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The social acceptability of management strategies to restore deer habitat on Anticosti Island

Highlights

- The social acceptability of the strategy for restoring the Virginia deer habitat on Anticosti Island depends on people's perception of this restoration and on the impact of management practices on the quality of the hunt.
- There is a major gap between the vision of the experts and that of the users (residents, guides and hunters) concerning the population density of the deer, the quality of the Virginia deer habitat, and the need to implement habitat restoration measures.
- Personal observations and knowledge have an important influence on people's judgement of the strategy's acceptability and can cause the stakeholders to doubt the legitimacy and validity of the strategy.
- To maintain the strategy's long-term social acceptability, local perceptions, experience and knowledge must be an integral part of the decision-making process.

The concept of social acceptability must be integrated into forest management to ensure sustainable management of forest resources. However, much research still needs to be done to permit the effective integration of this concept into management plans for our forests.

Defining social acceptability

Social acceptability refers to a judgement process by which individuals decide whether a situation is acceptable or not. It depends on a multitude of factors such as the risks and uncertainties inherent in a practice, the aesthetics of the result, the confidence of the individual in the decision-makers and in the institutions involved, and the individual's personal and technical knowledge. However, the influence of these factors on the judgement of acceptability is not consistent in each situation. Social acceptability will depend heavily on the social, spatial, and temporal context of the individual; therefore, it is only conditional and temporary.

We studied the case of Anticosti Island, in Québec (See Figure 1). This is a particular case in the study of the social acceptability of forest resource management, in that the territory is primarily dedicated to the hunt for Virginia deer.

The objectives of our research project were:

- to evaluate the social acceptability of the management strategy to restore the deer habitat on Anticosti Island;
- to identify the factors that affect the judgement of acceptability of the strategy to restore the deer habitat on the island; and
- to prepare a conceptual framework based on the principal factors characteristic of the land base.

Anticosti Island: a very specific context

The hunting industry is by far the most important economic activity of the 270 permanent residents of the Anticosti Island. However, the progressive reduction of deer habitat on the island threatens the sustainability of the deer population and therefore the survival of this industry.

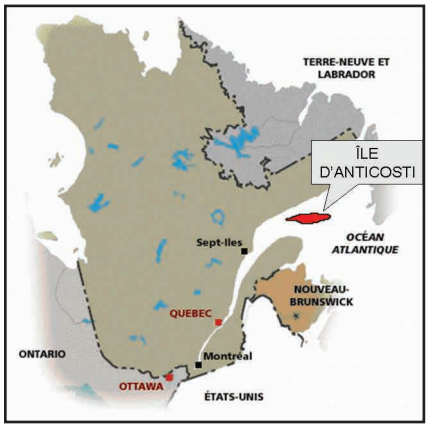

Figure 1: Location of Anticosti Island.

To remedy the situation, a strategy to restore the Virginia deer habitat, based on the use of fences to shield fir seedlings from grazing, was prepared by a group of managers and scientists. To make this strategy operationally and financially feasible, forest industry participation is necessary. Therefore, a Forest Management Agreement was granted to the forest industry; its only directive is to restore the deer habitat. However, the survival of the forest industry on the island depends on two factors: (1) the industry's effectiveness in restoring and maintaining the deer habitat, and (2) the social acceptability of the management actions proposed by the industry.

A fenced cutblock strategy

The management strategy on the island is to fence in mosaics of HARP (harvest with advance regeneration protection) cutblocks and residual forests (Figure 2). Within these fenced harvest areas, the deer population is reduced to a minimum by sport hunting. The reduced deer density in these fenced areas thus favours the fir regeneration. The fences will be removed after ten years, thus offering winter habitats for the deer. These fenced cutblocks will be rotated to maintain the deer habitat on the island over time and space.

Figure 2 a): Construction of fences around the mosaic of cutblocks. Photo courtesy of Produits forestiers Anticosti Inc.

