

The following slides were referenced  
during the November 7<sup>th</sup>, 2017  
Board of Natural Resources meeting.

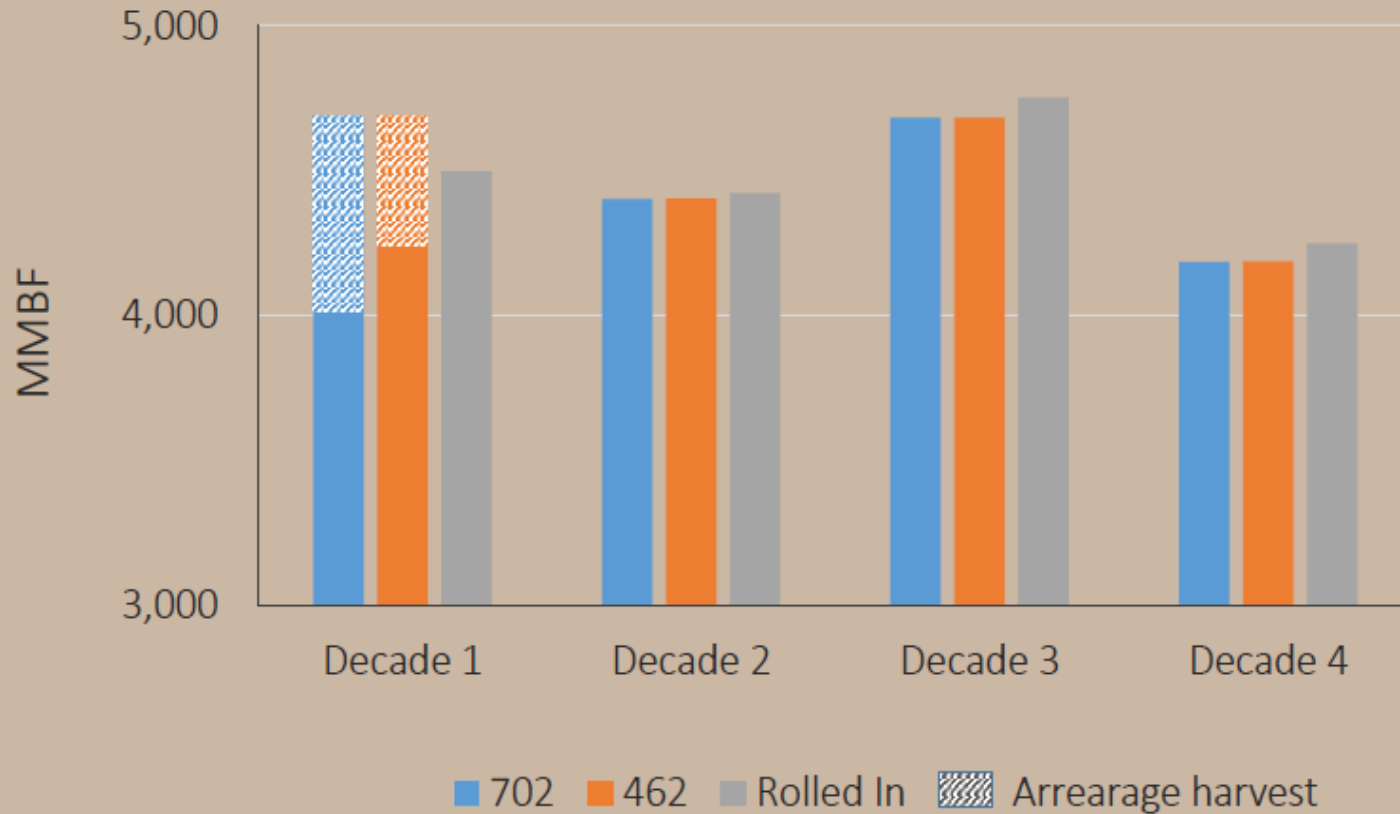
# Arrearage

Arrearage for the 2005-2014  
planning decade was 462 mmbf.

$$\begin{array}{r} 5,500 \text{ mmbf} \\ - 5,038 \text{ mmbf} \\ \hline 462 \text{ mmbf} \end{array}$$

## -short term

Harvest volumes under different arrearage options  
(MMLTCS Alt A, Riparian Thinning 10%)



### KEY MESSAGES

- To achieve higher volumes in first decade volume must be brought forward from future decades
- Implementation of arrearage harvest will lower the 1<sup>st</sup> decade Sustainable Harvest Level

