

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Winnemucca Field Office  
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To: NV-020, Wild Horse & Burro HMA (Augusta, N. Stillwater, Tobin) Files  
From: Glenna Eckel, Wild Horse & Burro Specialist  
Subject: Augusta Complex Census  
Date: October 12, 2007

On September 7 thru 9, 2007 a census flight was completed in the Tobin Range, N. Stillwater, and Augusta Mountains HMAs, the Augusta Mountains HA, the southern portion of the Sonoma Range HA, and applicable outside areas (wild horses observed or reported) for a comprehensive look at wild horse populations within the complex area.

Company: El Aero Services, Elko, NV

Pilot: Ted McBride

Helicopter: A Bell 206B III (9/7) and a substitute Bell 206L III (9/8-9)

Observers: 9/7-8, Glenna Eckel (WHB Specialist), John Axtell (WHB Specialist); 9/9, Glenna Eckel, Aaron Collins (Wilderness Specialist)

The areas were flown in a modified grid pattern (generally one mile) utilizing topography and barriers (canyons, fences, etc) when possible. The flight path was adjusted as necessary to account for topography, horse movement, and environmental conditions. Also, some areas were omitted due to lack of horse evidence or low habitat potential (current drought situation).

The pilot operated an on-board GPS mapping system (AGNAV) to track both the flight path and horse observation locations (GPS waypoints) both on-screen during the flight and to provide a final end product (GIS shapefiles). For each wild horse observation (usually by band or groups if animals were too close together to discern bands) a waypoint was marked and the adult/foal count tallied on a log sheet for each census block (day). Observation data included band size, adult/foal count and may have included color, body condition, and/or other information to ensure double-counting did not occur. The WFO wild horse & burro specialist participated in all flights and made the final count calls (# of animals, adult/foal count) on observations by all parties.

The attached maps depict the AGNAV GPS flight paths and GPS waypoint locations of wild horses observed, recorded as adults/foals. Wild cattle were also marked on the Fish Creek Mtns (Augusta HA) for ranch manager Shawn Goemmer.

A total of 16.2 hours were flown over a 4 day period, which included ferry time (Table 1). The flight had to be scheduled 30 days in advance and during the weekend to minimize conflicts with military operations in the area.



**Table 1. Flight dates, areas flown and flight time for each day.**

Date	Flight Areas Covered	Ferry Hours	Flight	Census Hours	Flight	Total Hours	Flight
September 6	Elko -Wmca airport	0.9		0.0		0.9	
September 7	Tobin HMA, Sonoma HA (portion), Buffalo Mtn (outside)	0.1		5.0		5.1	
September 8	East Range HA (portion), N. Stillwater HMA	0.1		4.0		4.1	
September 9	Augusta Mtns HA & HMA	0.2		5.0		5.2	
September 9	McCoy Substation-Elko	0.9		0.0		0.9	
<b>Totals</b>		<b>2.2</b>		<b>14.0</b>		<b>16.2</b>	

Daytime temperatures were unseasonably hot at 80-90 degrees. The weather was clear, calm and sunny, with some haze due to fires in California, which reduced visibility slightly. Overall light conditions were good.

The following census results in Table 2 are presented in alphabetical order by census block versus by date. Maps by census block are attached.

**Table 2. Census Results.**

HA/HMA	Allotment	Inside HA/HMA			Outside HA/HMA			Total Count			Foal/Adult
		Adult	Foal	Total	Adult	Foal	Total	Adult	Foal	Total	
<b>Augusta Mtns HA</b>	Buffalo Valley*	22	10	32	0			22	10	32	45%
Augusta Mtns HA Total		22	10	32	0	0	0	22	10	32	45%
<b>Augusta Mtns HMA (aml=185-308)</b>	Cottonwood* (aml=20-33)	89	29	118	0			89	29	118	33%
	Hole-in-the-Wall (aml=42-71)	143	31	174	0			143	31	174	22%
	Home Station Gap (aml=34-56)	30	11	41	0			31	11	41	35%
	Jersey Valley (aml=89-148)	40	9	49	0			40	9	49	23%
Augusta Mtns HMA Total		302	80	382	0	0	0	302	80	382	21%
<b>Augusta Mtns Census Block Totals</b>		<b>324</b>	<b>90</b>	<b>414</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>324</b>	<b>90</b>	<b>414</b>	<b>28%</b>



