

# TRAILS for PEOPLE & WILDLIFE





# Getting Out to Enjoy Nature!



New Hampshire

**FISH AND GAME**

*Connecting you to life outdoors*

*Guardian of the state's fish, wildlife, and marine resources.*



# Impacts of Trails on Wildlife



# Impacts of Recreational Trails on Wildlife



## **Physiological**

Changes in an animal's heart rate, temperature, or stress hormones.





# Impacts of Recreational Trails on Wildlife



## **Physiological**

Changes in an animal's heart rate, temperature, or stress hormones.



## **Behavioral**

Changes in foraging, vigilance or fleeing from perceived predators.

# Impacts of Recreational Trails on Wildlife



## **Physiological**

Changes in an animal's heart rate, temperature, or stress hormones.



## **Behavioral**

Changes in foraging, vigilance or fleeing from perceived predators.



## **Reproductive Success**

Reduction in the number of nests built, eggs laid or young born and successfully raised.



# Impacts of Recreational Trails on Wildlife



## **Physiological**

Changes in an animal's heart rate, temperature, or stress hormones.



## **Behavioral**

Changes in foraging, vigilance or fleeing from perceived predators.



## **Reproductive Success**

Reduction in the number of nests built, eggs laid or young born and successfully raised.



## **Predation**

Scaring an adult away leaves young vulnerable to predation. Adults may be preyed on directly.

# Trail Impacts on Protected Land in NH





# “Corridor of Influence”

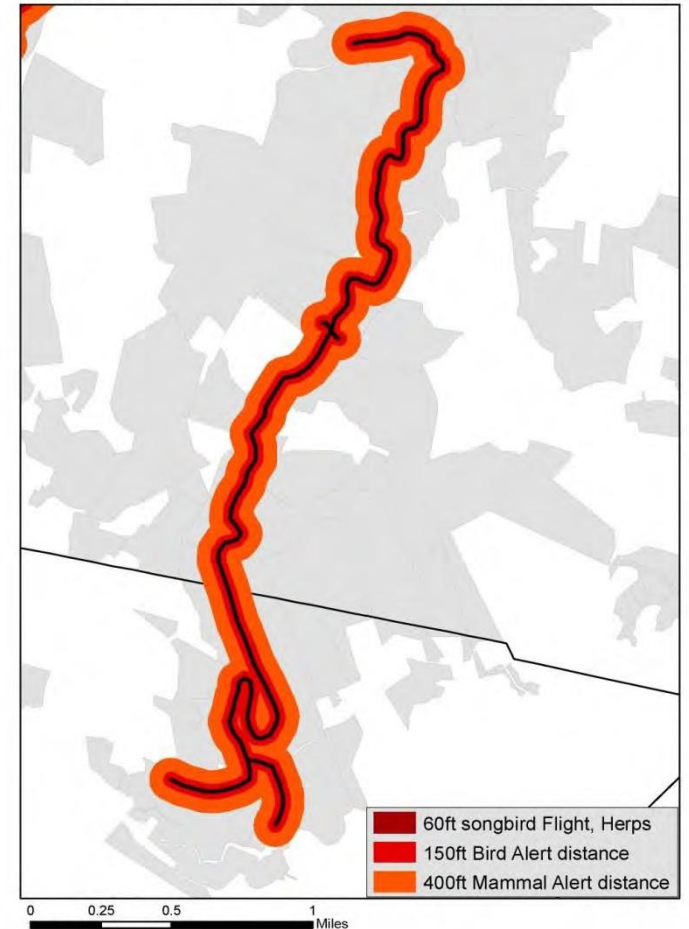


# Corridor of Influence “Alert” and “Flight” Distances

- Reviewed 67 articles.
- New England based, or as close to New England as possible.
- Distances for birds, mammals plus amphibians and reptiles.

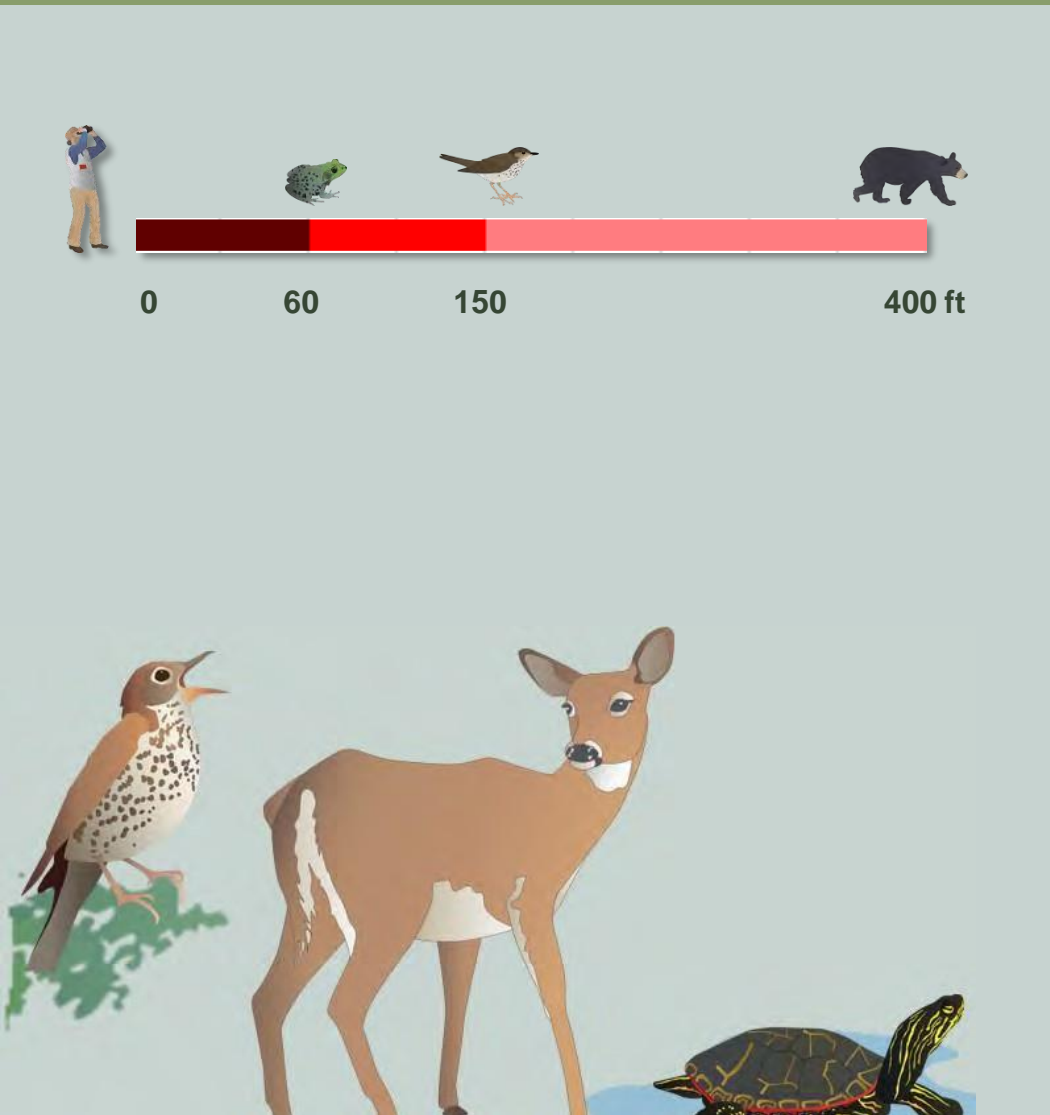


Average Alert and Flight Response Distances (birds, herps, mammals)





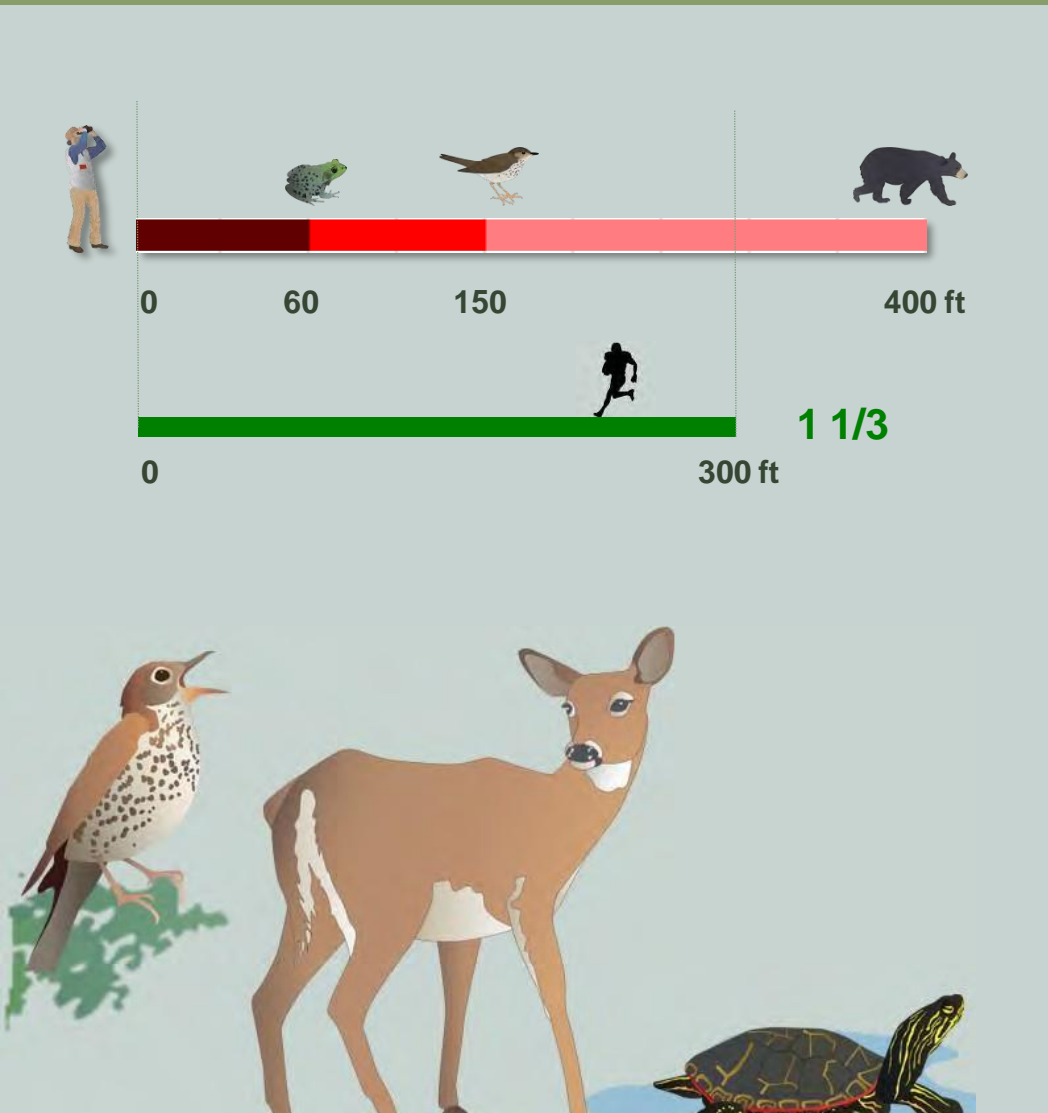
# Corridor of Influence “Alert” and “Flight” Distances



Average Alert and Flight Response Distances (birds, herps, mammals)



# Corridor of Influence “Alert” and “Flight” Distances

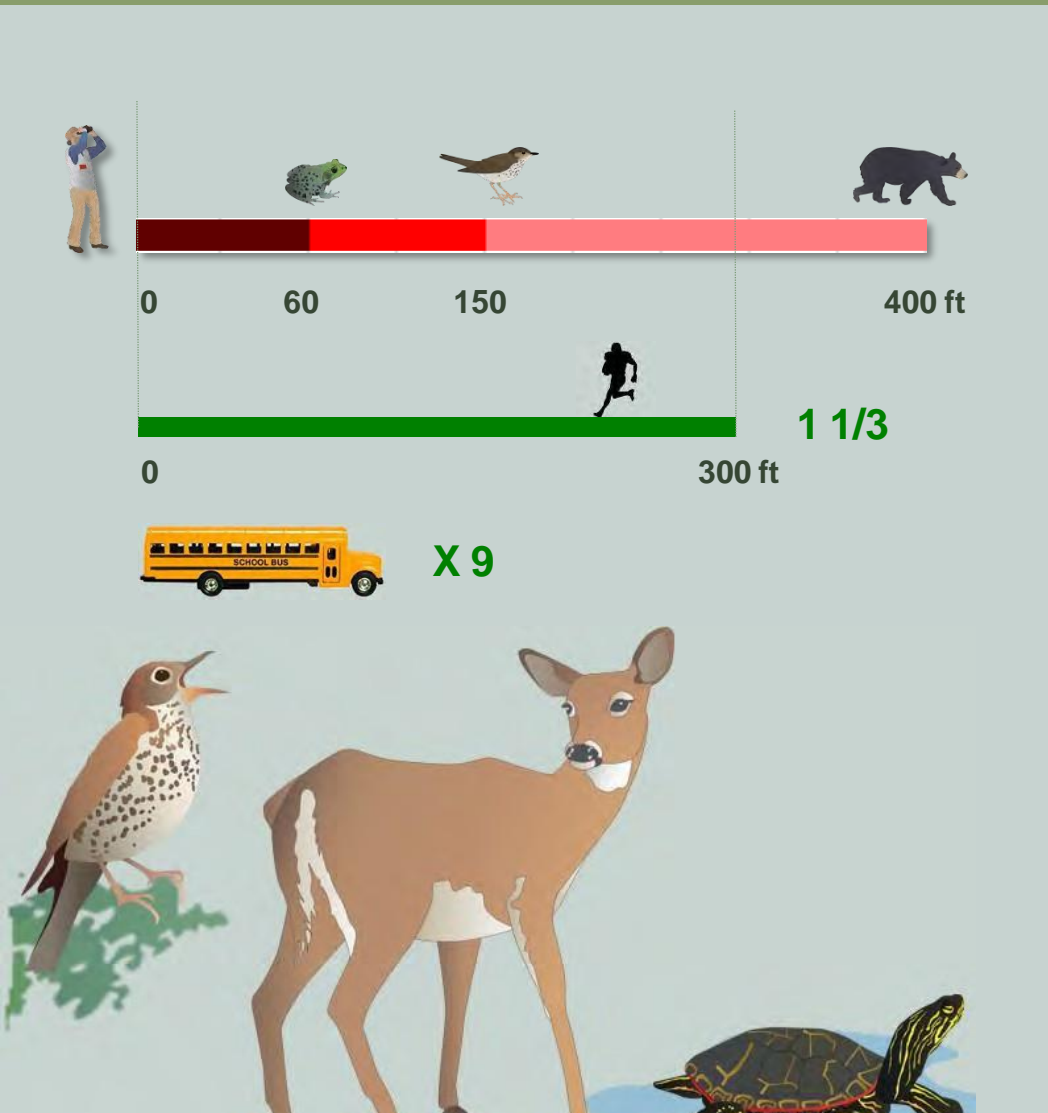


Average Alert and Flight Response Distances (birds, herps, mammals)





# Corridor of Influence “Alert” and “Flight” Distances



Average Alert and Flight Response Distances (birds, herps, mammals)



# Current Trails on Protected Land



} **25%**

ONE QUARTER OF LAND  
IN NEW HAMPSHIRE  
IS PROTECTED. OF  
THIS, ABOUT 30%  
IS INFLUENCED BY  
EXISTING TRAILS AND  
ROADS.

