Economic considerations for mixedwood management

A view from the dismal science

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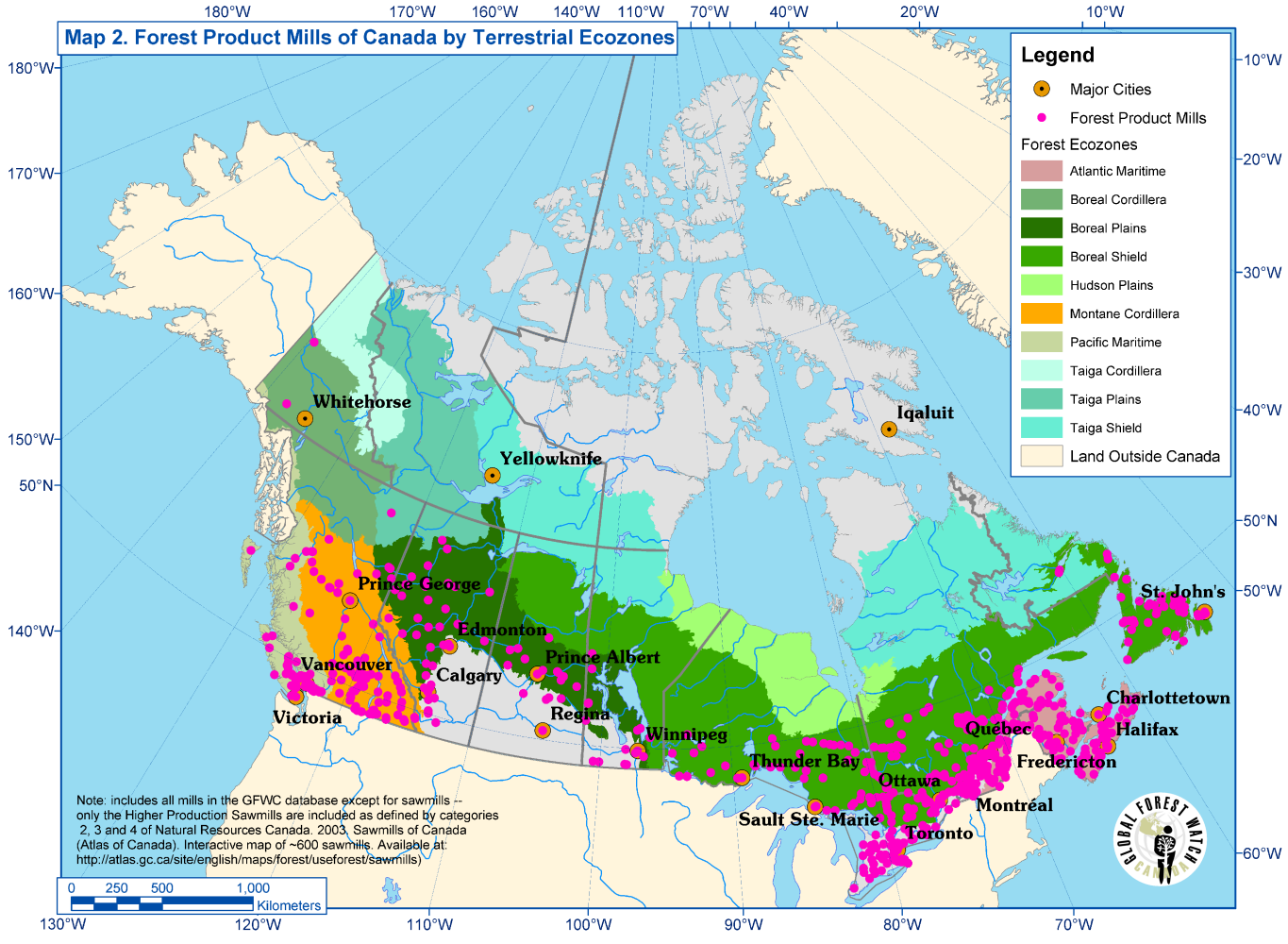
Mills by ecozone



http://www.globalforestwatch.ca/mills/download.htm

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Aspen — The Ugly Duckling

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Abstract

The aspen resource of Canada is large and increasing. However, aspen has been long neglected by industry because of the abundance of more desirable species — especially spruce. The management of aspen is relatively easy and inexpensive when compared with the dominant softwood species and aspen growth rates are generally superior. Aspen is useable for a wide variety of products. It should be actively promoted and managed.

The Resource

Trembling aspen (*Populus tremuloides* Michx.), the major populus species, occurs all across Canada. It was a minor component in the relatively untouched forests of the past. Its incidence was directly related to the frequency of disturbances, primarily fires.

Aspen's ability to reproduce vegetatively by ... makes it especially successful following catastrophes, such as fire, ... In both

The Ugly Duckling

Despite the large size of the aspen resource in Canada, it has been a neglected and despised species. With few exceptions, the forest industry has regarded aspen largely as a weed species because of the high incidence of rot in standing trees (many of which are overmature) low fibre yields in pulping operations, relatively low strength, and problems with drying and machining lumber (Basham and Navratil 1975). With adequate supplies of spruce and pine available, ... stry chooses to by-pass aspen stands and ... e behind the aspen component of mixed stands in high grading expeditions that produce "silvicultural slums". Only in the past five years has any significant trend towards increased utilization of aspen become apparent. One example is the increased use of aspen for chipboard.

“We do not inherit the earth from our ancestors; we borrow it from our children”
–Chief Seattle (maybe)

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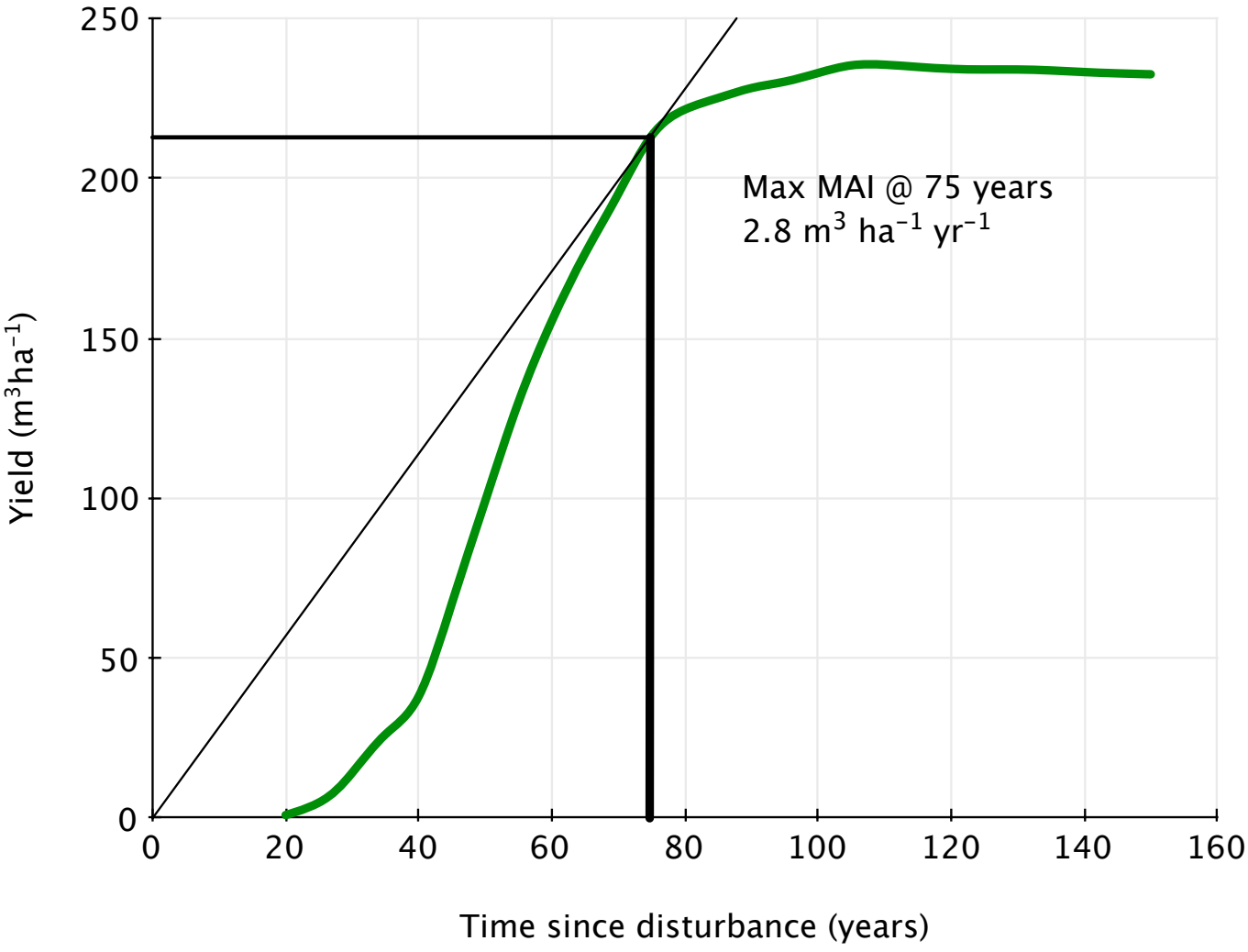
Spruce yields



