The Baker Trail - Overview

The Baker Trail was established in 1950 under the sponsorship of the Pittsburgh Council of the American Youth Hostels. Named for Pittsburgh attorney Horace Forbes Baker, the trail originally began in Aspinwall on the north shore of the Allegheny River just across from Pittsburgh and, after crossing the Allegheny at Freeport, wound its way through the diverse habitats of Western Pennsylvania to Cook Forest State Park. In its original form it covered 133 miles. The Aspinwall to Freeport section, though, was lost due to development and fragmentation, so in its present form the Baker Trail begins on the bluffs over the eastern shore of the Allegheny River just past the base of the Freeport Bridge. A northern extension added in 1971 took the trail past the Cook Forest Fire Tower and extended it to the southern edge of the Allegheny National Forest. More recently, at the southern edge of Cook Forest, the Baker Trail has been connected to the North Country Trail. The present length of the Baker Trail has been listed as 132 miles, or 140 miles, or 141 miles. We will go with the 132 miles used by the current sponsor and guardian of the trail, The Rachel Carson Trails Conservancy.

The Baker Trail is positioned in between the two most scenic and most popularly hiked parts of Western Pennsylvania (the Laurel Highlands in the south and the Allegheny National Forest in the north), and it is not a frequently selected hiking venue. On the trail, however, you walk through great expanses of re-growing and recovering natural western Pennsylvania ecosystems and also through the whole range of human modified habitats that have been used (and, sadly, often abused) over the past 200 years. You hike past working farms, abandoned farms, tree plantations, dams and reservoirs, active, abandoned, and reclaimed strip mines, factories (active and closed), power plants, and more. Walking along many sections of this trail, deep in wooded hollows or up along the ridges, far from any present day road, you can come across coils of rusting cables or piles of abandoned, broken machine parts, and outlines of
foundations that might have once been homes or small factories. You also find areas of stunningly pristine beauty, forests and meadows rich in biological vitality and diversity.

In the spring and summer of 2010 Deborah Sillman (my wife and fellow biologist) and I walked the length of the Baker Trail via a series of day hikes. Each hike averaged 8 miles and there were typically an hour or two before and after each hike that were occupied with the set up and then recovery of our cars from the starting and ending points of the day’s trail section. We took anywhere from 4 to 5 hours to not only make the walk but also to take the time to describe and identify the plants and animals we found along the way. I filled many notebooks with descriptions of the landscapes and terrains through which we walked and made lists of questions and ecological digressions that I would develop in the comfort of my writing desk. Deborah took pictures of the trail and its surroundings, she took pictures of any animals that would stand still long enough for a shot, and she especially took pictures of the leaves and flowers of the plants we encountered. After each hike I would write up my field notes into a narrative of the hike, and Deborah would organize her pictures and work up her plant identifications.

Logistics of each hike were often very difficult. The roads on which we were driving and the locations we were exploring were out of the way and often obscurely marked. Fortunately, we had excellent road and trail maps in the new Baker Trail Hiking Guide published by the Rachel Carson Trails Conservancy. We put signs on our cars that explained who we were and what we were doing after some problems in Gilpin Township over one of our cars parked (legally) along a seldom traveled back road. Our “Baker Trail Plant Census Project” and “Penn State Biology Department” designations must have reassured any curious or concerned resident (or Chief of Police) that we were at the very worst only harmless eccentrics.

We did our hikes on sunny days through May, June, and July scattered in between teaching, advising, and family obligations. After we finished the last hike (on July 20, 2010) I spent several weeks organizing the hike narratives into the eight sectional descriptions. I edited the individual narratives to eliminate redundant observations and discussions and tried to generate a feeling of continuity within each of the sectional hikes. These eight hiking chapters will be available in their entirety out on our hiking web site: http://www.psu.edu/dept/nkbiology/hike/index.html.

In this overview of our Baker Trail hike we want to describe the trail not geographically or continuously but, instead, on the basis of its three fundamental components: Forests, Fields and Farms, and Roads and Ditches. Typically, we encountered each of these components over every mile or two of hiking. We hope that this overview will describe both the essence of the Baker Trail and also some of the more remarkable aspects of our hiking experience.
Pennsylvania prior to European settlement was 95% covered in forest. The composition of these “Primal Forests” varied according to specific location and site features, but a dominance of oaks (especially white oak), American chestnut, and eastern hemlock with a rich intermixing of other hardwood species and scattered stands of white pine broadly describes these extensive forests.

