

# Elliot Lake Trails Presentation

## Discussion Outline:

### 1.0 Our History

### 2.0 Our Balanced approach to Trail Planning / Design / Construction

#### 2.1 Enhancing the Trail User Experience

#### 2.2 Mitigating Trail Risks

#### 2.3 Environmental Impacts

#### 2.4 Trail Industry Best Practices for Design and Construction

### 3.0 Environmental Naturalization (Restoration)



User  
Experience

Trail Best  
Practices

Environmental  
Impact

Risk  
Management

Sept 06, 2022





## 1.0 A bit of our trails history:

- Over seventeen years ago I was a volunteer in trail maintenance workshop
- 2006 I was asked to consider becoming a trail building contractor, hence decided to attend trail workshops in the USA and purchase equipment, which resulted in four major (at that time) contracts for our first season.
- 2007, attained a trails mentor - Woody Keen of Trail Dynamics NC - and qualified to become the first Canadian member of the Professional Trailbuilders Association.
- Since then our firm Sustainable Trails has completed projects in BC, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, PEI, and Newfoundland.
- Over the last seven years we have been contracted by Parks Canada to complete over \$8,500,000.00 of trail work
- As well our crews have worked “off shore”





## Sarasota Florida

Rain Forest Theme

Desert Theme





International Projects in:

Patagonia Chile



  
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## Mexico





Jamaica



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## Portugal



  
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**PTBA**  




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What is the primary reason that the public makes use of their valued free time to travel to our natural amazing Places?

Travel on our roads and parking lots? Not necessarily but sometimes provided

To make use of a washroom? Not necessarily but sometimes provided

Enjoy the Visitor's Centers? Not necessarily but sometimes provided

My suggestion – to enjoy immersing themselves in the beauty of the natural environment

And what infrastructure most facilitates their wishes?

## TRAILS!!!

At Sustainable Trails we live by this mantra –

**We strive to massage the newly constructed trail into the natural environment to offer to the user the best possible experience – Mother Nature Guides Us -**





Professional TrailBuilders often refer to their craft  
of planning, designing and Constructing Trails as  
being:

40% Engineering and 60% Art

Today we are going to explore a bit of both





## 2.0 Our Balanced Approach to Trail Planning, Design and Construction

### 2.1 Enhancing the trail User Experience

2.2 Risk Management

2.3 Environmental Impact

2.4 Trail Best Practices

User  
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## 2.1 Enhancing the User Experience

A Green Environmental Conscientiousness is growing among the trail users worldwide.

A sustainable trail will Increase the area's visitation rates which leads to increased tourism resulting in higher levels of tourism revenue.

**The challenge – ensuring return tourist visits through an initial quality experience in the first place**

Generally speaking, visitors that use the loop trails opportunities are motivated by the trail experience (the journey) whereas visitors using a destination trail are more motivated by the strong control point at the end of the trail. Understanding each of these very different motivations is essential to managing trail user groups and providing the appropriate type of trail facility.