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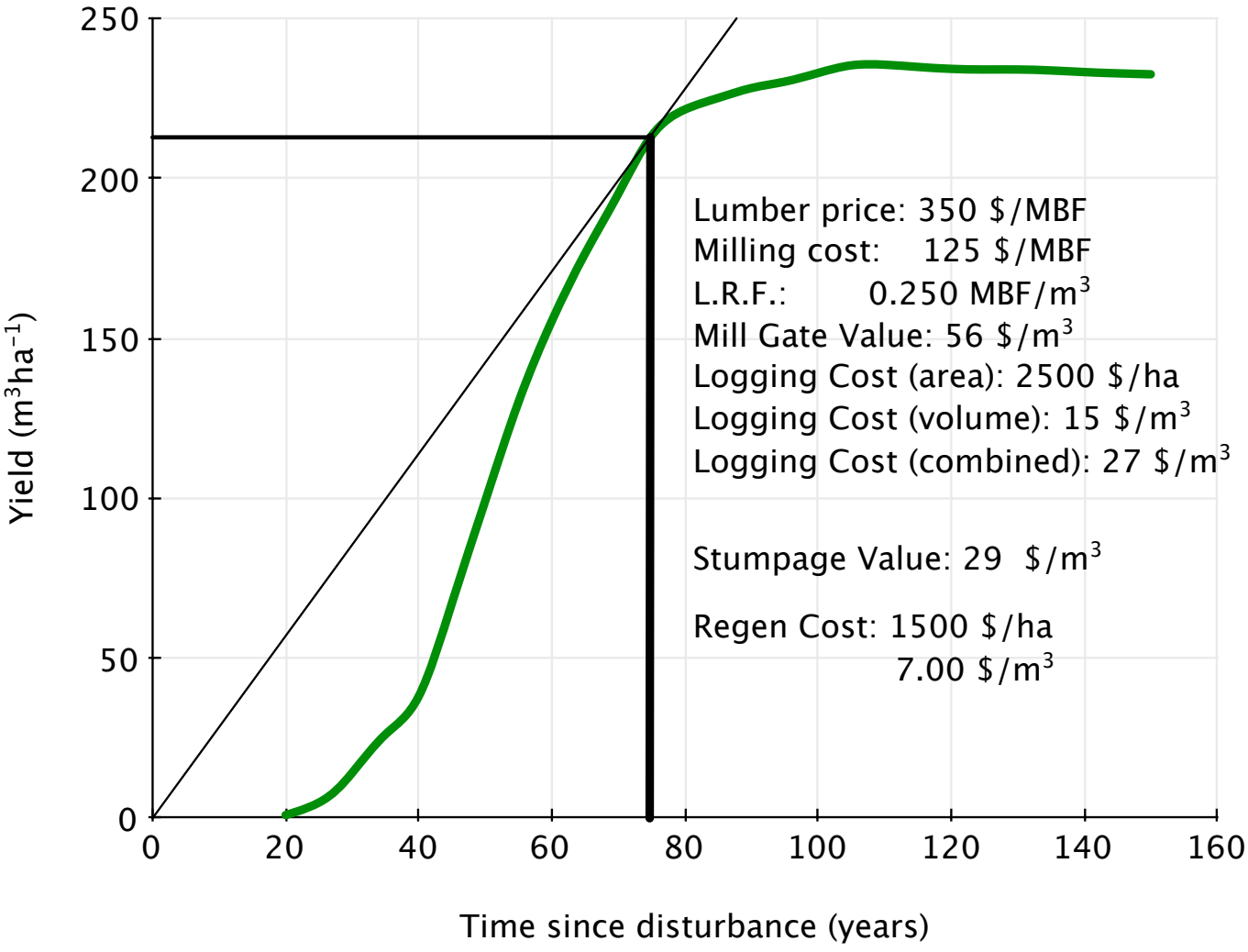
Spruce yields (350 $/MFBM)



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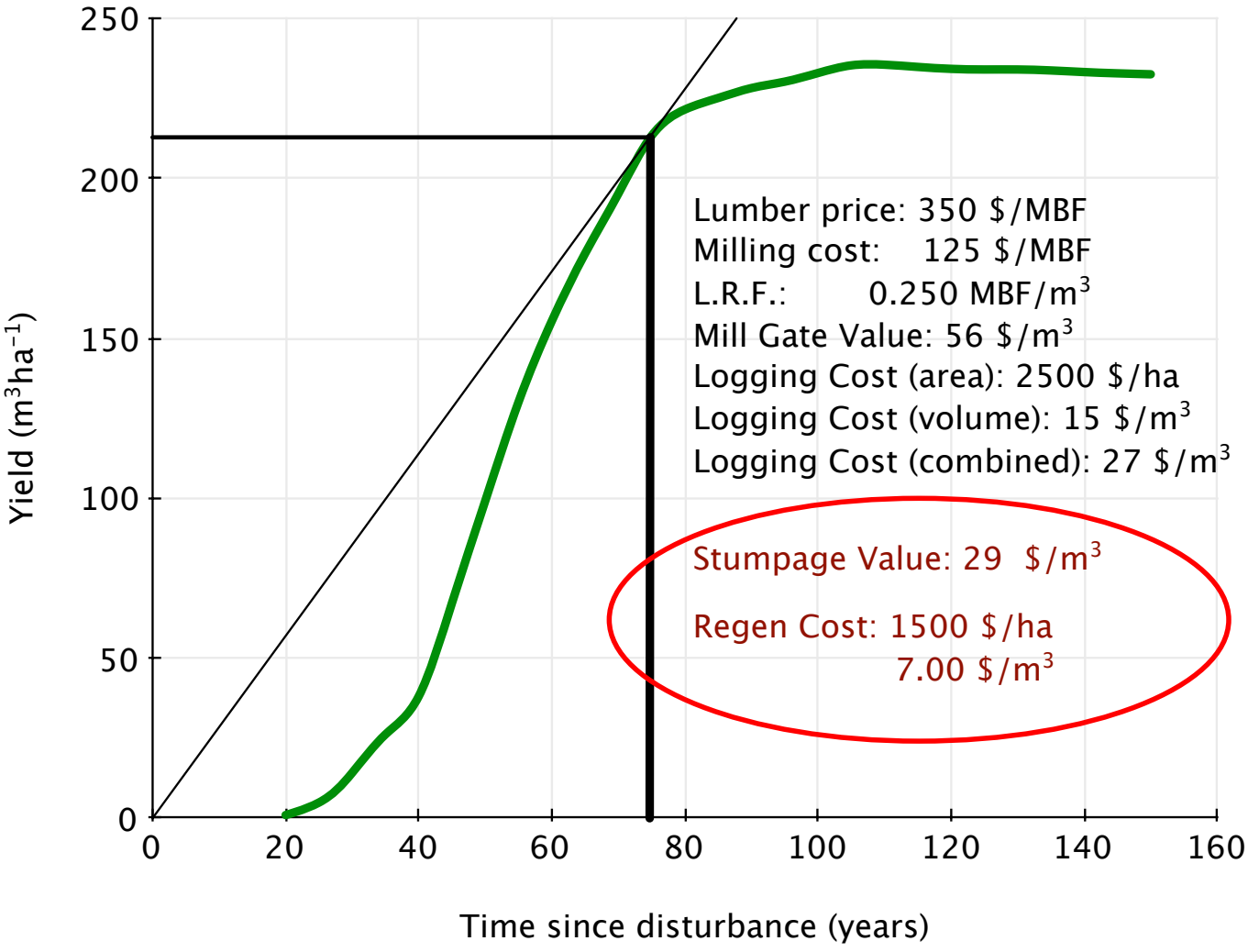

