

# Cougar and Bear Rules Petition

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# Outline



Rulemaking history and process



Information presented



Harvest information pre and post decision



Summary of findings and recommendation





# Cougar Rulemaking History

# Cougar rulemaking history

- April 2018: Only date changes were made to the cougar rule
- March 2019: No cougar changes were recommended (Spokane meeting)
- April 2019: The commission asked us to bring them options that would increase cougar hunting opportunities in some parts of Washington before the next 3-year season setting process (off-cycle)
- An internal team was formed to work on hunting options related to the commission ask



# Cougar rulemaking history

- Dec 2019: Department staff presented the internal group's [23-page document](#) to the wildlife committee
- March 2020: Department staff presented 4 options to increase recreational harvest opportunity to the Commission
- April 2020: the Commission chose to adopt option 4 which provided the most opportunity
- June 2022: Commission approved a 2-cougar bag limit on the Blue Mountains PMUs to address elk neonate predation





# Information Presented

# COUGAR SCIENCE TAKEAWAYS

- No concerns for the statewide population
  - ~80% of PMUs with a guideline (n=45) never reach 12% in any given year
  - Source-sink dynamics (lots of emigration and immigration)
- Use median statewide density estimate for framework
  - Based on long-term, intensive field research
- Limited risks to local population viability near-term at current mortality levels
  - Relatively high reproductive rate (local recruitment) can offset some mortality
  - Immigration from nearby source populations can also offset some mortality
- 12%-16% represents a guideline, not a threshold
  - Exceeding the guideline does not necessarily equate to population decline
    - > Local populations are open and of unknown size; immigration
    - > Population growth estimated over multiple years, not a single year
- New framework will account for other human mortality



# Information presented to inform cougar rulemaking

- October 2019: Presented to the commission the science that cougar management is based upon
- Dec 2019: Presented the internal team's [23-page document](#) that identified different approaches to hunting cougars
- March 2019: Presented 4 options intended to increase hunting opportunity that fit within the existing framework





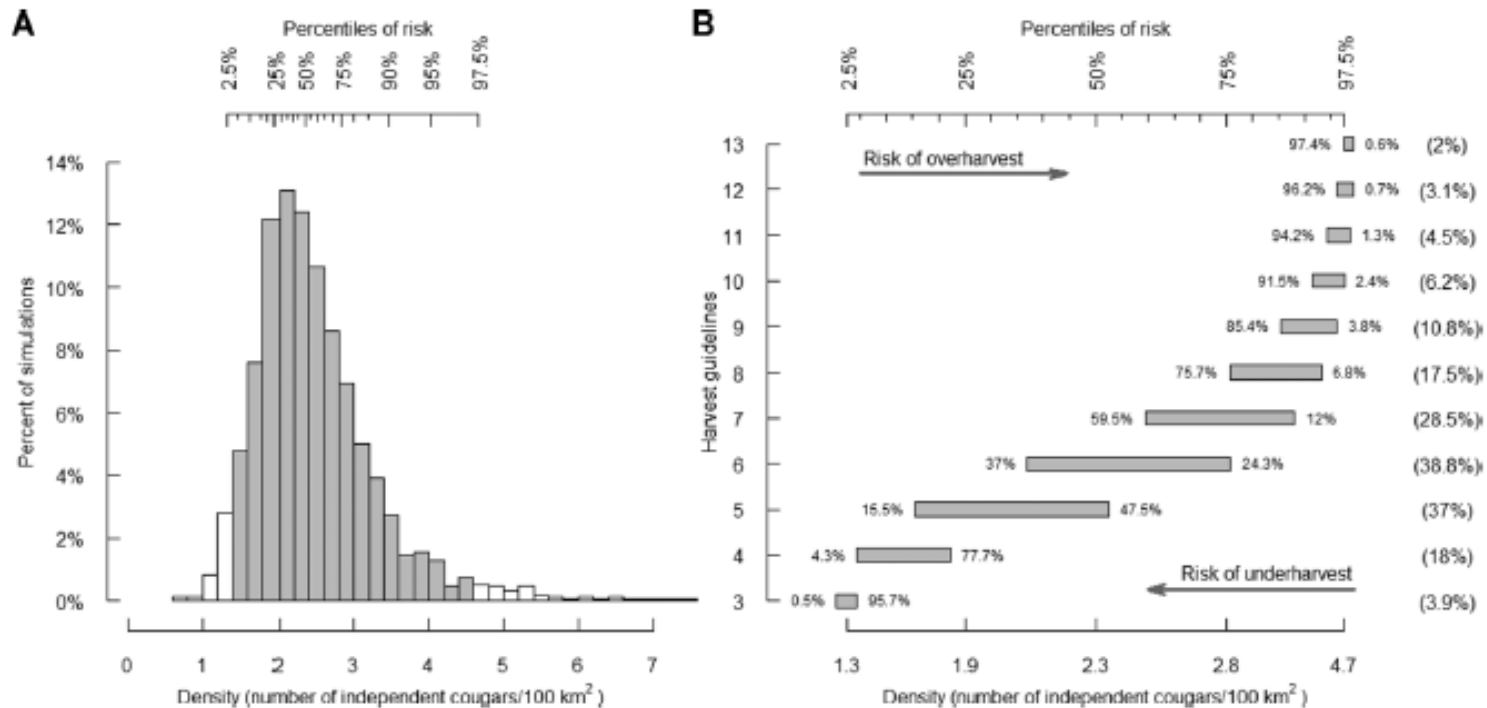
# Options comparison

	Option 1 median density			Option 2 Median density adult only			Option 3 extend season			Option 4 extend season adult only		
	Harvest Guideline		Change from 2019	Harvest Guideline		Change from 2019	Harvest Guideline		Change from 2019	Harvest Guideline		Change from 2019
<b>Total Guideline</b>	220	293	<b>+32</b>	178	242	<b>-19</b>	273	346	<b>+85</b>	229	295	<b>+34</b>
<b>Estimated Harvest</b>	194	<b>259</b>	<b>+15</b>	225	<b>306</b>	<b>+62</b>	241	<b>306</b>	<b>+62</b>	289	<b>373</b>	<b>+129</b>
<b>Statewide % harvest based on statewide median density</b>	9.1	12.1		10.5	14.3		11.3	14.3		13.6	17.5	



# HUNTER HARVEST RISK FOR THE MANAGEMENT OBJECTIVE

- Not the statistical risk of population decline; rather, the risk of not meeting the 12-16% harvest rate



# Change to guidelines

Guidelines changed in 2020.

Change 1: Do not count SA towards the guideline

Change 2: For some PMUs, modified the guideline based on historic harvest level

Looking at the upper limit of the guideline only:

- 50 PMUs
- 5 with no guidelines
- 19 with no change in guidelines
- 15 units with increased guidelines by 1-5 cougars each
- 11 units with decreased guidelines by 1-2 cougars each
- Net result guideline increase of 34 cougars over the 45 units that have guidelines

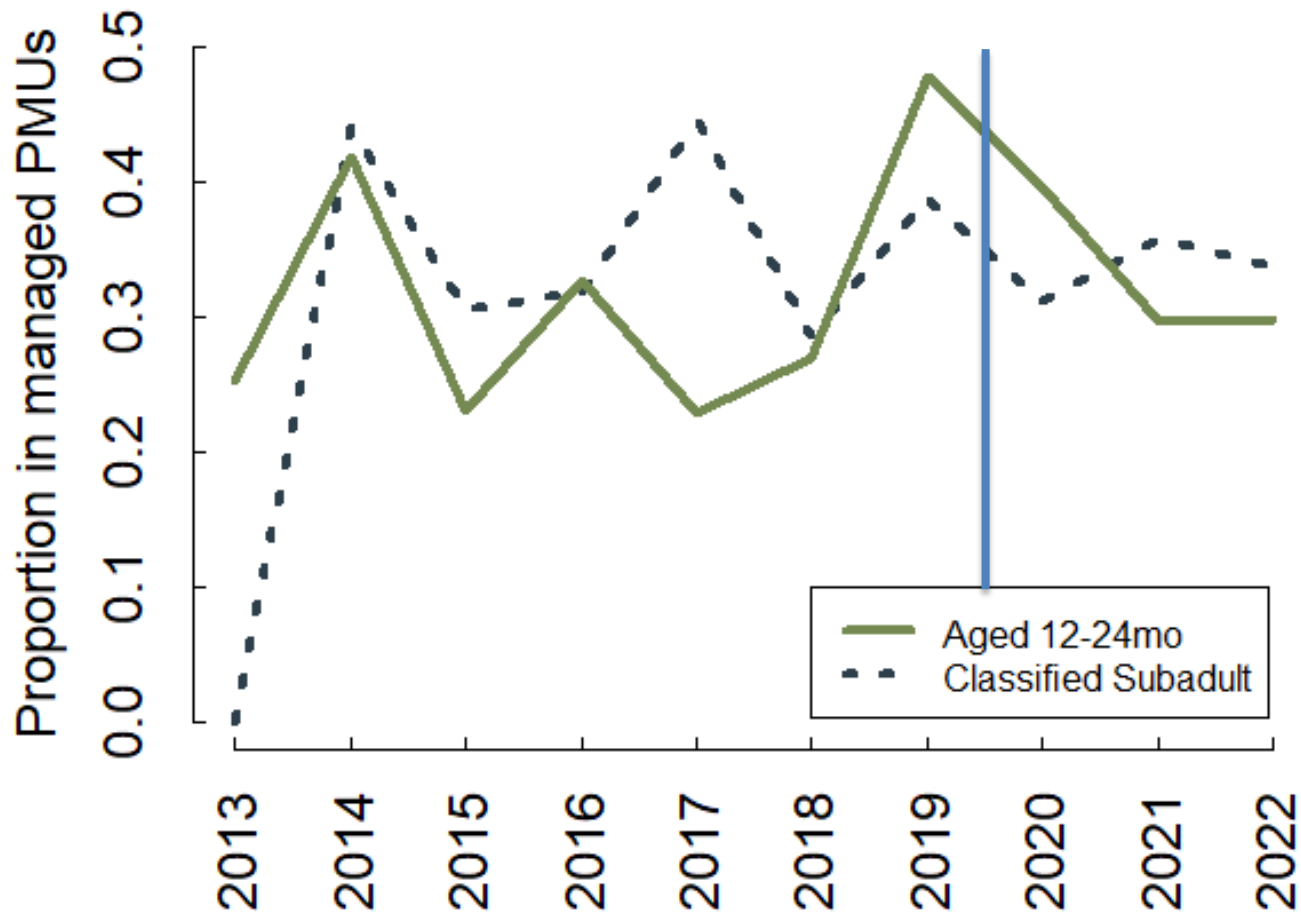
Change	-2	-1	0	1	2	3	4	5
Number of units	2	9	19	2	3	5	1	4





