

February 9, 2009  
Greater Fundy Ecosystem Research Group

## Reduction in Conservation Forest Threatens Biodiversity on Crown land

A collection of scientists that are part of the Greater Fundy Ecosystem Research Group (GFERG) are worried with the new direction taken for forest management on Crown land. The GFERG released science-based guidelines in 2005<sup>1</sup> that aim to protect native forest biodiversity in New Brunswick. Some aspects of the Department of Natural Resources (DNR) new forest policy are an improvement –there are sustainable management objectives for non-spruce/fir and the amount of mixed wood forest and tolerant hardwood stands will not experience further declines. However, government has selected a Crown forest management scenario that will double the amount of plantations, reduce old forest to 31% and decrease the amount of conservation forest to 23-25 %. Conservation areas targeting vulnerable older forests were created in 1992 to maintain viable vertebrate populations that depend on old forest and to help meet New Brunswick's obligations under the Canadian Convention on Biodiversity.<sup>2,3</sup> By reducing conservation forests how will the province meet their biodiversity obligations and ensure that species that depend on old forests will be viable in the future?

The biodiversity on Crown land is impacted by three main decisions taken by the government:

- Doubling the amount of plantations. A large body of research from around the world and in New Brunswick has shown that plantations are a problem for some species but not for others. Overall, there is a decrease in the biodiversity of the forest, especially when combined with clearcutting, scarification and herbicide treatments<sup>1,4</sup> because many plants, amphibians, reptiles and invertebrates rely on snags, large diameter trees, and decomposing wood. Even based solely on tree species the overall composition and number of tree species decreases after planting.<sup>1,4</sup>

In southern Sweden, which has similar forest type to New Brunswick, but a much longer history of intensive forest management, the forests have become younger, drier, dense, and contain fewer large dead trees.<sup>5</sup> According to the 2005 Red List of Swedish Species 1,862 forest species are in danger of extinction with 60% dependent on old or dead trees.<sup>6</sup> Given so little is known about the long-term effects of plantations in New Brunswick, the GFERG choose a maximum of 15% for the total area of plantation<sup>1</sup> on Crown land<sup>1</sup>.

- Decreasing mature forest. Mature forests are decreasing in New Brunswick at a rate of 1-2%/year.<sup>7</sup> Scientific estimates indicate that historically, such old forest would have covered ~80% of the province. On CBC radio on February 4th, Premier Graham stated 30% of the forest will be 'old-growth'. In the latest report, Department of Natural Resources states that old forest will decline from 45% to 31% of Crown lands by 2060. But, the loss is even greater because many stands are not true 'old forest' or 'old growth'. In this new forest policy, balsam fir and spruce, which will be 47% of Crown land in the future, can qualify as old forest in as little as 30-40 years. This means large parts of NB forests will be made up of trees the diameter of flagpoles. These types of forests do not meet the standard definition of old Acadian Forest. Many Acadian tree species are capable of reaching ages of 200-800 years<sup>1</sup> and the diameter of coffee tables. To maintain the diversity of life in New Brunswick old forest habitats need to be maintained and the remaining few examples of true old-growth forests (>150 years) need to be identified.

- Reductions of conservation land. Conservation forest can be broken down into two main areas; stream buffers and old forest habitats. Stream buffers are required for fish habitat and water quality and presently include 40% of all of the conservation forest. Stream buffers cannot be reduced as this would contravene the Clean Water Act and DNR's own watercourse regulations. Old forest habitats were identified by DNR in 1992, as the minimum areas required to maintain old-forest vertebrate populations and healthy deer populations on Crown land.<sup>6</sup> The forest of the future will be much younger and as a result species which rely on old forests will be most risk. The amount of old forest is important but so is the size of habitat

patches. Based on the governments plan a large percentage of the old forest will only be found in stream buffer areas which are narrow and do not meet the minimum habitat size required for many vertebrate species. So, if only small patches of old forests are selected, certain old-forest specialists such as barred owl<sup>2</sup>, ovenbird<sup>8</sup> and brown creeper<sup>9</sup> may still decline on the landscape.

In conclusion, the GFERG is concerned the province is threatening biodiversity in New Brunswick by lowering the net amount of conservation areas while at the same time increasing plantations and further decreasing mature forest area. At present no information exists on how the province will mitigate potential losses to biodiversity. Policies need to be put in place to ensure that old forest characteristics are maintained on the working landscape. By reducing areas set aside to protect biodiversity, the province seems to be taking a step backwards on its own conservation goals.

1 Betts, M.G. and G. Forbes (Eds.) Forest management guidelines to protect native biodiversity in the Greater Fundy Ecosystem, N.B. Cooperative Fish and Wildlife Research Unit. p.p. 110. 2 NBDNR. 2005. Habitat Definitions for Old-forest Vertebrates in New Brunswick. New Brunswick Department of Natural Resources. Fredericton, p.p. 40. 3 New Brunswick and the Canadian Biodiversity Strategy (accessed on Feb 6 2009). <http://www.gnb.ca/0263/biodiversity-e.asp> 4 Betts, M.G., A.W. Diamond, G. J. Forbes, K. Frego, J. Loo, B. Matson, M.R. Roberts, M-A. Villard, R. Wissink, and L. Wuest. 2005. Plantations and biodiversity: A comment on the debate in New Brunswick. *Forest Chronicle* 81:2. 5 Roberge, Jen-Michel. 2008. Biodiversity conservation: perspectives from European forests at the temperate-boreal transition. *Acadian Forest Science Notes* (Number 1, 2008). 6 Gardenfors, U. (ed.). 2005. The 2005 Red List of Swedish species. Swedish Species Information Centre, Uppsala. 7 Betts, M.G. , D. Michell, A.W. Diamond, and J. Bêty. 2007. Uneven rates of landscape change as a source of bias in roadside wildlife surveys. *Journal of Wildlife Management*, 71(7): 2266-2273. 8 Betts, M., G. J. Forbes, and A. W. Diamond. 2007. Thresholds in songbird occurrence in relation to landscape structure. *Conservation Biology*, 21(4): 1046-1058. 9 Poulin, J-F. Villard, M-A, Edman, M., Goulet, P. J. and A-M Eriksson. 2007. Thresholds in nesting habitat requirements of an old forest specialist, the Brown Creeper (*Certhia americana*) as conservation targets. *Biological Conservation* 141: 1129-1137.

Who is the Greater Fundy Ecosystem Research Group?

The Greater Fundy Ecosystem Research Group (GFERG) is a collection of scientists from universities and government that have done 20 years of research on the impacts of forestry on biodiversity at local and landscape scales. In 2005, The Forest Management Guidelines to Protect Native Biodiversity in the Greater Fundy Ecosystem (GFE) were released. Based upon over 300 peer reviewed scientific publications, this document recommends best practices for forest management to maintain the ecological diversity in southern New Brunswick.

For more information see: <http://www.unbf.ca/forestry/centers/fundy/>

Contact: Matthew Smith, Research Coordinator, Greater Fundy Ecosystem Research Group  
matthew.smith@unb.ca (506) 477-3498/ 452-6315