

Habitat management

- How manage habitat?
- Who manages wildlife habitat?
- What are the objectives of habitat management?
- What tools do we use to manage habitats?
- Basic principles for managing habitats
- Manipulation of food, water, cover

Wildlife Habitat Management

- How do we (in the U.S.) manage wildlife?
 - How do we get more deer? More turkeys? Bigger bucks? Fewer blackbirds? Reduce depredation by coyotes?
- 2 ways:
 - Manage animal populations
 - Manage animal resources (habitat)

Wildlife Habitat Management

- Manage populations
 - Reduce numbers = more resources/individual
 - Targeted reductions = remove 'offending' animals
 - Increase numbers – by reducing mortality factors
- Manage habitat
 - Identify limiting factors
 - Increase or decrease limiting factors
- Which is done more in U.S. ? Why?

Jurisdiction of Game and Fish Agencies?

- Populations are managed by wildlife agencies.
 - E.g., Texas Parks and Wildlife, New Mexico Game and Fish
- Habitats are managed by landowners or land management agencies
 - US Forest Service, Bureau of Land Management, Department of Defense, Weyerhaeuser, private landowners

Wildlife Habitat Management

- If population management is most common, why do we need to manage habitats?
 - Without habitat you will not have animal populations
 - Animal population density and extent depends upon habitat quality and quantity
 - Habitat condition is by-product of other human uses of resources – affected by timber mgt, grazing, agriculture, development etc.

Kinds of habitat management objectives

- MAINTAIN
 - try to keep the quality of habitat we have
 - mitigate changes due to succession or use
- IMPROVE
 - make the current habitat better
 - identify and enhance limiting factors
- ALTER TO NEW
 - turn what we have into something else

What are the objectives of habitat management?

- Maintain quality habitat as it exists
 - implies that use may change it
 - implies that succession may change it
- Provide quality habitat where it has been depleted or where a specific component is missing
 - implies we know what habitat needs are
 - implies that we have identified limiting factors
- Create new habitat where it did not exist before
 - implies we know what habitat needs are
 - implies that we have identified limiting factors
 - implies that we have identified consequences

What tools do we use to manage habitats?

- (Leopold 1933)
 - Axe, Fire, Plow, Cow, and Gun
- Same can be used to restore habitat
 - Axe - retard succession, maintain grasslands
 - Fire - reduce litter, stimulate growth, succession
 - Plow - +/- succession, make food patches
 - Cow - grazing mgt. to favor desired spp.
 - Gun - direct mgt. of populations in check w/ resources

Water development, food or cover production, land-use planning

- Water development concerns:
 - is water really limiting? Identify limiting factors
 - how widely spaced are waters needed?
 - what capacity should developments have?
 - how can I limit access to desired species?
 - is development economically justified?
 - costs for construction & maintenance
 - simulate natural water sources?
 - how/who will bear costs of monitoring?

Food or cover production (method 1)

- Propagation - planting new plants that are advantageous to wildlife
 - Concerns:
 - When will it be successful ?
 - How select species to plant ?
 - Success depends upon factors:
 - site selection, site preparation, planting depth, soil moisture, # growing days
 - May require \$\$\$, extensive preparation
 - transplants, direct seeding

Food or cover production (method 2)

- Regeneration - object is to release desirable species from competition with less desirable species
 - Concerns:
 - When will it be successful ?
 - How select method to use ?
 - General methods:
 - mechanical - chaining, cutting, plowing, etc.
 - chemical - herbicides, fertilizers
 - burning - prescribed fire

Food or cover production (method 3)

- Protection - usually involves some change in land use patterns
 - Concerns:
 - When will it be successful ?
 - How select method used to protect ?
 - Exclosures -
 - grazing systems

6 Principles for Managing Habitat

- Project should have a specific objective: to maintain, improve, or alter habitat for a species or purpose.
- Project should be biologically justified.
- Manipulation or alteration should be evaluated for its influence on other natural resources, species, and land uses.
- Project should be economically practical.
- Project should simulate natural conditions as much as possible.
- All projects should be monitored and evaluated to determine how the objectives have been accomplished.

Review

- maintain, improve, or alter to new
- Leopold's tools (still the same)
- Limiting factors
 - Amount, placement, 'natural', effects, cost, and monitoring
- Propagation, regeneration, protection
- 6 principles:
 - Specific objective; biologically justified; external effects evaluated; economically practical; simulate nature; and be monitored
