APPENDIX H

A Strategy for Management of Wildlife Openings in the Rolling Plains of Texas

This strategy will fit a variety of soil types throughout the Rolling Plains Ecological Region. It is based on the following assertions:

- Encouragement of native plants and seeding of drought-hardy perennials yields more consistent results over the long term, especially in *dryland* situations;
- Openings/fields are fenced to be protected from cattle grazing;
- Openings/fields are treated ***in thirds*** with a perennial mix seeded in the middle 1/3 of each field;
- Equipment is available for seasonal treatments in portions of each field;
- All tillage operations are done ***on the contour*** on lands with <3% slope;
- Exotic plants (i.e. Johnsongrass, bermudagrass) are first ***eliminated***; and
- The manager has a ***commitment*** to implement the technique and maintain a record of treatments.

Generally speaking, better results can be expected on bottomland sites because of >soil productivity and moisture availability. Longevity of perennials may be greater on bottomlands.

*What this strategy **will not** do*:

This recommendation is no substitute for favorable habitat conditions created by implementation of a *planned grazing system*. Even though this strategy includes highly palatable warm and cool season perennials with >digestible crude protein, it is not a "cure all" or "magic fix" for missing habitat components on a particular property. For example, ample brood range (bare ground) and food created for bobwhite quail in this scenario will not compensate for a lack of adequate nesting cover (bluestem clumps) and overhead screening cover (thickets of plum, bumelia, lotebush, shinnery oak) located in close proximity. Likewise, an increase in white-tailed deer, mule deer, or wild turkey production cannot be expected solely on the basis of instituting this technique without required amounts of escape cover (brush), water development, protected roost sites, nesting cover, and so forth. (*Note*: As a general rule, if improving deer herd nutrition/increasing carrying capacity is a goal on *rangelands*, a minimum of ***5% of the acreage*** should be devoted to this strategy). Obviously, this technique will be more fruitful during years of timely rainfall in the growing season. There is ***no substitute*** for the effects of timely rains on vegetation and wildlife habitat in the Rolling Plains.

*What this strategy **will** do*:

Crop failures will be eliminated/minimized because of the production of native forbs by annual fallow discing in 1/3 of each field during late winter, seeding perennial forbs/legumes in 1/3 of each field in spring during the year initiated, with an option of

plowing under a "green manure" crop in each field annually during late summer to prepare for seeding a fall grain crop, *provided that localized rains occur*. This system will:

- allow the dedicated manager to avoid repeated failures by abandoning the "***milo mentality***" (in the Rollings Plains, when you ***can*** grow it, you don't need it...when you need it, you ***can't*** grow it);
- give each manager the flexibility to make decisions for fall seeding based on local weather;
- provide for rotation of spring/fall treatments on the *outside thirds* of each field for creation of a mosaic pattern;
- provide for cool season forbs (>wildlife nutrition) each year during spring/fall, even during droughts;
- provide for warm season legumes and forbs (>wildlife nutrition), even during droughts;
- help increase insect production during summer months in opening/fields that benefit songbirds, quail chicks, wild turkey poults (from legumes);
- improve soil fertility by increasing nitrogen fixation in the soil (legumes);
- create enhanced areas for *wildlife watching* and *dove hunting*; and
- demonstrate a *state-of-the-art* sustainable land management practice.

Step 1

Eliminate any exotics such as Johnsongrass or bermudagrass following local recommendations from Texas Agricultural Extension Service and USDA Natural Resources Conservation Service. Cultural and chemical treatments may be required to eliminate these species while they are growing luxuriantly. In some cases, this step may take a full year.

Step 2

Initially, deep plow each fenced opening/field ***on the contour*** in late winter (December-March). Hopefully, this will coincide with the long axis of established fields; however, no matter how fields are shaped, conduct all tillage practices ***with the natural contour*** of the land (for soil and water conservation). Use a moldboard or disc ***plow*** to turn vegetation under completely. Repeated discing to prepare seedbeds will only cause compaction, especially in tighter soils.

Step 3

Divide each opening/field into ***thirds*** on the contour. Allow the outside thirds to remain undisturbed for response of native vegetation during the first year. During December-March, prepare the ***middle third*** for perennial seeding by discing several times until a firm but slightly rough seedbed is prepared. Using a ***no-till drill with a legume hopper*** (i.e. Truax or Tye), seed a pure live seed (PLS) *mixture* of the following natives very shallow (approximately 1/4 ") into a firm seedbed:

- ***Eldorado engelmanndaisy*** - a cool season forb that reaches >25% digestible crude protein in the spring, knee high, @ *2-3# PLS/acre*;
- ***Maximilian sunflower*** - a warm season forb from 3 to 9 feet tall at maturity with one or more stems and terminal heads, high in protein and a prolific seed producer, @ *1/3# PLS/acre*;
- ***Illinois bundleflower*** - a warm season legume (nitrogen-fixer) high in protein and a heavy seed producer; knee to waist high, @ *2-3# PLS/acre*;
- ***Ranger alfalfa*** - a cool season legume (nitrogen-fixer) high in protein and conducive to insect production for chicks/poults, @ *2-3# PLS/acre*.

If you establish 1 clump or "hand" of this mixture every 3 square feet from initially seeding, *you have acheived a manageable stand*. Periodic mowing/***very light*** discing in subsequent years during late winter with an application of low/no nitrogen fertilizer @ 100#/acre will strengthen root systems and encourage stand longevity. Some bare ground within these stands is desired for mobility and food accessibility for quail chicks, wild turkey poults, mourning doves, songbirds, rodents, small mammals, and lizards. Consult with your local TPWD wildlife biologist for local seed sources.

Step 4

In mid-August, check soil moisture in one of the outside thirds of each field to decide on feasibility of deep ***plowing*** "green manure" (crop of annual weeds) under to be later double-disced, fertilized @ 250#/acre of 10-10-10 in granular form, and seeded by grain drill ~September 1 to no less than 1 bushel/acre of wheat/rye/triticale for winter grazing by deer/wild turkeys and to provide green leafy material for other wildlife. If soil moisture is not adequate for seed germination, ***do nothing*** and allow that portion to remain undisturbed until late winter. Allow annual vegetation on the *opposite side* of the opening/field to remain undisturbed until late winter-early spring of the following year.

Step 5

In late winter (February-March), fallow disc (1-2 passes with an offset disc) the previous year's undisturbed outside third to a depth of 5"-6" for stimulation of annual native vegetation. (*Note*: Depending on discing/plowing of outside thirds for annual forbs/fall grain seeding, a periodic chiseling treatment before discing may be necessary to prevent soil compaction, especially in tighter soils). After treatment, allow that portion to remain undisturbed for response of native vegetation. If you seeded the opposite third across the field to a fall grain crop, ***do nothing*** and allow it to "seed out" during the summer. If grain was not seeded in the opposite third, fallow disc or deep plow that third again to develop another "green manure" crop for possible incorporation into a seedbed for fall grain if adequate moisture is available in mid-August. ***At 1-2 year intervals, perform maintenance on perennial portion (middle) as described in Step 3 by ~March 1***. This will increase longevity of perennials up to >8 years.

Your management system is now in place. Flexibility and good records will ensure success!