

# White-tailed Deer Breeding Biology and Communication



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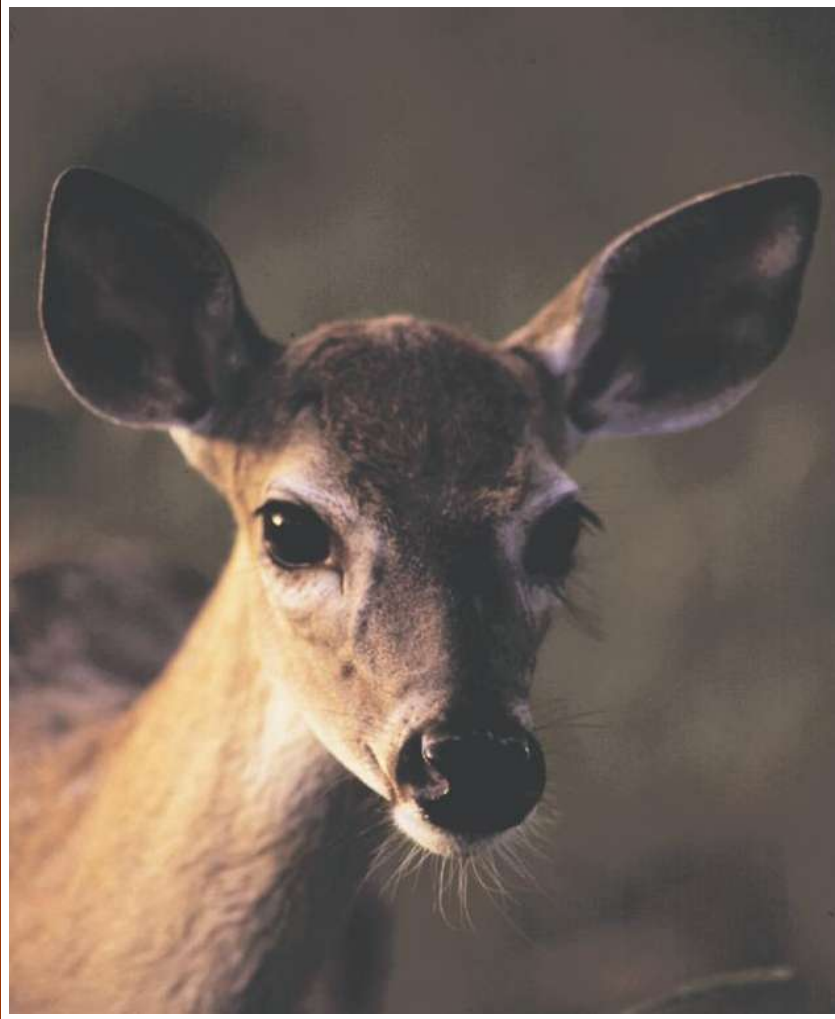
