

Appendix N

WESTERN PRAIRIE FRINGED ORCHID MANAGEMENT GUIDELINES

These guidelines represent the best identified approach for managing the Western Prairie Fringed Orchid in a multiple-use setting and reflect the commitment to meet the intent of the Threatened and Endangered Species Act, as amended. These guidelines are tiered to the Recovery Plan for the Western Prairie Fringed Orchid (USFWS 1996), and are specific to the Sheyenne National Grassland metapopulation. They are not intended to be a research or recovery plan for the orchid.

CORE ALLOTMENT MANAGEMENT GUIDELINES

Cattle Grazing

1. Each year, 1/3 of the acres historically occupied by orchids in core allotments will not be grazed 6/1-9/15. Areas that are rested during this time period will encompass a topographic gradient to allow for the local population shifts, and will be adjusted spatially to account for future metapopulation shifts.
2. Stocking rates in other orchid habitats within core allotments will not be increased to offset the areas rested.
3. Orchid areas that are rested (i.e. the 1/3 of core areas protected from grazing from 6/1-9/15) will not be treated (e.g. burning, mowing) in the previous fall, unless grazing is deferred until 9/15 of the following year. If these areas are treated in the spring, then grazing will be deferred until 9/15 of the treatment year.
4. In cases where annual rotations are used, grazing will be timed to preclude repeated use of pastures supporting orchids the same time each year.
5. Where rotation grazing systems are used, each pasture containing orchids in core allotments will be grazed no more than twice during a given growing season.
6. New fence corners, water developments, salting areas, and creep feeders, will be located at least 200 feet from wetlands known to support orchids.
7. Experimental grazing management (grazing management under an authorized research project) may be used to evaluate the response of the orchid to different grazing systems and timing of grazing on a limited scale provided a monitoring system is established to evaluate the response of the orchid to grazing management.
8. Allotments designated as core areas should be the highest priorities for AMP revision.

9. When revising allotment management plans, incorporate grazing systems and stocking rates that will result in a diversity of native plant communities, seral stages, and vegetation structure across the landscape of the SNG.

Mowing

1. Wetlands will be surveyed before mowing to determine if flowering orchids are present.
2. Orchid areas that are rested (i.e. 1/3 of core areas protected from grazing from 6/1-9/15) will not be mowed in the previous fall, unless grazing is deferred until 9/15 of the following year.
3. If flowering orchids are present, wetlands will be mowed only after seed dispersal, approximately September 15. In wetlands where inventory confirms the absence of the flowering orchids, mowing may be allowed prior to this date, but not before July 15.
4. Where the objective is to reduce woody plant encroachment, wetlands may be mowed in successive years, as long as the above conditions are followed.
5. Experimental mowing (mowing conducted under an authorized and permitted research project) may be conducted at any time provided a monitoring system is established to evaluate response of the orchid to mowing.

Noxious Weed Treatment

1. Wetlands supporting orchids in core pastures will be priority areas for spraying leafy spurge with herbicides approved for use in wetlands, and leaving no soil residual, using fall treatments after the orchid has dispersed seeds, approximately September 15th.
2. The Forest Service will provide 1:24,000 scale maps detailing wetlands likely to support orchids to all chemical applicators, and applicators will return maps to the Forest Service that detail locations actually sprayed.
3. If sheep or goats are used to control leafy spurge or other noxious weeds in wetlands that currently support flowering orchids, their use will be limited to before 6/1 or after 9/15.
4. Sheep or goats may graze pastures that currently support flowering orchids between 6/1 and 9/15 if agronomy cages are placed around orchids, explicit herding instructions are followed, or electric fences used to protect orchids.
5. Experimental noxious weed treatment (noxious weed treatment conducted under an authorized and permitted research project) may be conducted provided a monitoring system is established to evaluate the response of the orchid to noxious weed treatment.

Restoration of Blowouts

1. Heavy equipment will not be allowed across areas known to support orchids.

2. Soil deposition will not be allowed in areas known to support orchids.
3. Woody species will not be planted in orchid habitats.
4. Exotic plant species will not be used for restoration seeding in orchid areas.