HA/HMA	Allotment	Inside HA/HMA			Outside HA/HMA			Total Count			Foal/ Adult
<b>North Stillwater HMA</b> (aml=138-205)	Boyer Ranch** (aml=10)	0	0	0	0			0	0	0	na
	Copper Kettle** (aml=49)	26	6	32	8	2	10	34	8	42	24%
	Cottonwood Canyon** (aml=0)	6	0	6	0			6	0	6	0%
	Pleasant Valley (aml=0)	63	11	74	0			63	11	74	17%
	South Buffalo* (aml=9-20)	19	6	25	0			19	6	25	32%
	South Rochester (aml=70-126)	196	44	239	Note: including 1 burro			196	44	239	23%
<b>North Stillwater Census Block &amp; HMA Totals</b>		<b>310</b>	<b>67</b>	<b>377</b>	<b>8</b>	<b>2</b>	<b>10</b>	<b>318</b>	<b>69</b>	<b>387</b>	<b>18%</b>
HA/HMA	Allotment	Inside HA/HMA			Outside HA/HMA			Total Count			Foal/ Adult
<b>Sonoma Range HA (portion)</b>	Pumpemickel	63	17	80	0			63	17	80	27%
<b>Sonoma Range HA Total</b>		<b>63</b>	<b>17</b>	<b>80</b>	<b>0</b>			<b>63</b>	<b>17</b>	<b>80</b>	<b>27%</b>
<b>Tobin Range HMA (aml=22-42)</b>	Pleasant Valley (aml=0)	13	0	13	These 13 are private horses - Takacs			13	0	13	na
	Pumpemickel (aml=13-17)	104	24	128	16	3	19	120	27	147	23%
	South Buffalo (aml=9-25)	3	0	3	39	5	44	42	5	47	12%
<b>Tobin Range HMA Total</b>		<b>120</b>	<b>24</b>	<b>144</b>	<b>55</b>	<b>8</b>	<b>63</b>	<b>175</b>	<b>32</b>	<b>207</b>	<b>18%</b>
<b>Tobin Range Census Block Totals</b>		<b>183</b>	<b>41</b>	<b>224</b>	<b>55</b>	<b>8</b>	<b>63</b>	<b>238</b>	<b>49</b>	<b>287</b>	<b>21%</b>

\* Administered by the BLM, Battle Mtn Field Office; \*\* Administered by the BLM, Carson City Field Office

## AUGUSTA CENSUS BLOCK DETAILS

### Augusta Mountains HA

In September 2007, a total of 32 horses were observed in the HA. The pre-census population estimate for this HA located in the Fish Creek Mountains and just north of the Augusta Mountains HMA was 29 wild horses. This estimate was based on a September 2005 census conducted by the Battle Mountain Field Office with a yearly increase of 20%.



Fish Creek Mountain forage and water resources looked to be in the best condition with only one adult/foal pair observed on the ridge north of Cedar Canyon (permittee says allotment fence is down in areas on the mountain). Ninety-one cattle were counted on the mountain within the Buffalo Valley allotment, others were observed on the valley bottoms, but were not counted. Nine bighorn sheep were observed near the radio towers.

No bands were spotted in Fish Creek Basin, however, trailing suggests the 30 wild horses observed on the juniper-covered tables to the north are watering there. Wild horses here are in good condition and colors resemble horses in the north Tobin Range HMA – frosted appaloosa, sorrel or black. Horses did not run from the helicopter.

### **Augusta Mountains HMA**

Note: There are no interior fences which separate Home Station Gap, Jersey Valley, and Hole-in-the-Wall Allotments, but Buffalo Valley and Cottonwood allotment exteriors are fenced.

In September 2007, a total of 382 horses were observed in the HMA. Numerous bands were observed in the Cottonwood and Home Station Gap Allotments in the BMFO (northeast section) of the HMA. Adults per band ranged from three to fourteen, with four to seven adults most common. Foal to adult percentages calculated at 33 and 35 percent. I suspect horses in Home Station Gap (41 head) are inter-mixing with Cottonwood horses (118 head) based on a comparison of July 2007 estimates (44 and 94 head, respectively) with September 2007 census counts. Twenty-one more horses than estimated were counted. High AML is 33 for Cottonwood and 46 for Home Station. Bands seemed in good to fair condition with a few very young foals present. Water was present in upper Home Station Wash, Hess Spring, Cottonwood Creek, and at a water development just south of the Home Station cattleguard. No horses were observed within the Paris (2007), Cain (2007), or Cottonwood Fire (2006) areas within the allotments/HMA.

Only three bands were observed in the northern half of Jersey Valley. They were in very steep canyons accessing very limited waters. Body condition was fair. Foals were few compared to adults present (18/3, 11/3, 6/1). Permittees have reported lion kills throughout the HMA.

The remaining horses (181 head) within the HMA were observed south of the old Kelly Ranch in the Hole-in-the-Wall allotment. All of these horses water at the string of small springs along the main road to Hyder Hot Springs (very hot, little horse use). Band groups were smaller, but closer together, thus some results are grouped bands. Foal to adult percentages calculated at 23 percent, similar to the horses in Jersey Valley. Comparison of July 2007 estimates (67 and 146 head, respectively) with the September 2007 census counts suggest horses mixing. Ten more horses than estimated were counted. High AML is 71 for Hole-in-the-Wall and 148 for Jersey Valley. Bands seemed in fair to poor condition with a few very young foals present. An older dun foal was photographed dragging a rope around it's neck. A sorrel horse with a green halter and a black horse freeze-branded X on the left hip were observed. No horses were seen in the Cain (2007), Stremmler (2006), or Storm Cloud Fire (2006) areas within the allotments/HMA, but some trailing was evident in these areas. Much of the burned area is winter horse habitat.

The south and west sides of the Hole-in-the-Wall allotment fence was flown. The fence was weak along a section in the south middle (see map). Some movement of horses may occur with Clan Alpine bands.

Horse colors throughout the HMA included a few striking overo pintos, buttermilk buckskins, line-back and red duns, grullas, and blacks. Common colors included bay, brown and sorrel with minimal white. All bands except two very poor studs (near the springs) ran from the helicopter. Based on lack of water, low frequency of perennial grasses, drought trend, and current fire



frequencies, horse habitat needs to be re-evaluated and AML reduced throughout this HMA. Pilot and passengers fell the census results are highly accurate despite the movement of horses.

## **NORTH STILLWATER CENSUS BLOCK DETAILS**

### **North Stillwater HMA**

In September 2007, a total of 387 horses were observed inside and outside this HMA. The majority of wild horses observations (338 head) occurred in the north portion of the HMA in the Pleasant Valley (74 head), South Buffalo (25 head) and South Rochester (239 head) Allotments. Horses in these two areas tend to form very large herds (50-200 animals) and are composed of many smaller bands that stay in very close proximity to each other. It is also thought that horses move east/west over the north Stillwater range near Grayson Spring between these two areas. Water in the northeast portion is limited to two small springs while water in the northwest portion has numerous small perennial streams. Horses (48 head) observed in the southern portion of the HMA ranged from several lone animals to a band size of 17/4. Foal to adult percentages throughout the HMA ranged between 17 and 32 percent, averaging 18% overall.

Fifty seven fewer horses than estimated (July 2007) were counted. Much of this HMA is covered with dense stands of pinyon and juniper. Horses could have been missed in the aerial census or they could have moved miles away in search of forage/water as fencing is minimal. Bands seemed in good to fair condition and foals were older. Limited water was available in the southern portion at Copper Kettle creek and a small spring.

Observations revealed very few horses in and little evidence of horses using areas of the HMA with tree cover. Permittees have reported occasional lion kills which might be why horses stay away out of the tree canopy. Horse colors throughout the HMA are common, including: bay, brown, black, sorrel, and chestnut. White marking are generally minimal. All bands ran from the helicopter. Pilot and passengers fell the census results are highly accurate for the area flown despite the movement and close proximity of horses.

