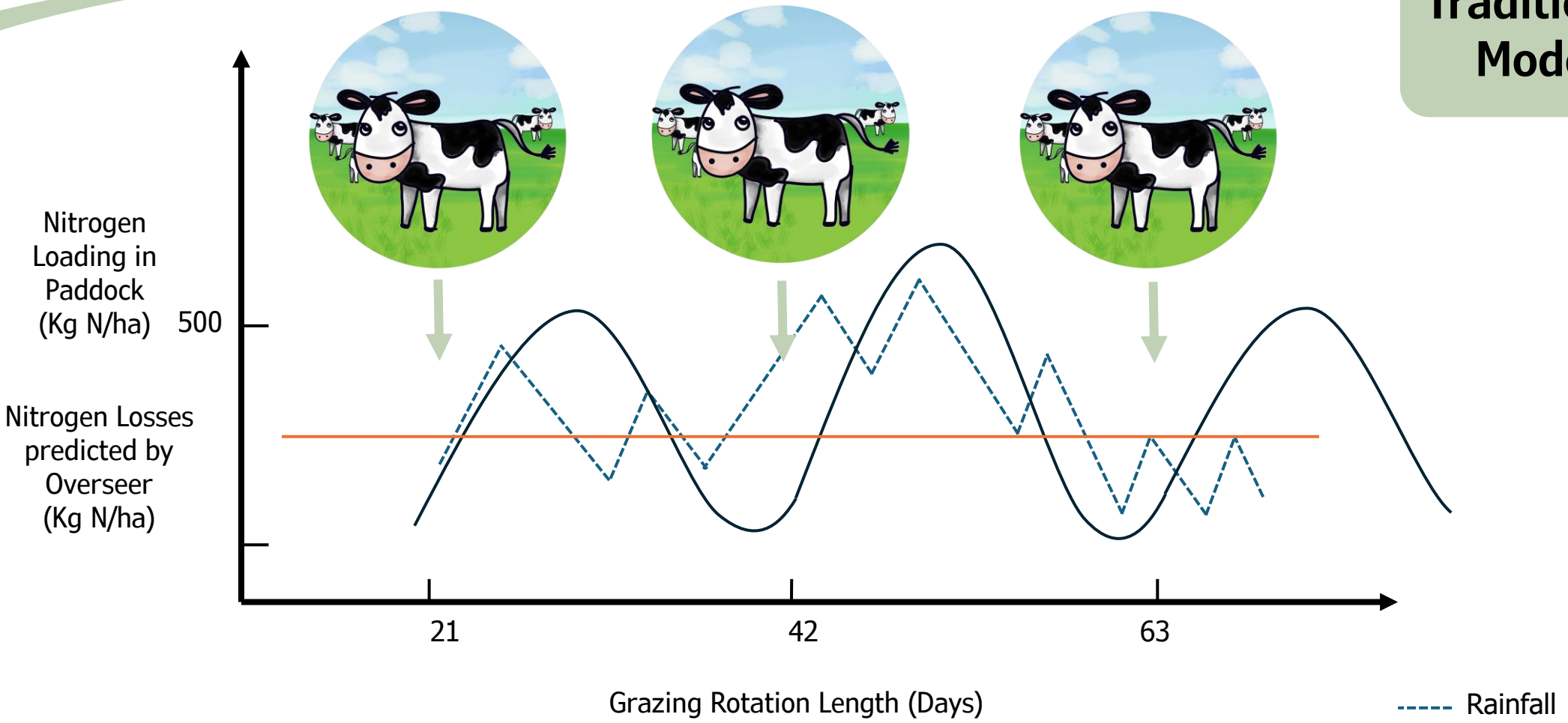
Designing Whole Farm Mitigation Solutions

