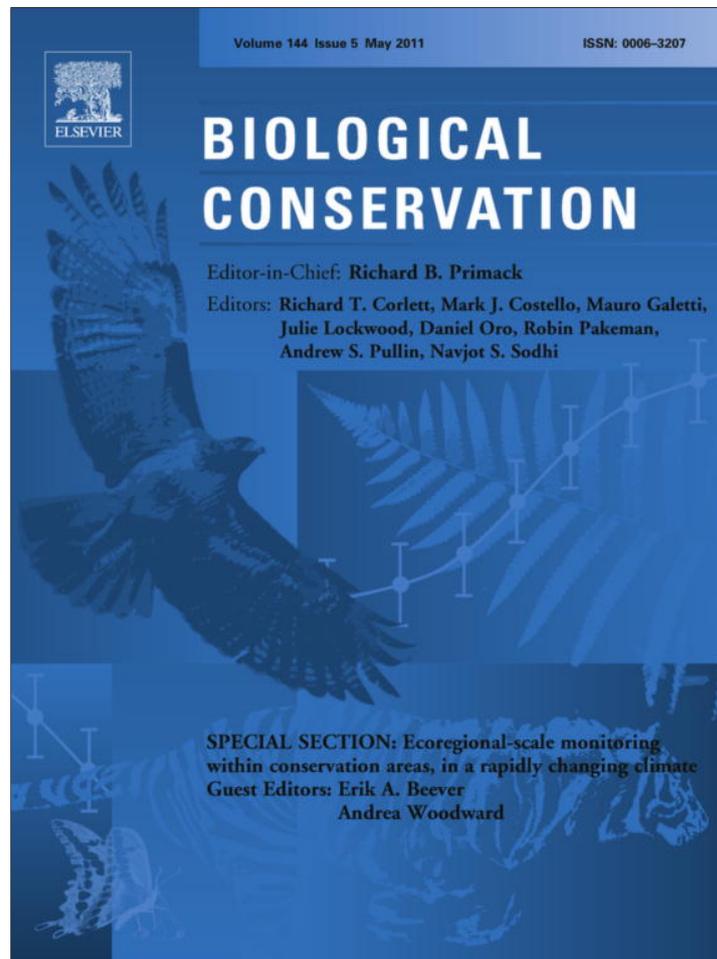


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Letter to the Editor

Should restoration damage rare biotopes?

With accelerating global biodiversity loss, restoring natural habitats at heavily human-affected locations increases in importance. This is accompanied with a rising interest in studies evaluating the efficiency of various restoration methods. If restoration efforts are to contribute to biodiversity conservation however, ecologists and practitioners must carefully select restoration goals. It is beyond dispute that restored habitats should supplement habitats that are rare and disappearing from target regions, and have the potential to host endangered species, rather than adding acreage of habitats that are already common, and thus wasting precious conservation funds.

From this standpoint, we found the publication of a paper by [Tandy et al. \(2011\)](#) in *Biological Conservation* at the very least bewildering. The paper describes “restoration” of postindustrial sands by composted wastes, carried out in North Wales and resulting in mesotrophic grasslands. Rather than by the restoration method itself – we were struck by the restoration goal, which was to increase the productivity and vegetation cover of formerly “low plant covered” surfaces. In reality, low-productivity sandy habitats rank highly among the most threatened environments throughout Europe. Being abhorred as wastelands by humans, they were primary targets for agricultural improvements, afforestation and building developments; they also disproportionately suffer increasing environmental eutrophication. As a consequence, diverse arrays of psammophilous (sands-dependent) species are rapidly disappearing from their European ranges. On the other hand, an increasing number of studies demonstrate that psammophilous species, including some highly threatened representatives, readily colonise various derelict postindustrial sites, finding their refuge habitats there. Indeed, abandoned quarries, sand pits or industrial brownfields may host greater numbers of endangered species than surrounding “natural” landscapes (e.g., [Lundholm and Richardson, 2010](#)). Our ongoing study of insects inhabiting power plant ash deposits is revealing that even totally alien powdery substrates can be colonised by highly valuable species assemblages, including several wild bees that had been previously considered as extinct in the Czech Republic ([Tropek et al., unpublished data](#)). These species

nest at open surfaces with sparse vegetation cover, and their long-term persistence, even at such unproductive sites, requires periodic disturbances blocking natural succession. Thus, actions exactly opposing those promoted by [Tandy et al. \(2011\)](#) may often be required to achieve conservation goals, whereas any nutrient inputs, either direct or indirect, demonstrably damage the conservation potential of industry-created habitat surrogates (e.g., [Tropek et al., 2010](#)).

In conservation-oriented journals, the adherence of published papers to the journal's mission should be equally important as the quality of design and elaboration. The rapid loss of disturbance-dependent unproductive habitats, accelerated succession and ensuing homogenisation of landscapes all represent pressing conservation issues throughout Europe. Given that mesotrophic grasslands are incomparably more common across Europe than early-successional extremes such as open-surface sands, restoring the former at the expense of the latter contradicts the mission of restoration (see [Tropek et al., 2010](#)).

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