Janet McMahon Testimony

February 28, 2019

(Supplemental Evidence – Redacted Version in Record, Unredacted Version Not In Existing Record)

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

and

STATE OF MAINE
LAND USE PLANNING COMMISSION
IN THE MATTER OF
CENTRAL MAINE POWER COMPANY

Application for Site Location of Development Act permit and Natural Resources Protection Act permit for the New England Clean Energy Connect ("NECEC")

L-27625-26- A-N
L-27625-TB-B-N
L-27625-2C-C-N
L-27625-VP-D-N
L-27625-IW-E-N

SITE LAW CERTIFICATION SLC-9

Testimony of Janet S. McMahon

Testimony of Janet S. McMahon

Intro/Qualification Questions

Q. Please state your name and business address.

Janet McMahon, PO Box 302, Waldoboro, Maine 04572

Q. Please describe your current employment.

I am a consulting ecologist. I conduct natural resource inventories and prepare management plans and regional conservation plans for conservation groups, government agencies, and private landowners. I am also on the faculty of Watershed School, an independent high school in Camden, Maine, where I teach a course on Global Climate Change.

Q. Please describe your education and professional background and experience.

I have a B.S. in biology and geology from Colby College and an M.S. in plant ecology from the University of Maine. My masters thesis, The Biophysical Regions of Maine, and my professional career have focused on conservation at the landscape scale. I helped develop Maine's Ecological Reserves system, worked at The Nature Conservancy as a conservation planner, and more recently have worked with land trusts to identify conservation focus areas and wildlife corridors that are most likely to be resilient to the impacts of climate change and to prepare management plans that take these and other considerations into account. My resume is attached (Group 1 Exhibit 2)

Q. Please describe any publications you have authored or co-authored (papers, chapters of books, etc.).

A list of publications is attached (Group 1 Exhibit 3). Two that are particularly relevant to this topic include:

McMahon, J. 2016. Diversity, Continuity and Resilience: The Ecological Values of the Western Maine Mountains. Occasional Paper No. 1. Maine Mountains Collaborative, Phillips, Maine.

McMahon, J. 2018. The Environmental Consequences of Forest Fragmentation in the Western Maine Mountains. Occasional Paper No. 2. Maine Mountains Collaborative, Phillips, Maine.

Summary of Testimony

Q. What is the purpose of your direct testimony in this proceeding?

To describe the adverse impacts of habitat fragmentation that would be caused by the New England Clean Energy Connect Project.

Q. On whose behalf are you offering testimony in this proceeding?

Friends of the Boundary Mountains

Q. Please summarize your testimony.

The proposed NECEC Project transmission corridor would be the largest fragmenting feature in the Western Maine Mountains region. This region is significant at a continental scale for a variety of reasons. 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 (Haselton et al. 2014; Riitters et al. 2000). Most importantly, the Western Maine Mountains region is the critical ecological link between the forests of the Adirondacks, Vermont and New Hampshire and northern Maine, New Brunswick and the Gaspé.

My comments focus on the negative impacts of the 53.5 mile stretch of the transmission corridor that would cross the Western Maine Mountains region. The impacts associated with a project of this scale are huge. The 150-foot wide 53.5 mile long NECEC proposed transmission corridor would directly impact approximately 973 acres of the region through forest and wetland species mortality and habitat alteration and destruction associated with the corridor footprint. It would negatively impact between 20,000+ and 40,000+ of additional acres due to edge effects and hydrologic changes that would extend from 0.5 to 1 km (1640 to 3280 feet) from the high contrast edges of the corridor into adjacent forest land. In addition, the corridor would have significant negative regional and long term impacts because it would reduce connectivity in a critical ecological linkage, fragment large habitat blocks into smaller ones, and compromise headwater stream water

quality and function. The applicant does not address any of these negative regional and long term impacts in their application.

It is also worth noting that fragmentation almost always leads to more fragmentation. As access roads are built and corridors are widened over time (as is happening in other parts of the NECEC corridor), these typically create new nodes of development.

Q. Are you including exhibits as part of this filing?

Yes, the following four exhibits are attached:

Group 1 Exhibit 2 Resume of Janet S. McMahon (JSM)

Group 1 Exhibit 3 List of Publications, JSM testimony

Group 1 Exhibit 4 for JSM testimony

McMahon, J. 2016. Diversity, Continuity and Resilience: The Ecological Values of the Western Maine Mountains. Occasional Paper No. 1. Maine Mountains Collaborative, Phillips, Maine.

Group 1 Exhibit 5 for JSM testimony

McMahon, J. 2018. The Environmental Consequences of Forest Fragmentation in the Western Maine Mountains. Occasional Paper No. 2. Maine Mountains Collaborative, Phillips, Maine.