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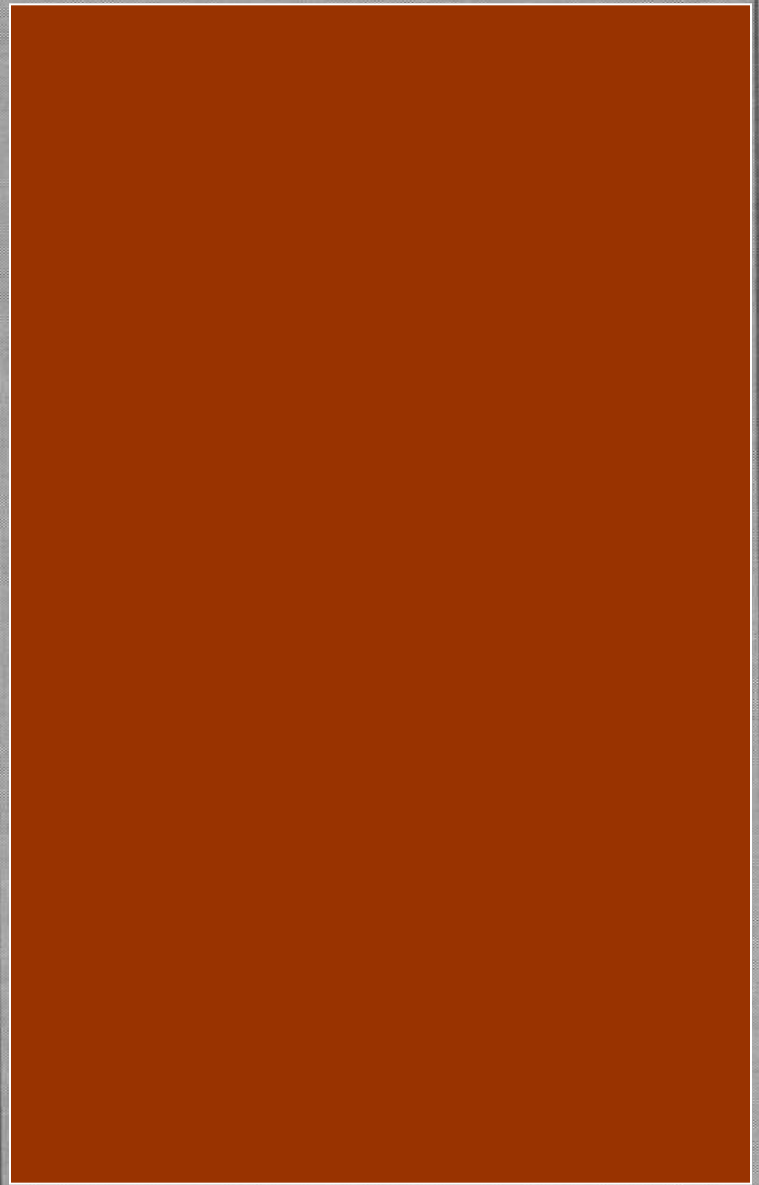
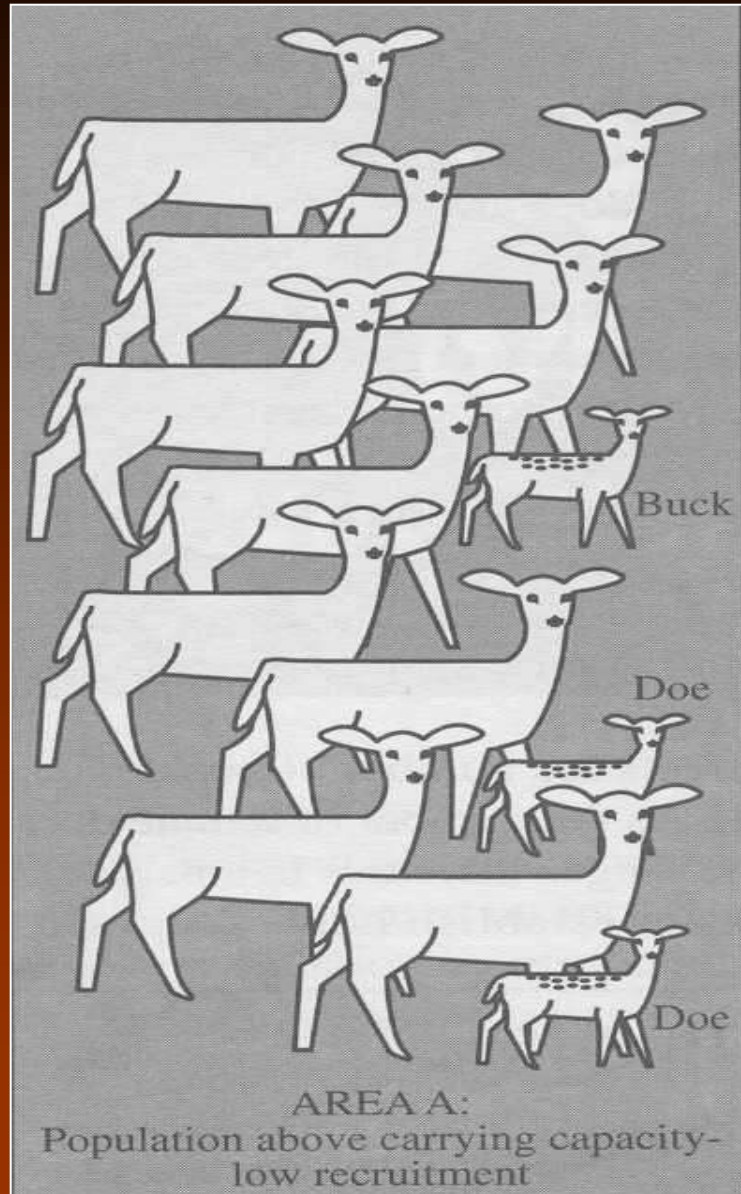
# ...QDMA...



