

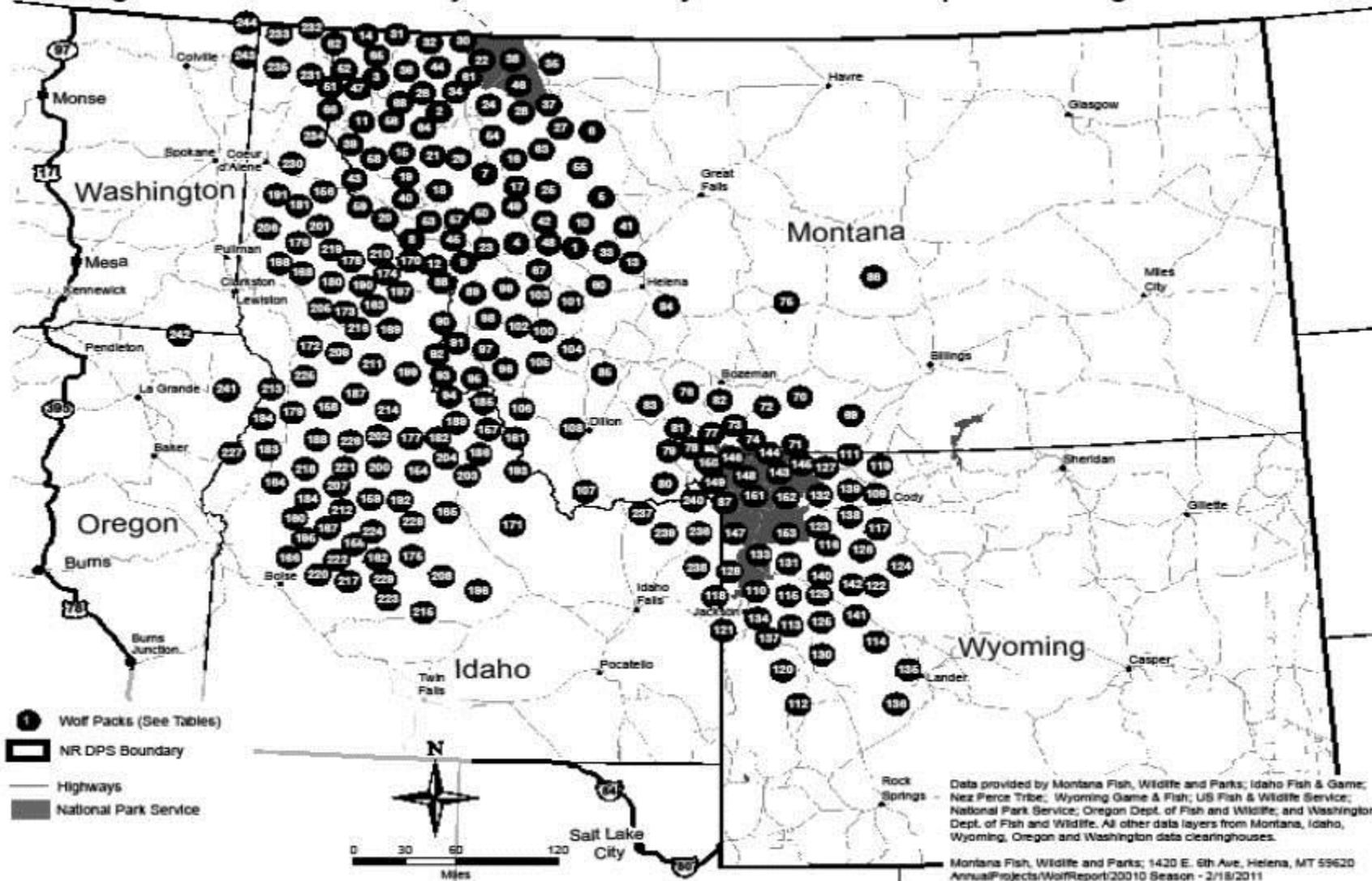
Ungulate Status in Washington

Wolf Advisory Group Meeting,
October 23, 2013



Washington Department of
FISH and WILDLIFE

Figure 1: Northern Rocky Mountain Gray Wolf Distinct Population Segment Area

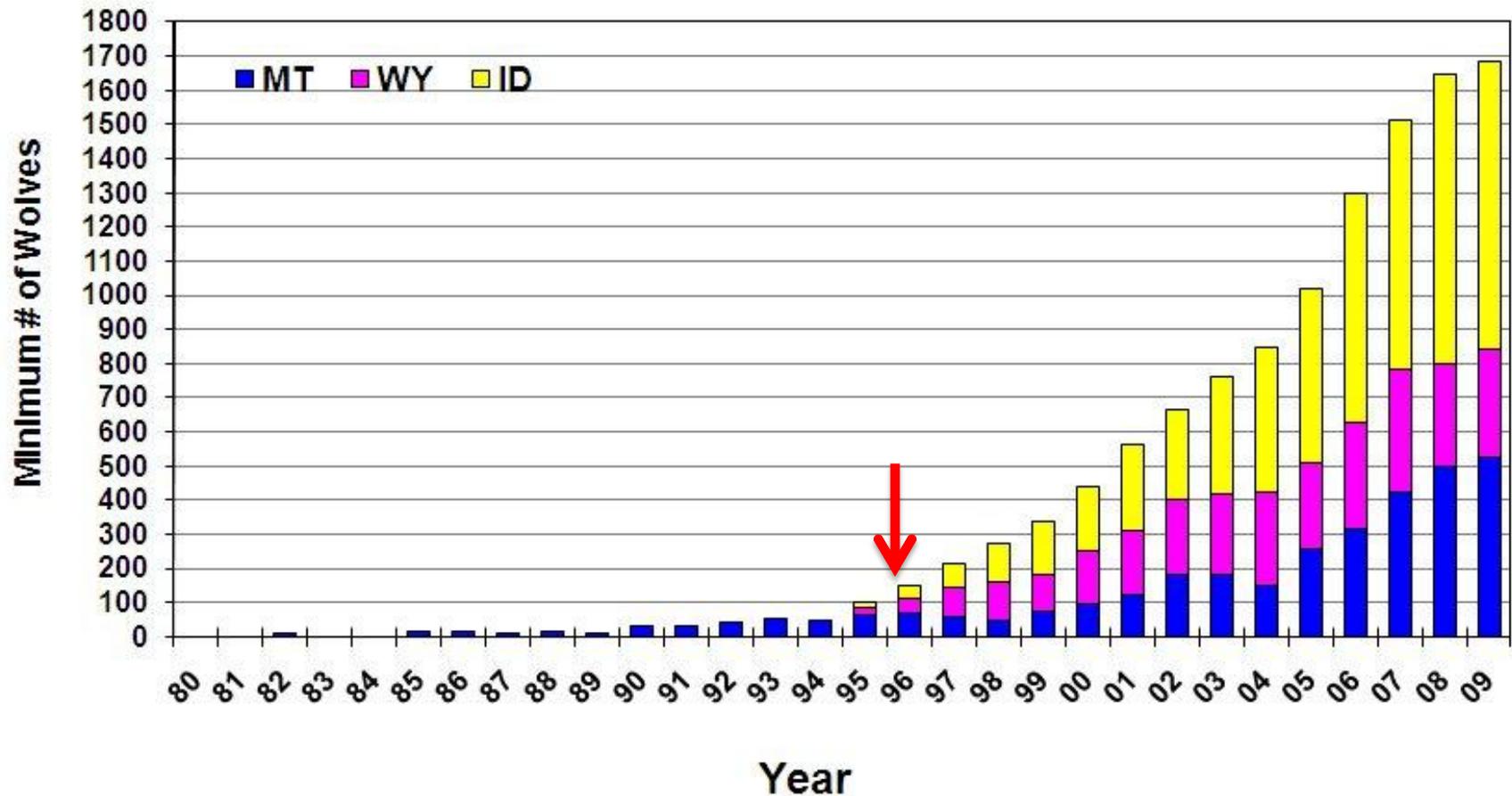


Data provided by Montana Fish, Wildlife and Parks; Idaho Fish & Game; Nez Perce Tribe; Wyoming Game & Fish; US Fish & Wildlife Service; National Park Service; Oregon Dept. of Fish and Wildlife; and Washington Dept. of Fish and Wildlife. All other data layers from Montana, Idaho, Wyoming, Oregon and Washington data clearinghouses.

Montana Fish, Wildlife and Parks; 1420 E. 6th Ave, Helena, MT 59620
AnnualProjects/WolfReport/2010 Season - 2/18/2011

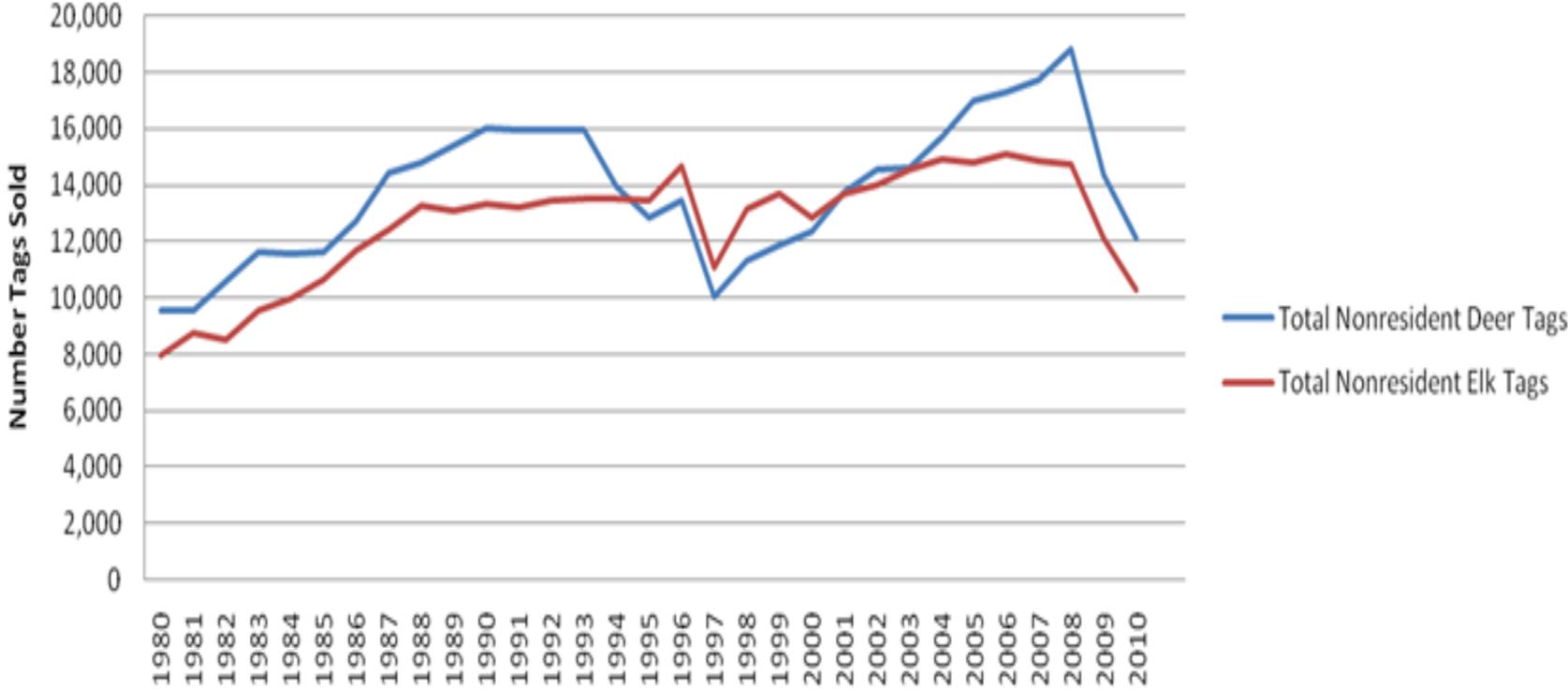
Wolf Population Growth In NRM DPS

Figure 6. Northern Rocky Mountain Wolf Population Trends in Montana, Idaho and Wyoming: 1980-2009

