



2018 Updated Financial Analysis

A report to the Board of Natural Resources

presented by

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Today's Outline

- Purpose
- Analysis Area
- Metrics analyzed
- Updates since 2017
- Comparison of the Alternatives
- Next Steps



Purpose of the Financial Analysis

To provide financial projections to help the board understand how each scenario affects DNR's ability to meet its trust management obligations, including:

- The generation of revenue for trust beneficiaries
- The ability to generate revenue in perpetuity
- Impartiality with respect to current and future beneficiaries
- Maintaining the corpus of the trust



Financial Analysis

Combinations of 3 Key Policy Decisions:

- Marbled murrelet alternatives
- Arrearage harvest
- Riparian thinning



Analysis area

- All DNR-managed lands in Western Washington within 55 miles of marine waters
- ~1.4 million acres
- Includes lands in the following HCP planning units:
 - Columbia
 - North Puget
 - OESF
 - South Coast
 - South Puget
 - Straits



Metrics Analyzed

10 - Decade Net Present Value (NPV) - is used in investment planning to analyze the profitability of a project and allows the scenarios to be compared

Harvest Volume - allows comparison of the planning decade and the long-term harvest volume in terms of million board feet (MMBF)

Long Term Forest Cover (LTFC) Area – existing and marbled murrelet conservation

Updated Data and Assumptions

- **Updated Forest Inventory Data** – land transactions, harvest activities, local knowledge database
- **Timber Price Data** – includes prices 2011-2018, and three cover types
- **Management cost data** – management costs 2012-2018
- **Northern Spotted Owl habitat management** – model better reflects the HCP conservation strategy
- **Timber Yields** – better matches actual growth and forest inventory
- **Discount rate** – from 2% to 3% after analysis of Common School Permanent Fund
- **OESF management** – removed outdated data that no longer affects harvest level

New Alternatives and Options Added

New Marbled Murrelet Alternatives –Alternatives G and H

New Riparian Thinning Option –thinning in riparian areas is not counted towards the sustainable harvest level

New Arrearage Option– harvest 382 MMBF from those sustainable harvest units with deficits, over 10 years



Scenarios in 2018 Financial Analysis

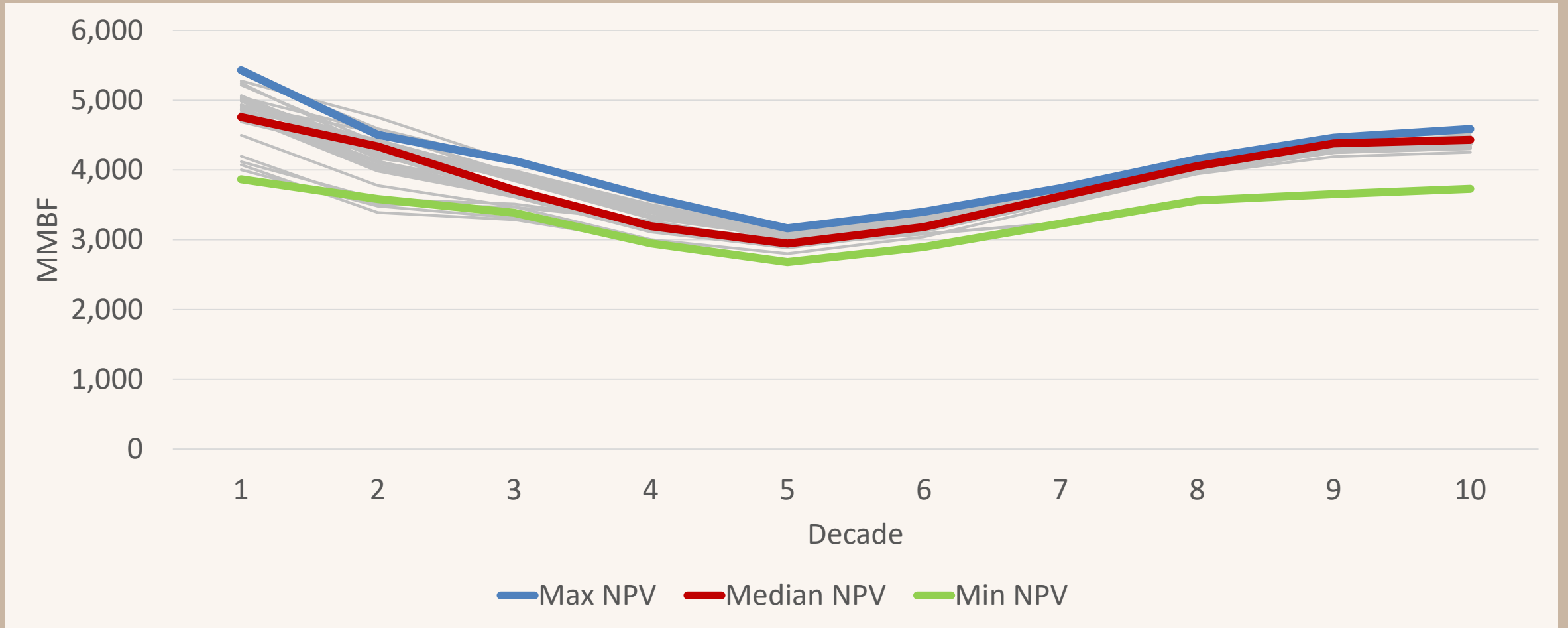
- The **36 original combinations** with updated data
- The **2 new combinations**:
 - Marbled Murrelet Alt. G | No Riparian Thinning | Arrearage of harvest of 382 MMBF
 - Marbled Murrelet Alt. H | No Riparian Thinning | Arrearage of harvest of 382 MMBF
(represents the Board's Preferred Alternative)



