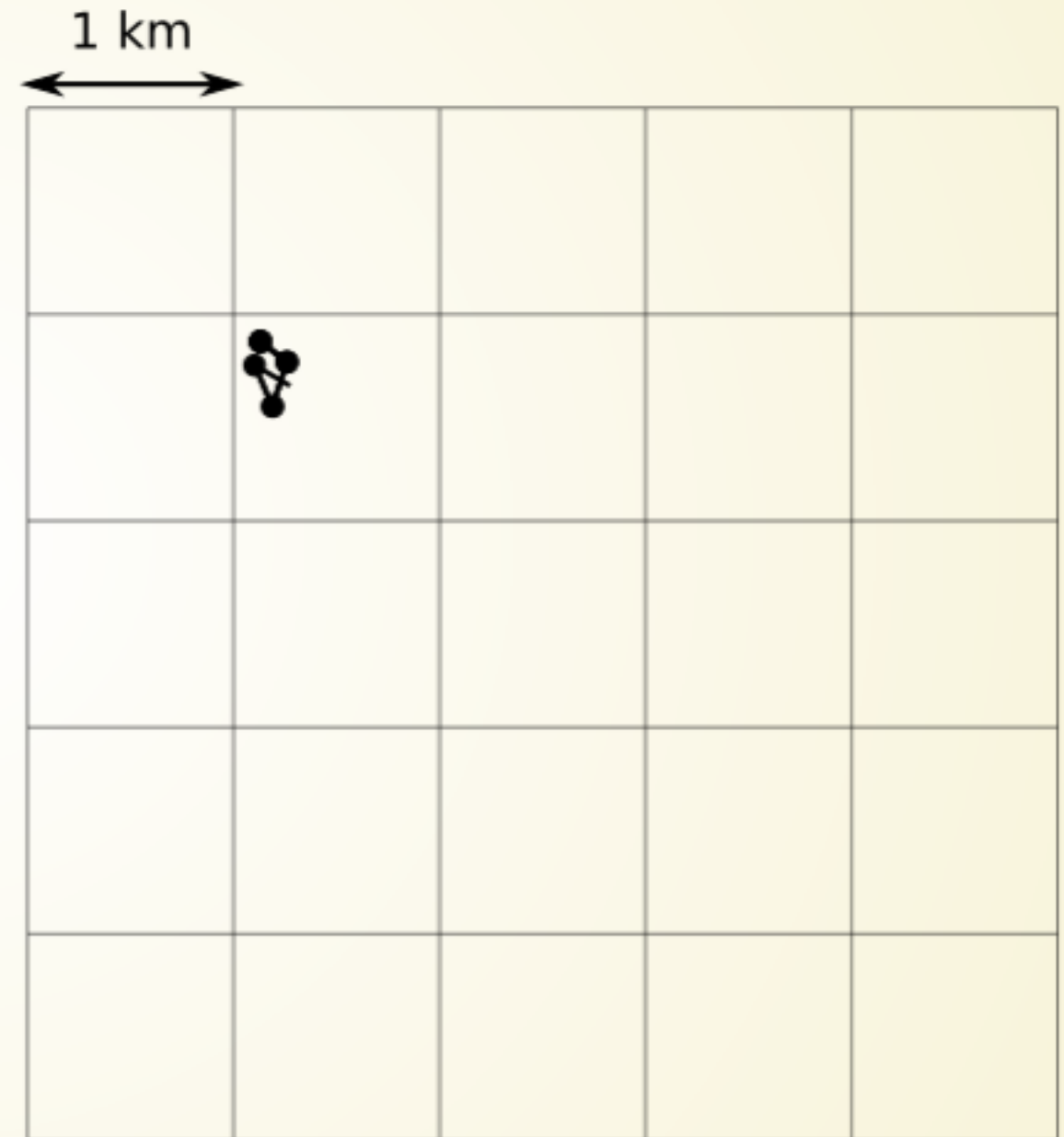
Stork Movement Modes



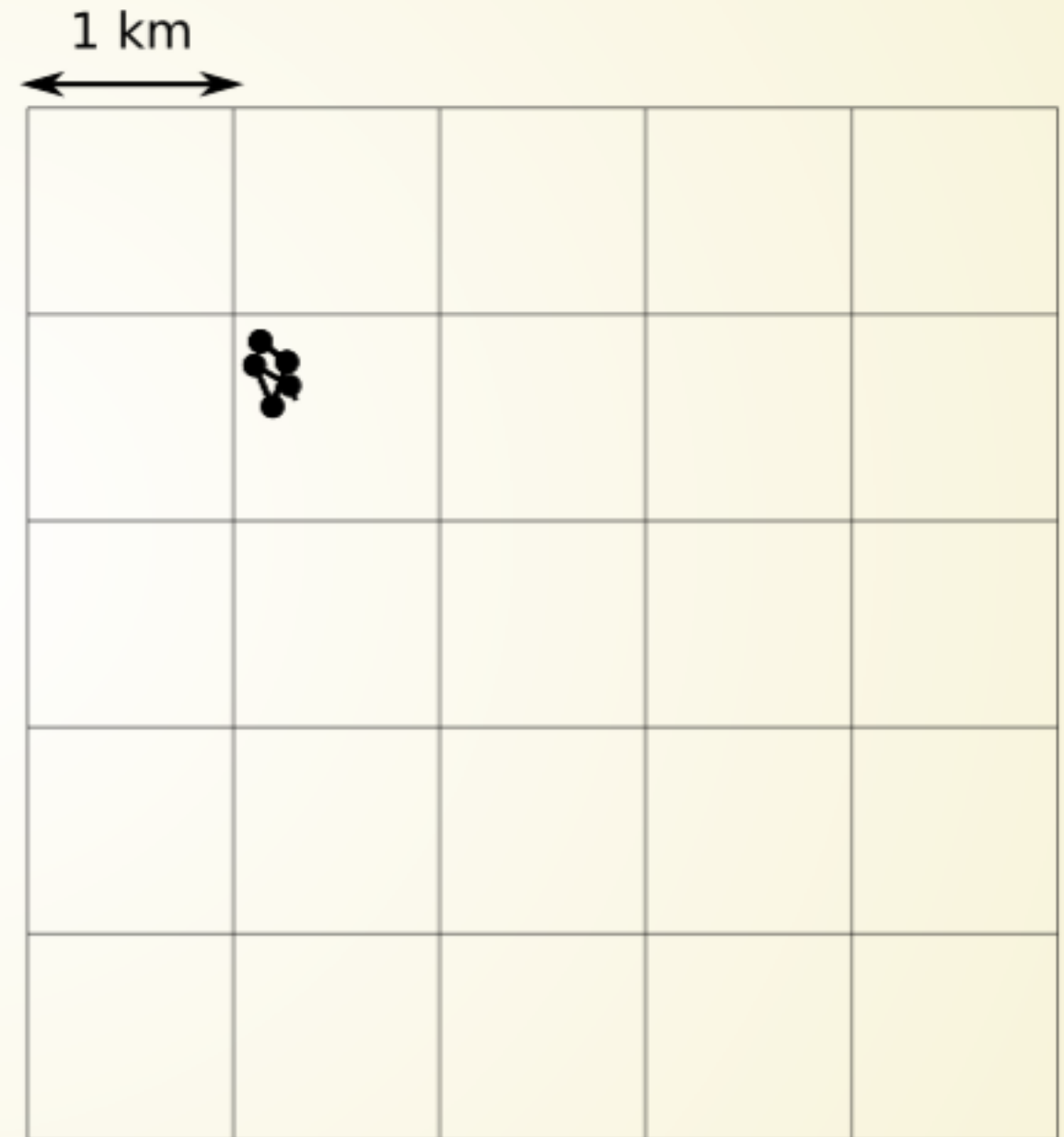
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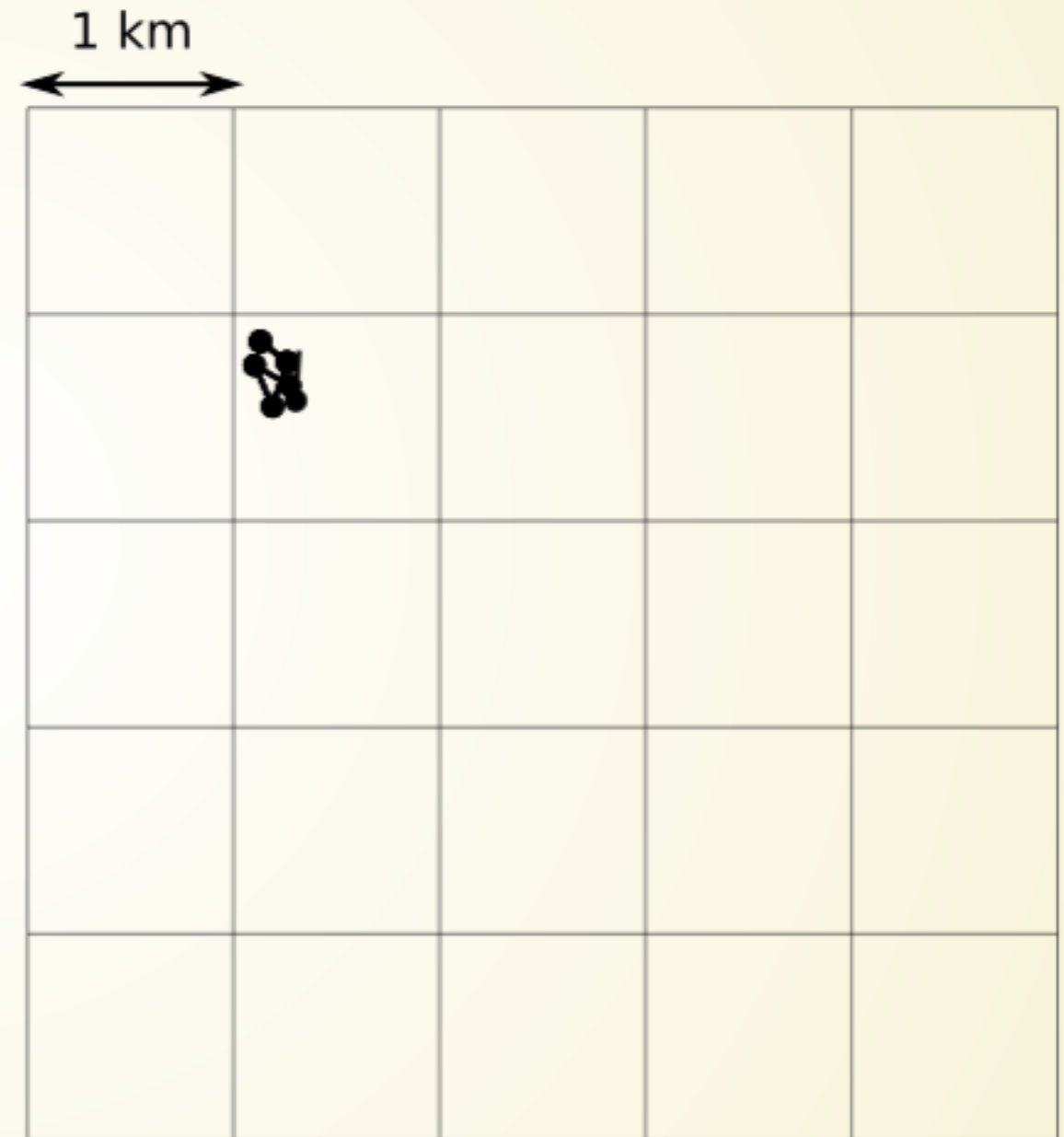
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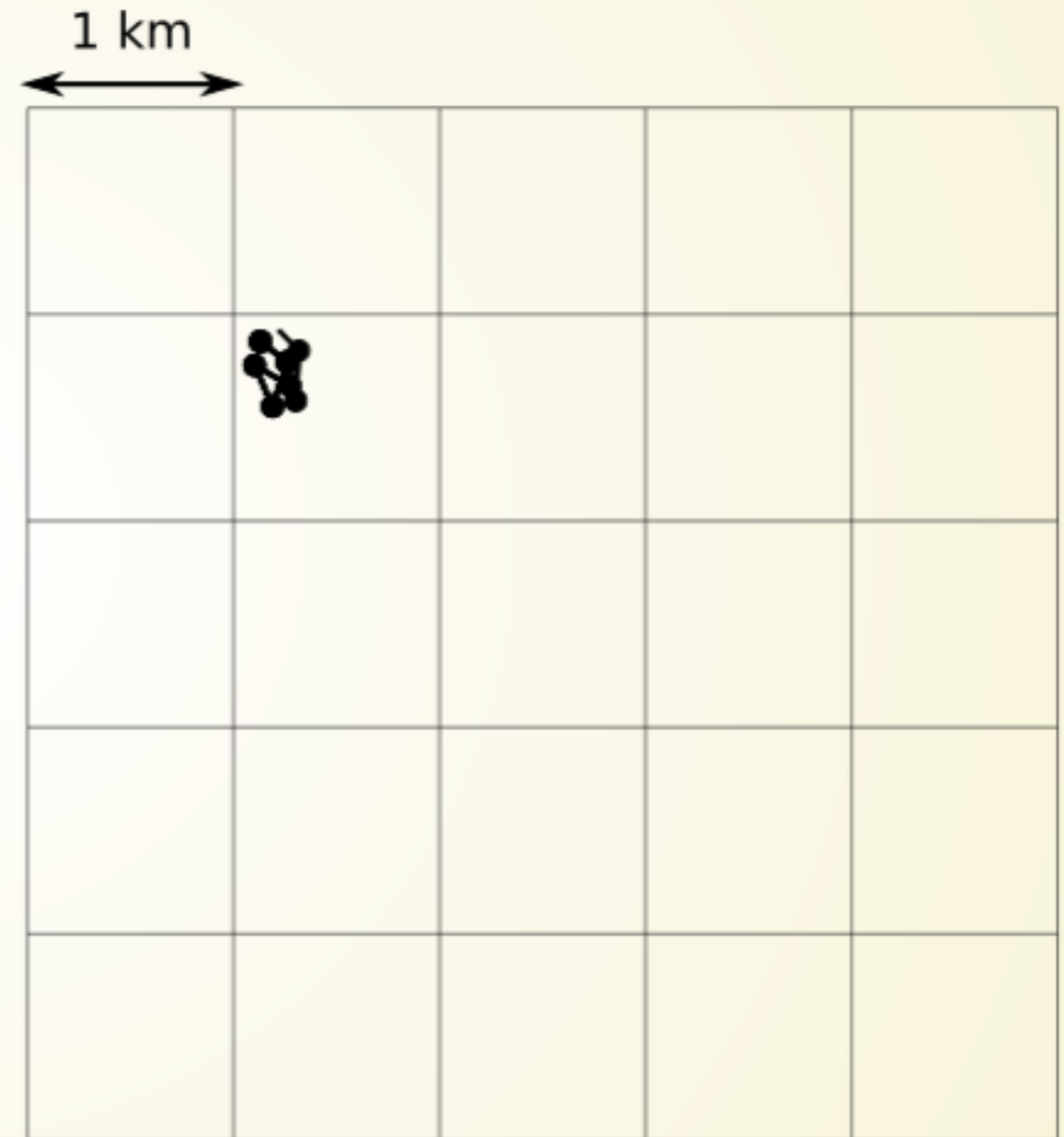
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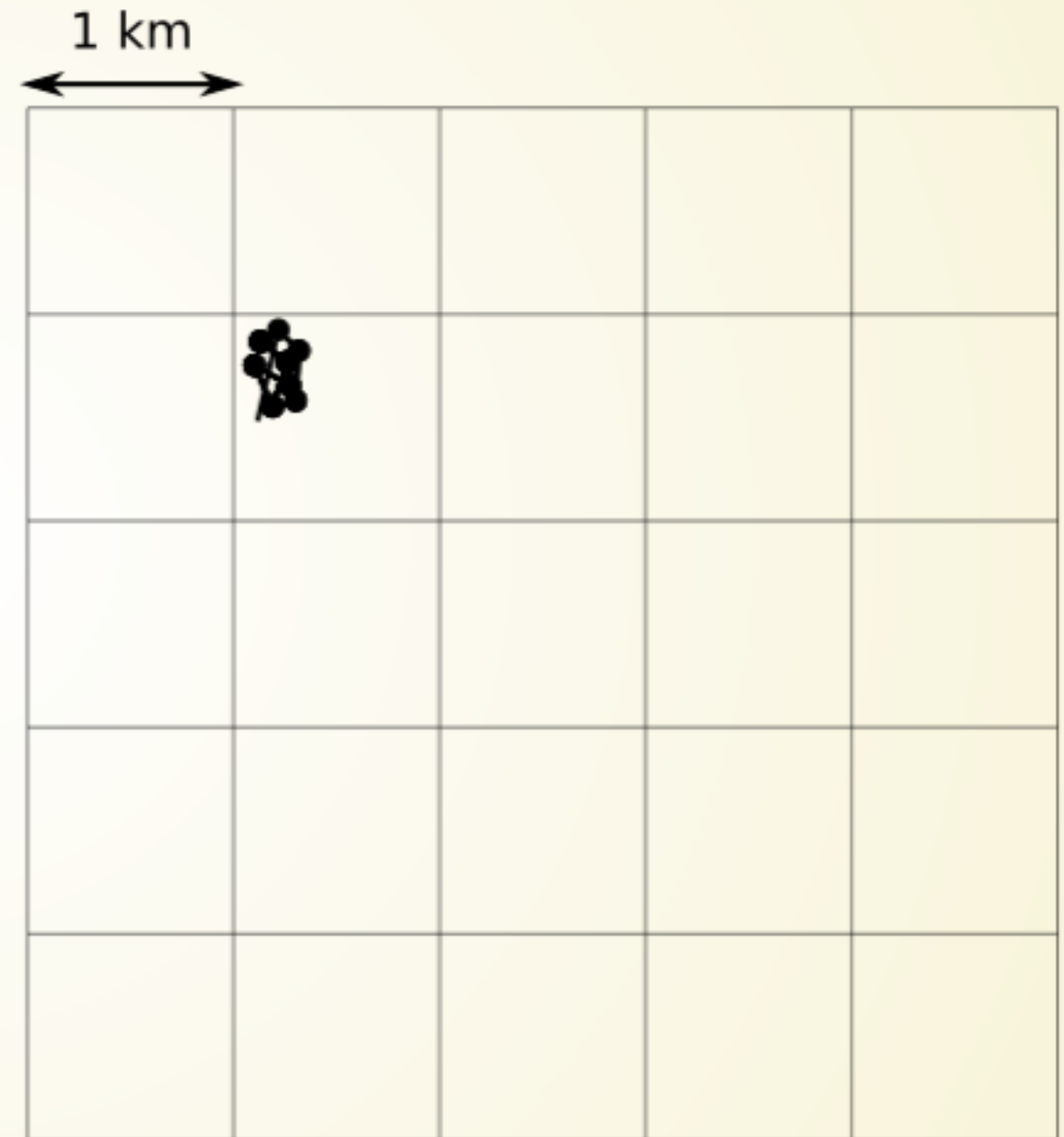
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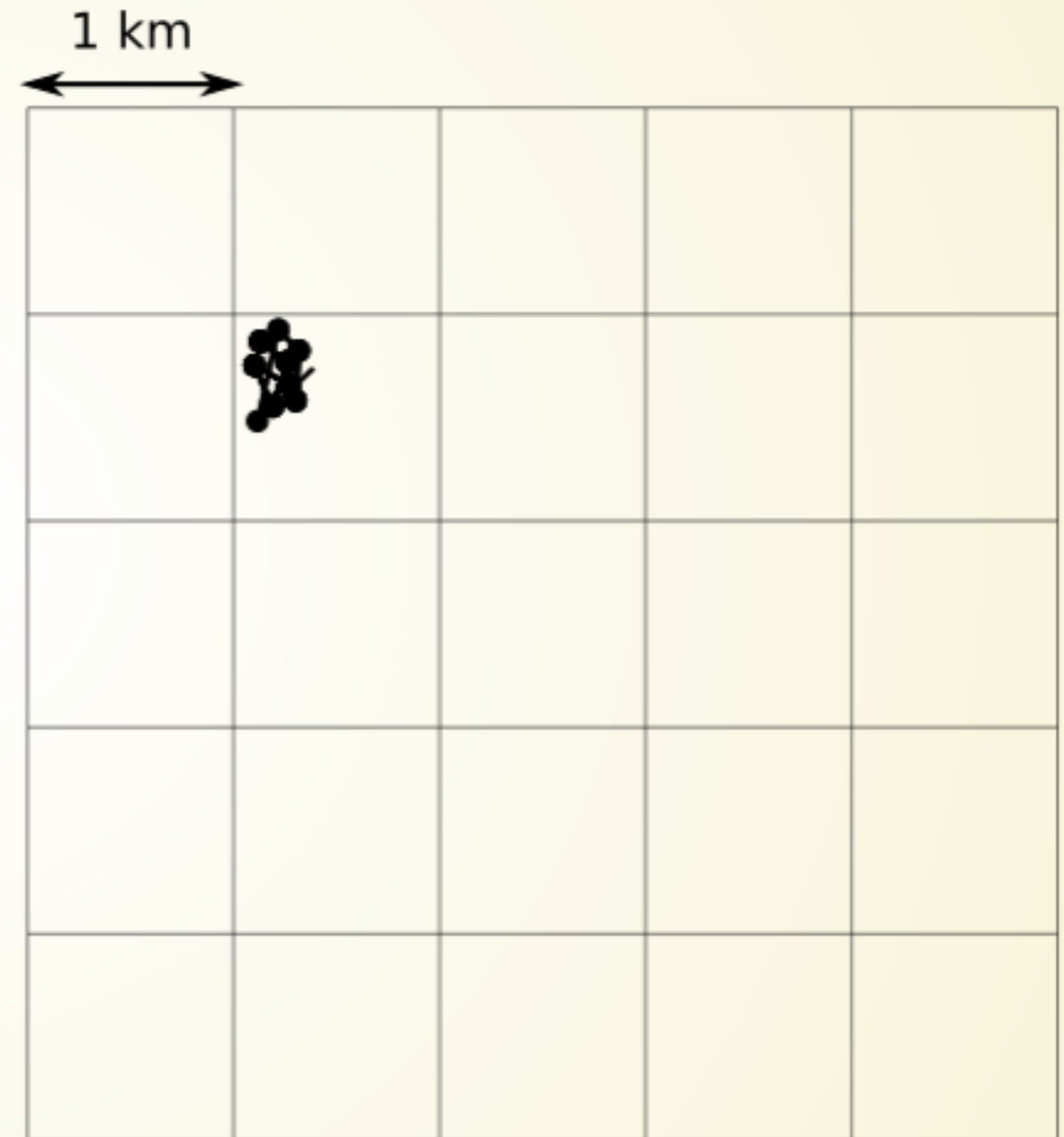
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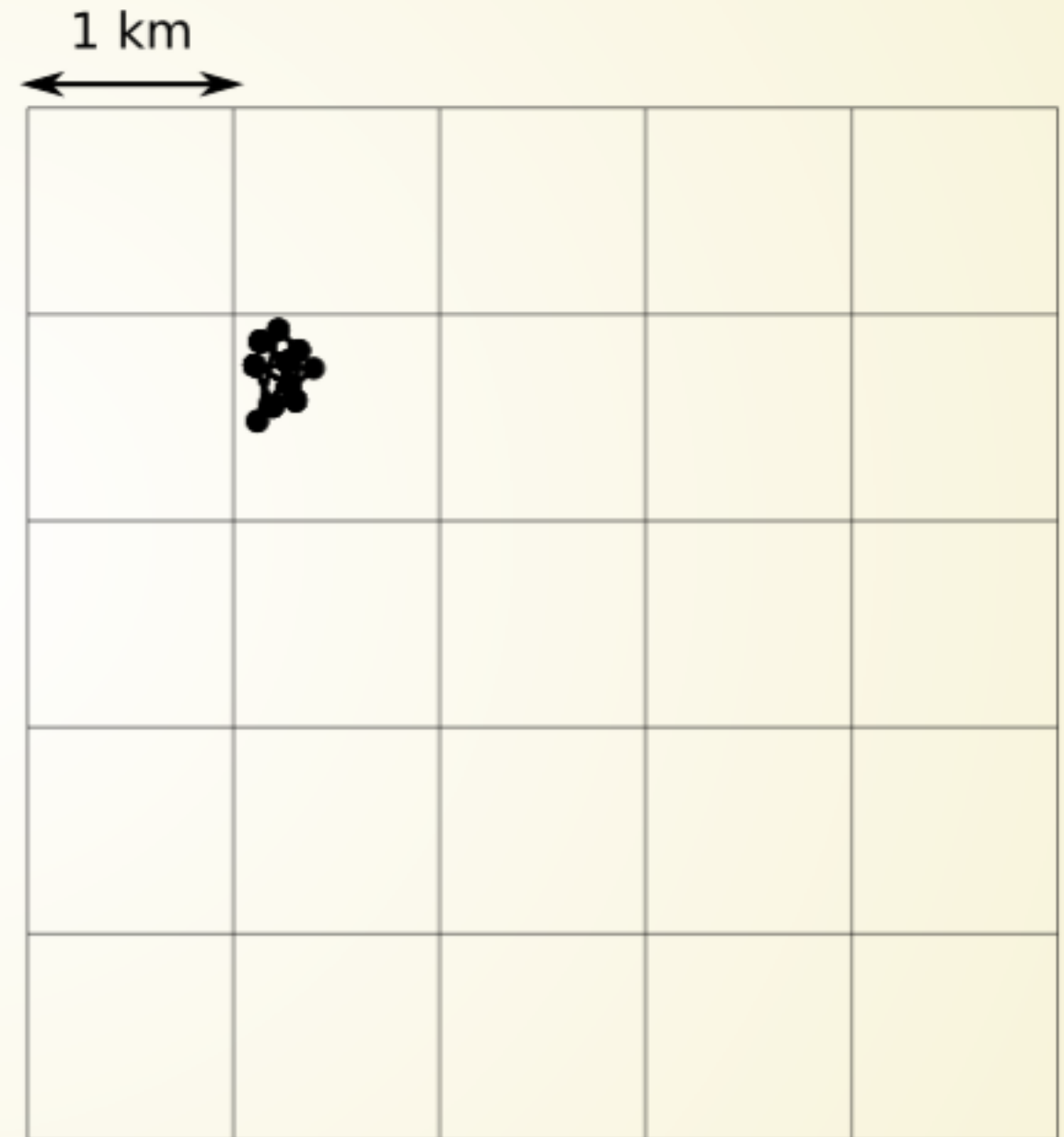
Stork Movement Modes



