




A wolf in the Lower Tatra Mountains in Slovakia.  
Photo by Tomáš Hulík.





*Wolves are too rare to stumble onto, and too wary to be fooled by common photographer tricks. Even glimpses of them are rare. They're secretive and mysterious, and their story is often revealed only through the tracks in the snow.*

Jim Brandenburg ~ *Brother Wolf: A Forgotten Promise*

# Tracks in the Snow

Volunteers help biologists assure wolves can continue to co-exist with people in a storybook setting

By Ann Lockley









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My conversation with Roseann Hanson at ConserVentures went something like this: “Ann, how would you like to go to Slovakia . . .”

“Yes!”

“ . . . in February . . . ”

“Sure!”

“ . . . to track wolves and lynx . . . ”

“YES!!”

Roseann paused for a breath. I was too excited to breathe.

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## The setting

Two decades ago Slovakia emerged from behind the shattered Iron Curtain like a lost Grimm’s Fairy Tale, full of dark forests and darker castles. After a peaceful divorce from the Czech Republic in 1992, the country faced the future with a strong ethnic identity (a Slavic presence since 500 A.D.), a struggling economy—and an unknown number of wolves that had somehow survived the serial upheavals of the 20th century by hiding in the vastnesses of the Tatra and Carpathian Mountains.

Today Slovakia’s national identity is stronger than ever, and its economy is vibrant. But how many wolves have survived into the 21st century is still a matter of conjecture, if not outright guesswork. Talk to some farmers and hunters and they’ll tell you a thousand or more; a few activists claim the number is barely a tenth that. What is the real number, and how can those wolves survive into the 22nd century and beyond while co-existing with humans?

That’s what I and nine other volunteers were here to help biologist Robin Riggs figure out, under the auspices of Biosphere Expeditions.



A Biosphere Expeditions Land Rover 110. Photo by Ann Lockley.

## Why volunteer?

As travelers, we have an innate desire to explore and learn about the areas we visit. It is the main reason most of us travel. We spend part of each day investigating this new world around us, interacting with locals, and building memories.

We are taught not to leave a trace, to pack out what we pack in. But what about leaving a mark beyond a fire ring and a few dollars spent in an impoverished country? In a place such as Slovakia, the simple act of donating something as ethereal as time can make a difference, and there is something unbelievably fulfilling about being *useful* rather than a simple traveler.

What about actively seeking out ways to help a cause you believe in while traveling? If you know you will be in a country or area at a certain time, why not do some research to find out if there are any conservation, environmental, research, or community projects you could help?

The opportunity to crawl out from behind the wheel and give back to a country that has given you days, weeks, or months of enjoyment and memories is worth far more than the time invested. You have been given something momentous; you can give back something equally valuable by building a school, repairing a bridge, cleaning up an abused wilderness area—or following tracks in the snow.

## Hunters, farmers, herders, and scientists

Riggs, founder of the Slovak Wildlife Society, believes the actual number of Slovakian wolves to be around 400 individuals at the end of each summer. However, by the end of the winter, that number drops by up to a third, due to the natural environmental culling of old or weak members of the pack, and the effects of the hunting season.

In Europe, wolves are considered “strictly protected fauna species,” and under the 1979 Convention on the Conservation of European Wildlife & Natural Habitats (the Bern Convention), deserve to be “specially protected.” This provision was written to “prohibit the killing and capture of wolves, or the destruction of dens, and to prevent the trade in wolves and wolf skins,” but unfortunately it lacks any real teeth, since many of the countries that signed the provision have chosen to exempt the wolf from legislative protection. Slovakia is one of them.

In Europe, where prey is not as prevalent as in areas such as North America, wolves may range up to 200 kilometers in search of food, preferring mountainous areas above 300 meters elevation, where red deer, roe deer, and wild boar are most common. Because much of the lowlands in Slovakia have been plowed for crop farms, livestock share the mountains with the carnivores—and predation on sheep puts wolves in the unwanted media spotlight. Although the actual percentage of sheep lost to wolves is less than one percent per year, farmers and many hunt-



ers feel the number of wolves in the country is too high, estimating a population in excess of 1,200 animals.

For the 2009/2010 hunting season, Riggs helped to finally set in place a government-regulated cull quota of 140 wolves per year, and a season shortened by six weeks. Given a historical average of 88 recorded wolf kills per year, the higher quota will theoretically dissuade poaching and potentially allow hunters to take more animals, yet the shorter season should actually make this quite impossible.

The next step is to collect hard data to back up Riggs's beliefs, and hopefully find a way to increase the population of wolves in Slovakia—but more importantly to protect and increase their habitat, find ways for farmers to live in peace with wolves, and still keep the hunters content.

