PUBLIC COMMENTS RECEIVED FOR

ADJACENCY & SUBDIVISION REVIEW PROCESS: PART TWO OF THREE

Maine Land Use Planning Commission
Maine Department of Agriculture, Conservation and Forestry

This is **part two of three documents that include compiled written comments** about the Adjacency & Subdivision Review submitted between December 19, 2018, and January 22, 2019.

Parts one & three, are available for review on the adjacency rules webpage.

The **audio recording of the January 10, 2019 public hearing** is available on the Commission's Calendar and Meeting Materials webpage.

Rebuttal Comments: The comments in this part two document were posted on the Commission's website on Wednesday, January 23rd. The deadline for submissions in rebuttal to those comments is January 29, 2019. Rebuttal comments will be posted on the adjacency rules webpage following the close of the rebuttal period.

From:	Horn, Samantha
To:	Andrew Cadot
Cc:	Godsoe, Benjamin
Subject:	RE: [EXTERNAL SENDER] Land Use Planning Commission: The Adjacency Principle: An Initial Screen for Locating New Development Zones in the UT
Date:	Wednesday, January 16, 2019 10:46:03 AM

Thank you for your comment. It will be entered into the record.

From: Andrew Cadot [mailto:aacaac73@gmail.com]
Sent: Monday, January 14, 2019 11:17 PM
To: Horn, Samantha <Samantha.Horn@maine.gov>
Subject: [EXTERNAL SENDER] Land Use Planning Commission: The Adjacency Principle: An Initial Screen for Locating New Development Zones in the UT

Dear Samantha:

I understand that under the proposed rule, there would be a Revised Application of the Adjacency Principle & Subdivision Standards, which would result in more than 1.3 million acres of land and 20 percent of lakes in Maine's Unorganized Territories would become vulnerable to sprawling residential subdivision development. I also understand that the majority of people and organizations who attended the hearing held in January urged the Commission to drop its far-reaching proposal.

I write to raise my concerns because the future of Maine's North Woods is at stake. This proposed rule could forever harm the land, waters, and wildlife in Maine's North Woods. I join with all who have asked the Commission to drop its proposed rule.

Thank you for taking my views into consideration.

Sincerely,

Andy

Andrew A. Cadot
45 Eastern Promenade Apt. 9E
Portland, ME 04101

A statement from citizens of
ARGYLE TOWNSHIP, MAINE

Maine Land Use Planning Commission
c/o Ben Godsoe
18 Elkins Lane, 22 State House Station
Augusta, ME, 04333

Re: proposed changes to Adjacency rules

We the undersigned citizens of ARGYLE TOWNSHIP value the continued protection & improvements of WATER QUALITY, WILDLIFE HABITAT, & QUALITY OF LIFE.

Under the proposed rule changes, the entirety of ARGYLE TOWNSHIP would be reclassified as Primary and Secondary Zones. We contend that any weakening of the current 1 mile adjacency rule would be detrimental to the process of protection & improvement of our natural resources. We feel we have been well served by the time-proven protection of the existing 1 mile adjacency rule.

With this 40 year history in mind We The People request that ARGYLE TOWNSHIP be held exempt from the proposed change of protective standards, & remain under the existing 1 mile adjacency rule.

Thank you for your consideration.

Name: Annette Falone Annette Falone	Address: 784 Southgate Road Argyle Twp, ME 04468

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Thank you for your consideration.

Name:	Address:
Erik Chandler	1059 Southgate Rd

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Name:	Address:
Joanna Charles	1059 Southgate Rd Argyle ME 04468

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Name:	Address:
Ruth Tidwell	2923 Edinburg Rd Argyle Twp

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Name:	Address:
[signature]	29 Gmero Lane Argyle Twp, ME

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Thank you for your consideration.

Name:	Address:
Pamela Shaw	828 Southgate Rd, Argyle TWP

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Name:	Address:
Steve Harris	906 Southgate Rd, Argyle ME 04468

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Name:	Address:
Ann K Cuevas	19 Cuevas Lane Argyle Twsp. ME

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Name:	Address:
Thomas C. Hoover	784 Southgate Rd Argyle ME

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Thank you for your consideration.

Name:	Address:
Lisa Harris	90e Southgate Rd Argyle Twp, ME 04446

From: Minot Weld
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Protect the North Woods
Date: Wednesday, January 16, 2019 3:22:28 PM

I oppose the proposal to relax adjacency criteria, easing development restrictions in the north woods. Growth should be guided towards existing towns. Forest and farm lands should be left in production.

Regards,

Francis Weld
Northeast Harbor, ME 04662

From: Jean Thompson
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Protect the Maine Northwoods
Date: Wednesday, January 16, 2019 12:59:00 PM

Maine is unique in having such a large area of woodlands that have remained undeveloped. What exists there should not be sacrificed to housing developments, especially since the majority of them would be vacation properties for the very wealthy. The very wealthy have many places to go for recreation. The wildlife that attracts many tourists who want to camp, boat, fish, or hunt. Wildlife has nowhere else to go. The loss of habitat or the fragmenting of habitat in many other areas of the country is threatening more and more species with extinction. What I'm trying to say is that we need to consider more than the human landscape and when we do, it's just not worth destroying this amazing, unique resource. Protect Maine's Northwoods!

Jean A. Thompson
14 Oakwood Lane
Kennebunk, ME 04043

Jatling597@earthlink.net

(207) 604-7978

From: Jock Winchester
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency requirements
Date: Wednesday, January 16, 2019 3:34:34 PM

Please do not change any of the existing present requirements defining adjacency. It must be understood that the fragile condition of Maine's major resources as personified by the North Woods (lakes, streams, rivers, forests, and wildlife) must be protected for current and all future generations of our state as well as visitors who may be welcomed from elsewhere. Liberalization of Adjacency rules is not the way to go!

This thought is not just for today but for as long as there is a Maine and human beings to enjoy its many priceless and irreplaceable resources.

Thank you. John Winchester, Pemaquid

From: Meg Dellenbaugh
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Revised application of the Adjacency Principal and Subdivision Standards
Date: Wednesday, January 16, 2019 11:59:18 AM

Dear Sir,

I am writing to expressly concern about The LUPC"s proposed rule revisions: Revised application of the Adjacency Principal and Subdivision Standards.

I strongly urge you not to pass this proposal. Maine's is well known, and well visited, for the wild character of the North Maine woods. There are not many places left in this whole country where the wild is even equal to say nothing of greater than human intervention. It is a gem for Maine, for our delicate ecosystem, for all beings.

Please do not ruin it with more development.

Thank you,
Meg

Meg Dellenbaugh
Sheepscot Hollow
28 Nilsen Lane
Whitefield, ME 04353
207 729-6558 (mobile)
207 549-7733 (landline)

From:	Horn, Samantha
To:	RFRITSCH1@myfairpoint.net
Cc:	Godsoe, Benjamin
Subject:	RE: [EXTERNAL SENDER] Fw: LURC Proposal
Date:	Wednesday, January 16, 2019 10:46:59 AM

Thank you for your comment, it will be entered into the record.

From: RFRITSCH1@myfairpoint.net [mailto:RFRITSCH1@myfairpoint.net]
Sent: Monday, January 14, 2019 9:22 PM
To: Horn, Samantha <Samantha.Horn@maine.gov>
Subject: [EXTERNAL SENDER] Fw: LURC Proposal

Samantha, I'm resending this to you. Thank you, Robert Fritsch

From: RFRITSCH1@myfairpoint.net
Sent: Monday, January 14, 2019 9:00 PM
To: Benjamin.Godsoe@maine.gov
Subject: Fw: LURC Proposal

Please correct "LURC" to read "LUPC". Thank you Robert Fritsch

From: RFRITSCH1@myfairpoint.net
Sent: Monday, January 14, 2019 8:57 PM
To: Benjamin.Godsoe@maine.gov
Subject: LURC Proposal

Dear Commission members,

I am opposed to LURC's Adjacency Proposal for the following reasons:

1. 1.3 million acres and 317 lakes would be vulnerable to rwesidential development.
2. Allowing 7 mi X 1mi primary development would allow strip commercial and residential development thus undermining local efforts to keep development within respective towns to bolster local economies.
3. Commercial development could mushroom across the landscape; currently commercial development can only occur near development of a similar type, use, occupancy, scale, intensity, or near a village center.
4. Rules are skewed to allow large lot subdivisions risking fragmentation of the North Woods. Residential subdivision, (Kingdom Lots = 15 to 25 acres) banned in 2001 would once again, be allowed on to happen on an unknown percentage of the 1.3 million acrea. Development sprawl would eat up large parcels of forest land.
5. Subdivisions with limited environmental review would be the rule across the landscape; subdivisions with 14 lots on 30 acres would be allowed across 400,000 acres with only limited environmental review.
6. It is ludicrous to propose that this proposal be reviewed in 5 years. You can't take the destruction back!

7. The rules are way too complicated allowing for multiple interpretation and bogging down any appeal process.

Thank you,

Robert Fritsch
255 Upper Garland Road
Dexter, ME 04930

From: Hayrus
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Maine North Woods
Date: Wednesday, January 16, 2019 6:23:37 PM

I am writing in opposition to any plans to allow large scale development in the Maine North Woods. This is the last area free from development in the Northeast and needs to be managed for the traditional uses of hunting, fishing, forestry and recreation, not for vacation homes.

Robert Hayes
Small Woodlot owner; 85 acres on the West Branch of the Union River

Sent from Mail for Windows 10

From:	Suzanne Brewer
To:	Godsoe, Benjamin
Subject:	[EXTERNAL SENDER] oppose adjacency changes to LUPC
Date:	Wednesday, January 16, 2019 3:31:46 PM

I oppose the Land Use Planning Commission's most recent proposal to change the criteria for adjacency which would expand development locations in Maine's North Woods. I oppose the rule because it will make more than 1.3 million acres of land and 20 percent of lakes in Maine's Unorganized Territories vulnerable to sprawling residential subdivision development. The LUPC should not change the current rules that help prevent this type of development. We must protect the last wild intact places on the planet. Maine is special to have such places and we should not follow the marching drum of development that is destroying and fragmenting habitat and unique ecology around the globe.

Thank you

Suzanne Brewer (Maine resident)

From: Silvio Calabi
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] North Woods Proposal
Date: Wednesday, January 16, 2019 9:41:12 AM

Dear Mr. Godsoe,

I was unable to attend the hearing in Brewer, so I'm registering my dismay via email instead.

The proposed adjacency rule would seem to encourage strip and commercial development, and I can easily imagine that damaging the wildness that attracts people to northern Maine in the first place.

Katahdin Woods & Waters is the sort of 'development' that favors the North Woods. The park seems to be having the desired effect, and I strongly favor a go-slow approach to further changes in the region. Let's measure impacts over time and go from there.

Employment is critical in our Unorganized Territories, but even those residents disapprove of things like CMP's power corridor and the evergreen proposal to build an east-west interstate highway through the center of our state.

My wife and I live in Camden, where we raised and educated our kids and are now happily retired (and trying to get them to return to Maine).

Sincerely,

Silvio Calabi
207-592-2619

From: Holmes, Don/BOS
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Proposed Land Use Rule Change
Date: Thursday, January 17, 2019 3:36:50 PM

Dear Mr. Godsoe,

I understand that under the new land use rule proposed by the Land Use Planning Commission, more than 1.3 million acres of land and 20 percent of the lakes in Maine's Unorganized Territories would be vulnerable to sprawling residential subdivision development. Anyone who has spent any time outside of the State of Maine realizes what this is likely to mean to the environment that we know and love – and it isn't good. I urge you to maintain the existing rule, as it has done a lot to preserve the natural beauty of the state for its residents and continues to attract our summer visitors, who are becoming an ever-greater economic mainstay.

And the tourist economy is likely to become even more important as our marine resources continue to change in response to the global warming that makes the Gulf of Maine the most rapidly warming oceanic water body in the Atlantic Ocean. We've lost our cod and our shrimp, and it only makes sense that our lobsters will be next when you look at how the Massachusetts, New York, and New Jersey lobster fisheries have collapsed with the warming waters off their coasts.

Don Holmes
215 Carter Point Road
Sedgwick ME 04676

From:	Ellen Griswold
To:	Godsoe, Benjamin
Subject:	[EXTERNAL SENDER] Re: Land Use Planning Commission: Review of the Adjacency Principle
Date:	Thursday, January 17, 2019 12:52:31 PM
Attachments:	MFT 1.17.19 Comments to LUPC re Adjacency Principle and Revised Standards for Residential Subdivisions

Hi Ben,

Attached please find Maine Farmland Trust's comments on the Maine Land Use Planning Commission's proposed rule changes related to the application of the adjacency principle and the revised standards for residential subdivisions.

Please let me know if you have any questions.

All the best,

Ellen

Ellen Stern Griswold
Policy and Research Director
Maine Farmland Trust
509 Ocean Ave.
Portland, ME 04103
207-338-6575 ex. 307

From: "Godsoe, Benjamin" <Benjamin.Godsoe@maine.gov>
Date: Friday, December 28, 2018 at 12:25 PM
To: Ellen Griswold <egriswold@mainefarmlandtrust.org>
Subject: Land Use Planning Commission: Review of the Adjacency Principle

Hi Ellen,

I just left you a voicemail but it sounds like you may be out of the office this week. Hope you have a nice holiday!

My name is Ben Godsoe and I work for the Land Use Planning Commission, which is part of the Department of Agriculture, Conservation, and Forestry and provides planning and zoning services for the unorganized territories. I am reaching out to let you know that the Commission is considering some potential changes to its zoning system, some of which would affect agriculture and agritourism on farms in the unorganized territories. The proposed rule changes related to agriculture are intended to more readily allow for diversification, growth, and processing related to farming.

To find out more about the proposed rule changes, please visit the project website. There is a lot on the site. The changes related to agriculture are a small part of a large proposal that has a lot of moving parts. I would be happy to discuss the proposal with you in detail, or orient you to the

materials on the website if that would be helpful.

There will be a public hearing on January 8, 2019, 12 pm, at Jeff's Catering in Brewer (15 Littlefield way). The snow cancellation date is January 10, 2019, same time and place. Public input will be accepted through January 22nd.

Please be in touch if you have questions or if you would like to discuss the proposal.

Best regards,

Ben

Ben Godsoe
Senior Planner, Land Use Planning Commission
22 State House Station, Augusta, Maine 04333-0022
Phone (Direct): (207) 287 - 2619; Fax: (207) 287 - 7439
Email: Benjamin.Godsoe@maine.gov

MAINE FARMLAND TRUST

Maine Land Use Planning Commission
c/o Ben Godsoe
18 Elkins Lane
22 State House Station
Augusta, ME, 04333

January 17, 2019

Dear Members of the Maine Land Use Planning Commission,

We appreciate this opportunity to provide feedback on the Commission's proposed rule changes related to application of the adjacency principle and the revised standards for residential subdivisions. I am submitting these comments on behalf of Maine Farmland Trust (MFT), a member-powered statewide organization that protects farmland, supports farmers, and advances the future of farming. We work to help revitalize Maine's rural landscape by keeping agricultural lands working and helping farmers, and their communities, thrive. Our four main program areas are: Farmland Protection, Farmland Access (helping farmers get on the land), Farm Viability (helping farmers become and remain economically viable), and Public Outreach and Policy. MFT has worked with farm families, statewide groups, local and regional land trusts, and municipalities to preserve over 60,000 acres of farmland in Maine.

After considering how the proposed changes to the Definitions section (Section 10.02), General Management Subdistrict section (Section 10.22A) and the Agricultural Activities Standards section (Section 10.27A) would support the diversification and growth of agricultural activities within the unorganized territories, we submit the following comments with respect to these proposed definitions:

Agriculture Processing Facility: We believe that the definition of "Agricultural Processing Facility" should be broadened to include value-added processing activities that are not for the purpose of "reduc[ing] bulk or "enable[ing] efficient transportation for sale or further processing." Given that farms may want to engage in processing activities for purely economic reasons, we would like to see the definition of "Agriculture Processing Facility" expanded to include facilities where value-added processing is conducted for economic and marketability factors. We also believe that the exclusion of permanent worker housing should be removed from the term's definition. That limitation could be problematic for a farm business that wants to include room and board as part of a compensation package for their workers. Finally, we would suggest that the definitions for "small-scale agricultural processing facility" and "large-scale agricultural processing facility" refer to "raw *farm products*" instead of "raw *agricultural products*" as only the former term is separately defined.

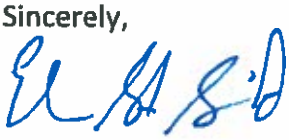
Agritourism Business: It is unclear whether the included term "business" is meant to refer to an entity or a discrete activity. This distinction is important as most agritourism operations are facets of the principal farm operation and not separate business entities. If this definition is

meant to refer to a class of activity, it would make more sense to use a different term than "business." We also note that the definition of "Agritourism Business" as currently structured seems to cover almost all on-farm sales, including farm stands and CSA pickups, which are not traditionally thought of as agritourism activities. One potential way of addressing that issue is to include the educational/recreational/social event element as a necessary component of all agritourism activities. We would also recommend that the employee requirements be removed from the definitions of "small-scale agritourism business" and "medium-scale agritourism business," as farms employ a variety of different staffing structures for agritourism activities that are not necessarily reflective of the size of the operation.

Farm Product: We would recommend that the definition of "Farm product" be broadened to include the *products* of all plants and animals so as to include those items that need to be processed in order to be utilized. We would also recommend that the definition be expanded to include fiber, manure, and compost production. One potential way of addressing these concerns would be to change the definition of "Farm product" to the following: "'Farm product' means those plants and animals and their products that are useful to humans and includes, but is not limited to, forages and sod crops, grains and food crops, dairy and dairy products, poultry and products, bees and bee products, livestock and livestock products, manure and compost, fish and fish products, and fruits, berries, vegetables, flowers, seeds, grasses, Christmas trees, and other similar products, or any other plant, animal, or plant or animal products that supply humans with food, feed, fiber or fur."

We appreciate this opportunity to weigh in on the proposed rule changes, and we hope you will consider adopting the changes to the definitions described above. If you have any questions, please feel free to reach out.

Sincerely,



Ellen Stern Griswold
Policy and Research Director
Maine Farmland Trust
egriswold@mainefarmlandtrust.org
(207) 338-6575 x307

Godsoe, Benjamin

From: Harriette Griffin <benratmom@gmail.com>
Sent: Thursday, January 17, 2019 4:41 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC

We need to PROTECT Maine from harmful development, not HARM its ecology and natural resources. Maine's North Woods should be left undeveloped and the western mountains region should be protected as well. This is a no-brainer. What the heck are we doing to the great State of Maine, let alone the planet? LEAVE IT FOR OUR CHILDREN AND GRANDCHILDREN TO ENJOY.

Harriette Griffin

From: 2078121386@vzwpix.com
To: Godsoe, Benjamin; Beyer, Stacie R
Subject: [EXTERNAL SENDER]
Date: Thursday, January 17, 2019 2:15:08 PM
Attachments: text_0.txt

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text_0 (003)

Thank you for your prompt reply. I had intended to give my support to the comments submitted by Jeff Smith which offered arguments to not change the LUPC adjacency rule, but leave it as is. As a long term resident of Maine, having traveled extensively throughout the country, I have always believed our North Woods to be unmatched in scenic beauty. Please consider not changing the existing rule. Thank you Joe Lebrun

From:	Jeff Smith
To:	Godsoe, Benjamin
Cc:	cperuccio@nrcm.org; A J Barrett; Jackie Stratton; Janssen, Wendy; membership@matc.org; Lester Kenway
Subject:	[EXTERNAL SENDER] LUPC Adjacency Rule proposed change in ME North Woods UT -- my public comment
Date:	Thursday, January 17, 2019 10:28:04 AM

To Land Use Planning Commission (LUPC):

I am a Mainer, rapidly approaching my 3/4 century, lifetime member & volunteer MAT & NPS (Nat'l Park Service) boundary monitor of the Maine Appalachian Trail Club (MATC), and Natural Resources Council of Maine (NRCM) member. I'm also a volunteer steward of Maine Coastal Land Trust's Meadow Brook Preserve, Bessey Tract here in Swanville.

I have spent 60 years section hiking the AT, finishing Maine in 2017, and canoeing, camping & hiking its glorious outdoors. I value and revere Maine's outdoors and wilderness areas, where I learned to canoe, fish, hike, ski, camp & observe wildlife as a boy, young man, and old naturalist.

However, although I fully recognize Maine's Unorganized Territory (UT) fosters eco-tourism near its several "Rural Hubs", an integral part of the economy, I understand those rural communities may need other diverse "jobs" outside tourism to continue to grow. A dilemma without horns, I think.

With that multiple view, I'm concerned that while LUPC's rule change is well intentioned, it misses the mark to balance such tourism with a healthy economy and natural environment.

In fulfilling stewardship duties with CMLT & MATC, as well as gaining access on the MAT & other Maine trail systems, especially in those proposed "orange" commercial development areas, both "primary" (<7 miles from a purple "rural hub") and "secondary" (<1 mile from a road), I and all who volunteer to maintain such natural areas for public use depend on local public right of ways, using both woods roads and abandoned town roads & railroad beds for efficient and safe entry into our assigned sectors and tracts. As much as 1/3 of our volunteer workday may be spent travelling by vehicle & foot onto our work sectors using such access routes through the UT.

In particular, my sectors are reached through the High Peaks - Madrid, Redington and Mt. Abrams townships near the Kingfield rural hub, and in the Monson hub through the Kingsbury/Mayfield and Elliottsville Plantation UT areas.

Apart from the environmental, economic, and ecological concerns of MATC, NRCM & others, I'm also concerned if commercial development in LURC proposal's potential "1x7 mile strips" occurs, these historical, convenient routes may become blocked, gated or otherwise foreclosed by unforeseen new development in LUPC's potential "strips", preventing our current access routes, and unfortunately complicating, if not preventing, our volunteer maintenance & monitoring duties.

Accessing the AT otherwise at often far off trailheads, to complete our volunteer duties maintaining & monitoring its NPS boundary would add extra long miles to

reach our work areas, reducing our onsite work time before day's end. An unintended consequence of LUPC's proposal, I'm sure.

I also join in the critical comments below of MATC, NRCM, the Appalachian Trail Conservancy, the Appalachian Mountain Club, and The Nature Conservancy, opposing the rule changes' adverse effect on scenic, wilderness, habitat and natural resource values of the Appalachian Trail. These effects influence tourism and recreation in western and north-central Maine by threatening the character of the rural Maine landscape and the scenic values that attract visitors to the Appalachian Trail.

All agree as I do, the broader effect of the proposed adjacency rule change will do just the opposite of LUPC's reason for the change, by actually "harming both the natural resources of the jurisdiction and the economic viability of the communities that border the UT."

Recalling Mainers' oft' repeated lament, *if it ain't broke, don't fix it*, I join those who urge LUPC to reconsider its proposal and retain the current "one mile" rezoning from existing, similar development adjacency rule.

Respectfully submitted,
Jeffrey A Smith
418 Swan Lake Ave
Swanville, ME 04915
207-338-0558

Background History:
Development in the Unorganized Territories of Maine has been regulated for the last 46 years by the adjacency rule, which stipulates that areas to be rezoned for development must be within one road mile of existing, compatible development.

The new LUPC adjacency proposal would create primary development zones near current towns that have retail activity and public services which they call retail hubs. These primary zones are within two (recently amended 1) miles of a public road and ten (recenty amended 7) miles from a retail hub boundary. Residential subdivisions, industrial development, and commercial retail, service, and recreation development would be allow ited in primary zones.

Secondary zones are within five miles from a public road and in an Unorganized Territory that abut a retail hub. Residential subdivision is allowed in secondary zones.

Comments were submitted to the LUPC by the MATC Landscape Protection Committee on the following areas of concern: Newry/Grafton Notch, High Peaks - Madrid, Redington and Mt. Abrams townships, the Forks/Moxie Pond, Kingsbury/Mayfield, and Elliottsville Plantation.

"New rules for the development in the Unorganized Territories in Maine being proposed by Maine Land Use Planning Commission (LUPC) would create primary and secondary development zones in lands adjacent to the Appalachian Trail in the Baldpate, Bigelow, Kennebec, and White Cap Districts. While the Appalachian Trail corridor itself is protected,

development of businesses and residential subdivisions would be allowed near the trail in these zones . This would significantly impact the wilderness experience that is the Appalachian Trail in Maine."

Conservation organizations in Maine support retaining the current one-mile adjacency rule include the Appalachian Trail Conservancy, the Appalachian Mountain Club, The Nature Conservancy, and the Natural Resources Council of Maine.

The Appalachian Trail Conservancy's statement is that the rule changes "threaten the scenic, habitat and natural resource values of the Appalachian Trail in Maine and endanger the vitality of the A.T. Communities we support."

And that: "In order to promote tourism and recreation in western and north-central Maine, we need to protect the values that draw visitors to the area. Unfortunately, the proposed rule changes do just the opposite and threaten the character of the rural Maine landscape and the scenic values that attract visitors to the Appalachian Trail."

NRCM specifically opposes the rule changes: "NRCM...acknowledges the changes that have been made in this proposed rule. However, those changes do not dispel our fundamental concerns about the proposed rule. We do not support the proposed rule because we believe that it would harm both the natural resources of the jurisdiction and the economic viability of the communities that border the UT." NRCM detailed 12 specific reasons why it opposes the proposal.

Jeff Smith
Swanville 04915

One could do worse than be a swinger of birches. -- Robert Frost

From:	Linda Woods
To:	Godsoe, Benjamin
Subject:	[EXTERNAL SENDER] Revised Application of the Adjacency Principle & Subdivision Standards
Date:	Thursday, January 17, 2019 10:48:33 AM

Greetings,

As members of the Land Use Planning Commission, it is your responsibility to plan for sensible use of Maine's unorganized territories. The key word in that sentence is *sensible*. Changing the Adjacency criteria in unorganized territories is not protecting what most Mainers value. I have studied enough about ecosystems to know that any change in one aspect affects multiple systems, many undetectable to humans. Developing in unorganized territories is habitat encroachment, causes erosion, and may affect our waters.

"The North Woods" is a marketable commodity that needs to be preserved. Like many people, I recreate in these unorganized territories. I value this pristine space away from the chaos of the city where I reside. Allowing for sprawl would negatively affect this landscape in an irreversible way. As you know, once something is developed, there is no turning back. From my latest reading, I have learned that "nightscape" tourism is increasing. People pay money to go to places where they can have uninterrupted viewing of the night sky. This could be another income stream ruined by increased development.

You have been tasked with being a voice for the wilderness, and I call on you to do just that. Please vote NO to the Revised Application of the Adjacency Principle & Subdivision Standards.

Sincerely,
Linda Woods
Waterville

From: Malcolm Hunter Jr
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC adjacency rules
Date: Thursday, January 17, 2019 2:59:32 PM

I am writing to offer my perspectives on the proposed revisions to LUPC adjacency rules. I wrote briefly last June emphasizing my opposition as a native Mainer who has lived adjacent to the UT for over 40 years. Beyond my "neighborhood" I have explored the UT extensively, keeping track in a tattered DeLorme, and currently I have only 37 townships left to visit (plus two organized towns that abut the UT).

As I write today I wish to highlight my expertise as a wildlife ecologist who began studying the impacts of forest fragmentation in the early 1980s; to date I have published 47 research papers on the topic, as well as synthetic chapters on the issue in three books of global scope. Last year I was asked by LUPC staffers for my input on some specific questions pertaining to the width of wildlife corridors, but not the overall outcome of the proposed modifications.

I will skip sharing a long recitation on the impacts of forest fragmentation because I assume you have read Janet McMahon's recent and comprehensive treatise on the topic. I have read it fully and carefully and I wish to record my full support for her work and its relevance to the entire UT, not just the western mountains where her work focused. I would also emphasize that while her paper primarily addressed fragmentation at a modest scale, the impacts from fragmentation affect the North Woods as a whole, not just the individual places where a particular road, power line, or development is proposed. When looking at the entire UT, it is evident that it is a single entity with very limited impacts from fragmentation to date relative to comparable areas. Its intact status is truly remarkable, unique in the eastern United States, and very rare at temperate latitudes anywhere on Earth. From any number of perspectives--wildlife habitat, abundant clean water, recreation opportunities, carbon storage, and more —this unfragmented landscape has special values that should be carefully protected. This forest has come to its current state under the existing adjacency rules, but it will be threatened under scenarios of future development that are easy to envisage under your proposed modifications that generate so many nodes of development. Thus I once again urge you to abandon these rule changes that have the potential to lead to serious degradation.

Thank you for your attention……mac hunter

Haynes Brook Lane
Amherst

From: Rod Byam
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Protecting Maine's Unorganized Territory from development
Date: Thursday, January 17, 2019 9:44:52 AM

To:
Land Use Planning Commission (LUPC) 1/17/19

From:
Rodney W. Byam
14 Anbelwold Circuit
P O Box 225
York Beach, ME 03910

Re: Protecting Maine's Unorganized Territory from development

I urge the Land Use Planning Commission (LUPC) to take steps to protect our Maine woods from development. Wild and undeveloped tracks of land are highly valued properties in themselves. Once a parcel of land becomes developed, no matter how small, it stays 'developed', and will encourage more development all around it. Once developed, it will never become Wild and Undeveloped again. We need to protect and save our undeveloped lands.

When considering new rules that govern development, I would favor taking the approach of not allow any development on undeveloped lands. While my views may be extreme, it is how I feel on this matter. We can't get it back once it is gone. Our wild creatures need their habitat preserved!

Thanks

Rod

From: Rob Jones
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Protect the Maine Woods
Date: Thursday, January 17, 2019 9:43:46 AM

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i am writing to state my opposition to the development expansion in Maine's North Woods soon to be under consideration by the LUPC. It is time to put the environment first, period!
Robert Jones
Bridgton, Maine 04009

From: Helen Koch
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] comments on the LUPC adjacency principle proposal
Date: Thursday, January 17, 2019 2:24:41 PM

My comment is this: DON'T. The proposed changes represent the thin edge of the wedge. We need to protect our natural resources in order to protect the natural resource economy. The proposed changes will shatter and degrade the environment and ecosystems of Maine's north woods.

Five-year review? Developers will have a field day and it is impossible to go back. How many parking lots and blighted strip malls do you know of that have been restored into woodland?

The proposed changes open FAR TOO MUCH land and too many lakes to development. Large-lot subdivisions? How many residents in subdivisions prefer black flies to mowed lawns? People, unfortunately, don't understand their place in the landscape or the diet of the wildlife that they don't realize they are displacing.

"Recreation Supply Facilities"? Those belong in existing towns. Increase economic opportunity by protecting our natural resources, education, and growing the internet economy.

In short, we need MORE protected land, not less. You won't know what you've got until it is gone. These proposed changes will allow too much development and too much fragmentation of habitat. Do people flock to New Jersey to hunt, fish, hike, photograph and enjoy wildlife, and seek sublime solitude? I don't think so.

Helen Koch

P.O. Box 47
Northeast Harbor, ME 04662

207 276-4110 home

Comments for the Land Use Planning Commission
on Behalf of Friends of Katahdin Woods and Waters
Regarding the Proposed Changes to the Adjacency Principle
Thursday, January 10, 2019

Contact
Friends of Katahdin
Woods & Waters
PO Box 18177
Portland ME 04112
207-808-0020
www.friendsofkww.org
info@friendsofkww.org

501(c)3 nonprofit
organization

Good afternoon, Members of the Maine Land Use Planning Commission,

My name is Andrew Bossie and I am executive director of the Friends of Katahdin Woods and Waters.

The Friends of Katahdin Woods and Waters is a member supported organization whose mission is "to preserve and protect the outstanding natural beauty, ecological vitality and distinctive cultural resources of Katahdin Woods and Waters National Monument and surrounding communities for the inspiration and enjoyment of all generations."

Consistent with our mission, we are supportive of new development that will add to the health and vibrancy of the communities surrounding the National Monument. Accordingly, from our beginnings, we have helped support the National Park Service's Visitor Contact stations at the Patten Lumbermen's Museum and on Penobscot Avenue in the heart of downtown Millinocket to encourage visitors to the National Monument to visit the communities and patronize local businesses. We would like to help the organized towns around Katahdin Woods and Waters National Monument grow and prosper as gateway communities to the National Monument.

Our review of the proposed rule revisions relating to the adjacency principle has raised significant concerns about the proposed "primary" and "secondary development areas" in the Katahdin region. The Katahdin Woods and Waters Scenic Byway winds its way through both organized towns and unorganized townships from the south gate of Baxter State Park, up route 11, and in to the north gate of Baxter State Park, encircling the Katahdin Woods and Waters National Monument. This route serves as the gateway approach for visitors to both the north and south entrances of Baxter State Park and both the north and east entrances of Katahdin Woods and Waters National Monument.

Significant portions of this gateway route, including land in T1R9 WELS, T1R8 WELS, T3 Indian Purchase Township, TA R7 WELS, Grindstone Township, T1R6 WELS, Soldiertown Townships, Herseytown Township, Mt. Chase Plantation, T5R7 WELS, T6R6 WELS, and T6R7 WELS are designated as primary development areas. The result of this designation would be scattered commercial and residential development along

virtually the entire length of these currently, largely undeveloped, forested roads leading into two of Maine's most prized public lands.

In addition to the primary development areas along the scenic byway, the proposed rule would designate the entire townships of T3 Indian Purchase, TAR7 WELS, Grindstone, T1R6 WELS, and Mt. Chase, and significant portions of T3R7 WELS and T4R7 WELS as either primary or secondary development, opening up these extensive areas to scattered residential development. These lands are, in many cases, miles and miles on private gravel roads from public services and existing development. Their designation for residential development is simply the result of a mathematical calculation (five miles from the border of a rural hub) and bears no relationship to whether the area is actually suitable for residential subdivision development. Scattered residential subdivisions throughout these extensive areas would significantly degrade the undeveloped, forested recreational experience that visitors to the region seek.

Attracting development into these primary and secondary development locations outside of the organized towns would have major, long-lasting negative impacts on the Katahdin region. In addition to the negative impacts on Baxter State Park and Katahdin Woods and Waters National Monument, it would also negatively affect the economic vitality of the neighboring organized communities. Designation of the primary and secondary development areas combined with the existing much lower tax rates in the unorganized townships would attract development out of the organized towns and into the unorganized area. Towns would lose the potential revenue that development within their boundaries would create but bear the additional costs the new development would generate.

The Katahdin region is currently in the midst of a region wide visioning process, the first step toward developing a region-wide land use plan. Friends of Katahdin Woods and Waters staff and board members have participated in this process. We have seen hundreds of citizens spending thousands of hours in this effort. They are focused on growing local jobs and a regional economy, encouraging walkable villages that serve as gateways to the wilderness, and attracting the next wave of forest products companies into existing industrial sites.

The Land Use Planning Commission should not undermine this locally driven effort by adopting rules that would be inconsistent with the strongly expressed desires to encourage both commercial and residential development in the downtowns of these communities and next to existing nodes of development, not miles away from town in currently undeveloped areas.

The Katahdin region is a mixture of organized towns and unorganized townships. Planning and zoning in this region should include representatives of both towns and unorganized townships. We strongly urge you to remove the Katahdin region from this proposed rulemaking and engage with the ongoing efforts to create a vision and associated planning for the region.

Thank you for your attention.

January 11, 2019

LUPC Adjacency Public Hearing Comments

Appalachian Trail Conservancy

The Appalachian Trail Conservancy is a 44,000 member non-profit dedicated to managing and protecting the Appalachian Trail, working in partnership with land managing agencies and the Maine Appalachian Trail Club. We have an office in Farmington, Maine for our Maine Program Manager and run a seasonal Visitor Center in Monson, Maine. Our work in the Unorganized Territories covers the townships the Appalachian Trail passes through in Oxford, Franklin, Somerset and Piscataquis counties.

The Maine Appalachian Trail Club's Landscape Protection committee also endorsed the following comments.

Support

We would like to begin by thanking the staff and commission for their response to the public comments from June 2018 as demonstrated in the new draft adjacency and subdivision rules. The staff have been thoughtful and open throughout this process. Thank you for listening to the concerns of citizens.

We would like to express support for provisions added to or changed in the November 2018 draft of the adjacency rules including the reduction of the primary location distance and the removal of Newry and Eustis from the list of rural hubs. We believe these changes will better protect the remote character of the unorganized territories and reduce strain on emergency services. We would also like to express support for the protections listed in the subdivision rules for scenic resources, hillsides and ridgelines, plant and natural communities, non-motorized trails and wildlife passage.

Proposed Changes and Additions

Trailhead Definition

We would like to propose adding a definition of "Trailhead" to the list of definitions. We believe that the current language of "access point" is vague and could lead to misunderstandings of the rules. Our proposal is as follows:

Trailhead: An outdoor space that is designated by an entity responsible for administering or maintaining a permanent trail and that is developed to serve as an access point to the trail, that is publicly accessible, and that provides adequate parking in an off-road lot for the use of the trail. The junction of two or more trails or the undeveloped junction of a trail and a road is not a trailhead.

This definition differentiates between access points for trails and developed trailheads. It uses defined terms and language, including "publicly accessible" and "adequate parking," that is used elsewhere in

the document. The off-road qualifier is added because promoting use of pull-offs can cause issues for public safety and damage to roadside vegetation.

The following shows where in the document this new terminology should be used. New wording is bolded:

- 10.08 A Section 2 - 2. Recreation-based Residential Development
    - Recreation-based Residential Activity. D-RS subdistricts for recreation-based subdivisions shall be located within one-half mile of the following:
        - Management Class 4 or 5 lakes;
        - Management Class 7 lakes that have at least five existing dwelling units, at least one existing dwelling unit per 50 acres of surface area, and at least one existing dwelling unit per one-half mile of shoreline; or
        - **Trailheads that serve permanent trails** that accommodate motorized vehicles, non-motorized vehicles, or equestrian use, and have an appropriately-sized parking area and sufficient additional user capacity to serve users from the proposed residential use.
- 10.21 K Section 2.a.2 – Recreation-based Commercial Development
    - (3) Recreation supply facilities within one-quarter mile of a water access point that is publicly accessible on a Management Class, 4, 5, or 7 lake or within one-quarter mile of **trailheads that serve permanent trails that support motorized vehicles, nonmotorized vehicles, or equestrian use.** Recreation supply facilities must not be located within one-quarter mile of a Management Class 1 or Management Class 2 lake, and not within one-half mile of a Management Class 6 lake. The proposed commercial development must have adequate parking that is 01-672 CHAPTER 10 10.21,K (D-RD) 34 Maine Land Use Planning Commission separate from designated parking for trail use when existing space cannot accommodate both trail users and all activity as a result of the proposed development.
- 10.27 S. b. - Standards for All Recreation Supply Facilities.
    - Resource Dependency. Facilities must supply equipment or services primarily for use by people pursuing recreational activities on recreational resources such as trails that support motorized vehicle, non-motorized vehicle, or equestrian use, or on bodies of standing water greater than ten acres in size. 01-672 CHAPTER 10 10.27,S 94 Maine Land Use Planning Commission
    - Proximity to Resource. Facilities must be located within one-quarter mile **of trailheads that serve permanent trails that support motorized vehicle, nonmotorized vehicle, or equestrian use;** or within one-quarter mile of publicly accessible points of access to a body of standing water greater than ten acres in size, and not within one-quarter mile of Management Class 1, or Management Class 2 lakes, and not within one-half mile of Management Class 6 lakes.

Added protection for permanent trails

We also propose adding protection for permanent trails from resource extraction development. Our proposal is for ½ mile, which is the same distance used for protection of residential development and lakes. Resource extraction activities can degrade the experience of users of permanent trails and cause a public safety issue if they occur too close to the trails. We would accept a waiver if extraction activities occurred off season from the permanent trail's main use.

Township-specific Comments

We would like Elliotsville Township to be removed from the primary and secondary zones. Elliotsville Township qualifies because it is adjacent to Greenville and there are public roads within 7 miles straight line distance from the boundary with Greenville. However, access is through Monson. Emergency services needs to come from Greenville or Dover-Foxcroft, each over 20 miles away by road.

We are also concerned about secondary locations in Mt Abram township. Although it is adjacent to Kingfield, it is a remote area. Development in this township would negatively affect plant and animal communities and scenic resources.

Thank you for the opportunity to comment.

Claire Polfus
Maine Program Manager
Appalachian Trail Conservancy
PO Box 454
Farmington, ME

Godsoe, Benjamin

From: Diana Cassel <dcassel@coa.edu>
Sent: Friday, January 18, 2019 9:30 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency participation

Dear Sir,

I have recently moved to Maine for a myriad of reasons including the pristine beauty of the landscape and the chance to see wildlife (animals in their natural habitats, not in a zoo).

I have spent my life in cities, housing developments and strip malls that make up a large chunk of our country. I remember visiting Cape Cod as a teen and seeing the small towns and large amount of land and thought, this is where I want to live. Recently I visited there and was saddened when I saw most of the Cape covered in strip malls along with the accompanying traffic jams. It was no longer worth the effort and frustration to visit. I doubt I will EVER visit Cape Cod again. I don't want Maine to suffer a similar fate.

I understand the desire to 'monetize' Maine, but the loss of the natural resources, in my humble opinion, far outweighs the benefits of the development of McMansions and mini malls. There are enough 'hubs' in Maine to allow residents to obtain products for their needs (and don't forget the internet).

I implore you to vote NO to updating the adjacency proposal. It will truly be a sad day if the stunning beauty of Maine, along with the robust animal life, is replaced with homes and retail stores and ends up looking like the vast majority of 'strip mall' America.

Thank you,

Diana Cassel
Director of Financial Aid
Kaelber Hall

College of the Atlantic
105 Eden Street
Bar Harbor, ME 04609
(207) 801-5645
FAX: (207) 288-2328
School Code: 011385

Godsoe, Benjamin

From: Jackson Day <jday20@coa.edu>
Sent: Friday, January 18, 2019 8:31 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency participation

Hello,
I am concerned that the revised LUPC map proposal opens a large amount of forest and natural habitats to development. The protection of the continuity of the Maine forests is important to me to keep the sound health of our ecosystems. Fragmenting ecosystems weakens them and I think we should look at the health of our forests as a primary concern for future development.
Thank you,
Jackson Day, student at COA

To: Maine Land Use Planning Commission

Re: Proposed adjacency and subdivision regulations

January 18, 2019

Chairman Worcester and Commission Members,

I submitted oral testimony at the January 10 public hearing. The 3 minute time limit and my own inexperience as a speaker didn't allow me to adequately convey my main point of opposition to the proposed regulations.

The economic health, growth and prosperity of the so called "rural hubs" is something everyone supports, including myself. As I mentioned at the public hearing, properly sited commercial forestry development in the unorganized territories along with well thought out recreational facility development may help to foster growth of the rural hubs and perpetuate current landowner patterns, which I believe is good for the unorganized territories and the State of Maine. We should want to help those landowners who are truly dedicated to growing timber products survive. The alternative is vacation homes, private hunting and fishing preserves and otherwise inaccessible land - all too common in other states.

Creating new opportunities for residential and recreational subdivisions will not save the rural hubs. There are too many other sociological factors influencing the declining population and economic conditions of these rural towns. A study of building lots and homes for sale in the rural hubs reveals many opportunities for families to establish residence. One example I cited in my Jan. 10 testimony was the existence of at least 40 building lots in the town of Greenville. Other towns have similar numbers of real estate available. This does not indicate a lack of development opportunity to me. Lots in new subdivisions created in the fringe territories of the rural hubs will be purchased mostly by buyers looking for recreational property and camps. Some will even be purchased by investors looking for a place to put money in this low interest environment and then flip the property for profit in a few years. These new buyers will pay taxes to the State of Maine, not the rural hubs. They will have no children to bolster declining local school enrollments. Granted, they may temporarily employ some local builders to build a seasonal camp and buy some gas and groceries in town, but for the most part, will not add to the year round economy.

Unfortunately, there is a class of landowner in Maine (and the unorganized territories) whose business model involves buying woodland, removing timber, and then subdividing and selling the land. The proposed adjacency and subdivision guidelines and new primary and secondary zones will help this business model and be detrimental to Maine's North Woods. I predict the greatest change these new zoning and subdivision standards will bring is an ever-increasing number of subdivisions to the UT. The value of the surrounding land to the State of Maine for recreation and wildlife will suffer. Landowners can already sell 2 lots every 5 years from a parcel with no approval, why do they need more incentive to subdivide?

I understand the leap-frogging disadvantages to the current adjacency rules. Surely, your staff can come up with a plan that does not swing the development pendulum so far in the other direction. Increased efforts at regional planning might be a better approach.

What Maine has in it's unorganized territories is unique in the eastern United States and will become more valuable to the state's forest and recreation economy in the future. More subdivisions will just help to reduce that value.

Thank you for the opportunity to comment.

Jonathan Robbins
Consultant Forester
Searsmont, Maine
Life-long Maine resident

APPALACHIAN MOUNTAIN CLUB
YOUR CONNECTION TO THE OUTDOORS

Written Comments for LUPC Proposed Revisions to Application of the Adjacency Principle

January 18, 2019

The Appalachian Mountain Club is the nation's oldest outdoor recreation and conservation organization. We are dedicated to promoting the protection, enjoyment, and understanding of the mountains, forests, waters, and trails of the Northeast. Here in Maine, we own and manage 75,000 acres of land in Piscataquis County, and focus our efforts on public outdoor recreation, resource protection, sustainable forestry, and community partnerships. This project, called the Maine Woods Initiative (MWI), is the largest land conservation effort in AMC's 140 year history.

Our experience provides us with multiple interests in the adjacency review process as a landowner, recreation facility operator, and conservation organization.

AMC has been involved in this effort to review the adjacency principle for several years and want to thank the LUPC staff for their diligent work throughout the process. We appreciate their patience and willingness to work with us and commend their continuing openness to feedback. They have been through several iterations of this draft and have spent substantial staff time identifying stakeholders across the state to bring them into the discussion. We are pleased to see many changes based on our ongoing dialogue with LUPC staff and our partners but continue to have concerns about particular aspects of the proposal. Given these concerns, we remain opposed to the December 2018 proposed rule revisions.

Primary Locations:

During the spring 2018 review period, AMC recommended alternative distances for primary locations. We remain concerned that encouraging development 7 miles from the boundary of a rural hub will have negative impacts on the character of the area and wildlife habitat. We appreciate the stated LUPC goal of locating new development "close to existing development and public services" and would strongly recommend **3 miles from a rural hub and within 1 mile of a public road** as a more appropriate starting point for this major change. We understand that there is rational behind measuring these distances from the boundary of a rural hub rather than from the existing, on the ground development centers but want to reiterate that using the boundary lines as the starting point adds substantial distance within the rural hubs before even factoring in the proposed 7 mile primary location area. We think a smaller primary area will better address the LUPC's intent of getting development as close to communities as possible.

Maine Offices: Conservation Policy Office • 14 Maine Street Suite 0126 • Brunswick, ME 04011
Maine Wilderness Lodges • P.O. Box 310 • 15 Moosehead Lake Road • Greenville, ME • 04441
Headquarters: 10 City Square • Boston, MA 02129

We know that LUPC intends to include a review trigger for this change. Given that, it seems easier to add additional areas to primary locations if LUPC finds there is demand after the initial review period. We firmly believe that starting with 3 miles would allow LUPC to test this new model and leave room for future expansion if necessary.

Additionally, AMC recommends removing the provision that extends primary locations to areas within one mile of a public road in all plantations. Without a more concrete assessment of which plantations have appropriate existing clusters of development, it is hard to justify this "one size fits all" approach. Plantations have varying levels of development and we don't think the presence of a public road should be the only factor in assessing if plantations are appropriate primary locations.

Rural Hubs, Scenic Byways, and Management Class 3 Lakes:

AMC appreciates the work of LUPC staff to refine the list of designated rural hubs. We appreciate the additional removal of Newry and Eustis. Addressing some of these outlining hubs helps break up contiguous sections of primary locations between communities and concentrates development closer to the more active rural hubs.

However, we remain concerned about the impact on designated scenic byways and Management Class 3 Lakes. We are content with the suggestion from staff to discuss scenic byways in the basis statement of design standards and will continue to work on this aspect of the proposal in our region as it comes up. Based on a review of key Management Class 3 Lakes, AMC believes the lands around the following lakes should not be included in the primary location: Clayton Lake (T12 R8 WELS), Horseshoe Pond (Coburn Gore), Pocumsus Lake (T5 ND BPP), Bowlin Pond (T5 R8 WELS), Caribou Lake (T2 R12 WELS), Endless lake (T3 R9 NWP), Fish River Lake (T13 R8 WELS), Grand Lake West (T6 ND BPP), Jo-Mary Lake Middle (T4 Indian Purchase), and Onowa Lake (Elliottsville TWP).

Low Density Subdivisons:

AMC continues to have major concerns with low density subdivisions. We fundamentally oppose "kingdom lots" and see them as a real driver of habitat fragmentation. They take productive forest and farm land out of production, increase costs for public services, and close off large areas for hunting, fishing, and other recreation opportunities. LUPC's own website states that allowing low-density subdivision development is a "substantial departure from past

policy". In our opinion, this substantial departure seems unjustified and is contrary to smart growth principles and the stated intent of the adjacency revision. We would like to see low density subdivisions removed from consideration. We think the General Management subdivision category should satisfy the majority of the needs in the region.

Residential Development Subdistrict (D-RS):

As a recreation organization, AMC has worked closely with LUPC staff and our colleagues at the Appalachian Trail Conservancy and the Maine Appalachian Trail Club to help staff better define aspects of the proposal related to trails. Our goal was to protect the expectations and experiences of various trail users and work within the various management goals and differences between trail types. AMC continues to believe that trail heads located within the designated rural hubs or trail heads with some level of existing development would be the best trails to locate additional development.

We support ATC's proposed definition of trailhead and encourage staff to incorporate it into the proposal:

> **Trailhead:** An outdoor space designated by an entity responsible for administering or maintaining a permanent trail and that is developed to serve as an access point to the trail, is publicly accessible, and provides adequate parking in an off-road lot for the use of the trail. The junction of two or more trails or the undeveloped junction of a trail and a road is not a trailhead.

We are also concerned about the proposed revision to subdivision design that allows subdivisions adjacent to permanent conservation land to waive the open space requirement. AMC worries this provision would attract clusters of development to the boundaries of conservation areas and might impact the conservation values and management goals of the landowners. We think this exemption should be removed from the final adjacency proposal.

Resource-Dependent Development Subdistict (D-RD)

Ultimately, AMC continues to believe that development should be located in or as close to the established communities in and around the UT as possible. Locating farther out into the UT does little to support the economic development efforts of the local communities. **We remain supportive of any effort to meaningfully incentivize all types of development in Maine's rural communities.** There are existing opportunities for businesses to creatively market their services

APPALACHIAN MOUNTAIN CLUB
YOUR CONNECTION TO THE OUTDOORS

by including gear delivery, shuttles, or bag lunch options for people traveling through these communities to more remote recreational opportunities. These opportunities should be prioritized over new development.

Overall, AMC appreciates the various changes that have been made to this proposal and hope our additional concerns can be taken into consideration to improve the final version. AMC especially appreciates the note in the proposed rule that expresses the intent of the Commission to review the effectiveness of this rulemaking after 5 years or 5 rezonings in a county. This review addresses a major issue outlined in public feedback but we would like to see the language modified or formally written into rule to make it both enforceable and clear to all stakeholders.

Thank you for the opportunity to participate in this process. We look forward to reviewing the next iteration of this proposal. Please don't hesitate to contact me directly (at kbernard@outdoors.org or (207)808-4424) if you have any questions.

Kaitlyn Bernard

Kaitlyn Bernard
Maine Policy Manager

Godsoe, Benjamin

From: Mark Norton <mfnorton@hotmail.com>
Sent: Friday, January 18, 2019 4:00 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPS proposed Adjacency Rule change

Dear Benjamin,

I wish to go on record as being opposed to changing the existing "one mile by road" requirement. You've heard from many individuals and organizations who have legitimate concerns about irreversible harm to forests, landscapes, water, wildlife and Maine's unique and economically valuable outdoor market brand. Since the majority of respondents share these concerns, this ill-conceived change should be scrapped. Making it easier for subdivisions and commercial enterprises to migrate away from existing communities will result in ugly sprawl (think York County) and loss of tax revenues to those municipalities.

People don't visit remote sections of northern Maine to see more of the blight they left behind. Do the right thing and protect our north woods by leaving the Adjacency Rule unchanged.

Sincerely,
Mark and Pat Norton
126 Town Farm Rd.
New Gloucester, Me. 04260

Godsoe, Benjamin

From: r s <sailing4me@hotmail.com>
Sent: Friday, January 18, 2019 7:09 PM
To: Godsoe, Benjamin
Subject: RE: [EXTERNAL SENDER] north woods

ron smith

Sent from Mail for Windows 10

From: Godsoe, Benjamin <Benjamin.Godsoe@maine.gov>
Sent: Friday, January 18, 2019 5:46:04 PM
To: r s
Subject: RE: [EXTERNAL SENDER] north woods

Hello,

Please send me your name so I can add it to the public record.

