

APPENDIX Q

NATIVE BRUSH ESTABLISHMENT ON RANGELAND FOR WILDLIFE

A strategy to improve rangeland for wildlife in selected locations throughout the High Plains and Rolling Plains is *native brush establishment* through transplanting *fourwing saltbush* (*Atriplex canescens*). This native shrub is excellent deer/pronghorn browse, quail cover, attractive to songbirds, very drought hardy, reserve cattle feed (14% protein), and adaptable to a wide range of soil types. A key feature is that during the spring, it is not so palatable that cattle will choose it ahead of grasses when they are growing luxuriantly; rather, cattle will take it later in the growing season. So you benefit wildlife, livestock, and aesthetics. Although it is compatible with grazing systems after establishment, transplanted seedlings should ideally be protected from grazing for at least the first growing season. Dr. Darrell Ueckert, noted saltbush expert with the Texas Agricultural Extension Service at San Angelo (325/653-4576), advises the following establishment technique:

- Transplant locally-grown and adapted seedlings from Texas Forest Service in Lubbock (806/746-5801), also available through local Soil & Water Conservation Districts in (individual "bullets").
- Seedlings should be transplanted with a 3-point hitch forestry transplanter (Texas Parks & Wildlife Department or Texas Forest Service) into a freshly-ripped furrow, either in mottes or sculpted to natural contours of the landscape. Fifteen (15) feet minimum spacing within or between rows is recommended for our semi-arid climate. Size and distribution of plots should be determined based upon landowner goals, compatibility with grazing systems, and cover needs of targeted species (mule deer - 15 to 40% canopy cover; bobwhite quail - 25% canopy; scaled quail - 10 to 15% canopy; pronghorns - 5 to 10%). Landowners wishing to consider the needs of neotropical (summer) migratory birds and "species of special concern" like the black-tailed prairie dog or swift fox that depend on shortgrass prairie may wish to consult with a local Department biologist for advise prior to employing this technique.
- For optimal survival, transplanting should be done after our "rainy season" has begun, usually mid-May, so as to *minimize* the need for supplemental watering during the first year. Ideally, seedlings should be watered with 2-3 gallons per plant as part of the transplanting operation. Simply put, "if it doesn't rain, don't plant", as this strategy does not utilize the high-successful weed barrier fabric mulch employed by regional biologists in shelterbelt installation (contact the *Wildlife Division Field Office* in Canyon @ 806/655-3782 to arrange a field tour with one of our cooperators).
- Consider establishing initial mottes or "contours" in conjunction with riparian zones, draws, and gentle slopes (<3%) to take advantage of deeper soil types and existing/planned fencing (see *Riparian Management*). The growth form of

saltbush should be larger on bottom sites and slightly smaller on gentle slopes or uplands (average 3-4 feet height).

Free technical assistance is available to landowners wishing to enhance wildlife habitat and populations through the Department's ***Private Lands Enhancement Program***. Contact your local biologist or the Wildlife Division at 806/655-3782 for more information.

Tentative Recommendations for Establishment of Woody Quail Cover and Deer Browse Plots on farm or ranch lands in the High Plains and Rolling Plains*

The following procedures are recommended for establishment of native, drought-hardy shrubs like aromatic sumac (*Rhus aromatica*), native plum (*Prunus angustifolia*), and four-wing saltbush (*Atriplex canescens*) as overhead protective cover for quail and deer browse plots:

- Plant in irregularly-shaped mottes (clumps) of at least ½ acre in size containing a minimum of 100 seedlings, using a species mix as mentioned above.
- Spacing between seedlings should be at least 12 feet to allow for crown development at maturity, with expected canopy heights ranging from ~6-8 feet, which will vary with shrub species, soil type, and topography.
- Establish a minimum of one (1) planting per 25 acres and a maximum of one (1) planting per 5 acres. Plant during March-April using a tractor-mounted post hole digger, hand crew, fabric squares (3-feet or 4-feet) and 2-3 gallons of water per seedling at planting time with a water tank (clean, preferably one not used for chemicals).
- Seedlings should be protected from browsing animals (deer and rabbits) with commercial tree protector tubes installed at planting time.
- Where livestock grazing is present, shrub mottes (clumps) should be fenced with a 4-strand barbed-wire fence (recommend NRCS specifications) or a 2-strand high-tensile electric fence to prevent trampling and promote longevity of the planting for cover. A 20-foot buffer around the outside edge of shrubs is recommended to enhance the cover value of such plantings for wildlife.

*these guidelines may be customized for cropland, native range, or lands enrolled in CRP; woody plant growth form and development will vary according to location, topography, annual precipitation, and soil type

Prepared by **Gene T. Miller**, Technical Guidance Biologist, TPWD @ 806/655-3782, on 7/26/00 and are offered only as **generic** recommendations which may subject to revision upon inspection of a particular property and according to goals and objectives established by the landowner.