Vegetation Management on Habitat Friendly Solar Projects

Sample Sequences

The following information was developed through a collaborative effort to provide recommended vegetation management sequences for habitat friendly solar projects.

GENERAL OBJECTIVES

1. Maintain vegetation at a height that does not shade modules or interfere with operation of solar equipment
2. Reduce wildfire risk by reducing accumulation of vegetative thatch and/or speeding up breakdown of thatch
3. Establish and properly maintain functional native perennial vegetation to prevent soil erosion, maintain (or increase) soil fertility and water infiltration, provide beneficial habitat, and reduce invasion by noxious weeds and other undesirable species

MAINTENANCE PERIODS

- Establishment:
    - Timeframe: Seeding through approximately third growing season
    - Vegetation management should focus on mechanical cutting (mowing and trimming) 2-4 times per growing season to control weed growth which allows seeded species to establish, especially during the first two years
    - Selective herbicide use should be introduced during the second growing season or as needed to control perennial weeds and woody species
    - Sheep grazing may be introduced during the second or third growing season if included in management plan, as vegetation growth permits
- Long-term:
    - Timeframe: Approximately fourth growing season onward
    - Vegetation management can be reduced to the minimum required to prevent shading of modules and vegetation interfering with solar equipment, and control noxious weeds
    - Mowing should be reduced, ideally no more than 1-2 times per growing season depending on panel height, equipment layout, and vegetation type. Hand trimming around equipment may be conducted as needed.
    - Selective herbicide use should continue, at least once per year or as needed to control perennial weeds and woody species
    - Sheep grazing may be implemented up to once each active growing season, with additional grazing in dormant season optional for thatch and fire risk reduction. *Grazing pollinator-solar sites should be implemented only by experienced professionals at appropriate stocking densities and timing, to avoid damage to the native plants.*

SAMPLE MAINTENANCE SEQUENCES

Assumptions: May 15th seeding, average MN precipitation, 24" ground clearance, tracking panels

Medium-heavy soils and/or high weed pressure site

First year:

- Assess site in mid-June or 30 days after seeding to evaluate germination of seeded species (primarily cover crop) and determine mow timing
- Mow site in mid-June
- Assess site again in early to mid-July to observe regrowth after mow and evaluate germination of seeded native species
- *If extensive perennial weeds are present which are not well-controlled by mowing or are at risk of out-competing seeded species, selective spot application of herbicide may be needed. This application should be timed mid-summer around mowing and during vegetative growth stage of target species.*
- Mow site in mid to late July
- Assess site again in early September to observe regrowth after second mow and continue to evaluate germination of seeded native species
- Mow site in mid to late September
- Assess site again in fall to observe results of management techniques during the year, review germination of native species, check for erosion and any other issues, and adjust plan for second year as needed. If sheep grazing is to be used as a management tool, begin evaluating site vegetation for establishment and ability to support grazing.

Second & third year:

- Assess site in mid-May to determine timing of first mow, look for noxious weeds which require herbicide application, and check for erosion or any other issues
- Mow site in mid-June. Grazing may be implemented in lieu of mowing if management plan and vegetation growth supports it.
- Conduct selective herbicide application in early July for noxious weeds, woody plants, and other undesirable species for solar
- Assess site again in mid-July to observe regrowth after mow and evaluate spray results
- Mow (or graze) site in late July or early August
- Assess site again in early September, third mow may be unnecessary. Observe results of management techniques during the year, review germination of seeded species, check for erosion and other issues, and adjust plan for next year as needed.

Fourth year & onward:

- Assess site in spring (mid-April through mid-May) to evaluate previous year's management results. Look for noxious weeds and woody species, check for erosion or any other issues, and adjust plan for upcoming growing season as needed including timing for sheep grazing if applicable.
- Mow in mid to late June, ideally targeting only array area and/or only low panel edges to preserve habitat in rows and open areas of site. Grazing may be implemented in lieu of mowing.
- Conduct selective herbicide application in mid-July for noxious weeds, woody plants, and other undesirable species for solar

- Assess site again in late July or early August to observe results of previous management techniques and make further recommendations
- Spot mow in August for areas of tall vegetation and/or woody species control, as needed
- Second herbicide application may be occasionally recommended for late summer/fall

Dry soils and/or low weed pressure site

First year:

- Assess site in mid-June or 30 days after seeding to evaluate germination of seeded species (primarily cover crop) and determine mow timing
- Mow site in mid to late June
- Assess site again in mid-July to observe regrowth after mow and evaluate germination of seeded native species
- Mow site in mid-August
- Assess site again in mid-September, likely third mow unnecessary. Observe results of management techniques during the year, review germination of seeded species, check for erosion and other issues, and adjust plan for next year as needed. If sheep grazing is to be used as a management tool, begin evaluating site vegetation for establishment and ability to support grazing.

Second & third year:

- Assess site in mid-May to determine timing of first mow, look for noxious weeds which require herbicide application, and check for erosion or any other issues.
- Mow site in mid to late June. Grazing may be implemented in lieu of mowing if management plan and vegetation growth supports it.
- Conduct selective herbicide application in early to mid-July for noxious weeds, woody plants, and other undesirable species for solar.
- Assess site again in mid-July to observe regrowth after mow and evaluate spray results.
- Mow (or graze) site in mid-August.
- Assess site again in mid-September, likely third mow is unnecessary. Observe results of management techniques during the year, review germination of seeded species, check for erosion and other issues, and adjust plan for next year as needed.

Fourth year & onward:

- Assess site in spring (mid-April through mid-May) to evaluate previous year's management results, look for noxious weeds and woody species, check for erosion or any other issues, and adjust plan for upcoming growing season as needed including timing for sheep grazing if applicable.
- Mow in mid to late June, ideally targeting only array area and/or only low panel edges to preserve habitat in rows and open areas of site. Grazing may be implemented in lieu of mowing.
- Conduct selective herbicide application in mid-July for noxious weeds, woody plants, and other undesirable species for solar.
- Assess site again in late July or early August to observe results of previous management techniques and make further recommendations.
- Second herbicide application may be occasionally recommended for late summer/fall. Second mow unlikely to be needed.