

*Prognosis*

**BC**



**FOREST  
RENEWAL BC**



# A growth and yield model...

Prognosis<sup>BC</sup> forecasts future stand conditions based on the expected growth and mortality of individual trees within a stand.

The model has been adapted from the US Forest Service *Forest Vegetation Simulator (FVS)* for use in BC's southeastern Interior.

Ongoing work, approved by BC's Forest Productivity Council, is supported by partners in industry, government, Forest Renewal BC, the University of British Columbia, and consultants.



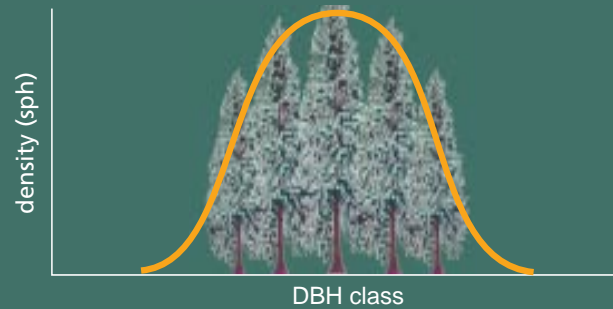
# ...for simple and complex stands

Prognosis<sup>BC</sup> simulates the development of a stand from its current condition, including bareground, to a desired future state.

The stand can be composed of one or several conifer species of similar age or many ages.

The model can use data from permanent or temporary sample plots, silviculture cruises, or stand tables to represent the current stand condition.

## single-species, even-aged



## multi-species, multi-aged



# *...that can simulate partial cutting*

One of the model's strengths is its ability to simulate almost any form of harvesting, from clearcutting to partial cutting.

Prognosis<sup>BC</sup> can simulate thinning from above, below, or by diameter class—with or without species retention preferences. Thinnings can be scheduled as single or repeated events, by either calendar year or stand condition.



# ...and root disease

An extension to the model for root disease enables Prognosis<sup>BC</sup> to simulate the impact of *Annosus*, *Phellinus*, or *Armillaria* on stand development.

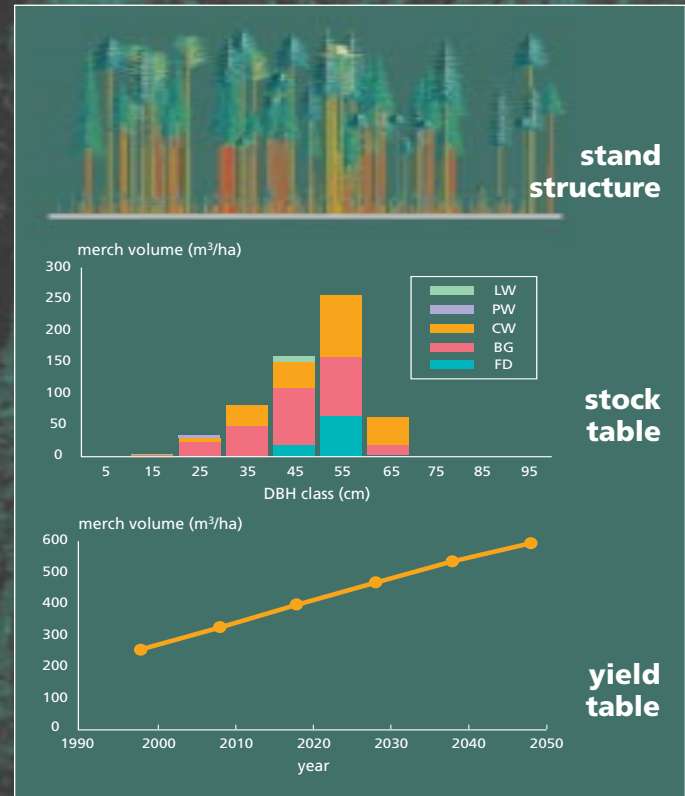
It also enables Prognosis<sup>BC</sup> to forecast the effect of management options such as stumping on development of the disease.



# ...and reports in tables and graphs.

Prognosis<sup>BC</sup> reports on yield, species composition, and stand structure over time.

The model's graphic display helps to portray stand dynamics and the yield implications of different management regimes. Users can view two attributes of a stand (e.g., stock table and yield) simultaneously or compare different management regimes.



# Current applications

Nelson BC's West Arm Demonstration Forest (WADF) is the location of a 3,300 ha case study using the Prognosis<sup>BC</sup> environmental indicators extension (Prognosis EI) for watershed-level application.

Twelve alternative scenarios, from partial cutting to no management, are being used to test the model. Results will report on spatial and non-spatial landscape and stand-level environmental indicators.

