Parks & Public Works Committee
Agenda Item Report

FROM: Scott Herbert – Public Works Superintendent

MEETING DATE: June 24th, 2025

SUBJECT: Mt. Baldhead Erosion and Vegetation

DESCRIPTION:
Several years ago, a pesticide application was applied to the Mt. Baldhead slope to irradicate/control Asian bittersweet. In doing so, inadvertent damage was caused to the native vegetation which included trees, shrubs, and groundcovers. Erosion had resulted from the absence of root structures to hold the sand in place.

Several steps have been taken to stabilize the dune with some success. To further improve the dune stabilization, City Council has prioritized revegetating the slope as a 2025 project priority.

City Staff have consulted the Allegan County Conservation District to assess the dunes overall condition and health. Findings and recommendations are in the enclosed report.

BUDGET ACTION REQUIRED:
N/A

COMMITTEE/COMMISSION REVIEW:
Parks & Public Works Committee

LEGAL REVIEW:
N/A

SAMPLE MOTION:
Information/Discussion Only

ALLEGAN CONSERVATION DISTRICT

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Site Assessment and Recommendations

Land Manager(s):	**Site Location:**
Scott Herbert (Saugatuck DPW)	Mount Baldhead Park, Saugatuck, MI 42.660917, -86.207329

Purpose and Background:

Scott requested a site visit from Allegan Conservation District staff in order to assess the current state of erosion on the east face of Mt. Baldhead, paralleling the north side of the steps. Significant herbicide damage starting in 2011 caused significant vegetation loss. Subsequent measures to mitigate erosion have included felling dead trees and placing them perpendicular to the slope along the length of the impacted area, and replanting of trees and shrubs.

Land Manager's Objectives:

1. Determine severity of any ongoing erosion and prevent further erosion.
2. Promote native vegetation and biodiversity.
3. Restore the site's aesthetic value.

Observations:

The damaged area is easily seen from a distance—noticeable due to the absence of mature trees. The area is roughly 0.5 acres measured from aerial imagery. There do not appear to be any signs of active erosion; downed trees are settled into the sand but are not being buried, leaf litter covers much of the area, and no sediment accumulations were observed. While many plants had yet to break dormancy, some sparse native vegetation was noted. Japanese Barberry (*Berberis thunbergii*) is colonizing the site and is currently a dominant understory component.

Natural Resource Concerns:

ACD staff identified the following natural resource concerns that should be addressed alongside the land manager's objectives:

1. *Undesirable invasive species* - Japanese barberry and garlic mustard are becoming abundant on the site. In addition to crowding out native species, Japanese barberry is a preferred host for tick species and has painful thorns that may impact broader use of the park. While this specific area is not intended for traffic, it can easily spread to nearby areas that are.
2. *Inadequate plant structure and composition* - loss of the plant community is immediately apparent on the site with the absence of mature woody vegetation. Some desirable small shrubs and tree seedlings are visible, but much of the site did not have apparent growth. The lack of small forbs may be explained by the early timing of the visit, but supplemental planting will likely be necessary to speed the succession of the site and prevent further colonization by invasive plants.
3. *Erosion susceptibility* - while the site does not appear to be actively eroding, it is likely vulnerable to sporadic erosion during significant weather events (e.g. if a heavy wind were to uproot trees along the edge of the site). Further stabilization of the site is advisable to increase resilience to disturbance. A social trail near the site is an additional source of continued erosion. Dune systems are quite fragile, and even sporadic foot traffic can be enough to prevent vegetation re-establishment and accumulation of leaf litter.

Recommendations:

1. *Native planting* - a combination of broadcast seeding and direct planting native grasses and forbs will be the fastest way to establish vegetation and speed succession on the site. Tree and shrub seedlings can also be planted in areas where previous efforts were not successful. Because of limited water onsite, planting before an expected precipitation event is recommended, and seeding in late fall to early winter will take the fullest advantage of spring moisture and natural seed germination cycles. A list of common backdune species can be found in Attachment 1, plant and seed suppliers can be found in Attachment 2. Suppliers may have additional recommendations based on their stock and pricing. A non-exhaustive list of easy-to-establish plants suitable for the site is provided here:
    a. Canada wild rye (*Elymus canadensis*),
    b. bottlebrush grass (*Elymus hystrix*),
    c. junegrass (*Koeleria cristata*),
    d. wild columbine (*Aquilegia canadensis*),
    e. thimbleweed (*Anemone cylindrica*),
    f. spotted horsemint (*Monarda punctata*),
    g. common evening primrose (*Oenothera biennis*),
    h. roundleaf serviceberry (*Amelanchier sanguinea*),
    i. and shadbush serviceberry (*Amelanchier spicata*).
2. *Invasive species removal* - Japanese barberry can easily overtake an area if left alone. Except for small individuals in stable areas, mechanical pulling is not advised as the root systems may be quite extensive. Cut-stump (or cut-and-paint) treatment with an appropriate herbicide is the method most likely to be effective while minimizing risks of erosion and off-target impacts. Treatment equipment is inexpensive and easily carried in difficult terrain (search “buckthorn blaster” for an example applicator; DIY applicators are also easily made). In this method, stems are cut and the stumps are immediately painted with a concentrated herbicide. Active ingredient and concentration recommendations can be provided on request. The resulting brush should be removed and dried before disposal to prevent vegetative reproduction.
3. *Traffic control* - off-trail traffic is evident, continuing northwest of the disturbance site. It is unclear to what extent traffic is from wildlife or humans, but measures to limit use of the area are advisable. Educational signs noting the sensitivity of the area, sand fencing, or use of natural elements (logs, dense shrubs, etc.) may discourage traffic.
4. *Formal erosion monitoring* - no active erosion was observed on site. The absence of rills, sediment accumulation, and leaf litter disturbance suggests that any erosion is occurring at a natural or near-natural rate. Dunes are, however, transient by nature, and formal monitoring would enable the manager to establish baseline conditions and be proactive in making management decisions. Monitoring is relatively simple: place stakes with measurement markings into the ground vertically and periodically note how much of the stake is exposed. Monitoring locations, frequency, and data recording should be convenient to management personnel’s schedule in order to ensure continued use.

MICHIGAN'S CRITICAL DUNE AREAS PROGRAM

COMMON NATIVE PLANTS OF MICHIGAN SAND DUNES

Native (indigenous) species are important to maintaining the diversity, quality, and function of Michigan's coastal dunes. They are adapted to the harsh growing conditions found along the shoreline. This is a list of some of the many native plant species found in sand dune communities, organized by the proximity to the lake where the plant is most likely to be found. Foredunes are closest to the lake, backdunes are further from the lake. Plants will grow where they find the necessary nutrients, water, and sun regardless of the distance from the shoreline. For example, plants listed as being in a transition dune may also be found in a foredune.

