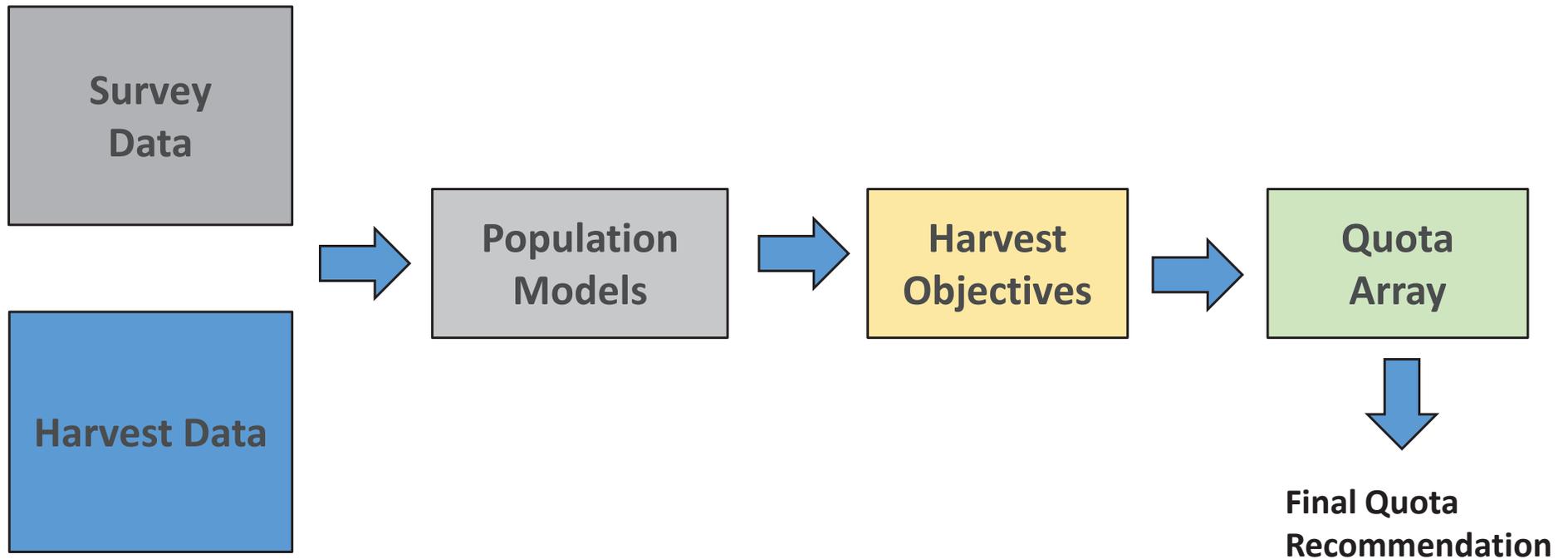# Population Models and Quota Process for Mule Deer

Cody Schroeder – NDOW Game Division

The Process:
How do we develop quota recs?

Harvest Data

- Mandatory harvest reporting for all big game species

- Did you Hunt Yes or No?

- Successful Or Unsuccessful

- Hunt Unit of harvest

- # of antler points

- # animals wounded or tracked

- # days hunted, # days scouted

- Hunter satisfaction level (1-5)

Population Models:
Why do we estimate numbers?

No survey method has perfect detection

May not have survey data!

Populations constantly change because of mortality, births, immigration, emigration

To provide an estimate of abundance for tag allocation (quota)

Limiting factors

Population Models:
How do we estimate populations?

- NDOW uses a deterministic spreadsheet model

- Deterministic = no stochasticity (random variation)

- Basic input parameters

- Initial population size

- Survey data (# bucks, does, fawns)

- Recruitment data (fawn:adult ratio)

- Harvest data (we account for animals removed from population)

- Survival rates

- Buck:doe ratio is one of the primary outputs we use for quotas

| File | Home | Insert | Draw | Page Layout | Formulas | Data | Review | View | Help | Power Pivot | 🔎 Search |