The people of Western Pennsylvania used these trees in so many ways. They cut them for fuel, for building materials, and for fence posts. They cut them to clear fields for corn. They cut them and burned them down to ashes to make potash which they then sold as a “cash crop.” They also cut and floated the great white pines to water-powered sawmills where they were cut into lumber. As the technology of the tree harvesting and transport became more and more advanced, they cut and then charcoaled whole forests to make fuel for the iron and then the steel industries. They cut square mile after square mile of forest and extracted industrially important alcohols and acetates from the wood and the tannins from the bark that were needed in the booming leather industries of the commonwealth. There was money to be made from the seemingly endless trees, and the cutting of the forests kept accelerating through the first decades of the Twentieth Century.

Gifford Pinchot, the first Chief of the U.S. Forest Service and twice governor of Pennsylvania, wrote in 1937 that the late Nineteenth and early Twentieth Centuries represented a “perfect orgy of forest destruction” in Pennsylvania. There was little thought given to replanting or forest management, there was little thought given to the consequences of denuding so much land. At the beginning of the Twentieth Century only 30% of the Commonwealth was still forested, and only 8000 or so acres (out of the commonwealth’s 29 million) were still in Primal Forests.

Pennsylvania is fortunate that its soils and climate and available plant species were all favorable for a new round of forest growth. Our forests entered into a century of growth and development. The results of this regrowth, though, were ecosystems that were very different from the original forests. They were something entirely new. They were ecosystems that have never existed before.

A great deal of our Baker Trail walk was through these recovery forest ecosystems. All along the trail from the southern terminus to the northern terminus we saw secondary forests dominated by root and stump sprouting, and/or fast growing, and/or sun loving tree species (especially red oaks, red maples, white ash, black cherry, and yellow birch). White oaks and chestnut oaks were frequently inter-mixed with these other
trees, and there were a large number of white oak seedlings in the under stories of almost all of these forests. It is likely that these young white oaks represent the next forest that will eventually come to dominate the length of the Baker Trail.

Eastern hemlocks also were abundant in certain sections of our hike. Sometimes the hemlocks were present in pure to nearly pure stands, and sometimes they were extensively intermixed with yellow birch, or white oak, or black cherry. The eastern hemlock is the state tree of Pennsylvania and was, in the Primal Forest, the dominant tree not only across the northern tier of the commonwealth, but also down the cool, shady sides of its long ridges and deep, stream-cut, rocky ravines. Eastern hemlocks are well suited to develop pure stands: their seeds readily germinate in the damp, slowly decomposing masses of dropped needles that accumulate under mature trees, and their seedlings and saplings grow (although extremely slowly!) in the deep shade of a mature stand of trees. Very little else will grow in the acidic mulch and profound shade of a hemlock stand! So, a hemlock forest will stay a hemlock forest unless some other forces intervene.

One of these intervening forces is, of course, clear cutting. Loss of the deep shade opens the system up to competing, and often much more rapidly growing trees and shrubs. Loss of the surface litter (via erosion of the exposed soil surface) will not only destroy the hemlock’s mulchy seed bed but may also flush away its accumulated reservoir of seeds. If erosion accompanies clear cutting, there is a strong possibility that hemlocks will not be a part of the recovery forest on the site.

Most of the well established hemlock forest we walked through was on relatively flat, creek side sites. The trees on the steeper slopes were typically smaller (i.e. younger) and in much earlier stages of development. Soil surfaces in both flat and sloping sites, though, had characteristic topographies that reflect the wind dynamic of these types of forests. Wind thrown trees raise tip-pile mounds of soil and roots and generate both kettle-shaped holes and long, straight ridges of debris covered trunks. These fallen trunks often serve as "nurse tree" sites for new seedlings and generate long, straight lines of trees in the forest stand. We saw these components forming in the younger forests and walked over and past them in the older stands. We also
walked through this “hemlock topography” in many other sites (wet lands, meadows, and hardwood forests) and inferred that these sites had once been covered in hemlocks but now had grown into new configurations.

There were also a number of isolated, solitary hemlocks growing in the hardwood forests. These lone trees as they drop seeds in the increasingly receptive understory of these forests are possible harbingers of the hemlocks slow but inevitable return to dominance.

**Fields and Farms**

Before European settlement Western Pennsylvania was almost entirely forest. Today, however, with large tracts of land cleared for crops and livestock, and with the growth of our towns and cities, our landscape is anywhere from 30 to 40% fields, grasslands, meadows, and lawns. The Baker Trail winds its way through all of these.

