



## Butterfly Habitat Creation at *the Wilds* Progress Report November 2003

Nicole Cavender, *the Wilds*  
Director, Restoration Ecology

### **Summary of Progress (April 2003- November 2003)**

This report summarizes the progress made in the first season for the creation of a large-scale butterfly habitat at *the Wilds*. The first phase of this project, outlined in the Partnering for Ohio Butterflies proposal, is the creation of an open grassland/meadow habitat on approximately ten acres, suitable for the support of a variety of resident and migrant butterfly species.

### **Site Preparation**

In order to kill the existing vegetation in the habitat area and to prepare it for seeding, glyphosate herbicide was applied during the months of June, July, and September, followed by additional spot treatments in October.



*Southwest view of butterfly habitat area before and after site preparations*

### **Seeds**

Seed collecting took place from September through October mainly in Franklin, Muskingum, Morrow, Delaware, and Marion counties. Many additional contributions came from various garden club volunteers, supporters, and nature enthusiasts throughout the state. The majority of seeds were purchased from several seed nurseries using the allocated money from the George Gund Foundation grant. Seeds collected or donated were cleaned by a variety of techniques and with the assistance of *Wilds'* staff, Ohio State University Master Gardner/Chadwick volunteers, and the Ornamental Plant Germplasm Center who allowed us to use

their seed cleaning equipment. Approximately 100 lbs of seeds were purchased and/or cleaned and mixed according to soil preference (Table 1).



*Volunteers assist with seed cleaning at the Ornamental Plant Germplasm Center located on the Ohio State University campus.*



*Clean seed mixes consisting of native short grasses and forb species*

## Planting

A no-till seed drill was rented from the Muskingum County Soil and Water Conservation District and used to plant the seed mixtures at ~15lbs/acre on approximately 6 acres of the habitat area over a several day period (October 30- November 3). The areas that were too wet for a seed drill were hand seeded. The remaining 4 acres were planted with the cover crop, winter rye, at ~100 lbs/acre to maintain the area as weed-free as possible and to prevent soil erosion.



*Above right- Native grass seed box on no-till drill showing seed mixture.*

*Below right- No-till drill used to plant butterfly habitat area. Blades on drill create furrows in soil while tubes drop seeds. Wheels follow behind to close up furrows.*

## Trail Development

A trail is in the process of being developed in order to make the habitat accessible to visitors. As an Eagle Scout Leadership Service Project, Nathan Marzlin from Troop #334, Uniontown, Ohio, developed and carried out bridge construction as a contribution to the butterfly habitat project. The troop constructed 3 bridges over areas that are especially low and/or ditched. This effort will greatly assist habitat access to visitors.

Cleveland Metropark Zoo (Kristen Lukas, et al.) have also assisted in creating a trail section through the created meadow portion. At completion, the trail will be approximately a mile-long loop through lowland/wetland, wooded, and upland grassland areas.



## Interpretive Signs

Three signs, created by Columbus Zoo and Aquarium (Kathy Murnane), were placed in front of the habitat area in order to explain the activities and changes taking place at the site. Future interpretive signs will be developed as trail progresses.

## Documentation

Michael Pogany and Grahm Jones from the Columbus Zoo and Aquarium Media Productions Department have been documenting the progress of the project on video. Eventually, we will have an edited product that will illustrate the steps and overall goals of the project for public viewing.

## Monitoring

A *Lepidoptera/Odonata* survey was conducted at *the Wilds* Aug19-20<sup>th</sup>. Surveyers included Ian Adams, Larry Rosche, John Pogacnik, Todd Eiben and son Sam, Jim Davidson, Guy Denny, and Nicole Cavender.

The wetlands area near the butterfly planting site was surveyed (Table 2). Fourteen *Lepidoptera* species and fourteen *Odonata* species were recorded for the site. A total of twenty-nine *Lepidoptera* and twenty-eight *Odonata* species were recorded as a total from all sites surveyed at *the Wilds*.



