

Marbled Murrelet Long-term Conservation Strategy Draft Alternatives



A Report to the Board of Natural Resources

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Marbled Murrelet Long-term Conservation Strategy

Draft Alternatives Presentation

- Background
- Alternatives Key Questions
- Alternatives Descriptions



Marbled Murrelet

IDENTIFYING ALTERNATIVES



Identifying Alternatives

Marbled Murrelet Long-term Conservation Strategy

Drafted a range of potential alternatives that represent conservation strategies to meet both agencies criteria.



Marbled Murrelet

ALTERNATIVES KEY QUESTIONS



Alternatives

Key Questions

- Does the alternative address the Need, Purpose and Objectives?
- Does the alternative address the Endangered Species Act Section 10 issuance criteria?
- What habitat will be conserved?
- How will the forest be managed?
- How will potential impacts be mitigated?
- How will the alternatives affect the murrelet population?



Alternatives

Key Question

- Does the alternative address the Need, Purpose and Objectives?

Each alternative was developed under the guidance of the NPO statement adopted for the project.



Marbled Murrelet

Long-term Conservation Strategy

Framework for Building the Conservation Strategy



Alternatives

Key Question

- Does the alternative address the Endangered Species Act Section 10 issuance criteria?

DNR intends to request an amendment to their existing Incidental Take Permit with a long-term conservation strategy.



Alternatives

Issuance Criteria for HCP

- Taking will be incidental
- The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking
- The applicant will ensure that adequate funding for the plan will be provided
- Taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild
- Other measures, as required by the Secretary will be met



Alternatives

Key Question

- What habitat will be conserved?

Within DNR-managed lands, areas of long-term forest cover (LTFC) will provide habitat for the marbled murrelet.

Known occupied habitat and inland forest stands that provide secure nesting opportunities will be the focus of what is conserved over the life of the HCP.



Alternatives

Key Question

- Areas of long-term forest cover provide habitat through:
 - Existing habitat conservation that provides marbled murrelet conservation benefit
 - Marbled murrelet habitat conservation areas



Habitat Conserved Areas of Long-term Forest Cover

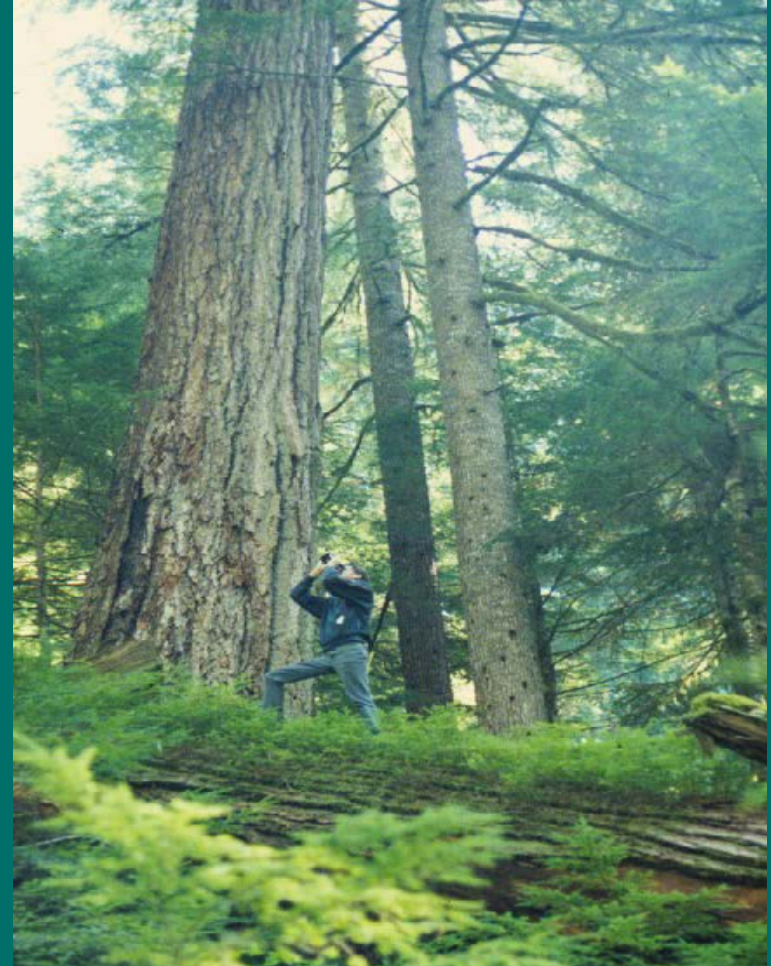
Existing Habitat Conservation:

Natural areas

Riparian management
zones

Conservation
commitments made in
Policy for Sustainable
Forests (PSF)

Existing HCP-designated
Northern Spotted Owl
(NSO) conservation areas



Habitat Conserved Areas of Long-term Forest Cover

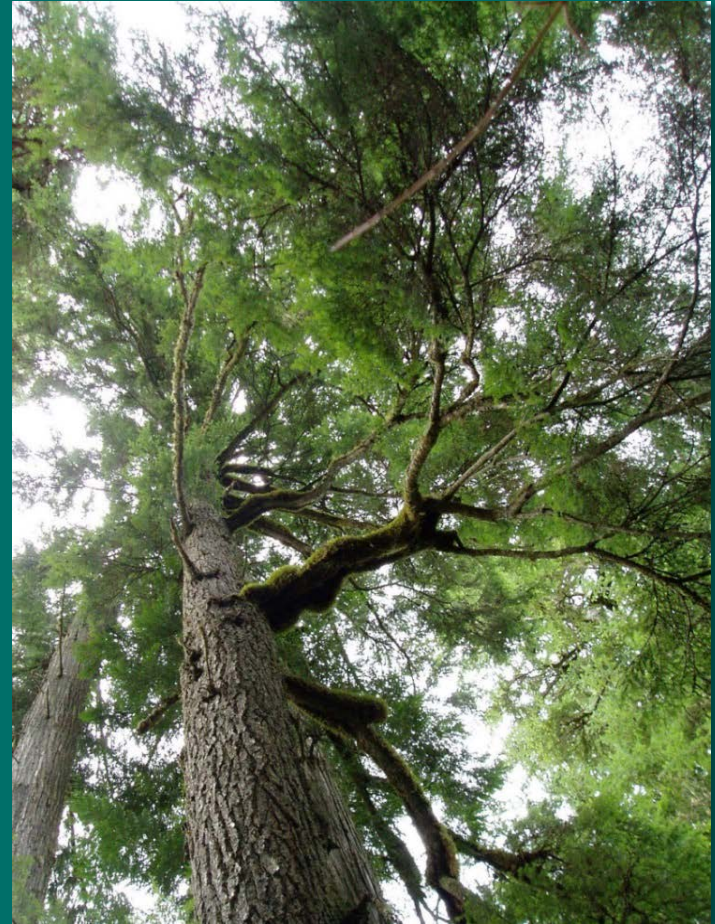
Marbled Murrelet Habitat Conservation Areas:

Occupied sites

Buffers on occupied sites


Habitat types identified
under interim strategy

Strategically located,
high quality habitat



Habitat Conserved Areas of Long-term Forest Cover



-  Existing Deferrals
-  MM Habitat Conservation Areas
-  Areas of Long-term Forest Cover

Alternatives

Key Question

- How will potential impacts be mitigated?

Impacts will be mitigated by:

- Existing conservation commitments
- Marbled murrelet habitat conservation areas

Mitigation for habitat impacts comes from the growth of new habitat and improvement of existing habitat.

Marbled Murrelet

ALTERNATIVES



Alternatives A-E

Areas of Long-term Forest Cover

Existing Habitat Conservation	A	B	C	D	E
Natural Areas	√	√	√	√	√
Riparian Management Zones	√	√	√	√	√
Conservation Commitments	√	√	√	√	√
Existing NSO – high quality	√	√	√	√	√



Alternatives A - E

Forest Management Outside LTFC

Forest Management	Alternatives A-E
Harvests that create large openings, such as clear cuts and variable retention harvests	Allowed*
Silvicultural treatments	Allowed*
Non-timber land uses	Allowed*

*Managed consistent with existing laws and policy.



Marbled Murrelet

ALTERNATIVE A



Alternative A Description

- **No-Action Alternative**

Continues DNR operations as authorized under the 1997 HCP. Conserves habitat identified under the HCP interim strategy and joint concurrence letters.

Acres of Long-Term Forest Cover = 621,000*

Long-Term Forest Cover		A
Marbled Murrelet Habitat Conservation Areas	Occupied sites – HCP surveyed	✓
	Buffers on occupied sites	✓ (100m)
	Habitat types identified under interim strategy	✓

* LTFC acre numbers are draft and subject to change without notice

Alternative A Description

This alternative includes:

- All HCP-surveyed occupied sites, with a 100m buffer
- All reclassified habitat in OESF
- All reclassified habitat in the Straits, South Coast and Columbia planning units that has not been identified as “released” for harvest under the interim strategy
- Suitable habitat in North and South Puget planning units that has not been identified as “released” for harvest subject to the 2007 concurrence letters, all newly ID habitat, and all potential habitat that has a P-stage value >0



Alternative A

Forest Management Inside LTFC

Forest Management Inside LTFC	A
Harvests that create large openings, such as clear cuts and variable retention harvests	No Planned Harvests Allowed
Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Allowed in operable non-marbled murrelet habitat
Marbled murrelet habitat enhancement treatments	Allowed
Salvage	Allowed
Non-timber harvest land uses (roads, campgrounds, trails, etc.)	Existing land uses and infrastructure will continue*

*Note: rules for managing new infrastructure are still under development.



Marbled Murrelet

ALTERNATIVE B



Alternative B Description

- Protecting known locations of marbled murrelet occupied sites delineated by the 2008 Science Team Report on forested state trust lands.

Acres of Long-Term Forest Cover = 594,000*

Long-Term Forest Cover		B
Marbled Murrelet Habitat Conservation Areas	Occupied sites – Science team mapped	✓

* LTFC acre numbers are draft and subject to change without notice

Alternative B

Forest Management Inside LTFC

Forest Management Inside LTFC	B
Harvests that create large openings, such as clear cuts and variable retention harvests	No Planned Harvests Allowed
Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Allowed in operable non-marbled murrelet habitat
Marbled murrelet habitat enhancement treatments	Allowed
Salvage	Allowed
Non-timber harvest land uses (roads, campgrounds, trails, etc.)	Existing land uses and infrastructure will continue*

*Note: rules for managing new infrastructure are still under development.



Marbled Murrelet

ALTERNATIVE C



Alternative C

Description

- Designed to protect occupied sites and grow new habitat over the life of the HCP. Focuses on marbled murrelet conservation with an emphasis area and special habitat area approach.

Acres of Long-Term Forest Cover = 636,000*

Long-Term Forest Cover		C
Marbled Murrelet Habitat Conservation Areas	Occupied sites – Science team mapped	✓
	Buffers on occupied sites	✓
	Higher quality habitat	✓
	Emphasis areas	✓
	Special habitat areas	✓

* LTFC acre numbers are draft and subject to change without notice

Alternative C Description

This approach includes:

- Creating marbled murrelet emphasis areas
- Creating special habitat areas around a select number of existing occupied sites
- Buffering all other existing occupied sites
- Protecting higher quality habitat



Alternative C

Emphasis Areas

- Intended to protect existing occupied sites, current habitat and grow new habitat while maintaining flexibility for management

Each emphasis area:

- Includes occupied sites with 100m buffers
- Delineates lands within ½ mile of these occupied sites to be maintained as LTFC
- Conserves current habitat (p-stage value .25 or greater) as LTFC



Alternative C

Emphasis Areas Continued

Each emphasis area (continued):

- Conserves all future habitat
- Contains younger forest stands that will not achieve P-stage habitat by the final decade of HCP, but function to reduce fragmentation
- Will allow active management outside of LTFC, but within the emphasis area



Alternative C

Special Habitat Areas

- Designed to protect existing occupied sites with the intent of improving productivity by creating security forests and reducing fragmentation.

