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## POLLINATOR HABITAT: ESTABLISHMENT AND POST-PLANTING MANAGEMENT



Mature pollinator habitat, four years post-planting in Latah County, Idaho,  
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### INTRODUCTION

This Technical Note includes recommendations for pollinator habitat establishment and post-planting management based on evaluations of plantings in eastern Washington and northern Idaho during the last five years. Pollinator habitat refers to the CP42 practice in the Conservation Reserve Program (CRP) and pollinator habitat practices in the Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CStP). The recommendations are applicable to pollinator habitat in eastern Washington, northern Idaho and northeastern Oregon.

### POLLINATOR HABITAT ESTABLISHMENT

There are three important steps for successful pollinator habitat establishment:

- 1) Site preparation
- 2) Species selection
- 3) Equipment selection and use

#### Site Preparation

Perhaps the most important step for successful establishment of pollinator habitat is site preparation. Species planted for pollinator habitat are often native broadleaf species, which grow slowly and are not competitive with weeds. A seed bed free of weeds is critical for native plant establishment. Seed beds prepared with cultivation (or were previously in an annual crop rotation and being converted to CRP) should be treated with herbicide for weed control for a minimum of one to two years before planting. Although cultivation by itself is an adequate

seed bed preparation method for standard (grass-dominant) CRP mixes, land managers do not typically have the same level of success when planting pollinator (forb-dominant) mixes into cultivated seed beds.

The most successful establishment we have observed in the last five years occurs when native forbs are direct seeded into existing stands of grass that have been killed with herbicide (chemical fallowed). Old stands of crested wheatgrass often require two years of chemical fallow for adequate control. Sometimes a heavy harrow or cultivation is necessary for breaking up crowns of crested, tall or intermediate wheatgrasses and big bluegrass before seeding. A summary of our establishment observations is summarized in Table 1, below.

Table 1. Rate of CP42 (CRP Pollinator Habitat) establishment success based on previous land use and transition methods. Results are from field assessments we conducted during the last five years.

	<b>Previous Land Use</b>	<b>Transition Methods</b>	<b>Rate of CP42 Success</b>
1	wheat-fallow	cultivation	Low
2	CRP	cultivation + minimal herbicide applications	Low
3	CRP	cutlivation + multiple herbicide applications	Moderate
4	CRP	no cultivation, chemical-fallow	Moderately high

The Washington Department of Fish and Wildlife (WDFW) has observed in their State Acres of Wildlife (SAFE) Program successful establishment techniques employing cultivation are often associated with one or two scenarios: the landowner has minimal weed pressure in the fields being planted and/or the field has shallow, rocky soil. The WDFW often recommends the following protocol to improve establishment success when cultivation is used for seedbed preparation:

- Year 1) Plant full rate of grass (native bunch grass species) in the fall
- Year 2) Control weeds with herbicides and mowing throughout the growing season
- Year 3) Mow grass and plant forbs with a double disk drill in the fall, preferably in a shallow, rocky area

The WDFW protocol outlined above may not always be feasible within the guidelines of the CRP or other programs due to differences in contract timelines and planting dates. We suggest working with your Farm Services Agency office (if CRP), the landowner, and local conservation experts to develop a reasonable protocol.

**Species and Seed Selection**

Use the Washington NRCS Biology Technical Note 24 (2013 revision) for species selection in your precipitation zone. Consult with Plant Materials staff before making any species substitutions. Most importantly, insist the landowner buy certified or certified quality seed. This means it has been tested for purity and germination, which is necessary for determining bulk seeding rates. Land managers should request seed tags or, if not available, a lab report showing percent purity and germination.

**Equipment Selection and Use**

Land managers have used many type of drills to successfully establish pollinator habitat. Double disk and hoe drills are common, and cross-slot and other direct seed drills have also been used. The most critical aspect to planting pollinator forbs is to ensure seeds are buried no more than 1/8 to 1/4" deep. If the drill has multiple seed boxes, small seeds should be placed in the small seed box and tubes removed from the drill openers to let seeds drop on the soil surface (when planted in the fall only). This technique is especially effective on soils with a fluffy texture or uneven surface.

## **FAILED PLANTINGS: STEPS TO MEET COMPLIANCE**

Sometimes plantings fail to establish, even with the best planning and implementation methods. Reasons for failure vary from weather events (strong winds, lack of timely precipitation, extreme low temperatures) to soil crusting, seed predation and seed dormancy. Stands may fail to meet certification standards based on plant density or number of species. If a field fails to meet density requirements, the entire stand may have to be replanted. If the stand fails to meet the number of species requirement, the reseeding strategy will depend on weed pressure and other factors. The decision tree on the following page outlines a list of questions and steps that should be taken to improve the likelihood of meeting certification standards.