## “Never have I ever tracked a wolf”

Tracey was in Slovakia to try something completely different. Alex was there to live his biology student dream. Danielle was there to enjoy the mountains and wilderness. I was there as a journalist. The 10 volunteers came from very different backgrounds, with different reasons for participating in this conservation project, yet what brought us together was a need to be of “use.”

Volunteer tourism is growing in popularity throughout the world, but it's not a new concept. In the early 1960s, the Peace Corps gave young adults the opportunity to travel and experience new cultures while volunteering their time to help improve impoverished communities. Even the push by the U.S. Parks Department in the 1920s to make the national parks a popular travel destination was a form of volunteer tourism—without the support of the country behind them, the natural resources of the parks would not be there for us to enjoy today.

Biosphere Expeditions, the non-profit wildlife conservation organization behind our wolf project, began as a moment of revelation for managing director Dr. Matthias Hammer.

“I was nearly at the end of my schooling,” explains Matthias about the final few months acquiring his Ph.D. in biology at Cambridge University. He was realizing that the world of academia was not necessarily the life he had dreamt of since childhood. The endless hours of pencil pushing, administration, and ivory-tower politicizing paled against his infrequent and brief stints working as a field biologist. “And I thought, maybe this is not what I want to do after all!”

Throughout his time at Oxford, followed by Cambridge, Matthias had led fellow students on expeditions.

“I really enjoyed that,” continues Matthias. “I had spent time in the military so I had organizational and leadership skills, and, obviously, was into biology. Then someone said to me, ‘Why don't you have people get you to take them on expeditions?’”

In that moment of revelation, Matthias saw Biosphere Expeditions almost as it is today. He did some research and found that it was a viable concept, took a business course, and in 1999, BE started their first expedition: a wolf-tracking project in Poland.

“The Polish hunters figured they had 150 wolves and that if they shot 50, they would still have 100 left over.”

After the four-year study was complete, the hard data was far different. Research revealed the numbers to be closer to 30. The Polish government stopped issuing licenses.

Matthias says, “It was a great resolution, and immediate, at least in the terms of biology where everything takes forever.”

More importantly, it gave the young organization the understanding that yes, it could make a difference.

Fast-forward a decade. Biosphere Expeditions now operates a dozen projects throughout the world each year, and is once again protecting wolves from over-hunting while helping to improve the human/carnivore relationship.

## Changing views of conservation

Wildlife conservation as a field encompasses the protection, preservation, management, and study of wildlife and wildlife resources. It has grown and changed over the last several decades, with major shifts in how we look at managing species in danger.

“L. David Mech has been doing wolf research for over fifty years,” states Matthias. “His conclusions are obviously about wolves, but are relevant to conservation subjects elsewhere. What he says is that we need to get away from numbers and focus on increasing habitat.” Wolves survive across a lot of range in multiple countries and their numbers are increasing, so as a species, they are flourishing. “Habitat encroachment is one of the five big problems in conservation, so if we can create more suitable habitat for them, it guarantees their survival.”

Matthias continues, “The second part to Mech's approach is that you need the cooperation of the people who live with the animals for any conservation project to work. In Slovakia, there are hunters, farmers, and urban people, and whether you like their argument or not they all have legitimate points. You need as many sectors of society as possible to accept your program. If certain groups, such as hunters, do not accept what you are trying to do, some of them will just poach. The flip side to this is that the other sectors must accept a wolf cull quota, but it guarantees the cooperation of the potentially most destructive influence on wolf numbers.”

Tracking and collection of what biologists refer to as spoor—hair, urine, scat, etc.—is considered a “non-invasive survey method,” meaning the animals are not directly observed or disturbed in any way. Humans have used non-invasive survey methods for millennia to gather data on various species, but only in the last decade has the introduction of DNA evaluation drastically enhanced this form of research. Now, instead of just observing the tracks and spoor left behind, DNA analysis can identify not just the species, but an individual animal, its sex, community relationships, and genetic relatedness, as well as accurate information on diet, stress, viruses, and internal parasites.

“Non-invasive methods are very labor-intensive,” explains Riggs. “They need a lot of people-hours, which makes it ideal for volunteers since we can cover so much more than we would be able to do on our own.”



## For professional use only

My next conversation, this time with Matthias, went something like this:

“It is well below freezing here, so you will need to bring appropriate cold weather gear. But that should be easy for you, being from Canada.”

“Well—I don’t actually own a winter coat . . .”

“What do you mean, you don’t own a winter coat?”

