

North East Galway Environmental Protection CLG

Gurranebawn,

Lavally,

Tuam,

Galway,

Ireland

Observation on: Bord Pleanála Case reference: **PAX07.323699**

Address: In the townlands of Beagh, Beagh More, Cloonbar, Cloonweelaun, Cloonnaglasha, Cloonteen, Corillaun, Derrymore, Ironpool, Shancloon, Toberroe and Tonacooleen, Co. Galway

Description: 11 no. turbine wind farm and associated infrastructure

Date: 17th: November 2025

Submission

NEGEP CLG welcomes this opportunity to make a submission on the proposed Shancloon renewable development in the North East Galway area. We have a number of issues with this proposed development and we hope you will take the time to carefully assess each of these issues.

The turbines' height ensures they will be highly visible across an extremely wide and unacceptable geographical radius. Their visual presence will span from Connemara deep into Mayo and throughout all of East Galway. This represents a severe visual disruption for a massive, dispersed population, yet there has been no mechanism to secure consent from the vast majority of residents whose regional views will be permanently compromised.

Environmental Issues

The Crisis of Ireland's Atlantic Salmon: A Near Threatened Icon

The Atlantic Salmon (*Salmo salar*) is an iconic species deeply embedded in Ireland's heritage, but it is currently facing a severe decline. Once a common sight, the salmon's future is now highly precarious. The species is globally classified as Near Threatened by the IUCN Red List. The situation in Ireland's rivers requires urgent conservation and emergency fishery management due to persistent threats impacting the salmon across its entire life cycle.

The Catastrophic Decline in Survival

The most alarming indicator of this crisis is the collapse of marine survival rates. Historically, a significant percentage of juvenile salmon (smolts) return as adults after migrating to the North Atlantic feeding grounds. Today, these survival rates have plummeted drastically in many populations. This massive loss is primarily attributed to rapid changes in the marine environment, including altered ocean currents and shifts in the distribution of prey. Additionally, localized threats like sea lice infestations, particularly those originating near salmon farms, pose a major risk to migrating smolts along the Irish coast.

Degradation of Freshwater Habitats

The quality of Irish freshwater habitats is non-negotiable for successful reproduction and the early life stages of the salmon. A river's spawning bed, or *redd*, is essential for successful reproduction, and these areas are increasingly threatened by habitat degradation from sediment and pollution.

Sedimentation

The primary freshwater threat comes from siltation—the process where fine sediment is washed into rivers and smothers the spawning gravel. This siltation is mainly driven by human activities such as:

- Poorly managed commercial forestry, agricultural runoff from tilled land, and arterial drainage schemes increase the volume of loose soil entering the water.
- **Smothering the Eggs:** When this fine sediment settles, it fills the gaps in the gravel beds where female salmon deposit their eggs. This severely restricts the flow of oxygenated water crucial for egg survival and suffocates the newly hatched embryos (*alevins*), causing widespread mortality for the next generation.

Chemical and Nutrient Pollution

Pollution further compromises the entire freshwater ecosystem:

- Excess nutrients from agricultural fertilizers and poorly treated sewage promote algal blooms. The subsequent decay of this organic matter depletes the dissolved oxygen necessary for salmon survival, stressing the fish and making them vulnerable to disease.
- The presence of pesticides, herbicides, and pharmaceuticals in waterways can directly affect the development, immune systems, and migratory instincts of juvenile salmon. Furthermore, man-made barriers like weirs and dams prevent adult fish from accessing viable spawning areas.

Onshore Wind Farms on Salmon Tributaries

As Ireland expands its onshore wind capacity, developments are often sited in remote, elevated areas—precisely the locations of the headwaters and primary spawning tributaries of salmon rivers. When a wind farm is sited directly adjacent to these vital tributaries, the construction phase creates an acute, localized threat to the salmon's reproductive success.