## **TOBIN RANGE CENSUS BLOCK DETAILS**

### **Sonoma Range HA**

A total of 80 horses were observed in this area, but because are part of the Tobin herd, they will be included and discussed with the Tobin Range HMA horses below. There is no fence to separate the Sonoma Range HA from the Tobin Range HMA in the Pumpernickel Allotment. Horses use the Smeltzer Pass area between Buffalo Mountain and China basin on the North Tobins in the summer and often move west into the low hills just east of Grass Valley road (Sonoma Range HA/Clear Creek Allotment) in the winter.

### **Tobin Range HMA**

In September 2007, a total of 287 horses were observed inside and outside this HMA and within portions of the Sonoma Range HA. The majority of wild horses observations (227 head) occurred in the Pumpernickle Allotment with almost all horses outside the HMA boundary (unfenced). This is historically typical for this HMA. Bands ranged in size from 2/1 to 17/3 with most bands somewhere in the middle of the range. Again, horses in this area tend to stay in fairly close proximity to each other whether because of preferred habitat or social nature. China Creek and two large reservoirs (outside the HMA) in the area provide ample water. Plant communities at lower elevations have converted to cheatgrass and other annuals due to numerous wildfires, but native vegetation is available at higher elevations. Again most of the habitat occupied by the horses is outside the HMA. Foal to adult percentages throughout the HMA ranged between 12 and 27 percent, averaging 21% overall.



Fifty five more horses than estimated (July 2007) were counted. However, previous ground observations for the Sonoma HA were dropped instead of added to the Tobin HMA populations (thought to be double-counts). This census covered both areas for a comprehensive count.

Only 47 horses were observed in the southeast portion of the HMA and all but three animals were outside the HMA boundary. Horses here resemble the Augusta Mountains HMA herds and probably are associated with seasonal movements. Reports of 100 plus horses seen in Jersey Valley have been reported during winter months. Horses to the north are of different color and separated from the south by numerous fences. Thirteen horses observed in the middle of the HMA are confirmed as private horses (Gary Takacs). Historically, few wild horses have been reported within the HMA boundary as supported by this census.