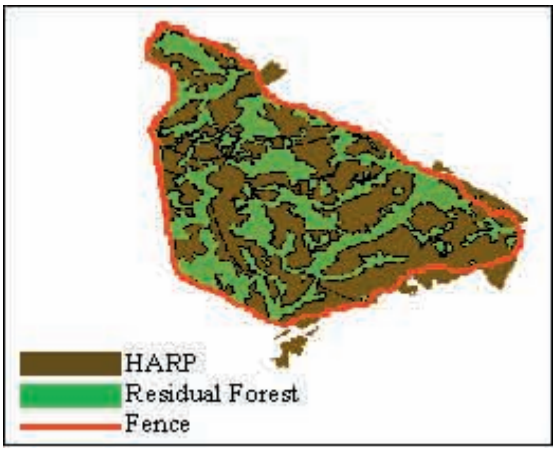

Figure 2 b): Example of the Jupiter enclosure with a fenced area of 1604 hectares and a harvested area of 882 hectares.

Methods

By studying the concerns, fears, and needs of the principal forest user groups in relation to the management strategy, we identified the factors influencing people's decisions about the acceptability of the deer habitat restoration strategy on Anticosti Island.

Three user groups participated in the study. The first group consisted of the permanent residents. For them, the land base has major symbolic value, and it is an important element in their identity. In

addition to being the main economic activity of the village, the hunt is, for the inhabitants, an activity undertaken largely because it provides them with recreation and food. The second group consisted of the hunting guides. Their employment is directly related to sport hunting. Their tasks are to direct, orient, and guide the visiting hunters to ensure their success in the hunt. The third group consisted of the visiting hunters who come from elsewhere in Québec and from the north-eastern United States.

A survey was undertaken that involved semi-directed individual interviews with 62 participants, of whom 17 were residents, 17 were hunting guides, and 28 were visiting hunters. A questionnaire addressed to the residents was also distributed. There were 67 responses to a total of 204 questionnaires sent out.

Conceptual and practical dimensions of acceptability

Two dimensions characterize the acceptability of the deer habitat restoration strategy on Anticosti: 1) a conceptual dimension, in which the individual judges acceptability based on the legitimacy of the strategy; and 2) a practical dimension, in which the individual considers the impacts of the strategy on the activities he carries out on the land.

The legitimacy of the strategy is evaluated using three general questions: is there a problem; should we intervene; how or by what means should we intervene.

The practical dimension is characterized by seven criteria on which the hunter bases his evaluation of the acceptability of the strategy and its practices: 1) the population density of the deer; 2) the visibility within the hunting area; 3) the hunter's movements; 4) the concealment opportunities for the hunter; 5) the shooting distance; 6) the gain or loss of hunting territory; and 7) the natural character of the hunt (see Figure 3).