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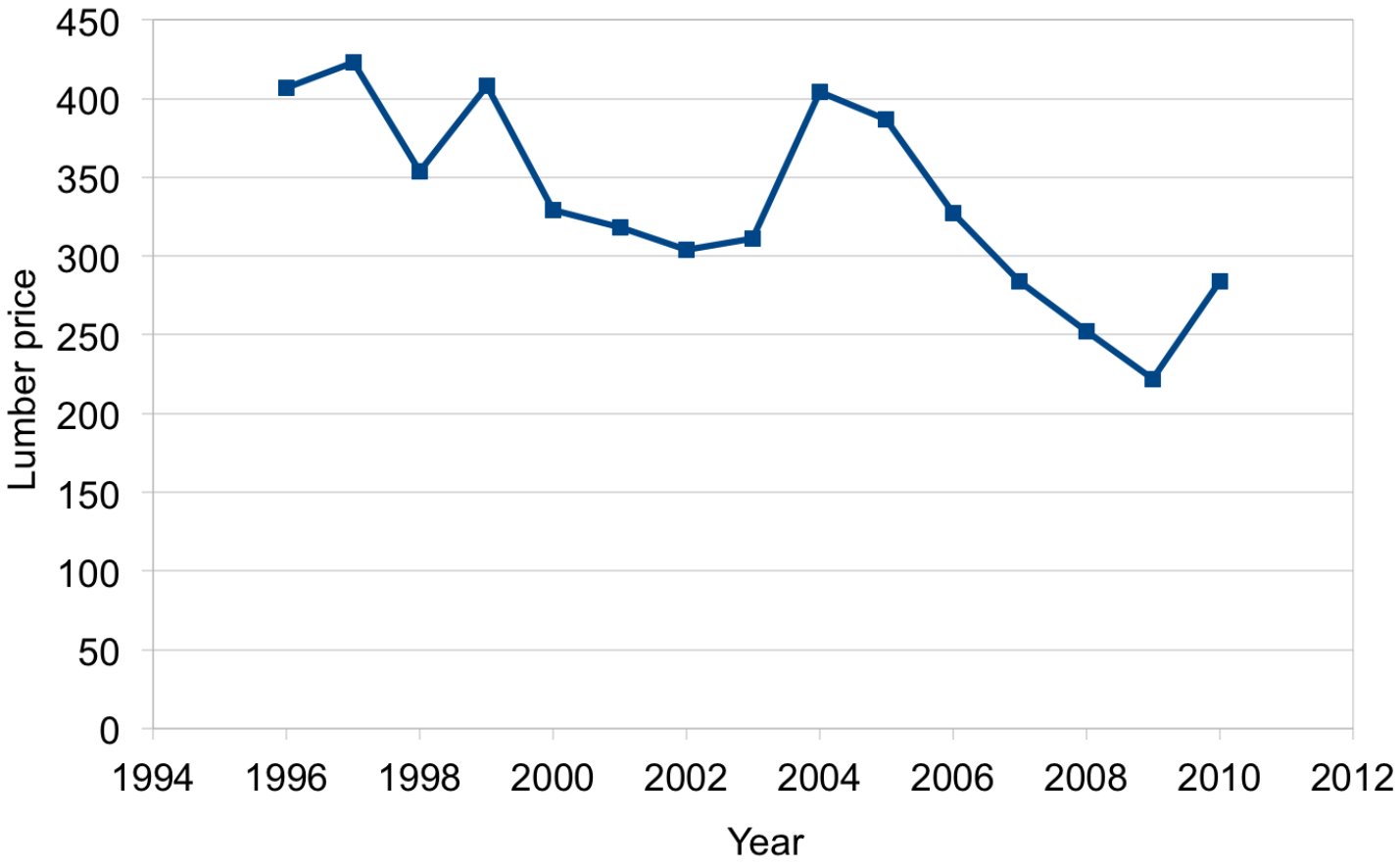
Lumber price (USD/MBF)