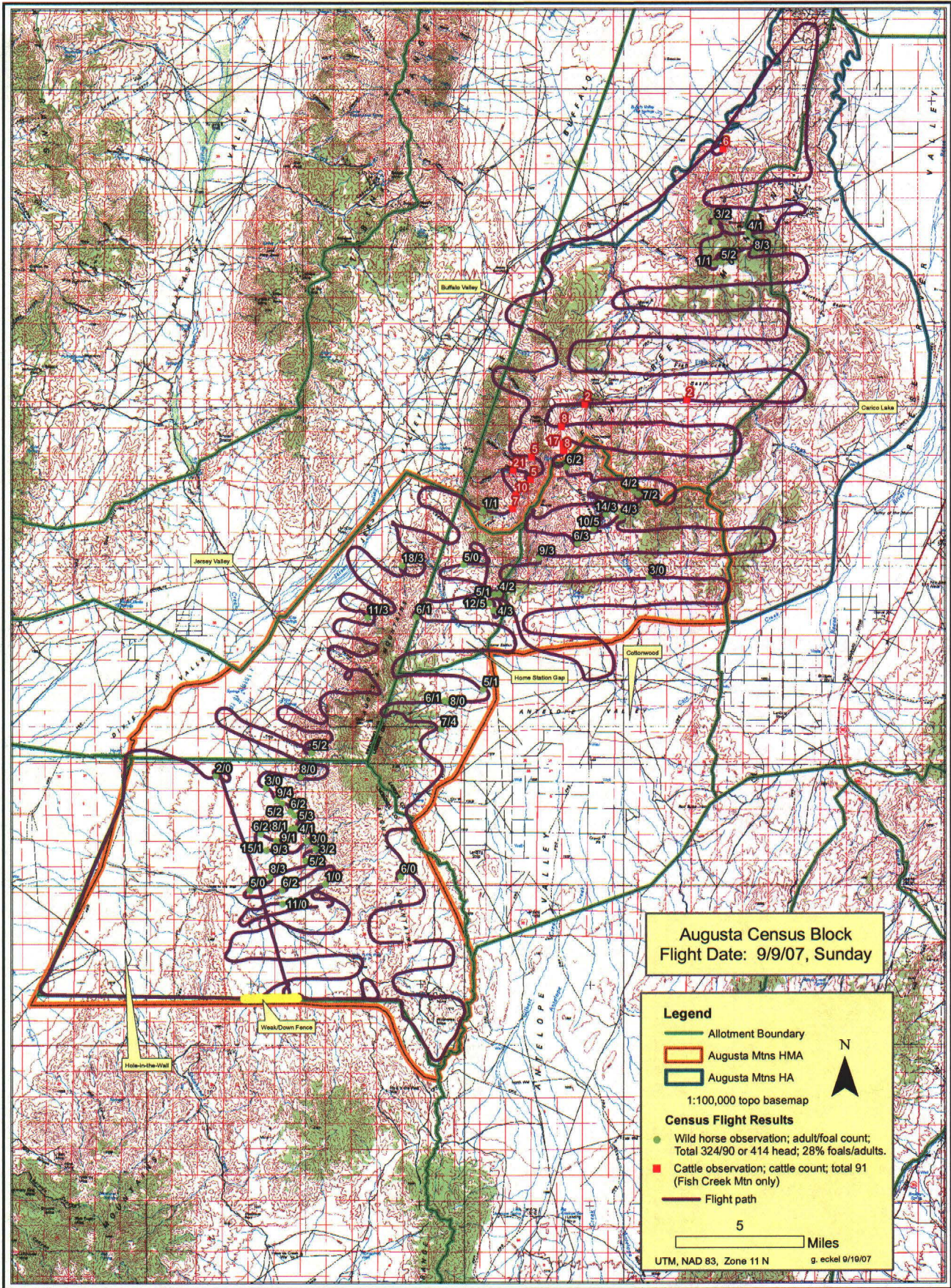
Horse colors in the north section of the HMA included numerous frosted appaloosa coat colors and blankets. Other horses were sorrel or black with few white markings. One brown/bay mule with a leather halter was observed. Horse colors in the south were more like the Augusta Mountain horses with common colors and a few diluted colors present. Pilot and passengers fell no double-count occurred although bands were in the north section were in close proximity to each other.

### **COST ANALYSIS**

Actual cost to conduct the census (NV-022-07-1060-MC) is shown below:

Flight time:	16.2 hrs @ \$770.00/hr	= 12,474.00
Fuel truck mileage:	782 miles @ 1.40/mile	= 1,094.80
Per diem:	3 man nights @ 99/nite	= 297.00
AGNAV (GPS system)	3 days @ 225/day	= 675.00
	Total	<u>\$14,540.80</u>





Augusta Census Block  
 Flight Date: 9/9/07, Sunday

- Legend**
- Allotment Boundary
  - Augusta Mtns HMA
  - Augusta Mtns HA
- 1:100,000 topo basemap
- Census Flight Results**
- Wild horse observation; adult/foal count; Total 324/90 or 414 head; 28% foals/adults.
  - Cattle observation; cattle count; total 91 (Fish Creek Mtn only)
  - Flight path

