Embracing a dynamic view of nature for biodiversity conservation

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> *"The 'balance of nature' does not exist and perhaps never has existed"* – Elton (1930)

For centuries, Western cultures viewed strict protection as the best way to preserve nature. The practice of "fortress conservation" attempts to maintain environmentally valuable landscapes by excluding human influence. By doing so, landscapes could be maintained in a static climax condition—think, a stand of mature or old-growth forest—untrammeled by humans. The problem? This is not how nature works. Ecosystems are not ancient manuscripts that can be preserved in a climate-controlled chamber. They are highly dynamic systems, and what we view as desirable states are only ephemeral snapshots. Landscapes are ever-shifting mosaics, with different vegetation types, ages, and conditions across a space–time patchwork. In recent decades, modern conservation has begun to embrace this view of nature as dynamic (Jones *et al.* 2025).

Recently, Chiti and Piovesan (2025; hereafter C&P) commended the European Green Deal (EGD) for its focus on "strict protection", which emphasizes non-intervention with some exceptions (e.g., scientific research, wildfire suppression). C&P describe strict protection as the "most effective solution in area-based conservation" and having a strong scientific and ecological basis. They characterize Western conservation as failing to embrace strict protection by inadequately excluding human visitation and use. Finally, they criticize the EGD for not going far enough by permitting, in some cases, activities that enhance natural ecosystem processes. While strict protection may be appropriate in specific contexts, the general application of this policy is out-of-step with modern understanding of nature. For instance, strict protection fails to recognize that, in many European ecosystems (e.g., mediterranean, boreal), wildfires are natural processes (Keeley and Pausas 2022), or that many dense European forests are the byproduct of human-driven megafaunal extinctions (Pearce *et al.* 2023).

Strict protection embodies a view of nature as occurring in a balanced steady state, but this equilibrium view is outdated and no longer has scientific support (Wu and Loucks 1995). Disturbance is intrinsic to ecosystems and the climax state is relatively rare (Pausas and Bond 2020). Translated into policy, strict protection can counterintuitively lead to worse outcomes for biodiversity and ecosystems because it resists natural dynamics and erodes system resilience (Pausas and Keeley 2019). These negative unintended consequences are especially true of fire suppression—one of the allowable interventions under strict protection that attempts to preserve ecosystem condition. For example, in western North America, fire suppression and exclusion policies and the removal of Indigenous burning transformed vast areas of forest land (Hagmann *et al.* 2021). This policy of strict protection caused many frequent-fire forests to become overly dense and fire-starved. Now, vast forest areas are being converted to grass- or shrub-dominated systems via extensive stand-replacing fire. In recent decades within the US, greater extents of mature and old-growth forest have been lost because of uncharacteristic fire *inside*—rather than outside—of protected areas because of this resistance to natural dynamics (e.g., Steel *et al.* 2023).

Strict protection could be a good thing—if it meant the strict protection of natural disturbance regimes or the strict protection of the reciprocal relationship between people and environment. But C&P argue that the EGD's allowance for even "limited and well-controlled activities that either do not interfere with natural processes or enhance them" is too permissive. Yet maintaining or enhancing natural processes is essential to modern conservation, particularly under global change. Active management is needed more than ever, given the changing climatic conditions and other pressures. For example, restoring forests with more drought-resistant or fire-adapted provenances may help conservation under novel climate and fire regimes (Nigro and Battaglia 2025). Conversely, strict protection does not confront global warming.

Finally, the argument by C&P that "strict protection does not enjoy great consideration in the Western world" is astonishing because strict protection is a distinctive export of Western conservation thought. Colonial implementation of fortress conservation has resulted in violent expulsion and cultural erasure of Indigenous peoples and remains prominent and problematic in the Global South. We worry that the continued embrace of Western protectionist policies would not only emphasize a narrow and incorrect view of nature but also reinforce sociocultural inequities in the decades to come (Oxfam International 2022).

Trying to hold the line on ecosystem change is a losing battle on a hill that today's conservationists should not die on. Many forward-thinking conservation approaches have emerged that recognize the importance of natural dynamics and change. For example, the resist–accept–direct (Schuurman *et al.* 2022) and the resistance–resilience–transformation (Peterson St-Laurent *et al.* 2021) frameworks help managers identify when and how to steward transforming ecosystems. Even if C&P's intention was to promote strict protection only as one option within a well-balanced and multifaceted management strategy, their push to "reclaim" strict protection in the context of the EGD and more broadly is at odds with science, nature, and conservation practice in this era of global change.

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