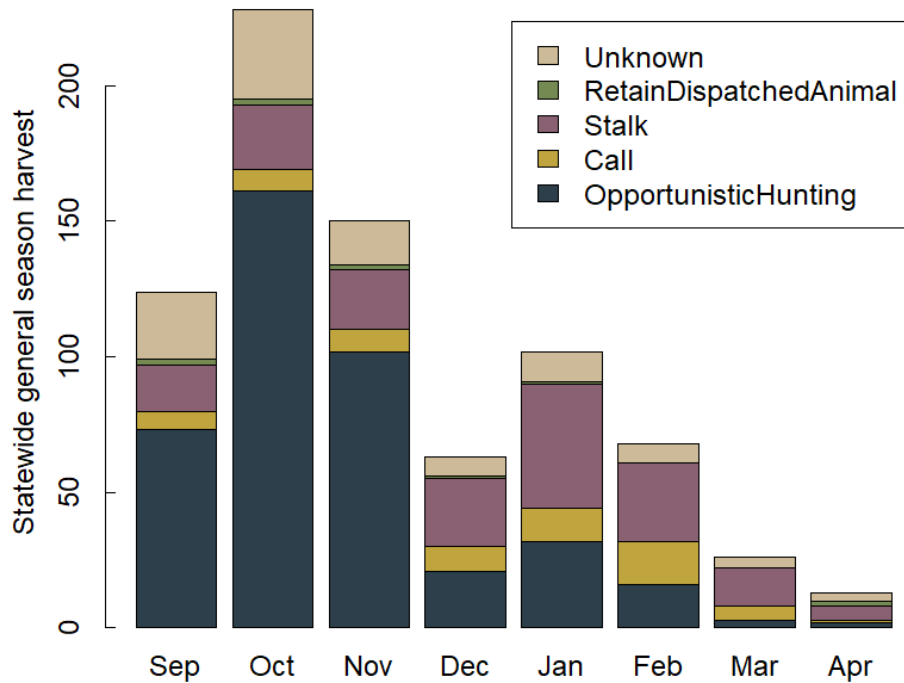
# Rule Change Results

# Percent subadult in the harvest



# Hunting Method and Ages

## Totals 2019-2022



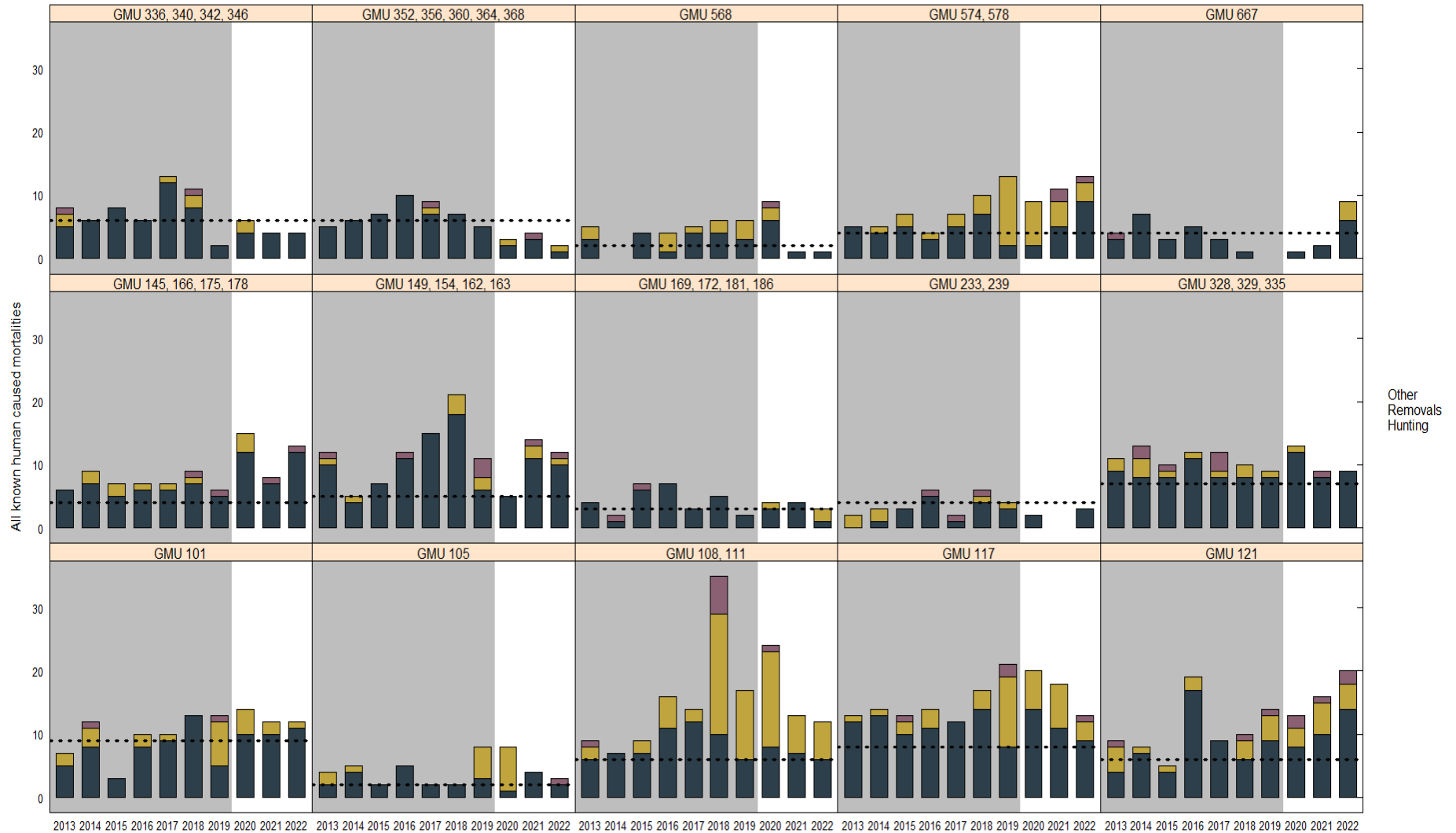
## Sub adults pre/post Dec.31

	2+yrs	12-24mo	SA
<b>Early</b>	882	432	32.9%
<b>Late</b>	258	64	19.9%

