



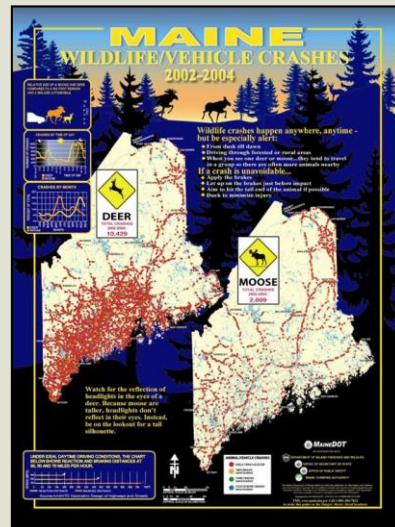
# Partnerships in Transportation Planning

Amanda Shearin, Habitat Outreach Coordinator  
Maine Department of Inland Fisheries and Wildlife





# Why Find Common Ground?

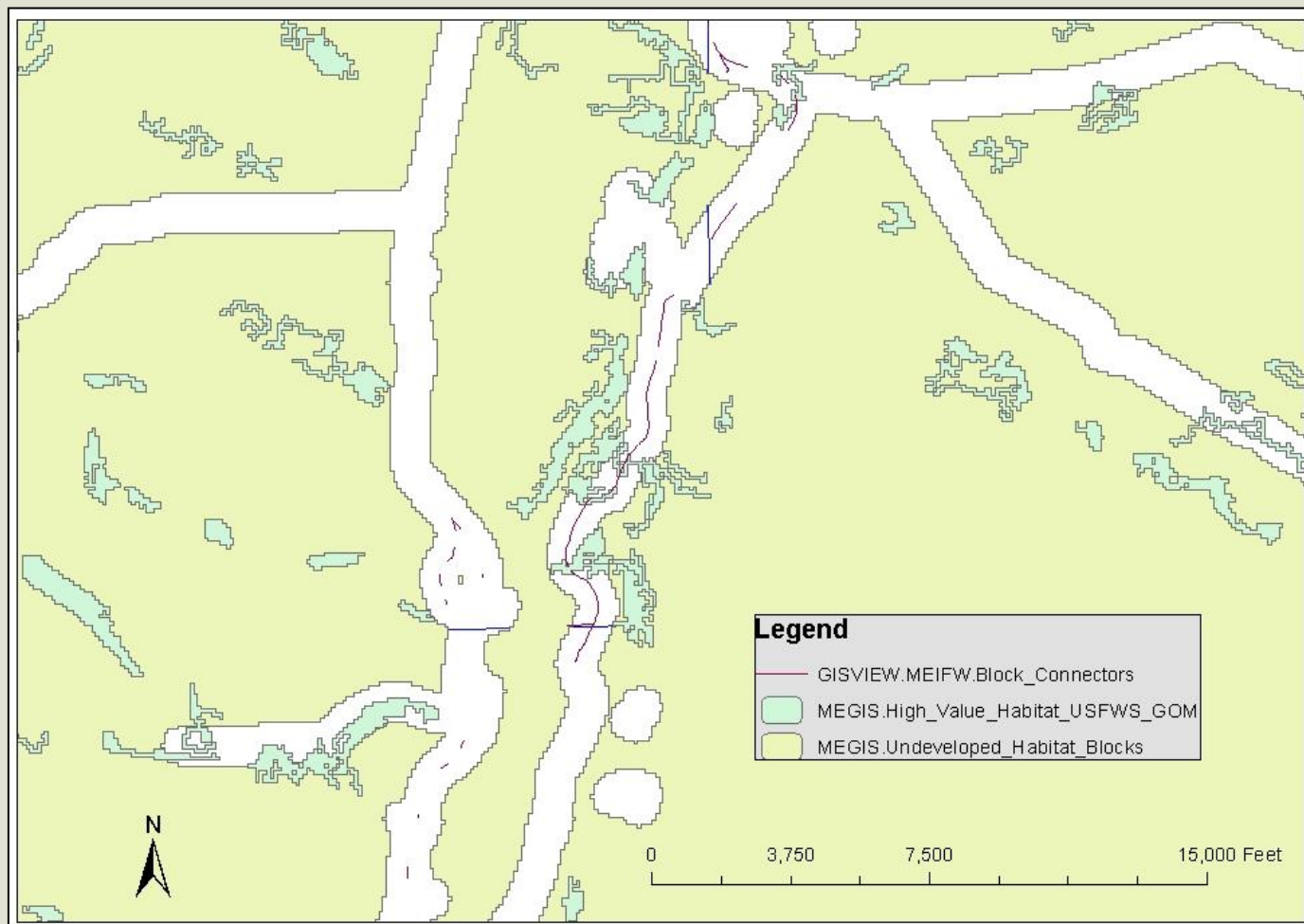






NEC\_eo

# A Major Tool: MAPS





# Beginning with HABITAT

[home](#)[about bwh](#)[community involvement](#)[the maps](#)[toolbox](#)[map viewer](#)[olbe](#)[newsletters](#)[faq's](#)[contacts](#)

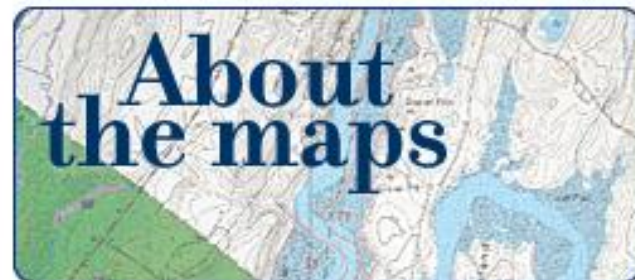
*An approach to conserving  
Maine's natural landscape for  
plants, animals and people.*



