Final Draft 2012 EPFO Cross Pollination and Seed Dispersal Plan:

1) Focus on crossing small (<50 plants) populations.
2) Focus on sites within 50 miles from each other.
3) Do not augment Bunker Hill, Wayside, or Miami Pr. (The deer populations are too high, even if a robust EPFO population is established, each blooming EPFO would have to be caged which may not be a good use of time and energy.)
4) Cross as closely as possible within similar plant communities (prairie or sedge meadow).
5) Crosses and seed dispersal should contribute to recovery.

   a. Follow the Recovery Plan in trying to cross-pollinate populations where, if they produce larger populations, they would contribute to recovery in the appropriate plant community and physiographic regions needed for recovery from Illinois. Example: From Illinois, in the plant community of prairie and physiographic region of Lake Michigan lake plain we need at least 2 highly viable populations from IL and WI. Sites that are prairie and in Lake Michigan lake plain in IL are: Miami Woods, Gensburg-Markham, Paintbrush Prairie, Sundrop, and IBSP, although none are currently considered highly viable.

   b. The highest priority sites would be those that have the best likelihood to increase the population viability from moderate to high. Using the Population Viability Assessment (Dr. Tim Bell 2007), these would be moderately viable sites with small populations. The highest priority sites are listed below.

   - Illinois Beach State Park NP
   - Loda Cemetery Prairie NP
   - Lone Grove (although in 2011 this site had 94 blooming EPFO)
   - Lyons Woods Prairie NP
   - Middlefork Savanna NP
   - Somme NP
   - West Chicago Prairie (Truitt-Hoff) NP

Illinois Beach State Park NP

- Receives pollen from Somme Prairie Grove, Rudd and/or Wrigley populations.
- Receives seed from Chiwaukee Prairie NP, Wisconsin
- (Since 1993, seed introduced from Chiwaukee, & Lyons)

Loda Cemetery Prairie NP

- Receives pollen from Grant Creek NP population (56 miles from Loda) (65 driving miles from Loda). (Please note that although a recommendation from the 2012 EPFO Resercher’s meeting was that “pure” populations (defined as either a natural population that never had seed brought into the population or, an introduced population from one seed source) would be left alone (defined as not bringing any pollen into these populations), based on further analysis leaving these sites alone may not be beneficial, as some “pure” sites are also very small and may benefit from cross-pollination. Therefore, Loda Cemetery Prairie NP may receive pollen from Grant Creek NP).
Lone Grove
- Receives pollen from Wrigley population (45 miles from Lone Grove)
- (Since 1993, seed introduced from Helm, Long Gr., Glacial Park, & Wadsworth)

Lyons Woods Prairie NP
- Receives pollen from Rudd, or Wrigley
- (Since 1993, seed introduced from Wrigley, & Wadsworth)

Middlefork Savanna NP
- Receives pollen from Wrigley or Wadsworth NP
- (Since 1993, has received seed from Wadsworth, Wrigley, Abbott, & Lyons)

Somme NP
- Receives pollen from Wrigley, and/or Rudd
- (in the past, this site has received seed from Wrigley)

West Chicago Prairie NP
- Receives pollen from Somme Prairie Grove and/or Wrigley
- (Since 1993, has received seed from Hybernia, Wrigley, Abbott, T&C, and Rudd)

Low viability populations would only be recipients of pollinia if the donor population is not limiting this season, meaning that it has abundant blooming EPFO and in turn pollinia. If this is the case, the following would apply. We recognize the possibility that the donor populations listed below may not have sufficient pollinia to donate to other sites.

Pollen from Bystricky Prairie (sedge meadow community) if agreed upon by MCCD, to go to:
- Queen Anne (never augmented with another seed source, small population, across the road from Bystricky Prairie in sedge meadow)
- Ascension Cemetery Prairie (sedge meadow)

Pollen from Wrigley to go to:
- Abbott Park (prairie) (never augmented with another seed source, small population)
- Rudd (prairie) (consistently very small population, but always robust plant(s) in height, stem thickness, and number of flowers never augmented with another seed source).

