

Student Pages: Nevada Bighorn Sheep: On the Edge?

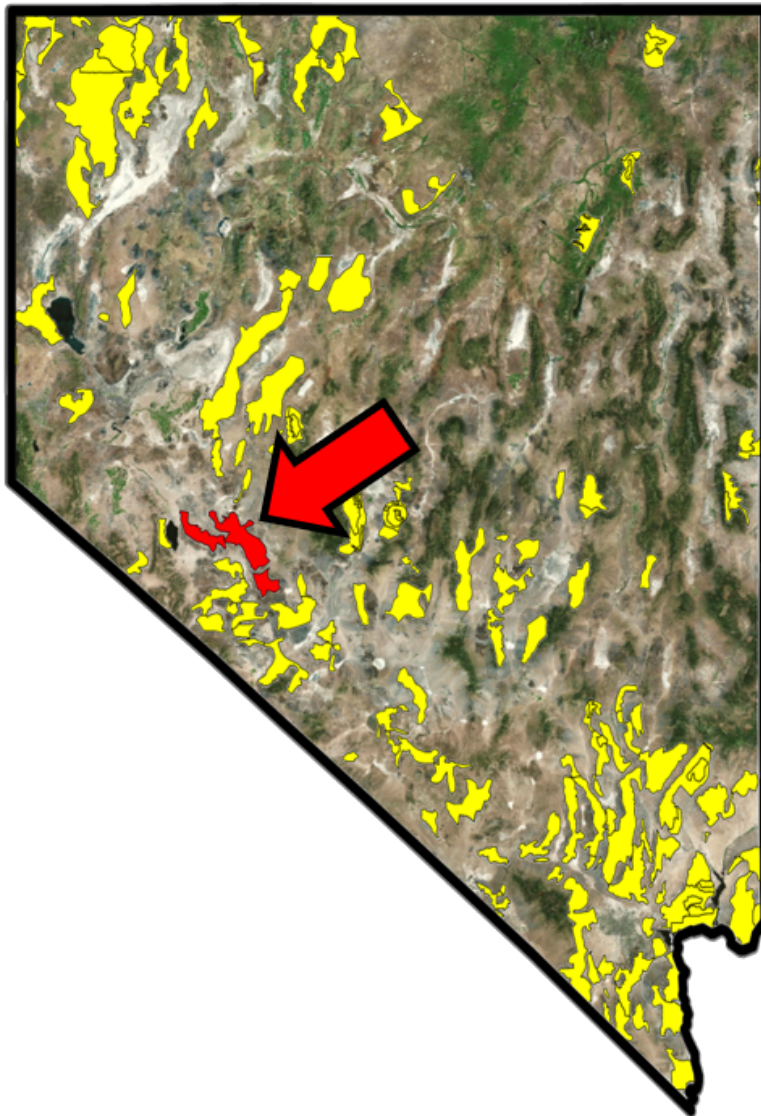
Team 3 Your bighorn sheep herd name is GABBS/GILLIS VALLEY RANGE HERD

Instructions for this Activity

You should be in one of 6 teams. Individually, read through the Background Information thoroughly, calculate the missing data in the Table 1-3, and create your graph. Then, work as a team to answer the questions and create a list of factors (things) that affect the conservation of your bighorn sheep herd. Then, as a team create a presentation that you will give to the rest of the class. At the end of these Student Pages, you will find a list of things you should include in your presentation.

BACKGROUND INFORMATION

The Gabbs/Gillis Valley Range Herd is located southeast of Carson City, Nevada and occupies about 280,195 acres.



Bighorn Sheep Subspecies

The subspecies of bighorn sheep in the Gabbs/Gillis Valley Range Herd is the desert bighorn sheep.

History and Habitat

The Gabbs/Gillis Valley Range Herd was re-established during 1988-1993 when 57 bighorn sheep were translocated to this area → 29 of the 57 wild bighorns translocated to the Gabbs/Gillis Valley Range Herd came from the Muddy and Black Mountains Herd. In 1998, another 21 bighorn sheep were translocated to the Gabbs/Gillis Valley Range area, the wild bighorns came from other wild bighorn sheep herds in Nevada. To supplement this herd, another 21 bighorns were translocated to the Gabbs/Gillis Valley Range Herd in 1998.

Since 1994, this bighorn sheep herd has sometimes served as a source stock, which means that biologists trap wild bighorn sheep FROM the Gabbs/Gillis Valley Range Herd and translocate them TO other wild bighorn sheep herds.

The habitat in the Gabbs/Gillis Valley Range area is primarily dominated by sagebrush and scattered pinyon pine at higher elevations. At mid to lower elevations, the dominant plant species are spiny hopsage, saltbrush, and shadescale, with an understory of some perennial grasses like Indian rice grass, Galleta grass, and desert needle grass.

Water availability in the Gabbs/Gillis Valley Range area include several seeps and springs, but some are unreliable in the heat of the summer and others are not well distributed in the steep and rugged habitat that bighorn sheep prefer. Ten water developments (guzzlers) were built to augment the natural distribution of springs to help provide water for bighorn sheep during the summer months. Bighorn sheep are dependent on these guzzlers from April-October each year.

Wild Bighorn Sheep Translocation Program in Nevada

As of February 2019, Nevada biologists have translocated 3,380 bighorn sheep in Nevada!