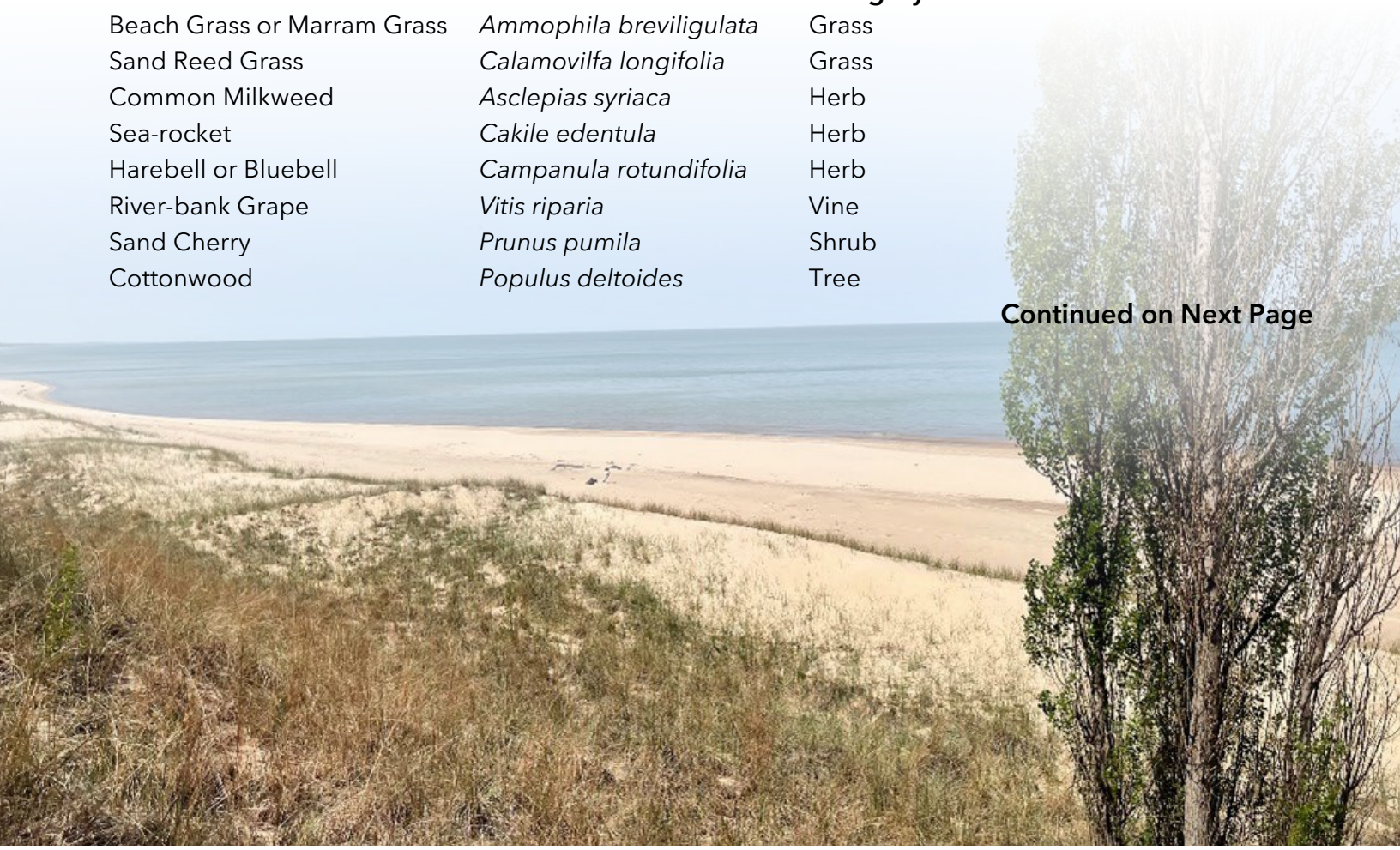
The plant's common name is followed by its scientific name in italics. Photos of the plants are can be found in the United States Department of Agriculture Natural Resources Conservation Service Plants Database or on the University of Michigan Herbarium Michigan Flora web site. For best search results, use the scientific name, as some plants have multiple common names.

This list was created in 1975 by Michigan State University using the Michigan Great Lakes Shorelands Zone Boundary Definitions. Additional plant species were added to the list by Department of Natural Resources staff in 1989, and reviewed by Hope College faculty in 2013.

Foredune

Common Name	Scientific Name	Category
Beach Grass or Marram Grass	*Ammophila breviligulata*	Grass
Sand Reed Grass	*Calamovilfa longifolia*	Grass
Common Milkweed	*Asclepias syriaca*	Herb
Sea-rocket	*Cakile edentula*	Herb
Harebell or Bluebell	*Campanula rotundifolia*	Herb
River-bank Grape	*Vitis riparia*	Vine
Sand Cherry	*Prunus pumila*	Shrub
Cottonwood	*Populus deltoides*	Tree

Continued on Next Page





Transition Dune

Further from the lake where the winds are less are dunes in transition. Plants common to this area can also be typical of open dune communities.

Common Name	Scientific Name	Category
Little Bluestem	*Schizachyrium scoparium*	Grass
Sand Cress	*Arabidopsis lyrata*	Herb
Wild Wormwood	*Artemisia campestris*	Herb
Bugseed	*Corispermum sp.*	Herb
Pitcher's Thistle or Dune Thistle	*Cirsium pitcheri*	Herb
Summer Grape	*Vitis aestivalis*	Vine
Bearberry or Kinnikinick	*Arctostaphylos uva-ursi*	Shrub
Blueleaf Willow	*Salix myricoides*	Shrub

Backdune

The backdunes are furthest from the shoreline and support plants growing on a more stable dune. Backdunes may be densely forested.