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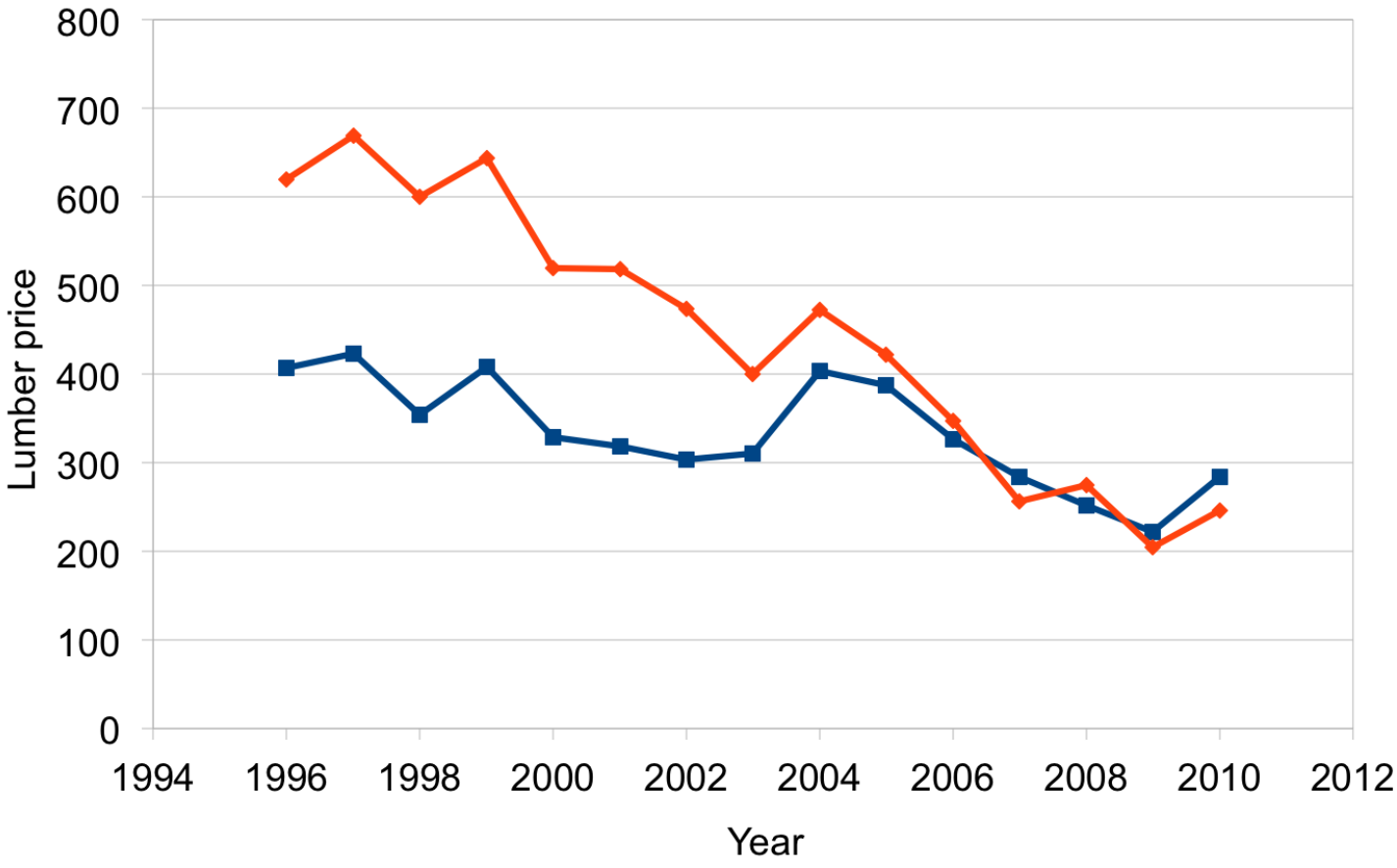
Lumber price (CAD/MBF) (Real 2002)



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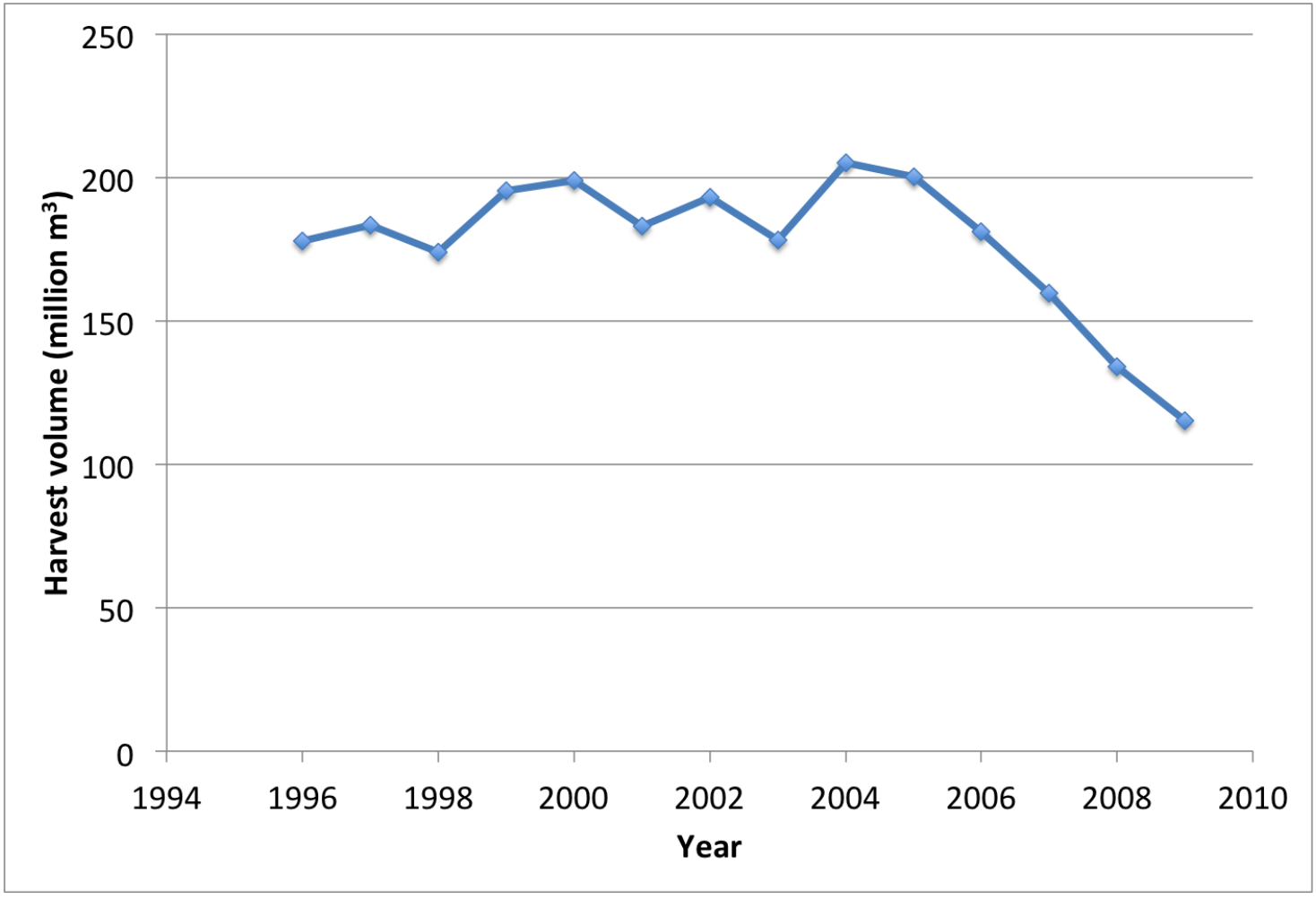
Roundwood harvest volume. Canada 1996-2009.