# Fawns are born ~50/50



# Carrying Capacity and Recruitment



# Dispersal

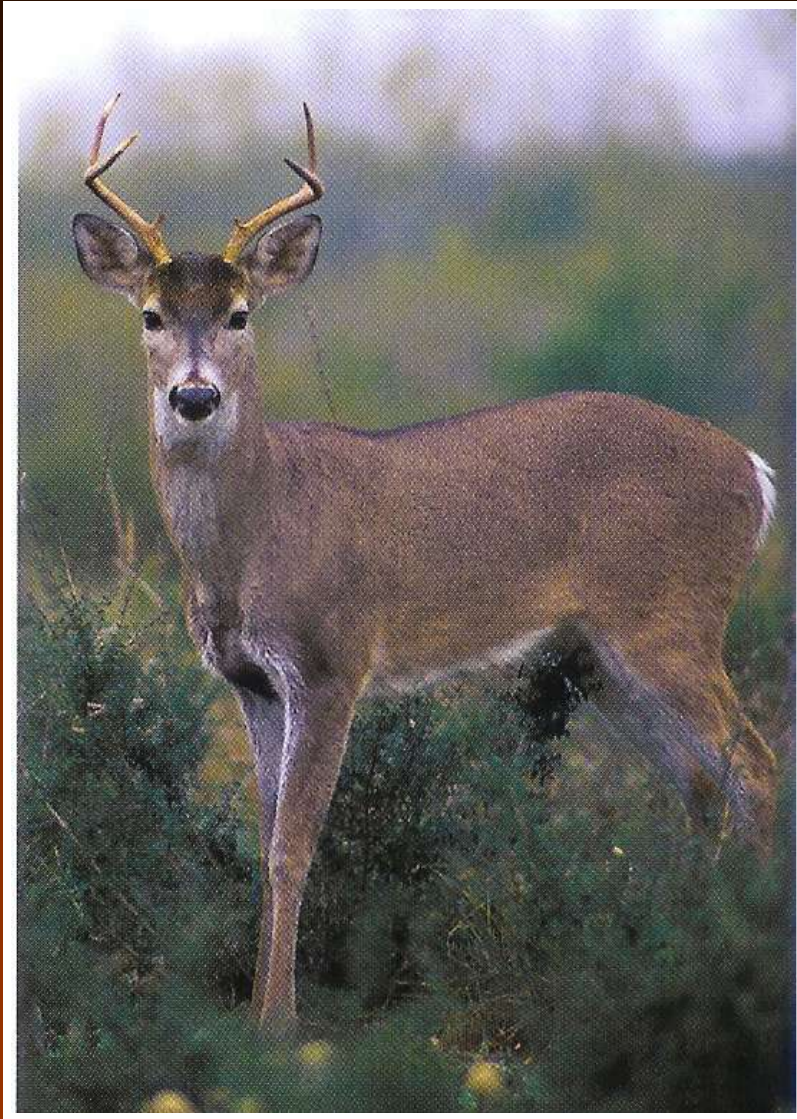
- ~50-70% of bucks are forced from their birth area by their mothers from 12-18 months
- Most disperse 1-5 miles
- ~25% disperse in spring & 75% disperse in fall
- Some research suggests yearling bucks won't disperse if they are orphaned
- Some research suggests roads alter dispersal
- Yearlings bucks you see during firearms season have already dispersed.

# Sexual Maturity

- Most become sexually mature at 1.5 years old
- Under optimum habitat and herd conditions, fawns may be capable of breeding.