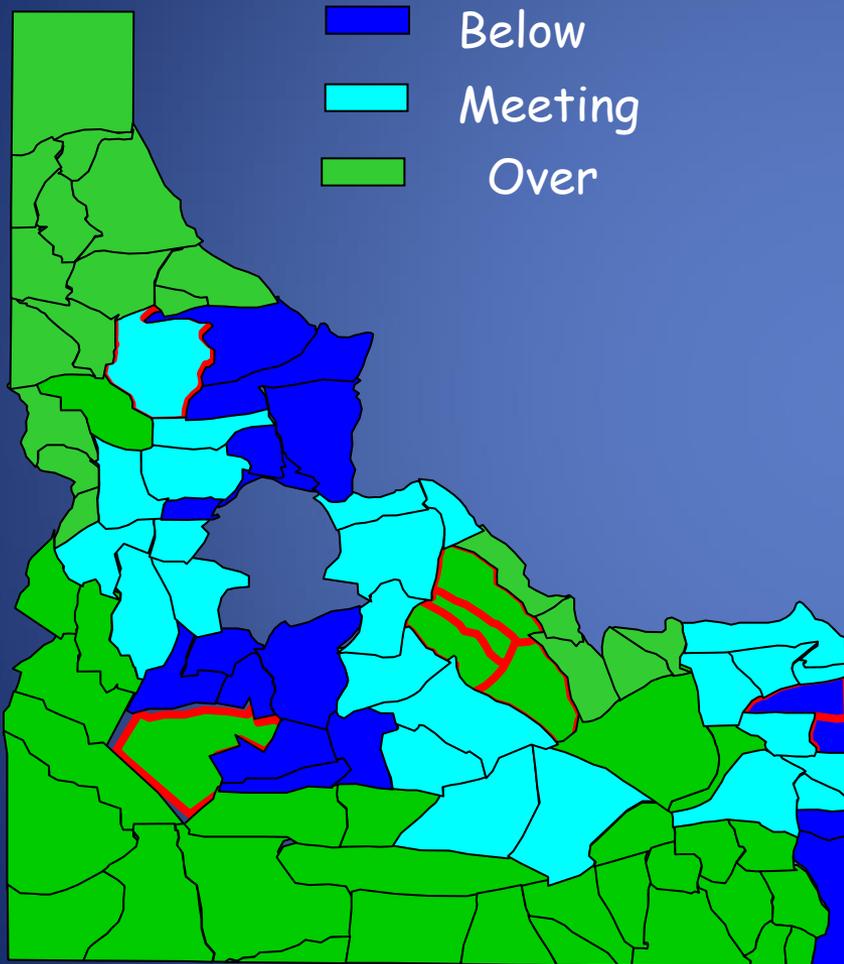


Idaho Hunter Concerns

Nonresident Deer & Elk Tag Sales - Calendar Year



Idaho Elk Populations



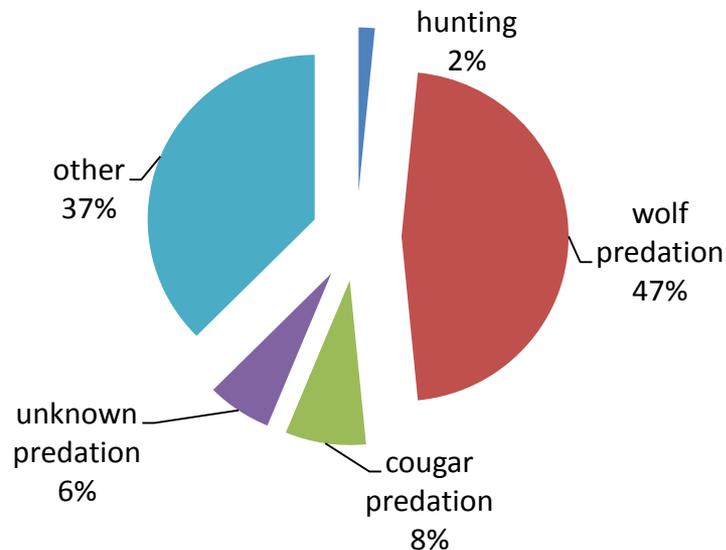
❖ 9 zones meeting cow objectives.

❖ 12 zones over objective.

❖ 8 zones below objective.

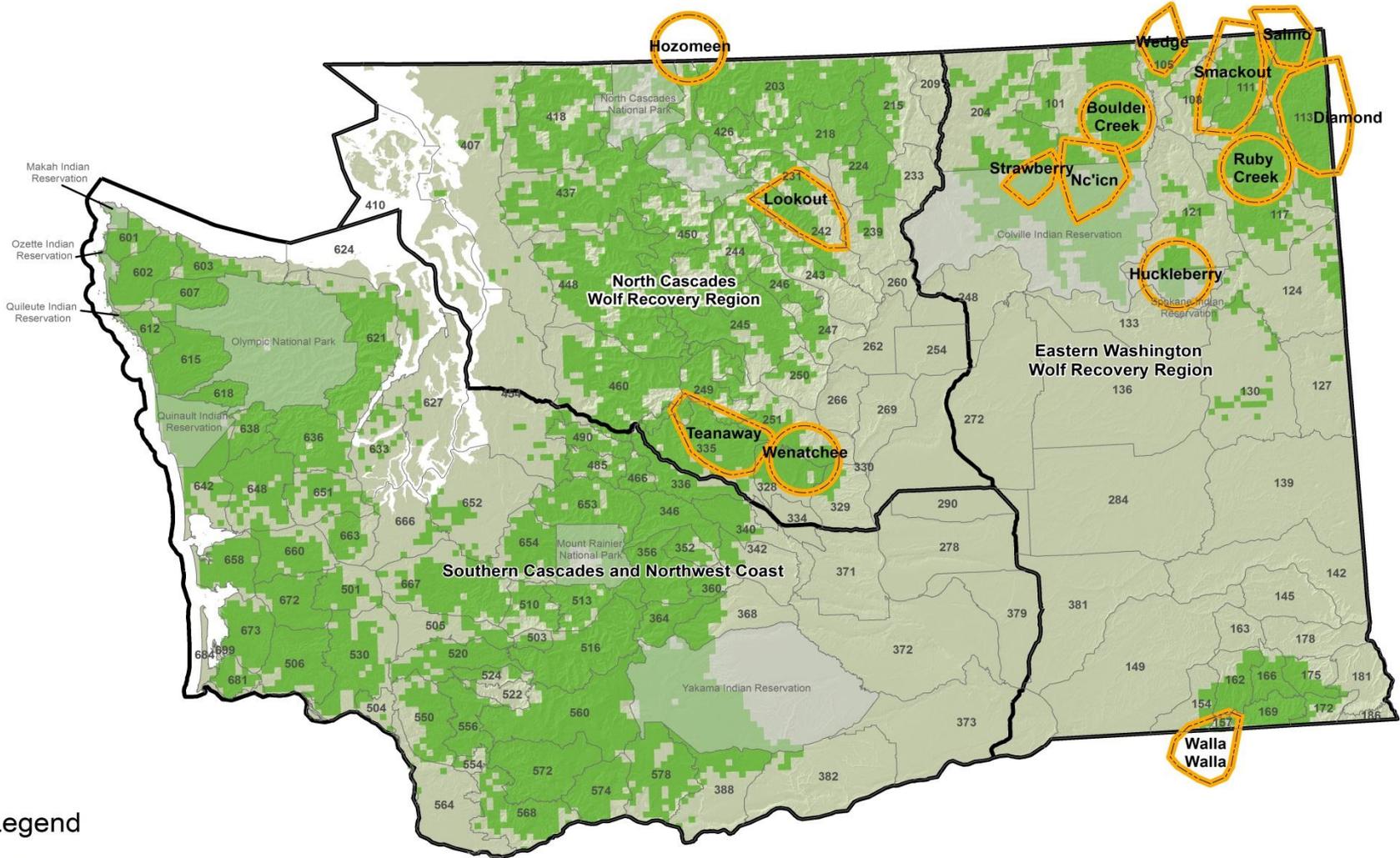
Idaho Hunter Concerns

Lolo Elk Mgmt Zone



- Calf recruitment not sufficient to off-set annual mortality of adult cows. Population declining by 11 – 15% annually. Wolf predation is leading cause of death of adult cows and 6mo old calves.

Washington Wolf Packs Relative to Estimated Suitable Wolf Habitat



Legend

- Wolf packs (confirmed and suspected)
- Estimated suitable wolf habitat (greater than or equal to 50% probability of occupancy; see page 60 in Wolf Conservation and Management plan)

Pack Statistics – Dec 2012

Recovery Area	Pack Name	Pack Status ^a	Minimum Count	Successful Breeding Pair
Eastern Washington	Boulder Creek	Suspected	-	-
	Diamond	Confirmed	10	Yes
	Huckleberry	Confirmed	8	Yes
	Nc'icn	Confirmed	6	Yes
	Ruby Creek	Suspected	-	-
	Salmo	Confirmed	2	No
	Smackout	Confirmed	12	Yes
	Strawberry	Confirmed	3	No
	Wedge	Confirmed	2	No
Northern Cascades	Lookout	Confirmed	2	No
	Teaway	Confirmed	6	Yes
S Cascades & NW Coast	-	-	-	-
Totals			51 ^b	5

Predator-Prey Relationships

- What are the impacts of wolves on ungulates?
- The average number of deer equivalents that eight wolf packs would consume is about 3300.
- Simple math might suggest that wolf (and other predator) consumption of deer would reduce the deer population.



Okanogan Mule Deer - 2010

Predator-Prey Relationships

- What are the impacts of wolves on ungulates?
- Some of the more obvious influences on the prey base include weather...
- Predators impact each other.
- Prey switching occurs depending on population levels.
- Many other factors that are difficult to predict.



South Dakota Photo

Predator-Prey Relationships

- Questions :

- How will wolf population levels affect other predator levels and the number of prey that they might otherwise kill?
- Does predation mortality add to or compensate for overall mortality caused by the multitude of factors such as disease, lack of forage, severe winter weather, vehicle collisions, legal harvest, poaching, or other causes???
- What is the real cause of a prey population decline or increase?
- The bottom line, we don't know the actual impact of wolves or any other predator on local prey populations is...until we do the research.

Predator-Prey Relationships

- What are the impacts of wolves on ungulates?
- While we have not conducted specific research, two things are anticipated:
 - 1) we should have ample prey populations to support wolf populations well beyond the recovery objectives; and
 - 2) there will be cases where wolves cause a reduction in local prey populations. We built management options into the wolf plan for both scenarios (at risk ungulate populations).

Definition of “At Risk” Ungulate Population

- Any listed ungulate population.
- Any ungulate population that falls 25% below its population objective for two consecutive years
- or if the harvest decreases 25% below the 10-year average harvest rate for two consecutive years.



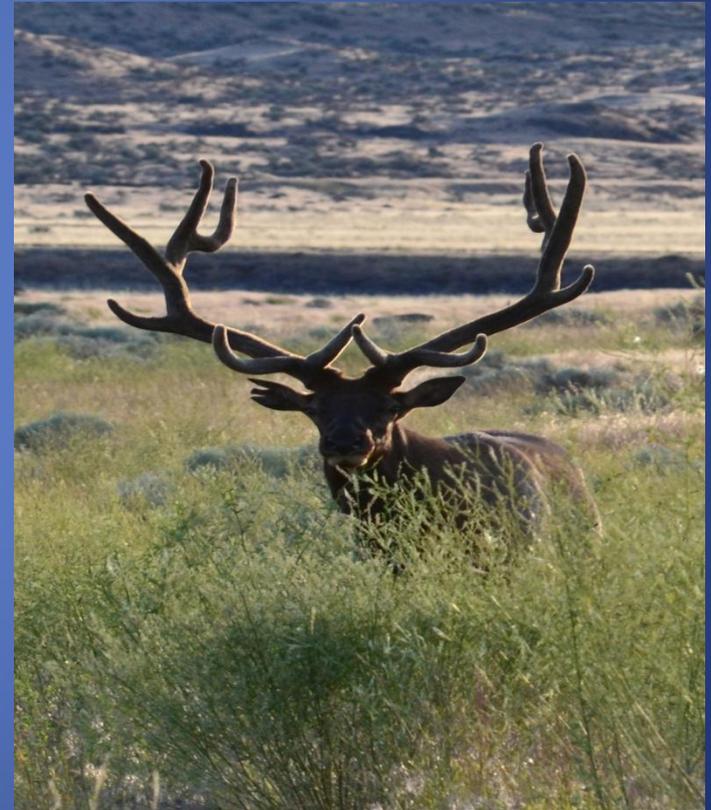
Colockum Bulls 2011

Predator-Prey Relationships

- **What are the impacts of wolves on ungulates?**
- Because of the multitude of things that constrain prey populations, it is difficult to predict where wolves might be a primary (or important) factor in prey population restrictions.
- It is very important to recognize that social tolerance often determines wildlife population objectives and management; whether it is deer and elk or cougar and wolves often dictates management.

