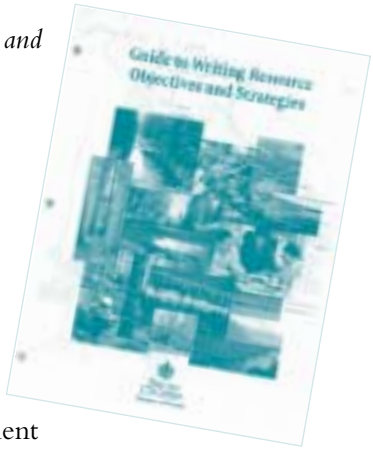
Silvicultural Systems Program
NOTES TO THE FIELD

DEVELOPING MANAGEMENT OBJECTIVES AND MEASURES FOR SILVICULTURE PRESCRIPTIONS



In December 1998, *Guide to Writing Resource Objectives and Strategies*, was published by the Ministry of Forests, in cooperation with the Ministry of Environment, Lands and Parks, and the Land Use Coordination Office. The document was produced to assist resource planners in developing effective and appropriate management objectives for higher level plans and other resource management plans.

Guide to Writing Resource Objectives and Strategies provides a number of recommendations and practical examples for preparing consistent, effective, and easily interpreted and implemented resource management objectives and strategies. Many of the ideas and concepts presented in the guide can be effectively applied to Silviculture Prescriptions (SPs) to assist planners in selecting appropriate management objectives and communicating clear management direction. Some of the more relevant recommendations are summarized below.

The *Forest Practices Code of British Columbia Act*, Section 12(a)(i) requires that a SP include, for the area under the prescription, the long-term management objectives set out in a forest development plan or, in the absence of a forest development plan, in a higher level plan, or in the absence of objectives set out in a forest development plan or a higher level plan, in accordance with the regulations, if any.

A. CONSISTENCY WITH RELEVANT LAWS, GOVERNMENT POLICIES AND HIGHER LEVEL PLANS

Objectives and measures in SPs must reflect or consider relevant laws, government policies and higher level plans. Being aware of the wider planning environment encompassing SPs will contribute significantly to drafting prescriptions with appropriate content.

BRITISH COLUMBIA

VOLUME 5

FEBRUARY 2000

1. Consider current legislation

Many provincial and federal laws can influence the objectives and measures of SPs. Examples include the federal Fisheries Act and the provincial Heritage Conservation Act, and their associated statutes and regulations. In cases where SP objectives or measures do not conform with the law, the law will prevail.

2. Consider existing government policies

Provincial policies and principles can also affect the nature and content of SP objectives and measures. Those with the greatest impact are "corporate" policies, which reflect Cabinet-level direction. An example of corporate policy that directly influences land and resource use planning in British Columbia includes the *Forest Practices Code – Timber Supply Analysis*, February 1996. Examples of provincially approved principles include the *Sustainable Environment Charter* and the *Provincial Land Use Charter*.

Agency-level programs and policies are another way SPs can be influenced. Examples include Lands' and Tourism's programs and policies to provide access to Crown land for commercial recreation opportunities, and BC Environment's program and policy to provide guide-outfitting and trapping opportunities on Crown land.

Regional strategies such as Regional Landscape Unit Planning Strategies, which are government endorsed, can also affect SPs through the recommendations and guidance they provide for landscape unit objectives.

3. Conform with higher level plans

Under the Forest Practices Code, one of the requirements of SPs is that they be consistent with any higher level plans established for the area. An SP is consistent with the higher level plans as long as its stated objectives do not materially conflict with those of the higher level plans.

4. Recognize zones and geographic designations

Zones, landscape units, and geographic designations identify where specific management objectives and strategies direct or guide objectives for the site. Examples of zones include old growth management areas, special resource management zones, and protected areas. An example of a geographic designation might include areas considered critical for ungulate winter range.