Harvest Volume over Time

10-decade harvest level under all scenarios

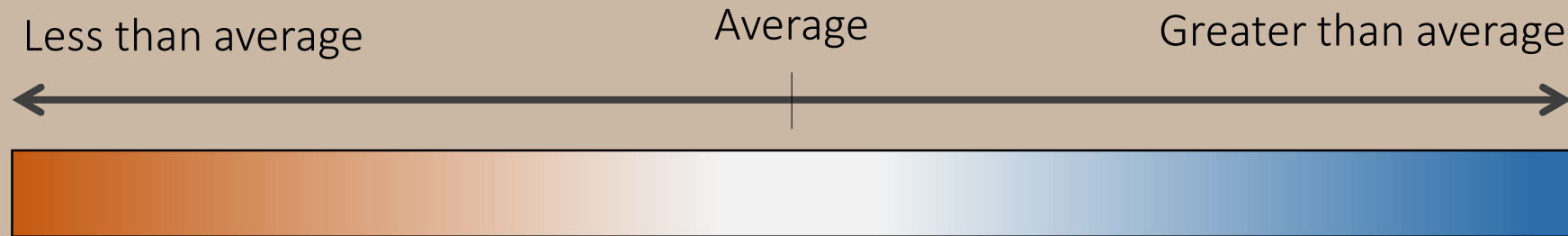
(Scenarios with the maximum, median, and minimum 10-decade NPVs are shown in color*)



*Other scenarios are shown in gray

How data are presented:

Color gradient corresponds to relative relationship between cells



Example:

	Factor 1	Factor 2	Factor 3
Factor A	1	5	5
Factor B	2	5	8
Factor C	9	7	3

Cells with the same color = same value

10-Decade NPV

(reported in \$ billions)

Updated Scenario Results							
MARBLED MURRELET STRATEGY ALTERNATIVE	ARREARAGE VOLUME						
	702 MMBF		462 MMBF		No specific level		
	RIPARIAN THINNING						
	10%	1%	10%	1%	10%	1%	
Alt. A	3.74	3.64	3.74	3.64	3.74	3.64	
Alt. B	3.89	3.79	3.89	3.79	3.89	3.79	
Alt. C	3.69	3.60	3.69	3.60	3.69	3.59	
Alt. D	3.69	3.59	3.69	3.59	3.69	3.59	
Alt. E	3.67	3.57	3.67	3.57	3.67	3.57	
Alt. F	3.18	3.09	3.18	3.09	3.18	3.09	
New Scenario results							
Alt. G	382 MMBF Arrearage Volume		Riparian not included				3.43
Alt. H	382 MMBF Arrearage Volume		Riparian not included				3.59