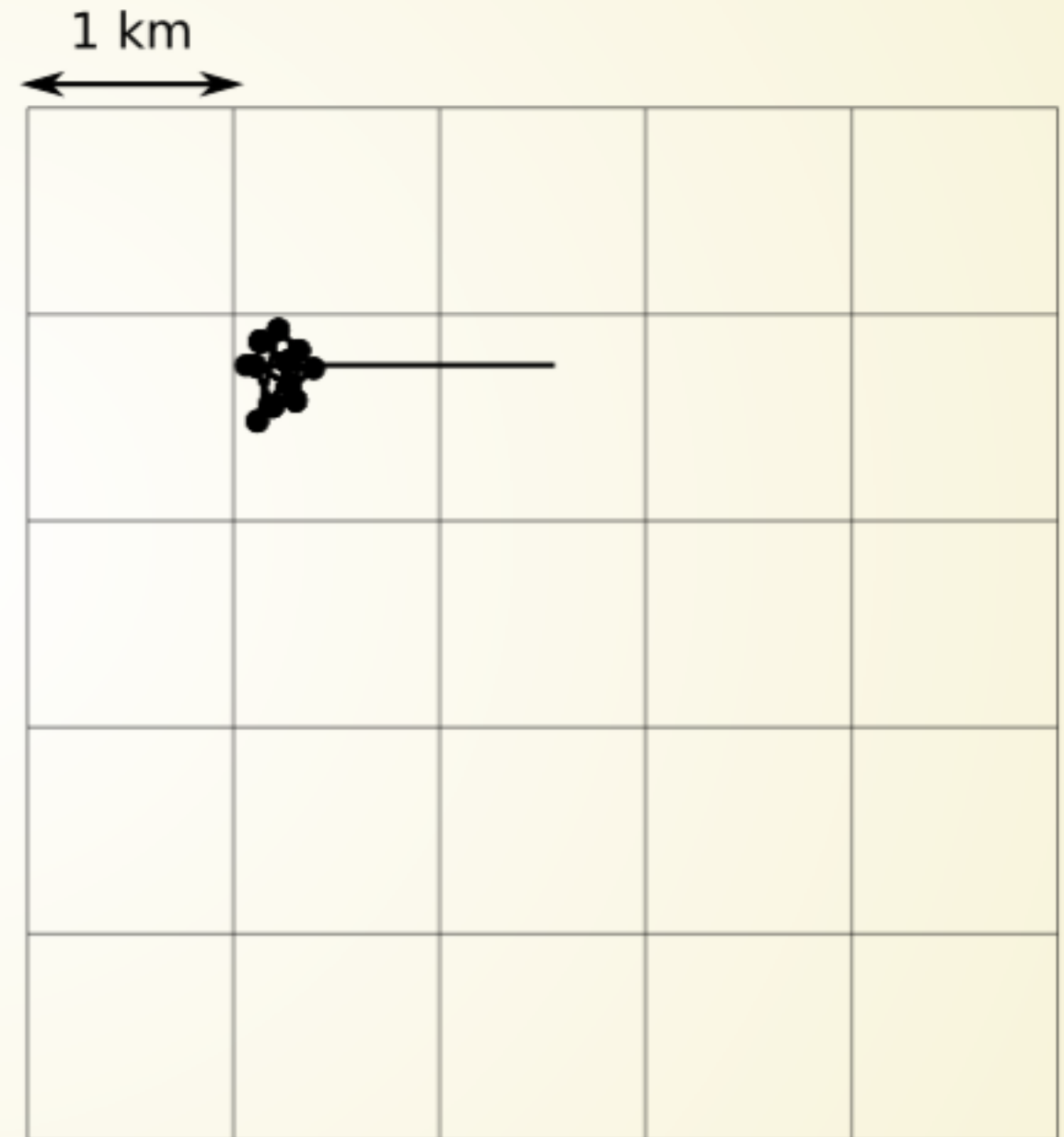
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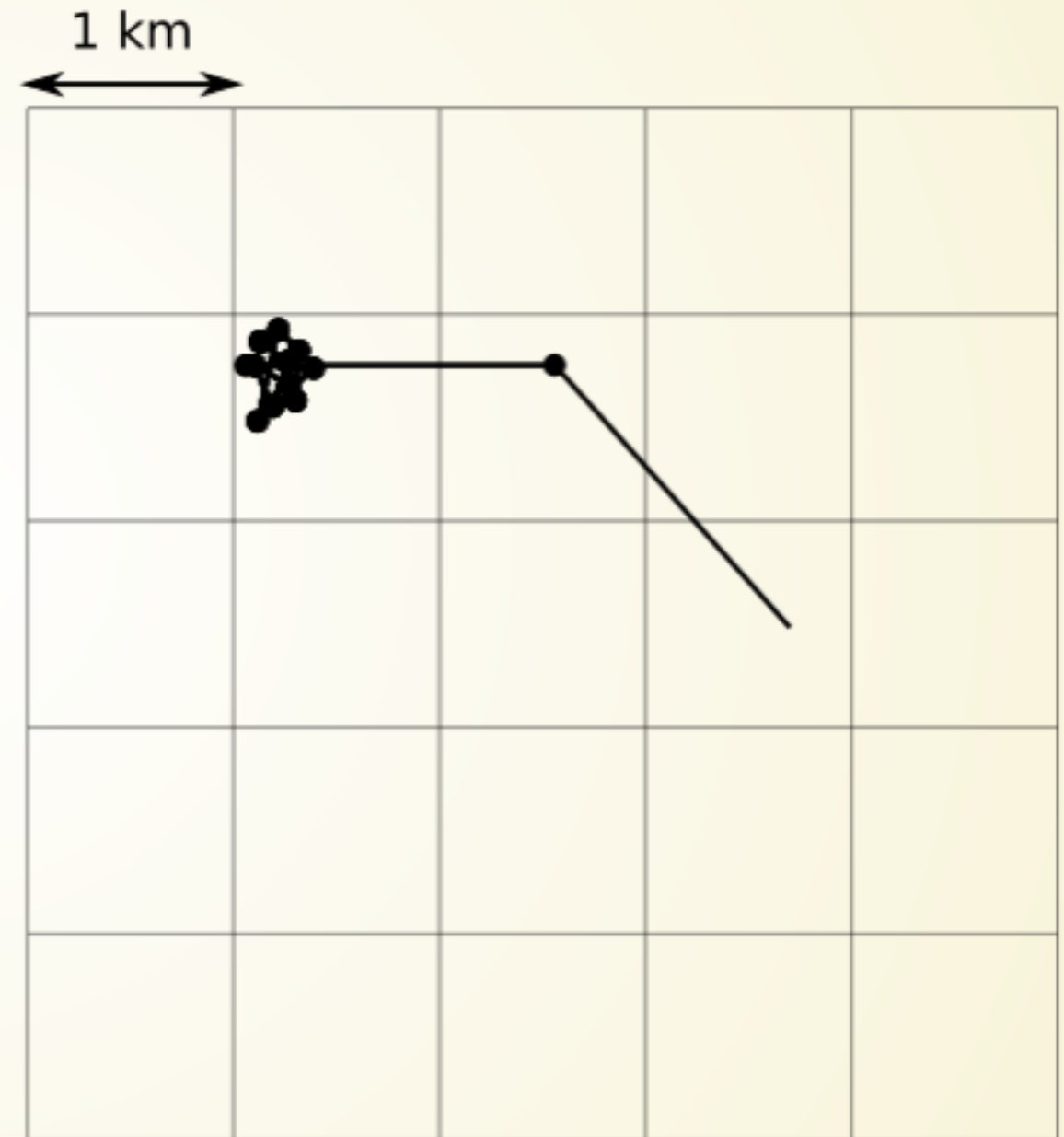
Stork Movement Modes



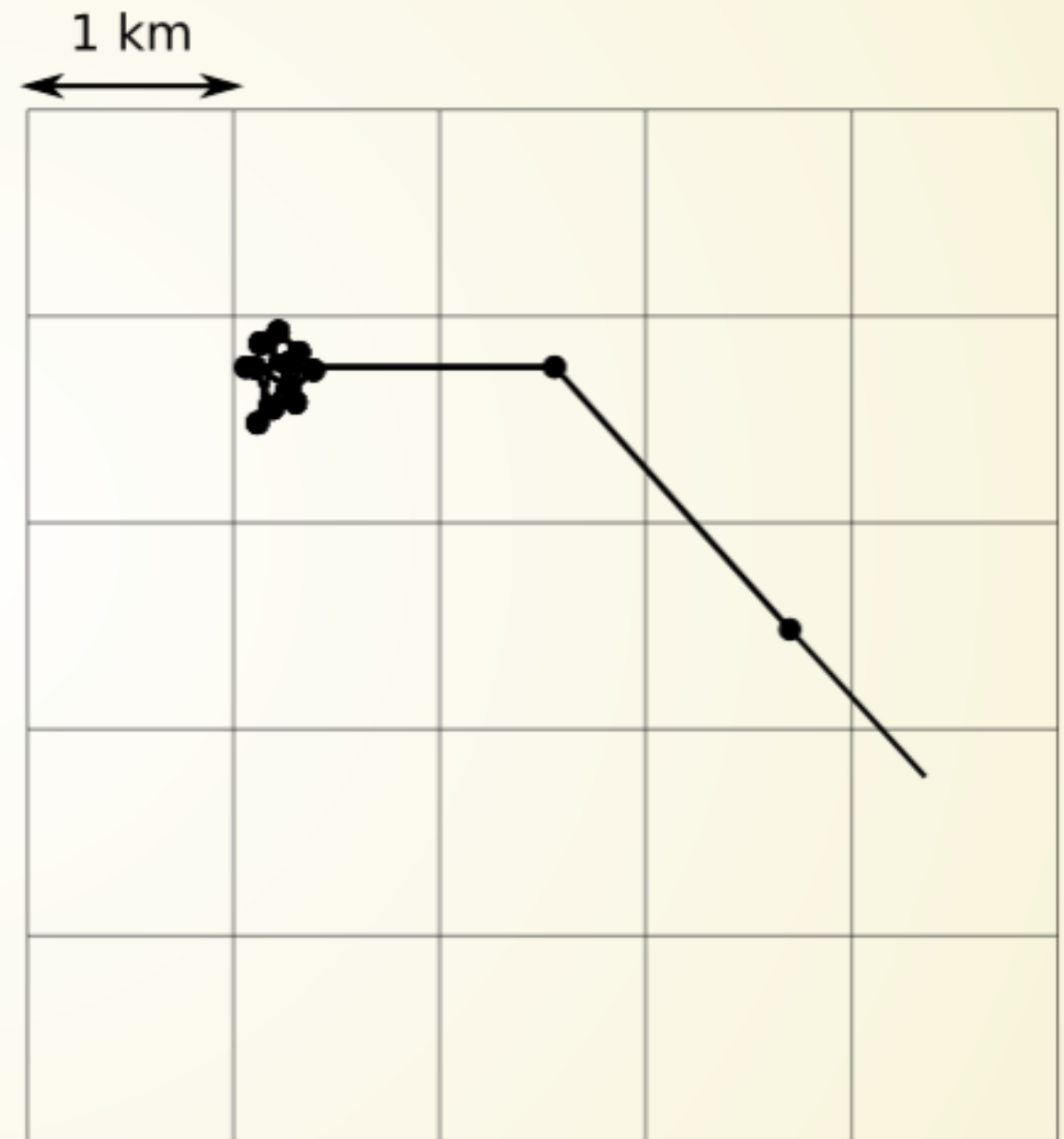
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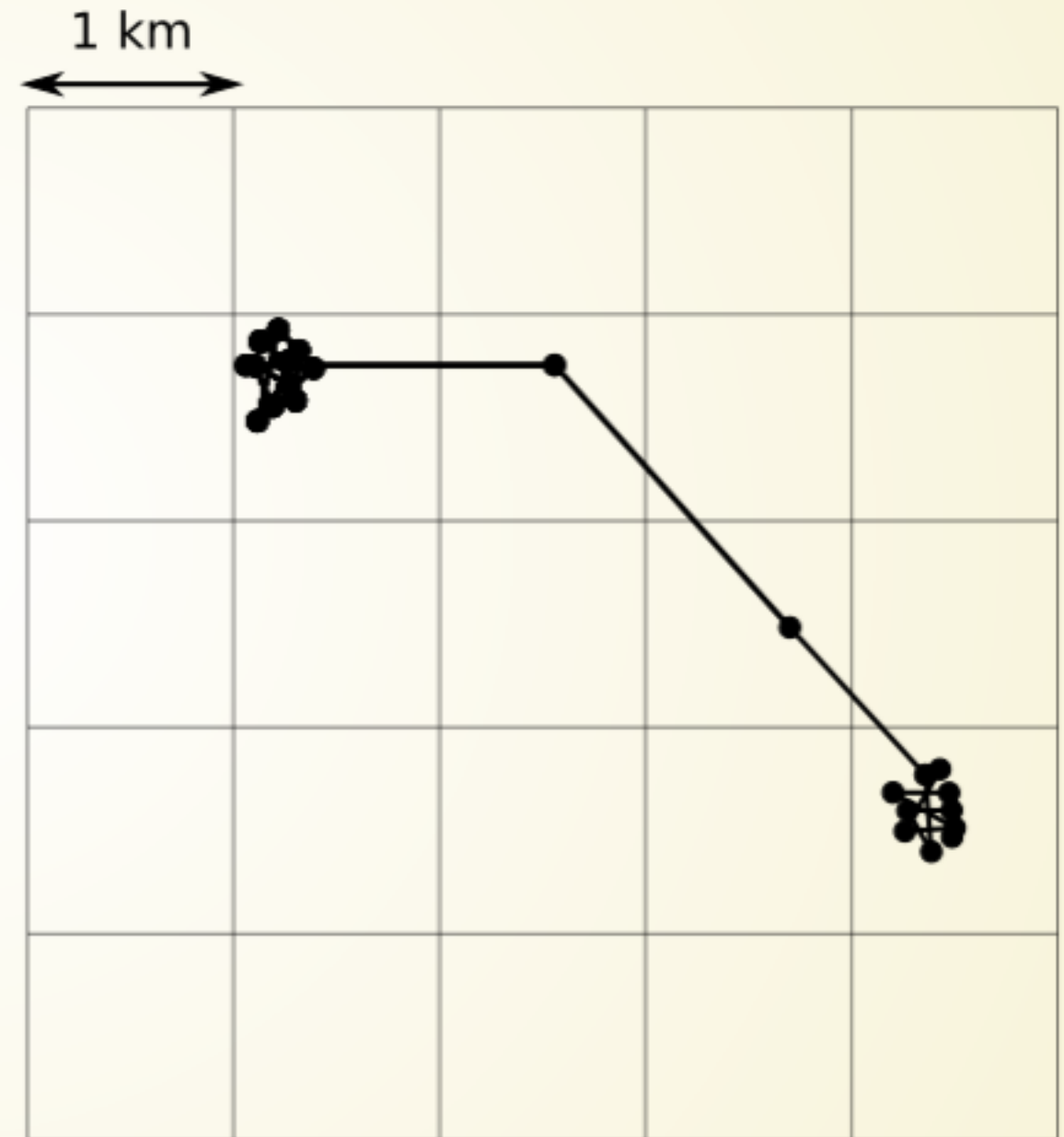
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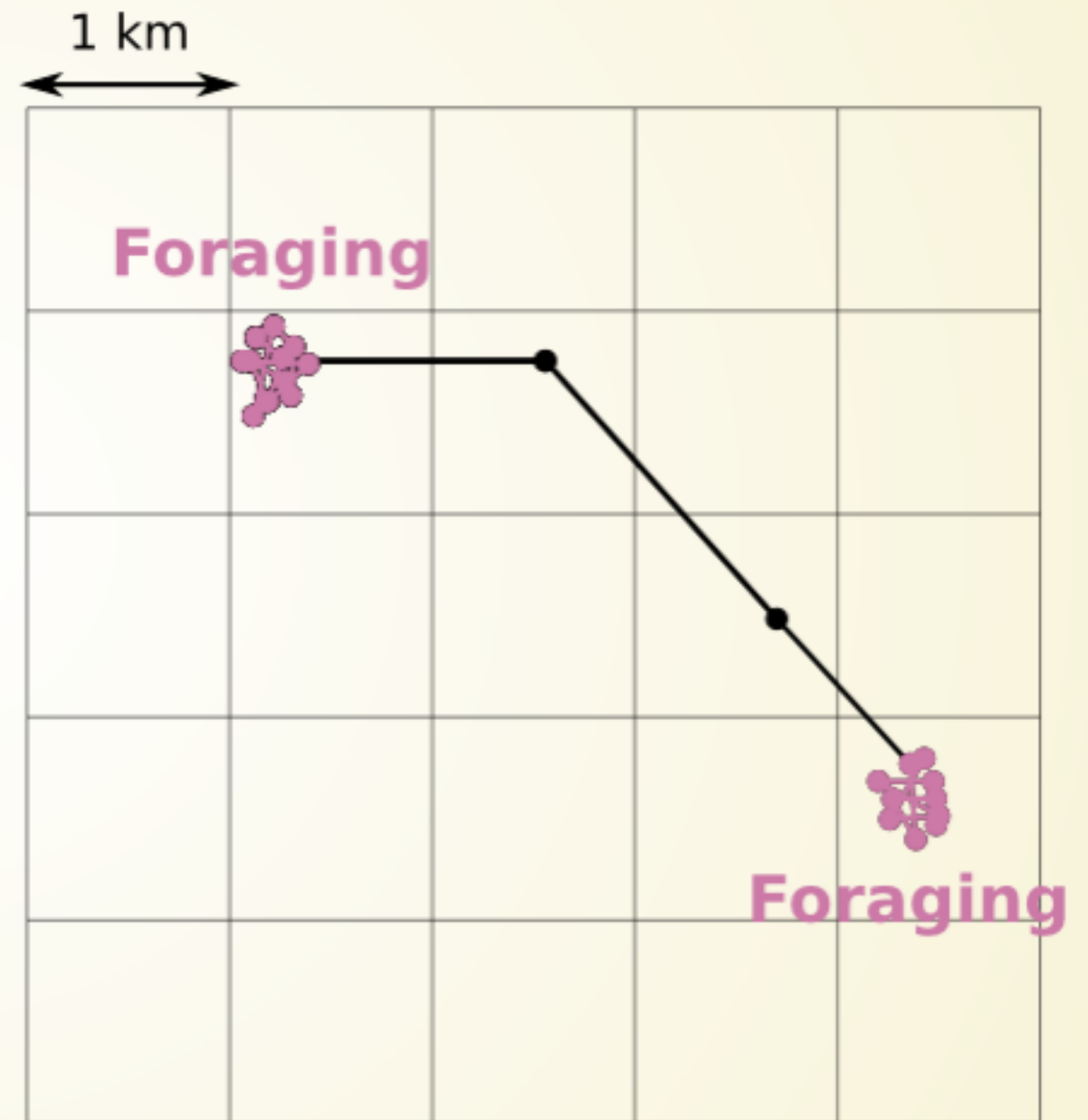
Stork Movement Modes



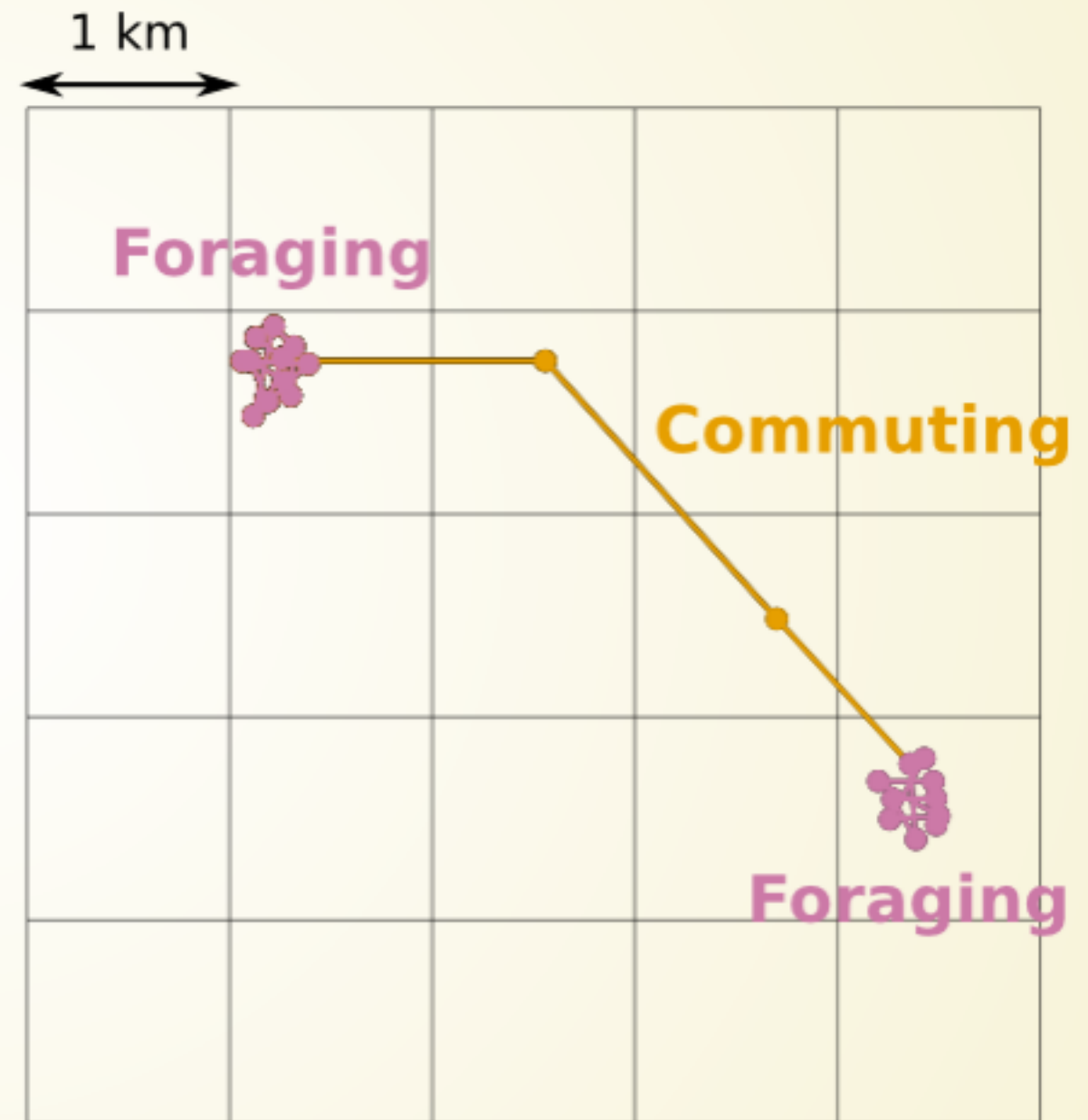
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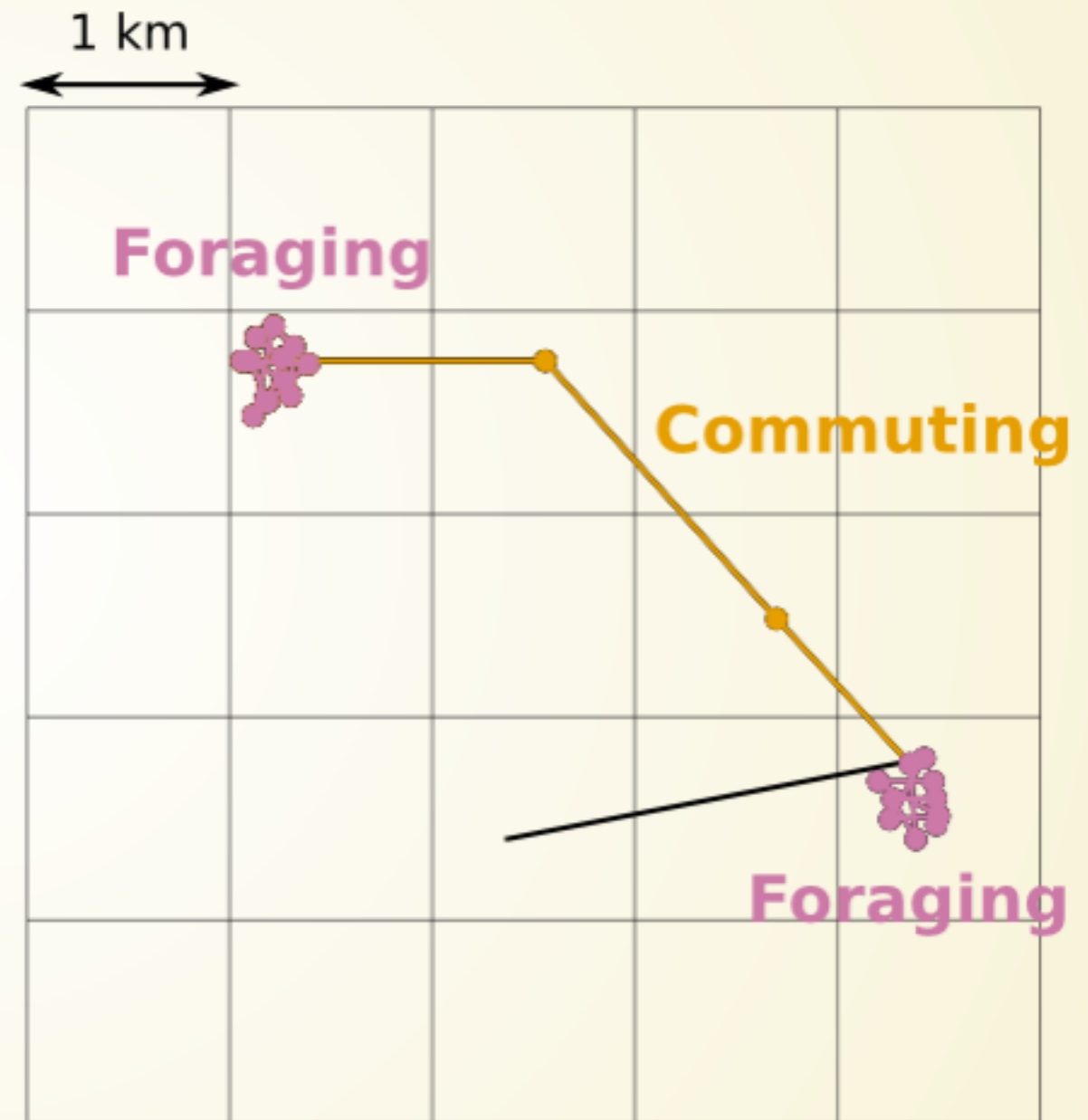
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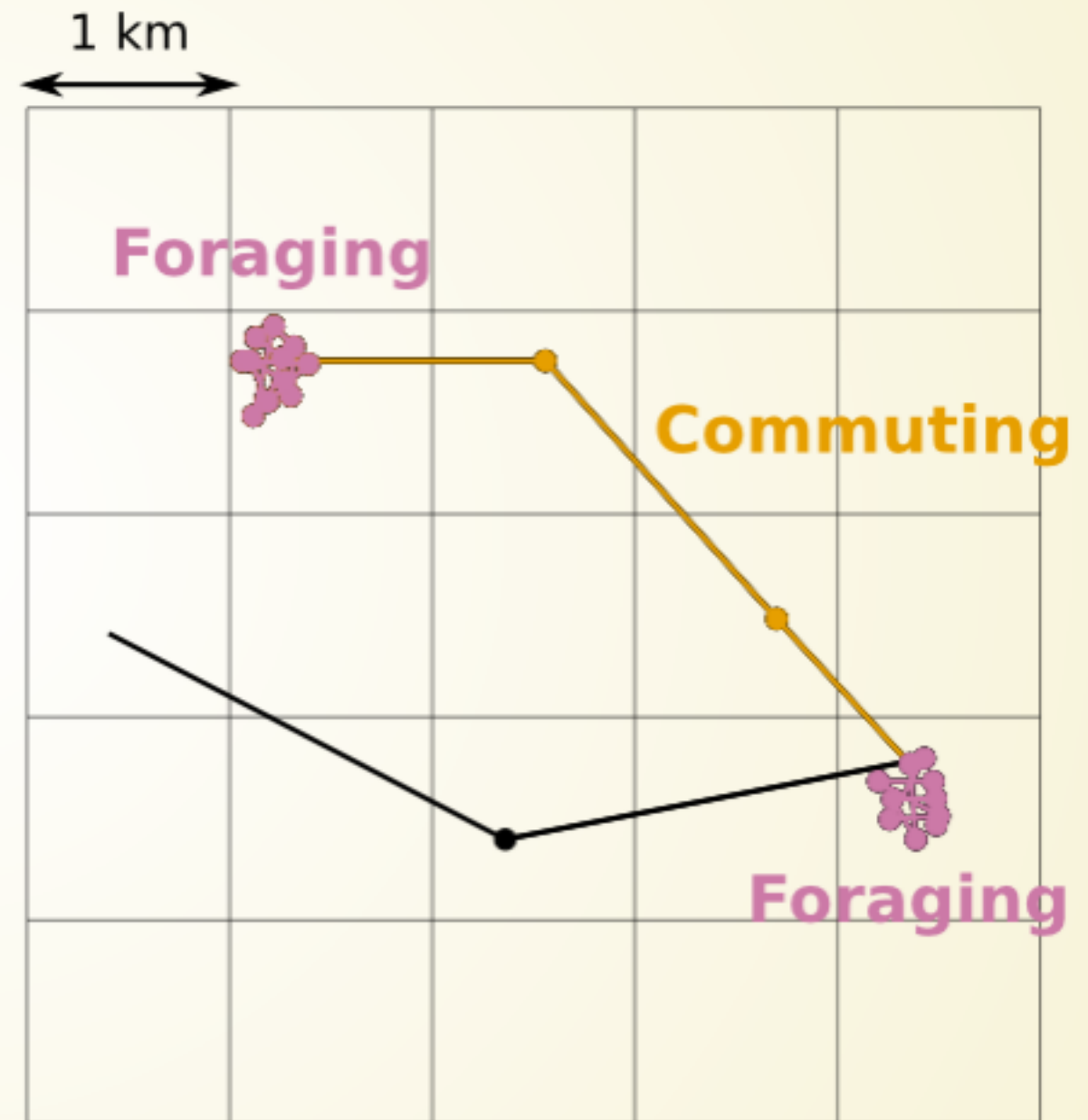
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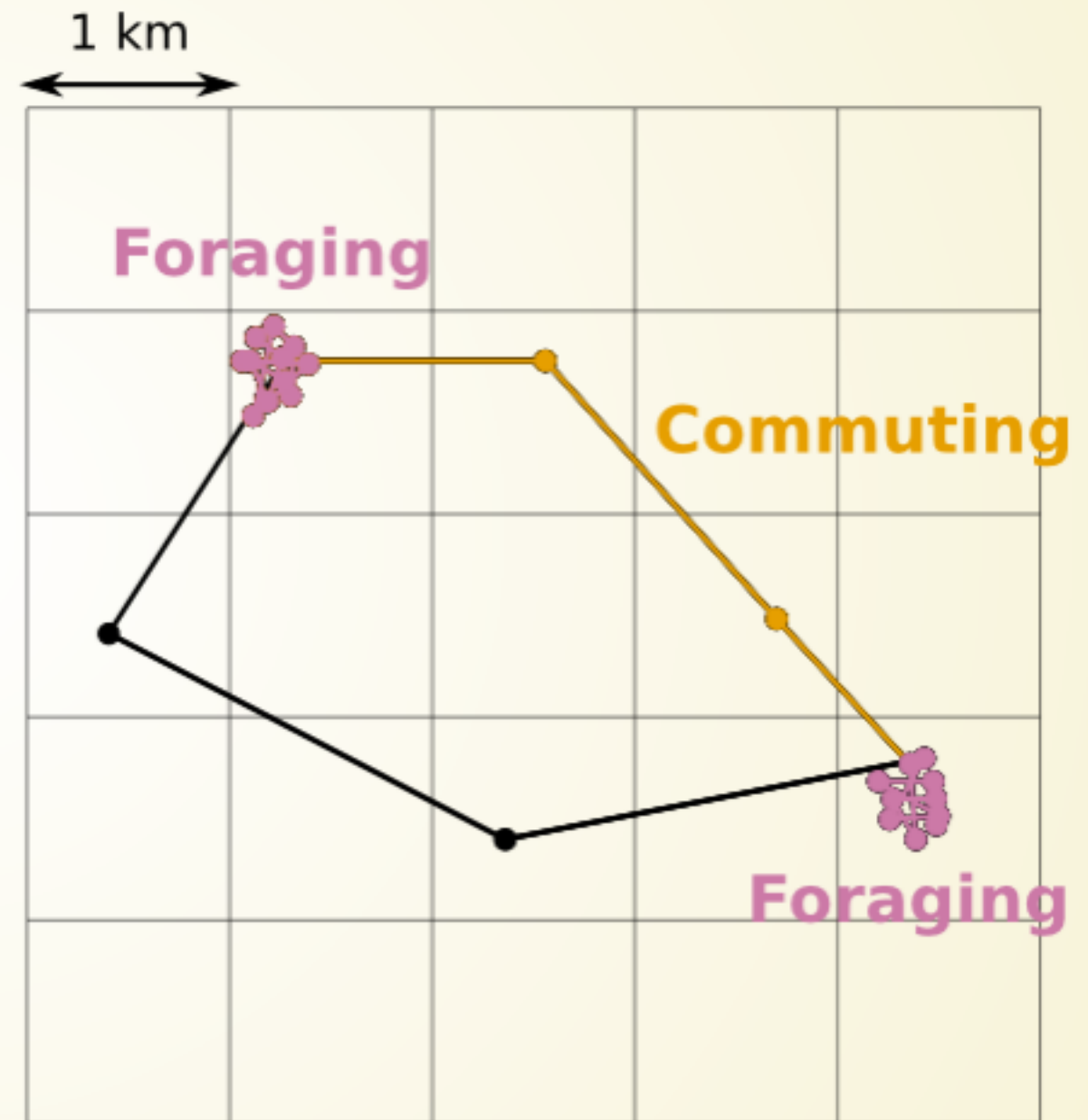
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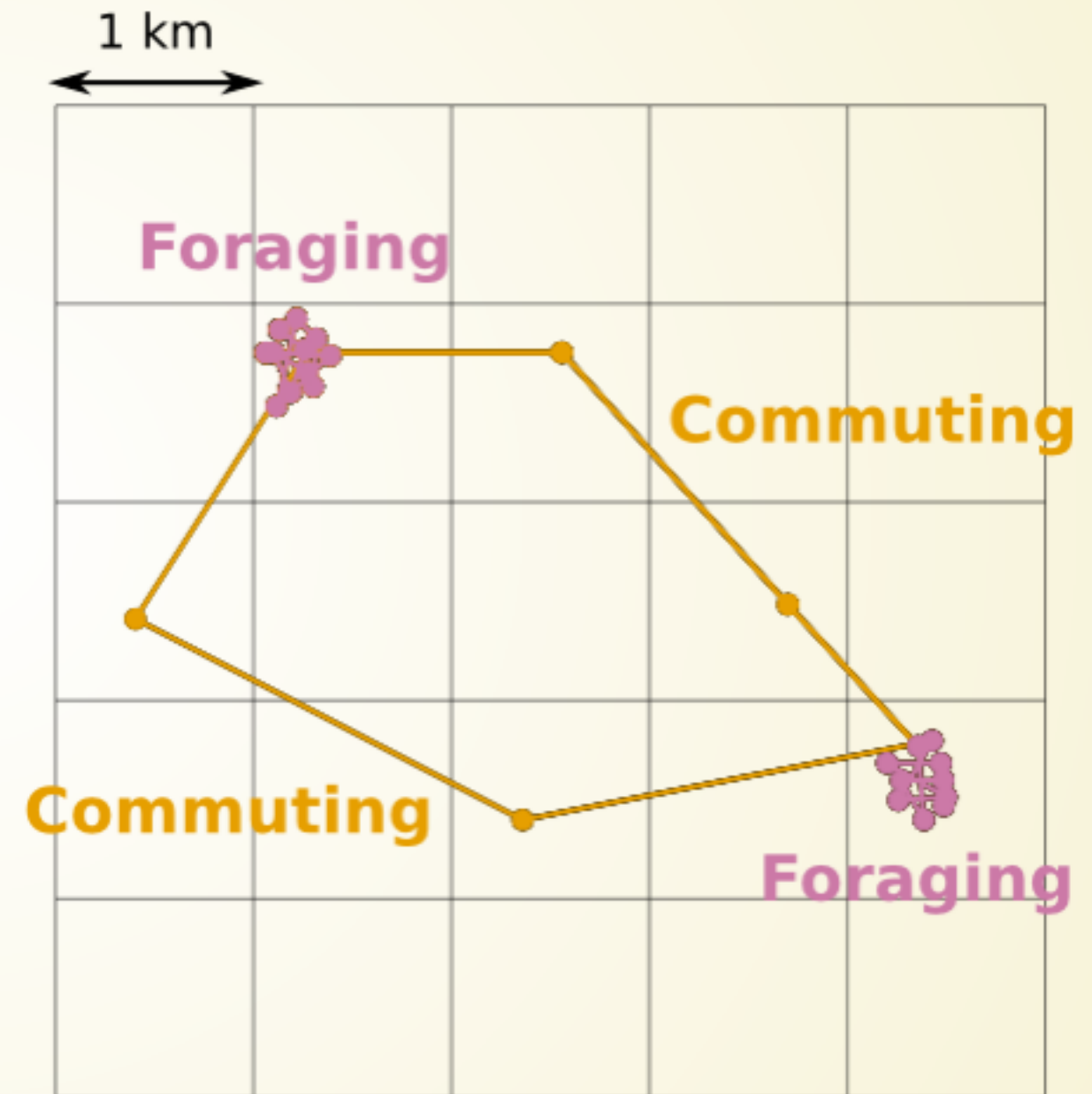
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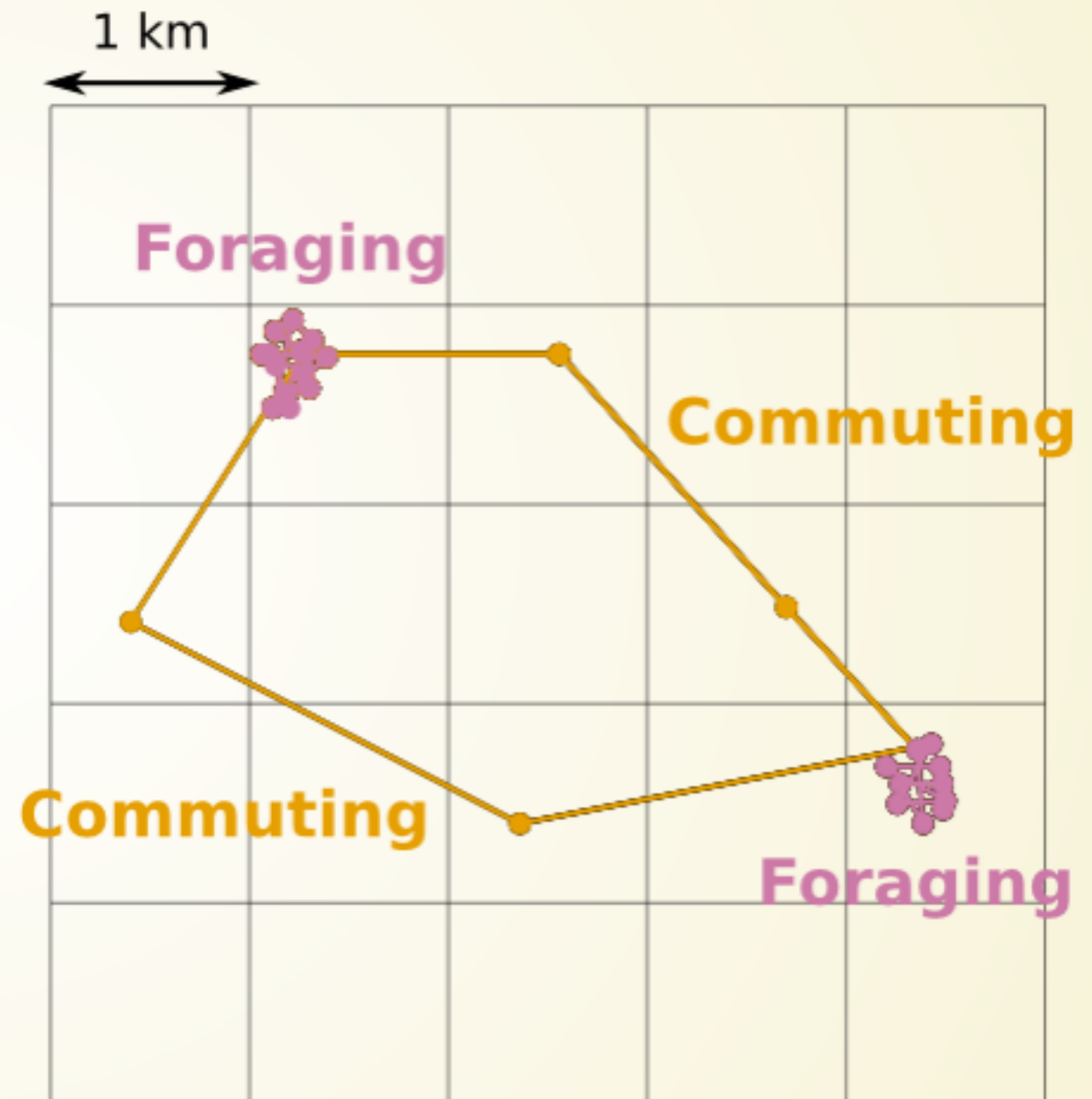
Stork Movement Modes



