

# Post-Remediation Habitat Restoration Provides Long-term Benefits to an Underutilized Site – A Case Study of the CSXT Valley Park Conservation Certification Project

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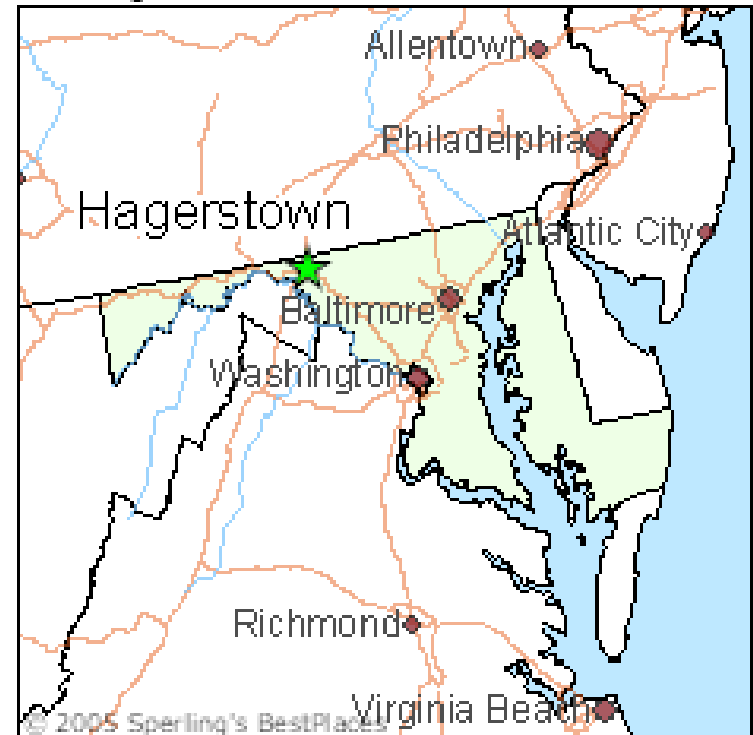
**Geosyntec**   
consultants

engineers | scientists | innovators

# Valley Park Site

- Located in Hagerstown, Maryland (approx. 75 miles NW of Baltimore)

## Maryland



# Facility Boundaries



# History

- Property was first used for RR by Western Maryland Railway Company in early 1900's
- Mid-century (30's to 50's) a 41-acre portion of the site was used for wood treating by a previous owner
- Remaining 84 acres remains generally undeveloped