Name box: **W24**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	SURVEY		First Year					Add Row													
2			POST SEASON								Obs	Model	Obs	Adjust	SPRING			Obs	Adjust		
3			Buck				Total	Total	Total	Total	Buck/	Buck/	Fawn/	Fawn/	Total	Total	Total	Fawn/	Fawn/	Fawn	Totals
4	YEAR		spike	2-pt	3-pt	4-pt+	Does	Fawns	Bucks	Deer	100 Doe	100 Doe	100 Doe	100 Doe	Adults	Fawns	Deer	100 Ad	100 Ad	Adjust	Septpop
6	2002	2003							0	0	--	29	--		648	200	848	31	31	1227	2621
7	2003	2004							0	0	--	29	--		1027	311	1338	30	30	1192	2635
8	2004	2005							0	0	--	29	--		1943	579	2522	30	30	1181	2589
9	2005	2006	10	64	46	31	431	225	151	807	35	28	52	52	644	194	838	30	30	1152	2567
10	2006	2007							0	0	--	28	--	52	593	198	791	33	33	1244	2527
11	2007	2008	13	134	139	57	1145	322	343	1810	30	29	28	28	426	83	509	19	19	716	2490
12	2008	2009							0	0	--	28	--				0	--	29	1008	2441
13	2009	2010							0	0	--	31	--	55	478	190	668	40	40	1371	2407
14	2010	2011							0	0	--	35	--		832	214	1046	26	26	953	2225
15	2011	2012	45	79	120	56	877	466	300	1643	34	37	53	53	364	132	496	36	36	1290	2183
16	2012	2013	61	121	97	34	855	443	313	1611	37	38	52	52	456	120	576	26	26	955	2237
17	2013	2014	49	112	87	37	889	314	285	1488	32	36	35	35	467	117	584	25	25	874	2161
18	2014	2015	50	99	90	27	724	348	266	1338	37	35	48	48			0	--	30	1004	2197
19	2015	2016							0	0	--	37	--	45	856	233	1089	27	27	900	2122
20	2016	2017	31	56	41	30	534	326	158	1018	30	37	61	61	557	186	743	33	33	1076	2042
21	2017	2018	59	75	59	43	651	345	236	1232	36	40	53	53	398	112	510	28	28	933	2018
22	2018	2019	24	45	30	13	310	152	112	574	36	36	49	49	464	130	594	28	28	885	1965

Sheet tabs: **survey** | harvest | trap | rates | Decpop | Aprilpop | Septpop | results | I | J | K | L | M | N | O ... | ⊕

HARVEST — Enter harvest as negative numbers

YEAR	Doe Harvest Fawn	1+ yr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1yr+ Does	Buck Harvest Fawn	1-pt	2-pt	3-pt	4-pt	5-pt	6-pt	1+ buck total	% 4pts+	Sept 2-yr olds	% 2 pts as yrlgs	% of Septpop 2-yr olds harvested
2001	0	-41	-7	-6	-5	-5	-4	-3	-3	-2	-2	-1	-1	-1	0	0	-41	0	-25	-94	-142	-210	-25	-3	-499	48%	477	0.45	0.25
2002	0	-45	-7	-7	-6	-5	-4	-4	-3	-3	-2	-2	-1	-1	0	0	-45	0	-18	-64	-113	-156	-15	-3	-369	47%	425	0.45	0.25
2003	-1	-26	-4	-3	-3	-3	-2	-2	-2	-2	-1	-1	-1	-1	0	0	-26	0	-17	-74	-84	-122	-6	-2	-305	43%	364	0.45	0.25
2004	0	-23	-4	-3	-3	-3	-2	-2	-2	-1	-1	-1	-1	-1	0	0	-23	0	-14	-84	-89	-101	-17	-4	-309	39%	391	0.45	0.25
2005	0	-24	-4	-3	-3	-2	-2	-2	-2	-1	-1	-1	-1	-1	0	0	-24	0	-20	-95	-95	-118	-15	-4	-347	39%	377	0.45	0.25
2006	0	-15	-2	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	0	0	0	-15	0	-17	-99	-90	-97	-14	-5	-322	36%	362	0.45	0.25
2007	0	-27	-5	-4	-3	-3	-2	-2	-2	-2	-1	-1	-1	-1	-1	0	-27	-1	-16	-105	-92	-100	-4	-2	-319	33%	353	0.45	0.25
2008	0	-26	-3	-4	-3	-3	-2	-2	-2	-1	-1	-1	-1	-1	-1	0	-26	-1	-8	-46	-66	-72	-8		-200	40%	385	0.45	0.25
2009	0	-27	-4	-3	-4	-3	-3	-2	-2	-1	-1	-1	-1	-1	0		-27	-1	-8	-57	-58	-87	-10	-3	-223	45%	231	0.45	0.25
2010	0	-18	-4	-2	-1	-2	-2	-1	-1	-1	-1	-1	-1	0	0		-18	-1	-15	-89	-65	-75	-6	-1	-251	33%	330	0.45	0.25
2011	-2	-28	-4	-5	-3	-2	-3	-2	-2	-2	-1	-1	-1	-1	0		-28	-1	-9	-51	-60	-63	-3	-2	-188	36%	442	0.45	0.25
2012	-1	-32	-6	-4	-5	-3	-2	-3	-2	-2	-2	-1	-1	-1	0		-32	-1	-20	-113	-79	-70	-4		-286	26%	315	0.45	0.25
2013	-1	-22	-3	-4	-2	-2	-2	-1	-2	-1	-1	-1	-1	0	0		-22	-2	-20	-82	-87	-80	-10	-1	-280	33%	399	0.45	0.25
2014	-3	-24	-3	-3	-4	-2	-3	-2	-1	-1	-1	-1	0	0			-24	0	-26	-76	-58	-56	-6		-222	28%	291	0.45	0.25
2015	-2	-23	-4	-3	-3	-3	-2	-2	-1	-1	-1	-1	-1	0	0		-23	-1	-9	-74	-61	-68	-1	-2	-215	33%	262	0.45	0.25
2016		-19	-3	-3	-2	-2	-2	-1	-2	-1	-1	-1	-1	0	0		-19	-5	-13	-76	-61	-46	-4	-1	-201	25%	323	0.45	0.25
2017		-27	-5	-3	-3	-2	-2	-3	-2	-2	-1	-1	-1	-1	0		-27	-3	-11	-74	-59	-55	-1	-2	-202	29%	282	0.45	0.25
2018	-1	-30	-5	-5	-3	-3	-2	-2	-2	-2	-2	-1	-1	-1	-1	0	-30	-1	-23	-102	-89	-80	-7	-1	-302	29%	348	0.45	0.25

Sheet tabs: survey | harvest | trap | rates | Decpop | Aprilpop | Septpop | results | I | J | K | L | M | N | O ...

