

BP Gnadenhutzen: From Superfund to Nature Park
An Overview of the Wildlife Habitat Activities
July 2004

BP Gnadenhutzen is a delisted Superfund site located along the Tuscarawas River in eastern Ohio. The major goals of the wildlife program included creating an amenity for the Village of Gnadenhutzen, a rural, small town, in order to donate the property for their recreational use, as well as restoring the ecology of this former industrial site. In order to accomplish these goals, BP, in conjunction with SECOR, contracted with the Wildlife Habitat Council to plan, organize, and implement habitat work. This process began in 2001, with work implemented in the fall of 2002 and spring of 2003.

The Nature Park is divided into two sections, the former Superfund site to the north, and the Voluntary Action Program site near the road. This stretches along the Tuscarawas River. The Superfund section lies within the floodplain, but historically served as a landfill. As part of the closure, the waste and contaminated soils was excavated and removed off site, and replaced with clean soils. Because of this, the EPA has deemed the section safe for the public to access regularly. Because this was disturbed, the upper, higher portion of the area contains the invasive Russian knapweed, but the lower section is quite diverse due to the flooding action that deposited a fresh seed bank. The riverbank itself has mature, large trees such as cottonwood, silver maples, and other species that have served to inoculate the site with copious seedlings, particularly close to the wood's edge. Although narrow in width, the riparian zone serves an important role for wildlife such as warblers, waterfowl, and songbirds, as well as fish within the river.

The **major habitat goal of the floodplain area is to assist succession**, particularly in the less diverse higher section with the knapweed. This was accomplished by planting over 800 native shrubs and trees in island configurations to maximize avian dispersal for further reforestation. Species planted included shrubs such as winterberry, alder, and ninebark, along with trees such as sycamore, red maple, and green ash. A living fence of blackberry and raspberry was also planted amongst the existing brambles to discourage much activity. Two wood duck boxes and three screech owl boxes were erected along the river and within the woods edge on either large openings on trees or old telephone poles. Bluebird boxes will be added to the floodplain in the future once stewards are recruited and trained to monitor them regularly. Since the screech owl and wood duck boxes only need monitoring monthly or less, they were chosen since WHC and others can adequately check them.

The front portion of the site is the actual park. The entire area was in asphalt, which was cracking and deteriorating. This was jack hammered and removed. The sandy silt beneath is typical of floodplain soils. Therefore over 600 trees were planted that would thrive in these conditions, such as sycamore, silver maple, and red oak. A path lined with chert winds through the site, and is ADA compliant. Along the path, plugs of over 5,000 native wildflowers and grasses were planted such as columbine, little bluestem, and asters. The park was seeded with weeping love grass, which is native to the eastern coast, but was used due to its preference for growing in sand and its growth form. The grass grows only to about 12" and then weeps over in mounds. Therefore, it does not require mowing but still looks aesthetically pleasing to the residents who expect a park-like setting. This is also conducive to the wildflowers growing randomly within the site which would otherwise be

mowed over or squeezed out with turf grass. In the centers of the islands formed by the trail arcs, warm-season grasses such as switchgrass and bluestem are planted where they will not obstruct the path. Two large bat boxes that together can hold over 1,000 bats were also erected on the existing, old telephone poles in order to provide roosting structure for these useful insectivores.

At the end of the path, a gazebo with a ramp was constructed for recreation and environmental education. A pollinator garden was planted in the corner of the woods near the gazebo, consisting of plants such as swamp milkweed, joe-pye weed, and violets, all of which provide value for pollinators such as butterflies. The gazebo overlooks the floodplain, and is an excellent amenity for the residents should the park be successfully donated to the Village or another entity. BP and the Village Council have met on numerous occasions to further this goal.

