

The International Year of Biodiversity

The United Nations has designated 2010 as the International Year of Biodiversity. This designation was created to increase awareness of the importance of biodiversity and promote actions that support biodiversity at the local, regional and international levels.

It is important to realize that biodiversity does not mean that every hectare must have every possible native plant or animal that can or might live there. Instead it means that the trees and plants should be suited to the growing conditions found on that site and capable of providing the ecological goods and services required for that ecosystem. As time passes, the mixture of species will evolve and change in any ecosystem providing new openings for some species and closing doors for others but it is a system in balance.

Prince Edward Island's forests are diverse ecosystems that provide many ecological, economic and social benefits. Unfortunately, they also often reflect centuries of poor harvest practices and land use decisions. In many cases, the natural diversity of the original Acadian Forest has been replaced by different mixtures of species. This new mixture resulted from many different human decisions such as converting forest land to other uses and then abandoning that land and allowing it to return to forest cover, putting harvest pressure on certain tree species while leaving other species to reclaim the site, and introducing new forest species.

These changes include the loss of some Acadian Forest species such as American elm to Dutch Elm Disease and the reduction in the frequency of beech due to Beech Canker Disease. The traditional demand for sugar maple and yellow birch fuel wood has often created bigger openings in the forest allowing other species such as red maple and poplar to reclaim many harvest sites. Other Acadian Forest tree species are probably more common today than they would have been in the pre-settlement forest. For instance, white spruce reclaimed tens of thousands of hectares of abandoned farm land over the last century, while white birch and poplar have increased in open disturbed areas. Finally, new, non-native tree species such as Scots Pine, White Oak, Norway Maple and Honey Locust have become established in different parts of PEI and are now a part of the altered forest environment.

Most of these changes were unintentional and in some cases we will simply have to live with or adapt to the consequences. However, there are many different things that we can do to ease or reverse some of these biodiversity challenges and restore a healthier, more productive native forest.

A simple and effective first step is to remove invasive species from your land. Scots pine is a European tree species that has been widely used for hedges and windbreaks on PEI. When it matures, it can aggressively reseed old fields and open disturbed areas. Cutting these trees and using them for low grade firewood will remove the problem while helping to offset some of the cost. Removing other plants such as Japanese Knotweed or European Buckthorn can be more time consuming and expensive but it will prevent the spread of these shrub species to other parts of the forest.

For other species the answer is not so simple. In the case of beech canker disease, you can help to ease the impacts of this disease by harvesting severely infected trees and leaving the healthier ones to grow and produce seed to renew the site. This takes time but there is strong evidence that our native beech are adapting to this problem and that a helping hand can speed the spread of resistant genes through the local beech population. Ensuring that all plant materials brought in to PEI from elsewhere have been properly inspected for insects and diseases will also help to stop the spread of unwanted pests in future years.

Another approach is to plant Acadian Forest species on sites where they are not currently found but which are suited to their growing needs. The best time to plan this type of operation is just before a harvest or management operation because matching it to the needs of the species you wish to plant, greatly improves the chances of success. For example, shade tolerant species such as sugar maple, red oak, red spruce or white pine, need to find the right balance of light to support their growing needs and shade to discourage unwanted competitors. Other factors such as soil type and depth, soil moisture, and exposure to wind and snow load also contribute to the success or failure of any planting operation.

By using what grows naturally on or near your forest, you can avoid expensive eradication or plant establishment costs. You will also encourage trees and plants that are adapted to local conditions and thus avoid problems that occasionally arise when planting species that are native but grown from seed obtained in other places. Pre-harvest planning and advice can help you to identify what is there and how to conserve and even enhance the natural biodiversity in your forest.

The best way to understand and support the biodiversity needs of your forest is to plan first and then decide on a course of action. Today many people are interested in restoring forest health and as part of that process they are undertaking efforts to increase diversity and restore more ecological balance to Island forests. The Forest Enhancement Program (www.gov.pe.ca/forestry/fep) offers ideas and services to land owners who want to manage their forests for any number of reasons and goals.