



## *KerryLIFE adapting forestry policy for the freshwater pearl mussel*

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20 Years a Growing  
Native Woodland Conference 2018  
Glenview Hotel, Wicklow  
30<sup>th</sup> May 2018

## “Sustainable land use management for the conservation of freshwater pearl mussel”



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LIFE13 NAT/IE/000144

2014-2019

€5,010,581

50% LIFE co-funding



An Roinn  
Cultúir, Oidhreacht agus Gaeltachta  
Department of  
Culture, Heritage and the Gaeltacht



An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine



Forest Service







# KerryLIFE Main conservation threats



- Excess sediment
- Adults expend energy on non-edible particles
- Adults 'clam' in high sedimentation conditions
- Infiltrates river gravels, reducing oxygen



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## Main conservation threats



- Excess phosphorus  $>5\mu\text{gL}^{-1}$
- Low P retention in peats
- Increased algal production and a reduction in oxygen
- Macrophytes cause a loss of habitat
- Increases in nitrogen and ammonia also indicate intensive land use





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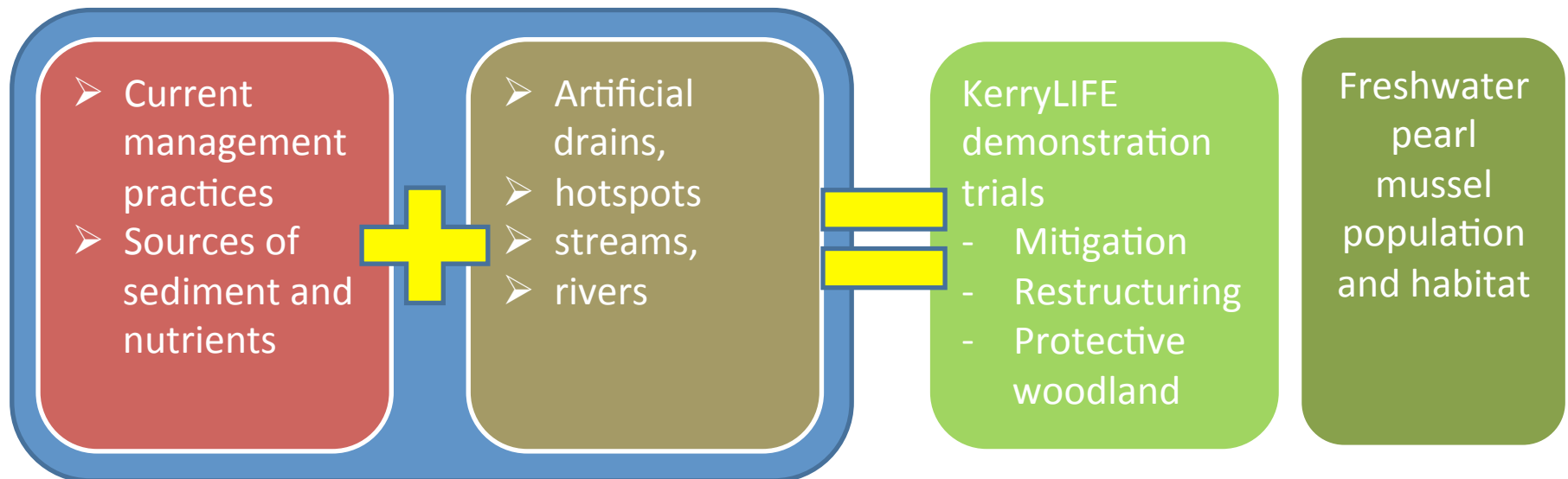
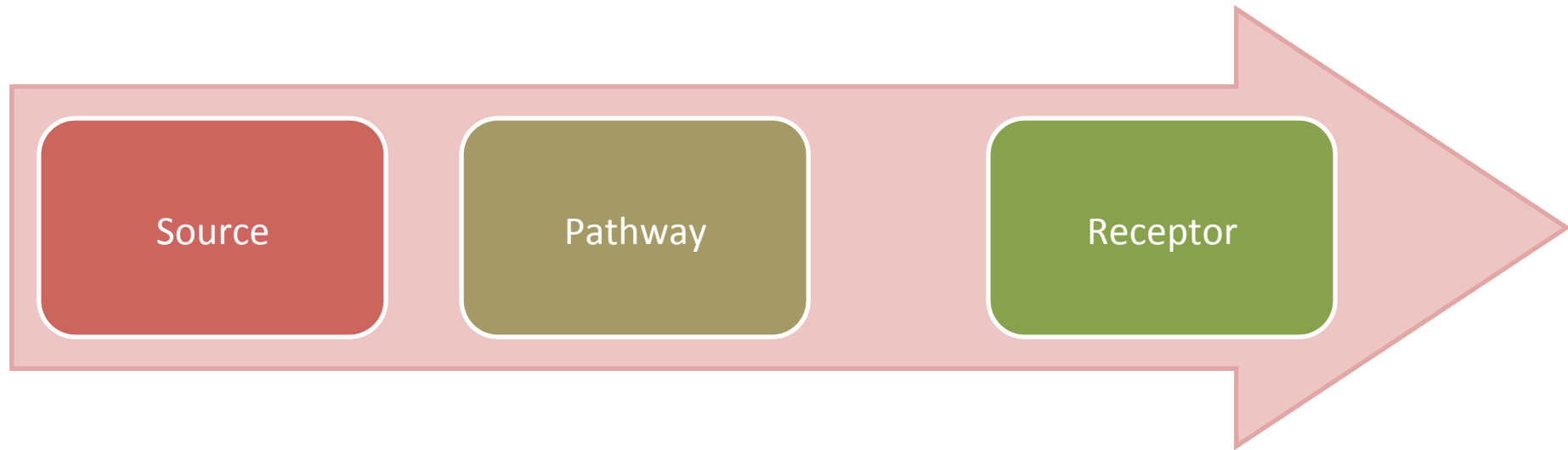
## Main conservation threats



