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Walk on the Wild Side
Industrial Land Gone to Seed by Lynn Woods

About a month ago, I took a special tour of Liberty State Park, 2,000 acres of open space along the waterfront in Jersey City, formerly heavily industrialized. It's a popular place to walk, bike and observe flocks of brant geese, coots, loons and other waterfowl congregating in New York Harbor over the winter. The backdrop--the skyline of lower Manhattan and the Statue of Liberty—couldn't be more dramatic.

In the center of the park, surrounded by a chain-link fence, is a wooded area that's off limits, due to contamination by excessive levels of chromium, cadmium, zinc, iron, lead, arsenic, copper, and mercury. Formerly a rail yard, the area was abandoned 40 years ago. Most of the buildings were torn down. It's now covered in extensive birch groves, resembling the steppes of Russia. But a lot is actually happening here: this 250-acre mini wilderness has become a fascinating laboratory for measuring the healing power of nature as well as a kind of living history museum of how human activity impacts the environment.

On this day, Frank Gallagher, an administrator with the New Jersey Division of Parks and Forestry, who is overseeing the management of the project, and Claus Holzapfel, an assistant professor of ecology at Rutgers, who is making an inventory of all the flora and fauna, led a crowd of about 50 people through a hole in the fence to provide a peek of what's been happening in the "forbidden" zone. The walk was sponsored by Friends of Liberty State Park, a not-for-profit organization that manages the park.

The remediation project represents the cutting edge of a new kind of thinking about how to best restore polluted areas—namely, simply return them back to nature—and it's a testing ground for the emerging academic field of urban ecology (the state has awarded the project $11 million in grant money). Scientists are discovering to what degree the wild plants are absorbing and harmlessly dispersing the toxins. They're also studying how a polluted site "comes back"—to what degree forest succession happens, for example, over 10, 25, 50 years (time is obviously part of the equation, and the project it tuned to the long term).

I wanted to go on this walk because I thought there might be lessons and ideas for Kingston, which, like Jersey City, has a former heavily industrialized waterfront. In fact, as clay fill covered with cinder ash—the area was originally a salt marsh--those 250 contaminated acres are probably very similar in makeup to Island Dock, which also was constructed of fill in the 19th century, as storage for the millions of tons of coal that were conveyed down the Delaware and Hudson Canal from Pennsylvania. A century ago, the Rondout Creek and Hudson River waterfronts, with the exception of the amusement park at Kingston Point, were treeless hives of industrial activity. There were limestone mines operated by the cement company, brickyards processing the clay of the river banks,

enormous wooden icehouses, piles of massive bluestone on the docks, foundries, ship yards, a railroad roundabout…you name it.

Now much of this land lies fallow, between and betwixt new development. Or at least that's the conventional thinking. In fact, much of it has grown back into forest, which confers other positive benefits: a preserve for wildlife, sequestering of carbon (thereby offsetting the harmful effects of global warming), and a possible place for trails, which would create access to a serene, beautiful place where humans can shed their unhealthy pounds, find spiritual replenishment, and expose their children to nature. And all without having to drive half an hour to the Catskills.

In the woods surrounding the Business Park, along the limestone ridge that rises nearly 300 feet above the Hudson River, starting at Delaware Avenue, on land owned by the Kingston Development Corp., white oaks with circumferences of up to 12 feet preside; farther north, all the way to East Kingston, above the canyon-like quarries, the lush undergrowth includes spice bush, witch hazel, honeysuckle, and evergreen Christmas and wood ferns, growing in thick beds. Wall rue, ebony spleenwort, and lyred leaved rock cress sprout from the limestone outcroppings, stamped and etched with the patterns of fossilized shells. (Thanks to naturalist Spider Barbour, who was involved in a study of the habitat as part of the environmental review for the construction of the Business Park, for providing this information.)

Vernal pools resound with the screech of peepers in the spring. Bald eagles roost on the tops of the enormous white pines. Turkeys, pileated woodpeckers, red-tailed hawks, and dozens of other birds breed or feed in the forest, an eighth of a mile from the speeding traffic on 9W.

More expanses of secondary forest, as disturbed areas that have grown up into woods are called, can be found near Wilbur, in the hills around Chapel Street and extending along another limestone ridge above Abeel Street all the way to Route 32, in another former cement mining area. Even the area along the rail line that runs out to Kingston Point has its portion of nature, with snapping turtle nests dug into the silt in the spring and tall mulleins shooting up in the summer. Preserving this green belt, whose richness of wildlife took many decades to establish, might be something to think about. It might be yet another reason Kingston should put together a comprehensive plan.

