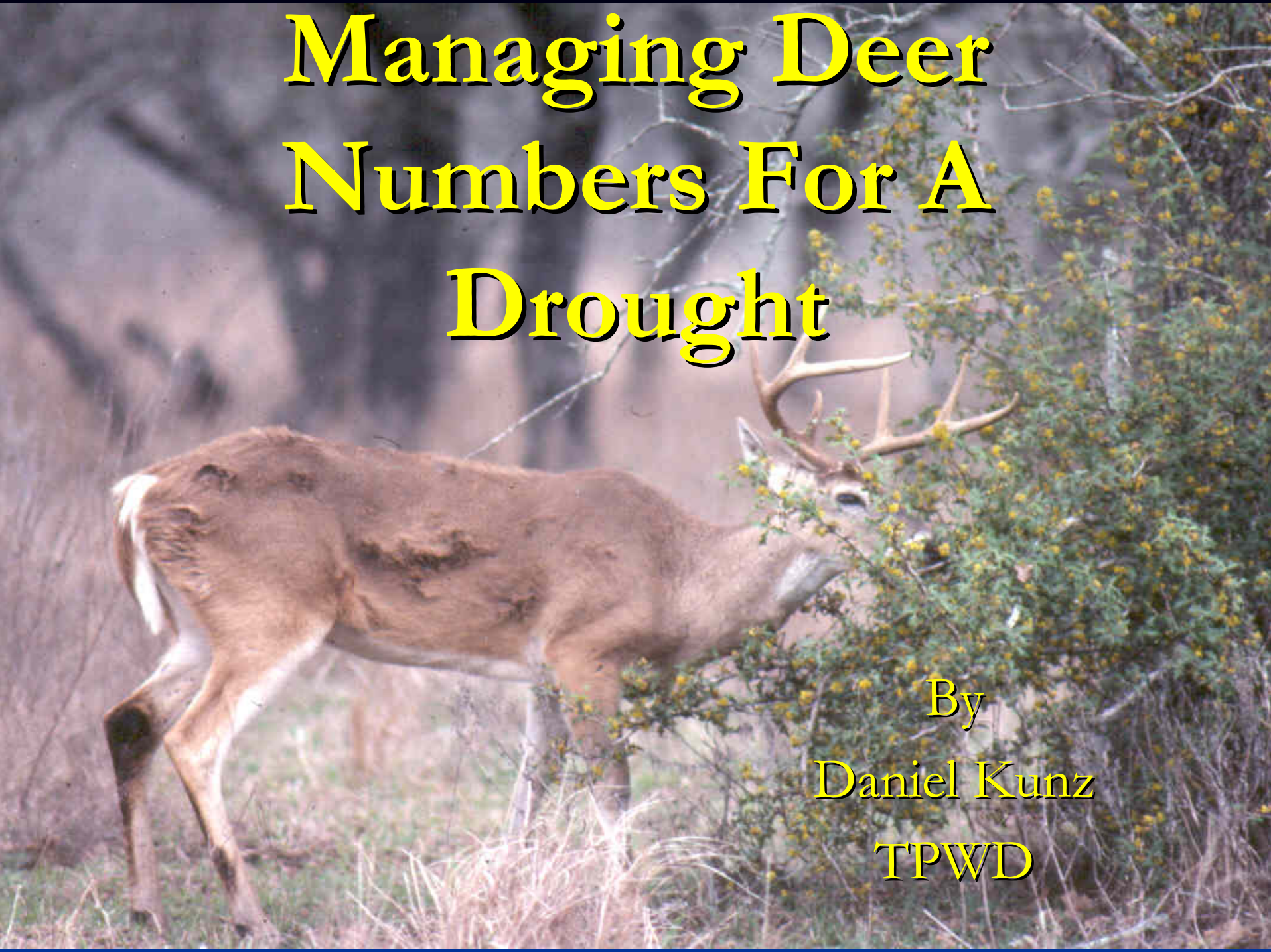
Managing Deer Numbers For A Drought



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White-tailed Deer Biology in South Texas

- Prey species, very prolific.
- Semi-arid environment in South Texas.
- Historical "boom & bust" cycle based on Rainfall.
- Best to maintain densities at a level that the land can support under poor conditions.

Importance of Brush

- Woody plants are adapted to drought conditions.
- Deer prefer forbs but brush is the staple, especially in a drought.
- Brush manipulation must have rain for a response.
- Don't manipulate too much in one year.
- Prickly pear and mesquite beans can help carry deer through a drought.

Water

- Deer require standing water.
  - Generally visit water sources once a day, more visits in a drought or stress conditions (doe with twins)
- Deer prefer water that touches the ground.
  - Ponds
  - Overflow from troughs or windmills
- Access.
  - do livestock dominate water sources?
- Spacing at least every square mile for deer, prefer ½ mile spacing.

Establish Goals!!

- Different goals require different management scenarios
- Economics
- Can't maximize everything!! (ex. livestock/deer)

Establishing Carrying Capacity

- Include all ruminants in Carrying Capacity
- Your goals will determine the number and types of animals.
  - Livestock
  - Deer
  - Exotics
  - Mixture

Establishing Carrying Capacity

- Difficult to survey wild, elusive animals.
- Unlike livestock, almost impossible to record every animal regardless of survey.
- Use surveys not as exact counts, but as trend information over time.
- Do not inflate numbers with a “correction” factor, or you may over harvest.

