APPENDIX A:

Description of The BASELINE INVENTORY

What to know about a baseline inventory

While establishing a baseline inventory is not the responsibility of a stewardship monitor, it is very important that monitors understand what a base line inventory is, how and why it is created, and its importance in monitoring Stewardship Agreements.

What is a baseline inventory?

At a minimum, a baseline inventory should provide a snapshot (in words and pictures) of the present health of the property's ecosystems at the time the Stewardship Agreement is signed. The baseline inventory is used by the conservation organization in consultation with the landowner to design the Stewardship Agreement.

Why is a baseline inventory done?

A baseline inventory is used by a conservation organization to take an inventory of the flora, fauna and other components of the property's ecosystems. The baseline inventory provides the basic information needed to prepare a Stewardship Agreement.

Sora rail Photo copyright Johnathan Grant

It is usually prepared in the form of a detailed written report with accompanying surveys, photos and map documentation. Altogether this information indicates the health of the property's ecosystem at the time the Stewardship Agreement is signed.

Monitoring will reveal trends and changes in the property's ecosystem health. To detect change, there must be a benchmark against which to measure change. A baseline inventory provides that benchmark**. A baseline inventory must be carried out by the conservation organization before any monitoring can be done.**

When is a baseline inventory carried out?

Although each situation differs, ideally a baseline inventory begins as an initial survey and report (or site description) of what is present on the land at the time the property is being considered for protection. Once the decision is made to protect the property, additional information is collected to assist in preparing the Stewardship Agreement. If the Stewardship Agreement is one that can be registered against title to the land, the inventory can be registered with the agreement at the Land Title Office along with accompanying maps.

Baseline information must be collected when the ecological features central to the Stewardship Agreement can best be observed and recorded. Often this requires site descriptions at different times of the year to record seasonal changes.

Where is a baseline inventory done?

Sometimes a detailed inventory is only done for the ecologically sensitive aspects of a property and in other cases it is done property wide. The value of a property wide inventory is that property can be viewed as part of a larger ecosystem. For similar reasons it is a good idea to gather additional information about the surrounding area to establish the uniqueness of the property or to evaluate any potential threats to it.

Who does a baseline inventory?

A conservation organization is responsible for preparing a baseline inventory and accompanying maps for each property to be protected and monitored. It is important that volunteer monitors review the inventory with the involved conservation organization prior to undertaking a monitoring visit. **The Appendix following is one sample of Baseline Inventory Forms. Another format is being field tested with several conservation organizations in the Land trust field, available for viewing at www. bc.natureconservancy.ca. We will likely offer this additional Baseline Inventory & Protocol form to users of this manual in the fall of 2001.**

The baseline inventory is updated periodically either by professional or trained lay volunteers undertaking stewardship monitoring on behalf of the involved conservation organization. It may also be updated during on-site visits conducted in the course of related responsibilities such as forest, wildlife or ecosystem assessments by professionals such as biologists, foresters and landscape planners, or authorized seasonal bird counts by a local naturalist club.

Monitors should explore with the involved conservation organization the possibility of joining in such on-site visits.

Calypso Orchid photo
Johnathan Grant

The more a monitor knows about the property and its ecological features the more effectively he or she can monitor any changes.

How often is the baseline inventory done?

Although a detailed baseline inventory is usually done when the property is initially protected, a complete inventory may require more than one visit over a period of time. Also, if additional information comes to light regarding, for instance, the presence of a species or habitat not previously identified, then further observations may be necessary to supplement the original inventory. Some conservation organizations undertake a comprehensive update of a baseline inventory every five years.

How is a baseline inventory done?

A baseline inventory is usually undertaken by paid or unpaid professionals, or by others with extensive botanical or ecological knowledge working with the conservation organization to document the present health of the property. Sometimes aerial photos are used to document historical changes to the property and surrounding areas. A dated photo record is compiled with directional arrows on a map to indicate the direction from which each photo was taken. Video-taping with observations on the sound track and a date stamp also provides a good record. A photographic record, using either a conventional or digital camera, is frequently included in the written inventory report. It is a good idea to record the procedure and show the route on a map so the next monitoring visit can use the same route and procedure.

