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House Committee on Environment and Energy  
House of Representative  
115 State Street  
Montpelier, Vermont 05633-5301

Subject: H. 687 - An act relating to community resilience and biodiversity protection through land use; "critical resource areas"

Dear Chair Sheldon and all Committee members,

Thank you for your invitation to provide written testimony on the "critical resource area" concept as presented in H.687. Specifically, my testimony below focuses on the importance of river corridors/riparian areas and how they could be used as a critical resource area. I will also suggest several other issues that I see as very important in how H.687 will make an updated Act 250 most effective and efficient.

### **River Corridors/Riparian Areas as Critical Resource Areas**

#### *Ecological Functions*

The naturally vegetated borders of our rivers and streams are one of the most important features in Vermont and the Northeast in maintaining an ecologically functional landscape. Here are some of the ecological functions of river corridors/riparian areas:

- support and protect river geomorphic processes;
- maintain water quality;
- support healthy and diverse aquatic biota (fish, invertebrates, plants);
- attenuate flood waters;
- support all rare and uncommon floodplain forest and shoreline natural communities;
- provide habitat for rare plant and animal species;
- provide necessary wildlife habitat for obligate species, including river otter, mink, beaver, and wood turtle; and
- provide landscape/wildlife connectivity in all settings, but especially important in more fragmented regions like the Champlain Valley.

These ecological functions are concentrated in the relatively narrow riparian areas along our rivers and streams. The functions provided by any segment of riparian area vary with the position in a river from its small headwater streams to its broad floodplains at lower elevations. The ecological functions also vary greatly depending on the condition of the riparian area: little function is provided by developed riparian areas, some flood attenuation and river process

functions are provided by riparian areas in agricultural use, and most ecological functions are provided by riparian areas and floodplains that are naturally vegetated and occupy the full valley bottom.

#### *Intersection of H.687 “Critical Resource Areas” and S.213 River Corridors*

H.213 if enacted would increase protection of river corridors under the DEC Rivers Program, a program that is recognized nationally for its innovative and successful protection of river geomorphology. Of specific note in H.213 are the provisions to map infill areas within river corridors where development will not increase fluvial erosion hazards, and rulemaking to improve the permitting process. However, the focus of river corridor protection under the DEC Rivers Program is likely to remain on river geomorphology and flood and erosion hazards and will not include review of all the other ecological functions provided by river corridors/riparian areas. It would take a dramatic shift in the DEC Rivers Program to include review and protection of all these functions. In addition, river corridors are generally mapped to the width to accommodate river processes and not necessarily to the width to protect all ecological functions, specifically the full width of floodplain forests on active floodplains and wildlife habitat.

Because river corridors/riparian areas support so many concentrated ecological functions, and because all of these functions are unlikely to be protected by the DEC Rivers Program alone, I believe that adopting river corridors/riparian areas as a “critical resource area” in H.687 is a logical and effective mechanism to provide better protections for these areas that are of great importance for biological diversity and climate change adaptation. Specifically, as a critical resource area under H.687, river corridors/riparian areas would trigger Act 250 review for any development within their mapped areas, and Act 250 review could be designed to focus on the ecological functions of these areas in shaping and redesigning proposed projects. Concerns have been raised that Act 250’s 10 criteria and 30-some sub-criteria create a regulatory burden for small projects. An option to minimize this burden would be to have river corridor/riparian area critical resource areas as an Act 250 jurisdictional trigger but only require review under certain Act 250 criteria. These might include 1(A) headwaters, 1(D) floodplains, 1(E) streams, 1(F) shorelines, 4 erosion and capacity of the soil to hold water, 8 rare and irreplaceable natural areas, 8(A) necessary wildlife habitat, and the new criteria 8(B) forest blocks and 8(C) connecting habitat.

#### *Mapping River Corridors/Riparian Areas as a Critical Resource Area*

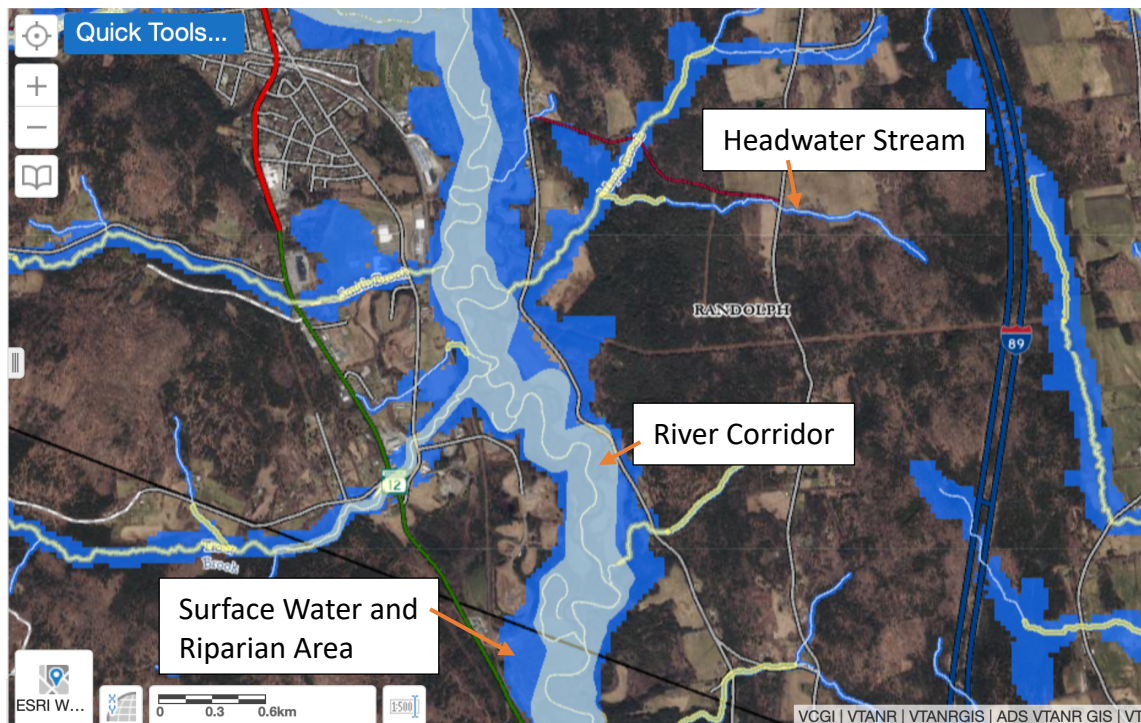
River corridor mapping by the DEC Rivers Program is excellent and predictable for identifying geomorphic functions of rivers and larger streams. But in many cases the mapped river corridor does not include the full width of the floodplain or the valley bottom dominated by alluvial soils. In addition, mapped river corridors do not provide protection or mapping for headwater streams, which are of critical importance for maintaining cool stream flows and aquatic biota, especially as our climate warms.

