



Do ecoducts contribute to the coherence of Veluwe habitats?

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Smit



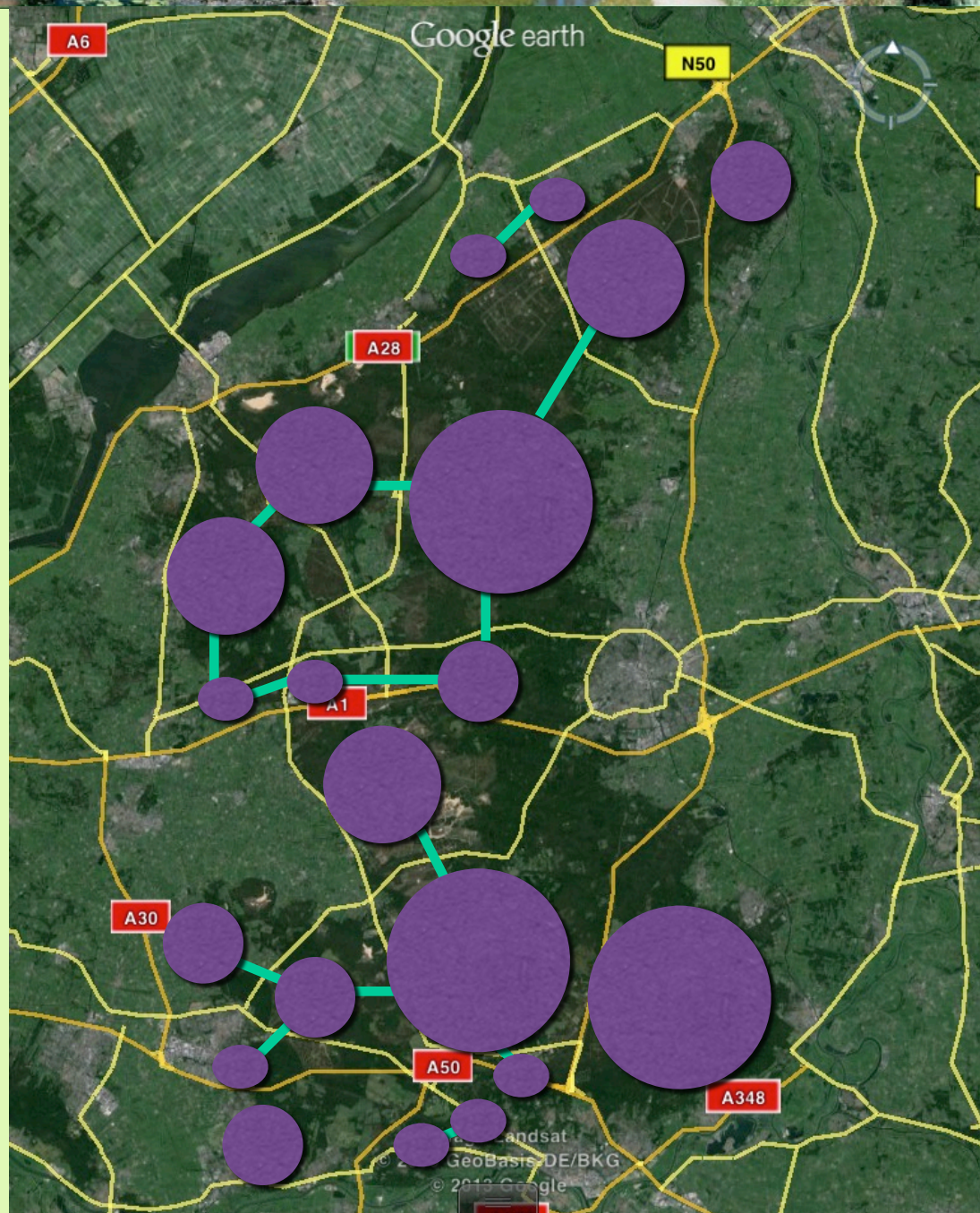
Bureau Waardenburg bv
Adviseurs voor ecologie & milieu