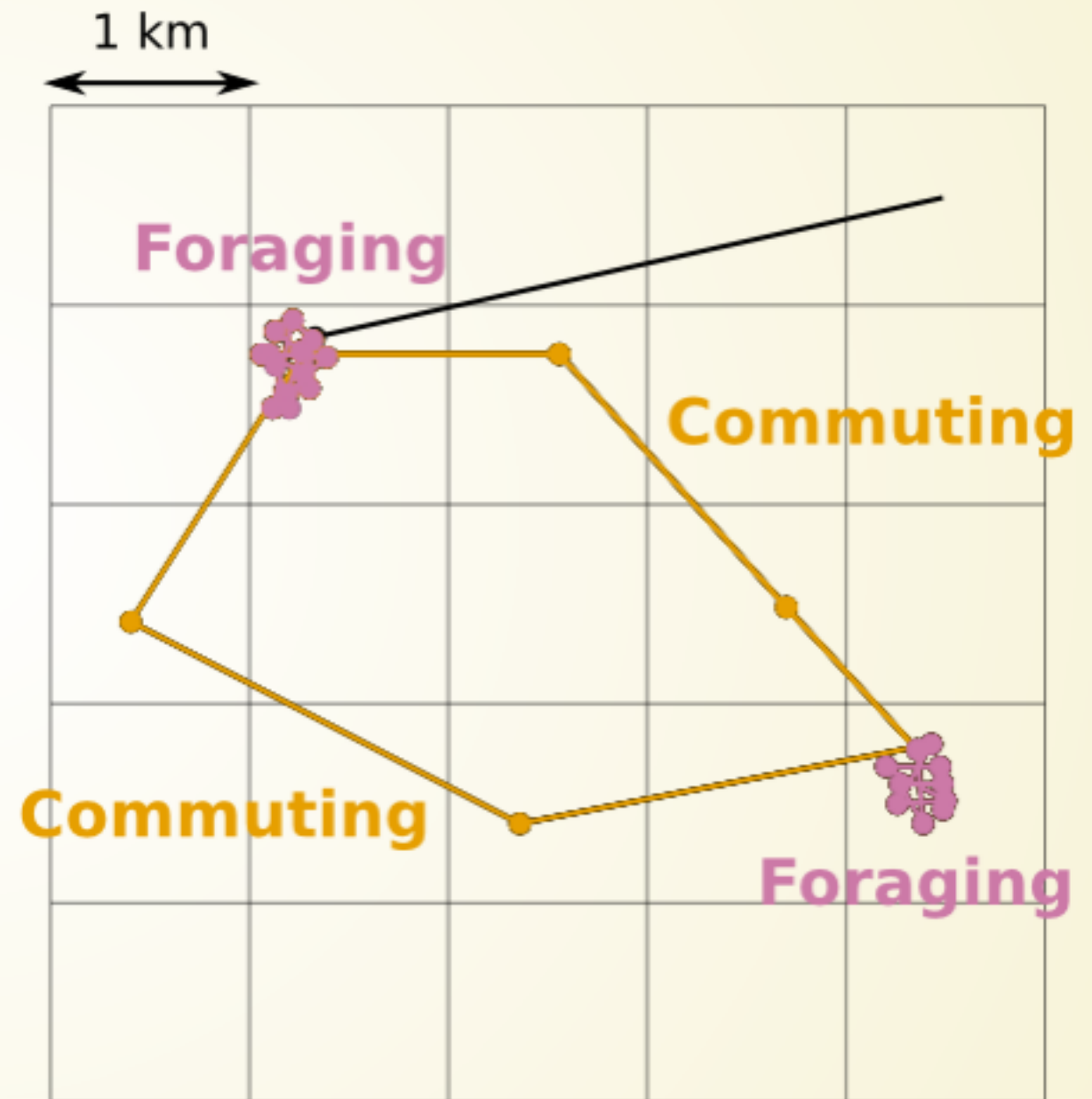
Stork Movement Modes



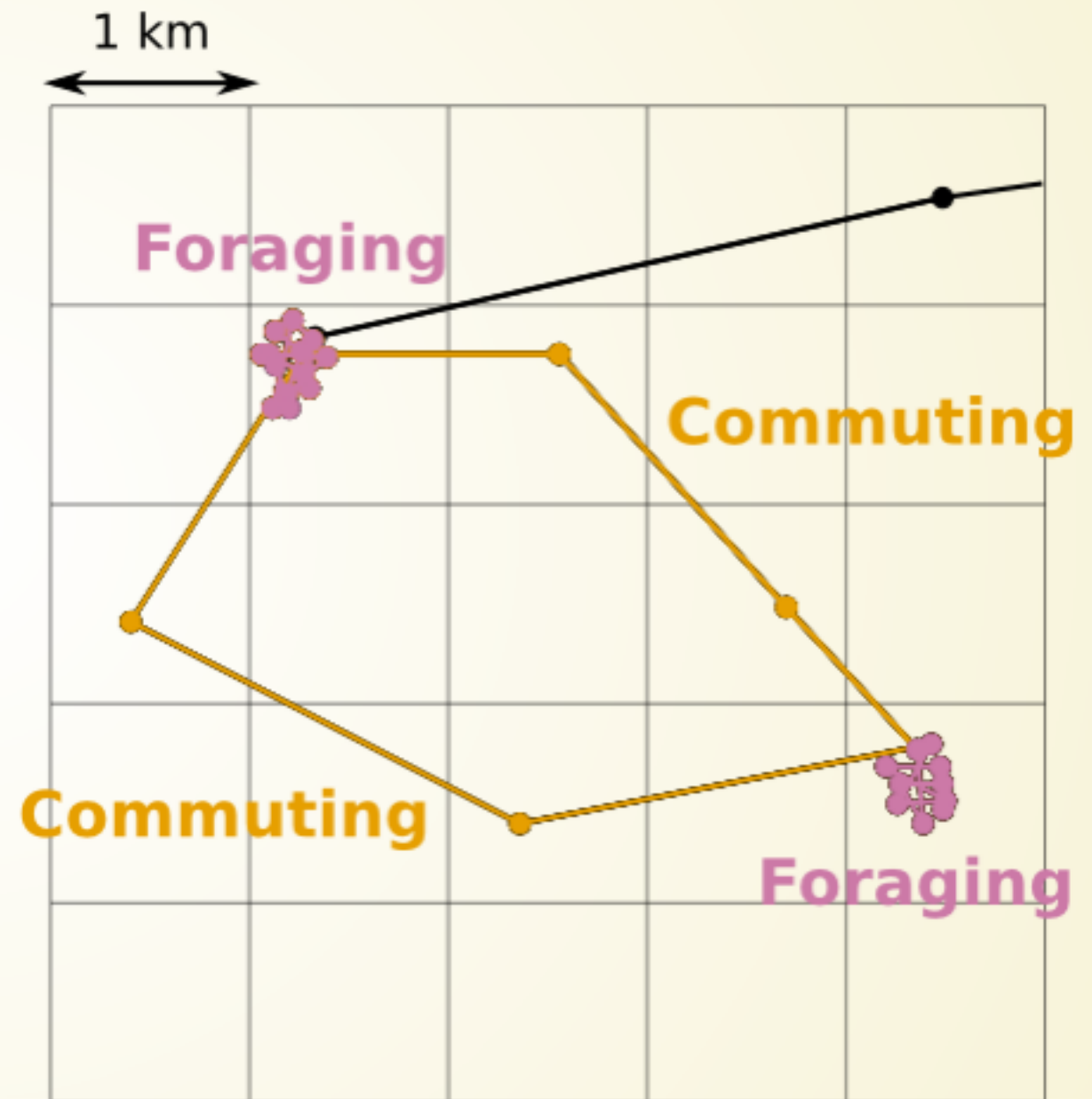
Stork Movement Modes



Stork Movement Modes



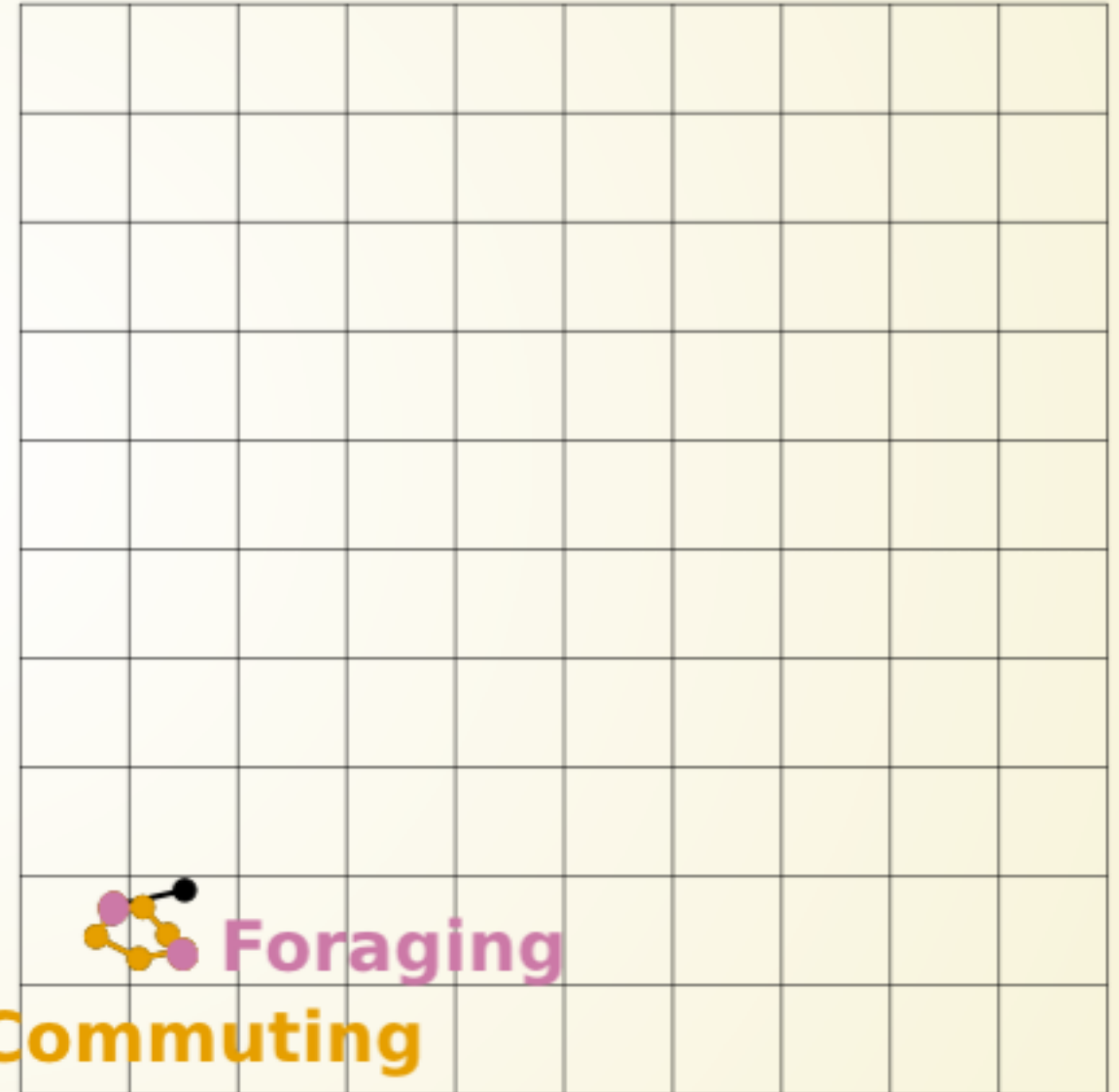
Stork Movement Modes



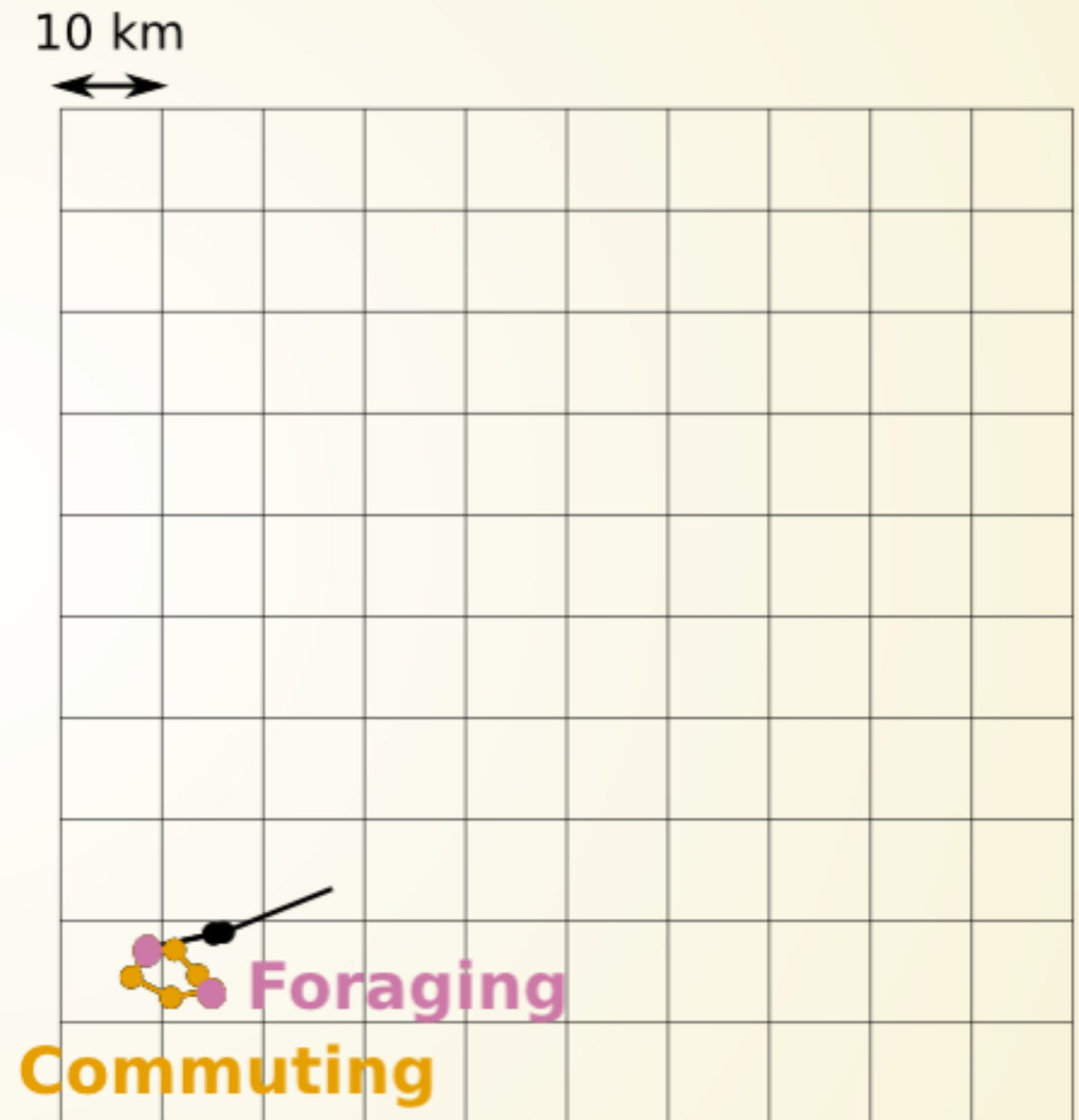
Stork Movement Modes



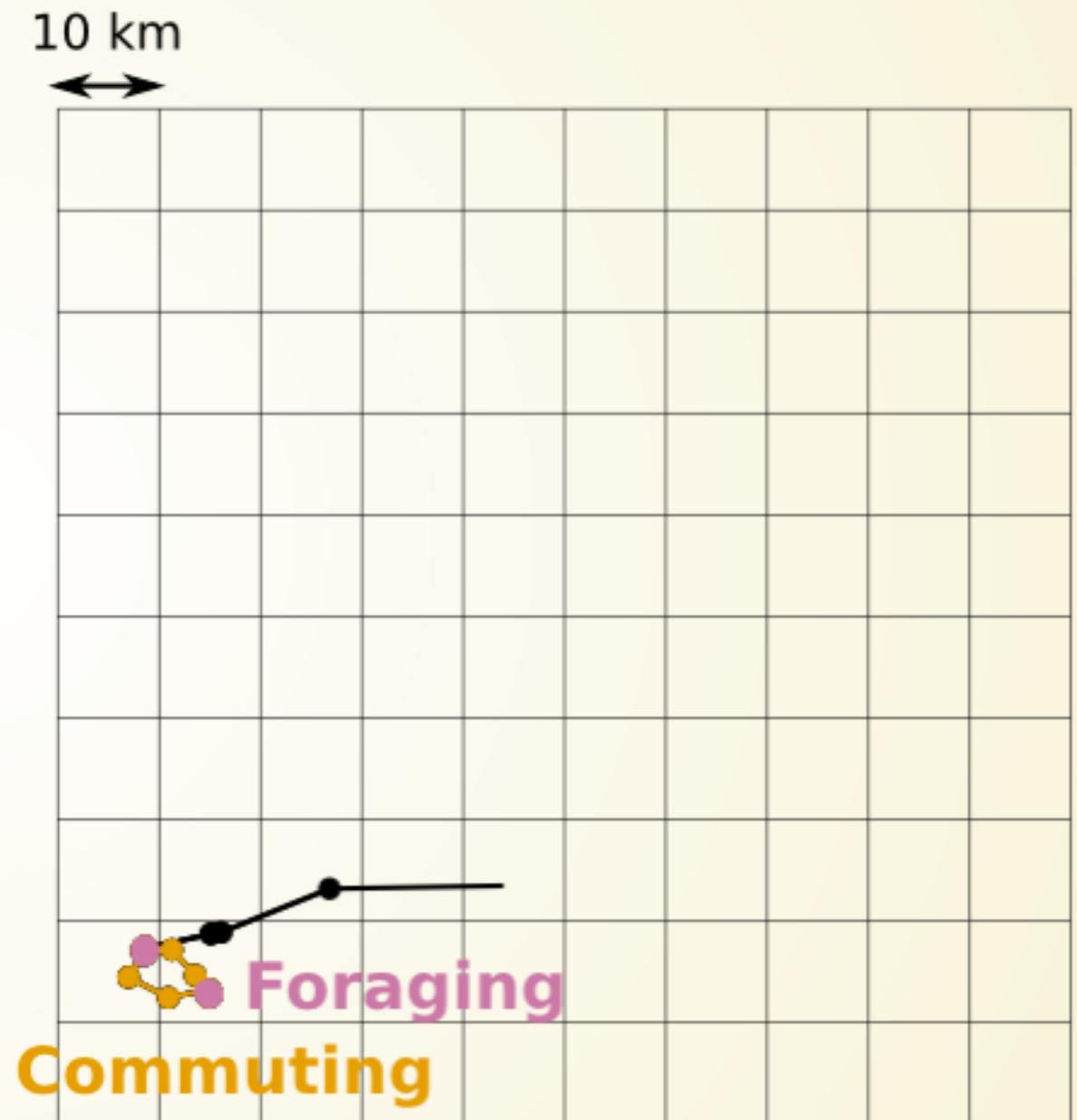
10 km



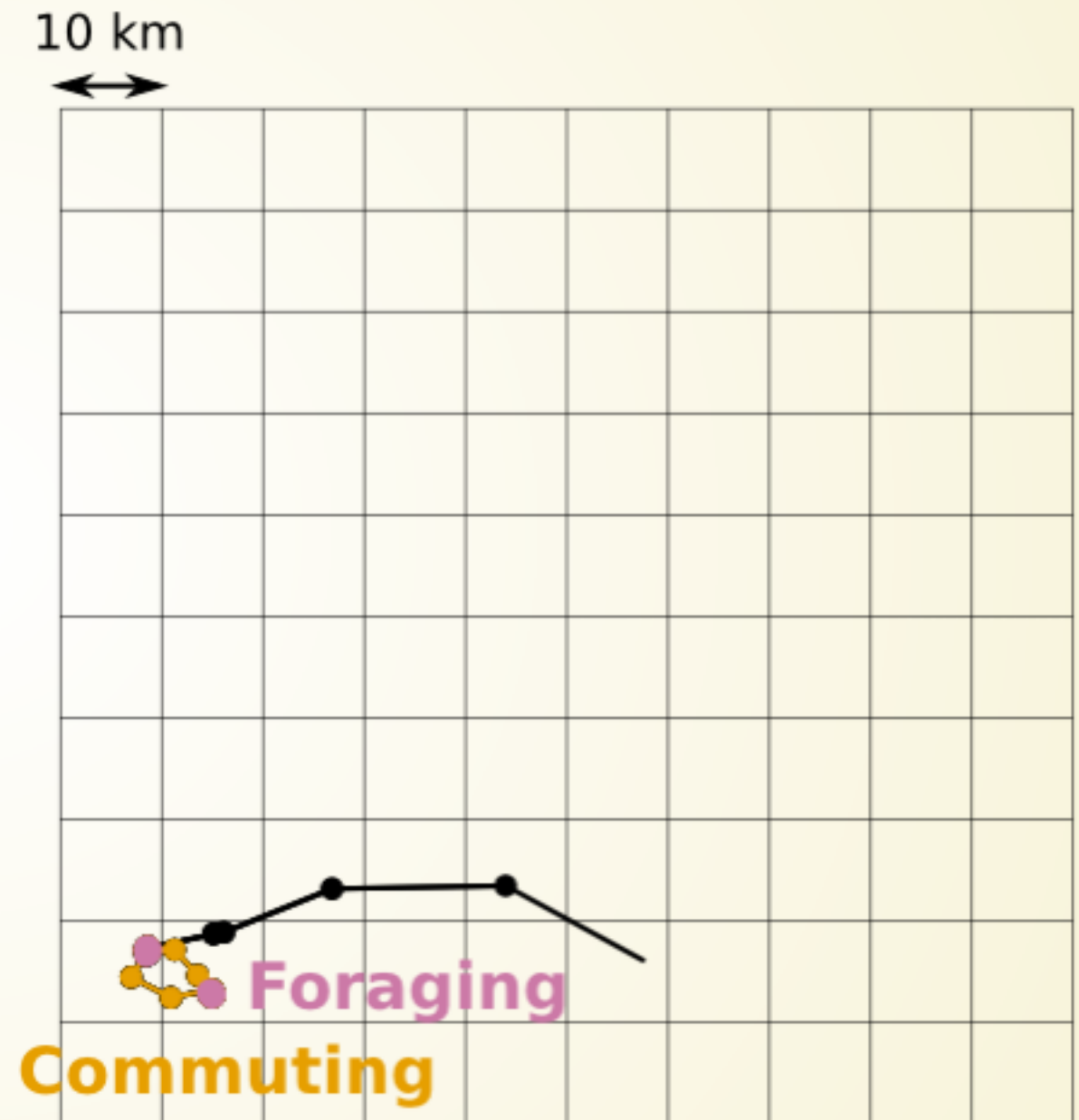
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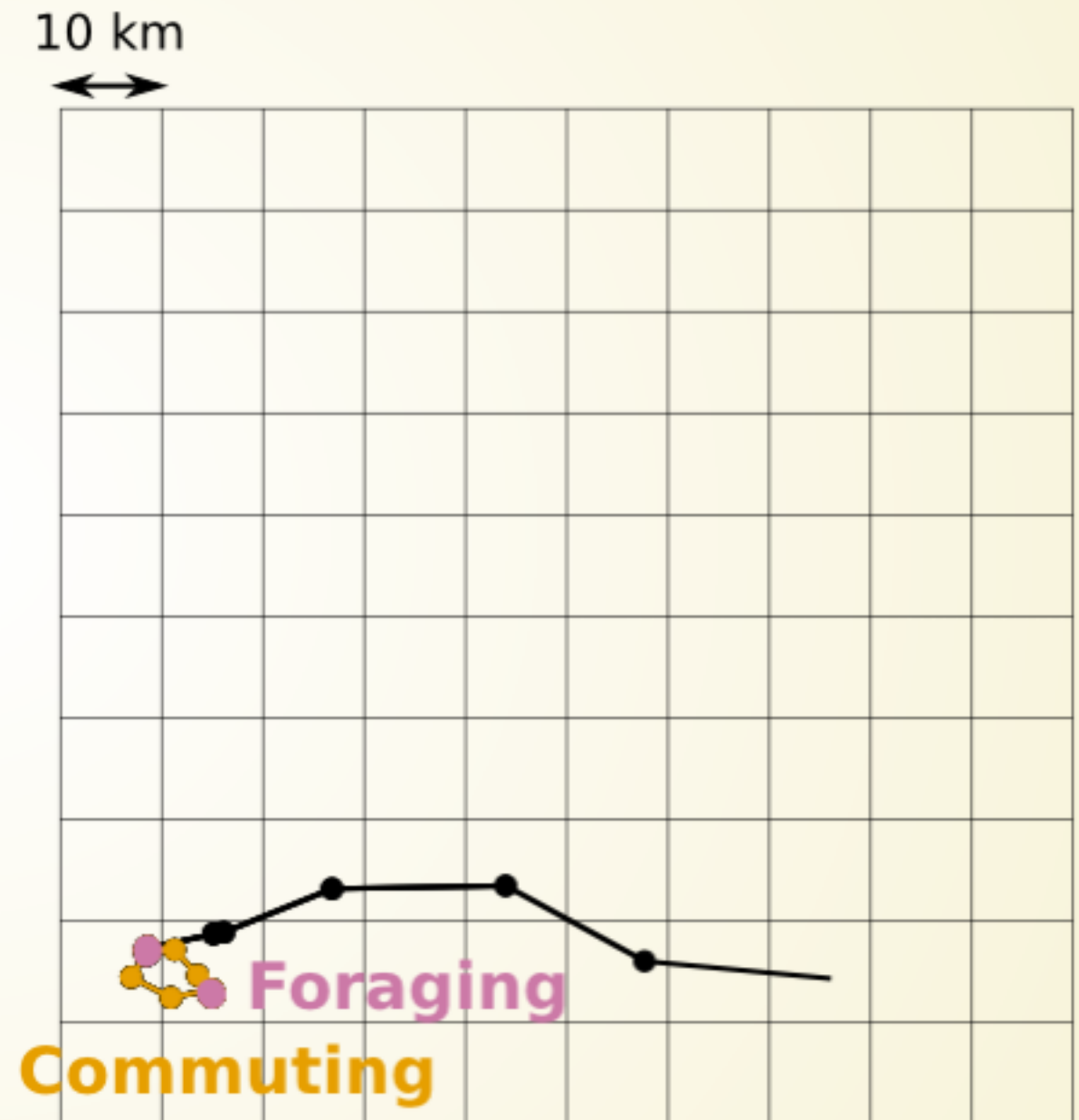
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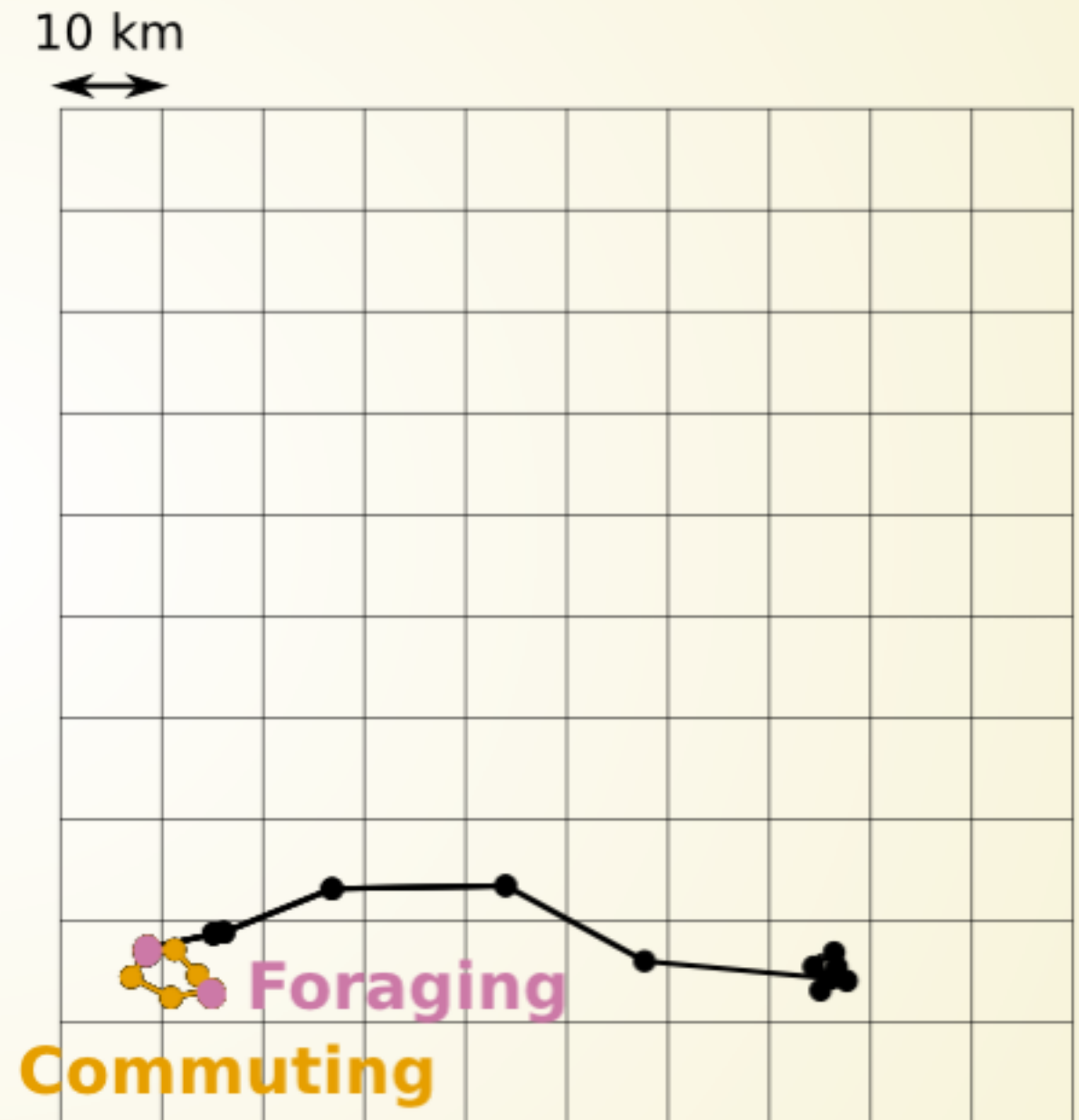