Siltation Risk

The construction of onshore wind farms requires extensive groundwork for access roads, turbine bases, and cable trenches, often involving deep excavation and drainage across sensitive peatland or steep terrain. This activity leads to massive, peatland disturbance and erosion. Heavy rainfall washes the exposed, destabilized peat and soil directly into the adjacent tributaries. This rapid influx of siltation can catastrophically destroy established spawning beds, wiping out thousands of eggs and *alevins* in a single event.

Altering Critical Hydrology

Associated drainage and mitigation schemes for these upland developments are designed to manage water flow, but can lead to unintended ecological consequences:

- Altering the natural flow regime can disrupt the precise water temperature and volume required for both adult fish to spawn and for juvenile salmon (*parr*) to thrive.
- Disturbance of deep peat layers can increase the runoff of highly acidic water, which is toxic to salmon eggs and juvenile fish.

The Inadequacy of Standard Mitigation

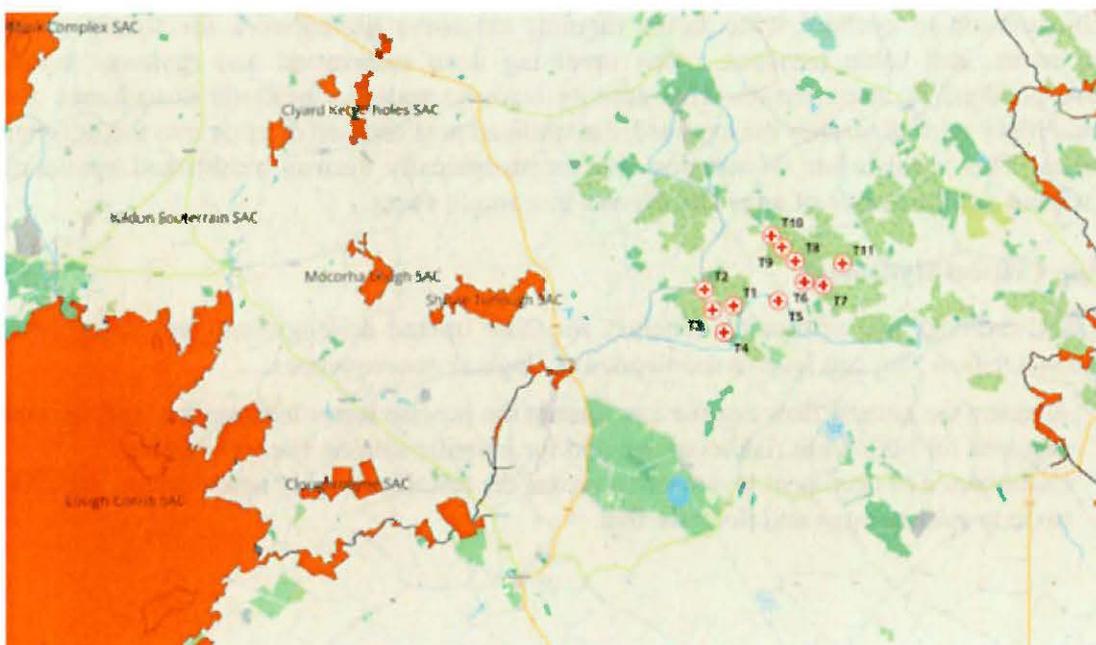
While environmental plans mandate measures like settlement ponds, comprehensive peat management plans, and construction timing restrictions, research shows that these standard mitigation techniques are often unsatisfactory and ineffective in the face of major peatland disturbance. Studies have proven that mechanisms intended to trap sediment, such as silt fences or sediment barriers, frequently fail to prevent the escape of the fine, suspended particles that cause the most damage to spawning gravel. These fine particles are notoriously difficult to settle and remain suspended long enough to be washed into the tributaries, overwhelming the delicate salmon eggs and alevins. Consequently, relying on conventional environmental protection measures where upland development intersects with vital salmon tributaries poses an unacceptable and immediate danger to the future of the species.

