

Stanley Park Ecology Society

Toward Long-Term Ecological Management in Stanley Park

Advisors Forum, March 16, 2007

Summary of Comments

**Stanley Park Ecology Society
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Pavilion Building, March 16, 2007



**Toward Long Term Ecological Planning in Stanley Park
Forum Summary
March 16, 2007**

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The Stanley Park Ecology Society greatly appreciates the time and ideas provided by the participants in the advisor's forum. It is their contributions that make up this document. They were (in alphabetical order):

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Summary

This document summarizes notes made during a meeting convened by the Stanley Park Ecology Society and held on March 16, 2007. The meeting assembled individuals who are knowledgeable about Stanley Park, forest ecology and related subjects. The advisors were asked for suggestions and comments concerning the long term ecological management of the park and about short term responses to the recent forest blowdown concerning Ecologically Sensitive Areas, Species at Risk and invasive plants. The comments have been transcribed from the group flip-chart notes and slightly edited for clarity. They are assembled here under titles which describe the main themes of the comments. Under each title theme we have collected the different suggestions and comments concerning long term and short term ecological management in Stanley Park. The major points suggested various approaches to enhance long term planning in Stanley Park and offered suggestions to assist with short term concerns.

The 3 main themes and 11 subthemes concerning long term management in Stanley Park were:

Address issues related to the purpose and goals of the park and its forest areas

There are many different park users and many opinions about a vision or objectives for the park

Adopt clear and specific goals and objectives

Manage natural areas based on ecological goals

Incorporate long term planning and ecological management approaches

Link recovery efforts to longer term planning and management

Adopt an organized planning approach that identifies the steps from goals to implementation

Greater understanding may be needed

Some goals and technical issues, particularly involving multiple or overlapping fields, need to be reconciled

Document current and past circumstances in the park

Establish monitoring processes

Divide the park into different management areas and develop goals and plans for each

Use umbrella approaches to assemble and integrate different ideas

Involve the public and different interest groups in planning and implementation

The advisor's technical and organizational ideas concerning short term actions in Stanley Park were gathered under four themes. They made suggestions concerning:

Restoration

Species at risk management

Invasive species management

Environmentally sensitive areas management

Introduction and background

Windstorms in December 2006 and January 2007 caused substantial blowdown of trees in Stanley Park. Recovery plans included initial documentation of Species at Risk, Invasive Plants and Environmentally Sensitive Ecosystems provided by the Stanley Park Ecology Society (SPES). The long term ecological management of the park has long been an interest of SPES, and recent attention to recovery efforts also raised issues of how the recovery plans could include longer term perspectives. In this context, SPES requested a number of people to come to a half day forum to talk about ideas that might help planning for the long term well being of the park.

To provide focus, the advisors were assembled at three tables, each with a facilitator to record comments and key points in the discussion that followed. For half the afternoon the participants' attention was focussed on responses to the general question : What issues, suggestions, concerns or thoughts do you think are important about: Long term ecological management in Stanley Park. For the second half of the afternoon, the focussing question was: What issues, suggestions, concerns or thoughts do you think are important about: SPES's preliminary reports on Species at Risk, Environmentally Sensitive Areas, Invasive Plants, and short term actions that might follow from the reports?

The facilitators filled many pages of note paper with ideas, questions and suggestions during the forum. The purpose of this document is to record, organize and share those ideas with participants and the Park Board.

The forum's ideas are organized under themes

Facilitators recorded the ideas of the speakers as closely as they could. The original notes are included in the Appendix.

The comments were made at three different tables, in somewhat different contexts, although the organizing themes of the day were shared by all tables and participants.

Some comments were made, and were documented, in different grammatical and conversational forms: as questions, as suggestions, as statements, as observations of things missing, as goals or priorities, as techniques, as resources, as things to be avoided.

We have rephrased some comments into statements in an active voice (do such and such) for clarity. Some seemed better as questions. We have left, or converted, all comments to either statements or questions.

To make better sense of our advisors' comments, and to draw together ideas on similar topics, we have assembled them under 7 different titles (with 11 subtitles). These titles are 'themes' in that they are phrased as statements of what we felt were the underlying ideas

being expressed by our participants. These statements were derived after the forum by SPES, not the participants themselves.