RATES

YEAR	June - Aug Fawns	SURVIVAL RATES for April - Aug.								SURVIVAL RATES for Sept. - March								yrling Preg.	2-yr + Preg.	fawn ratio at birth
		F1	F2	F3-11	F12-14	M1	M2	M3-9	M10-12	F1	F2	F3-11	F12-14	M1	M2	M3-9	M10-12			
2001	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2002	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2003	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2004	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2005	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2006	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2007	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2008	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.91	0.90	0.80	0.1	1	1.4
2009	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2010	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2011	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2012	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2013	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2014	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2015	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2016	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2017	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2018	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4
2019	0.70	0.91	0.93	0.93	0.85	0.91	0.92	0.92	0.80	0.91	0.93	0.92	0.80	0.88	0.90	0.90	0.80	0.1	1	1.4

T15

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1			Sept Bucks yrlgs	Sept Bucks 2+yrs	Sept Total Bucks	Sept Total Does	Sept Pop Estimate	Sept Bucks/ 100 Does	Sept Fawns/ 100 Does	Dec Fawns/ 100 Does	April Fawns/ 100 Does	Sept Avg Buck Age	Sept Avg Doe Age	Annual Rate of Increase	Buck harvest	Buck harvest Avg Age	Post-hunt Bucks/ 100 Does
3	YEAR																
4	2001	2002	630	1048	1678	3537	5215	47	72	0	36	2.3	4.0	-7%	499	3.1	30
5	2002	2003	524	886	1410	3463	4873	41	76	0	39	2.2	4.0	-2%	369	3.0	28
6	2003	2004	558	795	1353	3425	4778	40	77	0	39	2.1	4.0	-1%	305	3.0	28
7	2004	2005	542	810	1353	3387	4740	40	76	0	39	2.2	4.0	-1%	309	2.9	29
8	2005	2006	537	806	1344	3342	4686	40	77	52	38	2.2	4.0	-3%	347	3.0	27
9	2006	2007	524	762	1286	3282	4567	39	77	52	42	2.2	4.0	0%	322	2.9	27
10	2007	2008	566	739	1305	3277	4581	40	76	28	24	2.1	3.9	-10%	319	2.9	28
11	2008	2009	326	756	1082	3019	4101	36	81	0	37	2.3	4.1	0%	200	2.8	28
12	2009	2010	458	694	1153	2938	4091	39	82	55	52	2.4	4.0	7%	223	3.5	30
13	2010	2011	624	725	1349	3030	4379	45	73	0	35	2.2	3.8	-4%	251	3.1	34
14	2011	2012	434	857	1291	2927	4218	44	75	53	49	2.4	3.8	5%	188	2.5	36
15	2012	2013	587	874	1461	2987	4448	49	75	52	36	2.4	3.7	-5%	286	3.1	37
16	2013	2014	435	915	1350	2878	4228	47	75	35	34	2.6	3.8	-6%	280	3.0	35
17	2014	2015	398	831	1229	2763	3992	44	80	48	40	2.7	3.9	-1%	222	3.1	35
18	2015	2016	457	789	1246	2725	3971	46	78	45	37	2.7	3.9	-3%	215	3.6	36
19	2016	2017	409	808	1217	2651	3868	46	77	61	45	2.7	3.9	2%	201	3.1	36
20	2017	2018	490	798	1288	2671	3959	48	76	53	39	2.7	3.8	-2%	202	3.4	39
21	2018	2019	424	854	1278	2615	3894	49	75	49	38	2.8	3.9	-5%	302	3.3	35

survey | harvest | trap | rates | Decpop | Aprilpop | Septpop | **results** | I | J | K | L | M | N | O …