Reference: <https://www.sciencedirect.com/science/article/abs/pii/S0301479715302371>

Rivers and Catchments Involved

The Shancloon Wind Farm project is situated in the elevated headwaters and tributaries of the Black (Shrulle) River catchment, which forms part of the crucial hydrological network for the region.

- The Black River is a significant tributary of the Corrib catchment. Ultimately, the watercourses affected by the wind farm drain downstream into Lough Corrib, one of Ireland's largest and most important water bodies and a Ramsar wetland site of international importance.
- The first and second-order streams traversing the wind farm area are highly sensitive, acting as the primary source of clean, cold water for the entire downstream system, including the lake.



Status of Protected Fish Species

The surveys confirmed that the catchment is critical for protected migratory species:

- The Black River system is recognized as an important salmonid river. The smaller, clean, upland streams that cross the wind farm site are confirmed to provide essential spawning and nursery habitat for Atlantic Salmon. Any degradation here directly impacts the recruitment of juvenile fish into the larger population.
- Brown Trout populations are present and rely on the same upper streams for spawning. The preservation of these headwater habitats is vital for maintaining healthy local trout stocks.

Key Issues and Threats to the Corrib System

The major risk from the construction of the Shancloon Wind Farm is the large-scale mobilization of sediment and contaminants from the upland site into the Corrib catchment:

- The primary threat comes from the erosion of exposed peat and soil generated during the construction of access roads, turbine bases, and trenches. This fine silt is washed into the headwater streams, where it smothers the gravel spawning beds (redds), suffocating salmon and trout eggs and larvae.
- Construction disturbance, especially in peat areas, risks the release of acidic runoff or metal-rich water into the streams. This toxic alteration of water chemistry is highly detrimental to the sensitive eggs and juveniles of salmon and trout.
- Since the watercourses affected by the project flow directly into the Corrib catchment, the cumulative and potentially chronic release of sediment and poor-quality runoff poses a threat to the water quality of Lough Corrib itself. Siltation and nutrient enrichment from these headwaters can impact the entire ecological balance of the Lough, potentially harming its protected fish species and its status as a valuable natural resource.

Marsh Fritillary

The Marsh Fritillary Butterfly is protected under Annex II and Annex IV of the European Union Habitats Directive and is deemed to be vulnerable and close to extinction. It requires extensive habitat area and wildlife corridors. It is categorised as 'vulnerable' in the red list of Irish Butterflies. The Marsh Fritillary is believed to be extinct in certain parts of Europe. Bear in mind being part of Annex IV means they are a species in need of strict protection. This site has extensive coverage of devil's-bit scabious and it can be found at at least one of the turbine sites. This application proposes translocation and grazing enhancement as a Marsh Fritillary habitat and species loss solution. Any web in development footprint requires translocation. Translocation success for Marsh Fritillary is variable; UK/Irish reviews show ~25% survival >3 years, often failing due to metapopulation dynamics. Report doesn't cite evidence of effectiveness or post-translocation monitoring. If ineffective, could breach Wildlife Acts by harming protected species. NPWS guidelines stress robust mitigation for Annex II species.

Water Issues

A topographic depression in karst which is intermittently inundated on an annual basis, mainly from groundwater, and which has a substrate and/or ecological communities characteristic of wetlands.

Karstic groundwater bodies have particular characteristics with respect to hydrological flow regime and thus, so do the terrestrial ecosystems associated with them. The hydrology is characterized by relatively high groundwater velocities and relatively low porosities but flows are concentrated in solutional fissures or groups of fissures. Those ecosystems associated with karst and typically having protected status under the Water Framework (EU,2000) and Habitats (EU 1992) Directives are unique to Ireland in their defined form as 'turloughs'. Turloughs have characteristic hydrological dynamics which give rise to their peculiar vegetation and fauna. A turlough is currently defined as 'A topographic depression in karst which is intermittently inundated on an annual basis, mainly from groundwater, and which has a substrate and/or ecological communities characteristic of wetlands'

DS8-Final-Report - Dr Paul Johnstone

Turloughs are designated as priority habitats under the Habitats Directive. The most significant standard for sites designated under this directive is the achievement of favourable Conservation Status for the designated feature of interest, in the case of turloughs, as priority habitats, this consists of the whole area of the turlough habitat. In the case of turloughs, the standards which have been developed in order to achieve this status include standards both for the turlough waters and for contributing ground and surface waters. In addition the groundwaters contributing to the turlough will be expected to meet the any other relevant environmental objectives pertaining to groundwater.