How will we know if there is a decline in an ungulate population?

- Population Objectives
- Monitor Ungulates
 - Population estimates
 - Indexes
 - Composition counts
 - Harvest trends
- So We Detect a Change
- Then What?



Hanford Bull - 2011

What Happens When We See a Decline?

- What are the clues???
- Obvious:
 - Hunting
 - Severe weather
 - Fire
 - Disease
- Not So Obvious:
 - Drought
 - Habitat Change –
 - succession
 - Vulnerability
 - Change in Predation Levels



We Detected a Decline Now What???

- Consider the Clues
 - Compare to other regions
 - Mortalities
 - Additional counts/surveys
 - Subtle weather patterns
 - Habitat changes
- Restrict harvest strategies
 - Depends on objective
 - Population
 - Male survival
- Monitor population and harvest



We Detected a Decline Now What???

- If no change after restricting harvest:
 - Initiate additional surveys
 - Expand harvest data collection
 - Initiate research



Blue Mountains Elk Example

- Results of the Research (2003-06)
 - Hunters were the primary source of mortality (65%)
 - Predation (13%)
 - Natural (9%)
 - Poaching (5%)



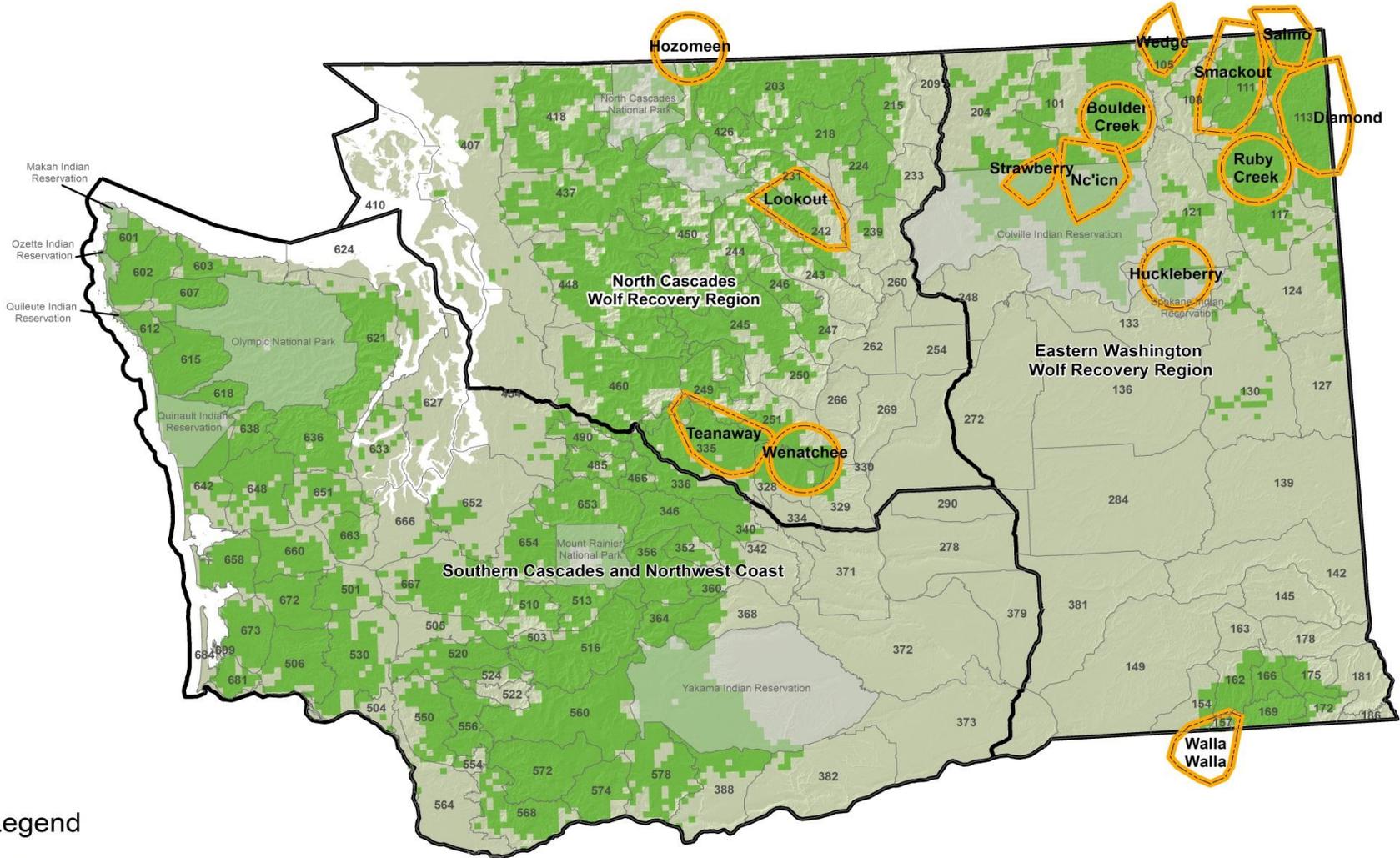
Blue Mountains Bull - 2010

Blue Mountains Elk Example

Table 3. Elk population estimates for the Blue Mountains generated by the Idaho Sightability Model.

Year	Population Estimate	90% CI	Antlerless		Bulls			Total Bulls	Unclass	Ratios:100 Cows	
			Cows	Calves	Yearlings	Ragorns	Adult			Bulls	Calves
2004	4,723	554	3,290	833	182	97	321	600	0	18.2	25.3
2005	No Survey										
2006	4,341	193	2,817	847	157	184	335	676	0	24.0	30.1
2007	4,328	233	2,753	674	213	254	420	887	13	32.2	24.5
2008	4,748	102	2,987	842	190	191	403	783	136	26.2	28.2
2009	4,925	355	3,089	905	184	193	504	881	51	28.5	29.3
2010	4,921	97	2,951	835	202	251	521	972	162	33.0	28.3
2011	5,638	356	3,392	1,257	259	182	520	961	30	28.3	37.0
2012	4,900	610	3,090	945	196	110	540	847	16	27.4	30.6
2013	5,102	124	3,420	894	224	122	429	774	14	22.6	26.1

