

# WASHINGTON BEAR HARVEST ANALYSIS



## 2013-2022 DATA

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Report by Ian Martiszus

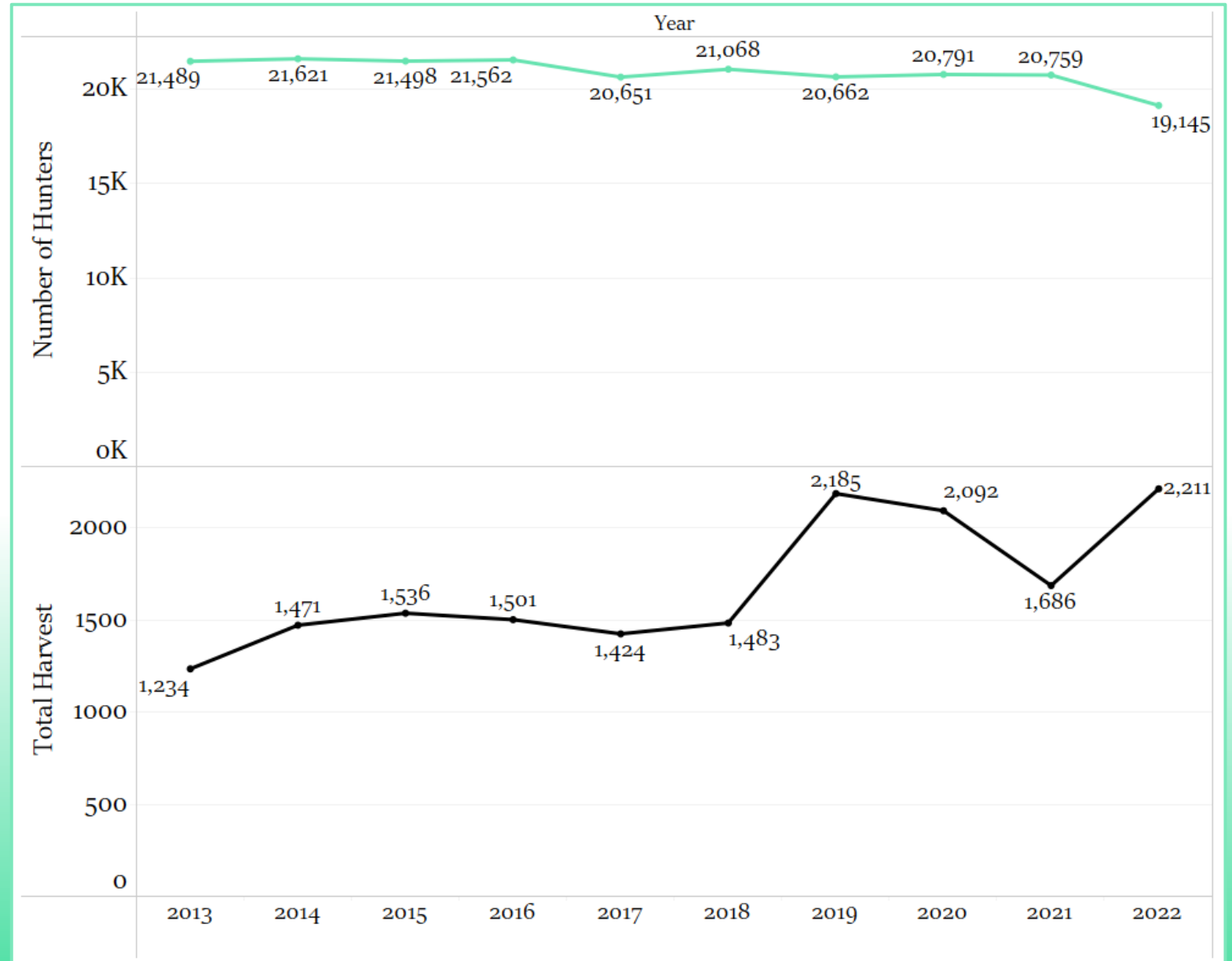
2023

# ABOUT

- This report contains analysis of Washington black bear hunter harvest from 2013 to 2022.
- Data was found on the Washington Department of Fish and Wildlife (WDFW) website at <https://wdfw.wa.gov/hunting/management/game-harvest>.
- The goal is to better understand spring bear hunting impact on WDFW and the Washington bear population.
- Due to a lack of actual population data, hunter harvests were used as a surrogate marker for population trend.
- The report author, Ian Martiszus, has no affiliation with WDFW.