DS8-Final-Report - Dr Paul Johnstone

The Shancloon Wind Farm involves significant peat excavation for 11 turbines, access roads, and infrastructure. Appendix 11.1 reports peat depths of 0.1–8.0 m (average 2.0 m), with excavations to competent strata below peat for foundations and roads. It is stated that ~50,000–60,000 m³ of peat will be excavated. This excavation disrupts drained peatlands, raising concerns under the EU Nature Restoration Law (Regulation (EU) 2024/1672, in force since August 2024).

The Law mandates restoration of degraded peatlands to support biodiversity, climate mitigation, and hydrological stability, prohibiting activities preventing these goals. Key provisions include:

"By 2030, Member States shall put in place the measures necessary to restore at least 30 % of the area of drained peatlands in their territory to a condition where they support their long-term hydrological stability and climate and biodiversity functions." (Article 4(1)(a))

This targets Ireland's ~1.2 million hectares of degraded peat, where excavation exacerbates carbon emissions (up to 1.5 t CO₂/ha/year) and habitat loss. Shancloon's removal of peat (e.g., 800 mm granular fill for roads, Section 4.1) contradicts this, as it hinders rewetting and stability without equivalent restoration.

"By 2050, all degraded and drained peatlands in their territory shall be restored to the condition referred to in the first subparagraph." (Article 4(1)(b))

Appendix 11.4's contingency (addresses short-term risks but not long-term restoration, risking non-compliance. No net loss is ensured:

"Measures shall ensure that there is no net loss of rewetted peatland area and that rewetted peatlands remain in a rewetted condition." (Article 4(3))

Shancloon's plan (e.g., 1.5 m max peat height beside hardstands, Section 7.4) may create unstable stockpiles, not functional peatlands. Mitigation (e.g., interceptor drains, Section 4.1) is positive but insufficient without 2030 targets integration.

The EU Nature Restoration Law (Regulation (EU) 2024/1672) does NOT specifically allow rewetting within the same project to justify large-scale peat destruction.

Karst issue

The Shancloon site overlies karstified limestone bedrock (Appendix 11.1, Section 4.2), with highly permeable fissures, conduits, and swallow holes connecting surface water directly to the regional groundwater table feeding the River Corrib and Lough Corrib SAC. Tracer studies in the region demonstrate pollutant travel distances >10 km in <48 hours (GSI Karst Database).

Due to this unpredictable subterranean flow regime, it is impossible to definitively map or model pollutant pathways from construction-phase spillages or operational runoff. As in Kelly v. An Bord Pleanála [2014] IEHC 400:

"The water flow rate through karstified rock can be quite rapid and water from a turlough may flow underground to a spring at a rate of 1 00m per hour or more. "

This direct hydraulic linkage means even minor incidents risk significant adverse effects on the SAC, breaching Article 6(3) Habitats Directive. Mitigation via silt traps and silt fences (Appendix 11.4, Section 8) is precautionary only and cannot guarantee containment in karst.

If permitted as proposed, the development has the potential to adversely affect the water quality of this area and of any private wells in the area and would materially contravene strategic policy

objectives WS 7 of the Galway County Development Plan 2022-2028 and the requirements of the Water Framework Directive.

For consideration also is WR 1 of the Galway County Development Plan 2022-2028.

Protect the water resources in the plan area, including rivers, streams, lakes, wetlands, springs, turloughs, surface water and groundwater quality, as well as surface waters, aquatic and wetland habitats and freshwater and water dependant species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the River Basin District Management Plan 2018 – 2021 and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same) and also have regard to the Freshwater Pearl Mussel Sub-Basin Management Plans.