In summary, this document takes three steps with the comments recorded at the forum.

- 1) It records or paraphrases all comments as statements or questions,
- 2) It identifies a series of themes or statements that seem to identify main messages stated and implied, and
- 3) It lists as bulleted points, under those title themes, the actual comments and suggestions recorded in the forum.

A number of people made similar points, phrased somewhat differently. We have retained similar thoughts, in their different phrasings, to let the speakers' voices come through.

Comments are recorded only once below, under the one title which seemed most appropriate, although some comments logically relate to more than one theme.

Some suggestions are made concerning practices that are already underway, in one way or another. We have not tried to identify which recommended practices may already be in place.

Suggestions concerning resource people or literature have been left out of this summary.

A draft of the summary was distributed to participants for comments, corrections or additions. Only a few comments were received and they have been added to this document.

Results: Suggestions concerning the longer term

Address issues related to the purpose and goals of the park and its forest areas

There are many different park users and many opinions about a vision or objectives for the park

- Commemorative Integrity Statement currently sets parameters for Park management decisions
- Understand the mix of social and ecological objectives
- Much of Stanley Park is not 'natural'. Strategic Planning must be macro.
- Decisions need to be settled around what is *reasonable* with respect to vision. (i.e. old growth may not be reasonable henceforth?)
- A main constraint is social values/desires/attitudes
- There are more than 7 million visitors a year in the less natural areas. They have many opinions

Adopt clear and specific goals and objectives

- Long term ecological planning requires broad objectives
- Stanley Park is an urbanized park and that this needs to be factored in (balance between ecological integrity and public safety, etc.)
- Long term ecological planning needs to be considered for the whole of Stanley Park (forest and non-forest): a macro view
- Are there management objectives for the park?
- Create a new vision for the park for next 20-80 years from which focused objectives will follow. Objectives come from the vision.

Manage natural areas based on ecological goals

- Focus management at long term ecological objectives
- Identify ecological goals (e.g. biodiversity, structural diversity, forest integrity) and include them in the problem solving and planning
- Need to plan and set up clear goals for managing for wildlife habitat
- Need to plan in the light of predicted climate change, increase in extreme events and future blow downs
- Are the forested areas managed for ecological integrity?
- Manage for biodiversity

Incorporate long term planning and ecological management approaches

Link recovery efforts to longer term planning and management

- Short term planning affects long term planning and vice versa
- Address a number of management issues in an organized way that addresses both short term and long term implications
- Seek opportunities for enhancement e.g. placement of CWD for habitat around Beaver Lake
- Time is required to make effective long term ecoplanning (the political / social reality is that we don't have this time within the current snapshot of storm restoration)
- Maintain existing and recruit new wildlife trees. Understand that as they age, they may become more dangerous; under what *guidelines* does safety trump ecology?
- A database to be created that lists significant species or features to be protected, with GPS'd locations. Such a list should be consulted before any maintenance, or trail work is done.

Adopt an organized planning approach that identifies the steps from goals to implementation

- A planning framework with long term strategic objectives that link progressively to the specifics of operations / implementation is crucial
- Outcomes need to be planned for (ecological outcomes plus all other outcomes)

Greater understanding may be needed

- How we move forward fundamentally needs full understanding of meta-structure
- Understand issues of changes in hydrology (and that the forest has been/is correcting to it?)
- Hydrology may have changed even since the 1980's
- It is crucial to understand current stand dynamics and critical habitat elements
- The 1980s Macmillan-Bloedel work (Beese's report) didn't map aquatic communities. This is an important gap
- A succession map may be built upon the 1980's Beese work.
- A digital elevation model may show how much will be underwater.

Some goals and technical issues, particularly involving multiple or overlapping fields, need to be reconciled

- Define 'restoration' or how does one define restoration
- What does 'ecological integrity' mean in Stanley Park?
- What is 'restoration'?
- How long is 'long term'?
- How does one maintain successional or species diversity?