The following wild bighorn sheep were translocated INTO the Gabbs/Gillis Valley Range Herd:

1988 - 22 bighorns, came from a different Nevada bighorn sheep herd
1989 - 3 bighorns, came from a different Nevada bighorn sheep herd
1990 - 12 bighorns, came from the Muddys and Black Mountains Herd in Nevada
1993 - 17 bighorns, came from the Muddys and Black Mountains Herd in Nevada
1993 - 3 bighorns, came from a different bighorn sheep herd in Nevada
1998 - 21 bighorns, came from a different bighorn sheep herd in Nevada

The following wild bighorn sheep were trapped FROM the Gabbs/Gillis Valley Range Herd and translocated INTO other wild bighorn sheep herds:

1994 - 1 bighorn trapped from Gabbs/Gillis Range Herd and translocated to a different NV bighorn herd

1998 - 20 bighorns trapped from Gabbs/Gillis Range Herd and translocated to a different TX bighorn herd

2001 - 22 bighorns trapped from Gabbs/Gillis Range Herd and translocated to a different NV bighorn herd

2015 - 15 bighorns trapped from Gabbs/Gillis Range Herd and translocated to a different NV bighorn herd

Factors Affecting the Conservation of the Gabbs/Gillis Valley Range Herd

The primary factor affecting this herd is competition with an excessive number of feral horses. There are over 700 feral horses that live in the Gabbs/Gillis Valley Range area! Feral horses compete with wild bighorns for water at springs and seeps. Sometimes feral horse studs are unwilling to allow bighorn sheep to drink from springs. Bighorn sheep are very timid and noncombative, so they simply quit going to a spring if a feral horse is consistently defending it.

To a much lesser degree, some predators also affect this herd. Predators include mountain lions, bobcats, and coyotes.

Graph It!

Using Table 1-3 on the following page, do the following:

1. Calculate the **Total Number of Bighorn Sheep Each Year** (HINT: add the Number of EWES yearlings, Number of RAMS yearlings, Number of EWES 2+ years old, and the Number of RAMS 2+ years old) for each year and put the answers in the column marked **Total Number of Bighorn Sheep Each Year** (the yellow shaded column).
2. After you have filled in all the missing data, create a graph showing the **Total Number of Bighorn Sheep Each Year**. Put **Year** on the x-axis and **Total Number of Bighorn Sheep Each Year** on the y-axis.

Table 1-3. Annual Population Estimate of Bighorn Sheep in the Gabbs/Gillis Valley Range Herd, for Years 1984-2018

YEAR	Number of EWES Yearlings	Number of RAMS Yearlings	Number of EWES 2+ years old	Number of RAMS 2+ years old	Total Number of Bighorn Sheep Each Year
1984	3	1	13	4	21
1985	5	4	15	5	
1986	5	4	18	9	
1987	5	5	20	12	
1988	4	4	38	16	
1989	5	8	36	23	
1990	6	8	42	30	
1991	10	10	44	32	
1992	7	7	50	34	
1993	14	14	62	34	
1994	21	22	69	35	
1995	23	22	81	44	
1996	28	27	94	52	
1997	16	15	110	61	
1998	24	23	112	62	
1999	31	28	120	69	
2000	25	24	135	76	
2001	25	24	144	80	
2002	32	31	132	83	
2003	19	20	145	90	
2004	29	29	143	86	
2005	36	36	148	93	
2006	36	38	161	104	
2007	40	40	167	115	
2008	40	42	177	126	
2009	39	40	186	136	
2010	48	49	197	146	
2011	54	55	216	157	
2012	48	49	237	173	
2013	53	54	255	175	
2014	67	67	275	185	
2015	45	45	304	206	
2016	66	66	295	204	
2017	73	74	321	213	
2018	78	78	350	220	

QUESTIONS (answer as a group):

1. How many bighorns have been translocated TO the Gabbs/Gillis Valley Range Herd between 1988-1993?

2. How many wild bighorns have been trapped FROM the Muddys and Black Mountains Herd and translocated TO the Gabbs/Gillis Valley Range Herd?

3. How many sheep have been trapped FROM the Gabbs/Gillis Valley Range Herd and translocated TO other wild bighorn sheep herds?

4. Based on the population data you graphed, do you think the efforts to re-establish this herd have been successful? Why or why not?

5. How many water guzzlers have been created in the Gabbs/Gillis Valley Range area? Why is it important to create water guzzlers for bighorn sheep?

6. Feral horses are beautiful and majestic animals, but do you think really LARGE herds of non-native feral horses belong on habitats that support native wildlife species like wild bighorn sheep? Why or why not?

INSTRUCTIONS FOR CREATING YOUR PRESENTATION

Work as a team to put together a presentation that you will give to the rest of the class. Your presentation should include at least the following:

- 1) the subspecies of bighorn sheep in your herd
- 2) where your bighorn sheep herd lives
- 3) brief background information about the history of this herd and its habitat
- 4) the graph you created
- 5) information about how many wild bighorns were translocated TO the Gabbs/Gillis Valley Range Herd between 1988-1993. Include information about how many of these bighorns came FROM the Muddys and Black Mountains Herd in Nevada.
- 6) information about how many wild bighorn sheep have been trapped from the Gabbs/Gillis Valley Range Herd and translocated to other wild herds
- 7) information about how feral horses compete for resources with wild bighorn sheep
- 8) a list of factors affecting the conservation of this herd
- 9) include photos of the Gabbs/Gillis Valley Range area, provided below

Photos of the Gabbs/Gillis Valley Range area provided by Mike Cox, Nevada Department of Wildlife:





