

## Description of COMPLAN

COMPLAN is a spatial ecosystem based management planning model, designed to model operational and tactical planning issues while still ensuring strategic objectives are met. COMPLAN is easily customizable to meet specific modeling requirements and forms the basis for a planning system that can increase effectiveness, reduce costs and support Forest Certification implementation.

COMPLAN has successfully be used to:

- Determine harvest block configurations and produce harvest schedules;
- Achieve target species and product mixes;
- Forecast wildlife habitat, seral stages and landscape structure through time;
- Model hydrological recovery in watersheds;
- Track costs and revenues, plan road access activities; and
- Support Forest Certification monitoring programs.

The main facets of ecosystem based management that COMPLAN supports include:

- Landscape configuration and structure:
- Biodiversity; and
- Habitat supply.

COMPLAN can be used to develop harvest and silviculture treatments that are consistent with:

- Existing short and long-term harvest level allocation;
- Operational and/or economic constraints and objectives;
- Regulations and administrative policies; and
- Corporate policies.

Non-timber resources are easily modeled in COMPLAN. Harvest levels and pattern are adjusted to ensure that objectives for non-timber resource management are met. Objectives can be defined for different geographic areas that can be disjointed or overlapping with other objectives. COMPLAN ensures all objectives are met without have to pre-determine which objective is more constraining on timber harvest levels.

COMPLAN is based on yield tables that are derived from external growth and yield models or equations. Yield curve columns are not restricted to timber characteristics but can also be used to predict the supply of non-timber characteristics such as coarse woody debris or habitat through Habitat Supply Indices.

The yield table structure also allows any silviculture system to be defined and modeled including commercial thinking. Yield table parameters can be modified to reflect the impact of Wildlife Tree Patches and other potentially unmapped features. Once a stand is treated it shifts to a new yield table that reflects the growth projection due to the

treatment. Treatments can be targeted and limited to reflect budgetary or resource constraints. The flexible nature of this feature also enables modeling of natural succession and disturbances.

A key feature of COMPLAN is its flexibility of operational constraint descriptions affecting timber harvest, thus ensuring direct links between on-the-ground activities and COMPLAN results.

- Harvest prioritization rules can be used in any order. These prioritization's can be based on the stands growth, economic, physical or location characteristics.
- The harvest can reflect the timber profile by area, growth type or physical attributes of the land base.
- Timber availability can be directly controlled for varying periods of time.
- Forced harvests can be applied to specific blocks to incorporate existing plans or override default non-timber or operational objectives.
- Specific timber harvest area or volume targets can be established for management area.
- COMPLAN accommodates both area and volume control.

COMPLAN uses an internal blocking algorithm that generates harvest block configurations based on user defined rules including:

- Aggregation prioritization based on harvest prioritization rules plus shape characteristics;
- Maximum block sizes and green-up rules that may differ across the landscape by silviculture system;
- Target distributions of block sizes across the landscape; and
- Merging of existing blocks to rehabilitate and defragment a landscape.
- Activation/deactivation/re-activation status.

Budgetary and tracking of road construction related activities include:

- Hauling cost (\$/km/m<sup>3</sup>);
- Maintenance costs (\$/km);
- Activation/Deactivation costs (\$/km);
- Construction costs (\$/km); and
- Road classes, bridges and other structures.
- COMPLAN gives forest managers the ability to develop and evaluate operational plans and forecast the effects of the plans on the ecosystem over time in a spatial context.

- Forms a repeatable planning process which can enhance planning and reduce costs;
- Can be implemented on-site or maintained off-site as part of an operational planning process;
- Flexible and easily adjusts to changing inputs and need requirements;
- Integrates with existing information systems;
- Forms an integral component of Forest Certification monitoring systems;
- Results from COMPLAN are easily mapped using any GIS or desktop mapping tool; and
- Is a licensed commercial software product, available independently of ORM's resource planning services.