

SELECTED CENSUS INFORMATION
AROUND THE NEVADA TEST SITE

by
Environmental Surveillance
National Environmental Research Center

U.S. ENVIRONMENTAL PROTECTION AGENCY
Las Vegas, Nevada

February 1973

This project performed under a Memorandum of
Understanding No. AT(26-1)-539
for the
U. S. ATOMIC ENERGY COMMISSION

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ABSTRACT

The National Environmental Research Center-Las Vegas (NERC-LV), Environmental Protection Agency, conducts a comprehensive off-site radiological safety program in support of nuclear testing at the Nevada Test Site (NTS). To facilitate the planning and management of required surveillance and monitoring operations, and to assess potential and actual population exposures resulting from radioactive releases into the areas beyond the boundaries of the NTS, the NERC-LV collects and maintains census information in the area around the NTS.

This report summarizes this census information which includes the number and distribution of resident adults and children, family milk cows, and Grade A dairy cows located by azimuth and distance within a radius of 450 miles of Control Point 1 at approximately the center of the NTS, 36° 15' N, 116° 04' W.

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INTRODUCTION

In accordance with a Memorandum of Understanding between the Environmental Protection Agency and the Atomic Energy Commission, the National Environmental Research Center-Las Vegas (NERC-LV) conducts a comprehensive off-site radiological safety program in support of nuclear testing at the Nevada Test Site (NTS). As part of this program, the NERC-LV collects and maintains census information in the area around the NTS to facilitate the planning and management of surveillance and monitoring operations, and to assess potential and actual population exposures resulting from radioactive releases into the areas beyond the boundaries of the NTS. Included in the information compiled are data concerning the number of resident adults and children, family milk cows, and Grade A dairy cows located in these off-site areas.

This report summarizes the number and distribution of human population and milk cow population by azimuth and distance from Control Point 1 (CP-1) located roughly at the center of the NTS, 36° 15' N, 116° 04' W. Tables 1 and 2 show the population distribution out to a distance of 450 miles from CP-1. Tables 3 and 4 list the milk cow distribution. The data are presented in 30-degree sectors at distance increments of 25 miles. Figure 1 shows the azimuth/distance distribution of census data within a radius of 200 miles of CP-1.

BACKGROUND CONSIDERATIONS

The State of Nevada has a total population of 488,738 (1970 census), of which 395,336, or 80.9%, reside in urban areas and 93,402, or 19.1% in the extensive rural areas. The Las Vegas and Reno metropolitan areas account for approximately 98% of the total urban population. The Las Vegas area is 73 miles from the NTS on an azimuth of 136° and the Reno area 271 miles on an azimuth of 311°. The rural population is widely scattered throughout the state with less than one-half the people residing in areas with a population over 1,000. The urban population increased 97.4% over the previous census while the rural population increased 10.4%. The major incorporated cities are experiencing the highest growth rate: Carson City - 15,468, up 199.6%; Henderson - 16,395, up 30.9%; Las Vegas - 125,787, up 95.3%; North Las Vegas - 36,216, up 96.6%; Reno - 72,863, up 41.6%; and Sparks - 24,187, up 45.5%.

Nevada has approximately 9,000,000 acres in farm and ranch land and an estimated 2,100 farms or ranches with an average size of 4,286 acres. Nevada farms and ranches last year produced 1,009,000 tons of crops on 491,000 acres with a total value of \$30,228,000. Principal crops harvested include corn silage, 4,000 acres; all grain, 33,000 acres; cotton and seed, 2,300 acres; alfalfa seed, 22,000 acres; and all hay, 428,000 acres.

Livestock production is the most important phase of agriculture. The value of all livestock totaled \$120,000,000. in 1971. Principal livestock raised are cattle and calves, approximately 600,000 beef and 26,000 milk; sheep and lambs, about 239,000 head; and hogs and pigs, about 9,400 head. Milk production is estimated at 139,000,000 pounds at a market value of \$7,564,000.

Details of resident and milk cow population in the areas extending to a distance of approximately 50 miles beyond the NTS and the Nellis Air Force Range boundaries are updated continuously. Biennial detailed surveys beyond the 50-mile radius are conducted to update census information, including residents, family milk cows, and Grade "A" dairies for the entire State of Nevada and portions of Arizona, Utah, Idaho and California.