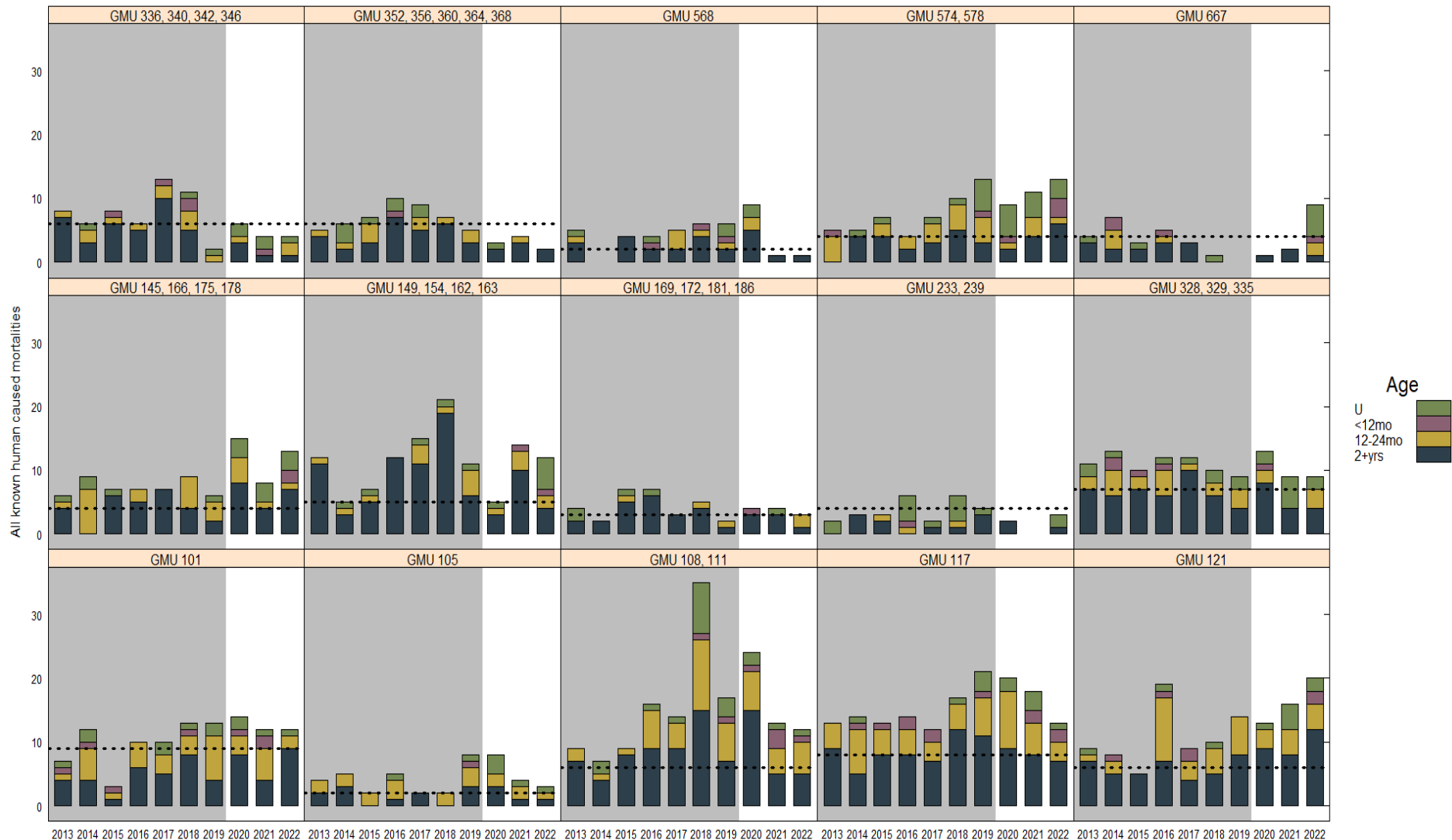
X-squared = 20.081, df = 1, p-value <.001



# 15 units with increased guidelines

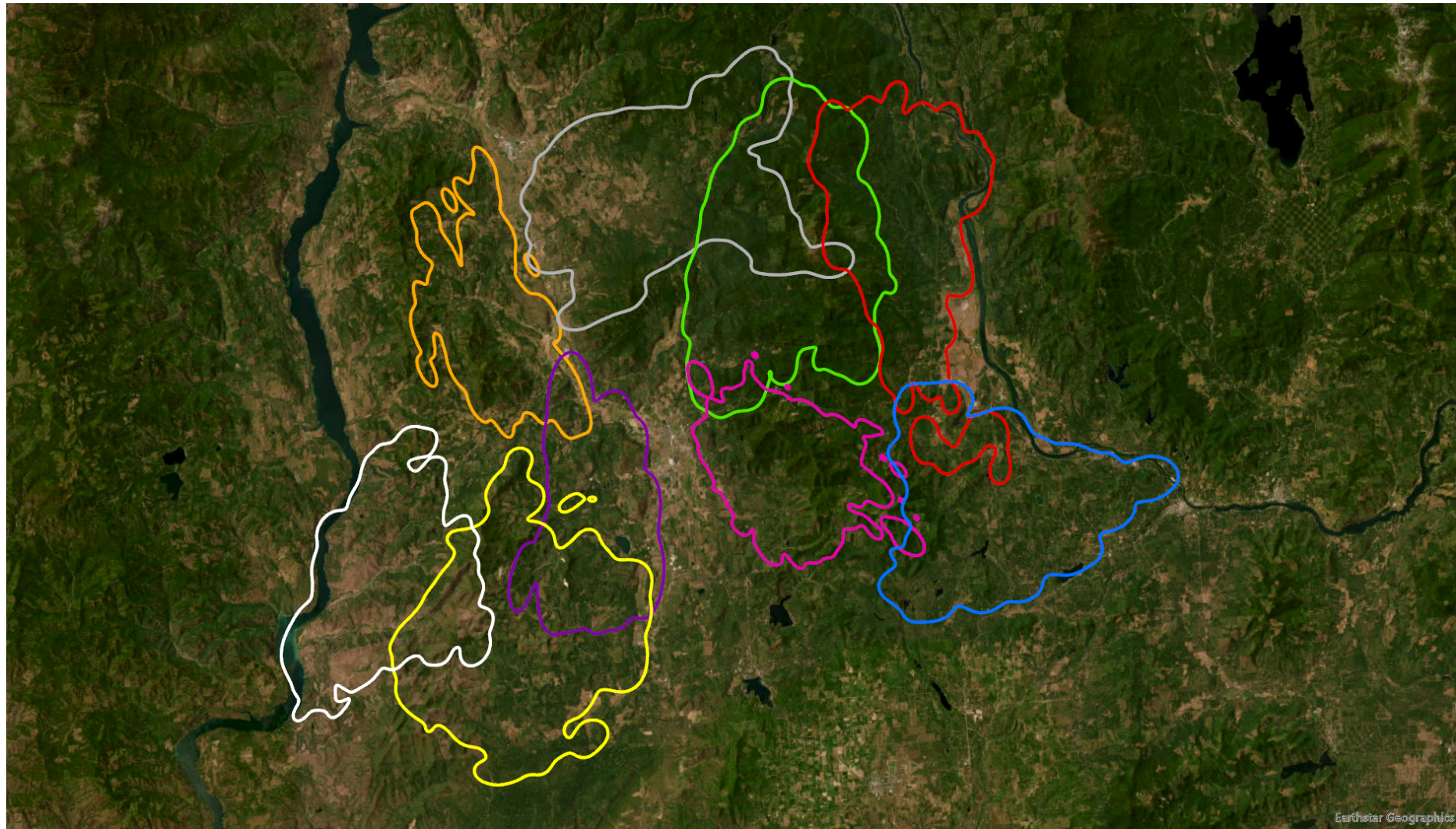


# 15 units with increased guidelines





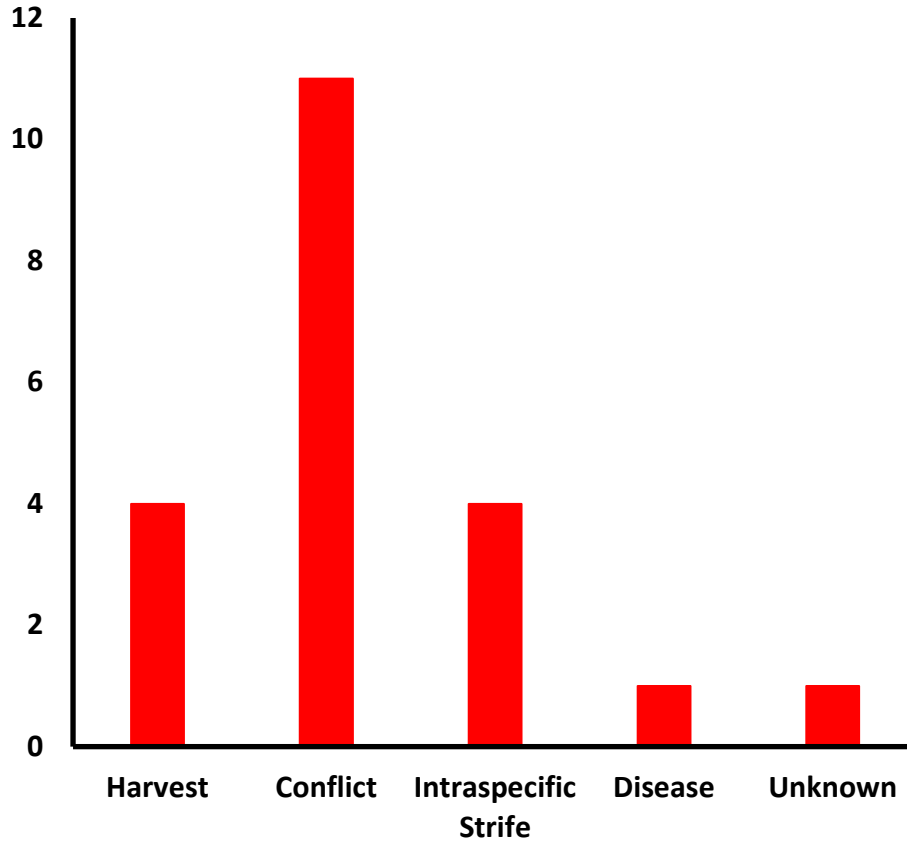
# PREDATOR-PREY PROJECT SOCIAL ORGANIZATION