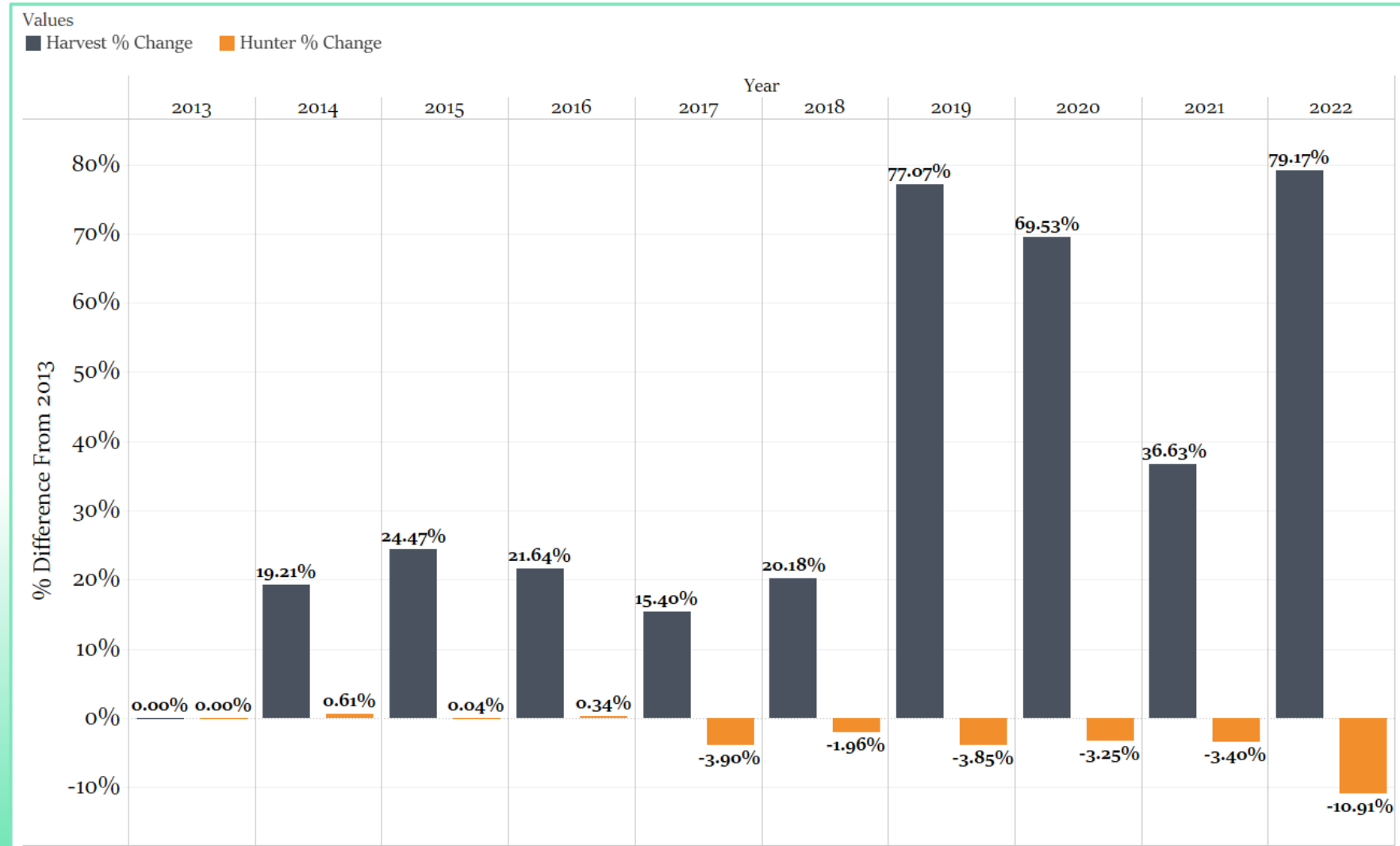
# TOTAL WASHINGTON BEAR HUNTERS AND HARVEST BY YEAR

- Combined spring and general season data are shown.
- In 2022 there was no spring special permit season.