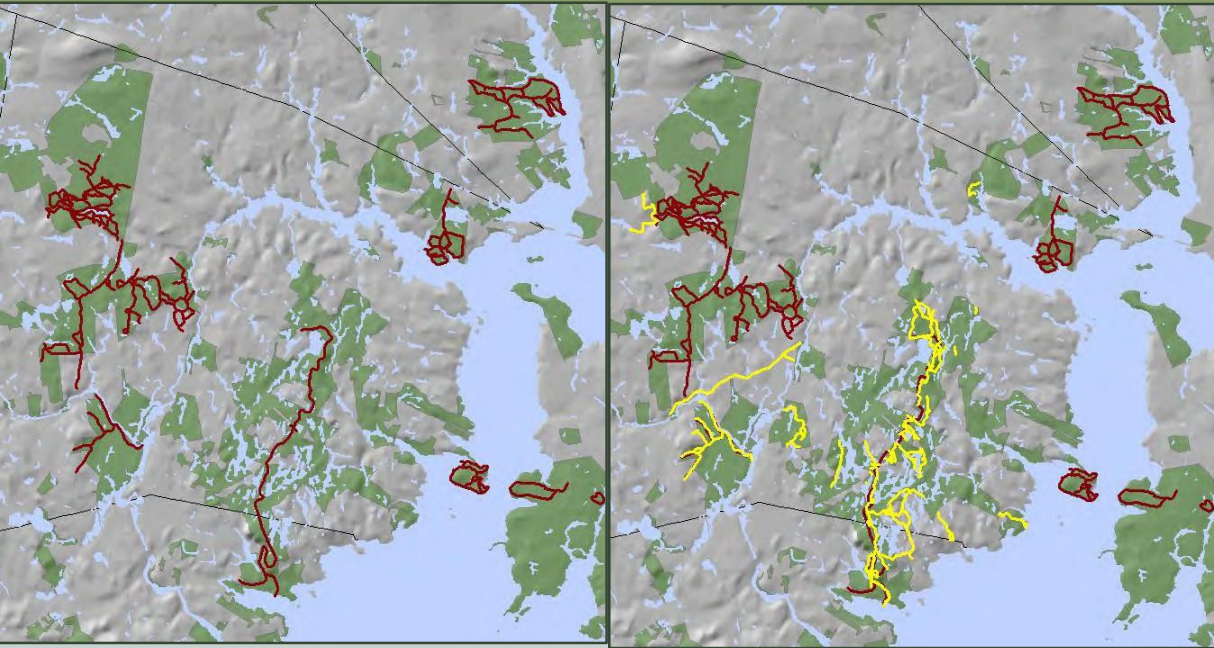




# Trail and Road Impacts – Present Day Reality

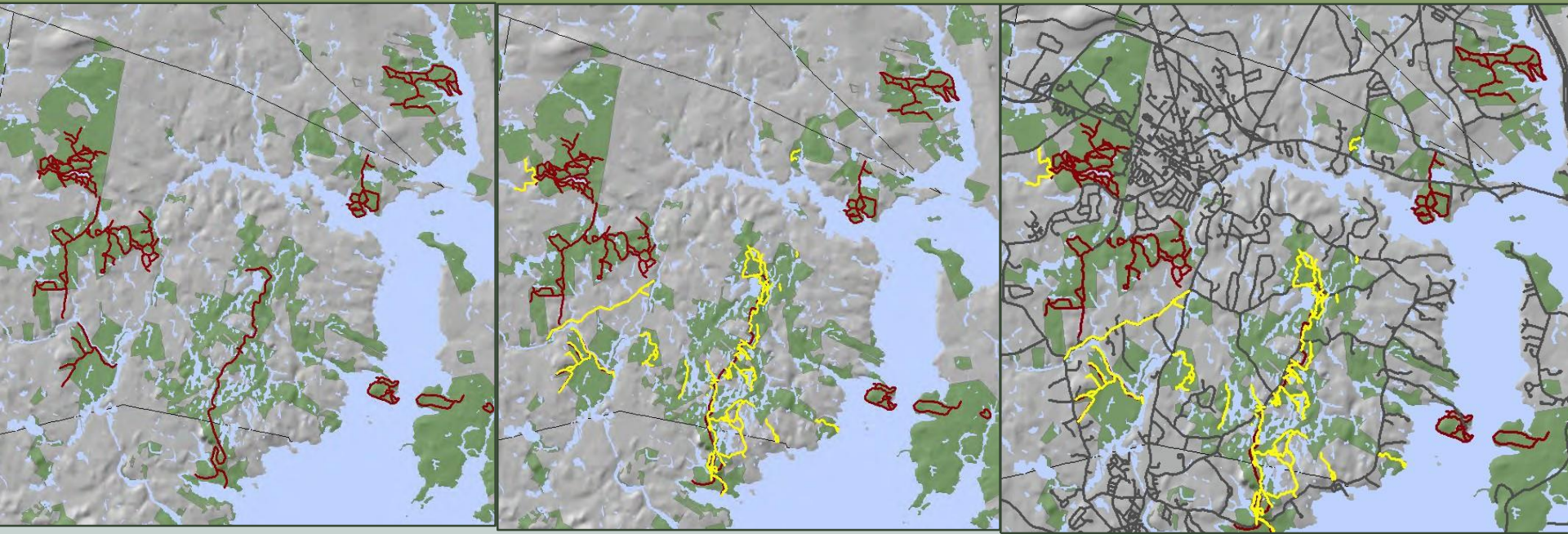


# Trail and Road Impacts – Present Day Reality





# Trail and Road Impacts – Present Day Reality





# Trail and Road Impacts – Present Day Reality





# Statewide Distribution (Protected Land Only)



CONSERVATION LAND



TRAILS



ROADS



TRAILS & ROADS



# Planning Trails with Wildlife in Mind





# Where Best to Locate New Trails



GREAT BAY  
NATIONAL  
ESTUARINE  
RESEARCH  
RESERVE

The Nature  
Conservancy



NRCS



AUDUBON SOCIETY  
OF NEW YORK



EPA





# Evaluate Existing Trails

## Existing versus New

In some cases there may be an existing road or trail you can use. However, just because it already exists doesn't mean it's in a good location. Some trails and old roads were never designed for the use they are receiving. Many trail problems and landowner conflicts are the result of use of trails that weren't designed for uses they are receiving today and have very wet soils.



## BEST MANAGEMENT PRACTICES

For Erosion Control During Trail Maintenance and Construction

### NH Trail Construction and Maintenance Manual



*Keep trails out of the water;  
and water out of the Trails*

STATE OF NEW HAMPSHIRE  
Department of Resources and  
Economic Development  
Division of Parks & Recreation  
Bureau of Trails



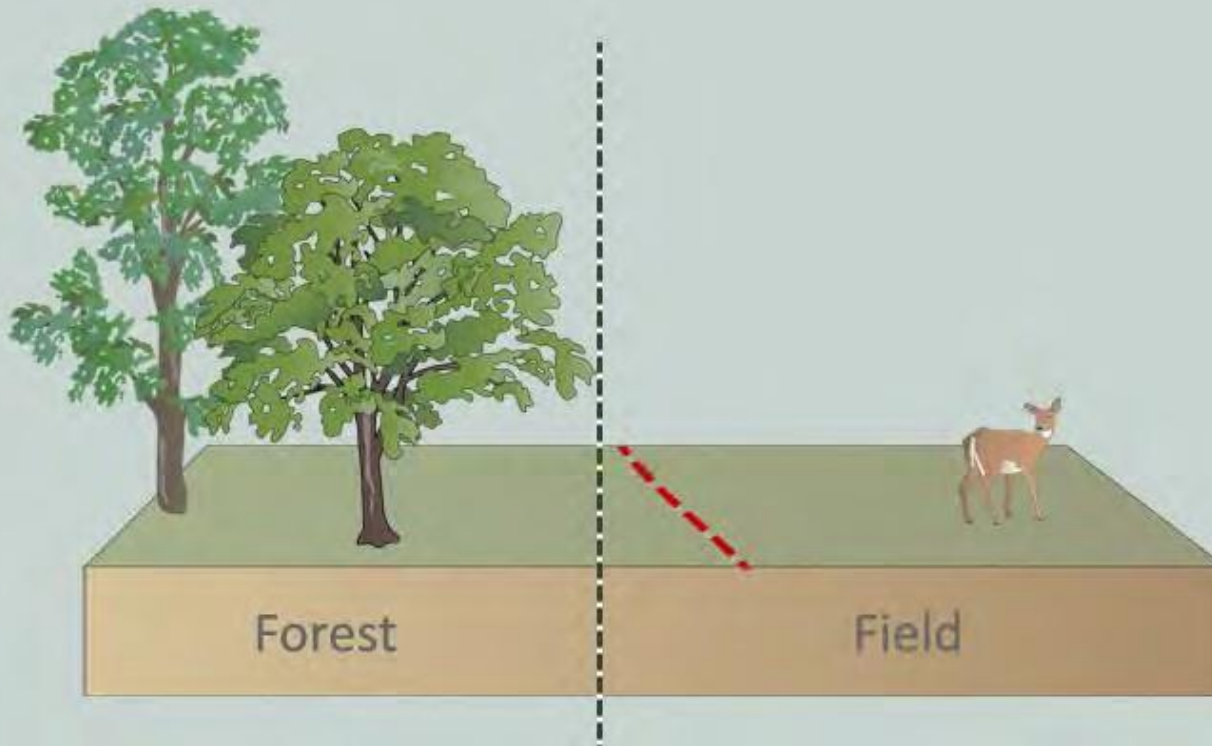


# Key Principals for Minimizing Trail Impacts to Wildlife





## Locate Trails Along Habitat Edges



**Minimizes habitat fragmentation**





## Locate Trails Along Habitat Edges

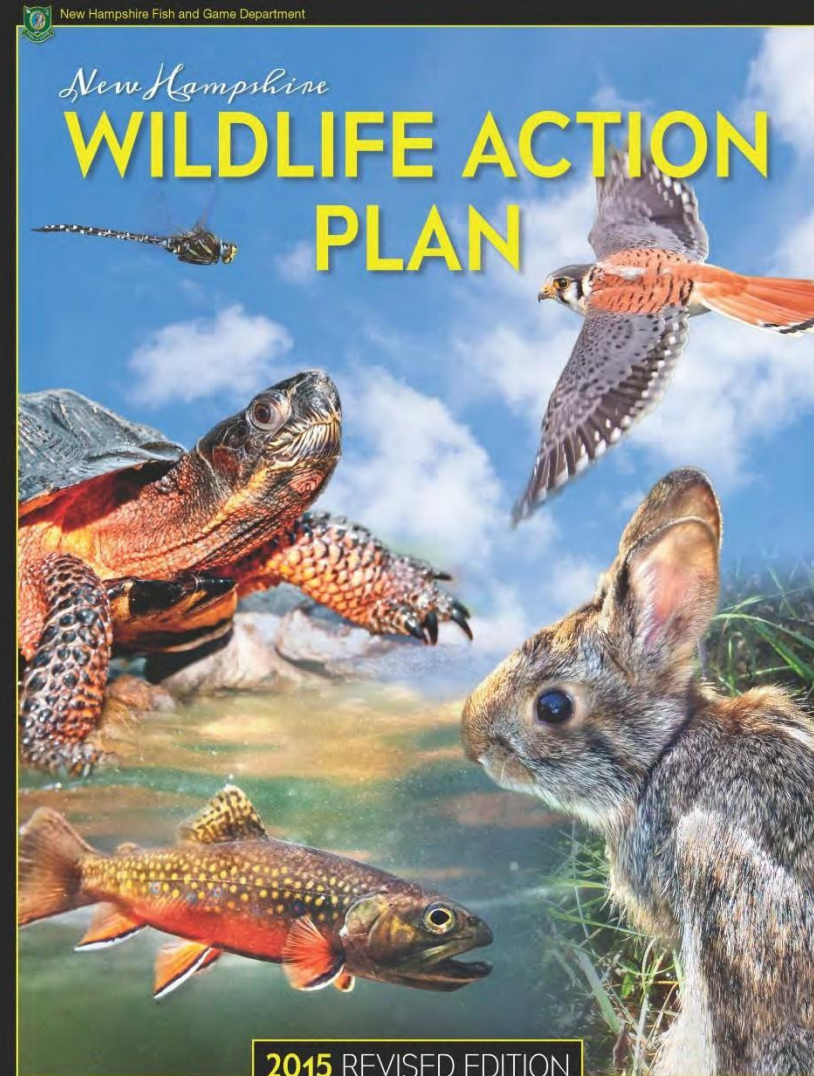


**Minimizes habitat fragmentation**



# Avoid Special Habitats Sensitive to Disturbance

- Pine barrens
- Shrublands
- Gravel pits
- Wetland/aquatic
- Rocky ridges/talus slopes and alpine
- Exemplary natural communities
- Very poorly drained soils







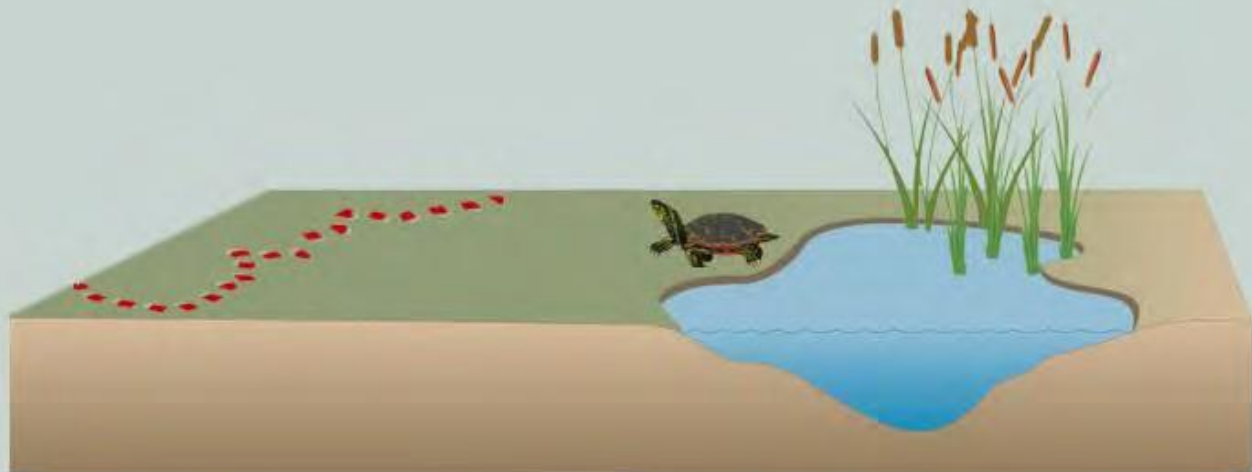
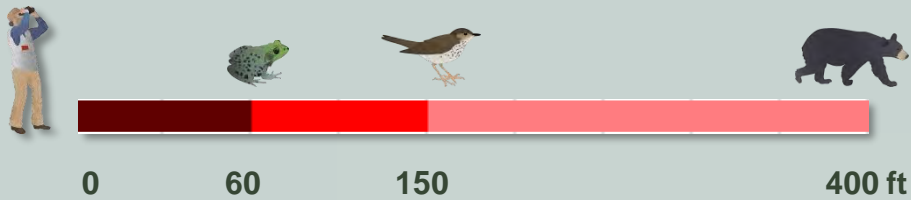
## Avoid Known Locations of Rare Species



Animal species in Natural Heritage database. Plus great blue heron rookeries and cliffs with current or historic peregrine nest.