# 1 ½ Years (Yearling)



- Long legs
- Thin neck
- Lanky
- Antlers inside ears
- Thin waist
- 15-25% antler growth
- Slightly stained tarsal gland
- “Doe with antlers”.

# 2 1/2 Years



- Legs still long
- Slightly swelled neck
- Muscled shoulder
- Antlers even with or outside the ears
- Waist still thin
- 25-50% antler growth
- Moderately stained tarsal gland.



# 3 1/2 Years



- Legs right length
- Highly swelled neck
- Muscled shoulders
- Antlers even with or outside the ears
- Waist still thin
- “Racehorse” look
- 50-75% antler growth
- Highly stained tarsal gland.

# 4 1/2 Years



- Structurally mature
- Legs appear short
- Highly swelled neck
- Muscled shoulders
- Waist even with shoulders
- 75-90% antler growth
- Highly stained tarsal gland & some scalding.

# 5 ½ - 7 ½ Years



- Legs appear short
- Highly swelled neck
- Muscled shoulders
- Waist even with shoulders
- Pot belly
- Sway back
- 90-100% antler growth
- Highly stained tarsal gland & scalding.

# Antler and Body Maturity



- Maximum body growth is typically reached ~4-6 years
- Maximum antler growth is reached at ~5-7 years

# Antler Growth Basics

- Antlers are not “horns”
- Antlers are grown and shed annually
- Antlers grow from the tip (horns from the base)
- Antlers are covered with “velvet” during growth
- Antlers are the fastest growing true bone.



# Factors that Influence Growth

- Age
- Nutrition
- Genetics



# Physiology of Reproduction

- When day length shortens in early fall, a neural impulse to the brain is triggered which stimulates the reproductive organs.

# Testosterone



- Once the reproductive organs are stimulated, testosterone levels increase. As levels rise, antlers harden and velvet is shed.



# Bachelor Groups



- Bucks generally remain in bachelor groups from the end of winter until just after velvet shedding in the fall.

# Sparring



- Sparring typically occurs from just before velvet shedding until just prior to the peak of the breeding season.

# Sparring

- Since bucks cannot see their antlers, they push them against other antlers to see how they compare.
- Often, subordinate bucks will lick the face and forehead of the dominate buck prior to or following a sparring match.

# Dominance Fights



- Dominance fights typically occur during or just after the peak breeding season.

# Dominance Fights

- Dominance fights generally occur between bucks 3.5 years old or older.
- Typically the confrontation is over a doe.
- These are violent and vigorous confrontations, sometimes causing injury or death for one or both bucks.
- They are often between individuals that do not know each other.

# Rubbing



Rubbing peaks during the pre-rut and maintains that level through the breeding season.



# Rubbing

- Dominant bucks may express social or physical superiority while advertising to does. Large mature bucks may rub large trees. These rubs seem to be special signposts which are revisited each year.

# Scraping

- Scraping is also a signpost behavior. It typically peaks just before the period of peak breeding and involves a sequence of behaviors.





# Scrape Sequence

- First the buck will mark an overhanging branch.
- The buck may also rub the preorbital gland or the forehead gland on the branch.



# Scrape Sequence



- Next, the buck will paw away the litter below the overhanging branch creating a shallow depression in the exposed soil.

# Scrape Sequence

- Next, the buck will urinate in the pawed area. This may be normal urination or rub-urination. Rub-urination occurs when the hind legs are held together and the buck urinates over the tarsal glands.



# Peak Breeding Season



- Breeding peaks in the middle or end of November in many areas, with fawns being born mainly in May & June.