Within an SP, the specific higher level plan management objectives should be consistent with the general intent of the whole zone, landscape unit, or geographic designation. Occasionally, however, it may be appropriate to identify objectives for smaller, distinct areas within a zone or geographic designation that differ from the broader objectives. This flexibility allows smaller areas with important values to be accommodated across a larger zone or area.

EXAMPLE

In an enhanced resource development zone with a higher level plan objective stating a management priority of timber, it may be appropriate to draft a conservation-oriented objective for a particular resource in a restricted location; for example, protecting a Class A wetland habitat with a no-harvest reserve.

Management objectives that are not established as a higher level plan should be considered in establishing objectives for the site. However, if new and better information is available that clearly points to the superiority of a different management regime, then this alternative management regime should become the basis of SP site objectives.

B. Tools for Writing Clear, Tangible and Workable SPs

The identification or determination of resource objectives from the various plans or regulatory requirements is the key starting point in developing reasonable objectives in a SP. Effective SPs contain a minimum of five key components: they are specific, measurable, achievable, realistic, and time bound (SMART). A SMART approach facilitates drafting SPs that provide clear management direction in a practical and easy to understand manner.

The list of recommendations presented below provides guidance to developing **SMART** SPs.

1. Be internally consistent

Resource objectives and measures within a SP should work together to achieve an overall aim, without conflicting with one another. Otherwise implementation will be difficult or impossible. There are several ways to prevent or mitigate conflict:

- ***Separate the conflict in space or time*** by preventing conflicting activities from occurring at the same place, or at the same time. This normally requires a trade-off decision, where one resource use is given priority over another.

Key components of the Smart approach:

Specific – the SP identifies and addresses the pertinent resource issues and provides adequate detail explaining the where, when and how for implementation of the objectives and measures.

Measurable – the SP clearly identifies the indicators or tools to be used to monitor progress toward achieving the objectives.

Achievable – SP objectives and measures must be realistic in terms of technical, financial, and administrative considerations to ensure effective implementation.

Realistic – the SP presents an approach to separate, minimize and mitigate conflicting resource objectives or measures and functions within the framework of established government regulations, policies and principles, and existing resource plans.

Time bound – the SP should establish a timeframe for implementation of the objectives and measures and for monitoring achievement of plan objectives.

Example

Separate the conflict in time

Risks of sedimentation and associated fish habitat damage from road building in a steep and wet location may be reduced by drafting objectives and measures that limit road building to dry periods of the year.

Objective	Measure
Minimize seasonal reductions in water quality in critical fish bearing streams, as shown on map 7.	• road construction in areas adjacent to fish bearing streams, as shown on map 7, is prohibited from November 1 to April 30 each year.

- ***Minimize the conflict*** by limiting or constraining an activity that may lead to a resource conflict if constraints were not specified.
- ***Rectify the conflict*** by allowing a conflict or resource impact to occur subject to measures to redress the problem through some means.
- ***Follow up any referral comments or requirements from higher level plans.*** Both time and effort can be saved if, at the SP preparation stage, referral comments are reviewed. For example, this could entail an additional referral to a MELP resource person or water user.

2. Make it achievable (technical, financial, and administrative considerations)

The direction provided by proposed objectives and measures in SPs must be technically feasible. For example, recommended silvicultural systems need to be compatible with the physical characteristics of the forest (tree species, biogeoclimatic zone, etc.). Technical feasibility must extend throughout the projected time frames of all objectives and measures. For example, stand structure objectives need to be considered over three time periods: 1) immediate post-harvest; 2) post-harvest + 15 years (free growing period); and 3) long term (at least one rotation).

SP objectives and measures should also be realistic in terms of staff resources, budgets, and operational costs and administrative constraints to ensure prescriptions are deliverable.

3. Distinguish between goals, objectives, and measures

When preparing resource management plans, planners often confuse the boundaries between goals, objectives and measures, which can decrease the effectiveness of plan implementation. In brief, goals are generally worded resource management statements to assist planners to write specific and measureable resource objectives. Resource objectives define the results to be achieved. A measure is a step planned or taken as a means to an end. The following definitions will help clarify the differences between these terms and provide direction for their appropriate role in any management plan.