# Route Trails Away From Riparian Areas



NH amphibians and reptiles average 60 ft flight distance (not just alert)





# Avoid Steep Slopes

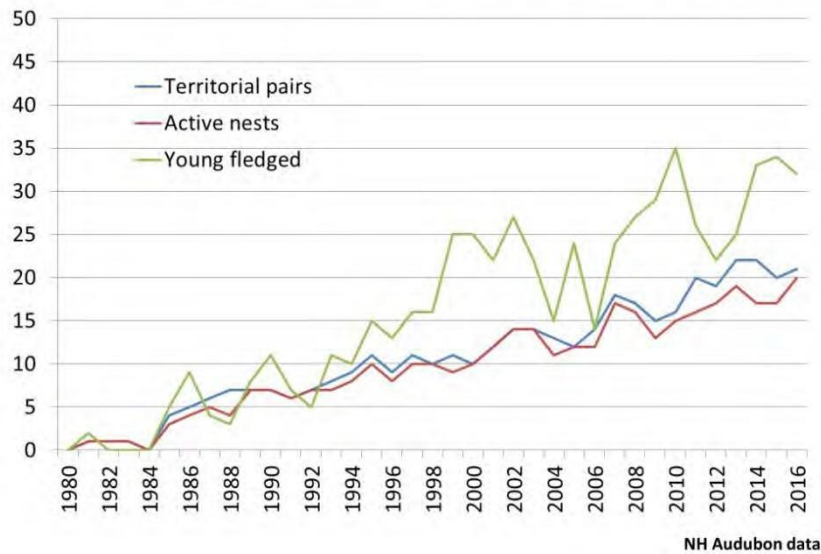


Chris Martin photo



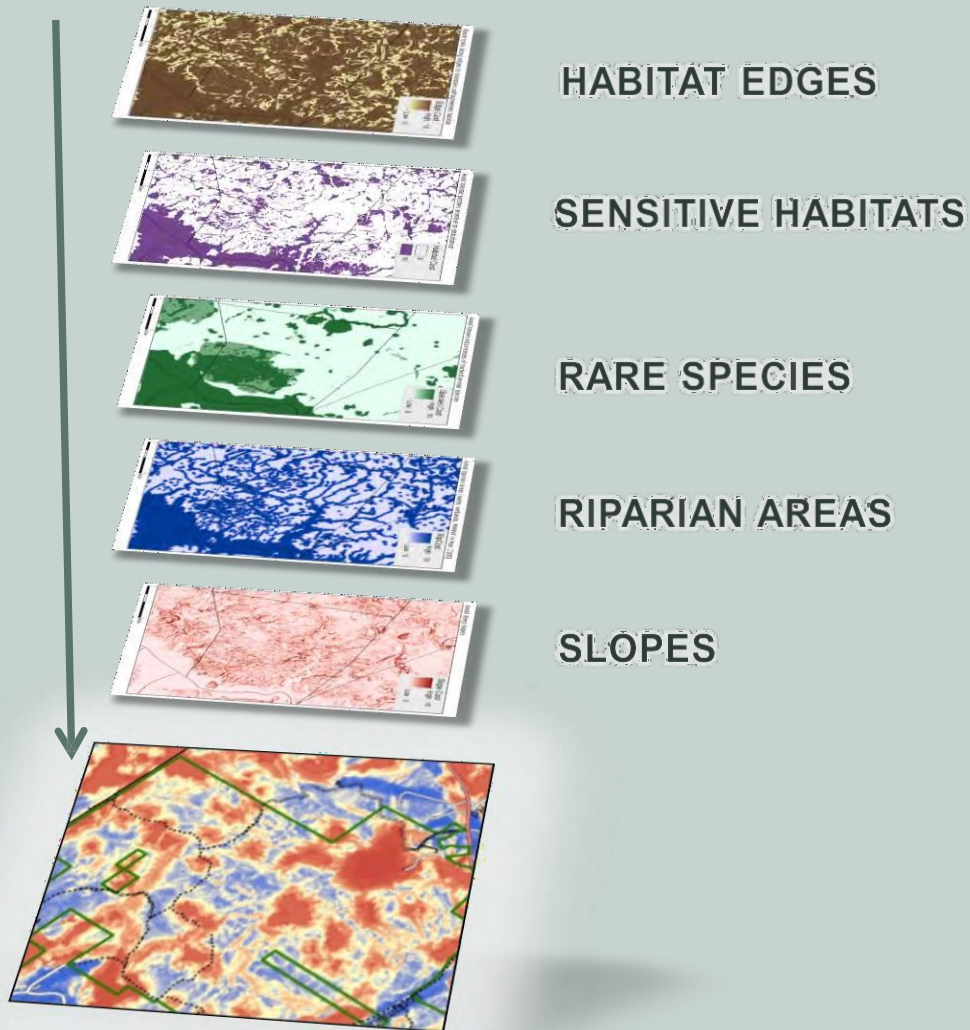
Jeff Wendorf photo

## NH Peregrine Falcon Productivity, 1980-2016



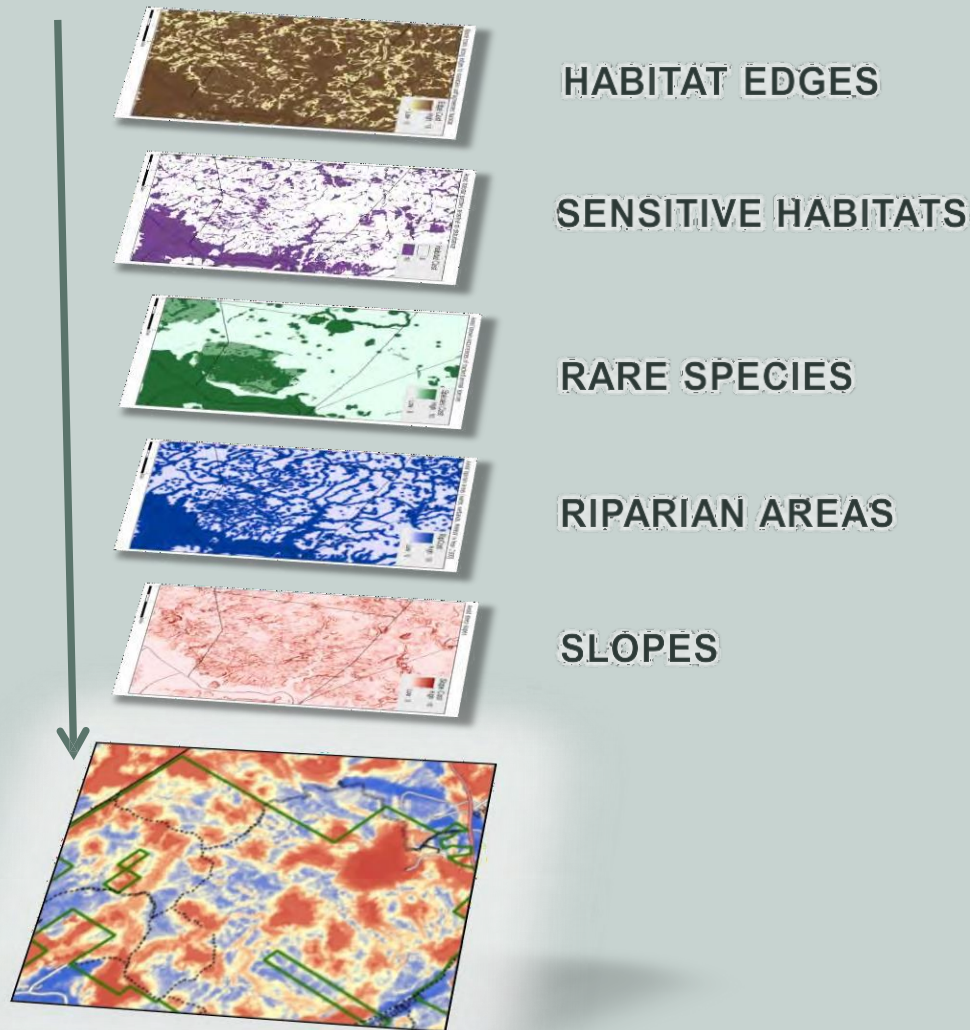
KY Department of Fish and Wildlife photo

# Locate Trails with Wildlife in Mind





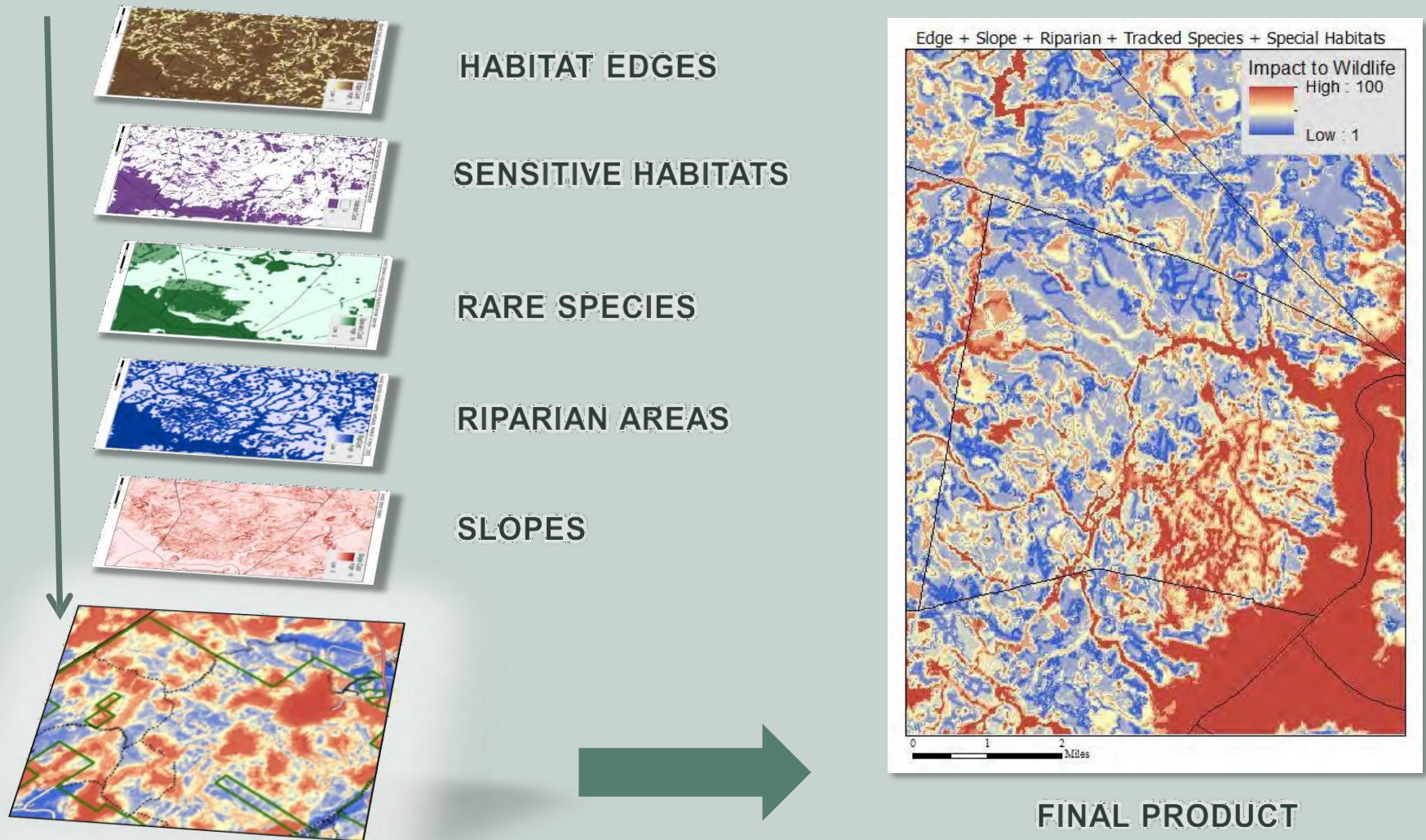
# Workshop to Review Draft Model



## Trail & Wildlife Experts

Ibis Wildlife Consulting  
Lakes Region Conservation Trust  
Monadnock Conservancy  
National Park Service  
NH Audubon  
NH DOT  
NH Fish and Game Department  
NH Trails Bureau  
Society for the Protection of NH Forests  
Southeast Land Trust of NH  
UNH Cooperative Extension  
US Forest Service  
Upper Valley Trails Alliance  
Washington Conservation Commission  
White Mountain National Forest

# Workshop to Review Draft Model





Where Can  
We Find  
The Tool?



# Trails for People and Wildlife: Outreach

## In This Section

- » Habitats
- » Creating a Backyard Wildlife Habitat
- » Habitat Management
- » Habitat Management Guide
- » Habitat Stewardship Series Brochures
- » Habitat Types and Species
- » Managing State Lands for Wildlife
- » Wildlife Management Areas

## Trails for People and Wildlife

Hiking, mountain biking, bird watching, horseback riding, snowmobiling — these are just some of the ways we get outside to enjoy nature and

unwind from our day-to-day activities. However, even these seeming innocuous activities can have impacts on wildlife including reduced abundance, reproduction, and survival. Thoughtful trail location allows us to get outside to enjoy nature and also minimize disturbance to wildlife.