But I digress. Back to Jersey City: on the walk, Gallagher—who had a longshoreman's build and accent; I knew I was in Jersey—and the bespectacled, soft spoken Holzapfel talked about where the project is so far. While white pines and other evergreens were planted by park managers a decade ago, Holzapfel pointed out that most of the plants, including the Russian olive, bayberry, and birch, were brought in by birds "at no cost to us."

So far, there are only a few small oaks, which raises the question as to whether there's enough organic material in the soil for the natural process of secession to occur. It might be because acorns are too heavy for bluejays and squirrels to transport from a long

distance, unlike feather-light bayberries and the seeds of gray birch. There might be other reasons, tied to the pollutants or the intense urban environment around the park.

We passed a test site of trees, with orange ladders strewn over the ground and pie tins attached to the trunks. Gallagher explained that every 30 minutes a solar-powered machine takes a reading of the sap flow. Modeling the effectiveness of these plants' photosynthesis, and thereby the amount of carbon sequestered in such a forest, could be valuable in helping New York City combat global warming right at the source. "We could look at the values and give credits to the [cap and trade] system right here," he said.

Walking along a trail that had been a former rail bed, we came to a pit, dug in order to ascertain the depth of the ground water. At the muddy bottom was a remnant of a plank road built in the 1830s. The water below the road would have been the original tidal area. One hundred meters ahead of us was the greatest concentration of toxins, a 20-acre site that is the only area that will require some sort of hands-on remediation, Gallagher said. (But even there, birch trees were growing.) We also could see mossy ground, part of the one-acre "moss bed," with three species of mosses identified, grown over with steeple bush.

Holzapfel noted that the plant community on the rail trestle itself was relatively sparse. However, of the ten species found there, two plants, blue curls and St.- John's-wort, are very rare in New Jersey, found only in the Pine Barrens. Neither likes competition from other plants, which is why they are fond of infertile areas. Holzapfel speculated that the seeds for each might have been brought by the trains that passed through the Pine Barrens (fires caused by their sparks meant the trains themselves helped create more barrens). He noted that the rail bed was a unique eco-system, a kind of barrens in the park. "It's not very species rich, but it's special," he said.

We then walked over to a grass land, the spires of Wall Street behind us, which was a mosaic of native and invasive species: bluestem grass and goldenrod among the natives, mugwort, knapweed and carrot among the invasives. It was one of several fields, which are mowed every three years to prevent the onset of the forest and thereby promote habitat diversity.

The focus here was on the impact of the invasives—would the mix of species stabilize, or would one plant take over? If an invasive doesn't take over, if it can coexist, it's not necessarily a bad thing, Holzapfel said. Knapweed, for example, provides nectar for butterflies. Fortunately, deer, which prefer to eat native plants and therefore upset that delicate balance, were not in the area.

Surprisingly, New Jersey has protected one million acres as open space—more than any other state, in terms of the overall proportion of land. Given the state's dense population, 10-lane highways, and heavy industry, the need is doubtless acute. Liberty State Park is the crowning achievement of a group of dedicated citizens, Friends of Liberty State Park, which fought a series of ill-conceived development proposals for the formerly blighted area over many years in its efforts to preserve the area as open space.

Most of the formerly industrial, now wild lands in Kingston are privately owned and therefore off limits. However, the approved plan for the massive AVR development, slated for the Hudson River waterfront calls for protection of the small area of forest along the ridge that's included in the acreage. That presents an opportunity. (Given that no development is expected to happen for the next year or two, when the market improves, the discussion about how that land would be managed and by whom has been temporarily suspended, according to Dan Simone, director of engineering and planning at AVR.)

Another opportunity exists around the Business Park. Plans eventually allow for three more buildings to be constructed, in addition to the two existing factories. But for now, more than half of the 107-acre site remains undeveloped. That land includes the gorgeous woodland with the huge oaks. A trail within this city-owned acreage would be a wonderful amenity to the 118 workers at the site and Kingstonians in general.

The prospect from this high, forested land is, as they used to say, pleasant. One glimpses the distant glint of the Hudson River to the east, the greensward of Hasbrouck Hill to the south, and the bluish Catskill peaks to the west. The city streets lie far below; the whine of a leaf blower and the distant din of 9W waft through the clear air and the gabled ranks of houses are ghostlike, glimpsed through the brush. The forest itself is silent, except for the rustle of leaves made by a foraging squirrel. It's a lovely spot.

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