- Bank destabilisation
- Bank erosion
- Scouring of river bed
- Increased flashiness
- Reduced base flows



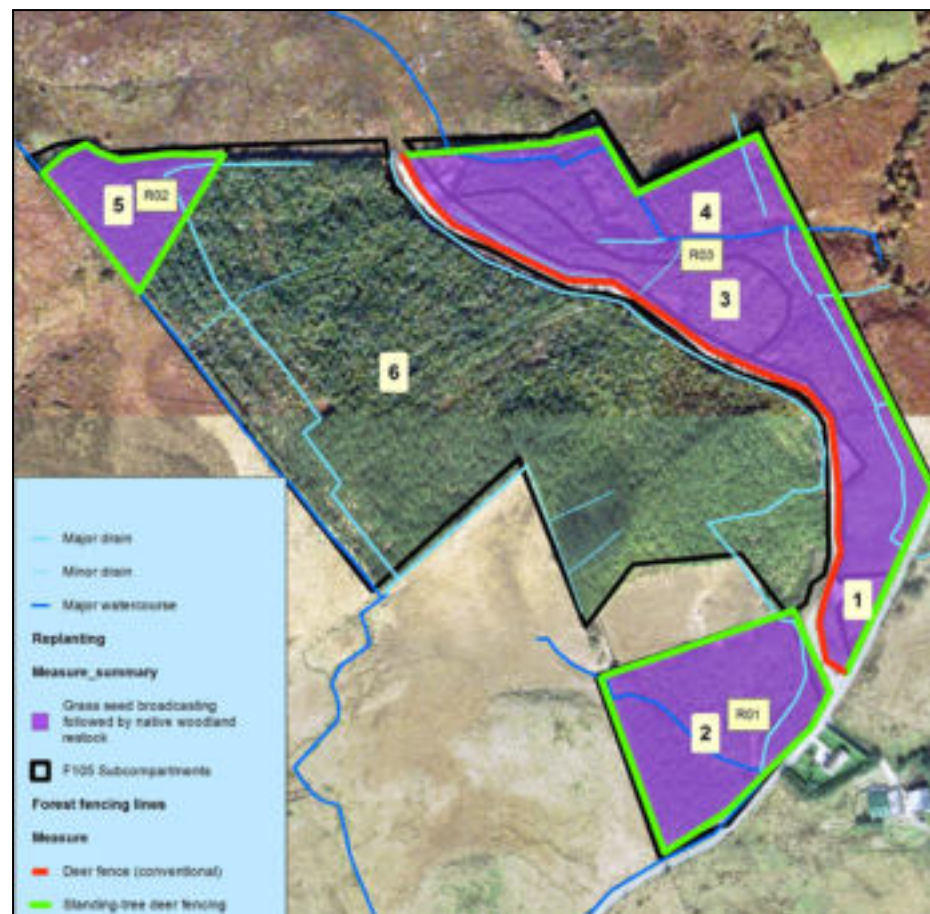
# KerryLIFE Integrated Risk Assessment







# KerryLIFE management plans





# 1. Mitigation measures - sediment

*Before*



*After*



*Intercept sediment from overland flow “in the dry” before it reaches the pathway*





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## 1. Mitigation measures - nutrients

*Control*

*After 7 months*



*Promote ground vegetation to intercept and promote uptake of plant nutrients and reduce bare soil and sediment losses from site*



# 1. Mitigation measures - nutrients



Removal of brash

Mechanical grab & forwarder

Chipped into trucks

Exported from catchment

Local riding stables

Removed c. 200 t from 2 ha





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## 1. Mitigation measures - hydrology

*Naturally occurring*

*KerryLIFE*



Contribute to reinstate natural hydrology and intercept sediment



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## 1. Mitigation measures - hydrology



