

Benton County Prairie Species Habitat Conservation Plan – Butterfly and Lupine Technical Advisory Committee



August 22, 2007 Meeting Minutes

Attendees

Steve Smith- U.S. Fish and Wildlife (USFWS)

Dana Ross, Private Biologist

Paul Hammond & Mark Wilson- Oregon State University (OSU)

Al Kitzman, Benton County Natural Areas and Parks

Tom Kaye, Carolyn Menke, Lori Wisehart, Michelle Michaud- Institute for Applied Ecology (IAE)

Via conference phone: Cheryl Schultz & Dina Roberts- Washington State University (WSU)

Public Attendees:

Rana Foster

Minutes

Introductions

Species Locations Updates

Carolyn provided a map of draft Fender's blue butterfly (FBB) and Kincaid's lupine locations and a handout Kincaid's lupine and FBB abundance at surveyed sites.

Carolyn: Public and private properties surveyed in 2007 and estimates of abundance for all surveyed properties in listed in the handout. There were a few new ROW locations; one was Ward Rd. in Kings Valley where Kincaid's lupine was found, but no butterflies there observed even though eggs were found under leaves (possibly FBB).

Tom: There were only a few eggs, suggesting mature females may be around. But the population is not close to a known source.

Cheryl: The eggs may not be FBB. Silvery blue may also lay eggs under leaves.

Dana: Can you differentiate FBB eggs from silvery blue?

Cheryl: Not really, especially not in early larval stages. Have watched silvery blues lay eggs under leaves or found eggs under leaves them when silvery blues were out but not FBB. When young inflorescences are out, silvery blues will aim for that area of the plant to lay their egg, but may accidentally lay underneath leaves because of the way they are curled around the developing inflorescence.

Dana; What about competition determining where silvery blues lay? If FBB are present maybe competition drives them to lay on top of leaves, but if FBB are absent they can be more general (laying eggs on underside of leaf)?

Cheryl: Don't know of any research /observations to support or deny this idea.

Carolyn: No new large ROW populations. On city lands there is a known population of lupine that IAE confirmed but Dana's surveys did not find FBB there. A small patch of Kincaid's lupine was found on an easement near Finley, but again, no eggs or evidence of FBB. At EE Wilson, a few small patches of Kincaid's lupine were confirmed, but no FBB seen during Dana's surveys this year.

Steve: There are a couple of acres of Kincaid's lupine on the National Guard rifle range near Adair. Jeff Mack is contact for rifle range to do future surveys there.

Dana: That area has been surveyed previously but not found FBB there.

Carolyn: We didn't survey many ODOT rights of way. Labare Rd. has lupine, FBB unknown. At the Soap Creek beef barn (OSU College of Ag. property) we found 300+m² of Kincaid's lupine and scattered eggs, no FBB confirmation by Dana. This population of Kincaid's lupine was the big find for this year. Although the population is big and spread out, nectar sources are generally weak, patchy, and threatened by meadow knapweed. The lupine is mostly found on the perimeter of oak forest.

Tom: The population is so big that we can't yet rule out that FBB is there or not.

Paul: If it's 8 km from Butterfly Meadows that's pretty distant. Also, the habitat between the two locations is wooded, so dispersal chances are low.

Dana: The Soap Creek area might be a good choice for reintroducing FBB.

Tom: Nectar resources would need to be improved and changes would have to be made in land use, it's currently managed for beef.

Carolyn: The site has value and potential.

Paul: Talked to Debbie Johnson, OSU College of Forestry and she talked to the College of Agriculture folks who seemed receptive to managing for habitat.

Tom: The OSU College of Agriculture director was not against idea of managing land with rare species in mind.

Carolyn: We would like to give OSU some ideas now about how to manage the land.

Carolyn: No big finds on private lands. Some more FBB and Kincaid's lupine were found in Wren area. Cheryl and Dina did dispersal studies in that area this summer.

Paul: Small lupine patches within a 2 km area of known FBB are definitely visited by FBB even if they're not found in that patch this year.

Tom: Big patches just outside of 2km reach will be valuable stepping stone areas.