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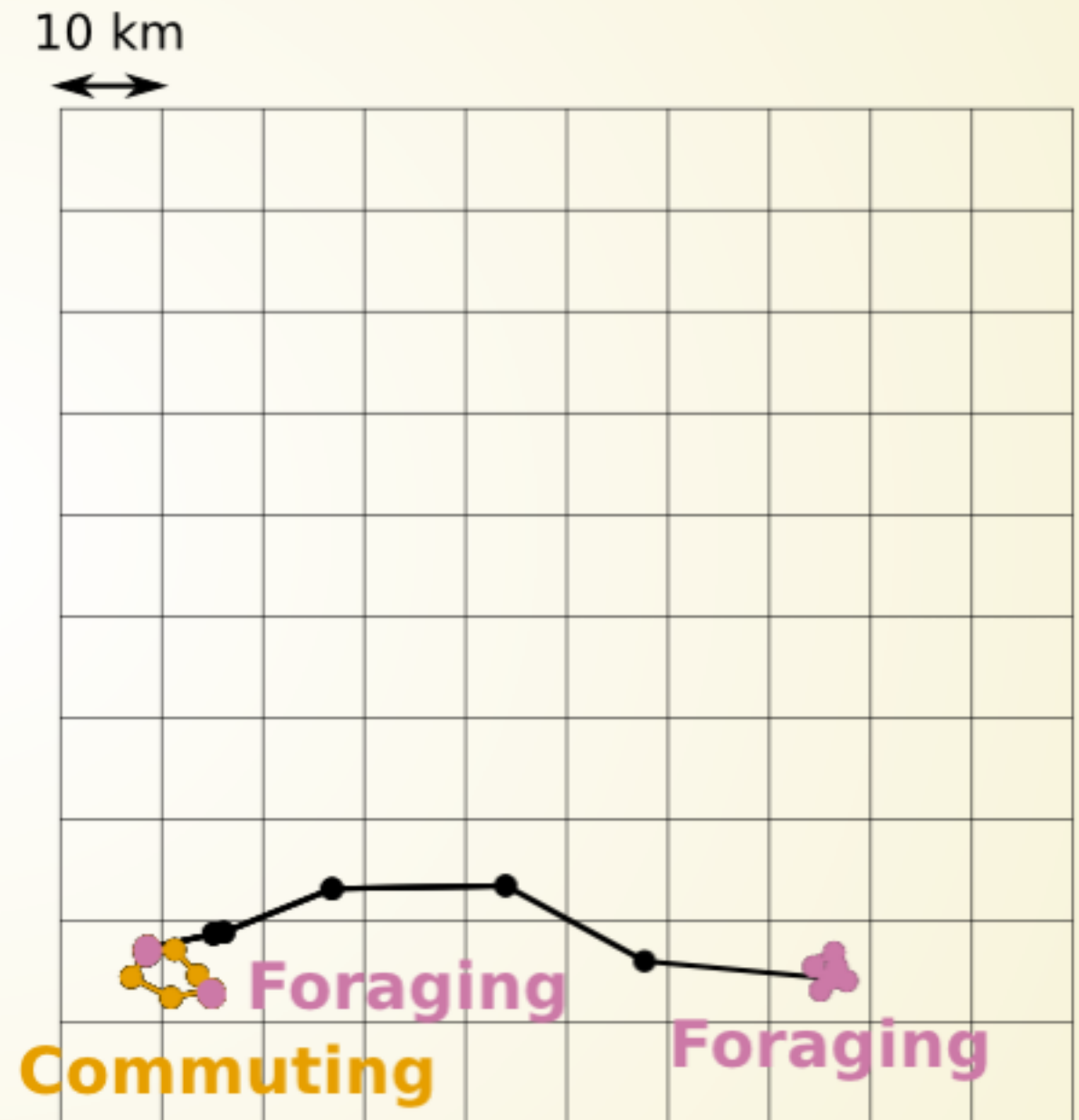
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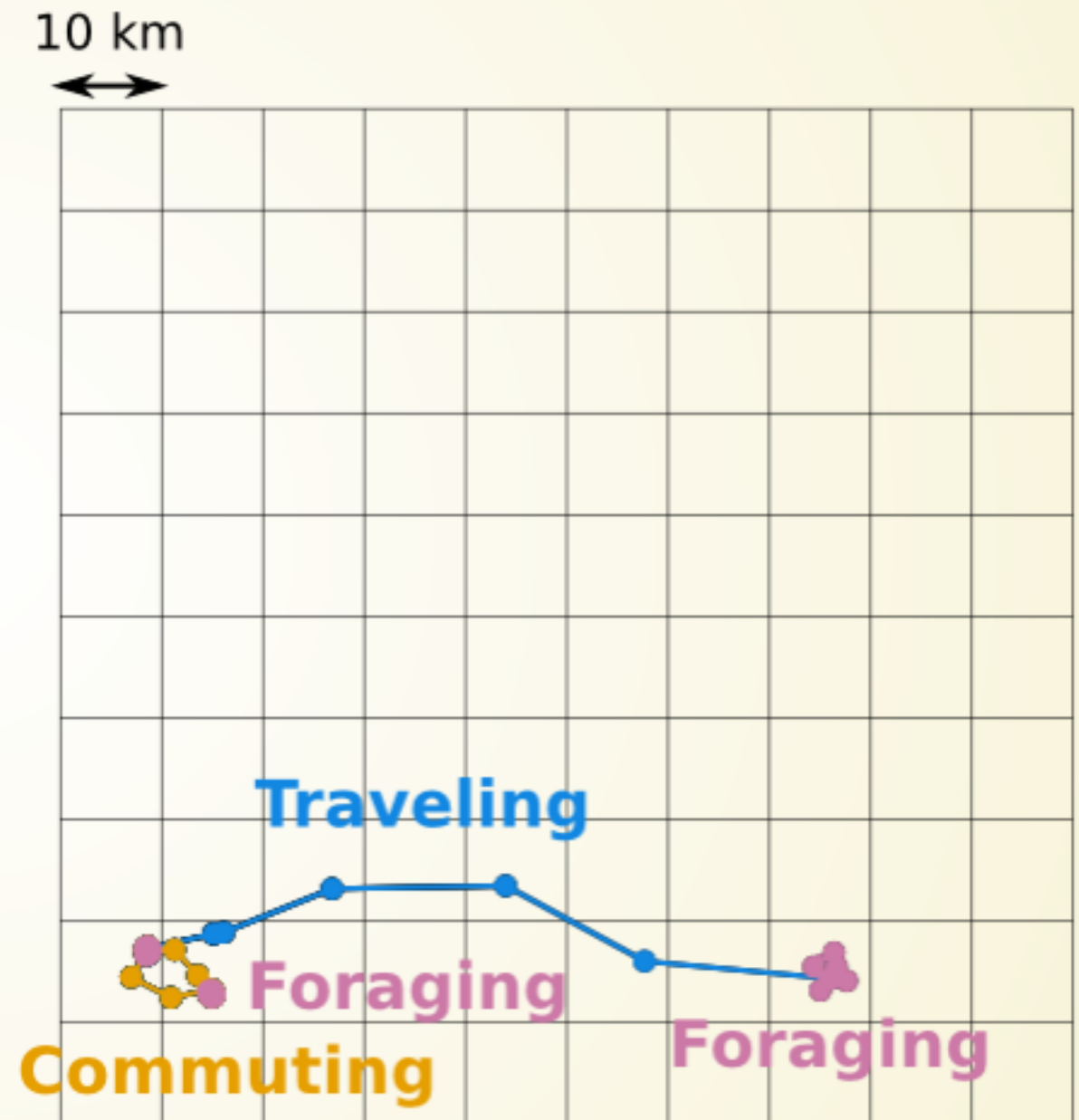
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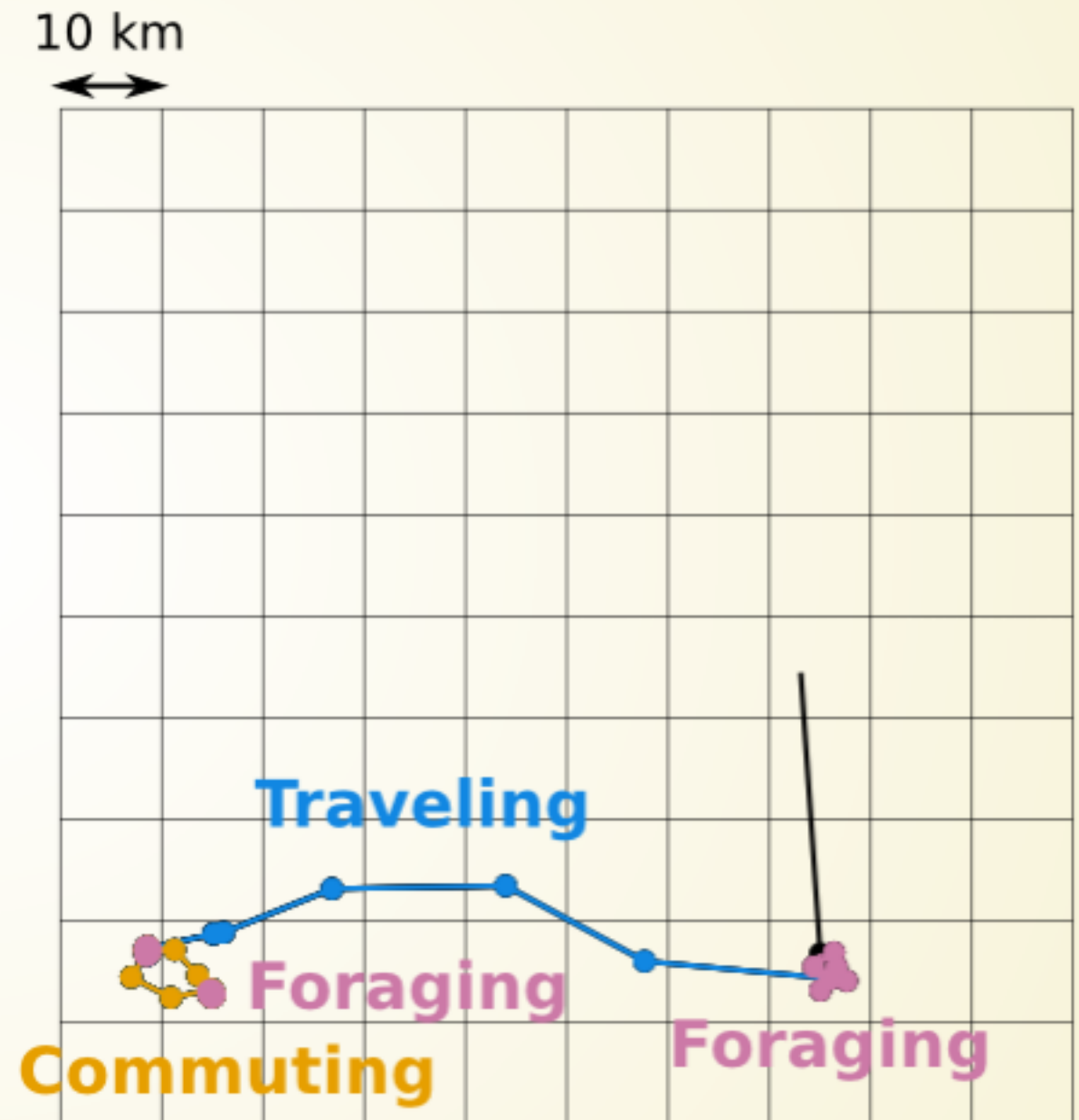
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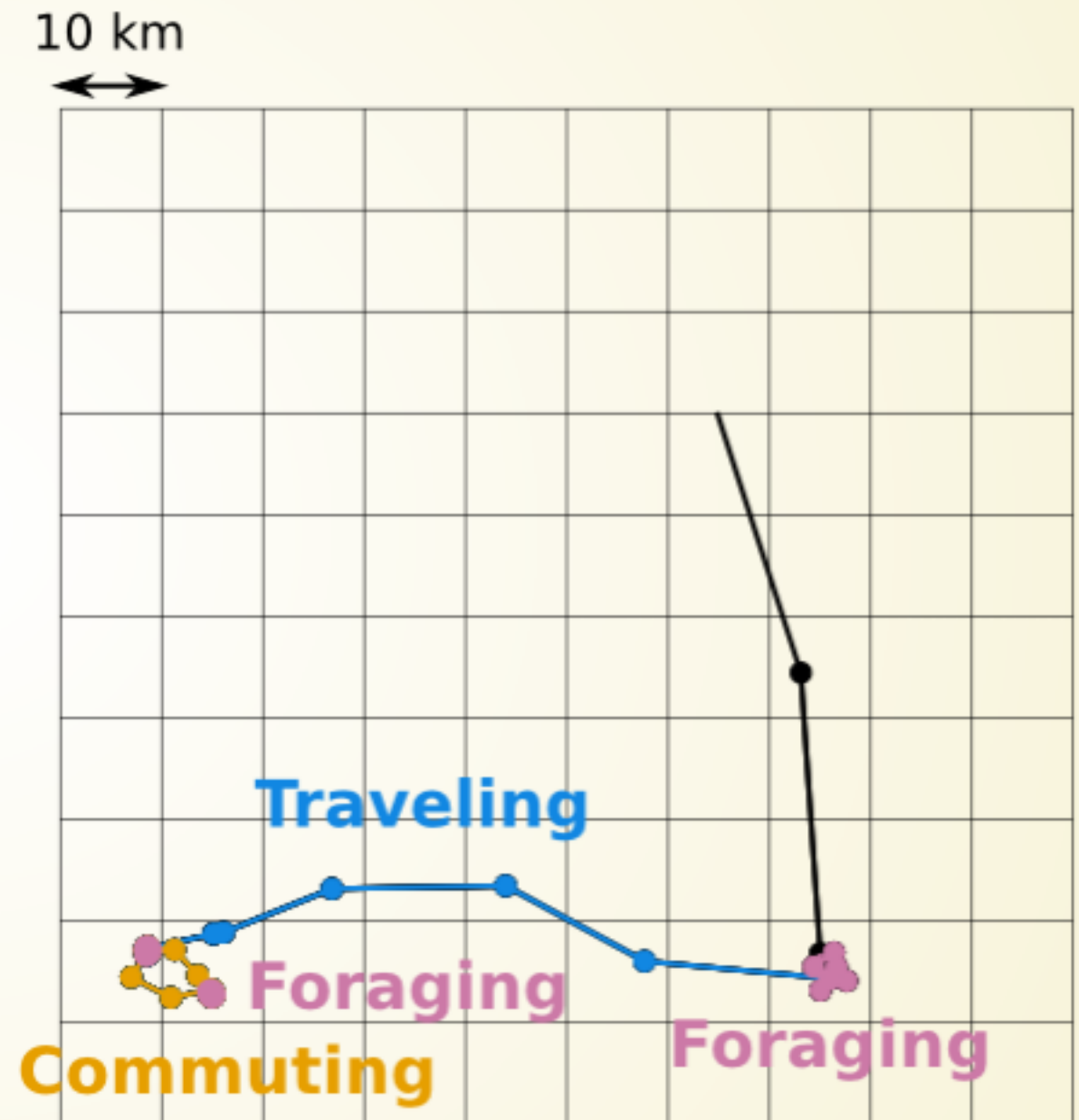
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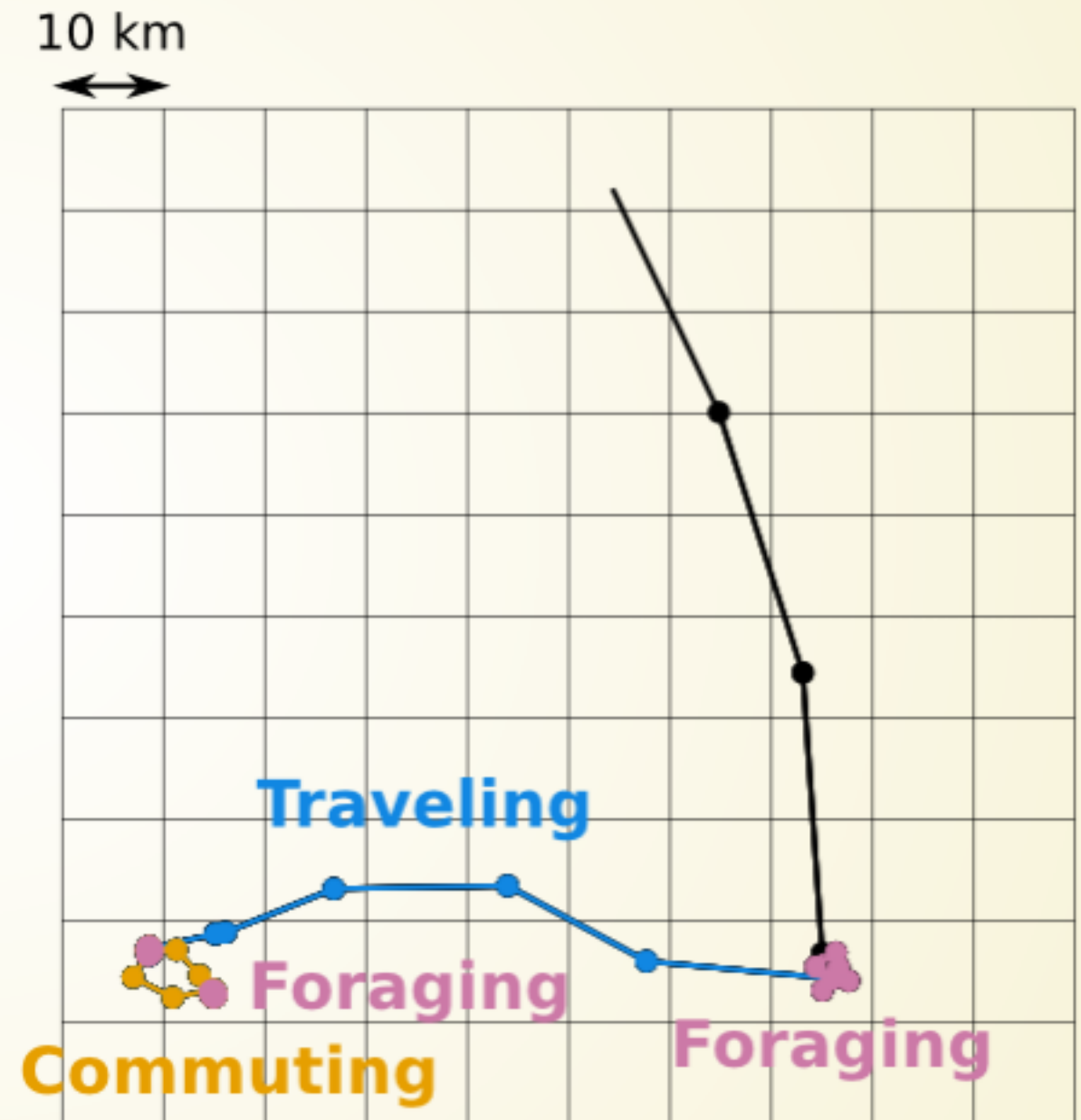
Stork Movement Modes



