

CORONA RANGE AND LIVESTOCK RESEARCH CENTER VEGETATION MANAGEMENT PLAN

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The Corona Ranch is a large landholding with about 28,400 acres. Ownership is mostly deeded (18,320 acres), with the remainder as leases with the State (7,200 acres) or Federal BLM (2880). The ranch is currently divided into 52 pastures of various sizes. The ranch has been under the ownership of NMSU since 1989 and daily administration has been under the direction of the Department of Animal and Range Sciences. Until recent drought, cattle and sheep have been grazed in all pastures and receipts received have been used to help operate the ranch. Revenue is also generated from a hunting program for deer jointly administered with the Department of Wildlife Sciences. In 2001, after the combination of nearly 2 1/2 years of drought resulting in a significant forage shortfall, most livestock were removed from the ranch.

In anticipation of better growing conditions after drought, a vegetation management plan was prepared to guide future activities. This report provides an assessment of the current status of vegetation condition, livestock use, plant productivity, and soil stability on the Corona Ranch. The current distribution of selected major brush species and potential control options for each species are detailed. We also provide a priority ranking for a brush management programs for the Corona Ranch that are sensitive to other livestock, wildlife, and range research goals currently being developed for the ranch. This report is available through the Department of Animal and Range Sciences on request.

CONTROL OF RUSSIAN OLIVE AND SALT CEDAR RESPROUTS WITH EARLY AND LATE SUMMER HERBICIDES APPLICATIONS

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In winter 1998, mature Russian olive and saltcedar trees were cut with chainsaws to a 6 inch stubble height and surfaces were sprayed with a formulated triclopyr (Chopper®) solution on the Santa Ana Pueblo near Bernalillo, NM. An evaluation of the area in spring 2000 revealed that regrowth from portions of stumps and buried roots was common for both species in this riparian area that bordered the edge of the Rio Grande. This experiment was conducted in summer 2000 to determine the effectiveness of spraying the Russian olive and saltcedar regrowth (1 to 4 ft height). Plots were 30 by 30 ft arranged in a randomized complete block design with six replications when treatments were applied on June 14 (spray time 9:30 to 10:30 am, air temp. 80F, soil temp. @ 6 inch 80F, relative humidity 22%, wind 1 to 3 mph SW) and three replications when treatments were applied on August 30 (spray time 9:30 to 11:00 am, air temp. 80F, soil temp. @ 6 inch 78F, relative humidity 23%, wind still). Glyphosate (5% v/v), imazapyr (1% v/v), metsulfuron (1 gm product per 1 gal water), and the amine formulation of triclopyr (25% v/v) were mixed in water with a 0.25% v/v nonionic surfactant. Applications were made with backpack sprayers fitted with nozzles that delivered fine to moderate sized spray droplets that completely wetted the foliage. Resprouts were counted during spraying and