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Improving Water Quality with Comfrey: Nature-Based Solutions on Ian Marshall's Farm

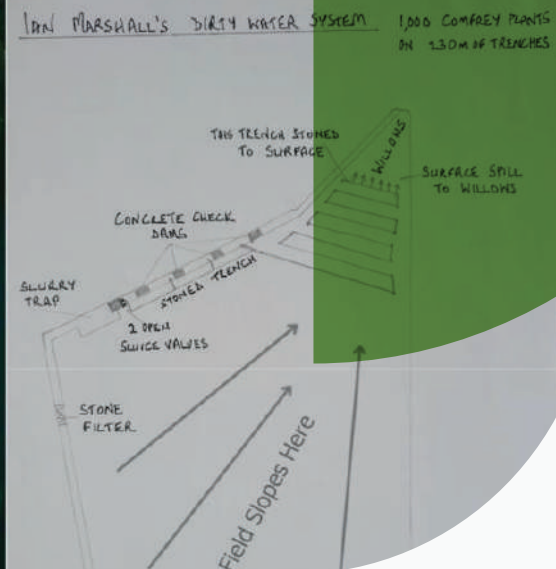
About Ian Marshall's Farm

This case study highlights an innovative comfrey/closed swale system for managing farm runoff. To stop contaminated water from reaching nearby rivers, Ian Marshall implemented this nature-based solution at his farm in County Armagh, Northern Ireland. The result? Better water management and a high-protein feed for grazing animals—without compromising production. Ian received support and advice from Alan Keys MBE, founder of the Ballinderry Rivers Trust.



Challenge:

Despite investing in slurry and runoff storage facilities, Ian's farm still faced significant runoff from concrete yards due to vehicle traffic and silage residues. This water posed a risk to river quality and farm sustainability.



THE SOLUTION

To tackle the issue, lan introduced a closed underground swale system:

- **Concrete dams** were used to direct water flow.
- **A stone filter** was installed to keep debris out of the pipes.
- **Comfrey plants** were added above the swale. **Their dense roots and broad leaves** efficiently absorb surplus nutrients from the runoff.

This setup slows water movement, allows infiltration, and transforms potential pollutants into valuable plant matter.

IMPACT AND RESULTS

- **Runoff is absorbed**, and water rarely discharges from the system throughout the year.
- **Comfrey uptakes nutrients** and is **harvested with silage three times a year**, enhancing feed quality.
- Comfrey also acts as a **natural protein source** for livestock.
- **Production remains uncompromised**, and the system requires no running costs after the initial €10,000 setup.

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Watch the video:

