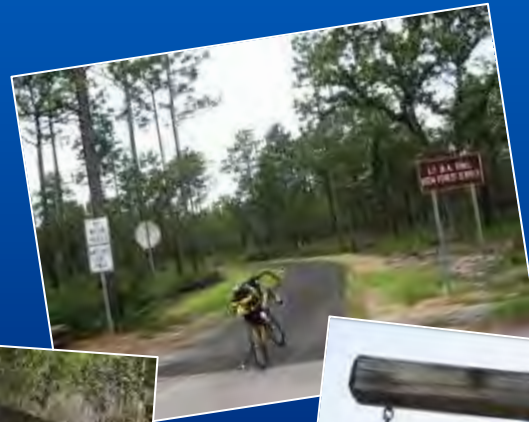


USFS Inventory and Budget

Handouts and forms available at:

<http://sites.google.com/site/jimrectrails>





Trail Definition

USFS

A Trail is a linear feature constructed for the purpose of allowing the free movement of people, stock, or OHVs.

USFS / NPS / BLM / FWS Interagency Trail Definition

A linear route managed for human-powered, stock, or OHV forms of transportation or for historic or heritage values.

National Forests in Florida

Trail Mileages (686.9 miles)

	FNST	Hiking	Horse	Mtn Bike	OHV	MC	Mixed -use Roads
Ocala	77.1	24.6	134	22	138	13	107
Apalach	72.7	17.2		19.9	34	55	52
Osceola	21.4	5.0	53				377
Totals	171.2	46.8	187	41.9	172	68	536

USFS INFRA TRAILS

Web Database that includes:

- Inventory
- Condition
- Cost data



Required Infra Trails Linear Events (18)

Accessibility Status

Administrative Organization

Congressional District

County

Designed Use

Historic Significance

Jurisdiction

Managed Use

Managing Organization

Trail Class

Trail Status

Trail Surface

Trail System

Typical Sideslope

Typical Trail Grade

Typical Veg - Brush

Typical Veg - Timber

Typical Soil Type

Trail Fundamentals

- Trail Type
- Trail Class
- Designed Use
- Managed Use
- Design Parameters



Trail Management Objectives (TMO)

Trail Basics

TRACS Trail Management Objectives

Region: Forest: District:

Trail Name: Trail Number:

Trail Beginning Termini: Beg. Milepost:

Trail Ending Termini: End. Milepost:

Trail Inventory Length: Miles Trail Mileage Summary: ☐ Wheel ☐ GPS ☐ Map ☐ Unknown

TMO Trail Section

Section Beg. Termini: Beg. Milepost:

Section End Termini: End. Milepost:

Designed Use Objectives

Trail Type (Check one)

☐ Standard Terra Trail

☐ Snow Trail

☐ Water Trail

Trail Class (Check one)

☐ 1 (Primitive/Underdeveloped)

☐ 2 (Simple/Minor Development)

☐ 3 (Developed/Improved)

☐ 4 (Highly Developed)

☐ 5 (Fully Developed)

ROS/WROS Class (Check one)

ROS

☐ Urban

☐ Rural

☐ Routed Modified

☐ Routed Natural

☐ Semi-Primitive Motorized

☐ Semi-Primitive NonMotorized

☐ Primitive

WROS

☐ WROS 1

☐ WROS 2

☐ WROS 3

☐ WROS 4

☐ WROS 5

☐ WROS 6

Designed Use (Check one)

☐ Hiker/Pedestrian

☐ Pack & Saddle

☐ Bicycle

☐ Wheelchair

☐ Motorcycle

☐ All Terrain Vehicle (ATV)

☐ Cross-Country Ski

☐ Snowshoe

☐ Dog Sled

☐ Snowmobile

☐ Watercraft - NonMotorized

☐ Watercraft - Motorized

Design Parameters (Fill in all that apply)

Basic Tread Width, inches

Clearing Width, feet

Clearing Height, feet

Switchback Radius, feet

Max. Sustained Grade, %

Max. Pitch Grade, %

Target Frequency (Fill in all that apply)

Per Year (Fill in all that apply)

Trail Opening

Tread Repair

Drainage Cleanout

Logging Out

Brushing

Snow Trail Grooming

Condition Survey

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TRACS Trail Management Objectives

Travel Management Strategies FSH 7731(WD 7700-34-8)

Managed Use (Fill in all that apply)

☐ Hiker/Pedestrian

☐ Pack & Saddle

☐ Bicycle

☐ Wheelchair

☐ Motorcycle

☐ All Terrain Vehicle (ATV)

☐ Cross-Country Ski

☐ Snowshoe

☐ Dog Sled

☐ Snowmobile

☐ Watercraft - NonMotorized

☐ Watercraft - Motorized

Prohibited Use (Check if applicable)

☐ All Motorized Use

(Or, fill in all that apply)

☐ Hiker/Pedestrian

☐ Pack & Saddle

☐ Bicycle

☐ Wheelchair

☐ Motorcycle

☐ All Terrain Vehicle (ATV)

☐ Cross-Country Ski

☐ Snowshoe

☐ Dog Sled

☐ Snowmobile

☐ Watercraft - NonMotorized

☐ Watercraft - Motorized

Other Use (Optional: Check one that apply)

☐ Hiker/Pedestrian

☐ Pack & Saddle

☐ Bicycle

☐ Wheelchair

☐ Motorcycle

☐ All Terrain Vehicle (ATV)

☐ Cross-Country Ski

☐ Snowshoe

☐ Dog Sled

☐ Snowmobile

☐ Watercraft - NonMotorized

☐ Watercraft - Motorized

Special Considerations (Optional: Check one that apply)

☐ Accessible per Current Agency Guidelines

☐ Mechanized Tools or Equipment Prohibited

☐ T&E or Sensitive Species Present (Plant/Vib/In)

☐ Heritage Resource Present

☐ Equipment across Non-FS Land (Existing/Needed)

☐ Existing Permit or Agreement (Trail-Specific/None)

Remarks / Reference Information (Use continuation sheet if needed)

Line Officer: Name Signature

Title Date

TRACS TMO Form v4.0 - Side 2 (2/15/2004) Page of

Trail Type

TRACS Trail Management Objectives

Region: Forest: District:

Trail Name: Trail Number:

Tr. Beginning Town: Beg. H. Elevation:

Tr. Ending Town: End. H. Elevation:

Tr. Inventory Length: Miles Tr. H. Range Source: ☐ WRR ☐ GPS ☐ Map ☐ Database

TMO Trail Section

Scale Beg. Town: Beg. H. Elevation:

Scale End. Town: End. H. Elevation:

Designed Use Objectives

Trail Type

☐ Standard Terra Trail
☐ Snow Trail
☐ Water Trail

Trail Class

☐ 1 (Primitive/Underdeveloped)
☐ 2 (Simple/Minor Development)
☐ 3 (Developed/Improved)
☐ 4 (Highly Developed)
☐ 5 (Fully Developed)

R/S/WROS Class

R/S

☐ Urban
☐ Rural
☐ Roadside Modified
☐ Roadside Natural
☐ Semi-Primitive Materialized
☐ Semi-Primitive NonMaterialized
☐ Primitive

WROS

☐ WROS1
☐ WROS2
☐ WROS3
☐ WROS4
☐ WROS5
☐ WROS6

Designed Use

☐ Hiker / Pedestrian
☐ Pack & Saddle
☐ Bicycle
☐ Wheelchair
☐ Motorcycle
☐ All Terrain Vehicle (ATV)
☐ Cross-Country Ski
☐ Snowshoe
☐ Dog Sled
☐ Snowmobile
☐ Over-Snow ATV
☐ Watercraft - NonMaterialized
☐ Watercraft - Materialized

Design Parameters

Basic Trail Width, inches
 Clearing Width, feet
 Clearing Height, feet
 Switchback Radius, feet
 Max. Sustained Grade, %
 Max. Pitch Grade, %

Target Frequency

Trail Opening
 Trail Repair
 Drainage Cleanout
 Logging Out
 Brushing
 Snow Trail Grooming
 Condition Survey

TRACS TMO Form v4.0 - Side 1 (1/15/2004) Page of

- Standard Terra Trail
- Snow Trail
- Water Trail



Trail Class

TRACS Trail Management Objectives

Region: Forest: District:

Trail Name: Trail Number:

Trail Beginning Termini: Beg. Milepost:

Trail Ending Termini: End. Milepost:

Trail Inventory Length: Miles Trail Mileage Source: ☐ Wheel ☐ GPS ☐ Map ☐ Unknown

TMO Trail Section

Section Beg. Termini: Beg. Milepost:

Section End Termini: End. Milepost:

Designed Use Objectives

Trail Type (Check one)

☐ Standard Terra-Trail

☐ Snow Trail

☐ Water Trail

Trail Class (Check one)

☐ 1 (Primitive/Undeveloped)

☐ 2 (Simple/Minor Development)

☐ 3 (Developed/Improved)

☐ 4 (Highly Developed)

☐ 5 (Fully Developed)

ROSWROS Class (Check one)

RDS

☐ Urban

☐ Rural

☐ Roadside Modified

☐ Roadside Natural

☐ Semi-Primitive Motorized

☐ Semi-Primitive NonMotorized

☐ Primitive

WROS

☐ WROS 1

☐ WROS 2

☐ WROS 3

☐ WROS 4

☐ WROS 5

☐ WROS 6

Designed Use (Check one)

☐ Hiker / Pedestrian

☐ Pack & Saddle

☐ Bicycle

☐ Wheelchair

☐ Motorcycle

☐ All Terrain Vehicle (ATV)

☐ Cross-Country Ski

☐ Snowshoe

☐ Dog Sled

☐ Snowmobile

☐ Watercraft - NonMotorized

☐ Watercraft - Motorized

Design Parameters (Fill in all that apply)

☐ Basic Tread Width, inches

☐ Clearing Width, feet

☐ Clearing Height, feet

☐ Switchback Radius, feet

☐ Max. Sustained Grade, %

☐ Max. Pitch Grade, %

Target Frequency (Fill in all that apply)

☐ Trail Opening

☐ Tread Repair

☐ Drainage Cleanout

☐ Logging Out

☐ Brushing

☐ Snow Trail Grooming

☐ Condition Survey

TRACS TMO Form v4.0 - Side 1 (01/19/2004)

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- 1 - Primitive/Undeveloped
- 2 - Simple/Minor Development
- 3 - Developed/Improved
- 4 - Highly Developed
- 5 - Fully Developed

Trail Class Matrix

National Trail Management Classes

Updated 1/2/2005

Trail prescriptions describe the desired management of each trail, based on Forest Plan direction. These prescriptions take into account user preferences, setting, protection of sensitive resources, and other management activities. To meet prescription, each trail is assigned an appropriate Trail Class. These general categories are used to identify applicable Trail Design Parameters and to identify basic indicators used for determining the cost to meet national quality standards.¹

The General Criteria below define each Trail Class and are applicable to all system trails. Subsequent sections provide Additional Criteria specific to Motorized Trails, Pack and Saddle Trails, Snow Trails, and Water Trails.

Trail Class descriptions define "typical" attributes, and exceptions may occur for any attribute. Apply the Trail Class that most closely matches the managed objective of the trail.

Trail Attributes	Trail Class 1 Minimal/Undeveloped Trail	Trail Class 2 Simple/Minor Development Trail	Trail Class 3 Developed/Improved Trail	Trail Class 4 Highly Developed Trail	Trail Class 5 Fully Developed Trail
General Criteria Physical Characteristics to be Applied to All National Forest System Trails					
Tread & Traffic Flow	<ul style="list-style-type: none">• Tread intermittent and often indistinct• May require route finding• Native materials only	<ul style="list-style-type: none">• Tread discernible and continuous, but narrow and rough• Few or no allowances constructed for passing• Native materials	<ul style="list-style-type: none">• Tread obvious and continuous• Width accommodates unhindered one-lane travel (occasional allowances constructed for passing)• Typically native materials	<ul style="list-style-type: none">• Tread wide and relatively smooth with few irregularities• Width may consistently accommodate two-lane travel• Native or imported materials• May be hardened	<ul style="list-style-type: none">• Width generally accommodates two-lane and two-directional travel, or provides frequent passing turnouts• Commonly hardened with asphalt or other imported material
Obstacles	<ul style="list-style-type: none">• Obstacles common• Narrow passages; brush, steep grades, rocks and logs present	<ul style="list-style-type: none">• Obstacles occasionally present• Blockages cleared to define route and protect resources• Vegetation may encroach into trailway	<ul style="list-style-type: none">• Obstacles infrequent• Vegetation cleared outside of trailway	<ul style="list-style-type: none">• Few or no obstacles exist• Grades typically <12%• Vegetation cleared outside of trailway	<ul style="list-style-type: none">• No obstacles• Grades typically <8%
Constructed Features & Trail Elements	<ul style="list-style-type: none">• Minimal to non-existent• Drainage is functional• No constructed bridges or foot crossings	<ul style="list-style-type: none">• Structures are of limited size, scale, and number• Drainage functional• Structures adequate to protect trail infrastructure and resources• Primitive foot crossings and fords	<ul style="list-style-type: none">• Trail structures (walls, steps, drainage, raised trail) may be common and substantial• Trail bridges as needed for resource protection and appropriate access• Generally native materials used in Wilderness	<ul style="list-style-type: none">• Structures frequent and substantial• Substantial trail bridges are appropriate at water crossings• Trailside amenities may be present	<ul style="list-style-type: none">• Structures frequent or continuous; may include curbs, handrails, trailside amenities, and boardwalks• Drainage structures frequent; may include culverts and road-like designs

Trail Classes: ■

Trail Attributes	Trail Class 1 Minimal/Undeveloped Trail	Trail Class 2 Simple/Minor Development Trail	Trail Class 3 Developed/Improved Trail	Trail Class 4 Highly Developed Trail	Trail Class 5 Fully Developed Trail
General Criteria Physical Characteristics to be Applied to All National Forest System Trails					
Signs	<ul style="list-style-type: none">• Minimum required• Generally limited to regulation and resource protection• No destination signs present	<ul style="list-style-type: none">• Minimum required for basic direction• Generally limited to regulation and resource protection• Typically very few or no destination signs present	<ul style="list-style-type: none">• Regulation, resource protection, user reassurance• Directional signs at junctions, or when confusion is likely• Destination signs typically present• Informational and interpretive signs may be present outside of Wilderness	<ul style="list-style-type: none">• Wide variety of signs likely present• Informational signs likely (outside of Wilderness)• Interpretive signs possible (outside of Wilderness)• Trail Universal Access information likely displayed at trailhead	<ul style="list-style-type: none">• Wide variety of signage is present• Information and interpretive signs likely• Trail Universal Access information is typically displayed at trailhead•
	<ul style="list-style-type: none">• Natural, unmodified• ROS: Often Primitive setting, but may occur in other ROS settings• WROS: Primitive	<ul style="list-style-type: none">• Natural, essentially unmodified• ROS: Typically Primitive to Semi-Primitive setting• WROS: Primitive to Semi-Primitive	<ul style="list-style-type: none">• Natural, primarily unmodified• ROS: Typically Semi-Primitive to Roaded Natural setting• WROS: Semi-Primitive to Transition	<ul style="list-style-type: none">• May be modified• ROS: Typically Roaded Natural to Rural setting• WROS: Transition (rarely present in Wilderness)	<ul style="list-style-type: none">• Can be highly modified• ROS: Typically Rural to Urban setting• Commonly associated with Visitor Centers or high-use recreation sites• Not present in Wilderness

For design criteria and specifications, refer to Forest Service Handbook and other applicable agency references.

Trail Environment & Experience descriptors are provided to assist with understanding Trail Classes. They represent typical or varying Trail Class and ROS or WROS setting combinations, but are not intended to indicate combinations that are "allowed" or "not allowed." While less developed trails may occur in any ROS setting, they typically occur in less developed ROS settings. Similarly, more highly developed trails tend to occur in more highly developed ROS settings, but may occur in less developed ROS settings (with the exception of Trail Classes not consistent with Primitive settings).

Designed Use



The intended use that controls the desired geometric design and determines the subsequent maintenance parameters for the trail.

TRACS Trail Management Objectives

Region: Forest: District:

Trail Name: Trail Number:

Trail Beginning Beg. Milepost:
Trail Ending End. Milepost:

Trail Inventory Length: Miles Trail Mileage Wheel GPS Map Johnson

TMO Trail Section

Section Beg. Section End. Beg. Milepost:
Sec. # Trail End. Milepost:

Designed Use Objectives

Trail Type (Check one)
☐ Standard Form Trail
☐ Snow Trail
☐ Water Trail

Trail Class (Check one)
☐ 1 (Primitive/Underdeveloped)
☐ 2 (Simple/Minor Development)
☐ 3 (Developed/Improved)
☐ 4 (Highly Developed)
☐ 5 (Fully Developed)

ROSWROS Class (Check one)
ROS
☐ Urban
☐ Rural
☐ Roadside Modified
☐ Roadside Natural
☐ Semi-Primitive Motorized
☐ Semi-Primitive Non-Motorized
☐ Primitive

WROS (Check one)
☐ WROS 1
☐ WROS 2
☐ WROS 3
☐ WROS 4
☐ WROS 5
☐ WROS 6

Designed Use (Check one)
☐ Hike / Pedestrian
☐ Pack & Saddle
☐ Bicycle
☐ Wheelchair
☐ Motorcycle
☐ All Terrain Vehicle (ATV)
☐ Cross-Country Ski
☐ Snowshoe
☐ Dog Sled
☐ Snowmobile
☐ Watercraft - Non-Motorized
☐ Watercraft - Motorized