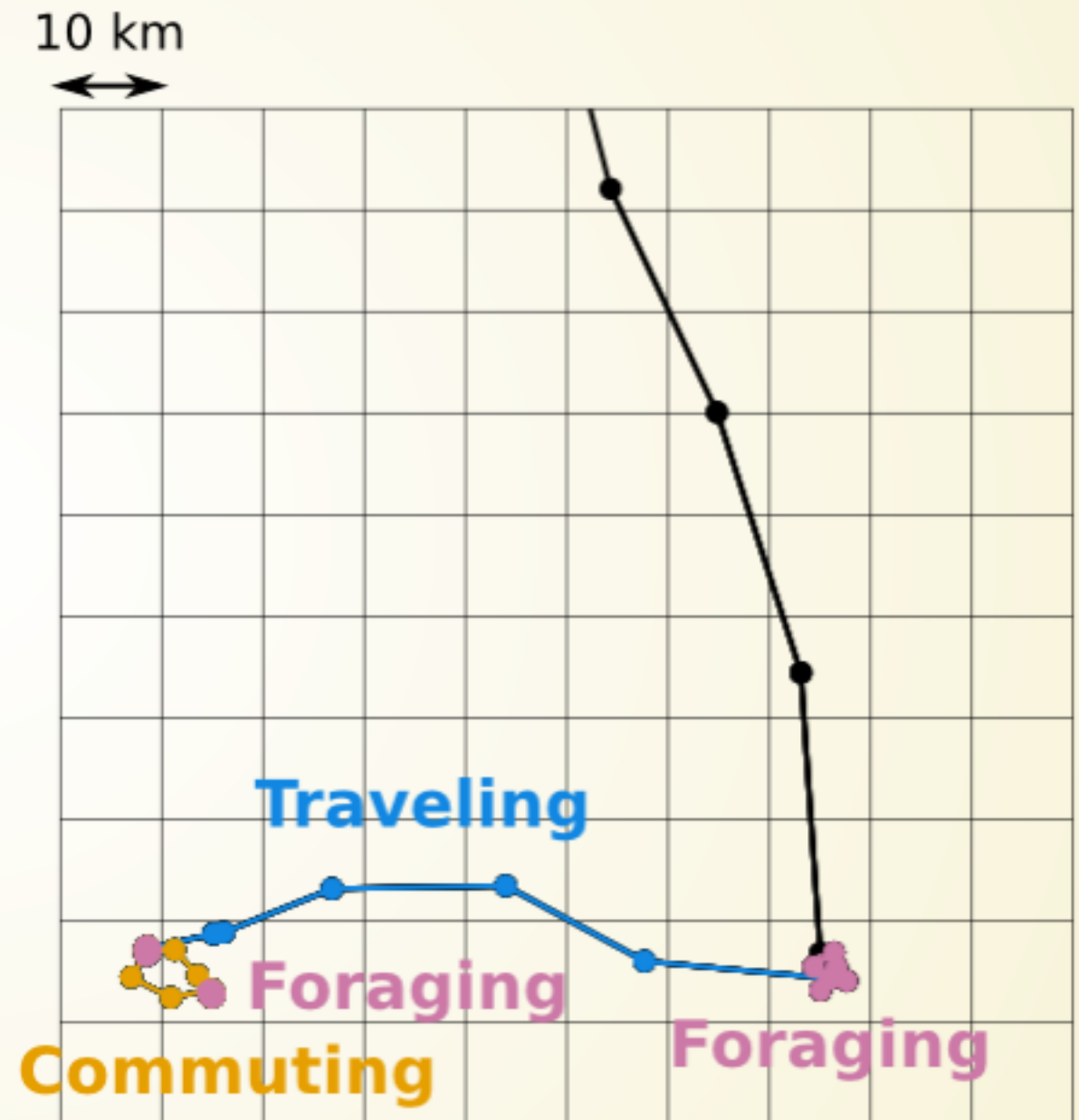
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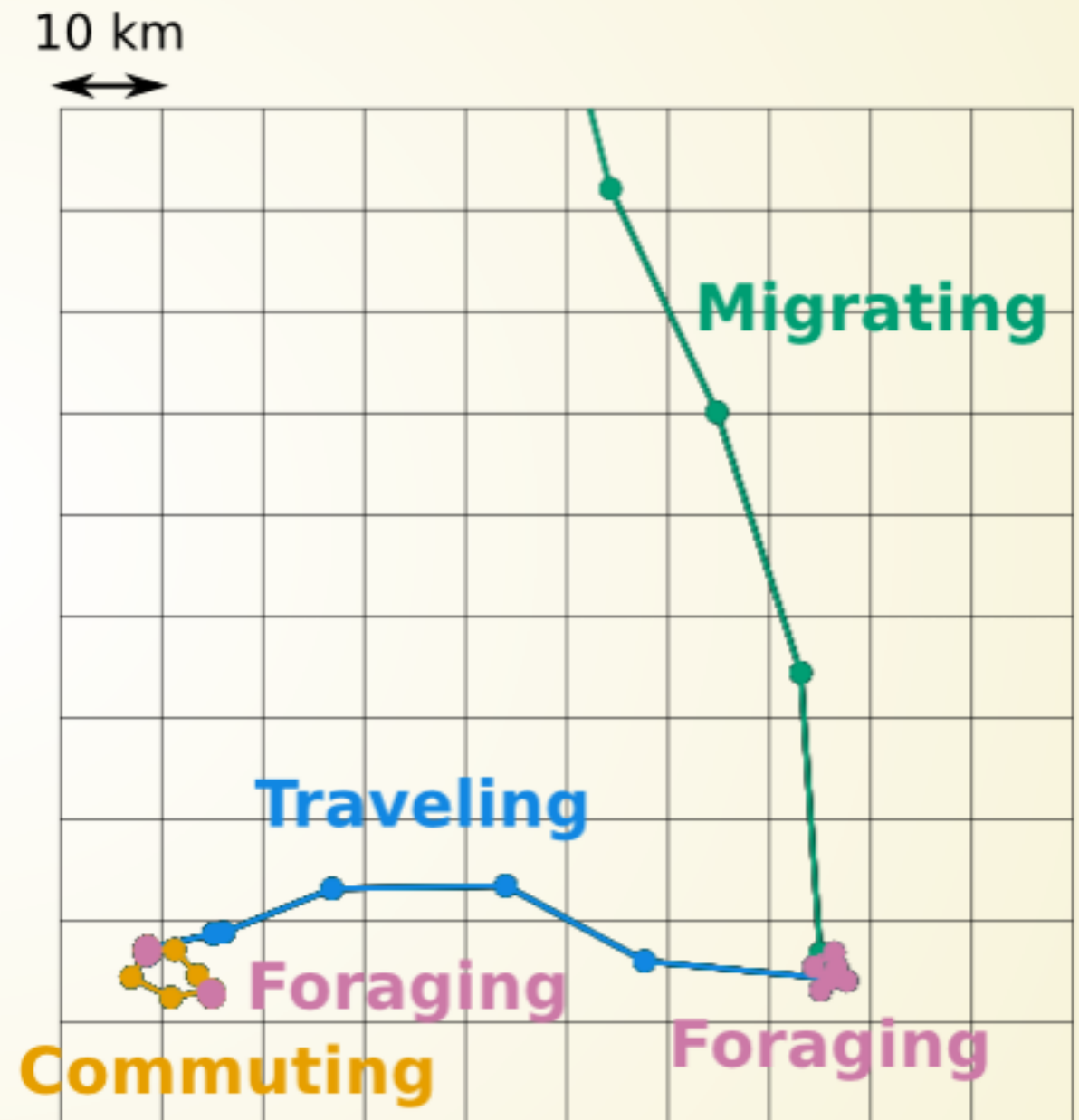
Stork Movement Modes



Stork Movement Modes



Stork Movement Modes



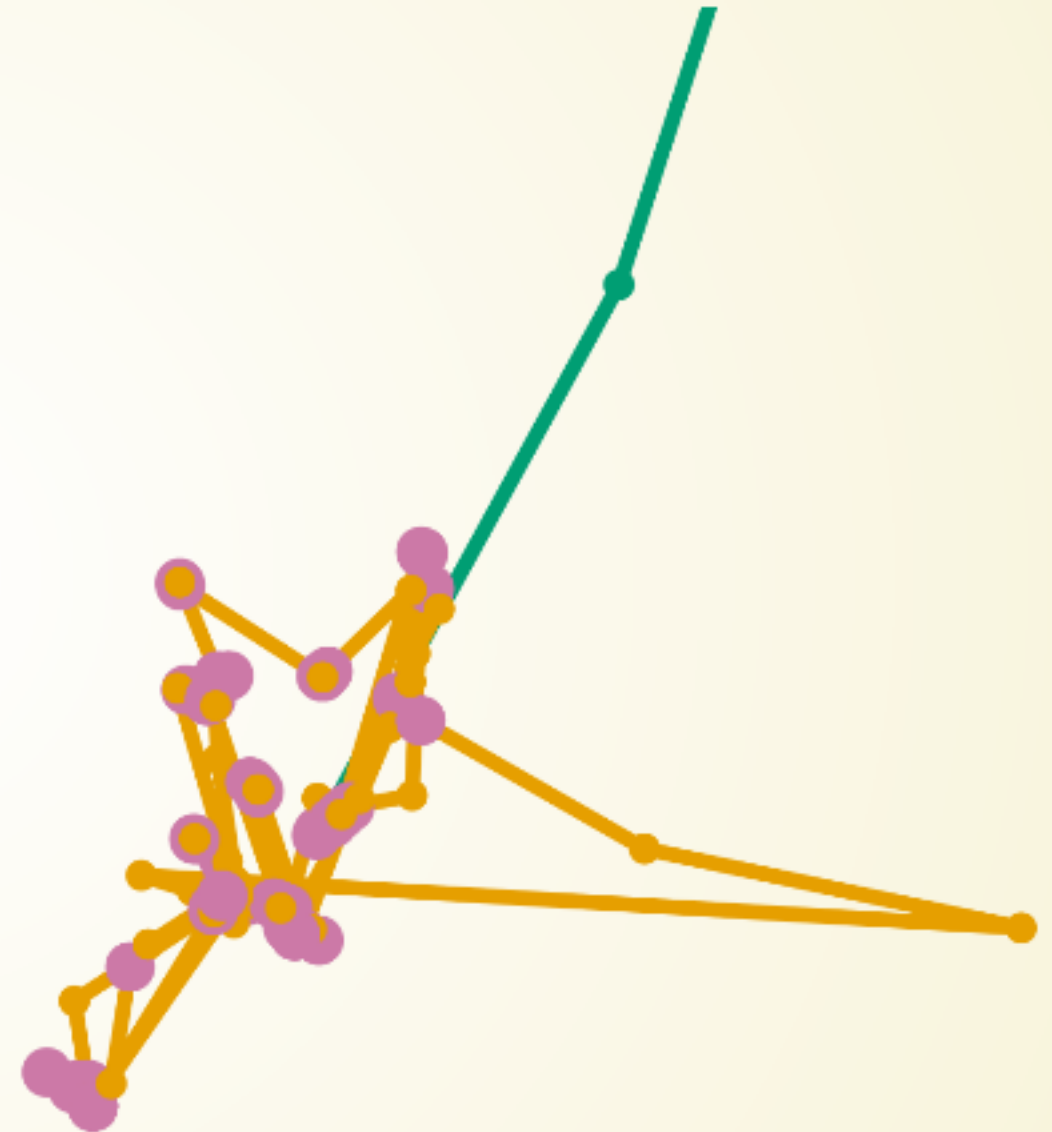
Identifying the Modes



Identifying the Modes



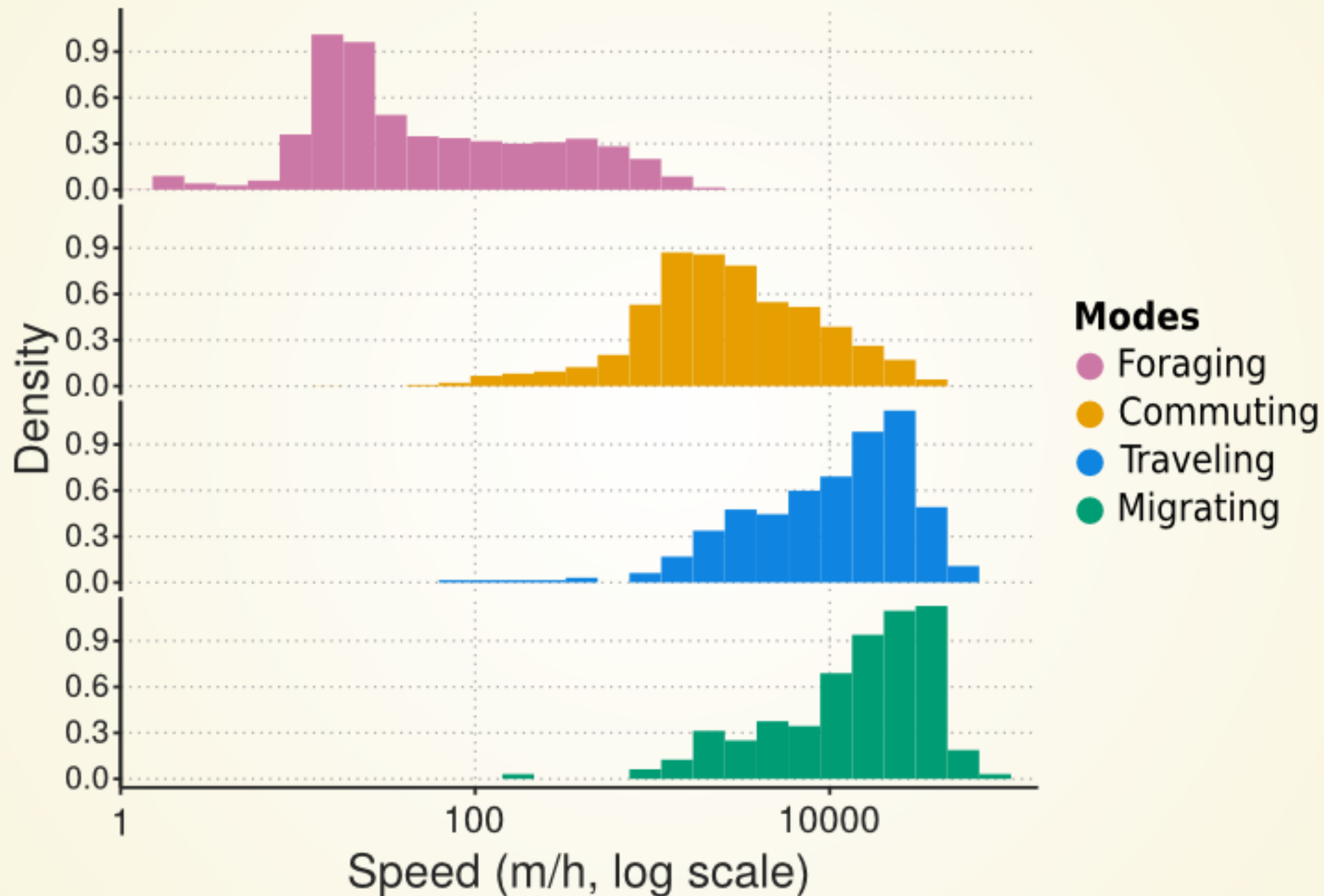
Identifying the Modes



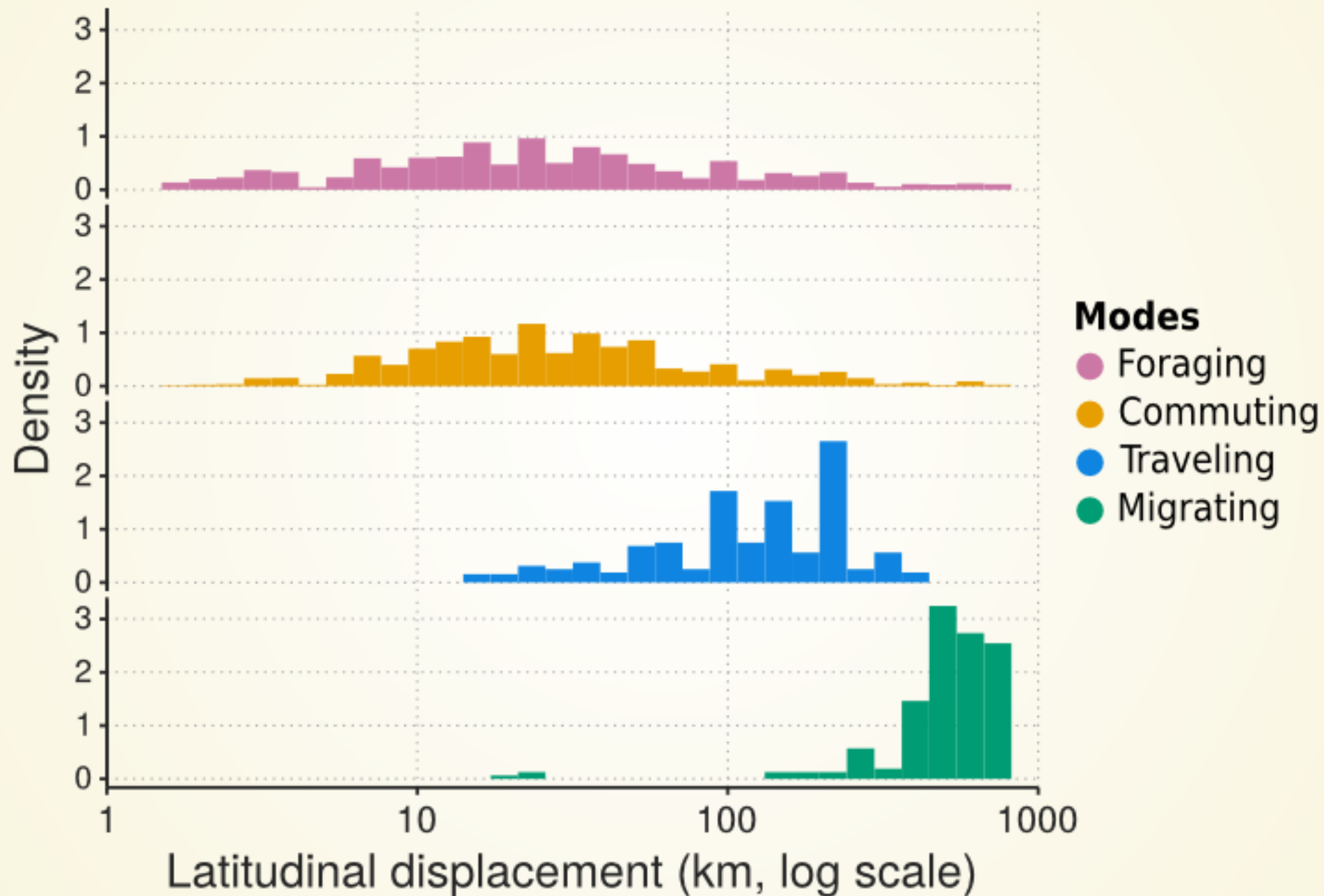
Identifying the Modes



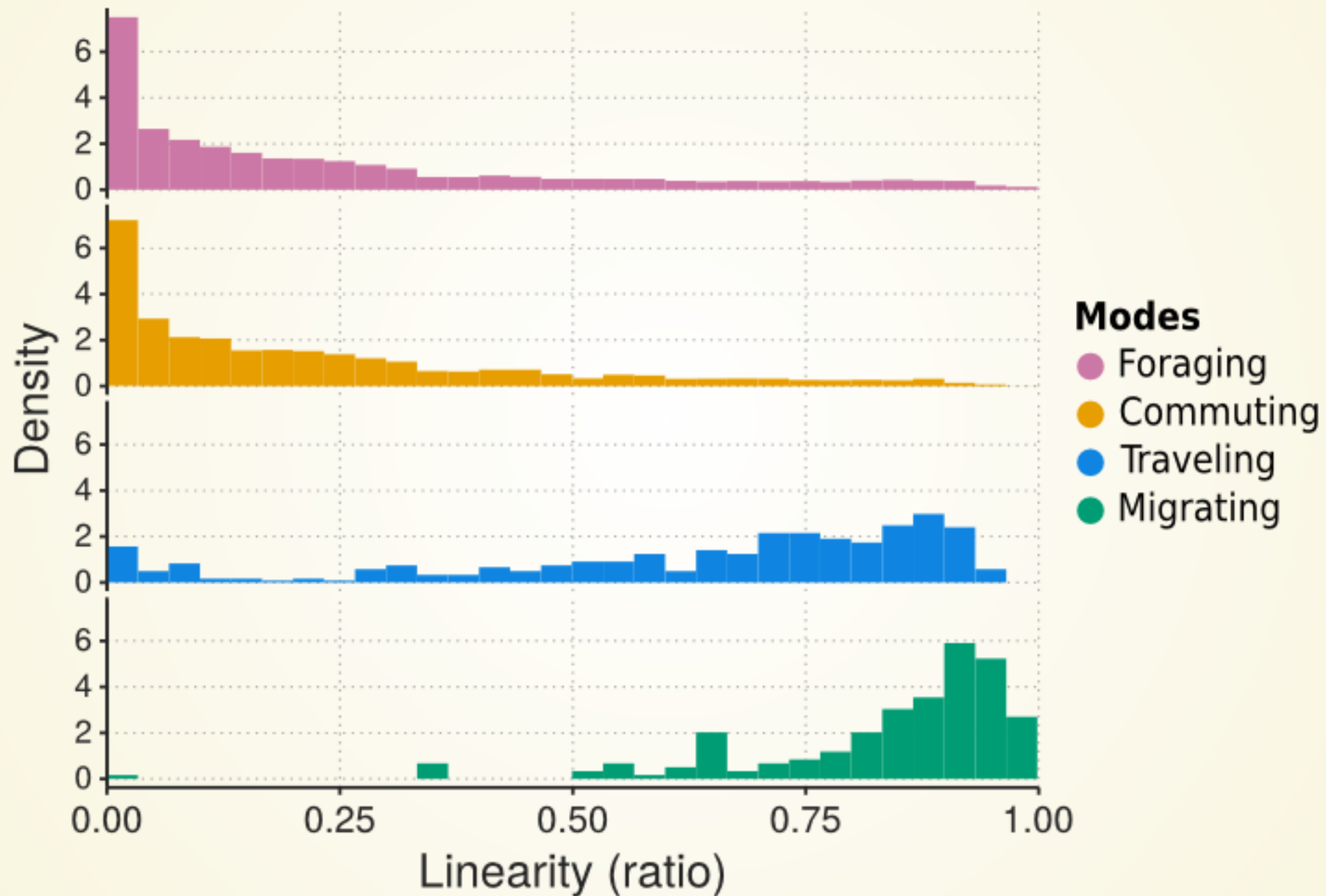
Characterizing the Modes



Characterizing the Modes



Characterizing the Modes

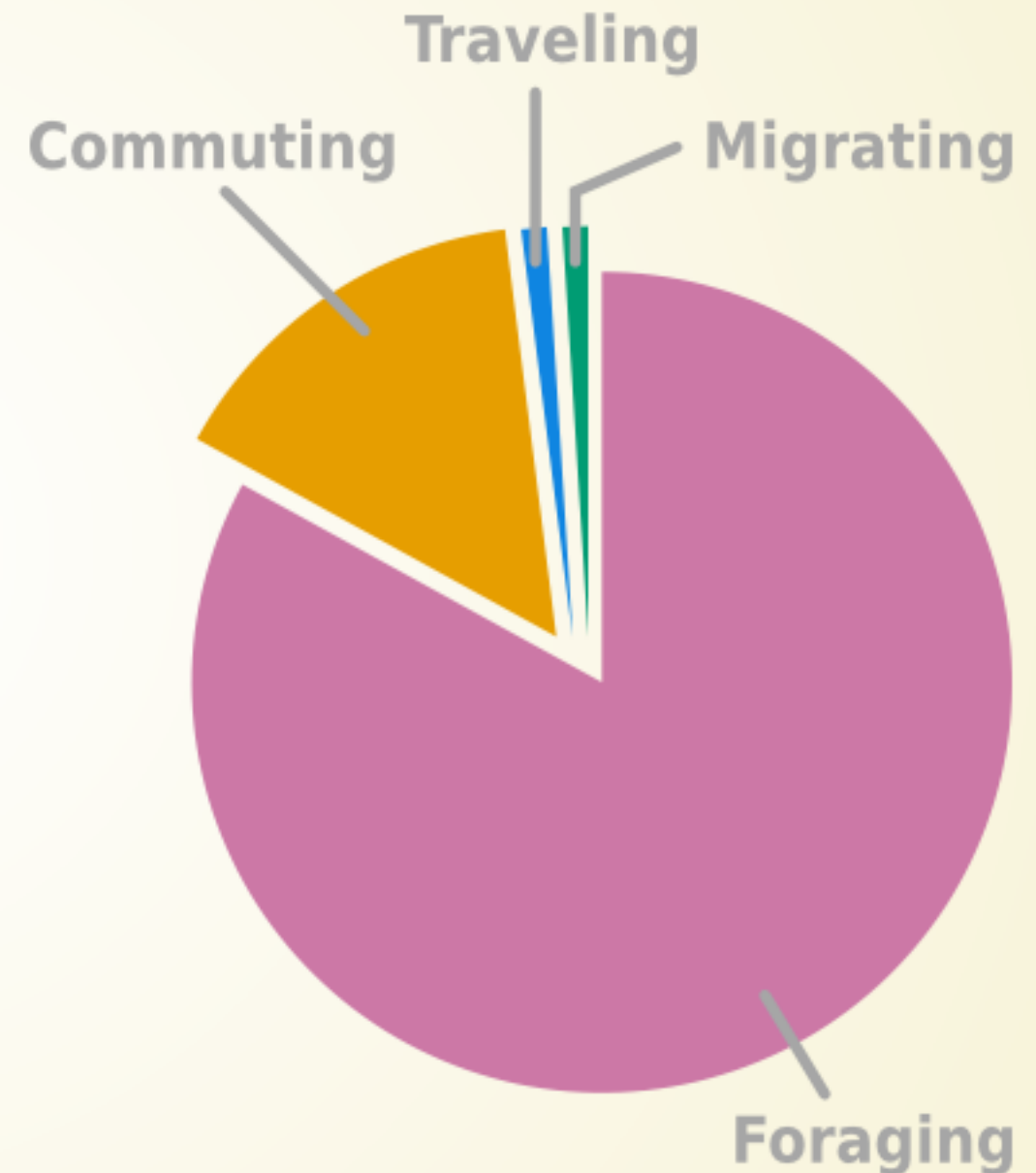


Predicting the Modes

Pred \ Obs (%)	Foraging	Commuting	Traveling	Migrating
Foraging	98	2	0	0
Commuting	8	90	2	0
Traveling	0	8	90	2
Migrating	4	5	0	91