# 10-decade NPV (\$ billions) Western Washington

Marbled Murrelet LTCS Alt	Arrearage harvest					
	702 MMBF		462 MMBF		No specific level	
	Riparian thinning					
	10%	1%	10%	1%	10%	1%
Alt A	4.77	4.71	4.77	4.70	4.75	4.67
Alt B	4.91	4.85	4.91	4.85	4.89	4.81
Alt C	4.72	4.66	4.72	4.65	4.70	4.62
Alt D	4.72	4.66	4.72	4.66	4.70	4.62
Alt E	4.70	4.64	4.70	4.64	4.68	4.60
Alt F	4.30	4.25	4.30	4.25	4.28	4.21

# Planning decade timber harvest volume

## Planning decade Volume (MMBF/decade) Western Washington.

Marbled Murrelet Strategy Alternative	Arrearage harvest						Decadal rate based on FY 2011-2015 performance
	702 MMBF		462 MMBF		No specific level		
	Riparian thinning						
	10%	1%	10%	1%	10%	1%	
Alt A	4,686	4,704	4,681	4,642	4,497	4,384	4,560
Alt B	4,961	4,926	4,955	4,859	4,772	4,656	
Alt C	4,646	4,653	4,639	4,596	4,455	4,350	
Alt D	4,671	4,666	4,666	4,610	4,483	4,378	
Alt E	4,624	4,638	4,624	4,582	4,441	4,338	
Alt F	4,026	4,110	4,021	4,039	3,910	3,800	

# Trust Land Transfer (TLT)

- In the 2004 Sustainable Harvest Calculation, some trust lands were placed in a harvest deferral status in anticipation of transferring them

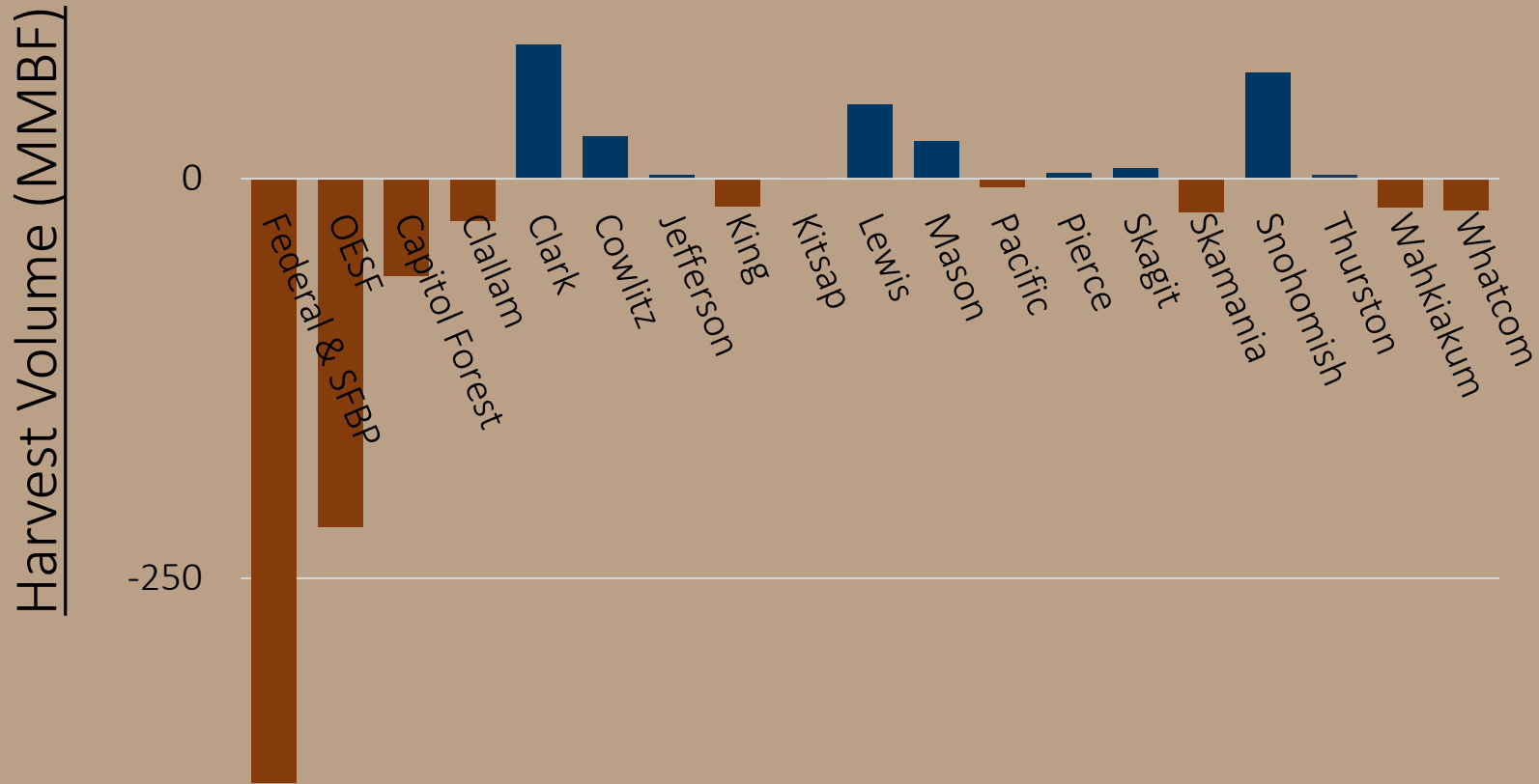
	TLT Acres	TLT Timber Volume (MMBF)	TLT Timber Value (\$ millions)
Deferred	17,854	353	\$ 90
Not Deferred	15,822	302	\$ 81
<b>Total</b>	<b>33,676</b>	<b>656</b>	<b>\$ 171</b>