Population Models:
Integrated Population Models

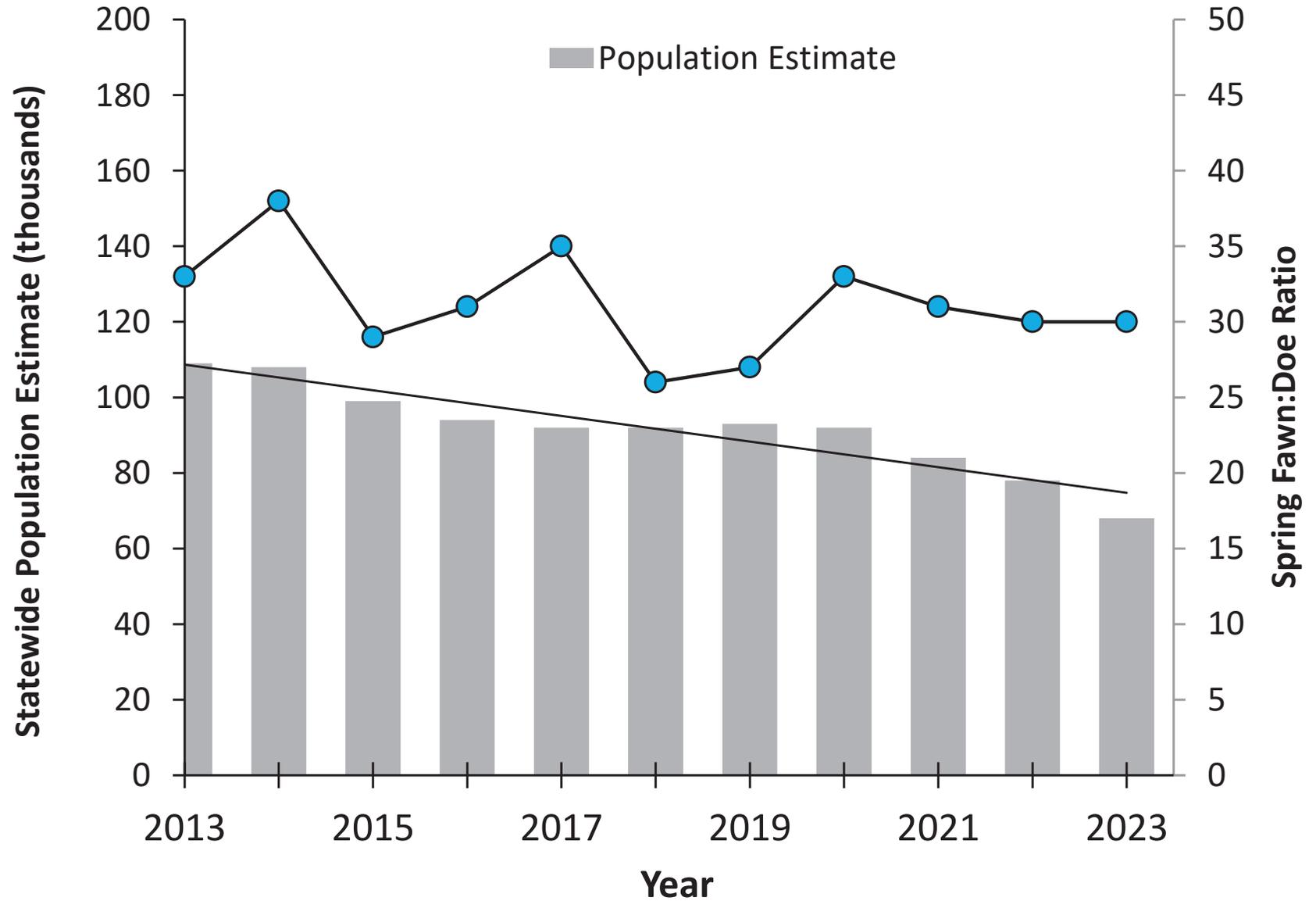Count Data   Telemetry Data   Harvest Data   Environmental Covariates

- Adult Survival
- Juvenile Survival

Currently in Development with State Contract

2023 Mule Deer Population and Spring Fawn Ratio

ASSESSING MULE DEER HARVEST
Fact Sheet #31

BACKGROUND

Mule deer is an iconic species in the western United States, Canada and portions of Mexico. Regulated mule deer harvest is an important tool wildlife managers use to influence deer population size, as well as sex and age structure. At the same time, hunting is a viable recreational activity and a primary objective for management throughout their range.

Mule deer die from a variety of causes including harvest, severe weather, predation, vehicle collision, starvation, disease, etc. Of all causes of mortality, harvest is easiest for managers to control and monitor. Wildlife managers measure and monitor harvest levels to ensure mule deer harvest is consistent with management objectives and ensure over-harvest doesn't occur. Hunter participation, by providing hunting and harvest information, is critical to maintain and enhance mule deer populations and mule deer hunting opportunity.

WHAT HARVEST DATA ARE COLLECTED

Many factors determine hunter success rates, including type of weapon used, season length and timing, hunt location, hunter numbers, and population structure. Wildlife managers need basic information from hunters on several key components of the hunt or harvest to incorporate into future management decisions. Commonly collected information includes: 1) whether a deer was harvested, 2) sex and possibly age class of harvested deer, 3) where it was harvested 4) how many days a person hunted regardless of success, 5) hunting method or weapon type, and 6) hunter satisfaction.

Management agencies usually collect the needed information through harvest surveys. Harvest surveys may also be used to collect other information to assess the social aspects of hunting experiences such as hunter values and expectations, hunt quality, perceptions of hunter crowding, or other issues that may impact hunting experiences.

HARVEST SURVEY METHODS

Most jurisdictions use some combination of 4 primary methods to collect harvest information. All methods rely on hunter participation and response during or following completion of the hunt.