## **SUCCESSFUL PLANTINGS: CONTINUOUS MANAGEMENT**

Pollinator plantings require special attention and adaptive management. The space between broadleaf plants often becomes occupied with perennial and annual weeds. Pollinator plantings should be monitored on a semi-annual basis, and weeds should be controlled to prevent them from increasing and dominating the stand. Mowing as the only weed management tool may limit stand vigor by damaging desired plants and preventing them from reproducing. The most effective weed control methods are spot spraying or using selective herbicides. Grass selective herbicides to control regrowing grass may also be necessary in stands where chemical fallow was used for seedbed preparation. Consult with your local herbicide or extension specialist for herbicide recommendations.

## **LONG-TERM SUCCESS**

We have yet to determine the longevity of pollinator plantings since they have only been in existence since the 2008 Farm Bill. We will continue to monitor the plantings and determine if forbs can persist for long periods of time.

## **ADDITIONAL SOURCES OF INFORMATION**

- Washington NRCS Biology Technical Note 24 (2013 Revision): Plants for Pollinators in the Inland Northwest
- Idaho NRCS Plant Materials Technical Note 65: Planning and Implementing a Seeding in Sage Grouse Country
- Washington NRCS Range Technical Note 101: Eastern Washington Range and Pasture Seedings: Planning, Installation and Evaluation

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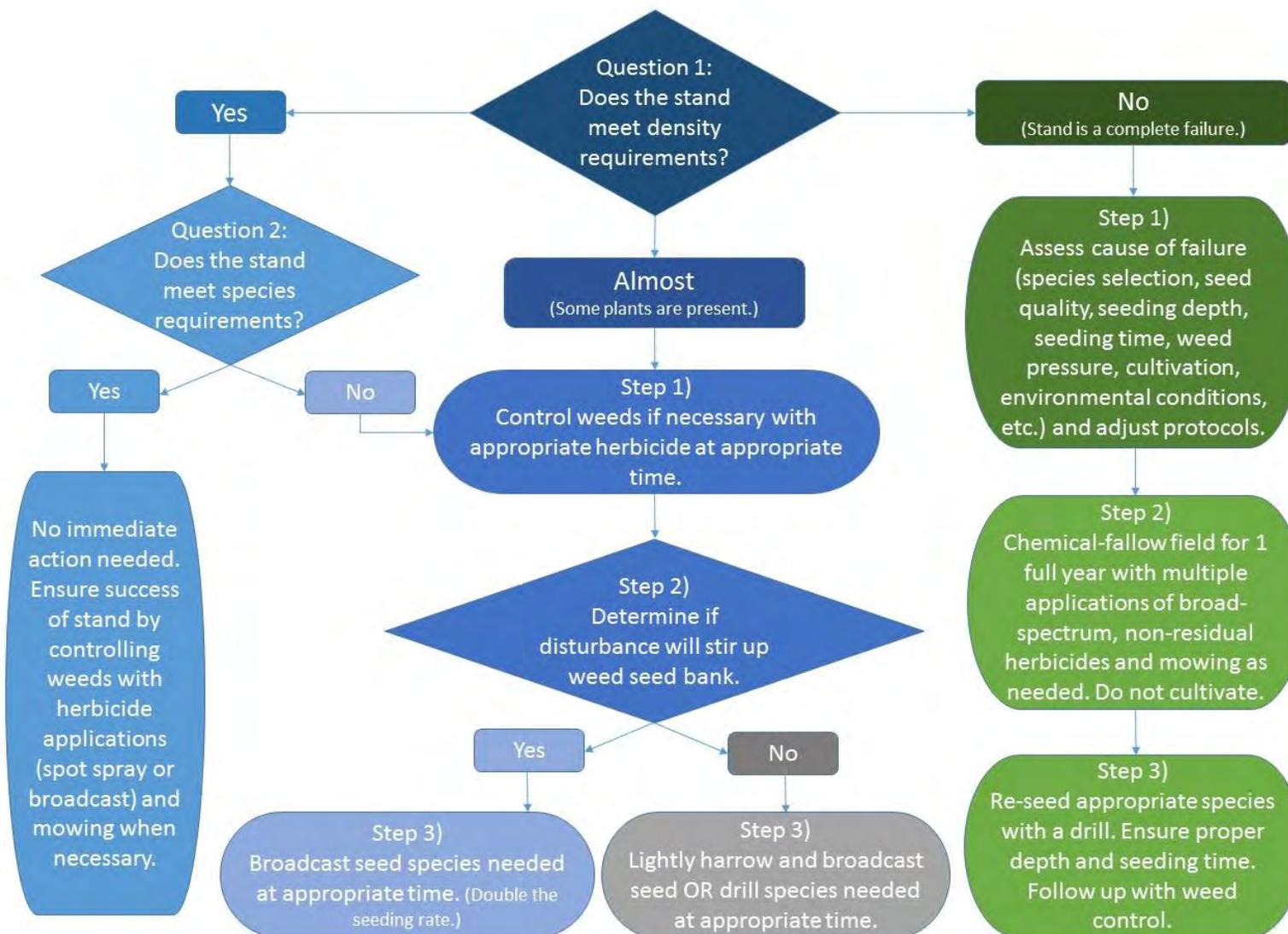
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**DECISION TREE FOR POLLINATOR HABITAT POST-PLANTING MANAGEMENT**



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