Global Environmental Change 31 (2015) 20–27

Contents lists available at ScienceDirect

Global Environmental Change

journal homepage: www.elsevier.com/locate/gloenvcha

# The assisted migration of western larch in British Columbia: A signal of institutional change in forestry in Canada?

Nicole L. Klenk [a,*], Brendon M.H. Larson [b]

[a] Departments of Physical and Environmental Sciences and Political Science, University of Toronto Scarborough, 1265 Military Trail, Toronto, ON M1C1A4, Canada

[b] Department of Environment and Resource Studies, University of Waterloo, 200 University Avenue West, Waterloo, ON N2L 3G1, Canada

ARTICLE INFO

*Article history:*
Received 12 June 2014
Received in revised form 7 November 2014
Accepted 5 December 2014
Available online

*Keywords:*
Forestry
Climate change
Policy development
Discourse analysis
New institutionalism
Forest genetics conservation

ABSTRACT

The idea of moving species beyond their historic range, known as assisted migration, challenges some of the conservation ideas and norms guiding sustainable forest management in North America: relying on historical benchmarks, mimicking natural disturbances, and reproducing current ecological species assemblages. In this context, our paper focuses on how an assisted migration policy for western larch has been developed in British Columbia, Canada, specifically examining institutional change at three different levels of policy ideas and in discourses oriented internally or externally in the policy process. Based on 46 interviews with policy actors across Canada, our results suggest that the deployment of the first assisted migration policy in Canada successfully avoided the controversy surrounding the idea in the scientific community by changing the scientific discourse associated with best forest management practices. The shift from an ecological discourse to a genetics discourse over forest policy in British Columbia signals what we might expect in future forest adaptation policy development in Canada.

© 2014 Elsevier Ltd. All rights reserved.

## 1. Introduction

Dismal climate change projections have led some scientists to propose moving species to establish new populations in areas predicted to be suitable in the future given climate change projections ("assisted migration", AM)—either as a last ditch species rescue strategy or as a matter of sustainable ecosystem management (Hoegh-Guldberg et al., 2008a,b; Vitt et al., 2009). In forestry, the assisted migration of species refers to moving populations of native species either within or outside their historical range, or translocating non-native species into areas they have never occurred (Pedlar et al., 2012).

In Canada, several provinces are changing tree seed use guidelines to enable the movement of populations of tree species within or just beyond their natural range for commercial forestry purposes (Pedlar et al., 2011). Moreover, the first explicit assisted migration policy was developed to enable the movement of western larch (*Larix occidentalis* Nutt.) from southern British Columbia to northern parts of the province. According the Rehfeldt and Jaquish (2010), western larch is the most productive of the three *Larix* species native to North America. And while its distribution in BC—limited to the upper Columbia River Basin of southeastern BC—is relatively small compared to other trees, it remains commercially important as demonstrated by the breeding program put in place in BC since early 1980s (Jaquish et al., 1995). Thus, to sustainably manage western larch populations in the context of climate change, managers must adjust seed zone boundaries and seed transfer guidelines to ensure that planting stock remains physiologically suited to the planting sites (Rehfeldt and Jaquish, 2010). Accordingly, the Tree Improvement Branch's new seed transfer policy for western larch AM created three new seed planning zones and makes provisions for agreement holders to plant up to 10% of western larch seedlings planted each year to be planted further north in these three new zones (Lee, 2010a,b).

In the last decade, the scientific community has engaged in a heated debate over the potential benefits and risks of AM, the scientific technicalities of which can be summarized as avoiding species extinctions or species maladaptation versus the risk of creating new invasive alien species or disrupting recipient communities (Hewitt et al., 2011). The scientific debate is strongly suggestive of competing values and ethics: "to protect endangered species or conserve native biota; to manage ecological system actively or leave nature wild and uncontrolled; and to preserve resources or managed them to promote their fitness under future

* Corresponding author. Tel.: +1 416 208 5089.
*E-mail address:* nicole.klenk@utoronto.ca (N.L. Klenk).

http://dx.doi.org/10.1016/j.gloenvcha.2014.12.002
0959-3780/© 2014 Elsevier Ltd. All rights reserved.

conditions" (Camacho, 2010, p. 171). This complex debate has been commented upon and comprehensively reviewed in the last several years (e.g., Schwartz, 2005; Aubin et al., 2011; Klenk and Larson, 2013).

Given the competing values and ethics structuring the debate on AM, our objective was to investigate the extent to which AM policy development represents institutional change in relation to the established norms, ideas and practices of sustainable forest management in Canada.

This manuscript begins with a description of our theoretical lens: Vivien Schmidt's discursive institutionalism, from which we derive our analytical framework. Next we describe our qualitative discourse analysis methods. We then present and discuss our results.