Through a range of new strategies and policies, the European Green Deal (EC 2019) has reiterated the need to manage water resources sustainably, and tackle chemical pollution and water stress, to ensure sufficient, good-quality water for the environment and people. The EU biodiversity strategy (EC 2020b) and the climate change adaptation strategy (EC 2021a) emphasise the need to preserve ecological flows and regulate groundwater abstraction.

Deferred Resolution of Water Main Crossing

The most significant procedural flaw is the handling of the Uisce Éireann (water main) crossing: The developer's 33kV cables will cross an existing 250mm potable water trunk main. While consultation with Uisce Éireann resulted in a "Confirmation of Feasibility", the utility operator explicitly stated that this letter "does not constitute an agreement. This deferral means the planning authority is being asked to grant consent based on an unresolved and unexecuted mitigation measure for a critical public service asset (the water main).

Local Airfield issues

This development is in close proximity to two private unlicensed airfields, Kilconly Airfield and Castlehacket Airfield, both located within 5 km of the wind farm site.

The chapter acknowledges these operate in uncontrolled Class G airspace but does not detail:

- Whether the operators of these private airfields were formally consulted.
- The specific risk 180m high turbines pose to their take-off/landing paths.
- Any specific mitigation measures required to safeguard their operations (e.g., flight path restrictions, specific lighting) in the main chapter.

The EIAR must demonstrate that the potential effects on all material assets, even private ones, have been thoroughly assessed and mitigated, especially when 180m tall turbines are placed so close to flight operations.

Cumulative Impacts Assessment

Section 17.9 lists permitted/proposed wind developments within 20km (Table 17-2) and concludes no cumulative telecom effects since individual impacts are nil. It doesn't discuss potential synergistic EMI from multiple farms (e.g., if nearby turbines amplify scattering).

EPA (2022) and WEG 2006 require cumulative assessments considering "in-combination" effects. While logical (no individual impact = no cumulative), guidelines encourage broader evaluation, especially in areas with clustered wind farms of which there are many proposed for the Tuam hinterland.

Health issues

Bisphenol A (BPA)

Bisphenol A (BPA) is a chemical produced in large quantities for use primarily in the production of polycarbonate plastics and epoxy resins.

"Bisphenol A is the most toxic substance we know" - Swedish Environmental Protection Agency

Wind turbine blades are constructed using fiberglass reinforced with epoxy resins, which contain 30-40% bisphenol A.

Bisphenol A and similar substances are among the most troublesome substances that are now finding their way into drinking water, watercourses, and our sea areas in larger and larger quantities. Quite small concentrations of Bisphenol A damages the fertility of humans and all organisms, and despite this fact, the quantity and use of this dangerous chemical increases quite significantly. One of the biggest problem areas is the huge increase in epoxy compounds in the turbine blades in wind turbines.

Article : Business and Human Rights Resource Center

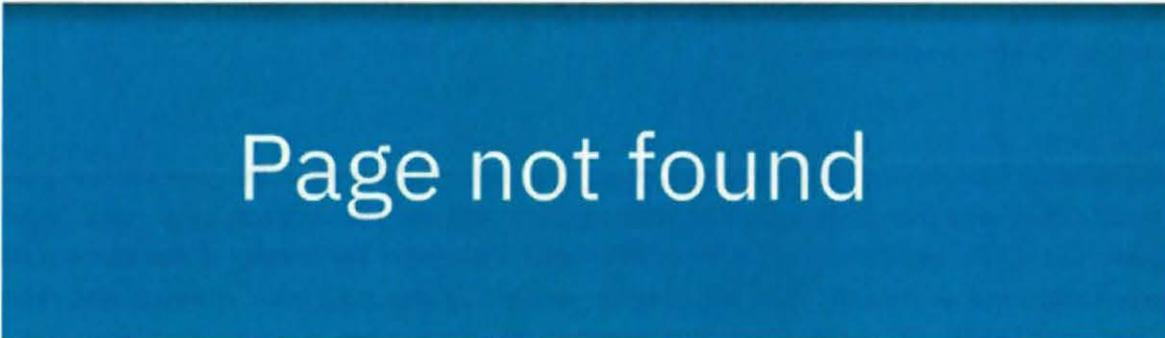
Bisphenol A (BPA) can be released from wind turbine blades primarily through the erosion of their composite materials, particularly the epoxy resin that binds the carbon or glass fibers. As the blades are exposed to environmental factors like wind, rain, and sunlight over time, the protective coatings on the leading edges wear down, causing the release of microplastic particles that contain BPA. This erosion is accelerated by high rainfall and the high rotational speeds of the blades, with the tip of the blade experiencing the greatest wear due to its high velocity, potentially reaching up to 300 km/h.

