Irrigants d'Europe

Water Issues in the EU Regulation on Nature Restoration

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General Context and Critical Points

The IPCC Sixth Assessment Report states that ecosystem restoration will be crucial to help combat climate change and also reduce risks to food security. The Commission Communication of 24 February 2021, entitled "Creating a Climate-Resilient Europe: A New EU Strategy for Adaptation to Climate Change" emphasizes the need to promote nature-based solutions and recognizes that climate change adaptation can be achieved by protecting and restoring wetlands and peatlands, as well as coastal and marine ecosystems, developing urban green spaces and installing green roofs and walls, and promoting and sustainably managing forests and agricultural land.

This simple introduction captures the direction that the regulatory framework surrounding the Green Deal is imposing on European economies. Action to combat climate change, based on ecosystem restoration to ensure the revitalization of biodiverse and resilient nature throughout the Union, primarily involves abandoning, where possible, grey technologies and energy- and water-intensive production cycles, restoring wetlands—often referred to as re-paludification in the text and accompanying commentaries—and a new agricultural production model, currently confusedly identified with organic farming and agroecology, but which in reality has yet to take shape and form.

While the Nature Restoration Law (NRL) states that one objective is to ensure that all areas are subject to participatory land-use planning, typical of the collective management of water resources and territories ours Consortia and Comunedades are carrying out, the critical issue lies in the level of "...integration and inclusion of biodiversity and/or effective management processes that address changes in land and sea use..." with the ultimate goal of "zeroing the loss of areas of high biodiversity, including ecosystems with high ecological integrity, by 2030." The much-discussed mandatory ecosystem restoration percentages impact the management of the transition and the ultimate applicability of the NRL, but not its content.

The references "...in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity" and "...restore, maintain and enhance nature's contribution to people, including ecosystem functions and services, such as air, water and climate regulation, soil health, pollination and disease risk reduction, as well as protection from natural hazards and disasters..." should be interpreted as a unilateral and unidirectional contribution of natural environments to human socioeconomic structures, including agroecosystems which, unless modified as required by the NRL, are currently seen here as beneficiaries rather than co-producers of ecosystem benefits.

The energy/emissions balance is at the heart of the action. Indeed, an ambitious EU nature restoration plan is established, with a series of key commitments and legally binding targets, "...to restore degraded ecosystems, particularly those with the greatest potential to capture and store carbon, and prevent and reduce the impact of natural disasters."

The NRL intends to achieve this goal by making voluntary actions contained in pre-existing regulations and strategies a legal requirement and by extending the criteria applied for the Natura 2000 network to degraded ecosystems in need of restoration, offering Member States "… the possibility to designate additional areas as 'protected areas' or 'strictly protected areas', to implement other effective local conservation measures, and to promote private land conservation measures…". This will be achieved within a timeframe that includes two "checkpoints" for measurable and monitored results achieved, 2030, 2040, and a final point in 2050.

This action will lead to "aligning targets for accounting for emissions and removals from the land use, land-use change, and forestry (LULUCF) sector with the related biodiversity policy. ... omitted ... the need to protect and enhance natural carbon sequestration ... omitted ... it is important that ecosystems across all land categories, including forests, grasslands, croplands, and wetlands, are in good condition to be able to effectively capture and store carbon."

The NRL asserts that "... evidence shows that restoring agricultural ecosystems has positive impacts". The concept of sustainable agriculture is based on long-term food productivity and that nature restoration serves as an insurance policy to ensure the Union's long-term sustainability and resilience. This concept is still debated, not in its essence[1] but in terms of the balance between the capacity to adequately meet human needs (food security and sovereignty) and the corresponding level of biodiversity in a system with finite resources (water, soil, etc.) and uncontrollable external inputs (high temperatures, rainfall distribution, intensity of extreme events, etc.). To achieve these objectives, in the absence of alternatives, the non-deterioration tool (DNSH) could be used at the level of each biogeographical region of the territory, for each habitat type and each species habitat. This is an extremely effective blocking tool at all levels, especially at local levels, where referring to a specific habitat is easier.

In In short, it is a matter of compromises, technically trade-offs, that the NRL turns entirely in favour of the ecosystem, which thus becomes the privileged user of resources, even when insufficient. And that lacking to define who in society and among productive activities should bear the greatest burden.

Water in the NRL

The NRL, which incorporates the objectives of the EU Biodiversity Strategy, calls for greater efforts to restore freshwater ecosystems and the natural functions of rivers by 2030.

Efforts are required to restore the natural connectivity of rivers, as well as their riparian areas and floodplains, including through the removal of artificial barriers. The restoration of at least 25,000 km of free-flowing river sections, compared to 2020, is a key point, and the result of the efforts of environmental groups such as "Remove Dams" and other well-known international acronyms.

A lengthy discussion within the Commission, Parliament, and the Council has led to a softer interpretation whereby Member States should first address the obsolete barriers, meaning those no longer needed for renewable energy production, inland navigation, water supply, or other uses. This action will be implemented through the drafting of National Plans for Nature Restoration, but the flaw lies in the lack of a shared and agreed-upon methodology for defining a hydraulic structure as "obsolete" and for assessing the negative impact that its removal—a significant or highly impactful technical intervention, for example, if we consider the removal of a small dam—will have in the short and long term, not only on the riverbed but also on interconnected territories/ecosystems.