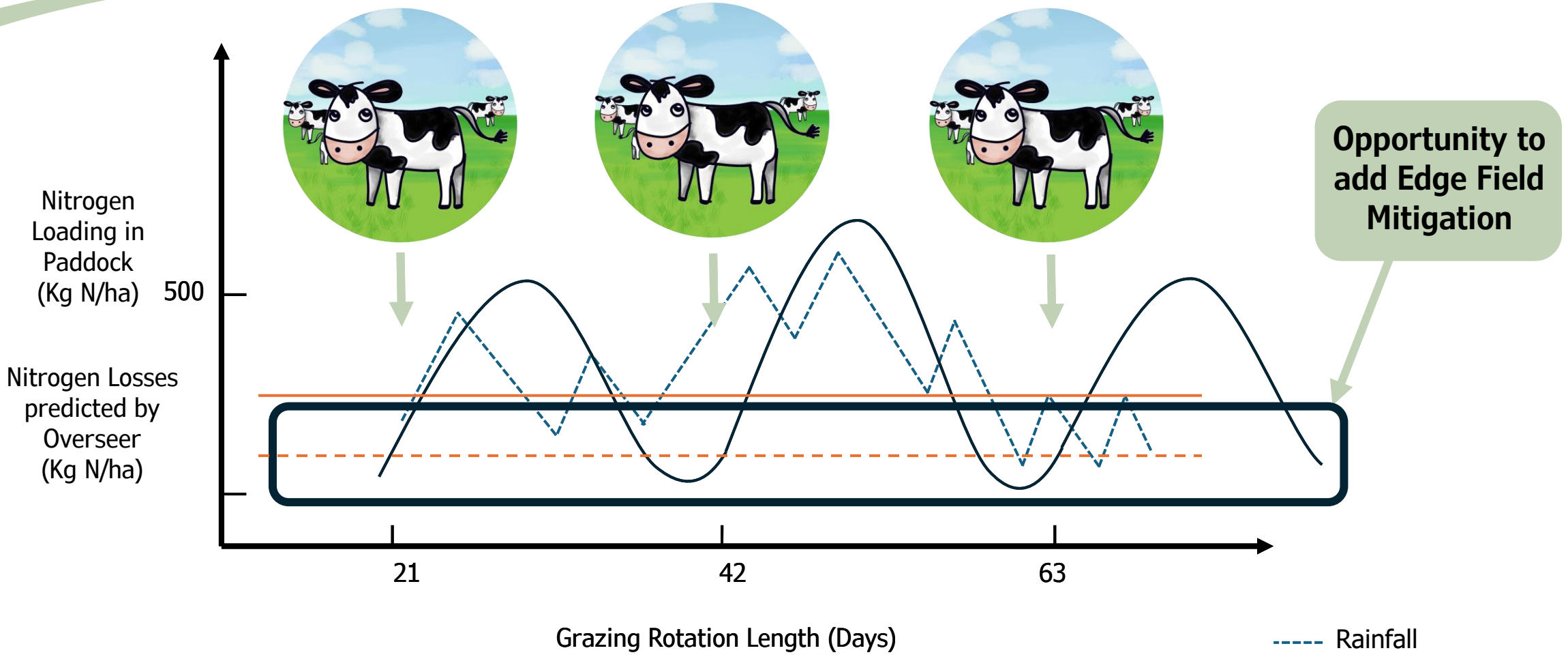
Hamish Lowe

What is Happening In a Paddock?

Traditional Model



What is Happening In a Paddock?

