Appendix 8: Visual Quality Guidelines for Timber Harvesting

Managing for visual quality requires flexibility in management prescriptions to allow VQOs to be achieved across a variety of landscapes, viewing situations and social contexts. The bottom line in managing for visual quality is to meet the definition and intent of the VQOs. Key considerations in meeting VQOs are:

- choice of silviculture systems;
- quality of design and layout;
- harvest practices and road developments which minimize visible site disturbances; and
- adherence to criteria which indicate per cent disturbance and/or specific green-up ranges (see Table 1).

The following general principles apply when managing for VQOs. It should be noted that these reflect trends and are not absolutes:

- As slope increases, block size should decrease.
- The greater the slope, the higher the Green-up required.
- The larger the landform, the larger the block size could be.
- The greater the number of leave trees, the lower the Green-up required.
- The greater the number of overstory trees, the larger the block could be.
- Block size should be consistent with natural openings.
- Block size should be consistent with vegetation pattern sizes.
- The farther the viewpoint is from the block, the larger it could be.
- The more focal the block is from a viewpoint, the smaller it should be.
- As the complexity of block design and VQO increase, so do the associated costs.

Forest Development Plans and other resource development plans which are guided by sound cutblock design and flexible criteria for per cent disturbance and green-up should meet the intended VQOs However, longer range Total Resource Planning should be encouraged. This would ensure that visual quality is maintained over multiple passes and entries. (Total Resource Design concepts are discussed in the Ministry's *Draft Visual Landscape Design Manual*).

General strategies for landscape management are as follows:

- All developments should be designed for some level of visual management.
- Developments should be designed to ensure that VQOs are met over multiple passes.
- Cutblock boundaries should be irregular in shape and borrow from natural line, form, colour and texture.
- Cut block sizes should be varied to match landscape diversity.
- Harvesting should be distributed across the profile of terrain and Visually Sensitive Areas utilizing a variety of harvesting methods. This will ensure future availability of wood from all VQO areas.
- Consider the utilization of wildlife trees and shrubs, deciduous trees and non-merchantable stems to help meet both visual and biodiversity objectives.

- Visual management should consider the biological rotations of different stands, recognizing that stands go through successional stages.
- Visual green-up will generally range between three and six metres, but may exceed this height if required to meet VQOs. Height of visual green-up may be influenced by:
  - silvicultural systems used
  - natural features present
  - density of regeneration (stems/ha)
  - fullness of crowns
  - slope of block
  - block size
  - Visual Absorption Capability (VAC)
  - block edge contrast
  - block shape/design
  - number of leave trees and their distribution
  - degree of screening/ visibility of roads and landings
  - planting strategies (timing, density, stock size)
- Both existing and proposed inappropriate block shapes could reduce the per cent of harvest and/or increase the green-up requirements. Current block design should consider future harvesting opportunities.
- Visual Assessments should be based on perspective, not planimetric views. Note that current percentage removal guidelines are based on visible planimetric measurements; see Table 1).
- Sidecasting for roads and landings should be minimized.
- Minimize right-of-way width on highly sensitive slopes
- Avoid locating roads on midslopes. Take advantage of benches and vegetative screening where possible.
- Use techniques such as end hauling and controlled blasting to minimize visual impacts.
- Disturbed areas must be promptly grass seeded.
- Locate, screen and rehabilitate borrow pits.
- Avoid skid trail impact on steep slopes.
- Locate, screen and rehabilitate landings.

Other management strategies include:

- Reserve width guidelines may be secondary to landscape considerations.
- Forest health considerations may override landscape criteria.

Further details on strategies for landscape management are contained in the *Draft Provincial Visual Management Guidelines.*

The following table reflects the flexibility of managing to meet VQOs using a variety of silvicultural systems. It should be emphasized that the values shown in the table are ranges which will vary for each silvicultural system. Many site specific factors such as VAC, slope, viewing angle, distance and existing stand characteristics will influence the specific value chosen within each of the ranges shown. Management under this system is based on meeting the primary objectives for Visually Sensitive Areas.

Table One: Silvicultural system guidelines for meeting Visual Quality Objectives.