Washington Wolf Packs Relative to Estimated Suitable Wolf Habitat

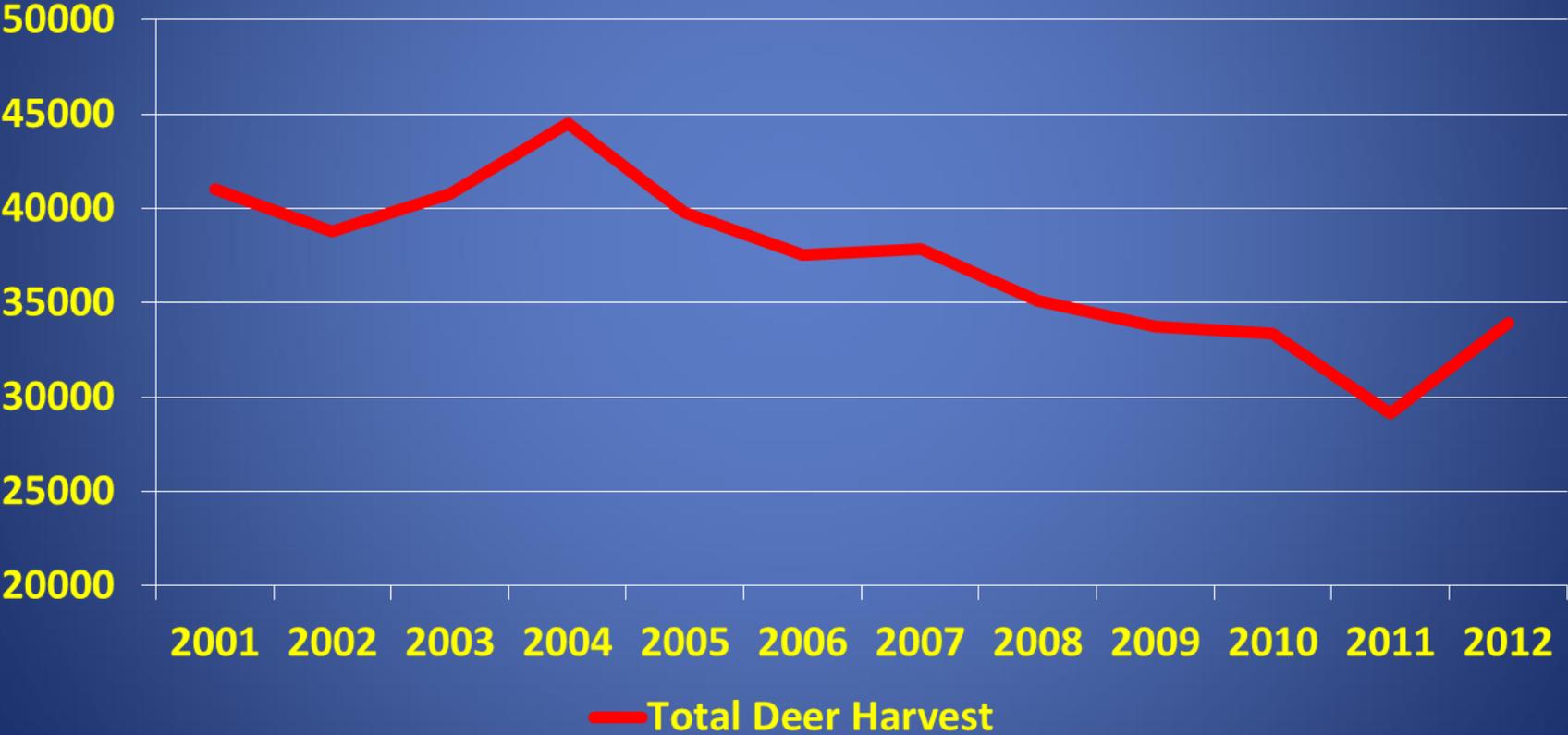


Legend

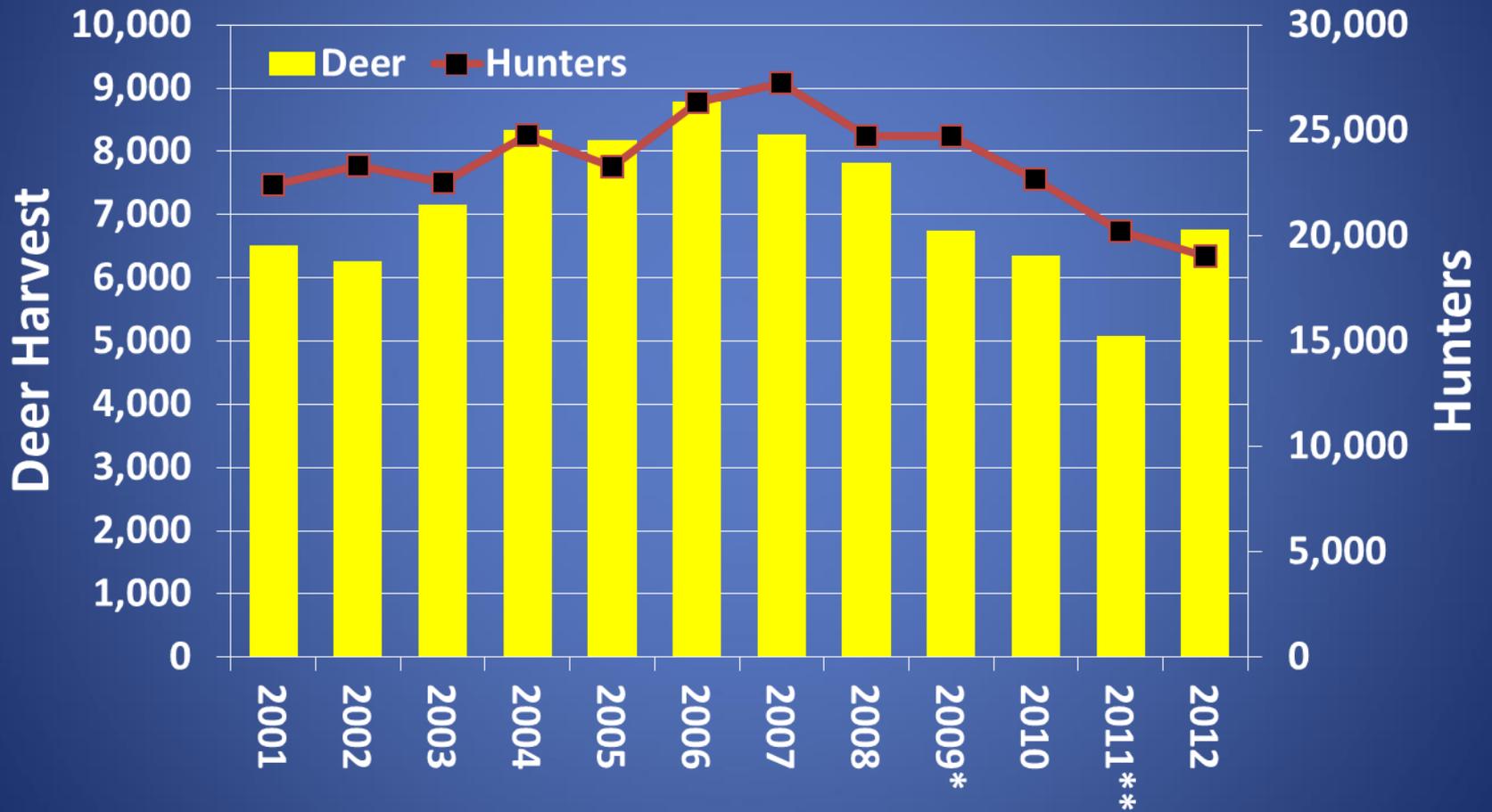
-  Wolf packs (confirmed and suspected)
-  Estimated suitable wolf habitat (greater than or equal to 50% probability of occupancy; see page 60 in Wolf Conservation and Management plan)

Deer Harvest

Statewide

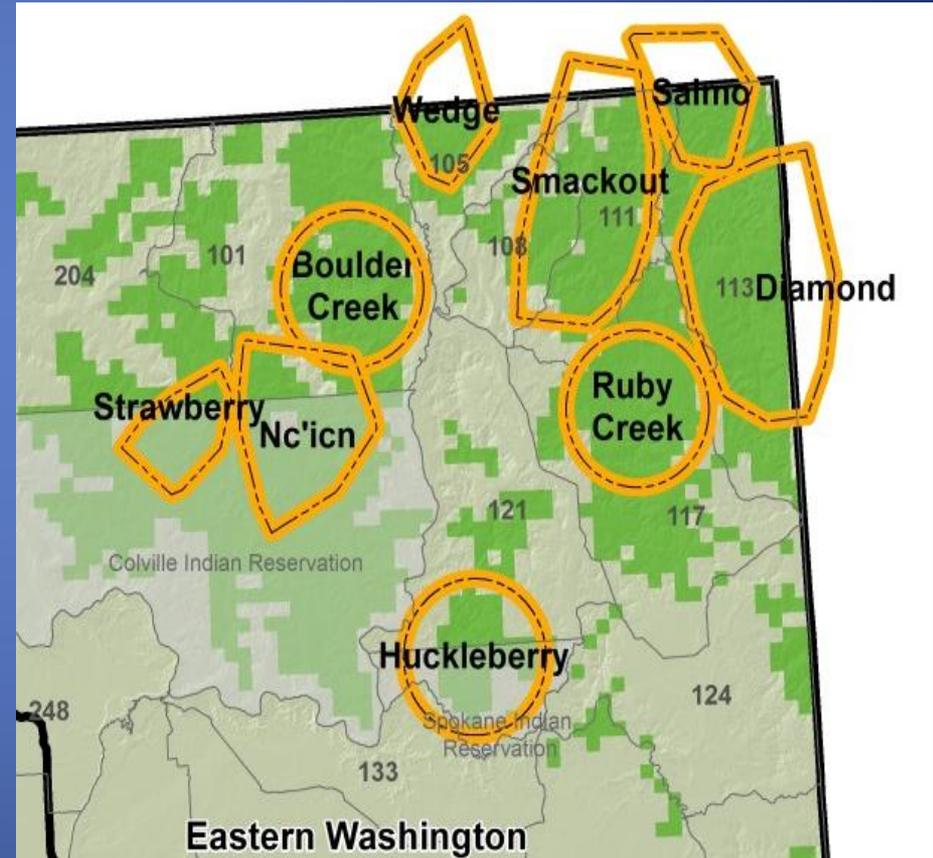
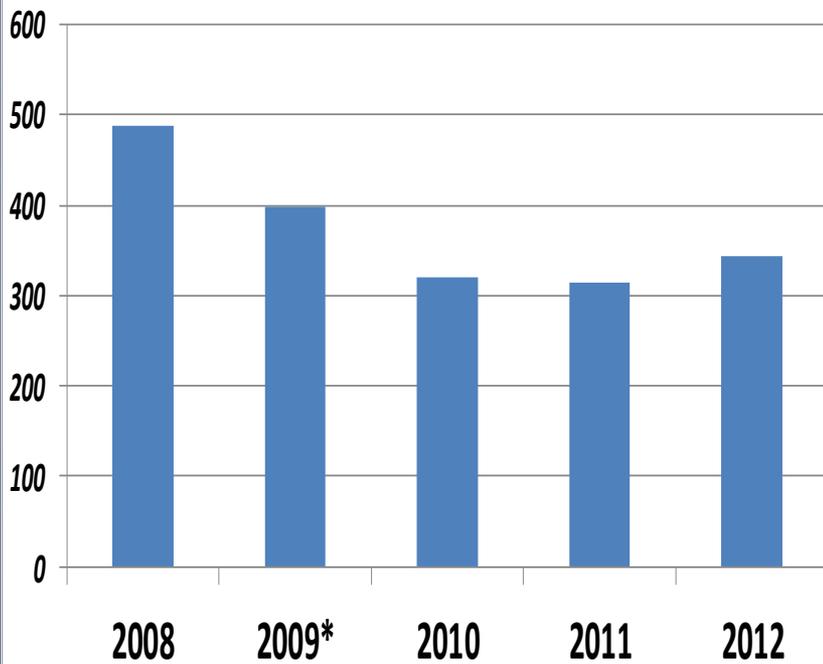


NE Washington Deer Harvest



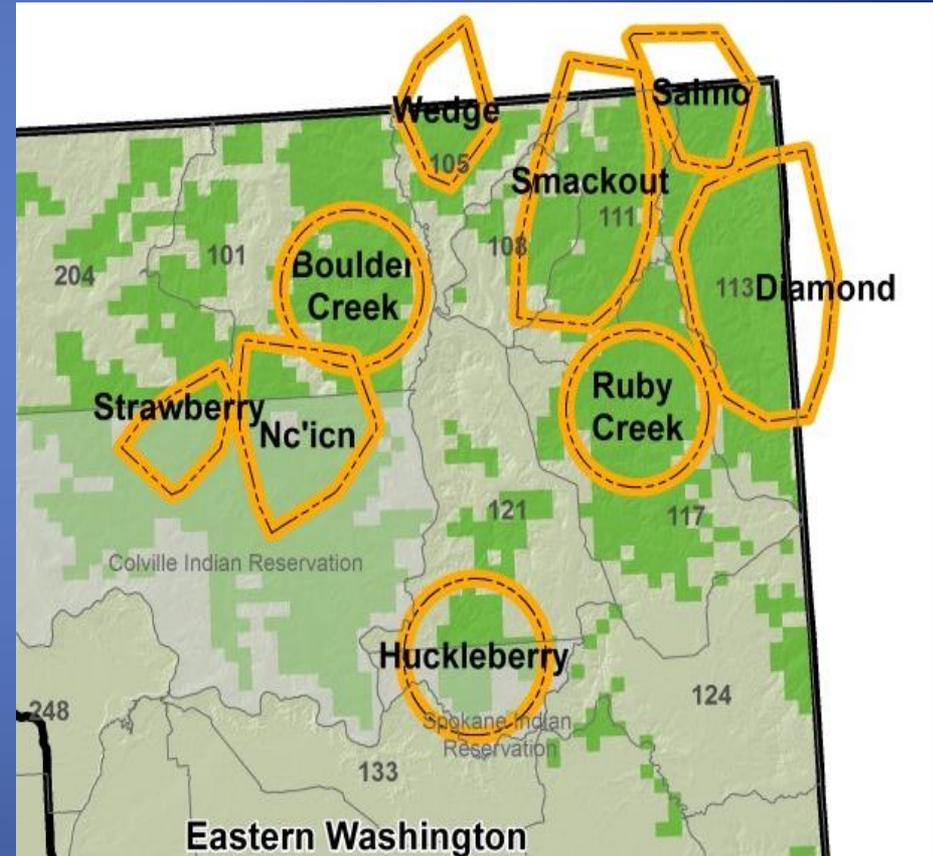
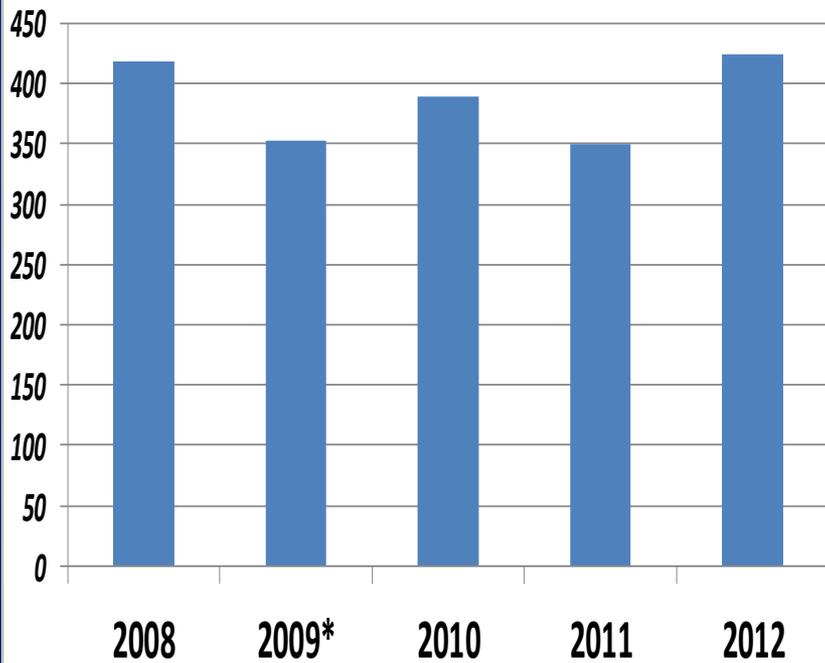
Wedge Pack Area