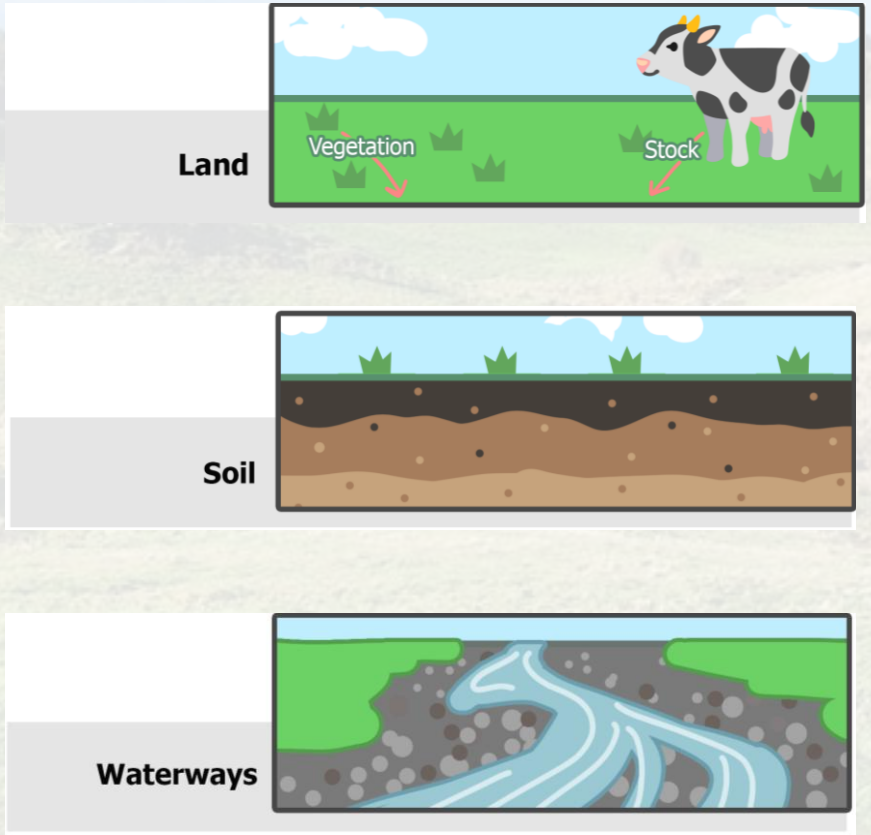


Edge Field Mitigation

Reduce the Loss of the Four Main Contaminants:

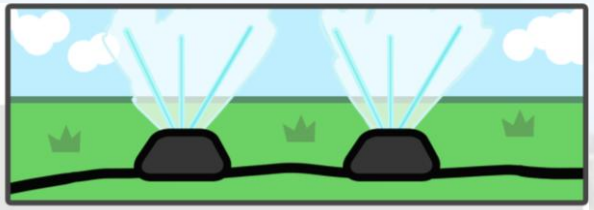
- Sediments
- Nitrogen
- Phosphorous
- Pathogens