Ben

From: r s [mailto:sailing4me@hotmail.com]
Sent: Monday, January 14, 2019 6:44 PM
To: Godsoe, Benjamin <Benjamin.Godsoe@maine.gov>
Subject: [EXTERNAL SENDER] north woods

Please leave the north woods as they are

Sent from Mail for Windows 10

Godsoe, Benjamin

From: Alina Blakesley <alina.blakesley@gmail.com>
Sent: Saturday, January 19, 2019 5:31 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] My comments please listen

Commissioners and Staff,

As a concerned Maine citizen who loves camping in the North Woods, it seems clear from the January 10 public hearing on the current proposed changes in the adjacency rule that there is more critical work to do on this far-reaching, complex proposal, particularly in taking what you now have to work with the adjacent towns and communities affected.

While much work has been done in the planning process, there are still many concerns that need serious consideration and adjustment – some concerns that stand out:

- Measure adjacency of development zones from established downtown/service centers, not from rural hub boundaries. This will avoid large-scale leapfrogging and undermining these towns efforts to revitalize development within their boundaries.

- Remove Scenic Byways that fall into your proposed zones; they cease to be scenic if developed.

- Remove large-lot subdivision, these were already banned by the legislature; allowing them will cause large-scale and unwanted fragmentation.

- Remove Class 4 and Class 5 lakes and ponds that are at risk of overdevelopment in the current proposal.

- Much smaller zoning areas and stricter rules are needed in the new districts that allow natural resource-based commercial and industrial development. Protect Maine's natural landscapes and watersheds from non-renewable extractions such as metallic mining and gravel removal.

We cannot depend on "protective" environmental laws and regulations; we currently see these protections being rolled back under corporate influence at the state and federal levels.

Strongly consider retaining the current adjacency rules and use your current proposal which needs further adjustments and consideration to work more closely with the towns and communities for more logical and sustainable planning that affects them, their various geographies, and the state of Maine's economy and environment.

Respectfully,

Alina Blakesley
Boothbay Harbor

Godsoe, Benjamin

From: Barbara McClure <ba.mcclure44@gmail.com>
Sent: Saturday, January 19, 2019 10:07 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC policy change

I urge you, in the name of future generations of all life, to not eliminate the "one mile rule". Keep the forests in it's wholeness. Forests are the lungs of our planet and sequester carbon emissions. There is plenty of land available in Maine for development. We owe it to the Earth to be responsible stewards of this beautiful and relatively undeveloped 1.3 acres. MONEY CAN NOT BUY CLEAN AIR OR A HEALTHY EARTH.
Sincerely,
Barbara McClure
Hancock, Maine

Godsoe, Benjamin

From: Elizabeth Johns <elizjohns@gmail.com>
Sent: Saturday, January 19, 2019 2:57 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC proposed adjacency rule change

Dear Mr Godsoe:

My thanks to you and to the other LUPC staff and commissioners for your good-faith efforts to consider and respond to input from interested parties relative to proposed rule changes affecting permissible development in Maine's Unorganized Territory. I attended the public hearing in Brewer on January 10, and I was impressed by the number of positive comments people made regarding your decision making process.

My own interest in this question stems from 30-plus years of residence in Maine, from being a property owner in Grand Falls Plantation (south of Lincoln), and from being an appreciative and enthusiastic recreator in Maine's out-of-doors. Even more important, I write from the perspective of a worried citizen on the planet.

I take note of commenters who (unlike me) have the time and expertise to evaluate a proposal even they call complex and difficult to understand. The Natural Resources Council's conclusion: "The proposed new system is so complicated that it is difficult to understand what activities would be allowed where and to evaluate the likely impacts." An attorney at the Brewer hearing described the likely result of such complexity: ad hoc decision making that seems likely to stray from the original intent of the rulemakers. NRCM has no faith in the proposal to review the new guidelines after five years, and we all probably have sufficient lived experience to share in that skepticism.

Lacking as I do the time and technical expertise to evaluate and comment in detail on the proposed revisions, I'll base my comments on the values I hope you will uphold.

Maine is unique among the eastern states in having large tracts of undeveloped land that serve essential environmental functions. Increased fragmentation seems to be the greatest threat surrounding the proposed rule changes. I believe this risk should be your primary concern and should be avoided.

In the Brewer hearing, residents in Maine's rural communities made plain their concerns about declining populations and dwindling sources of employment. These are also urgent, immediate, and legitimate concerns.

As you weigh these two overarching considerations, please think about what we want Maine to be in, say, another 50 years. I urge that you permit only forms of limited development that will allow the UT to continue to retain its distinctive character and continue providing the important ecological and environmental services it does now: clean air and water; unbroken habitat for multiple species under pressure (or eliminated) in other parts of the country; ample quiet, "unimproved" places for people to get away...away from lights, traffic, commercial development, noise...away from each other.

Certainly we don't aspire to be a playground of second homes, whose residents have no real roots or investment in Maine's north woods. And yes, we do want traditional rural communities to thrive and hold the region's social and cultural roots in place.

I am sure those are the values you also approach your work with. But it's easy to be pushed into compromise, into "practical" decision making that tries to give everybody something, and especially the somebodies with the greatest economic clout, the best lawyers, the best connections. The people who stand to make a buck.

But this latter is the kind of decisionmaking that is drawing us as a society, and as a planet, ever deeper into trouble. And Maine is the kind of place where we can do better, where we can assert our distinctiveness and push back against the conventional decision making that prioritizes short-term economic gain (often for just a few) and has blighted so many other parts of the country. We can show a different way.

This is about equivalent to five minutes of testimony, so I'll stop here and thank you for considering my comments. But one last summary word: please: (1) think long-term; (2) keep the health of the planet foremost in your thinking; and, *within that frame* (3) strive to do as much as zoning can do to support the well-being of Maine's traditional rural communities.

Sincerely,

Elizabeth Johns

122 Forest Ave
Orono, ME 04473
(207) 745-6719

Godsoe, Benjamin

From: janet baumann <janetlynn821@gmail.com>
Sent: Saturday, January 19, 2019 7:57 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] re: Adjacency

I write this to register my opposition to the proposed policy change for the 'one mile rule' that would allow future development in our unorganized territory. I want to keep the Maine woods wild. Daksha Baumann, Penobscot, ME

Godsoe, Benjamin

From: John Greenman <jgreenman@gwi.net>
Sent: Saturday, January 19, 2019 9:39 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] proposed adjacency rule changes

Briefly (since I know you have a LOT of material to digest…)

Dear Commissioners and Staff
-Please keep the current adjacency rules!

-The proposed changes go against the LUPC Mission statement!

-Please work with the affected communities and villages to see if proposed changes would benefit them (their environment and economy). You might find that "one size doesn't fit all".

Thank you for pursuing reaction and commentary.

Sincerely,

John Greenman
Orland, ME

++++++++++++++
John Greenman
jgreenman@gwi.net
Mark Twain Audiobooks from Librivox

My Mark Twain audio recordings at Archive.org

++++++++++++++
"Morality" is doing what's right regardless of what you're told!
"Obedience" is doing what is told, regardless of what is right!

Godsoe, Benjamin

From: jody spear <lacewing41@gmail.com>
Sent: Saturday, January 19, 2019 11:41 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC adjacency

Dear Mr. Godsoe:

The LUPC changes, in response to last year's hearing, are not adequate to protect the UT from reckless development. As Janet McMahon's recent report points out, the impact of roads, power lines, and development could be devastating for ecosystems in the Western Mountains region. Other areas that would suffer particularly from inappropriate development, according to Cathy Johnson of NRCM, include Elliotsville Plantation, Herseytown, Tomhegan, Sandy Bay, Bald Mountain, and three townships: Riley, Freeman, and Madrid.
In addition to the trashing of natural areas by building subdivisions, we have reason to be concerned about mining and other destructive industries. We must not lose sight of the fact that keeping unspoiled forests and landscapes intact is protective against global climate change.
The one-mile rule, allowing development only near existing, compatible development, is based on sound logic and should be retained.
Sincerely,
Jody Spear, Brooksville

Godsoe, Benjamin

From: Jeremy Vroom <jvroom203@gmail.com>
Sent: Saturday, January 19, 2019 10:09 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency principle comment
Attachments: Adjacency principle comment .pdf

Hello,

Attached and as follows is a public comment that I wrote the the proposed changes to the adjacency principle. Let me know if you have any other questions or need anything else.

Best,
Jeremy Vroom

Adjacency Principle Comment

Originally, I came out of college with a degree in Geography, studying topics such as cartography, planning and development. This included an internship where I did mapping work in Northern Franklin County for a summer, and with Lewiston's City Planner for another summer. But even with that background it's been hard to wrap my head around many parts of the proposed changes to the adjacency principle in Maine, both what they mean and how they are being implemented. Since then, I've made my career in the outdoor industry where I've been able to see first hand how important Maine's outdoors is for my livelihood, and the livelihood of countless others also working in Maine's outdoor and recreation industries.

The first concern I have is the change to allow development within 7 miles as the crow flies. If any time is spent in northern or rural Maine, it's evident that there isn't too much that happens as the crow flies. I can't think of a better way to summarize this than the old saying you can't get there from here. By increasing it from 1 mile by road, to 7 miles from a rural hub, it creates a seemingly arbitrary guideline that comes out of right field since it's not really seen anywhere else in planning and development in Maine. By increasing this range, it will not only pull from our strong wilderness areas and protection of natural resources, but put further strain on the economic development within the existing boundaries of communities; or on utilities and emergency services that would be needed to support further development that would be allowed to leap frog.

My second concern, are the environmental impacts that this could have on Maine's lakes, rivers and waterways because of the increase in allowed development along them. Both residential and especially commercial. Maine's waters are already known for being some of the most pristine and untouched, they support outdoor activities such as backpacking, camping, paddling, white water rafting, and last but not least, fishing. Especially since Maine is one of the last holdouts for prized brook trout, which tend to be pretty sensitive to environmental changes. Since streams, lakes and rivers are joined by a kind of network, any poor development in one area, could quickly snowball to cause problems in far reaching areas.

In the end, I see the change to the adjacency principle as introducing a solution for a problem that doesn't exist. In doing so it will probably open up a can of worms for seen and unforeseen problems and consequences in the near future, and further down the road. I know that there's stipulation that it would be revisited in five years, but in those five years too much irreversible damage may be done to Maine's North Woods and rural areas throughout the state.

Jeremy Vroom
Bar Harbor, ME

Adjacency Principle Comment

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Jeremy Vroom
Bar Harbor, ME

Godsoe, Benjamin

From: Katie Greenman <kgreenman@gwi.net>
Sent: Saturday, January 19, 2019 1:40 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency Rule Changes
Attachments: LUPC Letter January 18.doc

Dear Benjamin,
Attached and below is my letter of concern for the LUPC Commissioners:

January 18, 2019

Re: Proposed Adjacency Rule Changes

Dear LUPC Commissioners,

As a resident of Orland, with a view of Great Pond Mountain which is protected along with 4,500 acres through the Great Pond Mountain Conservation Trust, I understand the gift of wilderness protection to all Maine residents. As a property owner on Alamoosook Lake, the president of our lake association, and coordinator for our native/invasive plant survey project, I understand the environmental impact of development on our natural environments.

When I reviewed the LUPC's mission these bulleted items stood out to me:

- Support and encourage Maine's natural resource-based economy and strong environmental protections;
- Prevent residential, recreational, commercial and industrial uses detrimental to the long-term health, use and value of these areas and to Maine's natural resource-based economy;
- Prevent the despoliation, pollution and detrimental uses of the water in these areas; and
- Conserve ecological and natural values.

With these in mind I don't understand how the proposed adjacency rule changes can possibly fulfill these objectives, unless the principle relating to rights of property owners is now prioritized.

- Honor the rights and participation of residents and property owners in the unorganized and deorganized areas while recognizing the unique value of these lands and waters to the State;

I urge you to resist this temptation that would alter the undeveloped land in Maine for which we are all stewards and upon which our state, nation and world depend for its contribution to ecological systems that slow climate change. Why change a rule which has worked to curb unrestricted development at a distance from current residential and commercial hubs ?

Imagine two people flying over the incredible expanse of Maine woods and lakes, pristine and undeveloped except for the occasional logging road.

For one of these people, her or his eyes light up with prospective development—subdivision housing, industrial plants, commercial outlets, mineral extraction…

For the other, his or her eyes light up with wonder. How magnificent that there remains this much land undeveloped for future generations to explore! Wildlife can find protection from the encroachment of humankind experienced everywhere else! Look at all the trees capturing the carbon that contributes to climate change! Look at the lakes that will remain unpolluted and unchoked by invasive plants! These habitats will be left alone to their own natural development.

Protection/Conservation will do no harm. Development without community vision has the potential of doing great harm, permanently.

The best thing we can do for struggling communities is to encourage responsible and green development of their local economies abiding by the current adjacency rule and not expand development into new areas.

This is a time to QUESTION GROWTH and do it responsibly with future generations in mind.

Sincerely,

Katie M. Greenman
Orland

January 18, 2019

Re: Proposed Adjacency Rule Changes

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I urge you to resist this temptation that would alter the undeveloped land in Maine for which we are all stewards and upon which our state, nation and world depend for its contribution to ecological systems that slow climate change. Why change a rule which has worked to curb unrestricted development at a distance from current residential and commercial hubs ?

Imagine two people flying over the incredible expanse of Maine woods and lakes, pristine and undeveloped except for the occasional logging road.

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This is a time to QUESTION GROWTH and do it responsibly with future generations in mind.

Sincerely,

Katie M. Greenman
Orland

Godsoe, Benjamin

From: Martha Block <marthamblock@gmail.com>
Sent: Saturday, January 19, 2019 1:02 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Maine's North Woods

I strongly recommend that you NOT expand development opportunities in Maine's North Woods. It's unique value lies in it's remaining in the wild state in which it has been protected to date. Please continue to protect it for future generations!

Sent from my iPhone

Godsoe, Benjamin

From: Paul Sheridan <sheridanpa@earthlink.net>
Sent: Saturday, January 19, 2019 10:10 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC comments re: changing criteria for adjacency

Attn: LUPC

I am deeply concerned about the impacts of a proposal by the Land Use Planning Commission (LUPC) to change criteria for adjacency. Adjacency is the screen that determines the general location of development in Maine's Unorganized Territories (UT).

I oppose the proposed rule changes. I support maintaining the current policy of allowing Unorganized Territories development one mile by road from existing, compatible development until LUPC engages in regional planning, preferably in conjunction with municipalities that share a border with the Unorganized Territories.

I oppose LUPC's revised proposed policy changes due to the negative impacts of these major proposed changes and the lack of sufficient information to fully evaluate the potential impacts of the rules. These rules could irreversibly harm the forests, waters, and wildlife of Maine's North Woods. Once existing protections are lost, it will be impossible to get them back.

Specifically:

-Requirements for open space associated with residential subdivisions would attract development to permanently conserved lands.
-The rules are complicated, making it difficult to fully understand, evaluate, or predict their potential impacts.
-1.3 million acres and 20% of the Unorganized Territories' lakes would be vulnerable to residential development.
-Allowing development along any public road within 7 miles "as the crow flies" from the boundary of 41 "rural hubs" would lead to strip development.
-Commercial development would be allowed across the landscape.
-The proposal to review the rules in five years would be completely ineffective.
-Subdivisions with limited environmental review would be allowed across the landscape.
-Loosening the rules to allow large lot subdivisions risks fragmentation of the North Woods.
-Recreation supply businesses far from towns would commercialize Maine's North Woods, undermine businesses in local communities, and compete with existing sporting camps.

I do support:

- Guaranteed legal right of access
- Hillside development standards

Thank you for your attention to these concerns.

Paul Sheridan
88 Hart Rd.
Northport, ME 04849
207-322-3961
sheridanpa@earthlink.net

Godsoe, Benjamin

From: Ryan Linn <dirtybrew@gmail.com>
Sent: Saturday, January 19, 2019 10:27 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC Adjacency Rules comments

Dear LUPC commissioners,

I appreciate the changes that have been made to your original proposals to alter the Adjacency Principle, especially those that take into account the differences in types of permanent trails, and the types of commercial businesses allowed in the vicinities.

However, I still have concerns about the permanent impacts of the rule change. In public comment periods, you have mentioned often that the current rules allow "leap-frogging" of development further and further into the unbroken forestland and that your changes would end that possibility. One of the potential effects that I see from the proposed changes, though, is that large areas would suddenly be opened to development rather than being slowed down by the leap-frogging process. What then happens if the zoning rules are changed again in another fifty years or so?

My main concern is the long-term and potentially permanent impacts on the north woods. Temporary businesses (food vendors, equipment rentals, and mobile forest products processing) leave minimal long-term impacts on the land, but things like houses and storefronts are essentially permanent fixtures, whether the businesses stay open or the houses are occupied. We already have plenty of small towns throughout the north woods that have been hollowed out by population decline— encouraging new development outside of these existing towns should not be our priority when trying to bring in residents or businesses.

I could go on about fragmenting of the land that was once owned in large tracts by paper companies, or the folly of assuming that more vacation homes are a cure to our rural economic woes, but I know you've heard plenty of that at the public comment sessions. I'm trying to keep this relatively short and to-the-point.

Thanks for your attention.
Ryan

Godsoe, Benjamin

From: andrew walsh <beckandy91@gmail.com>
Sent: Sunday, January 20, 2019 2:55 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC Proposed Rule Revisions re. Adjacency and Subdivision Standards

Dear Mr. Godsoe,

I am writing to comment on the Land Use Planning Commission's (LUPC) proposed rule revision regarding the Adjacency Principle and its potential effects on development in Maine's North Woods. I've lived in Maine over 13 years (not concurrently), and presently work for the State of Maine. I moved my family to Maine because of it's rural character and the opportunity to enjoy the near boundless forest lands, lakes, and mountains. In 1978, I hiked the entire Appalachian Trail at age 19, finishing on Katahdin. The grand sweep of wild land below its summit comforted me, knowing that I could someday find solace in and around the countless lakes, ponds, and mountains. While I know now that Maine's North Woods are hardly pristine wilderness, as many people think, they are a wild landscape capable of supporting both a timber industry and, perhaps someday, de facto wilderness if managed appropriately. Maine's North Woods currently provides habitat for fish and wildlife populations ranging from brook trout, moose, Canada lynx, and numerous resident and migrant bird species, including a large number of warbler species. For these reasons and others, I favor protection of the majority of this large section of Maine. This would entail strong regulation of development in sensitive natural community types (e.g., coldwater streams, bogs, etc.) and critical wildlife habitat, linkages where necessary to connect habitat on a landscape level, and responsible logging to support Maine's logging and forest products industries.

The current one-mile adjacency principle clearly presents the risk of leap-frogging development into sensitive habitat or areas important for recreation or other uses over time, and should be changed. The proposed rule revision of allowing development along any public road within 7 miles from 41 rural hub boundaries would permit commercial and residential development in existing remote locations, including undeveloped lake shores and large forest tracts. According to one source (NRCM), 1.3 million acres and about 20% of the Unorganized Territories' lakes would be fair game for residential development. Commercial development could occur on over three-quarters of a million acres and an unknown number of lakes, where this type of development is currently much more restricted. Large lot (or "kingdom lots") subdivisions, ended by the legislature in 2001, would be allowed under this rule revision. Given the current economic challenges faced by North Woods' communities, LUPC should focus new development in or adjacent to existing towns and communities, with efforts directed to enhancing their economic vitality towns.

The North Woods of Maine, despite significant alteration by the timber industry over the years, still holds a mystique to many. The expansion of development along wooded lake shores and into large forest tracts will shatter that quasi-wilderness so desired by so many in our otherwise hectic and structured world. LUPC has a critically important job of safeguarding the essence of Maine's North Woods in perpetuity for Mainer's and visitors alike (in addition to preserving its habitat value for wildlife. I strongly urge LUPC to rework the proposed rule change, as well as the existing one-mile adjacency rule, to improve protection of Maine's North Woods and focus development in existing towns and communities.

Sincerely,
Andrew Walsh

Godsoe, Benjamin

From: Bill Carpenter <bcarpenter@coa.edu>
Sent: Sunday, January 20, 2019 11:30 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] adjacency rules

Dear Mr Godsoe,

I want to register my opposition to any rules changes that would allow increased development in Maine's remote areas. Northern Maine occupies a unique position as a museum of undeveloped natural beauty. North Maine Woods has a strong tradition of controlling access and prohibiting structures. It serves the people of Maine with the wilderness we cherish rather than selling it off to a privileged class who both compromise the aesthetics and restrict access to property. I am always sad to come upon a once-pristine Maine lake and find it gated off and dominated by a mansion that limits the experience to one family that once was available to all. I hope you will maintain the protective regulations that have kept this state beautiful and will continue to do so in the future.

Thanks for your consideration

Bill Carpenter
Stockton Springs

Godsoe, Benjamin

From: Christian Wildes <christianwildes@gmail.com>
Sent: Sunday, January 20, 2019 4:20 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Please protect Maine's wilderness

Dear Mr Benjamin Godsoe,

Please protect Maine's wilderness from being destroyed.

I recently moved to Maine this past summer. I am drawn to Maine because of its wilderness. Don't let it disappear from Maine. Even if you think a little bit is ok. That will continue to be the reasoning until it is all gone. Stand up for what if right. Not what will make you money. Be the voice for all the living things that will be killed and forced away from their home. Allow our grandchildren to benefit health from the wilderness we have here in Maine.
I hope you find it in your soul to do what's best for the land of Maine. Protect it.

Thank you for your time in reading this.

With gratitude,
Christian Wildes

Godsoe, Benjamin

From: Donna Gold <donna@personalhistory.org>
Sent: Sunday, January 20, 2019 10:41 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] development in Maine's North Woods

Dear LUPC,

Maine's North Woods is the heart of what Maine is. I have been traveling into the woods for 30 years to hike, camp, and paddle. Our son carries the glory of Maine's lovely lakes and tall forests he was raised among into his work every day as an environmental lawyer. The current rules will suburbanize these lands and add to GhG emissions, as development allows people travel further and further to hubs. Wildlands are diminishing across the globe. Maine is a treasure trove of wilderness. It is what people come here for. Please please please don't diminish what we have.

Donna Gold
1135 US Route 1
Stockton Springs, ME 04981

Godsoe, Benjamin

From: Janet & Richard Doyle <jbdrad@maine.rr.com>
Sent: Sunday, January 20, 2019 2:38 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC's Adjacency Principle for Maine's North Woods

Hello Mr. Godsoe,

My husband and I both **oppose** the proposed rule changes.

We support maintaining the current policy of allowing Unorganized Territories development one mile by road from existing, compatible development until LUPC engages in regional planning, preferably in conjunction with municipalities that share a border with the Unorganized Territories.

The North Maine Woods are unique in so many ways – let's preserve it, not only for wildlife's sake, but Mainers and tourists, as well.

Thank you
Janet & Richard Doyle
Raymond, Maine

Godsoe, Benjamin

From: Mary Ignatiadis <mary.ignatiadis@maine.edu>
Sent: Sunday, January 20, 2019 11:57 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Comments on the proposed adjacency rule revisions

Mary Ignatiadis
42 Howard St
Old Town, ME 04468

January 20, 2019

Dear Benjamin Godsoe, Maine Land Use Planning Commission,

As an outdoor recreation enthusiast, I appreciate the chance to review and provide feedback on this extensive change proposed to the current development framework in Maine's Unorganized Territory.

The proposed update would change where new zones for subdivisions and businesses could locate. Many of these new development zones are located along Maine's scenic byways. These routes are popular travel destinations and support a unique experience as a visitor drives from more populated areas into the wild and remote parts of the state. Allowing development to extend along these roads outside of the service center communities would change the character and experience of these specially designated byways.

This proposal also specifically opens up all permanent trailheads and many Maine lakes to residential subdivision development. Trails like the Appalachian National Scenic Trail (AT), the Allagash Wilderness Waterway, the Northern Forest Canoe Trail, and countless others are revered because of the opportunity they provide for users to have a remote backcountry experience. Allowing homes to be developed within a 1/2 mile of the access points to places is too risky without a thorough analysis of which recreational resources can sustain substantial increases in use without altering their character or the user experience.

Instead of making these broad changes to the adjacency principle, LUPC should consider efforts to meaningfully incentivize development within existing communities in rural Maine. These places are already struggling to attract and retain the residents they need to support the services they provide.

There is certainly more room for growth in and adjacent to (within 3 miles) established communities. Growth should be focused there rather than expanding into currently undeveloped regions of the Unorganized Territory.

Finally, I will note that the background resources on the LUPC website are helpful but complicated. I encourage LUPC to slow down the process and engage in additional outreach around the state to ensure more people understand the content of this proposal.

Thank you for the opportunity to comment on the proposed adjacency rule revisions.

Sincerely,
Mary Ignatiadis

Godsoe, Benjamin

From: Barbara Hartford <hunybun7@yahoo.com>
Sent: Monday, January 21, 2019 4:26 PM
To: Godsoe, Benjamin
Subject: Re: [EXTERNAL SENDER] LUPC Adjacency Principle

Ben,
Thank you for your reply regarding my submitted comments. I had planned on attending last weeks meeting, 1/10/19, to further express my opinions of the Adjacency Principle, but unfortunately was no able to attend.

You ae correct in the fact that myself and others do care about the areas future.

With that being said, I must again stress that I feel changing the one mile rule, on the Grindstone Road, to a ten mile rule would be detrimental to the area, most particularly for the Town of Medway
.
I must thank you, Ben, for verifying that my understanding of the rules was and is an accurate. interpretation of the rule.

Rather than reiterating my previous comments, I will expand on those comments. When I was a child, every weekend we went for a ride up the Grindstone Road and back through the 9 mile woods, Haynesville. I am now 69. I can elaborate, but in a 'nutshell' the Grindstone Road has had minimal changed. The scenic beauty remains. Thus THE SCENIC BY-WAY to the National Monument. Leap frogging does not worry me. However, contiguous structures do. Especially commercial or, God forbid, industry.

Commercial, industry or housing built in the unorganized territory of Grindstone will not benefit Medway. It only lessens the municipalities potential for growth. We want people to come to Medway to build homes to add commercial or industrial growth, reduce our property taxes,to create jobs. We want people to come and visit, shop at our stores, eat in our restaurants or move to our nice little community.

So, again, I implore the LUPC to remove The Grindstone Road from the proposed zoning change. Keep the 1 mile rule in place, rather than imposing the 10 mile rule on a beautiful scenic by-way.

I would recommend the drive to anyone who has not already done so. Stop by the pines for a picnic and listen to the rapids, watch kayaks or canoes come thru, stop at Nealy brook to catch a trout, go fiddle heading on the river bank. Just a few examples. Maybe then would you understand it.

Sincerely

Barbara M Hartford
Chair Medway Board of Selectmen

On Friday, November 30, 2018 09:26:00 AM EST, Godsoe, Benjamin <Benjamin.Godsoe@maine.gov> wrote:

Ms. Hartford,

Thank you for your comments – I have added your e-mail to the public record and the Land Use Planning Commission (the Commission) will consider your letter. I also mailed you a copy of this e-mail because I thought it may be easier to look at some of the maps in paper form.

We really appreciate the time you have committed to participating in meetings and studying this proposal. It's clear that you, and other leaders in the Katahdin Region, care about the future of the area and it sounds like the work you all are doing to improve the economy is making a real difference.

That's why I think it's important to point out that some of the points you raise in your letter may be based on a misunderstanding of what is being proposed. I hope this response helps clarify some of these issues. We want to give you the best possible information on which to base your comments.

In your letter, you mentioned that the proposal would have the one mile rule change to a ten-mile rule. You shared concerns about the potential for development to affect the quality of the Route 11 scenic byway. You also suggested that while the proposed changes would simplify the rezoning process for the Commission, proper examination of rezoning proposals is still needed.

I've tried to address your concerns below, and have included a description of the current adjacency system and a comparison with the proposed new system. You specifically mentioned The Grindstone Road and I think that's a great example to think through because, from our discussions with you all in the Medway area, it sounds like there is real potential for new development there because it is so close to the new Katahdin Woods and Waters National Monument and Baxter State Park. The examples below focus mostly on the Grindstone Road, but if you would like to talk about other areas near Medway I'd be happy to do that too.

Summary of the Situation on the Grindstone Road

Here is a quick summary, but see the rest of the memo for more details: Under **today's system**, the existing residential development pattern on the Grindstone road in Grindstone Township and Stacyville provides a basis for **subdivisions to slowly move into Herseytown Township** from the North and South, one mile at a time. (This is called "leapfrogging.") Today there is very little opportunity for any commercial use, including recreation-related businesses to get a rezoning on the Grindstone Road because there is not much commercial activity there already.

Under the **proposed system, subdivisions would not be allowed** along the Grindstone road in most of Herseytown Township. This would be true going forward as well – there would not be any more "leapfrogging." There may be potential for some businesses that rely on being near the woods to locate in Herseytown Township if they are at a scale that is not too big for the area.

A little about the Rezoning Process

When someone applies to create a new zone for the purpose of developing a subdivision or new business, the Commission evaluates the proposal at three different levels:

- The first initial screen is designed to evaluate whether or not someone can even apply for a new zone in the location being proposed. This screen is called the adjacency principle, or sometimes the one mile rule of thumb. Its purpose is to determine whether or not a location is generally appropriate for whatever type of development is being proposed.

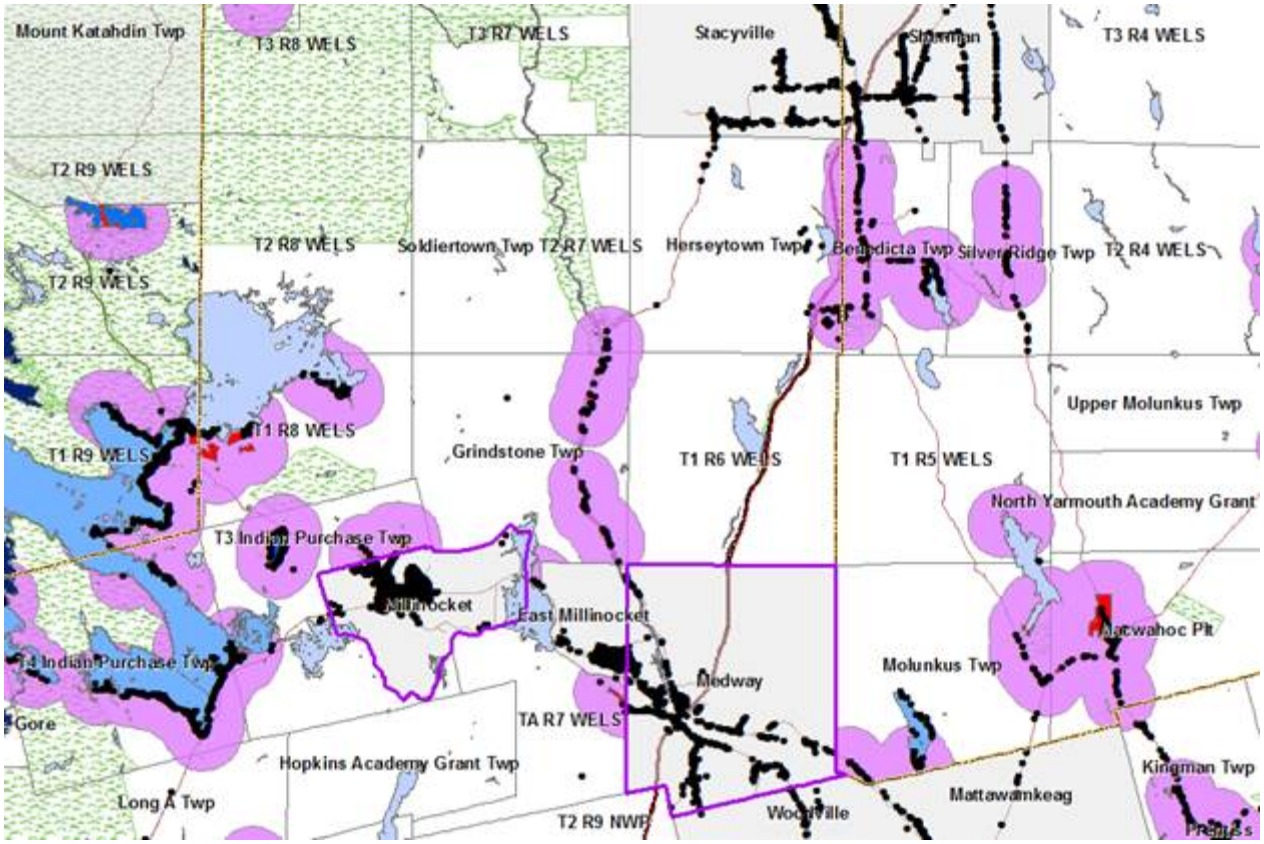
- Once a proposal passes the initial screen, the applicant can begin the process of applying for a new zone. The current adjacency proposal would not change the rezoning process, where the Commission evaluates potential impacts from development on natural or recreational resources.

- Once a new zone is created, the person who would like to develop a subdivision or start a business then must still apply for a permit for most uses.

The current adjacency system (the initial screen) requires that new zones for development be located up to one mile by road from existing development that is compatible. For example, if you have a cluster of dwellings on The Grindstone Road, today a property owner could propose a rezoning for residential subdivision one mile up the road from an existing cluster of houses or camps. By the same token, applications for a new zone for a business must be within one mile by road of an existing business.

The Grindstone Road Example: Today's Adjacency System

Below is a snapshot of a map that we discussed at a recent meeting in East Millinocket. (I mailed paper versions of each of the maps, which are larger than these shots and hopefully easier to read.) The black dots represent E-911 addresses, and the purple circles show areas within one mile of development zones that exist today.



If you look at the area north of Medway along The Grindstone Road, much of the road corridor in Grindstone Township is included in a purple circle. This means that today someone could propose a new zone for residential subdivision in those purple areas, and assuming the proposal meets the Commission's rezoning criteria, a new zone for development could be established. If this new zone were to be located at the northernmost part of the development pattern – in Soldiertown Township, it could then form the basis for another subdivision up to a mile away farther up the road, and so on. The current system does not limit development from "leapfrogging" out in one-mile jumps, and development anywhere can be a jumping off point for more development.

There does not appear to be any zones for commercial development along The Grindstone Road currently, so the potential for new zones for commercial is limited by the current adjacency system. For example, if someone wanted to apply for a zone to create a new trail center or other recreation business, it would be difficult for them to pass the one-mile rule of thumb because they would not be within one mile by road of another similar type of business.

Under the current adjacency system, the entire length of The Grindstone Road in Grindstone Township, Soldiertown Township, and Herseytown Township may eventually be able to pass the adjacency screen for development of residential subdivisions, but the potential for zones that allow commercial development would be limited.

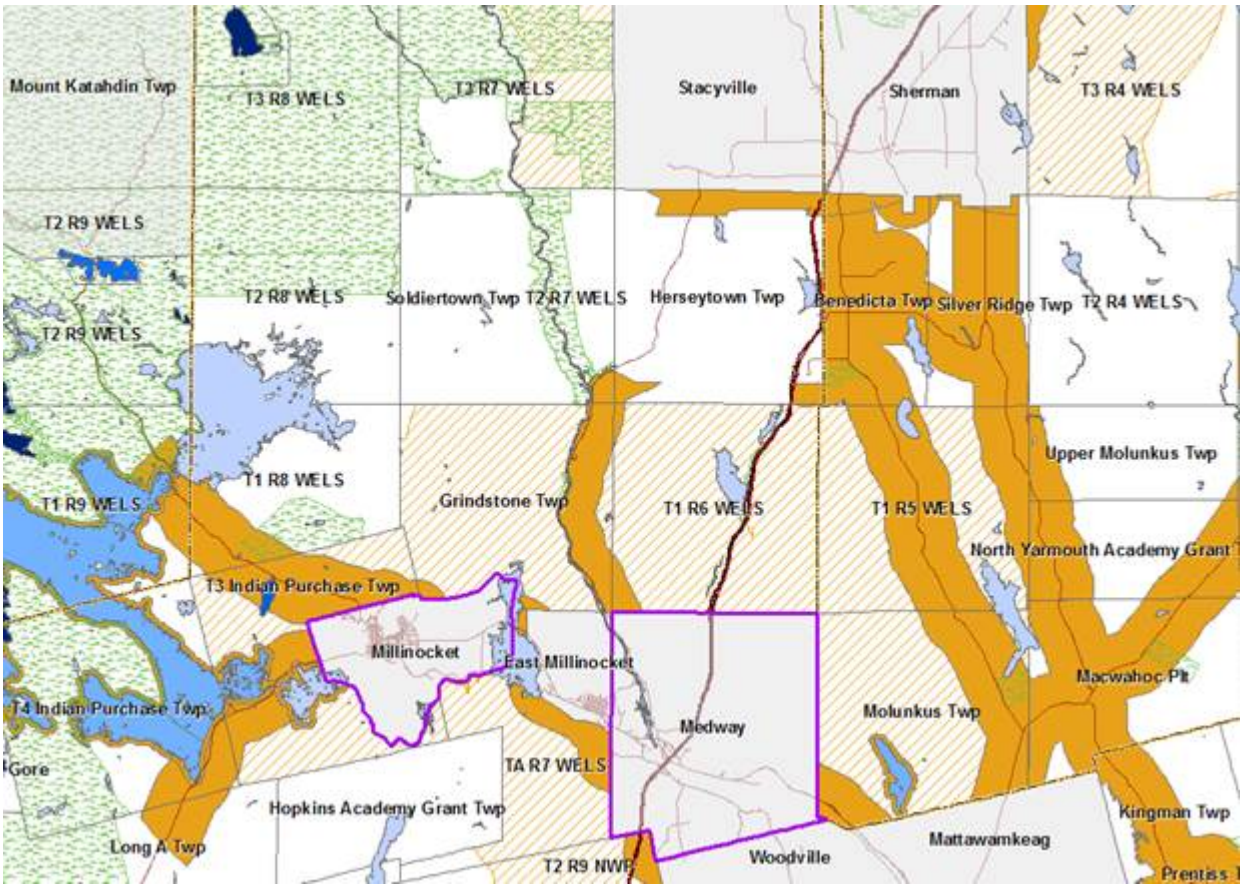
We think that the current system can be improved so that you don't end up with leapfrogging in places like along The Grindstone Road. The proposal to update the adjacency system is designed to specifically eliminate the "leapfrogging" phenomenon.

The Grindstone Road Example: Proposed New Adjacency System

The proposal would change the way the Commission applies the adjacency principle and would restrict most development to "primary locations" within seven miles of certain towns called "rural hubs," and within one mile of a public road. Someone would also be able to apply for a new zone for residential subdivision in a "secondary location" up to five miles from a public road if located in townships next to rural hub towns. This is different from the one mile rule of thumb, which requires development to be within one mile of other development, even if that is in a place where it would be difficult to provide services.

In order to pass the adjacency screen, someone applying to create a new zone for development would have to demonstrate that emergency services could be provided and that there is a legal right of access to the development from a public road, in addition to showing they are in one of the mapped primary or secondary locations.

Below is a map of the Medway region and The Grindstone Road. It shows primary and secondary locations (areas in orange and hash marks). It also shows conserved lands (in green), and proposed "rural hub" towns (purple outline). Medway is currently proposed as a rural hub because the information we have indicates that the town helps provide some services to communities in the surrounding Unorganized Territories.



Most residential development that requires a rezoning would be limited to primary or secondary locations. Most commercial development would be limited to primary locations. Someone would only be able to apply for a new zone for development outside of the primary or secondary locations in limited circumstances: commercial development that requires 3 phase power; camp subdivisions near recreation resources like lakes that already have significant development or near high-use motorized trailheads; or commercial development that needs to be on the farm, in the woods, or near recreation (e.g., processing, chipping, temporary recreation gear rental, a trail center reliant on certain features, etc.).

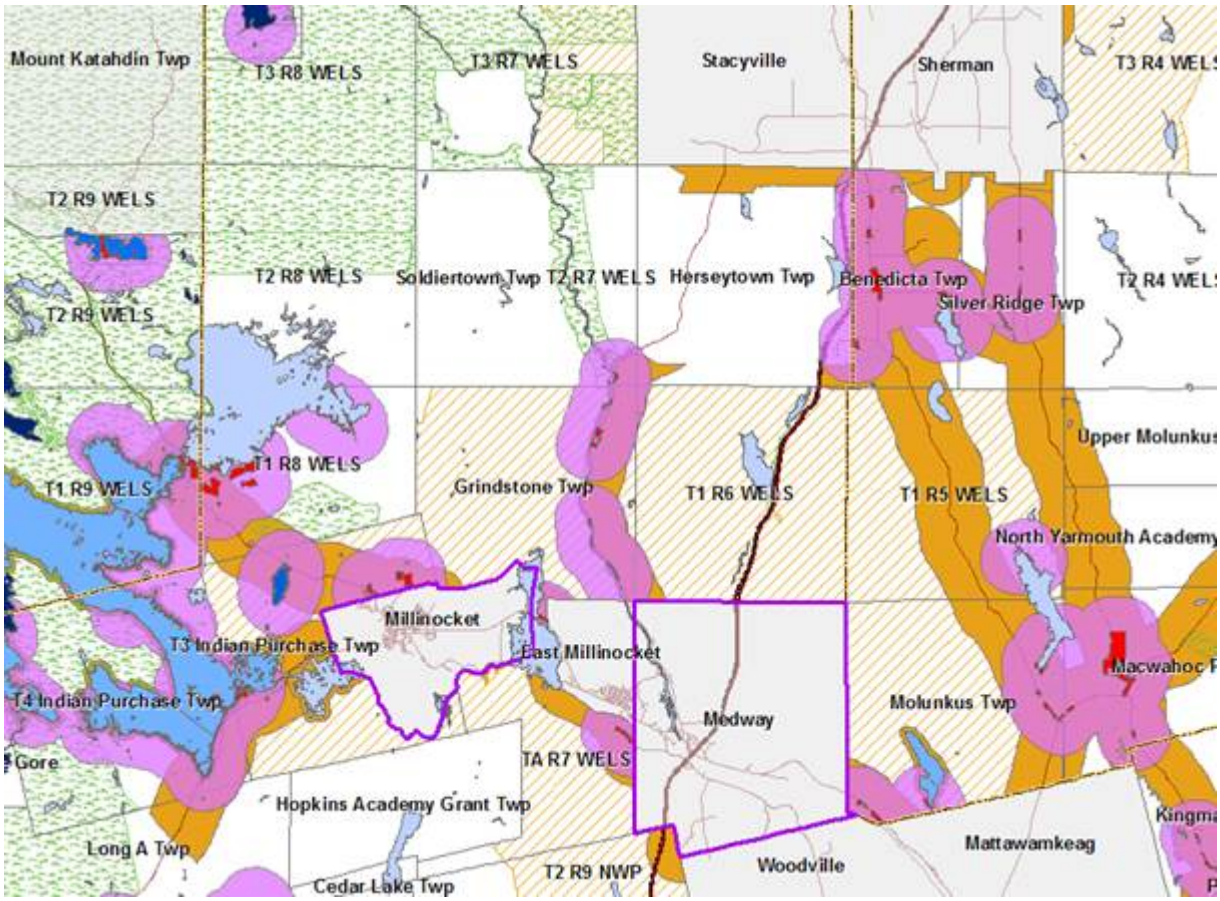
The proposed new system for applying adjacency would not allow applications for new zones for development along The Grindstone Road beyond the primary or secondary locations, the edge of which you can see on the map. As I mentioned above, there are certain circumstances when someone can apply for a rezoning outside of the primary or secondary locations, but it does not seem like this portion of the Grindstone Road would qualify for such a rezoning (there do not appear to be resources like permanent motorized trailheads, or lakes with development on them).

This proposal is different from the current system, which would allow the development pattern to slowly creep north all the way up to Stacyville because right now there is no cap on how far away from town someone needs to be to apply for a new development zone.

The Grindstone Road Example: Comparison of the two systems

- The key difference between the two ways of applying adjacency is that, for most development, today's adjacency system potentially allows unlimited rezoning for development near other compatible development, while the proposed new way of applying adjacency cuts it off seven miles from the boundary of a rural hub town like Medway.

  Below is a map that shows both the purple circles, and the proposed primary and secondary locations.



- In the Grindstone Road example, under the current system eventually new development zones for residential subdivisions could be created along the road all the way up to Stacyville. Under the proposed new system, someone could apply for a new zone for development up to seven miles from the boundary of Medway, but the pattern could not spread farther north.

- For commercial development, under today's system it would be difficult for someone to pass the adjacency screen for a new zone for a business because there does not appear to be anything existing along The Grindstone Road in the UT. Under the proposal, applications for new zones for most businesses would be limited to primary locations (seven miles from the boundary of Medway) unless the business is dependent on being close to a natural or recreational resource.

- As you pointed out in your letter, the Grindstone Road is designated as a scenic byway. Right now there is development along a portion of the road in Grindstone Township that would potentially serve as a springboard for more development under the current application of the adjacency principle.

The proposal, as currently drafted, would not give roads that are scenic byways special status in a rezoning process. However, if people in the Katahdin Region would like to work with the Commission to develop special design guidelines for the Route 11 Scenic Byway, or other resources in the area, the Commission would certainly be willing to explore that option with you.

Information about the process

Now that there is a new version of the adjacency proposal out, we revamped the website so it is easier to understand. There is a lot of information on the website, including a proposal summary and interactive map, and the new rule, and a cover memo with some of the changes summarized.

At the November meeting, the Commission voted to post the revised version of the rule for a **public hearing on January 8, 2019** (snow date: January 10, 2019). Written comments will be accepted until mid-late January. More details on this are coming and will be on our website when the hearing notice goes out.

I hope you find this information helpful. Please be in touch if you have questions or would like to talk about this further. Thank you again for participating in this process and providing helpful feedback.

Sincerely,

Ben Godsoe

From: Barbara Hartford [mailto:hunybun7@yahoo.com]
Sent: Monday, November 26, 2018 12:27 PM
To: Godsoe, Benjamin <Benjamin.Godsoe@maine.gov>
Subject: [EXTERNAL SENDER] LUPC Adjacency Principle

Benjamin Godsoe,

I must submit my objections to having the one mile rule chang to a ten mile rule. It appears this project was taken on without much consideration for Municipal hubs, as we are in Medway. As you know, we have been in economic decline in this region. We are finally working collaboratively with neighboring communities to revitalize the area and rebuild the economy. We are collectively working on a high speed broadband utility and new comprehensive plans. Medway is also working towards water and sewer infrastructure all to enhance the area to draw interest for businesses and individuals to want to be a part of our community and the area. Therefore I believe it is imperative to exclude the Grindstone Road Route 11, entirely from any change beyond the current one mile rule.

It is THE SCENIC BYWAY, which is beautiful, from the Medway Hub to the NATIONAL MONUMENT. Which potentially could be destroyed with the 10 mile rule.

I can appreciate that the change could simplify things for the Commissioners zoning requests. But under the current rule, which has worked well, proper examination of each request is needed.

Thank you for your consideration to review my comments.

Sincere Regards,

Barbara M. Hartford

Chairman Selectman

Town of Medway

Godsoe, Benjamin

From: William McCullough <wtmccull47@gmail.com>
Sent: Monday, January 21, 2019 11:57 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC proposal

Dear Mr. Godsoe,
I am writing to express my strong opposition to the LURC proposal to expand development locations in northern Maine. This proposal vastly over reaches a responsible position for development. This will lead to sprawl, sprawl, and more sprawl. Northern Maine is NOT northern Connecticut. Our natural resources, beautiful vistas, and wildlife habitat, in large measure, define our state. I cannot state my opposition to this proposal strongly enough.
Thank you for paying attention to my view on this.
Sincerely, Bill McCullough

622 Old Portland Road
Brunswick, ME 04011

Godsoe, Benjamin

From: Emily Ecker <eecker@gmail.com>
Sent: Monday, January 21, 2019 8:47 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Re: LUPC's Adjacency Principle for Maine's North Woods

To whom it may concern,
I am very concerned about LUPC's Adjacency Principle for Maine's North Woods.
My reasons include the following:
The North Woods (Unorganized Territories) **is unique** in Maine and the eastern US and must be protected, while allowing planned growth.
Once this is area is overdeveloped it will be lost forever. There is no going back.

The following LUPC proposed changes to the existing Adjacency Rule are unacceptable and must be dropped.

- Areas targeted for development would be expanded to an area within 7 miles as the crow flies from any one of 41 "rural hubs." This is an arbitrary term LUPC created that has never been used before in the region's planning.
- Lengthy stretches of five designated scenic byways would be impacted by potential development.
- More than 1.3 million acres and 20 percent of the lakes in the North Woods would be opened to residential subdivisions. 824,000 of those acres would be targeted for commercial development.
- Large lot subdivisions referred to as "kingdom lots," which were banned by the Legislature in 2001, would be allowed.

Therefore, we support maintaining the current policy of allowing Unorganized Territories development one mile by road from existing, compatible development.
Sprawl development is the death of the North Woods and the historic use of this area!

Comment submitted by Emily Ecker
168 Cushman Hill Rd. Woodstock, Maine 04219

Godsoe, Benjamin

From: fredwtodd@gmail.com
Sent: Monday, January 21, 2019 3:48 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Comments on proposed adjacency rule changes

To: Members of Maine Land Use Planning Commission
January 21, 2019

My name is Fred Todd. I am a native of Caribou, Maine, and currently reside in Pittston, Maine. I served on the planning staff of the Land Use Planning Commission for over 36 years .... starting in 1972 and retiring in 2008. At retirement I was serving as the manager of the planning division .. Samantha's predecessor.

I will limit my comments to (1) the seemingly unnecessary shift in policy to allow for low density lots (i.e. large lots) for development purposes, (2) the provision for certain uses within the core of the jurisdiction... that is, the area outside of the primary and secondary areas, and (3) seeking legislation that would allow for some of the tax benefits which accrue to the UT from development in the primary and secondary areas to partially accrue to adjacent organized towns which provide public services to the UT.

(1) **Low density subdivisions**: During my years on the staff, I witnessed the legislature struggle almost annually with the large lot exemption in the LUPC Law .... the so-called "40 acre lot exemption ". This exemption was long recognized as being inappropriately used for development purposes until finally the legislature limited its use to forestry, agriculture, or conservation purposes. It was finally recognized as unnecessarily removing land from forest production (one does not need 40 acres for a residence particularly in an area principally used for forestry.) One can say the same thing about low density subdivisions with a maximum lot size of 25 acres. Including this as an option seems like going backwards.

It should be recognized that subdivisions are really about the "rate" of development..... not purely development itself, since most of the Commissions subdistricts allow for single family dwellings without the need for rezoning. However, few subdistricts currently allow for subdivisions which are defined in statute as the creation of 3 or more lots in a 5 year period. Thus a land owner can create 2 lots in a 5 year period with out triggering the need to obtain a subdivision permit from the commission in much of the jurisdiction.

Recommendation: Remove the provision for low density subdivisions and the proposed new subdistrict for low density subdivisions.

(2) **Area outside of the primary and secondary areas.** The area outside of the primary and secondary areas (otherwise considered the core of the jurisdiction) contains the most sensitive of the values of the north woods : a sense of remoteness. The proposed rule changes have several provisions which, if not carefully administered , run the risk of dramatically changing the core of the jurisdiction. For example, the provision to allow for recreational subdivisions outside the primary and secondary areas of the jurisdiction. Staff has completed an analysis that would lead one to believe that this could occur on limited areas within the jurisdiction and that the commission would periodically review how the rule was being applied in practice to ensure that these provisions have limited applicability. Should these rule changes proceed as proposed it would be absolutely imperative that this periodic review occur. Once a sense of remoteness is lost, there is no going back.

Recommendation: Strong statement and strong commitment by commission of ensuring such periodic review actually occurs.

(3) Seek legislation to ensure UT development tax benefits partially accrue to adjacent organized towns providing public services to the UT.

Recommendation: Work with new administration to form working group of appropriate public and private entities to pursue this effort.

Thanks for the opportunity to provide these comments.

Frederick W. Todd
150 S Tyler Rd
Pittston, Maine 04345

Sent from my iPad

Godsoe, Benjamin

From: Jon Luoma <jluoma@tidewater.net>
Sent: Monday, January 21, 2019 6:30 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC rule comments
Attachments: Jon LUPC comments 1 - 2019.docx

Attached are my comments on LUPC's proposed adjacency rule changes. Thank you for your attention.
Jon Luoma

Jan. 21, 2019

Dear LUPC board and staff:

I would like to comment on your proposed changes to LUPC's long-standing adjacency rules. If adopted, these new rules will do permanent damage to the LUPC jurisdiction's unique, invaluable, and still largely undeveloped landscape and resources.