Special habitat areas:

- Protect more isolated occupied sites
- Contain features similar to emphasis areas
- Active management is limited
- All acreage within special habitat is designated LTFC

Alternative C

Forest Management Inside LTFC

Forest Management Inside LTFC	C
Harvests that create large openings, such as clear cuts and variable retention harvests	No Planned Harvests Allowed
Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Allowed in operable non-marbled murrelet habitat
Marbled murrelet habitat enhancement treatments	Allowed in non-habitat within emphasis areas and special habitat areas
Salvage	Allowed
Non-timber harvest land uses (roads, campgrounds, trails, etc.)	Existing land uses and infrastructure will continue*

*Note: rules for managing new infrastructure are still under development.



Marbled Murrelet

ALTERNATIVE D



Alternative D

Description

- Uses special habitat areas to protect occupied sites and increase productivity by reducing edge and fragmentation.

Acres of Long-Term Forest Cover = 635,000*

Long-Term Forest Cover		D
Marbled Murrelet Habitat Conservation Areas	Occupied sites – Science team mapped	✓
	Buffers on occupied sites	✓
	Special habitat areas	✓

* LTFC acre numbers are draft and subject to change without notice

Alternative D

Description

- Special Habitat Area Approach
 - Strategically located occupied sites with 100m buffers
 - Existing and future p-stage habitat adjacent to those occupied sites
 - Adjacent non-habitat areas that will provide security to existing and future habitat
- Approach will reduce fragmentation around known occupied sites and provide additional security to current and future habitat.

Alternative D

Forest Management Inside LTFC

Forest Management Inside LTFC	D
Harvests that create large openings, such as clear cuts and variable retention harvests	No Planned Harvests Allowed
Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Allowed in operable non-marbled murrelet habitat
Marbled murrelet habitat enhancement treatments	Allowed in non-habitat within special habitat areas
Salvage	Allowed
Non-timber harvest land uses (roads, campgrounds, trails, etc.)	Existing land uses and infrastructure will continue*

*Note: rules for managing new infrastructure are still under development.



Marbled Murrelet

ALTERNATIVE E



Alternative E

Description

- Establishes marbled murrelet management areas (MMMAs), including in North and South Puget Planning Units, consistent with recommendations in 2008 Science Team Report.

Acres of Long-Term Forest Cover = 734,000*

Long-Term Forest Cover		E
Existing habitat conservation	Existing Northern Spotted Owl Habitat – Low Quality	✓
Marbled Murrelet Habitat Conservation Areas	Occupied Sites – Science team mapped	✓
	Buffers on Occupied Sites	✓
	Marbled Murrelet Management Areas	✓

* LTFC acre numbers are draft and subject to change without notice

Alternative E

Forest Management Inside LTFC

Forest Management Inside LTFC	E
Harvests that create large openings, such as clear cuts and variable retention harvests	No Planned Harvests Allowed
Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Allowed in operable non-marbled murrelet habitat
Marbled murrelet habitat enhancement treatments	Allowed
Salvage	Allowed
Non-timber harvest land uses (roads, campgrounds, trails, etc.)	Existing land uses and infrastructure will continue*

*Note: rules for managing new infrastructure are still under development.



Marbled Murrelet

ALTERNATIVE COMPARISONS



Analytical Framework Updates

- Stringers
- Roads as Edges
- Varying Habitat by Location



Habitat Conserved Acres of Long-term Forest Cover

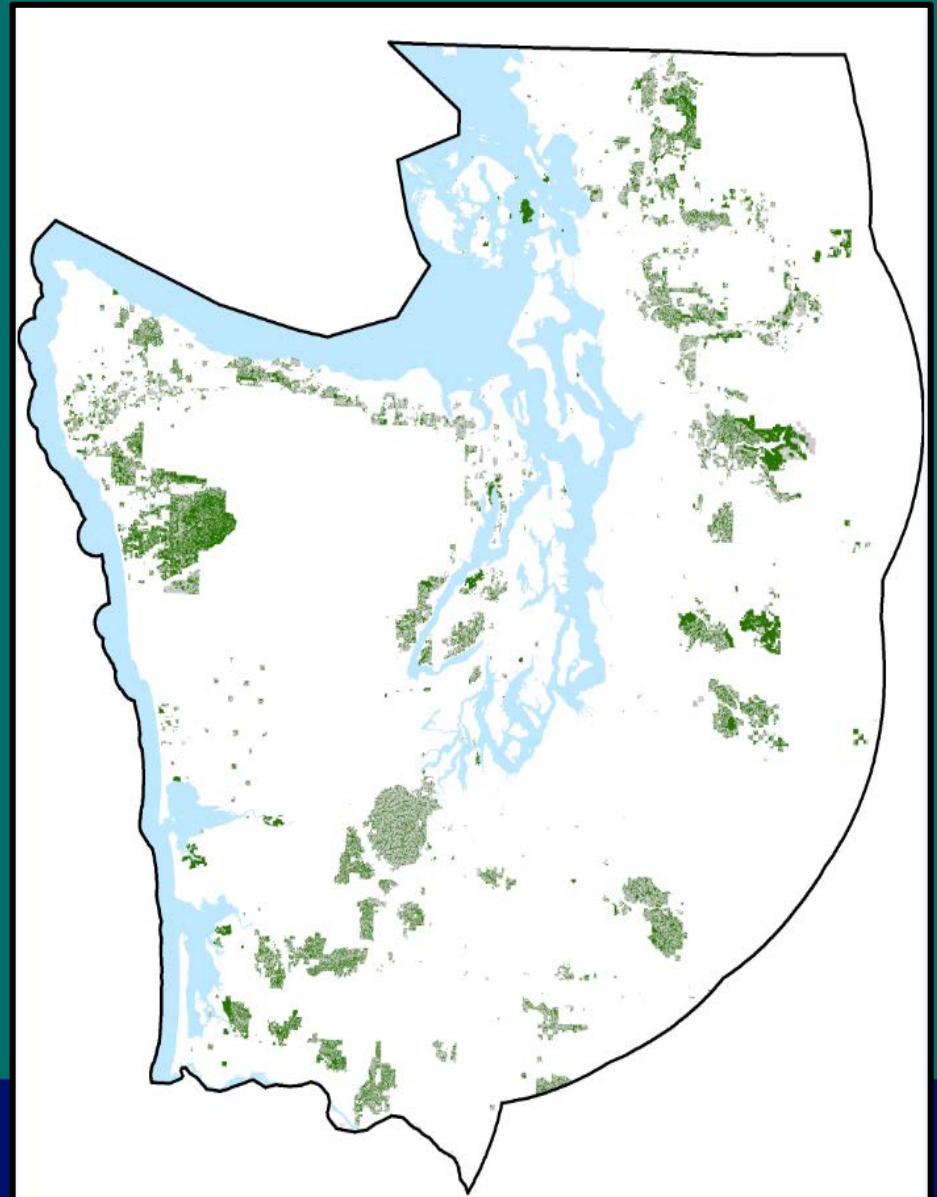
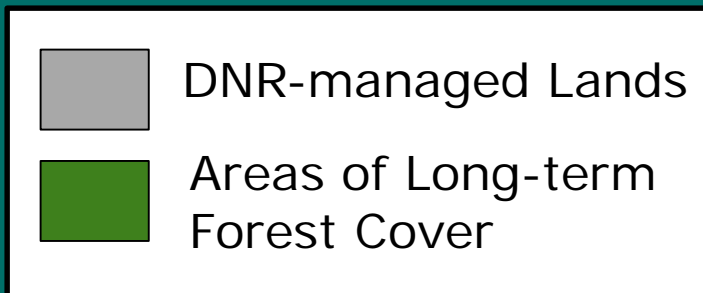
Alternative	LTFC Acres*
Alternative A	621,000
Alternative B	594,000
Alternative C	636,000
Alternative D	635,000
Alternative E	734,000