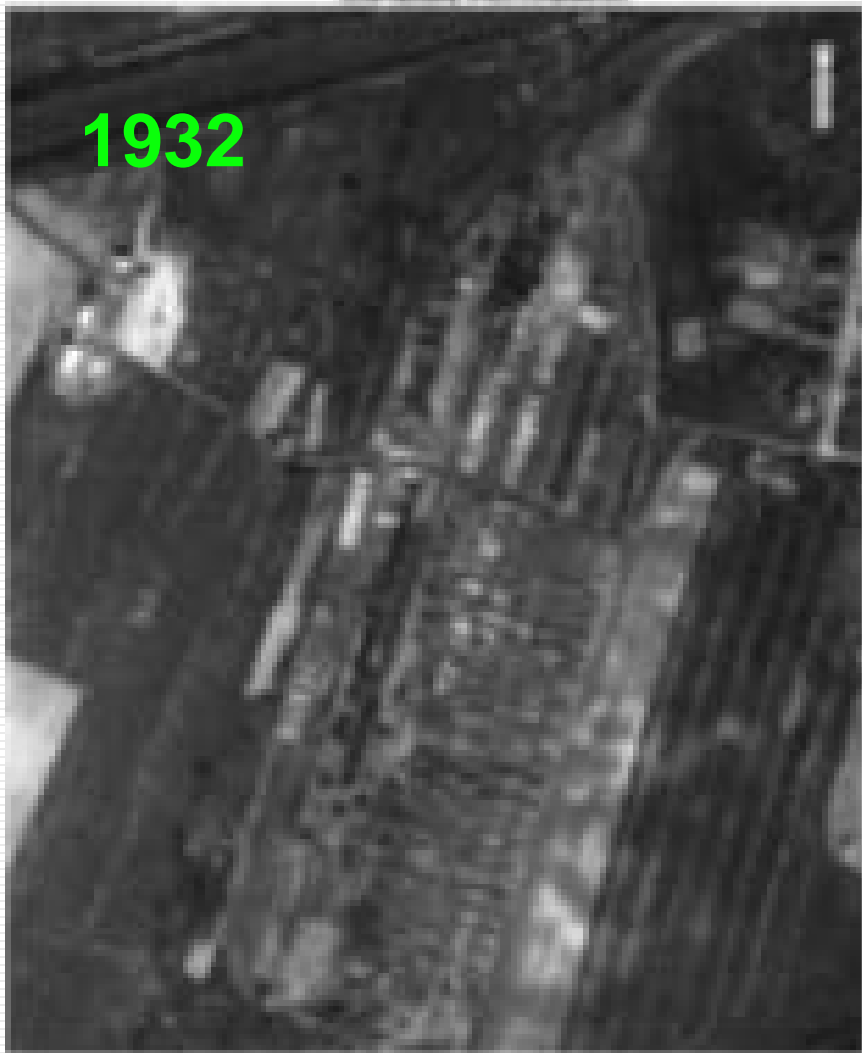


# Former Koppers Parcel

- 1960's to 1980's:  
41-acre parcel was  
used as a railroad  
switchyard/staging  
area



# Historical Aerial Photographs



# Maryland Voluntary Cleanup Program

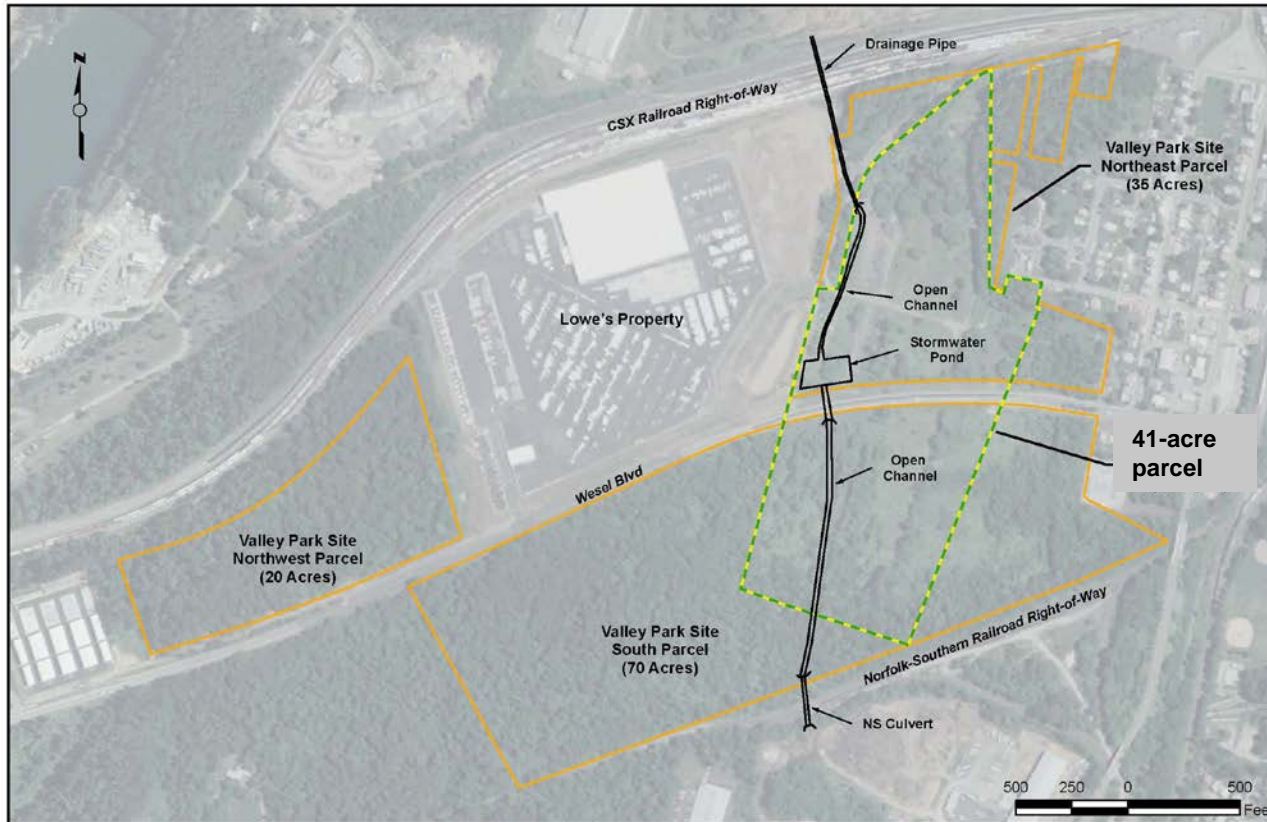
- CSXT entered the Site into the Maryland Voluntary Cleanup Program (VCP) in 2006.
  - A Response Action Plan (RAP) was prepared
- The purpose of the RAP was to address releases associated with historic operations at the site considering current and future property use
  - Focus of the RAP was on the former wood treating area
  - RAP implementation involved replacing 20,000 CY of soil
- VCP remediation was completed in 2013.