*Mating Pair of Silver-Spotted Skippers*

*The bug brigade surveying at the Wilds*

*(Photos by Ian Adams)*

## Management/Activities 2004

The area that was planted with native seed mixtures will need to be mowed continually throughout the growing season of 2004 in order to prevent weeds from setting seed and to allow the native plants to develop their critical root systems. The area will be mowed to ~5-6" each time the plants reach a height of 8-10". This winter, the area planted with winter rye will start looking very green. The winter rye will be allowed to grow until bolting, at which time will be mowed to prevent seeding. This 4 acres area will be planted with native seeds late spring/early summer unless seed availability is limited. In that case, planting will take place during Fall 2004.

Additional planting from transplants grown in the greenhouse or purchased from nurseries will be planted in targeted areas close to and around the 10 acre meadow planting using volunteer help.

Trail development, documentation, and butterfly monitoring will also continue during 2004. Activities for the first phase of the project, as outlined in the proposal, are targeted for completion by March 2005.

Table 1. List of Species used in the butterfly planting, their source, amount (lb), % of total by weight, and their moisture requirements.

<b>Species</b>		<b>lb</b>	<b>% by wt</b>	<b>1=wet ,5=dry</b>
<b>Prairie Nursery, WI</b>				
Side-oats Grama	<i>Bouteloua curtipendula</i>	16	18.15	345
Little Bluestem	<i>Schizachyrium scoparium</i>	31	35.16	345
Pr. Dropseed	<i>Sporobolus heterolepis</i>	6	6.80	234
	<b>Sub-total</b>	<b>53</b>	<b>60.12</b>	
Frost Aster	<i>Aster pilosus</i>	1	1.13	234
Wild Senna	<i>Cassia hebecarpa</i>	1	1.13	23
Showy Tick Trefoil	<i>Desmodium canadense</i>	0.5	0.56	345
Purple Coneflower	<i>Echinacea purpureum</i>	3	3.40	234
Bergamot	<i>Mondarda fistulosa</i>	1	1.13	2345
Black eyed susan	<i>Rudbeckia hirta</i>	2	2.26	2345
Purple Prairie Clover	<i>Dalea purpurea</i>	2	2.26	345
	<b>Sub-total</b>	<b>10.5</b>	<b>11.91</b>	
<b>Donation (Prairie Nursery source)</b>				
Lavender Hyssop	<i>Agastache foeniculum</i>	0.03	0.03	34
Lanceleaf Coreopsis	<i>Coreopsis lanceolata</i>	0.06	0.07	34
Prairie Blazingstar	<i>Liatris pycnostachya</i>	0.03	0.03	123
Purple Prairie Clover	<i>Dalea purpurea</i>	0.06	0.07	345
Bergamot	<i>Mondarda fistulosa</i>	0.03	0.04	2345
Brown-eyed Susan	<i>Rudbeckia triloba</i>	0.06	0.07	234
Ohio Goldenrod	<i>Solidago ohioensis</i>	0.06	0.07	123
Ironweed	<i>Vernonia fasciculata</i>	0.01	0.01	23
	<b>Sub-total</b>	<b>0.35</b>	<b>0.40</b>	
<b>Prairie Moon, MN</b>				
Custom Mesic Mix	Grass	3.75	4.25	34
	Forbs	4.41	5.01	
Custom Wet Mesic Mix	Grass	1.97	2.23	12
	Forbs	2.82	3.20	
	<b>Grass Total</b>	<b>5.72</b>	<b>6.49</b>	
	<b>Forb Total</b>	<b>7.23</b>	<b>8.20</b>	
<b>OH Collected (cleaned)</b>				
Rattlesnake Master	<i>Eryngium yuccifolium</i>	1.94	2.20	234
Purple Coneflower	<i>Echinacea purpureum</i>	0.81	0.92	234
Brown-eyed Susuan	<i>Rudbeckia triloba</i>	1	1.13	234
Gray-headed Coneflower	<i>Ratibida pinnata</i>	0.28	0.32	34
Bergamot	<i>Monarda fistulosa</i>	0.04	0.05	2345
Culvars Root	<i>Veronicastrum virginicum</i>	0.18	0.21	234
Wild Senna	<i>Cassia hebecarpa</i>	0.15	0.17	23
Glade Mallow	<i>Napaea dioica</i>	0.31	0.35	23
Hilbert/Rose Mallow	<i>Hibiscus palustris</i>	1.48	1.68	12
Hilbert/Rose Mallow	<i>Hibiscus militaris</i>	0.58	0.65	12
Stiff Goldenrod	<i>Solidago rigida</i>	2.44	2.77	2345
Liatris sp. (blend)	<i>Liatris spicata/pycnostachya</i>	1.88	2.13	123
Swamp Milkweed	<i>Asclepias incarnata</i>	0.9	1.02	123
Sullivant's Milkweed	<i>Asclepias sullivantii</i>	1.14	1.30	234
Butterfly Milkweed	<i>Asclepias tuberosa</i>	0.16	0.18	345
Joe-Pye	<i>Eupatorium maculatum</i>	0.06	0.07	12
Nettle	<i>Urtica dioica</i>	0.31	0.35	12
	<b>Sub-total</b>	<b>13.7</b>	<b>15.50</b>	
<b>Darby Plains, Col. MetroParks</b>				
Purple Coneflower	<i>Echinacea purpureum</i>	0.4	0.45	234
Rattlesnake Master	<i>Eryngium yuccifolium</i>	0.88	0.99	234
White Baptisia	<i>Baptisia lactea</i>	0.23	0.26	2345
Whorled Rosinweed	<i>Silphium trifoliatum</i>	0.14	0.16	34
Compass plant	<i>Silphium laciniatum</i>	0.62	0.69	2345
Ashy Sunflower	<i>Helianthus mollis</i>	0.33	0.37	34
Obedient Plant	<i>Physostegia virginiana</i>	0.12	0.13	123
Sneezeweed	<i>Helenium autumnale</i>	0.13	0.15	12