# PREDATOR-PREY PROJECT

## MORTALITY AND SURVIVAL

Northeast (n = 21)



Demographic Class	n	$\hat{S}$	SE
<b>Sex</b>			
Female	18	77.2	6.3
Male	16	63.1	8.8
<b>Age</b>			
Adult	26	72.3	5.7
Subadult	11	65.4	14.1
<b>Sex &amp; Age</b>			
Adult Female	14	78.9	6.6
Subadult Female	6	66.7	19.2
Adult Male	12	63.4	9.7
Subadult Male	5	62.5	21.3

**\*Preliminary Results\***





# POPULATION DEMOGRAPHY: SURVIVAL

- **Natural mortality**

- Intraspecific strife, injuries, starvation, disease

- **Human mortality**

- Hunting, conflict, motor vehicles

- Significant, reduces population growth

- **Survival**

- Kitten: 50% - 60%

- Adult > subadult

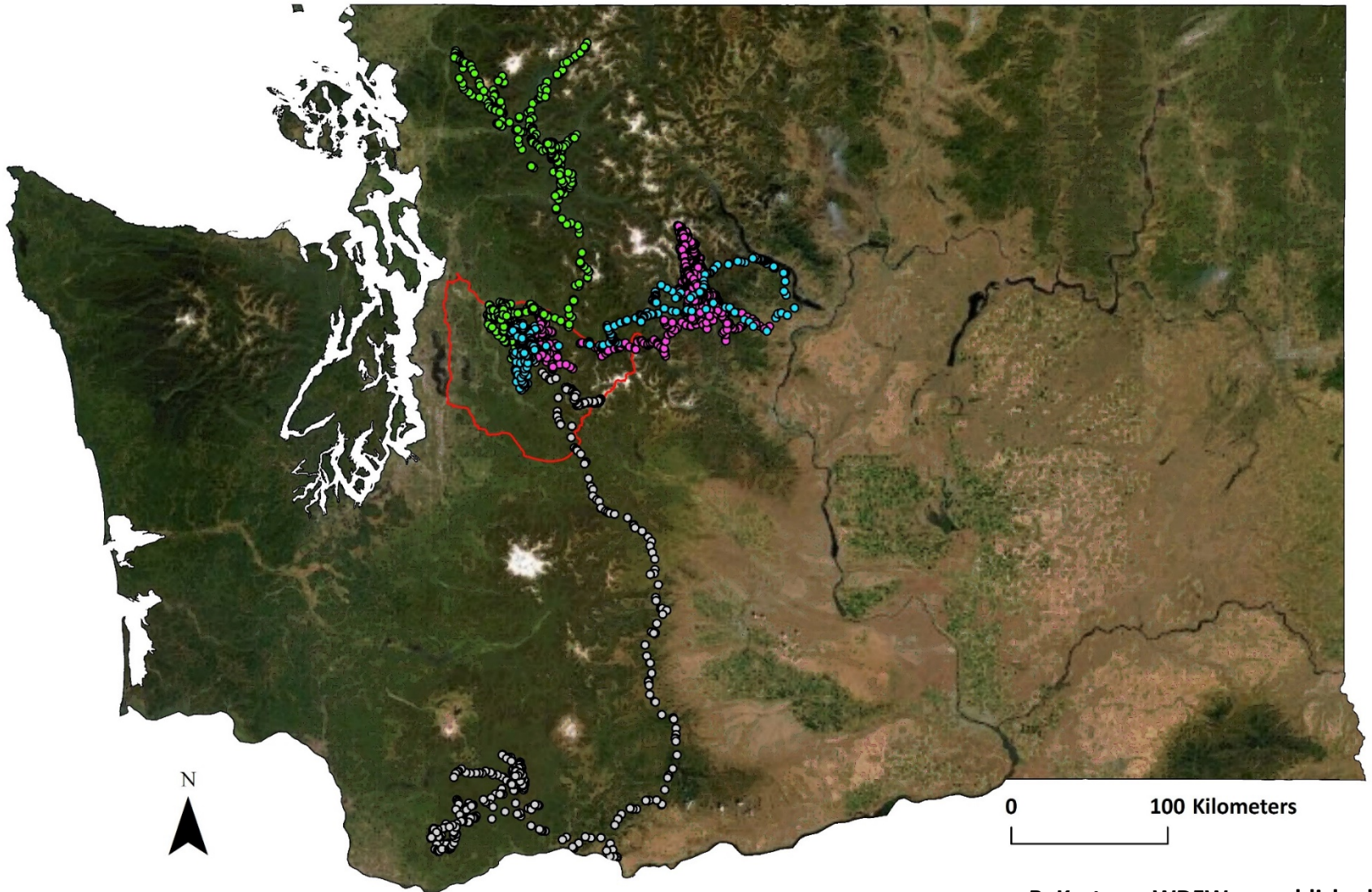
- Subadult male lowest

- Adult females: 85% – 90% (Natural)