Q. Upon what materials did you rely in reaching the opinions set forth in your direct testimony?

See literature cited and analyses summarized in the two exhibits listed above and

the citation below:

Smith, M.P., R. Schiff, A. Olivero, and J. MacBroom. 2008. The Active River Area: A Conservation Framework for Protecting Rivers and Streams. The Nature Conservancy, Boston, Massachusetts.

Also, I've drawn from first-hand on the ground experience as an ecologist working in all corners of the state for the past 40 years, and I reviewed the relevant parts of CMP's application.

Detailed Information

Q. Please describe the significance of the region through which the proposed transmission line would pass.

The Western Maine Mountains region, which would be bisected by Segment 1 of the NECEC transmission corridor, is exceptional because it remains a largely unfragmented, lightly settled and connected landscape. The region is significant at a continental scale for many reasons. 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 and climate resilient sites. Eighty percent of the region is of above-average resilience, based on geophysical setting and local connectedness. 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. Most importantly, the Western Maine Mountains region is the critical ecological link between the forests of the Adirondacks, Vermont and New Hampshire and northern Maine, New Brunswick and the Gaspé.

The Western Maine Mountain region includes more than half of the United States' largest globally important bird area, which provides crucial habitat for 34 northern woodland songbird species. The region provides core habitat for umbrella species such as American marten and Canada 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 (Whitman et al. 2013; DeGraaf 2014).

Q. Please explain the concept of forest 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. 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 by a transmission corridor creates an abrupt edge between the corridor and adjacent forest edge which greatly increases the total amount of land impacted. 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 temporary and local in extent, such as clearings created by timber harvests, while others such as permanent roads and utility corridors occur at a landscape scale and are cumulative, playing out over decades or more. Research in Maine, the Northeast and around the world demonstrates unequivocally that fragmentation degrades native terrestrial and aquatic ecosystems and reduces biodiversity and regional connectivity over time.

Q. Would the proposed NECEC transmission line cause forest fragmentation?

Yes. The 53.5 miles of new transmission corridor between Beattie Twp and Wyman station (Segment 1) would be the largest fragmenting feature in the Western Maine Mountains region. To put this in context, a 150-foot wide cleared corridor is about two times as wide as Route 201 or Route 1, and about as wide as the I-95 Turnpike (including pavement and cleared verges). The transmission corridor would permanently remove ~973 acres of forest habitat, it would divide large forest habitat blocks into smaller ones, and it would create 107 miles of high contrast edge between the cleared corridor and adjacent forest. Associated edge effects would impact thousands of additional acres of forest land. The impacts of forest fragmentation at this scale are regional in scope. The corridor would have a profound negative impact on forest connectivity of the region.

Q. What would be the negative impacts of forest fragmentation caused by the NECEC transmission line?

The proposed corridor would negatively impact both terrestrial and aquatic ecosystems processes, habitats and species on a regional scale. Regional and long term impacts of the proposed corridor such as forest fragmentation are not addressed in the application. The most severe effects are summarized below:

1) Direct forest habitat loss and species mortality from corridor construction.

Approximately 973 acres of upland and wetland forest will be cleared and then maintained in an early-successional (scrub shrub or meadow) condition, through regular cutting of capable trees and herbicide application. Forest plant and animals in the corridor will be destroyed during construction. Forest and undisturbed wetland ecosystems support a completely different suite of species than artificially maintained meadow and scrub shrub habitat.

2) Direct impacts on headwater stream and catchment areas associated with infrastructure during and after construction.

Segment 1 crosses or includes portions of approximately 89 perennial streams, 215 intermittent streams and 480 wetlands (from application). Almost all of these are located in the uppermost reaches of their watersheds. It is within these small watersheds that 1st order streams are formed from overland flows, intermittent and zero order streams and gullies, and from springs (Smith et al. 2008). The catchments and riparian areas along these streams contribute inorganic and organic material and large woody debris which

serve as the basic building blocks for the food web of the entire stream system. Large woody debris originating from trees within 50 meters of the channel influences local channel structure and habitat (Smith et al.). In addition, in headwater wetlands, the accumulation, processing, and eventual downstream transport of organic material is an important energy transfer process that influences the entire watershed. A transmission line that converts forest to scrub or meadow vegetation in material contribution areas of this many headwater streams will negatively impact downstream water quality and habitat conditions for brook trout and other cold water species, as well as downstream aquatic biodiversity and processes in general. The overall impact of clearing and maintaining shrubby vegetation in narrow stream buffer areas, as opposed to closed canopy forest in the catchment area, is not addressed in the application. Also not addressed are the impacts of herbicide application on overall water quality. In addition, many wetlands, streams, and vernal pool boundaries extend beyond the corridor boundary. Because habitat alteration within the corridor would impact portions of these features that extend outside of the corridor, the total acreage of wetlands and stream catchment areas impacted by the project would be significantly greater than indicated in the application.