*Drain spilling into vegetated buffer*





## 2. Restructuring - Halo-thinning / ring-barking

*Before (2015)*

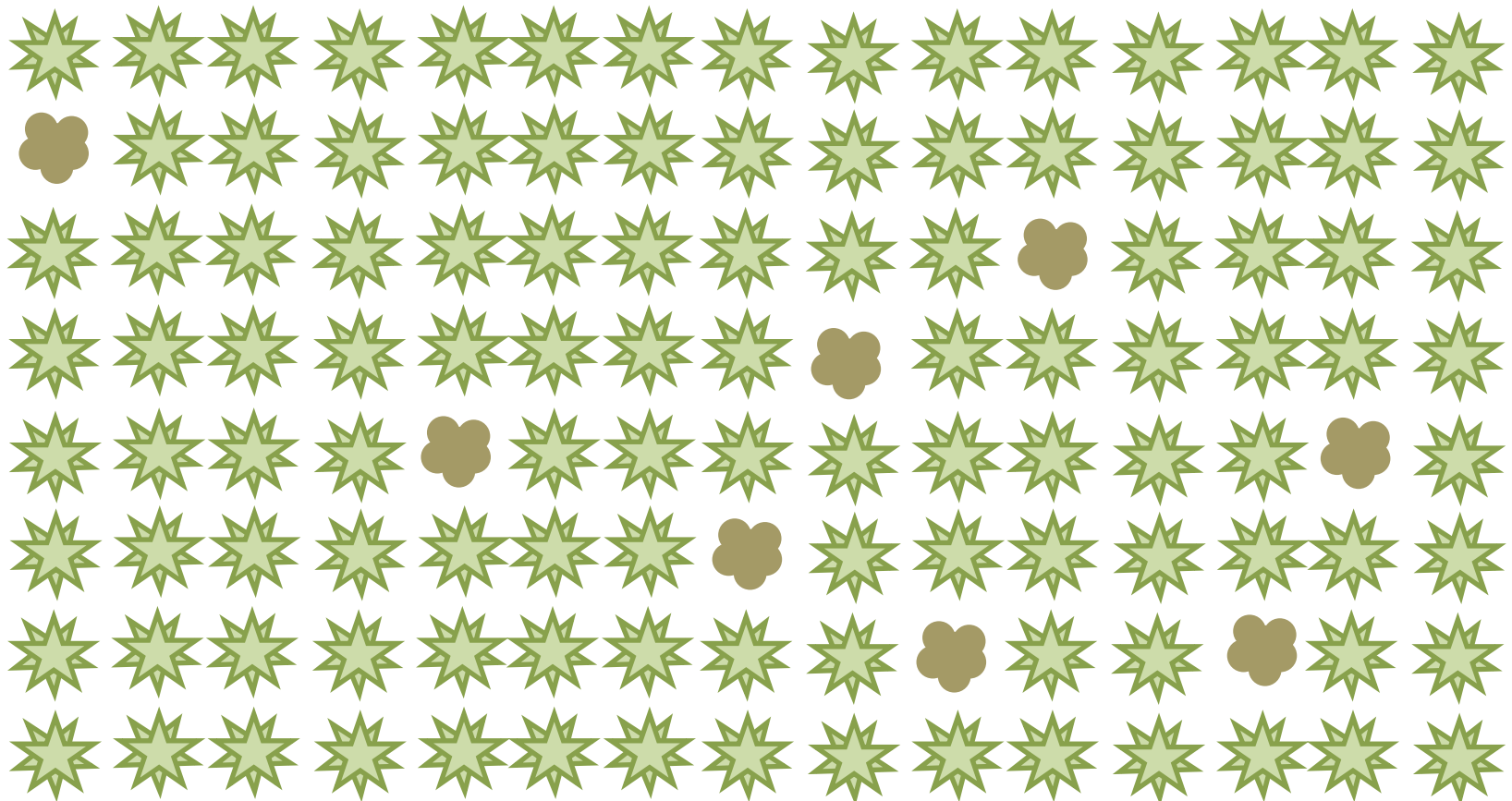


*After 2017*





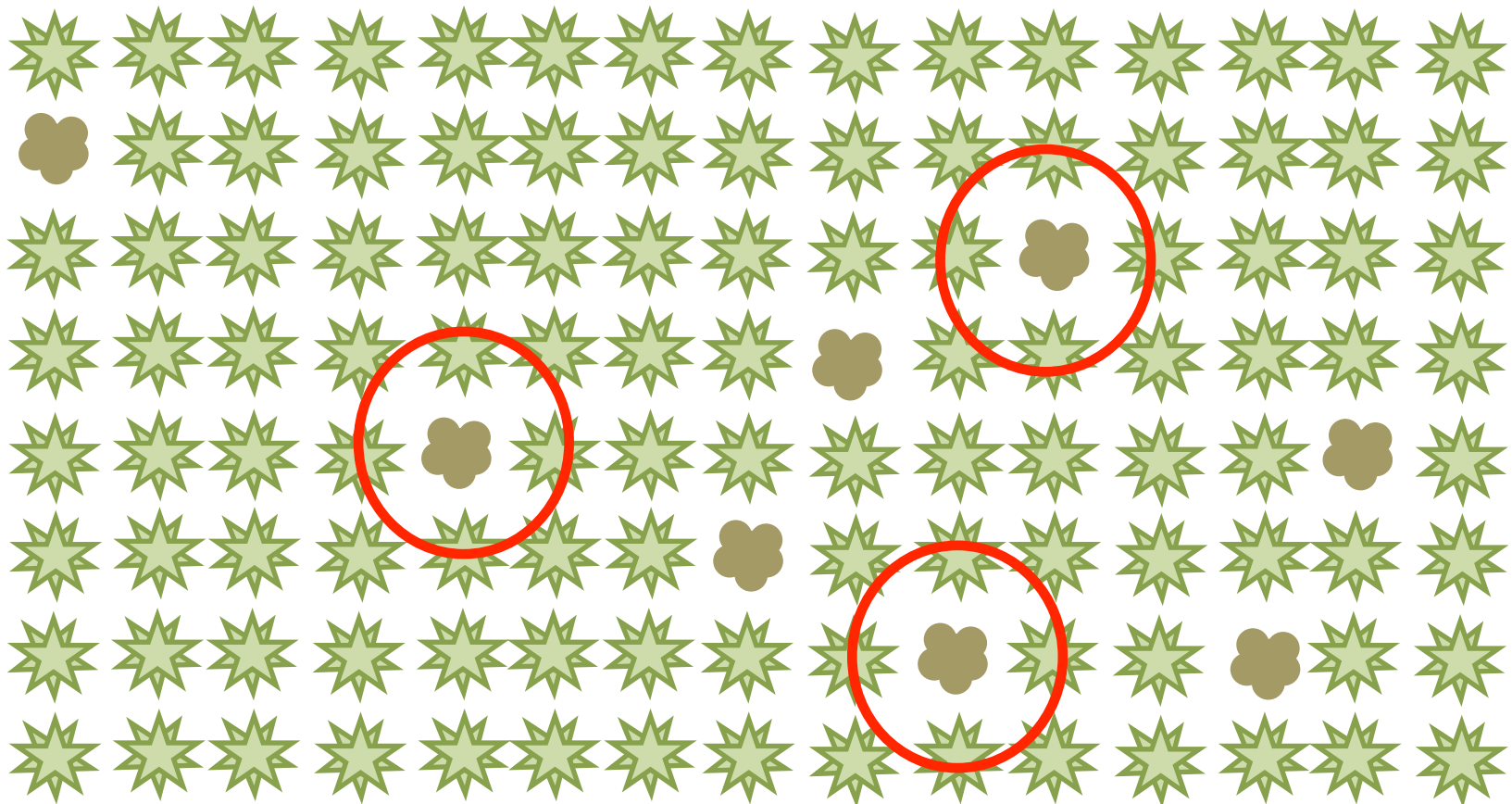
## 2. Restructuring - Halo-thinning





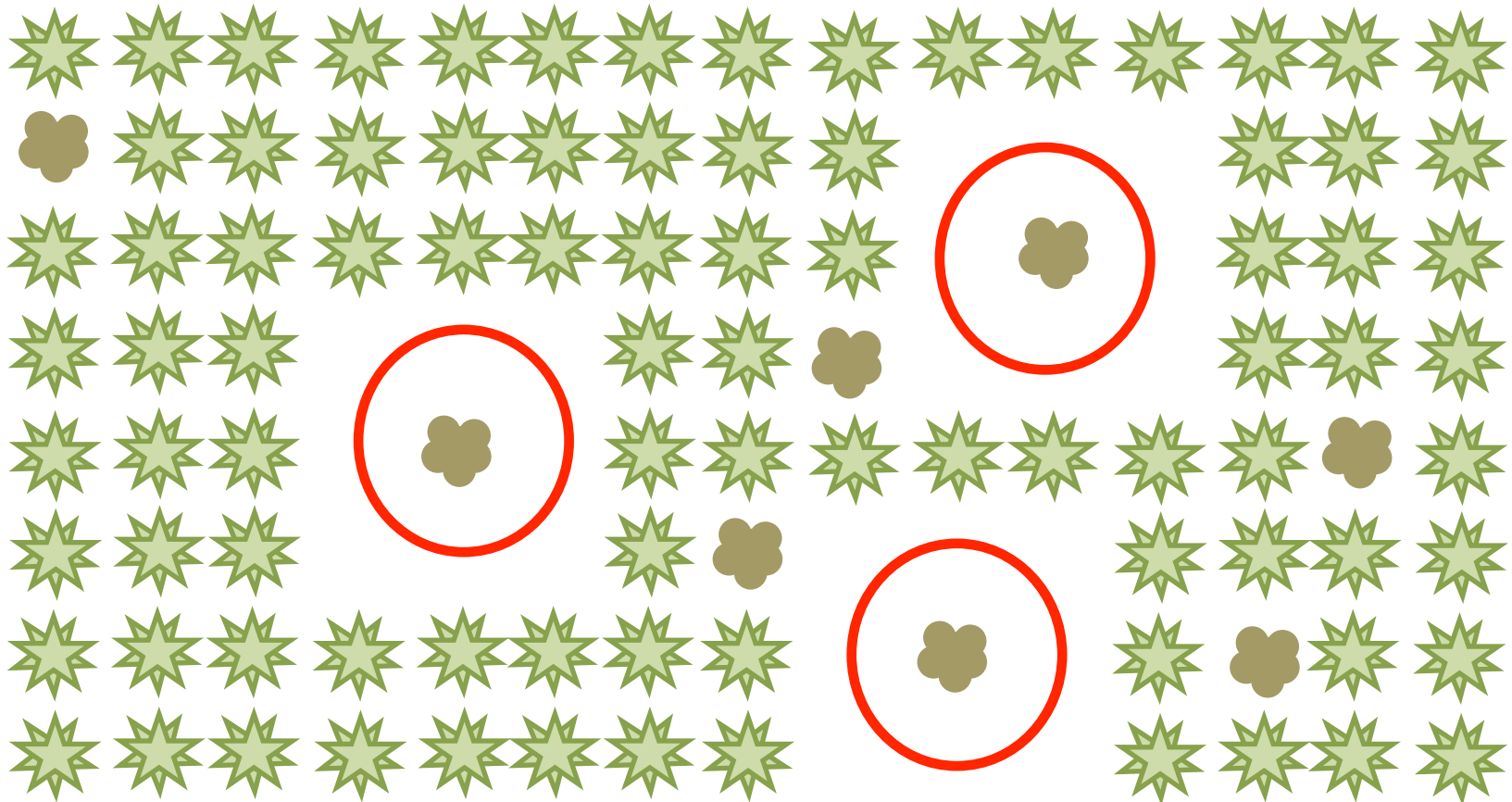


## 2. Restructuring - Halo-thinning