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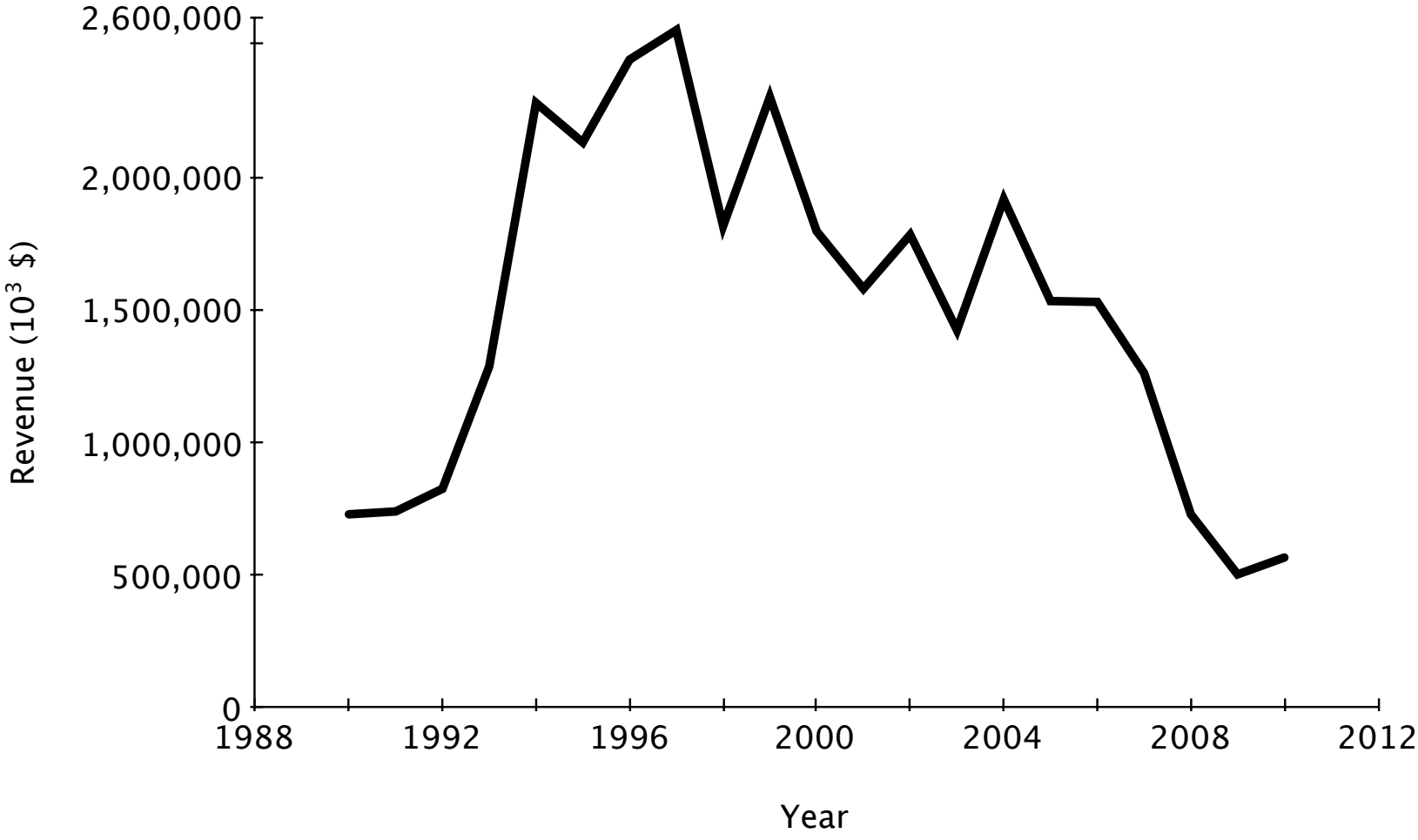
Crown Timber Revenue. Canada 1990-2010.



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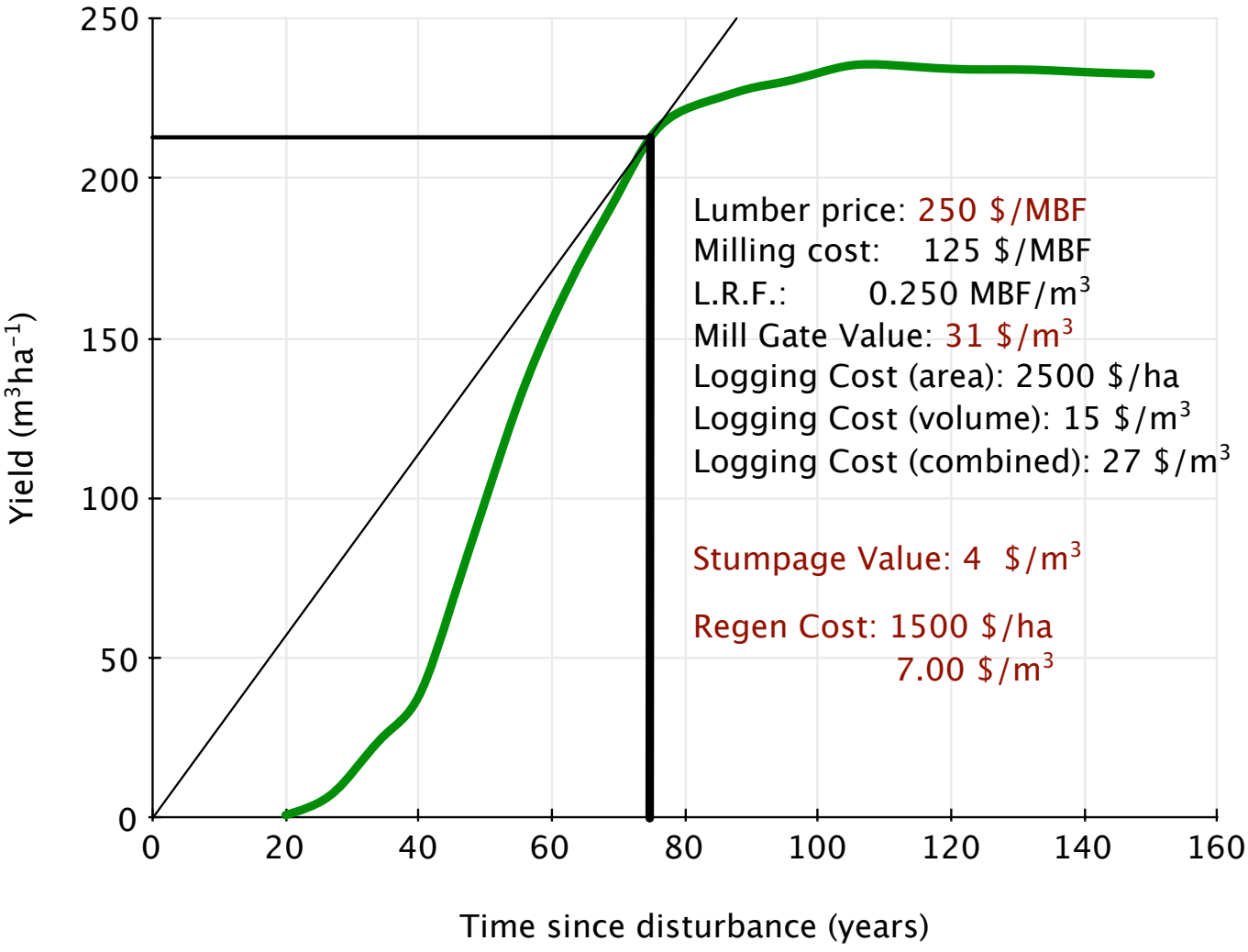
Spruce yields (250 $/MFBM)



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Silviculture as an investment

- Net Present Value

$$NPV = \frac{a}{(1+i)^t} \tag{1}$$

$$\frac{1}{(1+0.05)^{75}} = 0.026 \tag{2}$$

- Net Present Value of 1 Rotation

$$NPV1R = \frac{(P - C_v)V(T) - C_a}{(1+i)^T} - C_r \tag{3}$$

- Land Expectation Value (Bare Land Value)