Deer Harvest GMU 105



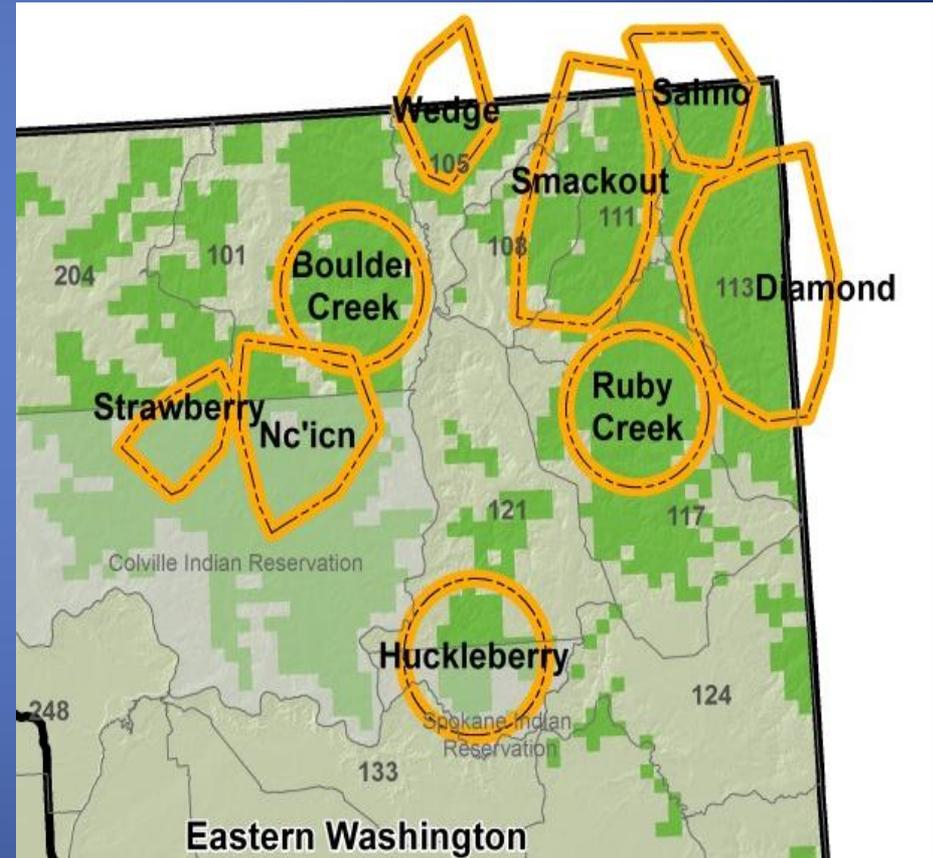
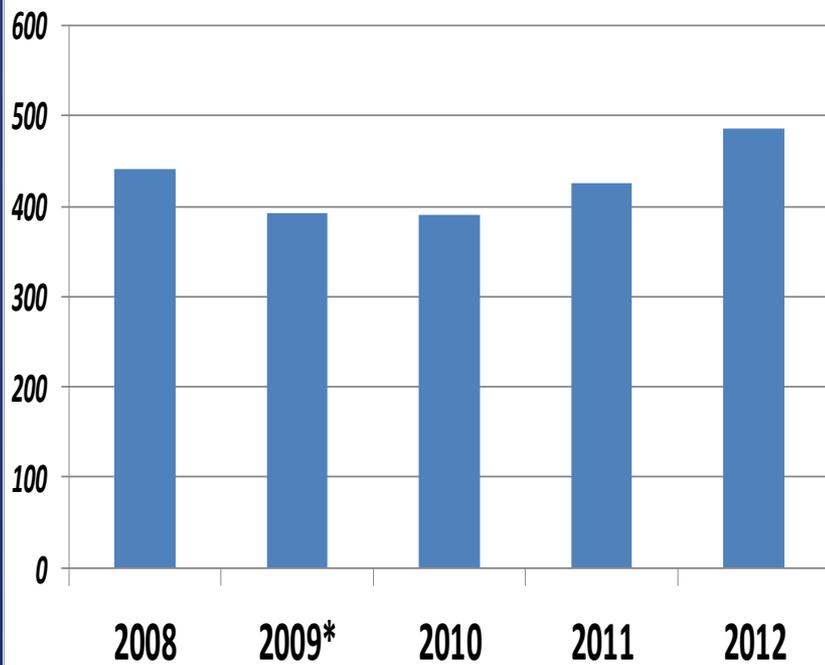
Smackout Pack Area

Deer Harvest GMU 108



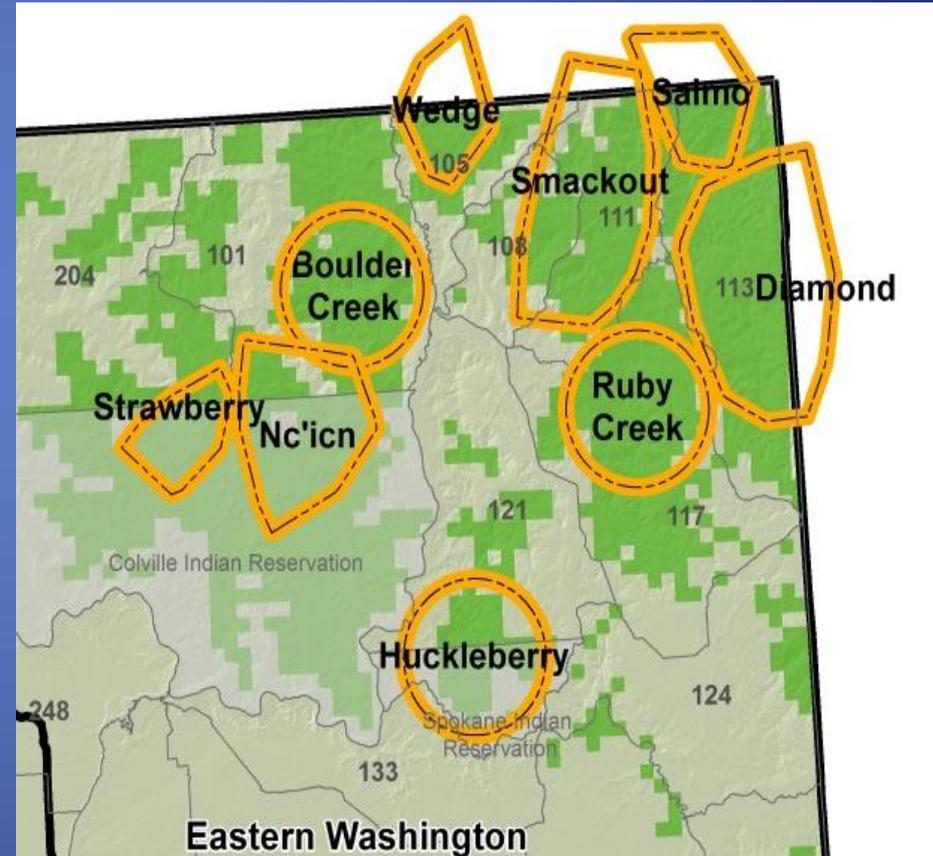
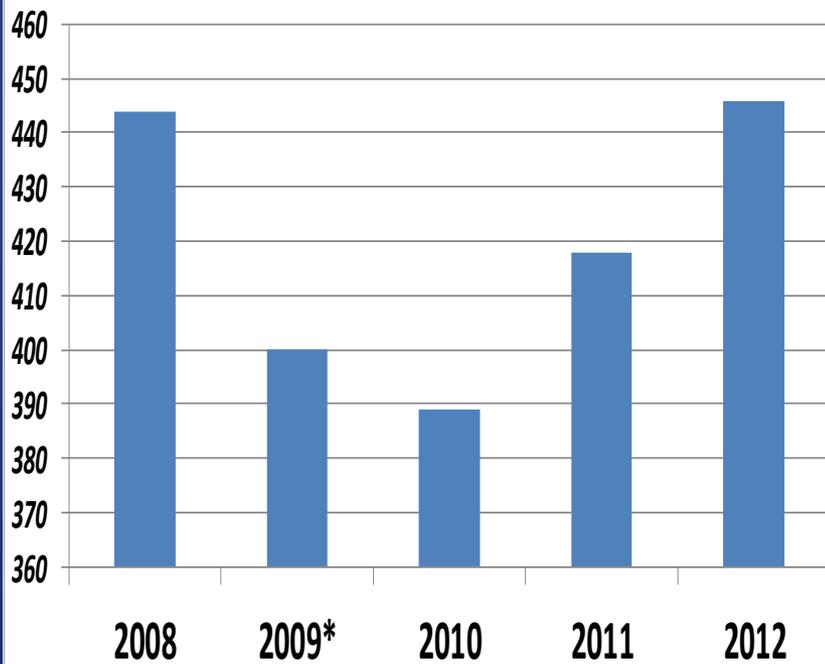
Smackout Pack Area

Deer Harvest GMU 111



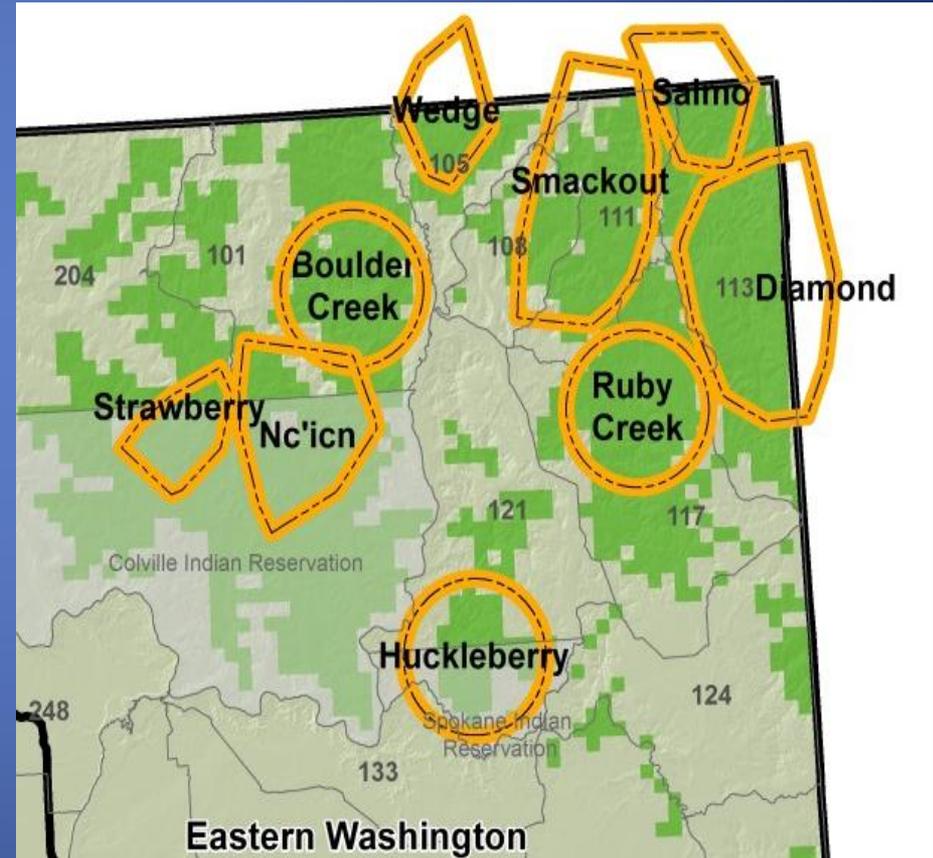
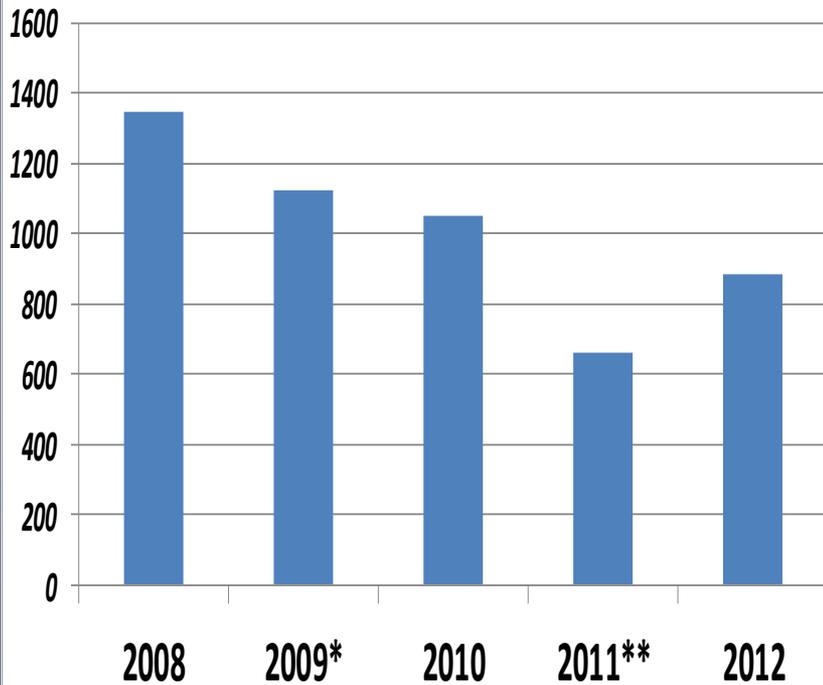
Diamond Pack Area

Deer Harvest GMU 113



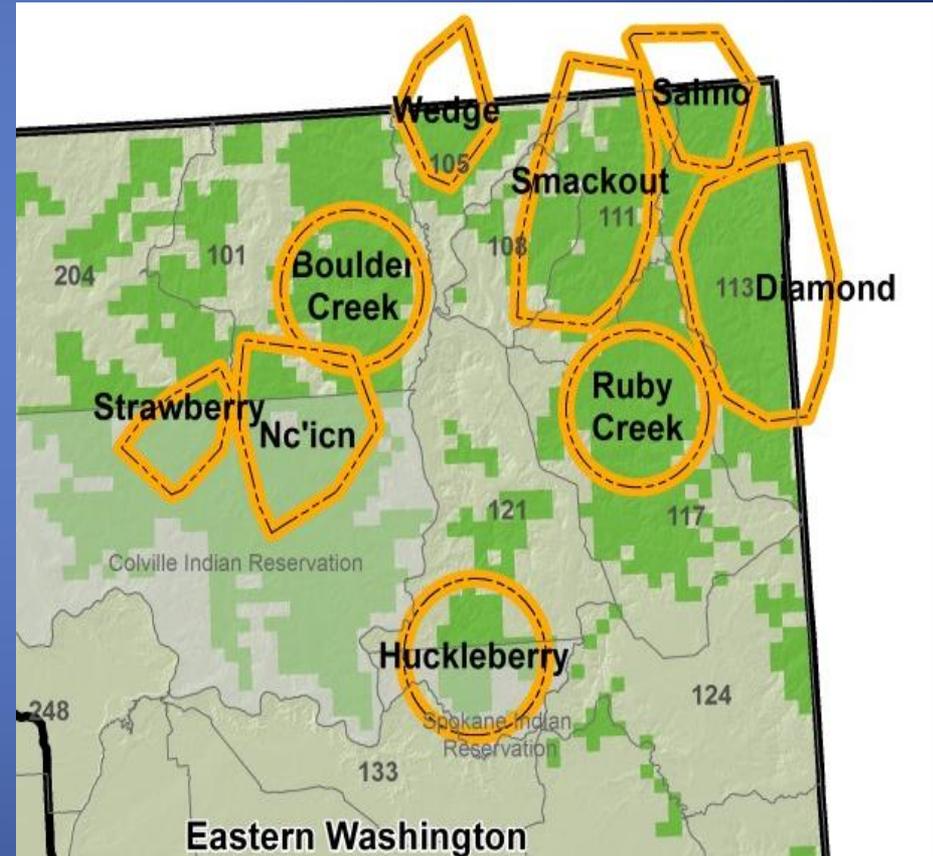
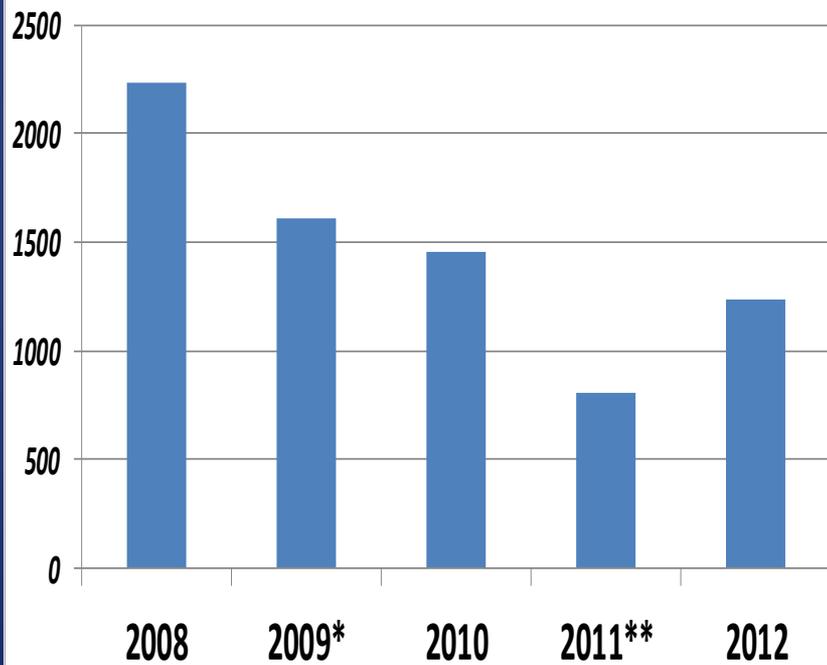
Ruby Creek Pack Area

Deer Harvest GMU 117



Huckleberry Pack Area

Deer Harvest GMU 121

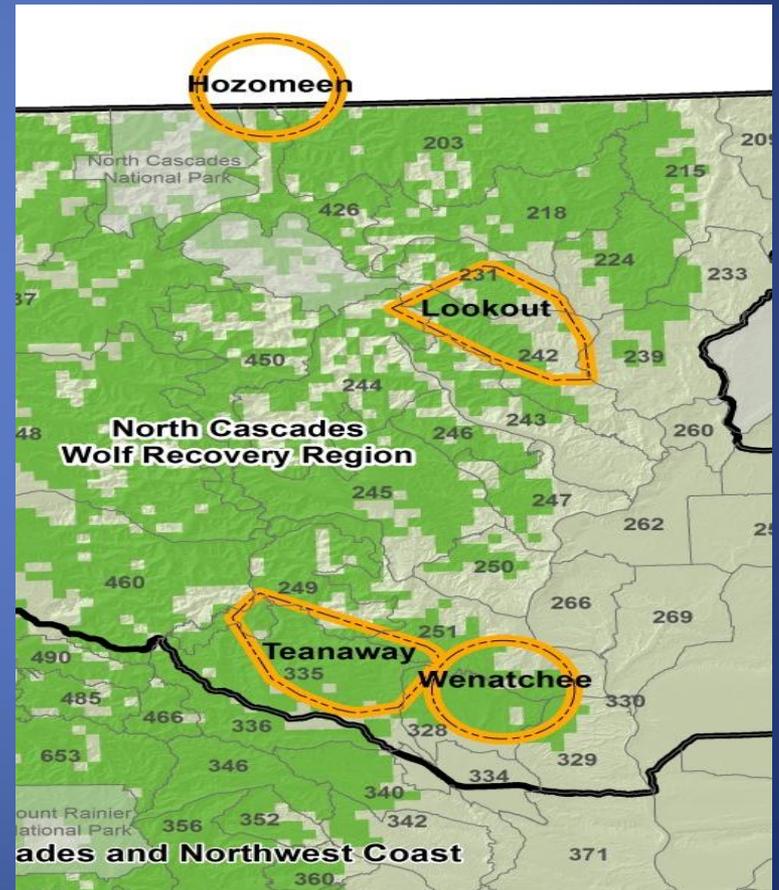
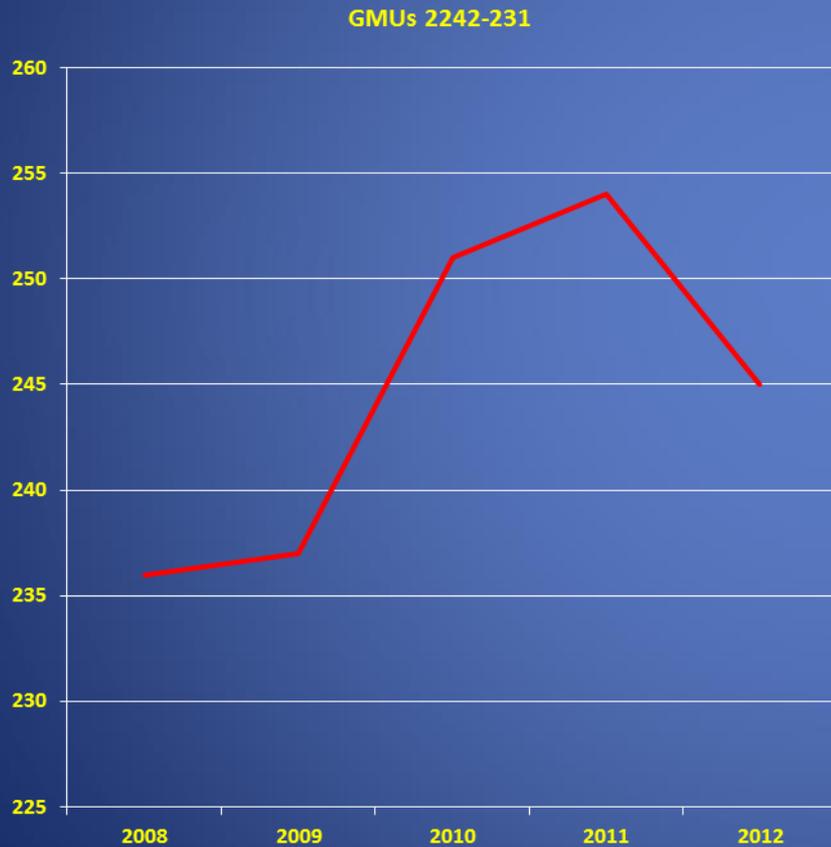