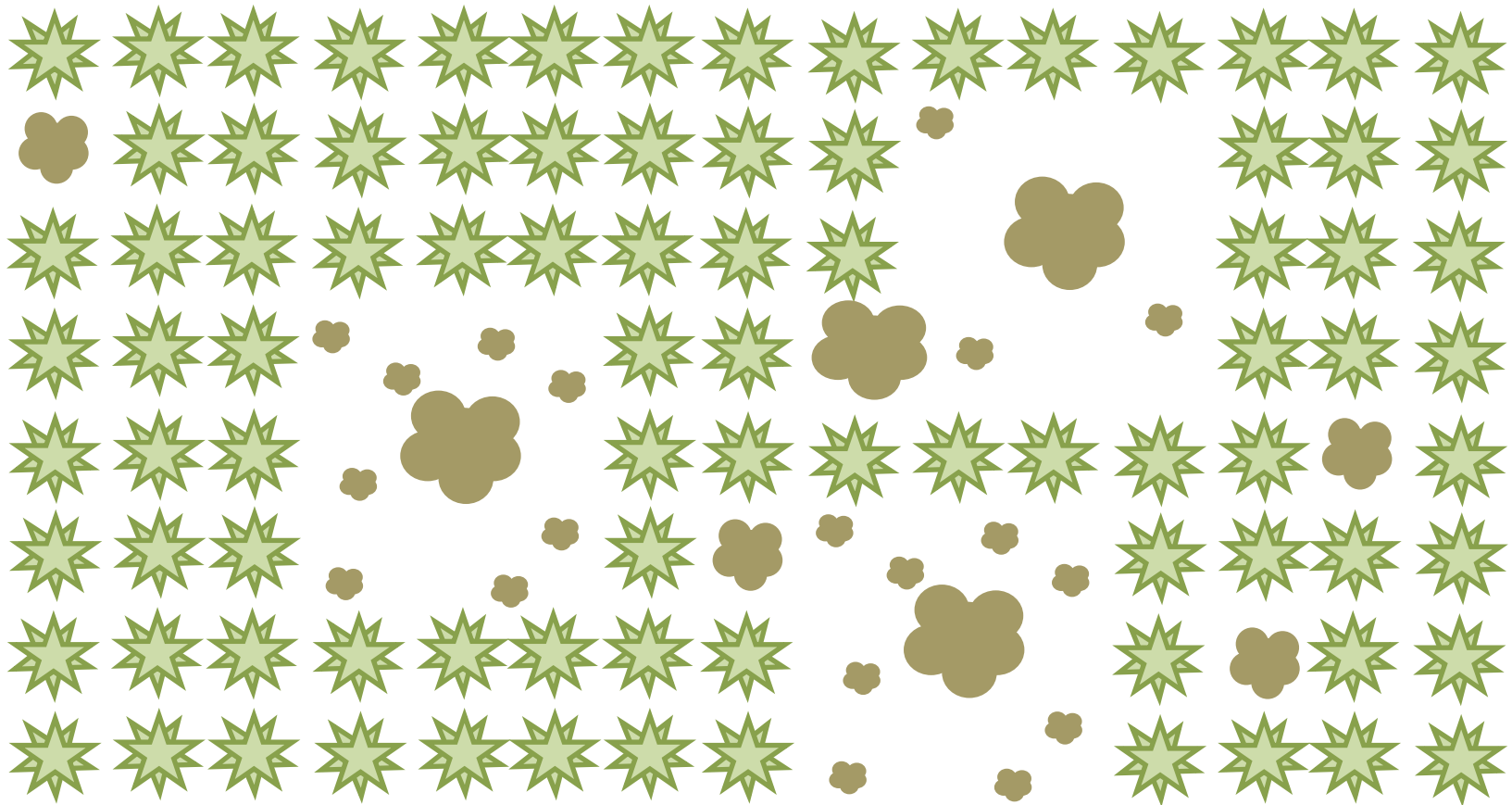
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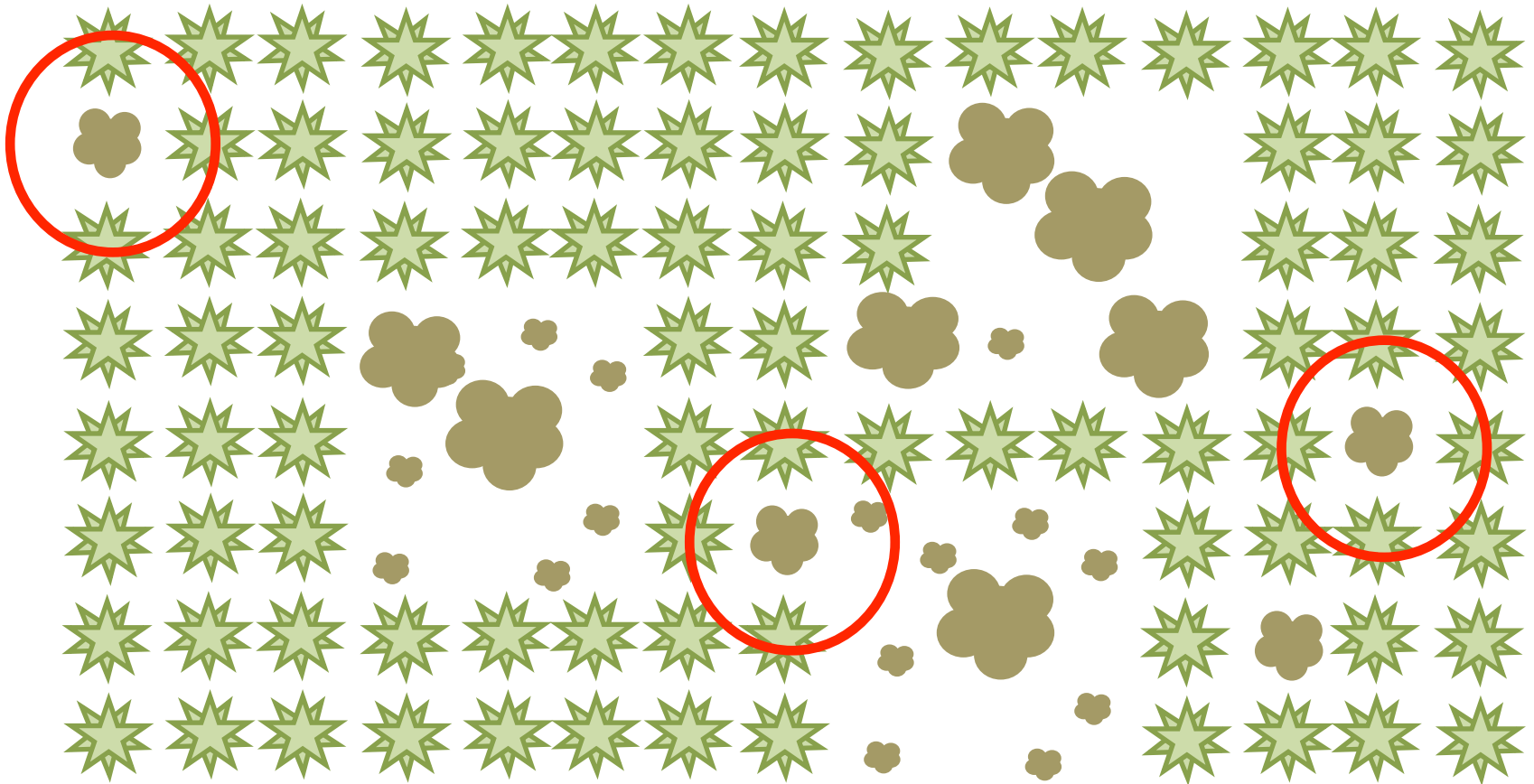


