

The Logics of Measuring, Managing and Governing Ecosystems – A theoretical approach to the epistemics of environmental governance

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Environmental policy has taken an ecological turn, following the realization that ecosystems are vital for human life. As a consequence, public, political, and scientific attention is paid to maintaining ecosystem stability and “health”. While the ecological turn is manifested in biodiversity policies and related political goals, the impact and implications of this shift is more difficult to grasp. To understand its implications it crucial to understand how environmental expertise on ecosystems is formed and how it performs in national policy-formation. The shift towards ecosystem-based management (EBM), seem to represent a change in the key principles – the logic – for how nature is assessed and valued, and thereby how compromises between competing priorities and concerns are reached. Moreover, current knowledge indicates that, rather than a shift towards more environmentally friendly policy, the new logic supports policy decisions that seek to maximize the human benefits from ecosystems. How can this be explained? In his paper we develop and apply a theoretical framework that addresses the interdependencies of governing, measuring, and managing nature. The framework combines insights from science and technology studies and the public management literature and seek to bridge environmental debates within these two fields. The main focus is how new forms of measuring and assessing the state of nature affect decisions, how nature is represented and managed, and how contestation and conflicts play out.

The theoretical framework is applied on two illustrative cases from Norway and Sweden: (a) The Swedish system for woodland key habitats (WKH)(nyckelbiotopsinventeringen), and (b) the establishment of Natur-i-Norge (NiN) in Norway. Both are systematic attempts to map and measure nature which have spurred controversies. For example, the WKH-system in Sweden has been criticized for relying too much on subjective assessments by individuals, and it has proven difficult to follow up and quality-assure the assessments. However, the most significant criticism arises from the indirect protection afforded to WKHs through the certification system. This raised questions about the forest agency’s formal and legal authority to register WKHs. Between 2019 and 2022, approximately 30 cases involving more than 100 WKHs were appealed to courts. Following court decisions, the Swedish Forest Agency ceased registering key habitats in December 2021. Landowners can now request deregistration of key habitats registered from June 27, 2019. However, the Swedish Society for Nature Conservation has appealed against the Swedish Forest Agency for no longer disclosing all forestry companies’ key habitats, arguing that this violates the EU’s Inspire Directive, which requires environmental information to be accessible to the public. Both cases illustrate how the proposed theoretical framework can deepen the understanding of processes that make “nature” governable through specific government technologies and to increase our knowledge of how environmental expertise on ecosystems is formed, contested and authorized in national policy formation.