“I’ve never needed one before . . .”

“You live in Canada; how can you possibly say you never needed a winter coat?”

“Where I live it rarely drops below freezing . . .”

“What about skiing?”

“I am a sailor, not a skier . . .”

“How can you call yourself Canadian if you’ve never seen snow?”

I was speechless. Matthias was laughing too hard to talk.

So began a mad rush to acquire appropriate cold-weather gear. I needed everything from the ground up, and given the cost of even the cheapest mountaineering gear I also needed some assistance. Help came in the form of someone I had met briefly at the Overland Expo in 2009, a smokejumper by profession as well as a product tester for the U.S. government.

Two weeks later I stepped off the train in Liptovský Mikuláš in what I am sure was the only pair of Italian-made wildland firefighting mountaineering boots in all of Slovakia. It wasn’t until the last day that anyone noticed the logo: *Cosmas—for professional use only*, which, understandably, sparked a series of probing questions. Considering they were designed to protect from severe heat, not severe cold, the boots performed better than anyone imagined, and after a week in snowshoes



Top: Alex and Isabelle practice orienting in a snowed-in landscape. Biosphere Expeditions Land Rovers at work. Photos by Ann Lockley.







I was one of only two volunteers who did not have blisters, hot spots, or pressure sores.

I never did find a winter coat, but I did have enough cold weather gear that my duffel was also the largest, most unruly bag to ever get stuffed onto a train in Slovakia.

## The Slovak Pub and Pod Dobakum

Part of the group I was to work with decided to meet for dinner at the Slovak Pub the night we arrived in Bratislava. The largest restaurant in the city, the second-story pub comprises a series of rooms strung haphazardly together, each depicting a different era of Slovakian history, from Pagan times through to the revival era of the 19<sup>th</sup> century. Our party of nine was seated in the cottage room, surprisingly fitting considering the log-house style walls, decorations, and art work were the actual interior of the Pavelica family cottage in the Liptovský area, where we would be spending the next week in our own cottage.

The evening was spent telling stories, drinking local beer, and enjoying traditional Slovakian food. Having just stepped off 24 hours worth of flights and layovers, it had not really sunk in that I was in another country until someone, I am not sure who, commented as we were leaving that the stairs, worn from centuries of use, were older than my entire country.

Saturday morning the first official day of our wolf project arrived. A five-hour train ride took us to Liptovský Mikuláš, where we met Matthias, Robin, and our host, Robert, in three amusingly zebra-striped Biosphere Expedition Land Rovers.

Once at Pod Dobakum, our base camp, we were given our room assignments, told to settle in, and be back downstairs in 15 minutes. We were two or three to a room, each with its own restroom. The larger rooms had a lower seating area, table and chairs, and buffet with stairs to three beds in the loft area. My bunkmates, Julie from England and Danielle from France, and I quickly put our bags down before rushing downstairs to the common area for the start of our classroom work.

The first day and a half was spent teaching us the skills we would need in the field. We learned how to locate and identify the traces left behind by wolves, lynxes, brown bears, wild boar, and deer, as well as how to collect and document our finds.

After species identification came the hands-on training. VHF radios, GPS, binoculars, topo maps, and, of course, the trusty compass were all covered. For those in the group who spent time in the wilds this was a good review, but for those who had never used the equipment before it was a time of stretching comfort zones and learning new skills.

“Fred’ is the red arrow,” explains Matthias, during Compass Lessons 101 on Saturday afternoon. “Fred always points to relative north. Now, the two hollow lines that swivel with the bevel are the ‘shed.’ To take a bearing, you must put Fred in the shed.”

After spending a few hours in the classroom, we bundled up in our winter clothes to practice taking a compass bearing a short way up the road. It was a cold, foggy day in the lowlands. With scenes from *Doctor Zhivago* going through my mind, the endless view of white was surreal. From what seemed like miles away, the sound of a big diesel motor starting up and lumbering under a heavy weight disturbed the peace, and images of an old Russian Prada or some other communist-era rig

came to mind. Ten minutes later, a John Deere tractor drove past pulling a heavily loaded trailer of hay. I guess communism really is a thing of the past in modern Slovakia.

That evening, to practice how to make a track with the GPS from the comfort of the Land Rover Discovery 3, Matthias took a few of the participants on a “booze cruise”—a trip to the local Tesco to stock up on alcohol for the week. Communism may be gone, but some things will never change.

## Hitting the trails

In an attempt to ascertain our fitness levels and backcountry experience, expedition leader Malika Fettak and Matthias took us on a short but deadly trail up a partially frozen creek bed on Sunday, our first full day at base camp.

