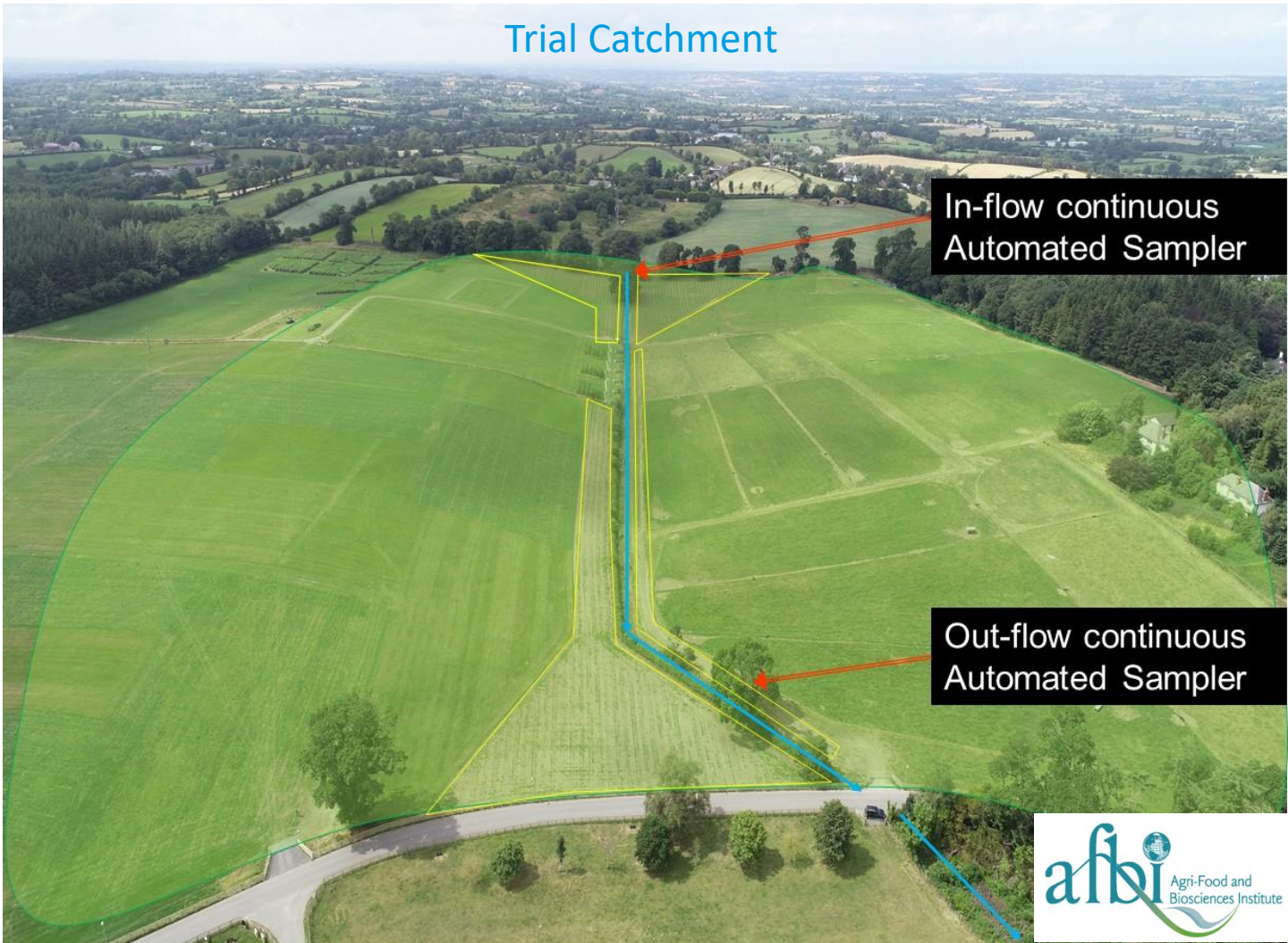


Diffuse pollution run-off mitigation pilot site at AFBi Hillsborough Research Farm

