White Papers on Applying River Management Science

Alternatives for River Corridor Management - Reviews the history of river use and conflict in Vermont; explains the changes in river science and engineering that are currently being advanced nationally and internationally; and offers the Program's perspective on the costs, risks and benefits associated with four different river corridor management alternatives. The paper also introduces the concept and explains the priority given to river corridor protection using a passive geomorphic approach.

Managing Toward Stream Equilibrium Conditions: A case for minimizing the structural control of Vermont rivers – Explains the Vermont River Management Program's goal of resolving conflicts between human investments and river dynamics in a more economically and ecologically sustainable manner. The paper examines why the use of structural controls and channelization, in attempts to "stop" erosion, have been counter-productive to this goal. The paper also promotes river corridor protection and restoration through a project planning process that considers larger temporal and spatial scales and sets priorities for treating stressors that have altered the ecological processes of streams.

River Corridor Protection as a Restoration Tool: A note to restoration ecologists, planners, and engineers – Acknowledges that new river corridor encroachment and channelization is far out-pacing our attempts to restore isolated river reaches, and that if we focus all of our time and resources on restoration projects, we may never achieve an economically and ecologically sustainable relationship with rivers. The paper suggests a new river management paradigm to include and perhaps emphasize the development and use of river corridor protection as a stand-alone tool in the river manager's tool box.

Conservation of River Corridor Lands: A proposal to establish landowner and municipal incentives and resources – Explains the importance of floodplains, and the consequences of river corridor encroachment, river channel incision and the loss of floodplain function, including: attenuation of flood and fluvial erosion hazards; storage of sediment and nutrients; and maintenance of the fluvial processes associated with aquatic and riparian habitats. The paper lays out a three point program for the State and its federal and non-profit partners to support landowner and municipal actions that will protect river corridor lands and the ecological services they provide.