- Replanting versus natural regeneration
- Remove only downed wood that risks fire, disease and danger and leave the rest
- Climatic change needs to be considered in the planning process.
- The likelihood of other disturbance events needs to be considered in the planning process.
- Understory should be retained in blowdown areas = machine free zone
- Consider closing off some trails during and after restoration to allow forest recovery
- Long term ecological planning needs understanding that the Coastal Western Hemlock (drier maritime) park land may be under-represented in the region; implication may be to further prioritize this in Stanley Park
- Attempts should be made to preserve and increase biodiversity (despite Stanley Park being within an urban environment) (note example of Mosquito Creek)
- Old growth supports gene pool and biodiversity; heritage values, too.
- Invasive plants and animals need to be incorporated into long term ecological planning
- Climate change issues need to be considered in regard to outcome visioning
- Identify/ensure ecosystem-specific patches that may be inaccessible to public (need to weigh off homeless habitation and safety risks)
- There is a need for a strong voice for the environment within Park management, integrated with engineering and management activities
- Determine what may / may not be done with respect to work / operations
- Different equipment options may lead to different choices for tree removal
- Plans and responses are needed for future blowdowns
- What are relationships between natural areas and other areas of the park? Do they have the same goals?
- Conduct risk assessment for restoration activities
- Ecological future of the park is also dependent on geotechnical plans
- Should some areas be closed off and left as natural forest?
- Need to get biologists together with those overseeing ground operations (foresters, engineers, etc)

Document current and past circumstances in the park

- Current standards of resource inventory should be the foundation (e.g. forest stand cover); need a *new* inventory, and then reinforce and maintain inventory
- Consistent inventory of whole park is necessary – this inventory must meet today’s standards
- A highest priority is to determine the forest structure for the long term (amount of CWD, snags, species composition)
- Make a synthesis of the past and current info on the park’s plants, animals, ecosystems, forest dynamics (disturbances)
 - a. Identify what’s known
 - b. Do a gap analysis (What do we want to find out to make decisions?)
 - c. Develop a search strategy for how to fill gaps
- Past inventory – for restoration, features worth preserving from current knowledge
- Link inventory work to prescription areas and buffer areas
- Long term ecoplanning requires an understanding of Stanley Park

- on a site level (Structural characteristics vary from stand to stand; need to understand the specific sites / site specifics.)
- within context of historical composition
- and within context of climate change
- Inventory is the first step to ecological management
 - gaps should be identified
 - collect historical information
- Link inventory work to prescription areas and buffer areas
 - Establish protocols
 - Use Citizen Science for data gathering
 - Planning is required
- Do aerial photography on a regular basis (2-5 years)
 - For monitoring – general and specific data
 - To track changes
- Set up ground based photostations (Good for communications: success, changes)
- Use LIDAR repeated regularly (10 years)
- Establish weather records – long term
- Consider using historical satellite photography
 - Is it of adequate quality?
 - For inventory
 - For gaps in orthophotos
- Some aquatic/wildlife monitoring is done
 - Water quality in Lost Lagoon
 - O2 (Beaver Lake)/Salinity (Lost Lagoon) is being done – sporadic info
- Consider paleoecology studies
 - Species mix changes over time•
 - Beaver Lake more suitable for such study
- SPES should be a repository of ecological information
- Make a team
 - To inventory what is here
 - To GPS special areas

Establish monitoring processes

- Set long-term monitoring strategies
- Monitoring is important
- Monitor the progress towards meeting the set objectives
- Institute long term monitoring and appropriate responses
- Monitoring and research: monitoring needs to be low tech, low cost and well planned so that it can be easily undertaken and continued long term
- Monitoring is required

Divide the park into different management areas and develop goals and plans for each

- Ecological planning for the “forest” of Stanley Park requires a definition and boundaries of such ‘zone(s)’
- Adopt a variety of site-specific plans for management (e.g. maintain thickets in areas favoured by birds), rather than an average approach overall.
- Is there zoning in the park for different types of areas?
- “Zoning” is not necessarily an outcome, but may be a likely outcome

Use umbrella approaches to assemble and integrate different ideas

- Park management steps to communicate with public
- VERP (Visitor Experience and Resource Protection) as example. A step-by-step process that exists
- Use State of the Environment reporting
 - Create a “State of the Park” report
 - Gathers inventory information
- Identify trends and threats to link present circumstances and future actions
- Many steps could be included in a State of the Park report

Involve the public and different interest groups in planning and implementation

- Broader objectives must recognize social objectives
- Community engagement and continual education are important regarding potential objectives and opportunities for involvement.
- Create a public awareness regarding natural processes in the park
- Things need to be clearly articulated for the public
- Long term monitoring should involve academia
- SPES can facilitate and involve public to raise public awareness
- Academic and professional communities need to be included in the engagement.
- Facilitate research projects in Stanley Park by colleges and universities
- Long term ecology planning requires public awareness of issues (e.g. forest representation and health, mistletoe)
- Provide education to the public regarding restoration plan; explain ecological principles and restoration process
- Educate the public on academic research being conducted in the Park
- Interpretation is a prime objective.