# Arrearage

## Sustainable Harvest Units

When only the SHUs in arrears are considered, the deficit becomes 702 mmbf



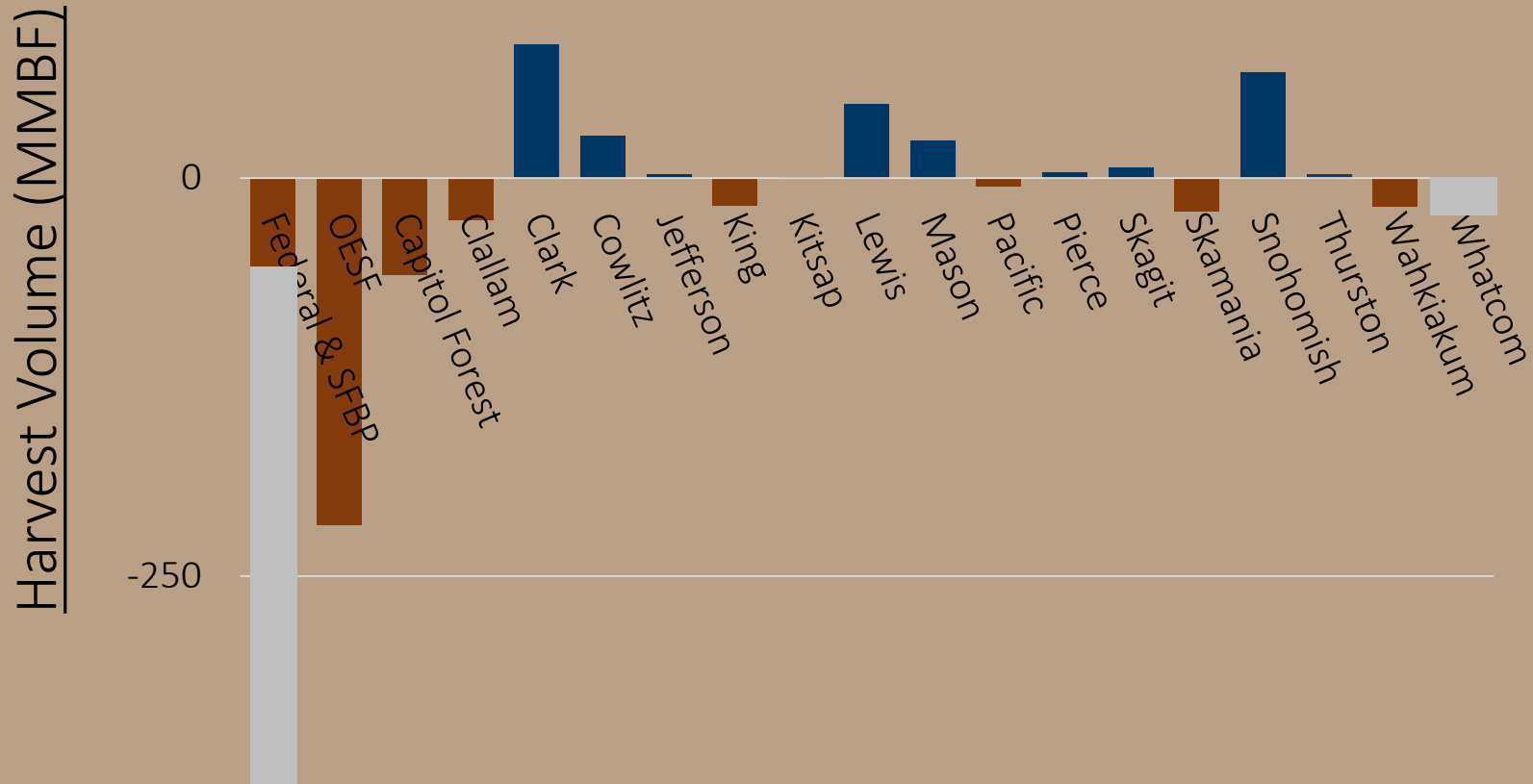
# Arrearage

## Sustainable Harvest Units

When only the SHUs in arrears are