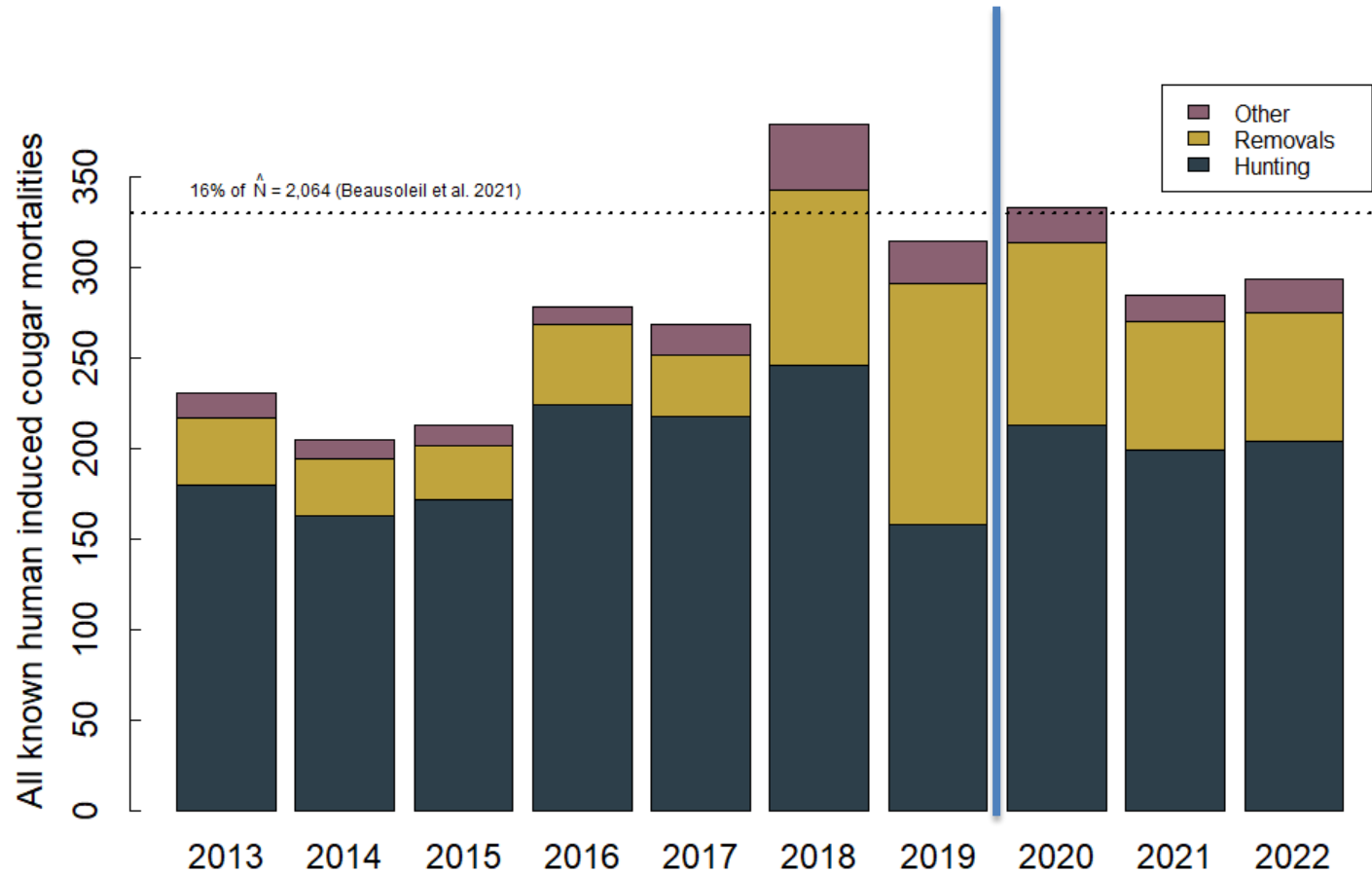
# WASHINGTON DISPERSAL EXAMPLES



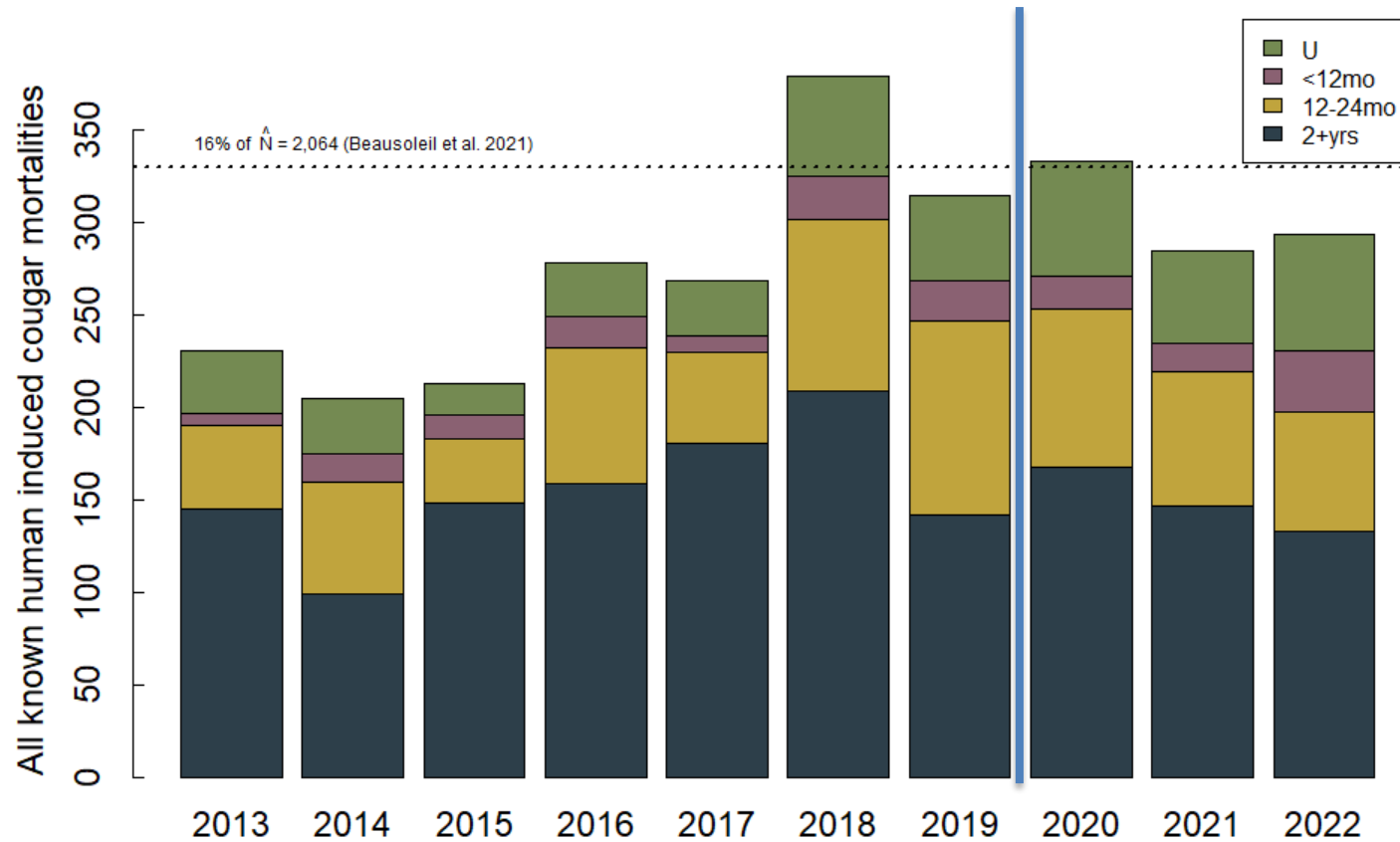
B. Kertson, WDFW, unpublished data



# Annual cougar mortality



# Ages of known mortality





# **Bear Rulemaking History**

# Bear rulemaking history

- April 2018: No substantive changes were made to the rule (date change)
- March 2019: No bear changes were recommended (Spokane meeting)
- April 2019: The commission asked us to bring them options that would increase bear hunting opportunities within the framework of the GMP





# Bear rulemaking history

- June 15, 2019: Department staff recommended changes that would increase bear hunting opportunity
- June 28, 2019: Commission adopted the recommended changes, and those changes took effect in the 2019 hunting season
- April 2021: The commission adopted recommendations to remove the years from the title of the rule since the hunting season dates did not need to change





# Information Presented

# BLACK BEAR SCIENCE TAKEAWAYS

- Density estimates and estimated harvest rates show medium-high density and sustainable harvest rates in most areas
- Population growth rates in 2 areas of the Cascades show stable populations
- Local population estimates are robust, we are working on a statewide estimate but should not be compared to previous estimates due to differing methods and reliability
- Density and abundance are not incorporated into current management framework, but likely to be in upcoming GMP

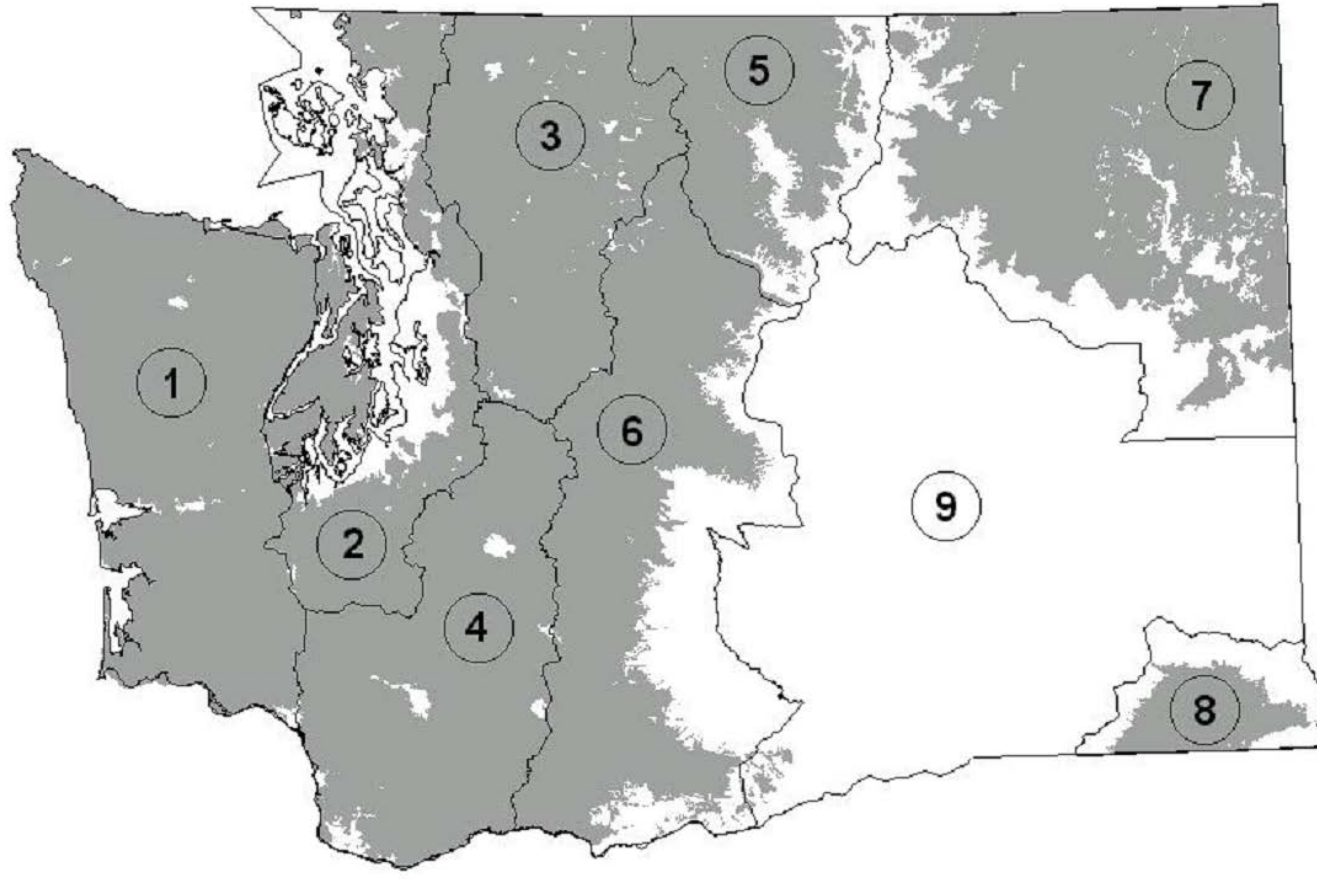


# Information presented to inform black bear rulemaking

- June 15, 2019: Staff presented the following information related to the recommended rule changes:
  - Number of hunters
  - Harvest trends
  - Black bear management units (BBMU)
  - Hunter numbers by BBMU
  - Black bear harvest by BBMU
  - Black bear management guidelines
  - Data related to the guideline that supported the recommendation