Results: Suggestions concerning the shorter term

Restoration could consider:

- Minimize impact to soil as much as possible during the restoration process

- Use a variation of approaches according to sensitivity and importance of habitat, e.g. protect understory, layers, shrubs, deciduous; avoid machinery on wet soils, greater protection measures for critical habitat for SAR
- How much disturbance, compaction does machinery cause?
- Does machinery use cause increased spread of invasive plants?
- Low understory areas may
 - Require more planting
 - Already be impacted
- Trail clearing 5-7 m could consider:
 - There are lots of plants along trails (more than in forested areas)
 - Trail sides are animal habitat
 - How use machinery
- Cliffs near Prospect Point are a unique habitat (i.e. mosses)
 - They form a microhabitat of exposed sandstone
 - An inventory could be useful (mosses/liverworts)
 - Keep moss islands where possible, even if areas need to be safe (results in fragmentation but this can ultimately help recolonization)
- In blowdown areas
 - SAR/ESA areas need to be identified
 - Develop site/activity specific responses

Species at Risk management could consider:

- Consider Stanley Park's rare species and habitats in a regional context, with connectivity in mind when putting together the management plan
- Mapping is key to identifying and protecting rare species and important habitats
- Continue monitoring and identifying SARs and potential critical habitat in the park
- In addition to Species at Risk as listed by CDC / COSEWIC, consider
 - Important species (not necessarily at risk)
 - E.g. Culturally important species (valued by park users)
 - Ecologically important species (e.g. keystone species, forage plants, ...)
 - "Species of High Stewardship Responsibility in BC"
- Prioritize species list – For Paul Lawson
 - Doing so may include/eliminate more species than the current list
- Identify which species are in the park (long term)
- Check park's federal and provincial legal responsibility for SAR
- Identify critical habitats for species that are present
- Mistletoe is important for gaps, fungi, habitat
 - There are safety issues
 - Matters more for forestry (exaggerated)
 - Doesn't matter in Stanley Park
 - Is an issue for specific areas
- Significant rare elements in the park should be mapped so damage to them can be avoided during restoration, etc.
- Identify species that ought to be here
 - For habitat

- For long-term management plan
 - Include invertebrates, fungi, mosses, algae, etc.
- Knowledge of birds is more complete than other taxa
- Big trees – Threats to them need to be identified
- Create a unique features/species database for operations
- Don't use equipment in nesting season
 - Birds
 - Bad P.R. – media attention
 - Eagles at P.P. will be monitored
- Pay attention to species that are of special interest in Stanley Park as well as species at risk
 - Important to people (ie. Eagles)
 - Important to ecological process
 - Keystone species
- Consider what is rare for Stanley Park vs rare in general
 - Built into mgt plan
- Map wildlife trees
- Red listed communities may be linked through site series (Stanley Park 05 07 site classification) (query CDC)
- Seral stages may have *potential* to become red listed

Invasive species management could consider:

- Monitoring for invasive species needs to start now and take place over the long term
- Priority to removal of giant hogweed.
- Hogweed should be a priority for invasive species management
 - This is for safety
 - Address both seedlings and mature plants
 - Use VPB staff not volunteers, to insure effectiveness
- It's opportunistic on other invasive species
- Invasive removal – focus on new stuff (point sources) as a priority vs established areas
- Habitat: consider sensitivity of removal, when invasive species are habitat for animals
- Be vigilant over the next couple years (especially) – due to blowdown
 - Plan for the long-term
 - Consider climate Change
 - Observe and record actions
- Invasive plants are significant with respect to biodiversity
- Note impact / potential impact of invasives with respect to Species at Risk
- Need for Control of invasives in order to protect endemics
- Consider how / who will approach and champion this?
 - VPB staff? Consultants / contractors? Organizations with volunteers? all?
- Invasive species strategies need to recognize priority strategies (because of limited resources)