The farms along the trail are lessons in both the technology and effort involved in agriculture and also the magnitude of land that is committed to food production. An acre (or a hundred acres) does not seem like much when you zoom past it in a car going 60 miles per hour, but when you walk across an acreage or have to detour around it, you really do get an appreciation of scale. Seeing thousands of acres dedicated to the cultivation of a single plant species (like corn or soy beans), seeing these fields stretch from horizon to horizon, and seeing the absence of “weeds” or the evidence of any appreciable plant community diversity in these fields alters your fundamental perspectives on the modern human food chain.

How many of these acres are needed to support each one of us? Where did these crop plants, these incredibly unnatural looking species, come from? What are their wild ancestors, their wild forms? What are the impacts
of all of the herbicides and pesticides and fertilizers that are used to support and sustain these fragile, ecologically unstable agro-ecosystems? What are the purposes and what will be the consequences of our manipulation of the very genes of these crop plants? We can stick bacterial genes into soybeans and fish genes into fruit, but what will be the long term results?

Aldo Leopold once wrote that one of the problems with not living on a farm is that you might come to think that food just comes from a grocery store. Walking past the farms along the Baker Trail helps dissuade you from making that error.

The diversity of the animals on the farms was incredible. There were dozens of kinds (and shapes and colors) of cows, and horses, and sheep, and chickens. There were also goats galore and some donkeys, too. Each of these animals conveyed their characters, their biotic features, and even some unexpected wildness. There were also so many dogs chained, fenced, tied, and loose that interacted with us in fantastically individual ways (some dogs wanted to come home with us, others seemed to want us to fly away (immediately!), while others just watched us silently or followed us to the edges of their territories. Watching the behaviors and interactions of these animals brought us as much joy as watching the wild birds and mammals along the trail.

Our favorite animal, though, found us on the trail in Gilpen Township, Armstrong County. We had just crossed the edge of a small farm and had climbed down into a steep sided ravine to cross a small stream when we turned around to see a 300 pound pig following us. He was well scrubbed and fat, soft eyed and snuffling and seemed extremely friendly. He tried several times to climb down the dirt slope of the ravine but the poor footing frightened him. He grunted at us pitifully clearly communicating his desire to have us come up and play with him, but since we only responded with cheerful words, eventually he turned back to his home and left us behind. Good pig!

We also enjoyed the people we met in the farms and fields. They were open and helpful especially when maps and map names of roads didn’t quite match up with signs and common usage. They were interested in our hike and most were quite knowledgeable about the Baker Trail. Some had sign-in books for hikers passing their farms, some were eccentrically and kindly mentioned in our hiking guides, and some had great reputations for being friendly and supportive to hikers. In southern Jefferson County we met a farmer on his quad racing from cattle field to cattle field with his muddy (and incredibly happy) golden retriever clinging to
the back of the seat. In eastern Armstrong County we met an eighty or ninety year old man driving a backhoe three miles an hour down the middle of a country road who knew the original route of the Baker Trail through his area and also why it had been changed. We met farmers, and road workers, and kids just driving around who wanted to say hello and who wanted to know why we out in the heat on these summer days. They were all wonderful!

We also met a number of Amish. Several sections of the trail passed by and even cut through Amish farms. The hiking guide cautioned us to walk these sections quietly and not to try to engage the Amish in conversation or treat them like curiosities. In all of our contacts with these fine people we received courteous nods and even a few “hellos.” We wondered at the physical toil of their lives and pluses and minuses of living without technology. We thought about the studies on the remarkable cardiovascular health of this group in spite of their diets rich in saturated fats. We were amazed at the effort and ingenuity they displayed cutting and gathering hay, clearing and plowing fields, and hauling wagonloads of crops and supplies using their horse powered systems. We walked past farms with hundreds of yards of wash out hanging on clothes lines that stretched from house to barn and back. We felt humbled by their focus, dedication, and quality.

**Roads and Ditches**

More than half of the Baker Trail runs along roads of various sizes and qualities. These roads form a developmental sequence of size, construction, and use.

There are narrow, packed dirt or gravel roads that were built by logging or mining companies many decades ago. These roads now run through rebounding sections of secondary forest and are often so heavily choked with weeds and grasses and fallen trees that you have to use your imagination to visualize their former states. These are historical structures often bordered by old foundations or other evidence of past uses and human habitation. They exist today far away from the lives and economic activities of the area. They are forgotten places and passages hidden from almost all of us.