Local strategies for conservation

**Upcoming Beginning with  
Habitat Presentations**

**Request a Presentation**



**About BWH**

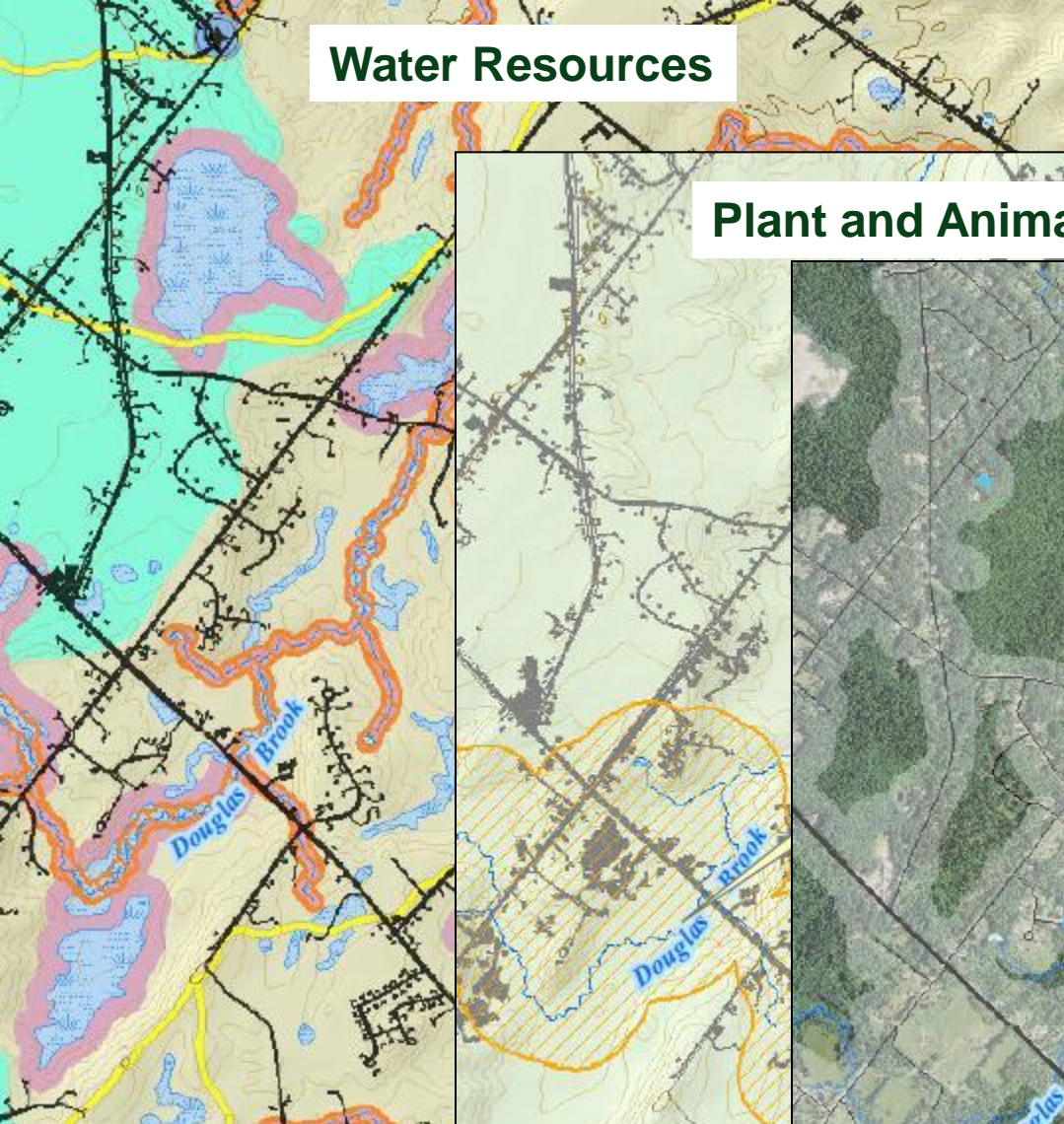
<http://www.beginningwithhabitat.org/index.html>