# Hagerstown Public Works

- Simultaneous to RAP development:
  - New housing development north of the site needed to route storm water through the site and into the City's storm water detention pond located south of the site.
  - An investigation was performed to assess whether the storm water channel would pass through areas that were potentially impacted by the historic wood treating operations.
  - Based on this data, the city's engineer and developer prepared a drainage system design that was consistent with VCP requirements and would not worsen site conditions



# City Storm Water Swale



# Post RAP

- Environmental covenant restrictions prohibit post-remediation redevelopment following VCP closure, leaving the Site vacant and unutilized.
- In 2014, Geosyntec presented the option of CSXT implementing habitat enhancements and enrolling the site in the Wildlife Habitat Council's Conservation Certification™ program. (formerly Wildlife at Work program)

# Wildlife Habitat Council

- (From the WHC website) Promotes and certifies habitat conservation and management on corporate lands through partnerships and education.
  - Current Class 1 RR partners are CSXT and UP
- Their goal is to encourage support of the environment by their partners through biodiversity, sustainability, employee engagement and community relations goal.



# Conservation Certification Opportunities

## ➤ Opportunities identified :

- Early successional habitat management program
  - ❖ Early successional habitats are very important for wildlife, as they provide the diverse habitats needed for nesting, rearing, feeding, and cover for many species of birds and small mammals.
- Raptor management program
  - The early successional habitat provides excellent habitat for small mammals and other raptor prey items.

# Conservation Certification Opportunities (cont.)

- Opportunities identified:
  - Forest Management
    - ❖ Smaller forest patches can serve as habitat for many species, and as an important stop-over habitat for migratory birds.
  - Non-Native, Invasive Plant Management
    - ❖ Invasive plants aggressively dominate landscapes outside of their natural range, negatively affecting biodiversity.

# *Selected Opportunities*

- The Site's Wildlife Management Team selected two habitat restoration projects:
  - Early successional habitat management program; and
  - Raptor management program.
  
- The other opportunities identified in the Wildlife Opportunities Report may be implemented at a later date.