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<b>Species</b>		<b>lb</b>	<b>% by wt</b>	<b>1=wet ,5=dry</b>
Black-eyed Susan	<i>Rudbeckia hirta</i>	0.13	0.14	2345
Oxe-eye Sunflower	<i>Heliopsis helianthoides</i>	0.23	0.26	234
Bergamot	<i>Monarda fistulosa</i>	0.36	0.40	2345
Crown Beard	<i>Verbesina helianthoides</i>	0.11	0.12	3
Grey-headed Coneflower	<i>Ratibida pinnata</i>	0.56	0.63	34
Stiff Goldenrod	<i>Solidago rigida</i>	0.46	0.52	2345
Blazingstar	<i>Liatris spicata</i>	0.59	0.67	123
Brown-eyed Susuan	<i>Rudbeckia triloba</i>	0.11	0.13	234
	<b>Sub-total</b>	<b>5.21</b>	<b>5.91</b>	
Side-oats Grama	<i>Bouteloua curtipendula</i>	0.24	3.8	345
Prairie Dropseed	<i>Sporabula heterolepis</i>	0.17	2.6	234
	<b>Sub-total</b>	<b>0.4</b>	<b>0.45</b>	
<b>Stucker Meadows Nurs., OH</b>				
New England Aster	<i>Aster novae-angliae</i>	0.25	0.28	1234
Smooth Aster	<i>Aster laevis</i>	0.06	0.07	234
nodding onion	<i>Allium cernuum</i>	0.19	0.21	234
Swamp Milkweed	<i>Asclepias incarnata</i>	0.13	0.14	123
Butterfly Milkweed	<i>Asclepias tuberosa</i>	0.25	0.28	345
False White Indigo	<i>Baptisa lactea</i>	0.13	0.14	2345
Tall Coreopsis	<i>Coreopsis tripteris</i>	0.31	0.35	234
Purple Coneflower	<i>Echinacia purpurea</i>	0.31	0.35	234
Joe-Pye weed	<i>Eupatorium maculatum</i>	0.44	0.50	12
Sneezeweed	<i>Helenium autumnale</i>	0.19	0.21	12
Western Sunflower	<i>Helianthus occidentalis</i>	0.06	0.07	34
Oxe-eye sunflower	<i>Heliopsis helianthoides</i>	0.31	0.35	
Blazingstar	<i>Liatris scariosa</i>	0.12	0.14	45
Great Blue Lobelia	<i>Lobelia siphilitica</i>	0.13	0.14	123
Smooth Foxglove	<i>Penstemon digitalis</i>	0.13	0.14	34
Mountain Mint	<i>Pycnanthemum virginianum</i>	0.13	0.14	123
Cup plant	<i>Silphium perfoliatum</i>	0.38	0.43	23
Whorled Rosinweed	<i>Silphium trifoliatum</i>	0.13	0.14	34
Ohio Goldenrod	<i>Solidago ohioensis</i>	0.25	0.28	123
Ohio Spiderwort	<i>Tradescantia ohioensis</i>	0.19	0.21	2345
Culvar's Root	<i>Veronicastrum virginicum</i>	0.13	0.14	234
Golden Alexaders	<i>Zizia aurea</i>	0.13	0.14	234
	<b>Sub-total</b>	<b>4</b>	<b>4.54</b>	
<b>Ohio Prairie Nursery</b>				
Butterfly Milkweed	<i>Asclepias tuberosa</i>	1	1.13	345
<b>Grass Total</b>		<b>59.12</b>	<b>58.45</b>	
<b>Forb Total</b>		<b>41.96</b>	<b>41.54</b>	
<b>Total</b>		<b>101.0</b>		
		<b>8</b>		

