



FIG. 1—Near Navajo Church, two miles northeast of Fort Wingate, N. Mex., looking N 20° E. Upper photograph taken by N. H. Darton (U.S.G.S. file No. 884) in 1901; lower by author, August, 1946. In 1901 open spaces were covered with a thin stand of blue grama grass, foothill slopes with sage and scattered juniper trees. In 1946 the formerly open spaces showed an encroachment by sage. Grass between sage bushes was of low density (2-10 per cent) and consisted of ring muhly (*Muhlenbergia porteri*) and smaller amounts of *Aristida fendleriana*, *Sporobolus airoides*, and *Hilaria jamesii*. Sage in foreground obscures gullies three to four feet deep. Sage heavily grazed, some bushes nearly dead.



FIG. 2—Cabezón Village, N. Mex., looking S 76° W, from a point a mile upstream from Cabezón bridge. Upper photograph taken by T.W. Stanton about 1900; lower by author, August, 1946. Range condition in early photograph considered "fair"; alkali sacaton (*Sporobolus airoides*) present. Condition in 1946 "poor" for grazing (density 10-15 per cent); composition primarily galleta grass (*Hilaria jamesii*) with some *Sporobolus* spp., sage, and snakeweed (*Gutierrezia*). The galleta grew on the gentle slopes of spurs, but on the valley floor snakeweed and Russian thistle predominated and there was little grass.



FIG. 3—Window Rock, Ariz. Upper photograph taken by B. Wittick about 1895, lower by B. Brixner about 1940. Early view shows sage in foreground and a low density of grass; both sage and grass appear heavily grazed. Dr. Love identified pingue and blue grama grasses; condition considered "fair." Later view shows no sagebrush, but rabbitbrush (*Chrysothamnus greenii*), Russian thistle, and fringed sage can be seen; condition considered "poor." (Upper photograph courtesy of Laboratory of Anthropology, Santa Fe; lower photograph courtesy of Soil Conservation Service.)