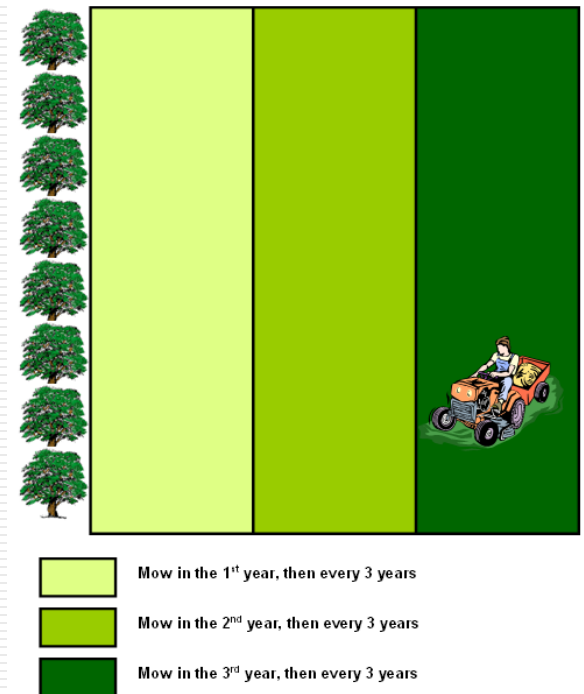
# Early Successional Habitat Management

- Early successional habitats are in the beginning stages of a transition to a more mature habitat type.
  - If left unmanaged, the early successional habitat will eventually evolve to become hardwood forest.
- They are typically dominated by grasses, shrubs, and some small trees.
  - Often referred to as old fields or shrub-lands



# Early Successional Habitat Management

- Selected rotational mowing program to manage the early successional habit.
  - Involves segmenting the old field into three mowing units
- Each of the first three years, one-third of the old field is mowed.
- Year four, begin the rotation again
- Allows the animals that need the shrub-land habitat to continue to thrive

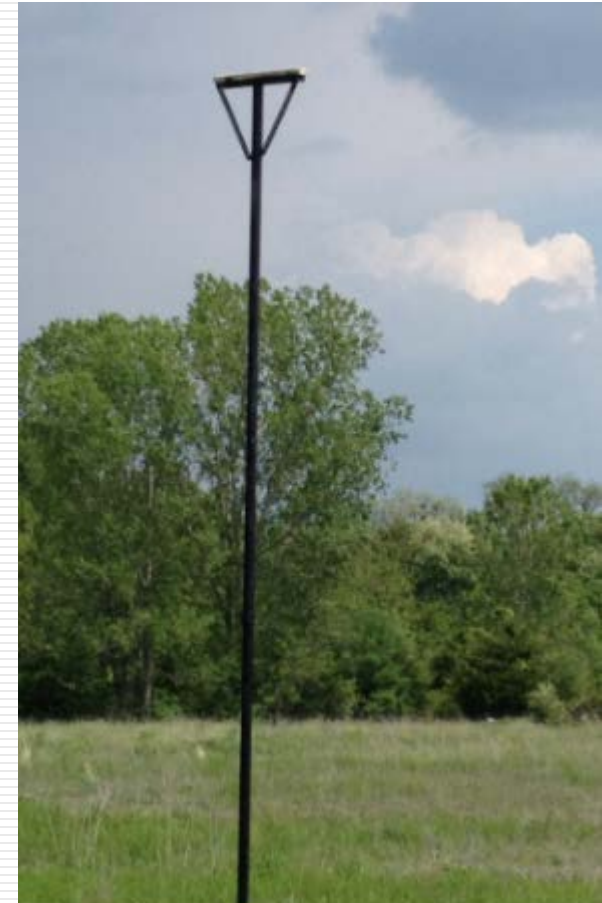


Source: WHC



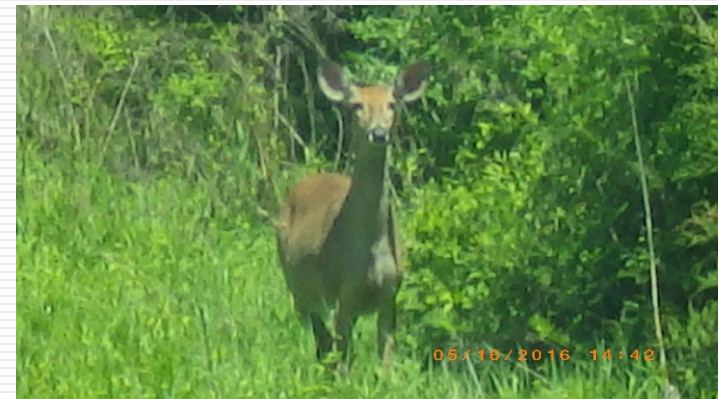
# Raptor Management

- Provide perches for raptors
  - Allows them to hunt the small animals living in the early successional habitat
  - Doesn't mean new perches must be installed; Wildlife Team may identify pre-existing perches (utility poles with "T" at top, dead or dying tree with naked limbs overhanging habitat)