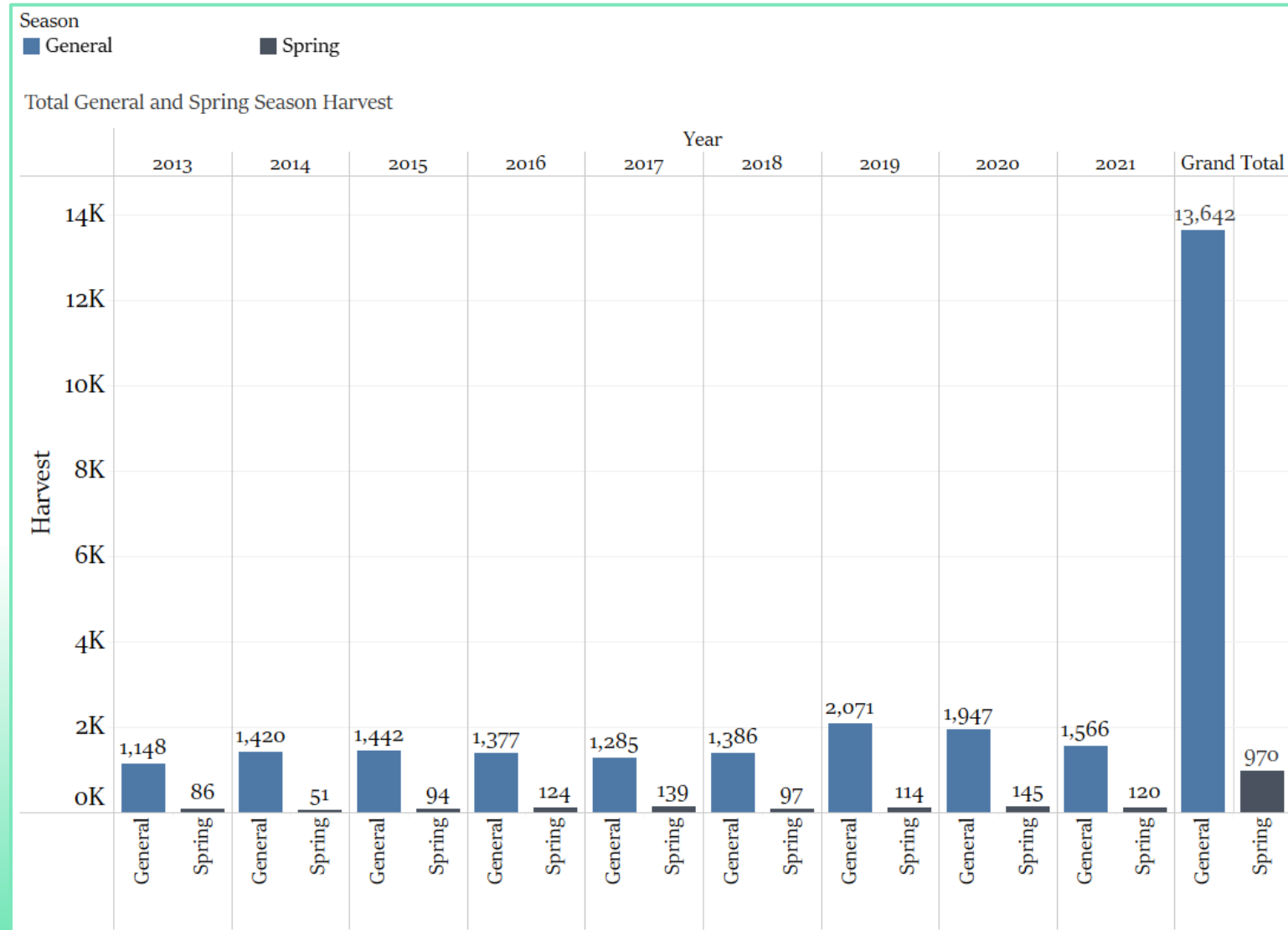
# PERCENT CHANGE IN BEAR HUNTER AND HARVEST NUMBERS

- This chart shows combined spring and general season hunter and harvest data.
- Hunter and harvest numbers were calculated as percentage change from the first year of data (2013).
- A positive number indicates an increase from 2013, while a negative number indicates a decrease.
- Over the 9 years of data, there are fewer hunters harvesting more bears.