Traditional Assessment

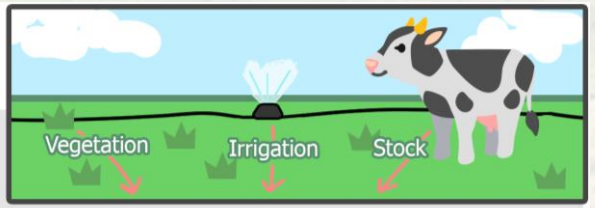


Other Considerations

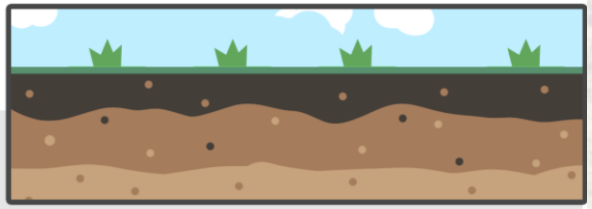
Irrigation



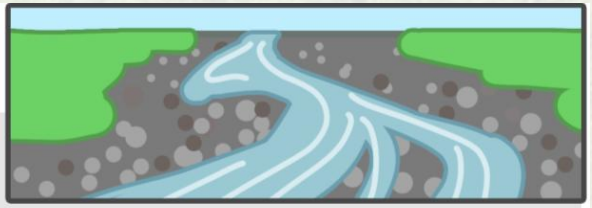
Land



Soil

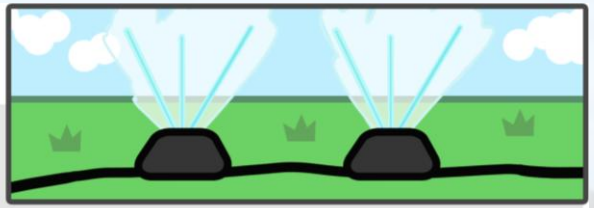


Waterways

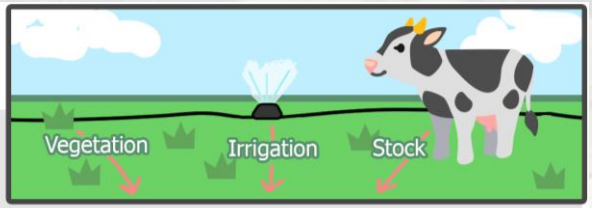


Potential Mitigation – Edge of Field