Image Landsat
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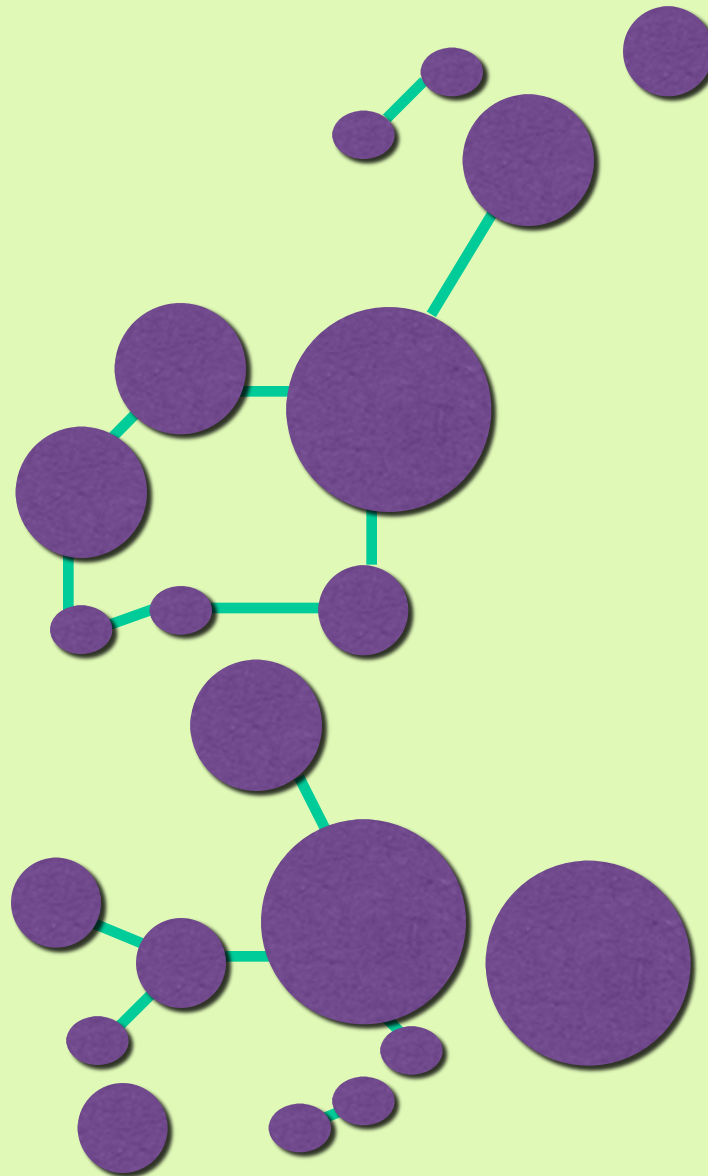
Network Theory