Funded by the US Fish and Wildlife Service, the New Hampshire Fish and Game Department developed a statewide tool that can be used to assess existing trails and site new trails in the most wildlife-friendly way. This mapping tool highlights areas particularly important for wildlife and areas that would be more suitable for trail development. Accompanying documents will explain how to use the



*This project was significantly improved by input from:*

- » The Great Bay Resource Protection Partnership
- » EPA
- » Ibis Wildlife Consulting
- » Lakes Region Conservation Trust
- » Monadnock Conservancy
- » National Park Service
- » Natural Resource Conservation Service
- » NH Audubon
- » NH Dept. of Transportation
- » NH Trails Bureau
- » Society for the Protection of NH Forests
- » Southeast Land Trust of NH
- » The Nature Conservancy
- » UNH Cooperative Extension
- » US Fish and Wildlife Service
- » US Forest Service

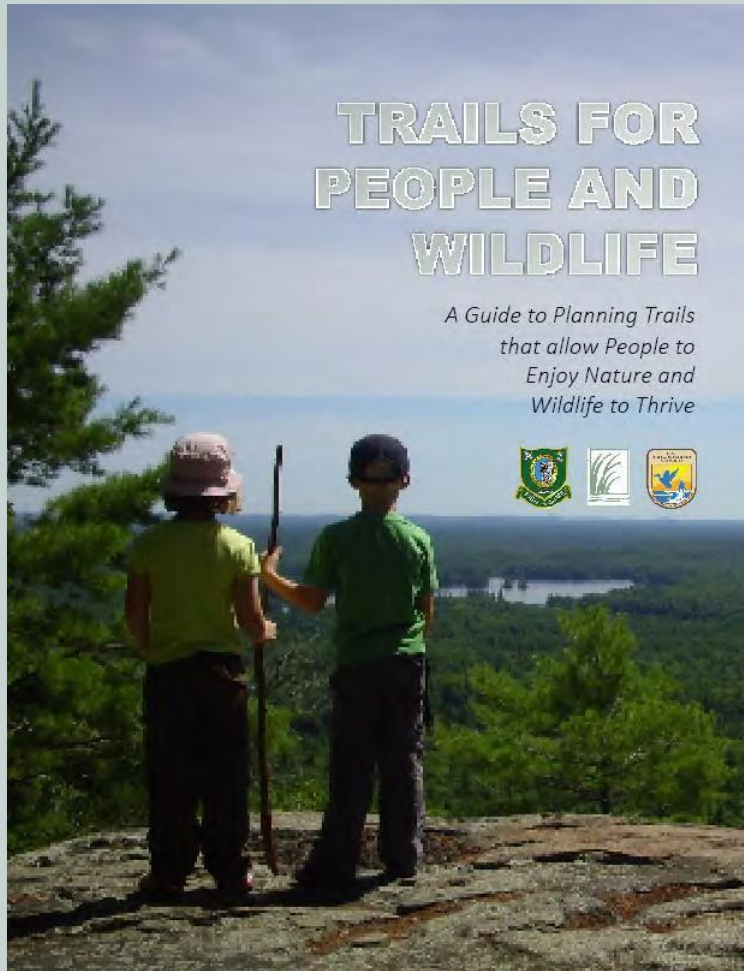
Trails Alliance  
Conservation

ain National

# wildnh.com/trails



# “How To” Guide for this Tool




[wildnh.com/trails](http://wildnh.com/trails)

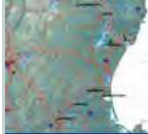

# GIS Layers Available

ArcGIS® for Desktop

Tips and Shortcuts



 **NH GRANIT**  
NEW HAMPSHIRE'S STATEWIDE GIS CLEARINGHOUSE


 

S News Projects Resource Library  
1 Download Free Data Order Data Online Maps & Services Map Library

### GRANIT Data Discovery Tool

**Data Download Compression & Storage Type**  
☒ Zip ☐ Tar ☐ Compressed Tar (gzip)

**1 records match your search criteria**


Dataset	Metadata	Sample Image	Format	Download Mark / Download
TrailsImpact - Planning Trails for People and Wildlife	<a href="#">"Lite" Record</a> <a href="#">Full Record</a>		<input checked="" type="radio"/> grid	<input type="button" value="Download Now"/> <input type="checkbox"/> Mark as part of set

www.granit.unh.edu



# Online Mapping Tool





☐ ☒  Environment and Conservation


☐ Conservation and Public Lands


☐ ☒ Wildlife


☐ ☒ Wildlife Action Plan

☒  Planning Trails for People and Wildlife

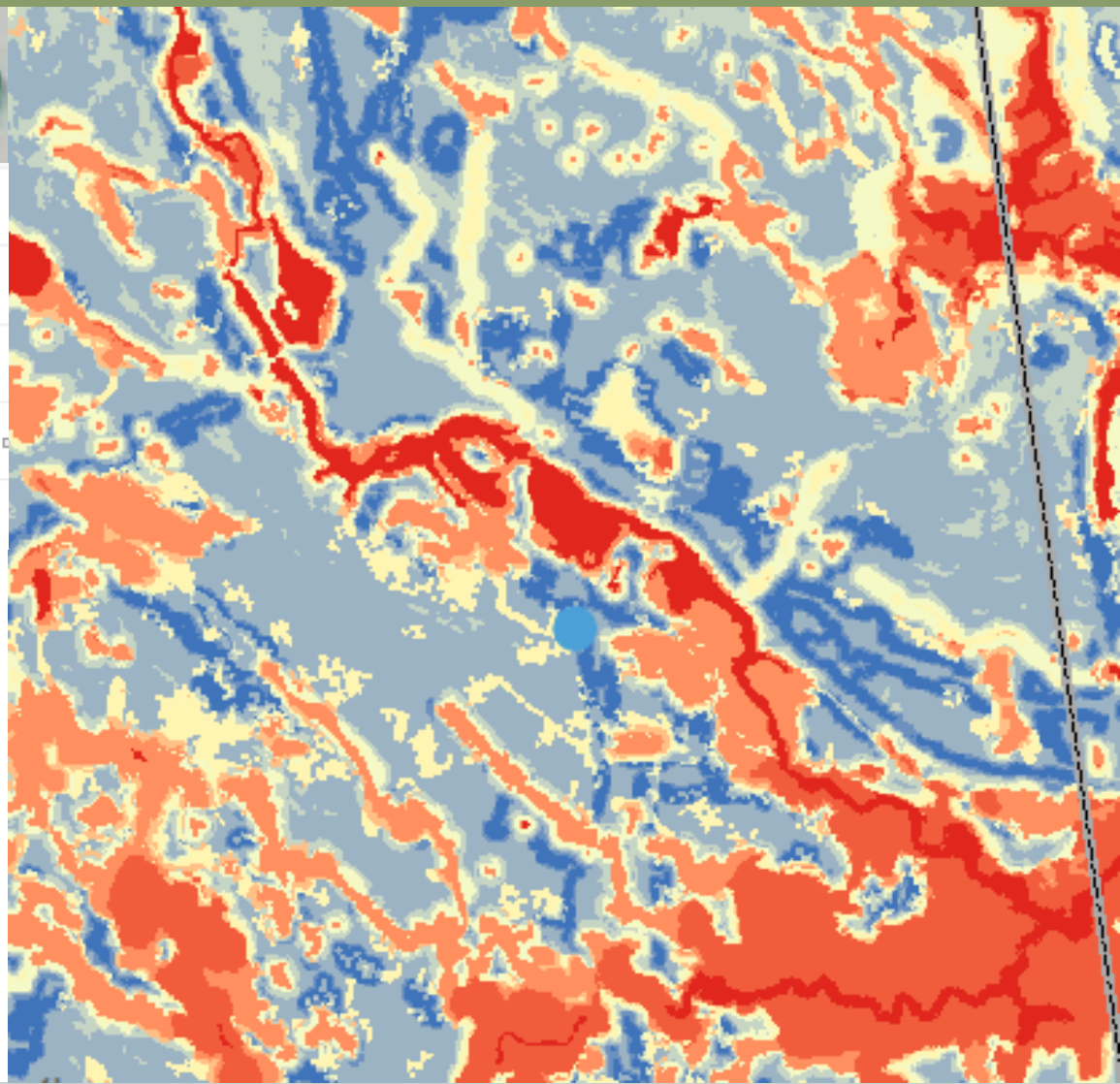
☒  Low Impact

☐  Moderate Impact

☐  High Impact

☐  Very High Impact

[granitview.unh.edu](http://granitview.unh.edu)



# How to Use the Tool

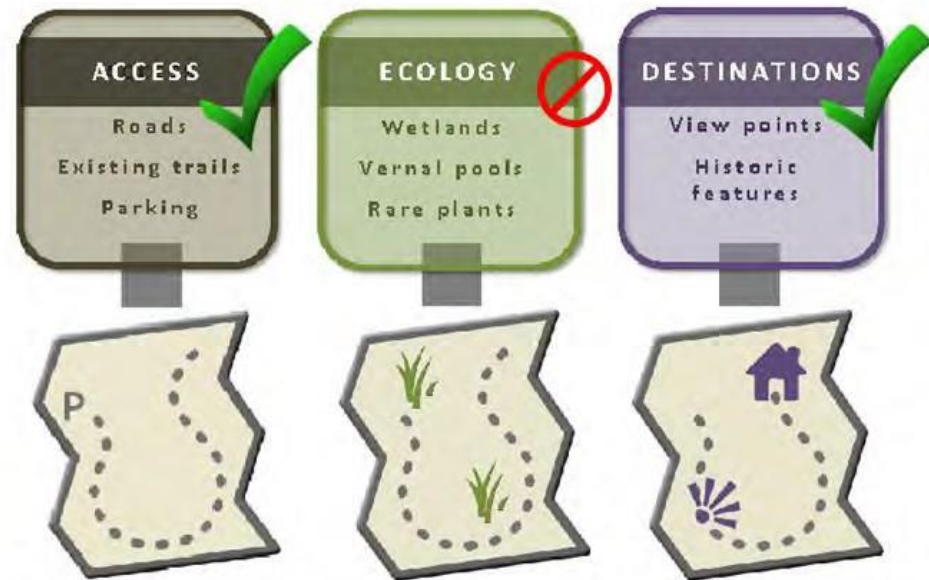
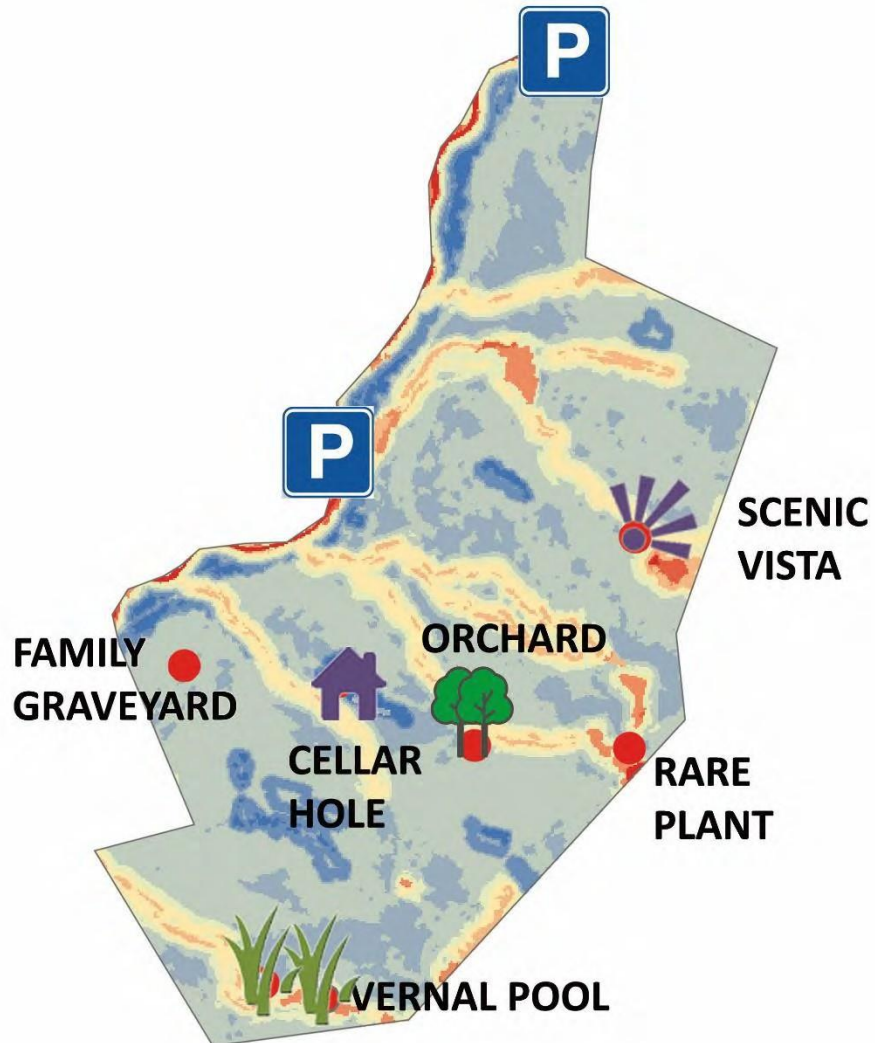




# 1. Map Existing Features of the Property

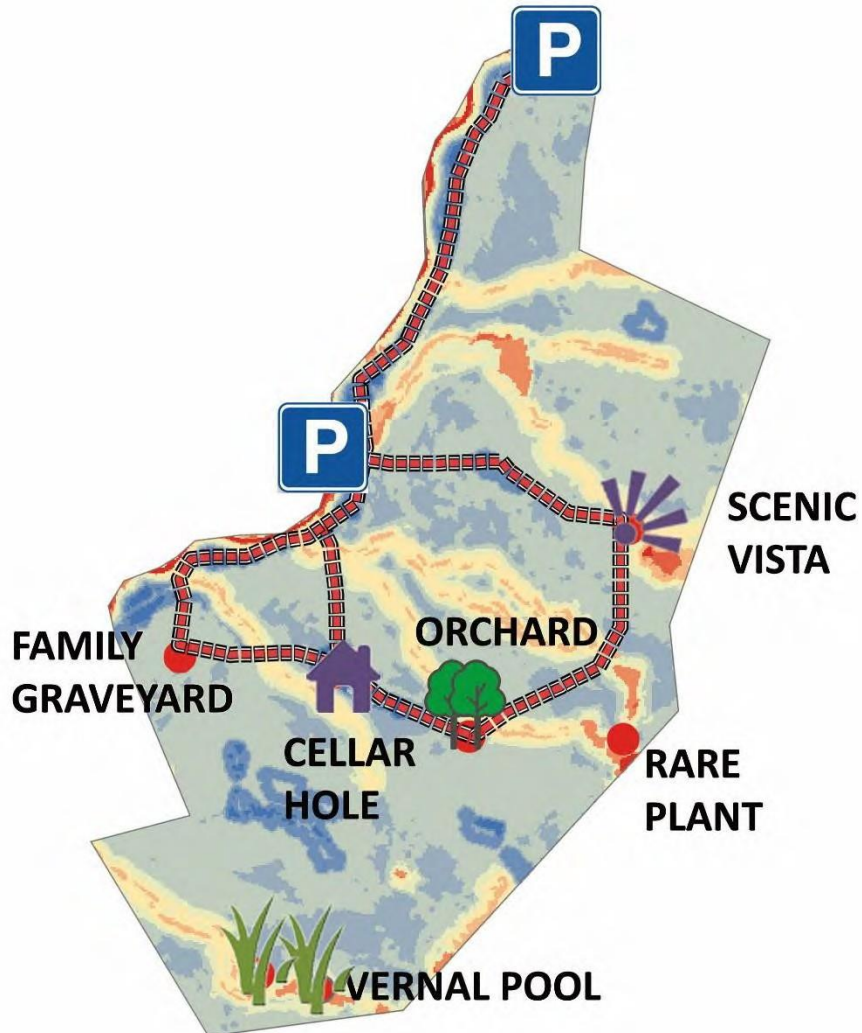


## 2. Apply Tool: New Trails





## 2. Apply Tool: **New Trails**



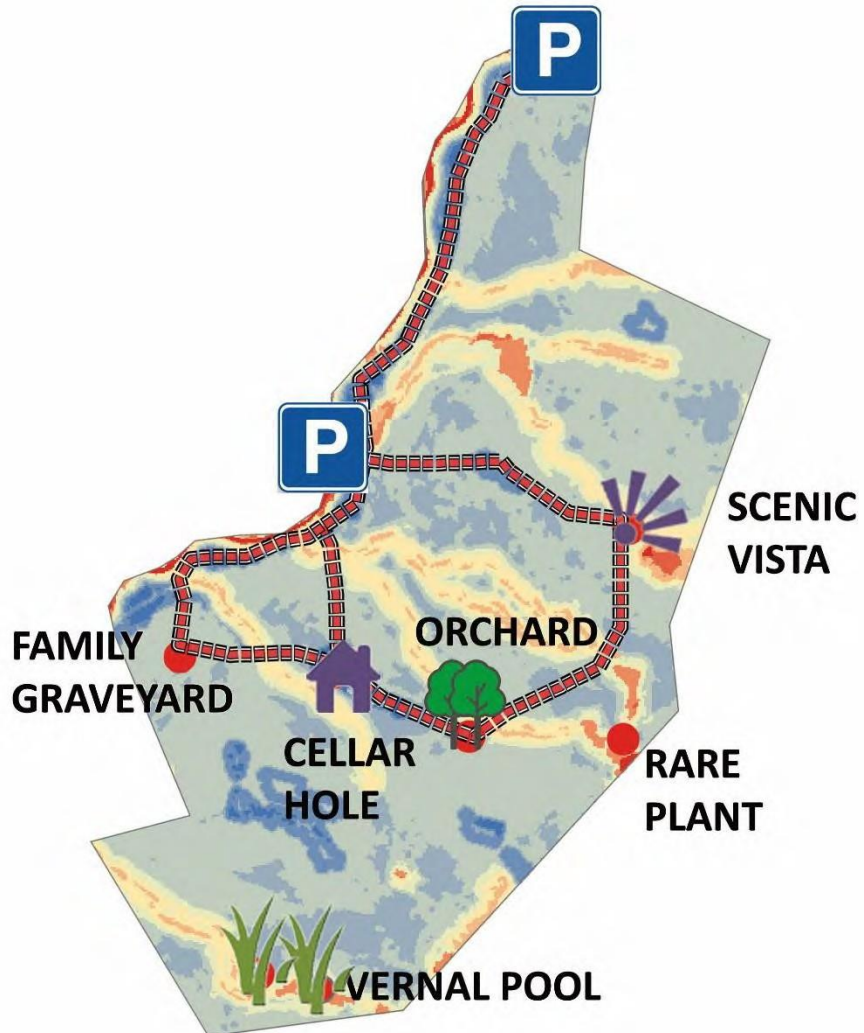
Whenever possible “follow the blue”