Usually a baseline inventory includes a map which delineates the property boundaries and the boundaries for each zone, such as riparian, forest, agriculture, area enhancement, or building/residential zones. Such a map provides a useful visual link and orientation between the terms of the Stewardship Agreement, the accompanying baseline inventory for each zone and what the monitor will experience while conducting an on-site monitoring visit. In some cases these maps are registered in the Land Title Office as part of the Stewardship Agreement.

Components of a baseline inventory

A baseline inventory will include some or all of the following components:

- legal description;
- location of land;
- size of land;
- landowner name, address, e-mail, phone and fax numbers;
- conservation organization name, e-mail, phone and fax numbers, and contact(s);
- date the Stewardship Agreement was established;
- description of right of access to the land;
- features of the landscape;
- other natural features including flora and fauna;
- ecological values of the land;
- activities and land uses;
- status of development on the land;
- identification of disturbances;
- potential impacts or problems resulting from disturbances;
- conservation goals;
- other comments and considerations; and
- documents attached or available, such as maps or photos.

While the legal description, location, size, and accessibility will be recorded for all properties, what is inventoried and documented will vary depending on the conservation objectives stated in the Stewardship Agreement. The inclusion of a detailed botanical inventory or detailed ecosystem mapping in a Stewardship Agreement is ideal. In the case of larger properties, it may only be feasible to record and include significant features and ecosystems contained within the property.

Preparation of a baseline inventory should include a search for additional information such as historical photos and information collected from previous surveys or maps. For example, it is worthwhile to make note of information such as whether the area is included in an annual bird count. Other biological components that might be documented for other purposes may include important terrestrial and aquatic features, flora and fauna including endangered or threatened species, or habitats. The local chapter of The Federation of B.C. Naturalists is an important source of this kind of information

APPENDIX B:

BASELINE INVENTORY AND DETERMINATION OF LANDOWNER CONSERVATION GOALS

Date: _____ Time: _____
Weather:_____

1. Landowner Contact Information

Landowner's Last Name: Landowner's First Name: _____
Property Address:
City: Province: Postal Code:
Phone: Fax: E-mail:

2. Property Information

Legal Description (district, lot numbers):

Location (latitude, longitude):
Surface Area (ha.):
Maximum Elevation (m): Minimum Elevation (m):
Property Access:

Directions for Access to Property:
Area Name:
Ecoprovince:_____ EcoRegion:_____EcoSection:_____
Maps:

Air Photo Numbers:
Other Photo Numbers & Locations:

Zoning _____ Land use Designation_____

Surrounding Land Use_____ Regional District_____

3. On-Site Inventory Completed By

Name:
Address:
City: Province: Postal Code:
Phone: Fax: E-mail:

4. Site Descriptions & Ecosystems present:

a) Site Description:

%age	BIOME	Circle the Ecosystem Type if present (*italics only*)							
	Forest	**Upland**	*Coniferous*	*Broadleaf*	*Mixed*	**Notes:**			
		Riparian	*Fringe*	*Floodplain*					
		Sub-alpine Parkland							
		Woodland	*Coniferous*	*Broadleaf*	*Mixed*				
	Grassland	*Shrub-steppe*	*Grass-steppe*	*Coastal*					
	Shrubland								
	Wetland	*Shrub Swamp*	*Treed Swamp*	*Freshwater Marsh*	*Estuarine Marsh*	*Treed Bog*	*Peat Bog*	*Shrub Fen*	*Sedge Fen*
	Transitional Wetland	*Shrub-carr*	*Wet Meadow*	*Saline Meadow*	**Notes:**				
	Alpine Meadow	*Forb*	*Graminoid*	*Mountain-Heather*					
	Sub-alpine Meadow	*Forb*	*Graminoid*	*Mountain-Heather*					
	Shallow Open Water	*Floating Aquatics*	*No Floating Aquatics*						

	Pond		**Stream**		**Cliff**		**Spit**
	Lake		**Beach**		**Talus**		
	River		**Rocky Outcrop**		**Dune**		

b) Other Ecological or Heritage Values (bufffers, corridor, archeological, scenic...)