Predicting the Modes

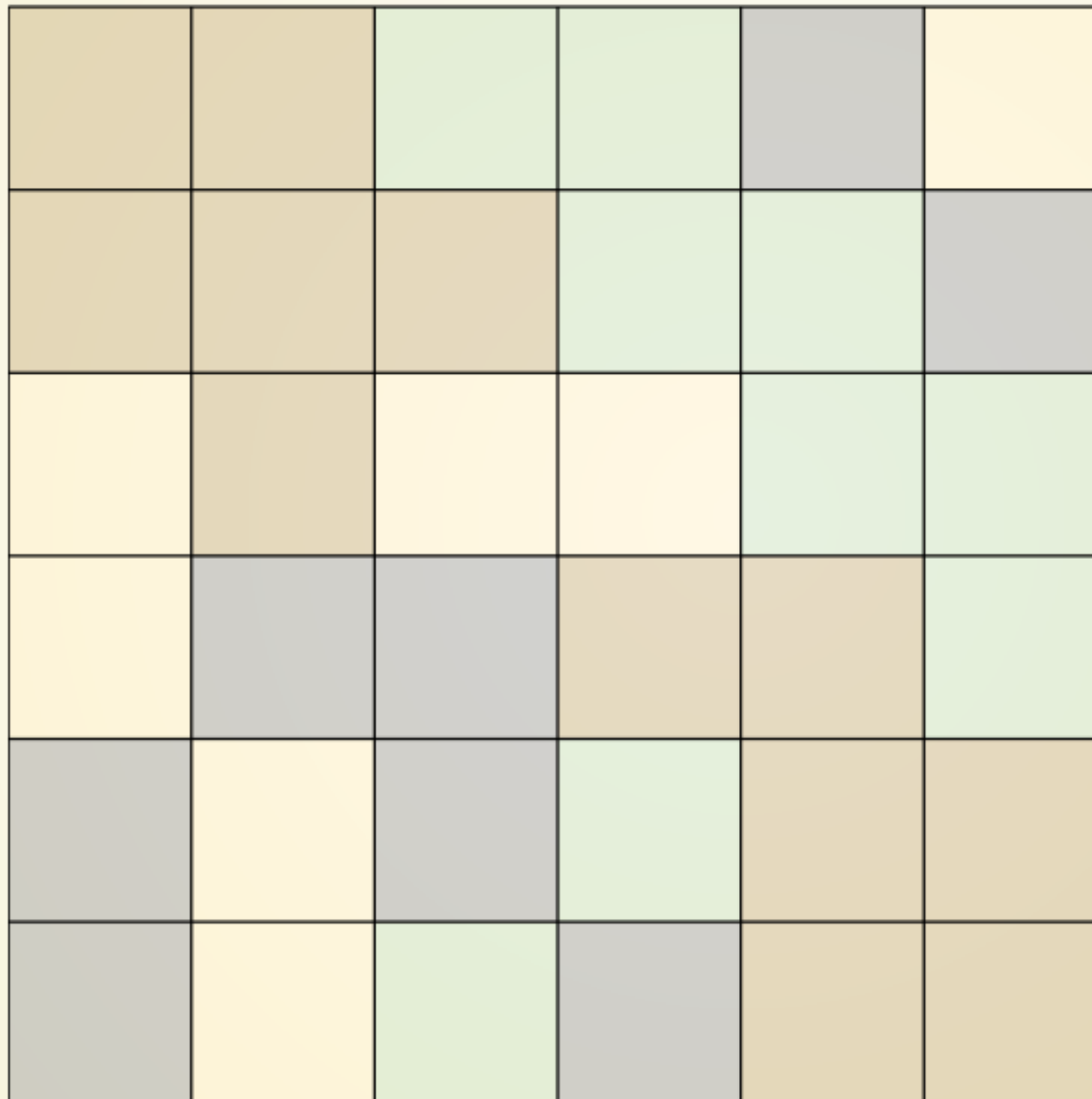
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Foraging	98	2	0	0
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Migration

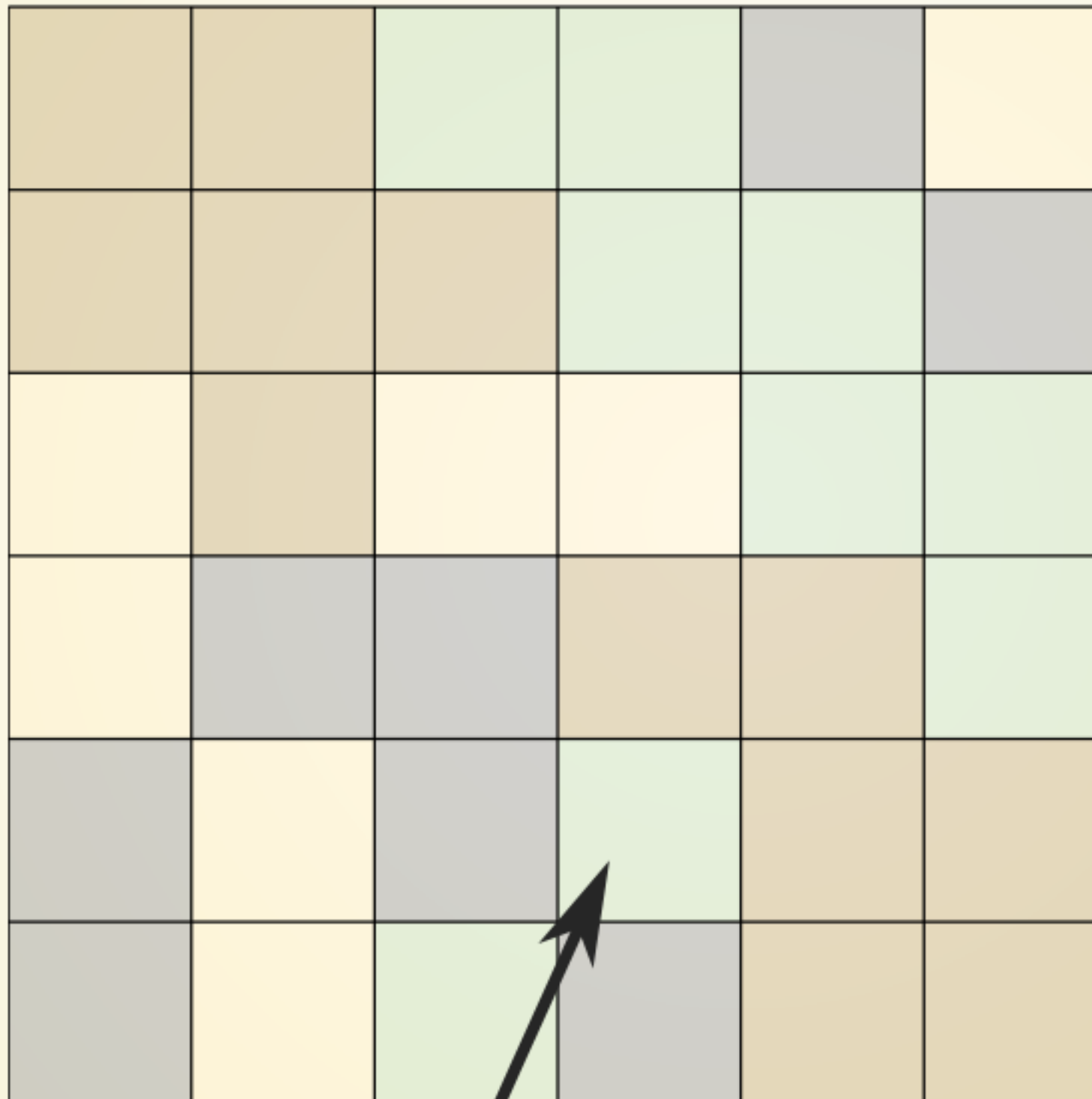
Habitat Selection along the Path



Land-cover type

- Wetland
- Agriculture
- Shrub
- Developed

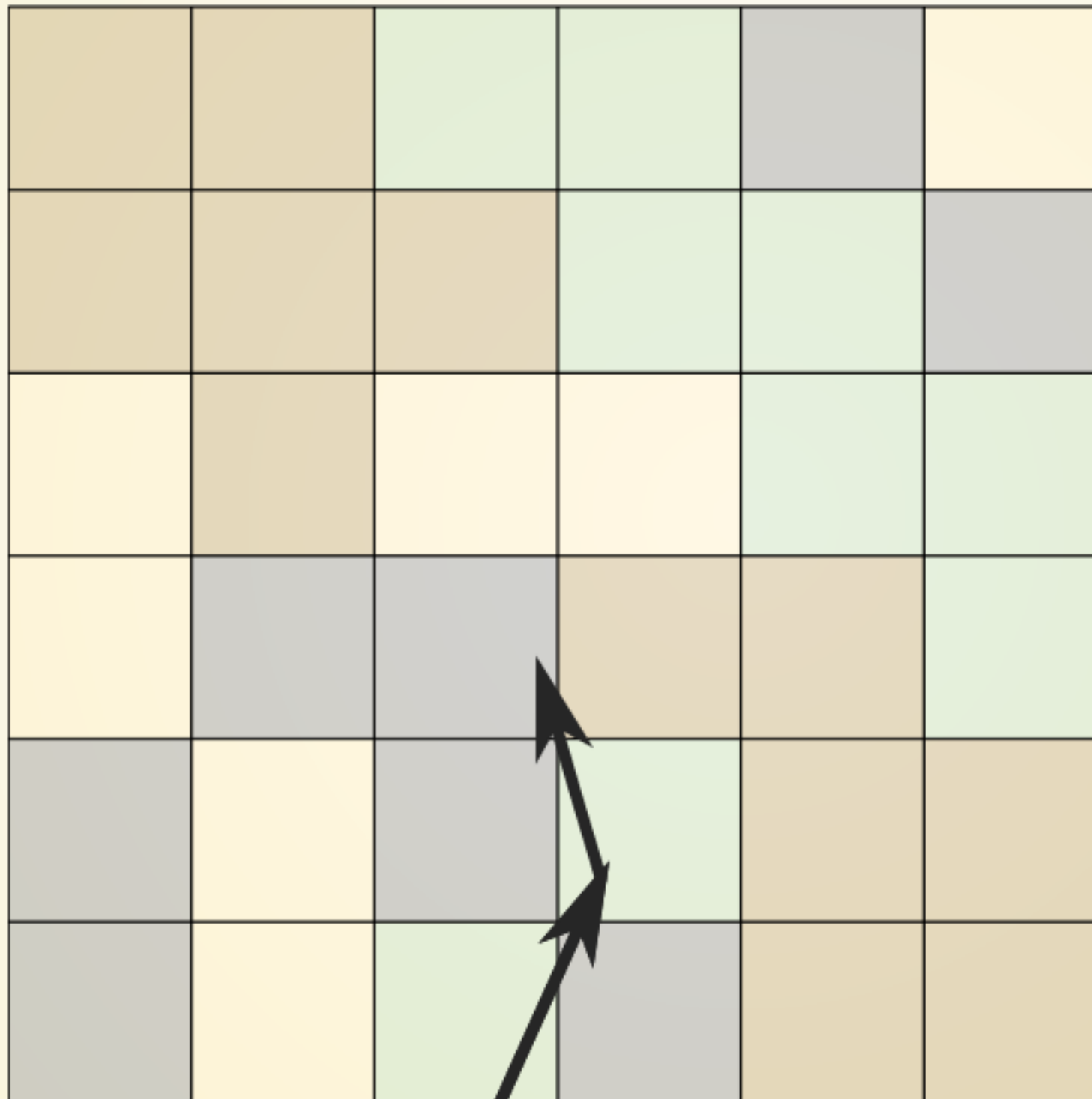
Habitat Selection along the Path



Land-cover type

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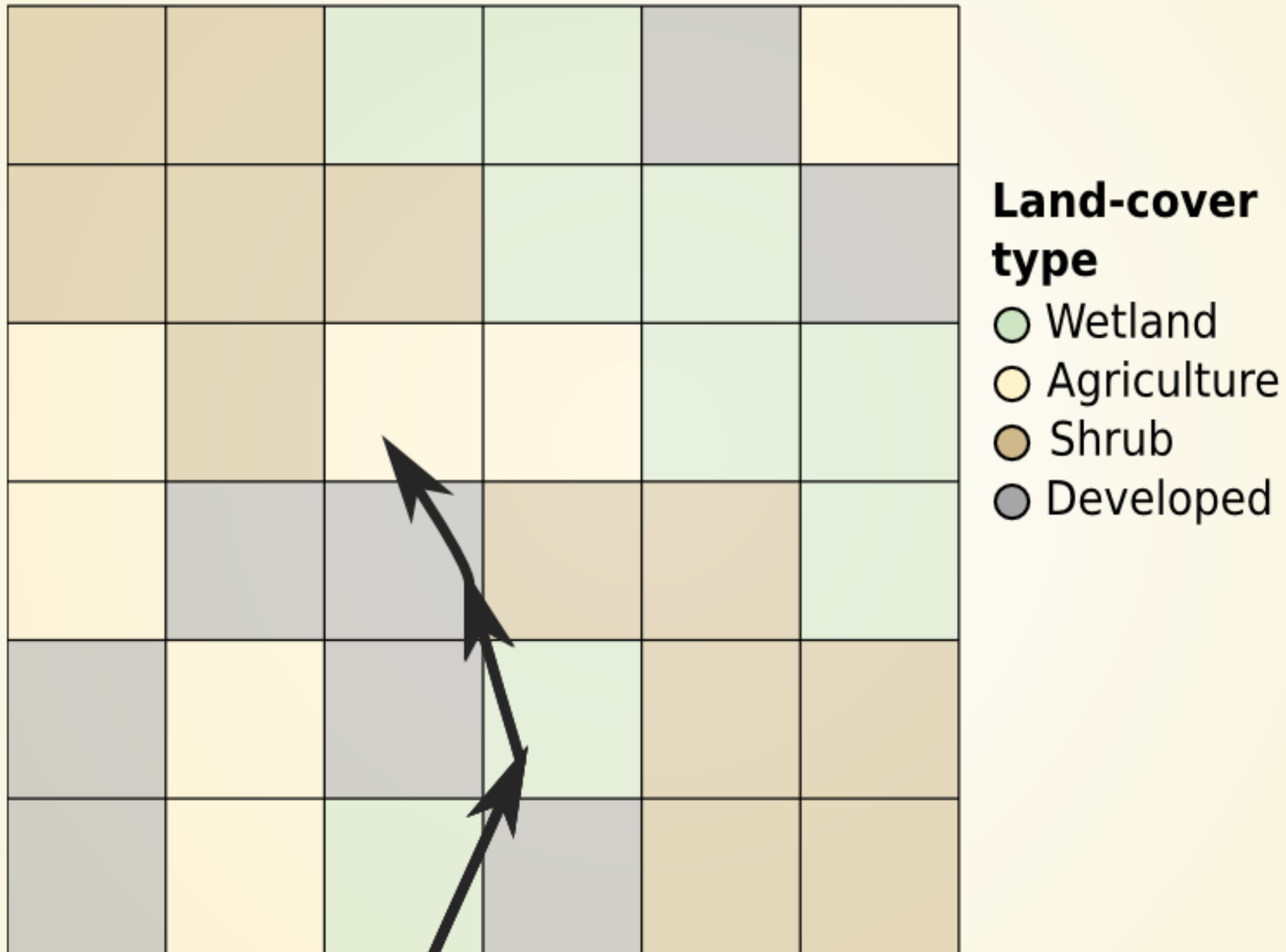
Habitat Selection along the Path



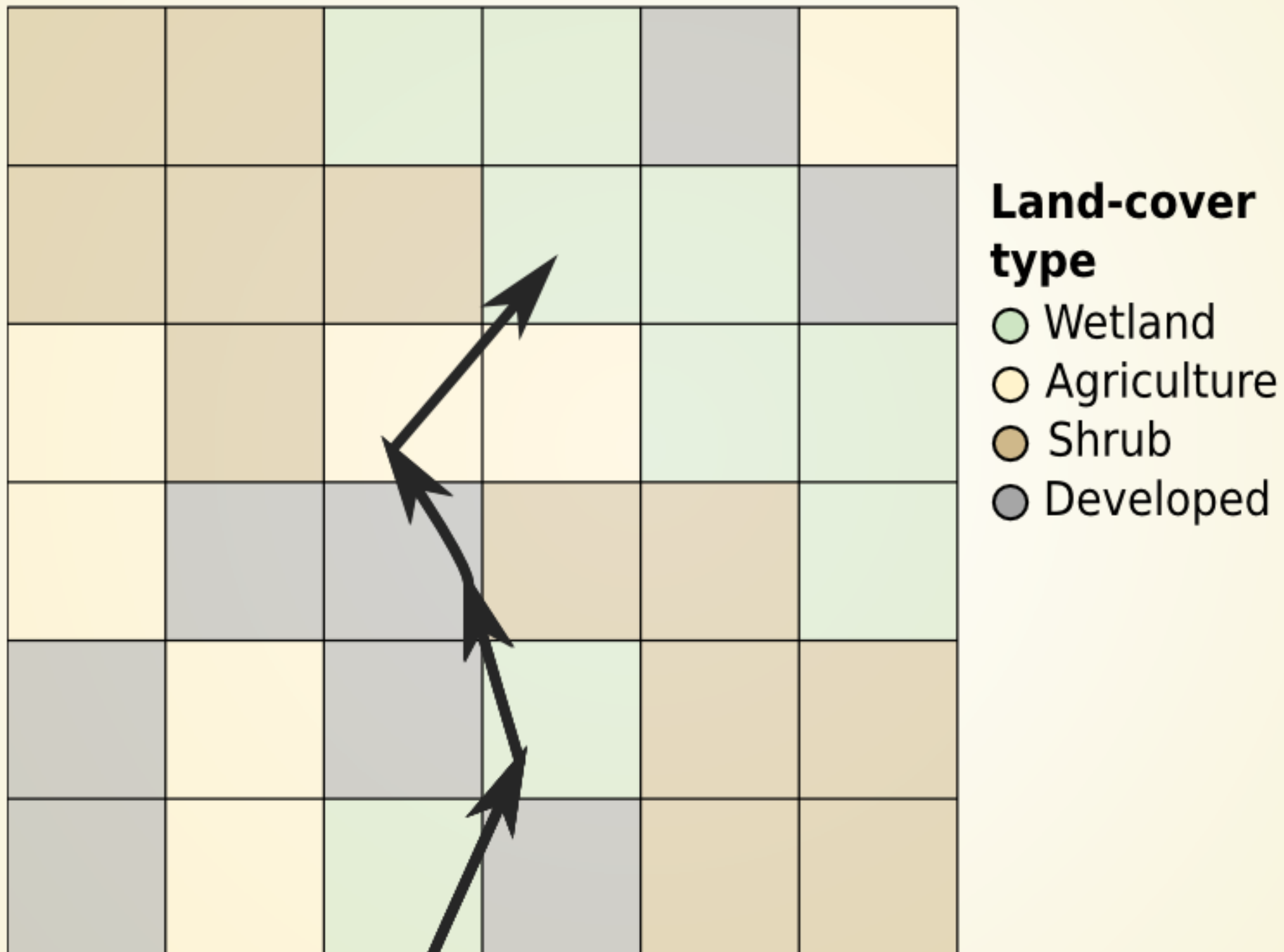
Land-cover type

- Wetland
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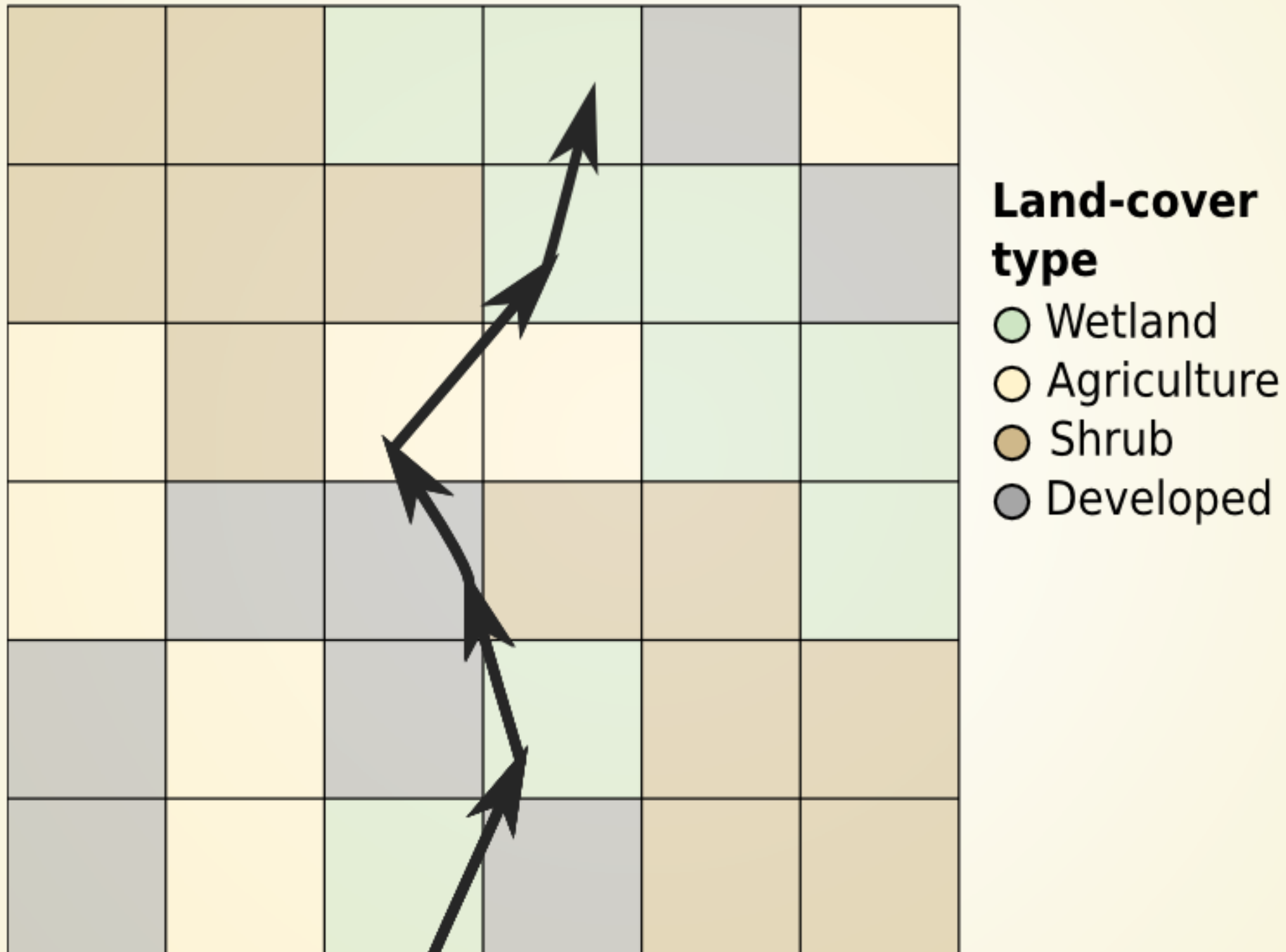
Habitat Selection along the Path