The current one-mile-by-road adjacency rule has been in place for decades, with good reason -- it has helped maintain large blocks of undeveloped forest land and keep them open and available for public recreation, for forestry, and as habitat for wildlife. What is the current need for changing the existing rule? What new conditions make these undeveloped large areas *less* valuable now for recreation, forestry, and wildlife? Who is asking for these changes? What new and important public purposes will they serve?

I have been fishing, hiking, camping, and boating in Maine's North Woods for over 40 years. The existence of wild forest lands, undeveloped lakeshores and river corridors, and their availability to the public is a major reason I continue to live in Maine. Reading your proposed rule changes, and viewing your map of proposed "primary and secondary development locations," sets off alarm bells and raises red flags for me. These are disturbing proposals, which will cause sweeping and unnecessary damage to the unique region you oversee, and its values of state, national, and international significance.

Your proposed adjacency rule changes would permit new development for 7 miles along and near roads leading into and out of rural "hubs" throughout the LUPC jurisdiction. This is exactly the wrong approach; it will lead to ugly "strip" development outside these "hubs," rather than encouraging more compact development inside and adjacent to them. This is a backward-looking approach: throughout the country and around the world, compact, walkable, and bikeable development, especially in "hubs" near areas of recreational significance, is now recognized as better for business, better for tourism, and more protective of the recreational values and wildlife in the surrounding lands -- which now are the values which attract new businesses, new residents, and tourists. As Maine's paper-making economy diminishes and its recreation economy grows, planning for compact development centers within our North Woods and LURC's jurisdiction becomes more sensible, more forward-looking, and more important, not less.

A few examples I am familiar with:

Your proposed development zones north of Patten and extending beyond Shin Pond will inevitably lead to commercial and residential strip development along the main route into the north entrances to Baxter Park and Katahdin Woods and Waters National Monument. Eventually this area will more and more resemble the long, garish strip approach to Acadia National Park outside Ellsworth. Allowing new residential development in the entirety of Mt. Chase Township, also, is excessive. (I drive this road into Baxter Park every winter and summer.)

Similarly, your proposed development zone in Grindstone Township will negatively affect the shores of the Penobscot River's East Branch, one of Maine's finest wild long-distance canoe trips, and the Katahdin Woods and Waters Scenic Byway, the southern road approach to the new National Monument. (I canoed the East Branch from Matagamon to Medway in 2013, a 4-day trip.)

Your proposed commercial and residential development zones around Millinocket and Medway are wrong-headed, in opposition to community and regional efforts currently underway. Right now, Katahdin area citizens, including representatives from the Chamber of Commerce, are developing a "vison" for the region, which will encourage future development *within* regional downtowns. LUPC should be actively working alongside, and encouraging, local efforts to keep development within and near organized and unorganized "hubs" and towns, near and within LUPC jurisdiction. (I drive into Millinocket several times a year, and shop and stay there.)

Maine's undeveloped lakeshores are arguably the most important, most valuable, and quintessential characteristic of LUPC's jurisdiction and of Maine's North and Downeast Woods. The opportunity to boat, canoe, camp, swim, and fish for native wild brook trout on undeveloped, publicly-accessible lakes, within wild surroundings, among eagles, breeding loons, waterfowl, moose and deer, is rare in the Eastern U.S. now, and will only become more rare and more attractive in the future. Developing and encouraging Maine's North Woods recreation economy depends on our undeveloped lakes more than anything else. But LUPC's proposed new adjacency rules will throw open large swathes of currently undeveloped lakeshores (and river and stream banks) to new residential and commercial development. This is misguided; it actively works against a major purpose for LUPC's establishment and continued existence.

Major examples, of course, are the very large and unwarranted proposed new development zones along the shores of Moosehead Lake – a Maine icon, with miles of "wild" shoreline remaining, still used for overnight, long-distance canoe and boat camping, as well as commercial scenic tours. Moosehead area development should stay contained within, or near, the Greenville and Rockwood town centers.

Your new proposals would allow "recreation supply facilities" – I suppose this could include just about any food or retail shop – on many Class 3, 4, 5, and 7 lakes. Not only is this a frightening and unnecessary overreach, but your complex and confusing rule conditions make it impossible to tell now which Class 7 lakes will be included. All 1000 of them, across the entire North Woods landscape? We the public cannot determine or judge the impact of these wide-ranging rule changes.

Last summer, I took a multi-day canoe trip encompassing several beautiful Downeast lakes. We camped on islands and lakeshores, picnicked, fished for bass, watched raptors, loons, ducks, and herons. Your proposed rule changes would open new areas of West Grand Lake, Big Lake, Pocumcus Lake, Scraggly Lake, and Sysladobsis Lake to shorefront development. Scraggly Lake, particularly, is remote and essentially undeveloped; it does have one or two old log camps on it, and apparently this has caused you to propose opening the entire lake's shores to new development. This seems based on

ignorance and lack of on-the-ground, on-the-water experience. Do you understand the vast damage such mechanically-applied rule changes will do to these fragile and irreplaceable resources?

Your proposed adjacency rule changes are so extensive, so impactful, and so problematic, that no single Maine citizen can possibly comment on them thoroughly, with first-hand knowledge of the huge areas and diverse values they will affect. I can only hope that NGOs and other state agencies will take the time and make the effort to analyze them in detail and give complete criticisms and comments.

These rule changes, if implemented, will create extremely large, immeasurable, and to some extent unforeseeable, changes to a mostly-undeveloped forest landscape, unique in the U.S., with extraordinary value to Maine's future economy and its continued special character. LUPC (formerly LURC) has worked over decades to protect this special character and its resources. Your new proposals mark a break with past traditions, both LUPC's and Maine's. These proposals are short-sighted; LUPC should be taking the long view, planning for long term public values, not emphasizing short-term and private profit.

I believe you should scrap these proposed rule changes as they stand now, and carefully reconsider the changes they will bring and the damage they will do to long-standing public resources. Furthermore, LUPC should immediately become involved with regional planning efforts such as the one currently ongoing in the Katahdin region.

Yours,

Jon Luoma
P.O. Box 551
Alna, Maine

Godsoe, Benjamin

From: JorJay Richards-Abbott <adventuresofthejs@gmail.com>
Sent: Monday, January 21, 2019 10:42 PM
To: Horn, Samantha
Cc: Godsoe, Benjamin
Subject: Re: [EXTERNAL SENDER] Re: Adjacency Rule: Written Testament Question
Attachments: AdjacencyTestament_SnowValleyBarn.docx

Hi Samantha/Benjamin,
Please find attached our written comments in regards to the Adjacency Proposal. Kindly please let me know if you have any questions or troubles with the document. Thanks so much for your time and consideration of our feedback.
Best Regards,
Jordan Richards
207.215.9700

On Mon, Jan 14, 2019 at 9:15 AM JorJay Richards-Abbott <adventuresofthejs@gmail.com> wrote:

> Hi Samantha,
> Thanks so much for your prompt response. This is very helpful. Will compose our thoughts and submit back by the 22nd.
> Jordan
>
> Sent from my iPhone
>
> On Jan 14, 2019, at 8:38 AM, Horn, Samantha <Samantha.Horn@maine.gov> wrote:
>
> Jordan,
>
> Yes, I think it will be helpful if you send us a letter or email that explains why you think there should be a change in the system, and any comments you have about the proposal based on what you know of it. Information that is particularly helpful is 1) why you feel the current adjacency system does or does not work well, based on your experience, and 2) any specific suggestions you might have about what would be more suitable, including anything specific you might have about the current proposal. The goal of the rulemaking is to have an initial screen for reasonable places for development and then look more closely at each proposal in the rezoning process to make sure there aren't any unreasonable environmental or neighbor impacts. So any comments you have that help us make that initial screen better are very welcome.
>
> Please let me know if you have any questions, and we will look forward to your comment by the 22nd.
>
> Samantha

From: JorJay Richards-Abbott [mailto:adventuresofthejs@gmail.com]
Sent: Sunday, January 13, 2019 12:57 PM
To: Godsoe, Benjamin <Benjamin.Godsoe@maine.gov>; Horn, Samantha <Samantha.Horn@maine.gov>
Subject: [EXTERNAL SENDER] Re: Adjacency Rule: Written Testament Question

Hi Samantha,

Received Benjamin's out of office, so as suggested I am reaching out to you in regards to the above.

Thanks so much!

Jordan Richards

On Sun, Jan 13, 2019 at 11:42 AM JorJay Richards-Abbott <adventuresofthejs@gmail.com> wrote:

> Hi Benjamin,
>
> My partner and I have been in touch with Sara Brusila in regards to our intentions of purchasing a 54 acre lot in Wyman Township for use of an event venue business (predominantly for weddings). Currently, this property is in a Residential Development Subdistrict and as the current adjacency rule stands, we do not meet the 1 mile rule as we are 1.6 miles from the closest existing development (the Mountain View Motel). We were unable to attend the public hearing this past week, but saw that written testament can still be passed until January 22. Would our case be beneficial to submit? If so, are there any specifics we should include with our statement?
>
> Thanks so much for your time and I look forward to hearing from you!
>
> Best Regards,
>
> Jordan Richards (and Jay Abbott)
>
> 207.215.9700

To the Land Use Planning Commission,

My partner Jayson Abbott and I would like to formally submit our case in favor of the adjacency rule proposal. As the current adjacency rule stands, rezoning for new development is currently limited to a broadly defined rule that restricts development to be within one mile of existing development. We feel strongly that this limited form of criteria does not fairly take case-by-case scenarios into consideration, thereby limiting potential appropriate business growth. In our case for example, we would like to purchase a 54-acre lot (Lot #9 on Tax Plan 01) in Wyman Twp. for development of an approximately 4000 sq. ft. Energy Star* wedding/event center with a 1200 sq. ft. guesthouse facility (*sustainably built structures with renewable energy systems and efficiency). This lot is currently zoned as a D-RS Residential Development Subdistrict and we have been advised that it would need to be rezoned to either a D-GN General Development Subdistrict or D-CI Commercial Industrial Subdistrict.. This perfectly situated location encapsulates the ethos of our project by providing uninhibited views of the Bigelow Range for a target customer who has an appreciation of the raw beauty and peace the mountains exude (further bringing an effective and respectful source of commerce to the area). However, this location is 1.6 miles from the closest existing development; a mere .6 miles shy of meeting the current 1 mile adjacency requirement to be considered past the initial screen. This aforementioned lot falls within the proposed Primary Location area and could be considered for rezoning falling under the proposed 7 mile rule/within a mile from a public road. The proposed adjacency change would thereby help potentially enable us to obtain proper rezoning and permits that could one day make our dream a reality and help suitably bring healthy economy to the area. The lack of flexibility in the current system does not take into account businesses such as the above stated and ends up resulting in loss of potentially positive economic shifts to the area and to Maine as a state in general. Jay and I were born and raised in the central Maine area and spent some time living out of state in New York. We recently moved back to Maine to pursue this endeavor in a quest to help Maine's plight to retain the youth and generate small business growth that would improve our current economic state. We appreciate your consideration and look forward to finding this proposal's results come early spring.

Respectfully Submitted,

Jordan W. Richards

Godsoe, Benjamin

From: K&M Cote <km985cote@yahoo.com>
Sent: Monday, January 21, 2019 8:01 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC proposed rule changes to adjacency - public comment
Attachments: LUPC Adjacency KBC response 1.21.19.docx

Please confirm you have received. I have my comments in the body of this email and have attached the same as a Word document as well.

01/21/2019

Land Use Planning Commission
c/o Ben Godsoe
18 Elkin Lane, 22 SHS
Augusta, ME 04333

RE: LUPC proposed rule changes to adjacency

To Commissioners and Staff,

I've attended the 3 public hearings concerning the proposed changes in adjacency rules and each time, including the last hearing 1/10/19, there continues to be a lot of public concern for this far-reaching and complex proposal, and conclude that what looks good and systematic on paper does not translate to good practice for the varied geography of LUPC jurisdiction (landscapes, habitats, and watersheds) on the ground or the health and "wealth" of the communities they affect. It seems clear that there is more critical work to do, particularly in taking what you now have to work more closely with the adjacent towns and communities affected.

It is also obvious that a lot of work by the staff planners has been done, and they have been receptive to suggestions, but there still seem to be conflicts with the goals of the LUPC. Additionally, with a far-reaching, complex plan such as this, there is a relatively high probability of unintended consequences and un-retractable adverse effects that may not occur until 20, 30, or 50 years from now if this initial screening tool of adjacency opens up another 1,000,000 + acres for potential development with a blunter tool of 1 mile from the road and 7 miles from rural hub boundaries, and even more so with the proposed new districts that allow for natural resource-based commercial and industrial development. This could be mitigated so much more if the time were taken to now use the current proposal to do much needed regional planning.

Revisions (not all inclusive) that could help mitigate adverse impacts:

• The LUPC website and planners have stated time and again that changing this proposal is an answer to leap-frogging development. I and others ask, how big a problem has this been in the past – how many occurrences has there been of out-of-control development occurring because of leap-

frogging based off the 1 mile adjacency rule? Wouldn't a 1-mile from roads and a 7-mile from rural hub boundaries in effect be one large-scale leap-frog? - far more ranging than what could happen in years of the 1-mile adjacency rule and the development process that occurs now. At this point, to help mitigate this broad-brush measurement, measure adjacency of development zones from established downtown/service centers, not from rural hub boundaries. This will mitigate that large-scale leap-frog and undermining the adjacent towns' efforts to revitalize development within their boundaries.

• Each public hearing brought up how the Scenic Byways that occur in the UTs are affected by the change in rules – wouldn't it be prudent and much simpler to remove Scenic Byways that fall into your proposed zones; they cease to be scenic if developed.

• How is it that large-lot subdivisions, that will cause undesirable fragmentation, be allowed, especially when already banned by the legislature? These need to be restricted much more in size and scope but better yet to remove them altogether.

• Please check the capacity/density of development already around Class 4 and Class 5 lakes and ponds and reduce scope or remove them from possible development.

• Protect Maine's natural landscapes and watersheds from non-renewable extractions such as metallic mining and gravel removal. It is evident that much smaller zoning areas and stricter rules are needed in the new districts that allow natural resource-based commercial and industrial development.

We see our environmental laws eroding and changing before our very eyes under corporate influence at the state and federal level. Depending on them to protect us and the environment we depend on is faulty logic.

It only makes sense to retain the current adjacency rules for now and use your current proposal which needs further adjustments and consideration to work more closely with the towns and communities for more logical and sustainable planning that affects them, their various geographies, and the state of Maine's economy and environment.

Thank you for your consideration,

Karen Cote
Orland

Godsoe, Benjamin

From: kate nordstrom <knpaintings@gmail.com>
Sent: Monday, January 21, 2019 2:41 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] North Woods

Dear Sir
I am dismayed to hear that LUPC is lobbying to expand development in the North Woods. The existing limits are supported by the public and have already been vetted by them. LUPC would do well to support the limits that the public has already agreed upon. Kate Nordstrom Alna Maine

Sent from my iPhone

Godsoe, Benjamin

From: karin spitfire <kspit@gwi.net>
Sent: Monday, January 21, 2019 5:46 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency rules

Dear LURC

Your new proposed land use rules, overwhelmingly benefit large industrial land development in what is left of our Maine "wilderness". They put rivers and lakes at risk.

They are way to complicated to understand.

Please do not pass and reconsider working more closely with the "hubs" in the area to support comprehensive planning that benefits the already populated areas and leaves the wilderness free of subdivision, mining, extraction.

All of the earth's population of people, plants and animals depend on what is left of wild country to survive. to live. We have already destroy way too much of our biodiversity.

Thank you
Karin Spitfire P.O. Box 53 Belfast, Me

Godsoe, Benjamin

From: Margaret Fernald <mfernald@panax.com>
Sent: Monday, January 21, 2019 12:20 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Public Comment Re: Proposed Rule Revisions: Revised Application of the Adjacency Principle & Subdivision Standards
Attachments: LUPCcomments_MF.doc

Below and attached are my comments

Benjamin Godsoe
Benjamin.Godsoe@maine.gov
Land Use Planning Commission
18 Elkins Ln., 22 State House Station
Augusta, ME 04333

January 21, 2019

Public Comment Re: Proposed Rule Revisions: Revised Application of the Adjacency Principle & Subdivision Standards

I strongly oppose the proposed rule revisions, and strongly support retaining the adjacency principles that have worked so well for so long to protect Maine's natural resources and wilderness.

Development under the current proposed rules would make developmental and commercial sprawl far more likely, and thereby is more likely to actually hurt than help the rural communities in that area by drawing resources away from the actual towns that already exist. Economies based on well-regulated forestry and wilderness recreation could be broken up by large tracts of privately owned land.

The “crows fly” measurements taken from regional boundaries rather than town locations are arbitrary numbers that ignore natural, geographical, and regional landscapes and watersheds.

I concur with the comments sent by Jane Crosen Washburn, that “[p]rocessing of renewable materials, such as wood products, is traditional, environmentally sustainable, and helps local economies. Extraction of non-renewable resources like gravel, water, metallic minerals, and (God forbid) fossil fuels is definitely *not sustainable*, and could permanently damage entire watersheds and landscapes we treasure for recreation and wildlife habitat. Extractive industries threaten to spoil not just our landscape but Maine’s brand and tourist economy with the money going elsewhere,” not to Maine's local economies. “Maine’s natural resources are essential to our way of life; we count on you and future commissions to protect them from commercial extraction.”

The protection of undeveloped environmental areas is even more important in this era of climate change and the need for large tracts of undisturbed, unfragmented woodland to sequester carbon. This size tract of land to protect wildlife habitat, pristine fisheries (unharmed by lake development), and forests which are the lungs of the earth, is unmatched in the eastern United States.

Please do not rush such drastic changes through to fix something that is not broken. The current adjacency

policy has served well for a long time to assure slow, sensible development and prevent fragmentation of Maine's undeveloped wild places and working forests. I support keeping it.

Margaret Fernald, Orland
mfernald@panax.com
469-2973

Land Use Planning Commission
State of Maine
Augusta, Maine

January 18, 2019

Nancy Hathaway
541 Morgan Bay Road
Surry, Maine 04684
Hathaway.N@gmail.com
207-400-0494

To the Land Use Planning Commissioners,

I testified at the Brewer hearing on January 10th. My topic was saving the DARK SKIES of Northern and Downeast Maine. I did not leave a written testimony, so I am sending this now.

All of the UT is important to the State of Maine. Today I am particularly writing about the North Woods around the Katahdin region, East and West of the region.

It is important to protect the woods, wildlife, waters, flora, and the night sky. Mainers need a place to go that is wild. We have that now but if our land gets developed, we lose that sense of connection to nature.

- Please talk with the organizations that are presently working on a vision for the North Woods region. (AMC, NRCM, Friends of KWW for a few)

  Ask them for their vision.

- Please work on lighting ordinances/regulations for the UT.

  We want to protect the night sky and we need ordinances/regulations that do that. Such as lighting that is covered at the top so that the light does not pollute the dark skies that are so precious to those who live there and to visitors who are already coming from away, called "Astro-tourists". They report that the skies in the North Woods equal the best in the West.
  (There is a mining company exploring the area around **Mt. Chase near Patten**. When I approached them about lighting, they said that they had never thought of the dark skies and the effect their lighting might have on 'light-pollution'.)

- Please go to www.darksky.org

This site gives an overall view of the importance of dark skies in the world, locations of dark sky places, and information on dark sky lighting.

- Please protect the Maine section of the International Appalachian Trail.
  The trail begins on the boundary of Baxter State Park, does North through Katahdin Woods and Waters National Monument, through Mt Chase area, Mars Hill, Ft Fairfield. Click here for the map although locations are changing as the IAT attempts to avoid roads:
  https://docs.wixstatic.com/ugd/56fce5_83a3570ca8ff4d319d86f7b42f7174fd.pdf

  For the website click here: https://www.internationalatmaine.org

  The IAT goes into New Brunswick, Gaspe in Quebec, PEI, Cape Breton, Newfoundland, Greenland, Iceland, Ireland and Northern Ireland, England, Spain, and we are working on Norway, France, and Morocco. These countries follow the Appalachian Plate.

- Please keep residential development close to towns.

- For second homes.

  Maine's North Woods tradition has been log cabins with no electricity, wood stoves. Can we move in that direction instead of Mc Mansions in the North Woods?

- So many people were opposed to KWW becoming a National Monument because they would no longer have access to 80,000 acreas of hunting and snow mobile. I would think that there would be a huge opposition to development in the North Woods.

Questions:

Who is benefiting from the new development rules of the Unorganized Territories?

For inspiration:

"In Bali, where I have lived… There is little emphasis on reading spiritual books. An elder there explained to me, "We don't read books, we read the stars." Looking at the night sky, seeing the great arc of the Milky Way, you come back to the ever-present mystery."

Kornfield, Jack

Please use me as a resource for dark sky information and connections.

Thank you for your time and efforts in helping the people of the State of Maine.

Nancy Hathaway

Godsoe, Benjamin

From: Sarah LeClaire <sleclaire1@mac.com>
Sent: Monday, January 21, 2019 12:45 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Proposed Changes to Adjacency Rules
Attachments: Signature2.tiff

Maine Land Use Planning Commission
c/o Ben Godsoe
18 Elkins Lane, 22 State House Station
Augusta, ME, 04333

Benjamin.Godsoe@maine.gov

Re: Proposed changes to Adjacency rules

As a citizen of Woodland, County of Aroostook, I value the vigilant protection & improvements of WATER QUALITY, WILDLIFE HABITAT & QUALITY OF LIFE of rural Maine.

Under the proposed rule changes, a massive amount of Aroostook County, including remote lakes such as St. Froid Lake would be reclassified and subject to inappropriate, detrimental development.

Any weakening of the current 1 mile adjacency rule would be detrimental to the process of protection & improvement of our natural resources. We have been well served by the time-proven protection of the existing 1 mile adjacency rule.

I do not agree that rule needs to be changed. When attending a LUPC public hearing on this issue in Caribou in September 2018 I asked for examples of when and where the current regulatory scheme had been a problem. LUPC staff was able to point to only a single application from Kingfield Plantation, and later reported in response to a FOIA request that that issue is being handled through compromise under the current regulations.

This is a change is search of a problem that simply does not exist to any extent warranting such a massive, detrimental regulatory overhaul.

Thank you for your consideration.

Name:
Sarah LeClaire

293 Pratt Rd.
Woodland, Me 04736

MAIL:
Sarah LeClaire
PO Box 1636
Presque Isle, Maine 047689

Godsoe, Benjamin

From: bwentzell@mainemountaincollaborative.org
Sent: Tuesday, January 22, 2019 9:28 AM
To: Godsoe, Benjamin
Cc: bwentzell@mainemountaincollaborative.org
Subject: [EXTERNAL SENDER] Report: Forest Fragmentation in Western Maine Mountains
Attachments: EnvironmentalConsequences_ForestFragmentation_1-16-2019_web.pdf; McMahon Paper.pdf

Dear Mr. Godsoe,

On behalf of the Maine Mountain Collaborative, a non-profit organization based in Phillips, Maine, I am attaching a copy of our recently published report, *The Environmental Consequences of Forest Fragmentation in the Western Maine Mountains* by Janet McMahon, M.S.

The Collaborative asked Ms. McMahon to write this report to summarize the current scientific research on this topic especially as it pertained to this region. The paper is the work of the author and does not necessarily represent the views of the members of the Maine Mountain Collaborative.

The report can also be downloaded here:
https://mainemountaincollaborative.org/the-region/

We intended this report to be used by policy makers such as LUPC to better inform decision-making on issues such as adjacency, which is specifically mentioned in the report.

I would also draw your attention to the previous report, also attached, on the *Ecological Values of the Western Maine Mountains* also by Janet McMahon.

Thank you for considering these reports. I will deliver printed copies to your office.

Best,

Bryan

Bryan Wentzell
Executive Director
Maine Mountain Collaborative
http://mainemountaincollaborative.org/
(207) 233-1602

The Environmental Consequences of FOREST FRAGMENTATION in the Western Maine Mountains

Janet McMahon, M.S.

Occasional Paper #2

Maine Mountain Collaborative

P.O. Box A, Phillips, ME 04966

Suggested price: $8
ISBN 1-929900-21-X

This paper is published by the Maine Mountain Collaborative as part of an ongoing series of informational papers. The information and views expressed in this paper are those of the author and do not necessarily reflect the views of the Maine Mountain Collaborative or its members.

I thank Dr. Malcolm Hunter, Jr., Dr. Ray "Bucky" Owen and Barbara Vickery for their peer review of this paper. I also thank the many ecologists, biologists, foresters and others who provided information, analysis and, in some cases, early review of all or parts of this paper, including: Mark Anderson, George Appell, Maisie Campbell, Andrew Cutko, Thomas R. Duffus, Phillip deMaynadier, Merry Gallagher, R. Alec Giffen, Sarah Haggerty, Daniel Harrison, Peter McKinley, Michael Pounch, David Publicover, Jeffrey Reardon, Sally Stockwell, Karin Tilberg and Andrew Whitman. Finally, I give special thanks to Daniel Coker, senior spatial scientist at The Nature Conservancy, Maine for his analysis of state road and habitat block data and map preparation and to Ann Gosline, for her tireless logistical support and encouragement.

Cover photos:
Western Maine Mountain vista by Charlie Reinertsen Photography.
Photo-illustration of development by Waterview Consulting.

Photo on page 1:
Western Maine Mountains by Charlie Reinertsen Photography.

Photos on page 5:
Moose by Maine Department of Inland Fisheries and Wildlife.
Black bear by Terry Spivey—Image Number: 1374239, CC BY-SA 3.0.
Canada lynx by Eric Kilby, https://www.flickr.com/photos/ekilby/8154273321
River otter and brook trout by U.S. Fish and Wildlife Service.
American marten by U.S. Department of Agriculture.
Spruce grouse by Dick Daniels (http://carolinabirds.org/)—Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=10767940

The Environmental Consequences of Forest Fragmentation in the Western Maine Mountains

ABSTRACT

The extraordinary ecological values of the Western Maine Mountains region are under threat from a process called "habitat fragmentation." Habitat fragmentation occurs when habitats are broken apart into smaller and more isolated fragments by permanent roads, utility corridors, buildings, clearings or changes in habitat conditions that create discontinuities in the landscape. Research in Maine, the Northeast and around the world demonstrates unequivocally that fragmentation—whether permanent or temporary—degrades native terrestrial and aquatic ecosystems and reduces biodiversity and regional connectivity over time and in a number of ways. Negative effects include:

- increased mortality and habitat loss from construction of roads and other fragmenting features
- increased mortality and other direct impacts associated with infrastructure after construction
- changes in species composition and reduced habitat quality from edge effects
- changes in species composition and behavior as habitat patch size declines
- changes in hydrology and reduced aquatic connectivity
- introduction and spread of exotic species
- changes in the chemical environment
- pressures on species resulting from increased fishing, hunting, and foraging access
- loss of scenic qualities and remote recreation opportunities

Fragmentation has already significantly degraded ecosystems in much of the eastern United States and in temperate forests throughout the world. By contrast, in large part because historical forest management maintained vast connected forest blocks in the region, the Western Maine Mountains' biodiversity, resilience and connectivity are unparalleled in the eastern United States. The region is a haven for populations of many of Maine's iconic species, including moose, lynx, marten, brook trout, and rare forest birds, and provides an essential corridor for species to move to other northeastern states, the North Woods and Canada in a time of climate change. To maintain the region's unique values, it is essential to avoid introduction of new fragmenting features, especially those that would permanently intrude into intact blocks of forest habitat, such as new utility corridors and new high volume roads. It is also critically important to find ways to support landowners who seek to maintain large intact forest blocks and to support them in managing forests for connectivity and structural complexity. If proactive steps are taken now, there is a tremendous opportunity to avoid habitat fragmentation and maintain the region's many ecological values—values that have defined Maine for generations and are of critical importance in North America.

INTRODUCTION

The Western Maine Mountains lie at the heart of the most intact and least fragmented landscape remaining in the eastern United States. This vast region lies near the northern terminus of the Appalachian Mountain range in the United States and includes some of its highest peaks. It extends from the Katahdin region 160 miles southwest to Boundary Bald Mountain and the Mahoosucs Range on Maine's western border, encompassing an area of more than five million acres. It is a region of extraordinary ecological importance, both because it is the key ecological linkage between the forests of the northern Appalachians and those to the north, south and west, and because of the biodiversity it harbors.[1]

Figure 1. The Western Maine Mountains region.

The southern edge of the Western Maine Mountains region marks the divide between the most resilient[2] and connected landscapes of the Northern Appalachian-Acadian Forest Ecoregion[3] and more fragmented and less resilient landscapes to the south and west. This paper summarizes the potential deleterious impacts of forest fragmentation on the flora, fauna and ecosystems of the region. Fragmentation is generally defined as the breaking apart of a continuous landscape into smaller and more isolated fragments (Forman 1995). In the Western Maine Mountains, fragmentation occurs when permanent features such as roads, utility corridors, buildings or clearings create breaks in the forested landscape (Charry 1996). Recent work by Di Marco et al. (2018) shows that there is a direct correlation between the risk of species extinction and human footprint. Impacts such as direct habitat loss, habitat degradation through increased isolation of plant and animal populations, greater exposure to edge effects, and invasion by disturbance-adapted species are cumulative, leading to degraded ecosystems over time and, eventually, loss of regional connectivity and biodiversity (Watson et al. 2018; Lindenmayer and Fischer 2006; Haddad et al. 2015). This is the situation in much of the eastern United States and in temperate forests throughout the world.

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1 For a detailed description of the ecological values of the Western Maine Mountains, see McMahon (2016).

2 Resiliency refers to the ability of a region to maintain species diversity and ecological function as the climate changes.

3 Ecoregions are large units of land with similar environmental conditions–especially landforms, geology and soils, which share a distinct assemblage of natural communities and species. The Northern Appalachian-Acadian Forest Ecoregion includes the mountainous regions and boreal hills and lowlands in northern New England and Maritime Canada. The ecoregion includes the Adirondack Mountains, Tug Hill, the northern Green Mountains, the White Mountains, the Aroostook Hills, New Brunswick Hills, the Fundy coastal section, the Gaspé peninsula and all of New Brunswick, Nova Scotia and Prince Edward Island (Anderson 2006).

In the classic definition of fragmentation, habitat patches are surrounded by a "matrix"[4] of lands dominated by human activities, such as farmland or urban centers (Hunter and Gibbs 2007). By contrast, the Western Maine Mountains region is a forested landscape, largely unfragmented by major roads and other permanent features. This matrix of managed forestland provides valuable habitat for most of Maine's forest species and generally serves to connect patches of mature or undisturbed habitat. However, changes in the forest landscape from harvesting can also have fragmenting effects, especially for species that require mature forest or forest interior habitat. The degree of impact depends on factors such as the species in question, harvest intensity, and the size of harvest blocks. Although these impacts are generally temporary, they are of concern—particularly in combination with impacts of permanent fragmentation—and are in need of further study.

This paper begins with an overview of the ecological significance and condition of the Western Maine Mountains' landscape and a brief review of how the region has changed over time due to forest fragmentation associated with land use change and forest management. This is followed by a summary of the potential impacts of current and future fragmentation on the region's biodiversity, resilience in the face of climate change, and ability to serve as the critical link between the forests of the northern Appalachians and those to the north, south and west. To paraphrase Aldo Leopold (1966), the region needs to be viewed as an integrated whole rather than a collection of conservation lands and private commercial land holdings. Private and public landowners, through their land use decisions and management, will play a key role in maintaining the region's ecological values into the future.

Habitat fragmentation and why it matters

Hunter and Gibbs (2007) wrote that a modern traveler looking down from a plane generally does not see vast expanses of unbroken landscape but instead will likely see a landscape like a patchwork quilt—a mosaic of different land uses. Hunter and Gibbs define "habitat fragmentation" as the gradual breaking apart of a natural landscape into smaller habitat blocks. They wrote that fragmentation typically begins when people build roads into a natural landscape and then "perforate" the landscape further with associated development. This typically leads to additional roads, energy infrastructure and land conversion and, over time, results in "patches" of natural habitat that are smaller and farther apart (Fig. 2). Larger habitat patches in a landscape mosaic are better able to support stable populations of more species than small ones. Hunter and Gibbs attribute this to three things: First, larger patches have a greater variety of environments—different elevations, soils, geology, streams and wetlands, which in turn support a greater variety of species. Second, larger patches will support more species that require larger home ranges. Finally, animals and plants from other patches can more easily migrate in to replenish struggling or declining species if similar habitat patches are close by and if the areas in between (matrix habitat) are connected and allow for movement. Fragmenting landscapes into smaller habitat patches over time is a leading cause of degradation of ecosystems and loss of biodiversity.

[4] Matrix forest can be defined as the largest background patch in a landscape and is characterized by extensive cover, high connectivity, and/or exerts a dominant role on ecological processes (Forman 1995). In the Western Maine Mountains, most of the region is considered matrix forest.

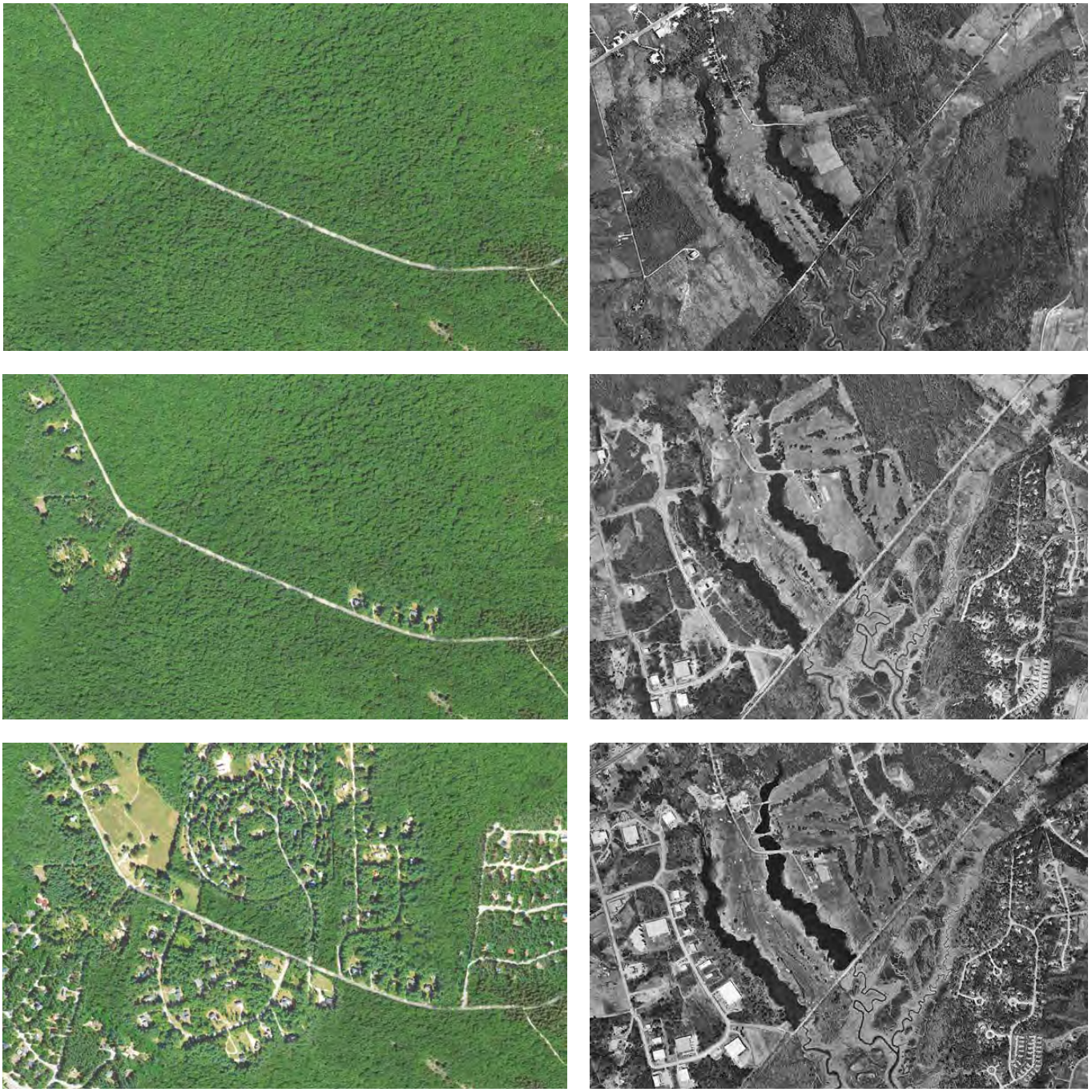

Figure 2. The left column shows a hypothetical progression from: (1) initial fragmentation by a new road or other linear feature, (2) a landscape fragmented by the road and associated development "perforating" the landscape and (3) a landscape with additional sprawling fragmenting features, resulting in progressive fragmentation of the landscape into smaller natural areas. The right column shows an actual example of change between 1956 to 1995 from a partially fragmented landscape to a highly fragmented landscape in a southern Maine community. Photo-illustrations in left column by Waterview Consulting. Photos in right column courtesy of the Greater Portland Council of Governments.

Figure 3. (following page) The Western Maine Mountains provide critically important core habitat for species that are iconic to Maine and a host of rare animals and plants. Photos are of moose, black bear, Canada lynx, river otter, American marten, spruce grouse, and brook trout. Photo credits, see inside front cover.

THE REGION TODAY

A diverse, resilient and connected landscape[5]

From the standpoint of biodiversity, the Western Maine Mountains region is exceptional. It includes all of Maine's high peaks and a rich diversity of ecosystems, from alpine tundra and boreal forests to ribbed fens and floodplain hardwood forests. It is home to more than 139 rare plants and animals, including 21 globally rare species and many others that are found only in the northern Appalachians. It includes more than half of the United States' largest globally important bird area,[6] which provides crucial nesting habitat for 34 northern woodland songbird species and critical habitat for high-elevation and coniferous-forest specialist birds such as Bicknell's thrush—a state endangered species—bay-breasted warbler and black-backed woodpecker. Maine is the last stronghold for wild brook trout in the eastern United States, supporting 97% of its intact lake and pond wild trout populations. Seventy-three percent of these wild brook trout lakes are in the Western Maine Mountains (Whitman et al. 2013; DeGraaf 2014). The region provides core habitat for umbrella species[7] such as American marten and Canada lynx–habitat that supports more than 85% of all of Maine's terrestrial vertebrate wildlife species, including iconic species of the north, such as the common loon, black bear, bobcat and moose (Hepinstall and Harrison in prep.; DeGraaf and Yamasaki 2001).

In addition to its remarkable biodiversity, the region is exceptional because it remains a largely unfragmented, lightly settled and connected landscape. It lies at the heart of the Northern Appalachian-Acadian Forest Ecoregion, which is the largest and most continuous area of temperate forest in North America, and perhaps the world (Haselton et al. 2014; Riitters et al. 2000). This high degree of connectivity, combined with large elevation gradients and a diversity of physical landscapes, makes the Western Maine Mountains a highly resilient landscape in the face of climate change and a critical ecological link between undeveloped lands to the north, south, east and west. Resilient sites are those that are projected to continue to support biological diversity, productivity and ecological function even as they change in response to climate change. In The Nature Conservancy's Conservation Gateway climate resilience map of the eastern United States, the Western Maine Mountains stand out in terms of biodiversity, climate flow[8] and







5 This summary of the region's ecological significance is adapted from McMahon (2016).

6 The National Audubon Society gave this global designation to the region because of its high bird richness and abundance as well as the extent and intactness of its forests, which lie within the Eastern Atlantic Flyway—the major migratory route for hundreds of neotropical bird species.

7 Hunter and Gibbs (2007) define umbrella species as those with large home ranges and broad habitat requirements. Protecting habitat for their populations protects habitat for many other species across a broad set of ecosystems.

8 Climate flow is defined by The Nature Conservancy as the movement of species populations over time in response to the climate. Intact forested areas typically allow high levels of plant and animal movement.

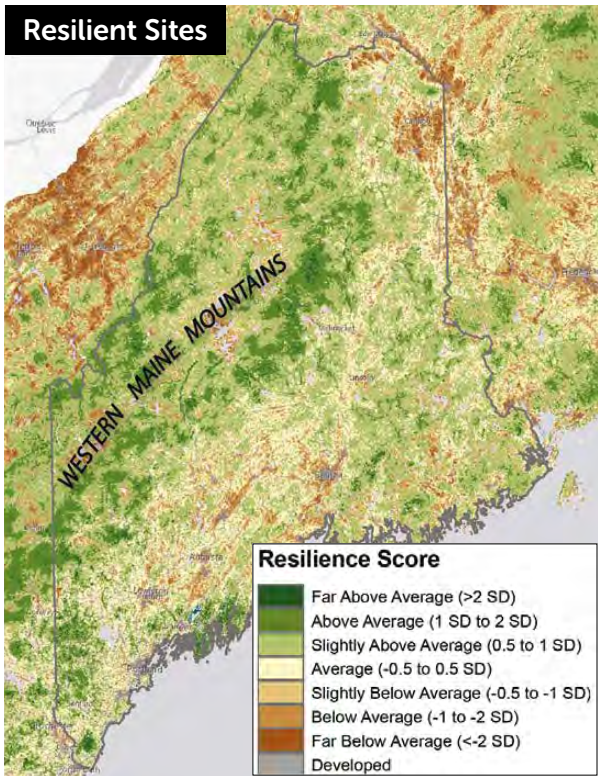

Figure 4. This map shows that the Western Maine Mountains provide sites of above and far-above-average resiliency throughout the region. Resilient sites are expected to buffer their resident species from climate change and continue to support biodiversity, productivity, and ecosystem function even as they change in response to climate change. Analysis and graphic courtesy of The Nature Conservancy, Maine.

Sources and Sinks

Hunter and Gibbs (2007) define "sources" as subpopulations that produce a substantial number of emigrants that disperse to other patches and "sinks" as subpopulations that cannot maintain themselves without a net immigration of individuals from other subpopulations. The Western Maine Mountains region harbors significant source populations of many species and already serves as a north-south and east-west link between peripheral sink populations in New Hampshire and Vermont and source populations in northeastern Maine and the Gaspé (Carroll 2007).

climate-resilient sites.[9] Eighty percent of the region is of above-average resilience, based on geophysical setting and local connectedness (Fig. 4).[10] This compares to 60% for the state as a whole and an average of 39% in southern Maine. A review of The Nature Conservancy's Conservation Gateway maps for the rest of New England and the eastern United States indicates that resiliency is even lower outside of Maine, making the Western Maine Mountains one of the most resilient and connected landscapes east of the Mississippi. In addition, it is the critical link between the other highly resilient areas in the Northern Appalachian-Acadian Forest Ecoregion—the Adirondacks, the St. John and Allagash valleys and the Gaspé.

Climate-resilient sites are more likely to sustain native plants, animals and natural processes into the future. The region is expected to retain more species as the climate changes than other parts of the state because its varied topography offers ample microclimates and thus more options for rearrangement (Anderson et al. 2012; Anderson et al. 2013). Northern Maine already has the highest species richness of mammalian carnivores in the eastern United States,[11] and the Western Maine Mountains support the largest moose, lynx, and marten populations in the lower 48 states. Furthermore, the region is a stronghold for brook trout, land-locked salmon, spruce grouse and a host of other species. In addition to providing a refuge for northern and coldwater species, the region serves as a source of individuals that can recolonize new habitats as they become avail-

9 Resilient sites buffer their resident species from the direct effects of climate change by providing temperature and moisture options in the form of connected microclimates that can differ by as much as 10–15°C. Sites with high microclimate diversity allow plants and animals to persist locally even as the regional climate appears unsuitable, thus slowing down the rate of change.

10 Geophysical setting is a landscape classification that considers topography, elevation range, wetland density and soil variety. Local connectedness is the absence of barriers or fragmenting roads, dams, development, etc. that prevent plant and animal populations from taking advantage of local microclimates.

11 The region supports breeding populations of 7 species of mustelids (fisher, marten, mink, ermine, long-tailed weasel, river otter, striped skunk), 3 species of canids (grey fox, red fox, coyote), and 2 cats (bobcat, lynx).

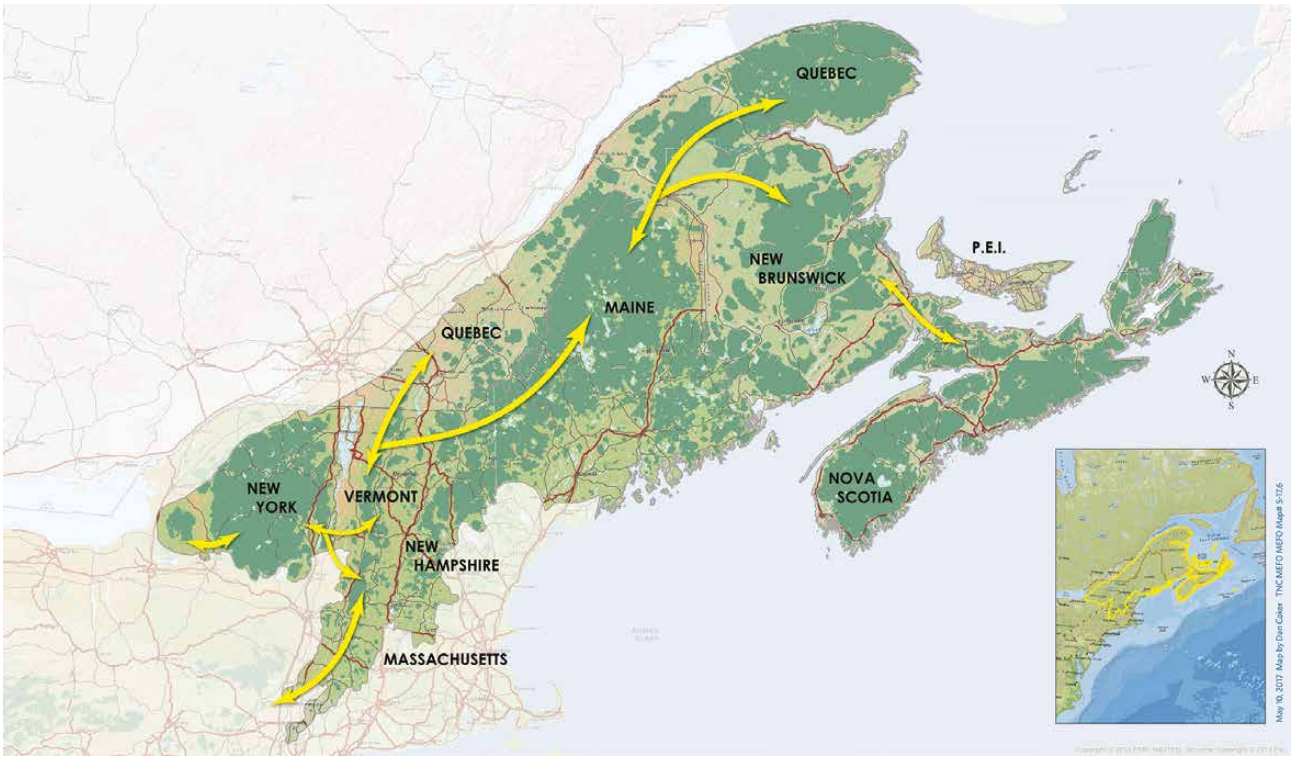

Figure 5. Northern Appalachian Region Forest Cover and Critical Linkages.
Map courtesy of The Nature Conservancy, Maine.

able. For example, the region links moose populations at the southern edge of their range in New Hampshire and Vermont that are increasingly impacted by climate change and parasitic infections by ticks with larger, healthier populations in northern Maine and Quebec.

At a continental scale, northern Maine will become an increasingly important dispersal corridor as species move north into Canada (Trombulak and Baldwin 2010) (Fig. 5). Species survival may depend not only on the presence of refugia but also on how quickly the climate changes. Loarie and others (2009) modeled projected rates of temperature change in different ecosystems under different emissions scenarios during the 21st century. They found that the rate of change is expected to be lowest in mountainous biomes and temperate coniferous forests, suggesting that the landscapes of the Western Maine Mountains are more likely to effectively shelter many species into the next century than areas with low relief (Loarie et al. 2009; Loarie et al. 2008; Thuiller et al. 2005). Whitman et al. (2013) emphasize the importance of conserving cool refuges such as cold stream networks, mountains, and closed canopy forests to help species survive and transition as Maine's climate changes.

A forested landscape

The Western Maine Mountains region is ~97% forested (excluding water), which is about 8% higher than the average forest cover in Maine, the most forested state in the nation (Fig. 6, following page, for a regional comparison) (New England Forestry Foundation, NEFF, in press).[12] The North Woods of Maine, of which the

[12] Percentages of land in conservation ownership and forest management for the Western Maine Mountains are derived from other studies that focused on slightly different geographic boundaries. Schlawin and Cutko percentages were calculated for the Central-Western-White Mountains section of the USFS Bailey Ecoregion map of Maine (Bailey 1995). The 2018 NEFF analysis is of an area they refer to as the Mountains of the Dawn region.

region is a part, is the only place in the eastern United States where such a large area of contiguous land has remained continuously forested since European settlement. This is due to a variety of factors, including limited suitability for agriculture, soils that are productive for tree growth, remoteness from more heavily settled areas, and the timber and nontimber values of its vast forest—most of which has been in private and corporate ownership and actively managed for forest products for more than two centuries.

State/Region	% Forestland		% Change from 2007–2017	Approximate Change in Acres
	2007	2017		
Western Maine Mountains	**96.8%**	**96.5%**	**–0.3%**	**–12,000**
Maine	89.8%	89.2%	–0.6%[13]	–116,000
Connecticut	55.3%	58.4%	3.1%	95,000
Massachusetts	61.2%	60.6%	–0.5%	–26,000
New Hampshire	83.8%	82.8%	–1.0%	–57,000
Rhode Island	54.0%	54.4%	0.4%	3,000
Vermont	77.3%	76.0%	–1.3%	–80,000
New England (incl. ME)	80.3%	79.8%	–0.5%	–184,000
New England (excl. ME)	71.1%	70.8%	–0.3%	–67,000

Figure 6. Forested Area as a Percent of Total Area (excluding water) in the New England states. Percent change is change in percent of forestland from 2007–2017.[14] Adapted from NEFF (in press).

Managed forestland in the Western Maine Mountains is composed primarily of naturally regenerated forests. According to most recent FIA data,[15] only 2% is planted, and most of this is with native species (Ten Broek and Giffen 2018). Under natural conditions, forest types generally occur in predictable patterns associated with climatic gradients and soil conditions determined by glacial deposition (NEFF in press; Legaard et al. 2015). Northern hardwood species predominate across lower hilltops and mid-slopes, with higher site quality. Spruce-fir species predominate on ridge tops, high elevation slopes and poorly drained lowlands. Mixed wood stands commonly occur along ecotones or as a result of successional dynamics following disturbance.

[13] Considering just land area, Maine is 89% forested (FIA 2017 data).

[14] Data are from the Forest Inventory and Analysis (FIA) Program of the U.S. Department of Agriculture (USDA) Forest Service. Percentages are for forestland, as a percentage of sampled land area, as opposed to total area, which would include area in water. Percent change is measured from the first complete inventory cycle (generally 2002/3 to 2007) to the latest complete inventory cycle (2017 estimates) (NEFF, in press).

[15] The FIA Program of the USDA Forest Service annually surveys the country's forests to determine trends in forest area and location; tree species composition, size and health; total tree growth, mortality and removals by harvest; wood production and utilization rates by various products; and forest land ownership. The inventory has recently expanded to collect data on soils, understory vegetation (including invasives), tree crown conditions, coarse woody debris and lichen community composition on a subsample of plots.

Shade-intolerant hardwood species commonly follow intense disturbance. Periodic defoliation by spruce budworm is the most prominent large-scale natural disturbance. Small scale disturbances that result in small canopy gaps such as windthrow and senescence are also common (Legaard et al. 2015; Lorimer and White 2003; Seymour et al. 2002). Managed carefully, in time, these naturally regenerating forests should allow natural structural and successional processes to take place and provide habitat for a full suite of native wildlife species (NEFF in press).

A brief summary of current land use

Virtually all of the forestland in the Western Maine Mountains not specifically set aside for reserves or other conservation purposes is commercially managed for a variety of forest products. About 88% of these managed lands are privately held (NEFF in press). Since the 1990s, the North Maine Woods, including the Western Maine Mountains region, has undergone a dramatic transition in ownership. Large swaths of the region have passed from industrial landowners—who had long-term management goals because their timberland supplied their own mills—to timber investment management organizations, real estate investment trusts and other financial investors, whose investment strategies usually involve holding land for a much shorter period (Irland 2005; Lilieholm et al. 2010; Trombulak and Baldwin 2010). Between 1994 and 2005, forest products industry ownership of forestland declined from 59% to 16%, and the percentage held by investors such as publicly traded real estate investment trusts rose from 3% to 40% (Barton et al. 2012). Today, the majority of the Western Maine Mountains is owned by investors.[16] In one case Plum Creek (a real estate investment trust) secured rezoning in 2009 through the Moosehead Lake Concept Plan to allow for resorts and residential subdivisions in remote, lightly settled landscapes (Lilieholm et al. 2010; Hagan et al. 2005). In addition to a shift in ownership, the number of landowners has increased and size of land holdings has decreased significantly in the past two decades (Hagan et al. 2005). For example, the 2.3 million-acre Great Northern Paper ownership of 1989 had been transferred to at least 15 different landowners as of 2005. The impacts of the increased parcelization and turnover of landholdings on biodiversity and connectivity are unclear, but likely to be negative.