5 Miles

UTM, NAD 83, Zone 11 N g. eckel 9/10/07



**North Stillwater Census Block**  
**Flight Date: 9/8/07, Saturday**

**Legend**

- Allotment Boundary
- North Stillwater HMA
- East Range HA

1:100,000 topo basemap

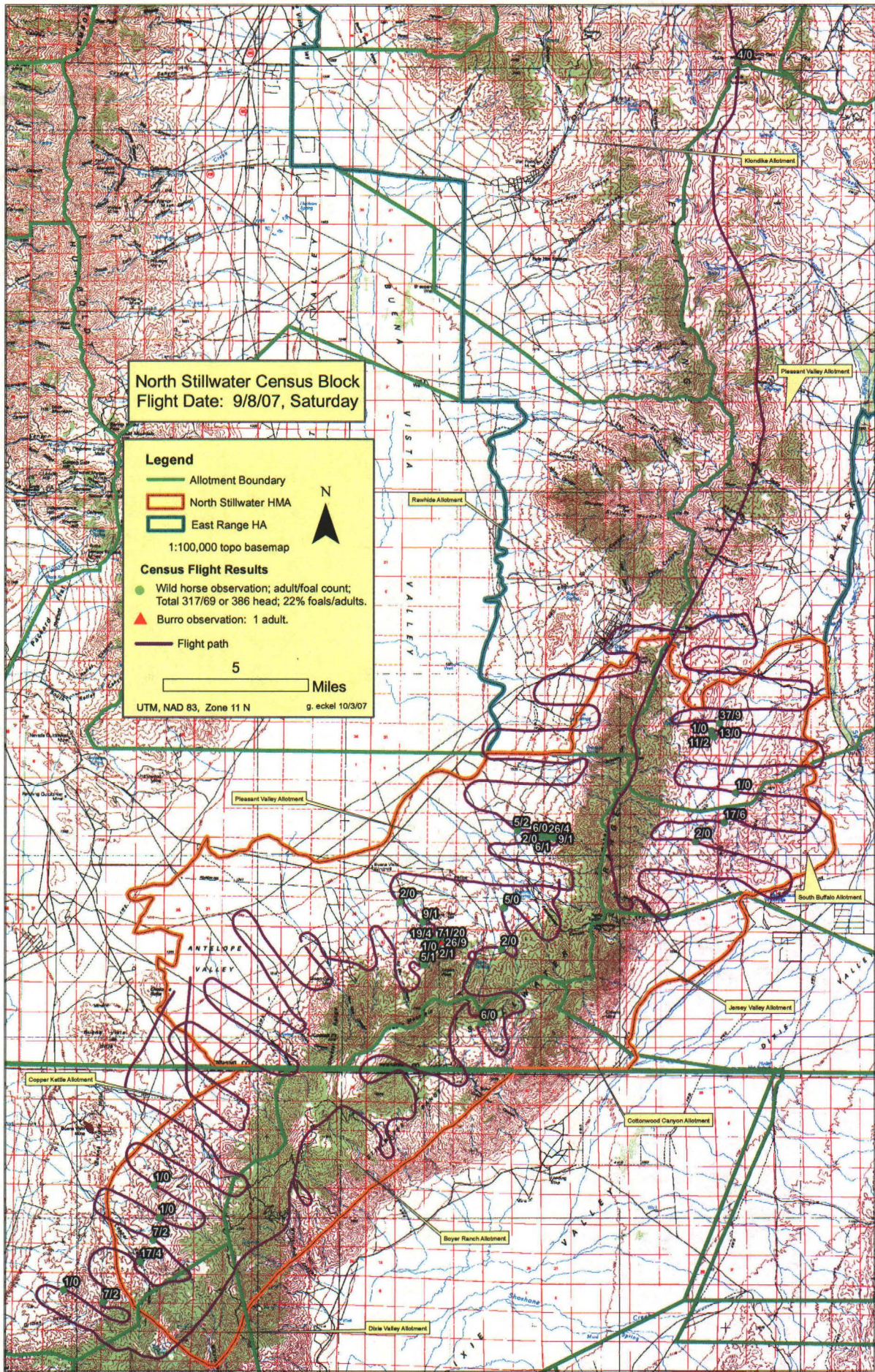
**Census Flight Results**

- Wild horse observation; adult/foal count;  
 Total 317/69 or 386 head; 22% foals/adults.
- ▲ Burro observation: 1 adult.