# TOTAL GENERAL AND SPRING SEASON HARVEST BY YEAR

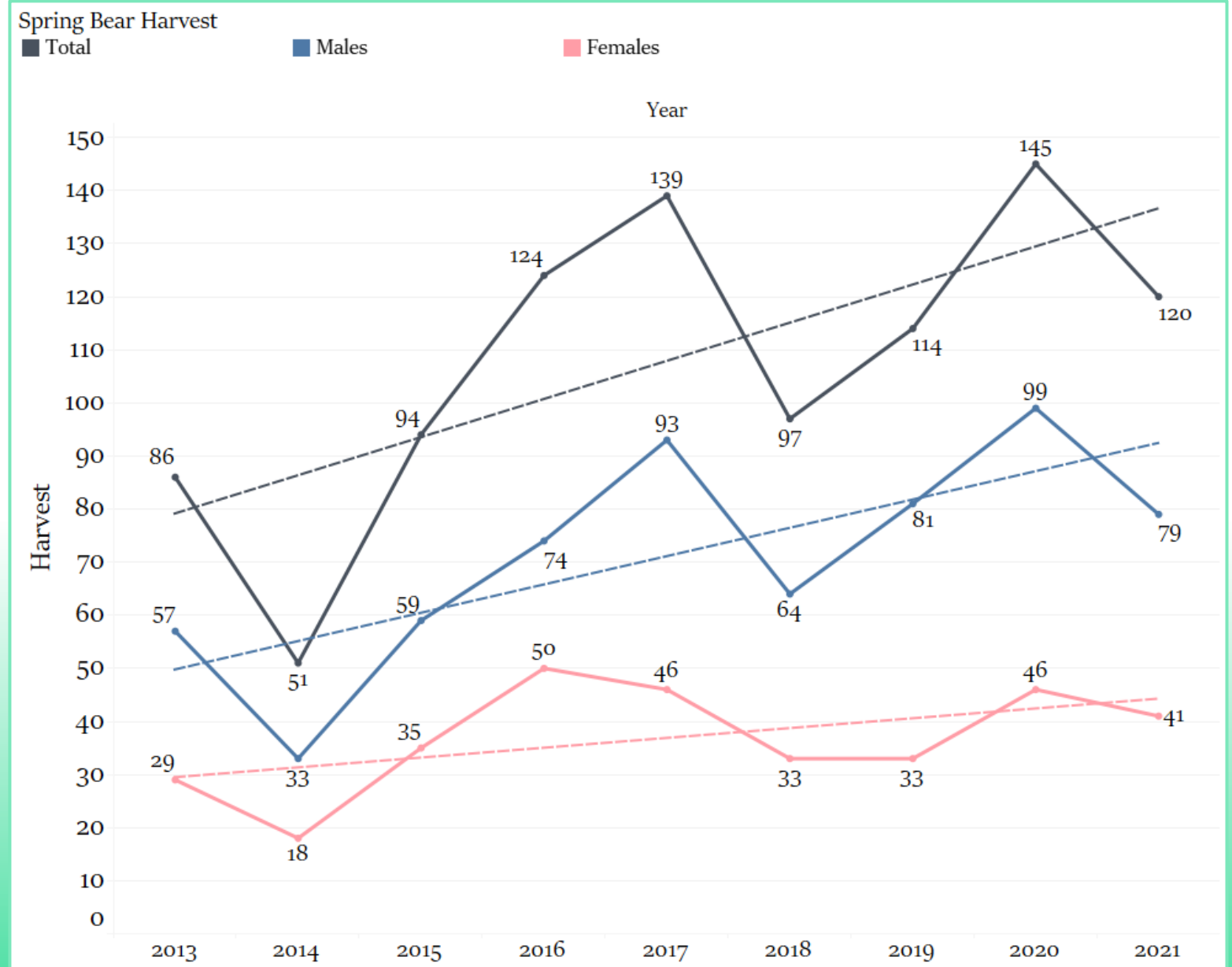
- Spring harvest averages 6% of total bear harvest per year.  
harvest calculation:  
 $\text{spring} / (\text{spring} + \text{general})$



