Taylor Reed photo

Water riffles and ripples through Bell Smith Springs canyon on its way to the Ohio River.

Bell Smith Springs

Sam Stearns

I have been visiting Bell Smith Springs since before I was born. My mother used to tell me how she visited the shady canyon in the summer before my birth, wading the pools and soaking her feet in the cool water. My earliest memories are of watching tadpoles in the rock basins above a little waterfall there. Some of my most pleasant recent memories include lazing around those same pools, contemplating a new generation of tadpoles. Their lives and mine are inextricably intertwined and will continue to be so.

I appreciate now the privilege I took for granted as a child. Bell Smith Springs is an essential destination for anyone interested in native ecology and local history. It is designated a National Natural Landmark by the U.S. Park Service, a Natural Area by the Illinois Nature Preserves Commission, and a recreation area by the U.S. Forest Service. This gorgeous canyon and its surrounding watershed have been studied by scientists and enjoyed by visitors for generations.

Untold thousands of citizens have visited this piece of public property through the years to observe the rare phenomenon of interconnected, complete, functioning ecosystems. There are four creeks which come together in the canyon at Bell Smith Springs; and even when the creeks are parched there are a dozen ice-cold spring pools which never go dry. The unique hydrology of the canyon contributes to its vegetative diversity: over 700 species of plants flourish at Bell Smith Springs.

Native Americans utilized the canyon for its abundant water and huge shelter bluffs. Early settlers farmed the ridge tops, grazed livestock on the hillsides and harnessed one stream to power a gristmill. Massive trees of the virgin forest were felled during this time. The cougar, wood bison, bear, elk and many other species which once drank from the pools have long since been extirpated. But bobcat, turkey, deer, fox, a plethora of songbirds and other animals are still glimpsed at Bell Smith Springs.

The rugged, isolated topography of parts of the canyon serve as a repository for species that have disappeared from many other places. The netted chain fern is found in upland areas of the watershed, its fruiting bodies rising above the foliage. Pale, greenish, spongy-looking tufts of sphagnum moss line the sides of some north-facing slopes. Rosy blooms of the flower-of-the-hour appear in arid patches, display their short-lived beauty, and then wither away within a couple of hours. The rare French's shooting star occur in drip lines of the

Taylor Reed photo

An iconic view of Devil's Backbone shows the sandstone formation emerging from a beautiful blue spring pool.

bluffs. Alder trees tap their roots deep in the cold soil adjacent to spring pools. There are lichen grasshoppers, endangered crayfish and unusual minnows that inhabit the cliffs, rocks and pristine water.

During the decades that these hills and hollows have been protected as public land, natural regeneration has restored much of the area's biological diversity. Pine plantations on the ridge tops now nurse a diverse understory of native oaks, hickory, and other hardwoods. Continued protection and respect for the land will insure its survival for future generations.

My own daughter has a deeper appreciation of Bell Smith Springs than I do. I grew up thinking that the tadpoles I observed were part of a food chain that culminated with human beings at the top. My daughter realizes that those tadpoles are part of a complex web of life, the intricacies of which are sometimes too subtle for us to understand fully. Bell Smith Springs will continue to be a nurturing classroom as long as we are humble enough to listen to the lessons that it has to offer.

*** The portion of this article above was written in 1992; below is a recent addendum ***

When I first wrote the words above more than 25 years ago, the late Dr. Jean Graber mentioned to me that the main keys to forest health resided in the mycorrhizal fungi in forest soil. I was out of my depth in that conversation, but have tried to stay afloat since by keeping an eye on developments in that field of study. In recent decades, Professor Cade Bursell at Southern Illinois University has kept me abreast of research which proves Dr. Graber's prescience.

Since those days when my daughter was small and we were mostly concerned about threats to those tadpoles in the Bell Smith Springs watershed, much has changed, both on the land and in our heads. In the past few decades, the parts of Bell Smith Springs which were left alone have only gotten better and better. Biodiversity has increased; water quality has improved; a little more forest soil has accumulated; and the place is more gorgeous than ever. Human litter remains a problem, but one which can be mitigated through the work of public education and human hands.

The few places in this area which were logged, burned and the soil otherwise disturbed show a stark contrast. In those places various non-native species have proliferated and ugly scars remain visible on the land. Soil was

compacted and eroded from these disturbances while much carbon from the forest floor was released into our imperiled atmosphere. From the soil beneath our feet to the air far beyond the tiptops of the trees, humans have managed to further degrade not just a few places around Bell Smith Springs, but our whole planet as well.

Research regarding a mycorrhizal fungi network in the soil has shown that trees, shrubs and other vegetative components of intact forest ecosystems are in constant communication with each other. This system extends to plants of the same species and others. Older "mother trees" form nodes which are connected by threads of fungal mycelium in the soil. This underground network allows mother trees to send warnings of impending danger such as insect or disease outbreaks and also allows mother trees to send necessary nutrients to just the plants in the network which need the most help at any given time.

When my mother introduced me to the wonders of Bell Smith Springs and when I did the same with my own daughter, we had no idea that we were surrounded by trees parenting offspring at the same time. Our knowledge of our natural systems is increasing at a slow pace, while our ignorance of how to live in them seems to be accelerating.

We cannot continue to abuse the land with heavy equipment, unnatural fire and synthetic chemicals without a corresponding loss of the things we value most about places like Bell Smith Springs. We are just now learning about what actually constitutes a natural forest. True wealth consists of what we are able to save and preserve, not what we are able to extract and spend.

Nature is working around the clock to achieve the best possible natural forest under current and future conditions — at no cost to the soil, mother trees, or taxpayers. We have learned a lot since I wrote the beginning of this article. But the humility necessary to admit that humans do not have all the answers remains a more rare commodity.

If we can cultivate the restraint implicit in that humility, future parents can teach their children not only about tadpoles and mother trees, but about our own role in ensuring the survival of magnificent magical places like Bell Smith Springs. The classroom is open and those lessons are ready to be explored.

Orin Langelle photo

This feller buncher at a Shawnee National Forest logging site near Karber's Ridge is not likely to be beneficial to mother trees, precious forest soil, or the mycorrhizal network within.

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Sam Stearns lives with his family near Bell Smith Springs in the central part of the Shawnee Forest, and has been a strong voice for many years for the protection of the forest. He is the founder of Friends of Bell Smith Springs, an organization that promotes the protection and conservation of the area. Sam is a hiker and forest watcher, who loves to share his "backyard" with folks that share his love and appreciation of the land.