



Willows for water quality



Catchment Care Project Reports



Willow Planting Story Map



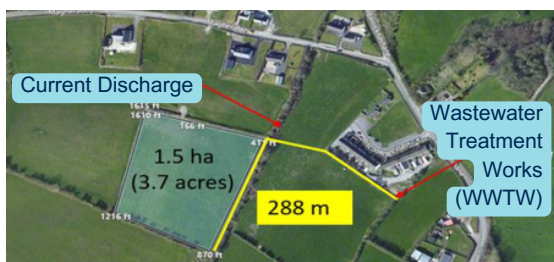
NbS Intervention Excel Sheet

Farm runoff and wastewater discharges both reduce water quality. A Short Rotation Coppice with willow slows the flow to intercept and assimilate pollutants before they enter the watercourse. Willow is harvested on a 2-3 year rotation for biomass and nutrient removal. It regrows, and the cycle continues.

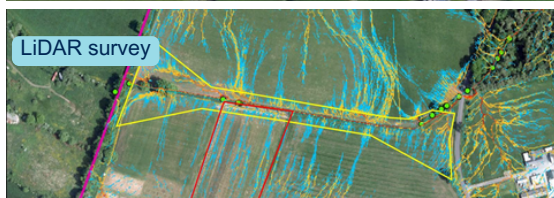
Process

Site selection, e.g. soil type, access, area, landowner engagement, water quality.

WwTW (Point Source Pollution)
Farm (Diffuse Pollution)



Assess the area needed for water and nutrient assimilation.



Map surface flow pathways and current areas of waterlogging.

Tendering, design, consent application, willow planting and site works.

WwTW
Farm



Zoned areas with irrigation points every 10 m along pipes.



Willow planted as a riparian buffer in front of watercourse.

Operation, harvesting, and monitoring.



At a glance



1.9 ha SRC Willow



AFBI Hillsborough

~1.5 ha SRC Willow



Lischooley WwTW, Co. Donegal.



1.32 ha SRC willow



Cavanagrow WwTW, Co. Armagh.



Phosphorus and Nitrogen loading

Project Duration: 2018-2023

Design, build and monitoring of SRC Willow for biofiltration: AFBI, Ulster University

Construction: Hegan Biomass Ltd.

NIEA Discharge Consent: Essential to comply with its conditions.

Lessons Learned



Prohibitive cost of buying land for SRC at WwTWs. Leasing or a stewardship contract with the landowner is more practical but has the risk of non-renewal.



Biomass crop management and value chains are a major area of uncertainty for landowners.



Government procurement and construction for the WwTW sites was complex and lengthy, which deterred many contractors from engaging.



Perceived future difficulty of reversing land use on farms, but SRC Willow is an agricultural crop - not forestry - so land not locked in.



Suggestion: Quicker and more cost-effective to have a 3rd party (sitting between the water utility and landowner) to design, build and operate the SRC Willow.

*The Rivers Trust compiled this case study but was not involved in its delivery.