## 2.1 Enhancing the User Experience

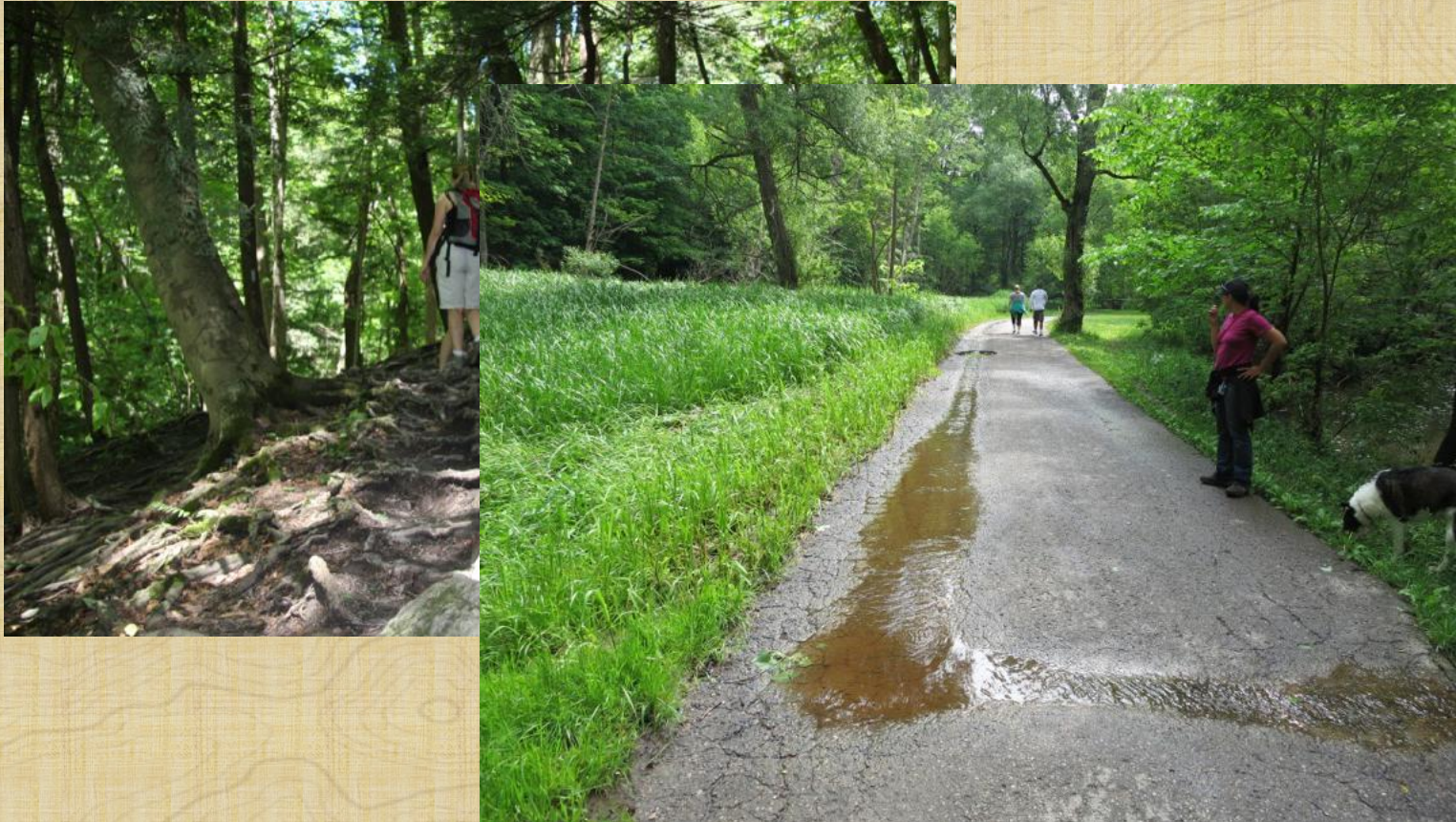
Trails should be interesting and fun to travel on and efforts should always be made to enhance the user experience. Trails should flow through their landscapes and mimic shapes found in nature. Design elements for new trails and enhancing current trails should focus on landscaping principles such as the use of anchors, gateways, and trail edge effect to enhance human interaction with the trail facility.