My recommendation is to map river corridor/riparian areas as a “critical resource area” using an approach that is a modification/combination of DEC River Corridors and Vermont Conservation

Design (VCD) Surface Water and Riparian Areas. Specifically, I recommend the following as “critical resource areas.”

- Use DEC River Corridors as mapped with the addition of 200 feet on each side in areas where there is an overlap with a wider VCD Surface Water and Riparian Area.
- Exclude “areas suitable for development that are located within existing settlements and that will not cause or contribute to increases in fluvial erosion hazards” as will be mapped by DEC under S.213.
- For smaller streams with drainage areas of 0.5 to 2 square miles establish a 100-foot zone on each side of the stream.
- For the smallest streams with drainage areas less than 0.5 square mile and extending to the stream headwaters, establish a 50-foot zone on each side of the stream. Headwater streams are not mapped on the DEC River Corridor maps but are included in the VCD and stream layers.

Here is an example map for a section of the Third Branch White River and its tributaries in Randolph showing mapped DEC River Corridors (light blue), VCD Surface Waters and Riparian Areas (dark blue), and smaller streams (yellowish).



### Other suggestions and concerns with H.687

A potential and useful “critical resource area” for identifying a subset of connecting habitat that is of especially high importance and at greatest risk would be to use the VCD layers for Highest Priority Wildlife Road Crossings and Highest Priority Connectivity Blocks. Map as “critical

resource areas” only those areas that occur adjacent to the Wildlife Road Crossings and within Connectivity Blocks, and within 500 feet of the road. These 500-foot sections of Highest Priority Connectivity Blocks on each side of roads are a relatively small subset of connectivity blocks and are the most vulnerable to loss of wildlife/landscape connectivity functions associated with roadside development. The 500-foot inclusion adjacent to the Highest Priority Wildlife Road Crossings would complement the proposed jurisdictional trigger for Tier 2 proposed in H.687 of development greater than 500 feet from a roadway. I do not have mapping tools that are adequate to show an example of this concept here, but it would be a relatively straightforward statewide mapping effort with existing data. VFWD and partners have recently updated and improved the VCD interior forest, connectivity blocks, and wildlife road crossings.

Rare plant and animal species are a key component of Vermont’s biological diversity. Currently, Act 250 only provides limited protection for state-listed endangered species in Criterion 8 (A), which reads, “Necessary wildlife habitat and endangered species. A permit will not be granted if it is demonstrated by any party opposing the applicant that a development or subdivision will destroy or significantly imperil necessary wildlife habitat or any endangered species.” This criterion does not protect rare or threatened species, and it does not protect the necessary habitat for rare, threatened, or endangered species. Act 250 should be updated to provide better protection for rare species. Criterion 8 (A) could be simply modified to read: “Necessary wildlife habitat and **rare, threatened, and** endangered species **habitat**. A permit will not be granted if it is demonstrated by any party opposing the applicant that a development or subdivision will destroy or significantly imperil necessary wildlife habitat or **any rare, threatened, or** endangered species **or its necessary habitat**.” (Additions in **bold**.)

I remain very concerned about the proposed review standards and rulemaking for the new Forest Blocks (8B) and Connecting Habitat (8C) criteria. I strongly urge the Committee to remove all the mitigation steps and the proposed rulemaking and simply apply the “no undue adverse effect” standard that has been used successfully for decades for “rare and irreplaceable natural areas” and for other criteria. It would be much simpler and more predictable to the regulated public if VFWD were to develop guidelines for how to apply a “no undue adverse effect” to forest block and habitat connectivity functions, rather than a cumbersome and potentially arbitrary set of mitigation steps. Forest block interior functions and landscape/wildlife connectivity functions cannot be protected by mitigation that includes offsite compensation and mitigation fees. These landscape functions occur in specific locations – a set of dwindling locations as development continues – and these functions cannot be replaced or compensated for elsewhere in the landscape.

Thank you for considering these comments. I would be happy to answer any questions that you have and I am available to testify in person if that is helpful.

With respect,

Eric Sorenson  
Ecologist