5. Land Uses

If land is currently being used for any of the following purposes, please describe.

Recreational:

Hiking		Hunting		Snowmobiling	
Berry Picking		Fishing		Cross-country skiing	
Bird-Watching		Four-Wheel Driving		Other:	
Picnicking		ATVing (atv)			
Camping		Trail Riding (Horse)			

Scientific/Educational (research, nature study, etc.):

Habitat/Ecosystem management or Preservation: (planting, bird houses, etc.):

Residential (permanent residences, mobile homes, etc.):

Agricultural (orchard, vineyard, garden, horse/cattle pasture, etc.):

Forestry: (reforestation, harvesting, etc.):

Commercial (sales to the public, etc.):

Industrial (mining, etc.):

Historical (previous known uses of the land, including archeological evidence):

6. Human-made Features

Describe size, type and condition of:

1) Buildings/Structures

2) Trails

3) Wells

4) Power Lines

5) Pipelines

6) Other

7. Disturbances (See Appendix E for Disturbance legend sample)

Location on Map and Description:

Check off if present with No. reference to map.

Vegetation/Animals:		Soil Removal:		Vandalism:		Trails/Roads/Cleared Lines:		Natural:	
Tree Cutting		Sand		Garbage		All Ter. Vehicles		Landslide	
Bark Stripping		Gravel		Signs		Roads		Flooding	
Collecting Plants		Peat		Cut Fences		Hiking Trails		Erosion	
Trapping Animals						Equestrian Trails		Fire	
Fire						Cutlines/Seismic			
Poaching						Fencelines			
Other:						Pipelines/Wellsite			
						Powerlines			
Other Dist. (describe below)									

Notes:

8. Wildlife and Wildlife Habitat

Evidence of Wildlife:

Wildlife Trees/Snags		Animal Tracks (AT)		Animal Scat	
Squirrel Caches		Types of Animal Tracks:		Types of Scat:	
Bird's Nests					
Feathers					
Burrows					
Browsed Vegetation					
Other:					

Wildlife observed on property

9. Vegetation (all vegetation can be described in larger zones or individual specimens of special note should be referenced to maps)

TREES (check, and estimate % of cover – See ***Giving the Land a Voice*** for template)

Alder, Mountain (*Alnus tenuifolia*)		Fir, Grand (*Abies grandis*)		Pine, Ponderosa (*Pinus ponderosa*)	
Arbutus, Arbutus menziesii		Fir, Subalpine (*Abies lasiocarpa*)		Pine, Western White (*Pinus monticola)*	
Aspen, Trembling (*Populus tremuloides*)		Garry Oak Quercus garryana		Red Cedar, Western (*Thuja plicata*)	
Birch, Paper/Water (*Betula papyrifera/Betula occidentalis*)		Hemlock, Western (*Tsuga heterophylla*)		Sitka Spruce (Picea Sitchensis)	
Big Leaf Maple (Acer Macrophyllum)		Juniper, Rocky Mountain *(Juniperus scopulorum)*		Spruce, Engelmann (*Picea engelmannii)*	
Cherry, Choke (*Prunus virginiana*)		Larch, Western (*Larix occidentalis*)		Yellow Cedar (Chamaecyparis nootkatensis)	
Cottonwood, Black (*Populus balsamifera ssp. trichacarpa*)		Maple, Douglas (*Acer glabrum*)		Yew, Western (*Taxis brevifolia*)	
Douglas-Fir (*Pseudotsuga menziesii*)		Pine, Lodgepole (*Pinus contorta var. latifolia*)		Other:	

Trees and shrubs are arranged in alphabetical order according to the common names.

Notes:

HERBS/MOSSES/LICHENS ETC.