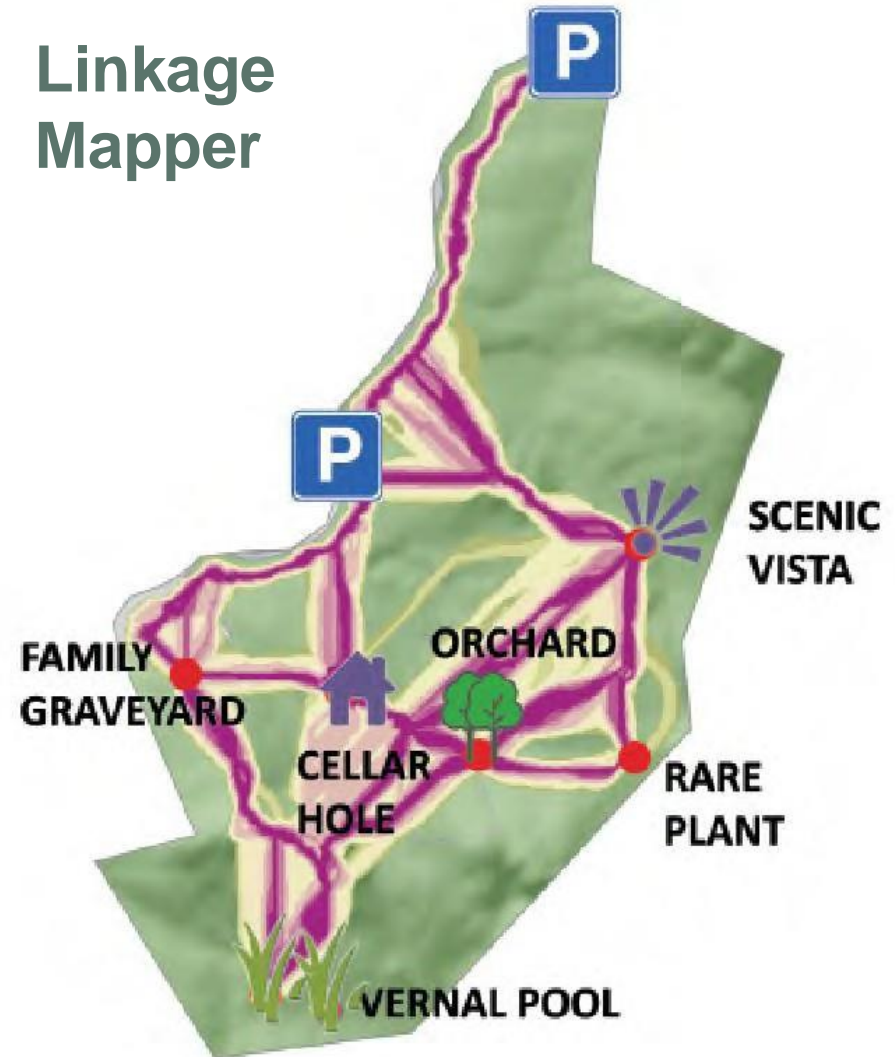
Best route to minimize impacts to wildlife while getting people outside to enjoy and interact with nature



## 2. Apply Tool: New Trails

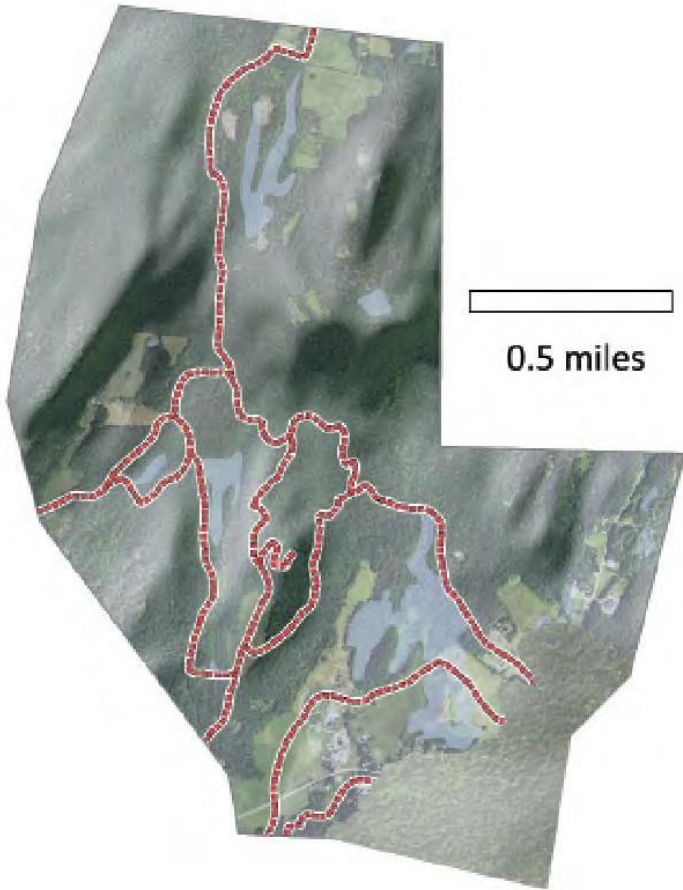


## Linkage Mapper





## 2. Apply Tool: **Existing Trails**

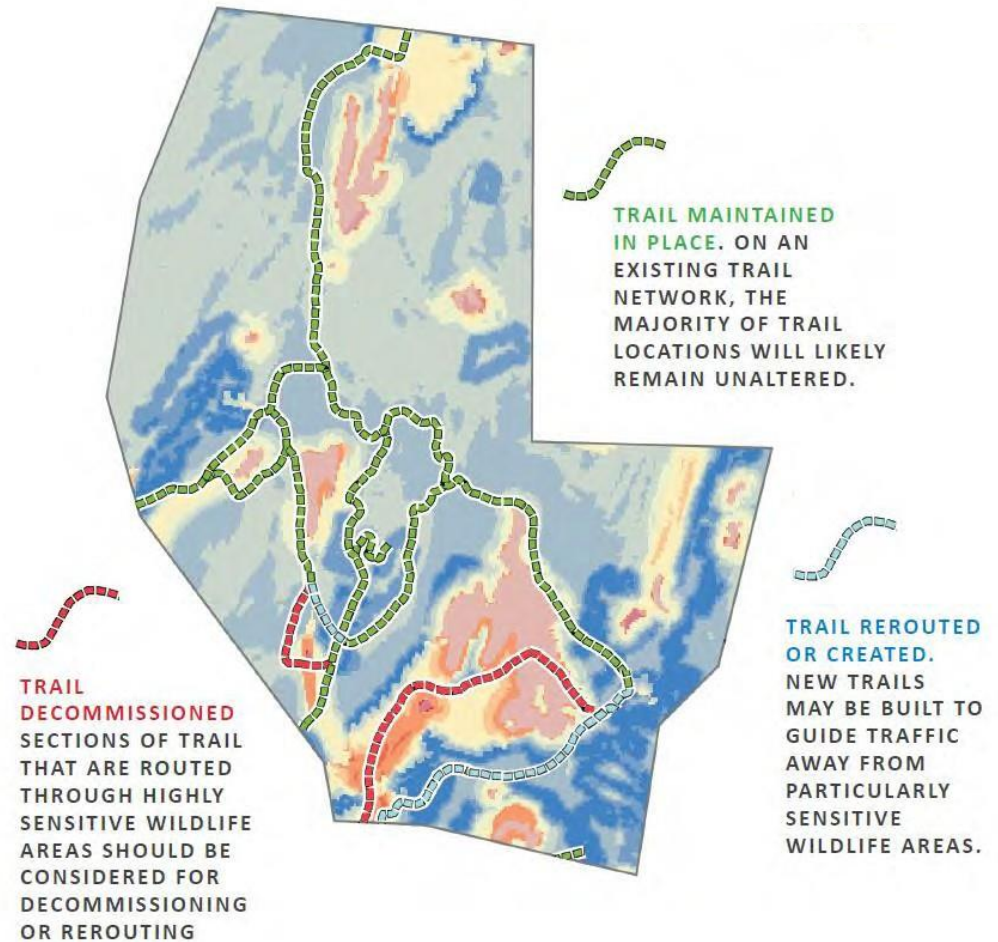
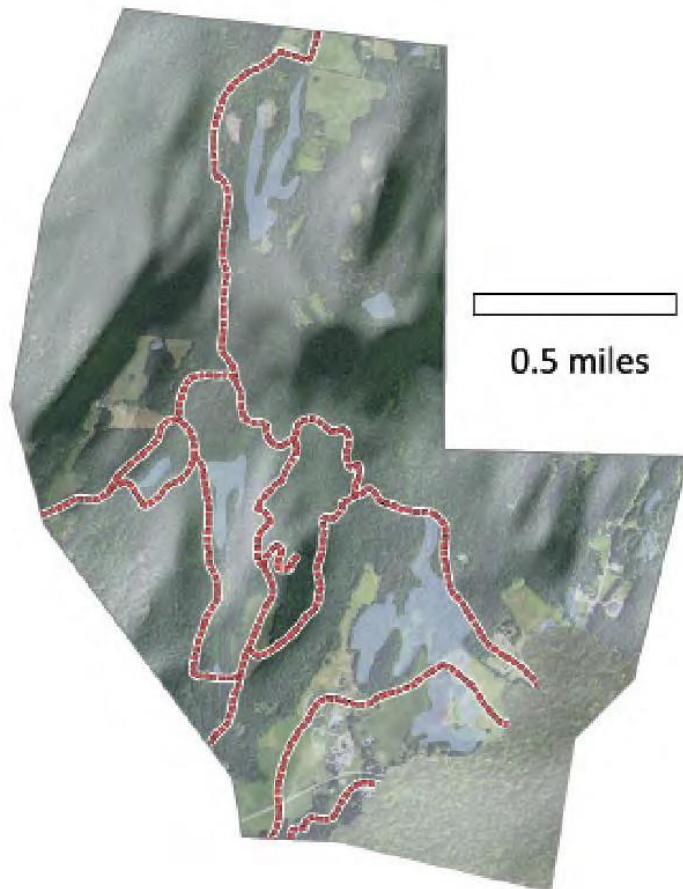


Whenever possible “follow the blue”



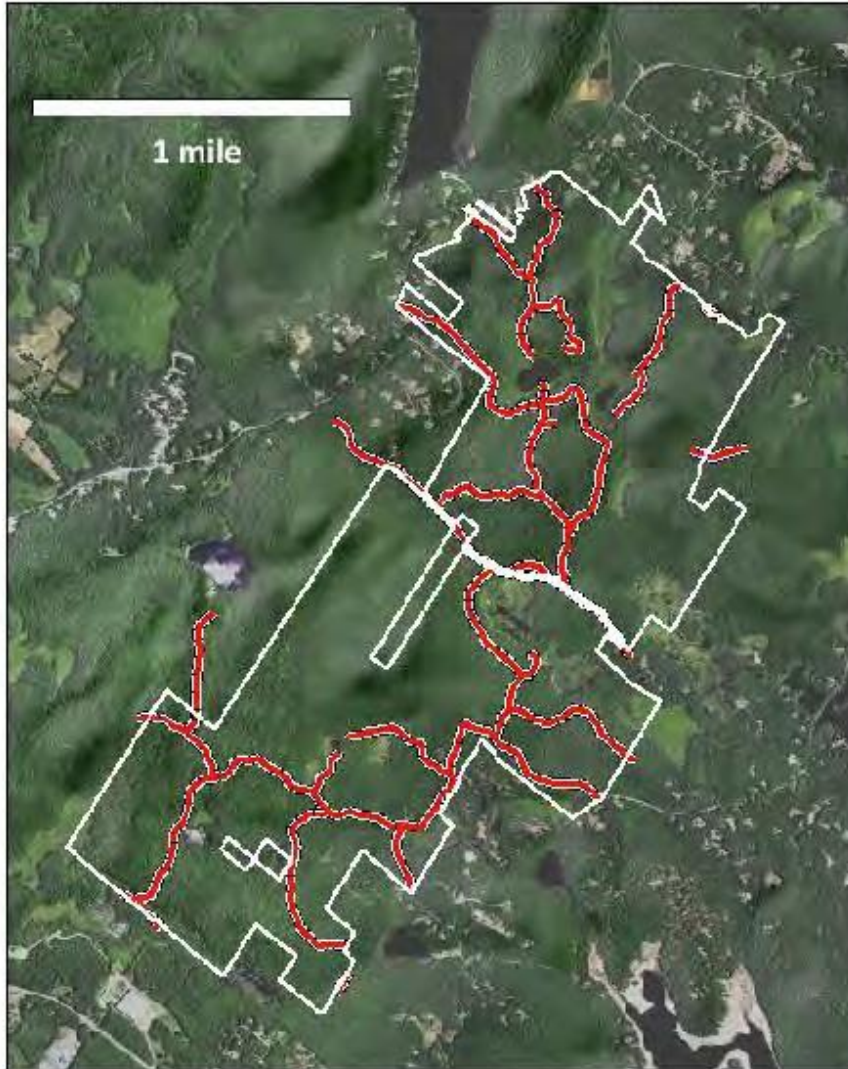
**Best route to minimize impacts  
to wildlife while getting people  
outside to enjoy and interact  
with nature**