# Over Ten Years of Partnerships

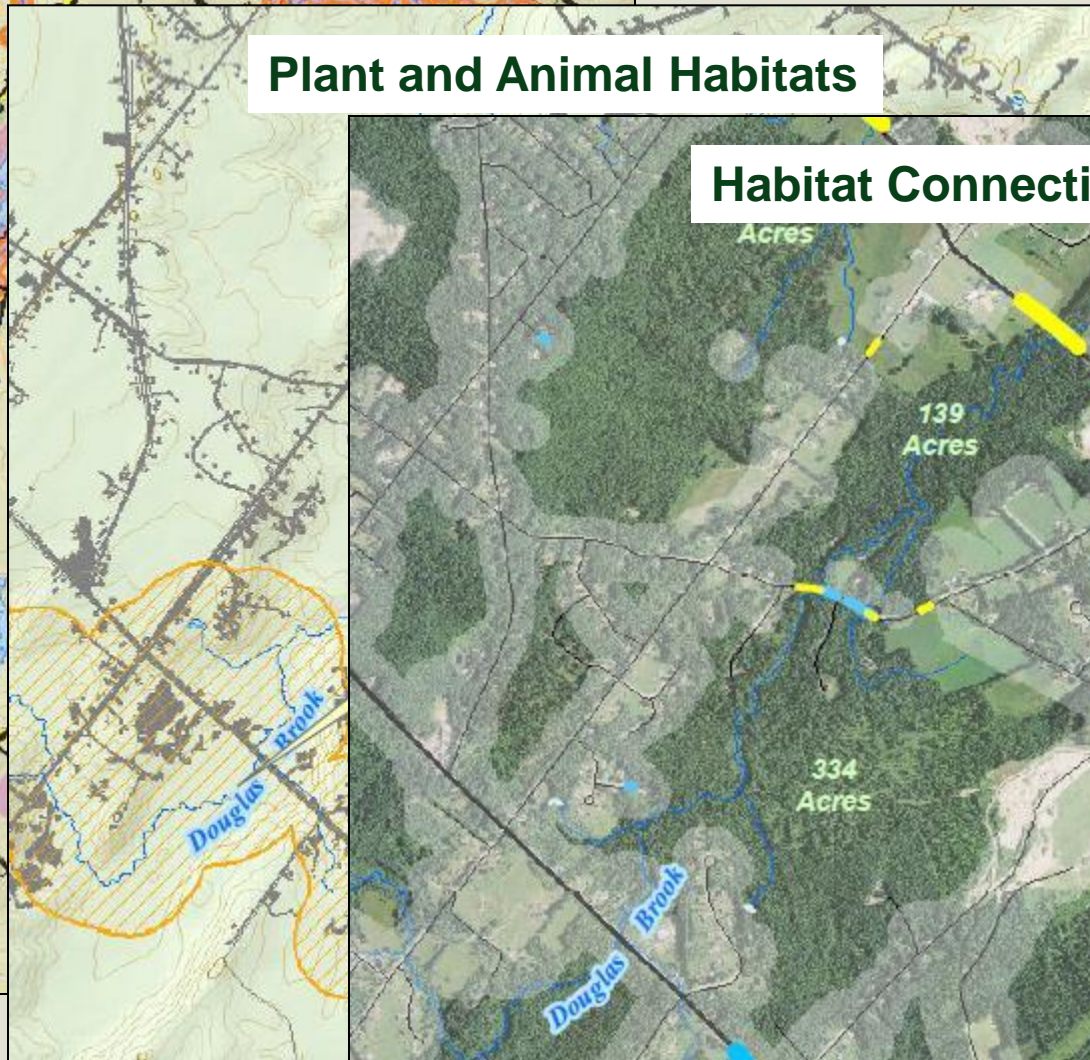




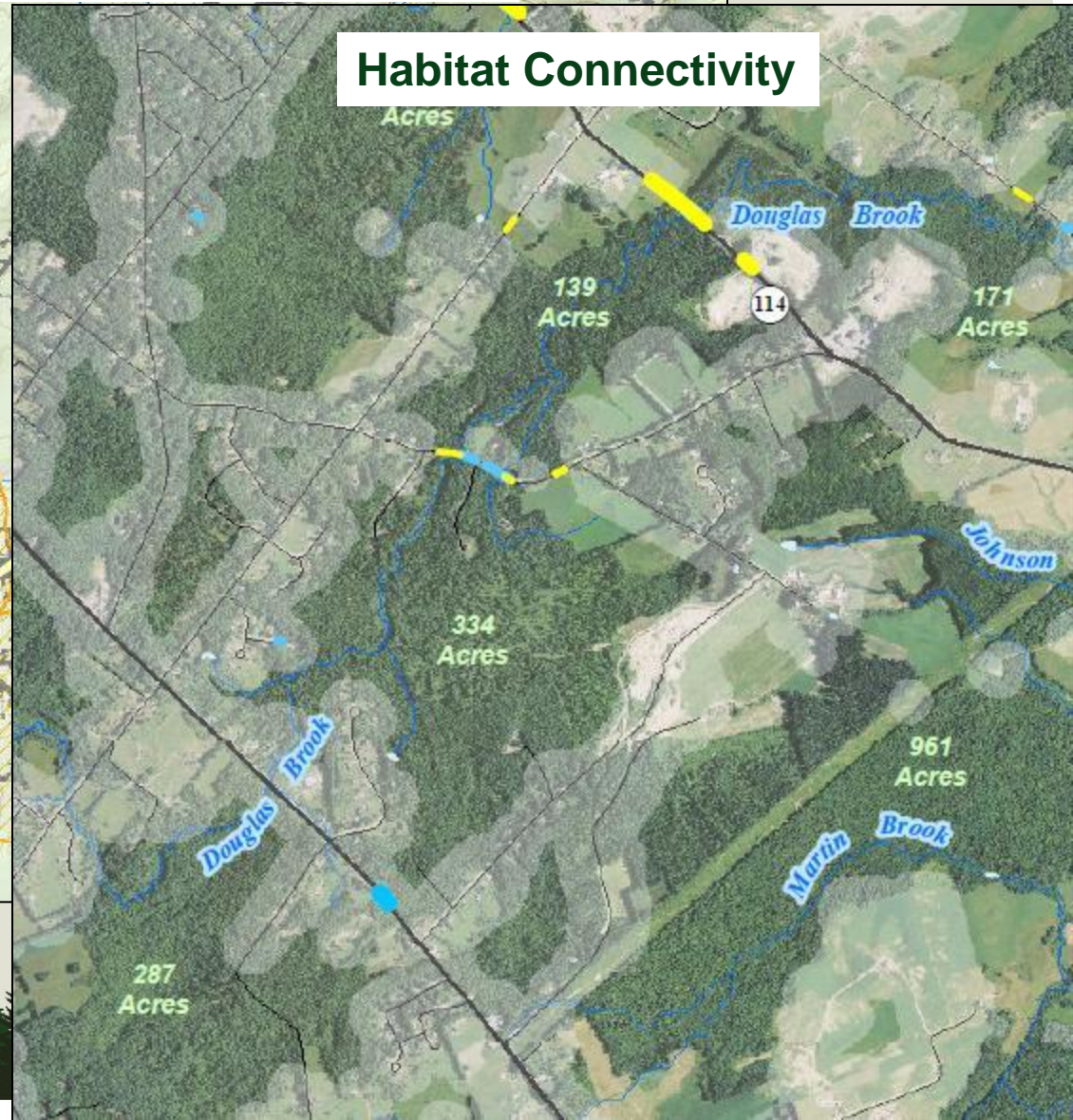
## Water Resources



## Plant and Animal Habitats

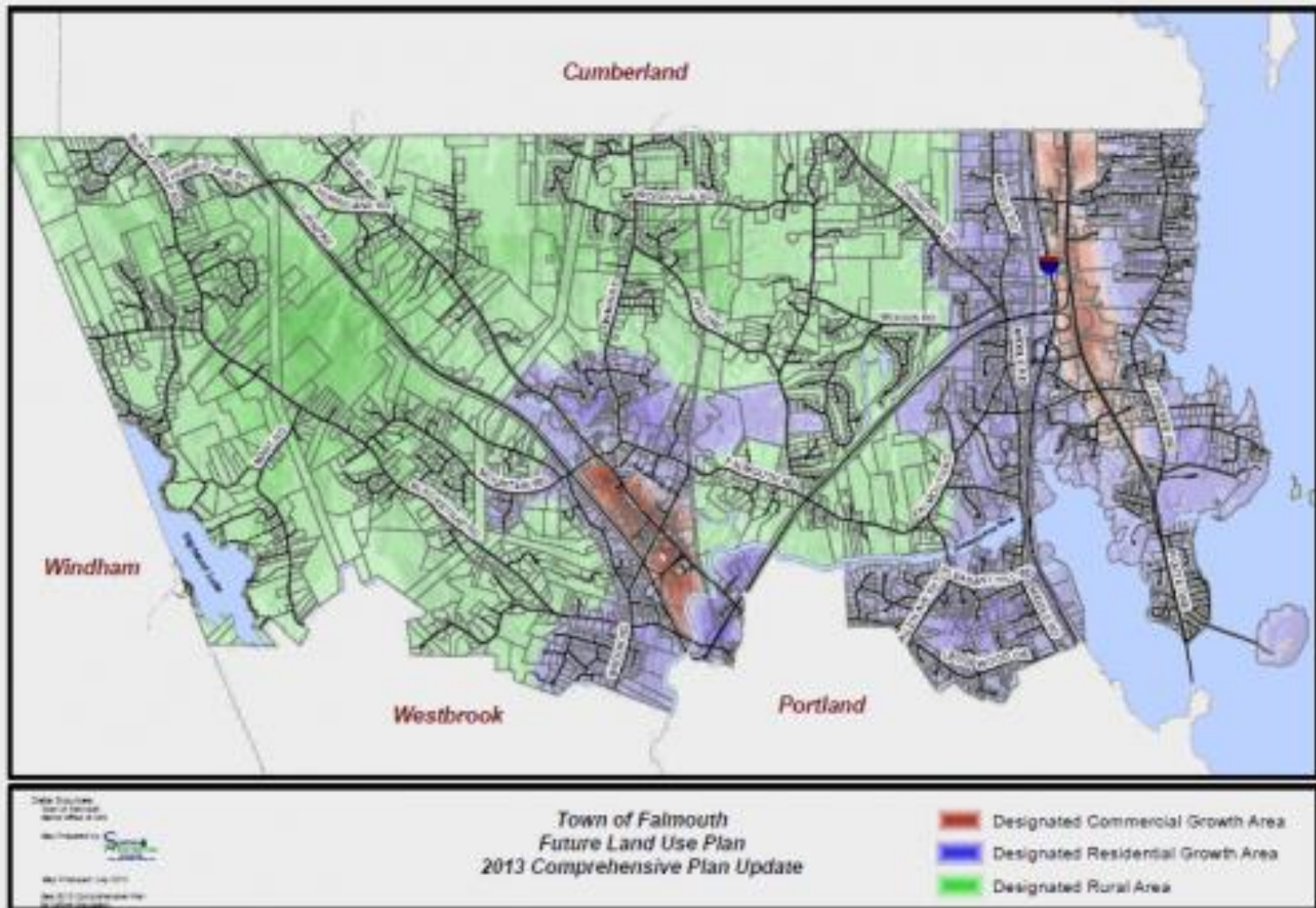


## Habitat Connectivity





# Municipal Planning

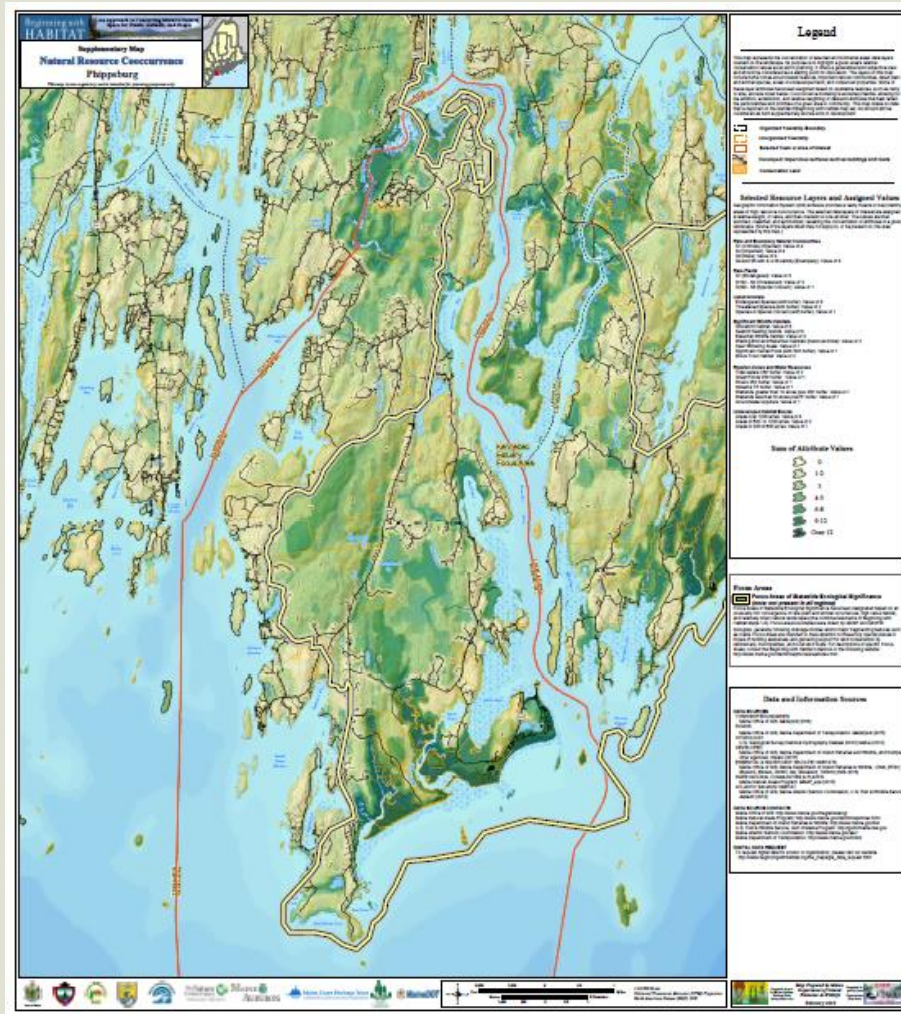




# Modeled Habitat Connectors



# Co-occurrence Models





# A Revised Partnership: Maine's 2015 Wildlife Action Plan



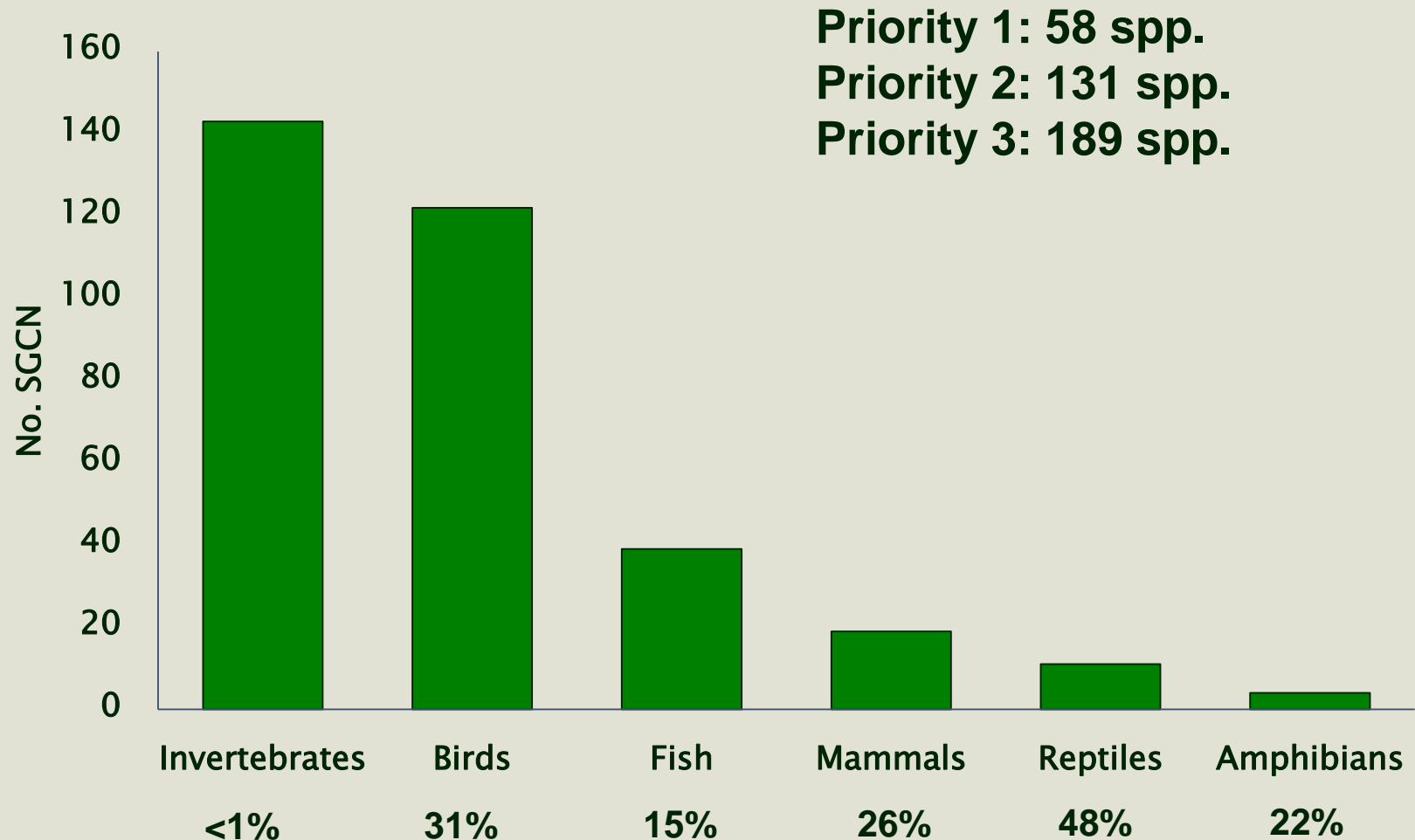
# Over 100 Conservation Partners\*



\*Represents only a small subset of partners



# 378 Species of Greatest Conservation Need (SGCN)



# Stressors



## SGCN



## Habitats





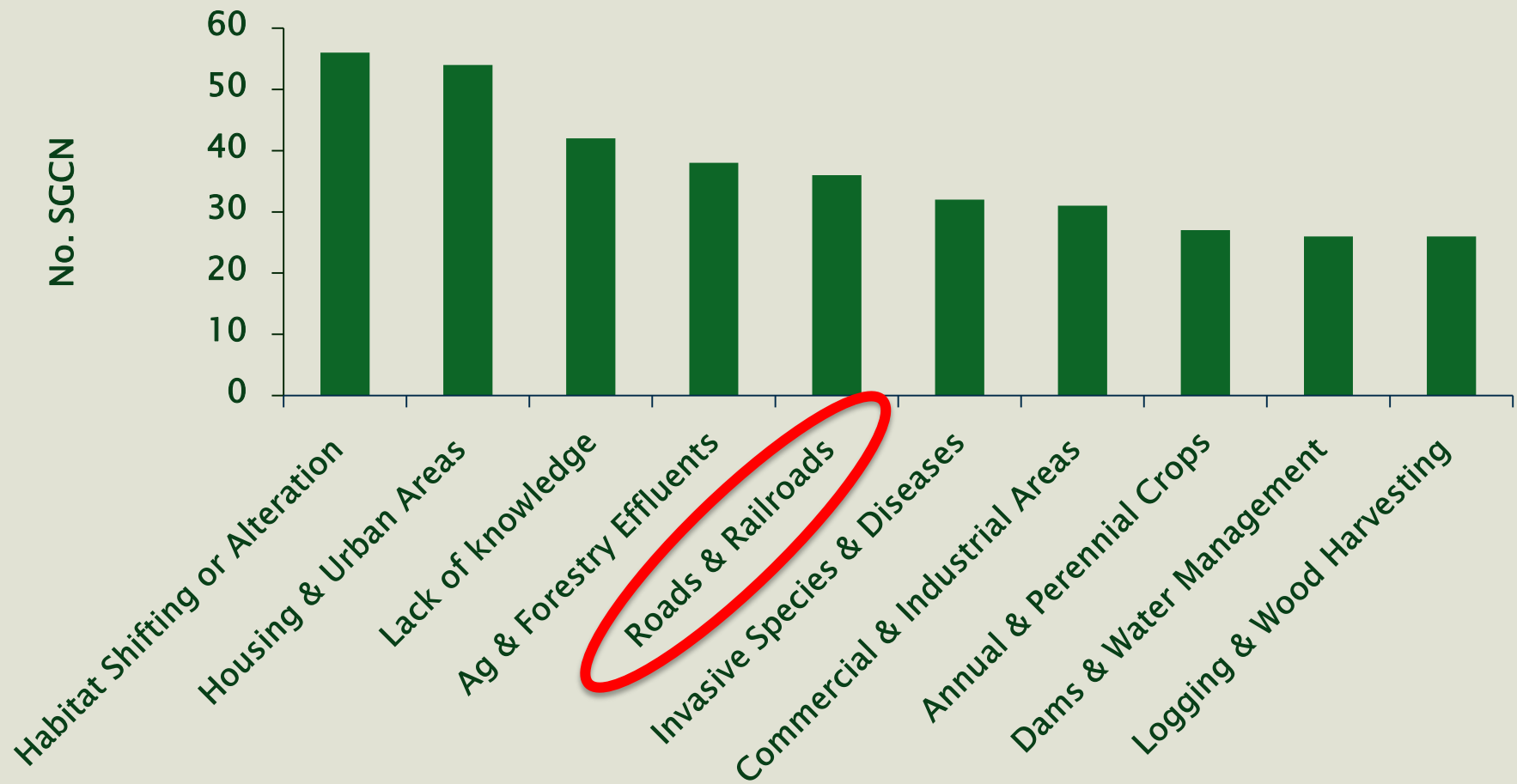