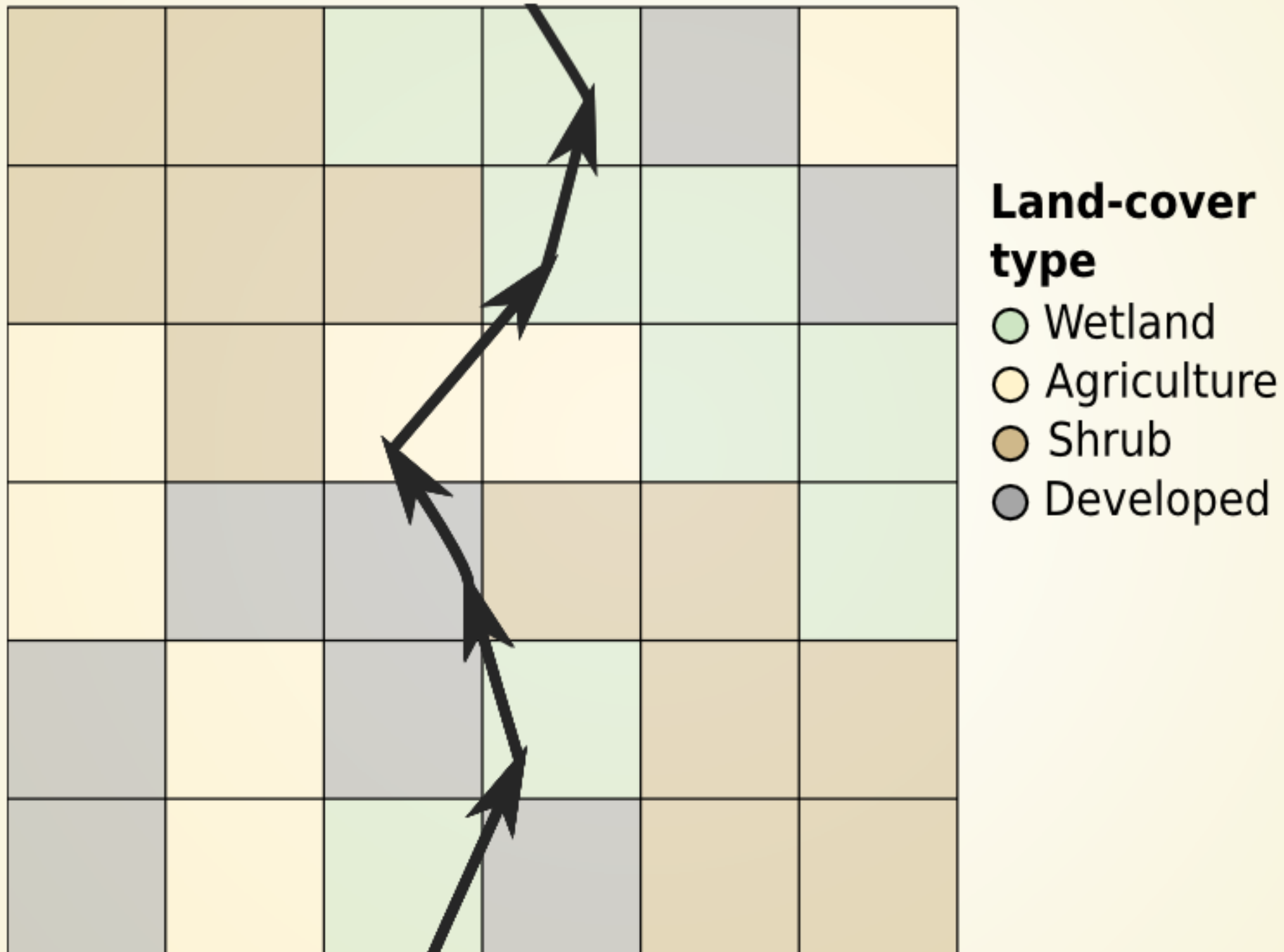
Habitat Selection along the Path



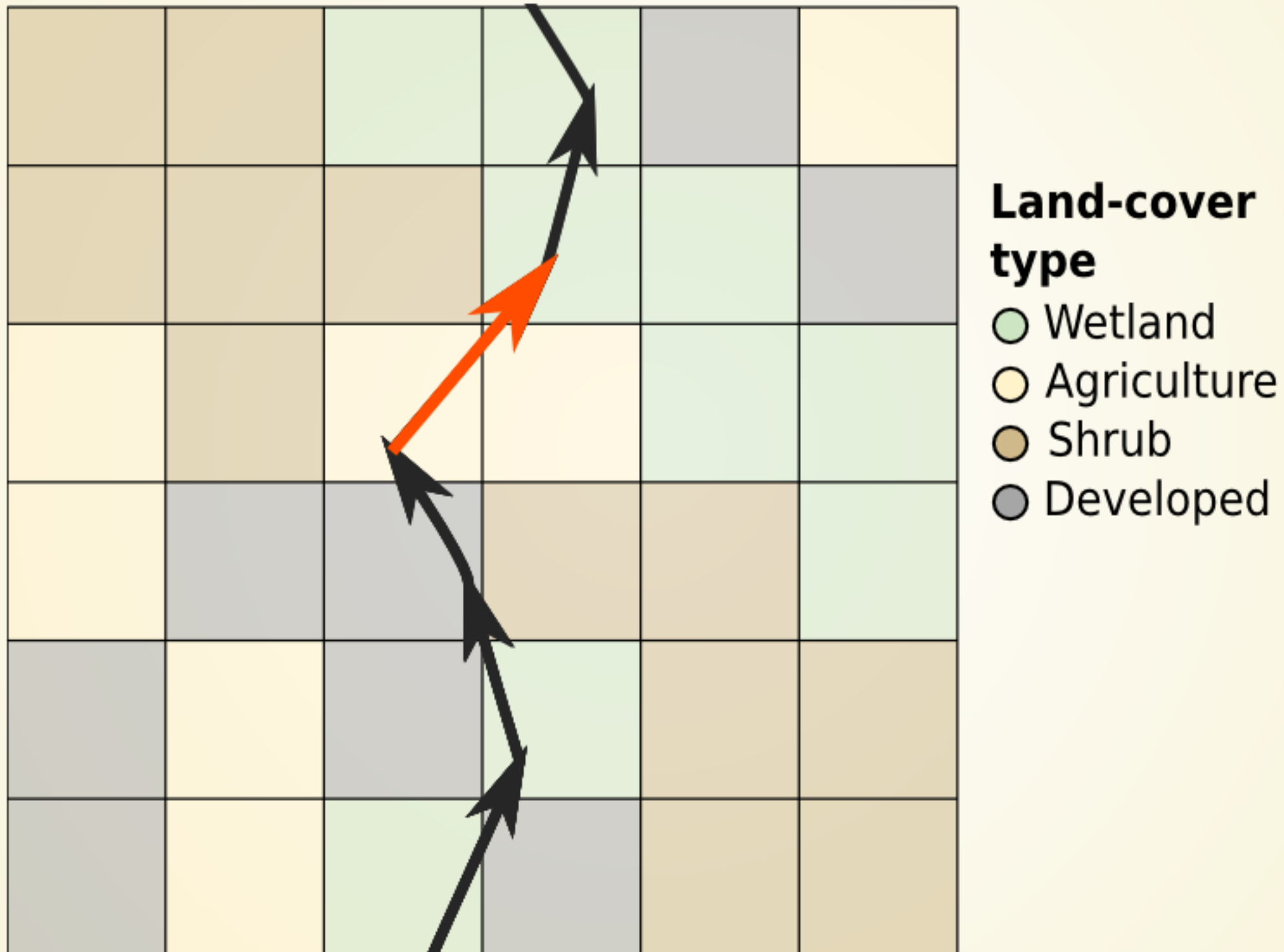
Habitat Selection along the Path



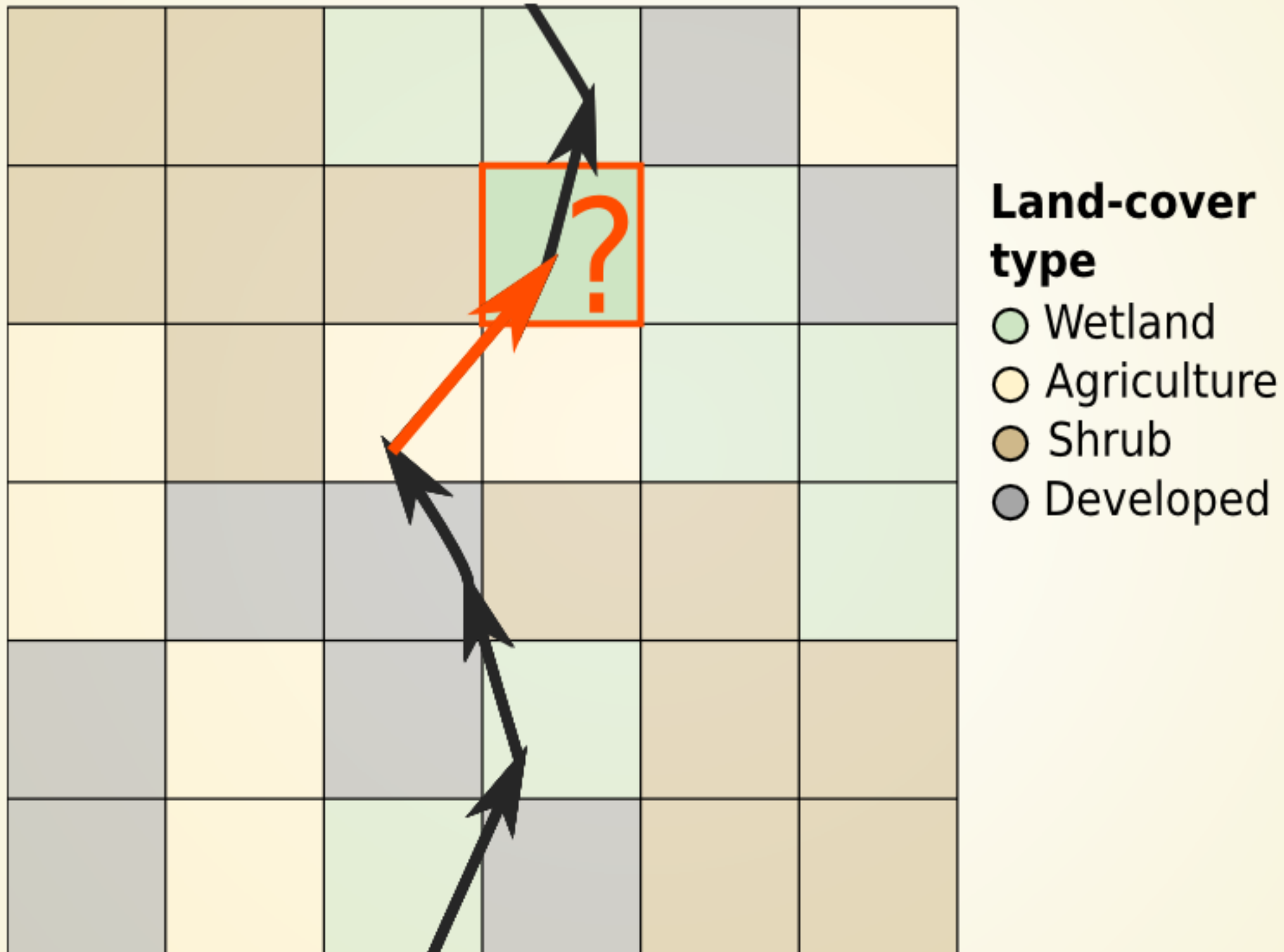
Habitat Selection along the Path



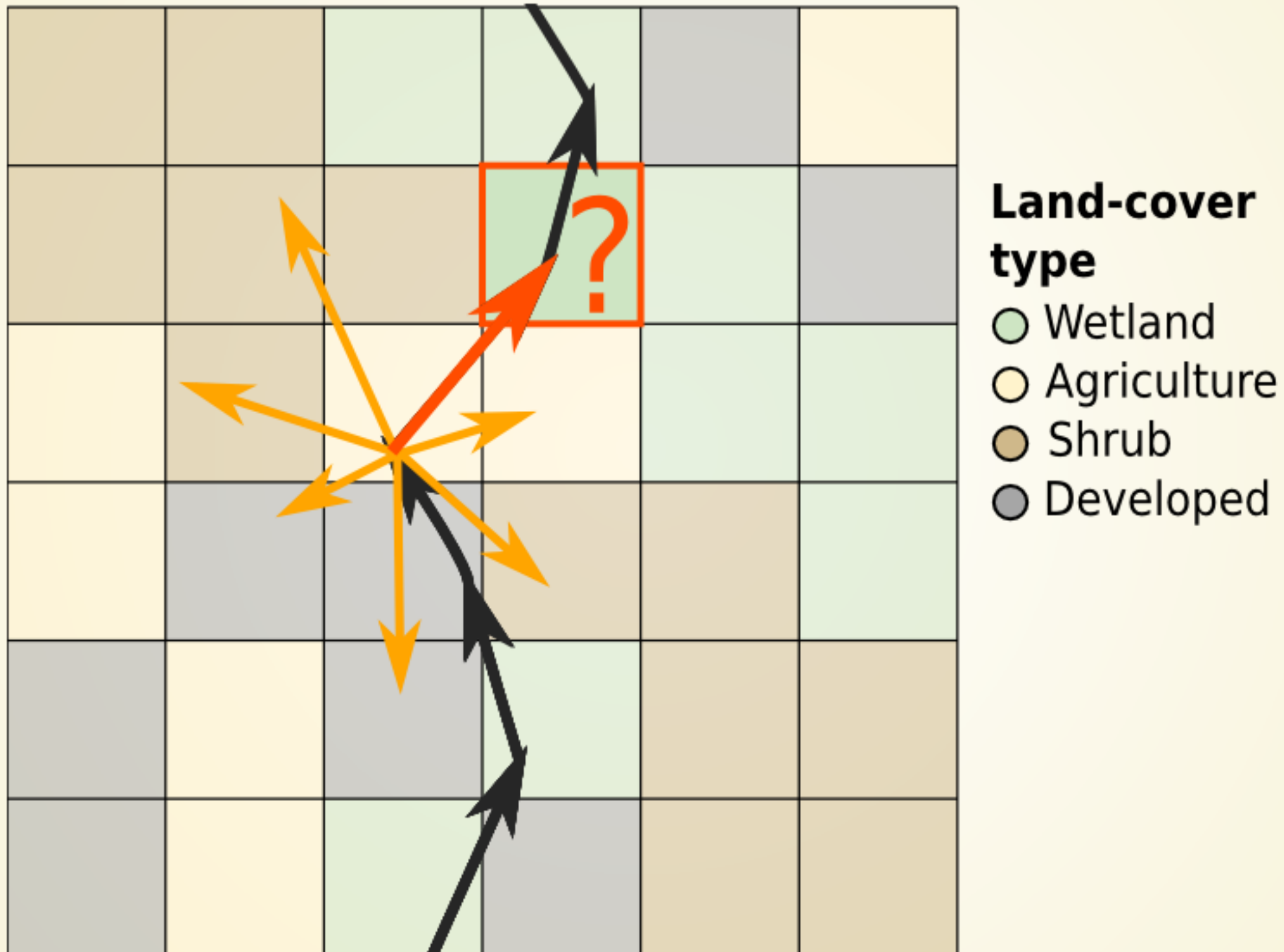
Habitat Selection along the Path



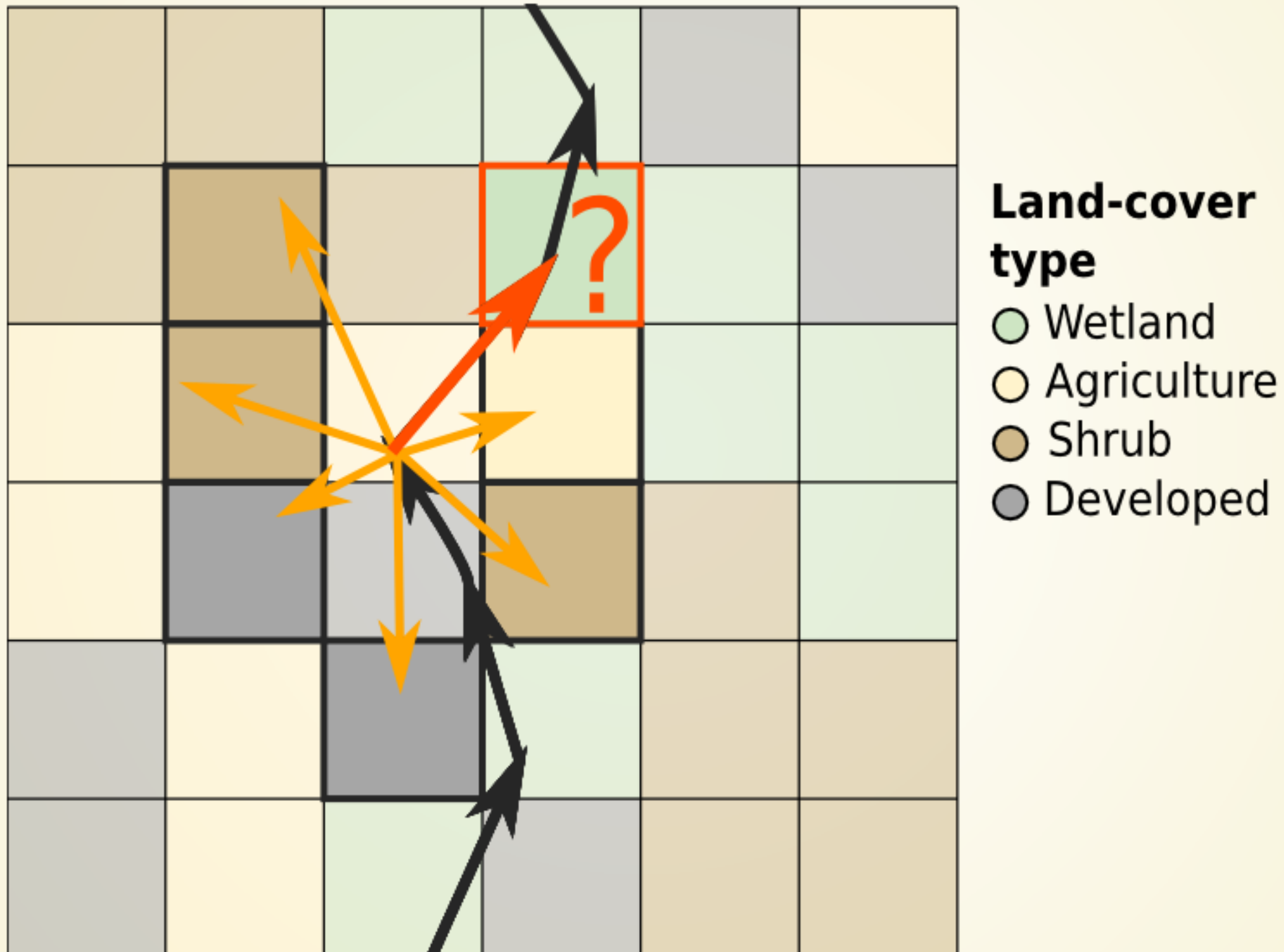
Habitat Selection along the Path



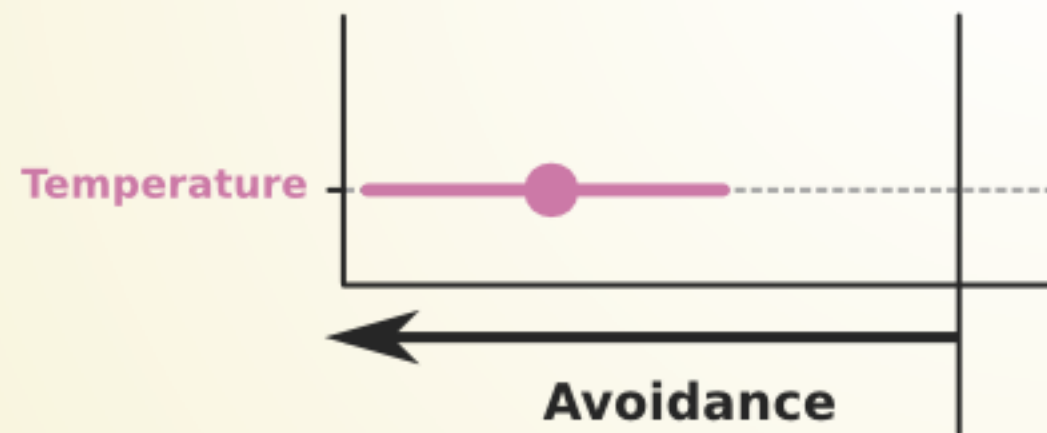
Habitat Selection along the Path



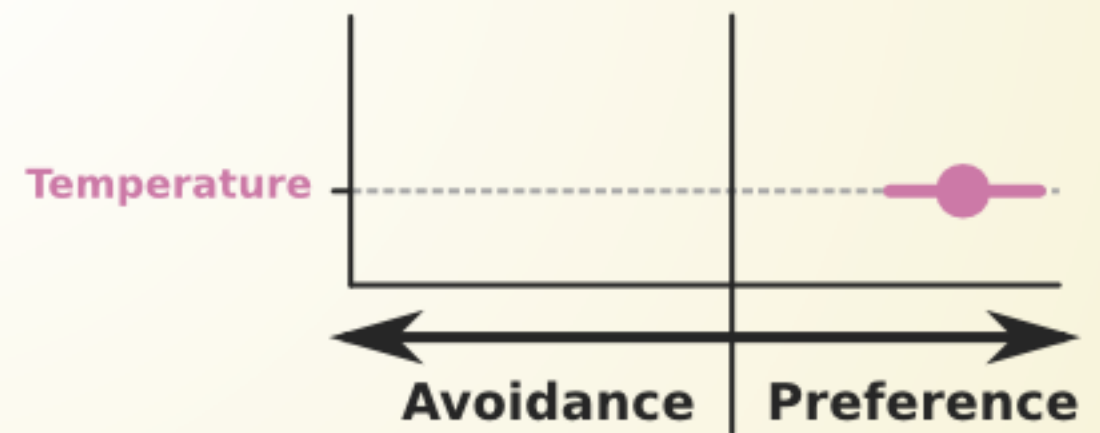
Habitat Selection along the Path



Northward and Southward Migrations

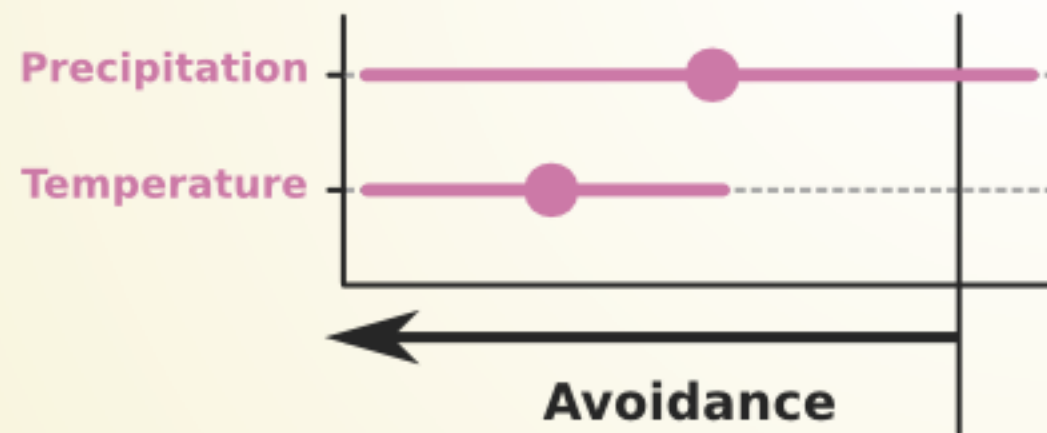


Spring migration

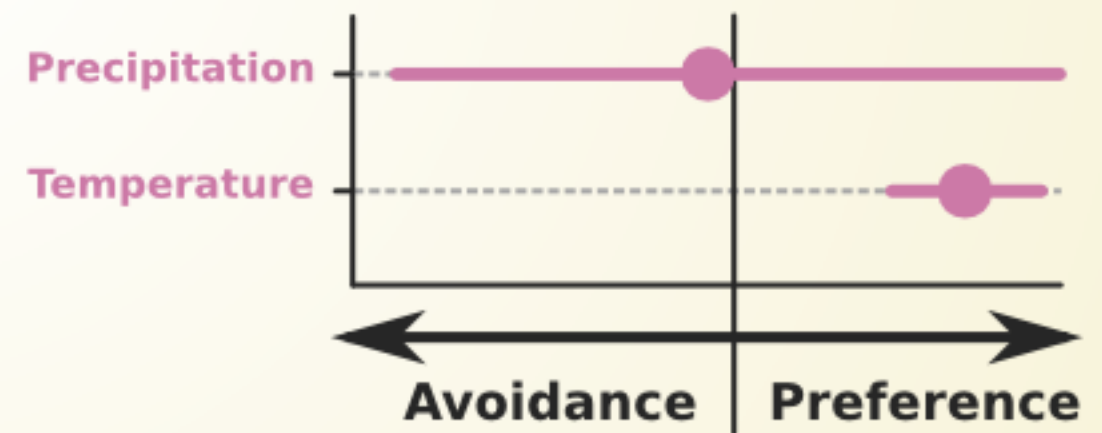


Fall migration

Northward and Southward Migrations

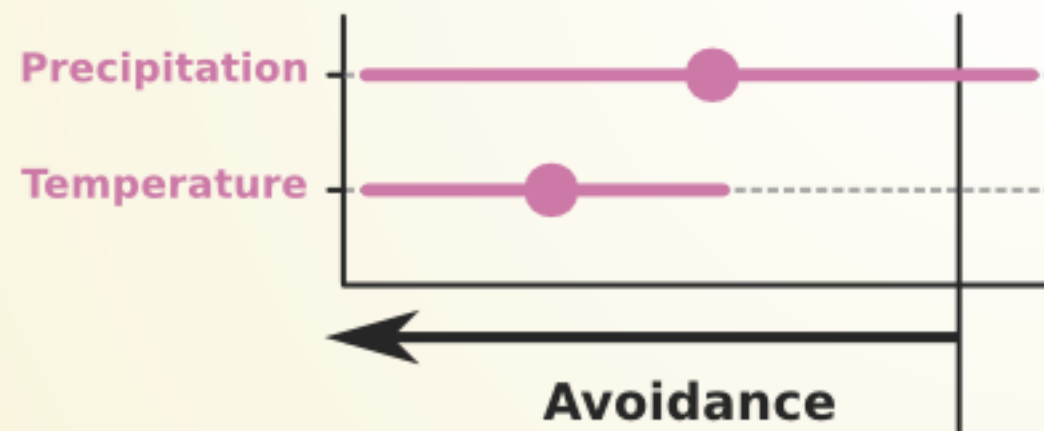
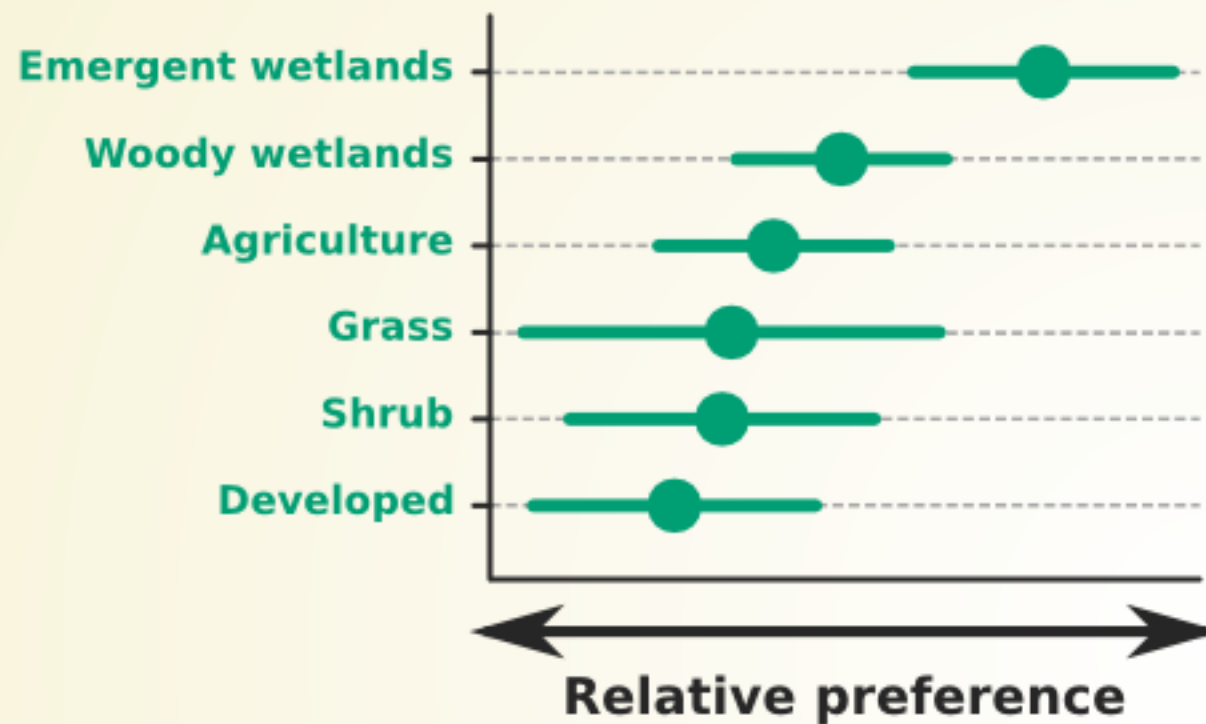


Spring migration

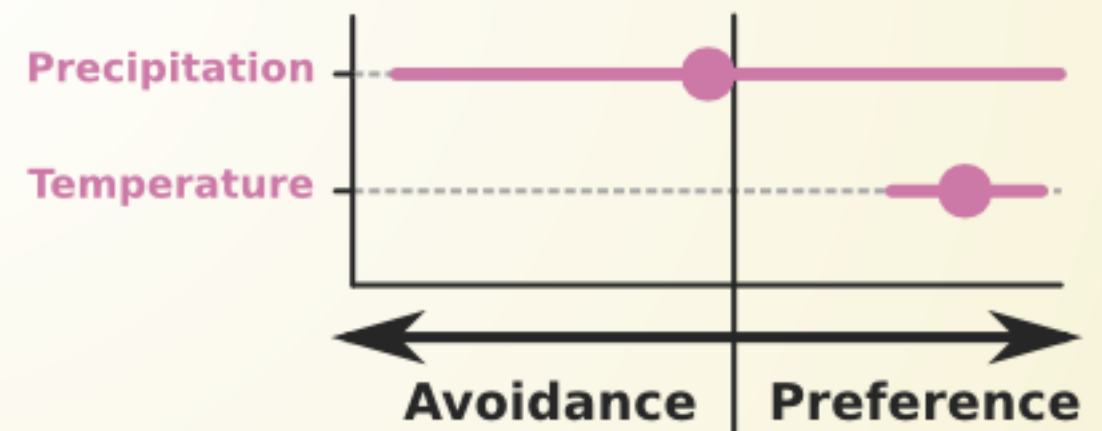
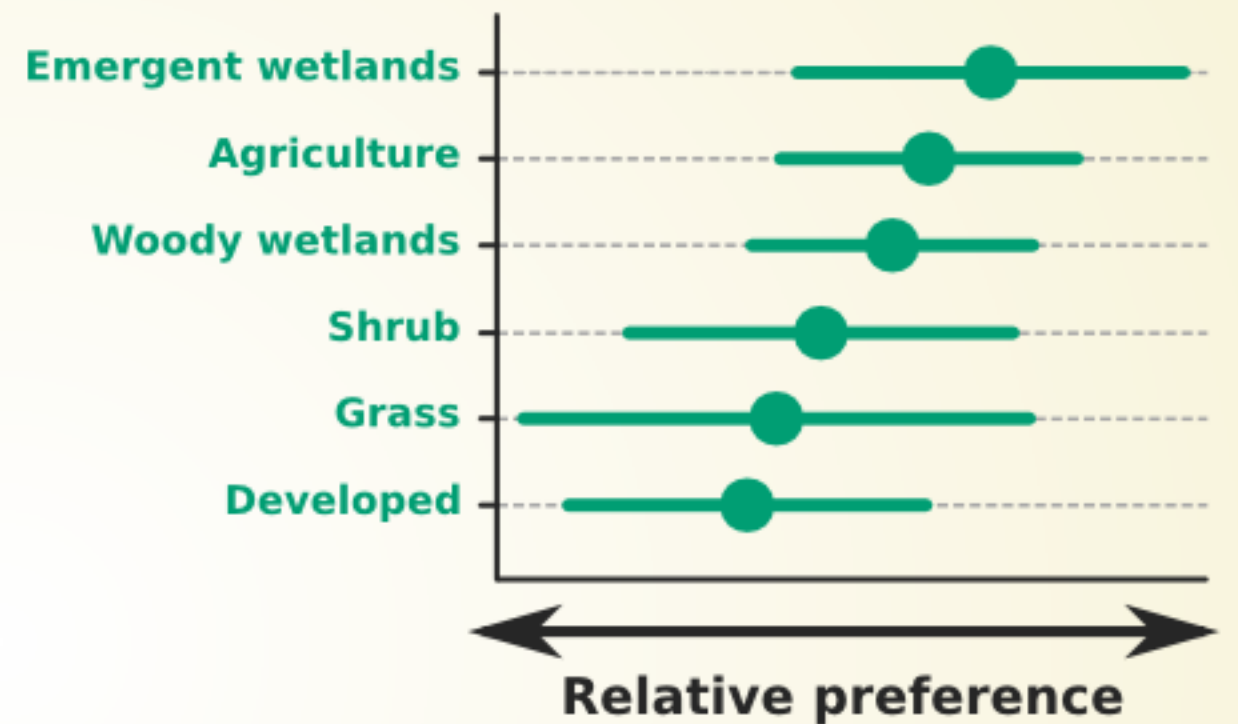