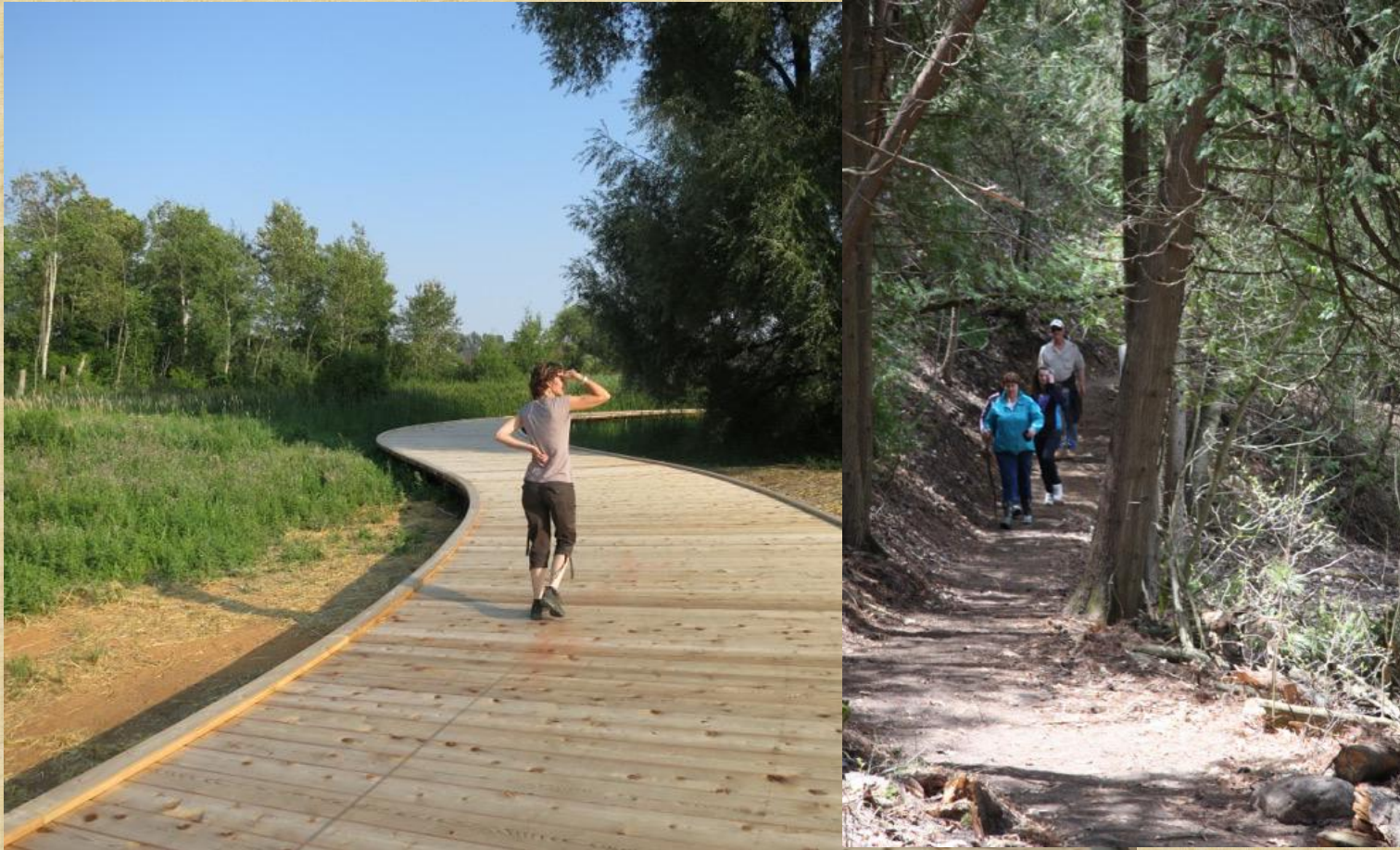
# Does this Enhance the User Experience?

## Focusing on the trail tread





# Better Examples of User Experience





## Don Valley Mountain Bike Trails Toronto



## Laura Secord Trail Niagara Falls



Good vista and natural seating

Trail Gateways



# Enhance the User Experience? Focusing on the trail Vistas



Goose River Trail  
Fundy National Park, NB

Positive Control Points –  
Great Vistas!!





## Trail Vistas



Lookout Trail  
Gros Morne National  
Park, NL

Over looking Bonne Bay



## Unusual Trail Vistas



A natural herd (200) of  
roaming buffalo.  
Prince Albert National  
Park, SK



## 2.0 Our Balanced Approach to trail Planning, Design and Construction

1 User Experience

2 Risk Management

3 Environmental Impact

4 Trail Best Practices





## 2 Risk Management

The word risk has several meanings as it relates to trail management. The first meaning is in the relationship of the trail user to the risks involved (***both perceived and real risk***) of traveling in an uncontrolled environment. The second and perhaps more important meaning in trails management is the risk (incurred by land managers and private land owners) of providing access to recreational trails for a variety of uses.

Another important premise is that we cannot eliminate all risk (both definitions of the word) as it relates to trails; we can however identify them, reduce them (if desired) and create a management plan for dealing with them.

**A good risk management plan should be proactive instead of reactive,** and begins with updated modern planning, design and construction techniques .





## 2 Risk Management - Liability Issues:







Lack on routine inspection and maintenance.