- Need to first know / identify the sensitive areas
- Mapping is important re invasives
- It is important to understand the invasives' life cycles on a species-specific level
- It is critical to understand the natural species (their niches / needs) that are being invaded.
- Proactive control vs [exponential] reactive control is important
- Recommended to concurrently / early manage the already-invaded forest and newly disturbed areas.
- Can be very expensive to deal with (Note that Surrey did a \$/m² cost analysis with respect to management) => a huge jump from proactive to reactive costs
- Aim for early detection / rapid response
- Important to strategize what happens after removal of invasives:
 - Inverse of removal is planting
 - Challenge to source some indigenous herbs / forbs
 - Salmonberry will be resilient
 - Include deciduous shrubs and trees for their high biodiversity values
- Biophysical inventory of invasives needs priority action
 - Priority work needs to happen perhaps by fall / summer 2007;
 - Priorities may include
 - Small / easily contained patches
- Areas very close to most sensitive of the disturbed areas
- Invasives may be spread by certain treatments, equipment; there is an immediate need to proactively avoid this
- Recommend invasives removal to be done after the work of CWD removal (i.e. after certain safety issues), but before replanting
- Engage community volunteers for a win-win collaboration
 - (Example of Jasper BBQ event re fuel management; Pacific Spirit Park community events)
- Any treatment (eg. Opening or closing trails) needs to be within an ecological framework. E.g. Trails 'attract' invasives
- Invasive animal species require consideration as well

Environmentally sensitive areas management could consider:

- Have special emphasis on sensitive areas with respect to the landscape as a whole
- Maintain buffer areas around riparian areas
- What should we have as buffer zones?, Where, how wide, etc. Verify with ground surveys
- Inventory and fill in aquatic and wildlife monitoring gaps; overlap ESAs and blowdown areas, integrate TEM (Terrestrial Ecosystem Mapping)
- GPS large trees and wildlife trees
- Identify rare ecosystems and focus on these
- Need interpretive signs for the public to understand the significance of these areas and why they are being protected

Appendix: Notes transcribed from original flip-charts

Working Group A: Koren Johnstone, Alton Harestad, Sally Leigh-Spencer, Mike Mackintosh, Brent Matsuda, Geff Scudder, Matthew (check) and Angela Gerst.

Some questions and key points raised:

- There is a huge number of visitors who come each year to Stanley Park, and many differences of opinion as to what should be an overall vision for the Park
- Management of the Park needs focused longterm (in terms of ecological time) objectives
- Managing for ecological integrity needs to be part of the overall equation, and must include monitoring
- What does restoration mean?
- What is the rationale behind the regeneration program and how do we maintain successional and species diversity?
- Replanting versus natural regeneration/allowing mix of successional stages
- Should we remove only the downed wood that poses risk for fire, disease and danger trees and leave the rest to regenerate on its own?
- Should certain areas be closed off, and remain as a 'natural' forest?
- Future is uncertain with respect to climate change – predicted increase in more extreme events, therefore we need to plan for future blow downs
- Disappearance of species and important habitats such as riparian areas occurring worldwide; consider SP's rare species and habitats in a regional context, with connectivity in mind when putting together the management plan; have special emphasis on sensitive areas with reference to landscape as a whole
- Short term planning affects longterm planning and vice versa
- Ecological future of the Park also dependent on geotechnical plans
- Hw is a natural component of the forest: it creates clearings and CWD in shorter periods and therefore increases biodiversity

Longterm guiding principles:

- Create a public awareness regarding natural processes in the Park
- Identify ecological goals (e.g. biodiversity, structural diversity, forest integrity) and include them in the problem solving and planning, but at the same time understand the reality that SP is an urbanized park and that this needs to be factored in as well (balance between ecological integrity and public safety, etc.)
- Institute longterm monitoring and appropriate response
- Adopt a variety of site-specific plans for management (e.g. maintain thickets in areas favoured by birds), rather than an average approach overall.