# Transportation as a Stressor



Merry Gallagher, MDIFW

**80 SGCN**  
**19 habitats**

# SGCN Stressors

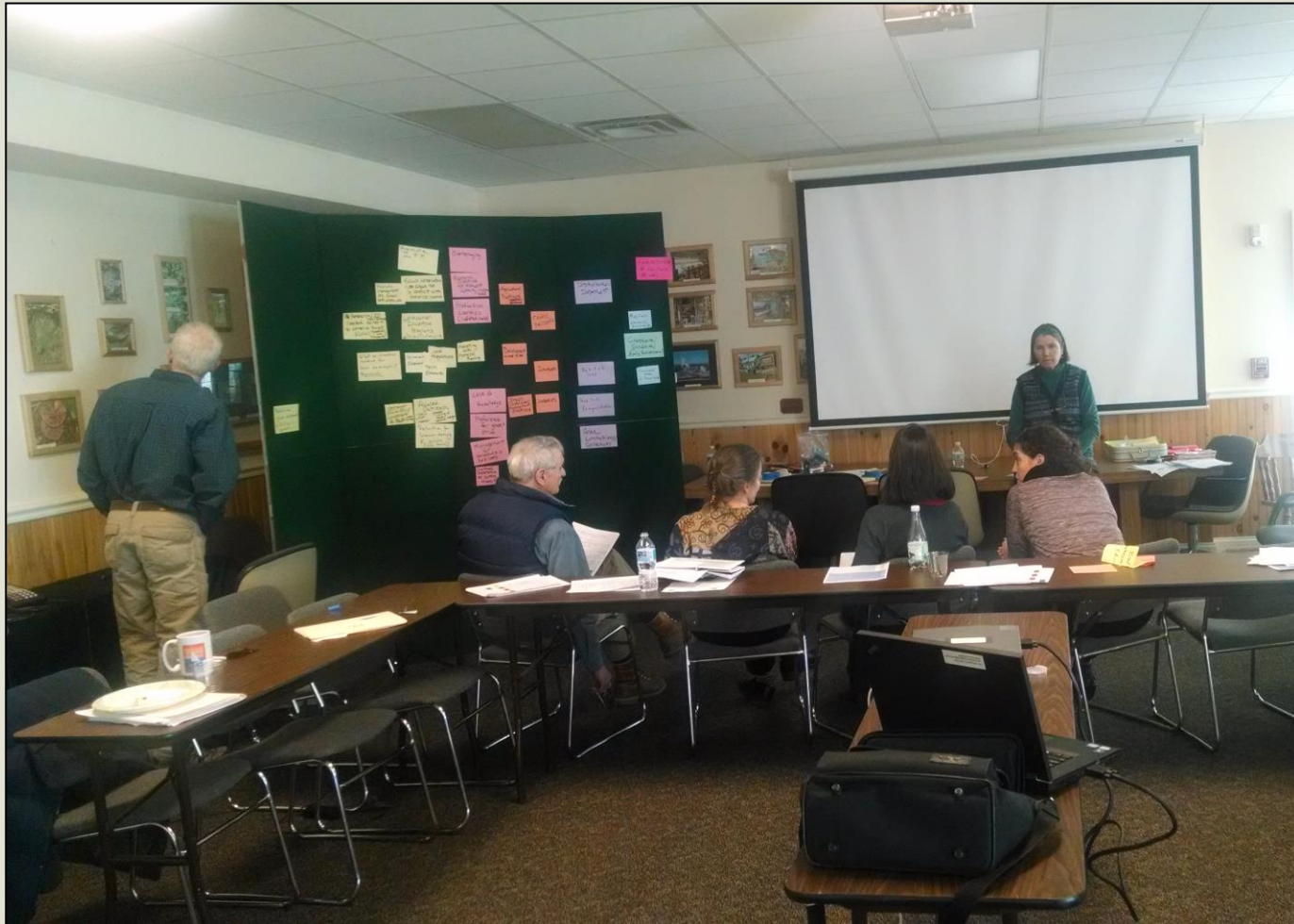




# Habitat Stressors



# Solutions: Conservation Actions





# Conservation Actions for Transportation Stressors



**SGCN: “Install road crossing structures consisting of under-road passageways and guidance fencing where high-mortality road segments bisect habitat that hosts high priority populations”**



**Habitats: “Collaborate with partners to develop standards for new/replacement road stream crossings”**

# Information Sharing



SpeciesStatus\_fe : Database (Access 2007 - 2010) - Microsoft Access

File Home