# Black Bear Management Units



# Information presented to inform black bear rule making

Parameter	Harvest		
	Liberalize	Acceptable	Restrict
% Females in harvest	< 35%	35-39%	> 39%
Median age of harvested females	> 6 years	5-6 years	< 5 years
Median age of harvested males	> 4 years	2-4 years	< 2 years



# Information presented to inform black bear rule making

Percent female black bear mortality, by year and Black Bear Management Unit, 2007-2017.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	10-yr Avg	5-yr Avg
<b>BBMU 1</b>	34	36	39	36	N/A	30	32	28	27	29	35	29	30
<b>BBMU 2</b>	36	39	38	<b>44</b>	N/A	36	<b>42</b>	39	34	<b>43</b>	36	35	39
<b>BBMU 3</b>	26	<b>40</b>	27	35	N/A	36	32	38	31	<b>42</b>	26	30	34
<b>BBMU 4</b>	31	33	32	39	N/A	31	31	<b>44</b>	24	37	35	31	34
<b>BBMU 5</b>	26	24	35	31	N/A	33	27	32	27	32	36	27	31
<b>BBMU 6</b>	28	34	37	36	N/A	27	30	34	34	35	31	30	33
<b>BBMU 7</b>	36	33	33	35	N/A	33	31	33	34	32	37	30	33
<b>BBMU 8</b>	32	33	38	39	N/A	35	29	29	38	37	39	30	32
<b>BBMU 9</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	N/A

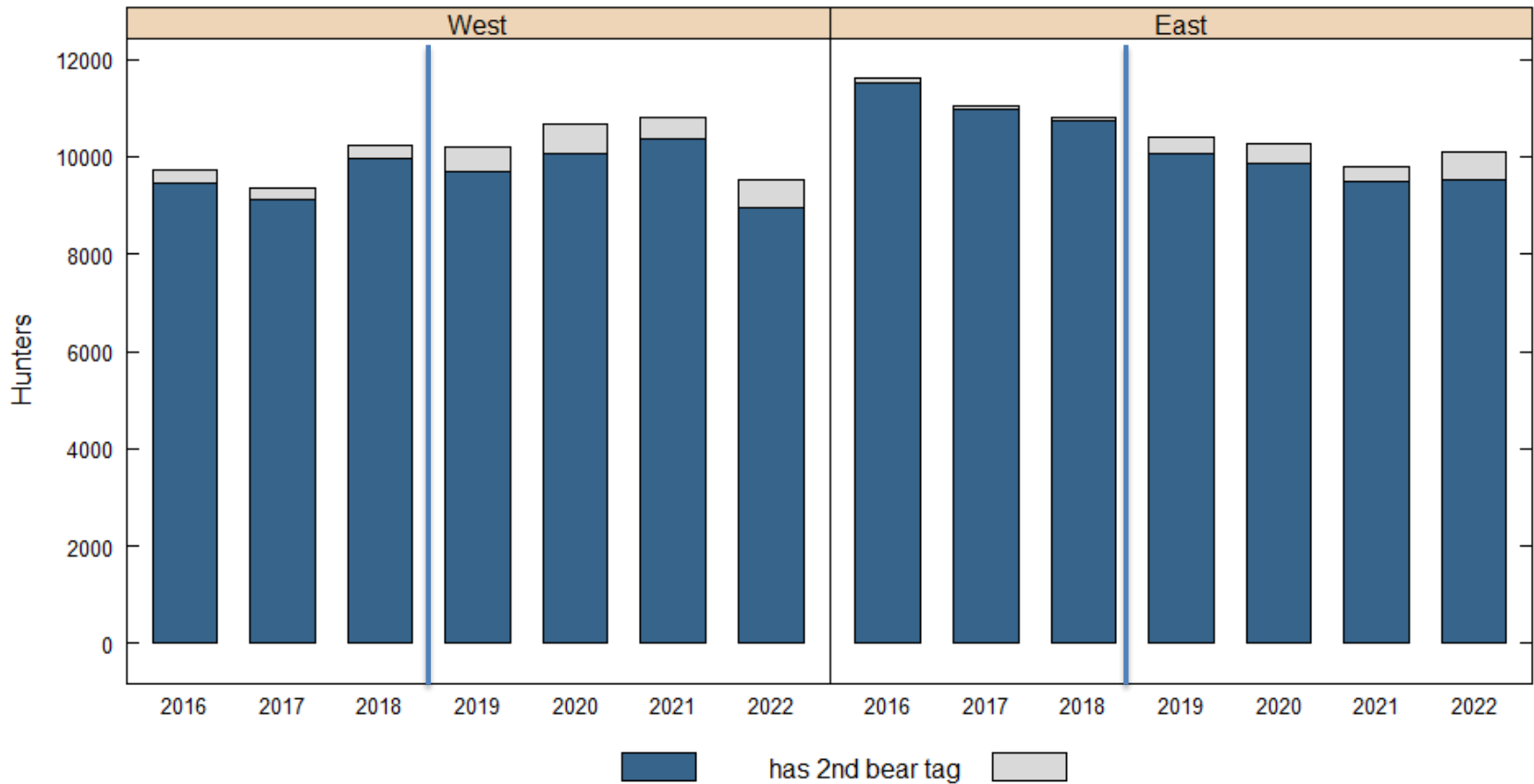




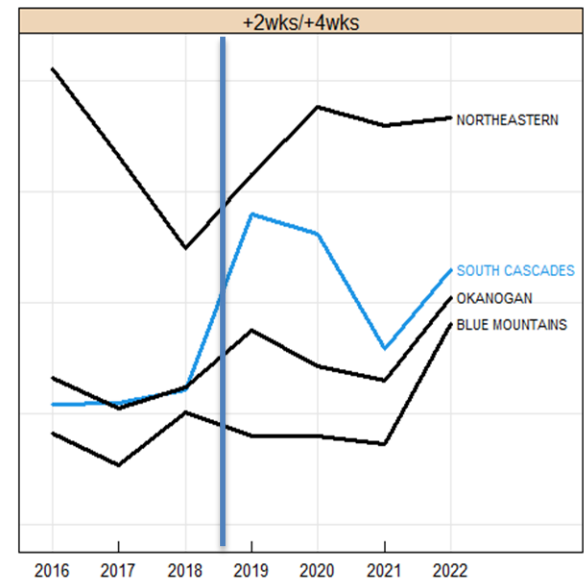
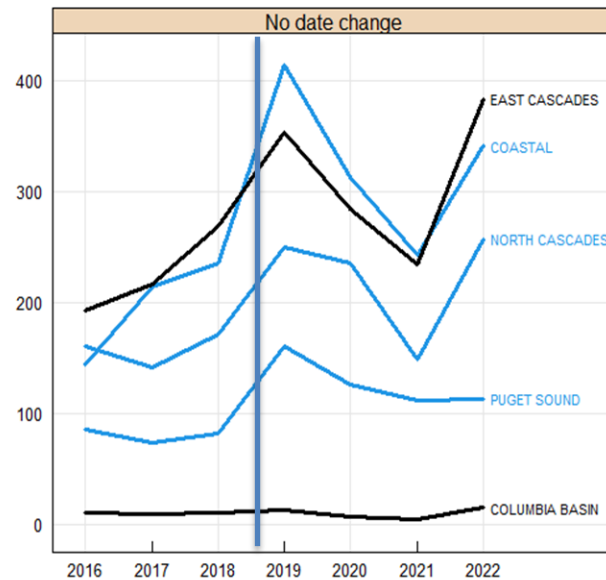
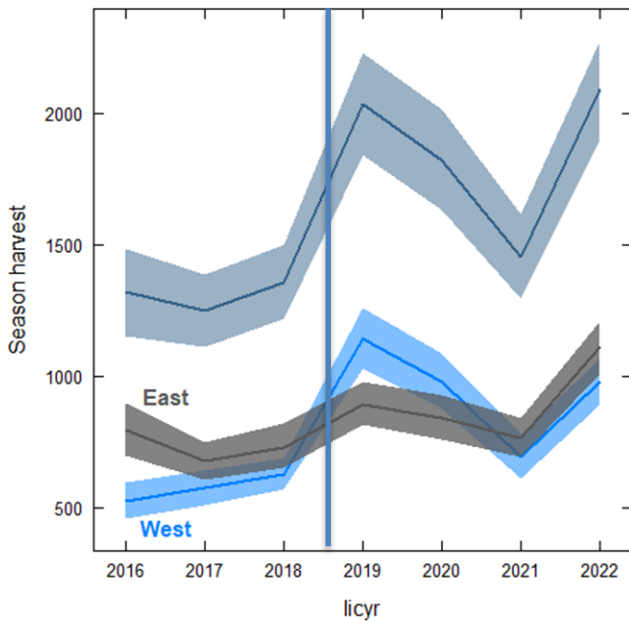
# Rule Change Results