* LTFC acre numbers are draft and subject to change without notice



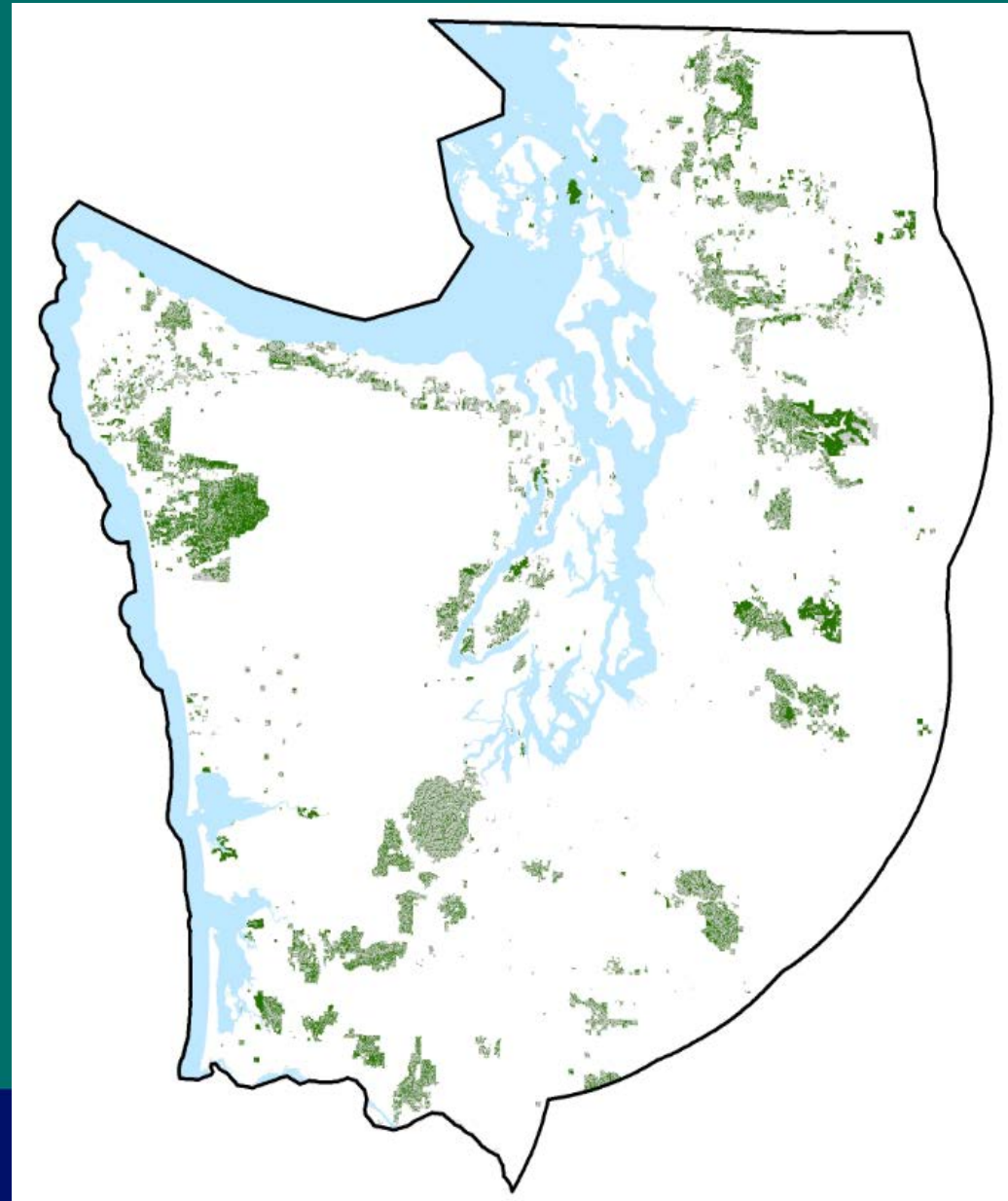
Alternative Comparisons


- Alternative A
(No Action)