Subjects outside of the designed trail corridor at Kelso Conservation Area, Ontario







Again -  
Subjects  
outside of the  
designed trail  
corridor at  
Dixon Falls –  
Fundy  
National Park

*Photo courtesy of S.  
Butland*







Peterborough ON



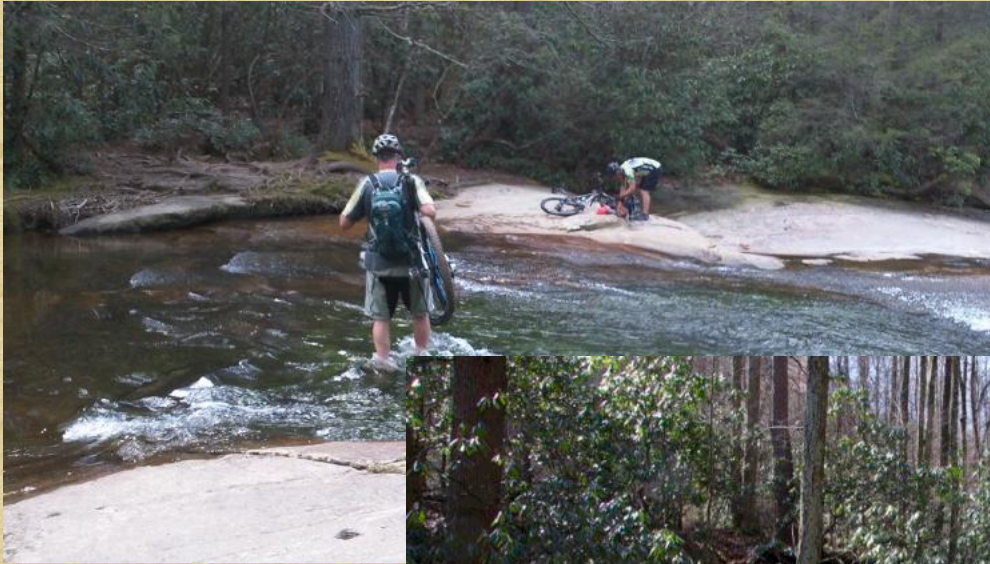


# Acceptable Levels of Risk



Dupont State Forest – North Carolina







## 2.0 Our Balanced Approach to trail Planning, Design and Construction

2.1 User Experience

2.2 Risk Management

2.3 Environmental Impacts

2.4 Trail Best Practices

User  
Experience



Trail Best  
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Risk  
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### 3 Environmental Impacts:



An Example of the  
Failure of Man Made  
Materials Used As  
Stabilizing the Trail Tread