2013	7%
2014	3%
2015	6%
2016	8%
2017	9%
2018	6%
2019	5%
2020	6%
2021	7%
Average	6%

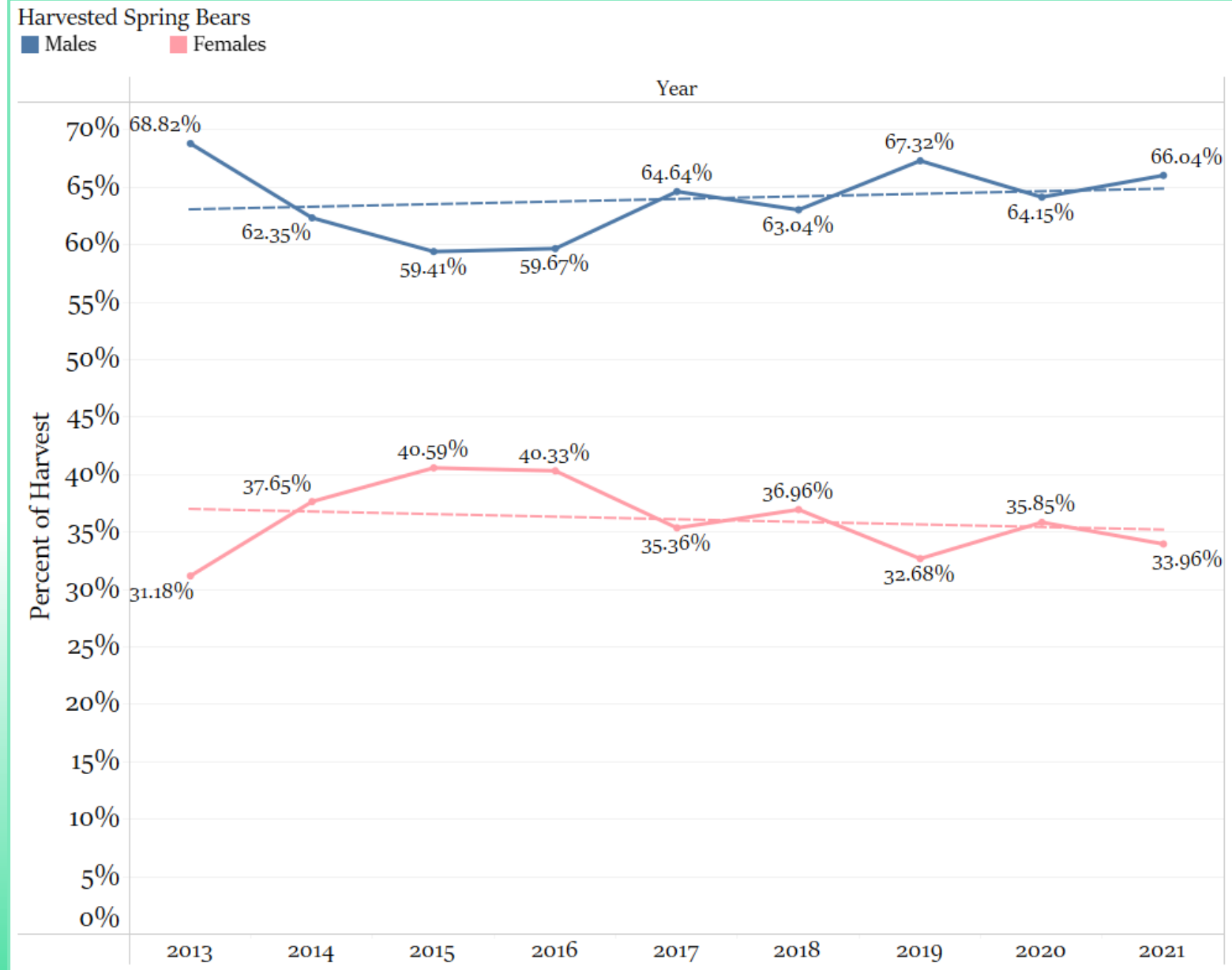
# SPRING SEASON: TOTAL AND SEX SPECIFIC HARVEST