$$LEV = \frac{(P - C_v)V(T) - C_a - (1+i)^T C_r}{(1+i)^T - 1} \tag{4}$$

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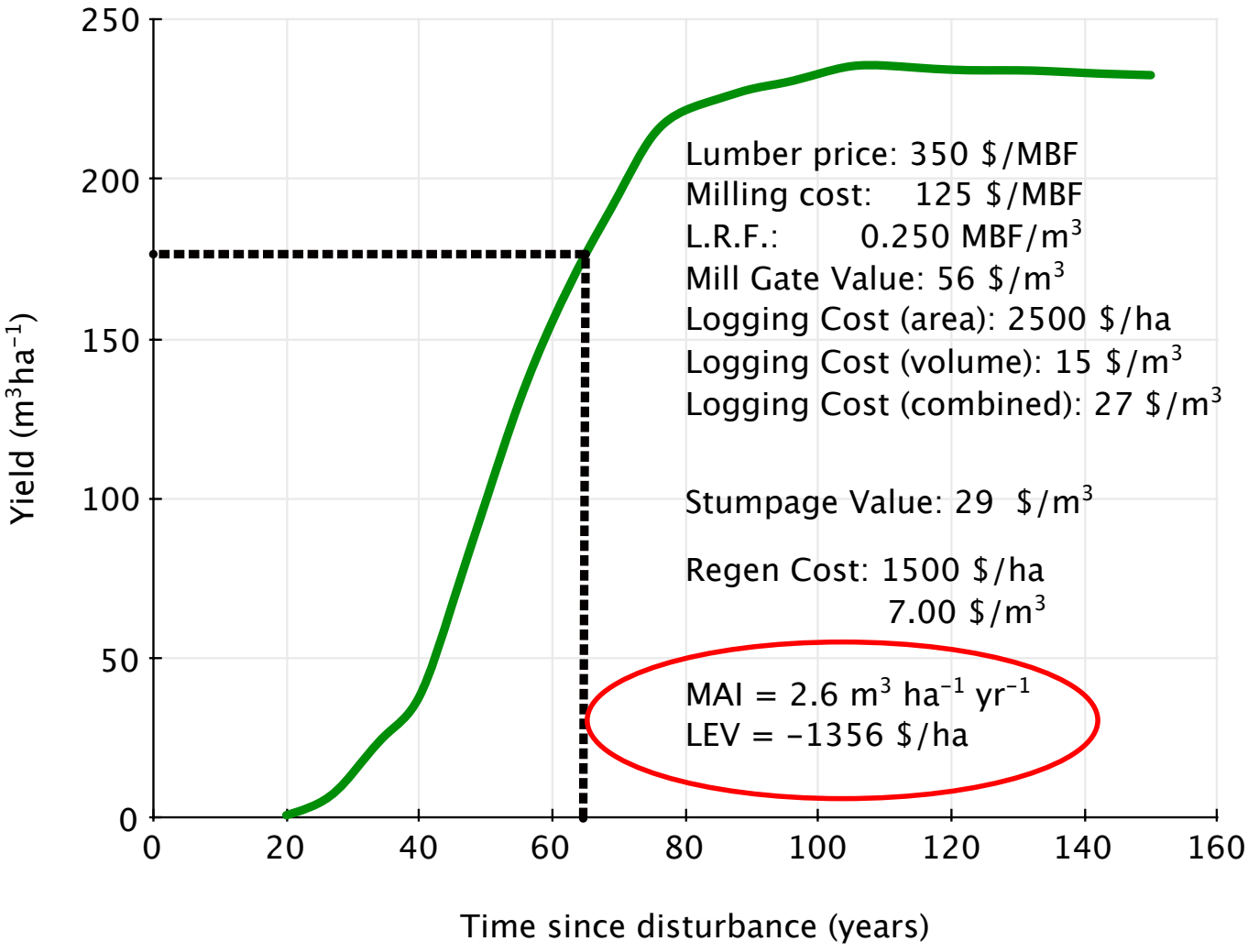
Land Expectation Value



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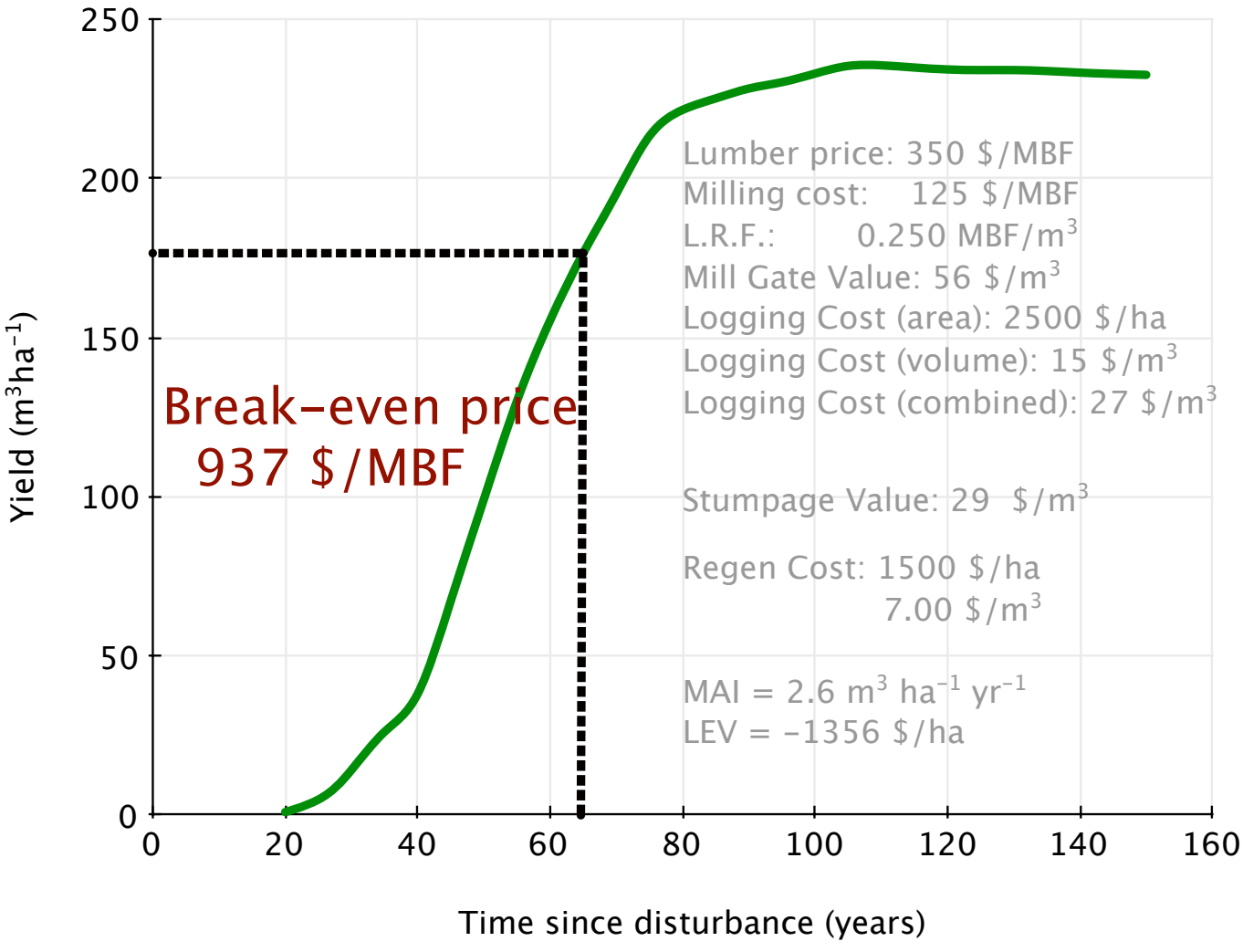
Land Expectation Value