Sea Side Trail

Kejimikujik National  
Park, NS



### 3 Erosion Issues:









# Man Made Structures



Always plan for more flow  
than expected









## 2.0 Our Balanced Approach to trail Planning, Design and Construction

2.1 User Experience

2.2 Risk Management

2.3 Environmental Impact

### 4 Trail Best Practices

User  
Experience



Trail Best  
Practices

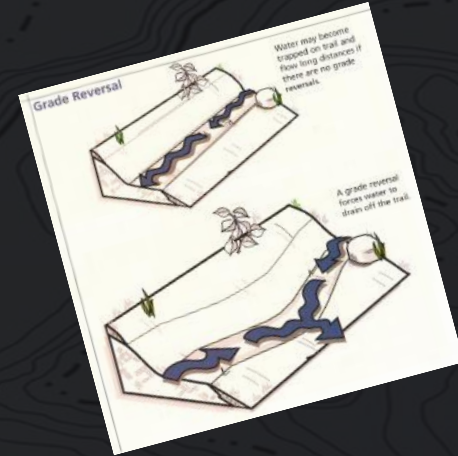
Environmental  
Impact

Risk  
Management

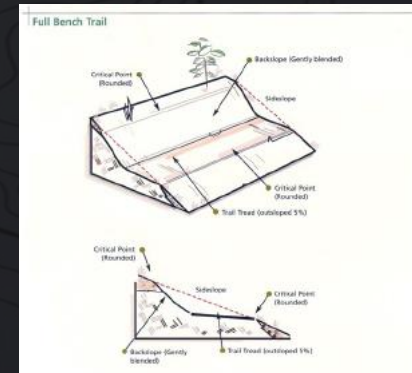


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## 4. Grade Reversals



## 5. Out slope



The Goal – to make the trail  
seem invisible to the  
environment



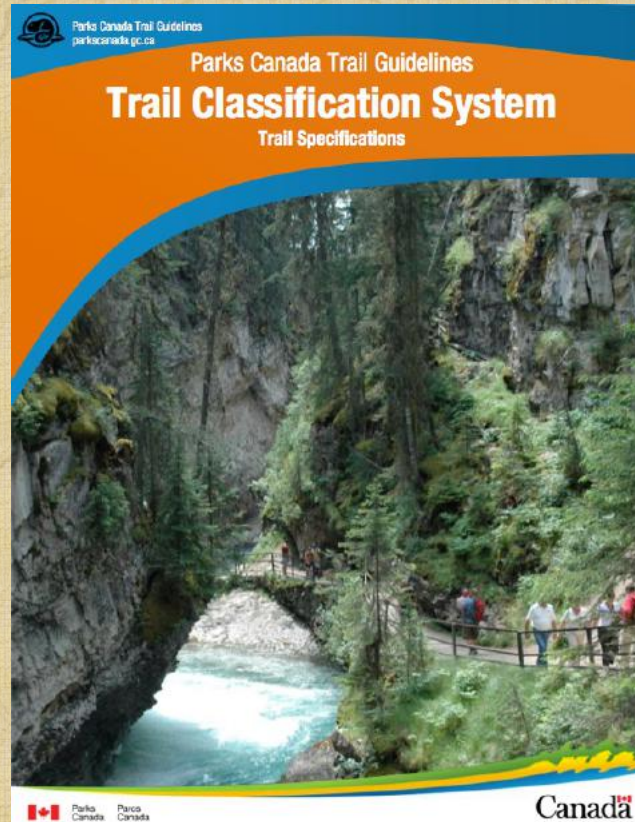
# Formulating a Plan

- Steps in a Trail Master Plan
  - 4.1 Research
  - 4.2 Best Practices
  - 4.3 Trail Assessments
  - 4.4 Remediation Strategy – Addressing the Issues



## 4.1 Methodologies – Research - Trail Types

Suggested Guidelines for differing Trail Types, recently developed by Parks Canada Trails Specialist, Mark Schmidt.



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# 4.1 Parks Canada Trail Classification System



Parks Canada:

Sample Trail Type

## Multi- Use Trail

General Description:

Detailed Specifications

### 3.0 Trail Specifications (Multi-Use)




Trails can be built, managed and operated for use by more than one single use. To design a trail for a combination of single uses refer to the Trail Specifications for each type you are considering. The user with the largest requirements (i.e. widest trail, largest clearing zone, and most gentle gradients) will determine the design specifications of the trail.

### 3.1 Trail Specifications for a Multi-Use Trail

(pedestrian, bicycle, equestrian)

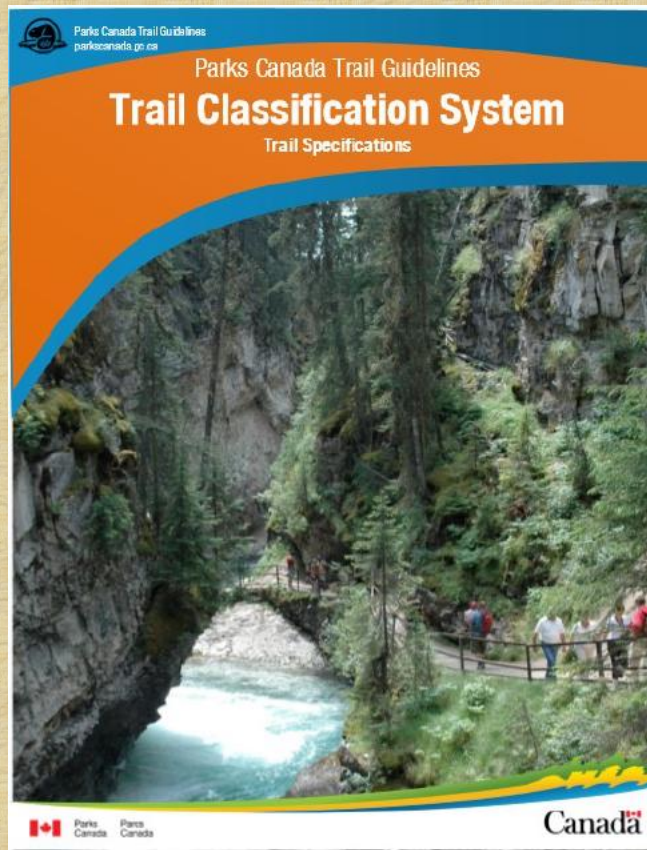
Refer to the single use trail specifications above and add them in a table as below. The user with the largest requirements (i.e. widest trail, largest clearing zone, and most gentle gradients) will determine the design specifications.

