
Collaborative Decision Making and Adaptive Management for Greater Sage-grouse Recovery in Southeastern Alberta

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Abstract: The Canadian *Species at Risk Act* calls for consultation and/or cooperation with governments and stakeholders during the endangered species recovery planning process; however, there are no stipulations in the Act or supporting documents on how consultation or cooperation should be achieved. Collaborative resource management is a recent phenomenon, emerging from law and the social sciences, which refers to multi-party decision-making processes using a participatory approach. Combining collaborative resource management with adaptive resource management offers a planning process involving value-based decisions that are informed and guided by science. We applied these principles to a recovery planning process for the greater sage-grouse (*Centrocercus urophasianus urophasianus*) in southeastern Alberta. Most greater sage-grouse habitat in Alberta occurs on private agricultural land or land leased for grazing and oil and gas development. We implemented an inclusive planning process in which government managers, the petroleum industry, environmental interests, and the local ranching community were engaged as a Recovery Action Group. In addition, a Technical Advisory Group was established to provide scientific expertise and to develop decision support and management experiment models. We review the planning process and provide comments on the preliminary evaluation of its effectiveness based on participant observation. Successful elements of the process have included the formation of a Technical Advisory Group, as well as the use of a Results-based Management Accountability Framework in the organization of the recovery plan. Challenges for the process have stemmed from interagency cooperation and gaining access to important data about industrial development on the landscape. To date, the process has been successful in forming working relationships where none previously existed.

Key Words: greater sage-grouse, sage grouse, *Centrocercus urophasianus urophasianus*, collaboration, adaptive management, resource planning, recovery planning, stakeholders, *Species at Risk Act*, SARA, Alberta

Background

The greater sage-grouse (*Centrocercus urophasianus urophasianus*) was listed as Endangered in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 1998 (COSEWIC 2004) (Fig. 1). The Alberta population has been decreasing steadily for the past

several decades and is currently estimated at 300–476 individuals (Aldridge and Brigham 2003). Exact causes of the decline are unknown, but research has been initiated on habitat requirements, genetics, life cycle requirements (Canadian Sage Grouse Recovery Team 2001), population dynamics, and cumulative effects of development. Additionally, greater sage-grouse habitat has declined to approximately 10% of its historic range in Alberta (Aldridge and Brigham 2003) (Fig. 2).



Figure 1. Male greater sage-grouse.

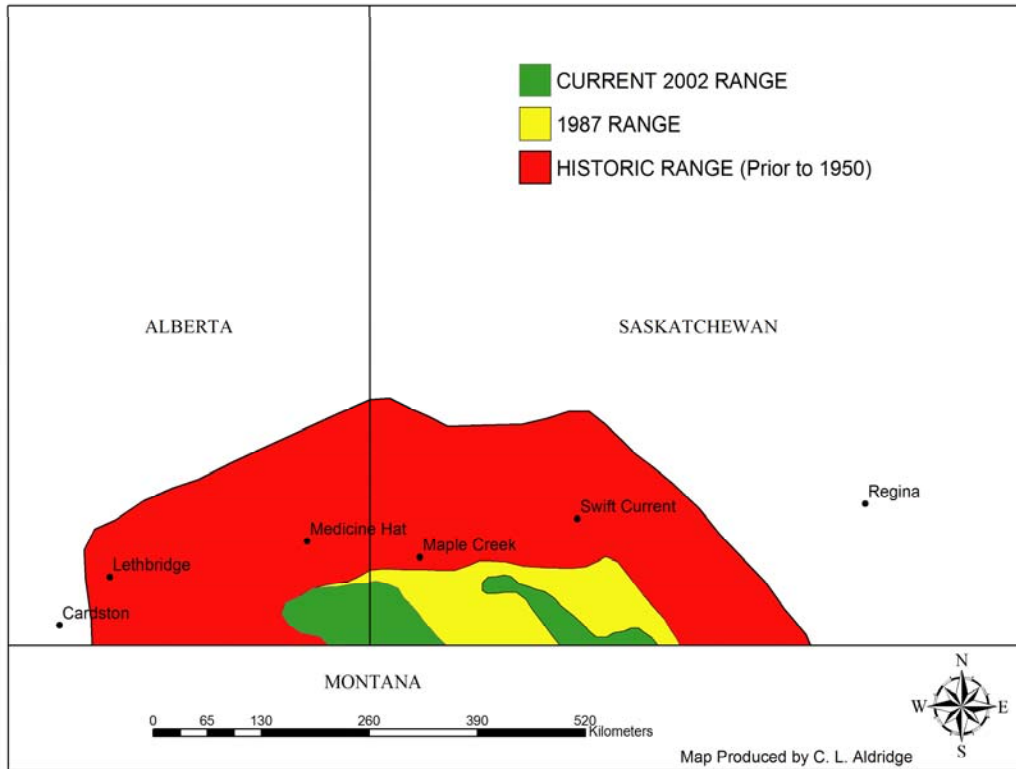


Figure 2. Greater sage-grouse Canadian Prairie distribution.