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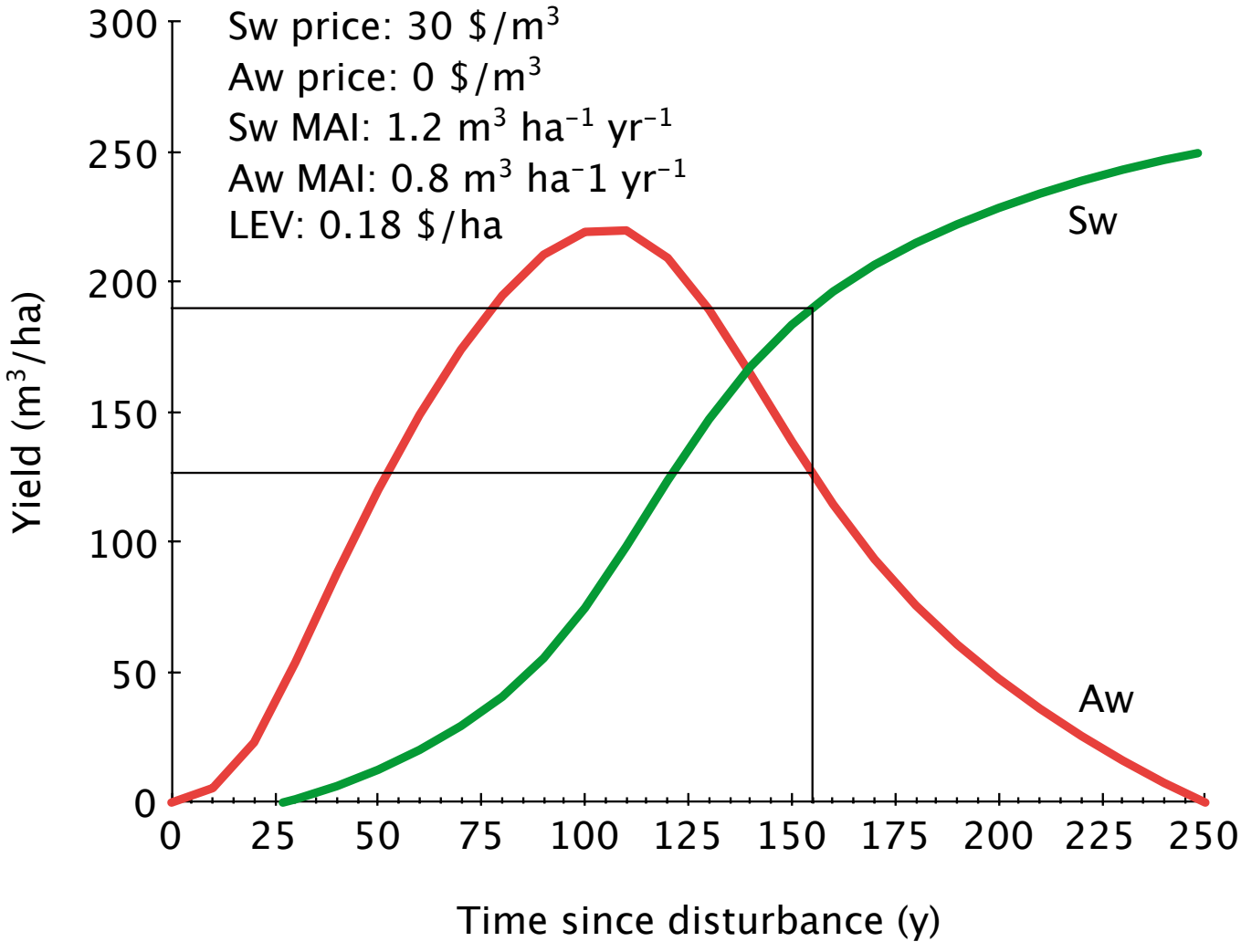
Mixedwood (aspen worthless)



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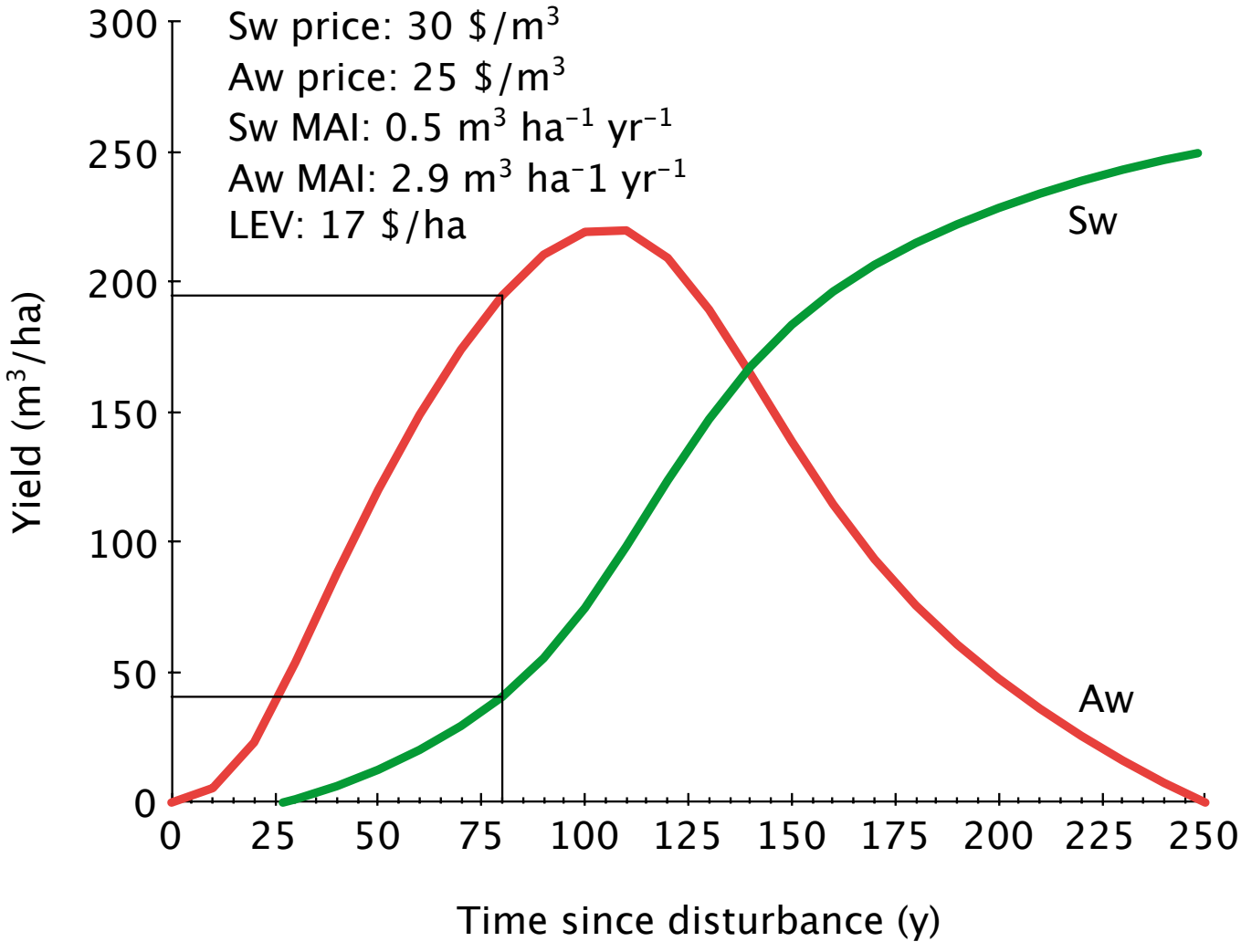
Mixedwood (aspen valuable)