Alternative Comparisons

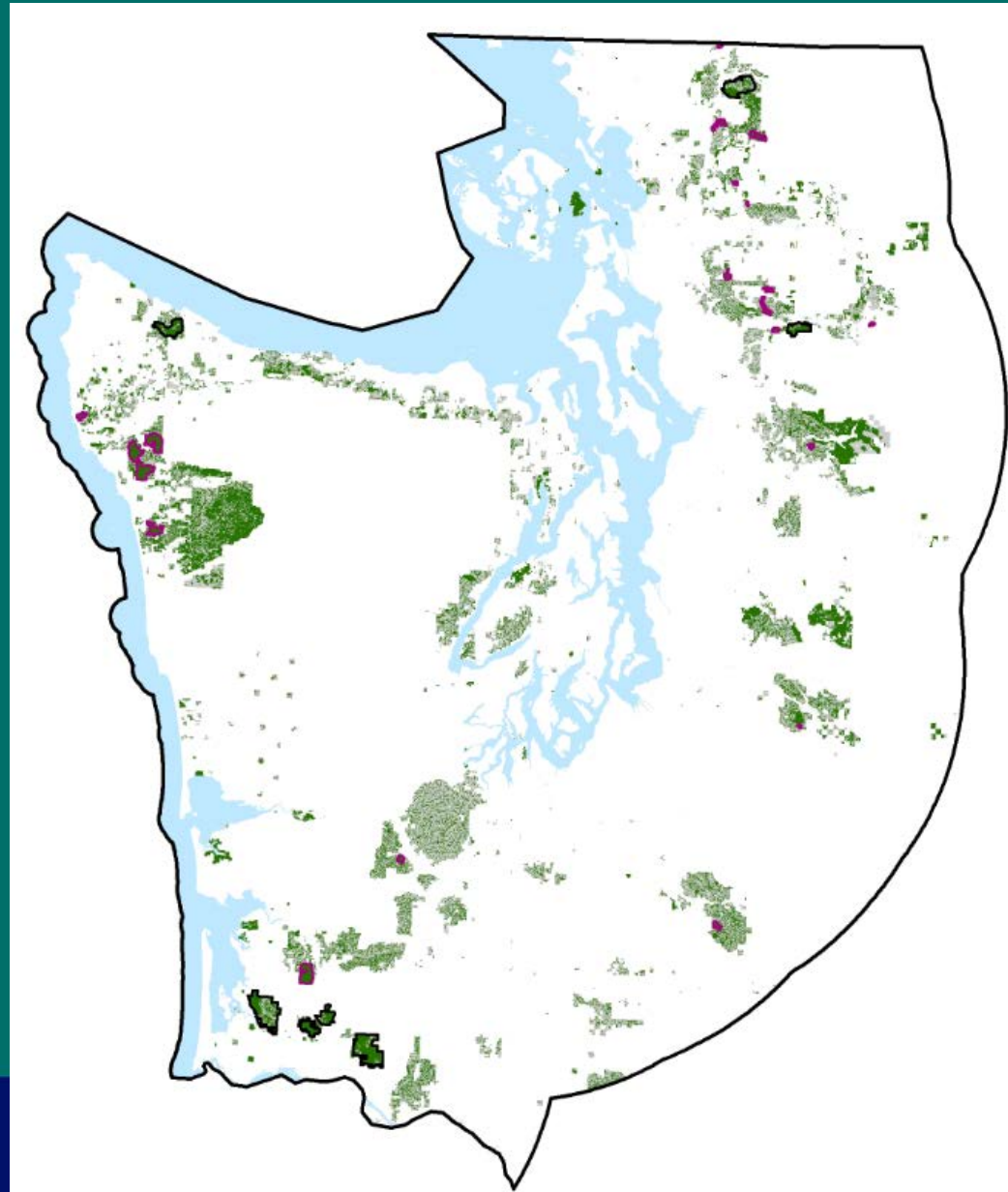
- Alternative B



 DNR-managed Lands
 Areas of Long-term Forest Cover

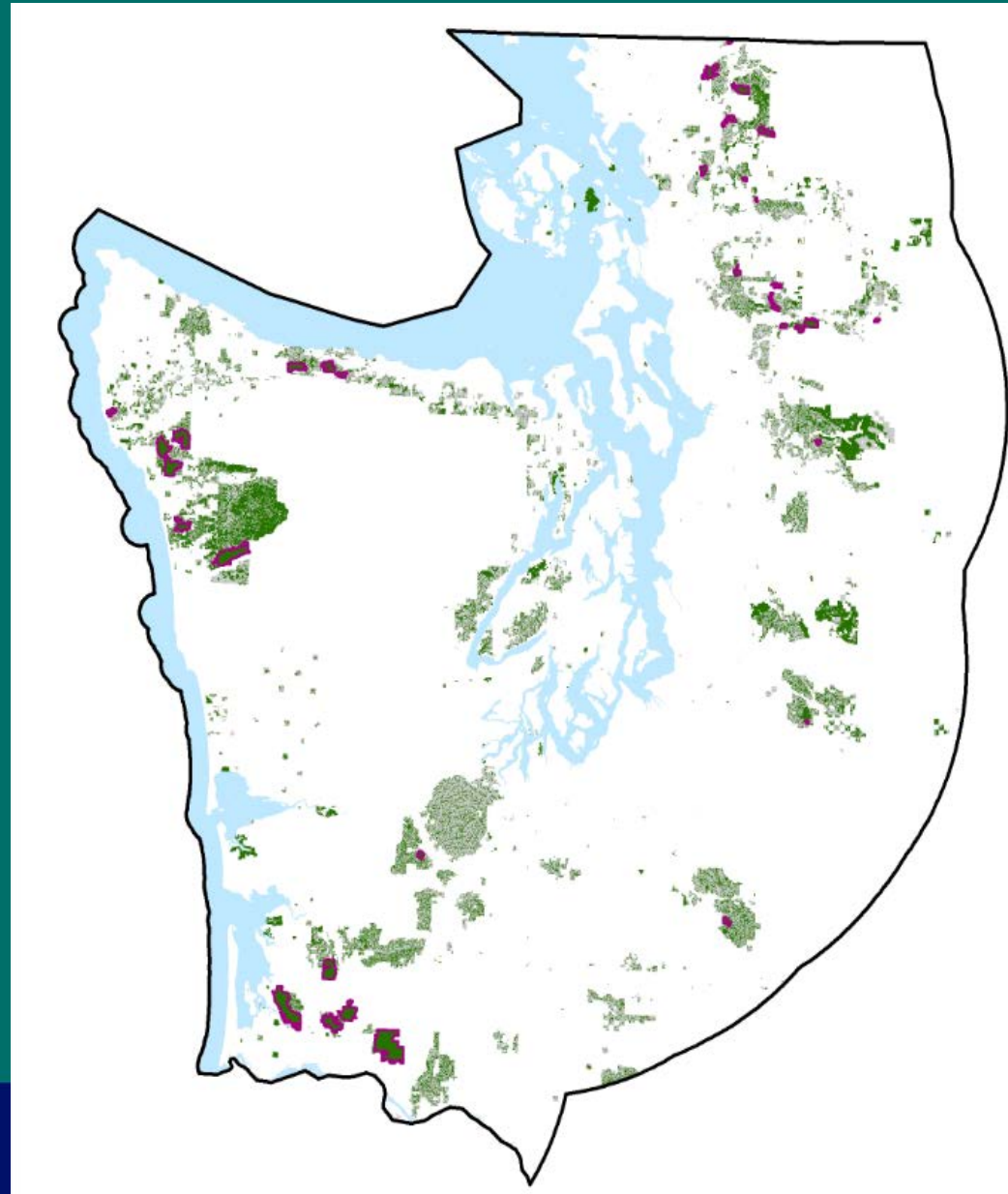
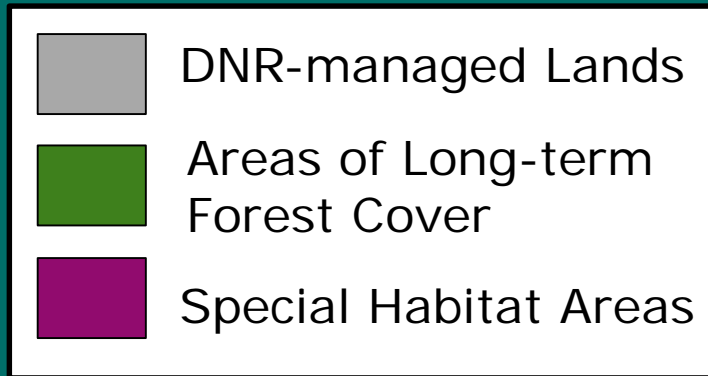
Alternative Comparisons