1 kg of Bisphenol A makes 10 billion litres of water unusable.

Agriculture is badly affected by Bisphenol A through contamination. This contamination arises when aging blades degrade or are processed during decommissioning and disposal, allowing BPA to leach into the local soil and water systems. This known endocrine disruptor can then enter the food chain, impacting multiple sectors, including dairy farming, sheep farming, and crops. For crop farmers, there is a risk of chemical uptake directly by the plants from contaminated soil or irrigation water. For livestock farming, the ingestion of contaminated drinking water by herds, whether dairy cows or sheep, raises concerns about chemical bioaccumulation in animal products such like milk and meat, potentially jeopardizing product safety and the farm's market viability.

I ask An Coimisiún Pleanála to please take the time to investigate the effects of BRA on agriculture and human health. Particularly because of the high amount of agricultural enterprises in and around this proposed site.

Web site technical issue



Page not found

<https://www.pleanala.ie/publicaccess/Case%20Documentation/323699/Applicant%20Documents/Application%20Documents/Shancloon%20Wind%20Farm%20September/Planning%20Pack/Planning%20Application%20Addendums/CAD%20and%20Shapefile/PlanningBoundary-Shancloon.shp?r=065442178477483914>

The file name [PlanningBoundary-Shancloon.shp \[SHP\]](#) was not available to download from the ACP Shancloon application site and as a result I was unable to map the site boundary to provide an accurate assessment of this project's effects. The same issue applies to a number of other shapefiles.

Wake Effect

I ask ACP to please assess the wake effects this development will have on the following.

Surrounding land and habitats. Local agriculture. Across turbines downwind.

Horns Rev 1 wind farm off the coast of Denmark

- Clouds forming in the **wakes** of the front row of 110m wind turbines
- The downstream wind turbines lose **20% or 30%** of their power relative to the front row
- The distance between turbines is **560m** in both directions



Research Reference: <https://www.sciencedirect.com/science/article/pii/S0308597X2300430X>

Wind farm-induced wakes and regulatory gaps

Final Note

I want to finish this submission by requesting ABP to take full consideration of The EU Habitats and Birds directive and all related case law associated with this two directives both Irish and European.

“The judgment reinforces the precautionary principle underlying EU environmental law, establishing that environmental assessments must be thorough, scientifically rigorous, and transparent. It clarifies that procedural shortcuts—whether deferring critical decisions, inadequately examining alternatives, or dismissing expert recommendations without detailed justification—are incompatible with the protective objectives of the Habitats and EIA Directives.”

Brian Holohan and Others v An Bord Pleanála C-461/17

Yours Faithfully,



Enda Mannion



Mark Walsh



Article

Performance Evaluations of Three Silt Fence Practices Using a Full-Scale Testing Apparatus