CLOSE-IN POPULATION DISTRIBUTION

The off-site area nearest the NTS is predominantly a rural area consisting of a variety of farms and ranches ranging in size from a few acres to several hundred thousand acres. Several small communities are located in the area, the largest being the Pahrump valley. This rural community has an estimated population of 1,100 and is located about 45 miles south of the NTS. The Amargosa Farm area has a population of about 200 and is located about 30 miles southwest. The Spring Meadows Farm area is a relatively new development consisting of approximately 10,000 acres with a population of somewhat more than 100. This area is about 35 miles southwest of the NTS. The largest town in the near off-site area is Beatty with a population of more than 500 and located about 40 miles to the west. The region north and east is primarily open range land used for cattle grazing, although not extensively. Some of the valleys in this region are also used for winter grazing by certain sheep herders from the northern part of the state. There are also 12 mining operations within 50 miles of the NTS, about five of which are operated on a regular basis.

ADJACENT STATES

The Mohave Desert of California which includes Death Valley National Monument, lies along the southwestern border of Nevada. The population in the Monument boundaries varies considerably from season to season with fewer than 200 permanent residents and tourists in the area during any given period in the summer months. However, during the winter as many as 12,000 tourists and campers can be in the area, particularly during the major holiday periods. The largest town in this general area is Barstow, located 165 miles south-southwest of the NTS with a population of over 12,000. The Owens Valley, where numerous farms, ranches and small towns are located, lies 25 to 35 miles west of Death Valley. The largest town is Bishop, located 140 miles west-northwest of the NTS with a population of about 3,000.

The extreme southwestern region of Utah is somewhat more developed than the adjacent part of Nevada. The largest town is Cedar City, with a population of approximately 9,000 and located 175 miles east-northeast of the NTS. The next largest community is St. George located 135 miles east of the NTS with a population of somewhat more than 7,000. Both communities engage in seasonal fruit and vegetable production. The area also has several small Grade "A" dairies.

The extreme northwestern region of Arizona is mostly undeveloped range land with the exception of that portion in the Lake Mead Recreation area. Several small retirement communities are found along the Colorado River, primarily at Lake Mohave and Lake Havasu. The largest town in the area is Kingman, located 175 miles southeast of the NTS with a population of about 6,000.

REFERENCES

1. U. S. Department of Commerce - Bureau of Census Publications PC (1)-A30, PHC (2)-30 and PC (VI)-30.
2. U. S. Department of Agriculture - "Nevada Agricultural Statistics 1970."
3. U. S. Department of Agriculture - Nevada Crop and Livestock Reporting Service Bulletins.
4. Nevada Bureau of Mines - Report 18 and Associated Periodic Bulletins.