Legally conserved lands[17] make up about 29% of the region's area. Forest management is allowed on 20 of this 29%. The remaining 9% is forever-wild or in reserves. Most conserved land that allows timber harvesting is privately held and under conservation easement. It is worth noting that most of Maine's forever-wild acreage is in the Western Maine Mountains, primarily in Baxter State Park, the White Mountain National Forest, The Nature Conservancy's Debsconeag Lakes Wilderness Area, Bureau of Parks and Land's Nahmakanta Ecological Reserve, Mahoosuc Unit and Bigelow Reserve, and additional lands within the 100-Mile Wilderness and the National Park Service's Appalachian Trail Corridor (Schlawin and Cutko 2014). Most of these reserves are centered around mountainous areas. They constitute some of the largest roadless areas in the state and New England (Publicover and Poppenwimer 2002) and contribute to the exceptional resilience of the region.

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16 As of 2017, predominant landowners in the Western Maine Mountains included Weyerhaeuser, Wagner Forest Management, MacDonald Investment, BBC Land LLC, Katahdin Timberlands and E.J. Carrier (James W. Sewall Company 2017 map of Forest Land Owners of the State of Maine).

17 Conservation lands include those where forest management can take place (Type 1) and those where extractive uses are not allowed (Type 2). The latter are sometimes termed "forever wild" or "reserve" lands. These lands include places such as Acadia National Park, the National Park Service's Appalachian Trail, federal Wilderness Areas in the White Mountain National Forest and Moosehorn Wildlife Refuge, State Ecological Reserves, many land trust ownerships and much of Baxter State Park (Schlawin and Cutko 2014).

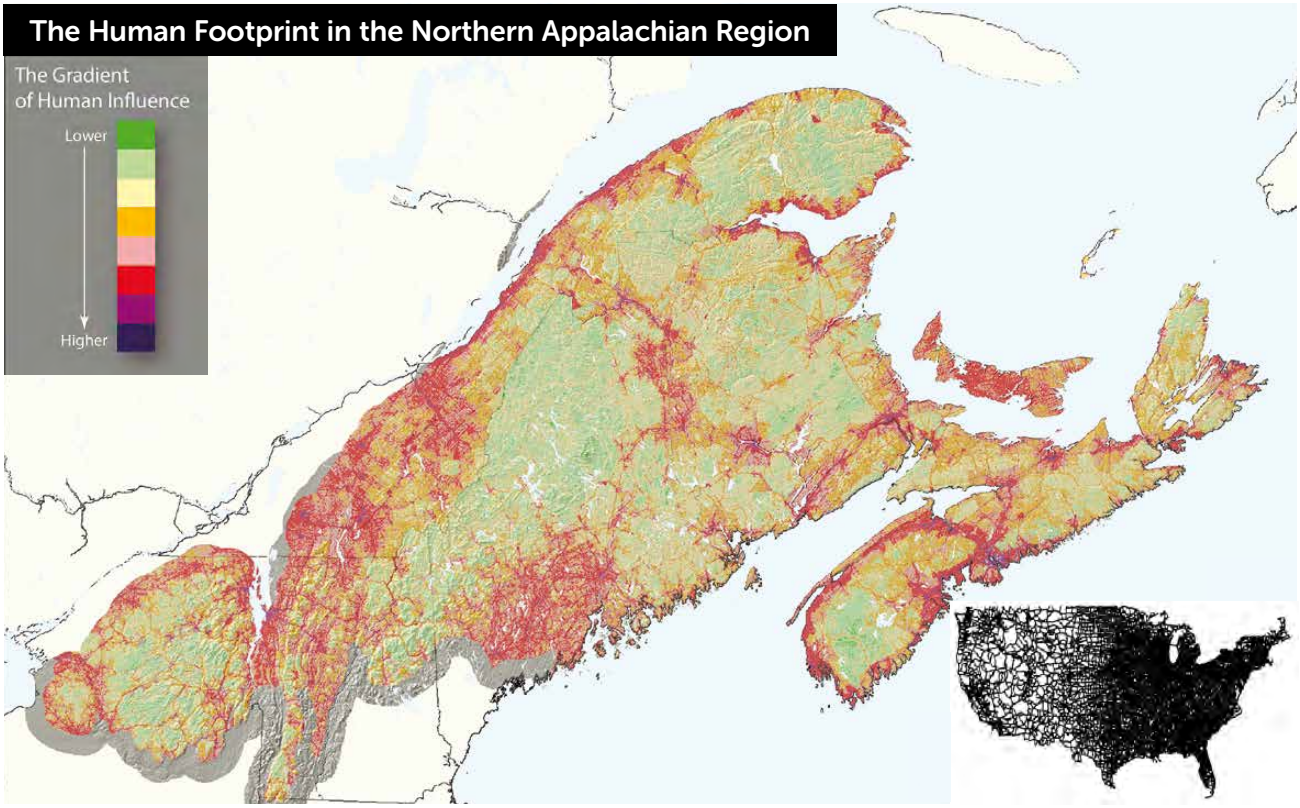

Figure 7. The Human Footprint map of the ecoregion and the map of the U.S. highway system (inset), viewed together, show that the Western Maine Mountains and Maine's North Woods are much less fragmented than any other area in the eastern half of the country. Human Footprint data from Two Countries One Forest, map courtesy of The Nature Conservancy, Maine.

Currently, the Western Maine Mountains region has a far lower density of major permanent roads than more developed areas of Maine, and New England as a whole.[18] The Land Use Planning Commission (2010) estimate of public road density in the unorganized towns was 0.1 miles per square mile compared to an average of 1 to 3 miles per square mile in the organized towns. In settled portions of the northern Appalachians, public road building remains an ongoing process. Baldwin and others (2007) found that approximately 1,200 miles of roads were built in settled landscapes in Maine between 1986–2003, impacting more than 92,000 acres of adjacent habitats. Furthermore, they estimated that regular, public roads in the Northern Appalachian-Acadian Forest Ecoregion as a whole—especially those that provide access to subdivisions, would double by 2013 (Baldwin et al. 2007). The majority (93.5%) of these new roads perform local functions and are short (<1,000 feet in length) residential roads typical of sprawl. Increased permanent road and energy infrastructure development within and along the boundaries of the Western Maine Mountains has the potential to impact tens of thousands of acres through direct habitat loss and edge effects, which will have a significant impact on regional connectivity.

Prior to the 1970s, there were few logging roads in the region. Those that existed were largely primitive and narrow and used for supplying remote logging and sporting camps. This changed when the river drives

[18] Good data on private roads in the unorganized towns are lacking. 2010 estimates from the Land Use Planning Commission indicate that there are on the order of 1,500 miles of public roads and over 20,000 miles of private roads in the unorganized towns.

ended and salvage operations during the spruce budworm outbreak of the 1970s and 1980s began. In 1997, the Maine Department of Conservation estimated that there were ~20,000 miles of private roads on the approximately 10 million acres of unincorporated land in Maine, with an anticipated 500 miles of new road being added each year (Publicover and Poppenwimer 2002; Maine Department of Conservation 1997). If this trend is accurate, based on a simple proportion and not accounting for roads that are reclaimed or abandoned, there would be between 10,000 and 15,000 miles of private logging roads within the five million-acre Western Maine Mountains region today. Aside from major haul roads, most logging roads in the region are low-volume, unimproved, single-lane, dirt or gravel roads without significant, cleared verges. Compared to public roads, these roads receive episodic use from forestry machinery and relatively light use by the public for fishing, hunting and other recreation where these activities are permitted (Alec Giffen, personal communication). Major haul roads such as the Golden Road, Telos Road, and Ragmuff Road receive more use and have a larger footprint and hence a greater fragmenting effect.

The Western Maine Mountains region, along with the Adirondacks, contains the most extensive roadless areas in Maine and the eastern United States (The Nature Conservancy Conservation Gateway). Publicover and Poppenwimer (2002) conducted a detailed inventory of "roadless areas" in the Northeast, which they defined as areas greater than 5,000 acres with no public roads, discernable active private logging roads or areas that have been heavily harvested in the past two to three decades. They estimated that, in 1996–1997, 43 roadless areas in the Western Maine Mountains fit this definition, encompassing about 870,000 acres, 15% of the region. The largest areas were Baxter State Park, the Debsconeag Lakes area and White Mountains National Forest. An additional 55 areas (mostly smaller tracts on private land) were scattered throughout other parts of the state to the north and east. By 2000, the number of roadless areas in the Western Maine Mountains had shrunk to 40 areas encompassing about 720,000 acres (Publicover and Poppenwimer 2006). Currently, the region is estimated to contain 46 such areas encompassing about 603,000 acres,[19] and most areas outside of the Western Maine Mountains have been eliminated due to road building and harvesting over the past two decades (Publicover and Poppenwimer, unpublished data).

Today, although there is an extensive system of logging roads in place, approximately 48% of the region's forest is more than one kilometer (3,300 feet) from the edge of a permanent public or major logging road,[20] which is beyond the distance where the most degrading road "edge" effects occur[21] (Laurance et al. 2002; Laurance et al. 2017).[22] This compares to only 5% of forestland beyond this threshold in southern Maine and a global average of 30% (Haddad et al. 2015) (Fig. 8a and 8b, following pages).

Rural development in the Western Maine Mountains is limited, occurring primarily along the region's southern and eastern edges, on some lake shores, and along permanently paved roads. This development consists primarily of single-family camps and homes, sporting camps, small subdivisions and small businesses, such

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19 In a classic example of fragmentation, the increase in the number of roadless areas is due to several formerly large contiguous areas being separated into multiple much smaller areas.

20 The E911 roads dataset used here is the most comprehensive statewide dataset for permanent roads. It includes all public and major private roads in organized towns and should be a reasonable indicator of major/permanent roads in the North Maine Woods (Daniel Coker, senior spatial scientist, The Nature Conservancy, personal communication). It was not possible to determine which smaller roads were included or excluded.

21 See page 17 for a fuller discussion of edge effects.

22 The area included in the Western Maine Mountains region for purposes of this analysis include nearly all of the Central-Western–White Mountains biophysical section and approximately one third of the St. John Upland biophysical section, as defined in Bailey (1995).

as general stores. The only major highways in the region are Route 201, Route 6/15 and Route 16/27. There are no major transmission lines crossing the undeveloped portions of the Western Maine Mountains north of Indian Pond. Six wind farms have been constructed in the southwestern portion of the region (U.S. Energy Information Administration 2017).[23] Between 2007 and 2017, approximately 116,000 acres (0.6%) of Maine's forest were converted to nonforest land uses. The Western Maine Mountains lost an estimated 12,000 acres during this period (NEFF in press).

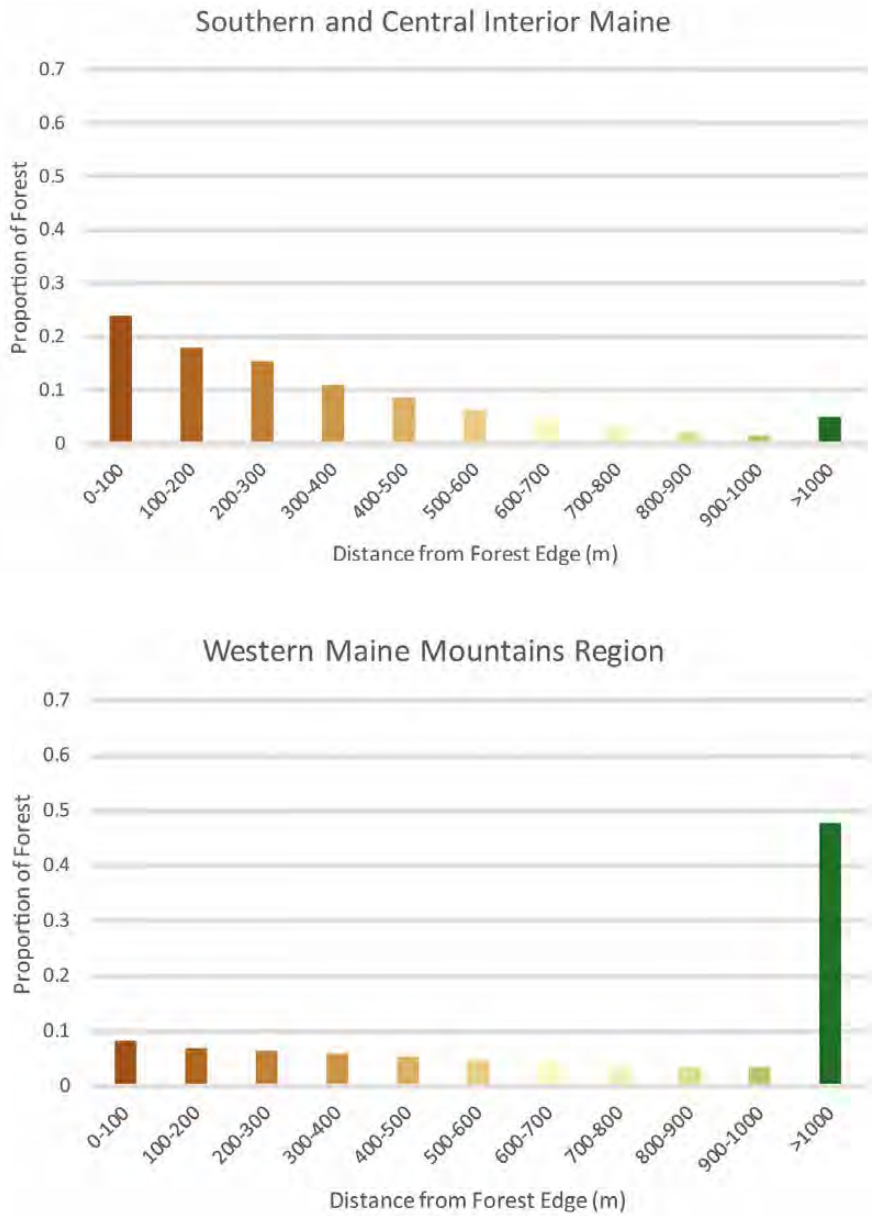

Figure 8a. Comparative percentage of distance to edge in southern and central interior Maine and in the Western Maine Mountains region based on data reflected in Figure 8b, following page. Analysis courtesy of The Nature Conservancy, Maine.

[23] As of 2017, wind farms in the region include Kibby and Chain of Ponds, Bingham Wind, Record Hill, Saddleback Ridge, Spruce Mountain Wind and Canton Mountain (U.S. Energy Information Administration 2017).

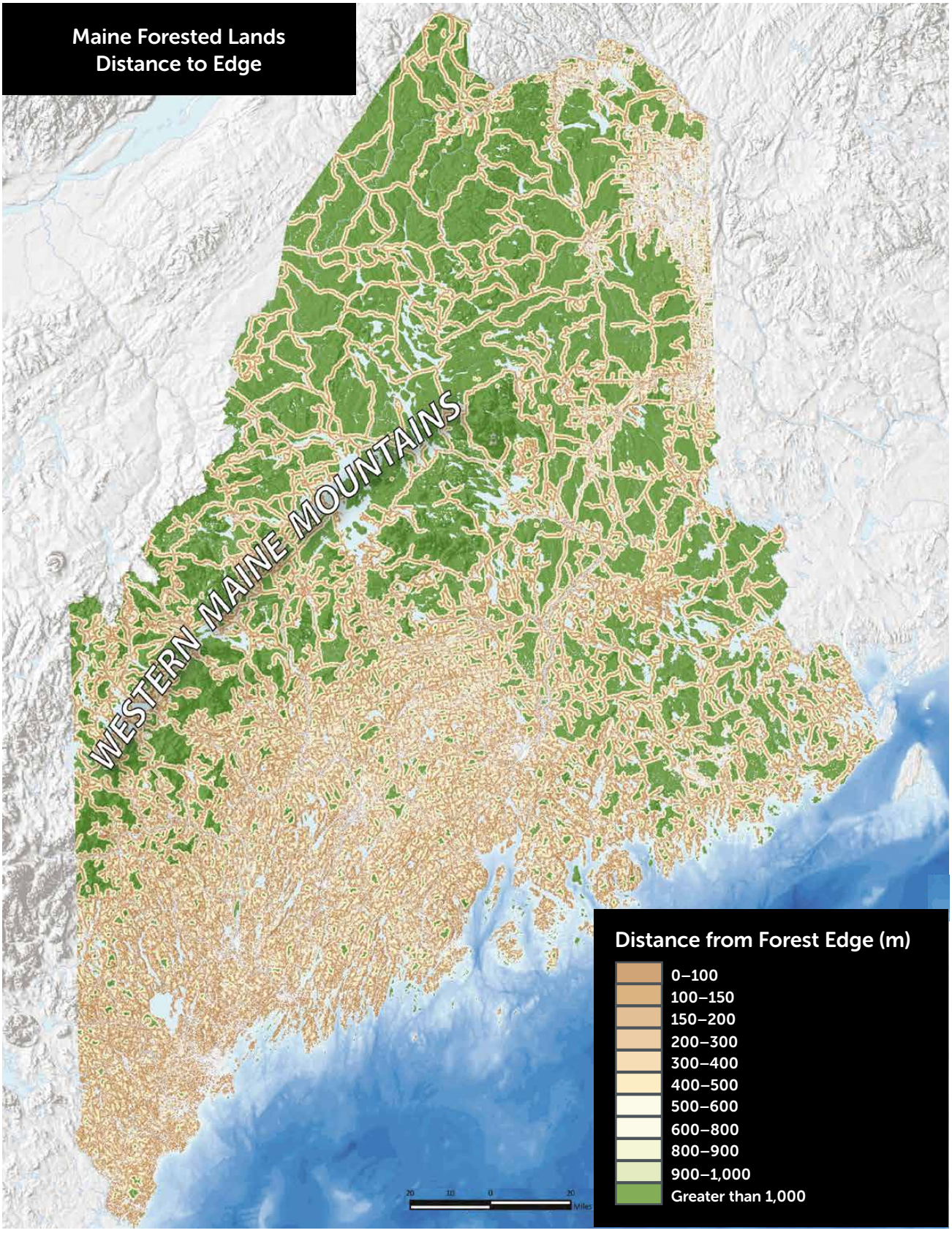

Figure 8b. Habitat blocks (green) and major roads are shown. Forest distance from an edge varies dramatically from northern Maine to southern Maine. Analysis and graphic courtesy of The Nature Conservancy, Maine.

A SUMMARY OF FOREST FRAGMENTATION IMPACTS

Forest fragmentation defined

Forest fragmentation is often defined as the breaking apart of forested landscapes into smaller and more isolated pieces. Implicit in this definition are changes in habitat patch size and distance between patches, as well as changes in the condition of the surrounding forest. These changes typically occur simultaneously and continuously, resulting in a large cumulative impact over time. However, it is a much more complicated process than this. In the Western Maine Mountains, fragmentation is largely caused by permanent features such as public roads, subdivisions and energy infrastructure. These features not only reduce the total amount of forest in a landscape, but they alter the environment in adjacent habitat because of edge effects. Fragmenting a forest landscape significantly increases the amount of forest edge next to a road, clearing or other fragmenting feature, which, in turn, greatly increases the total amount of land impacted. In addition, connectivity is impacted by the quality of habitat that remains in the surrounding forest. The extent that this forestland retains habitat value and is "permeable" to the movement of plants and animals depends on how it is managed and the species in question.

Forest fragmentation has the potential to compromise the Western Maine Mountains' biodiversity and connectivity and to drive ecological processes beyond the range of natural variability (Rowland et al. 2005). Different species are affected by fragmentation in different ways, depending on biological attributes such as habitat specialization, niche specialization, home range size, dispersal ability, mobility and a host of other factors (Lindenmayer and Fischer 2006). Some effects are immediate and local in extent while others occur at a landscape scale and are cumulative, playing out over decades or more. Other effects may be temporary, such as clearings created by timber harvests, or relatively minor, such as impacts associated with narrow, lightly used woods roads.

Research in Maine, the Northeast, and around the world demonstrates unequivocally that forest fragmentation—whether permanent or temporary—reduces native biodiversity and regional connectivity over time. A review of the literature indicates that fragmentation negatively affects terrestrial and aquatic ecosystems in a number of ways. The most severe effects, which are caused by roads, energy infrastructure, subdivisions and other permanent forms of fragmentation include:

- increased mortality and habitat loss from construction of roads and other fragmenting features
- increased mortality and other direct impacts associated with infrastructure after construction
- changes in species composition and reduced habitat quality from edge effects
- changes in species composition and behavior as habitat patch size delines[24]
- changes in hydrology and reduced aquatic connectivity
- introduction and spread of exotic species
- changes in the chemical environment
- pressures on species resulting from increased fishing, hunting, and foraging access
- loss of scenic qualities and remote recreation opportunities

In addition, forest management can have transitory fragmenting effects, such as acting as a barrier for species that need large connected areas of mature forest to thrive. New research suggests that this may compromise the ability of managed forestland to function as habitat or an ecological linkage for some species (see for example, Simons-Legaard et al. 2013).

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[24] The terms "habitat patch," "patch," and "fragment" are used interchangeably in this paper.

Although each of these impacts are described separately on the following pages, they are interrelated and occur to varying degrees depending on the type of fragmenting feature, whether the feature results in permanent loss of habitat, the time elapsed since fragmentation began, and the habitat requirements of the species involved. It is essential to keep in mind that fragmentation is a continuous and cumulative process where the impacts of many smaller fragmenting features combine to create a large and often unpredictable regional impact, resulting in ongoing environmental degradation and species loss over time.

Mortality and habitat loss from construction of roads and other human infrastructure

Construction of roads, utility corridors and other human infrastructure kills any sessile or slow-moving animal and all vegetation in the path of the feature (Trombulak and Frissell 2000). Direct habitat loss from the footprint of these features can be significant. New projects have the potential to significantly increase the rate of fragmentation in the region. For example, the proposed New England Clean Energy Connect Project would destroy nearly 1,000 acres of wetland and forest habitat in the Western Maine Mountains, and edge effects from the permanently cleared utility corridor and access roads would increase the impacted area by an additional 13,000 acres, assuming a 1,000-foot edge effect on either side. In addition, during the 1–2 year construction period, an estimated 500 acres would be needed for roads and staging areas and additional wetlands would be filled. Other documented impacts of roads and utility corridor construction include elevated mortality of trees and other species in the adjacent forest, mortality of soil biota from physical changes in the soil under and adjacent to the roads, mortality of aquatic species from direct transfer of sediment into nearby streams and wetlands, and avoidance and other changes in behavior due to vehicle noise and light (Trombulak and Frissell 2000; Laurance et al. 2002; Laurance et al. 2017; Charry 2007).

Mortality and other impacts of infrastructure after construction is complete

Mortality of animals from road collisions is well documented (Van der Ree et al. 2015; Charry 2007; Trombulak and Frissell 2000). Roads and other linear infrastructure negatively impact wildlife through increased mortality, decreased habitat amount and quality, changing species movement patterns, and fragmentation of populations into smaller subpopulations, which are more vulnerable to local extinction. Roads are considered a driving factor in the decline of many species globally, from moose and grey wolves to insects and other invertebrates (Van der Ree et al. 2015; Benitez-Lopez et al. 2010; Andrews et al. 2008; Glista et al. 2007; Muñoz et al. 2015). They can also impede restoration efforts. For example, a 1989–1992 effort to reintroduce Canada lynx to New York state failed because the released lynx were largely transient and suffered high road mortality throughout the region (Daniel Harrison, professor of wildlife ecology, University of Maine, personal communication).

Figure 9. Canada lynx crossing road. Road collisions can be a major cause of lynx mortality. Photo by Jeremiah John McBride, CC BY-ND 2.0, https://www.flickr.com/photos/bullfrogphoto/3411471411.

In Maine and elsewhere, research indicates that amphibians and reptiles are particularly susceptible to roadkill because many species, such as wood frogs and spotted salamanders, migrate between wetlands where they breed and uplands where they live during the nonbreeding season. In addition, individuals are generally inconspicuous and sometimes slow-moving, and in the case of turtles, it takes a long time for individuals to become sexually mature—which increases the likelihood that animals will be killed by collision before they are able to reproduce, and young are vulnerable after hatching (Baldwin et al. 2007; Gibbs and Shriver 2002; Rosen and Lowe 1994; Fahrig et al. 1995). Road size, density and traffic volume and distance from wetlands, streams and pools affect the magnitude of these impacts. For example, dense networks of wide roads with high traffic volume can have significant impacts on breeding populations of turtles. Roads are the major cause of decline of spotted and Blandings turtles in southern Maine (Beaudry et al. 2008) and are contributing to the decline of wood turtles in the state, since these species move from streams to uplands to nest (Compton 1999). According to Gibbs (2002), "as little as 2–3% additive annual mortality is likely more than most turtle species can absorb and still maintain positive population growth rates."

Figure 10. Wood turtle crossing road. Declining turtle populations in many parts of Maine are attributed to road collisions. Photo by John Mays.

In addition to direct mortality, roads and utility corridors may serve as conduits for the movement of organisms across the landscape that are detrimental to native forest species—fostering the spread of alien plants and predators, or as a barrier or filter that prevents or impedes the movement of some sensitive species (Forman and Alexander 1998). For example, white-footed mice and some other rodent species are reluctant to cross roads (Merriam et al. 1989; Oxley et al. 1974). Others, such as black bears, have been documented to shift their home ranges away from areas with high road densities, and some predator and prey species may preferentially travel along road corridors, increasing the risk of collision and altering predator-prey interactions (Brody and Pelton 1989; Trombulak and Frissell 2000). Highly fragmented landscapes that result in unsuitable habitat around ponds at distances greater than 3,300 feet (1 kilometer) can preclude the recolonization of pools by amphibians and result in local extinctions of other wetland-dependent taxa, including small mammals, nonbreeding amphibians, and reptiles (Laan and Verboom 1990; Gibbs 1993). DeMaynadier and Hunter (2000) found that salamander populations avoid crossing wide (~40 feet) heavily used logging roads, while the impacts of narrow (<16 feet) woods roads were insignificant. Hung culverts and other drainage infrastructure associated with roads can also act as barriers, preventing upstream fish passage and access to breeding and feeding habitat for aquatic species. This is discussed further under aquatic connectivity.

As energy infrastructure expands in the Northeast and elsewhere, additional impacts are becoming apparent, such as avian and bat collisions with transmission lines and wind turbines; altered reproductive success and physiology of insects, mammals, birds, trout, and other species groups associated with electromagnetic radiation; loss of roosting sites; and altered movement patterns (Rytwinski and Fahrig 2015, Smallwood 2013; Jochimsen et al. 2004; Fensome and Matthews 2016; Van der Ree et al. 2015). In addition to direct collisions, there is growing evidence that electromagnetic radiation from transmission lines can have significant impacts on wildlife. For example, Fernie and Reynolds (2005) conclude that exposure of birds to electromagnetic radiation "altered the behavior, physiology, endocrine system, and the immune function of birds, which generally resulted in negative repercussions on their reproduction or development. Such effects were observed in multiple species, including passerines, birds of prey, and chickens in laboratory and field situations, and in North America and Europe." Long-term and before-and-after studies are needed on other species groups.

Changes in species composition and reduced habitat quality from edge effects

When a forest is fragmented by a road, clearing or other disturbance, there will be a zone of impact along the forest edge.[25] Edge habitat is typically windier, warmer, and drier than the forest interior (Hunter and Gibbs 2007). The extent of this "edge effect" is greater along high contrast edges—such as between a utility corridor and a forest, than along low contrast edges—such as between a regenerating clearcut and adjacent uncut forest. The relative amount of edge increases as patches become smaller and more complex in shape (Fig. 11a and Fig. 11b). The amount of edge is also greater for long narrow clearings, such as roads and utility corridors, than for more compact clearings of the same size, such as clearcuts.

The habitat lost or altered by edge effects can be many times greater than the footprint of the fragmenting feature itself (Laurance et al. 2017; Harper et al. 2005; McGarigal et al. 2001; Tinker et al. 1997). The longest-running forest fragmentation study from the Amazon indicates that the impact zone of fragmenting features such as permanent roads can extend from 30 feet to more than 1,300 feet into adjacent forestland (Laurance et al. 2002; Laurance et al. 2017). Increased insolation, changes in air temperature and humidity, altered plant, animal and microbial species composition, species invasions, and a host of other edge effects were observed. South of the Western Maine Mountains, most forests are well within the range where human activities, altered microclimate, and nonforest species may influence and degrade forest ecosystems. Here, habitat fragmentation often leads to the establishment of early successional habitat along forest edges because plants adapted to interior mature forest conditions typically have low dispersal capacities compared to disturbance-adapted "weedy" plants (Harper et al. 2005). This favors generalist species at the expense of forest interior species. In the United States, there is a great body of research that documents the impacts of development and edge habitat on birds (see reviews by Forman and Alexander 1998, Lindenmayer and Fischer 2006, and Van der Ree et al. 2015). For exam-

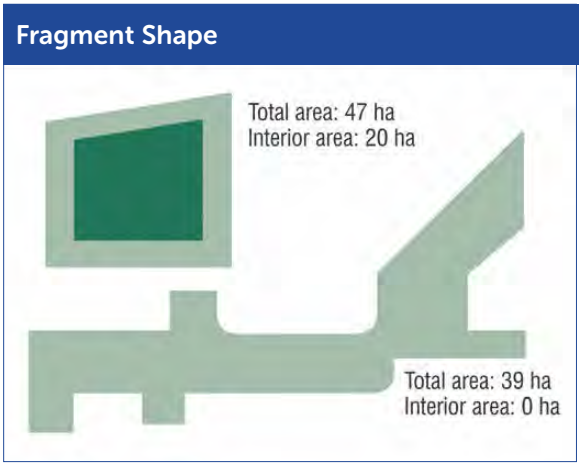

Figure 11a. Shape affects the percent of area affected by edge effects, as is shown by a comparison of the interior area available in two different shaped blocks of land. Adapted by Barbara Charry for Maine Audubon, from Verner et al. Wildlife 2000 1986, reprinted by permission of Wisconsin Press.

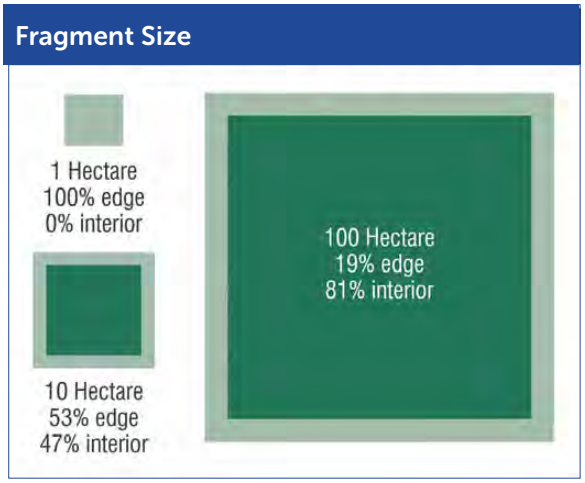

Figure 11b. Size affects the percent of interior area affected by edge effects, as shown in this comparison of the interior area of three different sized blocks. As fragment (block) size increases, the relative proportion of edge habitat decreases and interior habitat increases. Adapted by Barbara Charry for Maine Audubon, from Landscape and Urban Planning (36) Collinge, pg. 64, reprinted with permission from Elsevier Science.

[25] The edge of a habitat patch can be broadly defined as a marginal zone where the microclimatic and other ecological conditions differ from the those in the patch's interior (Lindenmayer and Fischer 2006; Matlack 1993).

ple, the decline of many ground-nesting, forest-interior species in the Northeast, such as the ovenbird and wood thrush, have been attributed to increased predation pressure from raccoons, cats and other generalist species that thrive along forest edges (Ortega and Capen 1999; De Camargo et al. 2018). Increased nest predation and reduced reproductive success can extend more than 2,000 feet into the adjacent forest. Other forest species, such as interior-forest–feeding bats, are affected by changes in insect prey, roosting habitat and other habitat features in forest edges (Grindal and Brigham 1998). The relationship between edge effects and patch size is complicated. Rosenberg et al. (1999) found that tanager species respond differently in different parts of their range and that landscape features interact to create population sources and sinks. The more continuity of forest cover and presence of many forest age classes on the landscape may reduce some species' sensitivity to edge effects.

The following table (Fig. 12) provides a summary of penetration distances of different edge effects associated with permanent fragmenting features documented from a 22-year experiment on forest fragmentation in the Amazon (Laurance et al. 2002; Laurance et al. 2017). Although analogous studies have yet to been done in the Northeast, there is abundant evidence that many of these edge effects are contributing to species declines and extinctions in the region (see reviews by Pfiefer et al. 2017 and Harper et al. 2005). One type of edge effect—invasion by exotic species—is discussed in more detail on page 22.

Disturbances that penetrate > 100 m	Disturbances that penetrate 50–100 m	Disturbances that penetrate 20–50 m
Increased wind disturbance	Reduced soil moisture	Higher understory foliage density
Elevated tree mortality/damage	Lower canopy-foliage density	Increased seedling growth
Invasion of disturbance-adapted butterflies	Increased air temperature	Invasion of disturbance-adapted plants
Altered species composition of leaf-litter ants	Increased temperature and vapor pressure deficit	Lower leaf relative-water contents
Invasion of disturbance-adapted beetles	Reduced understory bird abundance	Lower soil moisture content
Altered species composition of leaf-litter invertebrates	Elevated litter fall	Higher vapor pressure deficit
Altered abundance and diversity of leaf-litter invertebrates	Increased photosynthetically active radiation in understory	Higher leaf conductance
Altered height of greatest foliage density	Lower relative humidity	Increased phosphorus content of falling leaves
Lower relative humidity	Increased number of treefall gaps	Reduced density of fungal fruiting bodies
Faster recruitment of disturbance-adapted trees		
Reduced canopy height		

Figure 12. Documented Edge Effects Associated with Permanent Fragmenting Features from the Biological Dynamics of Forest Fragments Project. (Adapted from Laurance et al. 2002; Laurance et al. 2017.)

Although the Western Maine Mountains region has an estimated 10,000 miles of logging roads, the edge effects along most of these are less than that of typical roads in developed parts of the state because of lower traffic volumes, narrower road widths, unpaved surfaces, limited verge clearing and because some roads are gated when not in use. Nevertheless, studies in other areas suggest the cumulative impact of logging road networks can be significant (McGarigal et al. 2001; Forman and Alexander 1998). While the pace of private road construction has likely slowed as landowners have their modern transportation network mostly built out and some older roads have been abandoned, others are being replaced with newer, better and likely larger surfaces. The only place where road density is decreasing is in designated reserves where public agencies and conservation organizations have worked to close roads. More information is needed to evaluate the overall impacts of the logging road system on forest fragmentation in the region.

Changes in species composition and behavior as habitat patch size declines

A habitat patch is a relatively homogeneous habitat area that differs from its surroundings. Hunter and Gibbs (2007) give three main reasons why large habitat patches have more species than small ones. First, a large patch will almost always have a greater variety of environments than a small fragment, and each will provide niches for different species. Second, a large patch is likely to have both common and uncommon species, but small fragments are likely to have only common species. For instance, species with larger home ranges, such as black bear or bobcat, are unlikely to survive in smaller fragments. Finally, small fragments will, on average, have smaller populations that are more susceptible to being extirpated than a large population.[26]

Habitat requirements are species-specific. In Maine, patch size appears to be particularly critical for species associated with mature forest conditions, larger patch sizes and forest interiors. Many Maine birds, such as red-shouldered hawk, black-throated blue warbler, Canada warbler, ovenbird and wood thrush, require hundreds of acres of continuous, relatively closed-canopy forest to reproduce successfully, as do mammals with large home ranges, such as moose, bobcat, black bear and American marten (Charry 1996; Askins 2002). For example, Chapin et al. (1998) found that resident American martens established home ranges in areas where median intact forest patch size ranged from 375 to 518 acres, for males and females respectively. These area-sensitive and habitat specialist species will start disappearing when the size of habitat blocks falls below a certain threshold (Askins 2002; Blake and Karr 1984; Whitcomb et al. 1981). Roads, clearings, residential development and other features can act as barriers, preventing animals from using habitat that is nearby for breeding or feeding. Populations can become subdivided, and eventually animal species are lost from an area as it gets too small to support an isolated population, or is too far from a source population for recolonization to occur (Lindenmayer and Fischer 2006; Charry 1996; Forman and Alexander 1998; Laurance et al. 2017; and others). Conversely, species sensitivity to fragmentation may be lower in regions with greater overall forest cover (Rosenberg et al. 1999).

Hanski (1998) hypothesizes that when the total amount of suitable habitat in the landscape falls below 20–30%, the viability of local populations is reduced. Other studies suggest that population declines accelerate when available habitat falls below even higher thresholds (Andrén 1994). For example, Homan et al. (2004) found that wood frogs were less likely to occupy breeding pools where the amount of suitable forest habitat

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[26] In 1967, MacArthur and Wilson put forward the groundbreaking theory that island size and degree of isolation are highly correlated with biodiversity. Hunter and Gibbs observed that while island biogeography theory does not always directly apply to terrestrial landscapes, it provided insights fundamental to understanding the effects of reducing patch size and connectivity in terrestrial landscapes.

within approximately ~3,300 feet (1 kilometer) was less than 45% and spotted salamanders were less likely where forest habitat within ~1,150 feet of a pool was less than 40%.

Forest fragmentation also influences plant populations. In their *State of the Plants* report, the New England Wildflower Society (2015) documented a mean 67% loss of previously recorded range for 71 rare plant species. One of the main contributing factors was fragmentation of habitat across species' ranges, which isolated populations and reduced their ability to disperse.

Small size combined with increased isolation of habitat patches can also affect behavior, biology and interactions of species. Impacts include reduced breeding success, changes in predator-prey relationships, changes in ability to disperse and increased competition for resources (Lindenmayer and Fischer 2006). For example, before their demise as a result of chestnut blight, it was believed that stands of American chestnut needed to be above a certain size to produce enough seed to overcome pressure from seed predators (Rosenzweig 1995; Lindenmayer and Fischer 2006).

Changes in hydrology and reduced aquatic connectivity

Fragmentation of terrestrial habitats often leads to fragmentation of river and stream networks. The division and isolation of watersheds and stream networks by dams, roads and culverts is one of the primary threats to aquatic species in Maine and the United States (Martin and Apse 2011). Intact forested blocks are essential to protecting stream networks. Forested stream corridors intercept sunlight, moderating water temperature (Moore et al. 2005). Riparian trees also contribute the majority of coarse organic material, in the form of leaves and downed wood, and fallen leaves frequently form the base of the food webs of small streams (Vannote et al. 1980). Large woody material generated from large fallen trees adjacent to streams has a major influence on stream ecosystem structure and function (Dolloff and Warren 2003).

The impact of aquatic fragmentation on aquatic species generally involves loss of access to quality habitat for one or more life stages of a species. For example, dams and impassable culverts prevent brook trout populations from reaching upstream thermal refuges, which are critically important as the climate warms. In addition, roads can have significant effects on the physical environment. Roads can interrupt subsurface flows and patterns in aquatic systems when water flows are rerouted into road ditches and culverts (Lindenmayer and Fischer 2006; Forman and Alexander 1998). The impervious nature of roads increases runoff, erosion, sedimentation and water-level fluctuations, and can flood adjacent wetlands (Andrews et al. 2008; Al-Chokhachy et al. 2016). Temporary pools in ditches and ruts can be population sinks for amphibians that breed there instead of higher quality vernal pools (Andrews et al. 2008).

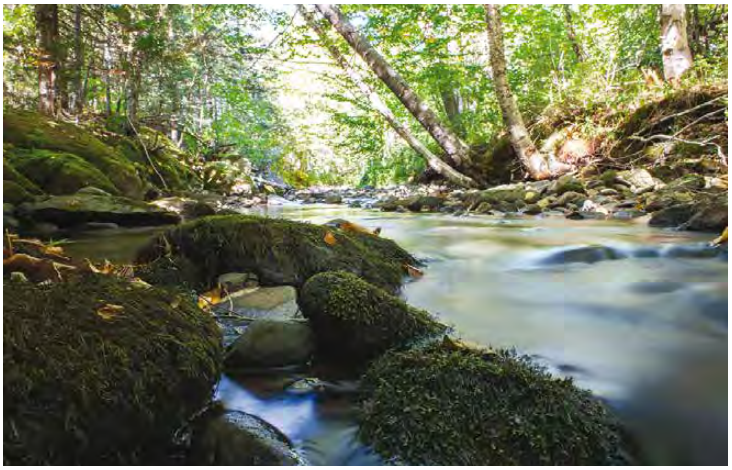

Figure 13. Cool mountain streams, like this one in the High Peaks region of the Western Maine Mountains, provide critical habitat for brook trout and other coldwater species. Photo by Charlie Reinertsen Photography.

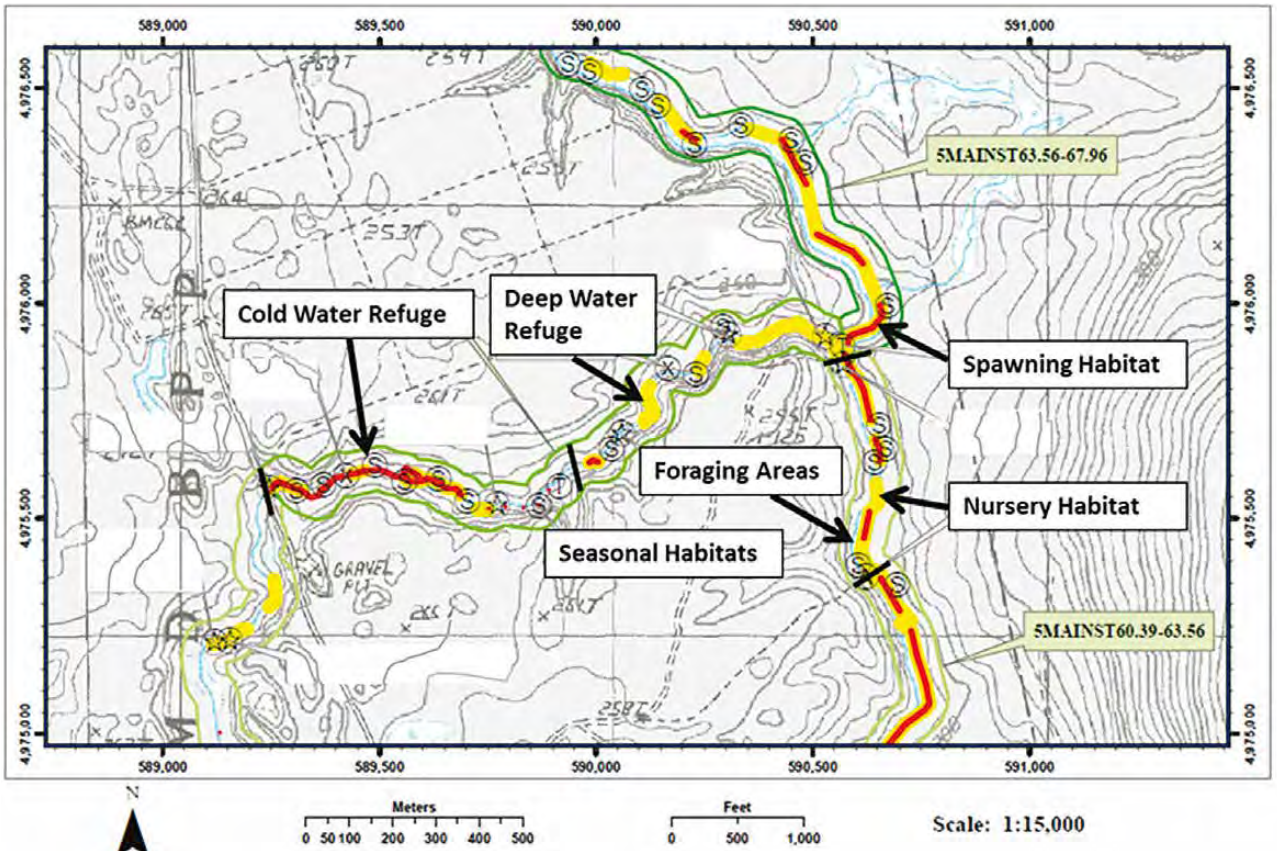

Figure 14. Fish need to move: brook trout use a variety of in-stream habitats to meet their daily and annual needs for feeding, resting and breeding. They often move up and down streams and into tributaries to find food and refuge. Graphic modified from the Maine Atlantic Salmon Atlas (2006) by Alex Abbot and the U.S. Fish and Wildlife Service's Gulf of Maine Coastal Program.

A bellwether species in the Western Maine Mountains is brook trout, which requires cool, clean, connected networks of streams and lakes (Fig. 14). A 2006 range-wide study of this species found that Maine is the only state in the eastern United States with extensive intact populations of wild, self-reproducing brook trout in lakes and ponds. Furthermore, Maine is the last true stronghold for stream-dwelling populations of wild brook trout, supporting more than twice the number of intact subwatersheds than the other sixteen states in their eastern range combined (Trout Unlimited 2006). Although wild brook trout waters are found elsewhere in northern Maine, they are most prevalent in the Western Maine Mountains (Trout Unlimited 2006; DeGraaf 2014). The high habitat integrity of the region is due to a combination of cool temperatures and an abundance of large, connected stream networks. The cooler region provides optimal conditions, with fewer competing, nonnative fish species than the southern or coastal parts of the state. Large patch size of intact brook trout habitat allows fish to migrate to cooler water when portions of their habitat grow too warm.

The Nature Conservancy's Conservation Gateway maps show a region with few dams and high stream connectivity. This is not the case for much of southern Maine, where many public- and private-road stream crossings in the region do not meet recommended standards.[27] Maintaining aquatic connectivity is critical to

[27] These include: (1) spanning the entire width of the natural stream; (2) setting the elevation to match the natural stream; (3) matching the slope to the natural stream; and (4) ensuring that the stream bed is made up of natural materials (see Maine Department of Transportation and www.maineaudubon.org/projects/stream-smart).

maintaining brook trout populations in northern Maine (Trout Unlimited 2006; Fesenmyer et al. 2017; Coombs and Nislow 2014). Conserving habitat for this umbrella species, in turn, will ensure the survival of other plants and animals that require pristine aquatic habitats.

Introduction and spread of exotic species

Invasion by exotic plant species is a common and widespread impact of fragmentation that can result in displacement of native species. In general, non-native invasive plant species thrive in disturbed and early successional habitats. Invasive plants can become established in roadside ditches, along utility corridors, on soils disturbed by residential or commercial development and on soils disturbed by timber harvests that border developed areas. In addition, seeds can be introduced in road fill and through planting of exotic ornamental species. Common traits of invasives include rapid growth, light and drought tolerance, bird-disseminated seeds, and the ability to outcompete native plants (Webster et al. 2006).

Invasive non-native woody plant species have the potential to profoundly alter the structure and function of forest ecosystems. Invasive woody and herbaceous plants rapidly colonize forest edges and may penetrate more than 330 feet into the forest interior, altering or eliminating habitat for native plants (Charry 1996). Wetland and aquatic invasives pose a similar threat in wetland and aquatic ecosystems. Because many invasive plant species have the ability to form dense monocultures, they have a competitive advantage in forest understories, particularly in edge habitat. In addition, most species have relatively few—if any—natural predators in their introduced ranges (Webster et al. 2006; Woods 1993). Other impacts include changes in soil chemistry and biota—which may suppress native tree regeneration—and reduced or eliminated foods used by pollinators, fruit and seed eaters and herbivores (Silander and Klepeis 1999; Charry 1996; Webster et al. 2006; Burnham and Lee 2010; Ehrenfield et al. 2001; Heneghan et al. 2006; Hunter and Mattice 2002).

Large forest blocks appear to resist woody plant invasions better than land that has a history of agricultural or residential use (Mosher et al. 2009). The resistance of large intact forest blocks to invasion probably stems from two main factors: the deep shade created by mature trees and the buffering effect of large block size, which serves to isolate interior portions of the forest from invasive seeds. If present land use trends continue, increased fragmentation of forest parcels may allow edge-adapted invasive plants such as glossy buckthorn, oriental bittersweet, Japanese barberry, and bush honeysuckles to get a deeper foothold into forest blocks. Eventually, this could allow woody invaders to take advantage of disturbances such as logging within the major forest blocks of the region, displacing native species as a result (Mosher et al. 2009; Webster et al. 2006; Silveri et al. 2001).

Figure 15. Oriental bittersweet infestation in Cape Elizabeth, Maine. Photo from Maine Natural Areas Program, Maine.gov.

Many terrestrial invasive plant species and wetland invasives, such as purple loosestrife and phragmites, are already well established in southern Maine and have expanded to the edges of the Western Maine Mountains (*iMapInvasives Database*). These species thrive in utility corridors and roadside ditches (Fig. 16). With roughly one third of Maine's flora comprised of non-native plant species (and most of these already established in the southern part of the state), the cause-and-effect relationship between fragmentation and the establishment of non-native plant species poses a significant threat to native species and habitats in northern Maine (Mosher et al. 2009; Charry 1996).

Woody invasive plants are part of a much larger invasion of alien species of plants, insects, and disease that has the potential to fundamentally alter the composition and structure of eastern forests (Webster et al. 2006). Invasions by insects such as emerald ash borer, Asian longhorn beetle, and browntail moth are tied to both inadvertent transport by people and climate change. The relationship between the spread of these species and forest fragmentation is unclear, although new roads will increase the likelihood of transport by people and vehicles into the region.

Figure 16. Phragmites, an invasive exotic grass, established along a southern Maine highway. Photo by Janet McMahon.

There is currently a low incidence of terrestrial invasives in the Western Maine Mountains, although invasive plant species are established along the southern border of the region. No aquatic invasive plant species, invasive insect pests or invasive tree species, such as Norway maple and black locust, are currently documented in the Western Maine Mountains. Three invasive herbs have been confirmed in the interior of the Western Maine Mountains and sixteen invasive herbs and shrubs have been confirmed at the region's margin, primarily in developed areas[28] (*iMapInvasives Database*) (Fig. 17, following page). Fragmentation from major utility corridors, roads and new residential and commercial development has the potential to open the region to these and other invasives.

[28] MNAP lists 68 species of invasive plant species that are currently documented in Maine or are probable. I reviewed MNAP's *iMapInvasives Database* to determine presence/absence of all documented species in the region. The three species confirmed in the Western Maine Mountains' interior include reed canary grass, common reed and coltsfoot. Because field effort in the region is low compared to other parts of the state, invasive species occurrences may be under-reported. I have not surveyed the Western Maine Mountains systematically, however, my observations in areas visited suggest that most terrestrial invasive plant species are absent or rare, especially in the region's interior.