## 2. Restructuring - Halo-thinning





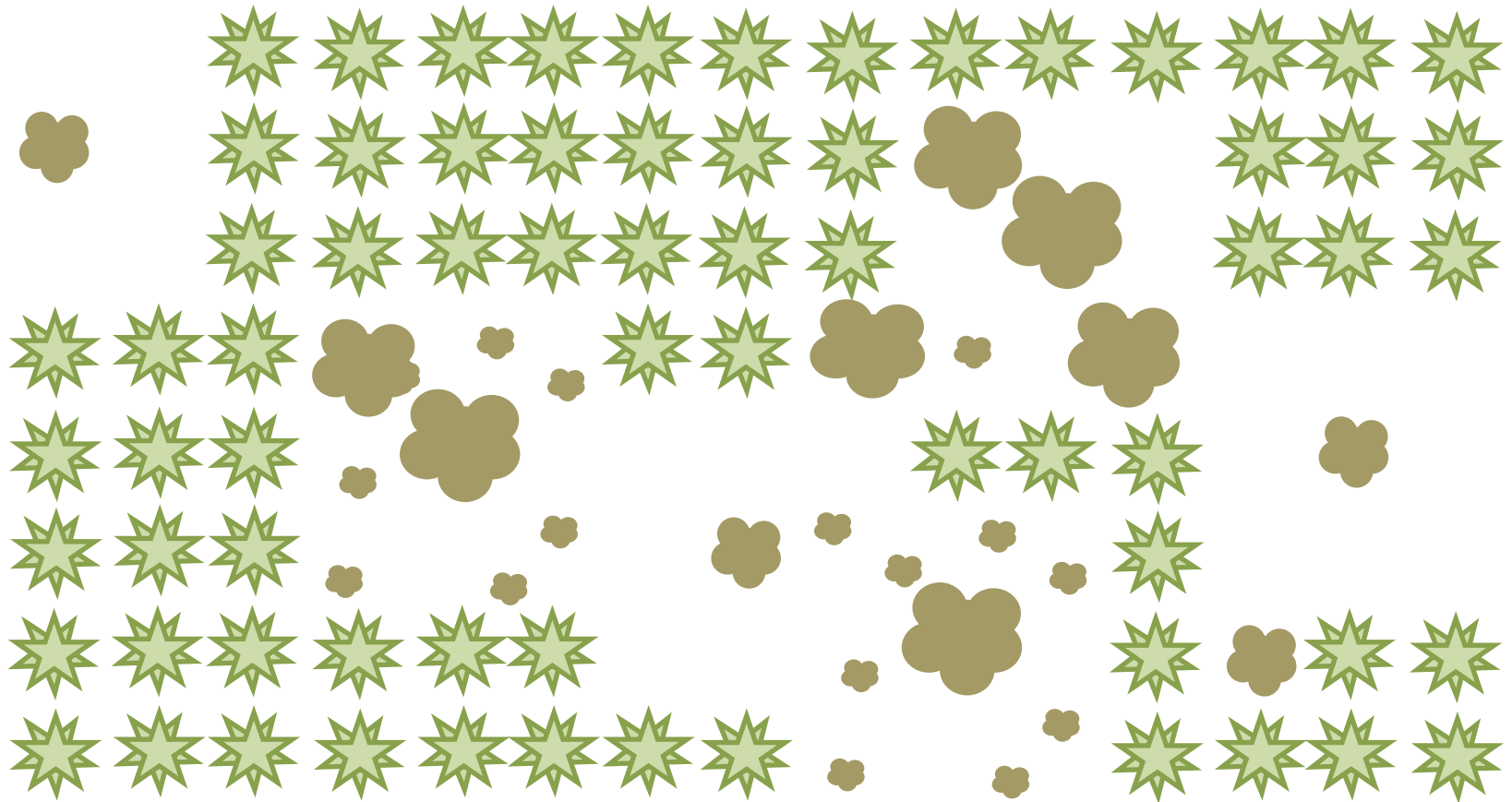
## 2. Restructuring - Halo-thinning





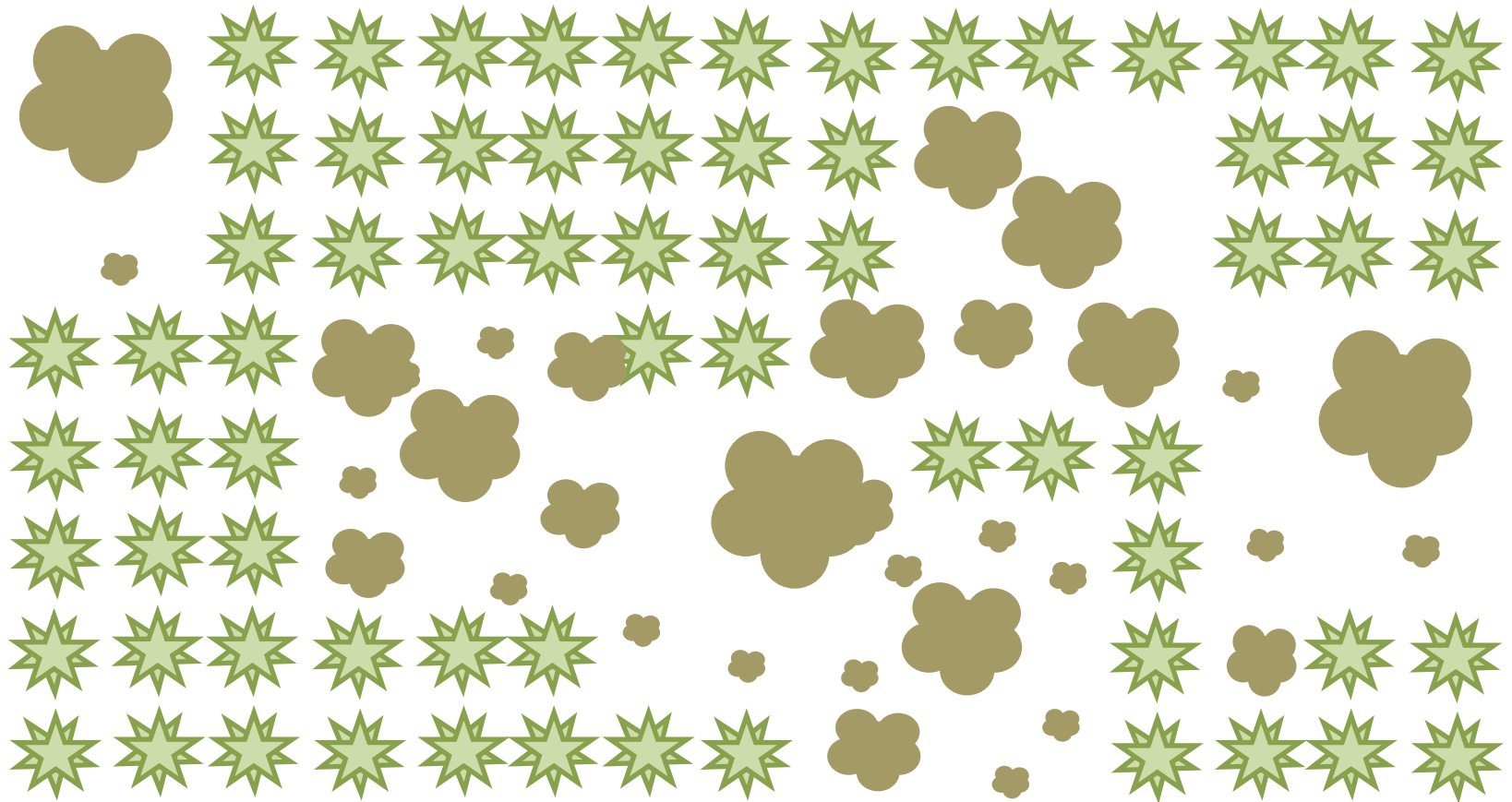


## 2. Restructuring - Halo-thinning





## 2. Restructuring - Halo-thinning





## KerryLIFE 2. Restructuring

Cabling

Heli-logging (feasibility study)

Conversion to CCF

Buffer retro-fitting

Habitat restoration







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## 2. Restructuring – firebreak trials

*Controlled burning*





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### 3. Protective woodland



Reduce diffuse pollution

Protect river morphology

Moderate water temperature

Aid flood risk

Contribute to biodiversity





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### 3. Protective woodland

*Hand broadcast birch seeds*







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### 3. Protective woodland

*Native woodland & deer fencing*





## 3. Protective woodland



Small fragmented sites

Long and narrow

Uneconomic fencing

Slow up take

Target of 40 ha

*Open event for local landowners – new sites identified*



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### 3. Protective woodland

Unfunded set backs

Flexibility biodiversity areas

Trial new planting scenario

Inform future policy for  
Woodlands and water and  
Native Woodland Scheme



*Kevin Collins*





*Acknowledgments: Kevin Collins, Philip O'Dea, Paddy Purser, Evelyn Moorkens, Áine O Connor, and Francis Mackin, Woodlands of Ireland*