The Park can serve as an excellent avenue for environmental education, either actively or passively. Interpretive signs are planned for the future, as well as working with the local school district to encourage and train teachers in the use of inquiry on site to discover the ecology of floodplains. An outreach was held in the spring of 2004 already with the Museum of Gnadenuhnten, which focuses on the history of Native Americans and early settlers in this area in the late 1700's. After activities with the Museum, the students traveled to the nearby Park to conduct investigations about the plants and animals that live in the park, using the Wings of Wonder model developed for the site by WHC. Children drew and wrote a field guide entry on an organism in the park, learned about native plants and their uses by Native Americans such as sassafras tea, and also learned firsthand about the web of life through hands-on activities. This was a successful pilot of what can be accomplished at the site, and hopefully will inspire more such visits in the future. **An additional future project could be to conduct a Backyard Conservation workshop with WHC in order to educate the residents about habitat in their own backyard, as well as at the Nature Park. The workshop will help recruit and train stewards for the park so that it will be appreciated and sustained by the Village.**

BP successfully created a valuable greenspace for the residents of Gnadenuhnten in order to restore the ecology and a sense of place. Through existing and future efforts, the partners that helped make this possible will **gradually educate and empower the community so that the park and all that it encompasses will become theirs to care for and to enjoy.**

Table 1. Community Park Plantings at Gnadenhutten, Ohio in 2002-2003

Species	Size	Quantity
Trees		
Red Oak	5 gallon 6-8' tall	6
Silver maple	2 gallon 4-5' tall	3
Sycamore	5 gallon 6-8' tall	5
Norway spruce*	9-10'	25
Shrubs		
Serviceberry	5 gallon	12
Hawthorne	Tube 2-3' tall	5
Rhododendron	5 gallon	10
Ninebark	5 gallon	10
Sweetspire	5 gallon	10
Cranberry Bush Viburnum	2 gallon	10
Northern Bayberry	4 gallon	10
Highbush blueberry	2 gallon	20
Chokeberry	3-4' bare root	20
Gray dogwood	3-4' bare root	10
Grasses/Forbs		
Little bluestem	Plug	400
Big bluestem	Plug	100
Weeping love grass	Seed	
Broomsedge	Bare root	500
Switchgrass	Bare root	500
Indian grass	Bare root	50
New England Aster	1 gallon	36
Smooth aster	Bare root	200
Small-flowered white aster	Bare root	100
Bee balm	Bare root	100
Black-eyed Susan	Plug	350
Goldenrod	Bare root	200
Ironweed	Bare root	75
Blazing star	Bulbs and Bare root	350
Jack-in-the-pulpit	Bare root	100
Joe-pye weed	Bare root	150
Turk's cap lily	Bulb	50
Coreopsis	Plugs and 1 gallon	500
Columbine	1 gallon	50
Blue wood violet	Bare root	100
Dianthus	1 gallon	10
Fox glove	2 gallon	3
Cardinal flower	Bare root	25
Blue lobelia	Bare root	200

Butterfly weed	Bare root	300
Purple coneflower	Bare root	300
False sunflower	Bare root	200
Swamp milkweed	Bare root	100
Alum root	1 gallon	5

**not native*

Table 2. Floodplain Plantings at Gnadenhutten, Ohio in 2002-2003

Species	Size	Number
Trees		
Sycamore	5 gallon 6-8' tall	10
Red maple	2 gallon 6-8' tall	10
Green ash	2-3 gallon 4-5' tall	20
Flowering dogwood	Tube	24
Swamp white oak	1-2' bare root	50
Shrubs		
Winterberry	Tube 2' tall	200
Serviceberry	5 gallon	20
Sweet pepperbush	5 gallon	20
Ninebark	5 gallon	10
Speckled alder	Tube	100
Elderberry	Bare root	100
Hazelnut	Tube	24
Witch hazel	2-3' bare root	50
Silky dogwood	2-3' bare root	100
Gray dogwood	3-4' bare root	40
Chokeberry	3-4' bare root	30
Wildflowers		
Butterflyweed	Bare root	50
Living Fence		
Blackberry	2 gallon	20
Raspberry	100 lg bare root	100
Hawthorn	Tube 2-3' tall	20

Table 3. Riverbed and Streambank Plantings at Gnadenhutten, Ohio in 2002

Species	Size	Number
Riverbed		
Buttonbush	Tubes 2-3'	72
Streambank		
Ninebark	5 gallon	30