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Abstract: Erosion and sediment controls on construction sites minimize environmental impacts from sediment-laden stormwater runoff. Silt fence, a widely specified perimeter control practice on construction projects used to retain sediment on-site, has limited performance-based testing data. Silt fence failures and resultant sediment losses are often the result of structural failure. To better understand silt fence performance, researchers at the Auburn University-Erosion and Sediment Control Testing Facility (AU-ESCTF) have evaluated three silt fence options to determine possible shortcomings using standardized full-scale testing methods. These methods subject silt fence practices to simulated, in-field conditions typically experienced on-site without the variability of field testing or the limited application of small-scale testing. Three different silt fence practices were tested to evaluate performance, which included: (1) *Alabama Department of Transportation (ALDOT) Trenched Silt Fence*, (2) *ALDOT Sliced Silt Fence*, and (3) *Alabama Soil and Water Conservation Committee (AL-SWCC) Trenched Silt Fence*. This study indicates that the structural performance of a silt fence perimeter control is the most important performance factor in retaining sediment. The sediment retention performance of these silt fence practices was 82.7%, 66.9% and 90.5%, respectively. When exposed to large impoundment conditions, both *ALDOT Trench* and *Sliced Silt Fence* practices failed structurally, while the *AL-SWCC Trenched Silt Fence* did not experience structural failure.

Keywords: construction; erosion; full-scale testing; sediment barrier; sediment control; silt fence; water quality

1. Introduction

Impairments caused by off-site discharges of sediment-laden stormwater from construction sites is one of the most critical environmental problems faced by nearby waterbodies due to increases in turbidity and sedimentation [1]. Sedimentation occurring in waterways and storm sewers decreases flow capacity which can result in localized flooding, retardation of vegetative growth, and decimation of fish spawning areas [2]. The United States (US) Federal Government recognized the detrimental effects caused by stormwater runoff in general, and sediment discharge specifically, from construction sites. The US Congress passed the Clean Water Act in 1972 and the Water Quality Act of 1987 in response to these concerns resulting in significant change regarding environmental management methods used in the construction industry [3,4].

Erosion and sediment control (ESC) practices (i.e., diversion swales, erosion control blankets, sediment basins, perimeter controls, etc.) are routinely specified by designers to minimize stormwater runoff-related pollution. Construction site boundaries are typically enveloped by perimeter control



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Review

On the apparent failure of silt fences to protect freshwater ecosystems from sedimentation: A call for improvements in science, technology, training and compliance monitoring



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ABSTRACT

Excessive sedimentation derived from anthropogenic activities is a main factor in habitat and biodiversity loss in freshwater ecosystems. To prevent offsite movement of soil particles, many environmental regulatory agencies mandate the use of perimeter silt fences. However, research regarding the efficiency of these devices in applied settings is lacking, and fences are often ineffective due to poor installation and maintenance. Here, we provide an overview of the current state of research regarding silt fences, address the current culture surrounding silt fence installation and maintenance, and provide several recommendations for improving the knowledge base related to silt fence effectiveness. It is clear that there is a need for integrated long-term (i.e., extending from prior to fence installation to well after fence removal) multi-disciplinary research with appropriate controls that evaluates the effectiveness of silt control fences. Through laboratory experiments, *in silico* modelling and field studies there are many factors that can be experimentally manipulated such as soil types (and sediment feed rate), precipitation regimes (and flow rate), season, slope, level of site disturbance, fence installation method, type of fence material, depth of toe, type and spacing of support structures, time since installation, level of inspection and maintenance, among others, that all require systematic evaluation. Doing so will inform the practice, as well as identify specific technical research needs, related to silt fence design and use. Moreover, what constitutes “proper” installation and maintenance is unclear, especially given regional- and site-level variation in precipitation, slope, and soil characteristics. Educating and empowering construction crews to be proactive in maintenance of silt fencing is needed given an apparent lack of compliance monitoring by regulatory agencies and the realities that the damage is almost instantaneous when silt fences fail. Our goal is not to dismiss silt fences as a potentially useful tool. Instead, we question the way they are currently being used and call for better science to determine what factors (in terms of fence design, installation and site-characteristics) influence effectiveness as well as better training for those that install, maintain and inspect such devices. We also encourage efforts to “look beyond the fence” to consider how silt fences can be combined with other sediment control strategies as part of an integrated sediment control program.

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