SHRUBS

Antelope-Bush (Purshia tridentata)		Hazelnut, Beaked *Corylus cornuta)*		Sagebrush, Big (Artemisia tridentata)	
Alder, Sitka (*Alnus crispa ssp. sinuata*)		Honeysuckle, Orange (*Lonicera ciliosa*)		Saskatoon *(Amelanchier alnifolia*)	
Azalea, False Menziesia ferruginea		Honeysuckle, Utah (*Lonicera utahensis*)		Snowberry, Common (*Symphoricarpos albus*)	
Birch, Scrub (Betula glandulosa)		Huckleberry, Black (*Vaccinium membranaceum*)		Sumack, Smooth (*Rhus glabra)*	
Blueberry, Dwarf (Vaccinium myrtilloides)		Huckleberry, Red (*Vaccinium parvifolium*)		Snowberry, Creeping (Gaultheria hispidula)	
Blueberry, Oval-Leaved (Vaccinium ovalifolium)		Juniper, Common (*Juniperus communis*)		Snowbrush *(Ceanothus velutinus*)	
Blueberry, Velvet-Leaved (Vaccinium myrtilloides)		Kinnikinnick (*Arctostaphylos uva-ursi*)		Soopolallie *(Shepherdia canadensis*)	
Bog-Laurel, Western (*Kalmia microphylla ssp. microphylla*)		Maple, Douglas (*Acer giabrum*)		Spirea, Birch-Leaved (*Spiraea betulifolia*)	
Bramble, Five-Leaved (*Rubus pedatus*)		Mistletoe, Western Dwarf (*Arceuthobium americanum*)		Spirea, Pink (Spiraea douglasii ssp. menziesii)	
Cascara (Ramnus purshana)		Mock-Orange (*Philidelphus lewisii*)		Spirea, Pyramid (Spiraea pyramidata)	
Ceanothus, Redstem (*Ceanothus sanguineus*)		Mountain-Ash, Western (Sorbus scopulina)		Spray, Ocean *(Holodiscus discolor*)	
Cinquefoil, Shrubby (Potentilla fruticos)		Mountain-Ash, Sitka (*Sorbus sitchensis*)		Tea, Labrador (Ledum groenlandicum)	
Cranberry, Bog (Oxycoccus oxycoccus)		Mountain-Heather, Pink (*Phyllodoce empetriformis*)		Tea, Trapper's (Ledum glandolusum)	
Cranberry, High-Bush (*Viburnum edule*)		Mountain-Heather, White (*Cassiope mertensiana*)		Tea-Berry, Western (Gaultheria ovatifolia)	
Crowberry (Empetrum nigrum)		Nagoonberry, Dwarf (*Rubus arcticus, R. acaulis*)		Thimbleberry (*Rubus parviflorus*)	
Current, Northern Black (*Ribes hudsonianum*)		Ninbark, Mallow (*Physocarpus malvaceus*)		Twinberry, Black (*Lonicera involucrata*)	
Currant, Skunk (*Ribes glandulosum*)		Oregon -Grape, Tall (*Mahonia aquifolium*)		Twinflower *(Linnaea borealis*)	
Currant, Squaw (Ribes cereum)		Penstemon, Shrubby (Penstemon fruticosus)		Willow, Arctic (*Salix arctica*)	
Currant, Sticky (Ribes viscosissimum)		Poison-Ivy *(Rhus radicans)*		Willow, Barclay's *(Salix barclayi*)	
Devil's Club (*Oplopanax horridus*)		Prince's Pine (*Chimaphila umbellata*)		Willow, Bebb's *(Salix bebbiana*)	
Dogwood, Red-Osier (*Cornus stolonifera, C. sericea*)		Raspberry, Red (*Rubus idaeus, R. strigosus*)		Willow, Pacific (*Salix lucida ssp. lasiandra*)	
Elderberry, Blue (*Sambusus caerulea*)		Raspberry, Trailing (*Rubus pubescens*)		Willow, Sitka (*Salix sitchensis*)	
Elderberry, Red (*Sambucus racemos ssp. pubens var. leucocarpa*)		Rhododendron,White-Flowered (*Rhododendron albiflorum*)		Willow, Scouler's (*Salix scouleriana*)	
Falsebox *(Pachistima myrsinites*)		Rose, Baldhip (*Rosa gymnocarpa*)		Willow, Short-Fruited (*Salix brachycarpa ssp. brachycarpa*)	
Gooseberry, Black (*Ribes lacustre*)		Rose, Nootka (*Rosa Nutkana*)		Willow, Tea-Leaved *(Salix planifolia ssp. planifolia*)	
Grouseberry (*Vaccinium scoparium*)		Rose, Prairie (Rosa woodsii)		Other:	
Hawthorn, Black *(Crataegus douglasii*)		Rose, Prickly (Rosa acicularis)			