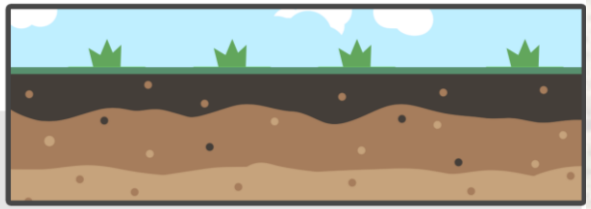
Irrigation



Land

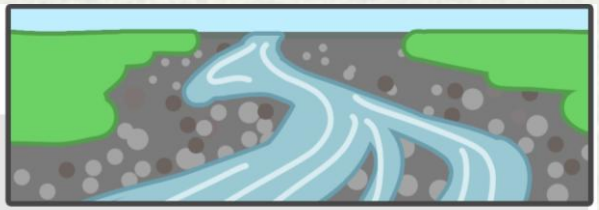


Soil

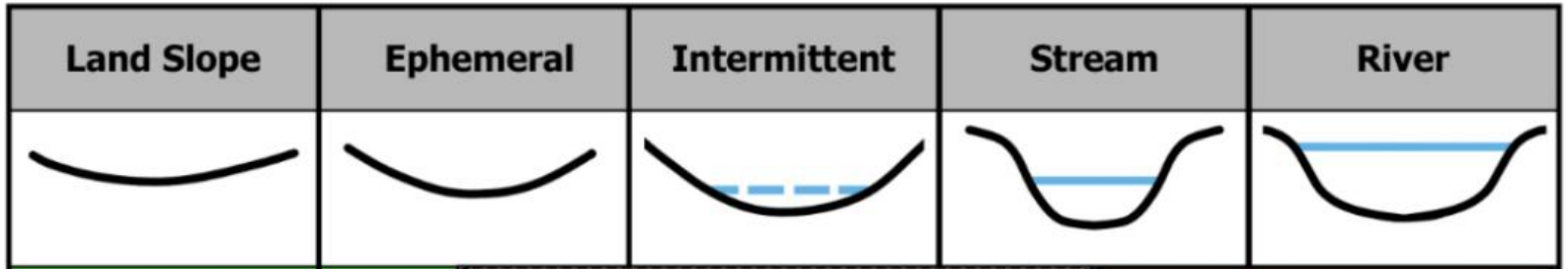


Wetland

Waterways



Wetlands



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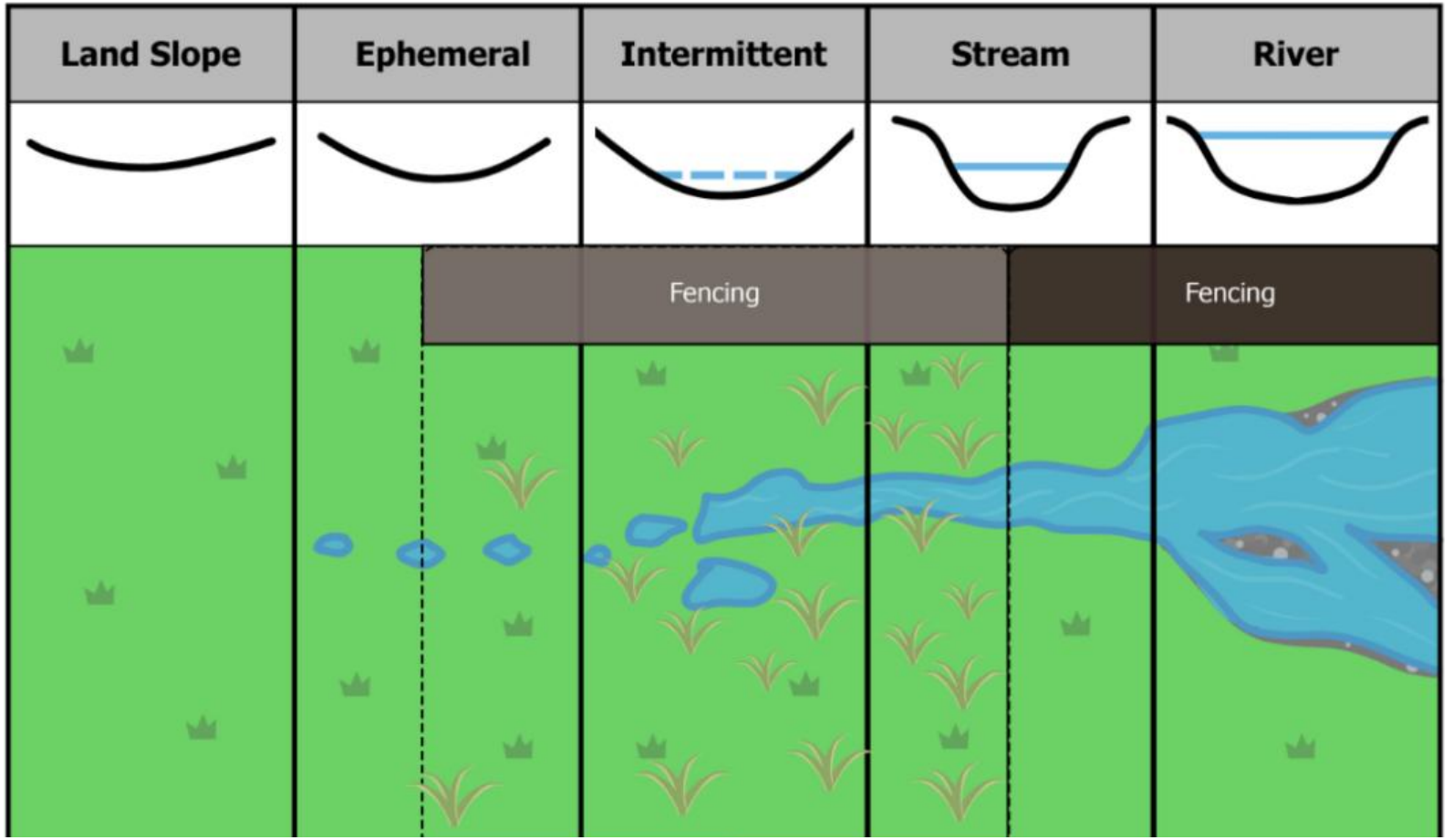
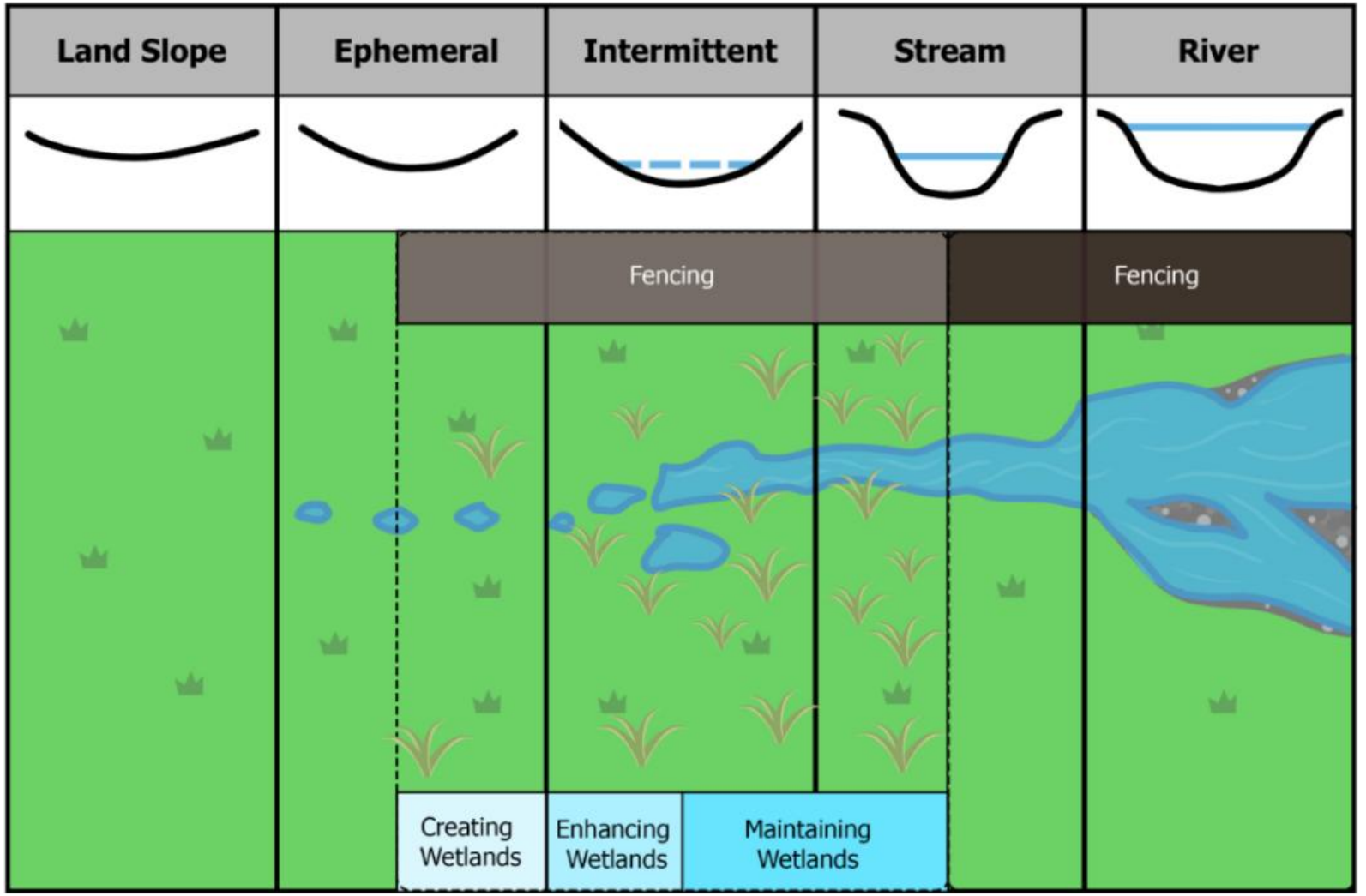

