



What can law offer the challenge of cumulative effects? A Review of Rebecca Nelson, Regulating a thousand cuts: Global law and policy solutions to cumulative environmental problems

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BOOK REVIEW

What can law offer the challenge of cumulative effects? A Review of Rebecca Nelson, *Regulating a thousand cuts: Global law and policy solutions to cumulative environmental problems*, Cambridge University Press, 2025, \$219.95AUD, Hardback ISBN: 9781316515105

Cumulative effects (or ‘cumulative impacts’ as they are sometimes known) present a fundamental challenge to the planet. At the crux of the issue are the different scales at which threats materialise, not only over time, but across landscapes (Therivel and Ross 2007; Hodgson and Halpern 2019). It is the additional, often unforeseen, accumulation of impacts that push species to the brink and bring ecosystems to their knees (Spaling 1994). With the advent of climate change, no corner of the world is immune to cumulative effects. Indigenous and local communities feel the impacts acutely (Tollefson and Wipond 1998; Franks et al. 2010) and sensitive marine areas, such as coral reefs, are experiencing sharp declines (Grech et al. 2016; Castro-Sanguino et al. 2021).

In the Environmental Impact Assessment (EIA) literature, various frameworks have been developed to address cumulative effects (Dubé et al. 2013; Gunningham and Sinclair 1998; Blakley 2021). Practitioner guidelines and recommendations have also been published (Hegmann et al. 1999; Baxter et al. 2001, Duinker et al. 2013; Stelzenmüller et al. 2018; Mahon and Pelech 2021). Despite this, confusion and conflict still exist as to what cumulative effects are, and how best to deal with them. The biggest challenges are not necessarily ‘scientific’ (Jones 2016) and other factors may be at play such as ambiguity in guidance material and subjectivity in value selection (Olagunju and Gunn 2013; Foley et al. 2017).

Given the increasingly dense literature on environmental law, it is surprising that few legal scholars have addressed the problem of cumulative effects. Whilst there have been contributions in the area of Strategic Environmental Assessment (SEA) law (Marsden 2008; Scotford and Jones 2017; Hamman E and Blakley J 2025) and jurisdiction-specific analyses of cumulative impact legislation (Thatcher 1990; Smith 2006; Schultz 2012; Rutherford et al., 2026) there has, to date, been no systematic evaluation on the broader potential of law to address cumulative effects. Fortunately, Rebecca Nelson’s new book – *Regulating a Thousand Cuts: Global Law and Policy Solutions to Cumulative Environmental Problems* (Cambridge University Press, 2025) addresses this void.

In *Regulating a Thousand Cuts*, Nelson has produced what is unquestionably the most comprehensive and up-to-date thinking of what the law brings (or could bring) to the problem of cumulative effects. Cumulative effects (or ‘cumulative impacts’ as they are sometimes known) have been described as ‘wicked policy problems’ (Huang and

London 2016). Making evidence-based decisions about human actions across time and space is far from straight forward. Nelson’s book recognises this complexity and tackles it head on by breaking down the various possibilities and potential of law.

In Chapter 1, Nelson invites us to think more deeply about the law, and, in particular, how best to design ‘formal rules’ that help to address cumulative impacts (1). Nelson acknowledges the distinct lack of legal research on the topic (3) thus positioning the book as critical reading for policy-makers and advocates concerned about rule-enhancement in this space.

At the heart of Nelson’s contribution is the ‘CIRClE framework’ - introduced in Chapter 2 - a wholistic approach that emphasizes the need for ‘mutually supportive integration’ of legal thinking across four different areas:

- (C)onceptualization;
- (I)nformation;
- (R)egulatory intervention; and
- (C)oordination.

Nelson positions these four elements as foundational to an effective legal approach (7). In the CIRClE framework, Nelson conceives of law as broader than just a blunt regulatory instrument which limits development through legislation. More than that, Nelson argues:

... legal mechanisms can, and should, help us clarify what is important, gather and share information that we need to protect it or restore it, take action, and coordinate government actors and stakeholder groups to do these things, in an integrated way. (8)

The CIRClE approach is illustrated in more detail in Chapters 4, 5, 6 and 7. Each chapter demonstrates how the law can contribute to enhanced governance of cumulative effects. For example, in Chapter 4 (‘Conceptualisation’), Nelson argues that legal mechanisms will better address cumulative impacts when they serve to conceptualize certain identified ‘matters of concern’:

... the goal [here] is to design rules to [help] guide decision-making. The function of conceptualization ... takes that part of ‘problem framing’ that defines what is important to protect or restore, and what protection or restoration means. Conceptualization relates more closely to policy aims, objectives, and targets in policy design ... (76)

In Chapter 5, Nelson continues the CIRClE discussion turning to focus on ‘Information’, that is, the ‘design of formal rules for producing, sharing, aggregating and analysing information about cumulative effects’. Nelson posits that laws for addressing cumulative problems should not simply be ‘information-taking’ but also be ‘information-

making' (105). Nelson remains realistic about the use of 'more data' in EIA and environmental decision-making:

There will likely always be more data to gather, analyze, and share to better understand a problem. The important thing is not that the public or decision-makers know everything there is to know about the problem, but that the rules provide for having enough usable information to support the other interlinked functions of the CIRClE Framework. (107)

In Chapter 6, Nelson focuses on the most well-known expectation of law; that is, as a form of regulatory intervention (or 'Regulation'). Regulation is often needed, Nelson argues, 'to ensure that cumulative environmental harm stays within acceptable limits' (178). In the environmental governance literature, command and control regulation, is a thing of the past, and smarter regulatory strategies recognise a diversity of policy approaches to tackling environmental issues (Gunningham and Sinclair 1998). As Nelson notes, policymakers now have a range of 'regulatory strategies' open to them to address cumulative effects – including using law in ways which are 'harm-reducing', 'harm-offsetting' or 'restorative'. The need for an effective 'policy mix' is demonstrated later in the book in the Italian Grasslands case study (Chapter 10).

In Chapter 7, Nelson rounds off demonstration of the CIRClE framework by showing how law plays a role in 'Coordination'. Coordination involves making links across existing laws and structures in order to ensure interactions among government agencies, levels of government, quasi-governmental, and non-governmental actors (179). The benefit of law as coordination is that it can provide 'repeated opportunities to reveal gaps, new approaches, lack of alignment, and unnecessary duplication' (182). Out of all four factors, one feels that coordination may be the most important. Especially given the fundamental importance of scale which has traditionally been poorly considered in cumulative effects assessment (Therivel and Ross 2007; Judd et al. 2015) and incredibly challenging in multi-scale jurisdictional settings (Hamman 2025).

In Chapters 8, 9 and 10, Nelson moves past a conceptual discussion of CIRClE and draws on three in-depth case studies to demonstrate the potential of the approach. The first case involves groundwater management in California (Chapter 8). Here, Nelson explores how Californian law conceptualizes groundwater depletion as not only a 'physical problem' but one of 'environmental justice' where underprivileged communities lack access to drinking water (205). Indeed, the use of cumulative effects assessment in the United States has increasingly been linked to environmental justice (Uno 2023; Blakley and Noble 2025). Nelson's second case study (Chapter 9) examines the Great Barrier Reef (GBR) – without a doubt the most complex (legally, scientifically, politically) of all three studies. Using the GBR, Nelson shows how planning tools such as SEA can be deployed under the law to influence decision-making more broadly (240). Nelson's third case study, the Alpine Grasslands of Italy (Chapter 10) shows how a 'a broad, complex mix of regulatory mechanisms' can combine to address cumulative threats (277).

To round off the book, Chapter 11 provides a relatively easy-to-understand approach to designing

formal rules for cumulative effects. Chapter 11 will be of most interest to EIA practitioners and policy makers. These stakeholders may use it to 'diagnose gaps and other problems to improve existing rules, or to plan new rules' (312). More specifically, Nelson envisions, a practitioner might be able to use the guidance, 'in different situations, including when a cumulative environmental problem is possible, predicted, manifest, or critical, or when a formal scheduled review of a law or regulation is required' (312).

Overall, *Regulating a Thousand Cuts* is a creative and much needed contribution to the EIA literature. Nelson's work is conceptually interesting and of practical value to policy makers, practitioners and those concerned with rule-enhancement. Although Nelson is not breaking new ground, so to speak, in environmental law or broader legal discourses (which have elsewhere acknowledged the various regulatory and non-regulatory roles law can play), the beauty of the approach is that it is specific to the pressing challenge of cumulative effects. Hitherto, policy makers and practitioners have been devoid of this kind of deep thinking about what the law is and how it can be applied in this area. Thus, in *Regulating a Thousand Cuts* Nelson is providing us with 'a broader set of possibilities for what the law can achieve' (7).

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