In 1997, Saskatchewan and Alberta agencies joined forces to form a national Sage Grouse Recovery Team to write the Canadian Sage Grouse Recovery Strategy (2001). The strategy underscored the uncertainty associated with causes of the species' decline and recommended that four working groups be formed to address research, habitat conservation and restoration, population monitoring, and communication and education; however, it became apparent that it would be difficult to coordinate the activities of four working groups. In addition, Saskatchewan decided to take a separate ecosystem-based approach to endangered species recovery; thus, Alberta Fish and Wildlife decided to initiate its own recovery team to address greater sage-grouse recovery. The recovery planning process was initiated in December 2002 and is expected to be completed in June 2004.

Project Description

The greater sage-grouse recovery planning process involved the following components:

- the formation of a Recovery Action Group;
- the formation of a Technical Advisory Group;
- the design and implementation of the Collaborative and Adaptive Resource Management (CARM) planning process;

- the use of a results-based management and accountability framework (RMAF); and
- an evaluation of the planning process when it is nearly complete.

Formation of a Recovery Action Group

The new federal Species at Risk legislation (House of Commons of Canada 2002) requires cooperation and consultation in recovery efforts, as does Alberta government policy (ASRD 2004). This prompted Alberta Fish and Wildlife to develop a recovery team that engaged affected interests in decision making. The Recovery Action Group is comprised of representatives from Alberta Fish and Wildlife, Alberta Public Lands, the Alberta Fish and Game Association, the ranching community, the Canadian Association of Petroleum Producers, and the Grasslands Naturalists.

Formation of a Technical Advisory Group

The Technical Advisory Group consists of individuals who have expertise on greater sage-grouse or their habitat (e.g., range management, greater sage-grouse ecology, water management, habitat classification, cumulative effects modeling). Members do not participate directly in decision making, which is the purview of the Recovery Action Group. The Technical Advisory Group provides technical advice and scientific knowledge, develops models, and recommends adaptive management experiments to the Recovery Action Group. Scientific judgments made by the Technical Advisory Group inform value judgment by the Recovery Action Group, a necessity for effective resource management (Decker et al. 1991).

CARM Planning Process

The CARM planning process was designed on principles of collaboration theory (Wondolleck and Yaffee 2000), adaptive resource management (Haney and Power 1996), results-based management (Treasury Board of Canada Secretariat 2001), alternative dispute resolution (Fischer and Ury 1991, Susskind 1999), and ecosystem-based management (Quinn 2002). There are three distinct phases to the CARM process: preplanning, planning, and implementation, monitoring, and adaptive management of the recovery action plan (Fig. 3).