There are also newer roads built by the state for on-going logging, mining, and oil and gas drilling activities. These are wider, packed dirt to more heavily graveled roadways over which coal trucks and logging and drilling rigs fly at 40 or 50 miles per hour. Many of these roads crisscross State Forest and Game lands forming an intricate, interconnected network of predominantly unmarked byways over which you can unexpectedly connect state and county routes.

The county and state roads are progressively wider with increasingly more secure and more solid kinds of construction materials. Stone, brick, asphalt, concrete and most frequently patchworks of all four make up the
driving surfaces. These roads connect with more expertly designed and maintained highways over which legions of cars and giant trucks fly at breathtaking speeds.

There are great pluses and minuses associated with walking along roads. You can walk so much faster! The miles just melt away when you are walking on a road. There are no holes to watch out for (I could even write up field notes as I walked along)! There is also a great deal to see along the roadway! There are farms, and people, and houses, and towns. But the roads are also dangerous and frequently lack shoulders on which one can safely walk in traffic. On a number of occasions we had to step off into thigh-high weeds in order to avoid an approaching truck.

The roads are also very hot and mostly unshaded. On one hot, June afternoon we actually blistered our feet walking on the open, sticky asphalt road near North Freedom. When we were slogging through a dense patch of wet meadow or climbing up a crumbling, uneven rocky hillside we frequently found ourselves wishing for a stretch of open roadway. When we were out on the open roads, though, especially on a hot and muggy afternoon, we often yearned for the cool, deep shade of a narrow (even rocky!) woodland trail.

Another great treat of walking along the roads of any size or shape was our appreciation of the roadside ditches and their incredible array of plants. Edges of ecosystems form zones where plants, nutrients, and other physical aspects of each ecosystem intermix to form a rich, diverse, and often very uniquely structured community. These zones of intermixing are called “ecotones.” The ditch ecotones were sites of moisture accumulation, wild seedling growth, and rich biotic expression. These “weed patches” were gardens of great beauty and elegance. These ditches were the habitats of fantastic biological diversity and quality and deserved to be savored and cherished (not sprayed or mowed into oblivion).

Traveling slowly allows you to see things you otherwise would miss, or only notice as a blur of color. Through the course of our hiking we were able to identify almost 200 unique herbaceous plants, most of which could be seen in the ditches or crumbling hillsides along the roads. We chronicled these valuable components of the
ecosystem – many of which are critical food plants for important pollinators – through images. Later, surrounded by a variety of field guides, we did our best to identify these ‘weeds’.

We saw many members of the pea family (Fabaceae), including clovers and vetches. The roots of these plants form nodules housing nitrogen-fixing bacteria, thus helping to replenish this important soil nutrient. One familiar member of this group is crown vetch (Coronilla varia), which has been planted abundantly along the hillsides of our major roadways to prevent erosion. Up close, the flowers of this plant are breathtaking.

We saw butter and eggs (Linaria vulgaris), a very common plant of roadsides and waste places. The common name of this plant reflects the orange and yellow colors of its snapdragon-like flowers. This plant, like so many other of our roadside plants, is an introduced species, and in some states is classified as a noxious, invasive. It has, however, been established in the U.S. for so long that there are reports of several folk medicinal uses.

We saw birdsfoot trefoil (Lotus corniculatus), a European introduction, whose common name comes from the unique shape of the seed pods, and the three-parted leaves.

All along the first 50 miles of the southern end of the trail we were treated to daily sightings of fire pink (Silene virginica), a native species which grows along crumby hillsides throughout western Pennsylvania. The intensity of the scarlet color made them one of our favorite sightings.

What else did we see on the Baker Trail?
We saw that we live in a place that can recover from ecological assaults in a very forgiving way.
The mass deforestation of these counties in the late 19th and early 20th Centuries (what Gifford Pinchot called "a perfect orgy of forest destruction") resulted not in a Haiti-like denuded landscape but instead has generated an increasingly rich recovery forest which may be on its way to forming even more stable and productive conformations.

The rehabilitated strip mines were not the sterile, Mars-like landscapes we saw in the active mines, but instead they have become complex patchworks of ponds, wetlands, meadows, and forest that were extremely rich in both plant and animal species.

Here in Western Pennsylvania we are blessed with soils and a climate that enable our agricultural and wild places to flourish. We are also blessed with natural resources that may enable us to have the time to make the transition to more renewable forms of energy, and we are further blessed to still have wild places (if not exactly "wilderness") to which we can retreat for both relaxation and exercise.

We have a great, shared "backyard" in the Baker Trail. We need to make sure we take care of it.