	Preservation			**Retention**			**Partial Retention**			**Modification**		
Silvicultural System	Max. % harv.[1]	Leave trees s.p.h.[2]	Green-up (m)	Max. % harv.	Leave trees s.p.h.	Green-up (m)	Max. % harv.	Leave trees s.p.h.	Green-up (m)	Max. % harv.	Leave trees s.p.h.	Green-up (m)
Single Tree Selection Group Selection	10-20	≥70% B.A.[3]	N/A	20-60	≥50% B.A.	N/A	40-100	≥50% B.A.	N/A	60-100	≥50% B.A.	N/A
Patch Cutting 0.1 - 1 ha Clearcut with reserves 1 - 2.5 ha Clearcut 1 - 2.5 ha	5-10	N/A	3-6	10-20	0-20	3-5	15-30	0-20	3-5	20-30	0-20	3-5
Shelterwood Uniform & Strip	3-10	450	3-6	5-20	100-450	3-5	15-30	100-250	3-5	20-30	50-150	3-5
Clearcut with reserves 2.6 - 10 ha Clearcut 2.6 - 10 ha	3-5	N/A	3-6	5-15	5-20	3-6	10-25	5-20	3-6	15-30	5-20	3-5
Clearcuts with reserves 10.1 - 40 ha	3-5	N/A	3-6	5-10	30-200	3-6	10-20	30-100	3-6	15-30	30-50	3-6
Seed Tree	1-3	N/A	3-6	3-8	10-30	3-6	8-20	10-30	3-6	15-30	10-30	3-6
Clearcuts 10.1 - 40 ha	0-1	N/A	3-6	1-5	5-20	3-6	5-15	5-20	3-6	10-25	5-20	3-6

[1]Maximum percent harvested refers to the visible percent harvested in plan view of a visual Landscape Unit as defined from one or more specific viewpoints.

[2]S.P.H (Stems per hectare) = leave trees greater than or equal to 12.5cm dbh for Pli and 17.5cm dbh for others species. Generally, larger trees with full crowns are used.

[3]B.A.(Basal Area) = percent remaining.

*Shading indicates recommended silviculture systems for a given VQO.

Notes to accompany Table 1:

- Clearcut harvest methods do not preclude leaving residual trees which can further reduce visual impacts.
- Visual green-up will generally range from 3-6m, but may exceed this height if required to do so to meet VQOs.
- Use of this table must be accompanied by the careful landscape design and by forest practices which minimize visible site disturbances.
- This table is designed with the intent of maintaining long-term visual quality over multiple passes.
- Percent harvest values are based on the *Draft Provincial Visual Landscape Management Guidelines* and modified to reflect the application of various silviculture systems.
- Number of leaves trees are based on the *Draft Provincial Visual Landscape Management Guidelines* and the *Draft Partial Cutting Study* values and modified to reflect the application of various silviculture systems.
- Green-up heights are based on the *Draft Provincial Visual Landscape Management Guidelines* and the *Visually Effective Green-up Report* and then modified to reflect the application of various silviculture systems.

Definitions of Harvest Methods for Visual Landscape Management

(Taken from the FPC Operational Planning Regs)

"**clearcut**" means a silvicultural system that

(a) removes the entire stand of trees in a single harvesting operation from an area that is:

(i) 1 ha or greater, and

(ii) at least two tree heights in width, and

(b) is designed to manage the area as an even-aged stand;

"**clearcut with reserves**" means a variation of clearcutting in which trees are retained, either uniformly or in small groups, for purposes other than regeneration;

"**even-aged stand**" means a stand of trees consisting of one or two age classes;

"**group selection**" means a silvicultural system that

(a) removes trees to create openings in a stand less that twice the height of mature trees in the stand, and

(b) is designed to manage the area as an uneven-aged stand;

"**partial cutting**" means a silvicultural system in which only selected trees are harvested and includes seed tree, shelterwood, single tree and group selection, and clearcutting with reserves;

"**patch cutting**" means a silvicultural system that creates openings less than 1 ha in size and is designed to manage each opening as a distinct even-aged opening;

"**seed tree**" means a silvicultural system in which selected trees are left standing after the initial harvest to provide a seed source for natural regeneration;

"**shelterwood**" means a silvicultural system in which trees are removed in a series of cuts designed to achieve a new even-aged stand under the shelter of remaining trees;

"**single tree selection**" means a silvicultural system in which age classes are created or maintained by the removal of individual trees of all size classes, uniformly throughout the stand.