## 2. Theory

### 2.1. Discursive institutionalism

To better explain institutional change, many scholars have begun to focus on the role of the ideas, practices and discourses of actors across a wide spectrum of public policy domains, including forestry (Kleinschmit et al., 2009; Giessen, 2011). Indeed, there is a growing field of research that examines policy change in forestry using discourse analysis (Grainger and Malayang, 2006; Kleinschmit et al., 2009; Sadath and Krott, 2012; Storch and Winkel, 2013; deKoning et al., 2014). Discourses constitute institutions and they give meaning to and direct the implementation of institutionalized ideas and norms through policy. Once instituted, these ideas and norms can become structures to which policy actors may have to conform, and in some cases, they may become naturalized as the way these actors think, speak and do policy work (Schmidt, 2008, 2011). Ideas, practices and discourses, however, can be questioned, re-interpreted, contested and modified by policy actors, even if they seem ingrained or intuitive. According to Glynos and Howarth (2007), an individual living or working with(in) an institution never identifies completely with these ideational factors. Thus, policy actors may come to change institutions by changing the ideas that give them shape through policy (Schmidt, 2008). The way they do so is through discourse, which embodies a particular grammar, logic and rhetoric. These three communicative elements involve politics, to the extent that discursive choices set boundaries that divide what is considered appropriate and necessary (e.g., scientific evidence, values, norms, attitudes, policy options) from what is considered inappropriate and is disregarded (Feindt and Oels, 2005; Howarth, 2010).

To account for the power of ideas and discourse to change institutions, Schmidt (2008, 2011) has developed a theory of 'discursive institutionalism'. Discursive institutionalism examines both the meaning content and interactive/performative aspects of sharing ideas with others. To understand how policy work may lead to institutional change, Schmidt examines three levels of generality of public policy ideas: policies, programs and philosophies. In the context of forestry, the first level of ideas refers to specific policy tools and associated processes, plans and choices that allow for implementation and monitoring of technical and operational practices (e.g., standards for tree seed zones, transfers and stocking standards). The second level of institutional ideas refers to how policy problems are framed and defined. This level of ideas generally represents the synthesis of strategic goals and tends to be geared toward larger scale problems, which result in broader solutions than at the operational scale (Andersson and Eriksson, 2007). At the philosophical level, ideas are more abstract and refer to public sentiments and worldviews that bring together knowledge, values, and principles about how society should be organized. In forestry, the philosophical level of ideas represents 'where one wants to go in the long term'; in contrast, the policy and program levels of ideas are the means to 'get there from here'.

Furthermore, Schmidt (2008) distinguishes the cognitive and normative content of ideas, as well as their application in practice. Broadly speaking, the cognitive content of ideas refers to conceptual schemas such as scientific theories, while the normative content of ideas refers to values and norms of behavior. The cognitive and normative content of ideas can be communicated using several rhetorical devices, including narratives, myths, collective memories, and scenarios. As Schmidt explains (2008: 309):

> Discourse may intersperse technical and scientific arguments with more generally accessible narratives that fit together the specialists' arguments with accounts of events, emblematic cases, and even doomsday scenarios to compelling stories about the cause of current problems, what needs to be done to remedy them, and how they fit with the underlying values of the society.

Schmidt (2008) also makes a distinction between two different kinds of discourse, the coordinative discourse that is internal to the process of analyzing, developing, and implementing policy and the communicative discourse between policy makers and the public. In other words, the theory specifies both who is involved in a particular discourse and who is targeted by it. As explained by Schmidt (2008: 311), "Coordinative policy ideas may remain in closed debates out of public view, either because they might not be approved or because the issues are too technical to capture the sustained interest of the public". Therefore, there can be discordance between the discourse internal to the process of policy development and the discourse used by decision-makers to present the policy to the general public.

Discursive institutionalism, as Schmidt (2008: 313) explains, provides an opportunity to examine the role of policy actors in making a compelling case for particular policy ideas, norms and values, and practices that may in turn restructure institutions:

> Discourses succeed when speakers address their remarks to the right audiences (specialized or general publics) at the right times in the right ways. Their messages must be both convincing in cognitive terms (justifiable) and persuasive in normative terms (appropriate and/or legitimate). A successful discourse 'gets it right' in terms of a given 'meaning context' according to a given 'logic of communication.' This suggests not only that the ideas in the discourse must 'make sense' within a particular ideational setting but also that the discourse itself will be patterned in certain ways, following rules and expressing ideas that are socially constructed and historically transmitted.

Thus, discursive institutionalism is particularly germane to our objective of tracing the extent of institutional change through an examination of AM forest policy development in Canada.

### 2.2. Analytical framework

Our analytical framework focuses on the discursive processes by which the idea of AM is constructed in a 'coordinative' policy sphere and deliberated in a 'communicative' political sphere. In our analysis, the coordinative discourse refers to policy developers' and implementers' ideas and norms, which is performed in their policy work. Communicative discourse refers to how actors involved in policy work communicate policies to stakeholders, through various knowledge mobilization tools, which may include formal consultative processes, educational initiatives, official announcements, training or research outputs. Following Schmidt (2008), we analyzed institutional change at three levels of ideas: policy, program and philosophy. In addition, we distinguished between the cognitive and normative content of ideas at each level and how the ideas are put into practice.

Download English Version:

https://daneshyari.com/en/article/7470034

Download Persian Version:

https://daneshyari.com/article/7470034

Daneshyari.com