

Integrated Pest Management case study: Mechanical weed control at Bannau Brycheiniog National Park Visitor Centre

Integrated Pest Management (IPM) in a high-footfall visitor setting

Organisation overview

Bannau Brycheiniog National Park Authority manages extensive landscapes, visitor sites and infrastructure across the National Park. The National Park Visitor Centre is one of its busiest locations, welcoming thousands of visitors each year. Staff maintain a large car park, paved pathways, a café patio and surrounding outdoor areas where safety, environmental protection and appearance are key priorities.

Why explore alternatives to chemical weed control?

The Authority is committed to protecting biodiversity, reducing chemical use and managing vegetation more sustainably across its estate. As part of this commitment, it is increasingly adopting Integrated Pest Management (IPM) – a balanced approach to managing weeds, pests and diseases that reduces reliance on chemical pesticides.

IPM encourages organisations to:

- prevent problems before they start
- monitor weed pressures
- use non-chemical methods first
- use chemical controls only when necessary and in a targeted, precise way.

This shift supports the Authority's broader aims of improving environmental outcomes, reducing the risk of chemical run-off, enhancing visitor safety and demonstrating responsible land stewardship within a protected landscape.

At the National Park Visitor Centre, moss and weeds were previously managed through manual scraping or occasional herbicide use. These methods had limitations: moss created slip hazards, regrowth occurred quickly, and staff were conscious of the potential for chemicals moving downhill into lawns and wildlife areas during heavy rain. A mechanical alternative offered a more sustainable, preventative and visitor-friendly solution aligned with IPM principles.



The alternative approach

A demonstration event hosted by the Welsh Government at the Royal Welsh Showground showcased mechanical and other non-chemical weed control technologies. This prompted the Authority's invasive species team to explore mechanical approaches suitable for hard-surface environments.

Following on-site trials, the Visitor Centre selected a battery-powered, rechargeable mechanical weed removal machine based on strong performance, competitive pricing, supplier willingness to provide staff training and alignment with the Authority's wider shift to battery-powered tools.

The machine is used on kerb lines, paved pathways, the café patio and outdoor seating areas. Its rotating brushes remove moss and weeds, including root material in joints and crevices, keeping surfaces clear for longer than manual scraping alone.

Benefits and early results

The machine was purchased in summer 2025. Although long-term data is still emerging, early indications suggest a number of benefits.

- **Supporting IPM:** The Centre has stopped using herbicides on hard surfaces, demonstrating how mechanical methods can be the first line of defence within an IPM approach.
- **Cleaner, safer surfaces:** Removing root material slows regrowth and reduces slip hazards on sloped paths.
- **Environmental protection:** Avoiding herbicides reduces the risk of run-off into the wildlife garden and lawns, with added value for sites located near rivers.
- **Improved staff efficiency:** Tasks that once took days now take only hours, reducing physical strain.
- **Better visitor experience:** Visitors have commented on the improved appearance of the grounds.
- **Reduced chemical purchasing:** No weed-control chemicals have been bought since adopting this approach, with savings expected as more sites transition.

Future plans

The Authority plans to expand mechanical weed control across its wider estate, prioritising sites near watercourses where avoiding the risk of chemical run-off is essential. Mechanical methods will continue to form a key part of its integrated, sustainable approach to vegetation management.



The Authority also intends to strengthen its transition to battery-powered tools, develop internal guidance based on staff learning and share insights with Welsh Government and other land managers. Mechanical weed removal is expected to play an increasingly important role in maintaining high-footfall, hard-surface areas while supporting environmental and sustainability objectives.

Before weed removal



After weed removal