SPES's role longterm:

- Need to plan and set up clear goals for managing for wildlife habitat for the future
- Monitoring, and research: monitoring needs to be low tech, low cost and well planned so that it can be easily undertaken and continued longterm
- Monitoring for invasive species needs to start now and take place over the longterm

- Mapping is key to identifying and protecting rare species and important habitats
- SPES should be a repository of ecological information
- Seek opportunities for enhancement e.g. placement of CWD for habitat around Beaver Lake
- Provide education to the public regarding restoration plan; explain ecological principles and restoration process
- Facilitate research projects in SP by colleges and universities
- Educate the public on academic research being conducted in the Park

Specifics:

- Resources:
 - Coastal Information Team (CIT); Ecosystem Management online
 - Herps: Long Beach study, CWD and habitat changes (Beasley)
 - Elke Wind (herps specialist):
 - Ted Davis (Camosun College) re: longterm monitoring of amphibians
- ESAs:
 - Maintain buffer areas around riparian areas; what should we have as buffer zones, where, how wide, etc. verify with ground surveys
 - Inventory and fill in aquatic and wildlife monitoring gaps; overlap ESAs and blowdown areas, integrate TEM
 - GPS large trees and wildlife trees
 - ID rare ecosystems and focus on these
 - Need interpretive signs for the public to understand the significance of these areas and why they are being protected
- Continue monitoring and identifying SARs and potential critical habitat in the park
- Use a variation of approaches according to sensitivity and importance of habitat, e.g. protect understorey, layers, shrubs, deciduous; avoid machinery on wet soils, greater protection measures for critical habitat for SARs
- Consider closing off some trails during and after restoration to allow forest recovery
- Minimize impact to soil as much as possible during the restoration process

Also:

In introductory comments Ken Lertzman noted the importance of clarity and specificity when setting goals and that challenges can arise from vague or incompletely reasoned goals when working with protected areas.

Alton Harestad, commented to the group that 'long term' can mean different things to different groups, and it is an important concept to clarify

Long Term Ecological Management Brainstorming

Working Group B: Robyn Worcester, Glenn Brown, Ken Lertzman and Ian (SFU graduate student), Mike Feller, Terry Taylor, Jim Lowden

Understanding the mix of social and ecological objectives

Q: Are there management objectives for the park?

Q: Are the forested areas managed for ecological integrity?
Monitoring the progress towards meeting the set objectives

Q: What does “ecological integrity” mean in SP?

Inventory: - first step to Ecological Management
- gaps should be identified
- collect historical information

2) Synthesis of the past and current info on the parks plants, animals, ecosystems, forest dynamics (disturbances)
a. ID what’s known
b. Gap analysis
 What do we want to find out to make decisions
c. Search strategy for how to fill gaps

Past inventory – for restoration, features worth preserving from current knowledge
Includes state of the park report
Identify trends and threats to link present circumstances and future actions
(we need to get Terry’s mushroom list)

Create a new vision for the park for next 20-80 years from which focused objectives will follow

objectives come from vision
Things need to be clearly articulated for the public
SAR – locations, habitat requirements
Risk assessment for restoration activities
Endangered species
Park management steps for the Park Planning to communication with public
VERP as example
Step-by-Step process that exist

4) Monitoring is important
Long-term monitoring strategies
Establishing protocols
Citizen Science (Vols)

Planning is required

Issue : Climate Change

What is restoration

Digital elevation model – how much will be underwater?

Plans and responses for future blowdowns

Relationships between natural areas and other areas of the park

Same goals?

Q: Is there zoning in the park for different types of areas?

Aerial photography on a regular basis (2-5 years)

For monitoring – general and specific data

To track changes

Ground bases photostations (Good for communications: success, changes)

Lidar repeated regularly (10 years)

Weather records – long term

State of the environment reporting

“State of the park report

gather inventory information

Q: Historical satellite photography

is it enough quality

for inventory

for gaps in orthophotos

Aquatic/Wildlife monitoring

Water quality in Lost Lagoon

O2 (BL)/Salinity (LL) is being done – sporadic info

Paleoecology Studies

Species mix change over time

Beaver Lake more suitable

(we need to get Smithsonian Magazine article on Stanley Park written several years ago)

Commemorative Integrity Statement currently sets parameters for Park mgt. decisions