For this example below the trail will be a Type 2 Multi-Use Trail

Specifications for a Multi-Use Trail (pedestrian, bicycle, equestrian)			
Element\Type	Type 2 Pedestrian	Type 2 Bicycle	Type 2 Equestrian
Image	 <i>Hikers on a Type 2 pedestrian trail</i>	 <i>Mountain biker on a Type 2 bicycle trail</i>	 <i>Horseback riders on a Type 2 equestrian trail</i>
Trail Surface	Hard packed Natural material or loosely packed natural material	Hard packed Natural material or loosely packed natural material	Hard packed Natural material or loosely packed natural material
Gradient	Up to 15%	Up to 15%	Up to 15%
Tread Width	0.5–1.5m	0.5–1.5m	1–3m
Clearing Width	2–3.5m	2–3.5m	2–4m
Clearing Height	3m	3m	3.5m
Obstacles or Stairs	Obstacles infrequent, stairs may be present	Obstacles infrequent, no stairs	Obstacles infrequent, stairs may be present
Unique Features for Multi-Use Trails	None	Avoidable TTF 0.5m or less, width of deck is greater than half the height	None



## 4.1 Trail Reference Materials



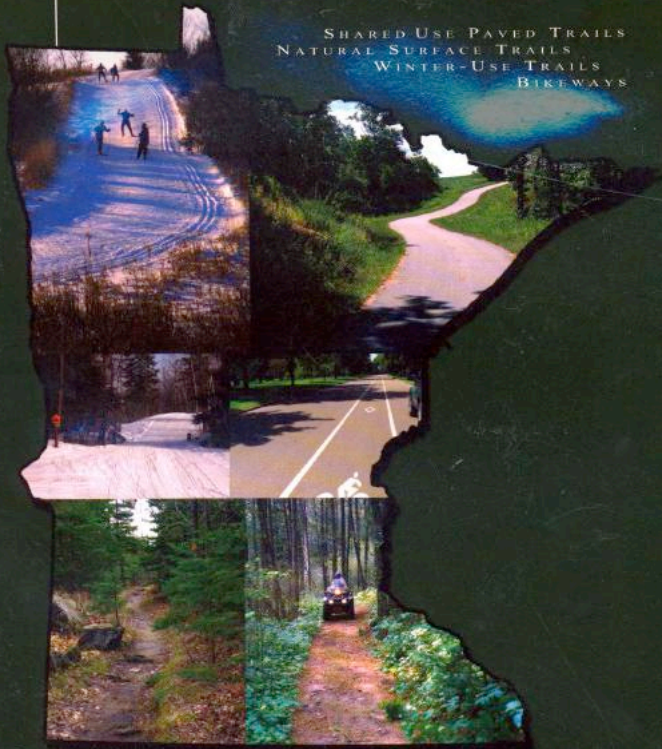
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# TRAIL PLANNING, DESIGN, AND DEVELOPMENT GUIDELINES