Paul: Will provide Carolyn with number of butterflies observed at Brown, Henkle Way and Butterfly Meadows. The Henkle Way population is doing well, but we do not know how they colonized the patch because it's pretty distant from other FBB populations. Surveys in 1990s didn't find FBB there. Kincaid's lupine was first found in 1990. Surveys around the valley within road access did not show habitat areas. Although other bald hills in vicinity may provide habitat.

Carolyn: Lupine on Henkle Way does extend onto adjacent private properties. Size of population is unknown. IAE will try to access in 2008.

Steve: USFWS found *Lupinus albicaulis* off HWY 34.

Paul: FBB could potentially use the *L. albicaulis* patch but his surveys didn't show them using it this year. Approximately 20 FBB at Henkle. Butterfly Meadows and Lupine Meadows populations are also doing well this year.

Dana: 2007 was a good year overall for butterflies.

Hotspot mapping Goals/Methods

Carolyn: The goal of hotspot mapping is to delineate areas likely to have Kincaid's lupine and FBB present for county permitting process. Need to have extra caution issuing developing permits anywhere there are likely to be potential impacts to FBB, Kincaid's lupine, and nectar species. Mikki Collins (USFWS) has suggested a ½ km zone is likely for intense nectar habitat use.

Cheryl: The ½ km is probably reasonable. Once the butterflies leave an area they're dispersing. Any nectar close to lupine will be used more than nectar farther away. The larger the source population, the more butterflies there are in the landscape. Sizeable patches of butterflies move more so nectar sources used may be farther away than the nectar sources used by smaller populations. Connectivity between populations may be more important than size of populations when considering this kind of information.

Carolyn: Should the zone from Henkle Way to Lupine Meadows along HWY 34 be part of the hotspot layer (as a corridor) or are those areas too far away (greater than 2km)?

Cheryl: Small FBB populations suggest there are other populations in landscape that we don't know about.

Tom: One issue is issuance of building permit by County. Surveys will be required for butterflies and habitat during the appropriate time of year. The hotspots need to be large enough to reduce the risk to the butterfly, but not so wide that it's unreasonable for property owners.

Cheryl: IAE should survey the hotspot areas in 2008.

Carolyn and Tom: Yes, but not able to get everywhere. So map is still important.

Paul: So at Henkle Way where another population in valley is likely a survey radius would be required.

Tom: Yes, so how do we determine that radius? Automated criteria adjusted by expert opinion?

Cheryl: We have knowledge of historic prairie and where there could be linkage in the future or unknown populations. Making a hot spot map that incorporates all of this important recovery information will be needed.

Carolyn: We used GIS to create 2 km buffers around each known FBB population, basically using the broadest strokes possible. Then we selected taxlots based on buffer zones. USFWS for NEPA and human impacts will want to know amount of people affected by restrictions. At Henkle Way a 2km buffer yields tax lots that include forested layers, which are not going to be a hot spot. Some of areas not in hotspot zones have not been surveyed but still are potential habitat (historic vegetation).

Mark: So how do you balance conservation need with public impact?

Carolyn and Tom: By incorporating public comment with recovery needs.

Mark: TAC may not be able to determine what the hotspots are.

Carolyn: But TAC can provide us with the technical information about requirements for habitat and what types of areas are valuable.

Tom: The group may have diversity of opinions which is ok. Information will be taken to commissioners who ultimately decide.

Cheryl: We keep discovering more. So, need to keep options open for species. Especially because small populations suggest there are other populations nearby. Also want HCP and recovery plan to complement each other.

Tom: Although some of hotspot structuring can dovetail with overall network of connectivity and recovery. The hotspots ultimately deal with take numbers of butterflies and amount of lupine and nectar. Connectivity is hard to quantify for take. Need to look at habitat that can be impacted. What kinds of habitat will have impact to those resources? Or, areas may be good habitat but far away from butterfly- do they get included?

Dana: So look at key resources, where butterflies are, where resources are but no butterflies, and how we look at resources will be hard.

Paul: Is there a consensus on the 2 km zone for defining hotspots?