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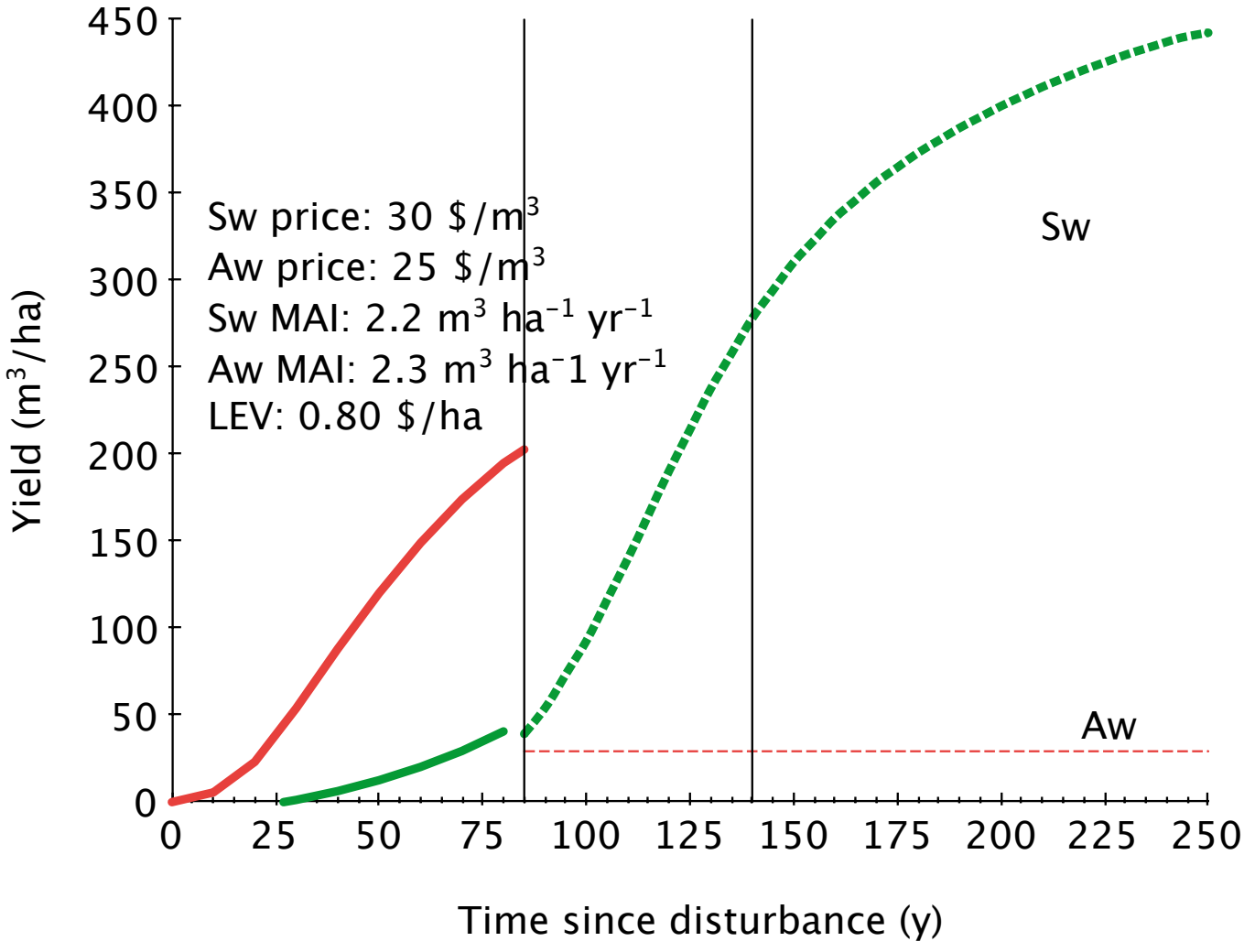
Mixedwood (understory protection)



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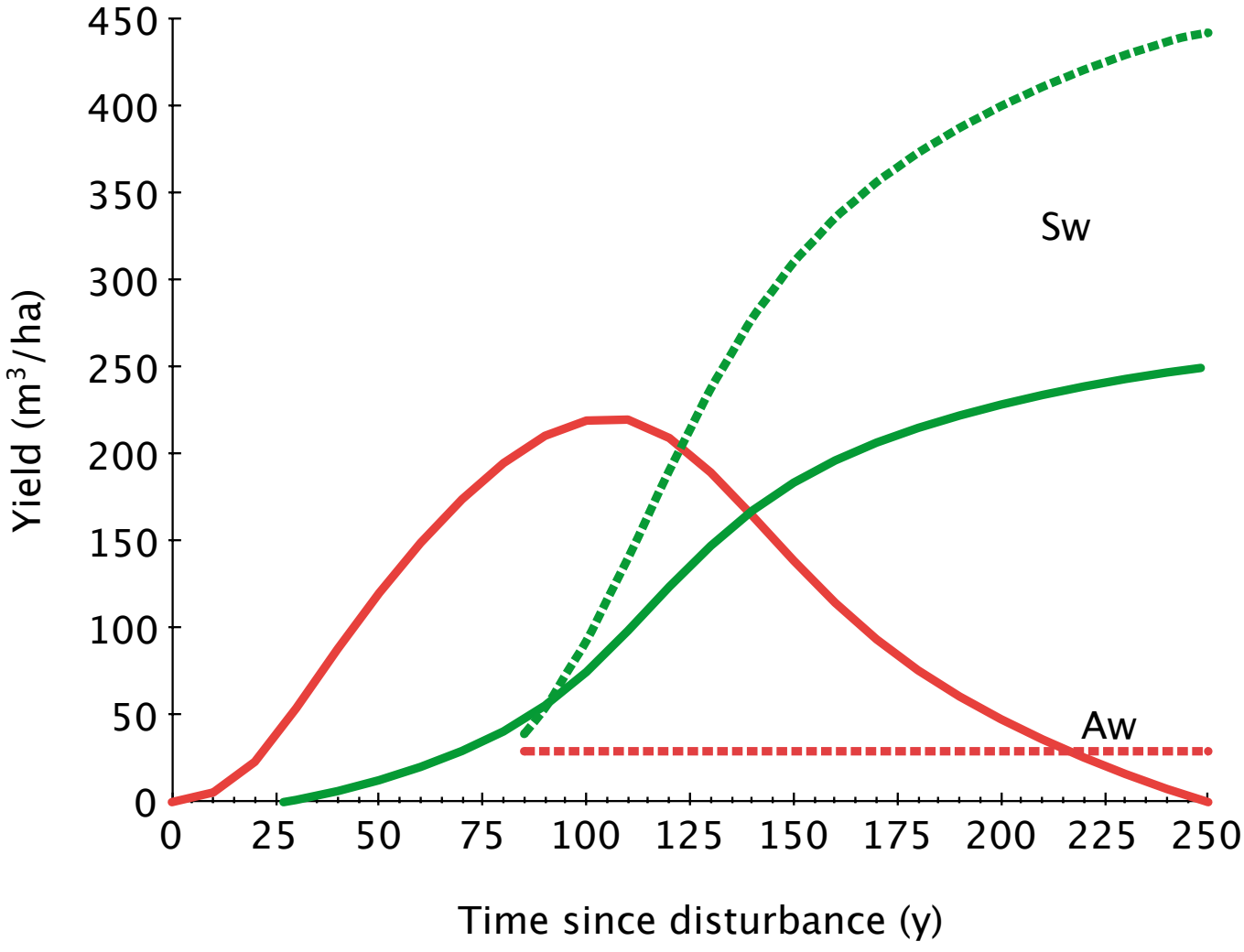

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Summary

- Can we afford the luxury of active silviculture?
- Current AAC policies and zoning encourage bad investments.
- Should we plan to harvest less in the future?
- Why do we combine the jobs of growing trees and making forest products?
- “Right wood to right mill and right time” can increase price and reduce cost.
- Don’t forget the “other values”.