considered, the deficit becomes 702 mmbf

Trust Land Transfer = 302 mmbf  
Reconveyance = 18 mmbf

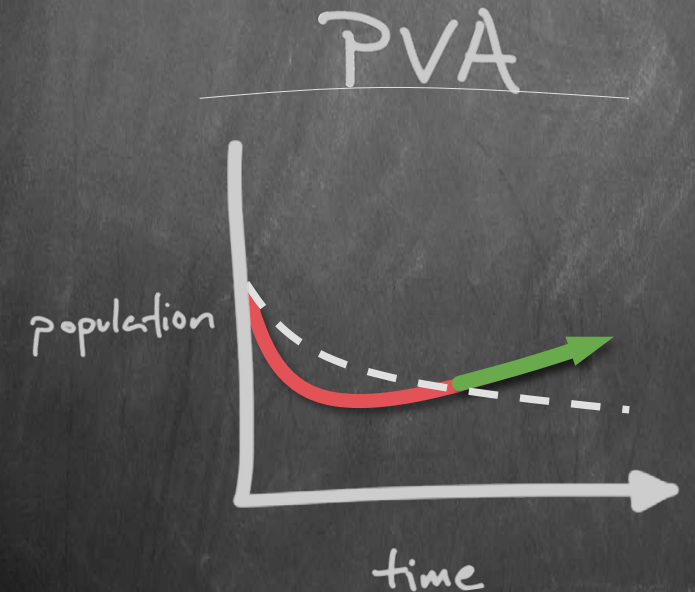
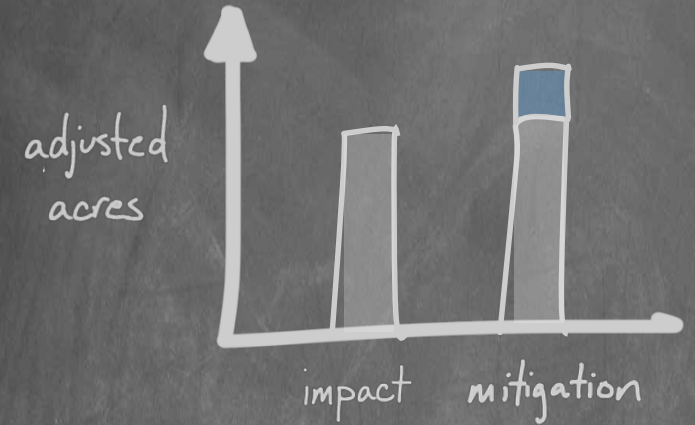
When the land transfer are deducted the deficit becomes 382 mmbf