Okanogan Deer Harvest

GMUs 203-242

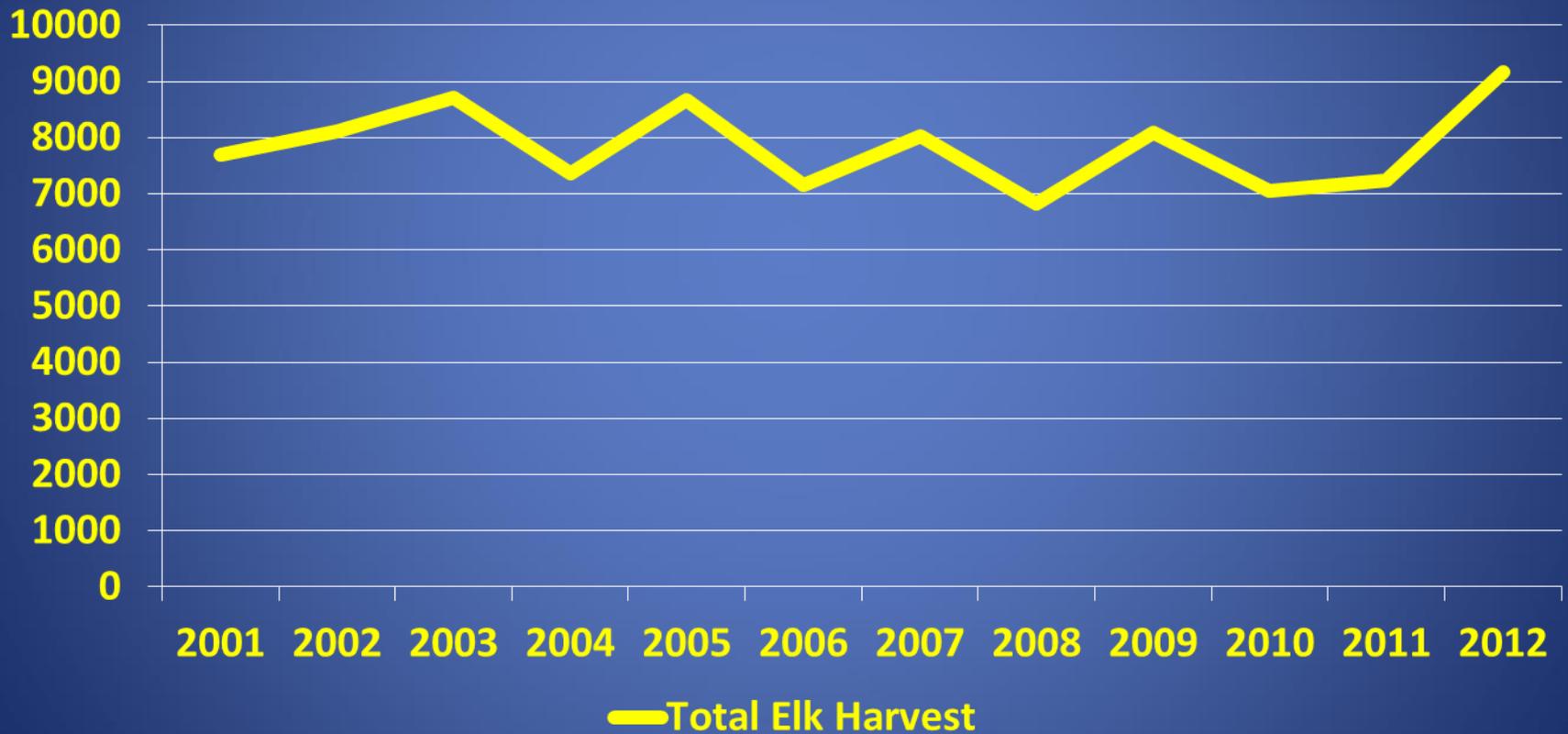


Lookout Pack Area



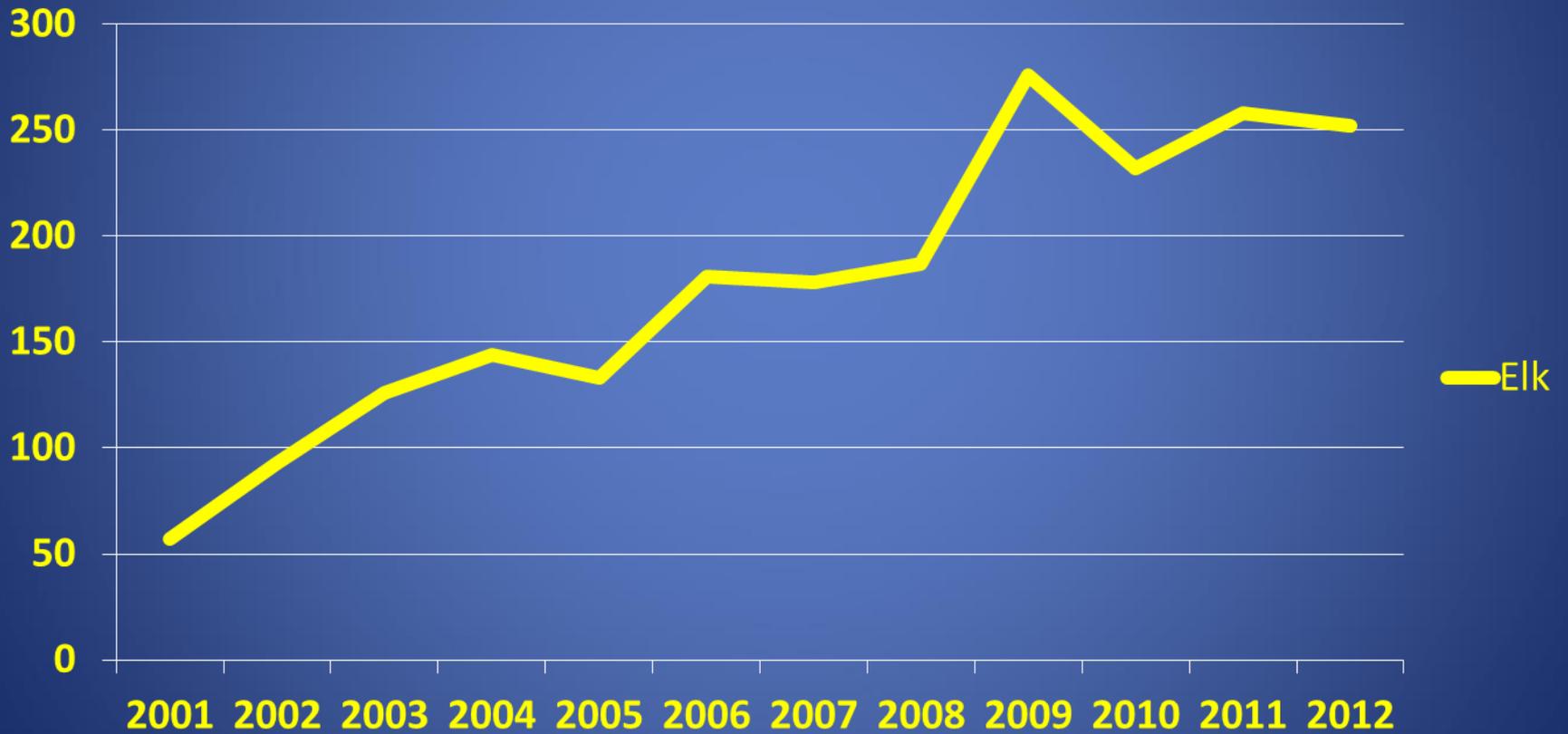
Elk Harvest

Statewide



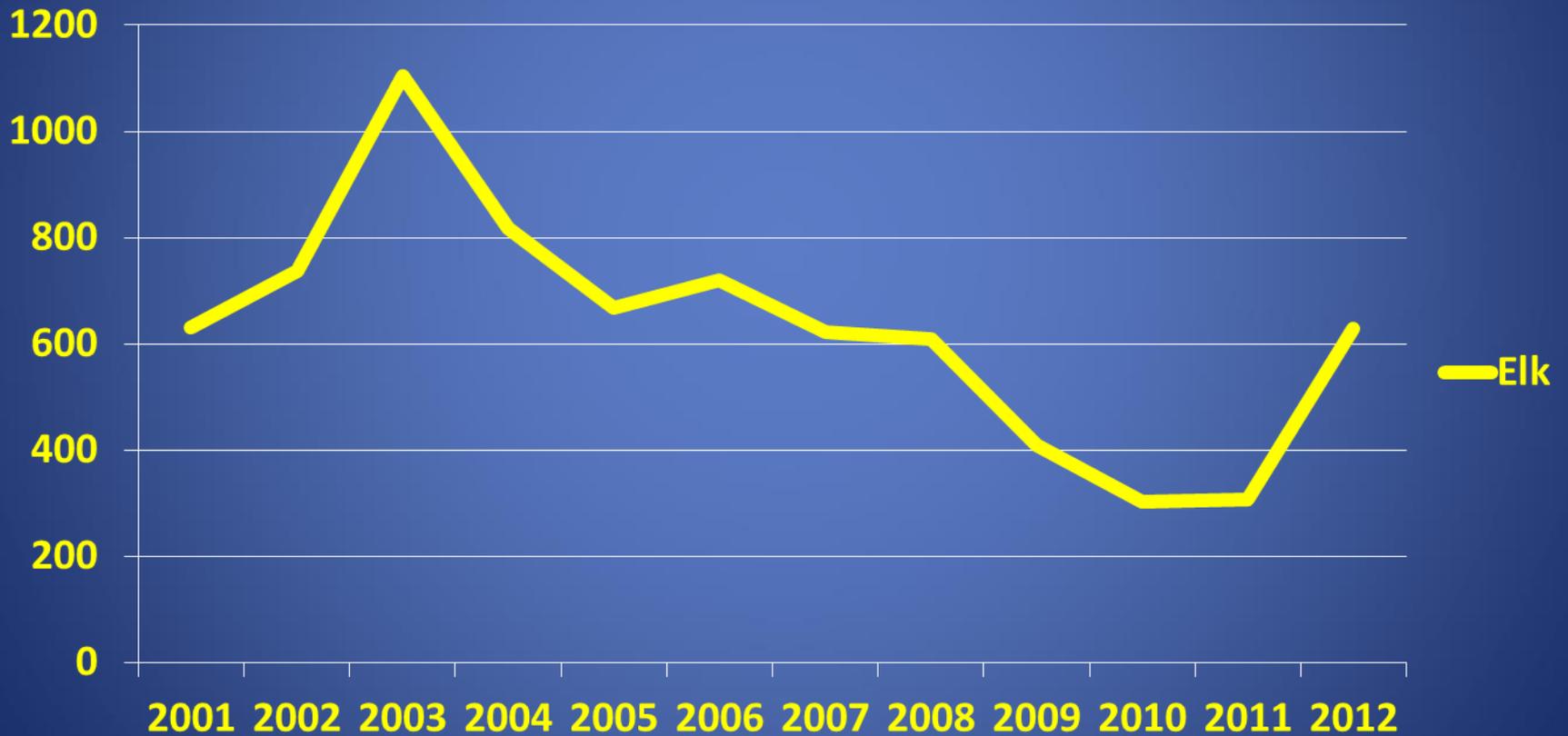
NE Elk Harvest

Total Elk Harvest GMUs 101-121

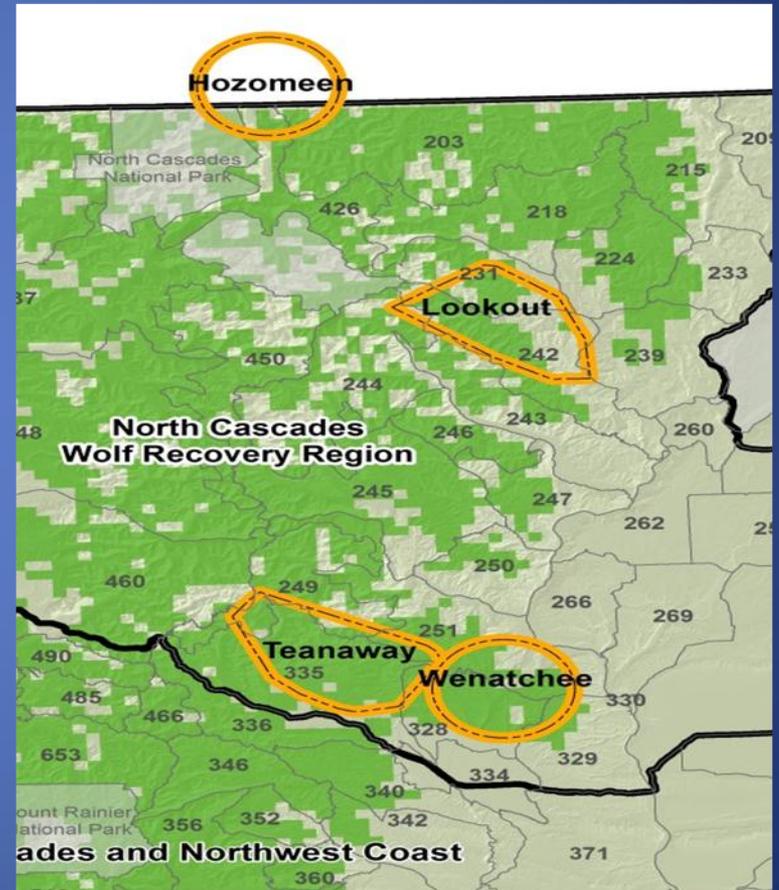


Colockum Elk Harvest

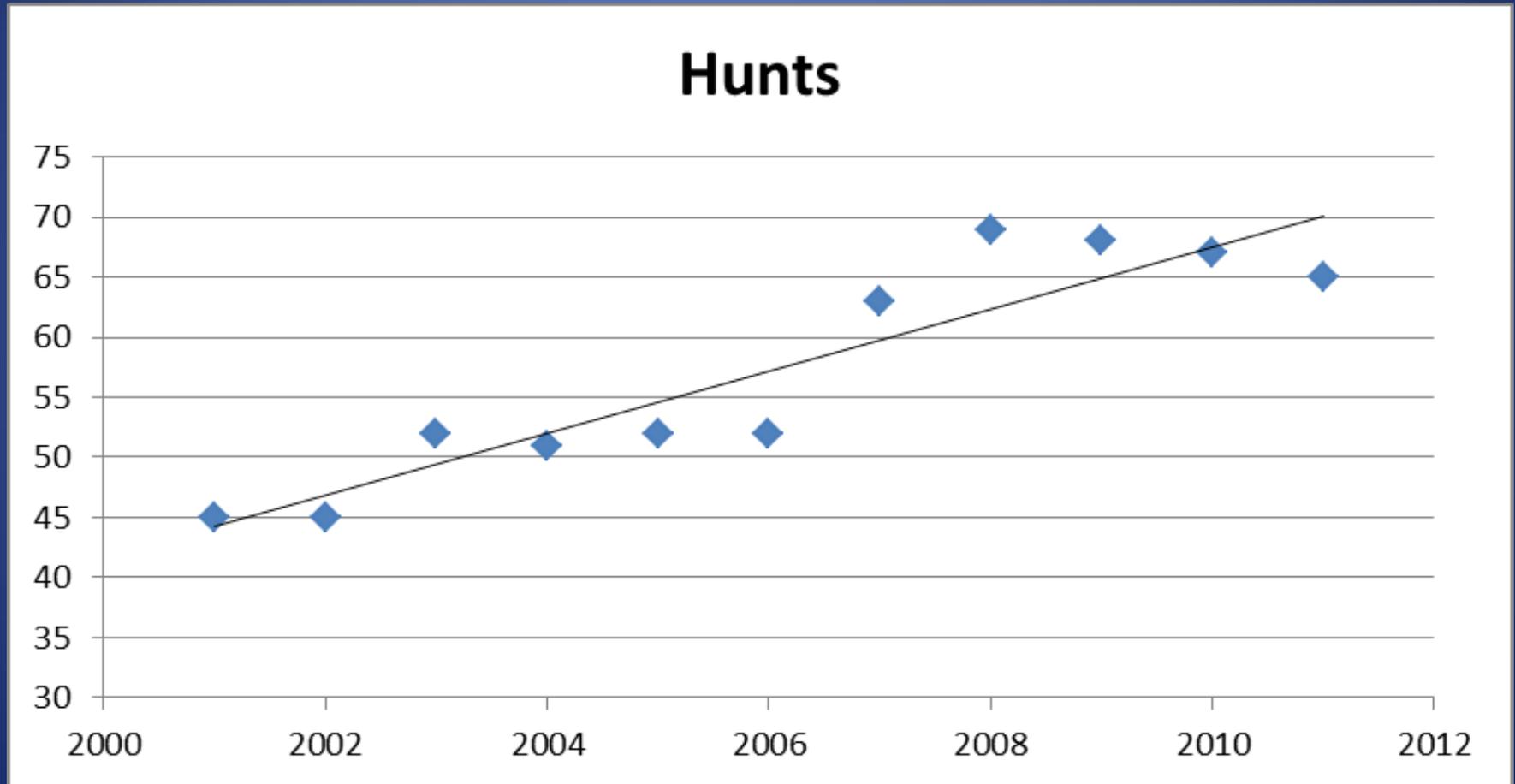
Total Elk Harvest



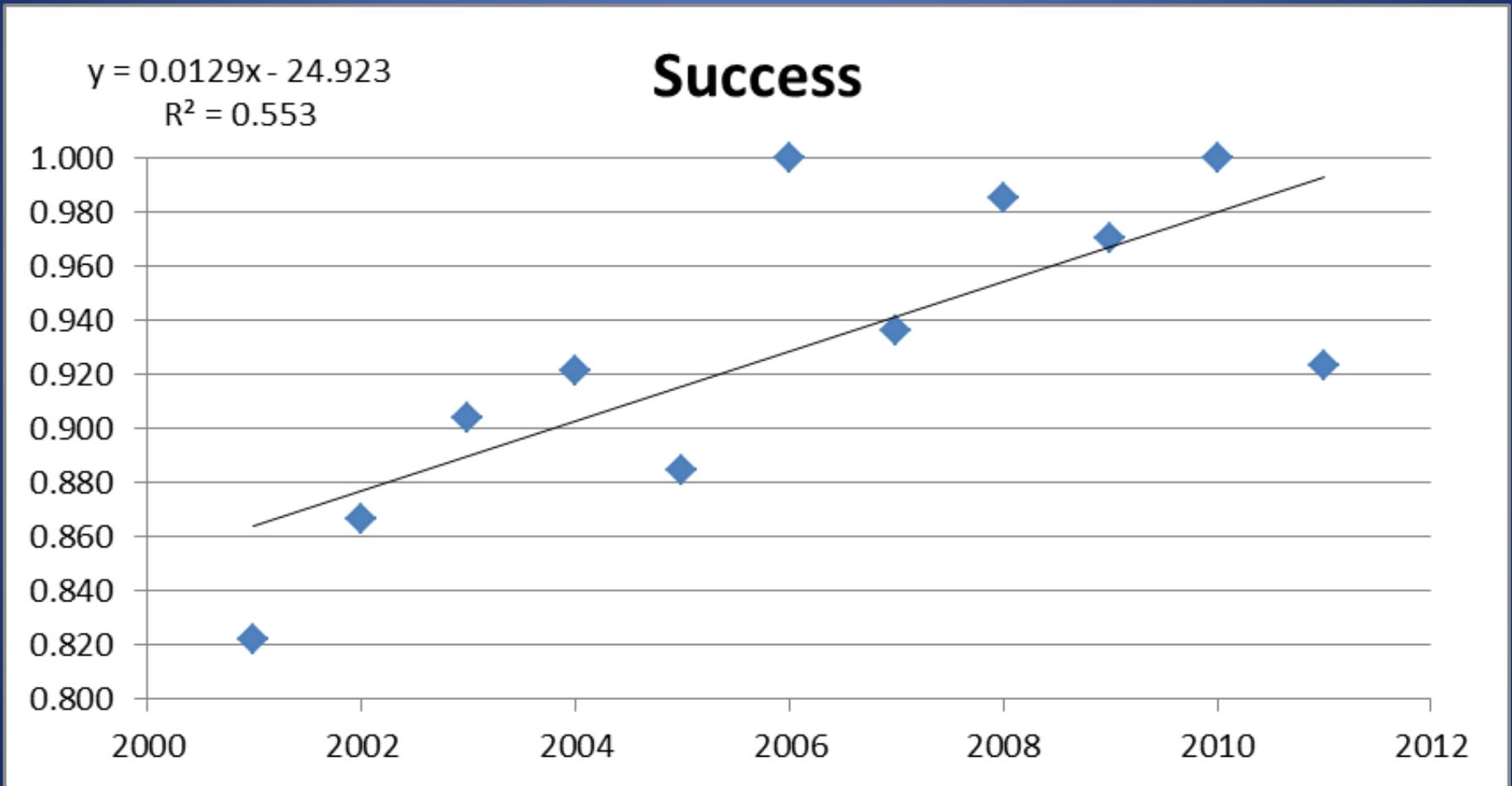
Colockum Elk Population Estimate



NE Washington Moose Permits



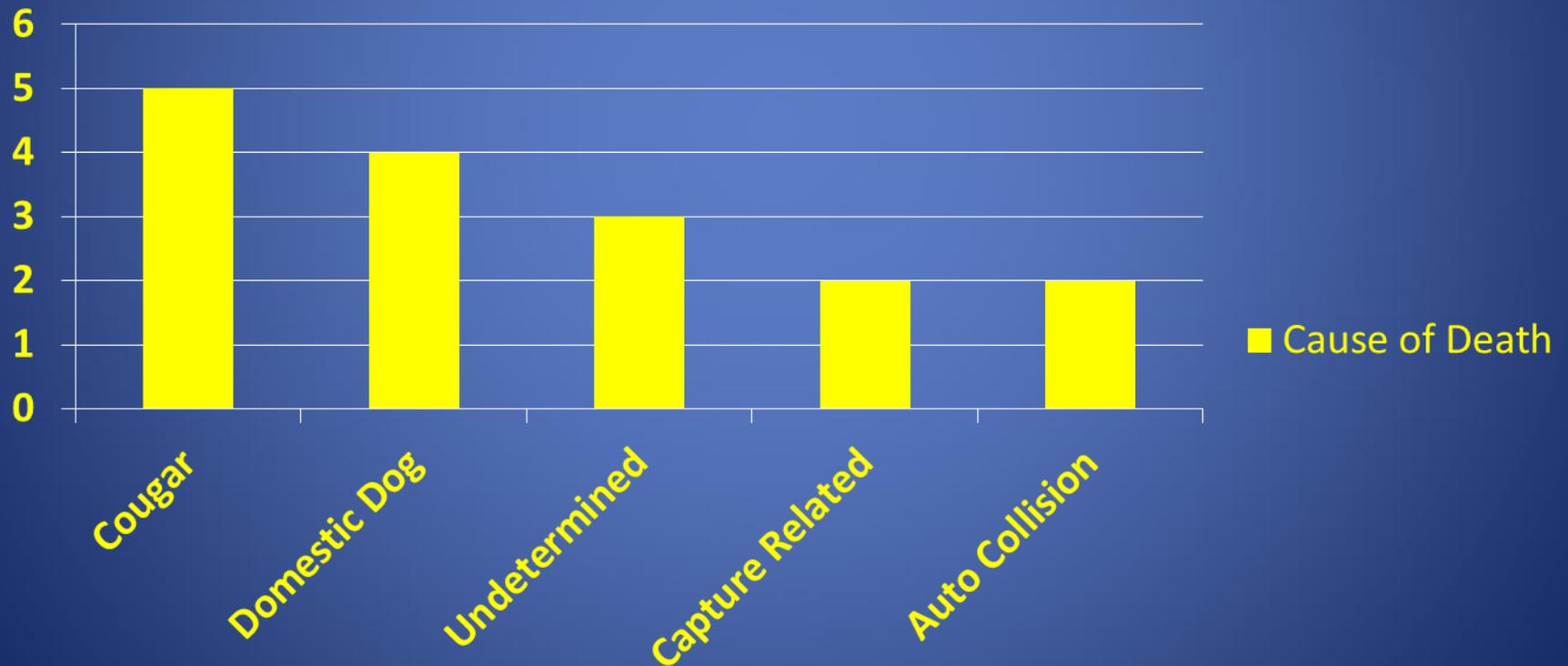
Moose Harvest



NE White-tailed Deer Study

Mortality to Date

Cause of death of radio-marked adult female white-tailed deer in NE Washington



Summary of Prey Status in NE Washington

- Elk numbers are increasing and we plan to allow them to increase a little more by cutting back on antlerless harvest
- Mule deer numbers appear to be increasing, mostly in the western units
- Moose appear to be continuing their long term increase and expansion
- White-tailed deer are still low after the decline experienced with the hard winters of 2007-08, but 2012 indicates we may have turned the corner

Wolves and Ungulates

Predator – Prey Relationships

- At the T&E levels, wolves are not likely to measurably impact ungulate populations (PMU level)
- Once delisted, wolf management options, particularly related to hunting, could be greater
- We are completing predator – prey guidelines for game species that can also provide guidance for how we address wolf predation issues

Wolves and Ungulates

Predator – Prey Relationships

- Recent findings:
 - Predator regulation of ungulate populations is generally experienced in areas where multiple predators co-occur (and grizzly bear predation appears to be most influential under these conditions)