Hairy Puccoon

Common Name	Scientific Name	Category
Canada Wild Rye	*Elymus canadensis*	Grass
Flowering Spurge	*Euphorbia corollata*	Herb
Seaside Spurge	*Euphorbia polygonifolia*	Herb
Plains Puccoon or Hairy Puccoon	*Lithospermum caroliniense*	Herb
Horse Mint or Dotted Mint	*Monarda punctata*	Herb
Common Evening Primrose	*Oenothera biennis*	Herb
Beach Pea	*Lathyrus japonicus*	Vine
Ground Juniper	*Juniperus communis*	Shrub
Creeping Juniper	*Juniperus horizontalis*	Shrub

Backdune Plants

continued



Common Name	Scientific Name	Category
Yew or Ground-hemlock	*Taxus canadensis*	Shrub
Kalm's St. John's-wort	*Hypericum kalmianum*	Shrub
False Heather or Beach-heath	*Hudsonia tomentosa*	Shrub
Red-osier Dogwood	*Cornus sericea*	Shrub
Serviceberry	*Amelanchier interior*	Shrub
Round-leaved Serviceberry	*Amelanchier sanguinea*	Shrub
Shadbush Serviceberry	*Amelanchier spicata*	Shrub
Alternate-leaved Dogwood	*Cornus alternifolia*	Tree
Smooth Shadbush	*Amelanchier laevis*	Tree
Hop-hornbeam or Ironwood	*Ostrya virginiana*	Tree
Basswood or Linden	*Tilia americana*	Tree
American Beech	*Fagus grandifolia*	Tree
Red Oak	*Quercus rubra*	Tree
Black Oak	*Quercus velutina*	Tree
Sugar Maple or Hard Maple	*Acer saccharum*	Tree
Red Maple	*Acer rubrum*	Tree
Red-cedar	*Juniperus virginiana*	Tree
White-cedar or Arbor Vitae	*Thuja occidentalis*	Tree
White Pine	*Pinus strobus*	Tree
Jack Pine	*Pinus banksiana*	Tree
Red Pine	*Pinus resinosa*	Tree
Hemlock	*Tsuga canadensis*	Tree
Balsam Fir	*Abies balsamea*	Tree

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Native Plant and Seed Vendors

The vendors below have been used by the Allegan Conservation District or recommended by other local conservation groups. A larger list of native plant and seed vendors can be found at: https://nativegardendesigns.wildones.org/nursery-list/

Alpha Nurseries, Inc. – bareroot trees and shrubs
269-857-7804 | info@alphanurseries.com | https://www.alphanurseries.com

Badger Evergreen Nursery – bareroot evergreens
269-673-5546 | badgertreefolks@gmail.com | https://mcta.org/places/badger-evergreen-nursery-llc-2

Birdsfoot Native Nursery – wildflower and shrub plugs
(231) 313-6749 | birdsfootnursery@gmail.com | https://www.birdsfootnativenursery.com

Hidden Savanna – wildflower and shrub plugs
(269) 352-3876 | info@hiddensavanna.com | https://www.hiddensavanna.com

Michigan Wildflower Farm – seeds and seed mixes
(517) 647-6010 | michiganwildflowerfarm@gmail.com | https://www.michiganwildflowerfarm.com

Native Connections – seeds and seed mixes
(269) 459-6900 | info@nativeconnections.net | http://nativeconnections.net

New Life Nursery – bareroot trees and shrubs
269-857-1209 | office@newlifenursery.com | https://www.newlifenursery.com

The Garden Guru – wildflower and shrub plugs
269-208-3401 | thegardengurukzoo@gmail.com | https://www.thegardengurukzoo.com

Weesies Brothers Farms – wildflower and shrub plugs
231-670-3817 | jentry@weesies.com | https://www.weesies.com

Wildtype Native Plant Nursery, Ltd – wildflower and shrub plugs
(517) 244-1140 | info@wildtypeplants.com | https://www.wildtypeplants.com

Other online vendors:

- Pheasants Forever (seed): https://www.pfhabitatstore.com
- Prairie Moon Nursery (seed, plugs, bareroot): https://www.prairiemoon.com
- Prairie Nursery (seed, plugs, bareroot): https://www.prairienursery.com
- Arbor Day Foundation (plugs, bareroot): https://shop.arborday.org/nursery

Pocket Prairie Update – June 2025

Peterson Preserve

Progress has been made on the pilot pocket prairie at Peterson Preserve

- Irrigation has been initiated
- Weeds have been removed (mostly)
- Fresh mulch has been applied
- Additional plants have been added

There are currently 49 plants comprised of 37 species

Plants support all pollinators, primarily bees and butterflies, with a few species supporting hummingbirds

Some plants are also larval host plants for several butterflies

Plants also support many bird species, primarily as a food source but also providing cover and nesting material