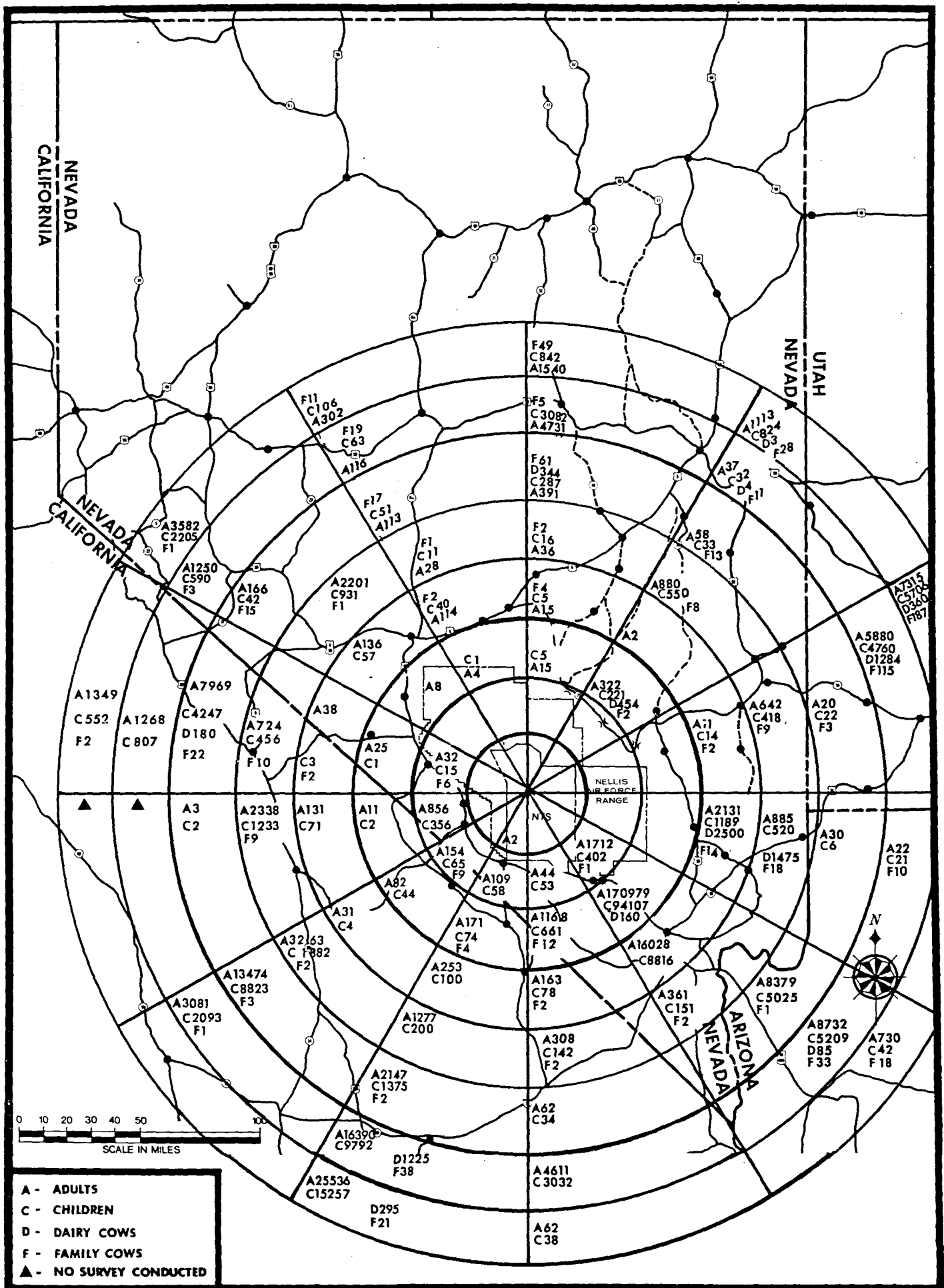


Figure 1. Population distribution by azimuth/distance.

Table 1. Number and distribution of adults by azimuth and distance from NTS/CP-1.

Distance (Miles)	AZIMUTH (Degrees)												Total
	0-29	30-59	60-89	90-119	120-149	150-179	180-209	210-239	240-269	270-299	300-329	330-359	
0-25	0	0	0	0	0	0	2	0	0	0	0	0	2
25-50	0	0	0	0	1,712	44	109	154	856	32	0	0	2,907
50-75	20	322	11	0	170,979	1,168	141	82	11	25	8	4	172,771
75-100	15	2	642	2,131	16,028	163	253	31	141	38	136	114	19,694
100-125	36	880	20	885	361	308	1,277	3,263	2,338	724	2,201	28	12,321
125-150	391	58	5,880	30	8,379	62	2,147	13,474	3	7,969	166	113	38,672
150-175	4,731	37	7,315	22	8,732	4,611	16,390	3,081	0	1,268	1,250	116	47,553
175-200	1,540	1,113	3,254	798	730	62	25,536	0	2	1,349	3,582	302	38,268
200-225	100	41	1,468	73	647	----	----	----	----	14	4,374	118	6,835
225-250	405	2,214	----	2,885	202	----	----	----	----	----	10,689	299	16,694
250-275	6,442	2,246	32	20,931	----	----	----	----	----	----	90,793	4,497	124,941
275-300	1,610	2,714	----	53	----	----	----	----	----	----	571	4,333	9,281
300-325	230	215	----	----	----	----	----	----	----	----	360	240	1,045
325-350	865	----	----	----	----	----	----	----	----	----	29	381	1,275
350-375	458	----	----	----	----	----	----	----	----	----	----	682	1,140
375-400	126	----	----	----	----	----	6	----	----	----	9	11	152
400-425	----	2	----	----	----	----	----	4	----	----	----	2	8
425-450	----	----	----	----	----	----	----	----	----	----	----	----	----
TOTAL	16,969	9,844	18,622	27,808	207,770	6,418	45,861	20,089	3,351	11,419	114,168	11,240	493,559

---- = Survey incomplete.

Table 2. Number and distribution of children by azimuth and distance from NTS/CP-1.

