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Happy Trails

How mountain bikers in Vancouver build sustainable trails

By Barry Rueger



On a Saturday in early March—when sunny weather drew hundreds of people to the mountains in suburban North Vancouver—I joined seven volunteers from the North Shore Mountain Bike Association (NSMBA) to rebuild a forest trail on Mount Seymour. We shouldered shovels, pickaxes, and plastic buckets up Bridle Path, a popular local trail. Our leader, Penny Deck, wore work pants and steel-toed boots. Once we'd unloaded our tools, she knelt down and knocked aside hard-packed snow to uncover a cedar ladder bridge. The bridge once kept riders out of water flowing around the trail, but years of erosion had left it nearly buried under black mud. Now, hikers and riders splashed through muck in wet weather.

By day's end, the bridge was gone. We replaced it with an elevated trail, stone retaining walls, and drainage ditches to carry water away from the path. Our work represented a small section of North Vancouver's 226 kilometres of trails, most of which are maintained by hikers, runners, and mountain bikers who volunteer with NSMBA. Their handiwork has produced some of the world's highest-ranked mountain bike trails, all while emphasizing social and environmental responsibility.

But local mountain bikers weren't always known for being responsible. Two decades ago, their reputation was for being wild and unruly. Concerned locals, including landowners and city councillors, accused them of destroying forest as they carved out trails—sometimes in secret and on private land. A small but vocal group of opponents began lobbying local government to ban mountain biking. Others took more extreme measures. According to Seb Kemp, a local writer and mountain biking enthusiast who wrote about the history of the NSMBA, a mysterious vigilante sabotaged trails by setting booby traps, laying down broken glass, placing spears at head height, and removing planks from bridges.

In the winter of 1997, a group of mountain bikers founded the NSMBA in response to trail sabotage. They were also concerned new residential developments near trails might threaten access to the sport, and wanted to improve their image.

The NSMBA has since built a reputation for trail-building prowess. Each year, dozens of volunteers attend the association's trail-building workshops before participating in NSMBA-sponsored "trail days." The association held 130 such events in 2018. This year, they're building a loop for adaptive three- and four-wheeled bikes used by riders who can't ride two-wheelers. The NSMBA also teaches others how to build trails in workshops across British Columbia and Washington state.

"The NSMBA has done an incredible job of bringing people together," said Dan Raymond, lead trail builder for the Whistler Off Road Cycling Association, which sends members to North Vancouver for training.

Such trainings—as well as trail maintenance work—are coordinated by Penny Deck, trail academy lead at NSMBA. She



Photo courtesy NSMBA

has been building trails for more than 20 years, and frequently leads groups like mine.

"Being a good trail builder is about putting yourself inside the head of whoever is going to be using that trail," said Deck at a trail-building workshop in February. "On trails like Bridle Path, there's foot traffic, dog walkers, runners, and hikers. As a trail builder, I want everybody happy."

The NSMBA follows a systemic approach to trail design, Deck explained. They begin by obtaining permission from landowners. The association also completes environmental assessments of local flora and fauna, and archeological surveys to ensure their trails don't disturb important cultural sites like burial grounds.

Over the last two decades, the NSMBA has learned to build trails that are challenging and fun to ride, but also discourage—or even prevent—environmentally damaging behaviour. The group plans trails to prevent "braiding," which involves riding off of or beside the main trail, and "roostering," which occurs when riders kick up dust and stone when rounding corners, said Deck. The NSMBA also uses rocks and logs to direct riders and hikers around sensitive wetlands and habitat, and works with mountain biking schools to teach riders how to avoid damaging the environment.

But, even if riders behave responsibly, the West Coast's rainy climate can quickly damage poorly designed trails by washing

away their surface. So erosion control is central to NSMBA's work. Trail builders assess where water might come from and where it will go, said Deck. Then, they add ditches and diversions so water flows without damaging trails or their surroundings.

Sometimes trail builders use plastic culverts, but, apart from nails, the association avoids manufactured materials as much as possible. The group digs up "mineral soil"—dirt lacking humus—from nearby forest to build trails, because it doesn't compact or wash away with rain. They build retaining walls from boulders and rocks near trails, and uses fallen cedars to build wooden structures.

On Mount Seymour in early March, the other volunteers and I ended our day by returning our worksite to as natural a condition as possible. We filled our mineral dirt "mine" with leftover soil and rock. Then, we covered it with moss and ferns we'd carefully removed during construction. We also hauled rotting logs to the edges of the trail, turning them into visual barriers to prevent riders from detouring off the path. Deck told me the new trail section would require little maintenance and last for years, perhaps decades.

"I want the trails to be there for all of us to keep using—forever," she said. "We need to allow people to see the woodpeckers, to maybe see a bear, to experience nature and save that experience for our children and grandchildren."