

1-1-1994

The Ravines and Flood Plain

Rick Stygstra

Grand Valley State University

Follow this and additional works at: <http://scholarworks.gvsu.edu/gvr>

Recommended Citation

Stygstra, Rick (1994) "The Ravines and Flood Plain," *Grand Valley Review*: Vol. 11: Iss. 1, Article 15.

Available at: <http://scholarworks.gvsu.edu/gvr/vol11/iss1/15>

This Article is brought to you for free and open access by ScholarWorks@GVSU. It has been accepted for inclusion in Grand Valley Review by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

THE RAVINES AND FLOOD PLAIN

Excerpted from *A Natural History of the Grand Valley University Lands*

Rick Stygstra

The ravines and Grand River flood plain dominate the GVSU lands. Their clay-slicked slopes descend from a rim of woodedge and upland field through a steep-sided upper section. They move into the middle ravine, the slope mellowing, a permanent flow developing in the creek drainage: The ravines run into the damp meadows of the lower section and then flow onto the flood plain, turning along contours shaped by the Grand River.

A descent through the ravines passes through a succession of forest communities: from the dry woods and disturbance woodedges of the upper ravines, through the rich diversity of the middle ravines, to the damp lower ravines.

The upper ravine has canopy and understory species tolerant of dry conditions. The steep-sided slopes and temporary runoff drains, choked with brush and timber, mark the observable landscape features. Red oak, white ash, black cherry, the American elm, the basswood, the sugar maple, the American beech, the hop-hornbeam, the witch hazel, the summer grape, and the Virginia creeper grow here. Along the rim, some of the field species invade the woodedge. Here, the wild strawberry carpets the ground. The blue-stemmed goldenrod blooms in the dry woods and woodedges, the stem often arching or lying upon the ground. Both the heart-leaved aster and white wood aster thrive in the drier woods and openings. In damp areas, the zig-zag goldenrod blooms. The flow of water and the subsequent blush of wildflowers lead into the middle ravine community. Woodland warblers sing from the gentling slopes, from the flowing water and rich ravine flora.

The middle ravine reveals a mellowing of slope and flora. The tree species thriving here are adapted to mild, moist sites containing a rich humus layer. Although the American Beech and the basswood prevail, this section exhibits increased tree diversity: the small-leaved linden, the American elm, the tulip tree, the black cherry, the shrubby spice bush, and the American hornbeam. The appearance of a bottom land marks one of the defining landscape features of the middle ravine. It starts as mere flattened path, developing into a wide, swampy area as it flows into the lower ravines. Small tributary drains empty into the middle ravines, and springs charge mucky washes brimming with wildflowers: the wild ginger, the false Solomon's seal, Jack-in-the-pulpit, the bloodroot, the sharp-lobed hepatica, the wild geranium, the zig-zag goldenrod, and the tall, white lettuce.

A permanent creek flows here, gurgling around the fallen timber and over clay and rock boulders, down through the rich and varied growth. At the lower end of this section, the bottom land widens into a deciduous wetland.

In the two large lower ravines, the south and the main, woodland opens onto wet meadows of grasses and flowering plants. Water saturates the soil year around, relegating shrubs and trees to the higher ground. The lower sections of the small ravines also show the effects of periodic saturation. Trees thin to saplings, and swampland shrubs root into the wet soil.

The lower ravines offer a great diversity of plant life. Pleasant thickets of spice bush open onto meadows growing up in white snakeroot, a fall wildflower. Boneset and spotted joe-pie weed bloom here. The spotted touch-me-not flowers and fruits during the late summer. Cleavers recline amongst the wet grasses, and clearweed sprouts along the banks of the drainage. Purple grant hyssop blooms in the late summer meadows. At the shrubby meadow edges, the turtlehead occasionally blooms: bees burrowing into the hooded flowers give the plant its name. At the shrubby edges, the stinging nettle stands armed. Deeper in the wooded flood plain, the false nettle shelters beneath the woodedge shade.

In the large, damp meadow of the main ravine, the common elder grows in the shrubby thickets at the edge. Black ash roots near the drain of the lower main ravine. As the swampy meadow rises from wildflower to tree, the shrubs thicken. Here the alternate-leaf dogwood and the spice bush offer a softened brush of fragrant leaves. The red maple stretches over the shrubby wetland growth. A line of scarlet trees stands brilliantly at the edge of the damp meadows. The American elm, its branches upsweeping and feathery thin, grows in both the canopy and understory of the damp, lower ravines. The eastern cottonwood inhabits both the woodedge and the deeper woods. The white ash and the bitternut hickory also thrive there. The American beech prefers the cool, shaded soil of the north-facing slopes. In the large south and main ravines, it codominates with the eastern hemlock. The basswood and tulip tree are common in other forested areas of the lower ravines. The red oak continues into this section. The American hornbeam and witch hazel grow in the understory along with the spice bush. Virginia creeper climbs the trunks of trees, and poison ivy vines root into the leaf mold, creating a ground cover of their ubiquitous foliage. On the forest floor, many wildflowers thrive: Jack-in-the-pulpit, skunk cabbage, the wild leek, raising a stem topped by an umbel of white flowers. Wild ginger creeps down the ravines onto the flood plain.

Flood plain inhabitants migrate into the lower ravines. The black walnut's thickly husked fruit is conspicuous in the fall woods; and the sycamore raises its mottled bole in the damper areas. American elm and red maple, bitternut hickory and black walnut root into the alluvial soils, anchoring against the periodic flooding.

The divide between ravine and flood plain is often arbitrary, a point where exotic southern trees impress more than the resident red oak or basswood. Riparian warblers dance between the boughs of the pawpaw and coffeetree. The turkey vulture cruises the air currents of the river. The river graces all that grows on the flood plain, watering and moderating with its generous flow.

Three large ravines open onto this flood plain. The south ravine cuts through the southern portions of the property between the orchard and the southern plateaus. It consists of a large, main branch and a small, north branch. The main ravine cuts

through the campus and has three upper branches and a lower confluence. The south branch of the main ravine trails behind Seidman House, Lake Huron Hall, and Au Sable Hall. The "Little Mac" pedestrian bridge spans the middle branch. The Kistler, Copeland, and Robinson Houses twist around the north branch. The Nature Trail footbridge spans the north ravine. It is located south of the ski hill. Three small branches form the upper section of this ravine. Four lesser ravines also drain onto the Grand River flood plain. Three small ravines border the highway, M-45.

The richly diverse flood plain shelters southern deciduous trees at the northern limits of their range. The habitat varies from well-drained slopes and knolls to saturated flood basins and deciduous swamps. Many of the trees have muddy rings marking past water levels. The river moderates the bottom land microclimate, providing moisture, cooling the summer heat, and warming the winter winds.

The lush vegetation of the bottom land hides the sharp call of a sparrow hawk perching in the crown of some tree. The rigors of descent divide the ravines from campus life. Sounds barely penetrate. Cool air flows down the slopes, and the hermit thrush beckons from behind a hidden contour, calling from the branches of a fragrant spice bush. The leaves of the silver maple shade the river. Eroded trees lean over the water, a fishing platform for the green-backed heron. The hoarse croak of the great blue heron sounds along the bank. The thrash of a carp, momentarily tangled in the branches of a fallen tree, draws attention to the river, where map and painted turtles slip from snags into the water. To the west, trees hide the bustling campus community.