10. Red and Blue Listed Species/ Ecosystems

Plants:

Animals:

Communities:

Notes:

11. Notes on Neighbouring Properties:

CONSERVATION GOALS

12. Protected Area Plan

This plan refers to fragile ecosystems that should have little or no human intervention and are delineated on the Property Zones Map.

Special Features:

13. Water Management Plan

This Plan refers to all water related areas delineated on the Property Zones Map such as wetlands, lake foreshore, bogs, river and creek banks usually protected by a fifteen meter
zone.

Special Features:

14. Forest Management Plan

This plan refers to all forested, wooded or treed areas as delineated on the accompanying Property Zones Map.

Special Features:

15. Agriculture Management Plan

This Plan refers to all farm related areas such as fields, paddocks, orchards, garden areas, green houses, growing areas and related activities as delineated on the accompanying Property Zones Map and includes all Agricultural Land Reserve (ALR) lands.

Special Features:

16. Area Enhancement Plan

This Plan refers to all roads, buildings, infrastructure, service corridors etc. delineated on the accompanying Property Zones Map and all service access and maintenance requirements.

Special Features:

17. Other Management Considerations

18. Remarks and Recommendations

19. List of Maps, Photos, or Data Sheets Attached

20. Other Studies, Maps, References, Inventories on this property:

Aquatic/Riparian Features and Hydrology of Property

Project Name:___________________________ _Date:________________________Weather:______________

General description:____

____

Site #	Station #	Upstream Bearing:
Class:	Bankfull Width/Wetland Area:	Bankfull Depth:
Stream Gradient:	Wetted Width:	Wetted Depth:

Bank Slope (upstream)	L:	R:	
Flow Characteristics:			
Instream Vegetation:			
Riparian Vegetation:			
Modifications:			
Fish & Wildlife use:			
Temp:	DO :	ph:	Turbidity:
Coliform:	Nitrogen:	Phos:	BOD:

Site #	Station #	Upstream Bearing:
Class:	Bankfull Width/Wetland Area:	Bankfull Depth:
Stream Gradient:	Wetted Width:	Wetted Depth:

Bank Slope (upstream)	L:	R:	
Flow Characteristics:			
Instream Vegetation:			
Riparian Vegetation:			
Modifications:			
Fish & Wildlife use:			
Temp:	DO :	ph:	Turbidity:
Coliform:	Nitrogen:	Phos:	BOD:

Site #	Station #	Upstream Bearing:
Class:	Bankfull Width/Wetland Area:	Bankfull Depth:
Stream Gradient:	Wetted Width:	Wetted Depth:

Bank Slope (upstream)	L:	R:	
Flow Characteristics:			
Instream Vegetation:			
Riparian Vegetation:			
Modifications:			
Fish & Wildlife use:			
Temp:	DO :	ph:	Turbidity:
Coliform:	Nitrogen:	Phos:	BOD:

Notes: Reference Site No. and Station No. on Map
Clearly mark all sample bottles sent to the lab for analysis with the date of sampling, the site sampled, the parameter to be analyzed, and the station number from which the sample was collected. Remember that coliform samples must be shipped overnight to the lab for analysis within 24 hours of sample collection. They must be kept in coolers, and protected from exposure to light. Please instruct the lab to return the lab analysis results to the Land Trust, Conservancy or Stewardship Group who has directed that the study be completed.