Distance (Miles)	AZIMUTH (Degrees)												Total
	0-29	30-59	60-89	90-119	120-149	150-179	180-209	210-239	240-269	270-299	300-329	330-359	
0-25	0	0	0	0	0	0	0	0	0	0	0	0	0
25-50	0	0	0	0	402	53	58	65	356	15	0	0	949
50-75	5	221	14	0	94,107	661	74	44	2	1	0	1	95,130
75-100	5	0	418	1,189	8,816	78	100	4	71	3	57	40	10,781
100-125	16	571	22	520	151	142	200	1,882	1,233	456	931	11	6,135
125-150	287	33	4,760	6	5,025	34	1,375	8,823	2	4,247	42	51	24,685
150-175	3,083	32	5,706	21	5,209	3,032	9,792	2,093	0	807	590	63	30,428
175-200	842	824	2,610	597	421	38	15,257	0	0	552	2,205	106	23,452
200-225	51	27	1,110	10	339	----	----	----	----	6	2,766	56	4,365
225-250	239	1,911	----	2,217	105	----	----	----	----	----	5,894	112	10,478
250-275	4,293	1,973	22	16,633	----	----	----	----	----	----	44,609	2,737	70,267
275-300	1,011	1,976	----	39	----	----	----	----	----	----	235	2,190	5,451
300-325	148	155	----	----	----	----	----	----	----	----	170	108	581
325-350	590	----	----	----	----	----	----	----	----	----	12	212	814
350-375	253	----	----	----	----	----	----	----	----	----	----	354	607
375-400	135	----	----	----	----	----	4	----	----	----	2	5	146
400-425	----	2	----	----	----	----	----	3	----	----	----	1	6
425-450	----	----	----	----	----	----	----	----	----	----	----	----	----
TOTAL	10,958	7,725	14,662	21,232	114,575	4,038	26,860	12,914	1,664	6,087	57,513	6,047	284,275

---- = Survey incomplete.

Table 3. Number and distribution of grade "A" cows by azimuth and distance from NTS/CP-1.

AZIMUTH (Degrees)

Distance (Miles)	0-29	30-59	60-89	90-119	120-149	150-179	180-209	210-239	240-269	270-299	300-329	330-359	Total
0-25	0	0	0	0	0	0	0	0	0	0	0	0	0
25-50	0	0	0	0	0	0	0	0	0	0	0	0	0
50-75	0	454	0	0	160	0	0	0	0	0	0	0	614
75-100	0	0	0	2,500	0	0	0	0	0	0	0	0	2,500
100-125	0	0	0	1,475	0	0	0	0	0	0	0	0	1,475
125-150	344	0	1,284	0	0	0	0	0	0	180	0	0	1,808
150-175	0	4	360	0	85	0	1,225	0	0	0	0	0	1,674
175-200	0	3	1,588	0	0	0	295	0	0	0	0	0	1,886
200-225	0	25	1,358	----	----	----	----	----	----	----	942	----	2,325
225-250	0	991	1,100	----	----	----	----	----	----	----	3,733	----	5,824
250-275	0	899	133	----	456	----	----	----	----	----	1,597	----	3,085
275-300	0	1,457	50	----	50	----	----	----	----	----	205	150	1,912
300-325	0	3,869	327	----	12,723	80	----	----	----	----	----	----	16,999
325-350	0	9,728	----	70	22,056	----	----	----	----	----	----	----	31,854
350-375	52	12,930	----	25	5,279	----	----	----	----	----	----	----	18,286
375-400	131	8,902	----	65	268	----	----	----	----	----	----	----	9,366
400-425	----	7,292	----	----	----	----	----	----	----	----	----	----	7,292
425-450	21	275	----	----	1,993	----	----	----	----	----	----	----	2,289
TOTAL	548	46,829	6,200	4,135	43,070	80	1,520			180	6,477	150	109,189

---- = Survey incomplete.

Table 4. Number and distribution of family cows by azimuth and distance from NTS/CP-1.

Distance (Miles)	AZIMUTH (Degrees)												Total	
	0-29	30-59	60-89	90-119	120-149	150-179	180-209	210-239	240-269	270-299	300-329	330-359		
0-25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-50	0	0	0	0	1	0	0	9	0	6	0	0	0	16
50-75	0	2	2	0	0	12	4	0	0	0	0	0	0	20
75-100	4	0	9	14	0	2	0	0	0	2	0	2	33	
100-125	2	8	3	18	2	2	0	2	9	10	1	1	58	
125-150	61	13	115	0	1	0	2	3	0	22	15	17	249	
150-175	5	11	187	10	33	0	38	1	0	0	3	19	307	
175-200	49	28	100	14	18	0	21	0	0	2	1	11	244	
200-225	45	6	24	1	20	----	----	----	----	----	70	31	197	
225-250	57	86	----	1	----	----	----	----	----	----	242	26	412	
250-275	104	86	----	3	----	----	----	----	----	----	78	40	311	
275-300	67	57	----	11	----	----	----	----	----	----	3	41	179	
300-325	38	5	----	----	----	----	----	----	----	----	8	28	79	
325-350	58	----	----	----	----	----	----	----	----	----	1	70	129	
350-375	52	----	----	----	----	----	----	----	----	----	----	35	87	
375-400	11	----	----	----	----	----	----	----	----	----	1	2	14	
400-425	----	6	----	----	----	----	----	----	----	----	----	----	6	
425-450	----	----	----	----	----	----	----	----	----	----	----	----	----	
TOTAL	553	308	440	72	75	16	65	15	9	42	423	323	2,341	

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