Cross-country walking in the Tatra Mountains in winter is a challenge. You take one step forward, slide back half a step, and take another step forwards. Snowshoes help but cause other challenges and you feel like you are in a constant battle with your clothes, adjusting how many layers you are wearing. You start out with too many layers on, stripping off as you go. Then you stop for a tea break or to collect a sample and need to quickly pile them back on, only to remove them again within a few steps.

With our scientist, Robin Riggs, and local wildlife photographer/videographer, Tomáš Hulík, in the lead, the pace was set at “only experienced should follow.” I’m not sure if I even saw them at any time on the hike, and learned a valuable lesson that day about combining jet lag, dehydration, and elevation: when you hit the wall athletes talk about, it hurts. A lot. It also scares the heck out of you.

From that day forward, however, the large group was broken up into four or five smaller teams, and trail choice was based on fitness level. The pace was set in order to spot tracks, meaning if the trail was wide and simple, you moved quickly; if the terrain was complicated with dense brush, you moved more slowly. Although still a strenuous workout, the beauty of the area and camaraderie of the group kept spirits high—and all exhaustion was forgotten when you found a track.

Tracks tell a story. Learning to read that story opens up an entirely new world to explore, allowing a glimpse into the life of the animal. The first tracks our group found Monday morning from a target species were from a lynx, along a well-used path only one kilometer from town. You could easily visualize his movements as he came onto our path from up a wooded hill, crossed over, leaped through some deep snow to get to the river for a drink, and then proceeded to jump over the river to climb up a steep slope of fallen trees and debris. We were heroes that day for finding the most interesting tracks, and the following day, Tomáš and Jeanette tracked the lynx up the slope to find more information about its movements.

## Life at Pod Dobakum

At the end of each day in the field, the common area of Pod Dobakum became the hub of activity as teams discussed their day and entered finds into the computer. This was my favorite part of the day, sitting with a steaming cup of tea as each person told stories of individual challenges and the excitement of finding a track or a bit of frozen urine.





**Top:** Checking the direction of travel of a bear. Photo by Robin Riggs. **Lower left:** Colder than certain parts of Canada. Photo by Ann Lockley. **Lower right.** Brown bears, too, survive in Slovakia. Photo by Tomáš Hulík.





By far the quietest, most unassuming person of our group was Danielle. From the border area of France and Switzerland, her accent made even words like “carcass” sound charming, and her proximity to the Alps gave her a love of the mountains.

On Wednesday, our resident videographer Tomáš took Danielle with him to continue tracking the lynx from where he and Jeanette had left off the day before. From Jeanette, we had learned that Tomáš had no difficulties following the adept cat over any terrain. Steep climbs, rough scrag, fallen trees—nothing stopped him except when he graciously waited for her to get unstuck from branches and un-high-centered off logs.

It was growing dark outside when Tomáš and Danielle finally made it back to base camp. Walking into the cottage looking utterly exhausted, Tomáš dropped everything, cracked a giant bottle of beer, and flopped into the nearest chair.

“Danielle is a mountain goat!” was all he could say before downing the beer in one go. Danielle came in a few minutes later, looking refreshed and quite oblivious to having walked the legs off of Tomáš.

That same day I took off from tracking to nurse the last vestige of my wall-hitting ordeal on Sunday, a left hip that felt like it was on fire. Instead, I took the opportunity to go for a gentle walk with our host, Robert, and his dog, around Dúbrava and Svätý Kríz, the towns near base camp.

Robert had lived in England for several years, then returned to Slovakia to help his family manage Pod Dobakum. He had an ear for languages, greeting each of us in our native tongue, and an amazing memory for details, remembering all our likes and dislikes from the first day on.

Our walk took us past a *tserkvas*, a Gothic articulated wooden church built during the reign of Emperor Leopold I at the end of the 17<sup>th</sup> century, when Slovakia was a part of Hungary. The church is one of the largest wooden buildings in central Europe—the cross-shaped structure is 43 meters long and seats 6,000 people. It is made *entirely* from wood. In an attempt to squash the Lutheran religion, Leopold



Top: A lynx eyes the photographer. Photo by Tomáš Hulík. The all-wood 17th-century Gothic church called a *tserkvas*. Photo by Ann Lockley.





wanted to make it as difficult as possible for the people to practice their religion, so no metal was allowed in the building. Additionally, the front access gate had to be located on the far side from the town, requiring the devoted to walk far out of their way to attend services.