frmMain






### MAINE'S FISHERIES AND WILDLIFE ACTION PLAN

SEARCH DATABASE

CREATE REPORTS

OPEN DATA ENTRY FORM

EXIT DATABASE



SpeciesStatus\_fe : Database (Access 2007 - 2010) - Microsoft Access

File Home

frmSpeciesStatus

### SPECIES: *Myotis leibii* (Eastern Small-footed Myotis)

Population: **No population specified** Species ID: 126 Status ID: 75

Comments: Northeast endemic with few records from Maine and considered rare throughout its range.

2005 CWCS Priority: 2 2015 SGCN Priority: 1

State Status: SC Federal Status: Tracked ☒

Habitat Threats Listing History Recommendations

#### 21 Key Habitats (2005 CWSC)

Habitat Type	CWCS Habitat	HabitatID
Primary	Cliff Face and Rocky Outcrops (includin	UR
Secondary	Caves and Mines	UCM
Secondary	Deciduous and Mixed Forest	UD

#### Northeast Terrestrial Habitat Classification System (NETHCS) - 2015 Wildlife Action Plan

Macrogroup Name

Habitat System \*\*double click row to view definition\*\* SHOW ALL HABITAT SYSTEMS

ID	2015 Habitat System Name	2005 ID
47	Acadian-North Atlantic Rocky Coast	CC
58	Laurentian-Acadian Lakeshore Beach	CC
48	North Atlantic Cobble Shore	CC
106	Estuaries and Bays	CE
105	Marine Open Water	CO

Associate selected habitat systems with species

#### HABITATS ASSOCIATED WITH SPECIES

☒ 2015 Habitat Review Completed \*\*double click Habitat Notes field to expand\*\*