- Dotted line represents linear line of best fit.
- Slope for lines of best fit:  
Total Harvest – 7.18  
Males – 5.33  
Females – 1.85
- Slope indicates year over year harvest change.  
-> Slope values suggest an increase in male proportion of spring harvest.



# SPRING SEASON: PERCENT OF SPRING HARVEST BY SEX

- Female harvest trend line has a slight negative slope, male trend line has slight positive slope.



# SPRING SEASON: PERCENT OF TOTAL BEAR HARVEST

- The table's top row shows combined spring and general season harvest.
- WDFW's source data included male and female harvest for the spring season, but the general season only had total harvest.
- Rows with percentages indicate the contribution of spring harvest to the overall bear harvest.
- On average, annual female spring bear harvest is 2.27% of the total bear harvest.

	Year									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	Average
Total Bear Harvest (Spring & General Season)	1,234	1,471	1,536	1,501	1,424	1,483	2,185	2,092	1,686	1,624
Spring - Total Bear Harvest	86	51	94	124	139	97	114	145	120	108
Spring Bear Harvest - % of Total Bear Harvest	6.52%	3.35%	5.77%	7.63%	8.89%	6.14%	4.96%	6.48%	6.64%	6.23%
Spring - Males Harvested	57	33	59	74	93	64	81	99	79	71
Spring Male Harvest - % of Total Bear Harvest	4.62%	2.24%	3.84%	4.93%	6.53%	4.32%	3.71%	4.73%	4.69%	4.37%
Spring - Females Harvested	29	18	35	50	46	33	33	46	41	37
Spring Female Harvest - % of Total Bear Harvest	2.35%	1.22%	2.28%	3.33%	3.23%	2.23%	1.51%	2.20%	2.43%	2.27%



# ESTIMATED WDFW REVENUE FROM SPRING BEAR HUNT

- Estimated Revenue Calculation –  
 $(\$10 \times \text{Application Count}) + (\$24.50 \times \text{Permits Issued})$
- Estimated revenue was calculated based on these prices:  
 Permit- \$24.50  
 Resident Application- \$7.10  
 Non-Resident Application- \$110.10
- Application counts found on WDFW website did not separate resident and non-residents applications. So, an estimated average price of \$10 per application was used.



	Year									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	
Total Applicants	6,632	7,314	8,159	8,565	8,081	8,756	10,264	12,139	19,498	
Permits Issued	697	697	697	854	814	781	778	483	666	

# DISCUSSION

- **Fewer hunters are harvesting more bears** - Compared to 2013, in 2022 the bear harvest had increased by 79%. During the same 9-year timeframe, hunter numbers decreased by 10%. This insinuates an increase in the bear population (more encounters by fewer hunters).
- **Spring harvest, and sows (females) in particular, are a small percentage of the total bear harvest** – The total Spring harvest averaged 6% of the yearly bear harvest in Washington. Before the season was canceled, sow Spring harvest proportion was decreasing and Spring sows averaged just 2% of the total bear harvest in Washington.
- **WDFW lost significant revenue after cancelling the Spring hunt** – Revenue generated by the Spring hunt was increasing due to steady increases in hunt applications. The last year of the hunt (2021) generated an estimated \$211,297 in revenue for WDFW.

# CONCLUSIONS

- Data supports resumption of the Washington spring bear hunt. Hunter and harvest data suggest the bear population is growing. The overall spring sow harvest is a small proportion of the total Washington bear harvest, and harvest data is unsuggestive of a negative trend in bear populations.
- WDFW lost a substantial amount of revenue generated by spring bear applications and permits. Resumption of the hunt would pose little to no risk to the Washington bear population and restore a revenue stream that can be used to support wildlife management in Washington.