Hunter field checks or check stations have been used for a long time to contact hunters, ensure compliance with hunting regulations and laws, and collect biological information from harvested animals.

Photo: Jim Baichtal

Bucks Don't Have Babies

- Harvest of bucks has very little to do with population size or population dynamics (rate of change) in mule deer

- Females are the reproducing segment of the population and their body condition, and the size and weight of fawns are what drive population dynamics

- That's why recruitment of young, and our Spring surveys and fawn:doe ratios are so important to track;

- Other means to track fawn recruitment include camera studies, radio-collaring and telemetry studies, mark-recapture methods

- Mule Deer Working Group is working on a new Fact Sheet!

Management Objectives: Mule Deer
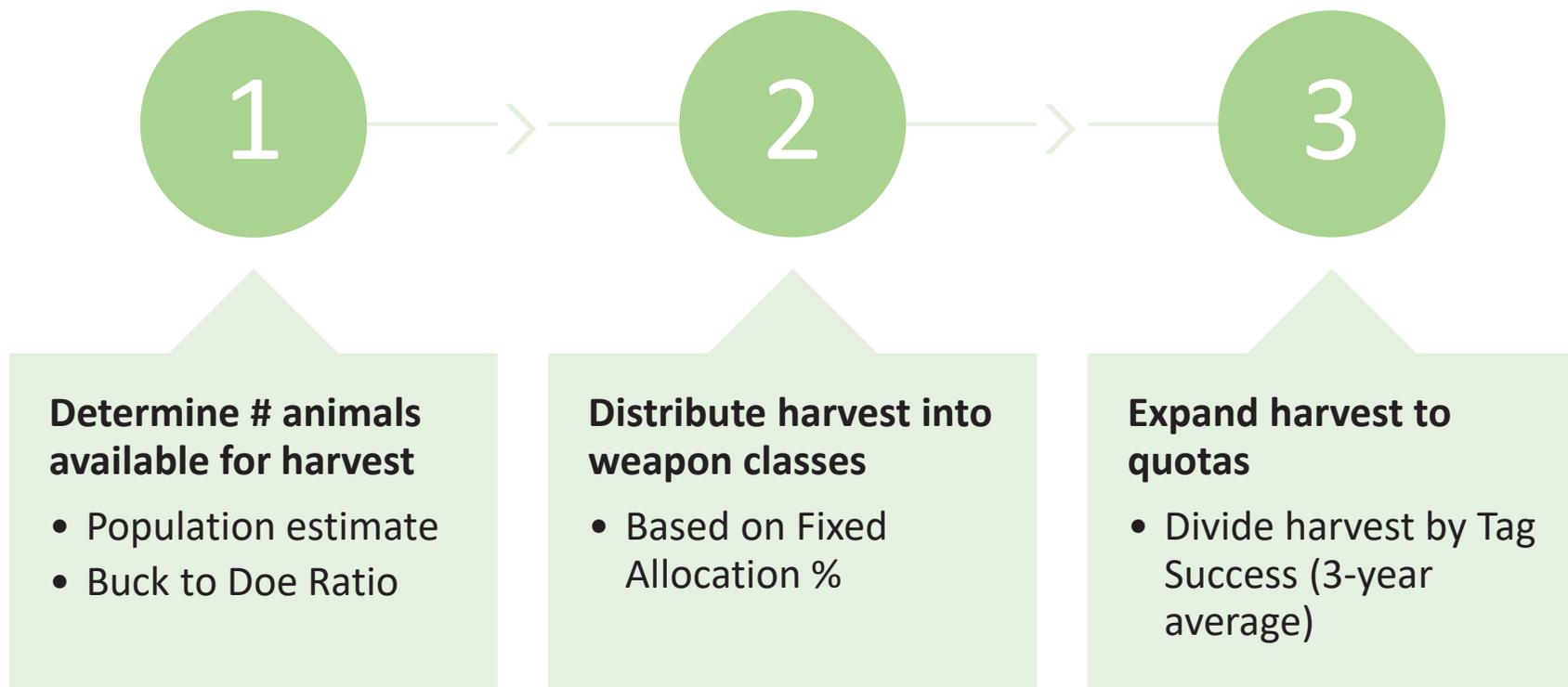
Standard Hunts: 25 – 35 per 100 buck to doe ratio

Alternative Hunts: 30 – 40 per 100 buck to doe ratio
- Hunt Success 40-55%, % 4 point or greater 50-75%
- 8 Unit Groups throughout the state:
  - Western Region: 014, 194-196
  - Eastern Region: 065, 081, 114-115, 131-134
  - Southern Region: 221-223, 241-245

Non-Standard Hunts:
- Hunt Success Objective ≥ 45% for 8 hunt units
- Hunt Success Objective 35% to 45% for 6 hunt units

Quota Development Process:

1

Determine # animals available for harvest

- Population estimate
- Buck to Doe Ratio

2

Distribute harvest into weapon classes

- Based on Fixed Allocation %

3

Expand harvest to quotas

- Divide harvest by Tag Success (3-year average)

Demand:

Definition from Policy 24

Fixed Allocation: *A fixed percentage of desired harvest allocated to any big game species and weapon group.*
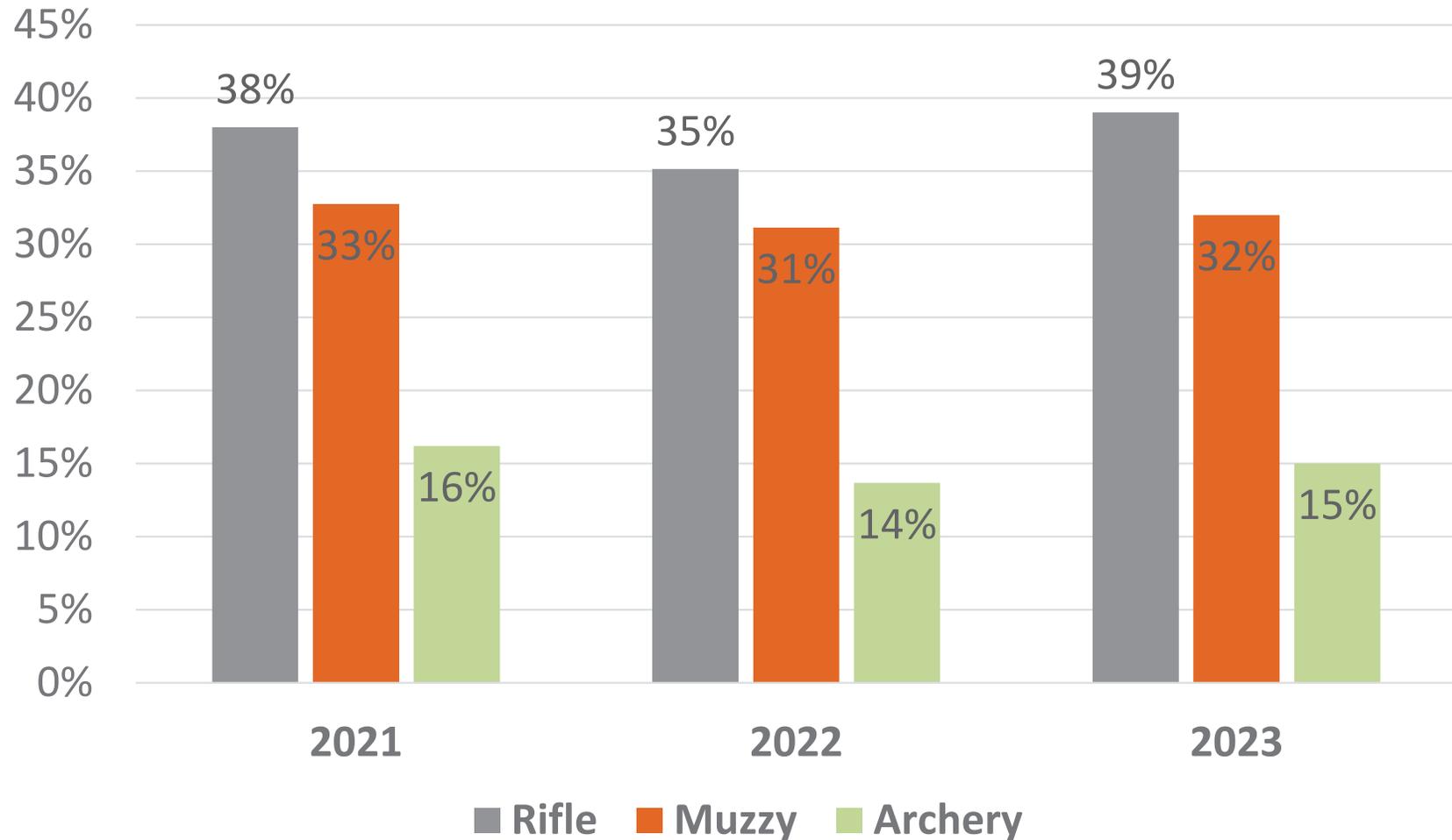
25% Juniors	57% Any Legal Weapon	10% Archery	8% Muzzleloader

Hunt Success:

Statewide Antlered Deer Hunt Success

■ Rifle ■ Muzzy ■ Archery

Allocation of Deer Quotas: Example

Desired Buck Harvest Level   100 Bucks to Harvest

	Weapon Class			
	Junior	Archery	Muzzleloader	Any Legal Weapon
Fixed Demand (%)	25%	10%	8%	57%
	100 x 0.25	*100 x 0.10*	*100 x 0.08*	*100 x 0.57*
Bucks to Harvest	25	10	8	57
Success Rate (%)	63%	20%	36%	40%
	25 / 0.63	*10 / 0.20*	*8 / 0.36*	*57 / 0.40*
Tag Quotas (Projected)	40	50	22	143
Final Quota Recs (rounded)				
Resident (90%)	40	45	20	130
Non-Resident (10%)	NA	5	2	15
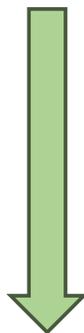
Total Tags = 257

NR Guided Quota Example –

For each Unit or Hunt Unit Group:

((Previous Year Regular NR Tags + Previous Year NR Guided) X 37.5%)
rounded to nearest whole number
171 Early Example (**20 + 10**) x **37.5**% = <mark>11Tags</mark>

Unit Group	2024-2025 Season	2023 NR ALW Tags Issued	2023 NR Guided Tags Issued	2023 NR Tags Combined	Quota Calc	2024-2025 Quota
171 - 173 Early	Oct 5 - Oct 16	20	10	30	30 x 0.375	**11**
171 - 173 Mid	Oct 17 - Oct 30	15	6	21	21 x 0.375	**8**
171 - 173 Late	Oct 31 - Nov 8	2	2	4	4 x 0.375	**2**

The NR Guided Tags are then **subtracted** from the Regular NR Any Legal Weapon quota for the current year when establishing regular quota's
- This also helps ensure we are still meeting the 90% - 10% Split for Residents and Nonresidents overall.

Quota Array Example:

Data from POP MODEL

NR Guided Quotas *Subtracted* from Regular NR Tags Hunt # 1331

2023 MULE DEER QUOTA ARRAY

UNIT GROUP: 171-173 - Northwestern Nye and Southern Lander Counties

PREHUNT ESTIMATE				% YOUTH HARVEST AS DOES				HUNT 1235 Early	HUNT 1235 Mid	HUNT 1235 Late
ADULT BUCKS	ADULT DOES	BUCK RATIO								
1012	2219	46						11	8	2
TOTAL	3231									

RATE OF DOE HARVEST	DESIRED DOE HARVEST	HUNT 1181 QUOTA		FIXED DEMAND			THREE YEAR AVERAGE HUNTER SUCCESS RATES				Antlerless HUNTER SUCCESS
				RIFLE	MUZZL.	ARCH.	YOUTH	RIFLE	MUZZL.	ARCH.	
0%	0	0		57.0%	8.0%	10.0%	52.0%	23.0%	18.6%	10.0%	

POST HUNT BUCK RATIO OBJ.	DESIRED BUCK HARVEST	REPRTD. BUCK HARVEST	Reported YOUTH BUCK HARVEST	HUNT 1331 RES. RIFLE QUOTA	HUNT 1371 RES. MUZZL. QUOTA	HUNT 1341 RES. ARCH. QUOTA	HUNT 1107 RES. QUOTA	HUNT 1331 NR. RIFLE QUOTA	HUNT 1371 NR. MUZZL. QUOTA	HUNT 1341 NR. ARCH. QUOTA	RES. TOTAL QUOTA	NR TOTAL QUOTA
30	346	288	72	644	112	259	138	51	12	26	1153	100

HUNT # 1331

Season	% Split	Estimated % Success	Resident Tags	Nonres Tags
EARLY	50.0%	23%	322	25
MID	38.0%	25%	227	17
LATE	12%	45%	40	2

Resident 90%
Nonresident 10%

Mule Deer Quota Recommendation Form

| Unit Group: | 101-109 | | Date Prepared: | 4/12/2023 |

Herd Results

Year	Fall Survey			Total	Spring Survey		Total	Postseason Ratios (observed)			Spring Ratio (obs)	Modeled Buck Ratio		Pop Est (Sept)
	Buck	Doe	Fawn		Adult	Fawn		Buck	Fawn	F:Ad	F:Ad	Postseas	Preseas	
2020-2021	536	1,629	868	3,033	4,259	1,482	5,741	33	53	40	35	35	48	13,000
2021-2022				0	4,616	1,596	6,212	--	--	--	35	36	48	13,500
2022-2023	1,084	3,309	1,934	6,327	5,015	1,185	6,200	33	58	44	24	36	38	10,800

Harvest Results

| Year	Archery Success (%)		Muzzloader Success (%)	Any-Legal-Weapon Success (%)			Avg. Age	4-Pt or Greater (%)	Total Antlerless Harvest	NR Guided Success (%)	Junior Success (%)	Comp Tag Success (%)
	E	L		E	M	L						
2020-2021	13%	32%	31%	20%	21%	51%		36%	160	57%	49%	53%
2021-2022	13%	25%	15%	28%	30%	59%		32%	156	49%	48	78%
2021-2023	10%	20%	26%	25%	27%	43%		26%	111	64%	51	93%

Approved (Previous Year) and Recommended (Current Year) Tag Quota

Year	Archery Hunt		Muzzleloader Hunt		Early ALW Hunt		Mid ALW Hunt		Late ALW Hunt		Antlerless Hunt	Junior Hunt	NR Guided Hunt	Comp Tags
	RES	NR	RES	NR	RES	NR	RES	NR	RES	NR	RES	RES		
2021-2022	500, 20	50, 2	80	9	850	65	850	65	150	10	160	490	25,27,6	32
2022-2023	690, 30	70, 3	220	16	1,050	75	1,050	65	180	10	50	600	28,35,6	19
2023-2024	475, 20	50, 2	75	8	450	8	450	11	100	5	15	400	41,38,6	
Tag Trend	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	DEC	INC	DEC

Quota Rationale

The winter of 2022-2023 was exceptional in duration, the low average temp, and the snowpack received. The winter resulted in over 50% fawn loss, as well as significant adult loss. From January 1st-April 10th, 26% of the collared adult female deer died. The full effects of this winter have not been fully realized, so the proposed quotas are building in moderate conservatism. At winters conclusion, if the winterkill is less than projected it can easily be addressed with future quota recs. 5 of the 6 lowest annual antlered deer harvests since 1976 have all taken place in the last 6 years, including 2022. The current proposed antlered deer quotas are targeting a post-season ratio of 32 bucks:100 does.