Trial Catchment



In-flow continuous
Automated Sampler

Out-flow continuous
Automated Sampler



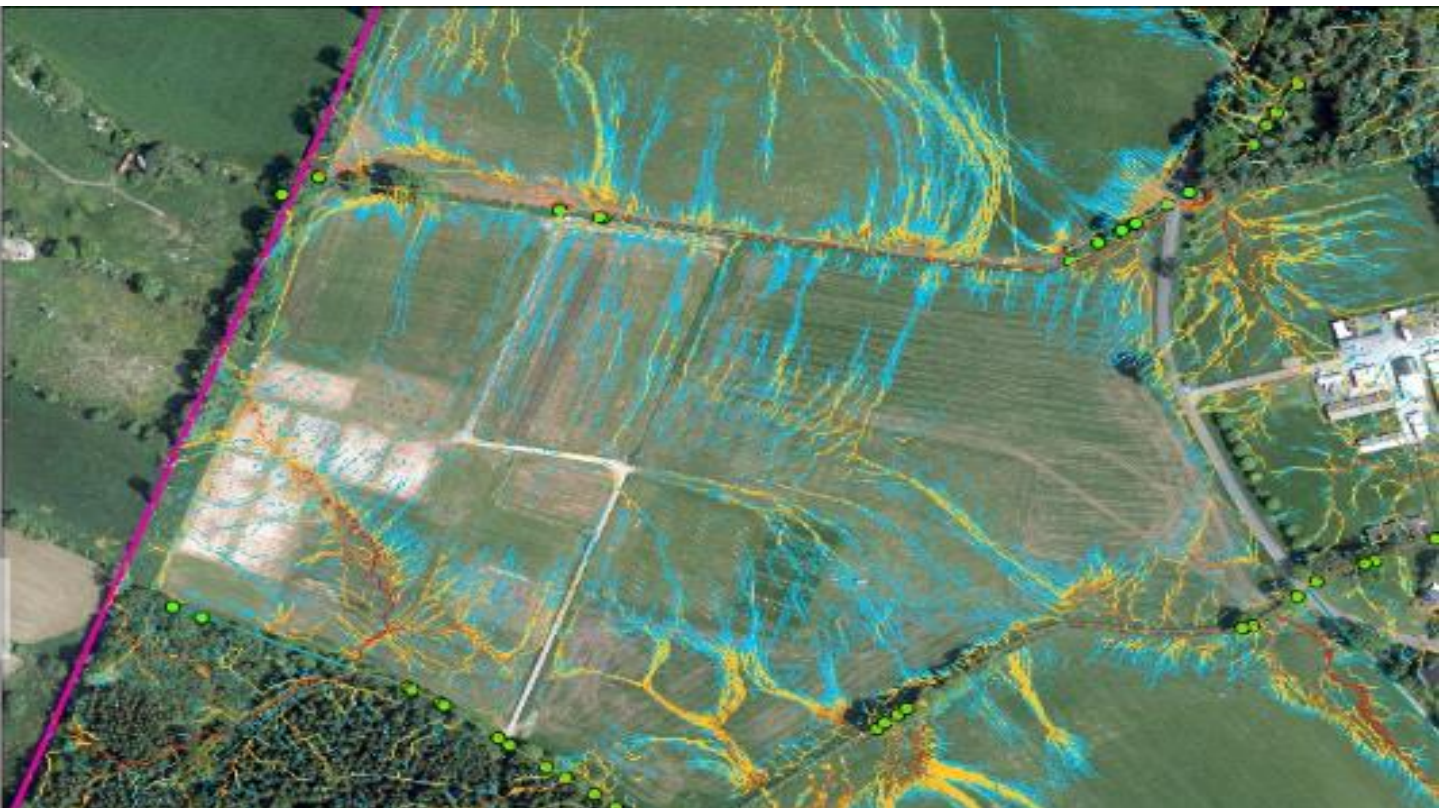
Site Establishment

- The areas were targeted using LIDAR
- The areas were prepared for planting in accordance with good practice guidance (May 2018).
- Clonal selection of commercial genotypes and machine planted by step harvester.
- Crop maintenance required pre and post planting (pests and weeds)
- Pre-emptive gapping up to facilitate a full establishment
- On-going requirement for some inter-row weed control (cultivator and herbicides)

Water Quality Monitoring

- In-flow and Out-flow measurements via automated samplers.
- Sample analysed for P, N, SS, pH, Conductivity & heavy metals
- Effect of willows on Impact on discharge – extent of Increased infiltration capacity.
- Most of the nutrient export and hydraulic load occurs during a low number of high intensity storms.

Runoff monitoring pilot site at AFBI Hillsborough Research Farm



Site History

- 💧 Previous site management 2000 to 2005
 - Silage
 - Beef grazing
 - CENIT site – experimental fertilizer Trials
- 💧 Hydrological connectivity
 - LIDAR (light detection and ranging)
 - Converted to digital terrain model
 - Revealing overland flow pathways
 - Riparian and biofiltration blocks planted with SRC willow
- 💧 Current use 2016 to 2019
 - CENIT site – WaterPro Run-off trials
 - Riparian areas planted with SRC willow
 - Biofiltration interventions

- 💧 This project is exploring the hypothesis that bio-filtration blocks of fast growing tree species (SRC willow) placed in hydrological connectivity will reduce P export from intensive agricultural fields .
- 💧 Flow rate and nutrient loads vary on an annual basis strongly depending on hydrological factors.
- 💧 Such interventions could help to mitigate P export while providing a biomass crop to farmers

MORE INFORMATION

Chris Johnston, AFBI Hillsborough, N.Ireland. BT26 6DR
 Email: chris.johnston@afbini.gov.uk
<https://www.afbini.gov.uk/>
<https://www.afbini.gov.uk/articles/environment-and-renewable-energy-centre>



Northern Periphery and
Arctic Programme
2014-2020



EUROPEAN UNION

Investing in your future
European Regional Development Fund