■ Alternative C



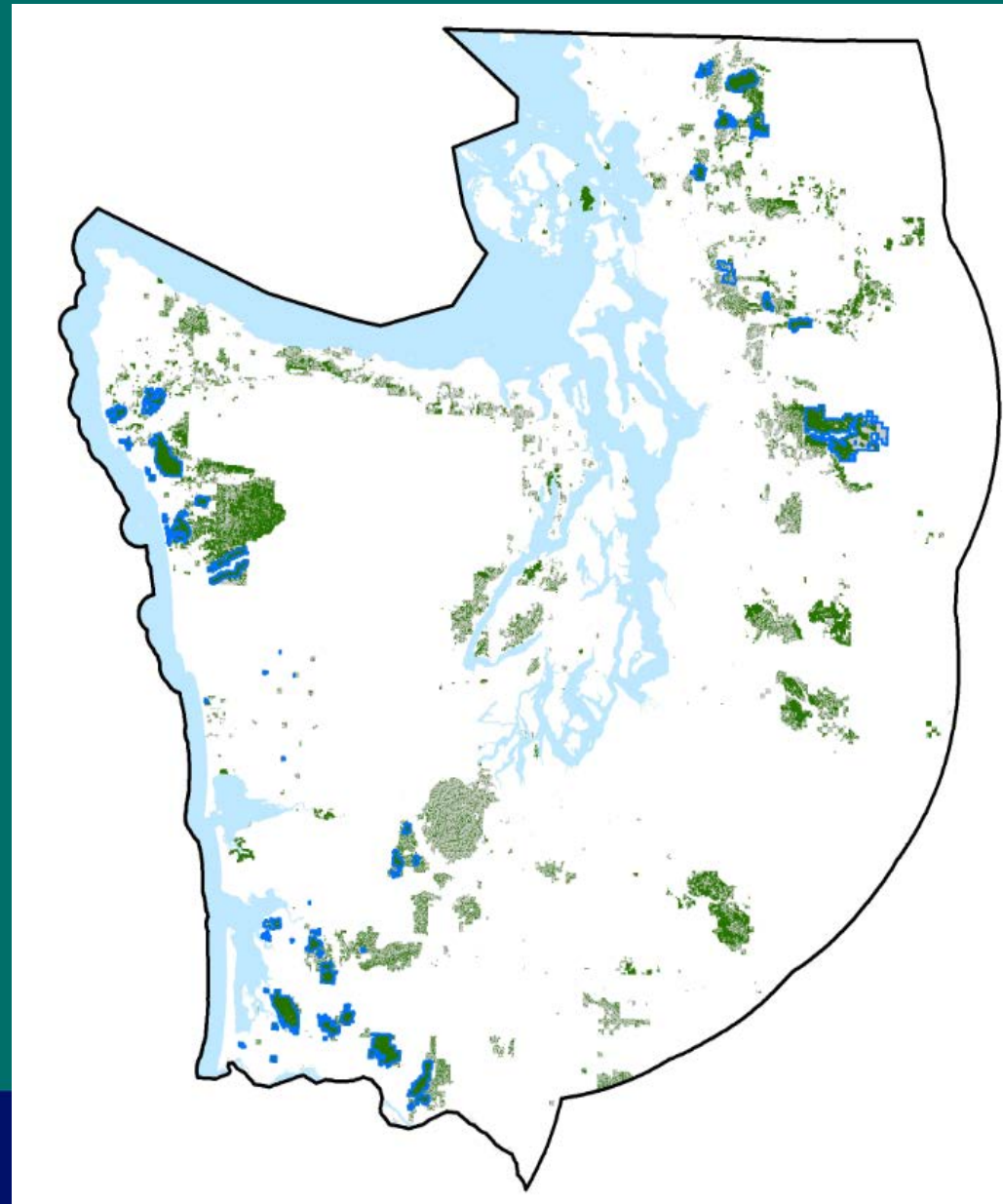
Alternative Comparisons

■ Alternative D



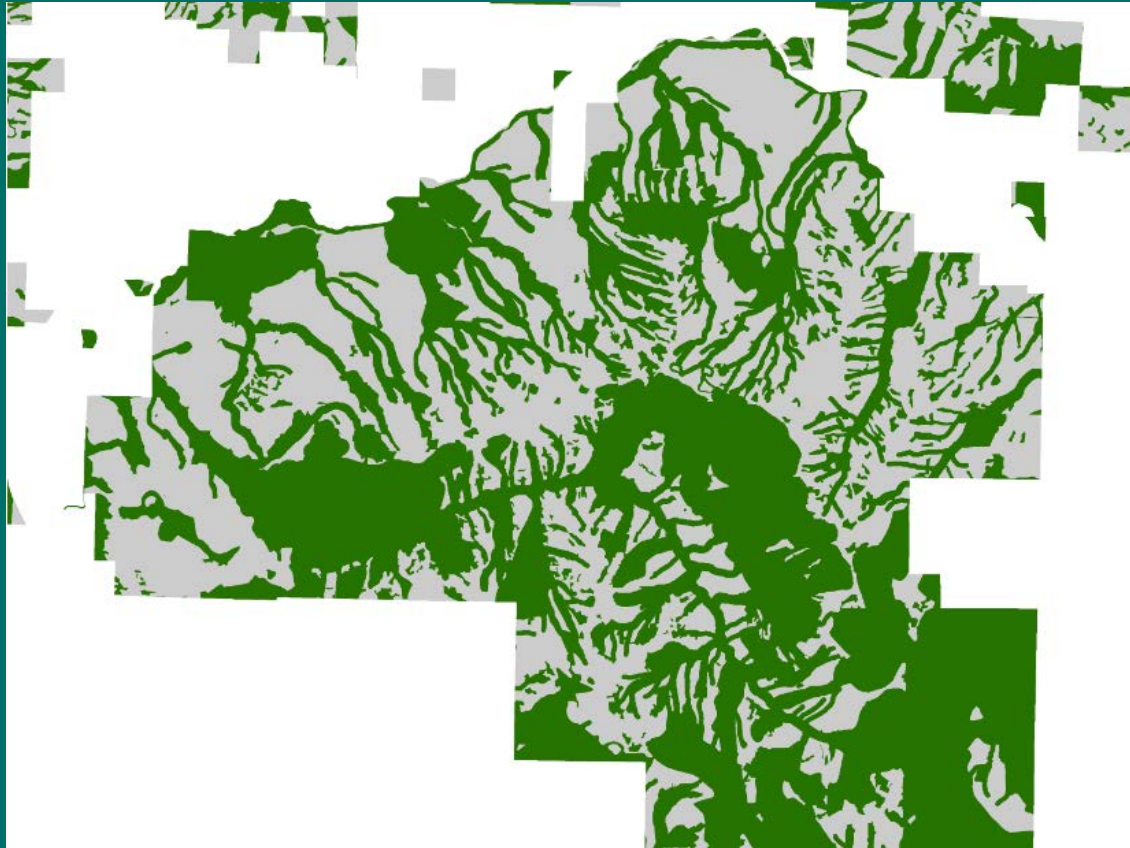
Alternative Comparisons

- Alternative E



Alternative Comparisons Example

- Alternative A



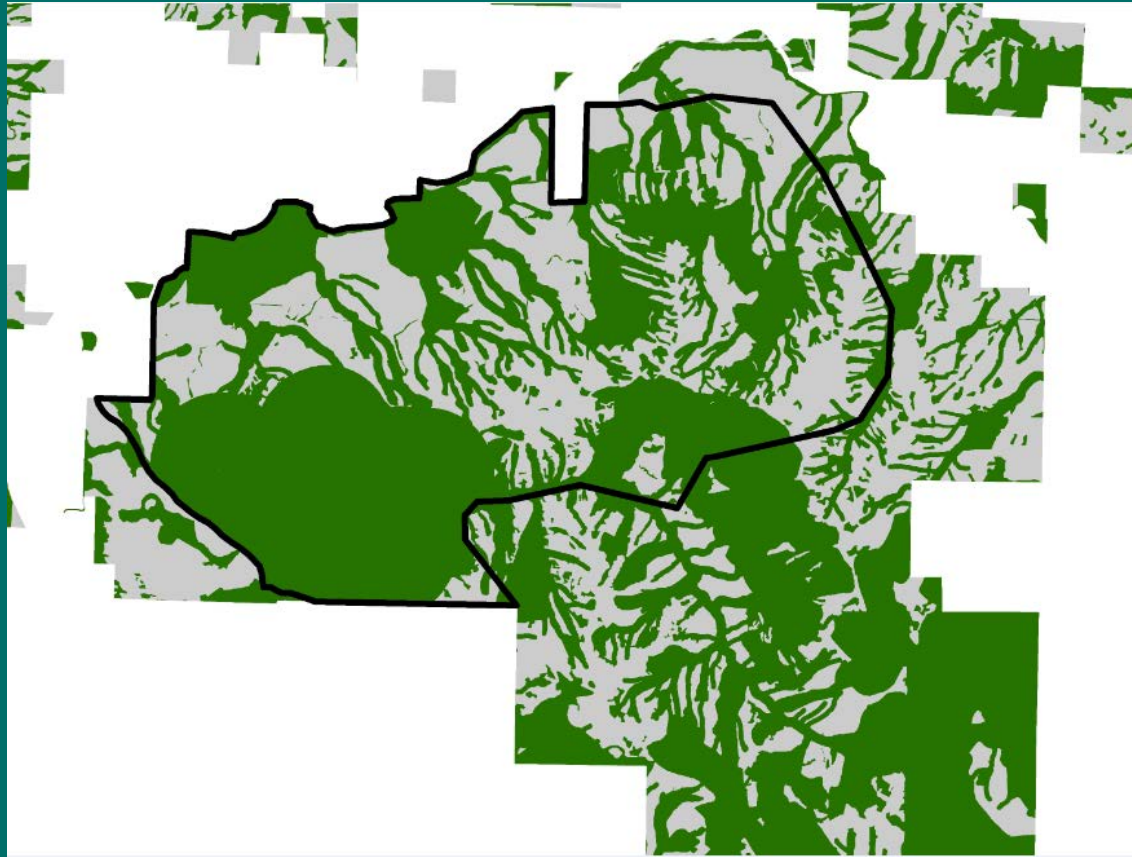
Alternative Comparisons Example

- Alternative B



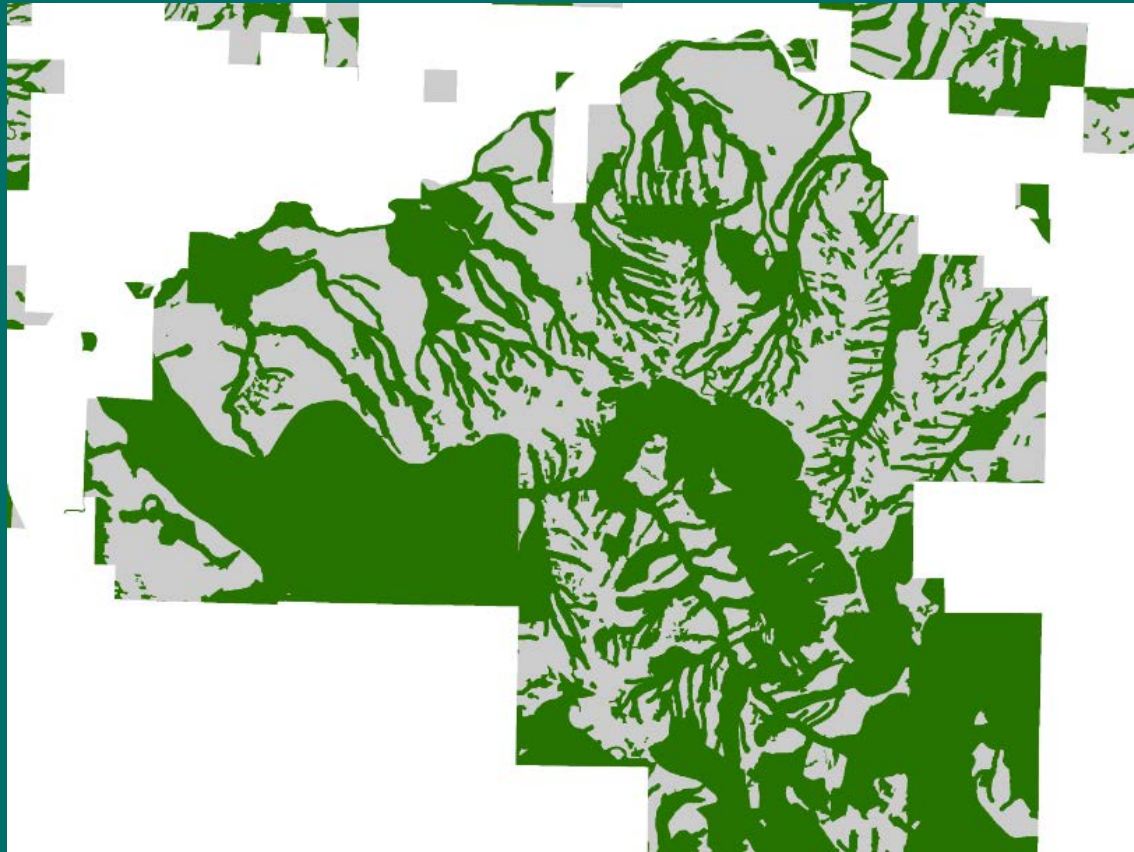
Alternative Comparisons Example

- Alternative C



Alternative Comparisons Example

- Alternative D



Alternative Comparisons Example

- Alternative E



Habitat Conserved Areas of Long-term Forest Cover

Marbled Murrelet Habitat Conservation	A	B	C	D	E
Occupied sites – HCP surveyed	✓				
Occupied sites – Science Team mapped		✓	✓	✓	✓
Buffers on occupied sites	✓ 100m	0	100m on all, except OESF where sites greater than or equal to 200 acres have 50m		✓ 100m
Habitat types identified under interim strategy	✓				
