

Association of Irish Forestry Consultants
May 2016

The Editor, *Irish Forestry*

Re. The acid sensitive designation

Dear Sir,

Forests provide a range of raw materials for industry as well as services to society. One particular service provided by forests, climate change mitigation, works by removing and locking up carbon dioxide from the atmosphere. In the Irish context this entails the need to continue afforestation at a level in the region of 15,000 to 20,000 ha per annum for the next two decades. Achievement of this goal will not only sustain the ability of the national forest estate to remove carbon dioxide from the atmosphere and store it in the vegetation and soil, it will also provide a renewable energy resource and a sustainable raw material for construction, a range of other timber uses as well as other environmental and social benefits.

Expansion of the national forest estate is a key component of national climate change and land use policy. The average afforestation levels over the last five years has been 6,000 to 7,000 ha per annum. There are a number of issues affecting land availability for afforestation, one particular difficulty is that the planting programme is being restrained by a lack of current scientific research which can defend against spurious assertions and promote our forest industry.

Acid Sensitive Designation

The “acid sensitive” designation has had a significant adverse impact on afforestation levels in a number of counties over the last ten years. Many professional foresters and agriculturalists have questioned the science being applied, particularly in relation to enclosed agricultural land (typically rushy fields) that in most cases is ideal for afforestation. Much of the research studies in relation to acidification have focused on the potential negative impact of afforesting open moorland underlain by acid rock, while foresters and land owners are being refused permission to plant trees on improved enclosed agricultural land with inherently better buffering capability.

The main farming enterprise on this land type is livestock production. The hypothesis of possible negative acidification impacts of forest canopies scrubbing aerosols (mainly nitrogen and sulphur compounds) from the atmosphere does not take into account the other positive benefits associated with forestry versus continuing with current agricultural practices, in particular the significant methane emissions from livestock. We have yet to see a report that looks at the positive and negative impacts

on the environment of continued cattle production versus the positive and negative environmental impacts of forestry on the same acid sensitive enclosed farmland.

The acid sensitive designation is now 25 years-old, it was coined at a time when the threat of acid rain was one of the main environmental concerns across Europe. The designation should now take into account the industrial and technological changes in the last quarter century. It would be useful for our industry to see an investigation into what was predicted against what has actually occurred in terms of acidification outcomes. National and international legislation have successfully resulted in reduced and cleaner emissions from heavy industry, especially with regard to sulphurous compounds. The threat posed by airborne pollutants in the atmosphere being scrubbed by coniferous forest canopies on the western half of Ireland, given that the prevailing wind is predominantly from the southwest, has to be minimal and the present designation represents a dramatic overkill.

Is this Acid Sensitive designation a genuine effort to protect and improve water quality or a crude instrument to stop conifer afforestation, particularly when the anti-coniferous and anti-forestry lobbying context of the time is considered? Replacing uneconomic livestock production which is the main farming activity in these areas with forestry would have many measurable environmental and financial benefits. As John Shirley pointed out in the *Farming Independent*, it makes eminently more environmental and financial sense to control rushes with trees than with MCPA herbicide (Table 1).

Doubling our current afforestation rate has been highlighted by government as being central to Irelands Climate Mitigation Strategy. It is essential that the current measures which exclude over 150,000 ha of productive land, solely on the basis of an outdated acid sensitive designation, be revised to allow all enclosed farmland to be considered potentially suitable for the GPC3 (10% Diverse Conifers¹) category for afforestation. The threat posed to our climate is from excess carbon and no longer from acid rain.

Yours sincerely,

Dermot Houlihan, Chairman of AIFC.

¹ GPC 3 is 90% Sitka spruce and 10% other coniferous species.

Table 1: *A comparison between agricultural and forestry enterprises in a typical gley soil area.*

Cattle farming	Forestry
Net greenhouse gas source (carbon emissions).	Carbon sink.
Annual broadcast application of NPK (compound fertiliser) and in many cases 2 applications per annum. This equates to 25-50 kgs N ha ⁻¹ yr ⁻¹ . N decreases soil pH.	One application of P as ground rock phosphate (GRP) @ 250 kgs ha ⁻¹ in 30 years. GRP has pH of 8+ and increases soil pH.
Land can be ploughed or tilled as frequently as farmers wish and will have 90% topsoil disturbed leading to significant carbon release.	Land mounded in year 1 of a 30-year cycle with approximately 6% of topsoil disturbed.
Annual control of soft rush by topping with machinery and broadcast spraying with MCPA (herbicide) to achieve GAEC (Good Agricultural and Environmental Condition) and minimal setback from watercourses.	Manual control of vegetation for 4 years with perhaps one to two spot sprayings with herbicide (Roundup) over 30 years (i.e. 25% of area). No spraying within 10 m of watercourses.
Slurry from animal production is applied to full area -equivalent of 15 kgs N ha ⁻¹ yr ⁻¹ generating further GHG emissions to the atmosphere.	No animal waste applied.
Heavy machinery used on farmland several times per annum.	Machinery only used for thinning and felling (maximum of 5 times in 30-year rotation).
Rainwater runoff enters drains with minimal vegetation to slow it down.	Forests intercept and slow water cycling. Silt traps are mandatory in all forestry drainage.
Farming extends right up to watercourses	Forests are setback 10 m from watercourses for all operations.
Animal drinking areas in commonly located within watercourses allowing animals to defecate into watercourses.	N/A
Minimal wildlife areas, mainly confined to hedgerows.	Entire plantation area has wildlife habitat potential.
Agricultural enterprises on surface water gley soils regarded as marginal.	Surface water gley soils are highly productive forest areas.
Poor farming outcomes and marginalisation.	Better livelihoods.