Design Parameters (Fill in all that apply)
Basic Tread Width, inches
Clearing Width, feet
Clearing Height, feet
Switchback Radius, feet
Max. Sustained Grade, %
Max. Pitch Grade, %

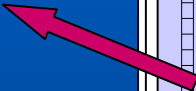
Target Frequency (Fill in all that apply)
Per Year (Fill in all that apply)
 Trail Opening
 Tread Repair
 Drainage Cleanout
 Logging Out
 Brushing
 Snow Trail Grooming
 Condition Survey

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Managed Use

There may be more than one Managed Use per trail or trail segment.

Managed Use indicates a management decision or intent to accommodate and/or encourage a specified type of trail use.



TRACS Trail Management Objectives
Travel Management Strategies FSH 7731(WO 7700-94-9)

Managed Use		From Date (mm/dd)	To Date (mm/dd)
<input type="checkbox"/> Hiker / Pedestrian			
<input type="checkbox"/> Pack & Saddle			
<input type="checkbox"/> Bicycle			
<input type="checkbox"/> Wheelchair			
<input type="checkbox"/> Motorcycle			
<input type="checkbox"/> All Terrain Vehicle (ATV)			
<input type="checkbox"/> Cross-Country Ski			
<input type="checkbox"/> Snowshoe			
<input type="checkbox"/> Dog Sled			
<input type="checkbox"/> Snowmobile			
<input type="checkbox"/> Watercraft - NonMotorized			
<input type="checkbox"/> Watercraft - Motorized			

Prohibited Use		From Date (mm/dd)	To Date (mm/dd)
<input type="checkbox"/> All Motorized Use			
<input type="checkbox"/> Hiker / Pedestrian			
<input type="checkbox"/> Pack & Saddle			
<input type="checkbox"/> Bicycle			
<input type="checkbox"/> Wheelchair			
<input type="checkbox"/> Motorcycle			
<input type="checkbox"/> All Terrain Vehicle (ATV)			
<input type="checkbox"/> Cross-Country Ski			
<input type="checkbox"/> Snowshoe			
<input type="checkbox"/> Dog Sled			
<input type="checkbox"/> Snowmobile			
<input type="checkbox"/> Watercraft - NonMotorized			
<input type="checkbox"/> Watercraft - Motorized			

Other Use	Accept	Discourage	Eliminate
<input type="checkbox"/> Hiker / Pedestrian			
<input type="checkbox"/> Pack & Saddle			
<input type="checkbox"/> Bicycle			
<input type="checkbox"/> Wheelchair			
<input type="checkbox"/> Motorcycle			
<input type="checkbox"/> All Terrain Vehicle (ATV)			
<input type="checkbox"/> Cross-Country Ski			
<input type="checkbox"/> Snowshoe			
<input type="checkbox"/> Dog Sled			
<input type="checkbox"/> Snowmobile			
<input type="checkbox"/> Watercraft - NonMotorized			
<input type="checkbox"/> Watercraft - Motorized			

Special Considerations
(Check all that apply; otherwise, appropriate measures in parenthesis. Provide specifics and reference information below.)

- ☐ Accessible per Current Agency Guidelines
- ☐ Mechanized Tools or Equipment Prohibited
- ☐ T&E or Sensitive Species Present (Plant / Wildlife)
- ☐ Heritage Resource Present
- ☐ Easement across Non-FS Land (Existing / Needed)
- ☐ Existing Permit or Agreement (Trail-Specific Area)

Remarks / Reference Information
(Use continuation sheet if needed)

Line Officer: Name _____ Signature _____
Title _____ Date _____

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Designed / Managed Uses

Hiker / Pedestrian

Cross-Country Ski

Pack & Saddle

Snowshoe

Bicycle

Dog Sled

Wheelchair

Snowmobile

Motorcycle

Watercraft - NonMotorized

All Terrain Vehicle

Watercraft - Motorized

Design Parameters

TRACS Trail Management Objectives

Region: Forest: District:

Trail Name: Trail Number:

Trail Beginning Beg. Milepost:

Trail Ending End. Milepost:

Trail Inventory Length: Miles Trail Mileage Source: ☐ Wheel ☐ GPS ☐ Map ☐ Unknown

TMO Trail Section

Section Beg. Beg. Milepost:

Section End. End. Milepost:

Designed Use Objectives

Trail Type (Check one)

☐ Standard Terra Trail

☐ Snow Trail

☐ Water Trail

Trail Class (Check one)

☐ 1 (Primitive/Undeveloped)

☐ 2 (Simple/Minor Development)

☐ 3 (Developed/Improved)

☐ 4 (Highly Developed)

☐ 5 (Fully Developed)

ROSWROS Class (Check one)

ROS

☐ Urban

☐ Rural

☐ Roadside Modified

☐ Roadside Natural

☐ Semi-Primitive Motorized

☐ Semi-Primitive NonMotorized

☐ Primitive

WROS

☐ WROS 1

☐ WROS 2

☐ WROS 3

☐ WROS 4

☐ WROS 5

☐ WROS 6

Designed Use (Check one)

☐ Hiker / Pedestrian

☐ Pack & Saddle

☐ Bicycle

☐ Wheelchair

☐ Motorcycle

☐ All Terrain Vehicle (ATV)

☐ Cross-Country Ski

☐ Snowshoe

☐ Dog Sled

☐ Snowmobile

☐ Watercraft - NonMotorized

☐ Watercraft - Motorized

Design Parameters (Fill in all that apply)

☐ Basic Tread Width, inches

☐ Clearing Width, feet

☐ Clearing Height, feet

☐ Switchback Radius, feet

☐ Max. Sustained Grade, %

☐ Max. Pitch Grade, %

☐

☐

☐

Target Frequency (Fill in all that apply)

☐ Trail Opening

☐ Trail Maintenance

☐ Drainage Cleanout

☐ Logging Out

☐ Brushing

☐ Snow Trail Grooming

☐ Condition Survey

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- Tread Width
- Grade – Range
- Grade – Short Pitch
- Cross-Slope
- Clearing Width
- Clearing Height
- Switchback Radius

Design Parameters

DRAFT 6/18/02

USFS Trail Design Parameters

Trail Design Parameters provide guidance for the assessment, survey and design, construction, reconstruction and maintenance of trails, based on

DRAFT 6/18/02

USFS Trail Design Parameters

Trail Design Parameters provide guidance for the assessment, survey and design, construction, repair and maintenance of trails, based on the Trail Class and Desired Affects of the trails. Factors and values in the assessment, survey and design, construction, repair and maintenance of trails are specific to the circumstances and demands of the project.

DRAFT 8/18/02

USFS Trail Design Parameters

Trail Design Parameters provide guidance for the assessment, survey and design, construction, repair and maintenance of trails, based on the Trail

DRAFT 6/18/02

USFS Trail Design Parameters

Trail Design Parameters provide guidance for the assessment, survey and design, construction, repair and maintenance of trails, based on the Trail Class and Designed Use of the trail. Exceptions and variances to these parameters can occur, however, when site-specific circumstances demand such exceptions.

Designed Like Hiker-PEDESTRIAN		Trail Class 1	Trail Class 2	Trail Class 3*	Trail Class 4*	Trail Class 5*
Design	Width	0" - 12"	0" - 30"	12" - 24"	24"	Not applicable
Trail	Width			Exception: May be 36-48" at switchbacks, turnpikes, forks and steep side slopes.	Exception: May be 36-48" at switchbacks, turnpikes, forks and steep side slopes.	
Grade	Non-Width	0" - 12"	0" - 30"	10" - 40"	32" - 60"	36" - 120"
Surface	Type	Native, un-graded, intermittent, rough.	Native with limited grading.	Native with some on-site grading or imported materials.	Imported materials or handcrafted is common.	Uniform, firm, and stable.
	Obstacles	Roots, rocks, logs, steps to 30".	Roots, rocks and logs, steps to 10".	Generally none. Prohibitive to 3", steps to 10".	Smooth, few obstacles. Prohibitive to 2", steps to 10".	Smooth, no obstacles. Prohibitive "2".
Design	Target Range (100% of Trail)	< 25%	< 15%	< 12%	< 10%	< 5%
Grade	Short Pitch Max (Up to 200' lengths)	< 45%	< 40%	< 25%	< 15%	< 10%
	Max Pitch Density	< 10% of trail	< 5% of trail	< 5% of trail	< 3% of trail	< 3% of trail
Design	Target Range	Not applicable	5 - 20%	5 - 10%	3 - 7%	2 - 3% (or crowned)
Cross-Slope	Maximum	Up to natural side slope.	Up to natural side slope.	15%	10%	3%
Clearing	Width	Sufficient to define trail	24" - 30", with some accumulation into clearing area.	12" - 18" outside of head slope.	12" - 18" outside of head slope.	12" - 24" outside of head slope.
	Height	0"	6" - 7"	6"	6"	6"
Design	Radius	No minimum.	2' - 3'	3' - 6'	6' - 8'	6' - 12'
Turns						

*** Maximum pitch density refers to the percentage of the trail that is within 5% (+/-) of the Short Pitch Maximum Grade.