## 2. Apply Tool: Existing Trails



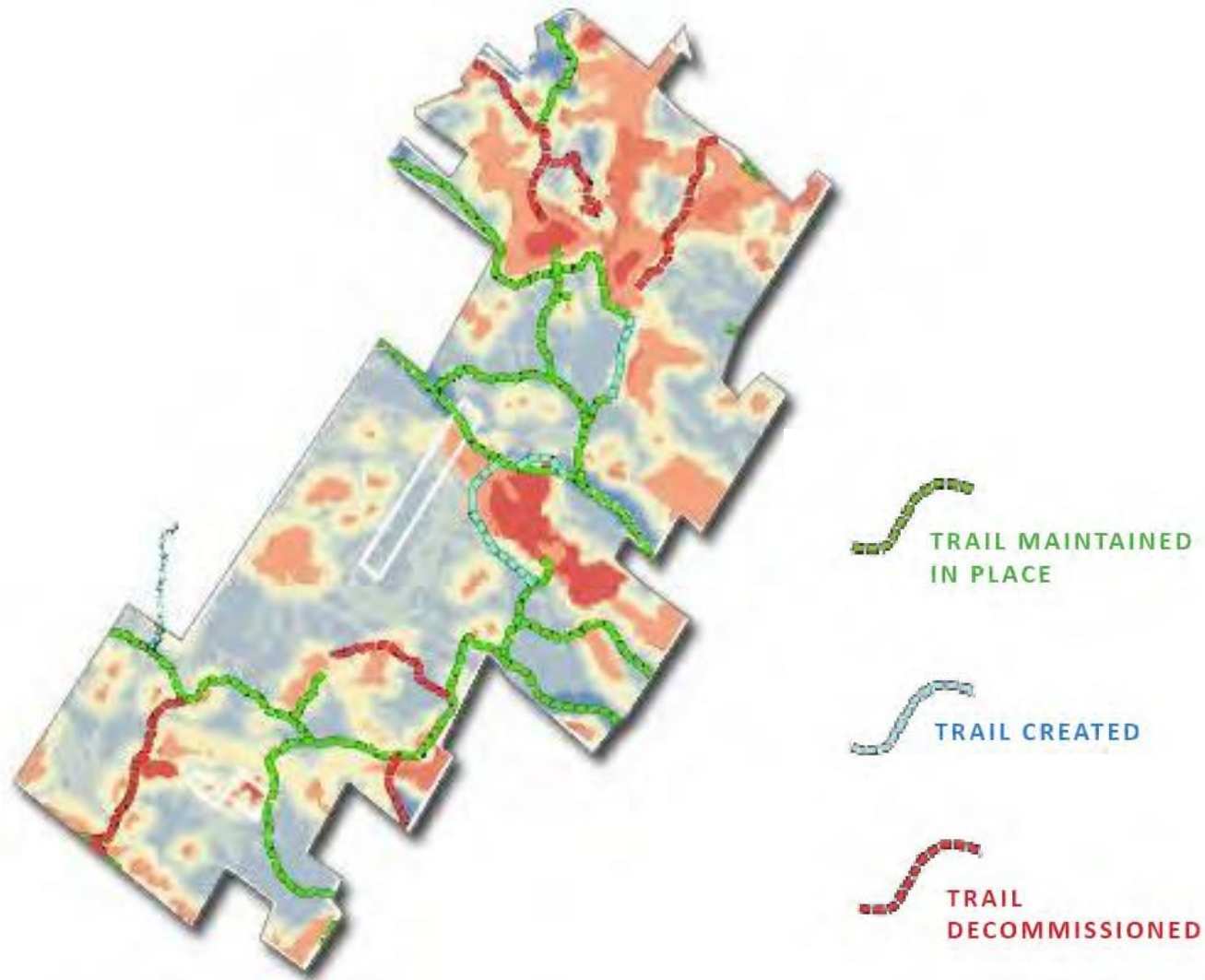


# Case Study: Stonehouse Forest



**STONEHOUSE FOREST  
IS THE LARGEST  
UNDEVELOPED TRACT  
IN BARRINGTON.  
WHEN PLACED INTO  
CONSERVATION 10.4  
MILES OF EXISTING  
WOODS ROADS AND  
TRAILS WERE PRESENT.**

# Case Study: Stonehouse Forest





# Case Study: Stonehouse Forest

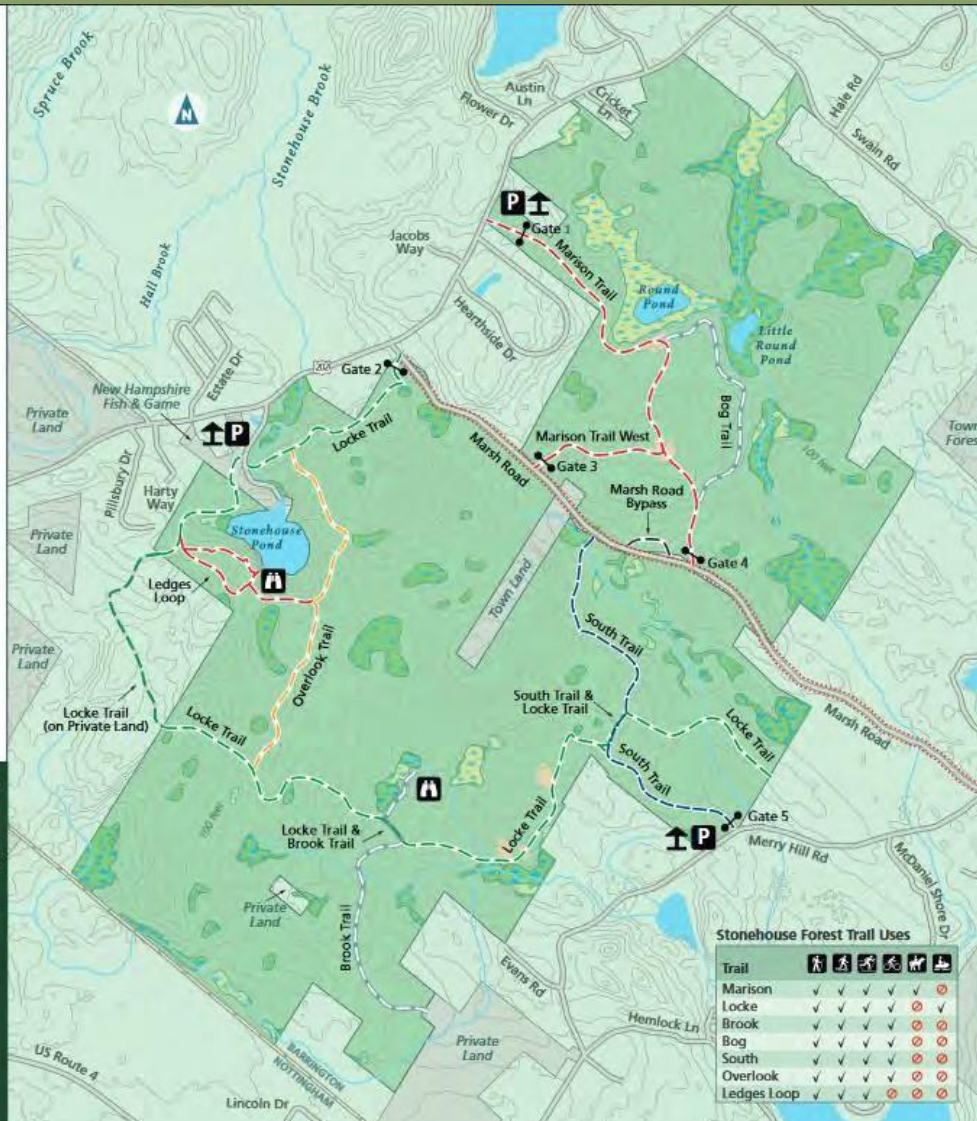


**Southeast Land Trust of New Hampshire**

**Stonehouse Forest**

Barrington & Nottingham, NH  
1,700+ acres

- Stonehouse Forest Boundary
- Other Conservation Lands
- Shrub-scrub Wetlands
- Forested Wetlands
- Clearing
- Scenic View
- Parking Area
- Kiosk
- Gate
- Trails
- Unmaintained Roads
- Public Roads
- Town Boundaries
- Contour Lines
- Water
- River/Stream
- Wetlands



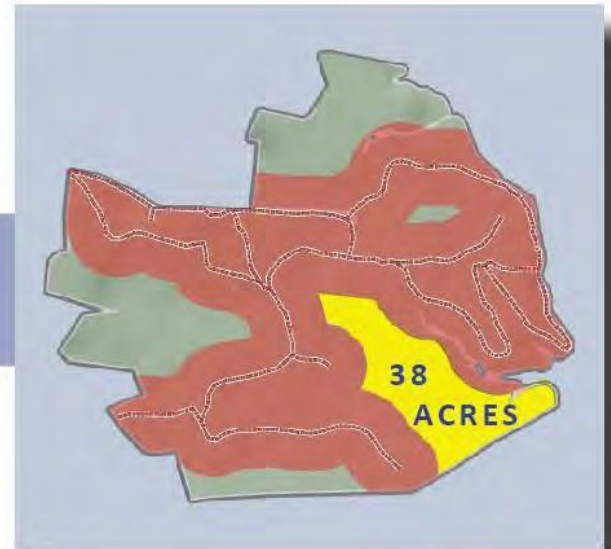
Stonehouse Forest Trail Uses

Trail					
Marison	✓	✓	✓	✓	✓
Locke	✓	✓	✓	✓	✓
Brook	✓	✓	✓	✓	✓
Bog	✓	✓	✓	✓	✓
South	✓	✓	✓	✓	✓
Overlook	✓	✓	✓	✓	✓
Ledges Loop	✓	✓	✓	✓	✓



- Please stay on marked trails: these routes were carefully designed to avoid damage to soils and habitats.
- Wheeled motorized vehicles are prohibited.
- Leave no trace – please carry out what you carry in.
- Dogs must remain under the control of owners. Please carry a leash, leash aggressive dogs, and pick up after your pet.
- Hunting is allowed. Be aware of hunting seasons.
- Please respect our neighbors' privacy.

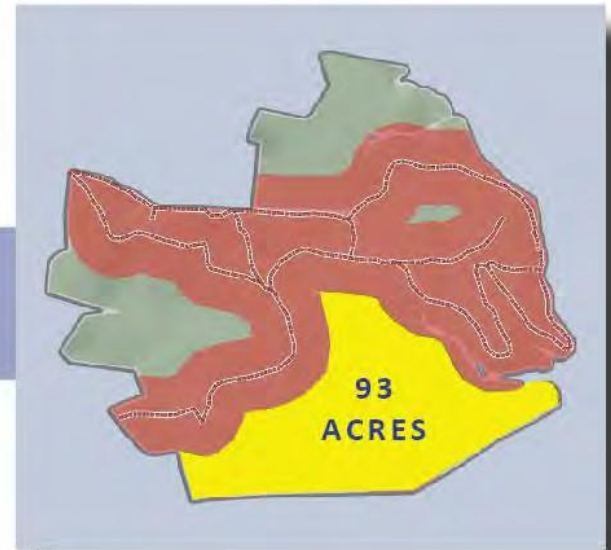
### 3. Overlay “Corridor of Influence”



There are 4.6 miles of existing trails on this example property. These influence 267 acres, or 68 %, of the entire property. The largest uninfluenced area, shown in yellow, is 38 acres.



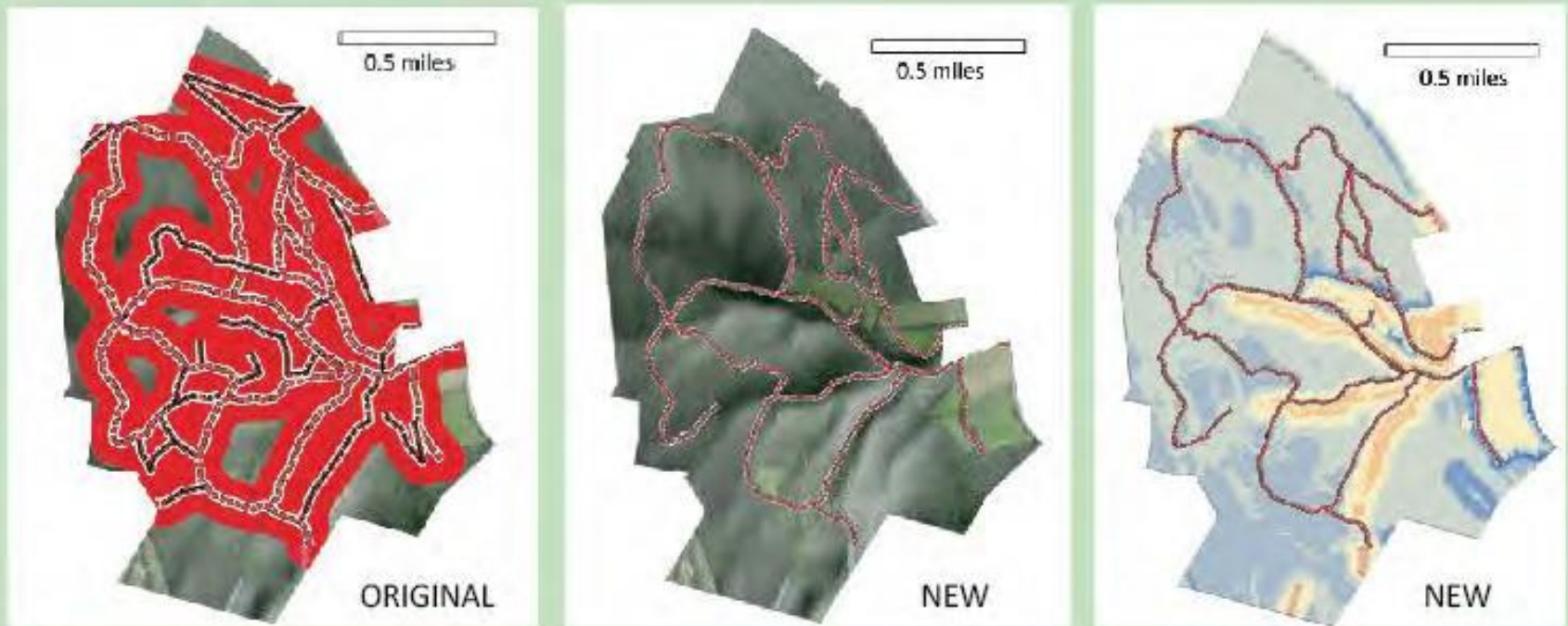
### 3. Overlay “Corridor of Influence”



The two spur trails highlighted are together 0.5 miles long, just 10 % of the entire trail network. If these are closed, it would expand the area largely uninfluenced by trail traffic to 93 acres, almost 2 1/2 times the original.

