CREATIVE APPROACHES TO ASPEN MANAGEMENT FOR WILDLIFE

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Abstract: Lack of winter forage limits deer and elk populations in most of Western Colorado. Habitat diversity in quaking aspen (*Populus tremuloides*) stands is low and many stands are succeeding to other species. Managing aspen to increase sprouting provides a nutritious source of browse and increases cover values. Forest Service funding is limited, so alternative sources of funding and treatment have been used. Aspen clearcutting has been accomplished, at little or no direct cost to the wildlife program, through public firewood programs, wildlife timber sales, volunteers and Knutson-Vandenberg (K-V) funding generated from timber sales. Homestake Mining Company clearcut and burned aspen stands for wildlife mitigation. Approximately 300 acres of aspen have been treated for wildlife annually since 1980. Deer and elk use of treated aspen stands increased following treatment. New and innovative ways to manage aspen stands to improve big game habitat are discussed and additional cost-saving suggestions are given.

Colorado has over 2.2 million acres of quaking aspen (*Populus tremuloides*) forests. Aspen is an important species for watershed improvement, wildlife habitat, recreational use and scenic beauty (Wengert 1976). Aspen is one of the first features that people identify with Colorado, and a great deal of emotion surrounds its management. The management of wildlife, especially big game species, is also an emotional but misunderstood public issue.

Cold temperatures and deep snow make winter range for mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus nelsoni*) a critical limiting factor. Deer and elk use aspen less than 6 feet in height for forage and taller aspen for thermal and hiding cover. Aspen sprouts provide a nutritious browse source that is high in protein (12-14%) and available even in deep snow (Patton and Jones 1977). Mature aspen stands can be managed to perpetuate the species and benefit wildlife. In cases where no funds are available for aspen management and no commercial markets exist for aspen harvest, innovative treatment opportunities are needed.

STUDY AREAS

Aspen treatment areas include about 5,000 acres of decadent aspen clones in big game winter range in Southwestern Colorado from Gunnison to Cortez. Elevation of the clones range from 7,500-9,000 feet on south, southwest and southeast facing slopes. Decadent clones are in excess of 80 years in age and grow on the margins of the commercially valuable aspen stands.

METHODS

The first step was to inventory the decadent aspen clones that grow in big game winter range areas. Color aerial photographs (1:24,000 scale) were used to plot aspen stands on topographic maps. Winter range boundaries, land ownership lines and access roads were also plotted on the maps. Using timber stand (Stage II) data, field data and physical features such as access, ownership and slope; stands were classified into seven treatment opportunities:

(1) Aspen stands on gentle (less than 20%) slopes, within 100 yards of a 2-wheel drive road were available for public firewood cutting. Small patches (1-5 acres) were designated for free public firewood gathering. A publicity campaign was used to convince the public to burn aspen firewood and benefit wildlife.

(2) Larger accessible stands were designated for future commercial firewood harvest.

(3) Aspen stands located more than 1/2 mile from roads but high priority areas for treatment, based on wildlife values (critical winter range areas or diseased or dying clones), were designated for contract or Forest Service clearcutting.

(4) Large aspen stands with no road access and of lower priority based on wildlife values were designated for future timber harvest or prescribed burning projects.

(5) Aspen stands with access blocked by private land ownership were deferred from treatment.

(6) Aspen stands having high wildlife values but located on slopes exceeding 40% were designated for treatment by prescribed burning or aerial application of herbicides (not an allowable treatment at present). Erosion potential and regeneration concerns had to be evaluated on steeper slopes.

(7) Aspen within wilderness areas or in high Visual Quality Objective zones were deferred from treatment due to scenic value, access and equipment use limitations.

After the aspen stands were classified into the seven treatment types, stand acres were totalled. Stands were prioritized as high if they were either diseased or dying, being replaced by another plant community or located in critical big game winter range. About 300 acres per year (5,000 acres total) needed treatment to bring the stands under a treatment rotation of 60-80 years. Some of the aspen treatment methods were potentially expensive (contract clearcutting at $100-150 per acre), and actual unit costs were unknown at the time. All aspen treatment

Wildlife Use of Treated Stands

Use of the aspen treatment areas was monitored and compared to pretreatment use, but the data has not been statistically validated. Elk use of treated aspen areas increased in the winter and spring. Deer use of treatment areas also increased, especially if cover was available nearby. Aspen sprouts were heavily browsed during the winter months, but there appeared to be a preference for sprouts from certain clones. Utilization of burned aspen stands exceeded cut aspen stands after the first year. Burning seemed to increase to palatability of most plant species. Based on the growth rates of aspen sprouts, the browse benefits should last for 10-15 years, until the sprouts are too tall to be accessible. At this time, the sprouts become poles which provide excellent cover (Patton and Jones 1977).

CONCLUSIONS

Most public resource agencies are experiencing reduced budgets. With limited funding for wildlife habitat improvement programs, wildlife managers need to take advantage of every opportunity and find new and innovative ways to get the job done. Under the aspen treatment program, hundreds of acres of aspen were managed with minimal expenditure of wildlife funds. In order to be creative in managing aspen or any other habitat for wildlife, the following points should be considered:

(1) Wildlife management is popular with and supported by the public. Capitalize on this popularity to generate volunteers, funds and cooperation. Learn to sell programs.

(2) Document wildlife management projects with surveys, photos, progress reports and press releases. These actions do not cost much money and make your program more competitive for funding and public support. The data will also help show which projects are cost effective and accomplishing habitat improvement goals.

(3) Prioritize projects so that the most important projects are accomplished.

(4) Use wildlife mitigation effectively by turning it into a positive situation for wildlife and the mitigating party.

(5) Combine wildlife habitat projects with ongoing land management practices, such as timber treatments, range improvements, or mining. Explore every source of funding (cooperative funds, grants, K-V funds, donations, other project cooperation, volunteers) before committing limited wildlife funds for a project.

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