Land Slope
Ephemeral
Intermittent
Stream
River
Fencing
Fencing

Wetlands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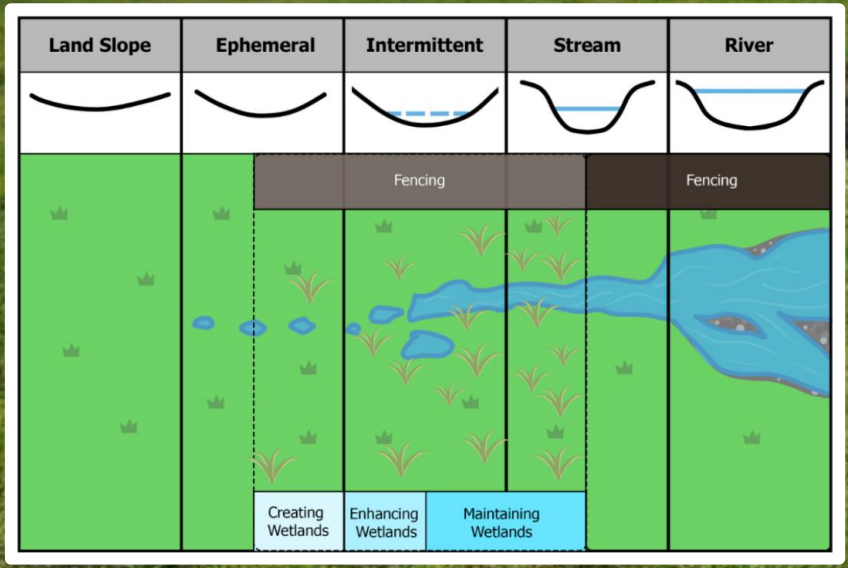
Creating Wetlands
Enhancing Wetlands
Maintaining Wetlands