## 2. Apply Tool: Existing Trails

**REALITY CHECK: SOME TRAILS, EVEN IN HIGH IMPACT AREAS, DON'T MAKE SENSE TO MOVE**



**Trails covered 73% property      Reduced network's influence by 21%**



## 4. Verify Your Plan with Field Visit



**ALL THE PLANNING IN THE WORLD  
DOESN'T BEAT "BOOTS ON THE  
GROUND". REMEMBER TO VERIFY  
YOUR PLAN WITH A FIELD VISIT.**



# How to Use the Tool: Overview



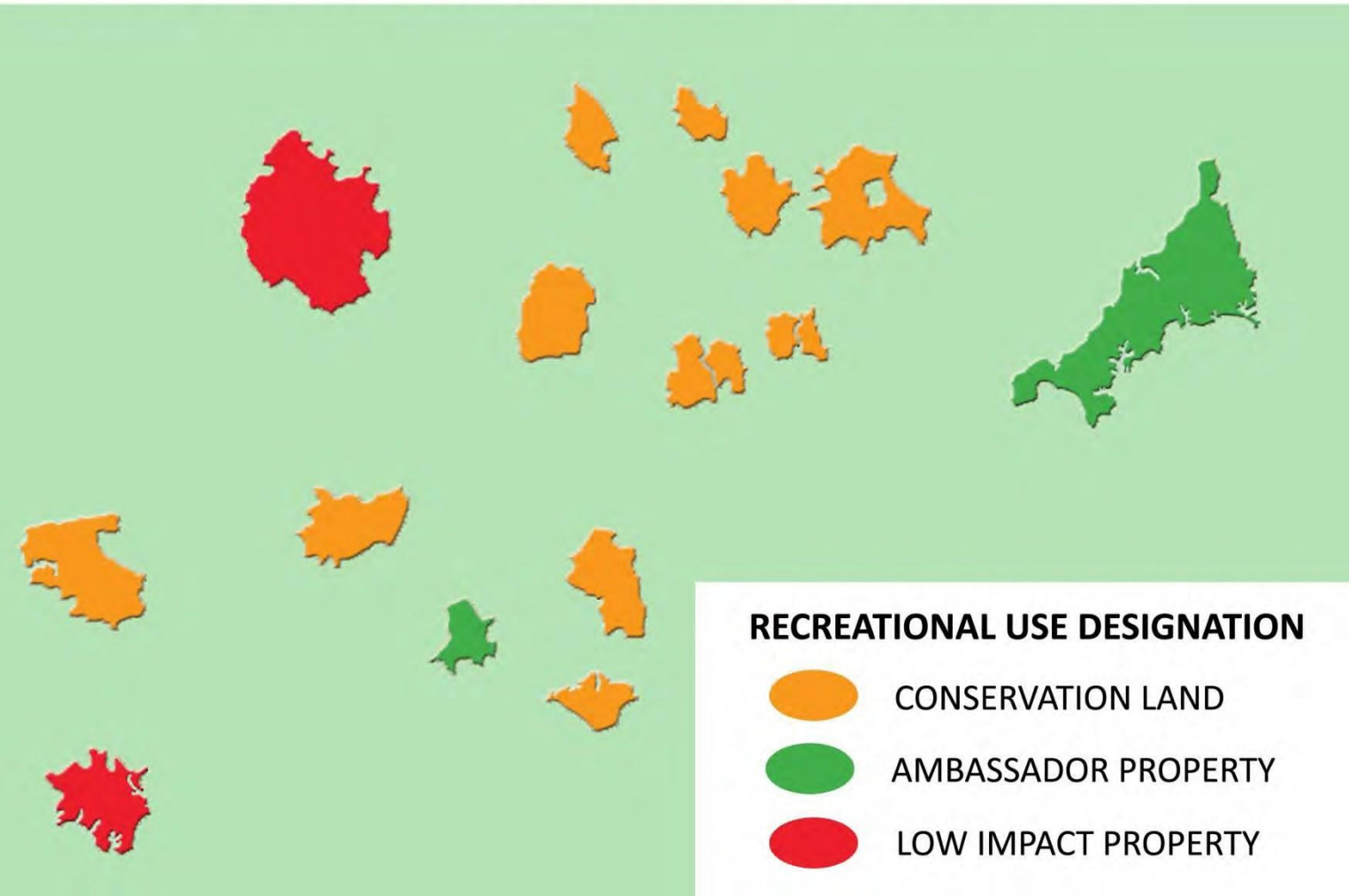


# Trails from A Community Perspective



# Plan Your Trail Network Over All Properties Under Single Ownership

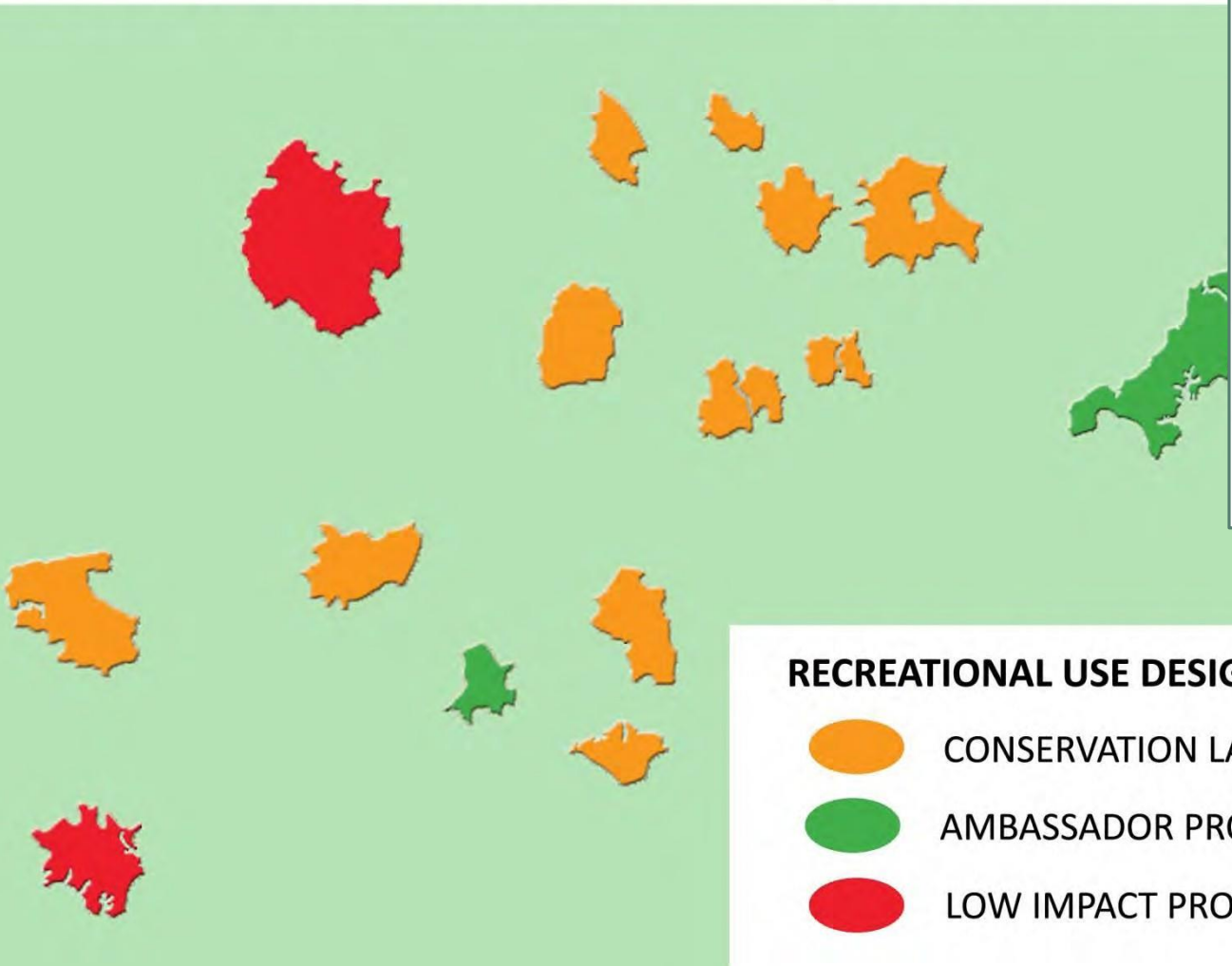
## ALL THE PROPERTIES WE OWN & MANAGE








# Plan Your Trail Network Over All Properties Under Single Ownership

## ALL THE PROPERTIES WE OWN & MANAGE



### RECREATIONAL USE DESIGNATION

-  CONSERVATION LAND
-  AMBASSADOR PROPERTY
-  LOW IMPACT PROPERTY



PROPERTIES THAT ARE MAINLY BLUE ARE GOOD CANDIDATES TO BECOME HIGHLY PUBLICIZED "AMBASSADOR" PROPERTIES.



THOSE THAT ARE MAINLY RED WILL IDEALLY BE LEFT AS UNDISTURBED AS POSSIBLE.

## Identify “Ambassador Properties”



NH FISH AND GAME  
“AMBASSADOR” PROPERTIES  
AROUND GREAT BAY.





# Match Trail Network with Resources Available



**A targeted network of frequently used trails allows land managers to focus available resources.**

**This can be the volunteer time, funding, equipment or infrastructure needed to create trails and maintain them in the long-term**



# Publicize Existing Trails





# Deerfield: Standard CE Language

14 Jul 2018 V.3 Deerfield Cons Comm. Pt  
recreational trails:

## LOCATING TRAILS:

Trails: Trails may be located, cleared, co  
consistent with the Purposes of this Easem  
and managing "Trails for People and Wild  
science based methodology, including:

- a) Keep unfragmented trail-free areas
- b) Avoid small patches of high quality
- c) Avoid riparian areas and permanent  
wildlife corridors
- d) Avoid locations of rare wildlife

Recreation Trail Management Plan Require  
maintenance and relocation shall follow a  
with this Easement, items (a)-(d) above, an

Construction and maintenance shall conform to best practices recommended by:

- a) Appalachian Mountain Club or similar trail-maintaining organization (for reference, see *The Complete Guide to Trail Building and Maintenance*, C. Demrow, D. Salisbury, Appalachian Mountain Club, or similar successor publication)
- b) NH State Parks Best Management Practices manual  
<https://www.nhstateparks.org/uploads/pdf/BMP-Manual.pdf> or similar successor publication

and shall be constructed and maintained consistent with requirements of the Management Plan.

Trail making and management activities shall be carried out in accordance with all applicable local, state and federal laws and regulations, and in accordance with current, generally accepted best management practices for the sites, soils and terrain of the Property. Trail design and construction shall be supervised by a licensed professional forester, a certified wildlife biologist, or other qualified person approved in advance and in writing by the Grantee.

## LOCATING TRAILS:

Trails: Trails may be located, cleared, constructed, and maintained, provided these trails are consistent with the Purposes of this Easement and NH Fish and Game methodology for planning and managing "Trails for People and Wildlife" ([www.wildnh.com/trails](http://www.wildnh.com/trails)) or other equivalent science based methodology, including:

- a) Keep unfragmented trail-free areas as large as possible
- b) Avoid small patches of high quality or special habitats
- c) Avoid riparian areas and permanent features in the landscape that serve as important wildlife corridors
- d) Avoid locations of rare wildlife

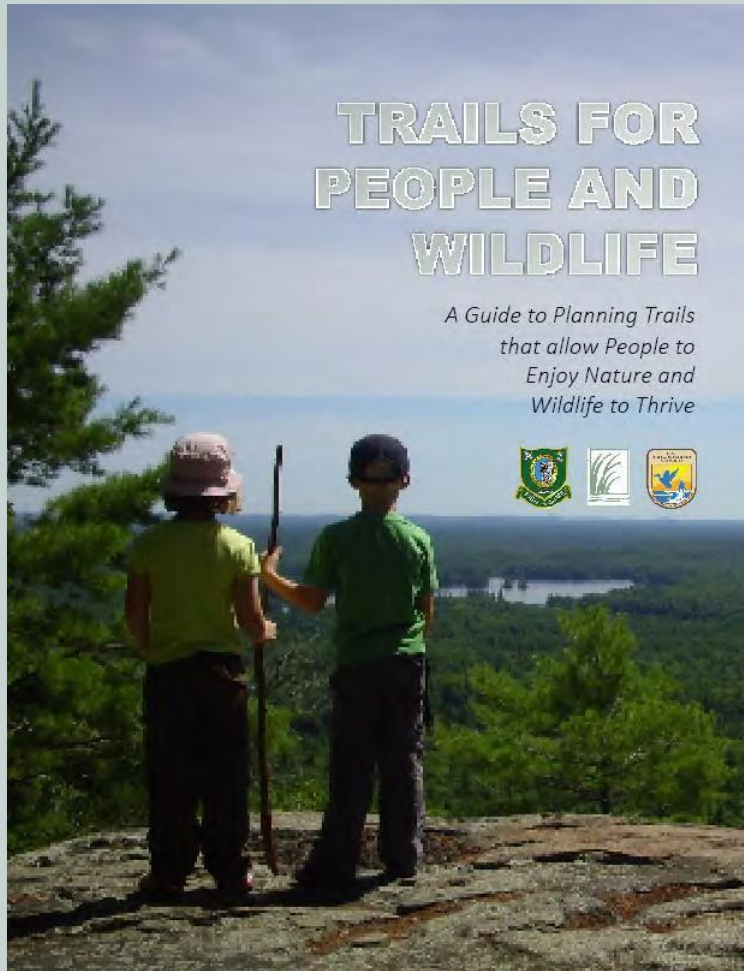




Outreach



# “How To” Guide for this Tool



[wildnh.com/trails](http://wildnh.com/trails)

# Working with Partners



[Home](#) [About](#) [Take Action](#) [Stories](#) [Resources](#) [Events](#)



## University of New Hampshire Cooperative Extension

### Trails for People and Wildlife

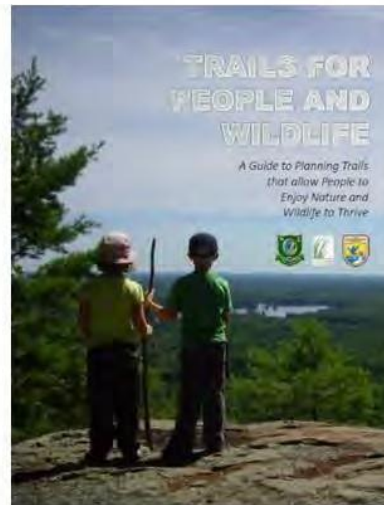
#### *Supporting nature and recreation the New Hampshire way*

Hiking, mountain biking, bird watching, and horseback riding are just some of the ways we get outside to enjoy nature and relax. However, even these seemingly low-key activities can have a negative impact on wildlife by reducing their abundance, reproductive success, or even survival. A new mapping tool and guide called *Trails for People and Wildlife* aims to encourage people to get outside and enjoy nature while allowing wildlife to thrive. It was funded by the US Fish and Wildlife Service and produced by the NH Fish and Game Department and Great Bay National Estuarine Research Reserve.

Intended for landowners, conservation groups, and natural resource professionals, the objective of *Trails for People and Wildlife* is to help facilitate the placement of thoughtfully located networks of well-maintained trails. It tries to balance having wildlife species there for all of us to enjoy for years to come while providing trail builders with the resources needed to achieve their public access goals. Often a trail is used for multiple types of activity and consideration of wildlife is just one piece of the puzzle. Whatever a trail's primary purpose, the tips and statewide mapping tool described in this guide can be used to ensure it is laid out in the most wildlife-friendly way.