Marbled murrelet management areas identified in the Science Team Report					✓ Plus areas established in North and South Puget
High quality habitat (P-stage >.47)			✓		
Emphasis areas			✓		
Special habitat areas			✓	✓	



Alternatives Forest Management

Forest Management Inside LTFC	A	B	C	D	E
Harvests that create large openings, such as clear cuts and variable retention harvests	No planned harvests allowed.				
Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Treatments are allowed in operable, non-marbled murrelet habitat consistent with other land management objectives.				
Marbled Murrelet habitat enhancement treatments	✓	✓	Habitat enhancement treatments are allowed in non-habitat areas within emphasis areas and special management areas with the objective of developing habitat within the life of the HCP.		✓



Alternatives

Forest Management

Forest Management Inside LTFC	A	B	C	D	E
Salvage	Salvage is allowed, consistent with the HCP and objectives of the conservation strategy.				
Non-timber harvest land uses (roads, campgrounds, trails, etc.)	<p>Management of existing land uses and related infrastructure will continue per existing law and policy, with ongoing disturbance impacts to LTFC identified and mitigated.</p> <p><i>Note: rules for managing new infrastructure are still under development.</i></p>				



Alternatives Forest Management

Forest Management Outside LTFC	A	B	C	D	E
Harvests that create large openings, such as clear cuts and variable retention harvests	Forest stands managed consistent with the Sustainable Harvest Calculation.				
Silvicultural treatments	Allowed per existing law and policy.				
Non-timber land uses	Existing and future land uses will be managed consistent with the Policy for Sustainable Forests and the Multiple Use Act.				



Thank you