Find out what you have

- Understand Bias and limitations of different methods
- Timing of survey? Survey several times a year?
- Fawn recruitment vs. fawn crop

Find out what you have

- Common methods to survey deer **density**:
  - Helicopter (most effective in S. Texas???)
  - Spotlight (limited application due to visibility)
  - Other methods (Hahn line, track counts, camera)
  - Blind surveys????????
    - Can give a base number on small acreages but not very accurate because:
      - Drawing deer in from large area
      - Bucks monopolize feeders
      - Habitat conditions influence feeder visits

Find out what you have

- Common methods to survey population **composition**:
  - Blind counts
  - "Windshield" counts
  - Camera stations??

Drought and Management Considerations

- Short term effects of drought:
  - Increased pressure on the habitat
  - Low fawn recruitment
  - Decrease in average antler scores
  - Decline in adult body condition
  - Increased natural mortality
- Long term effects of drought:
  - Decline in population density, antler quality, health

Drought and Management Considerations

- Harvest depends on the population.
- "knee jerk" reaction is to increase harvest.
  - Not necessarily true, depends on current density.
  - Base harvest on target density and current fawn crop estimates
  - If already high density, or historical high fawn crops have made achieving harvest difficult, "catch up" in a drought year.

Examples in a Drought

- Jim Wells Ranch, 1000 acres
  - Desired carrying capacity one deer per 20 acres post harvest
  - Surveys indicate a deer per 15 acres
  - Buck:doe ratio is 1:1
  - Fawn crop 20%

Examples in a Drought

- Use the low fawn crop this year to catch up!
- Make room for the fawn crop & reduce the density. Leave a small cushion in drought.
- Harvest 11 bucks & 11 does.
- In this case, concentrate on older does, as they are the most productive.

Examples in a Drought

5. Potential Effect of The Harvest

	Bucks	Does	Fawns	
Census	30	30	6	
Rec. Har.	-11	-11		
	19	19		
Yearlings	3	3		
Carryover	22	22		
Estimated Winter Density			22.73	acres/deer
Estimated Winter Sex Ratio			1.00	does/buck

Examples in a Drought

- Rancho Nuevo, 1000 acres.
  - Desired carrying capacity one deer per 20 acres post harvest
  - Surveys indicate a deer per 32 acres
  - Buck:doe ratio is 1:3
  - Fawn crop 40%

Examples in a Drought

- Density is below carrying capacity
- No harvest recommended
- Allow buck:doe ratio to remain skewed towards females temporarily.
  - This will increase production.
  - Protect older does for now, they are more likely to successfully raise a fawn.
  - Tighten ratio as density approaches target, but before density target is achieved.

Examples in a Drought

5. Potential Effect of The Harvest

	Bucks	Does	Fawns
Census	6	18	7
Rec. Har.	0	0	
	6	18	
Yearlings	4	3	
Carryover	10	21	

Estimated Winter Density	32.26	acres/deer
Estimated Winter Sex Ratio	2.10	does/buck

Other Considerations

- Low fence?
  - Low fence: deer may travel longer distances in search of water and forage in a drought.
  - Take into consideration what the neighbors harvest for properties under 1000 acres.
- High fence?
  - Unless recently HF, rare to have low densities.
  - Neighbors will have minimal impact on density.
  - Requires more intense management and often more work.

Supplemental Feed

- Not a “silver bullet”.
- Can help in drought situations.
- Does not increase carrying capacity.
- Recent research indicates protein does not take pressure off the habitat.
- Deer still require foliage to keep the rumen healthy.
- Loss of preferred plants will mean loss of natural nutrition and cover in the future.

Supplemental Feed

- Sack Feed
  - Depends on budget
  - 1 Protein feeder per 400 acres adequate, 1 per 200 acres ideal.
  - Mature bucks dominate feeders; Are the does and fawns getting enough?
- Non-irrigated food plots
  - Can't compete with woody natives for drought hardiness.
  - Not much good when it doesn't rain.

Supplemental Feed

- Likely to increase fawn recruitment at first.
- More work to keep population under control.
- Not economical or possible to feed every deer in a free-range environment with a high density.
- High densities over several years = problems, especially in a drought.
- Key word: Supplement

How Many Deer is Too Many?

- Harvest Data!
  - Find the point where average weights do not increase any more in relation to density.
  - By keeping densities at optimum levels you will likely avoid a die-off in a drought.
  - Yearlings are the first indicators of stress.
  - Does can have 1 to 3 fawns, so get their numbers in check first.

How Many Deer is Too Many?

- Use harvest data and browsing pressure to adjust carrying capacity estimates.
  - Should be evaluated in a average or drought year.
  - Maintain a constant and safe population level.
    - Inflating numbers in a good year & decreasing in a poor year not a good idea
      - Too difficult to achieve harvest
      - Drought begins outside of hunting season
      - Takes time to achieve harvest

How Many Deer is Too Many?

- Visit with neighbors with established operations.
- Get advice from professionals:
  - Texas Parks & Wildlife Department
  - Natural Resource Conservation Service
  - Texas A&M Extension Service
  - Caesar Kleberg Wildlife Resource Institute
  - Private consultants
- The more advice the better!

Detriments of High Densities in a Drought

- Stunted yearlings (affecting future antlers)
- Low recruitment
- Decreased antler scores
- Disease
- Mortality of mature bucks after the rut
- Loss of preferred and nutritious plants
- High mortality in a severe drought

PUTTING IT ALL TOGETHER


Questions?