When looking across New Hampshire's landscape, there are some key principles that can easily be followed that will reduce trail use impacts to wildlife. For example, avoiding wet areas or slopes protects rare wildlife and also minimizes the need for trail maintenance. Each principle was mapped throughout New Hampshire using a Geographic Information System (GIS) and the multiple layers integrated to show where it is best to locate trails. A draft model was reviewed by both trail and wildlife experts including staff from the National Parks Service, NH Trails Bureau, NH Audubon, Upper Valley Trails Alliance, The Nature Conservancy and US Forest Service before a final product was produced.

The University of New Hampshire's online mapping service "GRANITView" provides free access to GIS tools through the internet. The *Trails for People and Wildlife* location tool is available as a clickable layer within this easy-to-use web application. GRANITView allows us to create customized maps that can be zoomed to a specific area of interest, for example a parcel of conservation land, town forest, or schoolyard. Users can search for data and display it in multiple ways. Customized maps can be printed and shared with others. For GIS users, the *Trails for People and Wildlife* coverage is available for download in raster format from NH GRANIT, the state's GIS clearinghouse.





# Workshops

JOIN US FOR A ONE-TIME ONLY WORKSHOP IN YOUR PART OF THE STATE

**TRAILS for PEOPLE & WILDLIFE**

*A Guide to Planning Trails that Allow People to Enjoy Nature and Wildlife to Thrive*

Hiking, mountain biking, bird watching, and horseback riding are just some of the ways we get outside to enjoy nature and relax. However, even these seemingly low-key activities can have a negative impact on wildlife by reducing their abundance, reproductive success, or even survival. A new mapping tool and guide called *Trails for People and Wildlife* aims to encourage people to get outside and enjoy nature while allowing wildlife to thrive. It was funded by the US Fish and Wildlife Service and produced by the NH Fish and Game Department and Great Bay National Estuarine Research Reserve.

Intended for landowners, conservation groups, and natural resource professionals, the objective of *Trails for People and Wildlife* is to help facilitate the placement of thoughtfully located networks of well-maintained trails. It tries to balance having wildlife species there for all of us to enjoy for years to come while providing trail builders with the resources needed to achieve their public access goals.

Check out [wildnh.com/trails](http://wildnh.com/trails) for more information about this project and workshop updates

**WORKSHOP HOSTS & DATES**

**UNH COOPERATIVE EXTENSION.** Lancaster. 4th March 2020, 6:30 to 8:30pm. Register: [tinyurl.com/UNHCEnorth](http://tinyurl.com/UNHCEnorth)

**AUSBON SARGENT LAND PRESERVATION TRUST.** New London. 25th March 2020, 6:30pm. Register: [kheath@ausbonsargent.org](mailto:kheath@ausbonsargent.org)

**MILFORD CONSERVATION COMMISSION.** Milford. 7th April 2020, 7:00pm. Register: [conservation@milford.nh.gov](mailto:conservation@milford.nh.gov)

**LAKES REGION CONSERVATION TRUST.** Center Harbor. 19th March 2020, 6:00 to 7:30pm. Register: [Irct@lrct.org](mailto:Irct@lrct.org)

**SOUTHEAST LAND TRUST.** Greenland. 24th March 2020, 6:00 to 7:30pm. Register: [tinyurl.com/SELTOutreach](http://tinyurl.com/SELTOutreach)

## WORKSHOP HOSTS & DATES

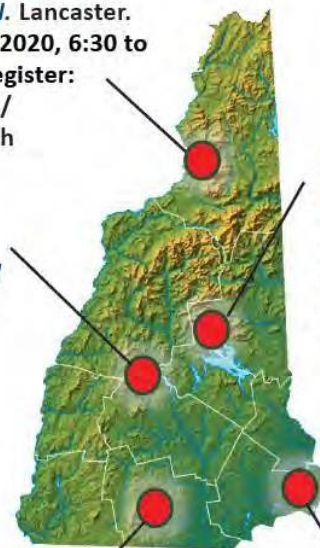
**UNH COOPERATIVE EXTENSION.** Lancaster. 4th March 2020, 6:30 to 8:30pm. Register: [tinyurl.com/UNHCEnorth](http://tinyurl.com/UNHCEnorth)

**AUSBON SARGENT LAND PRESERVATION TRUST.** New London. 25th March 2020, 6:30pm. Register: [kheath@ausbonsargent.org](mailto:kheath@ausbonsargent.org)

**MILFORD CONSERVATION COMMISSION.** Milford. 7th April 2020, 7:00pm. Register: [conservation@milford.nh.gov](mailto:conservation@milford.nh.gov)

**SOUTHEAST LAND TRUST.** Greenland. 24th March 2020, 6:00 to 7:30pm. Register: [tinyurl.com/SELTOutreach](http://tinyurl.com/SELTOutreach)

**LAKES REGION CONSERVATION TRUST.** Center Harbor. 19th March 2020, 6:00 to 7:30pm. Register: [Irct@lrct.org](mailto:Irct@lrct.org)



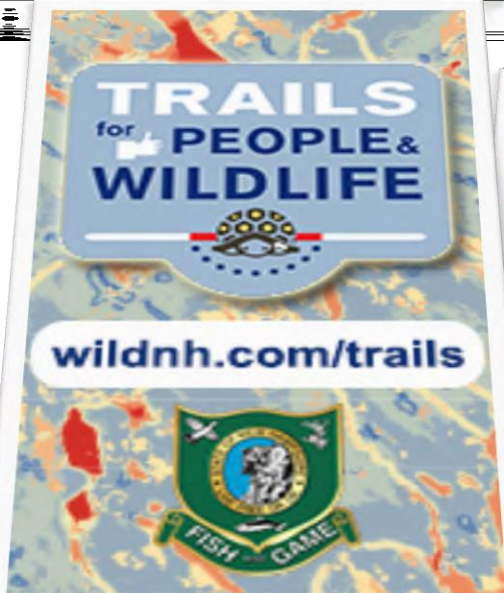
# Materials: E.g. Slide Deck

## In This Section

- » Habitats
- » Creating a

## Trails for People and Wildlife

Hiking, mountain  
biking, bird



*This project was significantly improved by input from:*

- » The Great Bay Resource Protection Partnership
- » EPA
- » Ibis Wildlife Consulting
- » Lakes Region Conservation Trust
- » Monadnock Conservancy
- » National Park Service
- » Natural Resource Conservation Service
- » NH Audubon
- » NH Dept. of Transportation
- » NH Trails Bureau
- » Society for the Protection of NH Forests
- » Southeast Land Trust of NH
- » The Nature Conservancy
- » UNH Cooperative Extension
- » US Fish and Wildlife Service
- » US Forest Service
- » Upper Valley Trails Alliance
- » Washington Conservation Commission
- » White Mountain National Forest

**wildnh.com/trails**

for New Hampshire, a  
ly important for wildlife  
disturbance to wildlife.  
goals:



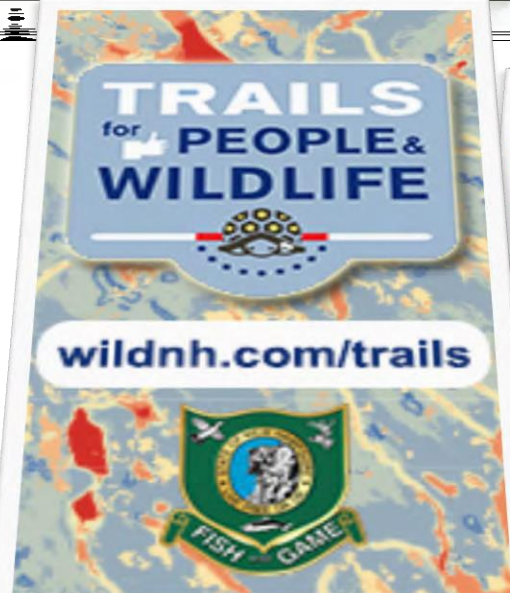
# Materials: E.g. Slide Deck

## In This Section

- » Habitats
- » Creating a

## Trails for People and Wildlife

Hiking, mountain  
biking, bird



*This project was significantly improved by input from:*

- » The Great Bay Resource Protection Partnership
- » EPA
- » Ibis Wildlife Consulting
- » Lakes Region Conservation Trust
- » Monadnock Conservancy
- » National Park Service
- » Natural Resource Conservation Service
- » NH Audubon
- » NH Dept. of Transportation
- » NH Trails Bureau
- » Society for the Protection of NH Forests
- » Southeast Land Trust of NH
- » The Nature Conservancy
- » UNH Cooperative Extension
- » US Fish and Wildlife Service
- » US Forest Service
- » Upper Valley Trails Alliance
- » Washington Conservation Commission
- » White Mountain National Forest

[wildnh.com/trails](http://wildnh.com/trails)

New Hampshire, a  
important for wildlife  
disturbance to wildlife.  
goals:

**TRAILS**  
for PEOPLE &  
**WILDLIFE**



**TRAILS** that allow  
**People** to  
*Enjoy Nature and*  
**Wildlife** to Thrive



Landowners, conservation groups, and natural resource professionals can use this mapping tool and guide to create trails that minimize impacts to wildlife. Key principles of smart trail planning have been used to develop customized maps for New Hampshire. This approach hopes to maintain wildlife presence for us all to enjoy while supporting trail builders achieve their public access goals.



[wildnh.com/trails](http://wildnh.com/trails)

# Consideration of Wildlife: One of Several Possibilities

**Enjoying  
wildlife is  
just one  
piece of the  
puzzle**



# Consideration of Wildlife: One of Several Possibilities



**Enjoying  
wildlife is  
just one  
piece of the  
puzzle**

**Using the  
planning  
principals  
can enhance  
wildlife  
viewing on  
trails built  
for other  
purposes**



Get Outside, Appreciate Nature, and *Have Fun!*



**wildnh.com/trails**

Jim Oehler

♦ [james.oehler@wildlife.nh.gov](mailto:james.oehler@wildlife.nh.gov)

Katie Callahan

♦ [catherine.callahan@doit.nh.gov](mailto:catherine.callahan@doit.nh.gov)

Rachel Stevens

♦ [rachel.stevens@wildlife.nh.gov](mailto:rachel.stevens@wildlife.nh.gov)



# Impacts of Recreational Trails on Wildlife



ROUTING TRAILS ALONG HABITAT EDGES PREVENTS FRAGMENTATION OF LARGE BLOCKS IMPORTANT TO SPECIALIST, AND SO LESS COMMON, SPECIES.

## AREN'T HABITAT EDGES HOT SPOTS FOR BIODIVERSITY?

Traditionally it has been recognized that habitat edges are where we are likely to find the greatest diversity of species. This is correct as there is a chance we will run across wildlife associated with either of the abutting habitats. However, it is important to recognise that these are likely to be more generalist species that can make use of a diversity of habitats and are so are less sensitive to disturbance. Routing trails along edges will protect the less common habitat specialists such as bobolinks and eastern meadow larks in grassland and New England cottontails or whip-poor-will in shrubland.

Getting Your  
Project on  
the Ground





# NH Trails Bureau



Pay a Citation / P

Trails Bureau

Grants

Laws

Clubs

Trail Maintenance

Trail Etiquette

Trail Tips

## BEST MANAGEMENT PRACTICES

For Erosion Control During Trail Maintenance and Construction

### *NH Trail Construction and Maintenance Manual*



*Keep trails out of the water;  
and water out of the Trails*

STATE OF NEW HAMPSHIRE  
Department of Resources and  
Economic Development  
Division of Parks & Recreation  
Bureau of Trails

[www.nhstateparks.org/  
about-us/Trails](http://www.nhstateparks.org/about-us/Trails)

# NH Fish and Game Landowner Relations



New Hampshire

# FISH AND GAME

*Connecting you to life outdoors*

*Guardian of the state's fish, wildlife, and marine resources.*

Lindsay Webb

271-1137

[Lindsay.webb@wildlife.nh.gov](mailto:Lindsay.webb@wildlife.nh.gov)

## PARKING

Please Park in This Area

Access to this property is a privilege provided through the generosity of the landowner who requests that all vehicles be parked in this area.

Please respect the landowner's request.

Remember your actions represent all outdoor use and inappropriate behavior may result in a loss of access for everyone.

Please work in partnership with us to maintain access for present and future generations.

Landowner

Address



Landowner Relations Program  
New Hampshire Fish and Game Department  
in partnership with



This project is supported by the 2008 Hunting Heritage Partnership  
a grant program of the National Shooting Sports Foundation, Inc.

## NO VEHICLES BEYOND THIS POINT

Foot Traffic Only

Access to this property is a privilege provided through the generosity of the landowner who requests that foot traffic only take place beyond this sign.

Please respect the landowner's request.

Remember your actions represent all outdoor use and inappropriate behavior may result in a loss of access for everyone.

Please work in partnership with us to maintain access for present and future generations.

Landowner

Address



Landowner Relations Program  
New Hampshire Fish and Game Department  
in partnership with



This project is supported by the 2008 Hunting Heritage Partnership  
a grant program of the National Shooting Sports Foundation, Inc.

# CAUTION MULTI-USE RECREATION AREA

People in This Area May Be  
Participating in Hunting And Other Forms  
of Outdoor Recreation  
PLEASE USE CAUTION



Landowner Relations Program  
New Hampshire Fish and Game Department  
in partnership with



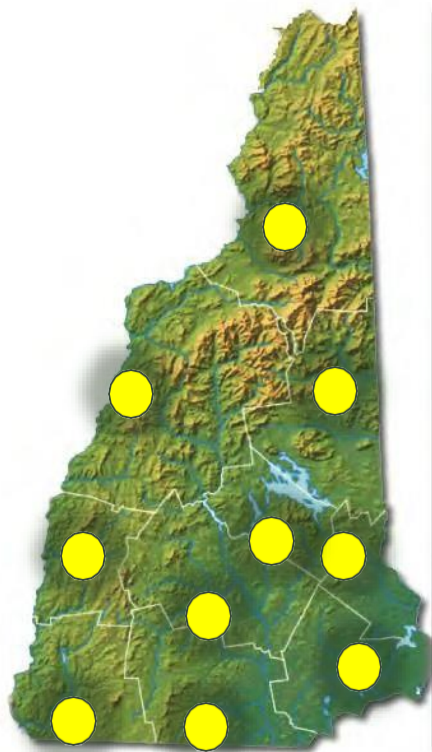
SCI  
SHOOTING SPORTS FOUNDATION



This project is supported by the 2008 Hunting Heritage Partnership  
a grant program of the National Shooting Sports Foundation, Inc.



# UNH Cooperative Extension





OUTDOOR VOLUNTEERS  
IN NEW ENGLAND

## Trail Maintenance for Volunteers: Training Guide



**Gain confidence working on New England trails  
with this 30-page guide**

- Skills, tips, and advice for working on New England trails
- Learn why trails need help
- Best practices for the top things volunteers can do for trails
- Important safety considerations

[Download the Guide](#)



# Impacts of Recreational Trails on Wildlife

## A Review of the Impacts of Nature Based Recreation on Birds

*Pickering & Castley (2011) Journal of Environmental Management*

- 69 papers
- US, England, Argentina, New Zealand



88% of Studies  
- Negative  
Impacts!

# Impacts of Recreational Trails on Wildlife

## Effects of Rec. on Animals Revealed as Widespread thru Global Systematic Review

*Larson, Reed, Merenlender, Crooks (2016) PlosOne*

- 274 papers
- North America + Europe
- All taxa – not just birds





# Impacts of Recreational Trails on Wildlife