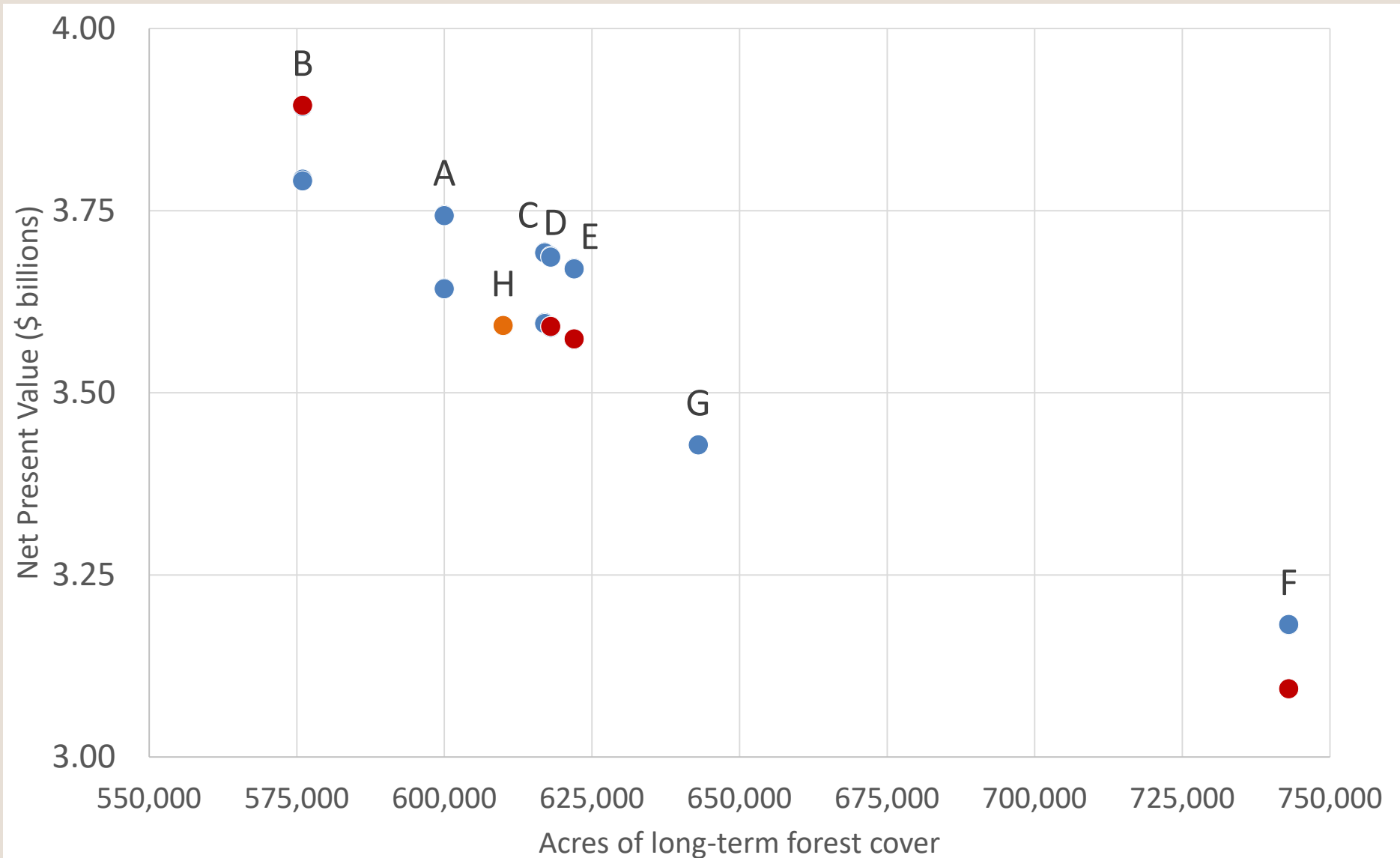
Effect of LTFC on 10-Decade NPV

Each circle represents one combination of murrelet, arrearage, and riparian options.

Blue dots represent marbled murrelet strategy alternatives A-G

Red dots represent alternatives analyzed in the SHC DEIS

Orange dot (H) indicates the Board's preferred alternative



Planning Decade Timber Harvest Volume (MMBF/decade)

Updated Scenario Results

MARBLED MURRELET STRATEGY ALTERNATIVE	ARREARAGE VOLUME					
	702 MMBF		462 MMBF		No specific level	
	RIPARIAN THINNING					
	10%	1%	10%	1%	10%	1%
Alt. A	5,048	4,879	5,010	4,849	4,925	4,760
Alt. B	5,430	5,247	5,391	5,219	5,276	5,044
Alt. C	5,029	4,866	4,987	4,814	4,902	4,729
Alt. D	5,067	4,900	5,037	4,863	4,922	4,734
Alt. E	4,986	4,822	4,937	4,770	4,862	4,689
Alt. F	4,198	4,077	4,118	4,002	3,990	3,868

New Scenario Results

Alt. G		382 MMBF Arrearage Volume		Riparian not included	4,499
Alt. H		382 MMBF Arrearage Volume		Riparian not included	4,794