Fall migration

Northward and Southward Migrations

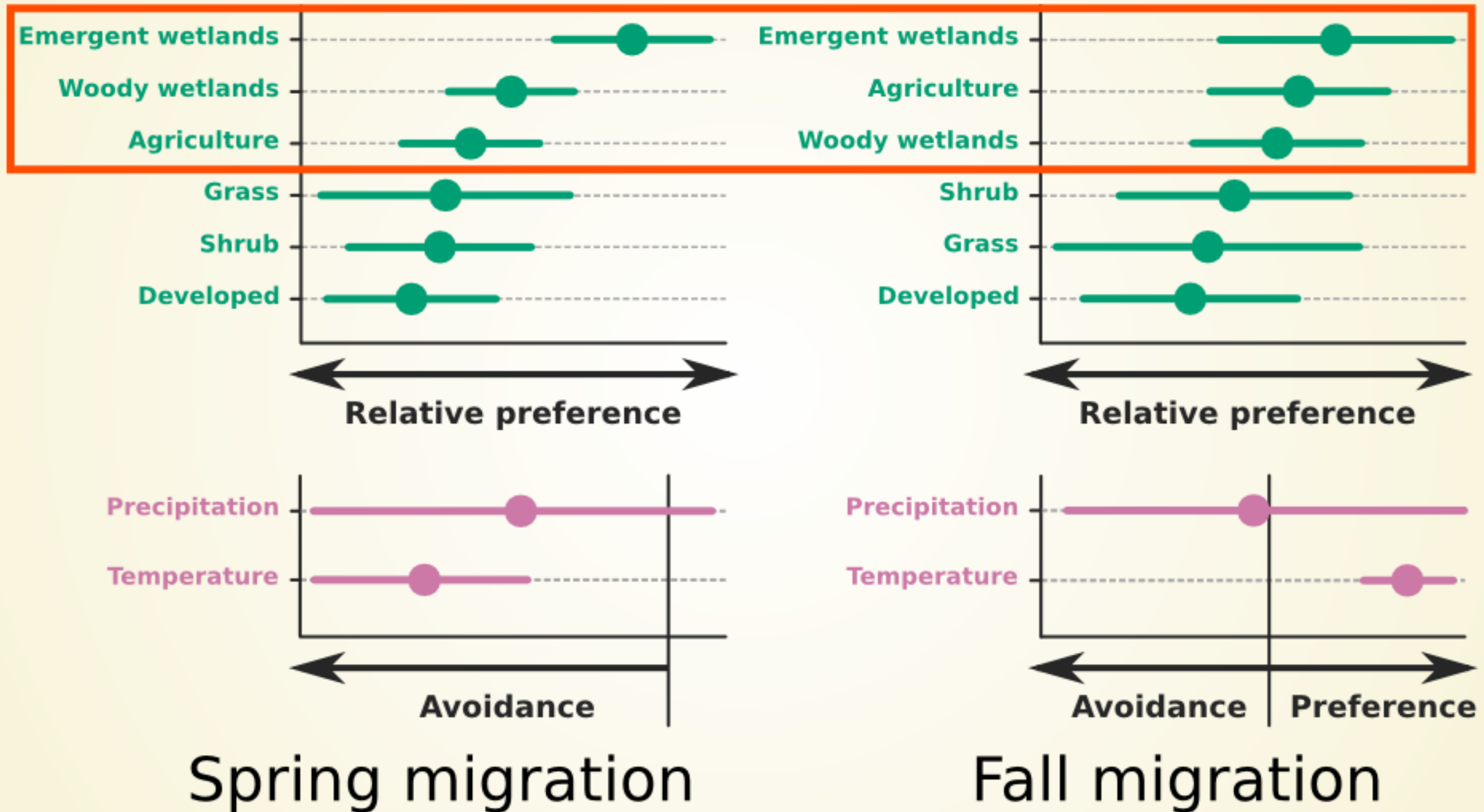


Spring migration

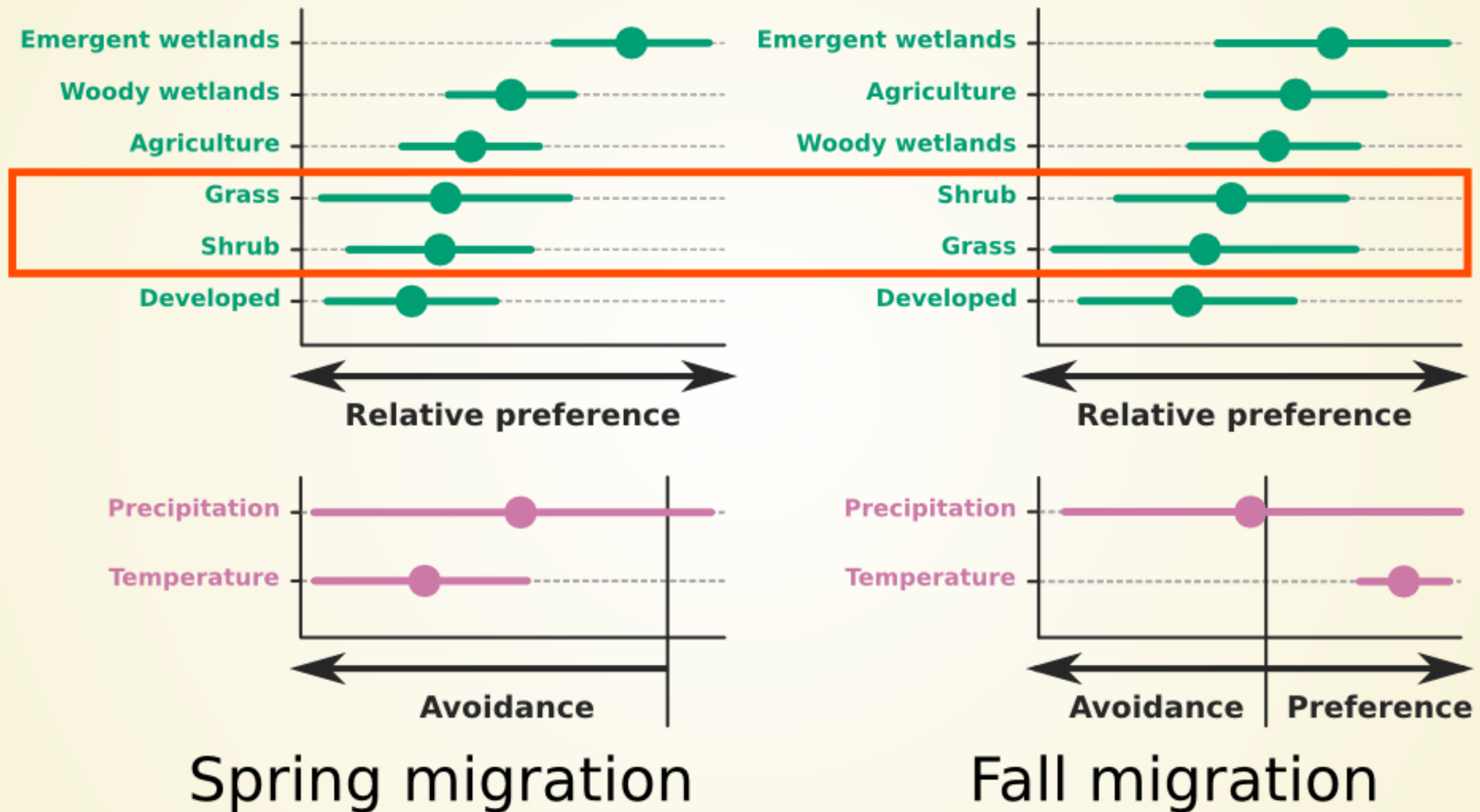


Fall migration

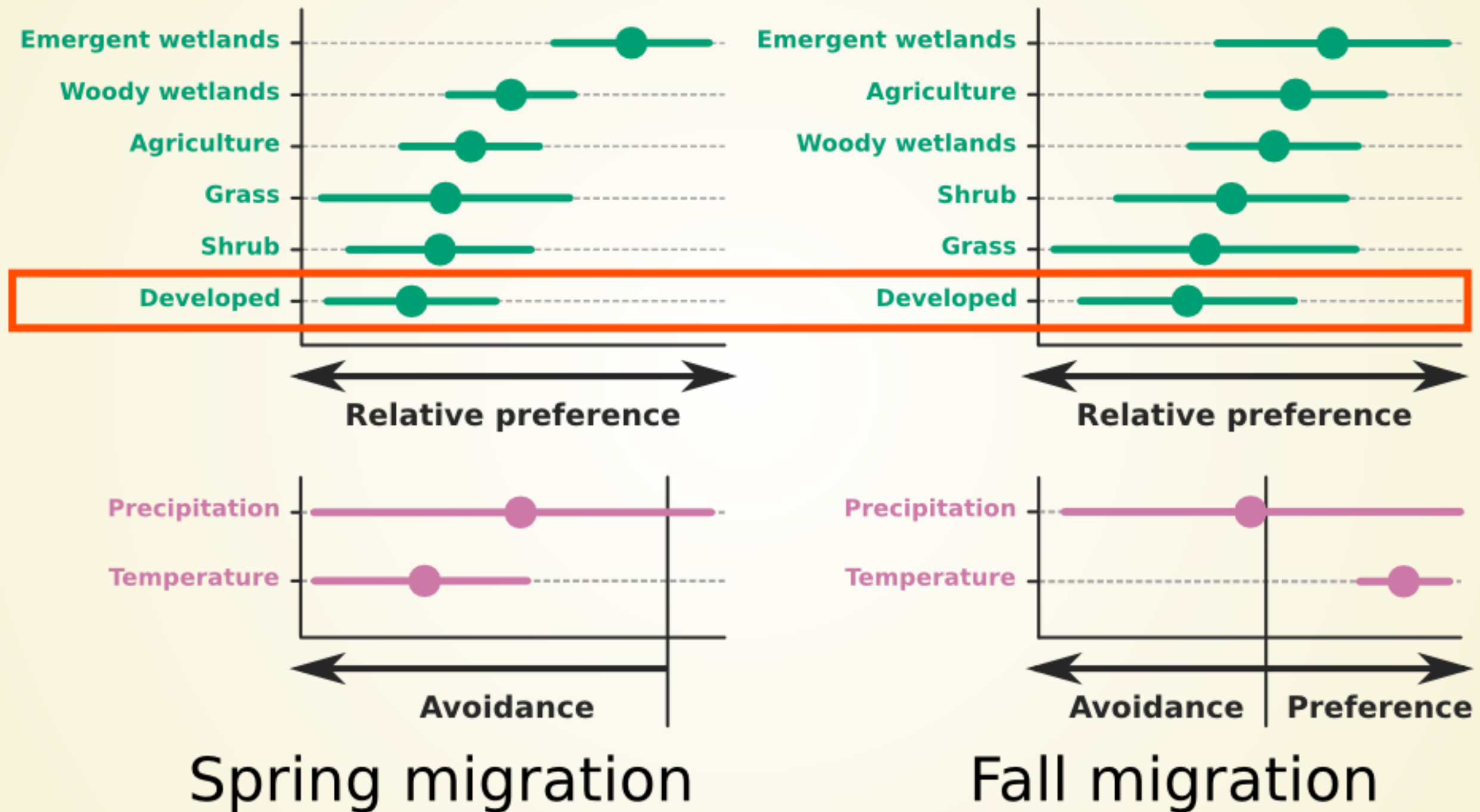
Northward and Southward Migrations



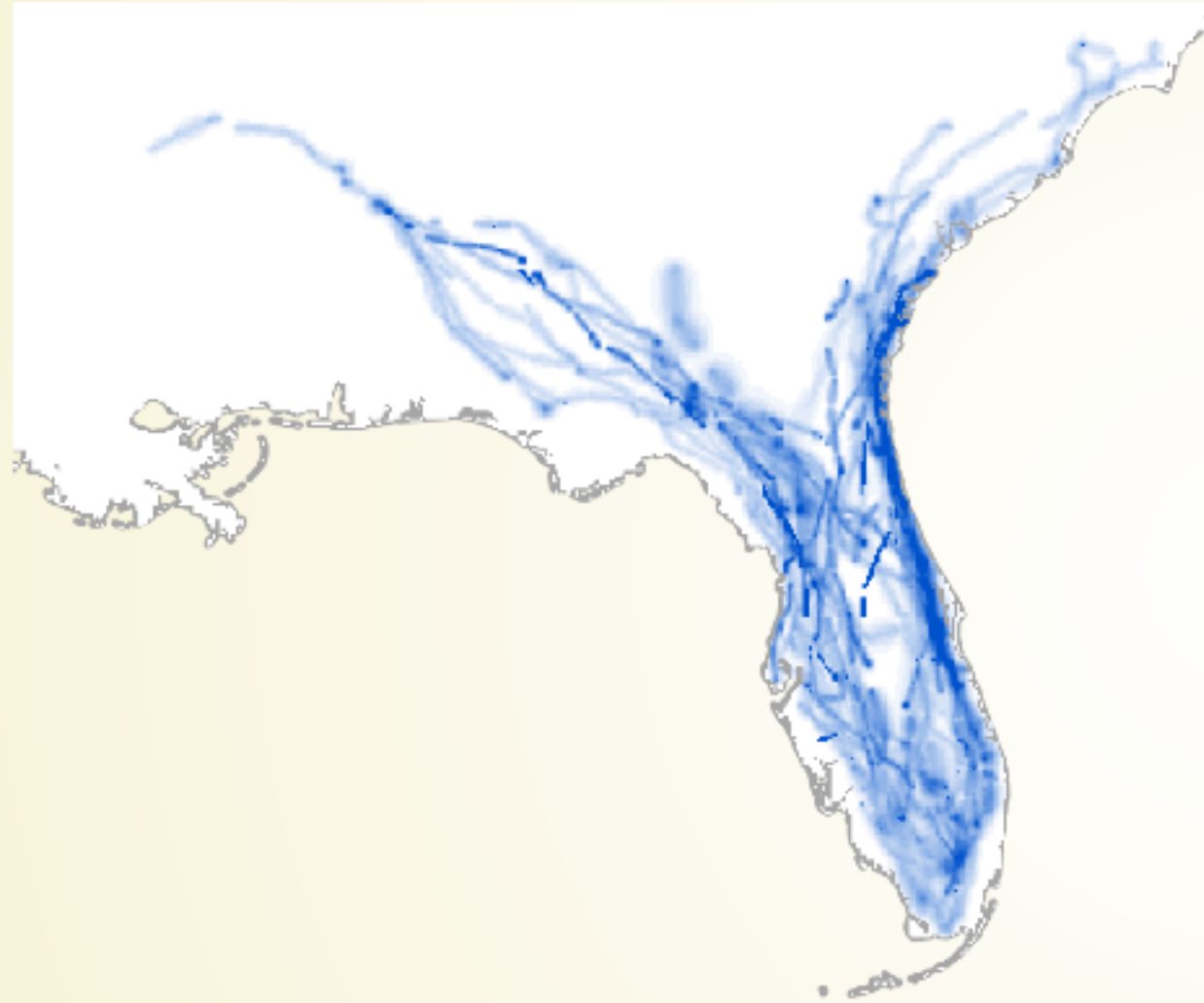
Northward and Southward Migrations



Northward and Southward Migrations

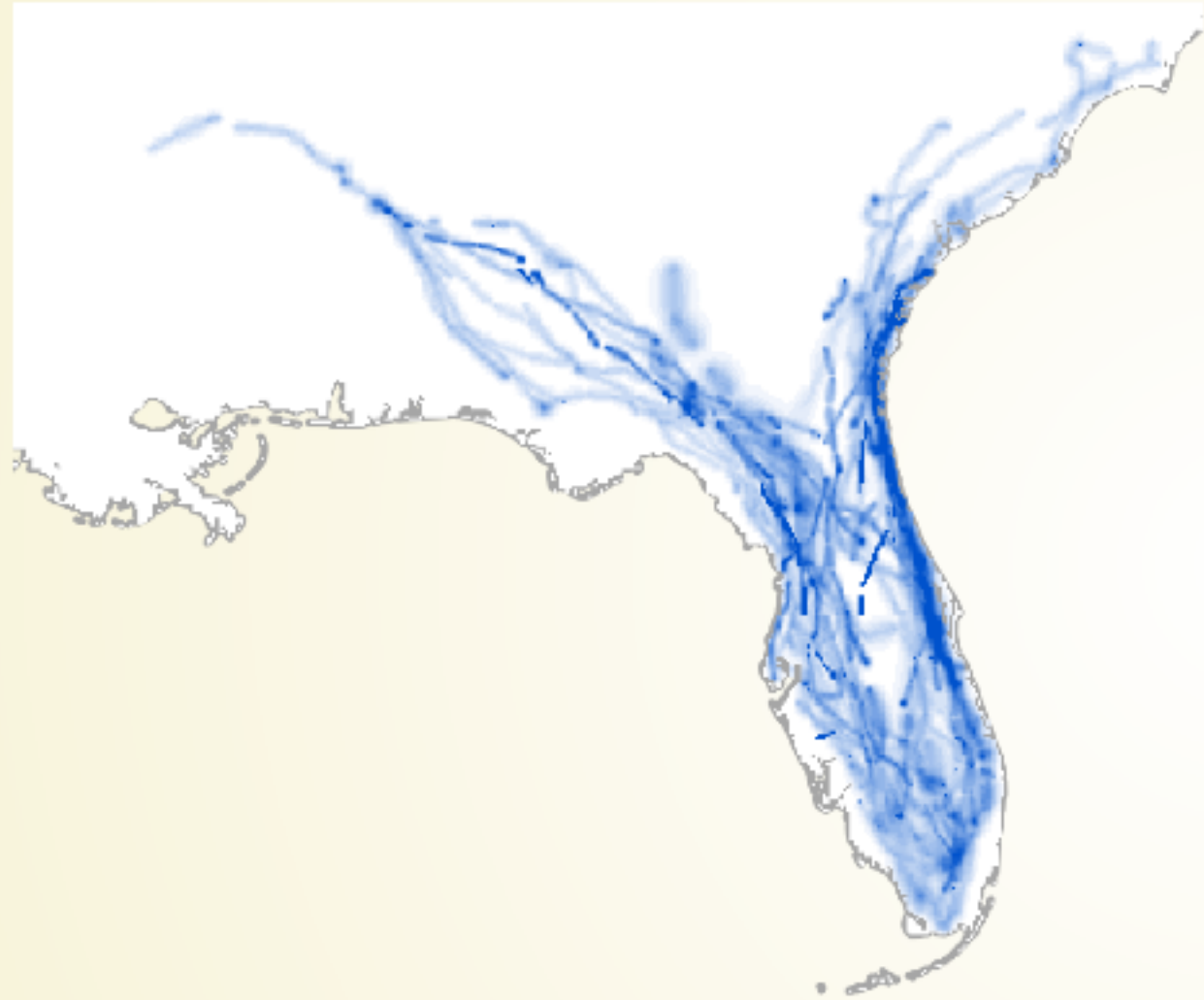


Migration Corridors

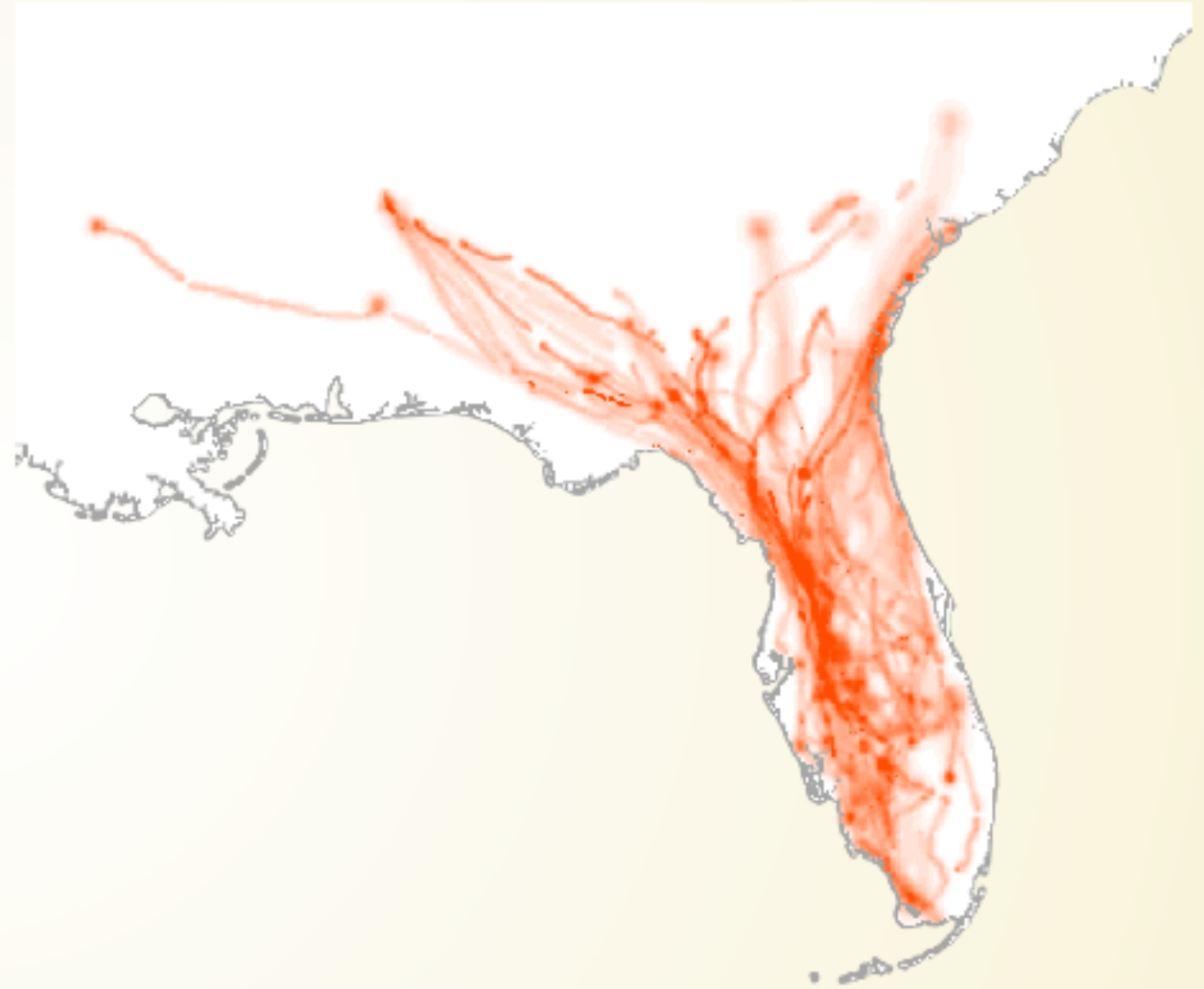


Spring

Migration Corridors

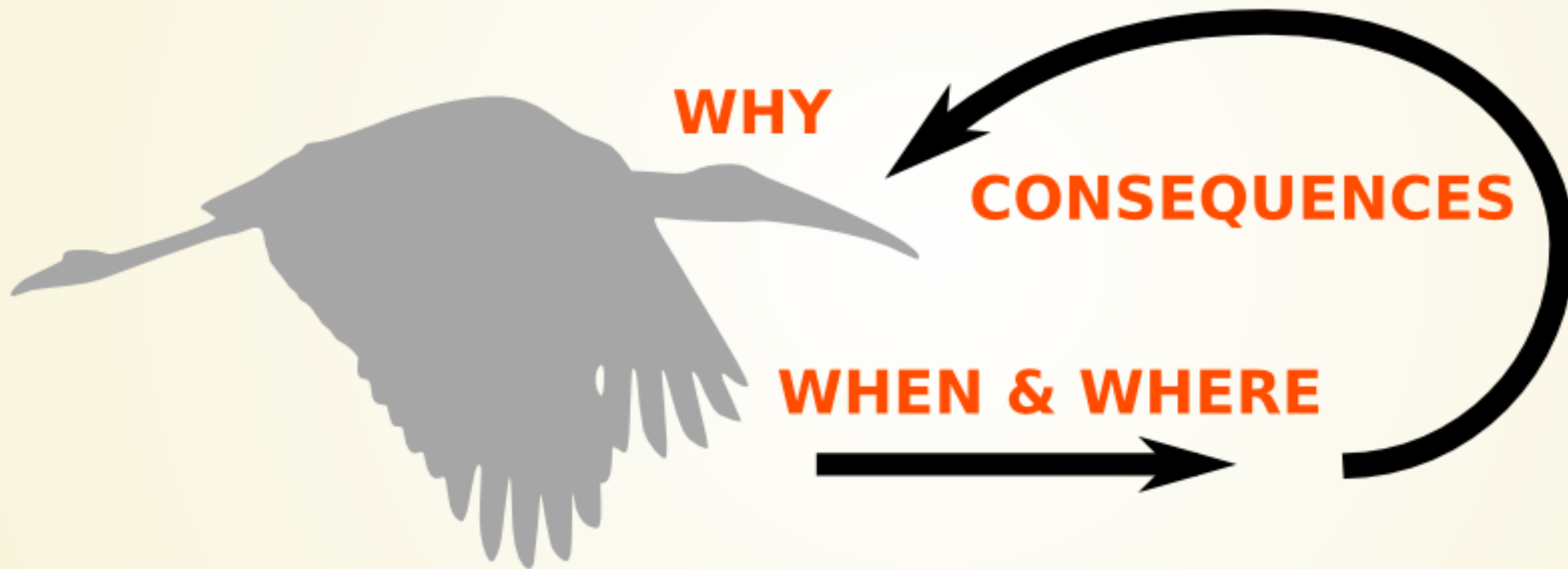


Spring



Fall

Summary



Summary

Suitable
conditions
for nesting

WHY

CONSEQUENCES

WHEN & WHERE



Summary

Suitable
conditions
for nesting

WHY

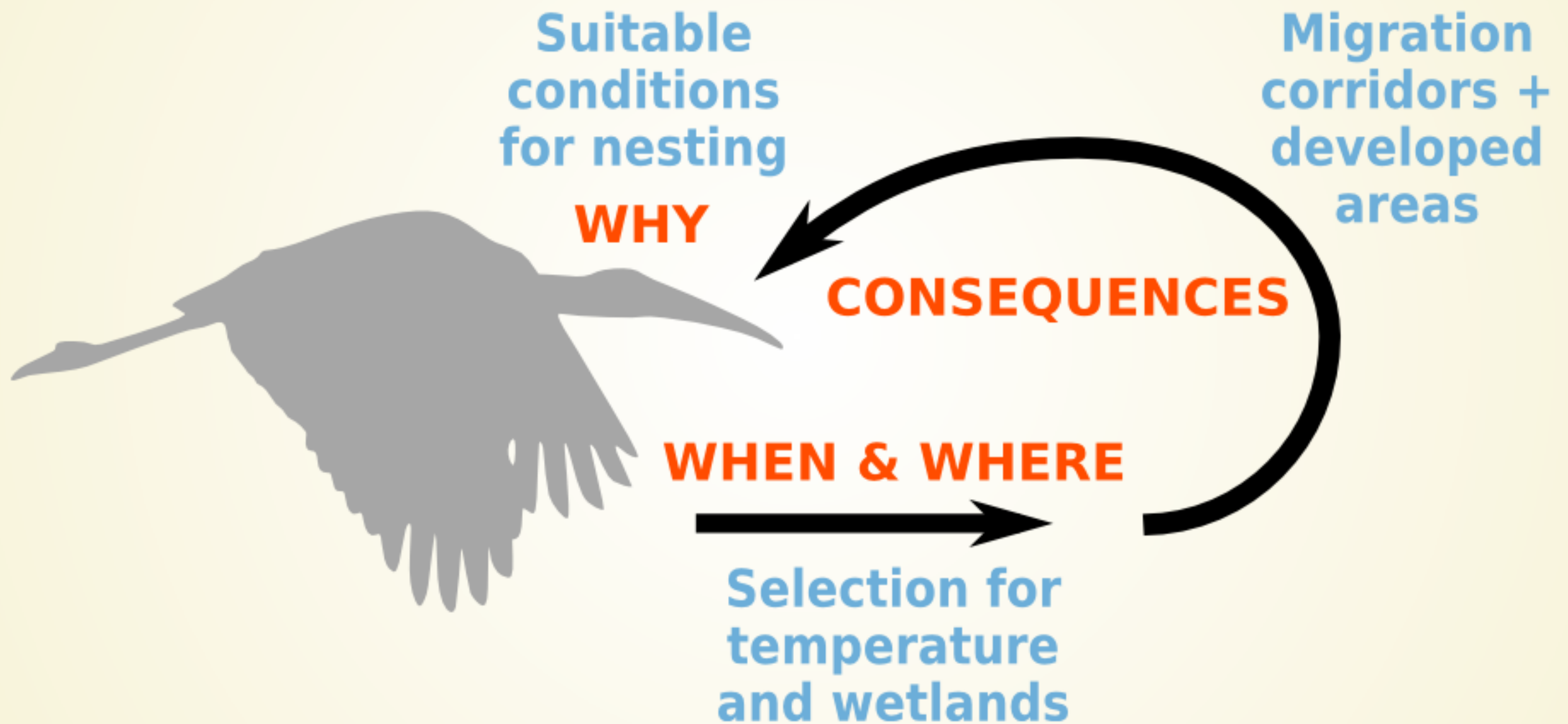
CONSEQUENCES

WHEN & WHERE

Selection for
temperature
and wetlands



Summary



A photograph of two white ibis birds standing in a shallow, muddy wetland. The bird on the left is facing left, and the bird on the right is facing right. Both birds have long, downward-curved bills and dark skin on their heads and necks. The bird on the right has a small, rectangular, light-colored tag attached to its back. The foreground is filled with green, leafy plants. The background is a muddy, brownish water area. The text "Thank you!" is overlaid in the center in a large, blue, sans-serif font with a white outline.

Thank you!