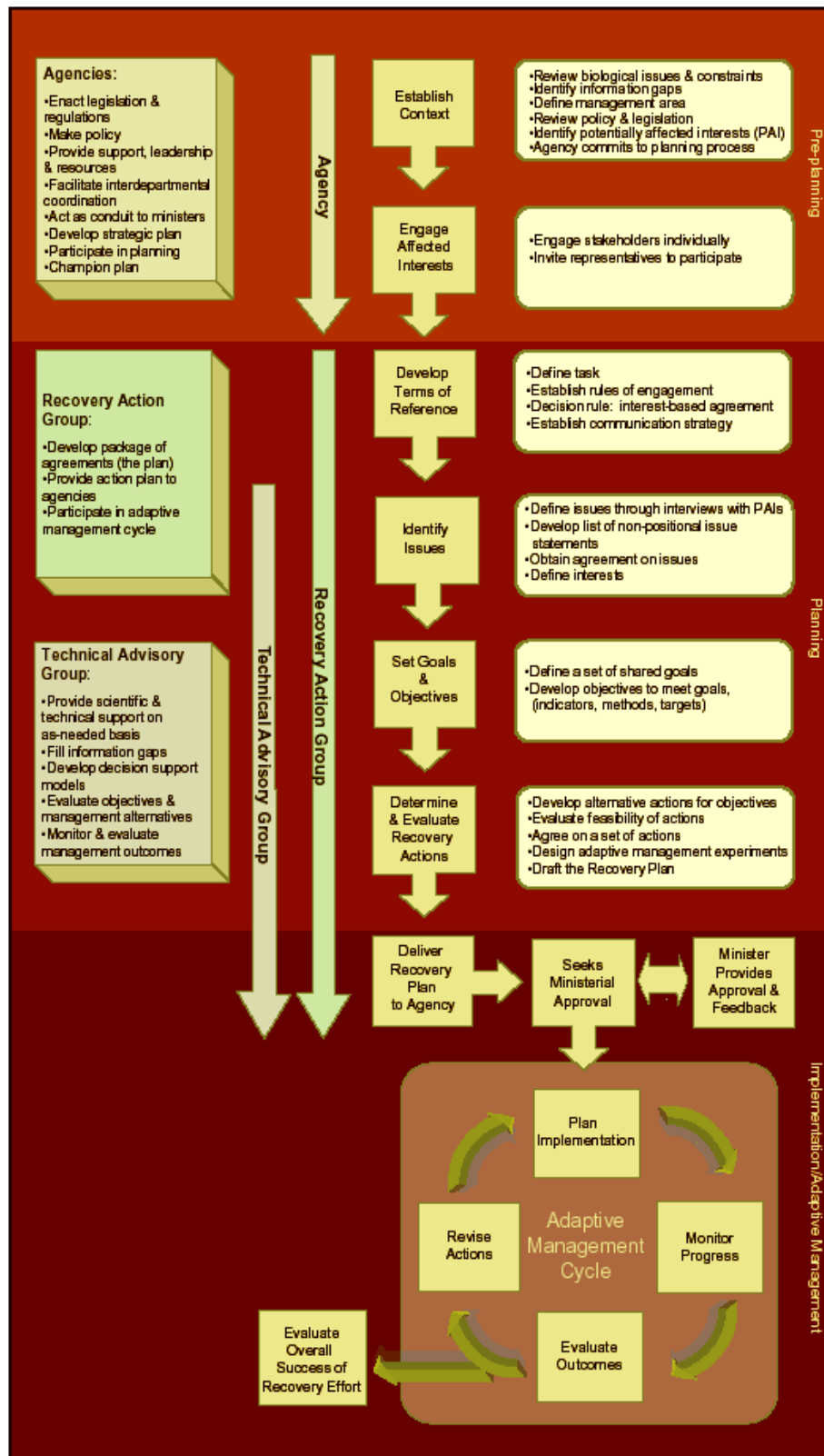


Figure 3. Collaborative and Adaptive Resource Management (CARM) planning process for greater sage-grouse recovery.

Use of Results-based Management and Accountability Framework (RMAF)

Results-based management has been used increasingly in federal programs to improve accountability. The framework can easily be adapted to any initiative; it is a means of ensuring that goals, objectives, and actions are clearly and logically linked, measurable, and achievable. By using RMAF principles, the greater sage-grouse recovery action plan should be implementable, with accountability for actions assigned to specific agencies. RMAF is being incorporated into recovery planning to address criticisms of planning processes and typical deficiencies in agency-based management plans, including a lack of implementation by agencies once a plan is written (Clark and Harvey 2002).

Process Evaluation

An evaluation (Conley and Moote 2003) of the CARM planning process will be done near the end of the process as a means of answering the following questions:

1. Did the process meet federal and provincial legislative and policy requirements for endangered species planning with respect to collaboration?
2. Was the collaborative process implemented successfully?
3. What benefits are there to using collaboration in endangered species recovery planning?
4. How were criticisms of collaborative resource management addressed?
5. What measures were taken to ensure that this recovery action plan will be implemented?
6. What are the recommended future directions for collaborative endangered species recovery planning in Alberta?

Semi-structured interviews will be done with the Recovery Action Group and Technical Advisory Group members to identify both positive and negative elements of the approach taken to planning. Content analysis will be applied to the qualitative data generated by those interviews. Communications and policy documents will be reviewed to understand the context in which the greater sage-grouse recovery process was operating.

Preliminary Results

Successes

CARM is firmly rooted in theoretical and applied frameworks for resolving environmental disputes, managing uncertainty, and building community capacity for environmental planning and management. To date, the Recovery Action Group has made substantive progress toward developing a recovery action plan; it has agreed on the terms of reference for the planning process

and issues that need to be addressed in the management plan, has developed a set of shared goals, and has started to specify a set of objectives and recommended actions.

Through its implementation, CARM has contributed to developing working relationships where none previously existed and to engaging agency managers and other stakeholders in defining common interests and goals. Preliminary evidence suggests that this process may serve as a functional model for other endangered species recovery efforts where participation in stewardship by landowners, and industry is desirable.

Challenges

Interagency Collaboration

In the pre-planning phase, it was recognized that actions prescribed in the recovery action plan would likely fall under the jurisdiction of several agencies including Alberta Fish and Wildlife, Alberta Public Lands, Alberta Energy, and Alberta Environment. In addition, the role of federal agencies is unclear. Agency managers attempted to have the directors of both Fish and Wildlife and Public Lands task the Recovery Action Group with developing the action plan; however, this was not achieved. The Recovery Action Group has been tasked only by the director of Fish and Wildlife with no commitments from other directors to date. While this has not hindered the planning process, it is possible that the plan will not be readily adopted and implemented by other agencies.

Transparency in Industrial Development

A decision support model is currently being developed that will assist the Recovery Action Group in evaluating the effects of industrial development and agricultural development on habitat supply and quality. There was a significant delay in developing the model because data on projected oil and gas development are sensitive. Agreements have been made for using the projection data, but the negotiation was lengthy and delayed the planning process for several months.

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