Weed Control in Riparian Habitat Restoration:
3 design recommendations for scaling up implementation efficiency

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In the riparian zone, water and sunlight are not limiting to plant growth, which means weed control is critical to the establishment of native vegetation.

Weed control is usually the largest cost of a restoration project in this ecosystem, and is the most important activity for project success.

Presentation:

We will present three design recommendations for weed control in riparian restoration projects based on lessons learned from 20 years experience:

1) **Design project for use of motorized equipment for activates such as spraying and mowing**
2) **Favor perennial and biennial herbaceous species**
3) **Separate grass and broad-leaf species across the project**

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1. Design project for use of motorized equipment for activates such as spraying and mowing

This restoration project was designed to have shrubs and trees planted in rows which makes watering easy, but also allows us to mow, spray and seed the site using tractors.

After a few growing seasons, the planting rows are not visible.

Wildlife response is excellent.

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1. Design project for use of motorized equipment for activates such as spraying and mowing

We use simple plant protectors that are designed for ~2 years of wear, are inexpensive, and decompose in the landscape.

These plant protectors also incr
moistur
around
and pro
voles.

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1. Design project for use of motorized equipment for activates such as spraying and mowing

GPS technology can be used to ensure that planting rows meet specs and can generate an accurate as-built map which supports comprehensive performance monitoring for years after planting

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2. Favor perennial and biennial herbaceous species

Perennial and biennial grasses and herbs compete better against weeds than annuals.

Larger root mass than annuals that helps them compete after disturbance.

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2. Favor perennial and biennial herbaceous species

The aisles between planting rows can be seeded with a drill seeder to get an accurate seeding rate and fast installation over many acres.

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2. Favor perennial and biennial herbaceous species

Perennial and biennial herbs can be repeatedly mowed throughout the growing season to eliminate seed set from annual weeds and encourage development of large root ma

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2. Favor perennial and biennial herbaceous species

Annuals can be added to the site plan in locations where weed pressure is not high and germinants would be protected from mowing.

Planting berms can be a suitable location for cultivating annuals.

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3. Separate grass and broad-leaf species across the project

Herbicides that specifically target broadleafs can be used to favor grass establishment.

Herbicides such as Weedar 64 2-4-D

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Herbicides that specifically target grasses can favor excellent establishment of broadleaf species like mugwort.

Such as Poast Herbicide.

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3. Separate grass and broad-leaf species across the project

Grasses or broadleafed species can be interspersed across the restoration project in arrangements that allow tractor spraying using grass-specific or broadleaf-specific chemicals.

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By incorporating these 3 design considerations in the restoration plan, project performance and cost will be dramatically improved.