**Table 2. Results from *Odonata/Lepidoptera* survey taken at the butterfly habitat area at *the Wilds* on August 19-20<sup>th</sup>, 2003.**

Temp:75-90 F humid

<b>Odonata</b>		<b>number</b>
Slender Spreadwing	<i>Archilestes grandis</i>	15-20
**Spotted spreadwing	<i>Lestes congener</i>	4
**Southern Spreadwing	<i>Lestes disjunctus australis</i>	3
Familiar Bluet	<i>Enallagma civile</i>	10-15
Common Green Darner	<i>Anax junius</i>	10-15
Calico Pennant	<i>Celithemis elisa</i>	13
Halloween Pennant	<i>Celithemis eponina</i>	11
Eastern Pondhawk	<i>Erythemis simplicicollis</i>	11
Widow Skimmer	<i>Libellula luctuosa</i>	8
Twelve-spotted Skimmer	<i>Libellula pulchella</i>	1
Eastern Amberwing	<i>Perithemis tenera</i>	15-20
Ruby Meadowhawk	<i>Sympetrum rubicundulum</i>	15
**Band Wing Meadowhawk	<i>Sympetrum semicinctum</i>	9
Black Saddlebags	<i>Tramea lacerata</i>	6
<b>Lepidoptera</b>		
Eastern Tiger Swallowtail	<i>Papilio glaucus</i>	3
Cabbage White	<i>Pieris rapai</i>	20
Clouded Sulphur	<i>Colias philodice</i>	15-20
Orange Sulphur	<i>Colias eurytheme</i>	10
Gray Hairstreak	<i>Strymon melinus</i>	1
Eastern Tailed-Blue	<i>Everes comyntas</i>	25-30
Pearl Crescent	<i>Phyciodes tharos</i>	4
Viceroy	<i>Limenitis archippus</i>	3
Monarch	<i>Danaus plexippus</i>	13
Silver-spotted Skipper	<i>Epargyreus clarus (incl huachuca)</i>	15-20
Least Skipper	<i>Ancyloxypha numitor</i>	13
Peck's Skipper	<i>Polites peckius (coras)</i>	5
Tawny-edged Skipper	<i>Polites themistocles</i>	7
Zebulon Skipper	<i>Poanes zabolon</i>	5