Wetlands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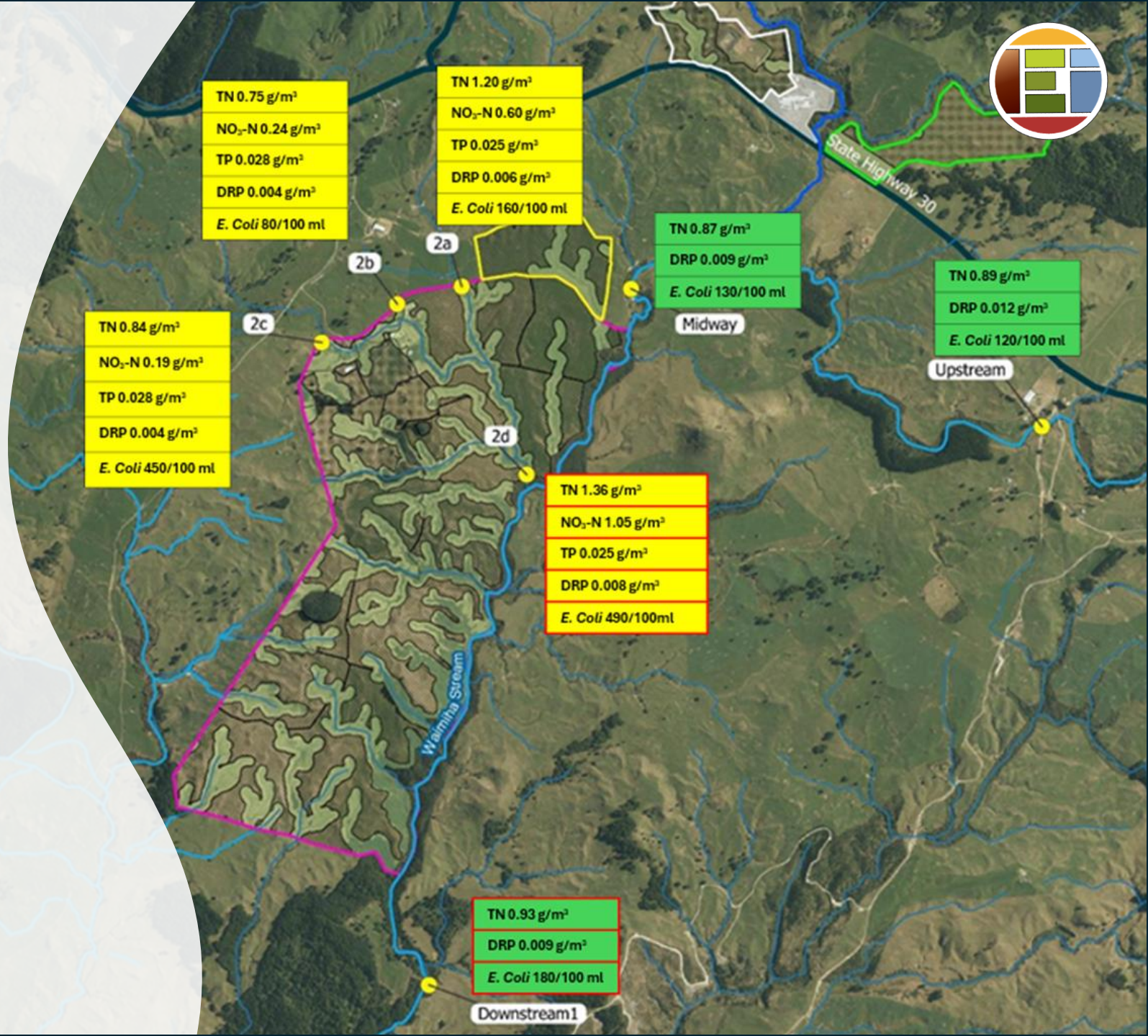
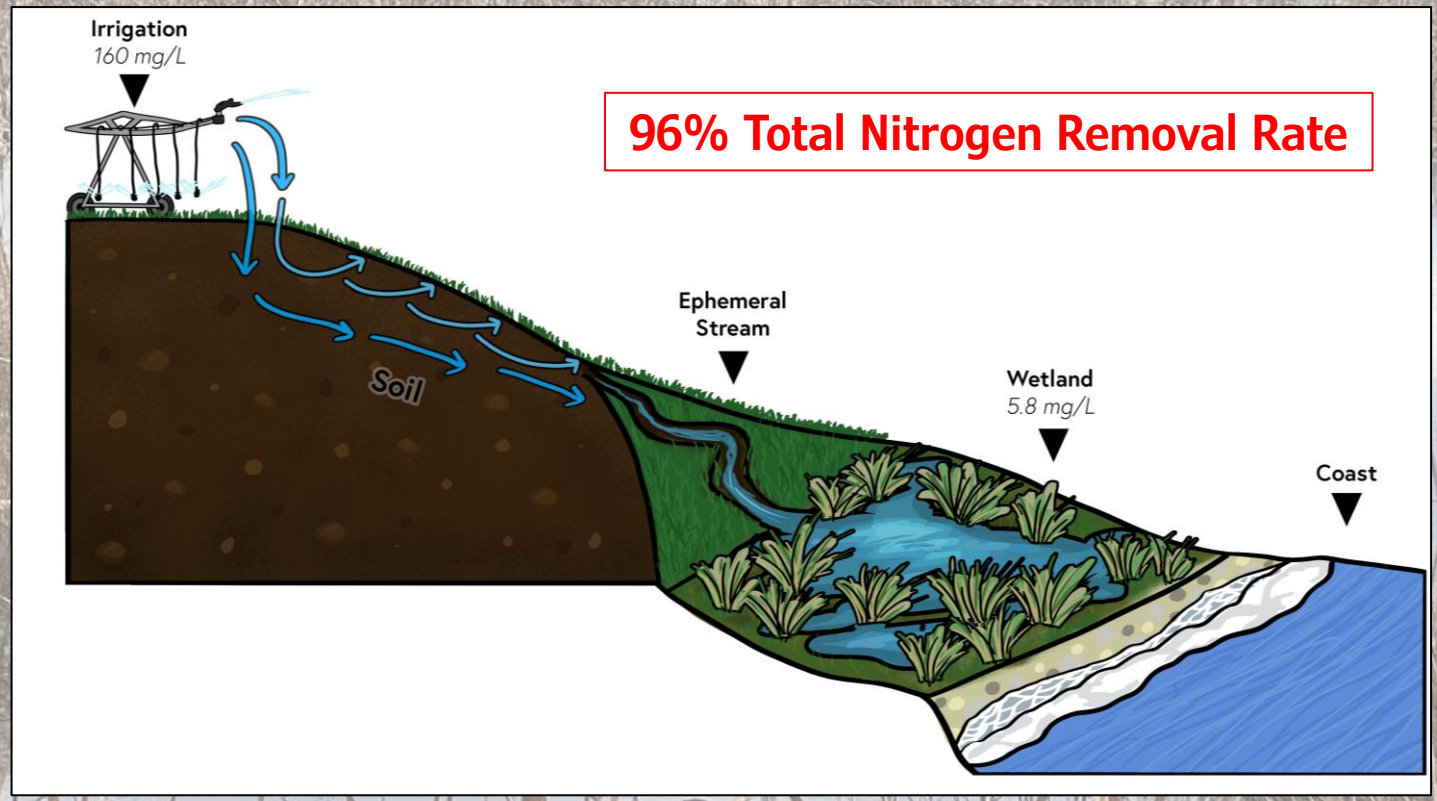
Examples

1. Wetland



Examples

2. Wetland



Examples

3. Bioreactors

Summary

Scale

Enhance

Integrate

Summary

Scale

Move beyond paddock scale management:
Effective nutrient mitigation requires looking beyond individual paddocks and considering how water moves through the whole farm system and landscape – critical source areas.

Enhance

Integrate

Summary

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Effective nutrient mitigation requires looking beyond individual paddocks and considering how water moves through the whole farm system and landscape.

Enhance

Use and enhanced natural landscape features:
Existing and constructed wetlands, drains, and ephemeral waterways can be strategically used to reduce nutrient losses before they reach surface waters.

Integrate

Summary

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Move beyond paddock scale management:
Effective nutrient mitigation requires looking beyond individual paddocks and considering how water moves through the whole farm system and landscape.

Enhance

Use and enhanced natural landscape features:
Existing and constructed wetlands, drains, and ephemeral waterways can be strategically used to reduce nutrient losses before they reach surface waters.

Integrate

Integrated, catchment-scale solutions offer the greatest gains:
Combining grazing management, irrigation design, and edge-of-field mitigations provides the strongest opportunity to improve water quality outcomes.

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