5) Main constraint: Social values/desires/attitudes

>7 millions/year – in less natural areas

many opinions

SHORT TERM :

SAR

1) a) Prioritize species list – For Paul Lawson

may include/eliminate more species than the current list

- b) Identify which species are in the park (long term)
Roger Ashten – Johnson’s Hairstreak

Identify critical habitats for species that are present

Mistletoe: important for gaps, fungi, habitat

safety issues

matters more for forestry (exaggerated)

doesn’t matter in SP

issue for specific areas

Significant rare elements in the park should be mapped so they avoided

ID species that ought to be here

for habitat

for long-term mgt plan

inverts, fungi, mosses, algae, etc.

Knowledge of birds is better than other taxa

Make team for inventory of what is here

GPS special areas

Big trees – Their threats need to be identified

Use Peter Woods’ documented sightings as a source of information

Invasive Species

3) Hogweed as priority for invasive species

seedlings + mature

for safety

VPB staff to do this - not volunteers

Opportunistic on other invasive species

Ivy Busters Invasive removal – focus on new stuff (point sources) not established areas

Habitat – sensitivity of removal – invasive species as habitat for animals

4) Vigilance over next couple years (especially) – due to blowdown

Long-term

Climate Change

Observing/actions

SAR

Create unique features/species database for operations

No equipt. in nesting season

Birds

Bad P.R. – media attention

Eagles at P.P. will be monitored

5) How much disturbance, compaction does machinery cause

- increased invasive spread?

Understory should be retained in blowdown areas = machine free zone

Low understory areas

– more planting required

-already impacted

Trail clearing 5-7 m:

lots of plants along trails (more than in forested areas)

trail sides are animal habitat

use of machinery

Cliffs: - unique habitat (ie. Mosses)

- microhabitat

- sandstone

- Inventory (mosses/liverworts)

There is a need for a strong voice for the environment within Park mgt. integrated with engineering/mgt activities

Blowdown areas

SAR/ESA areas need to be identified

so far have site/activity specific response

Keep moss islands where possible, even if areas need to be safe (results in fragmentation but this can ultimately help in recolonization)

5) Species of special interest in SP as well as species at risk

important to people (ie. Eagles)

important to ecological process

keystone species

Rare for Stanley Park vs Rare in general

built into mgt plan

Map wildlife trees

Ideas about Long Term Management in Stanley Park

Small Work Group C (Patricia Thomson, facilitator)

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- Long term ecological planning requires broad objectives:
- Broader objectives must recognize social objectives
- Long term ecological planning needs to be considered for the WHOLE of Stanley Park (forest and non-forest) -- a macro view
- Ecological planning for the “forest” of Stanley Park requires a definition and boundaries of such ‘zone(s)’

- Long term ecological planning needs understanding that the Coastal Western Hemlock (drier maritime) park land may be under-represented in the region; implication may be to further prioritize this in Stanley Park on this basis
- Time is required to make effective Long Term Eco Planning (the political / social reality is that we don't have this time within the current snapshot of storm restoration)
- Community engagement and continual education are important regarding potential objectives and opportunities for involvement.
- Interpretation is a prime objective.
- Academic and professional communities need to be included in the engagement.
- Long Term ecology planning requires public awareness of issues (eg forest representation and health, mistletoe, ..)
- How we move forward fundamentally needs full understanding of meta-structure
- Consistent inventory of whole park is necessary – this inventory must meet the standard of the day.
- Current standards of resource inventory are foundational (eg forest stand cover); need a *new* inventory, and then reinforce and maintain inventory
- “Zoning” is not necessarily an outcome, but may be a likely outcome
- Much of Stanley Park is not ‘natural’. Strategic Planning must be macro.
- A Planning Framework with long term strategic objectives that link progressively to the specifics of operations / implementation is crucial
- Outcomes need to be planned for (ecological outcomes plus all other outcomes)
- Climate change issues need to be considered in regard to outcome visioning
- Attempts should be made to preserve and increase biodiversity
 - (despite Stanley Park being positioned within an urban environment)
(*note the example of Mosquito Creek...*)
- LT eco planning requires an understanding of Stanley Park
 - on a site level (Structural characteristics vary from stand to stand; need to understand the specific sites / site specifics.)
 - within context of historical composition
 - and within context of climate change
- A Highest Priority is to determine the forest structure for the long term
 - (amount of CWD, snags, species composition, ...)
- Old growth supports gene pool and biodiversity (like a museum); heritage values, too.
- Maintain existing and recruit new wildlife trees. Understand that as they age, they may become more dangerous; under what *guidelines* does safety trump ecology?
- Decisions need to be settled around what is *reasonable* with respect to vision. (ie old growth may not be reasonable henceforth?)
- Understand issues of changes in hydrology (the forest is correcting to it?)
- Invasive Plants need to be incorporated into Long Term Ecological Planning
- Invasive animal species require consideration as well