Trail Design Parameters -

Trail Class 5

Applicable:
Designed for
Equestrians as primary
Equestrians
usually not present.

Trail Class 5

36° – 60°
72° – 120°
Firm, hardened surface.
No obstacles to wheeled transport.
< 5%
0%
< 3% of trail
3% – 5%
18" – 24" outside of tread edge.
8' - 0'
8' - 12'

potential. Due to effects

Oil Class 5

Not designed for
primary user.

se on tread and

TRACS

Trail Assessment and Condition Surveys

Field data on trail conditions and the work needed

Assessment

Prescription

May 2008

Trail CASM

Condition Assessment Survey Matrix

CASM Trail Condition Assessment Survey Matrix A Guide to Recommended Survey Methods and Accuracies

CASM is the Forest Service's guide for conducting efficient and appropriate trail inventory and condition surveys, based on the level of trail development or Trail Class, investment in trail structures, and visitor expectations. CASM values are recommended minimums for data accuracy and specificity. Local managers may select more rigorous frequencies, methods, or accuracies as determined necessary.

Assessment Factors	Trail Class 1	Trail Class 2	Trail Class 3	Trail Class 4	Trail Class 5
Survey Method ¹	Walk-through & Note Notes on Map or GPS ²	Cyclo-meter or GPS ²	Cyclo-meter or GPS ²	Cyclo-meter	Tape or Cyclo-meter & Hand Level with Right Readout
Recommended Survey Accuracy & Specificity:					
Measurement Interval ³	Minor Photographic Changes	Minor Photographic Changes or 1/4 Mile	Typical Grade Changes of 10% or 500 feet	Typical Grade Changes of 10% or 500 feet	Inter-usable Alignment Changes, 2% Grade Changes, or 25 feet
Typical Grade ⁴	+/- 10%	+/- 10%	+/- 5%	+/- 5%	+/- 1%
Typical Width ⁵	Not Measured	Optional +/- 6"	+/- 6"	+/- 6"	+/- 3"
Obstacles ⁶	Not Measured	Not Measured	Optional	Formidable Obstacles (e.g., narrow width with steep drop off)	All those defined as Obstacles
Typical Cross Slope ⁷	Not Measured	Not Measured	+/- 1%	+/- 1%	+/- 0.1%
Features & Tasks ⁸	Maximum Grouping of Features & Tasks	Grouping of Features & Tasks	Grouping of Features & Tasks Optional	Each Feature & Task Isolated & Assessed Individually	Each Feature & Task Isolated & Assessed Individually

¹ **Survey Method:** Most efficient method that accomplishes identified CASM accuracies.

² **GPS:** TRACS data collected via GPS must meet agency GIS spatial standards. This usually includes differential correction and editing for multi-pathing, spiking, and degraded satellite coverage.

³ **Measurement Interval:** Maximum interval between collecting a full set of survey points for Typical Grade, Typical Width, Obstacles, Typical Cross Slope, and applicable Features and Tasks. If an element (i.e. Typical Grade) changes more frequently than the maximum interval, record those changes based on the CASM accuracy identified for that element.

⁴ **Typical Grade:** Initiate new survey segment when Typical Grade changes by this amount.

⁵ **Typical Width:** Initiate new survey segment when Typical Width changes by this amount.

⁶ **Obstacles:** For those defined (see FSM/FSH, Infra Business Rules, Universal Access guidelines, etc.)

⁷ **Typical Cross Slope:** Accuracy of Rise-over-Run measurement across Typical Tread Width.

⁸ **Grouping Features & Tasks:** Features and Tasks can be grouped within survey segment.



TMO → TRACS → CASM → Infra Cornerstones of...



- Efficient Trail Planning & Management
- Consistent, Quality Data
- Accurate, Accountable Inventory & Costing

ITDS

Interagency Trail Data Standards

Trail Name • Trail Number • Trail Length • Trail Status

ITDS

Interagency Trail Data Standards

Which Trails? The ITDS are applicable to all USFS, NPS, BLM and FWS managed trails, including National Scenic Trails and National Historic Trails. The ITDS can also be applied to trails managed by state or local governments and other entities.

