Connecting the Boardroom with the Forest Floor

Revolutionising Coillte's Forest Planning Process

Coillte is Ireland's largest commercial forestry company and operates in forestry, land based businesses, renewable energy and panel products. Established in 1988, the company employs approximately 1,000 people and owns over 445,000 hectares of land, which is about 7 percent of the land cover of Ireland. Coillte's core purpose is to enrich lives locally, nationally and globally through the innovative and sustainable management of natural resources.

CHALLENGE

In 2010, a number of factors coincided to cause Coillte to undertake a review of its forest management planning approach. These included a renewed commitment to value-based asset management, increasingly complex regulatory requirements, challenging and evolving forest certification standards and tightening supply for customers. In forestry, the key to successful planning and execution remains in the hands of good local management; however, by 2010 the planning burden was reaching critical levels.

As an example of the enormous effort involved, one audit found that forest managers were using up to twenty four distinct spatial data sets and accompanying rules to determine the shape and timing of felling coupes. Coillte's five-year forest management plans were taking up to nine months to complete but only tackled a limited number of goals. They also relied largely on the forest managers' expertise to achieve the right balance and satisfy all necessary objectives and constraints.

This bottom-up planning system allowed little strategic direction and was weak on supply management and financial performance measures, as well as being slow to react to change. There was also no ability to run valuable 'what if' scenarios, causing difficulty for Coillte to accurately plan for the future.

SOLUTION

Coillte recognised the benefit of introducing a forest resource planning system that would use optimisation techniques to devise strategic, tactical and operational plans for field operations and to aid in the achievement of short and long-term goals. In 2010, the company issued a request for tender for vendors to supply Coillte with software.

Following a tender process, Coillte selected **Remsoft Inc.**, a Canadian company providing predictive modeling and advanced analytics solutions to improve strategic, tactical and operational planning activities. Coillte partnered with Remsoft on a series of projects to improve resource planning, better manage sustainable development and increase financial savings.

Make an assessment of the burden of intellectual, time and money investment that truly modern and sustainable forest management demands. Talk openly and frankly to your staff about what they find challenging in planning for ten or twenty hectares. Now take yourself to the level of the forest estate; are you <u>sure</u> the sum of all these individual plans is maximising its full potential?

Myles McDonagh, Silvalytics

Why Remsoft?

- Remsoft has been used by global clients for more than 24 years to manage nearly 500 million hectares of land… Remsoft knows forestry.

- Designed to tackle these challenges, their solutions provides a complete and elegant system for forest management planning driven by powerful optimisation.

- The Remsoft Solution Suite provides enormous flexibility to incorporate timber growth and yield functions, silviculture, products, management constraints and objectives that may be unique to each country or region.

IMPLEMENTATION

The Remsoft implementation was conducted in stages. Initially, Coillte ran a year-long project to redraw business area unit boundaries from thirteen down to eight to ensure each could be independently financially viable. Another year was spent using Remsoft to value the entire estate and pass scrutiny of international forestry and financial experts and auditors.

After three years, the strategy was brought to the forest floor where plans were reviewed and edited by forest managers before becoming operational; a process supported by one of Remsoft's key analytics modules. This "ground truthing" cycle was a key part of the project to ensure the "planned" results were realistic and operable – and supported by the forest managers.

Iterative Implementation Cycle

Using the intuitive capabilities of the Remsoft Solution Suite, Coillte was able to loosen constraints and manipulate parameters to test different model behaviour and results. Because the underlying optimization technology is ruthless in seeking out optimum outputs within defined constraints, this is critical. It enables multiple scenarios to be run and explored, exposing the correlation between constraints and outputs, and ultimately producing rewarding and sometimes surprising insights into the forest resource and its management.

The relative importance of the inputs can also be tested. In Coillte's case it revealed a weakness in the forest inventory for some of its younger crops. The sensitivity of estate value to potential discrepancies in the inventory helped build a case for a refreshed inventory strategy which has since produced significant benefits for Coillte.

RESULTS

"In using Remsoft, we now have a tool that allows us to manage the forest estate at a strategic level to meet our customer's needs and maximise the value of the estate from an economic and public good perspective"

Gerard Murphy, Managing Director, Coillte Forest.

The Remsoft implementation has enabled Coillte to evaluate the impact of environmental, managerial and economic changes on its operations, track long-term carbon sequestration and remain in compliance with environmental certification programs. Remsoft's technology has helped Coillte more efficiently and sustainably meet the global demand for Irish wood exports, which has significantly increased since 2009.

One of several financial improvement areas for Coillte has been in reducing contracting costs in the construction of new roads. Remsoft's global clients are also seeing ROI improvements in harvest and haul cost, improved use and allocation of the wood supply with less waste, improvements in inventory management, more efficient contract negotiation information and increased accuracy and consistency of demand fulfillment among other benefits.

ABOUT REMSOFT

Remsoft makes the complex world of sustainable resource management simple, predictable & profitable. As a global leader in land-use planning solutions, Remsoft helps companies to unlock their land's value, gaining insight into how land assets are being used and could be used in a more environmentally, ecologically or financially sustainable manner. This makes the Remsoft system one of the most powerful and widely used optimization products available today.

With hundreds of clients worldwide, Remsoft has been working with big data for decades, bringing business intelligence to planning and optimizing land assets in forestry, utilities and other resource sectors. For more information, please visit www.remsoft.com.

ABOUT SILVALYTICS

Silvalytics is a leading advisor and problem solver to Public and Private sector forest owners, investors (including pension funds), managers and policy makers in Ireland, the U.K. and Europe. Silvalytics is an "evidence-based" consultancy run by forestry professionals with a deep and diverse expertise in both the Science and the Business of forestry. Silvalytics combine extensive industry knowledge from planning large commercial forestry operations, as well as making major commercial resourcing and outlay decisions.

Silvalytics is Remsoft Partner in Europe and was founded by Myles McDonagh, who managed the Remsoft implementation at Coillte. Contact the Silvalytics team at **+353 91 396476** or email **info@silvalytics.com** to discuss Remsoft as a solution for your company.