MacrogroupName	HabitatSystemName	HabNotes	SpHabitID	2005 Hab
Boreal Upland Forest	Acadian Low-Elevation Spruce-Fir Forest and Flats	"secondary habitat" for upl	2537	UC
Boreal Upland Forest	Acadian Sub-Boreal Spruce Barrens	"secondary habitat" for upl	2542	UC
Cliff and Talus	Laurentian-Acadian Acidic Cliff and Talus	"primary habitat" for ledge	22	UR
Cliff and Talus	Laurentian-Acadian Calcareous Cliff and Talus	"secondary habitat" for led	21	UR
Extractive	Subsurface Mines & Caves	"primary habitat" for hiberi	2562	NA
Outcrop / Summit Scrub	Laurentian-Acadian Calcareous Rocky Outcrop	"secondary habitat" for led	20	UR

Record: 1 of 14 No Filter Search



## *Bombus affinis* (Rusty-patched Bumble Bee)

Priority 1 Species of Greatest Conservation Need

Class: *Insecta* (Insects)

Order: *Hymenoptera* (Ants, Bees, Wasps And Sawflies)

Family: *Apidae* (Honey Bees, Bumble Bees, And Allies)

### General comments:

Recent discovery of at least one, likely two confirmed records from 2003-2009; has not turned up in adjacent states/provinces and throughout range, but comprehensive statewide surveys have not been completed.

### Species Conservation Range Maps for Rusty-patched Bumble Bee

Town Map: [Bombus affinis Towns.pdf](#)

Subwatershed Map: [Bombus affinis HUC12.pdf](#)

### SGCN Priority Ranking - Designation Criteria:

Risk of Extirpation: NA

State Special Concern or NMFS Species of Concern: NA

Recent Significant Declines:

Rusty-patched Bumble Bee is currently undergoing steep population decline, likely to lead to, local extinction and/or range contraction.

Notes:

recent discovery of at least one, likely two confirmed records from 2003-2009; has not turned up in adjacent states/provinces and throughout range, but comprehensive statewide surveys have not been completed.

Regional Endemic: NA

High Regional Conservation Priority:

NatureServe:

Global Rank: G1

High Climate Change Vulnerability: NA

Understudied rare taxa: NA

Historical: NA

Culturally Significant: NA

### Habitats Assigned to Rusty-patched Bumble Bee:

Formation Name	Agricultural
Macrogroup Name	Agricultural
Habitat System Name	Cultivated Crops Notes: <i>habitat generalist</i>
Habitat System Name	Pasture-Hay Notes: <i>habitat generalist</i>
Formation Name	Boreal Upland Forest
Macrogroup Name	Boreal Upland Forest
Habitat System Name	Boreal Upland Forest Macrogroup - Upland (woodlands, urban parks, gardens, etc)
Formation Name	Developed
Macrogroup Name	Urban-Suburban Built
Habitat System Name	Residential - Low Intensity Notes: <i>habitat generalist</i>
Habitat System Name	Residential - Rural-Sparse Notes: <i>habitat generalist</i>

## Rusty-patched Bumble Bee (*Bombus affinis*)

Maine State Wildlife Action Plan

Conservation Range Map

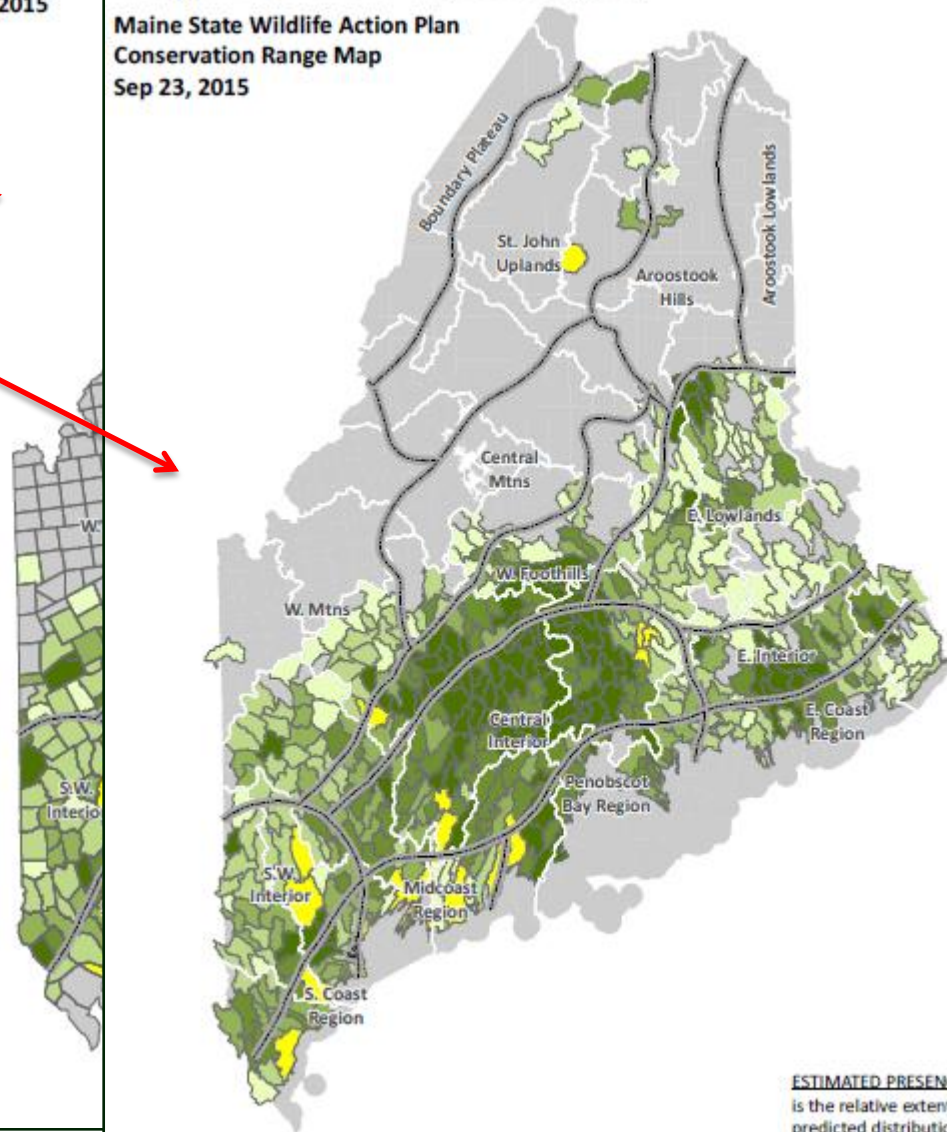
Sep 23, 2015

## Rusty-patched Bumble Bee (*Bombus affinis*)

Maine State Wildlife Action Plan

Conservation Range Map

Sep 23, 2015



ESTIMATED PRESENCE - shading is the relative extent of the predicted distribution/potential habitat in each Town