What? The ITDS are a core set of 34 standardized trail data attributes with corresponding definitions and values applicable to tabular and spatial data. They include 5 additional attributes applicable only to NHTs and NHTAs and 13 attributes applicable to NHTs. The ITDS reflect a core set of interagency questions and data search criteria and are not intended to cover all possible trail data or agency-specific data needs.

Why? The ITDS enable trail managers and the public to easily understand, communicate, and consistently apply trail data and information. This means easier-to-use data attributes to be accessed, exchanged and used by more than one individual, agency or group. Ease in sharing data increases the capability for enhanced and consistent mapping, inventory, monitoring, condition assessment, coding, budgeting, information collection, and reporting.

Who? The ITDS were developed by the USFS/NPS/BLM/FWS ITDS Team at the request of the Federal Interagency Trails Council. The ITDS are being used by these agencies, as well as by other trail managers and the public.

How? The ITDS are being incorporated into agency databases and GIS spatial layers to support a wide variety of trail inventory, planning, management, and public information needs.

Status? The ITDS underwent internal and external reviews in 2003 and 2004. The ITDS are currently being improved for publication by the Federal Geographic Data Committee (FGDC) as National Trail Data Standards. Interagency data include identification of any outstanding issues, ITDS attributes specific to NHTs, followed by the potential incorporation of the ITDS into a core set of public information and trail data standards.

Info? Access the ITDS and find out more at: <http://www.fs.fed.gov/itds/>

Trail System • County • State • Congressional District • etc.

ITDS

Interagency Trail Data Standards

Data Attributes

ITDS attributes are listed below by functional category. For complete attribute definitions, corresponding values and data collection info, go to: <http://www.fs.fed.gov/itds/>

Basic Trail Information:	Trail Section
Trail Name	Managing Agency (if applicable)
Trail Number	State (if applicable)
Trail Length	State (if applicable)
Trail Status	
Trail Administrative Unit & Location:	
Admin Org	Jurisdiction
Managing Org	Community
Congressional District	State
County	
Trail Management and Use:	
Accessibility Status	Primary Trail Marker
Designated Use	Trail System
Land Use Plan	Trail System
Managed Use	Trail System
Mechanical Potential	Trail System
Trail Management Considerations:	
Historic Significance	Right-of-Way
National Trail Designation	Special Management Area
Trail Conditions & Cost:	
Cost Annual Cycle Maintenance	Cost Improvement Contribution
Cost Annual Cycle Operation	Cost Limit Upgraded
Cost Deferred Maintenance	Trail Condition
NHT and/or NHTA Basic Information:	Applicable only to National Historic and Scenic Trails
NHT NHT Trail Administration	Master Facility Type
NHT NHT Visitor Center Name	
Range Resource Information:	Applicable only to NHTs within unincorporated landings and resource areas
NHT Auto-Trail Section	NHT Site Name
NHT Certification Status	NHT Site Number
NHT Condition Category	NHTP Criteria
NHT High Potential Segment	NHTP Priority Category
NHT High Potential Site	Type of Route
NHT Public Use Segment	Type of Route
NHT Public Use Site	



2009 FS Trails Budget

- National - \$75 million
- Southern Region - \$6.8 million
- NF in Florida - \$524,000
- FNST - \$1.5 million



USFS Trail Program Priorities

- Implement Travel Management Rule
- Foster new and expand existing trail partnerships
- Trail data clean up: Trail Inventory, TMOs, TRACS



Work Plan

Project Header										Project Totals																																																																							
Name: CMTL-IT Improve Transportation System - Trails Non-FNST										Total Personnel Costs: \$289,162																																																																							
Description: Improve transportation system, trails, non-FNST										Total Fleet Cost: \$20,028																																																																							
National Goal: 0 - None										Total Other Cost: \$65,250																																																																							
Objective: 0.0.0 - None										Total Project Cost: \$383,440																																																																							
Leader: Billy Aaron																																																																																	
Fiscal Year: 2008																																																																																	
Unit Priority: Unit: NFS IN FLORIDA																																																																																	
Approved: Yes																																																																																	
Stewardship Contract?: No																																																																																	
Personnel										Activities																																																																							
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Used to track budget and year-long allocations



Handouts and forms

sites.google.com/site/jimrectrails

coming soon to:

www.fs.fed.us/r3/measures