Nodes



Edges





Network Theory



Nodes

- habitat patches - weighed by surface



Edges

- weighed by connectivity

Increasing
traffic



- local roads
- regional roads
- highways/motorways



Decreasing
connectivity





Network Theory



Nodes

- habitat patches - weighed by surface



Edges

- weighed by connectivity

Decreasing
species #



- ecoducts
- stubb walls
- fauna strips
- fauna-, badger tunnels

Decreasing
connectivity



Nodes

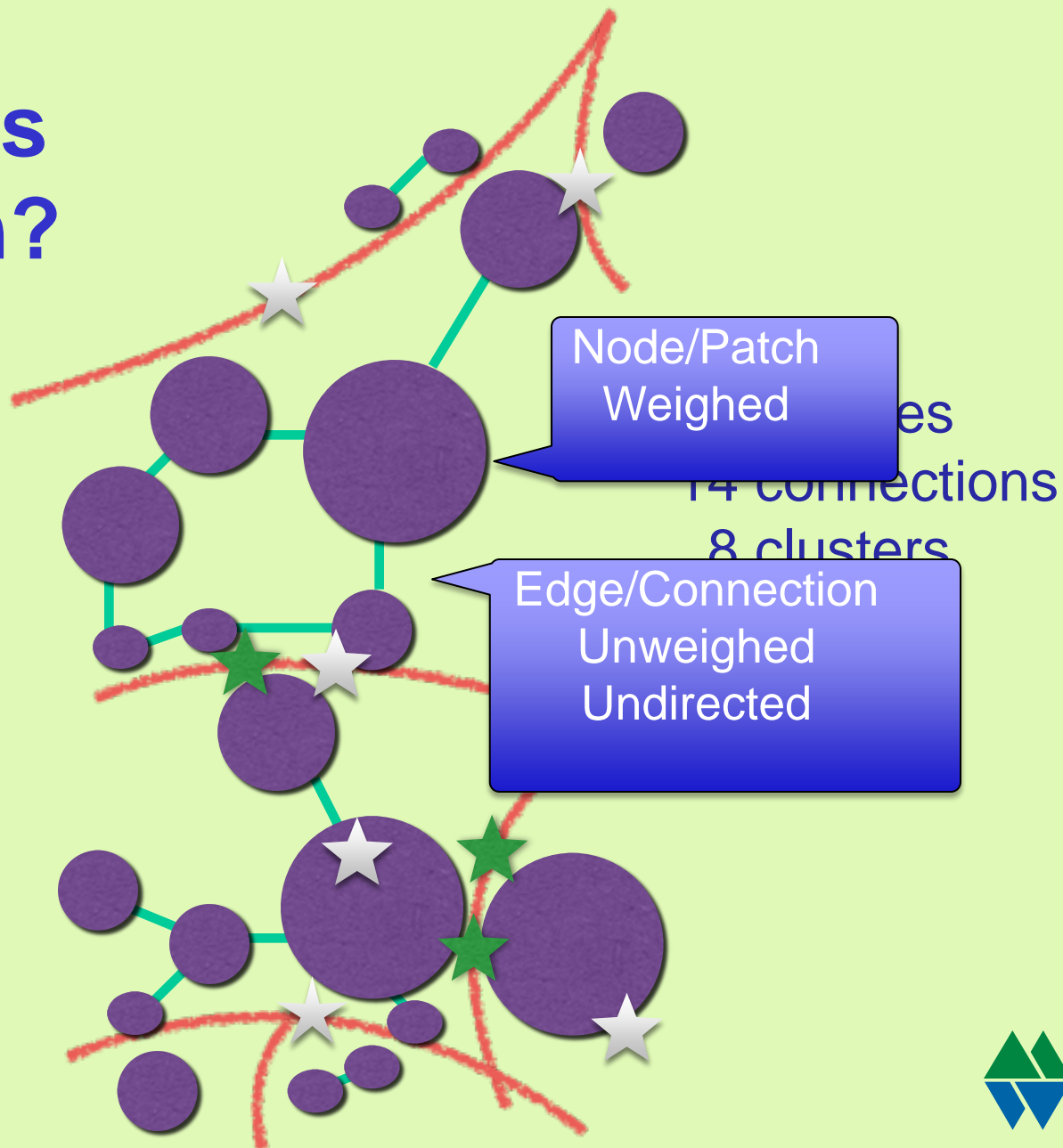
Edges

The figure consists of seven panels, numbered 1 through 7, arranged in a 3x2 grid. Each panel illustrates a different network structure with a central node (grey) and surrounding nodes (white). The nodes are connected by dashed lines.

- Panel 1:** Node A (small grey) is connected to 2 white nodes. Node B (large grey) is connected to 3 white nodes.
- Panel 2:** Node A (small grey) is connected to 4 white nodes in a square. Node B (small grey) is connected to 5 white nodes in a star.
- Panel 3:** Node A (small grey) is connected to 5 white nodes in a pentagon. Node B (small grey) is connected to 3 white nodes in a chain.
- Panel 4:** Node B (small grey) is connected to 2 large white nodes. Node A (small grey) is connected to 2 large white nodes and 1 small white node.
- Panel 5:** Node A (small grey) is connected to 4 white nodes in a square. Node B (small grey) is connected to 5 white nodes in a star.
- Panel 6:** Node A (small grey) is connected to 5 white nodes in a pentagon. Node B (small grey) is connected to 3 white nodes in a chain.
- Panel 7:** Node A (small grey) is connected to 3 white nodes in a chain. Node B (small grey) is connected to 3 white nodes in a chain.



Do ecoducts function?