SHARED-USE PAVED TRAILS  
NATURAL SURFACE TRAILS  
WINTER-USE TRAILS  
BIKEWAYS



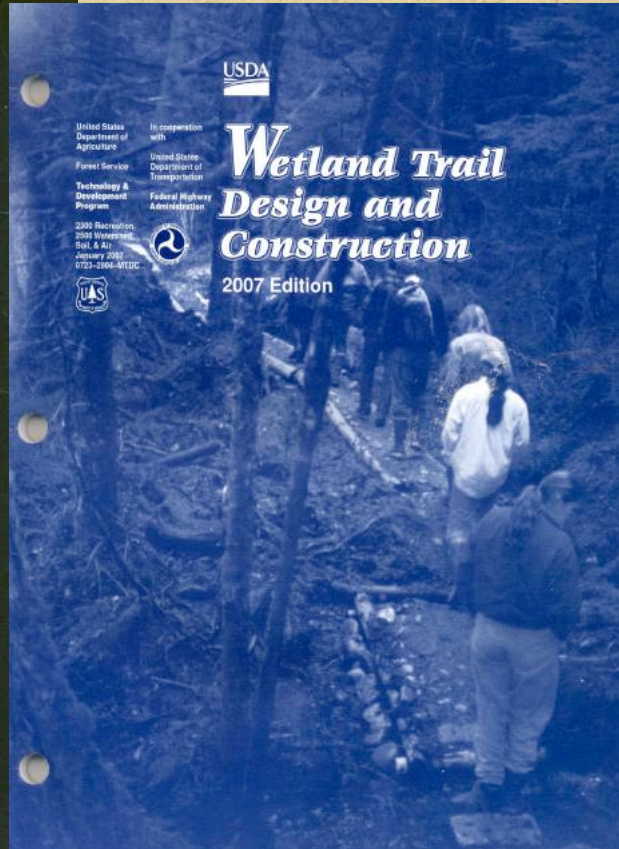
MINNESOTA DEPARTMENT OF NATURAL RESOURCES  
TRAILS AND WATERWAYS



United States  
Department of  
Agriculture  
Forest Service  
Technology &  
Development  
Program  
2000 Recreation  
2000 Wilderness,  
Soil, & Air  
January 2001  
0723-2006-MTDC

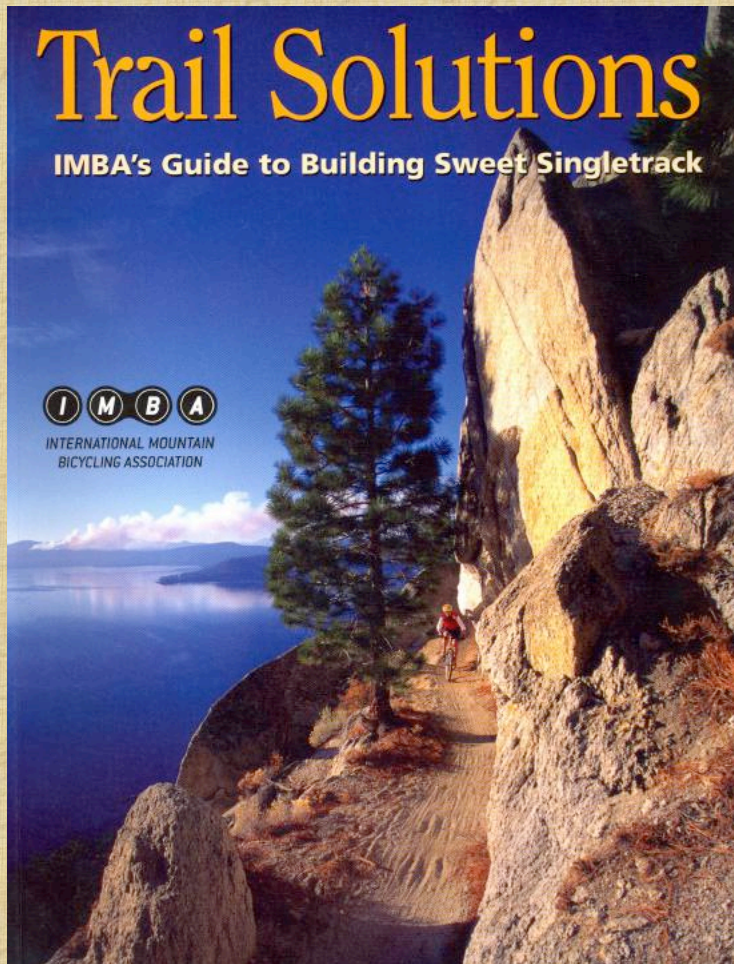
In cooperation  
with  
United States  
Department of  
Transportation  
Federal Highway  
Administration