3) Increased mortality and other direct impacts to wildlife associated with infrastructure after construction is complete.

Negative impacts such as avian and bat collisions with transmission poles and wires over a new corridor of this length are likely to be substantial. There is a growing body of research suggesting that electromagnetic radiation from transmission lines can affect behavior, reproduction and development of bird and other species groups. This is not

addressed in the application.

4) Changes in species composition and reduced habitat quality from edge effects.

The transmission corridor will create ~107 miles of high contrast edge where the maintained corridor meets adjacent forest. Forest abutting the corridor will be windier, warmer and drier than the forest interior. Increased sunlight, changes in air temperature and humidity, altered plant, animal and microbial species composition, and species invasions are typical edge effects. Penetration distances range from 20-50 meters to more than a kilometer, depending on the edge effect. For example, the decline of many ground-nesting, forest-interior species in the Northeast, such as the oven bird and wood thrush, have been attributed to increased predation pressure from raccoons 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 adjacent forest. The habitat lost or altered by edge effects will be many times greater than the footprint of the transmission corridor itself. This is not addressed in the application. The application states that generalist species diversity can increase in the early-successional habitat that will be maintained in the corridor. This is at the expense of forest plant species which typically have low dispersal capacities compared to disturbance-adapted "weedy" plants (Harper et al. 2005). There is no shortage of early successional habitat in the Western Maine Mountains. In fact, 2017 U.S. Forest Inventory and Analysis data indicates that 98.6% of the forest is in an early to mid-successional condition and that total forest acreage in the region declined by approximately 12,000 acres.

5) Changes in species composition and behavior as habitat patch size decreases.

A habitat patch is a relatively homogeneous habitat area that differs from its surroundings. Large habitat patches have more species than small ones for several reasons. 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. 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). The proposed transmission corridor will fragment some of the largest remaining habitat blocks in the region, with unknown impacts on area-sensitive species. The application does not provide a habitat block map with the corridor overlay,

which makes it impossible to determine the exact number and extent of intact habitat blocks affected. Animals from Maine's populations are currently replenishing "sink" populations in New Hampshire. The corridor could compromise the Western Maine Mountain region function as a source area for marten and lynx.

6) Introduction and spread of exotic species.

Invasion by exotic plant species is a common and widespread negative 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 and frequently become established in utility corridors. 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). In addition, 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. 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 small blocks due to 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.

Many terrestrial invasive plant species and wetland invasives, such as glossy buckthorn, oriental bittersweet, purple loosestrife and phragmites, are already well established in southern Maine and have expanded to the edges of the Western Maine Mountains. These disturbance-adapted species thrive in utility corridors and roadside ditches, where they out-compete native species. 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).

The applicant proposes controlling invasives that become established in the transmission corridor through manual removal and herbicide application. The negative impacts of herbicides on other species are not addressed, nor is the fact that the corridor would increase suitable habitat for invasives outside of the corridor ROW in areas impacted by edge effects.

Q. What would be the long-term consequences of forest fragmentation caused by the NECEC transmission line?

The magnitude and permanence of the land-use changes associated with this project would have negative long-term consequences on connectivity in the Western Maine Mountain region. Fragmentation, by definition, 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). Research 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 adverse impact on biodiversity and ecosystem function.

In the Western Maine Mountains, changing land use patterns resulting from 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). The transmission corridor would significantly exacerbate both of these trends.

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. This 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 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 cause changes in tree density, light and moisture, which impair ecosystem function (Haddad et al. 2015).

Increased fragmentation is expected to exacerbate the negative impacts of climate change on biodiversity and connectivity in the region. 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 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 its forests. These would be adversely affected by the proposed NECEC transmission corridor.

The application focuses on direct and immediate impacts and fails to address long-term and regional impacts of the corridor on connectivity and biodiversity.

Conclusion

Q. Please summarize your testimony.

The proposed NECEC Project transmission corridor would be the largest fragmenting feature in the Western Maine Mountains region. This region is significant at a continental scale for a variety of reasons. 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 (Haselton et al. 2014; Riitters et al. 2000). Most importantly, the Western Maine Mountains region is the critical ecological link between the forests of the Adirondacks, Vermont and New Hampshire and northern Maine, New Brunswick and the Gaspé.