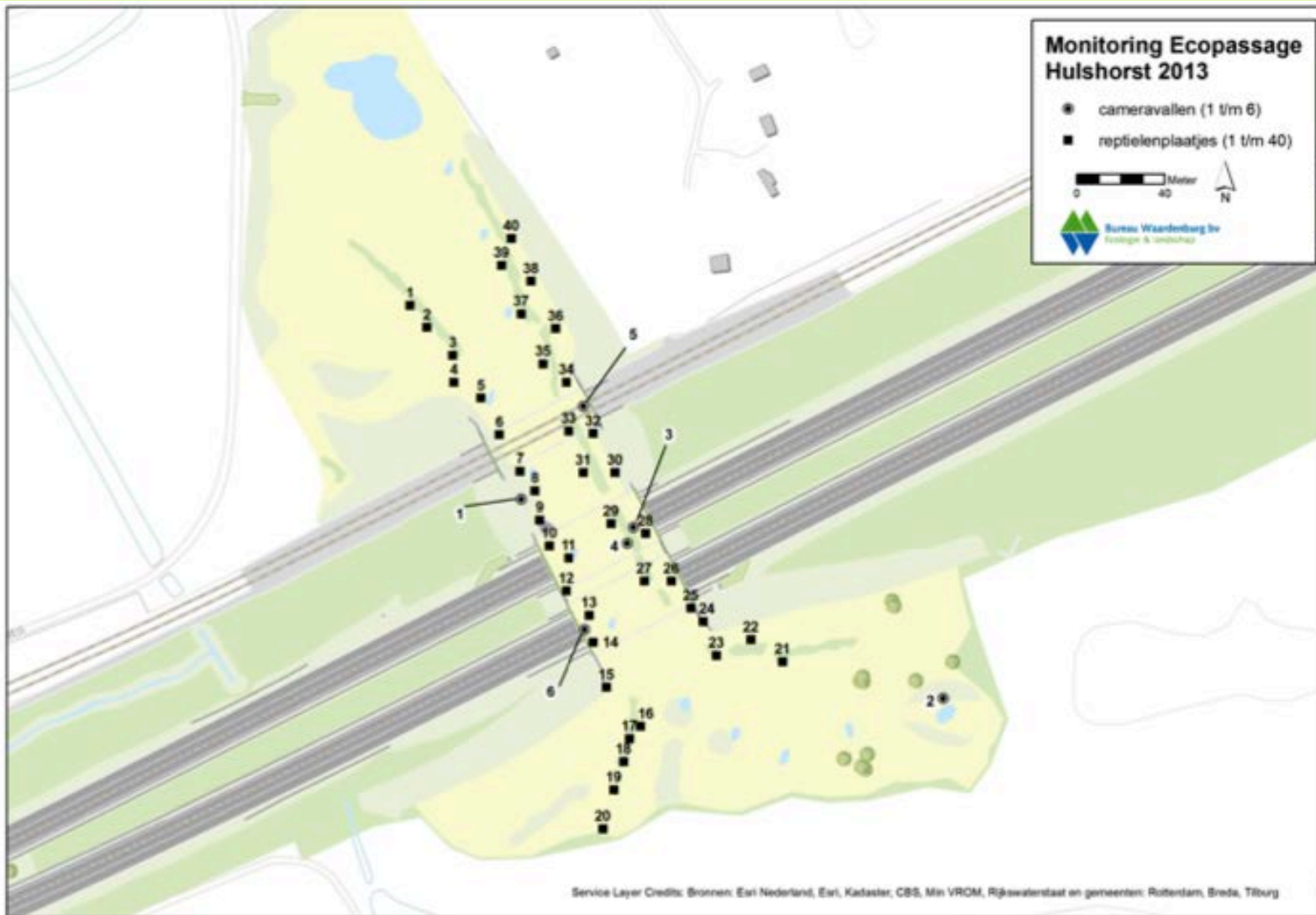




- Camera traps
- Sand and ink pads to register tracks
- Cover boards
- Live traps and pit falls
- Malaise traps for flying insects
- Transects for visual counting

Survey techniques





Figuur 2.1 Ligging en nummering van cameravallen en reptielenplaatjes op ecoduct Hulshorst.