# Peak Breeding Season



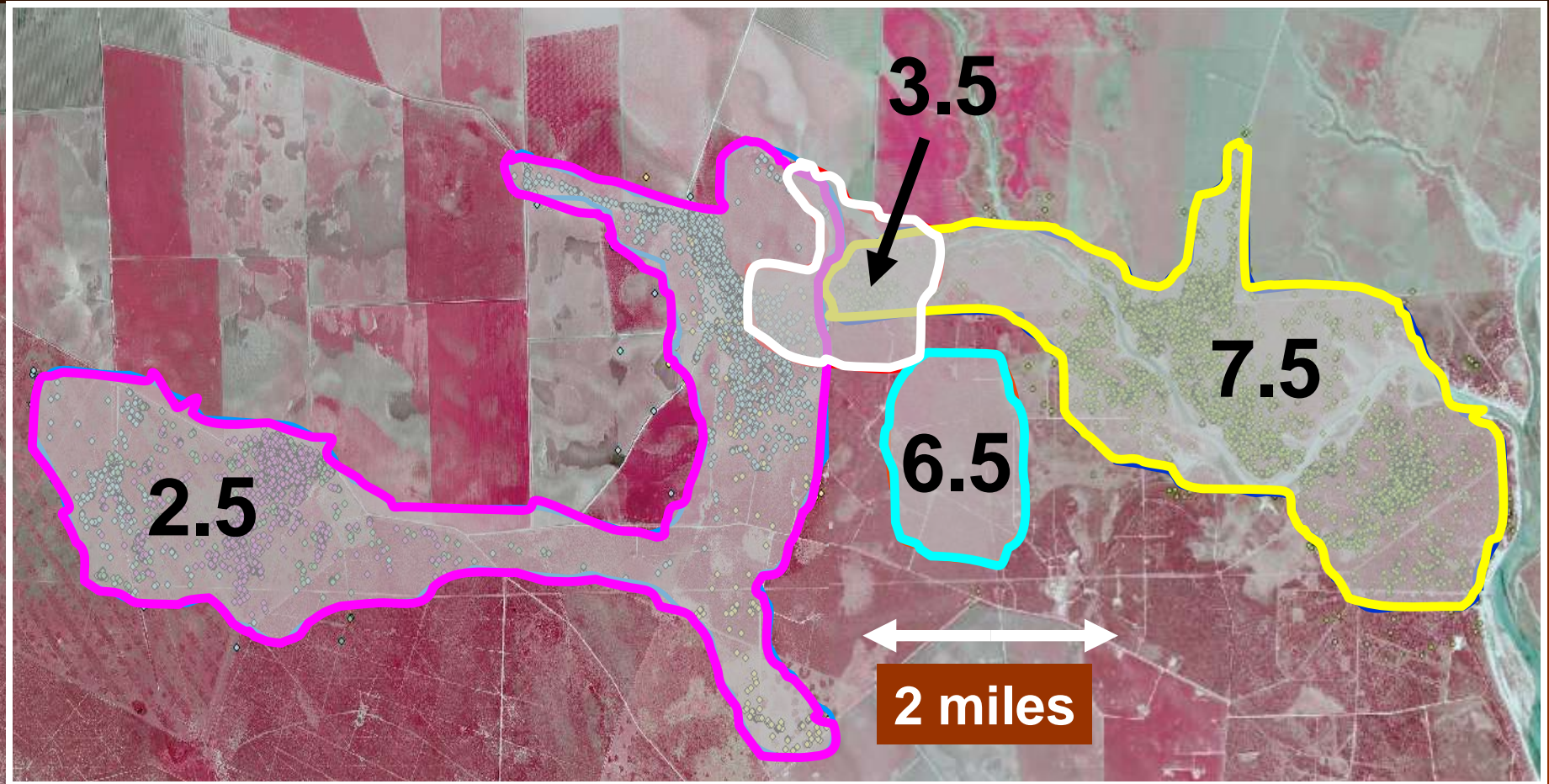
- Sex ratio and physical condition of adults can affect breeding.

# Extended Breeding/Fawning

- Extended fawning season resulting in lower body weights, lower survival rates, and smaller antlers early in life.
- An extended fawning season also increases predation.



# Home Range – South Texas



**No strong correlation with age & home range size.**

Hewitt et. al.

# Antler Casting



- In response to increasing day length in late winter, testosterone levels decrease and the antlers are shed.



# In summary...

- Individuals and populations are dynamic
- Herds require annual management programs
- Proper management provides for healthy deer herds, habitats and other wildlife species.



# Quality Deer Management Association

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