SHORT TERM ACTIONS / GAP ANALYSIS --

Issues of Invasive Plants

- Invasive plants are significant with respect to biodiversity
- Need to be incorporated into Long Term Ecological Planning
- Note impact / potential impact of invasives with respect to Species at Risk
- Need for Control of invasives in order to protect endemics

- Consider how / who will approach and champion this?
- VPB staff? Consultants / contractors? Organizations with volunteers? (all?)
- Invasive species strategies need to recognize priority strategies (because of limited resources)
- Need to first know / identify the sensitive areas
- Mapping is important re invasives
- It is important to understand the invasives' life cycles on a species-specific level
- It is critical to understand the natural species (their niches / needs) that are being invaded.
- Proactive control vs [exponential] reactive control is important
- Recommended to concurrently / early manage the already-invaded forest and newly disturbed areas.
- Can be very expensive to deal with (Note that Surrey did a \$/m² cost analysis with respect to management) => a huge jump from proactive to reactive costs
- Aim for early detection / rapid response
- Important to strategize what happens after removal of invasives:
- Inverse of removal = planting
- Challenge to source some indigenous herbs / forbs
- Salmonberry will be resilient
- Include deciduous shrubs and trees for their high biodiversity values
- Biophysical inventory of invasives needs priority action
- Priority work needs to happen perhaps by fall / summer 2007;
- Priorities may include
 - Small / easily contained patches
 - Areas very close to most sensitive of the disturbed areas
- Invasives may be spread by certain treatments, equipment; there is an immediate need to proactively avoid / head this off.
- Recommend invasives removal to be done after the work of CWD removal (ie after certain safety issues), but before replanting
- Engage community volunteers for a win-win collaboration
 - (*Bruce Blackwell notes an example of Jasper BBQ event re fuel management; Ralph Wells notes Pacific Spirit Park community events*)
- Any treatment (eg. Trail open / closure) needs to be within an ecological framework. eg Trails 'attract' invasives

OTHER SHORT TERM issues / recommendations from Working Group C:

- It is crucial to understand current stand dynamics and critical habitat elements
- Red listed communities may be linked through site series (Stanley Park 05 07 site classification) (query CDC)
- Seral stages may have *potential* to become red listed
- B Beese (didn't map aquatic communities in the 80's) -- an important GAP
- Hydrology may have changed even since the 1980's
- A succession map may be built upon the 1980's BBeese work.
- Identify/ensure eco-system-specific patches that may be inaccessible to public
- (need to weigh off homeless habitation and safety risks)
- Link inventory work to prescription areas and buffer areas
- Determine what may / may not be done with respect to work / operations
- Different equipment options may lead to different choices for tree removal, for example

Additional Notes for SPES (Individual sheets)

Long Term:

- Management of natural areas to be based on ecological values
- Long term monitoring involving academia - Perhaps SPES can facilitate and involve public to raise public awareness

General Short Term:

- Need to get biologists together with those overseeing ground operations (foresters, engineers, etc)
- Manage for biodiversity
- Priority to removal of giant hogweed.
- A database to be created that lists significant species or features to be protected, with GPS'd locations. Such a list should be consulted before any maintenance, or trail work is done.
- In addition to Species at Risk (as listed by CDC / COSEWIC), consider
- Important species (not necessarily at risk)
- Eg. Culturally important species (valued by park users)
- Ecologically important species (eg keystone species, forage plants,)
- "Species of High Stewardship Responsibility in BC"
- (see lists from www.biodiversityinbc and the Wildlife Centre for Biodiversity)