## Wetland Trail Design and Construction 2007 Edition





## 4.2 Methodologies - Best Practices

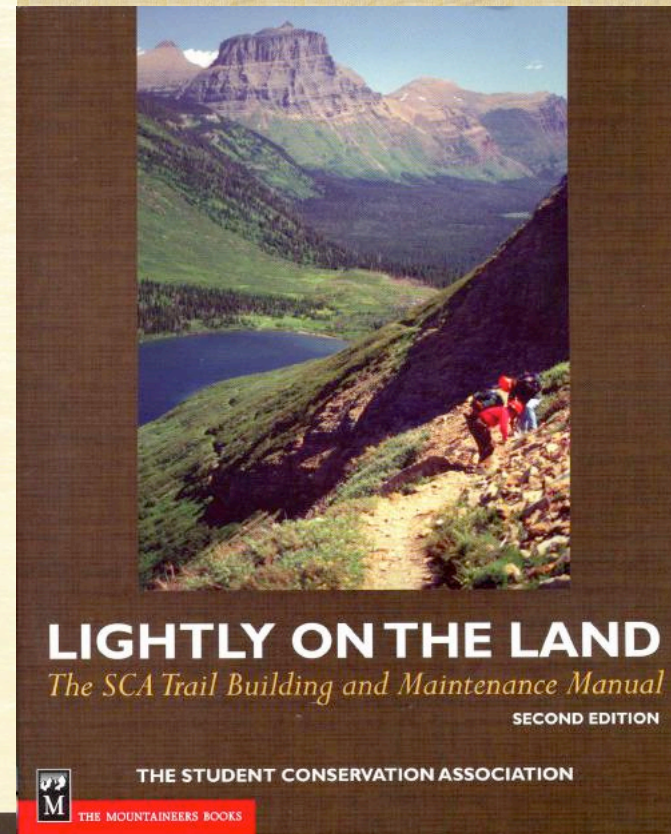
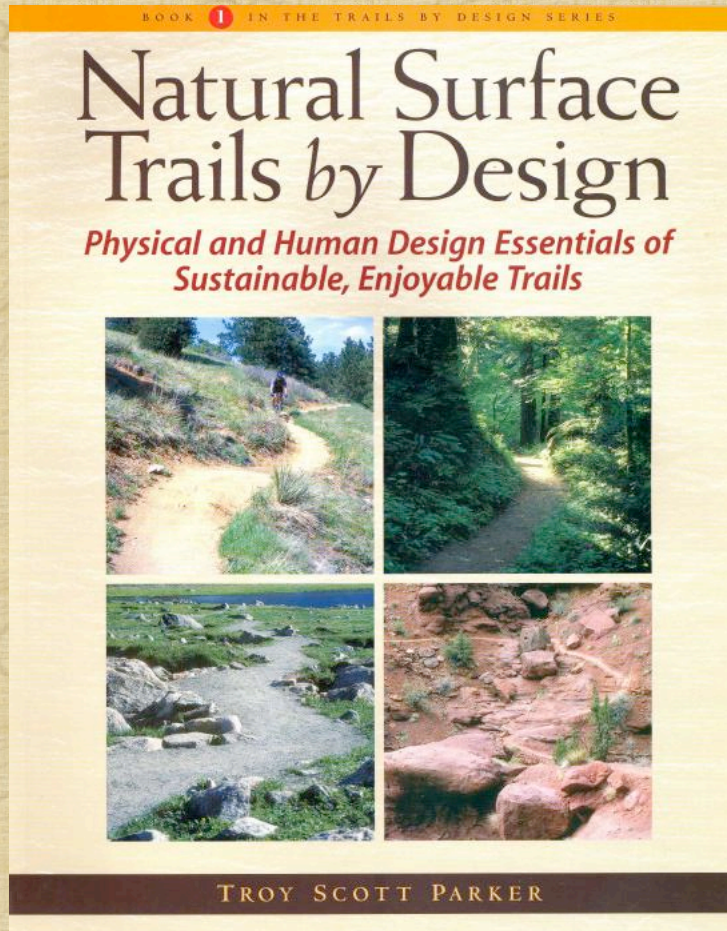


Reference Publications:

IMBA's Trail Solutions



## 4.2 Methodologies - Best Practices



  
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### 3.0 Environmental Naturalization (Restoration)



After Naturalization



### 3.0 Environmental Naturalization (Restoration)



After Naturalization



### 3.0 Environmental Naturalization (Restoration)



Naturalization Workshop



Questions ?