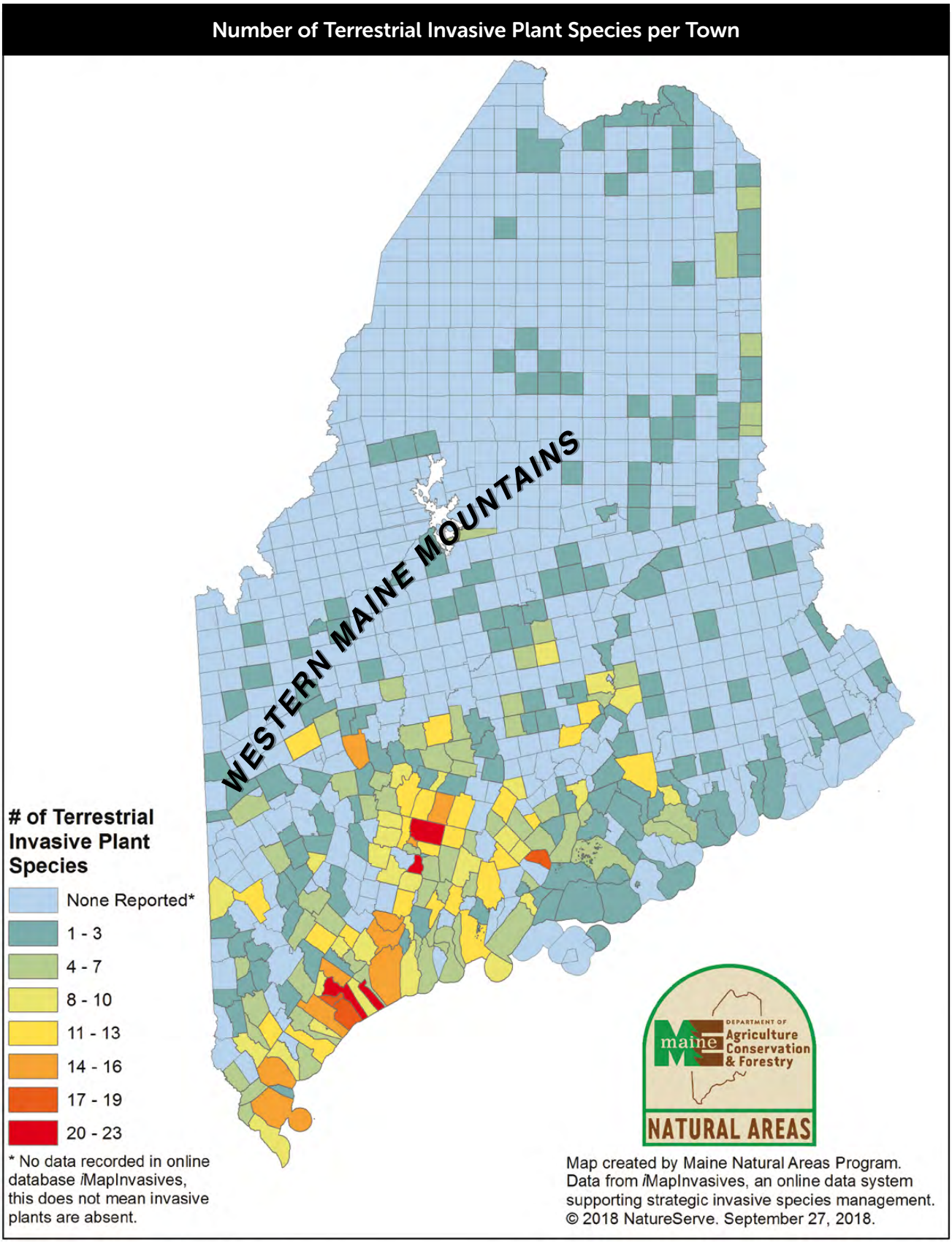

Figure 17. Documented terrestrial invasive plant species in Maine. The Western Maine Mountains are relatively free of terrestrial plant species. Fragmentation from major utility corridors, roads and new residential and commercial development has the potential to open the region to these invasives. Map courtesy of the Maine Natural Areas Program in the Maine Department of Agriculture, Conservation and Forestry.

Changes in the chemical environment

Use and maintenance of roads, utility corridors and windfarms contribute at least five different general classes of chemicals to the environment: heavy metals, salt, organic molecules, ozone and nutrients (Trombulak and Frissell 2000). These are mostly derived from fuel additives, deicing salts and herbicides. Contamination of soils, plants and animals can extend tens to hundreds of meters from a road or power line right of way depending on the contaminant, wind, and if the chemicals reach flowing water. Trombulak and Frissell summarize a number of impacts on plants and animals, such as the poisoning of habitats so they no longer have adequate carrying capacity, mortality or reduced health and growth from exposure, bioaccumulation of chemicals that makes species toxic to predators and increased concentrations of salts that can attract large mammals to roadsides, increasing vehicle collision risk. The high skin permeability of amphibians make them particularly susceptible to toxins from road salts and other chemicals (Andrews et al. 2008).

Pressures on species resulting from increased fishing, hunting and foraging access

Increased road density and access into remote areas can lead to increased hunting, trapping, fishing, poaching, disturbance to wildlife, trampling and other direct human impacts on biodiversity in forest and aquatic ecosystems (Laurance et al. 2002 and 2017; Haddad et al. 2015; Brocke et al. 1988). A study of the relationship between density of publicly accessible roads and moose populations in Nova Scotia found that natural populations declined when road density exceeded a threshold of 0.6 km/km^2 (~1.4 mi/mi^2). This was attributed to the fact that most moose hunting occurred along roads (Beazley et al. 2004). They concluded that road density may be among the key factors influencing habitat productivity, and thus critical habitat area and population viability, for moose in mainland Nova Scotia, as well as for other species sensitive to the effects of roads, such as Canada lynx, American marten and black bear.

The USDA Forest Service has found that illegal introduction and harvest of fish species are more likely to occur in areas with ready access (Gucinski et al. 2000). Increased road density and improved access into remote ponds have been linked to regional declines of lake trout and introduction of invasive fish species such as smallmouth bass in northern Ontario (Kaufman et al. 2009). In Maine, unauthorized introductions of invasive fish species, such as small and largemouth bass, are threatening native fish species populations—especially brook trout—and can ultimately impact entire aquatic systems. In the past, the majority of introductions occurred in populated portions of the state, but in the past decade, introductions are occurring at a higher rate in western and northern Maine where most of the state's wild brook trout populations are located. Improved road access and development are likely contributing factors (Merry Gallagher, research fisheries biologist, Maine Department of Inland Fisheries and Wildlfe, personal communication). Increased access is also likely to lead to overharvesting of species such as chaga, ginseng and ramps that are collected for food, medicine and other purposes.

Loss of scenic qualities and remote recreation opportunities

Maine has a long tradition of hunting, fishing, guiding and remote camping that is closely bound to the undeveloped and scenic character of its northern forests, lakes and mountains. These uses are a major and growing economic driver in northern Maine (David Publicover, senior staff scientist, Appalachian Mountain Club, personal communication). Degradation of the skyline caused by utility corridors, major road right of ways, sprawl from development, wind farms and associated light pollution are general aesthetic impacts of for-

Figure 18. Fishing at Lake Mooselookmeguntic. Photo by Sarah Haggerty.

est fragmentation. These affect remote recreation and other human values associated with large undeveloped areas. Most vistas from mountains and water bodies in the Western Maine Mountains provide long scenic and unbroken views. Roads are generally screened by the forest canopy, but wind towers and transmission lines with wide, cleared right of ways are conspicuous features on the landscape. Other than Routes 201, 16/27 and 6/15, there are currently no major highways or transmission corridors impacting the high scenic value of the region. The proposed New England Clean Energy Connect Project transmission corridor would be one of the largest fragmenting features in the Western Maine Mountains region, dividing it in two and crossing 53.5 miles of forest.

Potential fragmenting effects associated with forest management

Many species that need intact forest patches for their core habitat are also affected by the condition of the matrix forest surrounding these patches. It is well recognized that the condition of the matrix forest that surrounds intact mature habitat patches can affect regional biodiversity and landscape connectivity. In general, connectivity and biodiversity are reduced when the matrix forest becomes simplified in terms of species and structural diversity. Prevedello and Vieira (2010) found that a matrix that is more similar in structure to intact habitat patches will increase functional habitat and decrease isolation of patches. Timber harvesting can have a significant fragmenting effect, although the degree of impact depends on the extent, intensity and frequency of harvesting. As the extent and intensity of harvesting increases, the extent of interior forest habitat—especially large contiguous blocks—decreases. And while the impact of any individual harvest is temporary, cumulative harvesting patterns typically create a shifting mosaic of early successional stands, edge habitat and interior forest habitat across the landscape.[29]

Managed forest makes up about 90% of the Western Maine Mountains. While this forest remains largely unfragmented by permanent features such as public roads and residential development, it has been greatly

[29] It is important to note that forest management and timber harvesting can be practiced in a manner that maintains or enhances wildlife habitat over time (DeGraaf et al. 2007).

modified by forest practices in the past half century. In the presettlement forest, where large-scale stand-replacing disturbances were rare events, the majority of the landscape would have been composed of older stands that were allowed to develop uninhibited into a late-successional condition (Lorimer 1977; NEFF in press). Today, although a full suite of native tree species remains, there has been a broad ecological shift away from late successional taxa, such as red spruce and hemlock, in favor of early- and mid-successional taxa, such as red maple and aspens (Thompson et al. 2013). In the past half century, large areas of spruce-fir forest have been converted to deciduous and mixed types due to regeneration of hardwoods after high-intensity spruce-fir harvests. In addition, the total amount of mature forest on the landscape has decreased along with the patch sizes in which these mature forests occur, and there is a correspondingly larger amount of edge between intact mature forest and harvested forest (NEFF in press; Legaard et al. 2015). Today only 1.4% of Western Maine Mountains forests are in a late-successional condition[30] and only 3% are classified as large saw timber[31] by the Maine Forest Service (NEFF in press). This compares to a presettlement forest where 59% or more of the forest was older than 150 years (Thompson et al. 2013; Lorimer and White 2003; Barton et al. 2012). An initial assessment of Ecological Reserve Monitoring data quantifies differences in forest structure between older stands in reserves and Maine's managed forests. Ecological reserves have greater average live-tree basal area, more large and very large trees, more standing dead trees, and more downed woody material (Kuehne et al. 2018). In short, the combination of spruce budworm era salvage cuts in the 1970s and 1980s and widespread partial harvesting[32] since the 1990s has created a modern forest that is younger, more homogeneous, and less coupled to local climatic controls (Thompson et al. 2013).[33]

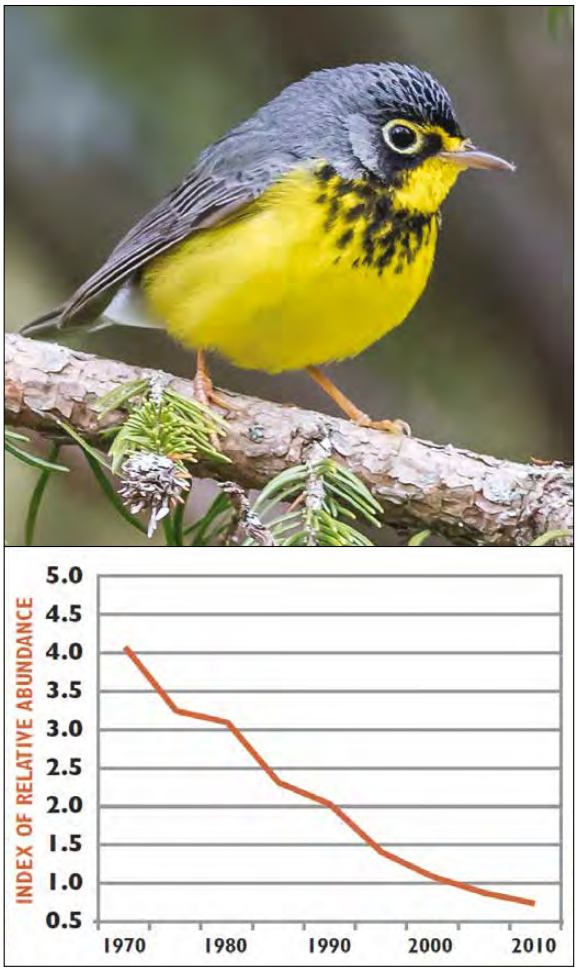

Figure 19. Species requiring mature coniferous or mixed forest habitat, such as the Canada warbler, are decreasing due in part to loss of summer breeding habitat. Graphic courtesy of Maine Audubon.

The result of these structural changes is a change in both plant and animal species composition at all forest stages (Legaard et al. 2015).[34] Species that require larger connected patches of older forest are particularly susceptible. For ex-

[30] Late-successional stands are greater than 120 years old, have a multi-storied canopy, and have at least 15 trees per acre (either alive or standing dead) > 16" DBH (diameter at breast height). Unmanaged late-successional stands tend to have cohorts of trees of different ages, large living and dead trees, large-diameter logs on the forest floor, vertical structural complexity and different-sized canopy gaps (Franklin et al. 2002).

[31] Stands with > 100 ft^2 basal area in trees > 5.0" DBH in which trees > 15" comprise at least 50% of the basal area.

[32] Partial harvests are areas that have been subject to a commercial partial harvest, including shelterwood and any other harvest method involving partial overstory removal (McGarigal et al. 2001; Legaard et al. 2015). The result is typically a dispersed low-density canopy.

[33] See Legaard et al. (2015), Simons-Legaard et al. (2018) and NEFF (in press) for detailed analyses of current forest condition.

[34] Legaard et al. (2015) used a time series of Landsat satellite imagery (1973–2010) to evaluate cumulative landscape changes in an area of western and northern Maine that included about half of the Western Maine Mountains.

ample, Payer and Harrison (2003) found that forests with large patches of large trees in a mature condition, either deciduous or coniferous, generally provide the structural stand attributes required by a wide variety of species such as American marten, northern flicker, wood thrush and northern long-eared myotis (a bat) (NEFF in press). Although not researched in Maine, a similar pattern is evident for forest birds in boreal habitats to the north. For example, Schmiegelow et al. (1997) found that, as the acreage of older forest declined, neotropical migrant bird species that require mature forest conditions declined in both connected and isolated fragments of such habitat, and resident species declined in isolated fragments.

Changes in forest structure also impact pool-breeding amphibians, which in the Northeast are sensitive to harvesting practices that reduce overstory canopy levels to less than 50%. Canopy closure, along with natural litter composition and coarse woody material within 100 to 400 feet of vernal pools, are important habitat elements required by salamanders and other amphibians (deMaynadier and Houlahan 2008; Popescu and Hunter 2011; Ross et al. 2000).

Changes in the composition and structure of the matrix forest as a result of harvesting, although temporary, can also impact generalist species such as white-tailed deer. Near the northern edge of their geographic range, where snow can restrict mobility and access to forage, white-tailed deer depend on mature conifer forests for wintering habitat. In a 1975–2007 time-series Landsat imagery analysis, Simons-Legaard et al. (2018) documented that fragmentation and reduction of mature conifer forest habitat significantly reduced the amount of deer wintering areas[35] in the Western Maine Mountains. The extent of currently zoned deer wintering habitat and habitat under cooperative agreement in the region is currently estimated to be only 34% of what is recommended (Nathan Bieber, personal communication). Simons-Legaard et al. conclude that continued forest-type conversion is expected to extend the effects of habitat fragmentation on northern deer populations and other species that require mature conifer forest into the future (Simons-Legaard et al. 2018).

Other than research on forest trees, there has been little research on the impacts of patch size and condition on vascular and nonvascular plants. Some lichen, liverwort and bryophyte species are dependent on the woody debris and dead and dying trees associated with older stages of spruce-fir forest development. These structural features can require several decades to recover, unless the woody material is intentionally left (Selva 1994; Gawler et al. 1996; Rowland et al. 2005). Small isolated populations can become too far apart to recolonize the areas in between and exchange genetic information.

We are just beginning to understand the scope of these changes in the forest matrix and their long-term effects on species dispersal, richness, abundance and persistence, community composition and ecosystem function. While connectivity within the matrix forest of the Western Maine Mountains is currently high, there is growing evidence that American marten, forest birds and other species that require larger patches of mature forest are declining in the region as the stepping stones of suitable habitat become fewer and farther between. This topic is in urgent need of study by the scientific community.

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35 The Maine Department of Inland Fisheries and Wildlife defines deer wintering areas as forested areas used by deer when (a) snow gets to be more than 12 inches deep in the open and in hardwood stands, (b) the depth that deer sink into the snow exceeds 8 inches in the open and in hardwood stands, and (c) when mean daily temperature is below 32 degrees Fahrenheit. Ideal wintering areas (primary winter shelter) are dominated by mixed or monospecific stands of cedar, hemlock, spruce and fir, with a stand height of 35 feet.

LONG-TERM CONSEQUENCES OF FOREST FRAGMENTATION

Fragmentation is a continuous and cumulative process that leads to degraded habitats and loss of species over time. There is a growing body of research that suggests that the ecological dynamics in fragmented landscapes are a stark contrast to the dynamics in intact landscapes (Haddad et al. 2015). Although there are currently few long-term studies of the impacts of permanent forms of forest fragmentation on biodiversity and connectivity in the Northern Appalachian-Acadian Forest Ecoregion, research from elsewhere shows strong and consistent responses of organisms and ecosystem processes to fragmentation arising from decreased habitat patch size, decreased connectivity and the creation of habitat edges (Haddad et al. 2015; Lindenmayer and Fischer 2006). In general, the greater the difference between forested patches and their surrounding environment and the smaller and more isolated patches become, the greater the impact on biodiversity and ecosystem function. Haddad et al. (2015) identify three processes that drive long-term and progressive impacts of fragmentation: (1) temporal lags in extinction, (2) immigration lags and (3) ecosystem function debt.

Extinction debt

Temporal lags in extinction, or "extinction debt" is simply the delayed loss of species due to fragmentation. Hagan and Whitman (2004) suggest that we may be accruing "extinction debt" in Maine forests, describing the process as follows:

> Once old forest elements such as large trees or logs are lost from a stand (e.g., as a result of a clearcut, or even a selection cut), it can take centuries for the species [dependent on such features] to return to that location. A species first has to wait for these structural features to redevelop, and then the species has to find them. Scientists are beginning to understand that forest continuity is key to many forest species. [This temporal] continuity refers to the persistence of big trees and big logs in a forest stand over a very long period of time (centuries), even though the stand might be subjected to many different disturbances, such as fire, wind, disease, or even selection logging. Species that move or disperse slowly through the landscape, and prefer large old trees or logs, are the species most at risk to the loss of older forests.

In addition to the inability of organisms to disperse, extinction debt from fragmentation may be tied to genetic traits of populations, rarity, reproductive mode, life span and a host of other factors (Haddad et al. 2015). Extinction debt is often overlooked because many of the species lost tend to be small and uncharismatic, such as insects, fungi and mosses—and yet these species may be critical for ecosystem function. In the Western Maine Mountains, changing land use patterns from permanent and temporary forms of fragmentation have already caused changes in species composition and will likely cause changes in plant and animal abundance over time. Two of these changes include the increased proportion of early successional species and the large-scale reduction in the structural complexity of forest stands on which other forest organisms and ecological processes may depend (Rowland et al. 2005; Hagan and Whitman 2004). To fully understand the implications of extinction debt in the forests of the Western Maine Mountains, more long-term studies are needed.

Immigration lag

In general, smaller and isolated fragments are slower to accumulate species after disturbance than large or connected habitat blocks. In other words, because it takes longer for species to recolonize small patches, the successional transition from cleared land to mature forest conditions may take longer to occur (Haddad et al. 2015; Cook et al. 2005). This phenomenon is called "immigration lag" (Haddad et al. 2015). Most fragmen-

tation studies have been done in agricultural or suburban landscapes, long after the onset of fragmentation. Research on industrial forest land suggests that the process of immigration lag is a complex one. For example, Hagan et al. (1996) found that densities of several forest-dwelling bird species can increase within a forest stand soon after the onset of fragmentation as a result of displaced individuals packing into remaining habitat. However, because forest songbirds are highly territorial during the breeding season they cannot simply shift elsewhere unless there is unoccupied habitat. Furthermore, it is widely thought that these species establish territories in the best habitat available. If displaced, they could be forced into poorer quality habitat resulting in reduced pairing success and productivity over time. This was the case for ovenbirds in the Hagan et al. (2015) study. Their models and data suggest that large tracts of forest are important because they are relatively free from the variety of plant and animal population dynamics that might take place near new edges, including the encroachment of individuals displaced by habitat loss. Immigration lag may also mask the risk of invasion by exotic species since there may be a long lag between introduction, colonization, and rapid range expansion of some invasive species (Webster et al. 2006).

Ecosystem function debt

Ecosystem functions, such as nutrient cycling and decomposition rates, can also be reduced or lost over time—a process called ecosystem function debt. Evidence suggests that during forest succession, this delayed loss of function is greater in smaller, more isolated fragments (Cook et al. 2005; Billings and Gaydess 2008). The mechanisms for this are complex. Functional debt can result when fragmentation causes food webs to be simplified as species are lost, or when altered forest succession patterns resulting from permanent fragmentation or forest practices that cause changes in tree density, light and moisture, which impair ecosystem function (Haddad et al. 2015).

While there is abundant evidence that the forests of the Western Maine Mountains continue to change as silvicultural practices interact with natural successional processes and a changing climate, Legaard et al. (2015) and Simons-Legaard et al. (2018) are the first two studies to document spatial changes in the forest over time in Maine. Their research suggests that the long-term processes described above are beginning to play out in the Western Maine Mountains. The American marten provides an example of how a species responds to long-term habitat changes associated with fragmentation. While the forests of the region currently support marten, recent research suggests that forest harvest practices on two-thirds of Maine's commercial forestland are creating habitat that no longer serves the needs of this umbrella species, and by implication the many other terrestrial forest vertebrate species that use similar habitat (Hepinstall and Harrison in prep.); Simons-Legaard et al. 2013; Fuller and Harrison 2005; Homyack et al. 2010; McMahon 2016).

A changing climate

If left unchecked, increased fragmentation from permanent and temporary features is expected to exacerbate the impacts of climate change on biodiversity and connectivity in the region. Whitman et al. (2013) summarize how Maine's biodiversity and ecosystems are likely to change in the coming decades.

> The region can anticipate shifting species distributions, with an increasing number of novel species moving in from the south and many species with northern distributions moving north. Changes in seasonal rainfall patterns may exacerbate late summer dryness and increase levels and frequency of drought stress for plant communities and aquatic systems. Increasing temperatures may allow wildlife parasites such as winter moose tick (*Dermacentor albipictus*) and forest pests such as hemlock woolly adelgid (*Adelges*

Figure 20. Northern Maine and the Western Maine Mountains are now a stronghold for moose in the eastern United States. Photo by Charlie Reinertsen Photography.

tsugae) to become more prevalent, stressing native wildlife populations and degrading their habitats. Because each species will respond individually to these threats, the composition of natural communities and wildlife habitats that we take for granted will change. While populations of some species and their habitats will increase, climate change could lead to extirpation of other species and significant changes to natural communities and wildlife habitats (Cahill et al. 2012).

Forest fragmentation increases the vulnerability of Maine's native flora and fauna to climate change (Fernandez et al. 2015; Rustad et al. 2012). For example, declines in the diversity of native flora in New England's mixed northern hardwood forests are attributed to a high degree of habitat specialization, a highly fragmented range, depauperate understories due to repeated clearing and barriers to dispersal (New England Wildflower Society 2015). Three of the top four stressors are caused or aggravated by forest fragmentation, including habitat conversion, invasives and succession. All of these stressors are expected to become more pronounced as the climate changes.

The resiliency of the Western Maine Mountains in the face of climate change is largely due to the extent and connectivity of the region's forests. These forests provide far greater benefits to climate stabilization than the alternative of land development (Fahey et al. 2010). Because heavily forested areas sequester more carbon than they emit and the wood they produce can be used to substitute for more energy- and emissions-intensive building materials, keeping forested lands intact will help mitigate climate change regionally. Conversely, developed lands are net sources of carbon dioxide to the atmosphere (Fahey et al. 2010).

Figure 21. Fall in the Western Maine Mountains. Photo by Charlie Reinertsen Photography.

CONCLUSIONS

The Western Maine Mountains region is an ecological treasure that faces unprecedented threats from forest fragmentation. New land uses and policies that fragment the region's forests—such as the proposed New England Clean Energy Connect transmission corridor, the Land Use Planning Commission's proposed changes to the adjacency rule, which would allow new commercial and residential development to stretch for miles along currently undeveloped public roads, and large scale developments, such as the rezoning component of the Moosehead Lake Concept Plan—have the potential to profoundly change the ecology of the region by bringing extensive new human infrastructure into remote areas and creating new nodes of development (Lilieholm et al. 2010). In addition, forest practices have created a younger more homogeneous forest, conditions that threaten species that require large patches of older forest, such as American marten and many songbirds. However, when the land remains forested, even if harvesting temporarily modifies forest composition and structure, the potential for connectivity is retained because forest patches can regrow and expand. By contrast, once a utility corridor, road or development is in place, it effectively forever disrupts the connectivity of the landscape.

Fragmentation increases the risk of species extinctions and exotic invasions and decreases the ability of species to respond to a warming climate. The capacity of the Western Maine Mountains to sustain biological diversity and ecosystem integrity into the future will hinge upon the total amount and quality of its forests, wetlands and streams and their degree of connectivity. Unless proactive steps are taken, these changes have the potential to forever alter and degrade one of the most intact forested landscapes in the eastern United States and compromise its ability to serve as a critical ecological link between forests of the Northeast and Canada.

To maintain the region's unique values, it is essential to avoid introduction of new fragmenting features, especially those that would permanently intrude into intact forest blocks, such as new utility corridors, new centers of development, and new high volume roads. It is also critically important to find ways to support landowners who seek to maintain large intact forest blocks and to find ways to support them in managing forests for greater spatial and temporal connectivity and structural complexity. Maintaining an unfragmented and intact forest is not only critical to the region's biodiversity and ecological health, but it is crucial to Maine's economy and a defining part of the Maine way of life.

The biodiversity, resilience and connectivity of the Western Maine Mountains are unparalleled in the eastern United States. The region offers one of the last opportunities for large landscape-scale conservation with protected areas connected through linkages and stepping stones embedded within an intact forest matrix (Keeley et al. 2018). As one of the few temperate forests in the world managed through natural regeneration, the Western Maine Mountains region continues to support a full complement of native forest wildlife and is the last regional stronghold for brook trout, moose, lynx, marten and a host of other species. It remains a highly connected forested landscape—one that is far less fragmented than increasingly developed lands to the south. The actions of landowners, conservation organizations, government officials and agencies, and local communities and citizens together will determine whether these species and the region's many unique values persist into the future.

Figure 22. Canoeing on Flagstaff Lake. Photo by Sally Stockwell.

Figure 23. Unbroken view in the High Peaks region of the Western Maine Mountains. Photo by Charlie Reinertsen Photography.

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DIVERSITY, CONTINUITY AND RESILIENCE – THE ECOLOGICAL VALUES OF THE WESTERN MAINE MOUNTAINS

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DIVERSITY, CONTINUITY AND RESILIENCE – THE ECOLOGICAL VALUES OF THE WESTERN MAINE MOUNTAINS

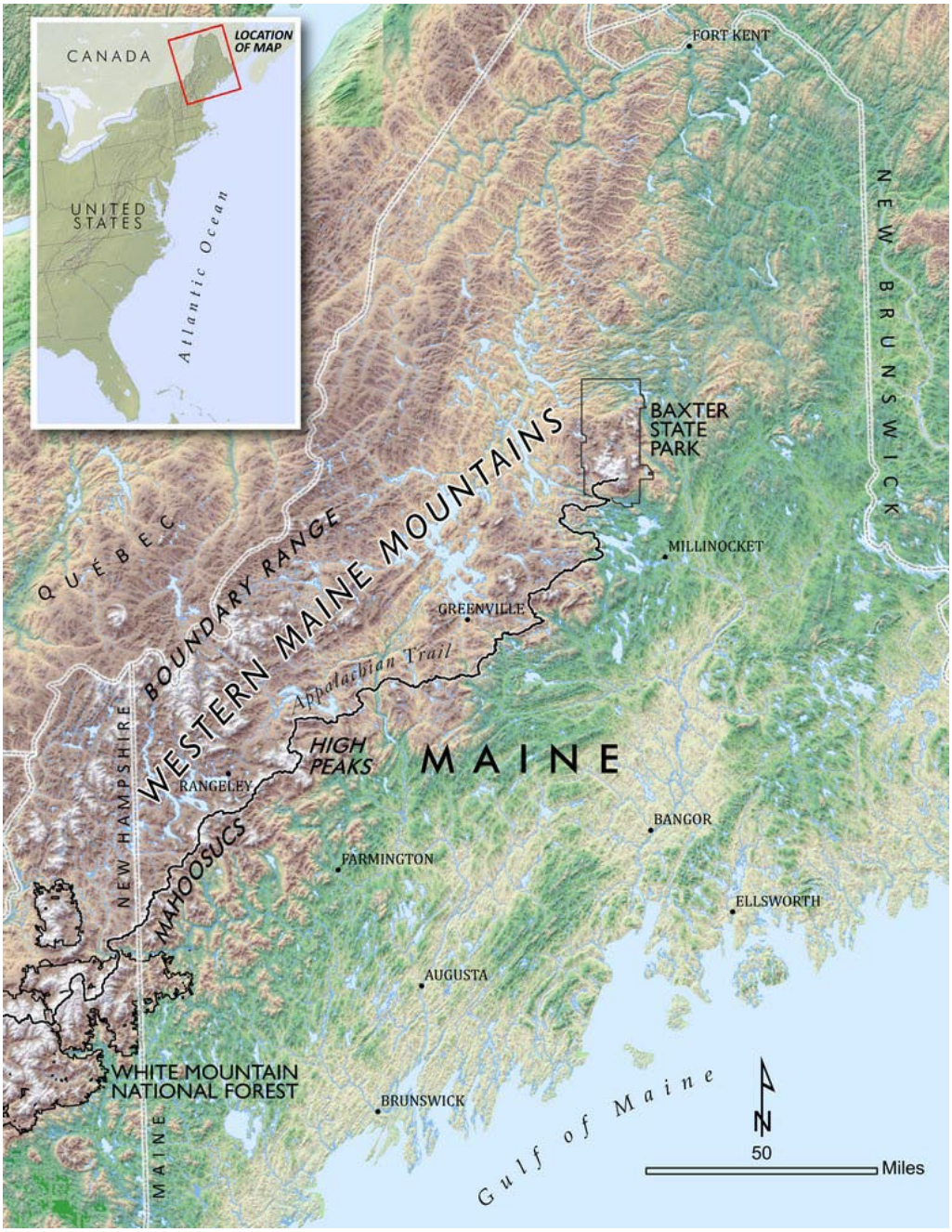
Dawn over Crocker and Redington Mountains *Photo courtesy of The Trust for Public Land, Jerry Monkman, EcoPhotography.com*

Abstract

The five million acre Western Maine Mountains region is a landscape of superlatives. It includes all of Maine's high peaks and contains a rich diversity of ecosystems, from alpine tundra and boreal forests to ribbed fens and floodplain hardwood forests. It is home to more than 139 rare plants and animals, including 21 globally rare species and many others that are found only in the northern Appalachians. It includes more than half of the United States' largest globally important bird area, which provides crucial habitat for 34 northern woodland songbird species. It provides core habitat for marten, lynx, loon, moose and a host of other iconic Maine animals. Its cold headwater streams and lakes comprise the last stronghold for wild brook trout in the eastern United States. Its unfragmented forests and complex topography make it a highly resilient landscape in the face of climate change. It lies at the heart of the Northern Appalachian/ Acadian Forest, which is the largest and most intact area of temperate forest in North America, and perhaps the world. Most importantly, the Western Maine Mountains region is the critical ecological link between the forests of the Adironcaks, Vermont and New Hampshire and northern Maine, New Brunswick and the Gaspé.

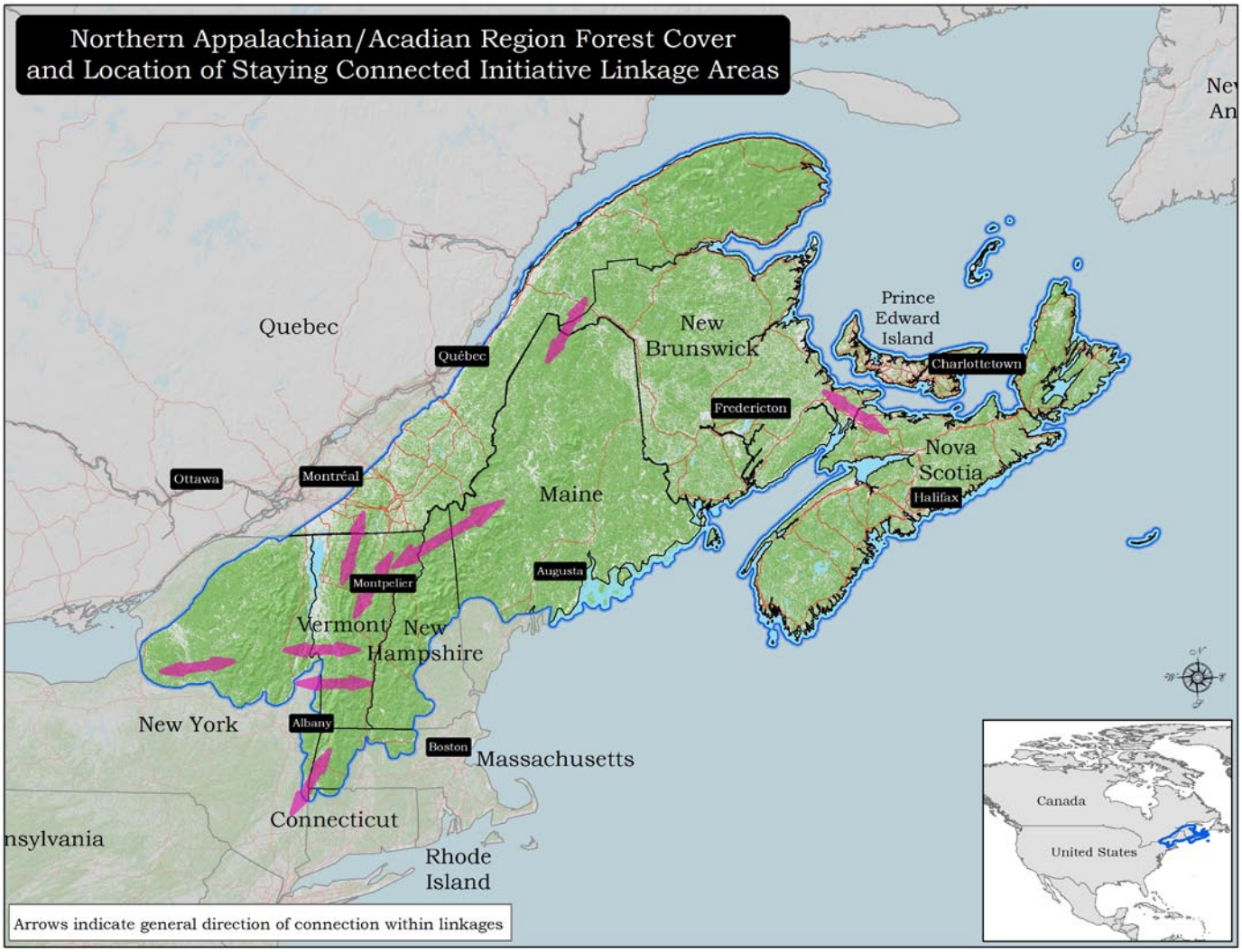
Introduction

In 1884, when Thoreau ascended Ktaadn, the Penobscot Nation's sacred "highest land," he was struck by the *"continuousness of the forest"* with *"no clearing, no house,"* uninterrupted except for *"the narrow intervals on the rivers, the bare tops of the high mountains, and the lakes and streams"* (Thoreau 1984). More than a century later, the view south and west from Mount Katahdin is much the same and, remarkably, with the exception of the wolf, cougar, and caribou which have been driven north and west, all of the animals Thoreau might have encountered more than a century ago still thrive in the Western Maine Mountains.



The Western Maine Mountains stretch in a broad band from the summits of the Katahdin group, southwesterly one hundred and sixty miles to Boundary Bald Mountain and the Mahoosuc Range on Maine's western border. In all, the region encompasses over five million acres. It is a landscape of superlatives. It includes all of Maine's high peaks. It contains a rich diversity of ecosystems, from alpine tundra and boreal forests to ribbed fens and floodplain hardwood forests. It is home to more than 139 rare plants and animals, including 21 globally rare species and many others that are found only in the northern Appalachians.

It includes more than half of the United States' largest globally significant bird area, which provides crucial habitat for 34 northern woodland songbird species. It provides core habitat for marten, lynx, loon, moose and a host of other iconic Maine animals. The region's abundant snowfall and cool summer rains feed hundreds of miles of cold clear headwater streams that are essential habitat for wild brook trout and other cold water species. Its unfragmented forests and complex topography make it a highly resilient landscape in



Credit: The Nature Conservancy

The Staying Connected Initiative, http://stayingconnectedinitiative.org, has identified critical linkages to maintain connectivity in the Northern Appalachian/Acadian Forest Ecoregion.

the face of climate change.[1] It lies at the heart of the Northern Appalachian/Acadian Forest Ecoregion,[2] which is the largest and most intact area of temperate forest in North America, and perhaps the world.[3] Within this vast forest, the Western Maine Mountains region is the critical ecological link between undeveloped lands to the north, south, east and west.

Northern Maine is the only place in the eastern United States where such a large area of contiguous land has remained continuously forested since pre-

The Western Maine Mountains region is a critical linkage in the Northern Appalachian/Acadian Forest Ecoregion, which is the largest and most intact area of temperate forest in North America, and perhaps the world.

1 Resilience is the capacity of an ecosystem to maintain or return to its essential composition, structure, and ecosystem function after disturbance (Holling 1973).

2 Ecoregions are large units of land with similar environmental conditions, especially landforms, geology and soils, which share a distinct assemblage of natural communities and species. The Northern Appalachian-Acadian Forest Ecoregion includes the mountainous regions and boreal hills and lowlands in Northern New England and Maritime Canada. The ecoregion includes the Adirondack Mountains, Tug Hill, the northern Green Mountains, the White Mountains, the Aroostook Hills, New Brunswick Hills, the Fundy coastal section, the Gaspé peninsula and all of New Brunswick, Nova Scotia and Prince Edward Island (Anderson et al. 2006).

3 Based on Riitters et al. (2000) and the author's analysis of Google Earth imagery. Other northern temperate forests at the same latitude have lower species diversity (Scandinavia) and are more fragmented (Europe, eastern Asia) than the forests of the Northern Appalachian/Acadian Forest Ecoregion.

settlement times (Barton et al. 2012). This is in large part because of the timber value and resilience of its vast forests, most of which have been in private ownership and actively managed for more than two centuries. Many of the ecological values of the Western Maine Mountains region remain because of this fact.

The following pages summarize the region's key ecological values, which include:

- High landscape diversity
- A high diversity of northern species and ecosystems
- More than five million acres of contiguous forest that lie at the heart of the largest intact temperate forest in the United States
- Some of the country's least disturbed forests
- A globally important bird area
- A U.S. stronghold for wild populations of brook trout
- Vital habitat for focal carnivore species such as lynx and marten
- An exceptionally resilient landscape today and predicted high resilience in the face of climate change
- A critical ecological link between the boreal and temperate forest biomes
- An important role in buffering and regulating global, regional and local climates

The region's latitudinal position, mountain topography, forest contiguity, and Atlantic influence are unique at a continental scale.

The Western Maine Mountains lie near the northern terminus of the Appalachian Mountains and include some of the chain's most rugged terrain. The western part of the region includes the Boundary Mountains to the north and the Longfellow Mountains to the south. These two mountain ranges are separated by a series of large lakes, including Umbagog, Upper and Lower Richardson, Rangeley and Flagstaff. To the north and east are the mountains and foothills of the Katahdin group as well as the highlands surrounding Moosehead and Chesuncook Lakes. The region has the greatest topographic relief in the state. Its eastern boundary roughly follows the 1,000 foot contour, but elevations range from 600 to 5,270 feet. The region includes Maine's fourteen peaks taller than 4,000 feet as well as all of the state's high elevation habitat.[4]

The region's climate is influenced by its latitude and weather systems that originate in both the Atlantic and the Arctic. It is characterized by cool summers, harsh winters, a short growing season and the highest snowfalls in Maine, which average 120 inches in a typical winter. Annual precipitation is about 40 inches, although some of the higher mountains produce a rain shadow effect, with precipitation as high as 50 inches on windward slopes and less than 35 inches to leeward (McMahon 1990; Lautzenheiser 1978). Thoreau called the land above tree line a *"cloud-factory–these were the cloud works, and the wind turned them off done from the cool, bare rocks"* (Thoreau 1884). The mountainous landscape is dissected by hundreds of cold, fast-flowing streams, which form the headwaters of four of Maine's major rivers, the Penobscot, Kennebec, Androscoggin and Allagash.

Because of their latitude, mountainous topography, continuous forest and Atlantic influence, Maine's Western Mountains are unique at a continental scale and are home to a diversity of rare species and ecosystems.

The region's latitudinal position, mountain topography, forest contiguity, and Atlantic influence are unique at a continental scale (McKinley 2007). And because species diversity is highly correlated with geophysical diversity in the eastern United States (Anderson and Ferree 2010), the Western Maine Mountains are home to a surprising diversity of both widespread and rare species and ecosystems.

4 The high elevation threshold in Maine is 2,700 feet. Subalpine and alpine habitats are typical above this point. About three percent or 139,222 acres of the region is classified as high elevation (Publicover and Kimball 2012).

The ecological diversity of the Western Maine Mountains is significant at multiple scales, ranging from state to continental.

On a summer day, the view from any mountain in the region is of seemingly endless forest, darker greens of spruce and fir on upper and northerly slopes, lighter greens of northern hardwoods on lower and southerly slopes. A closer look reveals a much more complicated picture. In fact, the Western Maine Mountains harbor the largest concentrations of high value ecosystems and natural features in the state (McKinley 2007; McCollough et al. 2003). The region's rich animal diversity ranges from large mammals, such as lynx and moose, to the rare Bicknell's thrush to bog lemmings and endemic[5] mayflies. This diversity is due to a combination of the region's location within the transition zone between the boreal forest biome to the north and the eastern deciduous forest biome to the south (Delcourt and Delcourt 2000), its complex topography, the continuity of the landscape, and the inherent diversity of forests, with their complex vertical structure, which provides habitat for a multitude of plants and animals. For example, of the 55 mammal species documented in Maine, at least 51 occur in the Western Maine Mountains (DeGraaf and Yamasaki 2001). Only the New England cottontail, the woodland vole, the Virginia opossum, a relative newcomer to Maine, and possibly the southern flying squirrel are absent. The region also retains all of the tree species that were here during presettlement times, including the thirty commercial species that are harvested today, as well as at least 41 of the 48 forest community types that occur in Maine.[6]

The rich ecological diversity of the Western Maine Mountains ranges from large mammals, such as lynx and moose, to the rare Bicknell's thrush to bog lemmings and endemic mayflies. This diversity is due to the region's location within the transition zone between the boreal forest biome to the north and the eastern deciduous forest biome to the south, its complex topography, the continuity of the landscape, and the inherent diversity of forests, with their complex vertical structure, which provides habitat for a multitude of plants and animals.

The most distinctive suite of species in the Western Maine Mountains occurs at high elevations—above tree line and in the subalpine fir forests just below. The globally rare boreal and tundra communities that occur here are among the most pristine areas in the Northern Appalachian-Acadian Forest and are classified as rare in all four northeastern states (Publicover and Kimball 2012). They cover about three percent of the Western Maine Mountains region, but contain a disproportionate number of rare species. Maine's alpine communities are remnant biogeographic islands from the last glacial period (Seidel et al. 2009), and as a result contain many local and regional endemics. The species names tell the story: Aleutian maidenhair fern, tundra dwarf birch, alpine azalea, Alaskan clubmoss, Arctic red fescue, Lapland rosebay, northern bog lemming, White Mountain tiger beetle, Katahdin Arctic butterfly. Maine's mountains include some of the lowest elevation alpine areas at similar or more northern latitudes anywhere in the world (Seidel et al. 2009). Mount Katahdin alone has nineteen rare alpine plant species that are found nowhere else in Maine (Maine Beginning with Habitat Program).

The globally rare boreal and tundra communities that occur here are among the most pristine areas in the Northern Appalachian-Acadian Forest.

Between tree line and an elevation of about 2,700 feet are extensive subalpine fir forests. This rare forest type provides nesting habitat for high elevation and coniferous forest specialist birds, such as spruce grouse, dark-eyed junco, bay-breasted warbler, blackbacked woodpecker, white-throated sparrow, blackpoll warbler, and the elusive Bicknell's thrush, a state endangered species that breeds only in subalpine forests and krummholz in the northern Appalachians (Maine Beginning with Habitat Program). In all, more than 52 upland rare plant species and 9 rare animals species have been documented on Maine's mountain tops.[7]

5 Endemic species are those that are found only in a defined geographic area, such as the Katahdin Arctic butterfly, which is found only on Mount Katahdin.

6 Determined from distribution maps in Gawler and Cutko (2010).

7 Estimated from descriptions and maps of the Ecological Focus Areas that occur in the Maine Mountain Collaborative study area.

The natural diversity of the Western Maine Mountains goes far beyond the species and communities found at higher elevations. The Maine Natural Areas Program and Department of Inland Fisheries and Wildlife have identified 20 landscape-scale focus areas of statewide ecological significance in the region. These focus areas encompass nearly 762,000 acres or about 13% of the region's land area. The relatively intact unfragmented landscapes of these focus areas have a high concentration of rare species and high quality natural communities, ecosystems, and wildlife habitats. These are the 'biodiversity hot spots' of the region. A small sample of some of the biological gems in these focus areas showcases the rich diversity of the Western Maine Mountains.

- Between the Moose River and Attean Pond is No. 5 Bog, a 1400+ acre peatland that is one of the largest, most diverse, and least disturbed peatlands in the eastern United States. It contains the southernmost example of a ribbed fen in North America and is considered nationally significant.
- Wild brook trout populations, which have never been genetically modified by stocking, thrive in the cold high elevation streams and lakes of the Western Maine Mountains, where entire watersheds are unimpeded by dams and culverts. Cold Stream in West Forks Plantation, Orbeton Stream in Redington Township, and Wassataquoik Stream, which flows out of Baxter State Park are just a few of the many pristine examples in the region.
- An outstanding 3,000+ acre Appalachian–Acadian Rivershore ecosystem along the lower Wassataquoik and the East Branch of the Penobscot River contains one of the least disturbed and most extensive hardwood floodplains in the state.
- The Klondike, located in the basin just west of the Tablelands on Mount Katahdin, is Maine's largest and most intact example of a black spruce bog.
- The highest concentration of pristine, remote ponds in New England occurs in the Nahmakanta area. Among its dozens of lakes and ponds, Third Debsconeag Lake, Rainbow Lake and Nahmakanta Lake are the largest and most well-known.
- The beech-birch-maple forest southwest of Speckled Mountain is one of the largest and best examples known in the White Mountains, with trees over 150 years old.
- Millinocket Lake Wetlands and West Branch Flowage chain of lakes and wetlands provide habitat for wild brook trout, the state's northernmost populations of the globally rare tidewater mucket and yellow lampmussel, and breeding habitat for the rusty blackbird, a special concern species that breeds in northernmost New England, Canada, and Alaska.
- The calcium-rich soils of the Twin Peaks area support enriched hardwood cove forests and some of Maine's rarest plant species, including Goldies fern, male fern silvery spleenwort, squirrel corn, and a host of others.
- The region's many cold, clear streams and ponds provide some of the state's best habitat for spring salamanders, wood turtles, freshwater mussels, and dozens of rare aquatic insect species, including at least three globally rare boreal species—the Katahdin Arctic butterfly, the Roaring Brook mayfly and the White Mountains tiger beetle.
- Big and Little Moose Mountains boast two exemplary spruce-fir-northern hardwoods ecosystems, one surrounding Big and Little Moose Ponds, and the other on the northern peak of Big Moose Mountain. Both examples are intact, mature forests that include a variety of hardwood and softwood community types.

- Six of Maine's twelve arctic charr populations occur in the Western Maine Mountains. This species thrives in Bald Mountain Pond and other cold clear ponds in the region. Maine and Alaska are the only states in the country with native populations of this species.
- The Lake Umbagog Wetlands focus area supports breeding pairs of peregrine falcons and bald eagles, and historically provided habitat for nesting golden eagles. Peregrines and golden eagles prefer to nest on rugged cliff faces. The majority of documented peregrine nest sites in Maine are in the Western Mountains, and this is the only region in the eastern United States with year round activity by golden eagles, Maine's rarest breeding bird (Morneau et al. 2015; Charlie Todd, personal communication).

The region lies within the largest and most contiguous forested landscape in the eastern United States.

On satellite images taken of North America at night, northern Maine stands out because of its darkness. The Western Maine Mountains lie at the heart of the 26 million acre Northern Appalachian/Acadian Forest, which spans four states and five Canadian provinces. This ecoregion contains the broadest extent of nearly contiguous natural forest east of the Rockies (Anderson et al. 2012; Anderson 2006) and is the only extensive region of interior temperate forest at middle latitudes worldwide (Riitters et al. 2000). Western and northern Maine are the least developed portions of the ecoregion—with few settlements, no large areas of cleared lands, few paved roads, and some of the region's largest unfragmented forested blocks. Less than two percent (~100,000 acres) of the Western Maine Mountains has been converted to date, compared to 28% of the Northeast as a whole (Publicover, personal communication 2016; Anderson and Sheldon 2011). Baldwin, et al. (2007) described Maine's forests as the ecological core of the Northern Appalachian-Acadian forest, important because of their extent, relatively light human footprint, and because they link the forests of the Northeast to those of the Canadian Maritimes. Within the Northern Appalachian-Acadian Forest, the Western Maine Mountains region provides the key link between the unfragmented forests to the west in northern New Hampshire and Vermont and the vast north woods of Maine.

> The Western Maine Mountains lie at the heart of the Northern Appalachian/Acadian Forest, which is the only extensive region of interior temperate forest at middle latitudes worldwide.

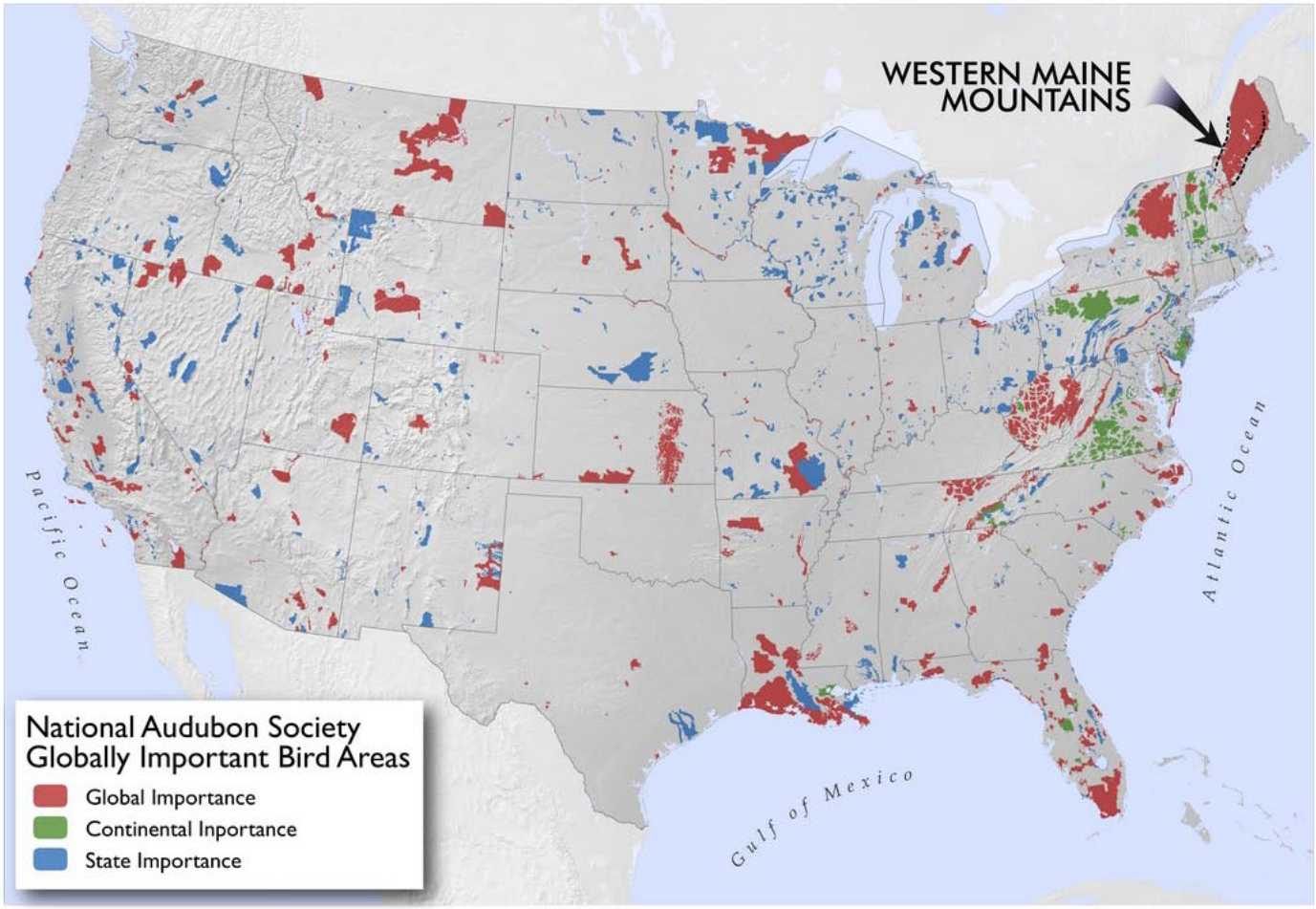
The Western Maine Mountains region includes some of the least disturbed forest landscapes east of the Mississippi.