 - Wolf impacts generally occur where their numbers are more difficult to manage and other factors are in play
 - Recent predator removal experiments continue to demonstrate that it isn't a simple relationship

Wolves and Ungulates

Predator – Prey Relationships

- Idaho, Montana, and Wyoming Lessons:
 - Wolves can impact ungulate numbers at a population management level
 - These scenarios have generally occurred well after “recovery” objectives have been achieved
 - “Problem” areas for ungulates are **seldom** associated with areas where livestock densities are high
 - The documented ungulate population issues are mainly related to elk although moose and whitetail population impacts are beginning to be a concern for biologists in some areas

Wolves and Ungulates

Predator – Prey Relationships

- Idaho, Montana, and Wyoming Lessons:
 - Management of wolf numbers through hunting may be challenging, but possible
 - Harvest management principles and strategies are similar to other carnivores
 - Hunter harvest strategies can be targeted to help address predator – prey management objectives
 - We will be able to learn from the experiences of the Rocky Mountain states over the next several years
 - Washington's time is coming, based on the growth rate experienced in the Rocky Mtn DPS

Summary

- Ungulate population changes can be detected in a variety of ways
- As of today, WDFW does not have any measurable indication that wolves are having an impact on ungulate populations
- Once changes in population levels are suspected, additional efforts will be employed to verify the cause
- Washington is fairly well positioned to understand potential impacts to ungulate populations from wolves
- The Wolf Conservation and Management Plan planned for wolf management for at risk ungulate populations.