— Flight path

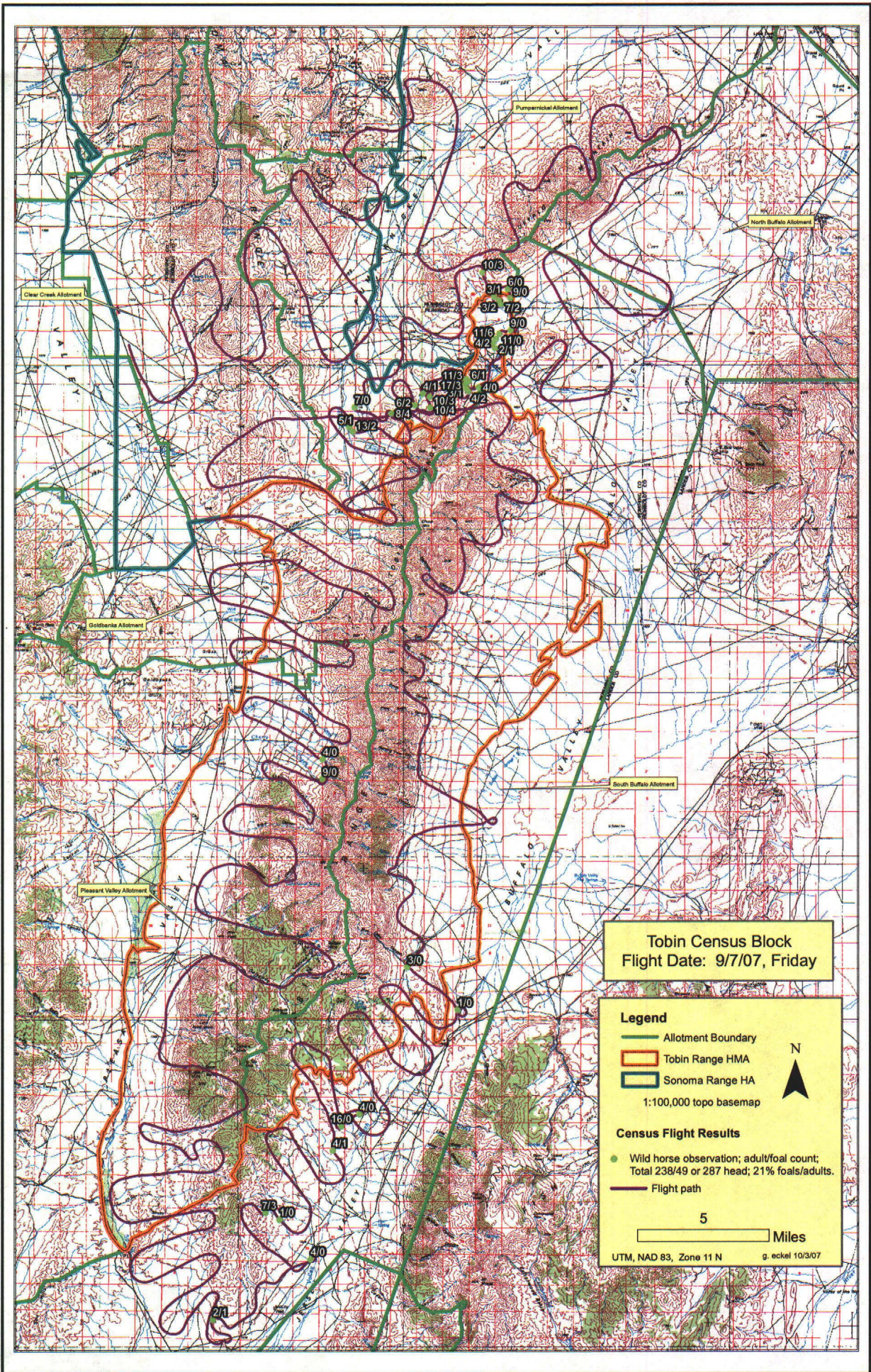
5 Miles

UTM, NAD 83, Zone 11 N g. eckel 10/3/07



UTM, NAD 83, Zone 11 N g. eckel 10/3/07





**Tobin Census Block**  
 Flight Date: 9/7/07, Friday

**Legend**

- Allotment Boundary
- Tobin Range HMA
- Sonoma Range HA

1:100,000 topo basemap

**Census Flight Results**

- Wild horse observation; adult/foal count;  
Total 238/49 or 287 head; 21% foals/adults.
- Flight path

5 Miles

UTM, NAD 83, Zone 11 N g. eckel 10/3/07