As noted above, the Northern Appalachian-Acadian Forest is the most intact unfragmented ecoregion east of the Mississippi. In addition, the forests, wetlands and riverine ecosystems of the Western Maine Mountains have experienced less human disturbance than lands to the south, northwest and east. Although the region has a long harvest history, because of its mountainous terrain and short growing season, settlements are few, most of the land was never cleared, plowed or drained for farming, and there are many large blocks of land that have not been fragmented by roads or development. Unlike most of New England, soils here have never been plowed and, as a result, are more likely to have an intact organic soil horizon with native fauna and flora, including native rather than introduced earthworms. Earthworms can have a dramatic effect on nutrient cycling, particularly in northern hardwood forests, where the species composition and richness of the herbaceous layer change markedly after nonnative earthworm invasions (Hopfensperger et al. 2011; Frelich et al. 2006; Burtelow et al. 1998). Invasive plants, which thrive on disturbed soils, have not gained a foothold in the region. In the U.S. Forest Service's 2008 inventory of Maine's forests, the Western Maine Mountains,

upper Saint John Valley and Washington County were the only places where invasive plant populations were not documented (McCaskell et al. 2008). In addition, the region's forests have not experienced overbrowsing by white-tailed deer, which are beginning to impact the ecology of forests to the south (Russell et al. 2001). Finally, compared to New Brunswick, there has been less stand conversion from one forest type to another and plantation forestry is rare (McCaskell et al. 2008). While forest practices have led to a forest that is more homogeneous and has a simpler structure than in presettlement times, all of the region's tree taxa still remain (Thompson et al. 2013). In short, the forests of the region demonstrate a huge natural capacity for renewal.

The Western Maine Mountains region includes more than half of the country's largest Globally Important Bird Area.

Intact forests are critical to the future of most forest birds (National Audubon Society 2015). Maine includes the largest forest blocks in the entire Eastern Atlantic Flyway, which is the major migratory route for hundreds of neotropical bird species, including most of the songbirds familiar to New Englanders. In 2012, National Audubon set out to identify a network of forest blocks that collectively include the best 10 to 25% of forest in the flyway. The "northern Maine forest block" was identified as a Globally Important Bird Area by National Audubon Society and Birdlife International (National Audubon Society 2012). The Western Maine Mountains region makes up more than half of this block and bridges the two avifaunal biomes of the flyway—the Eastern Deciduous Forest Biome and the Northern Forest Biome. The global designation was given because of the area's high bird richness and abundance as well as the extent and intactness of its forest, and is grounded in research that shows that breeding birds are more successful on larger blocks



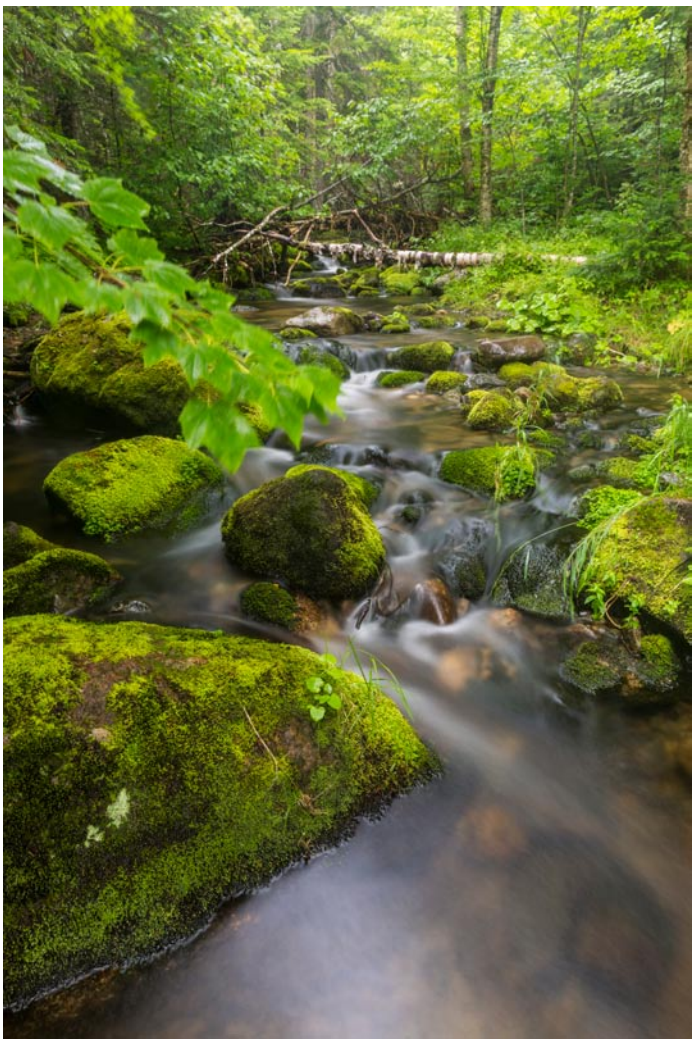
Maine includes the largest Globally Important Bird Area in the US, because if its large intact forests within in the Eastern Atlantic Flyway, the major migratory route for hundreds of neotropical bird species.

(John Guarnaccia, personal communication 2016; Nieme et al. 1998). It is the largest globally important bird area in the United States and is considered vital habitat for 34 priority songbird species whose global breeding distribution is restricted to the northern forest biome[8] (National Audubon Society 2012). The Western Maine Mountains region is a key part of what Maine Audubon biologist Sally Stockwell calls a *"baby bird factory."* Stockwell considers conservation of the forests of the region essential to the future of many of our most cherished bird species.

Northern Maine is the last stronghold for wild brook trout in the eastern United States. Nearly three quarters of the state's wild brook trout waters occur in the Western Maine Mountains.

Northwestern Maine is the last stronghold for wild brook trout[9] in the eastern United States (Whitman et al. 2013a; DeGraaf 2014), supporting 97% of its intact lake and pond wild trout populations. The highest concentration (about 73%) of wild brook trout lakes occurs in the Western Maine Mountains and many more lakes are dependent on the region's snowpack, which provides the clean, cool, well-oxygenated water and the narrow range of water temperatures trout and other cold water species need to survive (Bonney 2009; The Nature Conservancy 2008). In addition, the region's high elevation streams have more intact riparian habitat and are less fragmented by dams and other barriers than elsewhere in New England (Whitman et al. 2013; Anderson and Sheldon 2011). Five of these: the Magalloway, Kennebago, Moose, and East and West Branches of the Penobscot have been identified as particularly important for conservation by The Nature Conservancy because they are long connected stream networks with unaltered water flow and intact forested riparian areas (Anderson and Sheldon 2011).

The region's mountainous landscape is critically important to cold water stream and lake ecosystems, playing a particularly important role in maintaining the flow and high water quality required by brook trout, lake trout, whitefish, spring salamanders, and a variety of aquatic insects.



Perham Stream

Photo courtesy of The Trust for Public Land, Jerry Monkman, EcoPhotography.com

8 Biome-restricted species are those with at least 80% of their population concentrated within one avifaunal biome (US IBA Committee).

9 This number includes heritage brook trout ponds which have never been stocked and wild brook trout ponds, which were historically stocked but are now self-sustaining.

Mountainous landscapes play a particularly important role in maintaining the flow regimes and high water quality required by brook trout, lake trout, whitefish, spring salamanders, and a variety of aquatic insects. On average, the mountains of western and central Maine receive twice the annual snowfall of southern and midcoastal regions (Fernandez et al. 2015; Lautzenheiser, R.E. 1978). These mountains capture, store, purify and gradually release water stored in ice, snow, soils and vegetation into the headwater streams of the Penobscot, Kennebec, Androscoggin, and Allagash Rivers and into groundwater aquifers downstream. Three of the state's prized fish species—lake trout, brook trout, and whitefish—and many other cold water fish and invertebrates depend on this influx of cold water to survive. As the climate warms, snowfall in the mountains is expected to decline at a much lower rate than along the coast (less than 20% versus more than 40% along the coast) and will be all the more important in regulating river flow and maintaining water temperature and supplies in the state (Fernandez et al. 2015). Maine's mountains are and will continue to be critically important to cold water stream and lake ecosystems.

The Western Mountains Region and lands to the north provide the greatest remaining opportunity in eastern North America for maintaining lynx and marten populations, and reestablishing viable populations of the eastern gray wolf.

Nearly one quarter of all designated critical habitat for lynx, a federally threatened species in the United States (Simmons-Legaard et al. 2013) occurs in Maine. The Western Maine Mountains include more than half of this core habitat as well as core habitat for marten. Both lynx and marten are wide-ranging species that reach their southern range limits in the region (Laliberte and Ripple 2004) and, along with the eastern gray wolf, are considered important focal species for biodiversity conservation in the greater Northern Appalachians (Reining et al. 2006). Focal species play a critical ecological role that is of greater importance than we would predict from their abundance. They are wide ranging, so conserving their habitat would provide a protection umbrella for other species with similar requirements; they are sensitive to habitat quality, such as changes in climate; and they are charismatic (Trombulak et al. 2008). In short, if enough habitat is maintained to

Canada lynx

Maintaining habitat requirements for lynx and marten will also maintain the requirements of more than 85% of 110 other vertebrate species.

support viable populations of these species, many other species will also be conserved (Trombulak et al. 2008). Hepinstall and Harrison (in preparation) found that the habitat requirements for lynx and marten encompass the requirements of more than 85% of the 111 forest generalist, deciduous forest specialist, and coniferous forest specialist vertebrate species that occur in northern Maine.

Marten

Lynx and marten are also important because their populations represent "peninsular extensions" of their boreal ranges (Carroll 2005). As a result, they are likely to be particularly sensitive to climate change—especially to changes in snowfall—and they represent unique ecotypes at the southern limit of their range (Carroll 2005; Reining et al. 2006). Models developed by Carroll (2007) and others indicate that the Western Maine Mountains region is likely to be of critical importance to the future of northeastern lynx and marten populations, since their ranges are expected to contract to the north and to higher elevations as the climate warms. The Western Maine Mountains region already serves as a north-south and east-west link between peripheral populations in the White Mountains and those in northeastern Maine and the Gaspé (Carroll 2007). Both species have used this link to recolonize New Hampshire (Daniel Harrison, personal communication). While the forests of the region currently support lynx and marten, recent research suggests that harvest practices on two thirds of Maine's commercial forestland are creating habitat that no longer serves the needs of these umbrella species, and many others, which may lead to population declines in the future (Simmons-Legaard et al. 2013; Fuller and Harrison 2005; Homyack et al. 2010). Lynx thrive in the young dense spruce-fir forests that regenerate after clearcutting, which provide ideal habitat for snowshoe hare, the lynx's principle prey. Over the past several decades, there has been a broad-scale decline of early-successional habitat and in the spruce-fir forest type overall (Simons-Legard et al. 2016).

Although breeding populations of a third focal species—the grey wolf—have not yet been documented in Maine, there are many reports of wolves along the region's western border. The Western Maine Mountains, along with much of northern and central Maine, is considered potential habitat for this wide-ranging carnivore (Laliberte and Ripple 2004). A number of organizations in Maine and elsewhere are working on recovery efforts for this federally endangered species.

The Western Maine Mountains region is poised to serve as a critical ecological linkage between the temperate and boreal forest biomes.

According to Whitman and others (2013b), the composition of nearly every plant community and wildlife habitat in Maine is likely to be affected by climate change (Jacobson et al. 2009). Although there is uncertainty about how individual species' ranges will respond to various climate change scenarios, most species will likely shift north and/or upwards in elevation. Maintaining a connected landscape is the most widely cited strategy

in the scientific literature for building resilience in the face of climate change (Anderson et al. 2012; Heller and Zavaleta 2009). The Western Maine Mountains region is the critical ecological link between the forests of northern Maine, New Brunswick and the Gaspé and the forests of New Hampshire, Vermont and the Adirondacks, as well as smaller forested areas to the south.

Within the northeastern United States, the Western Maine Mountains region is already considered a priority linkage for species such as lynx, marten and moose, because it contains a "highly concentrated east-west regional flow pattern" which connects resilient landscapes to the west and south to those in northern Maine (Anderson et al. 2012). This large-scale directional flow occurs here because the Western Maine Mountains region is sandwiched between the agricultural lands of the St. Lawrence Valley and developed lands in Vermont, New Hampshire and southern and coastal Maine.

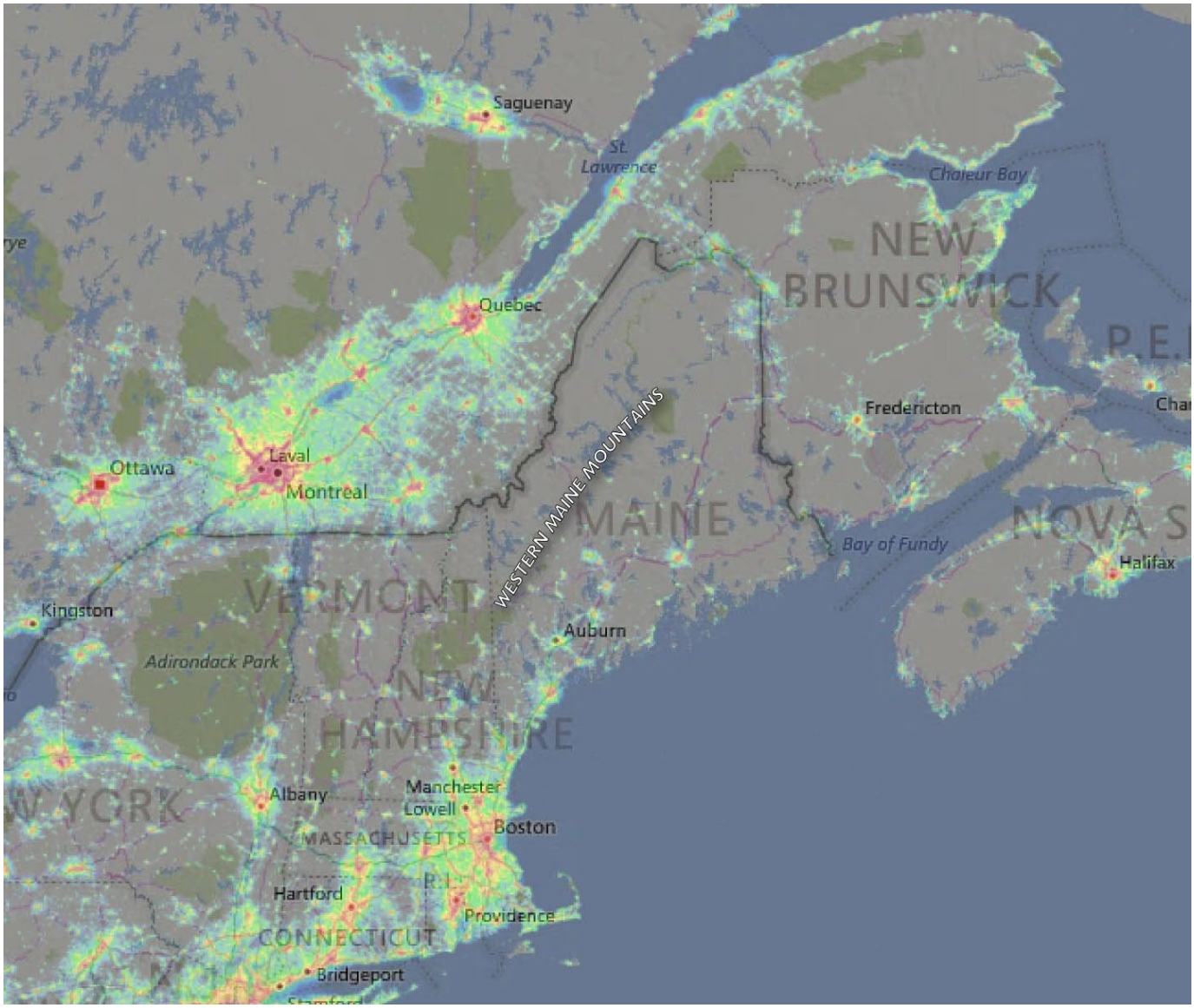


Image from Jurij Stare, www.lightpollutionmap.info, based on original data sourced from Earth Observation Group, NOAA National Geophysical Data Center. Western Maine Mountain text added.

This satellite image of the night sky illustrates the critical position of the Western Maine Mountains region as a link connecting the unfragmented forests in the Adirondacks, Vermont and New Hampshire to Maine's north woods and the forests of Canada, a connection critical to the entire Northern Appalachian-Acadian Forest Ecoregion.

The Wildlands Project has identified four 'megalinkages' that, if implemented, would tie North American ecosystems together to conserve and benefit native species in their current and projected natural patterns of range and abundance (Reining et al. 2006). The Western Mountains Region is a key part of the Atlantic Megalinkage, which extends from Florida to New Brunswick, mostly along the Appalachians. The megalink includes two core areas in Maine, both of which occur in the region—one centered around the Baxter region, the other around the Boundary Mountains and upper Androscoggin watershed. The Wildlands network highlights the great importance of northern Maine and the Gaspé Peninsula for long-term conservation in the Northern Appalachian region, not only for focal species like lynx, marten and (potentially) wolf, but also as the remaining places where large new wildlands could be established (Reining et al 2006).

The region's value as an ecological link would be greatly enhanced by connecting it to the boreal forest north of the St. Lawrence River through the remaining intact forest blocks in adjacent Quebec. Creating a more permeable and connected landscape would be an extremely ambitious project that would require regeneration of existing farmland to forestland and identifying potential corridors across major highways. Many studies have identified the Western Maine Mountains region as a key part of such a linkage (One Country Two Forests, National Audubon Society, Wildlands Project, The Nature Conservancy, Adirondack to Acadia, Boreal Songbird Initiative, Staying Connected). Over time, such a link could potentially enhance some of the other key ecological values of the Western Maine Mountains, for example, by connecting and expanding potential habitat for wide-ranging carnivores and breeding songbirds.

Maine's most extensive older forests are found in the Western Maine Mountains.

Next to conversion of forest to some other land use, the loss of older forest age classes is a major threat to forest biodiversity worldwide (Hagan and Whitman 2004). Older forests of the temperate and boreal zones contain exceptional forest structure including large trees, large snags, large logs, large volumes of dead wood, and vertical structural diversity not found in younger forests (Whitman and Hagan 2007)[10]. In the United States, late-successional stands (those older than 100 years) now constitute less than 4% of forested areas (Ryan et al. 2010). In Maine, late successional forests cover somewhere between 3 and 6% of the state, and their extent continues to decline (Maine Department of Inland Fisheries and Wildlife 2015; Hagan and Whitman 2004). In Finland, where old forests comprise less than 0.5% of all forested areas, extinction-vulnerable old forest species now number more than 1,000 (Hanski 2000), and an estimated 5% of Finland's forest species are predicted to go extinct in the next 50 years (Hagan and Whitman 2004). Much of Maine's older forest is in the Western Maine Mountains at high elevations, in the Baxter area, in the White Mountains and in other ecological focus areas in the region. These areas are important for species such as marten, many woodland raptors and songbirds, mosses, lichens and other species that depend on mature interior forest, large cavity trees, downed wood, and the large number of forest niches present. Hagan and Whitman (2004) suggest that we may be accruing 'extinction debt' in Maine's forests. They describe the process as follows:

> *"Once old forest elements such as large trees or logs are lost from a stand (e.g., as a result of a clearcut, or even a selection cut), it can take centuries for the species to return to that location. A species first has to wait for these structural features to redevelop, and then the species has to find them. Scientists are beginning to understand that forest continuity is key to many forest species. Continuity refers to the persistence of big trees and big logs in a forest stand over a very long period of time (centuries), even though the stand might be subjected to many different disturbances, such as fire, wind, disease, or even selection logging. Species that move or disperse slowly through the landscape, and prefer large old trees or logs, are the species most at risk to the loss older forests."*[11]

10 Most forests in Maine are under 75 years in age. Pathological maturity—the age at which trees begin to suffer serious decay—is 150 years or older, depending on the species (Thompson et al. 2013).

11 These tend to be small and uncharismatic, such as insects, lichens, fungi, and mosses.

Although forest cover has remained relatively stable in Maine, the loss of older forest age classes from the vast Northern Appalachian-Acadian forest could be leading us down a biodiversity path that has already begun to unfold in Scandinavia (Hagan and Whitman 2004). The late successional forests that remain in the Western Maine Mountains are critically important, especially those that are large enough to protect source populations of plants and animals that may disperse to surrounding forests as they mature (Baldwin et al 2007).

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The Western Maine Mountains region is expected to be a highly resilient landscape in the face of climate change.

Ecologist Aldo Leopold captured the concept of ecological resilience in two elegant statements (Anderson et al. 2012): "*Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity*" (Leopold 1949). Climate change is expected to alter the distribution of Maine's flora and fauna. The process is well underway—we are already experiencing the northward migration of northern cardinals, Virginia opossums, deer ticks, northern shrimp, and a host of other species. Conservationists are urgently working on strategies that will conserve the maximum amount of biological diversity as species ranges shift.

The Nature Conservancy is at the forefront of developing the science to guide these efforts. Their approach is based on three observations. First, that species diversity is highly correlated with landscape diversity in the Northeast and Mid-Atlantic; second, that species take advantage of microclimates and microhabitats available in complex landscapes, and finally, that species can move to adjust to climatic changes if these landscapes are permeable[12] and connected (Anderson et al. 2012; Anderson et al. 2013). Anderson and others hypothesized that sites with a large variety of landforms and long elevation gradients will retain more species even as the climate changes by offering ample microclimates and thus more options for rearrangement. They then mapped key geophysical settings and land use patterns to identify the most resilient places in the landscape—the places most likely to be natural strongholds for species and nature into the future.

The Western Maine Mountains region is expected to be an important natural stronghold for biodiversity because of its elevation range and varied landforms (e.g., cool ravines, warm southern slopes, cold streams, wind-swept summits) as well as its high landscape connectivity. The region is considered very permeable—its relatively unfragmented landscapes allow the continuous flow of natural processes, including not only the dispersal and recruitment of plants and animals, but the rearrangement of existing communities. (Anderson et al. 2012). These characteristics should help buffer climate change effects and allow for directional range shifts, north-south and east-west migrations, and upslope dispersal (Anderson et al. 2012; Anderson et al. 2015).

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Mountain tops may be particularly important to the region's biodiversity, at least in the short term. Research suggests that, although the areal extent of high elevation habitat is expected to decline as temperatures rise (Whitman et al. 2013a; Beckage et al. 2008), subalpine and alpine community composition may be relatively stable because their distribution is thought to be more closely tied to icing and the low cloud ceiling typical of higher elevations rather than temperature (Spear 1989; Kimball et al. 2014; Randin et al. 2008). Mid and high

12 Landscape permeability indicates the number of barriers and degree of fragmentation within a landscape. A permeable landscape allows for range shifts and reorganization of communities.

elevation micorefugia[13] are likely to be critical for the survival of many species in the future, especially alpine flora and fauna and species that thrive where snowfall is high, such as lynx, marten, snowshoe hair and moose (Carroll 2005).

The Western Maine Mountains play an important role in regulating local, regional, and global climate.

A walk through the woods on a mid-summer day gives a sense of how forests at our latitude influence local and regional climate. Forests are likely to be much cooler and more humid than more open habitat types. This is in part because precipitation often exceeds evapotranspiration rates in forests. In addition, tree canopies are rougher than cleared or developed land, which decreases wind speed and water loss from evaporation. As a result, temperate forests are typically sources of surface water (Sun and Liu 2013). For example, it is estimated that over 60% of our water supply comes from forest lands in the United States (Brown et al. 2008). Forest soils are regarded as 'sponges' because their deep extensive root systems and layer of leaf litter on the forest floor soak up water. For this reason, soil erosion is rare in forests—they provide the best water quality among all land uses. Forests also affect microclimate by altering solar radiation and how rain and snow fall through large forest canopies (Lee 1981) and by keeping streams cool in summer.

The Western Maine Mountains region also plays a role in moderating climate at the global level. The mountain snowpack that accumulates in winter helps regulate the earth's climate by reflecting solar radiation that would otherwise be absorbed by a darker surface and reradiated as heat into the atmosphere. This phenomenon is known as the albedo effect. More importantly, because trees are tall and long-lived, they sequester a great deal of carbon. In most forests, 95% of the biomass is in woody tissue—boles, limbs and roots (Hunter 1990; Packham and Harding 1982). Soils also sequester carbon and, because decomposition is slow in the cool damp forests of northern and western Maine, these areas serve as a carbon sink. It is estimated that the world's forests store 45% of terrestrial carbon and that they have the potential to absorb almost half of global annual carbon dioxide emissions (Pan et al. 2011). In addition, research suggests that older forests sequester more carbon than younger ones (Kauppi et al. 2015; Stevenson et al. 2014; Birdsey 1992), making the older forests that exist at high elevations, in the Baxter area and in other ecological focus areas of the Western Maine Mountain region that much more important. A shift to sustainable forest management for long-lived wood products that can be used in place of energy intensive construction materials such as cement and steel has great potential to further reduce fossil fuel emissions (Oliver et al. 2014).

Conclusions

The Western Maine Mountains region is a spectacular and rugged landscape defined by forest, rock, snow, clouds, and distance. From its windswept summits to the deep clear lakes and wet meadows of its valleys, it is a region of exceptional diversity and beauty. Study after study highlights the region's significance—with its globally significant alpine and montane forest ecosystems embedded within the largest area of contiguous forest in the eastern United States; as part of the largest remaining block of unfragmented forest in the Atlantic Flyway; as the last stronghold for brook trout in the United States; as the link between marten and lynx populations in the United States and Canada. The combination of boreal and temperate species, steep elevation gradients, and continuous forest make it a resilient landscape in a changing climate—one that is expected to retain the rich diversity and coherency of its natural communities farther into the future than the surrounding lowlands, and one that will provide both refuge and an essential ecological linkage for species such as woodland songbirds, brook trout, moose, marten and lynx that are likely to shift their ranges north and east in response to a warming climate.

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13 Microrefugia are defined as areas with locally favorable environmental conditions in which small populations can survive outside their main distribution area (Rull 2009).

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Apart from its many ecological values, the Western Maine Mountains region serves as a source of inspiration and spiritual renewal. It is impossible not to be impressed by the countless mountain streams singing over stone, mica sparkling in granite, the densely woven forests of dwarf balsam, the scree-covered ridges, the alpenglow of dusk and the 'fox fire' of northern lights in winter. Thousands are drawn to the region's heights, which are linked by the wildest one hundred miles of the 2,190 mile long Appalachian Trail. And thousands more are drawn to its forests, streams and lakes—to walk, watch, fish, hunt or simply escape the buzz of civilization.

In his book, *The Forest Unseen*, David Haskell describes the value of a small patch of old forest in the southern Appalachians, which applies equally well to the Western Maine Mountains. It is "a *relatively unfragmented, uninvaded forest where the old ecological rulebook has yet to be entirely torn up and blown away. These ants, these flowers, these trees contain the genetic history and diversity from which the future will be written. The more wind-tattered pages we can hold on to, the more materials evolution's scribe will have to draw upon as it reworks the saga."* The Western Maine Mountains region is one of the most intact forested landscapes in North America, one that retains nearly all of the plants and animals that were here before us. It serves as a reservoir, a refuge, and a resilient critical linkage. We are fortunate to be starting with pages that have yet to become "wind-tattered". By working to ensure that the mountains and forests of the region remain diverse, resilient and connected to forested landscapes to the north, south, east and west, we have an unparalleled opportunity to influence how the future will be written.

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Godsoe, Benjamin

From: Christina Diebold <cpdiebold@gmail.com>
Sent: Tuesday, January 22, 2019 4:42 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] comment on North Woods

I'm very much opposed to the proposed changes to the North Woods which would lead to sprawl and the breakup of wildlife habitat. It is very important to have contiguous, unbroken and large habitat areas. Some areas should be left wild.

Christina Diebold
1434 Ohio St., #42
Bangor, ME 04401

Godsoe, Benjamin

From: caroline.eliot@comcast.net
Sent: Tuesday, January 22, 2019 4:57 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Comments on proposed adjacency and subdivision rule language
Attachments: CE LUPC comments.docx

Ben –

Attached are comments on the proposed rules. I appreciate all the work that has gone into them. You'll see that I have a lot of reservations about them, both conceptually and in the implementation (i.e. the specific language of the rules). I may misunderstand some aspects of the proposal as I came late to the process. Even so, it's a big change and I found it difficult to understand how all the pieces fit together across Chapter 10.

Caroline

To: Land Use Planning Commission
From: Caroline Eliot
Date: January 22, 2019
Re: Comments on Proposed Adjacency and Subdivision Rule Language

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I worked as a senior planner at LURC from 1989 to 1997, and again from 2006 to 2008, so I am familiar with the agency, its statutory responsibilities, and its rules. I applied the adjacency principle to development proposals for many years. I also spent many hours working with the planning team to develop additional, more refined approaches to directing development. Multiple refinements to the adjacency principle have been adopted over the years, including: the lakes planning effort and the associated waiver of adjacency for MC3 lakes; Rangeley prospective zoning; concept plans and the associated waiver of adjacency for approved plans; level 2 subdivisions; and more. Since I left LURC, the Community Guided Planning and Zoning (CGPZ) process has been created resulting in several county-led planning efforts, and prospective zoning has been applied to a number of Minor Civil Divisions (MCDs) in the UT. Given all of these supplements to and refinements of the adjacency principle, I don't believe the sweeping changes proposed are necessary.

A number of broadbrush, jurisdiction-wide approaches to guide development were considered during my time on the LURC planning staff. However, they were never moved forward because, when applied to the vast and diverse UT, they always failed to achieve the desired goal of effectively guiding development to appropriate places. This included approaches that evaluated areas based on population, road density, distance to service centers, and historic rates of development.

After reviewing the extensive proposed rule changes, I believe a variety of more modest changes, prioritized to provide development opportunities in faster-growing and/or high value areas, would be more appropriate than these significant departures from longstanding policy and practice.

Proposed rulemaking changes will allow development in some locations that will be harmful to the UT's principal values and undermine economic centers in adjacent regions by facilitating development elsewhere. To summarize my concerns:

1. The proposed rule changes creating primary and secondary areas deemed appropriate for development are out of scale with demand for development in the jurisdiction. They are much larger than necessary and are not consistent with the much smaller prospective development zones that have been created by LUPC in the past as part of local planning efforts within the UT.
2. The proposed rules do not concentrate development close to economic centers and public services. Many areas designated as primary areas are over 20 miles by road (many of which could be in poor condition) from goods and emergency services.
3. Proposed rule changes allowing recreation-based subdivisions on Management Class 7 lakes outside primary and secondary areas should be delayed until a list of the specific lakes affected has been identified and publicized. The public should fully understand the effects of this change before it is made. When the Commission undertook the lakes planning effort, the lakes in each management category were identified long before regulatory changes were made.
4. Provisions to allow large-lot subdivisions will waste valuable timberland, fragment habitat, and further disperse development.
5. The proposed rules are not yet ripe for adoption. They make extensive changes to the LUPC's regulatory framework and it is very difficult to understand how all the pieces fit together. Given the extent of the changes, the potential for misinterpretation and unintended consequences is high. The process should be slowed and additional time taken to clarify the language of Chapter 10.

I have expanded on these comments below. I appreciate the work the Commission and staff have done to create this package of rulemaking changes. I know the intentions are good and I'm sure everyone wants to move onto the next thing. However, the job of planning for this large and diverse area has always been and will continue to be challenging. The crux of that challenge is finding the right balance between economic development and protection of the jurisdiction's principal values. The current proposal aspires to promote compact development, but many participants in the process, including myself, disagree that this proposal achieves that goal. Thank you all for your time, effort, and for considering my comments.

Specific comments:

<u>The proposed rule changes creating primary and secondary areas deemed appropriate for development are out of scale with demand for development in the jurisdiction. They are much larger than necessary.</u>

The proposal opens an estimated 1.3 million acres to potential development at a time when neighboring organized towns, which are better suited to provide services and need the tax dollars, struggle to attract development. The size of proposed primary and secondary areas is much larger than necessary to accommodate expected future growth.

The areas deemed suitable for development are also out of proportion with prior planning efforts. In areas within the jurisdiction that have been prospectively zoned, prospective development zones rarely exceed two road miles from existing development (compared to the proposed seven miles 'as the crow flies' from the *border* of the rural hub) and they rarely extend more than one half-mile back from the public road (compared to the proposed one-mile distance from public roads). For example, looking at prospective development zones created in Dallas, Sandy River, and Rangeley Plts, the maximum distance from Rangeley's town boundary (which happens to be very close to the town center) is 3 miles (on Dallas Hill Rd) and the maximum zone depth is 0.5-mile. Given that Rangeley is one of the more populous, high growth areas of the jurisdiction, it doesn't make sense to designate much larger primary and secondary areas in other parts of the jurisdiction (i.e., seven air miles from the hub boundary). Many of these areas are far less populous than Rangeley.

Similarly, in Greenfield, development zones are modest, less than 2 miles long and 0.5-mile deep. The scale of these prospective development zones, which are based on detailed assessment of local conditions, seems much more appropriate to the jurisdiction and should guide delineation of primary and secondary areas.

Washington County's CGPZ effort provides further support for a more modest proposal. Its local planning team settled on zones that extend only one-eighth, one-quarter, and one-half-mile back from public roads. I was particularly struck by Judy East's comments in this regard. As Executive Director of the Washington County Council of Government's, she was deeply involved in Washington County's CGPZ effort. As she notes in her comments, and as stated in the CGPZ's final report:

- Existing retail hubs need to be supported by driving development to them (rather than dispersing development along miles of roads outside of them). They need concentrations of products and services to attract consumers, they need the revenue to pay for the public services they provide, and they need the community that is so important in rural areas;
- There was very little support for additional development in the Washington County UT during their CGPZ process;
- There has been very limited demand for development in Washington County since the Floating Zone option was created three years ago (1 proposal).

Since a local planning effort came to this conclusion, doesn't that suggest that the one-mile depth of the primary zones is too deep? Zones can always be expanded in the future if demand is there. Removing established development areas would be far more difficult.

Recommendation:

- Reduce the primary areas to a maximum of three miles by public road from rural hubs.
- Reduce the depth of primary areas to one-half mile from the public road.
- Measure distance from the town center of the rural hub.
- Eliminate the secondary areas.

<u>The proposed rules do not concentrate development close to economic centers and public services.</u>

The proposed rules aspire to 'concentrate' development relative to the ten million-acre UT. However, measured against the reality of providing public services in a lightly settled part of the state, they do not concentrate development nearly enough. As noted above, proposed primary and secondary areas are very large compared to those created in previous prospective zoning efforts in the UT. If development flows into these proposed primary and secondary areas, it will be dispersed over hundreds of thousands of acres, some potentially

20 to 25 road miles[1] from rural hubs. This is the case in large sections of the extensive primary area stretching from southern Aroostook County to eastern Penobscot County, such as Drew Plantation, to name one. Another example can be found in Elliottsville. It is 20 miles by road from downtown Greenville to parts of the primary area adjacent to Onawa Lake in Elliottsville.

A number of plantations were removed from the list of rural hubs at their request. This suggests that these plantations do not wish to be focal points for development and/or are challenged by the responsibility to provide services. Numerous MCDs were added to the list of primary areas to include areas of significant population and activity, although no details were provided substantiating the additions.

Primary areas also include a large number of MCDs that qualify based solely on the existence of one or more public roads within their borders. For example, a large group of contiguous MCDs in Aroostook and Penobscot counties are designated as primary areas even though they are not proximate to a rural hub. Designation of primary areas that are not proximate to rural hubs seems inconsistent with the Commission's stated goal of concentrating development near public services. Opening up extensive areas along these roads will disperse development, moving it away from existing villages. How will services be provided to future development in primary areas that are not proximate to a rural hub? Will this not burden organized towns in these areas?

Recommendation:

- Same recommendations as above.
- Reconsider designation of MCDs that do not meet the criteria of proximity to a rural hub as primary areas.
- Restrict primary areas on scenic byways to within one mile of the town center of the adjacent rural hub.

<u>Proposed rule changes allowing recreation-based subdivisions on Management Class 7 outside of primary and secondary areas should be delayed until a list of affected lakes has been identified and publicized.</u>

Proposed rules allow recreation-based residential subdivisions within one-half mile of certain Class 7 lakes outside of primary and secondary areas, yet we don't know which lakes will be affected. When the lakes program was developed, proposed rule changes were based on full knowledge of which lakes would be affected.

All Management Class 7 lakes that meet the criteria should be identified and the list made available for review before implementing recreation-based residential development in these areas. The general public does not have access to data with which to generate this list. No change should be made without fully understanding the extent of that change.

Staff estimates that 2-3% of these MC7 lakes will become available for recreation-based residential development under these provisions. It would be more helpful to know the lake acreage, feet of shorefrontage, and lake location in assessing the impact of this change. For example, one of the MC7 lakes that will be available for residential development under this provision is East Grand Lake, which is over 15,000 acres. The impact of unrestricted development within a half-mile of this lake will be quite different from that of a 40-acre lake.

The Commission has always proactively identified geographic features prior to significant changes in regulation, whether for protection (e.g., MC 1,2, and 6 lakes, deeryards) or development (e.g., development zones, MC 3 lakes).

Once the full list of lakes affected by this proposed change is known, it should be evaluated for consistency with the Commission's stated goal of directing most development near service centers. The CLUP consistently emphasizes the need to direct most development near service centers while maintaining other areas for traditional uses such as forest management. Allowing high-density residential subdivisions on lakes that are distant from service centers, with no apparent restrictions on density such as those associated with MC 4 and MC 5 lakes, does not seem consistent with the Commission's policies. The fact that these lakes have some development does not necessarily mean they are appropriate for more intensive development. In most cases, development on those lakes pre-dates LUPC or was created through individual lot development. In both cases, the existence of development can not necessarily be equated with appropriateness for additional unrestricted development.

Further, allowing development on these Management Class 7 lakes seems unnecessary given the large number of Management Class 7 lakes that will be available for development in proposed primary and secondary

[1] Presumably, in sedcondary areas, up to five of these miles could be on private roads since secondary areas extend up to five miles back from public roads.

areas. Staff reports that 304 lakes, most of which are MC 7, lie (at least partly) in primary or secondary areas, although we don't have a list of them. To fully grasp the implications of these changes, the public would benefit from information about the size, shorefrontage, and location of all Management Class 7 lakes located in primary and secondary areas, as well as those proposed for recreation-based subdivisions.

The exemption of recreation-based residential subdivisions from the emergency services requirement seems inconsistent with the Commission's emphasis on this for all other development. Notification of buyers that emergency services may not be available in that location will likely have no impact on subsequent demand for services. Ambulances and firefighting services will still be called to these places, often over roads in poor condition. These services are expected to show up regardless of the notification provided to landowners.

Leased lots should not be exempt from providing proof of legal access. Functionally, lease lots are no different from lots owned in fee and the requirements should be the same.

Recommendation:

- Delay implementation of provisions allowing residential subdivisions on certain MC 7 lakes outside of primary and secondary areas or remove this from the proposal.
- Identify all Management Class 7 lakes that would be deemed appropriate for development under the proposed rule change. Map them, make the information available to the public, then take comments on the appropriateness of making them, individually and/or collectively, available for extensive development.
- Prior to implementing proposed changes allowing recreation-based subdivisions on MC 7 lakes in primary and secondary areas, publish information about all lakes affected by this change, including information about size, shorefrontage, and location.
- Eliminate the exemption of recreation-based residential subdivisions from providing proof of emergency services.
- Eliminate the exemption of leased lots from providing proof of legal access.

<u>Is there a need for recreation day use facilities and recreation supply facilities?</u>

The definitions of Recreation Supply Facility and Recreation Day Use Facility feel ambiguous and open to interpretation. Outfitters and recreationists have fared well for many years working from bases near service centers. I wonder whether this change is truly necessary. The jurisdiction is distinctive for its remote character. Allowance of this new use has the potential to jeopardize the natural character of high-value recreational resources.

Recommendation:

- Remove Recreation Supply and Recreation Day Use Facilities from definitions and subdistrict land uses.

<u>Provisions to allow large-lot subdivisions in primary and secondary areas will waste and fragment valuable land, resources and habitat.</u>

The D-LD subdistrict brings back a use of land that was eliminated after the proliferation of large lot subdivisions revealed how unnecessarily wasteful this practice was.

The jurisdiction contains many examples of opportunistic uses of land that resulted in fragmentation and inefficient use of natural resources. The division of Upper Enchanted Township into 40-acre lots is a good example. During a time when there was a loophole in the statute for large lots, a number of landowners took the opportunity to sell these lots. The result – fragmented landscape and habitat, inefficient use of natural resources, and a development pattern that is ill-suited to effective and affordable delivery of public services. There will always be landowners who utilize any change that loosens regulatory oversight. Between 1971 and 2005, two-thirds of new dwellings were built on pre-LURC and exempt lots, suggesting that the absence of regulatory oversight is a strong predictor of development activity.

Given an easy path to accessing the much higher value of land for development (versus timber), some people will take advantage of the opportunity. Even if only a small number of landowners create low-density subdivisions in the expansive primary and secondary areas, the damage will be done. Many landowners may take advantage of this policy change.

Landownership patterns in the UT have changed dramatically in recent decades. Much of the timberland is owned by investors whose principal interest is financial return. Most are oblivious to the subtleties of forest management, timber production, and natural resource values and many have no knowledge of or connection to the North Woods. They own an asset which needs to provide a return and the likelihood that they will jump on the opportunity to capture the higher development value of their land created by this change is real. Past development patterns are not a reliable predictor of future demand in the context of changes in landownership and proposed rule changes.

Further, creation of large-lot subdivisions will strain public services. History shows us that many people do not anticipate or take seriously issues of road maintenance or emergency services until they need it. Government typically has to pick up the pieces, at the cost of the local taxpayer.

Recommendation:

- Eliminate the D-LD subdistrict and prohibit low-density subdivisions.

<u>The proposed rules are not yet ripe for adoption.</u>

Given the extent of continued opposition to the current iteration of this proposal and the sea change it would cause in the Commission's approach to guiding development in the jurisdiction, the rulemaking process should be slowed. Proposed changes will irrevocably alter the regulatory framework and land values in the UT. While there is discussion of a five-year review of these changes, it will be extremely difficult to pull back or modify this framework once implemented.

The proposed rules are very complicated and need to be fully vetted for clarity before adoption. One thing I learned from my time at LURC was how easy it is to create unintended consequences when revising policies and, more particularly, the extensive regulations implementing them. It is difficult to create policies and regulations that, when applied across a diverse, ten-million acre area, work equally well in all places and do not have unanticipated effects.

It is essential to fully understand the impact of proposed changes and make sure proposed rule changes accomplish desired goals before implementing. The Lakes Program was 4.5 years in development before it was considered ready for adoption. Much of that time was spent understanding the impact of the changes, revising the proposal, and clarifying the language to ensure it said what was intended, and was clear. A proposal of this significance should be given comparable opportunity for analysis and vetting. I know the staff has worked diligently on the current proposal. But changes this sweeping deserve additional study and fine-tuning.

Despite my history with the agency and Chapter 10, it was a struggle to understand these changes, both in concept and in detail. I had to rely extensively on the staff summaries, but even with those, when I read the rules I had difficulty determining (1) whether the rule changes carry out the changes described in staff summaries, and (2) how all the pieces fit together. Chapter 10 rule changes include many new sections, definitions, zones, review criteria, and myriad cross-references. In my brief perusal of proposed rules, I found language that was confusing and did not understand. I fear many people will struggle to determine how Chapter 10 rules apply to their property.

Because these changes open large areas to uses not previously allowed - through complex changes to an already complicated regulatory framework - the potential for misinterpretation and unintended consequences is high.

Recommendation:

- Slow the rulemaking process down and take more time to fully consider whether the extensive Chapter 10 changes will accomplish desired goals without unanticipated effects.
- Evaluate proposed rule changes for ease of understanding by residents and landowners. Simplify rules wherever possible.
- Review and clarify the Chapter 10 language, particularly sections that are entirely new.

Godsoe, Benjamin

From: Cathy Johnson <cjohnson@nrcm.org>
Sent: Tuesday, January 22, 2019 12:43 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] NRCM's written comments on the proposed adjacency rules
Attachments: DOC012219-01222019123007.pdf

Hi Ben – Attached please find NRCM's written comments on the proposed adjacency rules. These are intended to supplement, not replace, the comments we have made at the public hearings and in previous written comments, so I have not repeated comments about which I had nothing further to add.

Please let me know if you have any questions.

Cathy

Catherine B. Johnson, Esq.
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Jan. 22, 2019

Ben Godsoe
Land Use Planning Commission

By email: Benjamin.Godsoe@maine.gov

Dear Ben,

The Natural Resources Council of Maine (NRCM) appreciates the opportunity to provide written comments on the proposed changes to the adjacency policy and related changes to the subdivision rules. These written comments are intended to supplement, not supersede, the comments I made at the public hearing on Jan. 10.

NRCM has over 20,000 members and supporters including people who reside in each of Maine's sixteen counties. NRCM members care passionately about Maine's North Woods – both the natural resources and the communities that border the unorganized townships (UT).

NRCM staff have spent, literally, hundreds of hours reviewing the proposed rules to try to understand the proposed changes and the likely impact of those changes on the North Woods. Despite this extensive review, rarely a day goes by that we don't come upon yet another issue or answered question. These rules are extremely complicated and difficult to understand. Understanding what activities can happen where requires looking at multiple sections of the rules. Members of the public who do not deal with the rules on a daily basis would find them virtually impossible to decipher.

The stakes for the North Woods could not be higher. Unintended consequences could completely destroy the forests, waters, wildlife, and character that make Maine's North Woods, nationally, even globally, significant. We urge you to review Janet McMahon's recent report, The Environmental Consequences of FOREST FRAGMENTATION in the Western Maine Mountains. It can be found at https://mainemountaincollaborative.org/resources/. The report concludes: "the Land Use Planning Commission's proposed changes to the adjacency rule...have the potential to profoundly change the ecology of the region."

We urge LUPC not to proceed with these rules at this time.

NRCM shares LUPC's goal of guiding development to areas near existing development and public services. NRCM also supports the goal of protecting the vast majority of the North Woods in its relatively undeveloped condition. The undeveloped forests, lakes, and rivers support Maine's forest products industry and outdoor recreation economy, protect our fisheries and wildlife, and provide Maine residents and visitors places for recreation and respite from our busy world.

Unfortunately, we have concluded that most of the provisions in the proposed rule related to the adjacency principle would harm, rather than lead towards, those goals.

Primary and Secondary Development Areas.

1. **The primary and secondary development areas encompass far too much area.**

   After subtracting areas that have any sort of conservation protection, the primary development areas include over 824,000 acres and the secondary development areas include over 540,000 acres, bringing the total area that would be available for residential subdivisions to more than 1,364,000 acres, or over 13% of the UT. Given that the total acres currently in development zones after 40 years of LUPC's existence is less than 1% of the LUPC jurisdiction, this is clearly providing dramatically more potentially developable land than is needed for the development likely to occur in the next 40 years. Providing far too much acreage as potential developable land will lead to scattered development and sprawl.

   There is currently no evidence that more land for residential development is needed in the jurisdiction. The Moosehead Lake Concept Plan provides the opportunity for thousands of new house lots, none of which have been developed. None of the three CGPZ efforts that have occurred in the last eight years have identified the lack of opportunity for new residential development as a significant issue. Anecdotal evidence suggests that there currently exist many unsold and undeveloped residential lots in the jurisdiction (as well as in the communities that border the UT). Until there is credible data that there is an insufficient supply of developable lots, an expansion of this size is not justified.

2. **The amount of land that would be available for commercial development would allow the commercialization of the North Woods.**

   The primary development areas would make 824,000 acres available for commercial development. There are currently relatively few nodes of commercial development in the UT, so the current adjacency rules do not allow for scattered commercial development. While there may be a need to provide some additional opportunities for commercial development given the relatively limited number of locations that would permit commercial development under the existing adjacency rules, 824,000 acres of primary development area would simply encourage commercial sprawl, rather than guiding commercial development into compact commercial centers.

   Beyond the primary development area, the additional commercial development that would be allowed in the proposed D-RD subdistrict would allow commercialization of the entire North Woods. It is unclear why the natural resource extraction and processing uses that would be permitted by this section could not be accommodated in the existing D-CI or D-PD subdistricts (with perhaps some limited amendments).

In addition, under this proposal, recreation supply facilities could be scattered across the North Woods near the public access points of the vast majority of lakes (Class 4, 5, and 7) and all around Class 3 lakes, fragmenting wildlife habitat and commercializing access to these lakes long after visitors think they have left commercial, built-up areas behind. This would have a dramatically negative impact on the character of the North Woods.

Allowing recreation supply businesses scattered throughout the North Woods would also undercut the economic viability of businesses in town, many of who are already struggling financially. The recreation supply facilities can and should be located in the bordering organized towns.

The potential for proliferation of commercial activity across the entire jurisdiction is perhaps the most dramatic of the negative changes these rules propose.

3. **The primary development areas should not be based on a 7 mile mathematical calculation from a town boundary, which does not represent the location of existing development.**

The location of primary and secondary development areas should be based on the natural resources that exist on the ground and existing development and infrastructure. Basing the location of development zones on mathematical calculations does not achieve the goal of guiding development to areas near existing development and public services.

A town boundary line is not a useful proxy for existing development. Some town boundaries may be near the existing development; others could be up to 6 miles as the crow flies and much further by road from existing development. This method of calculation will lead to development in inappropriate areas, not near existing development.

4. **Using an "as the crow flies" method of calculation would allow development many miles by road from existing development.**

Existing development might be within 1 or 3 or 5 or 7 miles of existing development "as the crow flies" but could be a dozen or more miles away by road. This dramatically affects the ability to provide public services and the efficiency of delivery of those services. The proposed development area might, as a practical matter, actually have no relationship whatsoever to the rural hub that is within 7 miles "as the crow flies." The long-standing application of the adjacency policy that the proposed development must be within one mile by road was based in this reality and should be retained.

5. **Long stretches of scenic byways should not be targeted as primary development areas.**

While scenic byway designation is not a regulatory designation, the scenic byways do represent the hopes and aspirations of residents in the region and the goal of the state and/or federal government representing the public to protect the scenic character of the road for its economic, historic, and

natural resource values. Targeting scenic byways, particularly the long stretches of undeveloped forest land between existing villages, as primary development areas is exactly contrary to the purpose of the scenic byways. This is particularly a problem with the Old Canada Road, Moosehead, and Katahdin Woods and Waters scenic byways. While there may be some portions of scenic byways that are appropriate for new development, this is the type of determination that should take place during a regional planning process, based on the circumstances on the ground, not during a huge statewide policy change or an individual permit application review.

6. **Primary development areas stretching 7 miles along public roads outside organized towns would harm those communities.**

Designating 7 mile primary development areas on every public road leading out of a rural hub would dramatically harm the economic viability of those communities. The tax rates of organized towns and the UT are significantly different. While different parts of the UT have different tax rates, they are generally in the range of 6 – 8 mills. The rates in the organized towns that border the UT are generally in the range of 15 – 25 mills, although some towns are as high as 34 mills. Opening up these huge areas outside towns, particularly for commercial development, would drive development out of town and into the UT. The towns would lose the tax revenue and vibrancy that new businesses can bring to a struggling downtown. This is particularly a problem for those towns that have empty storefronts, and industrial parks, in addition to unoccupied housing.

In addition, those towns would have the added burden and cost of providing public services to development that would be much further away. While additional funds could help solve that problem, it would not solve the problem of providing ongoing personnel to staff the fire, emergency and other services that are primarily staffed by volunteers in many of these communities.

We commend the LUPC staff for reaching out to some of the organized towns that border the UT. However, we are aware that significant concerns have been raised at several of those meetings and that the proposed rules do not address the concerns that have been raised. It is also our understanding that the LUPC staff has only had the opportunity to visit a very small number of the 41 proposed rural hubs and that there has not always been adequate notice to residents of those communities so that they could attend the meetings and ask questions or raise concerns.

7. **Large-lot, low-density subdivisions have previously been eliminated because they fragment large blocks of forest, harming forestry activities, wildlife habitat, and recreation opportunities.**

After multiple attempts between 1989 and 2001 to limit the negative impacts of large-lot residential subdivisions, the Legislature finally abolished the opportunity to create large-lot residential subdivisions in the UT because of the negative impacts they have on all of the important UT values.

Among the solutions that the Legislature tried in that twelve year period included limiting the shape of the lots, disallowing them on lakes, and limiting them to a total of ten such lots per parcel. None of these changes succeeded in limiting the negative impacts of this type of development, so in 2001,

the Legislature adopted a provision limiting the use of lots these lots to "forest management, agricultural management or conservation of natural resources." This change in law has successfully limited this type of needlessly damaging development.

While the current proposal is for 25 acre lots, not 40 acre lots, the impacts would be similar. Once again allowing large-lot residential subdivisions would be a giant step backwards in land use planning in the UT. The negative impacts on the natural resources, the character of the North Woods, and traditional forestry, agriculture, and recreational uses of the UT would be significant.