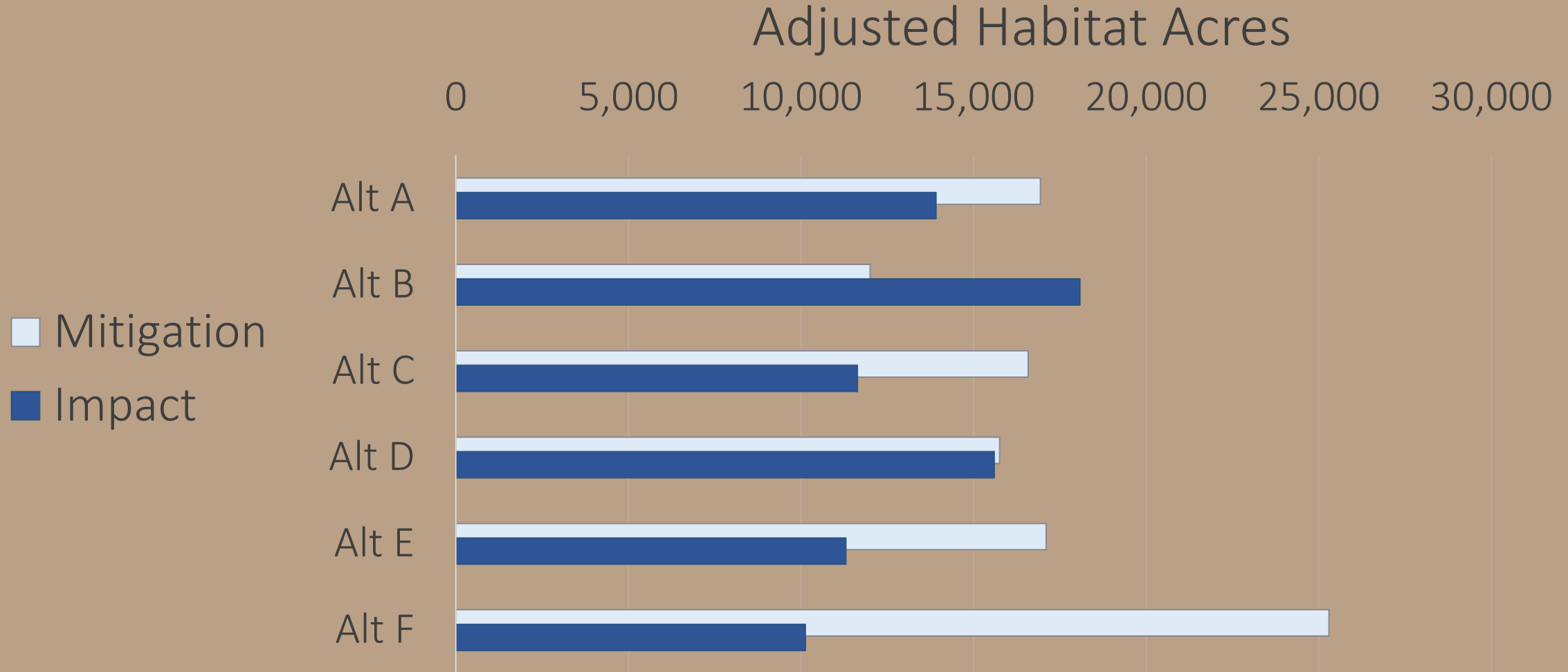


# Evaluation Criteria

- To the maximum extent practicable, minimize and mitigate the impacts of take.
- Not appreciably reduce the likelihood of the survival and recovery of the species in the wild.
- Make a significant contribution to maintaining and protecting marbled murrelet populations in western Washington over the life of the HCP.