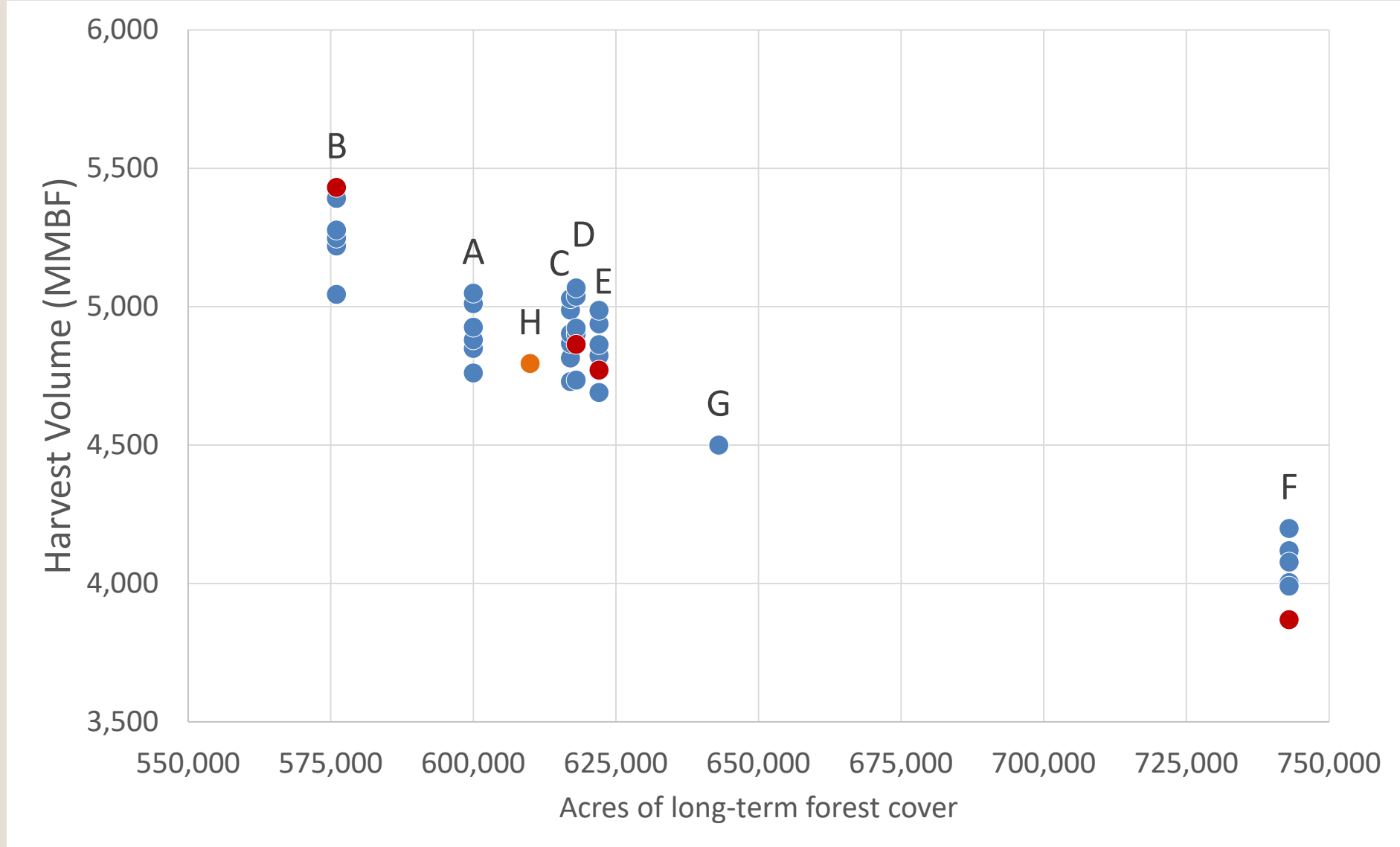
Effect of LTFC on Planning decade harvest volume

Each circle represents one combination of murrelet, arrearage, and riparian options.

Blue Dots represent marbled murrelet strategy alternatives A – G

Red Dots represent alternatives analyzed in the SHC DEIS

Orange dot is the Board's preferred Alternative



Summary

- **Marbled murrelet Impacts**

- *Potentially \$560 million choice in NPV*
 - 10-decade NPV: 15% difference between Alt. A and Alt. F
 - 1st decade harvest level: 17% difference between Alt. A and Alt. F

- **Riparian impacts**

- *Potentially \$100 million choice in NPV*
 - 10-decade NPV: 3 % difference between comparable scenarios
 - 1st decade harvest level: 3% difference between comparable scenarios

- **Arrearage impacts**

- *Potentially \$200 thousand choice in NPV*
 - 10-decade NPV: >1 % difference between comparable scenarios
 - 1st decade harvest level: 2.5 - 5% difference between comparable scenarios

Next Steps



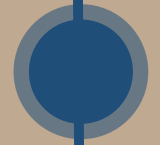
September: Released the MMLTCS RDEIS - beginning of public comment period



October: Public Meetings and updated Financial Analysis



December: End of MMLTCS public comment period



Summer 2019: Release the MMLTCS FEIS and SHC FEIS, including responses to comments for both projects



Fall 2019: USFWS ROD, Section 10 Findings, ITP issuance