Can an old irrigation ditch be considered obsolete if it no longer serves a significant agricultural area, and therefore no longer fulfils its original and institutional function, but ensures the survival of a landscape, green, or suburban area? How large must the remaining serviced area be, or how

[1] It is obvious that agricultural productivity is greater in an ecosystem with high but not excessive biodiversity (e.g., the low "useful" productivity of tropical jungles) than in one with low or no biodiversity (e.g., desert areas)

substantial must the production dependent on the structure be, for it not to be obsolete? In our legal systems, the right to withdrawal is not functional. In the area served, the volume of water allowed could be questioned, but not the right to abstract water through the existing permitted facilities. Therefore, a single hectare of commercial or subsistence production defines the project as active, in other terms not obsolete.

Furthermore, the legal objective is to transform at least 25,000 km of rivers into free-flowing rivers in the Union by 2030. This is clearly a joint objective, shared by the 27 Member States, but it cannot be equally divided. Guaranteeing just under 1,000 km for each does not seem feasible. Above all, the environmental benefit is not the same everywhere but rather responds to an inverse relationship with the degree of modification of the watercourse (the issue of highly modified watercourses, already addressed by the Water Framework Directive, is once again raised) and the residual resilience of the ecosystems upstream and downstream of the “obstacle” to be removed. Therefore, how can the effort, the social burdens and impacts be divided to meet the performance indicator of "25,000 km" imposed by the regulation?

These issues will lead to high levels of conflict, along with arbitrary applications of the NRL, to everyone's dissatisfaction and dubious environmental benefits.

The NRL emphasizes the importance of a high diversity of landscape elements on agricultural land, such as buffer strips, rotational or non-rotational fallow land, hedges, single or grouped trees, tree rows, field edges, plots, ditches, streams, small wetlands, and small farm’s terraces, mounds, stone walls, and cultural elements. Their purpose is to provide space for wild plants and animals, including pollinators, prevent erosion and soil depletion, filter air and water, support climate change mitigation and adaptation, and enhance agricultural productivity of crops dependent on pollination (but not on stored water). According to the regulation, productive elements can also be considered high-diversity landscape elements, under certain conditions. If properly incorporated into the National Plans, this point could finally pave the way for storage basins, to which it seems unwittingly alludes, and which IE has since long included among the nature-based solutions listed as Biodiversity Hotspots by the EIP Agri-DG Agriculture.

The NRL emphasizes the restoration and rewetting of organic soils, referring to originally drained peatlands. This point has been strongly supported by the Netherlands and Belgium, which have independently undertaken restoration efforts with national funds in polder areas experiencing rapid subsidence caused by the oxidation of peat residues following centuries of exploitation as a low-cost alternative to coal.

The NRL states that "Member States may choose from a wide range of measures to restore drained peatlands for agricultural use, ranging from the conversion of cultivated land into permanent grassland and extensification measures accompanied by reduced drainage, to complete rewetting with the possibility of paludicultural use, or the creation of peat-forming vegetation." A standard interpretation of the NRL outlines the conditions for a return to the agricultural systems and sanitation conditions that existed before the major reclamation works for some reclaimed delta areas. A pragmatic approach, however, suggests converting areas that are on organic soils into marshes or swamps (the terms vary, but not the substance) and that may have the capacity to store carbon in the "young marsh" stage. Studies evidently not considered in the drafting of the NRL indicate that, like all natural ecosystems, carbon storage is high in the "young" stages, becoming almost zero or even negative at maturity, as occurs in unmanaged forests.

Of course, "...where duly justified, if rewetting of drained peatlands for agricultural use cannot be implemented due to significant negative impacts on buildings, infrastructure, climate adaptation, or other public interests, and rewetting peatlands for other land uses is not feasible, Member States should have the option to reduce the extent of rewetting..."

Areas re-paluded or restored to marshland "...can continue to be used productively in alternative ways. For example, paludiculture, the practice of agriculture on wet peatlands, can include the cultivation of various types of reeds, certain types of timber, the cultivation of blueberries and cranberries, the raising of sphagnum moss, and grazing with water buffalo...", obviously according to "...sustainable management principles and aimed at enhancing biodiversity so that they can have high financial and ecological value."

The NRL, like all past and current debate on the topic, strategically neglects to indicate the target market for such paludiculture products, what the unmet need for reeds and sphagnum moss is, and what consumer purchasing intentions are for cranberries as an alternative to strawberries or melons. No mention is made of the logistical, storage, processing, and mechanization infrastructure that any new production inevitably requires.

Directive (EU) 2018/2001 requires Member States to carry out coordinated mapping for the deployment of renewable energy within their territory in order to identify the domestic potential and the available land, subsoil, sea, or inland waters necessary for the installation of renewable energy plants and related infrastructure, such as grid and storage facilities, including thermal storage, needed to meet at least their respective national contributions and move towards the revised 2030 renewable energy share target. The NRL here opens a conflict front over water use that we have repeatedly highlighted. Despite the rapid development of photovoltaic and wind technologies, and while we wait for micro-photovoltaics and residential micro-wind to meet basic domestic needs, the largest contribution to renewable energy will be provided by hydropower, and water is and it will be the best, most efficient, and economical source of energy storage, the "renewable battery". The "rechargeable" resource of the national energy system remains the water stored upstream. The conflict with all other uses, including environmental use, is evident during times of crisis, as is the impact of hydropeaking resulting from turbines for energy production.

In general, and ultimately, the joint application of the NRL and the new law on environmental crimes greatly strengthens the obligation to respect Ecological Flow, which can be interpreted as a violation of the DNSH principle and as an obstacle to the conservation, if not the restoration, of nature. The result could be a weakening of the exemption provided by the WFD, which has long been the subject of discussion in the EU. A joint and critical reading of the various law provisions appears necessary.