Public Process
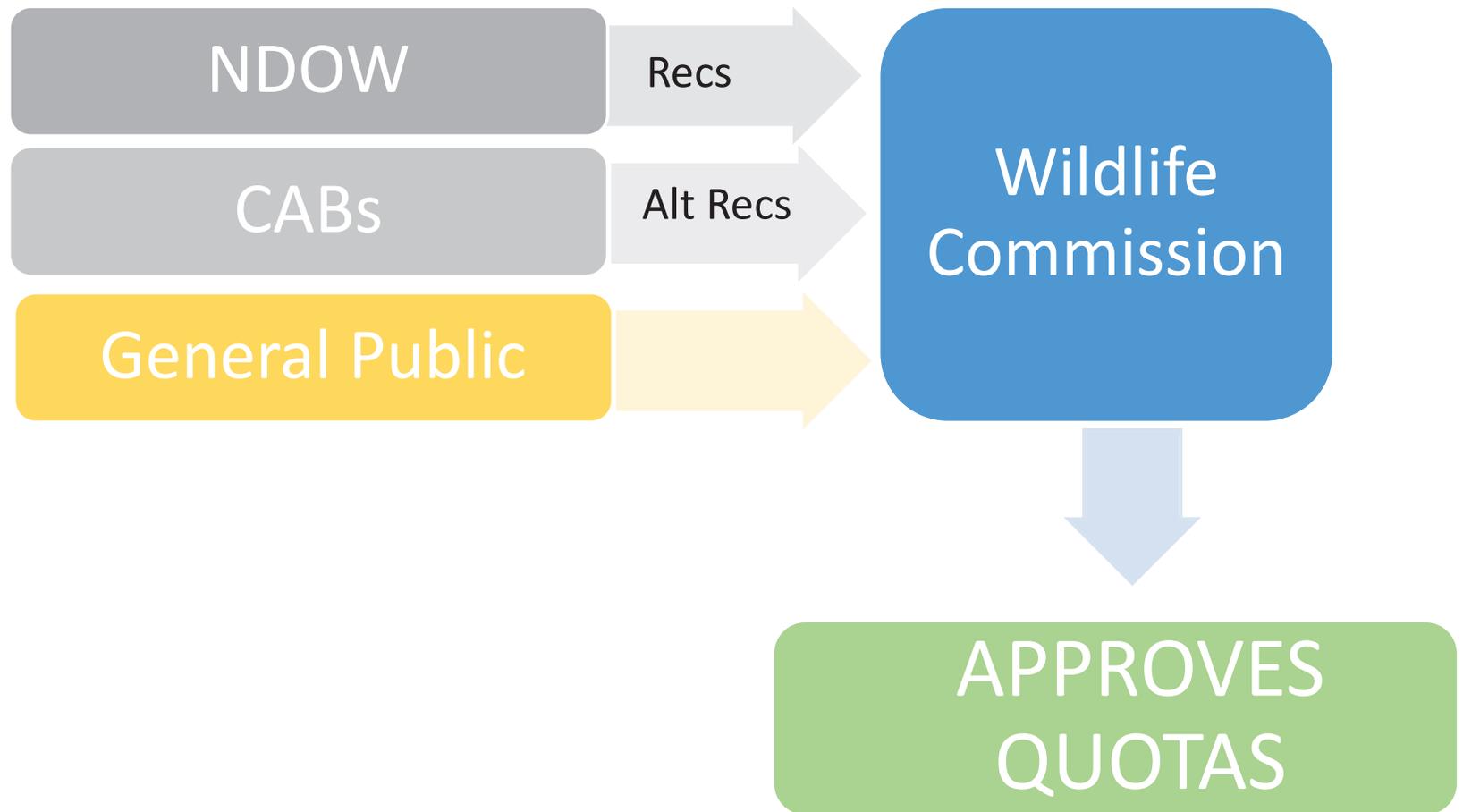
Public Review and Wildlife Commission Process

o NDOW posts official quota recommendations in late April

o County Advisory Boards (CABs) receive NDOW quota recommendations

o CABs hold public meetings to discuss quota recommendations

o Nevada Board of Wildlife Commission meeting in May to approve NDOW's quota recommendations

o NDOW, General public and CAB's provide input

o Commission makes final decision on tag quotas

https://storymaps.arcgis.com/stories/b793ab7324db46d1a3d6a2b419a2f776

Summary

- Population estimate based on models
- Quota process is a 3-step process
- Quota array based on demand/success
- Demand (Fixed Allocation, Policy 24)
- Hunt success (3-year avg)
- Public process involving NDOW, CABs, Wildlife Commission, public at large