



# Australian Cycling Conference

## Adelaide 18 & 19 January 2010

### **Tunnel Vision and Dynamic Tension – quantitative outcomes from monitoring and assessing mountain bike trails**

Stuart Clement

Stuart Clement Solutions  
PO Box 803  
Prospect East SA 5082  
Mob 0405 702 483  
stu.clement@internode.on.net

#### **Abstract**

People have been riding bicycles in forests, over hills, through fields and along tracks for over a hundred years but it wasn't until the late 1970s and early 1980s that bike manufacturers started to build bikes specifically for riding on non-paved surfaces. Since then the sport/recreation has grown considerably to become a mainstream physical activity. One style of mountain biking is cross country, and one aspect particularly enjoyed by many if not most cross country mountain bikers is to ride singletracks. A singletrack is a (usually twisty) narrow trail possessing some obstacles requiring technical skill (or portage) to negotiate. Singletracks can be found passing through forests, deserts and fields and crossing hills, mountains and streams. Often singletracks can be found in urban areas.

In recent years considerable effort has been made here in Australia to adopt singletrack building techniques that make the trails more durable and have less impact on their surrounds than most of the early trails. The guidelines for such construction are published by the International Mountain Bicycling Association (IMBA). Trail builders in Australia have been encouraged to adopt the guidelines through the efforts of Mountain Bike Australia (MTBA).

The question is: how “sustainable” are these mountain bike trails? Several previous studies in Australia, New Zealand, England and the United States have produced results that rely on a single measurement of a trail transect profile and an assumption of where the trail surface lay when the trail was built. This paper reports on a study over a twelve-month period of two singletracks built to the guidelines: one is called *Tunnel Vision* and is in the Eagle Mountain Bike Park, 14 km to the southeast of Adelaide, and the other is called *Dynamic Tension* and is located in the Mt Crawford, Cudlee Creek Native Forest Reserve, 43 km to the east of Adelaide. For each of the trails, the transect profile at twenty randomly-placed transect points was recorded once every three months for the twelve-month period. Additionally, the number of users for each trail was estimated and the rainfall at the nearest Bureau of Meteorology site was recorded. From these data the amount of wear is estimated under the recorded conditions of use and rainfall.