The negative impacts of a 53.5 mile stretch of the transmission corridor crossing the Western Maine Mountains (Segment 1) would be regional in scale and would have long term negative ecological implications. The 150-foot wide transmission corridor would directly impact approximately 973 acres through forest and wetland species mortality and habitat alteration and destruction associated with the corridor footprint. It would negatively impact between 20,000+ and 40,000+ of additional acres due to edge effects and hydrologic changes that would extend from 0.5 to 1 km (1640 to 3280 feet) from the high contrast edges of the corridor into adjacent forest land. In addition, the corridor would

have significant negative regional and long term impacts because it would reduce connectivity in a critical ecological linkage, fragment large habitat blocks into smaller ones, and compromise headwater stream water quality and function. The applicant does not address any of these negative regional and long term impacts in their application.

It is also worth noting that fragmentation almost always leads to more fragmentation. As access roads are built and corridors are widened over time (as is happening in other parts of the NECEC corridor), they typically create new nodes of development.

Q. In your opinion:

1. Would this project have an unreasonable adverse effect on the existing natural resources of the Western Mountain region of Maine? If so, how?

Yes. The NECEC transmission corridor would be the largest infrastructure project in the history of the WMM. It would have direct negative impacts on upland forest, wetlands, vernal pools, streams and stream catchment areas. Forest conversion and maintenance of land within the corridor in an early-successional condition would permanently fragment this forested region. This would contribute to the simplification of forest structure and negatively impact native biodiversity (particularly cold water aquatic species) in the region. Forest simplification would, in turn, reduce the current high climate resiliency of the region. The proposed transmission corridor would compromise the region's value as the key ecological linkage between forests in New Hampshire and the Adirondacks and those of Northern Maine and the Gaspe. The application does not address these regional and long-term impacts.

2. Would this project fit harmoniously into the existing natural environment? If not, why not?

No, this transmission corridor would require habitat conversion, and then vegetation maintenance in an early successional condition through herbicides and regular removal of "capable" trees[1]. It would create a permanent high contrast edge on either side of the 53.5 mile corridor, an artificial feature that would impact thousands of additional acres of adjacent forest land due to edge effects. It would fragment large forest blocks into smaller more isolated ones. It would cross large wetland complexes such as those along Gold Stream and Moxie Stream, and would impede movement of some wildlife species. There is no way new energy infrastructure at this scale can fit harmoniously into one of the more remote and environmentally intact areas of the state.

3. Would this project have an unreasonable adverse effect on water quality in the townships where it is located or in neighboring townships? If so, please explain.

Yes. See page 5, bullet 2.

4. Would this project have an unreasonable adverse effect on any undeveloped land or water area which is undeveloped and which contains natural features of unusual geological, botanical, zoological, ecological, hydrological, or other

[1] Applicant describes capable trees as "those plant species and individual specimens that are capable of growing tall enough to violate the required clearance between the conductors and vegetation established by NERC" (North American Electric Reliability Transmission Vegetation Management, Standard FAC 003-3). Follow-up maintenance when the line is operating will require the removal of capable species, dead trees as well as hazard trees along the edge of the corridor.

scientific, educational, scenic or recreational significance? If so, please explain.

Yes. Many species and discrete ecological features, such as jack pine stands, vernal pools, and deer yards would be negatively impacted. My testimony focuses primarily on the adverse regional and long term impacts of fragmentation that would be caused by the transmission corridor.

5. Will this project provide buffer strips with adequate space for movement of wildlife between important habitats? If not, why not?

No. Proposed buffer strips along streams and around wetlands are insufficient to maintain functioning catchments around these important headwater systems.

6. Will this project maintain suitable and sufficient habitat to provide wildlife with travel lanes between areas of available habitat? If not, why not?

No. By definition, transmission corridors are major fragmenting features on any landscape. The large extent of this corridor means it will reduce connectivity on a regional scale, especially because it of its east-west orientation. As the climate warms, species are expected to move from south to north and upslope.

7. Will this project unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life?

Yes. A project of this scale will have a direct negative impact on hundreds of individual vernal pools, headwater streams, wetlands and other habitats, including the portions of these that lie outside of the corridor footprint. Reducing canopy height and closure, altering vegetation structure and composition, and application of herbicides will harm terrestrial and aquatic habitat within and adjacent to the corridor. In addition, because the corridor will impact the catchment areas of headwater streams and wetlands, it will impact the watersheds that these feed. Looking at discrete impacts on only state significant features masks the regional and cumulative impacts of the corridor as a whole.

Notarization

I, Janet McMahon being first duly sworn, affirm that the above testimony is true and accurate to the best of my knowledge.

Date: February 28, 2019 Name: Janet S McMahon

Personally appeared the above-named Janet S McMahon and made affirmation that the above testimony is true and accurate to the best of her knowledge.

Date: February 28, 2019 Name: Colleen G Jones
Notary Public

My Commission Expires: Dec 16, 2019

COLLEEN G. JONES
Notary Public • State Of Maine
My Commission Expires Dec. 16, 2019