### CONFIRMED PRESENCE

Miscellaneous Published Records

Potential Habitat

***Bombus affinis* (Rusty-patched Bumble Bee)****Priority 1 Species of Greatest Conservation Need (SGCN)**Class: *Insecta* (Insects)Order: *Hymenoptera* (Ants, Bees, Wasps And Sawflies)Family: *Apidae* (Honey Bees, Bumble Bees, And Allies)**Formation Name** Grassland & Shrubland**Macrogroup Name** Ruderal Shrubland & Grassland**Habitat System Name:** Ruderal Upland - Old Field *Notes: habitat generalist (woodlands, urban parks, gardens, etc)***Formation Name** Northeastern Upland Forest**Macrogroup Name** Central Oak-Pine**Habitat System Name:** Central Oak-Pine Macrogroup - Unknown Habitat System *Notes: habitat generalist (woodlands, urban parks, gardens, etc)***Macrogroup Name** Northern Hardwood & Conifer**Habitat System Name:** Northern Hardwood & Conifer Macrogroup - Unknown Habitat System *Notes: habitat generalist (woodlands, urban parks, gardens, etc)***Stressors Assigned to Rusty-patched Bumble Bee:**

Stressor Priority Level based on Severity and Actionability	Moderate Severity	High Severity
	Highly Actionable	Medium-High
	Moderately Actionable	Medium
	Actionable with Difficulty	Low

**IUCN Level 1 Threat** Other Options**IUCN Level 2 Threat:** Lack of knowledge**Severity:** Moderate Severity **Actionability:** Highly actionable**Notes:** Lack of comprehensive statewide survey effort and monitoring to identify occurrences and species status/trends**IUCN Level 1 Threat** Pollution**IUCN Level 2 Threat:** Agricultural and Forestry Effluents**Severity:** Severe **Actionability:** Moderately actionable**Notes:** Pesticides (e.g., seed/nursery stock inoculation, agricultural applications); past impacts (i.e., severe declines) actionable with difficulty, but future impacts moderately actionable (e.g., changes in pesticide type and use)**IUCN Level 1 Threat** Agriculture and Aquaculture**IUCN Level 2 Threat:** Annual and Perennial Non-timber crops**Severity:** Moderate Severity **Actionability:** Moderately actionable**Notes:** Habitat loss and fragmentation via intensive land management practices; can also create foraging and nesting habitat**IUCN Level 1 Threat** Energy Production and Mining**IUCN Level 2 Threat:** Mining and Quarrying**Severity:** Moderate Severity **Actionability:** Moderately actionable**Notes:** Habitat loss and fragmentation**IUCN Level 1 Threat** Residential and Commercial Development**IUCN Level 2 Threat:** Commercial and Industrial Areas**Severity:** Moderate Severity **Actionability:** Moderately actionable**Notes:** Habitat loss and fragmentation

## Habitats (cont'd)

## Stressors



***Bombus affinis* (Rusty-patched Bumble Bee)****Priority 1 Species of Greatest Conservation Need (SGCN)**Class: *Insecta* (Insects)Order: *Hymenoptera* (Ants, Bees, Wasps And Sawflies)Family: *Apidae* (Honey Bees, Bumble Bees, And Allies)

IUCN Level 1 Threat Residential and Commercial Development

IUCN Level 2 Threat: Housing and Urban Areas

Severity: Moderate Severity Actionability: Moderately actionable

Notes: Habitat loss and fragmentation; can also create foraging habitat

IUCN Level 1 Threat Climate Change and Severe Weather

IUCN Level 2 Threat: Habitat Shifting or Alteration

Severity: Moderate Severity Actionability: Actionable with difficulty

Notes: Species thought to be adapted to a fairly narrow range of climate conditions, so may be more vulnerable to climate change than other *Bombus* spp.

IUCN Level 1 Threat Invasive and Other Problematic Species, Genes and Diseases

IUCN Level 2 Threat: Invasive Non-native-Alien Species-Diseases

Severity: Severe Actionability: Actionable with difficulty

Notes: Introduced pathogens, parasites/diseases from imported commercial *Bombus* colonies; past impacts are likely irreversible, but future impacts potentially could be minimized/prevented; impacts from invasive plants?

IUCN Level 1 Threat Transportation and Service Corridors

IUCN Level 2 Threat: Roads and Railroads

Severity: Moderate Severity Actionability: Actionable with difficulty

Notes: Collisions with vehicles

No Species Specific Conservation Actions Currently Assigned to Rusty-patched Bumble Bee or other Priority 3 SGCN.

### Conservation Actions Assigned to the Bumble Bees Guild:

Conservation Action	Category: Survey and Monitoring	Biological Priority: high	Type: on-going
Conduct statewide surveys to document species diversity, distribution and relative abundance.			

Stressor(s) Addressed By This Conservation Action

Lack of knowledge

Conservation Action	Category: Research	Biological Priority: high	Type: new
Produce a statewide atlas and conservation assessment			

Stressor(s) Addressed By This Conservation Action

Lack of knowledge

Conservation Action	Category: Public Outreach	Biological Priority: moderate	Type: new
Develop and implement outreach materials to raise public awareness of native pollinator ecology, threats and conservation needs, and to encourage use of Integrated Pest Management practices.			

Stressor(s) Addressed By This Conservation Action

Agricultural and Forestry Effluents

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's

## Stressors (cont'd)

## Conservation Actions



## Maine's Comprehensive Wildlife Conservation Strategy Appendices

A product of  
Maine Department of Inland Fisheries and Wildlife  
Maine Department of Marine Resources  
and  
Maine's Conservation Partners  
September 2005



## Maine's Comprehensive Wildlife Conservation Strategy

A product of  
Maine Department of Inland Fisheries and Wildlife  
Maine Department of Marine Resources  
and  
Maine's Conservation Partners

September 2005





# Many Opportunities



- Communication
- Data sharing
- Revised Wildlife Action Plan

# Other Examples