We passed the town square and a memorial to the Red Army, which liberated Slovakia from the Germans on April 4, 1945, after 80 days of harsh fighting known as the Slovak National Uprising. Although the red flag with the infamous hammer and sickle was obvious by its absence, the memorial also stands as a daily reminder of the four and a half decades of oppression brought by the purported liberators.

The last stop on our walk was to visit the now empty house of Robert's elderly friend, who had died several months earlier. The tiny, peaceful cottage, draped in ragged Buddhist prayer flags and sitting amongst the barren winter fields of northern Slovakia, seemed in stark and uplifting contrast to the communist memorial missing its flag less than a kilometer away.

## A good use for bad history

The Slovak Wildlife Society needed thousands of strips of brightly colored material attached to rope—called flaggery—to demonstrate to local farmers that there were ways to keep livestock safe without killing carnivores. But where could they get volunteers to make the strips, and the material? Someone thought of schoolchildren—and remembered as well that every school in the country had piles of old red communist flags gathering dust in their attics. Why not make it a competition?

“On some of them,” laughs Robin Riggs, “you can still see the letters from communist slogans.”

Many schools from the area surrounding the Lower Tatras participated, and the school that produced the most flaggery won a small statue of a wolf and a trip to the farm to see their work in place.

Flaggery had been tested in controlled and captive conditions at the Rome Zoo, and although color was not as much a deterrent as the tone of the material used, wolves would not cross the line of flags, even when their food was on the other side.

The good news is, the farms that have installed flaggery have not lost any sheep within the flagged areas. The bad news is, the SWS have only been able to convince two farmers to try the technique. “So far the farmers and shepherds are skeptical and set in their ways,” explains Riggs. “They just do not think it is going to work.”

“The best group to work with so far,” says Riggs, “are the beekeepers, for whom we have provided electric fences to protect their hives from bears. They tend to be older guys, quite educated, retired, and it is their hobby so they own the hives. They are really focused and highly motivated so that is going very well.”

The SWS continues to work with farmers and shepherds on ways to protect their livestock from carnivores, including flaggery, electric fences, and dogs bred and raised to be flock guardians.

## Golden chai, camera traps, and good-bye

On Thursday, two late additions to our group arrived—reporters from Bratislava doing a piece on the Biosphere Expeditions' wolf project. Bedraggled and weaving from having shared several bottles of “golden chai,” or *slivovitz*, the Slovak plum brandy that by law must contain at least 52 percent alcohol, the pair stood out amongst our already tight-knit group. They passed out just after dinner, however, and so didn't interfere with our usual evening fun of movies and conversation.

On Friday, our final day in the field, my team came across the tracks of four wolves that led us to the ultimate find—frozen feces rich with DNA information critical to the study. Once again we were heroes, and our only frustration was to be leaving the next day and to not be there when the tracks were followed.

Our mood on that last evening at Pod Dobakum was only subdued by the solemn realization that our week of playing research scientists was over. Michael, the quiet Irishman, was the only one to have booked two slots for his holidays—he'd be staying the following week as well. The rest of us were, sadly, heading home.

Matthias arranged with Robert to have mulled wine around a bonfire after dinner, and gave us his thanks for helping with the project before retiring to bed, since he was leaving early the next morning to drive to Germany.

Like school children without a teacher around, the participants decided to play a rousing drinking game called “Never have I ever.” Similar to truth or dare, the game led to us finding out far more about each other than was probably safe, and, for some, a headache the following morning.

After breakfast, we said our good-byes to Tomáš, the two reporters from Bratislava, Robert, his family, and Pod Dobakum before heading to the train. There we said good-bye to Michael and Robin before climbing onboard the train to Bratislava. Tracey, Julie, and Danielle left us at the train station to catch their flights home. Malika, Jeanette, Roy, Alex, and I made our way to our hotels, then met that evening for a last dinner at the Slovak Pub, and said our goodbyes after another traditional Slovak meal.

## More tracks in the snow

A month later I found myself driving through Utah on I-89 near Bryce Canyon. The snow was up to a meter deep in places, and everywhere I looked there were tracks. I stopped a couple of times and found tracks from many species and sizes of deer, dogs, smaller four legged scavengers, and what could only have been a large feline. How do I know? Retractable claws and an asymmetric shape. Thank you, Biosphere Expeditions.

The Slovakian project was finished for the year by then. The two groups following ours had built on our findings, including a possible hunt site and many more samples of fur, urine, and feces to keep our scientist busy for the rest of the year.

Over the next two years, six more groups will spend a week each in snowshoes and, although that feels like a long time to reach a conclusion, as Matthias says, “In terms of biology, everything takes forever.”



# Slovakia Trip Study Area

Cartography by David Medeiros (*mapbliss.com*)