Pollen from Rudd to go to:
- Wrigley
- Somme Prairie Grove

Pollen from Somme Prairie Grove (prairie) to go to:
- Abbott Park (prairie) (never augmented with another seed source, small population)
- Wrigley (prairie and sedge meadow EPFO areas) (never augmented with seed from another source, still questionable for this site.)

Pollen from Swift Prairie (prairie) to go to:
Churchill Prairie NP (prairie) and vice versa (both sites small and in close proximity to each other, Churchill had received seed from Hybernia and Abbott Pk. Swift has not previously been augmented with other seed and although it is a small population, the plants are consistently robust in plant height, diameter of stem, and number of flowers.)

Protocol for transferring pollinia from the donor site to the receptor site:

- 5-10 pollinia collected from the donor site.
- Collect from no more than 10% of the plants in a population and no more than 10% of the flowers on a plant.
- To maximize diversity, each pollinium should be from a different donor plant.
- The pollinia should remain cold and dry. Use a cooler with a cold pack (rather than ice) and stick the toothpick in a styrofoam cup and place the cup in the cooler in the field. A larger cooler (with ice or cold packs) can be available in the vehicle to place the smaller cooler in so that it remains cool.
- Complete the transfer within one day because the pollen viability may decrease too rapidly overnight.

Seed: If seed is abundant this season, the following would apply, although we recognize the possibility that the seed donor sites listed below may not have sufficient seed to donate to other sites. In all cases, 5-10 seed capsules would be donated; however, this number may increase or decrease depending on if the donor population is large or small this year.

Seed from Somme Prairie Grove (prairie) to go to:
- Florsheim NP (prairie) (no plants since 2003, has received seed from Wrigley)
- Churchill Prairie NP

Seed from Wrigley (prairie and sedge meadow?) population to go to:
- Gensburg Markham NP (prairie) (no plants since 2000, previously received seed from Chiwaukee, Wadsworth, and Town & Country).
- Wolf Road Prairie NP (prairie) (asked for seed from Nachusa. Wolf Road had plants historically, but none since at least 1991, Nachusa seed is from Wadsworth and perhaps Hildy Prairie NP (still checking)
- Ascension Sedge Meadow
- Churchill Prairie NP
- Somme NP
- Sand Ridge NP (no EPFO currently, receptor site for EPFO seed from Hildy in 2002)

Seed from Nachusa (prairie and sedge meadow?) to go to:
- Wolf Road Prairie NP (prairie) (they specifically asked for seed from Nachusa. Wolf Road had plants historically, but none at least since 1991.)
- Ascension Sedge Meadow (one of three IL populations in sedge meadow and Wisconsinan drift.)
- Spring Lake NP (will visit to determine if suitable as a receptor site; not sure if this site is prairie or sedge meadow plant community)
Seed from Hildy NP (sedge meadow) to go to:
- Ascension Cemetery Prairie (sedge meadow)
- Romeoville Prairie NP (sedge meadow & prairie) (currently no EPFO, seeded in 2002 with EPFO seed from Hildy NP)
- Rock Run Land and Water Preserve (sedge meadow & prairie) (currently no EPFO, seeded in 2002 and 2004 with EPFO seed from Hildy)

Seed from Bystricky Prairie (sedge meadow) to go to:
- Ascension Cemetery Prairie (sedge meadow)

Considerations for EPFO seed dispersal:
- Seed capsules should be dispersed within the donor site as soon as possible after collection.
- Seed capsules can be dispersed in a number of ways
  - Tie capsule with string to a plant in the donor prairie to let the wind disperse the seed somewhat naturally.
  - Mix seed with an inert base such as sand or flour and hand disperse in suitable habitat.
  - Ground can be lightly disturbed to ensure seed making contact directly with the ground.