9:49:56 AM M 1/3

8°C

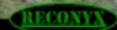


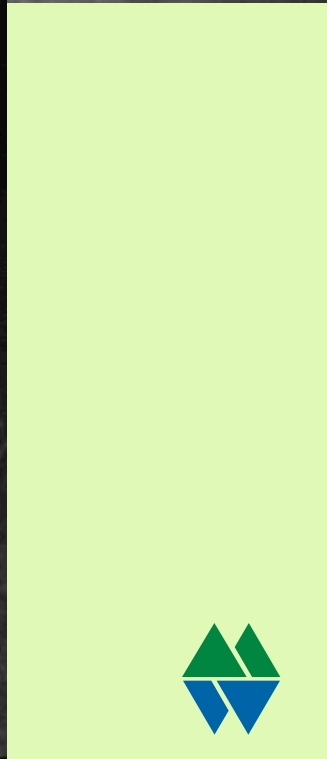
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12°C



HC500 HYPERFIRE





HCECO HYPERRE





polecat



hare



roe deer



hedgehog



rabbit



roe deer



pheasants



long-eared owl



fox





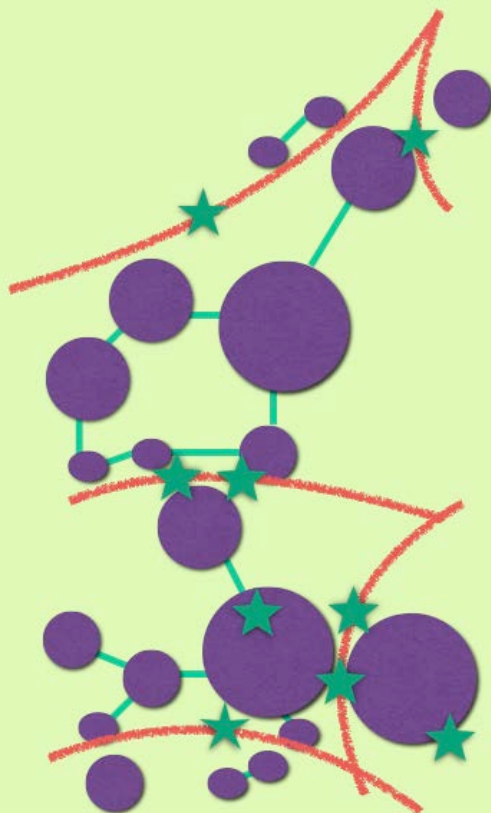
Do ecoducts function?

- Used by multiple species groups
- Species of surrounding habitats
- Multiple species in first year after construction
- Use is regular to frequent

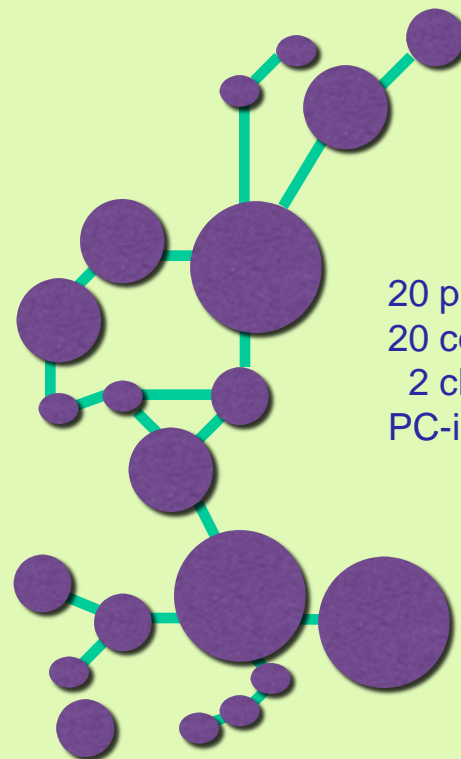
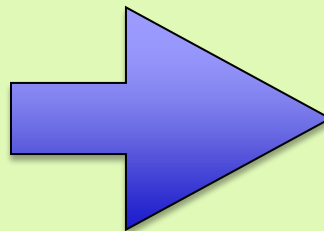




Do ecoducts function?



20 patches
14 connections
8 clusters
PC-index 0.21



20 patches
20 connections
2 clusters
PC-index 0.25





Do ecoducts contribute to the coherence of Veluwe habitats?

For a wide range of species:

- Ecoducts facilitate movements over highways
- Ecoducts establish connectivity between habitats





Do ecoducts contribute to the coherence of Veluwe habitats?

To quantify the contribution of ecoducts to habitat networks, the application of Network Theory should be further developed