Additional locations have been identified for improvement

- Sign bed
- Small tree bed

Both locations provide less sun requiring plant species that thrive in lower light conditions

Signage Required

Additional Locations

No other locations have been identified

Coughlin and Cook Parks have open space and adequate sunlight but are utilized for community events and may not be suitable

Suggestions are welcome

Peterson Preserve Pollinator Garden

Fall 2024		Source		**Status Spring 2025**	
4	Ironweed	Hidden Savanna Nursery	Kalamazoo	Some deer damage but recovering	4
3	Joe Pye Weed	Hidden Savanna Nursery	Kalamazoo	1 survivor	1
3	Rattlesnake Master	Kent County Native Plant Sale	Grand Rapids	All healthy	3
2	Queen of the Prairie	Hidden Savanna Nursery	Kalamazoo	Some deer damage but recovering	2
2	Yellow Coneflowers	Nancy's Garden	Saugatuck	Some deer damage but recovering	2
2	Black-eyed Susans	Nancy's Garden	Saugatuck	Some deer damage but recovering	2
1	Golden Alexander	Kent County Native Plant Sale	Grand Rapids	Major deer damage but recovering	1
1	Marsh Blazing Star	Hidden Savanna Nursery	Kalamazoo	Some deer damage but recovering	1
1	Regular Blazing Star	Nancy's Garden	Saugatuck	Some deer damage but recovering	1
1	New Jersey Tea	Kent County Native Plant Sale	Grand Rapids	Some deer damage but recovering	1
2	Purple Coneflower	Nancy's Garden	Saugatuck	Some deer damage but recovering	2
1	Little Bluestem (grass)	Nancy's Garden	Saugatuck	Deceased	0
1	Fleabane	Nancy's Garden	Saugatuck	Some deer damage but recovering	1
1	Pussy Toes	Ryan's Garden	Saugatuck	Some deer damage but recovering	1
1	Pearly Everlasting	Nancy's Garden	Saugatuck	Healthy; painted lady caterpillar evidence	1
1	Hoary Vervain	Kent County Native Plant Sale	Grand Rapids	Healthy	1
1	Columbine	Ryan's Garden	Saugatuck	Deceased	0
1	Butterfly Weed	Nancy's Garden	Saugatuck	Deceased	0
29					24

Spring 2025					
2	Joe Pye Weed	Allegan Conservation District Native Plant Sale	Allegan County	Some deer damage but recovering	2
3	Yellow Coneflowers	Nancy's Garden	Saugatuck	Some deer damage but recovering	3
3	Wild Lupine	Nancy's Garden	Saugatuck	Marginal - small plants that are struggling	3
2	Purple Coneflower	Nancy's Garden	Saugatuck	Some deer damage but recovering	2
2	Black-eyed Susans	Nancy's Garden	Saugatuck	Healthy	2
2	Butterfly Weed	Nancy's Garden	Saugatuck	Healthy	2
3	Little Bluestem (grass)	Allegan Conservation District Native Plant Sale	Allegan County	Healthy	3
2	Butterfly Weed	Nancy's Garden	Saugatuck	Healthy	2
2	Swamp Milkweed	Nancy's Garden	Saugatuck	Healthy	2
1	Cup Plant	Nancy's Garden	Saugatuck	Deceased (deer/rabbit damage)	0
1	Prairie Dock	Hidden Savanna Nursery	Kalamazoo	Some deer damage but recovering	1
1	Rosinweed	Hidden Savanna Nursery	Kalamazoo	Some deer damage but recovering	1
1	Showy Goldenrod	Allegan Conservation District Native Plant Sale	Allegan County	Healthy	1
1	Foxglove Beardtongue	Allegan Conservation District Native Plant Sale	Allegan County	Healthy	1
1	Pink Muhly (grass)	Van Til's Greenhouse	Fennville	Healthy	1
1	Tall Coreopsis	Nancy's Garden	Saugatuck	Some deer damage but recovering	1
28					27

Total Plants **51**





CITY OF SAUGATUCK

MILDRED A. PETERSON

Nature Preserve

DEDICATED SPRING, 2000





NATIVE WILDFLOWER PLANTING

THIS AREA HAS BEEN PLANTED WITH NATIVE WILDFLOWERS & GRASSES, PROVIDING DIVERSE HABITAT FOR POLLINATORS, BIRDS, & WILDLIFE.

prairiemoon.com