Michelle: USFWS gave 2 km population buffer.

Paul: That buffer is conservative; it could be bigger.

Mark: Areas that might have butterflies now- have high likelihood; don't want to lose them because it's illegal, etc. Historic prairie should be surveyed. Suggest three categories for hotspot determination:

- Pre-settlement prairie habitat, current prairie habitat,.
- Near moderate and large existing populations
- Corridor – 2 existing pops have a corridor which should require survey because it would increase metapopulation chance of existence over time.

Steve: Use a strict guideline now until HCP is implemented. Then HCP will allow for determining if population is large enough to care about or whether there will be take, and then mitigated later. If made aware, there will be good public response to surveys for the coming year. Good for commissioners to see Henkle way example, because it shows how HCP can be used as a tool.

Carolyn: Does the south part of county seem like an area where we should be focusing then? Like the Henkle Way valley, considering future zoning.

Mark: Shouldn't every permit require a survey?

Tom: Except for areas of habitat that is not useful.

Steve: The legal buffer is 2km, but you'll recommend a different buffer based on actual info –habitat etc.

Mark: If we don't know where future small populations are located how can you allow development without surveying?

Paul: Kings Valley was once extensive native prairie. Lupine is there, but no butterflies found suggesting there is probably no need to have a hotspot area there. May be unnecessary to have the same requirements on land owners for an area where there is no butterfly known compared to areas like Wren where butterflies are known.

Mark: The highest priority is protecting existing populations with 2 km buffer. Second priority is if pre-settlement vegetation and present vegetation look good then keep it in. Third priority is minimum size parcel, an acre? Fourth - increase size of satellites. Draw a line around known populations, then go 2 km outside that. Fifth -Corridors between any two populations allowing middle populations to serve as stepping stones.

Tom: Purpose of hotspots is to identify areas most likely to have butterflies, not trying to figure out how to develop connectivity.

Carolyn: Planning team will develop an interim protocol and then solicit feedback from TAC.

Tom: Concern is that the number of parcels that have good present and historic vegetation is large. Also, corridors are likely to be captured in most cases. To modify Mark's proposal, apply regular criteria to areas where we know FBB occur but then also look at landscape for areas that look like potential hotspots. There may be clusters of habitat that we don't know anything about because we haven't surveyed, that will be hot spots, but we shouldn't include all of the areas in the county because we know enough about some of those areas to exclude them.

Dana: Just consider where they're known from and where else there is habitat. Those should be the criteria.
Paul: How would you treat Kings Valley area in that respect?

Steve: Narrow down hotspot issue by focusing on where risk is for the interim. Probably don't want to include areas without FBB in hotspot. Only include areas that are within 2km of known FBB. Also, East side of Decker Ridge good habitat good for survey.

Tom: Last time we went to Commissioners they said to develop hotspot map which will be modified once HCP is written.

(Clarification that hotspots refer to FBB only, not other butterflies like Taylor's checkerspot).

Discuss Management Plan Drafts (Cheryl's emailed comments included in discussion)

Mark: FBB surveys should occur April 25 through June 5. Keep it narrow to avoid false absence findings. Permit language will need to specify that surveys have to be done by qualified lepidopterist surveyors.

- **Mowing:**

Paul: Good success mowing spurred lupine at Basket Butte in mid summer, just before grass is getting ready to set seed. Mowed lupine at end of June (20th), seed pods were shed leaflets turning brown, etc. Great results. Lupine following year had good growth. First year mowing reduced grass coverage. May want to alter timing of mowing in future to allow some mowing in small treated areas during growth season of Kincaid's lupine as a weed management practice.

Tom: Soften language to say in general mowing should be conducted outside main growing season, but in specific circumstances may mow during growing season to control certain weeds mowing were beneficial.

Paul: Recommendations for burning may also apply like mowing.

Mark: Are these regulations or suggestions?

Carolyn: Depends. We want to provide "regulations" for County stuff but also use information as guidance for other activities. We realize we are not going to be able to write a single prescription for every example.

Steve: Have one document which gives the do no harm recommendations. Then have a separate document for cases like restoration activities where you have different guidelines for these activities. Like for site-specific management plans.