Burning

1. Core areas will be given a high priority for prescribed burning.
2. Orchid areas that are rested (i.e. 1/3 of core areas protected from grazing from 6/1-9/15) will not be burned in the previous fall, unless grazing is deferred until 9/15 of the following year. If these areas are burned in the spring, then grazing will be deferred until 9/15 of the treatment year.
3. Fall or spring burns are allowed as long as field surveys verify that orchids are not actively growing.
4. Burns after May 15 may be conducted in low orchid (<50 flowering plants per pasture) years. Areas with high shrub/tree encroachment are priority areas for summer burns.
5. Burns after May 15 are allowed in no more than 1/3 of the core pastures per year.
6. Existing prescribed burn plans for all allotments containing wetlands known to support orchids will be amended to reflect the above conditions.
7. Experimental prescribed burns (burns conducted under an authorized and permitted research project) may be conducted at any time, including the summer months, provided a monitoring system is established to evaluate the response of the orchid to burning.

Vehicles, Roads, Trails, and Earth-Disturbing Activities

1. New roads and/or trails will not be allowed through wetlands known to support orchids.
2. Survey for orchid presence or absence before earth-disturbing activities take place anywhere within potential orchid habitat.
3. Establish a monitoring system to evaluate response of the orchid to changes in patterns of use due to people or nearby earth disturbance (construction of trails and/or roads).
4. In future transportation planning, move roads and trails out of wetlands known to support orchids, where feasible.

Special Use Permits

1. The Forest Service will review all applications for Special Use Permits. Any activity permitted will meet the intent of the guidelines for the orchid.

2. Permits will not be issued that concentrate people in wetlands known to support orchids.
3. Habitat-altering activities, such as campsites and campfires, will not be allowed in wetlands known to support orchids.
4. Requests for permits to collect orchids, including orchid fruits and seeds will be referred to the U.S. Fish and Wildlife Service in Bismarck, which is the only agency authorized to issue such permits.

Water Management

1. Plug abandoned flow (artesian) wells.
2. Do not permit the development of dugouts and new flow (artesian) wells.
3. No new ditches will be permitted in core allotments.
4. Manage existing ditches to ensure maintenance of water regimes.
5. Restore wetlands that have been compromised by ditching or other activities.

SATELLITE ALLOTMENT MANAGEMENT GUIDELINES

Cattle Grazing

1. Each year, 1/10 of the acres historically occupied by orchids in core allotments will not be grazed 6/1-9/15. Areas that are rested during this time period will encompass a topographic gradient to allow for the local population shifts, and will be adjusted spatially to account for future metapopulation shifts.
2. Stocking rates in other orchid habitats within core allotments will not be increased to offset the areas rested.
3. In cases where annual rotations are used, grazing will be timed to preclude repeated use of pastures supporting orchids the same time each year.
4. New fences, water developments, salting areas, creep feeders, and big game feeders will be located at least 100 feet from wetlands known to support orchids.
5. Experimental grazing management (grazing management under an authorized and permitted research project) may be used to evaluate the response of the orchid to different grazing systems and timing of grazing on a limited scale provided a monitoring system is established to evaluate the response of the orchid to grazing management.

Mowing

1. Wetlands will be surveyed before mowing to determine if flowering orchids are present.
2. Wetlands may be mowed every year if wetlands with ten or more flowering plants are avoided, however no more than 1/3 of the orchid wetlands in a satellite allotment may be mowed annually.
3. If 10 or more flowering orchids are present in a given wetland, mowing will be postponed until after seed dispersal, approximately September 15. In wetlands where inventory confirms the presence of <10 flowering orchids, mowing may be allowed prior to this date, but not before July 15.
4. Annual mowing permits will be amended to reflect the above conditions.
5. Experimental mowing (mowing conducted under an authorized research project and permitted) may be conducted at any time provided a monitoring system is established to evaluate response of the orchid to mowing.

Noxious Weed Treatment

1. Wetlands may be sprayed with herbicides approved for use in wetlands, and leaving no soil residual, at any time of the year, providing that groups of 10 or more flowering orchid plants are avoided.
2. If sheep or goats are used to control leafy spurge or other noxious weeds in wetlands that support flowering orchids, their use will be limited to that period before 6/1 or after 9/15.
3. Sheep or goats may graze pastures with wetlands that currently support flowering orchids between 6/1 and 9/15 if agronomy cages are placed around orchids, explicit herding instructions are followed, or electric fences used to protect orchids.
4. Sheep or goats may graze wetlands currently supporting less than 10 flowering orchids throughout the growing season.
5. Experimental noxious weed treatment (noxious weed treatment conducted under an authorized research project and permitted) may be conducted provided a monitoring system is established to evaluate the response of the orchid to the treatment.