EXAMPLES

Minimize the conflict by limiting resource uses

In the case of a community watershed/logging conflict, objectives and measures could be developed to limit logging activity to partial cutting systems for the purpose of maintaining hydrological integrity.

Rectify and resolve the conflict

Logging of beetle damaged old growth stands in an old growth management area might be permitted, provided that less mature stands of the same type are identified and retained for recruitment into old growth condition.

Follow up any referral comments or requirements from higher level plans

Higher level plans in effect on the SP area may stipulate the protection of fisheries resources. SP activities which may impact on fish-bearing habitat, for example, should be referred back to MELP or DFO for review.

Goals:

- generally worded statements that describe a future vision or desired end state
- typically reflect broad social ideals, aspirations or benefits
- not normally quantitative
- no time specified for their achievement
- usually apply to the whole planning area.

Advice: **These goals are generally found in the FDP or higher level plan. You must understand the goal for each resource area to effectively translate it into an achievable and measurable SP objective.**

Objectives:

- describe desired future conditions for individual resources or resource uses
- more specific than goal statements
- outline the end results for the site consistent with achieving broader goals in the higher level plan
- measurable
- time specific
- geographically specific
- can apply to the whole plan area or specified parts within the plan area.

> ***Advice:*** **Must be written so that they can be effectively and easily communicated to field personnel.**

Measures:

- pertain to activities and how those activities are to be conducted
- can apply to the whole plan area or to individual standards units.

> ***Advice:*** **Measures can be written into the SP or be included on the attached map or other attachment as long as it forms part of the legal SP document.**

4. One thing at a time

To avoid potential confusion or a lack of focus, a management objective and its corresponding measures should normally provide management direction for a single resource or resource use. Broad resource or resource use categories should be broken down into their component parts, while still recognizing that the parts are inter-related.

EXAMPLE

Separate broad concepts into individual resources

Overarching concepts like "biodiversity" or "terrestrial ecosystems" or "acquatic ecosystems" might be broken down into their constituent parts. In the case of biodiversity, objectives and measures could, at the SP level, be organized under the following sub-headings:

- old growth retention
- stand structure
- species composition
- wildlife tree retention.

5. Make it measurable

SP objectives and measures must be measurable to enable effective monitoring for determining whether or not the plan being achieved.

6. Include enough detail

Determining how much detail to include in objectives and measures can be challenging. On one hand, including as much detail as possible would seem desirable. On the other hand, there are practical limitations (e.g., time and cost constraints) that affect how much detail can be realistically provided. Examples of where more prescriptive detail may be appropriate include SPs where one resource is given priority over another; where objectives and measures deal with highly significant resource values, such as a red- or blue-listed species; or where there are significant socio-economic consequences, such as a reduction in timber supply.

7. Write clearly and concisely

Whenever possible, use terms as they are defined in the Forest Practices Code to establish consistency in terminology and reduce the potential for conflicting interpretations. Where required, use descriptive wording and phrasing to help convey the intent of a management objective.

The following additional recommendations can also be useful in writing SPs:

- avoid jargon and technical terms
- avoid inherently subjective words (e.g., numerous, near, some)
- avoid value-laden words (e.g., pristine, unsightly)
- use active voice instead of passive
- use the present tense except when referring to future events
- write positively, where possible (avoid framing things negatively)
- avoid wordiness
- avoid repeating ideas
- use symbols, abbreviations, and measurement units consistently
- use good sentence structure (e.g., avoid partial and run-on sentences, use proper punctuation).

C. References for Silviculture Prescription Preparation

The *Silviculture Prescription Guidebook* outlines a template with examples and includes a full regulatory reference to the various sections in the SP. The interim version is available on the MOF internal web address and will be available soon on the MOF home page.

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This edition prepared by Mel Scott.

For a copy of the full report *Guide to Writing Resource Objectives and Strategies* please contact:

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