Paul: The critical thing about management recommendations will be take.

Tom: What do you tell a private landowner they can do, without the take issue?

Steve: Nothing. They can get a partners agreement which will allow them to mow at specified times, but that is all. The issue has come up in other urban areas. Need to make sure your level of detail doesn't put landowner at jeopardy for take.

Tom: Are there no recommendations we can make that are no-brainers (don't result in take)?

Steve: If any of your recommendations result in take then they should not be given to landowners, until a landowner can get a Certificate of Inclusion from county, then incidental take permit will allow for take under management recommendations. They would be included as incidental take activities.

(Consensus that management recommendations for landowners would be provided as part of HCP so that landowners could be covered for take resulting from any of the practices)

Michelle: Draft plans as way to minimize take and have separate plans for roadsides/landowner maintenance and restoration/mitigation activities.

Mark Paul, Dana and Tom: Mow it and the lupine and butterflies will come back. It's more important to get rid of the weeds than to avoid a small amount of take.

Tom: We still don't know the best ways to restore and manage.

Al: But doing nothing is the biggest take.

Tom: Possible to do the right thing at wrong time or the wrong thing at wrong time, so it's important to provide landowners with guidelines. Also, remember there is adaptive management so recommendations can change.

Paul: Larvae are on ground in mid June. In special cases for exotics you could mow as early as June 15th.

Mark: Need to remember that these recommendations are for "do no harm".

(Committee agreed on a March1-Sept 1 no mowing schedule, except in special cases [i.e. restoration projects]).

Tom: Mowing has been shown to be good for FBB. The entire site could be mowed but only one treatment per year until we know more.

(Committee agreed that it is better to leave cut material after removal treatments, unless it is large woody debris.)

Carolyn: Is there a goal for mower heights? Should we change to 5-15 inches?

Paul: Should not mow lower than 3 inches, 5 inches would be conservative to avoid harming FBB.

Steve: Homeowners use flail mowers in late season which can go to within ½ inch of the ground. So it's important to distinguish type of mower and mower height. Blades should not gouge ground. No lower than 3 inches (final number!).

- **Grazing**

Carolyn: What about grazing?

Paul: Against it.

Dana: Light grazing may be good

(Consensus- the amount of livestock trampling and time of year need to be considered).

Mark: What about saying that grazing has to occur through consultation because its too complicated.

Michelle: Grazing could be excluded as a covered activity.

Steve: There is no evidence that grazing and butterflies are compatible.

Mark: They can be compatible, but details need to be worked out on individual basis.

Dana: Working with TNC on a grazing study to see effects on butterflies. One year of data suggest lightly grazed areas do ok. Moderate to heavy grazing leads to too much trampling and compaction.

Carolyn: Livestock owners frequently have larger properties and we don't want to alienate them or exclude them from conservation goals. We will skip burning for now, because it will only be part of specific restoration plans.

- **Herbicide**

Mark: Need to clarify that far point of burned area needs to be within 100m of a source population for recolonization.

Carolyn: Steve pointed out that partners can't use herbicide. Cheryl thinks there's little evidence to support herbicide safety for butterflies..

Tom: MS thesis research at OSU has done surveys to show that spraying has had no effect on larvae. But not sure about effects on other life stages. More research is needed but can't over-generalize that spraying is bad.

Steve: Guidelines for herbicide will be important so do include them despite uncertainties. Ultimately it will come to FWS call about whether it's acceptable.

Mark: Herbicide application must be followed with seeding treatment afterwards.

Tom: That recommendation would vary by site. Herbicide may be compatible but it has to be implemented according to plan and label.

Dana: There are some important divergences between recommendations for FBB and Taylor's. Examples include timing of mowing and herbicide application in Taylor's meadows. Taylor-specific recommendations are going to be developed in a separate document that Dana will write (management plan for Taylor's checkerspot). Crab spiders, parasitoid wasps, web-spinning spiders all can prey on Taylor's. Not much predation by birds.

Tasks

- Develop and review management plans for Taylor's
- Update/modify Fender's proposed management plan