# Inspections

- WHC prefers inspections occur three times per year (Program minimum inspection frequency is once per year)
- Document plant diversity in the early successional habitat
- Make note of fauna observed
- Observe and document feathers, scat, kill remnants, etc. at the base of the raptor perches



# Observations

Plot	Vegetation Type	Species Present	# Individuals/ Species	% Ground Cover	Height
1 (Northeast Parcel)	Wildflower	Common Goldenrod	16	10	16 - 34"
1 (Northeast Parcel)	Wildflower	Queen Anne's Lace	6	35	21 - 31"
1 (Northeast Parcel)	Wildflower	Bird's-foot Trefoil	Many	50	0 - 13"
1 (Northeast Parcel)	-	No Groundcover	-	5	-
2 (Northeast Parcel)	Wildflower	Queen Anne's Lace	Many	40	9 - 31"
2 (Northeast Parcel)	Wildflower	Bird's-foot Trefoil	Many	50	0 - 19"
2 (Northeast Parcel)	Wildflower	Spotted Knapweed	Many	10	12 - 15"
3 (Northeast Parcel)	Wildflower	Queen Anne's Lace	Many	40	12 - 35"
3 (Northeast Parcel)	Wildflower	Bird's-foot Trefoil	Many	60	0 - 25"
4 (Northeast Parcel)	Wildflower	Queen Anne's Lace	Many	40	13 - 31"
4 (Northeast Parcel)	Wildflower	Common Goldenrod	22	29	16 - 19"
4 (Northeast Parcel)	Wildflower	Spotted Knapweed	3	1	-
5 (Northeast Parcel)	Wildflower	Bird's-foot Trefoil	Many	98	0 - 14"
5 (Northeast Parcel)	Wildflower	Queen Anne's Lace	1	1	12"
5 (Northeast Parcel)	Wildflower	Spotted Knapweed	2	1	12 - 19"
6 (South Parcel)	Wildflower	Queen Anne's Lace	Many	18	5 - 29"
6 (South Parcel)	Wildflower	Crown Vetch	Many	80	0 - 14"
6 (South Parcel)	Wildflower	Spotted Knapweed	2	1	14 - 30"
6 (South Parcel)	Wildflower	Teasel	2	1	12 - 20"
7 (South Parcel)	Wildflower	Queen Anne's Lace	Many	35	11 - 35"
7 (South Parcel)	Wildflower	Common Goldenrod	15	34	9 - 36"
7 (South Parcel)	Wildflower	Daisy Fleabane	1	1	18"

# Observations

Date	Time	Weather	Species	# of individuals	Location	Notes
7/31/2015	10:45/13:15	80's, sunny	White-tailed deer	3	Path to NE Parcel/S Parcel	
7/31/2015	10:45	80's, sunny	Mourning Dove	2	Path to NE Parcel	
7/31/2015	10:55	80's, sunny	Northern Cardinal	1	NE Parcel	
7/31/2015	10:55	80's, sunny	Northern Mockingbird	3	NE Parcel	
7/31/2015	All day	80's, sunny	Orange Sulpher	Many	NE and S Parcels	
7/31/2015	All day	80's, sunny	Cloudless Sulphur	Many	NE and S Parcels	
7/31/2015	All day	80's, sunny	Cabbage White	Many	NE and S Parcels	
7/31/2015	11:20	80's, sunny	Widow Skimmer	1	NE Parcel	
7/31/2015	All day	80's, sunny	Differential Grasshopper	Many	NE and S Parcels	
7/31/2015	All day	80's, sunny	Field Cricket	Many	NE and S Parcels	
7/31/2015	All day	80's, sunny	American Bumblebee	Several	NE and S Parcels	
7/31/2015	All day	80's, sunny	Bluets	Many	NE and S Parcels	

# Inspection Photographs



# Benefits

- Encourages strong environmental biodiversity
- Demonstrates “good neighbor” attitude to the rest of the community
- Can improve site worker morale
- Reduces opportunity for illegal dumping, transient camping, etc.
- Saves money (e.g., 1/3 of mowing fees per year)
- Opportunity to team with local colleges, scouting programs, Audubon Society, etc.

*How tomorrow moves*