# 1 Minimize and mitigate

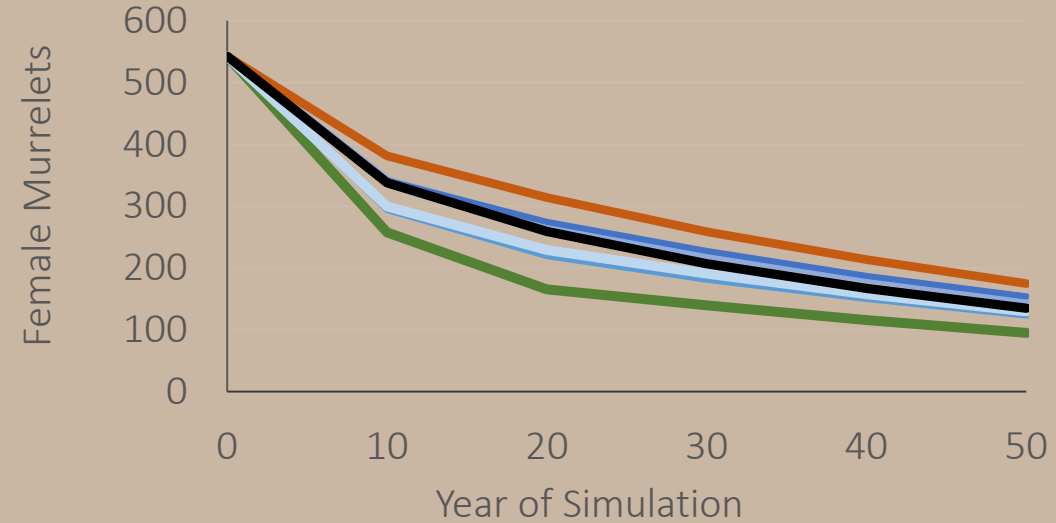


## 2. PVA analysis – Risk vs. Enhancement

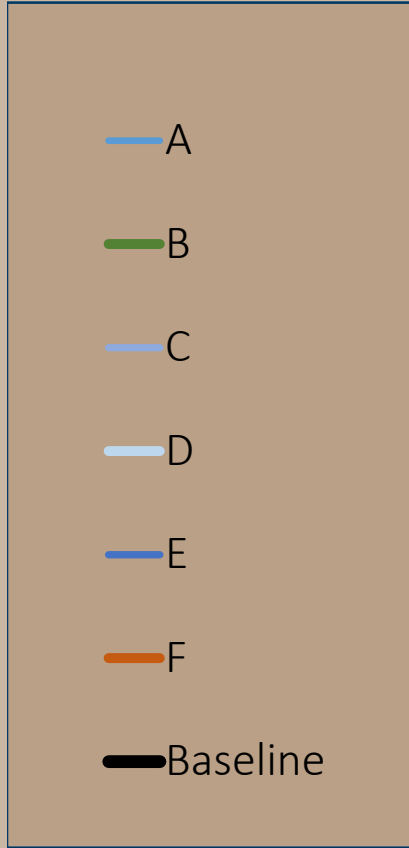
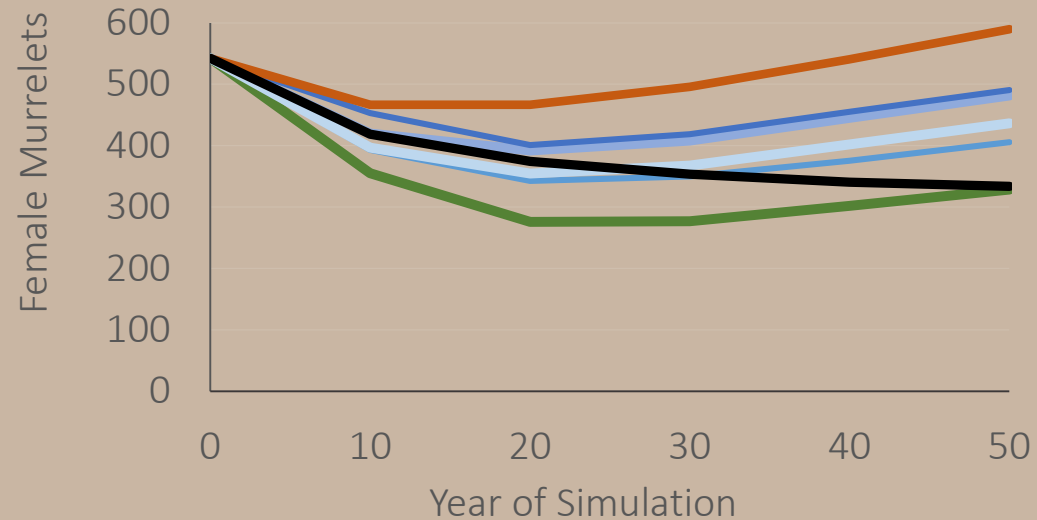
Risk runs use a 0.87 annual non-juvenile survival rate based on historical trends.

Enhancement runs use a 0.90 annual non-juvenile survival rate based on Peery's 2006 marked-recapture research in California.

### DNR - Risk



### DNR - Enhancement



# Baseline requirements

- To the maximum extent practicable, minimize and mitigate the impacts of take.
  - Not appreciably reduce the likelihood of the survival and recovery of the species in the wild.
- 

To do this, our HCP, at a minimum, must address these issues:

1. Protect all occupied sites
2. Reduce the risk of degradation over time
3. Provide mitigation through future habitat in strategic locations, to:
  - a) Provide a distribution of interior forest habitat across the range in WA and,
  - b) Bridge gaps in the distribution of habitat around existing occupied sites
4. Minimize the short-term risks to the population