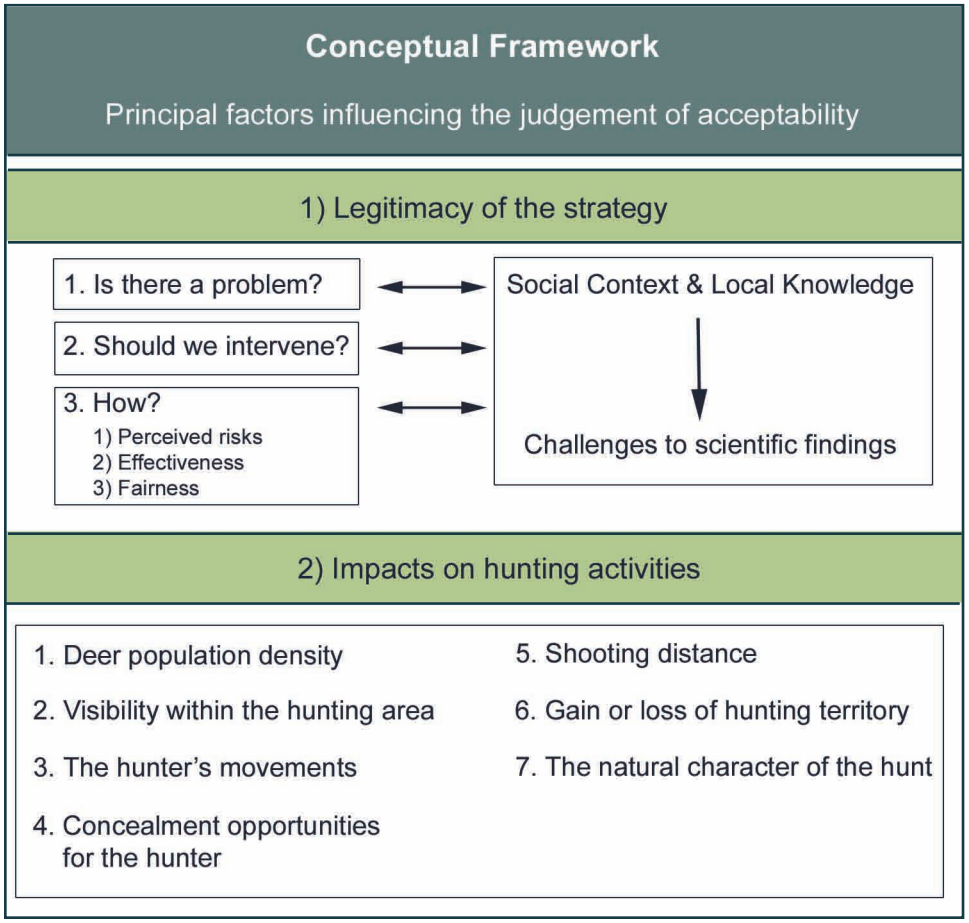

Figure 3: Conceptual framework of the principal factors influencing the acceptability of the deer habitat restoration strategy on Anticosti Island.

Legitimacy of the strategy

Evaluation of the problem is defined by two indicators: the population density of the deer and the loss of deer habitat.

Is there a problem? Evaluation of the population density of the deer

Although scientists and land base managers seem to agree that there is an overpopulation of deer on Anticosti Island, other stakeholders express a great variety of opinions. Twelve per cent of respondents believe that the population density is low, 35% believe it is normal, 35% believe it is high, and 18% believe there is overpopulation. Since the solutions chosen to respond to a problem depend on the way in which that problem is defined, the variance among stakeholders in the way the deer population density is perceived can hinder acceptance of the strategy, all the more so because the respondents are clearly at odds with the scientists and managers.

Should we intervene? Evaluation of the loss of deer habitat

The same tendency appears in the evaluation of habitat loss. While scientists and managers state that the loss of fir plantations threatens the deer population on the island, a large percentage of residents and guides wonder about the lack of food and about the link between the plantations and deer survival. Their opinion is partly based on personal observations which, they say, contradict the scientific findings. For instance, they have seen ungrazed fir seedlings in certain places, while the deer eat unusual species like white spruce. They speculate that the deer is adapting, either genetically or behaviourally, by feeding on other things than fir or by putting on larger fat reserves during the summer and fall in order to survive the winter. These local observations and knowledge lead the stakeholders to doubt the need for intervention.

How should we intervene?

Residents and guides also express skepticism concerning the way in which we should intervene. The uncertainty about the long-term results and consequences of the strategy inspires in stakeholders a certain lack of confidence in its application on the land base. Stakeholders are especially sensitive to the risk that the strategy could prove damaging to the hunting industry. The experimental nature of the strategy also fuels doubts as to its effectiveness in restoring and maintaining the deer habitat. The perception of ineffectiveness makes certain practices unacceptable. This is the case with fenced cutblocks enclosing an area greater than ten square kilometres. Based on their experience and personal observations, stakeholders consider these ineffective, and therefore unacceptable, because of the difficulty of reducing the deer population density over such large areas.