8. **Some examples of where the flaws with the designation of primary and secondary areas lead to the designation of areas which are entirely inappropriate for commercial and residential development include:**

    a. Elliottsville Plantation
    b. Herseytown
    c. Tomhegan
    d. Sandy Bay
    e. Bald Mountain
    f. Riley
    g. Freeman
    h. Madrid
    i. T3 R7 WELS
    j. T4 R7 WELS
    k. Albany
    l. Katahdin Woods and Waters Scenic Byway

    This list is simply a partial list. There are undoubtedly other areas where the proposed development areas are inconsistent with the goals of locating development near existing development. Many other areas have been mentioned by others in oral or written comments.

Class 7 lakes

1. **Class 7 lakes within the primary and secondary development areas would be vulnerable to development whether they currently have any development or not.**

Within the primary and secondary development areas there are 194 class 7 lakes. These include lakes as small as Wheelock Lake at 116 acres and lakes as large as Moosehead at 74,890 acres. How many of these lakes are currently undeveloped is unknown. However, all of those lakes, even those lakes that are entirely undeveloped, would be vulnerable to development under this proposal because they are within the primary or secondary development areas.

2. **There is no way to determine how many class 7 lakes outside the primary and secondary areas would be vulnerable to development.**

   There are 978 class 7 lakes outside of the primary and secondary development areas. The rules propose allowing "recreation-based subdivisions" within ½ mile of these class 7 lakes if they meet three specified criteria. However, there is no publicly available data that can be used to determine how many and which of the 978 lakes would meet the three criteria and therefore be vulnerable to development. These class 7 lakes include some of the most remote lakes in the state. This provision would allow development across the entire North Woods on lakes where Maine people hunt, fish, hike and camp.

3. **The criteria for recreation-based subdivisions on class 7 lakes would not ensure that the proposed subdivision is of a similar scale and intensity as any existing development.**

   The criterion that requires "five existing dwelling units" is entirely insufficient to ensure that a future subdivision is appropriate. The five dwelling units could be seasonal camps with no power or running water, yet would satisfy this criterion for a 100 lot four-season subdivision with power and pressurized water. Unlike the existing adjacency requirements, the proposed criteria have no provisions to ensure that any future development would be of a similar "occupancy, scale and intensity."

4. **The proposed "recreation-based subdivision" provisions undermine the existing concept planning process (P-RP) and fail to provide compensating conservation protection.**

   It is unclear why there is any need for a new "recreation-based subdivision" provision given the existence of the concept planning process. Concept plans allow residential subdivisions in places that do not meet the adjacency provision. However, in concept plans, the waiver of adjacency must be matched by comparable conservation measures.

   The proposed rules would undercut this requirement in the P-RP subdistrict. If these rules were to be adopted, it is highly unlikely that any residential subdivision developer would ever again engage in concept planning. This would result in scattered residential subdivisions with no compensating conservation measures.

Class 3 lakes

Many Class 3 lakes are not appropriate for the proposed expansion of development opportunities.

The state has 42 Class 3 lakes that were designated "potentially suitable for development." Some of these lakes have existing development; others remain entirely undeveloped or have significant undeveloped sections of shorelines. This proposal would more than triple the area around these lakes that could be developed from 250 feet from the shoreline to 700 feet from the shoreline.

This dramatic expansion of development opportunities on these lakes is contrary to the lakes management plan which specifically stated that development on the shore of these lakes should not be used to justify further development in the area.

Some of these lakes that are completely undeveloped or have significant undeveloped shorelines and are unsuitable for the significant expansion of development opportunities include Pocumcus Lake, Bowlin Pond, Caribou Lake, Endless Lake, Fish River Lake, West Grand Lake, Horseshoe Pond, Middle Jo-Mary Lake, Onawa Lake, Pemadumcook Chain Lake, Big Lake, Brassua Lake, Indian Pond, Glazier Lake and Rocky Pond.

Subdivision Standards

1. **General management subdivisions with limited environmental review would be allowed on hundreds of thousands of acres.**

   Under the proposed rules, general management subdivisions could be located in the general management subdistrict and would, therefore, not require a rezoning. By not requiring rezoning, these subdivisions would not be subject the environmental criteria normally reviewed during the rezoning process.

   It is impossible from the information provided to determine exactly how many acres could be subject to this type of development. However, by allowing general management subdivisions in the primary areas within ½ mile of a public road (but not within ½ mile of a major water body), it is likely that the area includes hundreds of thousands of acres, in the range of 400,000 of the 824,000 acres of primary development areas.

   This appears to be a vast expansion of the areas that are currently designated for "Level 2 subdivisions" (that are evaluated according to similar criteria.) There is no apparent reason why the opportunity for this type of residential development should be so greatly expanded. Due to the lessened environmental review, the large expansion of this type of subdivisions runs a significant risk of adverse impacts on Maine's natural resources and the character of the UT.

2. **Subdivision standards allowing developers to avoid the requirement to provide common open space if they locate near permanently conserved lands would attract development to those lands.**

   It is puzzling why the rules deem it desirable to attract recreation-based subdivisions to permanently conserved lands. Locating development on the doorstep of lands that have been deemed so important that they have been permanently protected would only serve to degrade the protected character of the conserved lands. It would result in more development and less conservation in locations of demonstrated conservation importance. This would be the opposite of the desired outcome for the UT.

Five year review

The proposal to review the draft rules in five years or after five rezonings in a county would be highly unlikely to be effective in allowing revisions to the proposed rules when adverse effects occur.

Once landowners have booked the increased value that would result from their lands being determined to be in a primary or secondary development area, there would be significant legal and political opposition and challenges to any decrease in those development opportunities. It would be much more appropriate for the LUPC to proceed with limited changes and add additional changes after a five year review if needed, rather than adopt major changes and attempt to roll them back when there are adverse effects.

In addition, the trigger of five rezonings per county fails to recognize that the county lines in the jurisdiction do not have any relationship to development patterns on the ground. Perhaps the best example of this is the Moosehead region where one side of the lake is in one county and the other side in a different county, yet the entire lake functions as one development region.

The Katahdin region is likewise split between Penobscot and Aroostook Counties. The region is currently engaged in a regional visioning/land use process that includes towns from both counties.

Response to the Maine Forest Products Council

Adopting the proposed rules while retaining the development opportunities provided by the existing adjacency rules would maximize the negative impacts of both the existing and the proposed rules.

The Maine Forest Products Council and some of its members argue that they should be able to retain the development opportunities they have under the current adjacency policy while supporting the additional development opportunities these rules would provide. This is a brazen attempt to simply maximize the development value of their lands with no concern for the impact of development on the natural resources, the forest-based economy, and the character of the UT. It would achieve none of the goals set forth for this rulemaking process and would, in fact, be entirely contrary to the goals set forth.

The path forward

We strongly urge the Commission to step back from these rules and consider other approaches to achieve the worthy goals of guiding development to existing developed areas with public services adequate to handle additional development and to protect the natural resources and character of the UT. To that end we recommend that the Commission engage in regional planning in those areas where

development pressures are likely to increase in the near future. The Katahdin region is the highest priority.

We also encourage the Commission to engage directly with those towns that border the jurisdiction, starting with the state designated service centers. Where those towns would welcome additional development within their borders, we encourage the Commission to adopt policies that will guide development into those towns. If the Commission believes it does not have the authority to engage in regional planning or to adopt policies that will guide development into the towns, we encourage the Commission to seek that authority from the Legislature. NRCM would be happy to work with the LUPC on those initiatives.

We also encourage the Commission to take the time to gather the data necessary to determine the impact of any proposed changes. Good land use planning is based on good data. Given the lack of significant development pressure, there is no apparent need to rush the rulemaking process. If the LUPC lacks sufficient funds or staff to gather necessary data, NRCM would be happy to help raise the needed funds.

In the meantime, **NRCM strongly encourages the Commission to maintain the one-mile-by-road interpretation of the adjacency principle.** While not perfect, it has worked well for many decades. It has succeeded in maintaining the natural resources and character of the North Woods that Maine people love. The existing policy has allowed Maine's North Woods to be one of the most globally significant, unfragmented blocks of temperate forest remaining in the world today.

Thank you for the opportunity to comment.

Cathy

Catherine B. Johnson, Esq.
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Tribal Chief
Clarissa Sabattis
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Comments – LUPC's Proposed Update of the Adjacency Principle"
Chief Clarissa Sabattis, Houlton Band of Maliseet Indians
January 22, 2019

LUPC's proposed elimination of a successful adjacency principle in favor of an ill-advised attempt to direct and promote development in large swaths of the Unorganized Territories will cause irrevocable harm to the bountiful and increasingly rare ecology of the North Woods, a part of Maliseet territory we have hunted and trapped in winter for food and furs since time immemorial. This harm will inevitably make it harder for us to sustain our traditional hunter-gatherer lifeways.

This proposal also develops the North Woods at the expense of existing towns and communities in Aroostook County, where many of our tribal members struggle to live, work, and raise their families. Our already economically distressed region will be further injured by 1) damage to the cultural, recreational, and tourism value of the North Woods to our Region's character and economy, 2) redirection of homes and businesses that might otherwise locate in communities with already declining populations, and 3) development further away from service centers such as the Towns of Houlton, Presque Isle, and Fort Kent. The latter consequence increases a) the need for emergency and other services without increasing the tax base that supports them, and b) the per unit cost of providing services because of the greater costs associated with the greater distance.

The Houlton Band of Maliseet Indians strives to work collaboratively with the Town of Houlton on economic, community, and social development goals of common interest. LUPC's proposed changes will jeopardize those efforts.

LUPC should consider the entire region as it strives to meet its mission "to encourage the well-planned and well-managed multiple use, including conservation, of land and resources and to encourage and facilitate regional economic viability."

Woliwon (Thank you) for this opportunity to comment.

Clarissa Sabattis

Clarissa Sabattis
Tribal Chief

Godsoe, Benjamin

From: Greg Moser <vtsec11@hotmail.com>
Sent: Monday, January 21, 2019 4:57 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Comments to the Adjacency Rule and Adjacency Issue

My wife and I own and use land in the Unorganized Territories and we wish to record our STRONG OBJECTION to LUPC'S proposal to change the existing Adjacency Rule.
The North Woods (Unorganized Territories) **is unique** in Maine and the eastern US and must be protected, while allowing planned growth and strengthening the fabric of society in the area.
Once this is area is overdeveloped it will be lost forever. There is no going back.

The following LUPC proposed changes to the existing Adjacency Rule are unacceptable and must be dropped.

- Areas targeted for development would be expanded to any area within 7 miles as the crow flies from any one of 41 "rural hubs," an arbitrary term LUPC created that has never been used before in the region's planning.
- Lengthy stretches of five designated scenic byways would be impacted by potential development.
- More than 1.3 million acres and 20 percent of the lakes in the North Woods would be opened to residential subdivisions. 824,000 of those acres would be targeted for commercial development.
- Large lot subdivisions referred to as "kingdom lots," which were banned by the Legislature in 2001, would be allowed.

We support maintaining the current policy of allowing Unorganized Territories development one mile by road from existing, compatible development.
Sprawl development is the death of the North Woods and the historic use and biological importance of this area!

Comments submitted by Gregory and Catharine Moser (Portland)

Godsoe, Benjamin

From: Kelly, John M. <jmkelly@prentissandcarlisle.com>
Sent: Tuesday, January 22, 2019 4:19 PM
To: Livesay, Nicholas; Horn, Samantha; Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC Adjacency Rule Review - public comment
Attachments: LUPC Adjacency public comment 1-22-2019.pdf

Good afternoon Nick, Samantha and Ben,
Please find attached my public comment for the adjacency rule review. Thanks again for the ambitious undertaking. I'm happy to answer any questions you may have – please feel free to reach out at any time.

Stay warm!

Thanks,
Jack

John M. Kelly
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January 22, 2019

Mr. Nicholas Livesay
Executive Director
Land Use Planning Commission
18 Elkins Lane
22 State House Station
Augusta, ME 04330

RE: LUPC Adjacency Rule Review

Dear Director Livesay:

Thank you for the opportunity to participate in revising the LUPC adjacency rule. Prentiss & Carlisle manages over one million acres of timberland in Maine, with the majority being in the jurisdiction of the LUPC. While we don't frequently pursue development, preserving most of our client's land for forestry, we do have over 300 leased lots in Maine and have recently attempted some small developments in the UT that were unsuccessful due to the existing adjacency rule. I hope my perspective is helpful to you as you continue the rule making process.

Patrick Strauch of the Maine Forest Products Council will send you a letter detailing many of the reasons to continue with the proposed adjacency rules. While I echo many of his comments, for the sake of brevity I will reference his letter and indicate my agreement. However, there are a few points I'd like to specifically emphasize:

1. During the January 10th public hearing, I heard many proponents *and* opponents of the proposed rule indicate that the current one-road-mile rule of thumb adjacency criteria should be retained. I agree with this assertion for the areas not served by the new proposed rules, as this would preserve some development rights for the "interior" portions of the UT. As written the proposed rules would revoke development rights in areas deemed acceptable under the current criteria. It is important to note that some conservation easements administered in the past took this rule into account by leaving small specific areas uneased for potential future development; it would be very detrimental and unfair to lose the ability to develop those areas (or the value of development rights).
2. In previous editions of the draft proposal, adjacency was considered met using a 10-mile distance from service centers or recreational hubs. This distance was reduced to 7 miles in subsequent drafts. Considering the large landowner group initially proposed 18 miles (or 3 townships) as a distance criteria, I would advocate the limiting distance be returned to 10 miles.
3. In 10.25, Q, 3, f, (3) on page 72 of the proposal, an exception for legal access for leased lots is provided. In the language of the exception, it reads, "*The legal right of access requirement for subdivision lots contained in Section 10.25, Q, 3, f does not apply to subdivision lots leased on an annual basis for fair market consideration, and at the time of annual renewal, both the lessor and lessee have the legal right to not renew the lease, regardless of cause.*" [Emphasis added].
    a. M.R.S.A. Title 14 § 6049, which addresses land leases where the lessee owns any improvements, requires, "*Unless the lease is terminated for cause, a lessor must give notice to a lessee of the intent to terminate the lease at least one year prior to the effective date of the termination.*" I believe the statute might prevent using the leased lot exception for legal access, and therefore I would strongly advocate this section be revised to reflect the requirements of the statute.

b. Very frequently, lessees are also required to give notice of their intent to not renew a lease agreement. In our standard recreational lease agreements, the notice period is 30 days prior to the expiration of the current term. This may also prevent the intent of the lease lot exception.

c. I would also avoid the emphasis on fair market consideration as a criteria, as this would be difficult to determine or enforce without an appraisal, which would be costly for both the lessee and lessor.

I am encouraged by the efforts of the Commission and the LUPC staff in expanding opportunities for thoughtful development, particularly after reviewing the draft proposal released by the staff. I would strongly advocate we continue to move the rule revision forward.

I appreciate the opportunity to participate in the rule revision process, and I look forward to discussing this issue with you further. As always, I can be reached at our Bangor office at (207) 942-8295, or by email at jmkelly@prentissandcarlisle.com.

Sincerely,
Prentiss & Carlisle Management Company, Inc.

John M. Kelly
Director of Real Estate Services

Godsoe, Benjamin

From: Jeffrey Reardon <Jeffrey.Reardon@tu.org>
Sent: Tuesday, January 22, 2019 1:50 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] TU Adjacency Comments
Attachments: TU 1-22-2019 comments on Adjacency Rules.docx

Please see attached.

Thanks.

Jeff Reardon / Maine Brook Trout Project Director
jreardon@tu.org / 207 615 9200

Trout Unlimited
207 430 8441
267 Scribner Hill Road, Manchester, ME 04351
http://www.tu.org

Proposed Adjacency and Subdivision Rules Changes
Written Comments
January 22, 2019

Chairman Worcester and members of the Commission:

My name is Jeff Reardon and I work as the Maine Brook Trout Project Director for Trout Unlimited, a national conservation organization whose mission is to conserve, protect and restore North America's trout and salmon and their watersheds. We have five chapters and a little over 1800 members in Maine. On behalf of Trout Unlimited I have previously provided feedback on concepts and drafts of the rule changes on five separate occasions. Although some changes have been made to reduce our concerns, we remain concerned that this approach has the potential to facilitate "wildland sprawl" development in currently undeveloped corridors outside of Maine's organized towns, with unintended impacts on the nation's finest wild brook trout resource. Maine contains more than 97% of the nation's native lake and pond brook trout resources, the vast majority of which are located within the Commission's jurisdiction. Maine is also the last eastern state where stream and river populations of brook trout are largely intact. These populations, which are a significant driver of the recreation-based economy in many communities within the UT, are highly sensitive to the impacts of development. Of particular concern are the potential for increased road densities and the road/stream crossings those will require, the risk of introduction of non-native fish species into lakes and ponds where development occurs or vehicle access becomes easier, and the conversion of areas currently available to anglers to gated subdivisions or private enclaves.

We are still concerned that proposal fails to fulfill its intent—to steer development towards appropriate places near existing development while keeping wild places wild. Although the areas mapped as "Primary" and "Secondary" zones are somewhat reduced from earlier drafts, some extensive areas remain. For example:

- The Primary and Secondary locations around Rangeley stretch in a continuous east/west line 30 miles from north of Cupsuptic Lake, across the southern end of Kennebago Lake, over the top of East Kennebago Mountain, to between Eustis and Carrabasset Valley. From there the primary and secondary areas stretch north/south 25 miles from Eustis to Phillips and all the way east to Kingfield. This expanse of primary and secondary zones surrounds the area around Rangeley that has already undergone prospective zoning. These primary and secondary zones contain 9 designated State Heritage Fish Waters for brook trout—the remote ponds that have been magnets for Rangeley area anglers since the days of Herbie Welch and Carrie Stevens.
- A similar large expanse in the Jackman-Greenville area stretches an unbroken 17 miles N/S from Dennistown to Bradstreet; 26 miles E/W from Bradstreet to Rockwood; 27 miles N/S along the shore of Moosehead Lake from Tomhegan to Moosehead Junction. On the other side of Greenville, another expanse runs 19 miles N/S by 9 miles E/W from Lilly Bay to Elliotsville. Within these blocks are 26 designated Heritage Brook Trout

Jeff Reardon, Maine Brook Trout Project Director
jreardon@tu.org **430-8441 615 9200 (cell)**

Ponds—many them highlighted for visiting anglers on the "Remote Ponds" section of Maine Guide Fly Shop's website.

- Another large area surrounds the organized towns of Millinocket/East Millinocket/Medway and stretches north to north of Patten and east of Island Falls. An extensive connected primary area stretches 40 miles N/S from Sherman to east of Lee along several major roads.

Will an unintended consequence be to push development out of prospectively zoned areas into surrounding areas, or away from struggling towns in need of services, residents, and investment into adjacent LUPC lands where benefits to the towns and property taxes are lower? This approach may convert the region around Rangeley that has planned for a mix of developed areas and surrounding wildlands to an area of widely dispersed development in the wildlands—exactly the opposite of what the prospective zoning was intended to accomplish. A policy intended in part to assist the developed towns and plantations that serve as rural hubs and service centers may instead focus development away from them. Many areas could be better served by a pro-active prospective zoning process intended to provide for development of services, jobs, residents and attractions in and near developed areas while maintaining nearby backcountry areas that support the forest products and recreation businesses that are critical to these communities. Alternatively, the size of the Primary and Secondary Areas could be reduced. It will be easier to expand them to respond to increased demand in the future than to scale them back after the 5-year assessment that is called for in the proposal.

<u>Concerns With The Proposed Rules:</u>

- Primary Locations. We appreciate that these have been revised to make them smaller, but still question what rationale—if any—there is for the current 7 mi/1mi primary areas. Why not 5 and 1 or 3 and 1? If, as staff state, demand for development remains relatively low, it's much easier to start small and if demand requires it than to go the other way. This will also have the benefit of steering development towards areas closer to organized towns. In several areas, particularly where there is a "checkerboard" of unorganized and organized towns, the current 7-mile length still makes for long linear corridors of primary location.
- Secondary Locations. Like the Primary Locations, these still seem expansive—particularly when applied around areas that already have a moderate level of development or around organized towns. Why not 3 miles from public roads rather than 5?
- State Heritage Fish Waters. There are 578 designated State Heritage Fish Waters (SHFW)—lakes or ponds that support native brook trout or Arctic Charr. This is a nationally significant resource—more than 97% of the remaining wild native brook trout lakes in the US. More than ¾ of those waters are in LUPC jurisdiction. We agree with LUPC staff that a blanket ban on any development in or near these lakes would be inappropriate. Some of these lakes already support moderate or even high levels of development. However, we do not believe it's appropriate that this proposal to not consider the Heritage designation in any way. A particular concern is that—based on our assessment of the 47 Heritage Waters that would fall within newly designated primary and secondary zones—33 (70%) are Management Class 7 lakes or are not considered lakes at all in LUPC's lake classification system. It's likely—but LUPC has not yet

Jeff Reardon, Maine Brook Trout Project Director
jreardon@tu.org 430-8441 615 9200 (cell)

assessed—that the proportion would be similar if all of the SHFWs in the UT were assessed. We believe that the subdivision rules need to come up with some method to identify whether re-zoning proposals contain SHFWs, and to consider whether the proposed development may have impacts on native brook trout lakes in the rezoning process. The Commission should know the scale of that impact before you approve a rezoning application. We suggest that you require applicants provide information about whether or not any SHFW's are included within lands proposed for rezoning. If they are, you should seek comments from the Maine Department of Inland Fisheries and Wildlife on the proposed rezoning and potential impacts on State Heritage Fish Waters.

- Location Dependent Subdivisions on Management Class 7 Lakes. We are concerned that the "Location-Dependent" Recreation-based Residential Activity category for "recreation-based subdivisions" may not be appropriate for some Management Class 7 lakes (or for some permanent trails—see below). A particular concern for TU are Management Class 7 lakes that are also "State Heritage Fish Waters" (SHFW). This concern is heightened by the fact that rezoning proposals to D-RS subdivisions are not limited to Primary and Secondary Locations, but could be proposed anywhere in the UT. The limitation of the recreation-based subdivisions to Class 7 lakes with moderate levels of existing development may not serve as an appropriate screen for resource values that were not identified in the 1987 "Maine Wildlands Lake Assessment", particularly for fisheries resources that have been identified through 30 years of intensive effort to address previously-unsurveyed waters. In fact, those lakes with high quality fisheries may be more likely to have existing development, because the quality of the fishery was an attractive asset that for past camp-lot development. It is certainly an attractive asset for future development.
- Definition of "Permanent Trail". Does this definition include water trails—for example, the Northern Forest Canoe Trail, the Moose River Bow Trip, or the West Branch Corridor—as "permanent trails"? If so, is a boat launch with parking that serves motorized boats a "point of entry to a permanent trail"? If not, the definitions and your rules should make that clear, or you will open the door to "Resource Dependent Commercial Activities" and "Resource Based Residential Districts" near these access points.
- Low density subdivisions. We are concerned about the Low Density Development subdistricts. These districts would allow development of large lots—11 to 25 acres. Although the low density subdivisions are not allowed within ½ mile of major waterbodies, they could easily be designed to be large lots within a non-shoreland area and incorporate shared access to nearby lakes or ponds, perhaps behind gates that protect private access to residents only. They would also be allowed on "minor rivers" which includes all streams with less than 50 square miles of drainage area. This includes many well-known rivers for paddling and angling. For examples include Cold Stream at its mouth (47 sq. mi), Kennebago River at Little Kennebago Lake (49 sq. mi), Cupsuptic River at Big Fall (44 sw. mi). Please be careful with potential unintended consequences of this new type of subdivision. We do not believe it's necessary or appropriate.
- Using Existing Conservation Land to Meet "Open Space Requirements" Within Subdivisions. The proposal would allow subdivisions to count lands within ¼ miles that are permanently conserved as "open space" to meet requirements for the subdivision. We do not believe this is appropriate, except perhaps in very limited circumstances. We are

concerned that it will create an incentive to locate subdivisions adjacent to conservation lands so that landowners and developers can avoid the need to set aside open space from their own lands. There may be some limited cases where this is necessary. LUPC staff gave the example of a lot in Grand Lake Stream where the community wants to put a housing subdivision but are constrained by surrounding conservation land. It may make sense to create a narrow exception by which LUPC can waive the open space requirement in those situations, but we do not believe this should be appropriate for landowners or developers who are not so constrained.

One last general concern is the assumption that the potential for development within the newly created Primary and Secondary Areas will be limited by existing conservation lands, and that this substantially reduces the "footprint" of the new primary and secondary zones. This may be true, but the Commission should note that "conservation lands" includes a wide diversity of lands, ranging from publicly owned lands, to lands owned by land trusts, to lands protected by conservation easements. The actual constraints on development may vary with the details of the conservation plan or easement for each property. Many conservation easements include some retained development rights for the landowner, particularly for timber harvest and other resource extraction, but also in some cases reserved rights for residential development, wind power, transmission corridors, and other uses. We believe you should look carefully to the actual limits on development for each parcel mapped as "conservation land". We believe some—perhaps many—of these parcels will retain significant potential for development.

Given these concerns, we do not believe you should approve the current proposal without considerable additional analysis—particularly with respect to the appropriate size of Primary and Secondary Areas; impacts on Management Class 7 Lakes; appropriateness of low-density subdivisions; and the degree of development allowed on "conservation lands" within the LUPC jurisdiction. Without revisions to address some of these concerns, the proposal risks permanently altering the character of the UT. We therefore urge you to reject this proposal as currently drafted and ask for additional staff analysis and revisions before approval.

Thank you for the opportunity to provide these comments.

Jeff Reardon, Maine Brook Trout Project Director
jreardon@tu.org 430-8441 615 9200 (cell)

From: Ken Cline
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency rule change
Date: Tuesday, January 22, 2019 11:55:17 PM

Dear Mr. Godsoe:

I have spent 30 years recreating and working in the Maine Woods and the very thing that makes the Maine Woods special is its unfragmented and undeveloped nature. For that reason, I strongly oppose the proposed LUPC rule change regarding adjacency in the Unorganized Territories. Although not perfect, the current administrative rule that allows development one mile by road from existing, compatible development is a much better way of protecting the Maine Woods from homogenization, fragmentation, and ecological and economic despoiling.

My primary concern is that commercial and subdivision development would proliferate across the Unorganized Territories. Commercial development would be allowed on ¾ of a million acres of land and large lot subdivisions would likely fragment hundreds of thousands of acres. The current focus of commercial development near village centers or similar development is one of the more powerful ways in which the distinct character of the Maine Woods have been maintained. The proposed rule would forever change the character of the towns and forests of Maine. I am particularly concerned about the impact that this rule change would have on the undeveloped lakes and rivers that make Maine a recreational and ecological gem. Of course this is where the residential development will be focused and as it occurs, one of our states most valuable assets will slip away.

I was part of Governor Baldacci's original Working Group on Keeping Maine's Forests Forests. This proposed rule change will undo all of that hard work and literally unravel the system of rules and standards that has kept Maine's forests intact to provide all of the economic, recreational, ecological, and cultural values that they provide.

Although I am an environmental lawyer, I also find the proposed rules to be unnecessarily complex and difficult to understand. It makes it challenging to discern all of the potential impacts that they may engender. Although I like "full-employment" schemes for environmental lawyers, the complexity of the rules does not serve the public interest in a clear and transparent governance system. We can do better.

Thank you for your consideration.

Sincerely yours,

Kenneth S. Cline

Professor of Environmental Law & Policy
David Rockefeller Family Chair in Ecosystem Management and Protection
College of the Atlantic
105 Eden St.
Bar Harbor, ME 04609
(w) 207-801-5719
(h) 207-288-3381

Godsoe, Benjamin

From: ken lamond <ken.familyforestry@gmail.com>
Sent: Tuesday, January 22, 2019 5:41 PM
To: everettworcester@aol.com; Godsoe, Benjamin; Pat Strauch
Subject: [EXTERNAL SENDER] Fwd: Written comments - adjacency and subdivision proposed rule
Attachments: Letter to the Commissioners - adjacency and subdivision reform - jan 2018.doc; Landowner Three Town Proposal.pdf; Upper Enchanted Camp 1.jpg; Upper Enchanted Camp 2.jpg; Upper Enchanted Road 1.jpg; Upper Enchanted Road 2.jpg; central park NYC.jpg

---------- Forwarded message ---------
From: **ken lamond** <ken.familyforestry@gmail.com>
Date: Tue, Jan 22, 2019 at 5:33 PM
Subject: Written comments - adjacency and subdivision proposed rule
To: Ken Lamond <ken.familyforestry@gmail.com>

Please see the attached files as written comments regarding the proposed rule changes for adjacency and subdivision review.

Thanks, Ken Lamond

--
Ken Lamond
207-944-2807
Family Forestry
www.familyforestry.me

Vast Open Space.jpg

Bradford Pines Subdivision.pdf

--
Ken Lamond
207-944-2807
Family Forestry
www.familyforestry.me

Family Forestry

30 Rider Road
Brewer, Maine 04412
207-944-2807

1/22/18

LUPC Commissioners
Maine Land Use Planning Commission
State House Station 22
Augusta, Me. 04330

Dear Commissioners:

Today I am writing to each of you, the LUPC commissioners, to share my thoughts on the current process to achieve a balance of economic development and conservation in the LUPC jurisdiction. I have been to many meetings over the past four years engaged in an extended discussion regarding zoning and subdivision review reform. The proposed changes to adjacency and the subdivision review process are disappointing from your forest landowner constituents perspective. Four years of work and not much to show for it. It's more of the same, urban planning and zoning for the UT.

From the start of this process your forest products industry landowner constituents have promoted this simple list as the essential elements of subdivision review reform:

- Increase area where subdivision is listed as an allowable use (no rezoning necessary) - see attached map

- Adjacency for subdivisions is met in that area

- Flexibility to create types and size lots for our market

- LUPC functions similar to rural Maine municipalities

For the last four years landowner constituents have argued for a less complicated, less costly, less time consuming subdivision review process **in a portion** of the LUPC jurisdiction. The attached map that we presented to the staff and the Commission at the October 2015 meeting in Bangor shows the towns that are within three townships of the service centers and recreational hubs. This represents a much lower percentage of the land area in LUPC jurisdiction for subdivision proposals than in adjacent municipalities. Organized towns allow subdivision proposals, subject to subdivision review, anywhere except in resource protection areas.

We have been promoting a subdivision review process that mirrors that of the rural Maine towns adjacent to the LUPC jurisdiction.

Consider these Land, Water, and Development figures:

Total area in Maine: 22.65 million acres (USGS)
Area in water : 2.31 million acres (USGS – 2010 inland)
Area in land : 19.76 million acres
Forestland : 17.60 million acres (USGS)
Farm operations : 1.45 million acres (USDA - 2017)

Developed? : 1.29 million acres (6.5%)

Over hundreds of years it appears that **less than 7%** of the land area in Maine has been developed. For most of Maine's history there was no zoning or planning. Subdivision was allowed anywhere yet Maine is still 90% forested. Our three town proposal as shown on the attached map represents approximately 25% of the LUPC jurisdiction area to be available for subdivision proposals. This is not excessive when you consider the history of development in Maine. Our proposal locates most development on "the fringe" of the jurisdiction. There would continue to be the extremely limited opportunity for development in the interior of the jurisdiction. Your staff cut our proposal by roughly 50% and cut it again based on an emotional metric - "that seems like too much". They have ignored the numbers. The staff has ignored your forest landowner constituents input in favor of a proposal that continues to require rezoning, will continue to be high cost, high risk, time consuming and is overly prescriptive. We are counting on you to help us with that.

The staff has ignored the fact that most of the development in the LUPC jurisdiction is seasonal residential development not commercial, or year round primary residential development. There is no mention, or provision for seasonal residential development.

We asked for "flexibility to create the types and size lots for our market". Instead the staff has included in the definition of development density a high density, moderate density, and low density subdivision with a maximum lot size and average lot size. This is extremely prescriptive and forces the creation of small lots that are less marketable. This language is designed to slow growth in the rural sections of high growth areas in southern Maine. The "fringe of the LUPC jurisdiction is an area that needs economic growth. We shouldn't be applying slow growth principals to this area that is loosing population and needs economic activity. Again, urban planning for the UT. The staff and the Commission heard from guest speakers like Terry Dewan, a landscape architect and planner, that said development should be based on the site with maximum flexibility as essential to match a marketable product with the site. You heard from a real estate broker that said there is a strong market for larger lots. We need to create lots that serve our market!! We need your help to be able to make larger lots, 50acres, 100acres, or larger in some cases. The maximum and average lot size requirement should be eliminated. Minimum lot size and minimum road frontage are the typical requirements that we see for subdivision review in rural Maine municipalities. Also,in addition to the primary and secondary location, we need a third location area for larger lots located away from services. The area between the secondary location and our three town proposal should be for seasonal residential projects. These lots are camp lots/ woodlots that are in high demand with no provision in the staff proposal to offer them. The historical development figures show that this proposal is not excessive. We need that opportunity.

Upper Enchanted is a 12,000 acre, low density, large lot development that was done at first by exempt lot phases and later through a series of limited review phases. This has been a successful development that began in the late 80's and is still successful today. Limited review, larger lots, away from services is what our customers want. We are clear in our covenants that the roads are private to be maintained by the owners association. We are clear that the lots are intended for seasonal use with a limited expectation of services. Our buyers like that! We don't need to hold their hands!! We took Nick and Samantha for a tour of Upper Enchanted and showed them the project and answered their questions. They saw the simple camps owned by hard working families and well maintained road systems that have been in place for nearly 30 years. (See attached photos) This project works because we were able to offer larger lots that people want. There were enough lots sold to support the owners association efforts to complete road maintenance projects that are proposed and approved at the owners association annual meeting. **Again, we need the flexibility to create the types and size lots for our market.**

We want to see the LUPC subdivision review process be more like what we experience with rural Maine municipalities adjacent to the LUPC jurisdiction.

As an example I would like to share my personal experience working with the Town of Bradford, Maine. My family bought a 108 acre property located in Bradford in March, 2008. I managed the harvest operation prior to our purchase of the property during the winter season, 2008. I approached the planning board with a proposal for 7 residential lots on the property in March, 2009. I recorded the final approved plan on August 21, 2009. Six months, start to finish, with a subdivision process cost including permits, surveying, wetlands mapping, and soils work of approximately $1000/lot. The subdivision application was 2 pages, the submission was a subdivision plan and 2 pages covering the 20 review requirements to satisfy MRSA 30-4404, many of which were not applicable to the project.

The Town of Bradford had a 5 acre minimum lot size, and 350 feet of road frontage requirement for that Rural Residential zone. There was no maximum lot size or average lot size requirement. We were free to design our lotting plan to meet our anticipated market based on the site. (See attached plan)

There was no “Open Space” requirement. Certainly no “Common Open Space” requirement. Open Space by definition in the proposed rule is not necessarily “Common”. I suggest that the term “Commom” be removed. Open space should be considered under some circumstances but not required under most circumstances in the LUPC jurisdiction. Subdivisions with more than 4 lots do not necessarily need open space. Open space is more necessary in urban settings, Central Park in New York City. (see attached photo) Open space is abundant in the LUPC jurisdiction without any requirement. (see attached photo) The open space requirement in the proposed rule is excessive and unnecessary. It should be eliminated under most circumstances. We need your help on this.

All of these points have been discussed at length with your staff. If you read the subdivision meeting reports on the LUPC website this point is clear.

There are a number of other concerns in the proposed rules that should be addressed.

Scenic Character issues that are too restrictive
Ridgeline standards that are too restrictive – what, wind mills are OK but camps aren't?
Development in the interior that should not be eliminated
I could go on.

The point is that your forest landowner constituents participated in good faith to promote a less complicated, less costly, less time consuming subdivision review process in a portion of the LUPC jurisdiction. We have not yet accomplished that. With your help to guide your staff through some necessary changes we may still get there.

Sincerely,

Family Forestry

Ken Lamond

PROPOSED SUBDIVISION ZONE DISTRICTS
State of Maine
March 2015

N

Madawaska
Fort Kent
Saint Agatha
Van Buren
Limestone
Caribou
Presque Isle
Ashland
Mars Hill
Houlton
Oakfield
Patten
Island Falls
Millinocket
Medway
Jackman
Greenville
Lincoln
The Forks Plt
Milo
Guilford
Dover-Foxcroft
Princeton
Calais
Eustis
Carrabassett Valley
Bingham
Dexter
Rangeley
Kingfield
Old Town
Orono
Eastport
Lubec
Newport
Anson
Hermon
Bangor
Brewer
Skowhegan
Pittsfield
Machias
Farmington
Wilton
Mexico
Fairfield
Winslow
Waterville
Unity
Ellsworth
Milbridge
Jonesport
Addison
Harrington
Sullivan
Newry
Rumford
Dixfield
Bethel
Gouldsboro
Belfast
Blue Hill
Bar Harbor
Mount Desert
Southwest Harbor
Augusta
Norway
Waterford
Oxford
Gardiner
Camden
Rockport
Rockland
Thomaston
Lewiston
Auburn
Bridgton
Wiscasset
Damariscotta
Lisbon
Topsham
Bath
Brunswick
Freeport
Boothbay Harbor
Windham
Cornish
Falmouth
Westbrook
Gorham
Portland
South Portland
Cape Elizabeth
Scarborough
Saco
Old Orchard Beach
Biddeford
Sanford
Kennebunk
Wells

Unorganized Territory Acres	10,408,544
Subdivision Eligible District Acres	2,571,710

- Plantations
- Existing Level 2 Areas
- Proposed Subdivision Zones
- Recreation Hubs
- Service Centers
- LUPC Towns
- Non-LUPC Towns

Date Saved: 3/31/2015 2:39:09 PM

Document Path: I:\GISDATA\outside\LUPC Subdivision Review\GIS\Dev Areas.mxd

25 12.5 0 25 50 75 Miles

Prentiss & Carlisle
Forest Resource Management and Timberland Services


Fairview
North Bergen
Guttenberg
West New York
Union City
Weehawken
New York
Manhattan
Central Park
Randalls Island
Wards Island
Mill Rock
Roosevelt Island
North Bro
South B
© 2018 Google
Google Earth
Imagery Date: 6/8/2017 40°46'58.30" N 73°57'55.26" W elev 36 m eye alt 10.42 km

NOTES:

(1) Documents referenced on this plan are recorded in the Penobscot County Registry of Deeds unless otherwise noted.

(2) Bearings are oriented to Grid North of the Maine State Coordinate System, East Zone, NAD 83.

(3) The Drake Road is 4 rods (66') wide as described in the Penobscot County Commissioner's records Volume 9, Page 313 dated August 6, 1880.

(4) Contour lines depicted hereon represent a 10' interval and were obtained from the Maine Office of GIS at the following web address: www.megis.maine.gov.

(5) Source of title: Family Forest, LLC, Volume 11346, Page 143.

(6) Water supply to be by individual private wells. Sewage disposal to be by approved on site septic disposal system. See plan for location of test pits.

(7) Bradford Pines Subdivision lots are intended for single family detached housing and accessory structures only.

(8) Test pit and wetland locations supplied by others.

(9) Wetland locations outside the boundaries of lots 1-6 and easterly of the building envelope on lot 7 were obtained from the Maine Office of GIS.

(10) Any new buildings shall be located within the building envelopes as depicted hereon.

(11) Subject premises lies within the Rural Forested Zoning District.

(12) Bradford Pines Subdivision lots are subject to deed covenants.

SCALE: 1"= 200'

200' 0 200' 400' 600' 800'

SYMBOLS LEGEND

- IRON ROD SET
- IRON PIPE FOUND
- IRON ROD/BOLT FOUND
- GRANITE/CONCRETE MONUMENT
- WOOD POST
- UTILITY POLE
- GUY/ANCHOR
- OVERHEAD WIRES
- EDGE OF PAVEMENT / GRAVEL
- PROPERTY LINE

North

PLANNING BOARD APPROVAL

THIS IS TO CERTIFY THAT AFTER REVIEWING THE SUBDIVISION SHOWN BY THIS PLAN AND CONSIDERING EACH OF THE CRITERIA SET FORTH IN 30-A M.R.S.A. SECTION 4401 THROUGH 4407 AS AMENDED AND THE SUBDIVISION ORDINANCE OF THE TOWN OF BRADFORD, THE UNDERSIGNED HAVE MADE FINDINGS OF FACT ESTABLISHING THAT THE SUBDIVISION SHOWN BY THIS PLAN MEETS ALL THE CRITERIA SET FORTH AND THEREFORE THE SUBDIVISION IS APPROVED.

_____

_____

_____

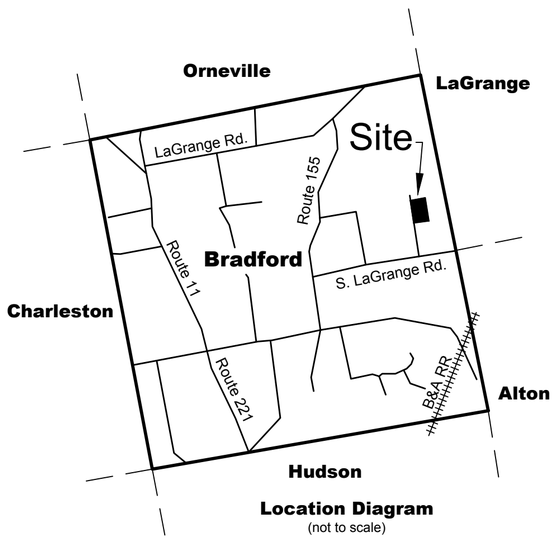
_____

_____

_____

DATED: _____

THE TOWN OF BRADFORD, MAINE PLANNING BOARD



Location Diagram
(not to scale)

STATE OF MAINE
PENOBSCOT, ss, REGISTRY OF DEEDS
Received_____
at _____ h____ m ___M, and recorded
in Plan File _____

ATTEST:

_____
REGISTER

PLISGA & DAY
LAND SURVEYORS
72 MAIN STREET
BANGOR, MAINE

DATE: August 14, 2009
PROJ. NO. 09038

Survey Standard:

These plans were prepared from information obtained by a survey conforming substantially to the requirements of Technical Standards contained in Chapter 90, Part 2, of the Rules of the Board of Licensure for Professional Land Surveyors, effective April 1, 2001.

_____
Adam N. Robinson, Maine Licensed
Professional Land Surveyor No. 2361

STATE OF MAINE
ADAM
N.
ROBINSON
NO. 2361
PROFESSIONAL
LAND SURVEYOR

Final Subdivision Plan
of
Bradford Pines
Drake Road - Bradford
Penobscot County, Maine

Record Owner:
Family Forest, LLC
30 Rider Road
Brewer, Maine 04412

From: kmichka@aol.com
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency Rule Change Comments
Date: Tuesday, January 22, 2019 11:10:35 PM

Hello, Ben.
Please find my comments attached as a PDF document. Please submit that document to the project record.

I have also copied them below, to assure you receive them on time.

Thank you for your continued efforts to manage this project.
Kay

21JAN2019

Land Use Planning Commission
Board of Commissioners

Adjacency Review Comments
Submitted by Kay Michka

After reviewing the current changes to the 12DEC2018 document, I have made note of items that I find to be improvements toward the intent of this effort and items that raise concern, which I will outline below.

Overall, the size and scope of this project was enormous - perhaps too enormous to logically tackle in one rule change action, especially in combination with the subdivision rule change integration. I appreciate the fact that the area outlined in the Primary and Secondary locations has been trimmed by definition in the process, but I am sincerely concerned that the landmass affected is still too great, considering the diversity, scope, and scale of allowed usages proposed. The risk of unfavorable outcomes is far too great with this many concurrent changes to the rule.

I urge you to reduce the area for these development changes. New technology and land use trends will better inform future increases, if warranted.

On a similar note, the proposed removal of the UTs listed in Section 10.08-A,C.5 from the Primary and Secondary areas reflects recognition of the importance of community guided planning and zoning, as well as other pragmatic indices which validate exclusion from those designations. I agree with the removal of the UTs listed in that section, and I encourage you to welcome continued input from the public and communities which will be affected by the changes this proposal will bring about.

Items to consider from the 12DEC2018 document -

Page 3 - 10.02 definitions - Small-scale and Large-scale Agricultural Processing Facility:
Trucking in “all” or a “majority” of the “raw agricultural products used in the processing” essentially turns this allowed use into a commercial use. I do not agree with the inclusion of allowing materials from “...lands owned or leased by the operator...” to be processed at these facilities as defined. Please delete that possibility from the definitions.

Page 3 - 10.02 definitions - Agricultural Processing Facility: Please define temporary workers, in relation to "temporary worker housing". I have witnessed the oilfields of the southwest and the strawberry and commercial chicken farms of the southeast; this "temporary housing" for "temporary workers" has no limits to the possibilities of what "temporary" really means unless outlined in this document.

Page 4 - 10.02 definitions - Large-scale agritourism business: I am concerned that this scale of business is not clearly defined. "Does not meet the definition of small- or medium- scale agritourism business" is too ambiguous. Does this mean a Common Ground Fair type of activity could take place? It does not appear to set limits on size; therefore, there appear to be no defined limits on impact to associated environmental and natural resources, community resources, emergency resources, and noise/lighting/odor nuisances.

Page 46 - 10.22A.3,c(1)(M-GM) Uses Requiring a Permit, Agricultural activities: Do large-scale agritourism activities require a permit? If not, they should.

Page 5 - 10.02 definitions - Natural Resource Processing Facility, "...facilities do not include...activities...housing...processing beyond what is necessary to do close to the course of the raw materials." Please define "close", perhaps in terms of straight line mileage.

Page 6 - 10.02 definitions - Recreation Day Use Facility: Could outdoor shooting ranges be considered as "recreational activities offered to the public"? I think it would be next to impossible to control the noise nuisance, so it may be important to outline them as unacceptable uses in this designation.

Page 6 - 10.02 definitions - Recreation Supply Facility: I am pleased to see the uses clearly defined, because our Franklin/Somerset County Community Guided Planning and Zoning committee members had greatly differing opinions as to what type of services this type of designation would be allowed to supply. I agree that this designation should not allow intensive uses, such as full scale restaurants or gas stations. I do question exactly what "pre-prepared food" means? An internet search generally informs me that it is food which is already prepared and only heated before serving, or served raw.

Page 10 - 10.08,B,2,c: Character: As always, "shall not unreasonably alter the character of the area" is very subjective.

Page 12 - 10.08-A,A Purpose: In the statement quoted below, I do not feel as if the public survey results support a "need for the continued natural resource based economy", nor a "reasonable opportunity for residential development in select locations". Also, what is the definition for "reasonable", as written? *"In some cases, land uses that must be conducted near a natural resource or are closely tied to a natural resource should be allowed to locate away from development to ensure a continued natural resource based economy and a reasonable opportunity for residential development in select locations."*

Page 13 - 10.08-A,C,3 Measuring Distance: I am having a hard time understanding how a "resulting primary or secondary location on the other side of (a) feature is...contiguous with the respective primary or secondary location." If a feature divides a location, won't the locations on each side of the feature always be contiguous? Perhaps this is the best definition possible, but it it not entirely clear to me, and perhaps, others.

Page 28 - 10.21,F,B,6 Low-Density Development Subdistrict: I agree that only Minor home-based businesses should be allowed without a permit subject to standards and that Major home-based businesses should require a permit (regardless of their subdistrict).

Page 34 - 10.21,K,2b Reversion of Subdistrict: (Resource Dependent) I agree the subdistrict needs to revert to prior subdistrict(s), once it is no longer used for the land use for which that subdistrict was created.

Page 89 - 10.27,N,2,h Major Home-based business, Vehicles and equipment: With absolutely no experiential knowledge on which to base this, my gut tells me that aggregate storage of four tractor trucks and semitrailers is a lot of unsightly vehicle storage, if the four are, indeed, four tractor trucks *and* four semitrailer units.

Page 91 - 10.27,S,1,b,(2) and (3) Wildlife Passage for All Commercial Development: A one quarter mile wildlife passage diversion can consist of substantially different topographical and environmental conditions for the wildlife. Several years ago, National Geographic magazine published an article showing the wildlife stress and harm to big game animals as a result of the open lands in the Teton Valley being broken up and sold as subdivisions. The newly designated wildlife passages were similar to their natural paths, but forcing them from their natural migratory paths was just that, unnatural to them, and they suffered. Pertaining to this rule creation, one quarter mile seems like too great of a distance to expect them to change their natural course, yet, it would also be detrimental to bring them close to development activities and people, so I am not sure what the best answer is. I trust that experienced wildlife biologists were consulted when designating this one-quarter mile distance.

Page 92 - 10.27,S,3,b Natural Resource Processing Without Structural Development:
Noise: greater than 95dB(A) at 900 feet from applicable property lines seems unreasonably loud. Are these noises allowed all day and all night? Are considerations for more naturally quiet areas taken into consideration for these standards? Are considerations for topography taken into consideration, because sound travels differently in valley, up hillsides, and over still water bodies. This table is too rudimentary and does not cover very real circumstances surrounding traveling sounds. It needs to give better guidance measurements for specific circumstances. Also, why are there no lighting standards for Natural Resource Processing without Structural Development, or did I miss that? If lighting standards are missing, please add them.

Last but not least, your lighting standards need refinement. They are vague, they are outdated, and they appear to assume everyone has the same frame of mind regarding lighting for activity and security purposes. There are signs in Skowhegan and Madison that are so illuminated from within that they obscure the night sky and blind drivers of approaching vehicles. The tomato plant in Madison illuminates the interior of its facility so brightly that it can be seen at least 32 miles away and it obscures the night sky 15 miles away in New Portland. The security lighting at a neighbor's barn has no shielding, and it is so bright that it blinds approaching drivers and obscures the natural night sky. LUPC's lighting standards need to be modified in conjunction, and before completion, of the Adjacency Review Rule Change, or the lighting standards noted within will be useless. The UTs of Maine possess some of the most unadulterated natural night skies in this nation, and reasonable standards could easily be implemented to protect them as a natural resource. International Dark Sky Association is incredibly knowledgeable on the subject, and they are willing to offer assistance in creating responsible lighting standards. I urge you to contact them at https://www.darksky.org for guidance.

Thank you for this opportunity to comment on this project.

Kay Michka
Lexington TWP

From:	kat t
To:	Godsoe, Benjamin; Horn, Samantha
Subject:	[EXTERNAL SENDER] Kat Taylor Comments for LUPC Public Hearing January 10, 2019
Date:	Tuesday, January 22, 2019 9:45:02 PM
Attachments:	LUPC.AdjacencyComment-KatTaylor.rtf LUPC.AdjacencyComment-KatTaylor.pdf

Hi Ben and Samantha

Thank you so much for your assistance and patience.
Attached are my comments regarding LUPC's Adjacency Rule change in RTF and PDF formats.

One last question
what is the rebuttal period for? do we challenge or agree with other comments?
Please advise

Thanks again for all your help
Kat

Maine's Land Use Planning Commission
Ben Godsoe - Senior Planner
Re: Adjacency Rule Change

Submitted comments of
Kat Taylor
Argyle Twp.

Tuesday, January 22, 2019

To Whom It May Concern:

Make no mistake, we are in a battle in this country for the rights of the rural landowners who just want enough to 'get by' against the interests of those who 'just want more': At any cost.

We are looking at an attempt by LUPC to essentially streamline the Concept Plan process, which is "labor intensive" (for the applicant), by eliminating the first step: rezoning for commercial and subdivision expansion. Most likely the current process is deliberately arduous so enough time is spent deliberating the feasibility of a project and to allow time for residents to voice their concerns.

One thing that concerns me is the potential for leaching away accessibility to the North Woods and other rural places for Maine citizens and the appropriation of rural residents' communities. This seems to me a project of gentrification, 'Rural Cleansing' as Mr. Eck testified at the hearing on January 10, 2019. Whenever the well-to-do move into an area they consider desirable we see an upsurge of private land blocking off areas to be reserved only for private use.

I personally have seen this happen in California where agricultural communities like Simi Valley were rezoned, opening up the floodgates for subdivisions of 'ticky tacky' houses. Vast sprawling identical housing with no character or sense of place, replacing groves of oranges, avocados, walnuts and sheep ranches, displacing residents who lived and worked in their community.

It happened again in El Porto, CA, a quaint rent-controlled beach community of bungalows and two story apartment buildings nestled between Manhattan Beach and LAX. Rezoning annexed El Porto on to Manhattan Beach and down went the cottages, up went the three story condos blocking the view of the ocean and displacing the community of artists, surfers and airline workers who could no longer afford to live there. Public parking disappeared and gentrification all but eliminated access for locals to the ocean.

So I came home to Argyle Twp., Maine in 1993 confident that no sane person who had endured our winters would want to live here. I was wrong.

The fate of over half the land in Maine, a land mass larger than the rest of New England, and the largest contiguous forest east of the Mississippi, lies in the hands of 7 commissioners. Especially concerning is when some of those people are in real estate and perhaps would benefit personally from the adjacency rule change.

As I read through comments from interested parties regarding the adjacency rule change I was struck by how thoughtful, respectful and eloquent these comments were.