Restoration of Blowouts

1. Heavy equipment will not be allowed across wetlands known to support orchids.
2. Soil deposition will not be allowed in wetlands known to support orchids.
3. Woody species will not be planted in orchid habitats, or in areas where they would impede management for the orchid.

4. Exotic plant species will not be used for restoration seeding.

Burning

1. Burning at any time of the year is permitted as long as no more than one third of the satellite pastures are burned in a given year.
2. Existing prescribed burn plans for all allotments containing wetlands known to support orchids will be amended to reflect the above conditions.
3. Experimental prescribed burns (burns conducted under an authorized and permitted research project) may be conducted at any time, including the summer months, provided a monitoring system is established to evaluate the response of the orchid to burning.

Vehicles, Roads, Trails, and Earth-Disturbing Activities

1. New roads and/or trails will not be allowed through wetlands.
2. Survey for orchid presence or absence before earth-disturbing activities take place anywhere within potential orchid habitat.
3. Establish a monitoring system to evaluate response of the orchid to changes in patterns of use due to people or nearby earth disturbance (construction of trails and/or roads).

Special Use Permits

1. The Forest Service will review all applications for Special Use Permits. Any activity permitted will meet the intent of the guidelines for the orchid.
2. Permits will not be issued that concentrate people in wetlands supporting orchid concentrations.
3. Habitat-altering activities, such as campsites and campfires, will not be allowed in wetlands supporting orchid concentrations.
4. Requests for permits to collect orchids will be referred to the U.S. Fish and Wildlife Service in Bismarck, which is the only agency authorized to issue such permits.

Water Management

1. Plug abandoned flow (artesian) wells.
2. Do not permit the development of dugouts and new flow (artesian) wells.
3. No new ditches will be permitted in satellite allotments.
4. Manage existing ditches to ensure maintenance of water regimes.

5. Restore wetlands that have been compromised by ditching or other activities.

ANECDOTAL ALLOTMENTS WITH ORCHIDS

While these allotments are not deemed critical to metapopulation viability, they do provide opportunities for orchid management. Efforts will be made to protect flowering orchids in these habitats.

MONITORING AND RESEARCH

Monitoring Needs

Monitoring of orchid populations relative to various management practices will be continued. In addition, research should continue to quantify population dynamics and habitat requirements of the orchid, and identify specific management practices to maintain and enhance orchid populations.

Three types of monitoring are considered important in assessing these guidelines: implementation, effectiveness and validation monitoring. Implementation monitoring assesses whether or not the orchid management guidelines were implemented in the various management activities. An annual implementation monitoring report will be prepared by the SNG that describes how the orchid guidelines were incorporated into various management activities. This report will include:

- a summary of areas rested between 6/1-9/15 within each core allotment,
- areas treated for leafy spurge within core and satellite areas,
- pastures and allotments surveyed for flowering orchids,
- vegetation treatments (e.g. burning, mowing) done in core and satellite areas, including rested areas,
- a summary describing whether management was in compliance with guidelines.

Effectiveness monitoring addresses the issue of whether or not the orchid management guidelines are meeting the objectives for orchid conservation and maintenance of metapopulation viability. As stated earlier, the viability analysis indicated that the key life history variables for insuring viability of the metapopulation were: 1) the number of flowering plants, 2) the number of pods that set seed per flowering plant, and 3) the number of viable seeds incorporated into the seedbank. This information can be summarized by comparing the number of plants with viable seed pods, and the number of viable seed pods per plant, between grazed and ungrazed areas. As a long-term data set is further developed, we can better ascertain the effects of management activities on the orchid through a variety of climatic conditions. The Rocky Mountain Research Station (RMRS) will provide guidance in sampling design.

Validation monitoring addresses the issue of whether assumptions made in the orchid management guidelines are, or will continue to be, valid. This type of monitoring will also help determine the validity of assumptions used in assessing orchid viability. Validation monitoring would continue to focus on demographic characteristics of the metapopulation, and would be

used to further enhance knowledge of the life history requisites of the orchid. As such, validation monitoring would require site- specific transects or plots in a variety of environmental settings subjected to various management activities, and followed over long (10 year) time periods. This work can be characterized as research that would be conducted by RMRS. Although this research is considered outside of the purview of these management guidelines, it is essential in obtaining a better understanding of the Sheyenne orchid metapopulation. New information emanating from research will be incorporated into future revisions of the orchid management guidelines.