An important factor in the acceptability of the deer habitat restoration strategy on Anticosti Island is that local experience and knowledge must be taken into account. Indeed, the importance of integrating local knowledge is stressed by the stakeholders themselves: “We’ve heard from the forestry specialists, we’ve heard from the animal biology specialists, but we haven’t much listened to the people who live on the land.”

Using the land base

Because of the importance of hunting, the hunters (residents, guides, or visiting hunters) are deeply concerned by the impact of the deer habitat restoration strategy on hunting activities. These hunters measure the acceptability of the strategy and its practices based on seven criteria.

1) **The population density of the deer.** This is the most important criterion. The forest intervention is perceived positively or negatively depending on whether it increases or decreases the deer population density.
2) **The visibility within the hunting area.** The success of the hunt depends on the possibility of seeing the animals clearly. Stakeholders ask themselves whether the strategy of fenced cutblocks will result in increased vegetation density, thereby hindering visibility for hunting.

3) **The hunter's movements.** This criterion may be affected positively or negatively at the stand level or over the entire landscape. For example, wood debris has a negative effect on movement within the cutblocks, whereas the network of roads built by the company has a positive effect on the accessibility of hunting areas.
4) **The concealment opportunities for the hunter.** Cutblocks with a serpentine shape seem to be better appreciated by hunters, as they provide more concealment opportunities. For the same reason, the presence of wood debris can also be seen as positive.
5) **The shooting distance.** This criterion is relevant in the evaluation of the acceptability of cutblock sizes. Since the deer seem to feed habitually alongside forest strips, the hunters position themselves at the edge of a cutblock and wait for their prey to arrive at the other end. Therefore, the diameter of the cutblock, that is, the distance between one forest strip and another, must be comparable to the hunter's maximum range for hitting the target.
6) **The gain or loss of hunting territory.** Certain practices, such as the construction of new roads, may be perceived positively because they open the way to new hunting territories. Conversely, abandoning a road means losing a territory.
7) **The natural character of the hunt.** Since the deer are, in a way, captives within fenced areas, the hunt has lost its natural character for the hunter. Some hunters will go so far as to cease hunting in these areas.

Our approach: identifying the factors influencing the judgement of acceptability

This study shows how important it is, while making decisions, to consider the perceptions linked to the problem, to the need for intervention, and to the strategy. It also highlights the need to integrate local knowledge into the management strategy.

In addition, it showcases an approach that aims to identify the major factors influencing the judgement of acceptability. This approach is interesting because it informs us on the basis of the judgement, which in turn allows us to anticipate changes in context and to adapt management decisions to those changes.

Furthermore, the approach differs from more conventional approaches which seek to establish thresholds of acceptability. We therefore believe that using an approach based on identification of the factors influencing acceptability is highly relevant; the establishment of thresholds is complementary to this approach.

In all situations, a multitude of factors can potentially influence the judgement of acceptability. However, the weight

Management Implications

- To maintain the long-term social acceptability of the deer habitat restoration strategy, local perceptions, experience, and knowledge must be an integral part of the decision-making process at these levels: (1) the definition of the problem; (2) the choice of a strategy; and (3) the method of implementation on the land.
- Special attention must be given to: (1) the identification and evaluation of the risk that the management strategy might hinder the hunting industry and related activities, and to the preparation of a follow-up program along with control or alternative measures; (2) the effectiveness of the strategy, taking into account the personal experience and knowledge of residents and guides who can contribute to the continuous improvement of the strategy; (3) the localisation and spatial dispersion of fenced cutblocks. The manager will benefit from consultation on this subject with residents and guides living on the land; (4) the impacts of the strategy on the hunting industry and related activities; and (5) the seven criteria on which the hunter bases his evaluation of the impact of an intervention on his activities during the planning and implementation of the management strategy and its practices.

of each factor is specific to the social and territorial contexts of the situation (Shindler et al. 2002). Accordingly, the conceptual framework arising from our case study is difficult to generalise, although it could be applied to contexts similar to that of Anticosti Island where the deer hunt is an important component of the land value.

Further reading

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