Mr. Alan Michka, of Lexington Township, in his comprehensive comments on August 30, 2017 voices his concern about bias for groups interested in exploiting this rule change and how the voices of regular citizens are drowned out and given less weight. Mr. Michka echoes the thoughts of most Mainers who live, work and recreate in the UT's. He said what I would say and I cannot improve on his letter to LUPC so I won't even try. But I encourage all readers to go to his letter which strikes at the heart of the matter and echoes what I've read and heard from others.

You can find it on page 23 here:
https://www.maine.gov/dacf/lupc/projects/adjacency/process/PublicComments_web.pdf

The Survey

(From LUPC memo #2 page 3)

A public survey was available on the web, or in paper form by request, from 9/30/2016 – 3/27/2017, to anyone who wanted to comment about Adjacency. The survey asked respondents in general terms what type of development they would like to see in their area in the future and where it should go. The survey was distributed through the Commission's interested parties list, through organizations that shared the survey link with their members, and by a direct mailing to property owners of record in the UT (mailed to 21,740 addresses).

From "Results of Survey"
https://www.maine.gov/dacf/lupc/projects/adjacency/process/LODSurveyReport.pdf
(Appendix A – responses to open ended questions starts on page 27. Worth checking out)

Commercial development
Summary

Generally, respondents indicated ***that they would not like to see further commercial business development in their community or area.*** *However, respondents who said "no" sometimes went on to add that while much of the areas was not suitable for more commercial business development, there were specific areas that may be suitable under certain conditions.*

Of those respondents who answered "yes" more commercial business development would be appropriate, they ranked recreation, forestry, home-based, and retail businesses highly.
There was some variation in how different groups of respondents ranked preferences for commercial business development.

Respondents who only recreate, or who only own property (and do not live or work in the UT), expressed greater interest in seeing more retail or restaurant types of businesses than those who live or work in an area served by the Commission. Respondents identified proximity to public roads and to people and markets as being the most important factors

to consider when locating retail and similar businesses, while being away from homes and close to raw materials was important to consider for resource extraction and forestry businesses.

Results

In all survey data regions, and in all groups of survey respondents (such as those who live in an area, or those who just recreate or visit there), ***respondents generally did not want to see more commercial business development in the community or area they identified****. For those respondents who said that they would like to see more business development, there were only small differences between responses from individual survey data regions. For example, in the Aroostook region and the Millinocket & Patten region, slightly more respondents indicated that they would like to see more business development than in the other regions, but the number of people in each region who answered "no" to the question was still over 50%.*

Of the 2005 total respondents: 189 (9%) did not answer Question 8; 501 (25%) said "Yes"; and 1,315 (66%) said "No." There were some differences between answers from those who live or work in the Commission's service area and respondents who visit or only own property in the service area. The graph below illustrates the results:

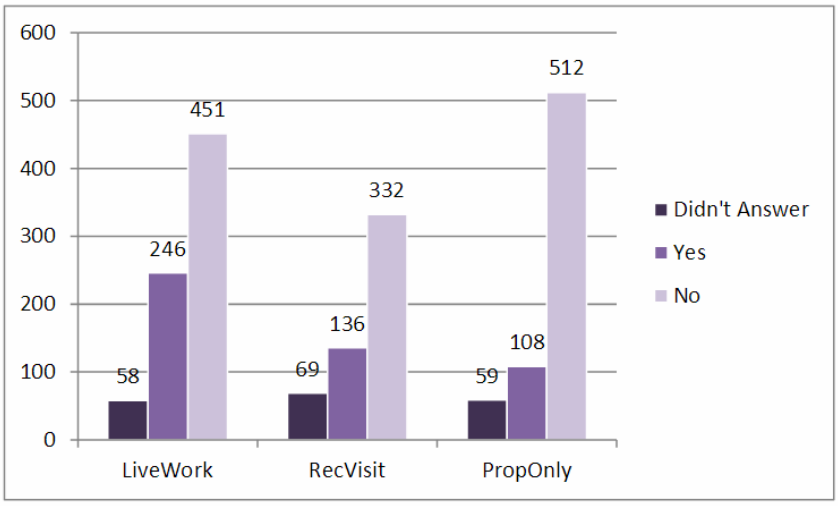


Figure 3: Commercial business development by LiveWork, RecVisit, and PropOnly

Notification to residents
Another concern I have is the lack of appropriate notification of residents of the Adjacency Rule change process. A LUPC memo states most of the residents would be notified via email and participate via the internet if they signed up for alerts, if they knew how to use the internet, if they had internet access at all. Lack of Internet Service Providers is one known issue holding back development in remote areas of Maine.

Of course there were also public notices. Notice for both public hearings was published by the Office of the Secretary of State as part of the statewide consolidated notice of rulemaking in the Bangor Daily News, Kennebec Journal, Portland Press Herald, Lewiston Sun-Journal and the Central Maine Morning Sentinel.

Notice for the first hearing was published on May 30, 2018, and notice for the second hearing was published on December 19, 2019.

In addition to the statewide rulemaking notice published in the newspapers, the Commission sent out notification by e-mail to people who have participated in the process so far, requested updates specifically about the adjacency review process, or who have requested to be informed of agency rulemaking.

So, **if** you subscribed to one of these newspapers and happen to read the public notices,
and/or **if** you had a computer and the internet and were signed up for alerts from LUPC
and/or **if** you had already participated in the process in which case you would already know about the rule change
and/or **if** you had notified LUPC you wanted to be informed of any Adjacency meetings, etc., again via email
you **might** have been aware of rule making changes and how to participate.

The irony here is spectacular since most people over the age of 65, which I believe is most residents of UT's, may not have access, use or understanding of internet usage.
Nearly every one of my neighbors that I spoke to regarding the recent hearing about the adjacency rule change had no idea what was going on.

Fortunately in March 2017, LUPC did send out a post card which was well received (2005 responders). I remember it as I filled out the online survey.
The response from the residents was overwhelmingly against new development.
The Adjacency Rule change was not mentioned.

The Process
From August 2017 - comments from participants discussed not abandoning the 1 mile rule completely to August 2018 - comments from participants rejecting the 10 'as the crow flies' mile rule, which caused the distance to be changed to 7 'as the crow flies' miles, there have been many changes made and it is simply too much to digest in the short period of time LUPC has set for the public to chime in.

I asked Ben/Samantha what new changes had been made since last summer and received a link to LUPC's year end report dated November 2018 that is 99 pages long:

https://www.maine.gov/dacf/lupc/projects/adjacency/rulemaking/AdjacencySubdivision_Nov2018.pdf
I'll get to it after I plow my driveway.

In October 2018 LUPC announced it would table discussions and decision making until 2019. Which it did…barely.
The very first week in January 2019, on the 10th, the **2nd public hearing** was held at 12 noon, in Brewer, when most people are at work. The hearing was postponed for two days due to inclement weather which is the norm for Maine in January. The crowd was so large additional chairs had to be brought in.

The **1st public hearing** was in June 2018, in Brewer, at 5pm when most interested parties were also at work and too far away to make the commute. I was informed, via email again, less than 1 week before the hearing by Maine.gov alerts and a couple of days earlier by the National Resources Council of Maine.

Other meetings were held too far away for me to travel and one meeting was held September 20, 2018 in Bangor at 6pm, which some of my neighbors attended. There is no record of this meeting that I can find on the LUPC Adjacency site.

In addition, Argyle residents were notified by 11"x17" signs at the edges of town in the same location as a recent sign stating the garbage pickup was changing from Friday to Tuesday mornings. Many thought it was the same sign and ignored it.

LUPC gave the bare legal minimum time for people to comment after the January 10th hearing and set the deadline for January 22. Rebuttal deadline was set for a mere 7 days later, again the legal minimum limit.
LUPC expects to make its decision in March/April of this year.

The Hearing January 10, 2019
The people who braved the weather and the treacherous parking lot in Brewer to attend were rewarded with only 3 minutes to testify, part of which was spent first identifying themselves and any affiliations they have to the commissioners. As you can imagine it was not enough time to even begin their statements before a bell rang, in true Pavlovian fashion, letting us know our time was up. It was degrading to those of us who feel passionately about Maine and the harm they feel this change will bring. These polite, respectful people were treated as if they don't matter.

You can listen to the January 10, 2019 hearing public comments here:
https://www.maine.gov/dacf/lupc/agenda_items/010819/PublicHearing-Comments.mp3

The commissioners sat playing on their computers or cell phones, displaying such a lack of interest or respect that we have to wonder if perhaps the change that should be made is not UT adjacency but eliminating the commissioners from adjacency to the LUPC process.

The staff, to their credit, were very attentive and helpful. I spammed them via email over the last week asking questions and they were helpful, informative and seem eager to inform the public on the options available to them. Maybe they should be the ones running LUPC and we should decommission the commissioners who looked as if they would rather be any place else.

I shared their pain.
(DING!…your time is up)

Given the amount of effort spent, and the volume of material to review, **I request that LUPC's decision on this matter should be postponed until enough of the public has been made aware of and can voice their concerns on this massive change.**

Summary
Changing the Adjacency Rule will change the face of Maine forever and we need to consider more site specific solutions rather than a blanket rezoning of the entire state. This is too much power in the hands of too few people who were chosen by former Governor LePage who spent $300,000 of tax payer money on an E/W Corridor feasibility study and refers to the Allagash region as "a mosquito infested swamp."

If LUPC is unable to handle the concept plans it receives now in a timely manner, how are they going to handle the deluge of proposals that will hit diverse areas statewide once developers, who have long awaited such an opportunity, file such proposals? The last concept plan I could find on the LUPC website was for Plum Creek dated 2010. It appears to me that LUPC's entire effort since then was to change the Adjacency Rule.

The elephant in the room is the question unanswered: Who benefits most by this rule change? Why, when residents and property owners are overwhelmingly against the rule change, has LUPC pressed forward against resistance to the idea? Why focus on new development instead of existing municipalities or allow more variances?

Clearly the rule change is not benefiting existing municipalities who will be in competition with any new development outside of towns. It is not benefiting the environment since 'as the crow flies' instead of road miles means new roads will have to be built to reach any new development for as much as 7x2 miles. It is not benefiting the wildlife whose habitat will be disrupted even more than it is now. It is not benefiting the existing Maine residents who overwhelmingly stated in LUPC's own survey that they do not want new development and would like to see any effort go toward invigorating the economy in existing municipalities that are much in need of new investment.

Whenever faced with a problem such as this rule change we need to follow the money. Developers have been eying the North Woods and UT's of Maine for decades. It is most likely the whole reason LURC and the tight restrictions on development were created in the first place in the seventies.

And 8 years ago a single governor disbanded LURC and created LUPC to create what is in essence a property development company owned and operated by those who seek to undermine a process that has been successful for over 40 years and possibly profit from it.

There is hope for those of us who feel under attack by special interests looking to exploit our area: Community Guided Planning & Zoning or CGPZ.
https://www.maine.gov/dacf/lupc/projects/community_guided_planning/cgpz.html
Maine Law
https://www.maine.gov/dacf/municipalplanning/legislation.shtml

Forming a CGPZ allows UT residents to make their own rules that would override LUPC's as long as they are at LUPC's standards or higher. Ben Godsoe and Samantha Horn have offered to come to Argyle Twp. to assist residents in exploring this option. I encourage other UT's to investigate if this option would benefit them.

Perhaps Governor Mills and her nominees for chief of the DEP (Jerry Reid) and commissioner of Agriculture, Conservation and Forestry (Amanda Beal) should be made aware of the citizens' resistance to this proposal. I suspect the haste to finish the Adjacency Rule rezoning has much to do with the outcome of last November's election.

You can contact Governor Mills at https://www.maine.gov/governor/mills/contact and indicate who else should be contacted in the body of the message such as Reid and Beal. I plan to send my comments directly to them.

Maine has what many folks are thirsty for in a home. Instead of selling off our legacy for pennies, let us choose how we want our land to be used. Let's make a place for people who are hungry for our rural places and want to adopt our way of life. We are seeing a rise in young farmers, foresters, sustainable energy researchers and people who are just sick of the rat race; who need what we have: pride in our community, a sense of belonging, a purpose in life that extends beyond our basic needs and wants.

And we need what they have to offer; new ideas, new skills, ways of improving our economy without sacrificing what makes Maine so desirable and young minds who are ready to embrace the Maine culture.

Respectfully,

Kat Taylor
Maine Citizen
Argyle Twp.

Godsoe, Benjamin

From: Margaret Laing <mag4lec@aol.com>
Sent: Tuesday, January 22, 2019 10:08 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Land use

Follow Up Flag: Follow up
Flag Status: Flagged

Please preserve Maine's forests, lakes and open spaces!
The planet does not need humans to control and build on every available open space.
Look at California as an example. Houses and development where there should be open spaces. The result fire, mudslides, flooding. Please spare our land in Maine from disasters.
Blessings
Margaret Laing
Stockton Springs
Maine

Sent from my iPhone

Godsoe, Benjamin

From: Marcel Polak <sprucemt@megalink.net>
Sent: Tuesday, January 22, 2019 5:54 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency participation

Hello,

Below are my comments:

I have spent many wonderful days hiking, canoeing, and bicycling, in Maine's Unorganized Territories. I have also worked there professionally in real estate and land conservation.

As a Maine citizen I strongly object to LUPC'S proposal to change the existing Adjacency Rule. The North Woods (Unorganized Territories) are special to Maine's overall environment and economy. These areas are part of Maine's character, and development must proceed with care and respect. The proposed change to the existing Adjacency Rule will lead to damaging development through sprawl.

The following LUPC proposed changes to the existing Adjacency Rule are unacceptable and must be dropped.

- Areas targeted for development would be expanded to any area within 7 miles as the crow flies from any one of 41 "rural hubs," an arbitrary term LUPC created that has never been used before in the region's planning.
- Lengthy stretches of five designated scenic byways would be impacted by potential development.
- More than 1.3 million acres and 20 percent of the lakes in the North Woods would be opened to residential subdivisions. 824,000 of those acres would be targeted for commercial development.
- Large lot subdivisions referred to as "kingdom lots," which were banned by the Legislature in 2001, would be allowed.

I support maintaining the current policy of allowing development in the Unorganized Territories development one mile by road from existing, compatible
development.

Sincerely,

Marcel Polak
168 Cushman Hill Rd.
Woodstock, Maine 04219
207 665-2577

Godsoe, Benjamin

From: Nicole Grohoski <grohoski@gmail.com>
Sent: Tuesday, January 22, 2019 1:04 AM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] LUPC Adjacency Rule Comments
Attachments: LUPC_adjacency_comments_1.21.19.pdf

Hello Ben -

Please find attached my comments on the proposed adjacency principle draft changes. Thank you for having a public comment period!

Best,
Nicole Grohoski

Nicole C. Grohoski • 151 Bangor Road, Ellsworth ME 04605 • 207-358-8333 • grohoski@gmail.com

Land Use Planning Commission
Department of Agriculture, Conservation and Forestry
22 State House Station
18 Elkins Lane
Augusta, ME 04333

January 21, 2019

Dear Commissioner and LUPC Staff,

Thank you for the opportunity to submit comments on the latest rule revisions related to the adjacency principle and subdivision standards, dated December 12, 2018. I have been heartened to see that improvements and refinements have been made to the draft rules since earlier versions, based on the Commissioners' and staff's diligent efforts to respond to the feedback generated by an extensive public input process. I first spoke to the Commission on April 11, 2018 and provided written testimony which you may reference. At that time, I shared some reflections about recreating and studying as a naturalist in Maine's great northern forest region, as well as my experience more than a decade later still sharing stories to packed audiences about my journey as the first woman thru-paddler of the Northern Forest Canoe Trail. My testimony was an attempt to appeal to the hearts of the Commissioners and staff, but it occurs to me now, many months later, that I may be able to offer a lot more from my professional expertise as a Senior GIS Specialist.

There is no question in my mind that the LUPC has been working very hard with available resources to make revisions to the adjacency principle, which most of us agree was a very blunt tool that could have led to odd and unfortunate development patterns – though it largely did not, perhaps by sheer luck or more likely, a combination of economic conditions, changing industries, and the rural to urban population shift. I also have no doubt that on the whole, the LUPC has been aware of and sensitive to the spectacular landscapes that it has the job of responsibly managing. Regarding revisions to the adjacency principle, the LUPC website reads, "The goal is to improve the system for guiding the location of new development so that when new development opportunities are pursued, they are pursued in the best locations." I couldn't agree with this sentiment more!

However, I am concerned that the proposed rule changes replace one very blunt tool with another not-quite-so blunt tool that does not avail itself of modern geospatial analysis techniques and available datasets. It may be that LUPC staff does not have the in-house ability (some combination of time, expertise, software, hardware) to accomplish a more rigorous analysis. I would not be surprised to learn that the state has underfunded this important office, if that is indeed the case. A quick bill title search for the 129th legislature (of which I am also a member, representing House District 132, Ellsworth and Trenton) resulted in one bill whose goal may be to help the LUPC with the tools that it needs: *An Act to Improve the Maine Land Use Planning Commission*. Bill text is not yet available, but I am hopeful that the legislature will take any steps needed to properly support the LUPC office.

Whether or not the legislature acts, **I encourage the LUPC office to adjust its geospatial parameters and allow for an additional public comment period before the Commission approves final rules.** In a laudable effort to create a set of rules to govern development across a 10.4 million acre territory that both captures current development patterns and plans for future development in the best locations – with respect to proximity to existing towns, the changing economy, environmental protection, and longer-term predictability – the LUPC has proposed rules which I believe are too general to work as desired in many on-the-ground situations.

I have 14 years of professional experience in the GIS field, have assisted in numerous land use planning and conservation prioritization initiatives in the US and abroad, and have taught GIS courses at the college level. Unfortunately, I do not have enough free time to generate a new system to guide development in the UTs, but I have taken some time to share two significant proposals for how to adjust the geospatial analysis within what I understand to be the LUPC's framework and goals. My sincere apologies for not doing this sooner in the process.

1. Base the rules on what could reasonably be mapped, not just what staff can easily map in the office today. Rules should be based on sound development principles, with the responsibility given to the developer to defend that the location fits within the rules. For example, Proposed Section 10.08-A,C,1,a designates this land as a primary location: "Land within seven miles of the boundary of a rural hub that also is within one mile of a public road." The purpose stated directly above this section makes it clear that new development should not be too far from existing development (rural hubs) by public road.

However, this analysis uses two coarse GIS tools: buffer (seven miles around a rural hub polygon feature and one mile around public roads) and intersect (to find where both of these conditions are true). A more robust analysis that would better accomplish the stated purpose is a network analysis, which would calculate seven miles of public road travel from the rural hub boundary, and then buffer around those roads one mile (presuming that the LUPC intends to allow a one-mile private road to be built off of the public road to allow for development).

One example of where the proposed analysis falls short but a network analysis would not is Madrid Twp. Based on a quick measurement using the tool provided on the LUPC's excellent interactive web map of primary and secondary locations, there is no part of the primary location identified in Madrid Twp that is within seven miles of Rangeley; instead it is within seven miles of Kingfield and Carrabassett Valley, as the crow flies. The village of Madrid is 22 miles by public roads from in-town Kingfield. By comparison the village of Madrid is 15 miles from Rangeley on public roads. Add mileage and emergency response time from there, as one drives farther on back roads into Madrid from Route 4.

The intent may have been to create a rule that would incorporate places like Madrid Twp, and so seven miles as the crow flies was set to capture this and similar locations. If that's the case, the two options I see are to 1) use a network analysis, but change the public road travel distance, or 2) grandfather existing development and a smaller buffer of growth around it, rather than using it as a parameter to set the rule to be applied across the state, which opens up many lands that really are not suitable for primary location designation.

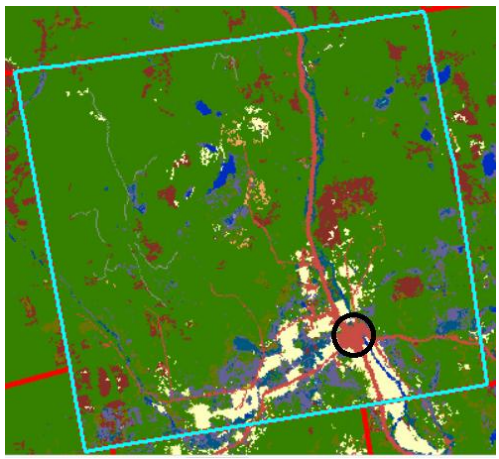
One could argue that the DOT's road GIS dataset has errors, therefore we shouldn't base an analysis on it. In all honesty, all GIS datasets have errors of one sort or another. For the most part, the data could be used for a network analysis in a standard ESRI software system, but additionally, there are now some excellent tools online that make a network analysis easy. A network analysis would likely be 90-95% accurate in calculating the real-world roads that the analysis intends to identify. If there was in fact a public road connection that was absent from the dataset used by the analysis, it can be the responsibility of the developer to demonstrate the existence of the road. While it is tempting to want to map out the whole development landscape in one fell swoop, it is more prudent to establish rules that can be followed in the real world to determine eligibility for development, even at the cost of a highly accurate and comprehensive GIS dataset of all lands in the primary and secondary location designation.

2. Measure from the developed portion of a rural hub, not its boundary (Proposed Section 10.08-A,C,1,a; as defined in Proposed Section 10.08-A,C,3; and also used later in the document). The farthest edges of a municipality, which may not be serviced by a public road, should not define the starting point for considering acceptable development, primarily because the stated purpose of the proposed section is to locate "close to existing development and public services" to which an arbitrary municipal boundary has no relation.

As a resident of Ellsworth, the second largest municipality by area in the state (bested only by Allagash), I am acutely aware of the travel time and distance within our own city boundaries and the burden this places on the municipal government to provide services to our citizens with our current tax base. Not only does Ellsworth's designation as a rural hub designate part of neighboring Fletcher's Landing Twp as a primary location and all of it as secondary, it also appears to influence the addition of sections of Osborn, according to the interactive map. As a former volunteer firefighter and current Ellsworth taxpayer, I am concerned with the low quality and high cost of services to residential or commercial developments that we could provide to remote Osborn, or five miles deep on private roads in Fletcher's Landing.

Instead of measuring from the municipality's boundary, I would recommend mapping the extent of dense development in each of the rural hubs, and measuring from there. In Ellsworth, for example, one mile from the intersection of Routes 1 and 1A basically gets you beyond the dense development in the direction of the LUPC territory. For a more scientific approach, use Land Cover data available from the USGS based on 2011 imagery and measure from the extent of a concentration of the developed land classifications.

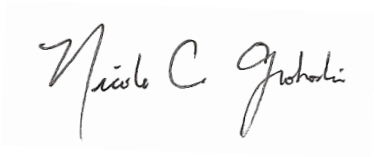
Here is what Kingfield looks like, with a black circle around the concentrated developed portion of town. If I counted correctly, there are 41 rural hubs, which is a very reasonable number of communities to define the real-life hub portion of manually. There is no reason that a measured distance from the LUPC's defined "dense development zone" would be any less valid than a defined municipal boundary, which is in reality totally arbitrary.



In conclusion, I am certain that if the LUPC were to adopt these GIS best practices, significant opposition by the general public and environmental interest groups would decrease. As the proposed rules are currently drafted, it is very easy to point at logical issues and discrepancies, which play out in the designation of odd locations as primary and secondary development areas. I believe it should be the goal of the LUPC to identify land "close to existing development and public services" by using the best available GIS analysis techniques and datasets. Even more ideally, the LUPC would apply its framework for development on a more regional basis to better suit the needs of the diverse landscapes within its purview.

Thank you for your time and continued engagement in the public review process.

Sincerely,



Nicole C. Grohoski

Godsoe, Benjamin

From: Bryan Wells <bwells@oakleafs.com>
Sent: Tuesday, January 22, 2019 6:14 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Oppose LUPC's proposal to expand in the North Woods

Hello

I would like to express my concern about the LUPC's proposal because it threatens the special ecology and character of the North Woods. Please do not approve development of this kind of project in the North Woods.

Thank you
Pam and Bryan Wells, Old Town, Maine

Benjamin Godsoe
LUPC

Dear Mr. Godsoe,

I have tried to send you an e-mail regarding the Commission's proposal of changing the rules governing the undeveloped sections of Maine. The message did not go as your address was not accepted. I do not have your mailing address so I am forwarding this letter to the NRCM hoping that my concerns will be delivered to you.

There have been many comments in regards to the proposed changes to the unorganized sections of Maine. The majority of comments are very well written by individuals in all walks of life, with different concerns both pros and cons, regarding the Commissions proposals.

I, for one am very concerned the proposal has been made. If the individual or individuals, who initially pushed for it, do not value the undeveloped areas of Maine, then they should take their ideas to some other state that is not trying to preserve areas such as we are privileged to enjoy in Maine.

At the present time there seems to be no way to stop the owners of large parcels of woodland from stripping every living tree, bush, vine flower, etc.

The Commission now is trying to copy what the landowners are in the process of doing by opening undeveloped land to possible large hotels, motels, making waterfront available on previous lakes, ponds, etc. that are at the present time off limits. Perhaps what the Commission needs are individuals who value what the state of Maine has to offer besides crowded cities, more miles of modern highways in what is left of the forests, viewing wildlife and just simply peace and quiet.

Money is not as important as preservation.

Sincerely,
Ruth Eleanor Cyr

Godsoe, Benjamin

From: Richard Gregor <dickgregor@gmail.com>
Sent: Tuesday, January 22, 2019 4:41 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency abandonment

I wish to express my opinion and I believe I find there are these flaws in the system, NRCM has many major concerns about the likely impacts of the proposed rule:

- **1.3 million acres and 20% (at least 317 according to LUPC's calculations) of the UT's lakes would be vulnerable to residential subdivision development.**
- **Commercial and residential subdivision development areas along any public road within 7 miles "as the crow flies" from the boundary of 41 "rural hubs" would lead to strip development.** These public roads include five scenic byways. These development areas would undermine efforts by neighboring, rural communities to keep development within their towns as they attempt to preserve the economic viability of their local businesses.
- Commercial development would be allowed on 824,000 of these acres (and an unknown number of lakes) scattering commercial development across the landscape.
- Despite being eliminated by the Legislature in 2001, large lot subdivisions would again be allowed on hundreds of thousands of acres, eating up large parcels of forestland.
- Recreation supply businesses far from towns would commercialize the North Woods, undermine businesses in local communities, and compete with existing sporting camps.
- Subdivisions of up to 14 lots and 30 acres with only limited environmental review would be allowed on approximately 400,000 of the 1.3 million acres.
- Subdivision standards allowing developers to avoid the requirement to provide common open space if they locate near permanently conserved lands would attract development to permanently conserved lands.
- The rules are so complicated that it is extremely difficult for both experts and the public to figure out what uses would be allowed where.
- The proposal to review the rules in five years would be completely ineffective because once development opportunities are granted through the designation of primary and secondary locations, it could be legally and politically impossible to take them back.

The current adjacency principle requiring development to be "one mile by road from existing, compatible development of similar type, use, occupancy, scale and intensity" may need to be strengthened as called for in your Comprehensive Land Use Plan, but the principle that future development should be near existing, compatible development by road should be retained.

Please do not lay open the North Woods to ravaging development. I grew up in New Jersey, and we only need one New Jersey!

Dick Gregor
Engineered Architecture
Richard Gregor, P.E. LEED AP
173 South Wharf Road
Brooksville, ME 04617
207-326-9541 ME land
321 202-6294 Sprint cell
www.engineeredarchitecture.com

From: Ross Hill
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Public comment on LUPC"s proposed revision of adjacency rule
Date: Tuesday, January 22, 2019 11:58:29 PM

I am writing to comment on the proposed revision of LUPC's adjacency principle, whose terms I oppose. Like other Mainers, I appreciate the state's efforts over the years to preserve the North Woods while at the same time accommodating an acceptable degree of private development and resource extraction—a difficult negotiation between values and interests that are sometimes in conflict. The proposed revision, including its 7-mile rule, reflects broad principles that are sensible, but it puts too much invaluable terrain, much of it undeveloped or sparsely occupied, at risk of undesirable development.

Beyond local concerns and specifics, I encourage LUPC to pay heed to the long-term (decades) role that the North Woods can fill in a world that global warming is transforming rapidly and in many ways for the worse. Northern Maine is one of the few regions in the country that will be relatively spared from intolerable heat, drought, wildfires, and other negative impacts. As such, its nationwide appeal and importance of the public—as well as its economic potential—will be best served by giving priority to the natural environment over concentrated development for private residential and commercial purposes.

I write as a native of Bangor and a property owner on Moosehead and Green Lakes. I have been going to Greenville and the Moosehead Lake region regularly since 1961. Three generations of our family now maintain and treasure a camp on this extraordinary lake. We value the region for its relatively undeveloped qualities, and for the opportunities it provides to enjoy nature in a largely unspoiled state (though fully utilized by the forest industry since the 19th century). In the eastern U.S. only New York's Adirondack State Park rivals the North Woods for these qualities, which are irreplaceable at this point in our civilization's history.

While the proposed revision might foster beneficial economic investment in the short term, I believe that a future generation of Maine residents would be thankful should LUPC decide to favor environmental preservation. To reverse an aphorism, "don't build it and they will come."

Sincerely,

A. Ross Hill
ross.hill@downstate.edu

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<!--[endif]-->

Godsoe, Benjamin

From: Sally Farrand <sally.farrand@yahoo.com>
Sent: Tuesday, January 22, 2019 1:33 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Comments on LUPC revision of adjacency
Attachments: SFarrand LUPC letter 1 22 19.docx

Hi Ben,

Below and attached are my comments.

Dear Sirs/Madam:

As a resident of the Moosehead Lake region, and as a former LURC commissioner, I am very interested in the suggested changes offered in the latest revision of the adjacency principle. As you may recall, I testified against the initial revision at your public hearing on June 20 in Brewer. The principal issues I raised in that testimony were:

- "…*fragmentation of the landscape with the consequent disruption of wildlife corridors,*
- *inappropriate patchwork siting of residential development, and*
- *the significant burden such a change could impose on local communities and our rural counties…"*

Sadly, I see nothing in the current revision that mitigates those concerns. In fact, the change from the 1- mile rule to 7 miles creates as much of a concern as the initial 10-mile guidance. There are three major subjects that have not been adequately addressed in the current revision:

- Need
- Risk
- Execution

Need

Living in the Moosehead region, I have not seen an explosion of subdivision development as a result of the Plum Creek plan, approved years ago. In addition to the 2008 economic factors, distance from major metropolitan areas, a small workforce and work opportunities, and sparse infrastructure remain the key determinants of housing demand and business generation. These factors are unlikely to manifestly improve without State support of tourism and the recreation- and nature-based businesses that depend on the environmental integrity and backcountry access that are emblematic of the Maine North Woods, for example.

Risk

More scattered development that would result without sufficient regard to rural community capacity, wildlife corridors, scenic viewsheds and the unique outdoor Maine experiences will dramatically reduce the value of one of the key economic drivers of not just the UT economy, but the Maine economy in general.

Some have commented that these revisions would increase the risk of further development of the Burnt Jacket peninsula. If you have been to Greenville, you know that it is the most prominent sight (along with the expanse of lake and islands) as you approach town, the Gateway to the Moosehead region. A decade ago, the LURC Commission denied an application to build on this peninsula, instead requiring the development to be moved off the visible part of the peninsula and located near the public road. Once again, opening up the visible peninsula to subdivision development would be a terrible consequence.

On the subject of leap-frogging, the current summary states that "Many people agree that the best place for residential subdivision is "near other development." and yet, an expansion to a 7-mile distance from other development only increases the risk of "leap-frogging". Moreover, I have not seen any compelling data showing the leap-frogging has actually occurred as a result of the 1-mile rule. Declaring a danger that is not borne out by experience is hardly convincing when you are considering such a radical change in the existing system that has worked well for 40 years.

The additional, obvious risk is the burden on the local communities. When Ms. Horn and Mr. Godsoe came to Greenville to describe the proposed revisions, one selectman (Geno Murray), as the former EMS director for CA Dean Hospital, quickly understood that development further from Greenville would create a hardship for emergency service providers in Greenville and would result in greater costs being imposed on communities like Beaver Cove. And as I noted in my June testimony, communities like Beaver Cove, by virtue of the small tax base and, more importantly, the elderly population, are ill-equipped to pick up the slack (provide or even augment emergency services) for Greenville. Similarly, Kokadjo is even less able to provide meaningful emergency services.

While Greenville would welcome more development, this plan revision does not provide for orderly or predictable growth that can be managed in terms of infrastructure, workforce development or support for the nature-based economy.

<u>Execution</u>

In querying the staff about how you would measure the impact of these dramatic changes, I am not convinced that a rigorous system of metrics is in place or envisioned to ensure that implementation of such a major revision in the adjacency principle can respond to errors in judgment.

While we think this is what this plan will do, are we to wait until negative effects happen before we are able to respond in any meaningful way?

Staff efficiency in reviewing and approving applications is not the kind of metric that needs to be in place. That is an organizational oversight issue. What is needed are outcome measures that are a continual assessment of impact, initiated at the beginning, on the ground, not at the end of the process when the damage has already occurred. Five years or five rezonings per county (in one county is a trigger that would allow huge negative impacts <u>before</u> review.

Is there sufficient bandwidth on the LUPC staff to monitor the enormous size of the UT? I don't think so. So, both from an outcomes perspective and a personnel perspective, the implementation of this revision will lead to changes that will have potentially catastrophic effects on the economy of northern Maine and its residents.

Regulations need to be clear, not nuanced. These proposed rules are confusing and unclear and could lead to extremely negative and unintended consequences.

Go back to the drawing board, do more study, engage more experts, and build your staff before making such a radical change.

Sincerely,

Sally Farrand

Beaver Cove

Godsoe, Benjamin

From: Sarah Medina <smedina@sevenislands.com>
Sent: Tuesday, January 22, 2019 4:52 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Adjacency participation
Attachments: Adjacency SJM follow up.docx; Adjacency- eased lands.docx

Attached is additional testimony
Thanks, Ben.

Sarah J. Medina
smedina@sevenislands.com
207-947-0541 ext.109

January 22, 2019
TO: Everett Worcester, Chair**,** Land Use Planning Commission
CC: Nick Livesay, Executive Director, Land Use Planning Commission
FROM: Sarah Medina, Seven Islands Land Company
RE: Proposed adjacency rule and subdivision revisions

Thank you for the opportunity to testify in general support of changes to the adjacency principal and subdivision standards at the hearing on January 10th. In addition to my over-all oral and written testimony, I submit the following specific suggestions and requests for your consideration.

Overview:
- This proposal will clearly limit development opportunity in "the big woods" and preserve everyone's cherished scenic character. Environmental leaders should be embracing the change.
- The potential gain to major landowners does not offset losses, due to dropping the 1 mile rule of thumb altogether. We proposed keeping 1 mile but offering carrots to steer development to the areas within 18, then accepted 10 miles of hubs. 1 mile is dropped, some towns and hubs eliminated and distance decreased to 7 miles. Many landowners have no property in the potential development area, but lose rights in the interior.
- Reservation of un-eased areas in the Pingree easement was for naught. We're losing rights now without compensation. Without knowing future plans it doesn't make sense to scramble to rezone anything to "beat" the new rules. These few reserved Pingree parcels should have a grandfather exception.
- The proposal appropriately provides more opportunities for agriculture, agritourism and recreational services, but falls short on natural resource processing facilities without a few changes. It seems improbable we could do anything under such small footprints, materials radius, and standards.
- Trails and scenic character: The significance placed on trails, and therefore the possibility of regulation of scenery gives us pause. With the change from scenic resources to scenic character, and with it more viewshed protection -standards for hillside development, ridgelines, colors, materials, screening of lineal features (roads), etc. we fear development costs will push the dream of a camp beyond most Mainers.
- We do not believe LUPC should step into dictating road standards for private logging roads (see Traffic to/from natural resource processing facilities) no matter whether there is development on the private road.
- New zones, including Development – Low Density and Development - Resource Dependent, require permits for land management roads and harvesting. Both should be by standards.
- The open space provisions ought to be reconsidered. Little islands of isolated, probably unmanaged "open space" are being created, sometimes creating significant TGTax tax penalties. There is some flexibility in this proposal, but not enough. The wildlife passage requirements seem to be cookie cutter distances/locations, not necessarily where the wildlife are.
- Emergency egress – two routes in/out of a subdivision required. Municipalities don't even require that.

Specific changes:
Definitions:
p. 3 Agritourism a. (1) the majority of ~~items~~ should be majority of <u>sales</u> (unless LUPC counts every potato or squash as an item)

p. 4. Hillside = 2 acre+, with 15%+ slope. Increase size. 2 ac patches could cover an awful lot of ground. A larger acreage would be more practical to discern, especially if one does not have access to LiDAR.
p. 4 Minor home business are allowed up to 500 sq. ft. Many people have businesses in their garages or barns (24x24 = 576 sq. ft.) 750 sq. ft. would allow 36x28, but1000 sq. would not be unreasonable for minor. (Major home businesses are allowed up to 2500 sq. ft.) Good to distinguish, but increase size of minor.
p. 5 Natural resource extraction. "The development or removal of natural resources… insert except for forest products, …" Make it clear throughout the document that extraction means from the ground, it does not include removal of trees (timber harvesting.) The next definition, Natural Resource Processing Facility includes forest products as a natural resource.
p. 6 Net developable shorefront = min 40,000 contiguous sq. ft., w/out wet areas or slope. Very limiting, overly restrictive. 20,000 contiguous sq. ft. within a 40,000 sq. ft. parcel is enough. We know of several lots that 2 or more home and 2 or more septic envelopes, but may also have a wet area or small stream, so there isn't 40,000 contiguous sq. ft. There is a significant cost issue in on-site mapping to this degree.
p. 7 Ridgeline: Going from regulating "significant ridgeline" to (every) "ridgeline" is a major leap and will encompass hundreds of thousands more acres. Coupled with the fact that there is no distant limit from which a ridge is viewed, to be regulated, creates an untenable burden on potential development. Qualify ridge lines and set a distance.
P.7 Subdivision density. Although 11 acres is large enough to manage for forest products, wildlife habitat and recreation, consumer demand exists for lots larger than 25 acres. Demand is not high enough to lead to a rash of so-called Kingdom lots, but there ought to be an option for a developer to propose a large lot subdivision greater than 25 acres. Some people want to own a woodlot of 40 or 75 acres and have a camp on it. There is nothing wrong with that.

10.08 Criteria for adoption…
B. Location of Development
p. 9 B.2.a. Emergency criteria. Waiver upon notice to owners is good. An appropriate change.
p. 9 LifeFlight should be considered an ambulance service. With four aircraft now, capabilities beyond EMT level, and speed, LifeFlight is often the provider of choice. Ask LifeFlight to present to the Commission – you'll be impressed. If the worry is LifeFlight will take business from local ambulance services, that is happening anyway and more lives are being saved/enhanced as a result. LUPC can't be expected to "protect" community services from competition.
p. 10 B.2.e. is helpful but does it forever preclude conversion from lease to sale? If so, we trust existing leases will be grandfathered,

10.08 - A Locational Factors
P.12 Primary location. Seven miles within a rural hub should stand as is. Landowners asked for three townships (18 miles), LUPC chose 10 miles, earlier public comment whittled it down to 7 miles and deleted 6 hubs. Remember, this will simply give choices. It does not mean everything will be developed. Do not reduce it any further, rather evaluate in a few years.
p. 13 Measuring distance. Adopt as written.
p. 14 Legal right of access - deed or easement is required for road access. Allows for water access by boat. Should include plane along with boat. We know of several fly-in camps.

10.21 Development Subdistricts

p. 28/ 29 (D-LD) F. 3. c. Uses requiring a permit include: (10) Land management roads and (17) timber harvesting. Both should be listed as allowed uses under F. 3. a. Granted, this is a D zone, and D zones typically require permits for roads and harvesting. BUT, this is a different types of D zones – it is anticipated that forest management (and access) will continue to take place. Requiring permits creates a deterrent to the landowner to harvest. It also takes agency staff time away from processing significant applications. Think of what would be gained by requiring a permit, vs. following standards: Nothing. Simply because D zones heretofore have always required permits, is not a valid/ logical reason for requiring them in these new-purpose D zones. For timber harvesting and management roads, this zone should be comparable to an M-GN.

p. 33 (D-RD) K. 2. a. (1) prohibits natural resource extraction w/in ½ mile of "any major waterbody." Make an exception for gravel extraction by standards. Gravel is often found within ½ mile of water. We're not talking/commercial major gravel extractions, but we need to use gravel for land management without trucking it in from long distances.

p. 34 K. 2. a. (4) Grid scale solar. Proposed requirements: public road or legal ROW, emergency service availability and w/in 1 mi of existing grid connection unless up to 3 mi can be justified. We suggest 3 and 5 miles, as 1 and 3 are very limiting. 3/5 still greatly reduces the potential of power lines stretching across the landscape.

p. 34 K. 2. b. Subdistrict reverts once use for which district was created ends. Fine.

p. 36 K. 3. c. Uses requiring a permit include: (8) Land management roads and (20) timber harvesting. For forest resource dependent uses, such as in-woods processing, both should be listed as allowed uses under K. 3. a. (Level A & B roads and minor water crossings are allowed w/o permit subject to standards.) Again, this is a different types of D zone – it is anticipated that forest management (and access) will continue to take place for forest resource dependent uses. For timber harvesting and management roads, this zone should be comparable to an M-GN. LUPC could conceivably except forest harvesting & processing activities.

10.22 Management Subdistricts

p. 45 D-GN A. 3. b. (5) Uses allowed without a permit adds: Natural resource processing facilities that do not involve structural development per 10.27, S.

p. 46 D-GN A. 3. c. (3) Uses allowed with a permit adds: Natural resource processing facilities that involve structural development or do not meet 10.27, S.
Agricultural processing and Agritourism also added to D-GN.

10.25 Development Standards

p. 56 D. 4. c. (1) Roadway design. "Minimize overall length" is inserted as a design standard. That could conflict with "fit the natural topography" or BMPs. Examples: going a little farther to select the best spot for a stream crossing, avoiding steep slopes. It should go without saying that no one wants to spend the money to build and maintain any more/longer road than necessary. Remove phrase.

p. 57 D. 4. d. (1) Emergency Egress: Subdivisions with over ¼ mile road must have two ways of egress. This is ridiculous. Many municipal subdivisions have only one road. Strike the entire paragraph. At the very least, make it a mile. It really ought to be stricken though – extra road is redundant. Better off with trees. For the very slight chance of an emergency, Mainers are resourceful.

p. 57 D. 4. d. (2) would conflict with requirement for two egress roads if subdivision road is between ¼ - ½ mile. Strike requirement for two egress ways.

p. 57 D. 4. d. (3) (b) Internal subdivision road ROW must be at least 50'

p. 57 D. 4. b. (4) (a) requires long term maintenance plan, inspection tasks, schedule for

work and (b) details for association (documents, owner and assoc rights, privileges & authorities, capitalization, developer responsibilities…) Both are unnecessarily detailed and onerous.
p. 59 - 61 E. Scenic Character, Natural and Historic Features is re-characterized as Natural Character and Cultural Resources, with the implication is that only "natural character" is scenic. It is unnerving to landowners to have such strong emphasis on scenic character of mostly private land. On the positive side, Cultural Resources now encompasses more than historic, which is good.
p. 59 E. Scenic Resources … 1. a. structures located to minimize visual impact when viewed from existing roadways Added: major water bodies, coastal wetlands, permanent trails or public property. This is far-reaching, doesn't take into account the significance (or not) of those resources and the fact that many of private land. What "rights" do the public have for views of private land? Strike this section. Distance is apparently unlimited, "scenic" is far too subjective and compliance/ regulation will be cumbersome if not impossible.
p. 59 - 60 E. 2. Hillside Resources – standards for all development. This action is over-reaching. These should be written as recommended design standards, not-mandatory. Different factors will apply differently depending upon the area:
E. 2. c. Ridgeline protection - not extend above ridgeline or alter profile when viewed from (list); E. 2. d. Vegetative clearing limits; E. 2. e. Structural Development - building designs to complement the site and topography and E. 2. f. Construction materials - muted natural tones, non-reflective, minimize sight of linear infrastructure, lighting standards. These should not absolutely be mandatory.

p. 63 - Q. Subdivision and Lot Creation
a. (2) (c) Management Subdivision - is located within a primary location and wholly located within ½ mile of a public roadway. Why not 1 mile?
p. 70 3. d. Common Open Space (2) S1 and S2 and 250 buffer shall be included in open space. (3) 500' common space required for wildlife passage, and grouping 1320' developed; 500' undeveloped; 320 developed… This ought to be rethought - the spaces between lots should fit the land & wildlife patterns, not cookie-cutter #s. There should be options for creative planning that meets the needs of wildlife. 330' is often cited as a suitable wildlife corridor especially along a stream.
p. 70 3. d. (4) "In a case where an existing recreational resource, such as a motorized or non-motorized trail managed for public access is located in or within 1000' of the project boundary" … subdivision must provide legal access, legally enforceable over private land. "Any existing recreational resource" could be a boat launch, or a fishing pool, or ?? Concern about unintended consequences of this language.
p. 73 4. a. (2) (c) Recreational Trail incentive for "on-site trail that connects with an existing off-site trail managed for public access." Could this obligate neighboring landowner on whose land the trail is located or crosses? The developer may own the trail but it might connect to a "trail" that exists simply by landowner permission. Ditto above comment.
p. 82 S. Common Open Space for all clustered subdivisions
S. 1. d. ownership by a single landowner w/ deed covenants is a good addition.
p. 83 S. 5. Requires common open space to be separate lot(s.) Should not be required if developer owns adjacent land. Notation on subdividsion plat signifies "open space." Land owner should be able to keep in in Tree Growth Tax or Current Use Tax and not trigger a penalty for withdrawing/ changing use. Harvesting should be allowed to maintain healthy forest, wildlife habitat and scenic quality.
10.27 Activity Specific Standards

p. 91- 95 S. Commercial Business - addresses no undue adverse impact, wildlife passage, resource dependency, compatibility, decommissioning, etc.
p. 91 - S. 1. Requires 500' wildlife passage, with exceptions as long as passage goal is met nearby. 500' is excessive in some situations. Ought to be flexible.
p. 91 S. 2. Resource processing facility must be located on the same parcel of land or within ¼ mile of the raw materials. We need a wider draw than ¼ mile if we are to buy raw materials from neighboring landowners.
p. 92 Natural Resource Processing without Structural Development S. 3. a. (1) (2) Site must be less than 1 acre. Increase this to 3 acres to allow for trucks turning, pile-down of materials, etc.
p. 93 3. f. Traffic "If materials and goods will be transported by trucks exceeding US truck classification, Class 4 commercial truck, the network of roads used to transport materials and goods must at least meet the Class 3 roadway standards of Sections 10.25, D, 4, e and f. LUPC should not dictate standards for private roads. Delete.
p. 93 Natural Resource Processing With Structural Development 4. a. Limited to 40,000 sq. ft. of gross floor area, site less than 3 acres in size. Increase to 10 acres, otherwise too limiting and may not be useful.

Thank you.

Submitted January 22, 2019 to Adjacency Principal hearing record

Adjacency – eased lands

The proposed adjacency rule change is a detriment to Pingree land ownership values and potential development potential. For Pingree, nothing is gained in the "orange," but opportunities are lost in the "white."

The Pingree family granted a conservation easement to the New England Forestry Foundation in March 2001. Recognizing the easement is permanent, and there might be need for "development" someday, approximately 20% of the family's land was not included. The family held out one or two parcels within each geographic region of ownership.

Non-eased parcels were carefully chosen in 2001 based on then current land uses (including existing development), LURC zoning, LURC policies and regulations, and region. For example, the Hubbard's Point tract in T. 7 R. 15 was not eased in the Caucomgomoc region. No development was/is foreseen near-term, but if development were to occur in the future, that would be a logical location because of the existing pattern of development and public access and use. Another example is T. 13 R. 8 west of Ashland. Fish River Lake was deemed by LURC in the lakes classification process to be "potentially most suitable for development" so it was a logical parcel to withhold for potential future needs. A parcel in T. 15 R. 15 near St. Pamphile & Seven Islands Village was similarly retained as non-eased. There are a few more.

Whether or not development ever occurs, the value of development rights is an integral component of land value. LURC policy was relied upon to make decisions. Now a change in LUPC policy would negate the Pingree family's logical planning process with NEFF and strip value from the non-eased parcels.

Sarah Medina
June 19, 2018

Godsoe, Benjamin

From: flwr@maine.rr.com
Sent: Tuesday, January 22, 2019 2:31 PM
To: Godsoe, Benjamin
Subject: [EXTERNAL SENDER] Comments RE Revisions to Chapter 10 relating to Adjacency Criterion
Attachments: LUPC Comments from Will Johnston1.docx

Dear Mr. Godsoe:

Attached in MS Word are comments on your agency's proposed Chapter 10 rule changes relating to the "adjacency criterion." Please add them to the public hearing record. I would appreciate it if both LUPC staff and the Commissioners would give them careful consideration. Thank you.

Best regards,

Will Johnston
Pownal, ME

January 20, 2019

TO: LUPC Commissioners and Staff

FROM: Will Johnston

SUBJECT: Proposed rule changes to Chapter 10 rules regarding "adjacency"

I offer the following comments for your consideration and for inclusion into the public hearing record.

I'd like to preface my comments by recognizing the hard work and considerable thought that obviously went into this proposal. I realize the Commission, in proposing these changes, is attempting to implement a recommendation of the Comprehensive Land Use Plan (CLUP) – that of refining the adjacency criterion.

I strongly feel, however, that this "refinement" has resulted in a proposal that not only is overly complex and difficult to comprehend, but which includes many elements that are contrary to the Commission's mission as set forth by statute and the goals and policies of the CLUP. Rather than trying to enumerate all the deficiencies of the proposal, I will focus on what I feel are three of the most glaring issues.

1. **The rules are overly complex and difficult to understand.** I have worked for over 25 years as a land use and environmental planner, and I am accustomed to the language and format typical of zoning codes and similar documents. But as I've read through the rules, I have struggled to gain a clear understanding of how the various changes work together to provide a more refined, coherent approach to the adjacency criterion. Even if these rules accomplished the latter (which I believe they do <u>not</u>), they should be simple and transparent enough so that they are easily understandable to Commissioners, the staff, landowners and the general public.

2. **The rule's approach of using identified "rural hubs" as a basis for determining adjacency is misguided and contrary to the goal of directing development to areas proximate to existing, compatible development within the unorganized areas (UT).** Many of these hubs are sparely populated themselves – far from being bonafide service centers – and have difficulty attracting and serving growth within their boundaries, let alone seeing it dispersed miles away in adjacent townships. Even if one accepts that some rezonings in townships adjacent to these rural hubs are appropriate, the use of "air distance" is nonsensical, unless somehow there is a plan to provide services to these areas solely by airplane or helicopter. Measuring distances from the borders of these towns as opposed to their village or growth areas, which may be located miles away, also makes little sense.

3. **A number of the proposed rule changes constitute a gutting of the adjacency criterion rather than any sort of refinement.** These include the provisions that would allow development on Management Class 7 lakes and near trailheads (that are deemed "resource-dependent") and allowing large lot subdivisions within the UT without rezonings. If it is determined that certain MC7 lakes are appropriate for development, the proper mechanism would be to move them to the MC3 class, for which adjacency is waived, not create an entirely new adjacency loophole. And locating development near trailheads flies in face of why people are attracted to trailheads and scenic areas in the first place. If I have misunderstood the intent of any of these provisions, then this goes back to my first point regarding lack of clarity and coherency.

In light of these deficiencies (and a number of others which I have not included for the sake of brevity), I offer the following three recommendations.

1. **Rather than trying to make additional adjustments to these rules in response to public hearing testimony and comment, strongly consider stepping back from this entire proposal.** I think if you take the time to assess the impact of the proposed rules (i.e. accurately determining the extent and location of new development that this proposal would allow), its counterproductive effects will become evident.

2. **For selected areas in which there seems to be a true demand for additional housing or commercial development, step up efforts to conduct prospective zoning or work with regions on community guided planning and zoning efforts.** By doing this you will be much more likely to create new development zones that are appropriately sized and located – and better connected to actual conditions on the ground.

3. **If any use of the "rural hub" concept is retained, significantly curtail its use as a determinant of adjacency.** Set a high bar for which communities merit this designation based on their growth characteristics and apparent need for development adjacent to them. Use road miles rather than air miles as a distance factor as measured from the village or growth area of the hub as opposed to its border. I also strongly suggest abandoning the concept of "secondary areas."

I understand how difficult it to reconsider a proposal when so much hard work has gone into developing it and it is so far into the rule-making process. But with a new administration and a new department commissioner now in place, I think there is an opportunity for reassessment and resetting of priorities. Well-conceived and located development within the UT can be accommodated without opening up thousands of additional acres to potential rezonings, totally altering landowner expectations and threatening core values. At the very least, there should be additional vetting of these proposed rules that have potential to change the very nature of the UT – changes that I feel run counter to the purposes of statute and the CLUP.

Thank you for your consideration.