Nutrition

• One of the basic interactions between an animal and the environment is through nutrition
• Ingestion and metabolism of chemicals and energy that animals need for maintenance and production
• Food may dictate where a species can live and population density
• Operates through impacts on reproduction and survival

Nutrition

• To understand an animal’s interactions with its nutritional environment, need to understand its digestive system

Nutrition

- Habitat
  - Cover
  - Food
  - Water
  - Energy (CHO, fat)
  - Protein
  - Vitamins
  - Minerals

Potentially act to influence
- Age at puberty
- Length of breeding season
- Proportion of adults breeding
- No. ova shed
- Prenatal losses
- Postnatal losses
- Subadult and adult survival
• So animals differ in part because of their digestive systems
• An animal’s adaptations enable it to eat and digest some foods well
• Also makes animal inefficient at using other foods
• Understanding these differences can be important in managing wildlife

Provide Proper Nutrients at the Proper Time

• Spring/Summer – high productivity
  – protein
  – energy
  – minerals

Provide Proper Nutrients at the Proper Time

Energy
Percent Increase over Maintenance
• 3rd trimester Gestation - 30-45%
• Peak Lactation - 170%
• Fawn Growth - 25%
• Antlers - < 5%
Provide Proper Nutrients at the Proper Time

- Spring/Summer - high productivity
  - protein, energy, minerals
  - Fall - increase body fat; does ovulating
    - energy
    - weaned fawns need protein
  - Winter - Post-rut recovery; gestation
    - energy
    - maintenance protein requirements – 6%

Seasonal Variation in Forage Quality

Dietary DE (kcal/g DM)

- Maintenance (2.17 kcal/g DM)