# Hunter numbers

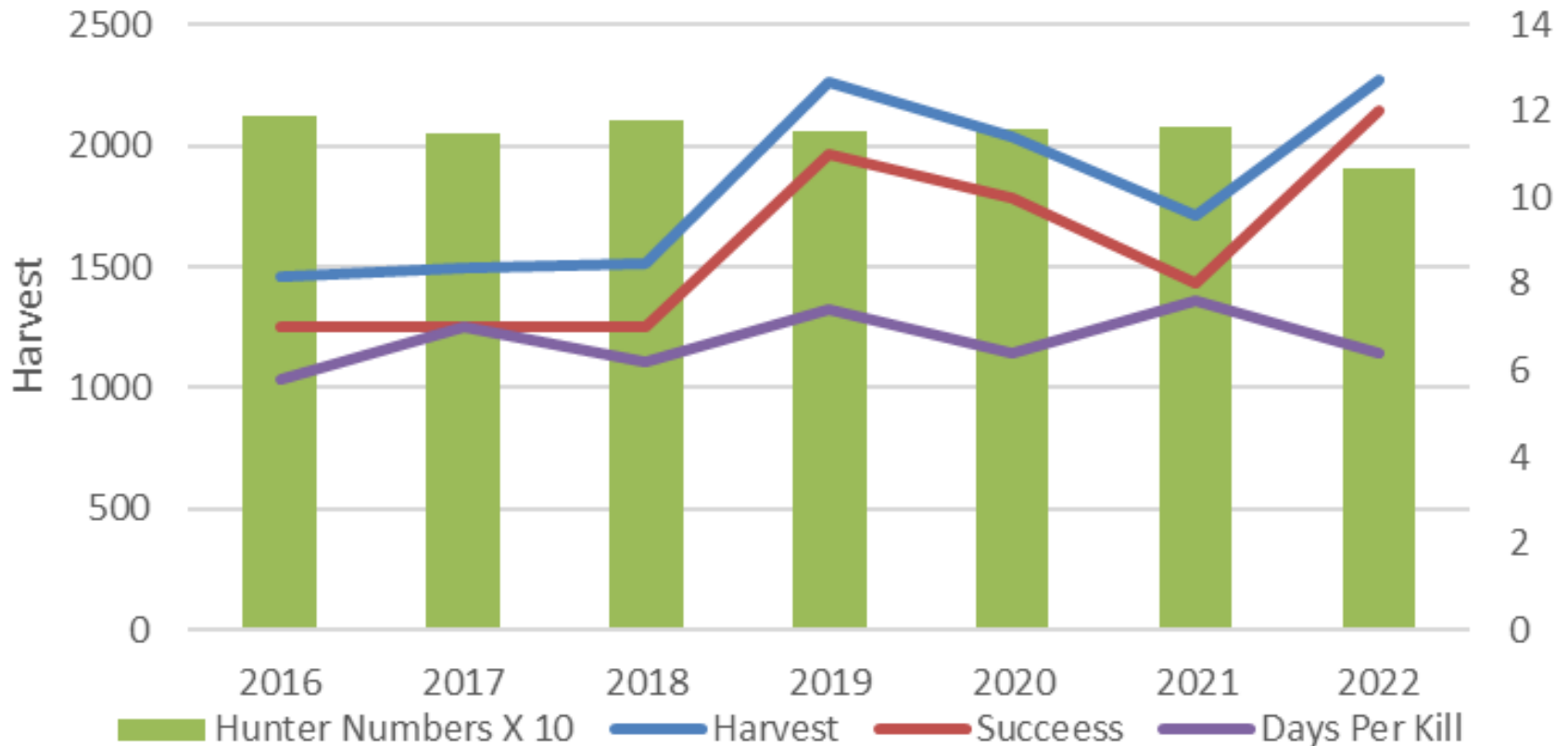


# Estimated Trend in Hunter Harvest Before and After the 2019 Rule Change

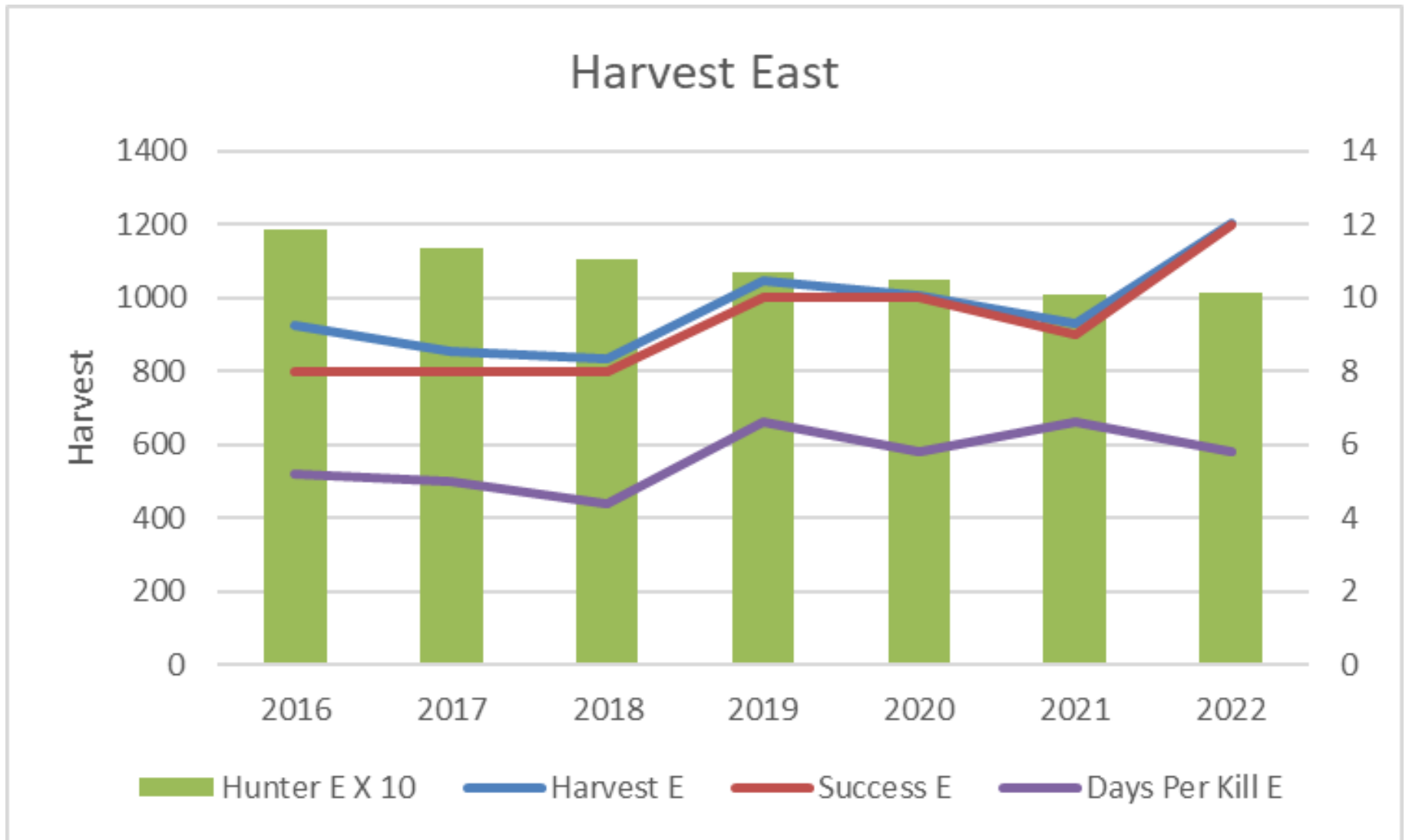


# Catch Per Unit Effort Statewide

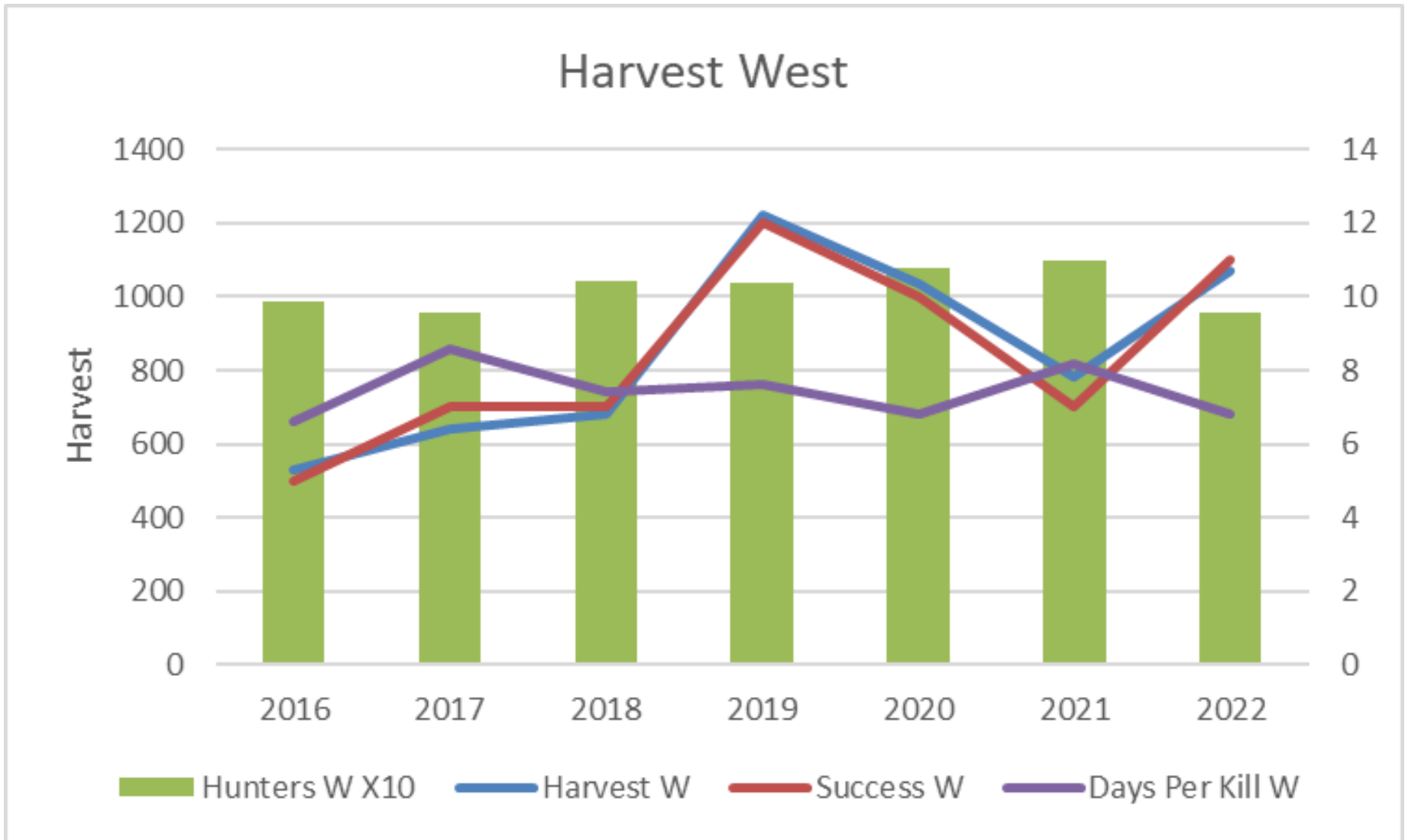
Statewide Harvest



# Catch Per Unit Effort East



# Catch Per Unit Effort West



# Comparison of 3-yr average Harvest Before and After the 2019 Rule Change

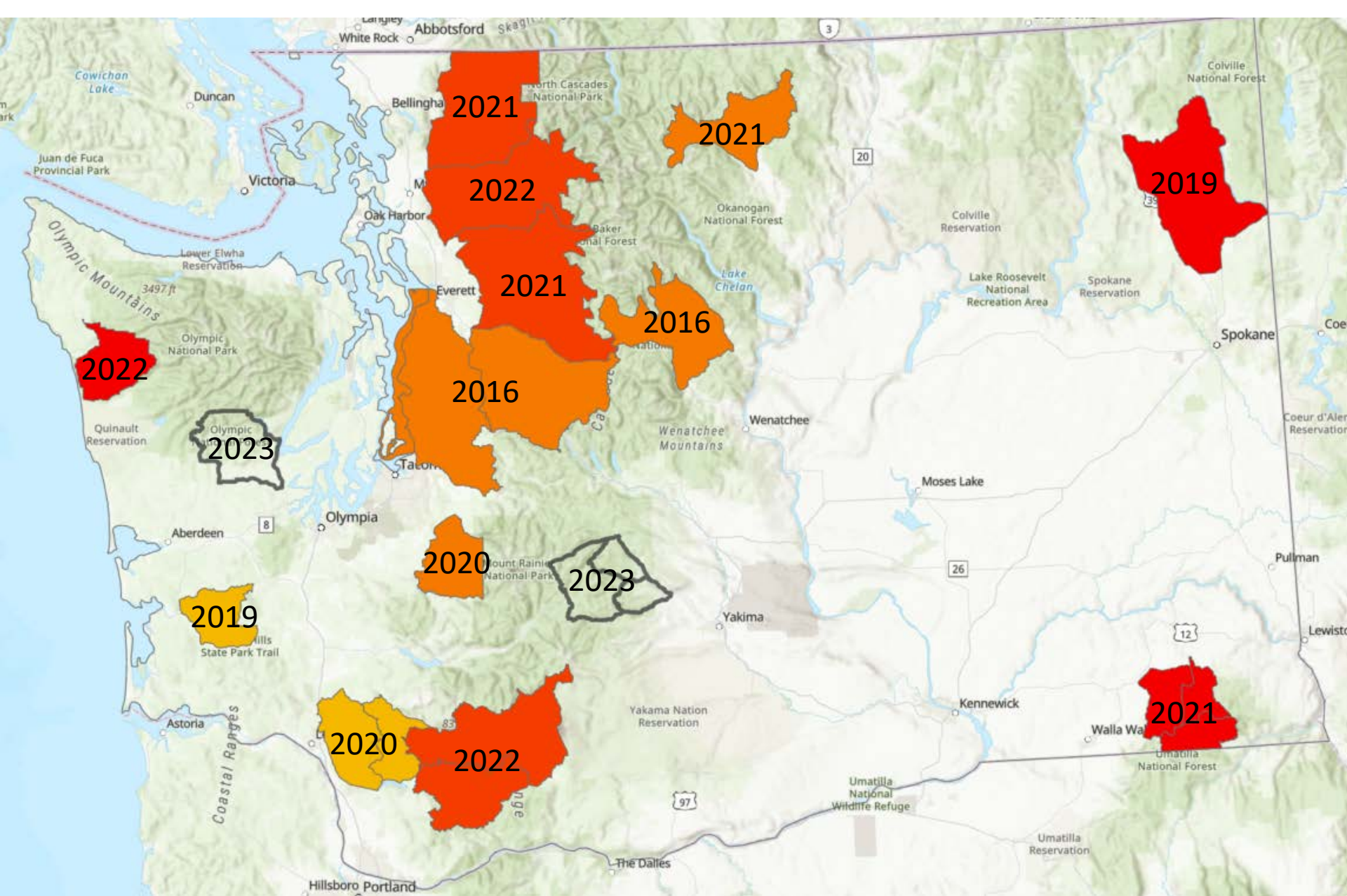
	Statewide		BBMU 1-3, 6, 9 (no date extension)	BBMU 4,5,7,8 (season extended)		2 <sup>nd</sup> bear East
	Increase From 2016-2018	During extended opportunity	Increase From 2016-2018	Increase From 2016-2018	During extended opportunity	Estimate (all 2 <sup>nd</sup> harvest <5% total)
2019	55%	11%	77%	33%	25%	28
2020-22 3yr avg.	37%	16%	40%	33%	33%	37



# Bear Density Estimates

- The Department does not currently use densities or population estimates to set harvest levels
- The estimates that were historically produced were for public interest only
- We are currently working on a new harvest framework that will incorporate density as parameter
- Densities that we are currently seeing show that bear populations are doing well across the state with a few exceptions







# Conclusion

- The rule making process was extensive and included substantive public involvement
- The science was considered and presented to the commission
- Rule changes did not result in substantive increase in harvest
- There are no immediate conservation concerns that need attention
- Reverting to the 2018-2019 rules is unlikely to change harvest levels



# Considerations

- The petitioner rule language goes beyond reversing the changes made in 2019 and 2020 for bear and cougar respectively
- Department staff will require direction from the commission on what the proposed rule will incorporate
- GMP chapter revisions will address petitioner concerns through new hunting frameworks
- Staff involved in that framework revision process will have to divert their attention to rule making if that occurs (delay GMP chapter development)



# Proposed motion language

**Department Recommendation** – Deny the petition and do not initiate rulemaking at this time.

Motion Language: *I recommend denying the petition and therefore not initiating rulemaking at this time. Department staff and the commission understand the significant public interest in these rules and will consider future rulemaking once the bear and cougar GMP chapters are sufficiently completed to inform new harvest frameworks.*



# Alternative Motions

**Alternatively** – If a commissioner would want to move to initiate rulemaking, staff would appreciate addressing the following in your motion:

- Timeline: Intend to implement by 2024 season; or initiate after completion of related GMP work?
- Scope: Revert to previous regulations; or specify what components of the extended petition suggested language department staff should include in a proposed rule?



# Questions?

