

## Appendix C. Summary of Recommendations, arranged by responsible party

Federal	Congress	<ul style="list-style-type: none"> <li>legislate reductions in mercury contamination of the region.</li> <li>tighten vehicle emission standards for trucks and sport utility vehicles.</li> </ul>
	USGS	<ul style="list-style-type: none"> <li>cooperate with states to ensure that existing gages are maintained for public safety and to provide or restore gages on tributaries as proposed.</li> </ul>
	US Army Corps of Engineers	<ul style="list-style-type: none"> <li>purchase development rights from willing owners of land in the natural valley flood storage area to help prevent flooding downstream.</li> </ul>
	FEMA	<ul style="list-style-type: none"> <li>ensure that area towns have accurate, up to date floodplain maps.</li> </ul>
	EPA	<ul style="list-style-type: none"> <li>work with the states to conduct a more detailed, comprehensive long-range study of sediment and fish contamination every 10 years to better understand the distribution and types of contaminants, and their trends. Develop a standard method for this type of study.</li> <li>assist in eliminating combined sewer overflows in St. Johnsbury.</li> <li>devise and publicize new ways of safely disposing of old medications, including narcotics.</li> <li>abandon the cap and trade system that would allow polluting power plants to continue to operate without emissions reduction.</li> <li>provide funds to support cleanup to get brownfields properties back on the market.</li> </ul>
	US Fish & Wildlife Service	<ul style="list-style-type: none"> <li>devise and publicize new ways of safely disposing of old medications, including narcotics.</li> </ul>
States	NRCS & county conservation districts	<ul style="list-style-type: none"> <li>purchase development rights from willing owners of land in the natural valley flood storage area to help prevent flooding downstream, to keep the land free from development and open for farm production and flood storage.</li> <li>survey the riverbank for the presence of eroding cavities.</li> <li>provide cost-sharing for conservation practices, including construction of manure storage pits to help farmers eliminate winter spreading of manure within the floodplain to protect water quality; encourage area farmers to participate in the Environmental Quality Incentives Program, Wildlife Habitat Improvement Program, and Vermont's Conservation Reserve Enhancement Program.</li> <li>be sure landowners have information about sources of assistance and where they can find nurseries for buffer plant material.</li> <li>encourage farmers to understand and use best management practices to control erosion and protect and enhance riparian buffers.</li> </ul>
	NH legislature	<ul style="list-style-type: none"> <li>continue to legislate reductions in mercury contamination of the region.</li> <li>apply shoreland protection to smaller tributaries not currently covered by the Act.</li> <li>establish a program similar to Vermont's Conservation Reserve Enhancement Program.</li> </ul>
	VT legislature	<ul style="list-style-type: none"> <li>continue to legislate reductions in mercury contamination of the region.</li> <li>continue to fund the Conservation Reserve Enhancement Program.</li> <li>enact a system for regulating large groundwater withdrawals and registering surface water withdrawals.</li> <li>adopt measures to protect the shoreland of the Connecticut River and its third and fourth order tributaries.</li> </ul>

<p>environmental agencies (NH DES &amp; VT DEC)</p>	<ul style="list-style-type: none"> <li>• ensure adequate and regular water quality monitoring; continue to encourage and expand volunteer water quality monitoring and coordinate these activities to avoid isolated efforts. Investigate ways to compensate local wastewater treatment plants and appropriate laboratories for processing water quality samples. Ensure that water quality data are easily accessible to the public.</li> <li>• follow up on water quality violations.</li> <li>• explore ways to reduce the two states' differences in water quality standards.</li> <li>• enforce the ban on backyard burning of trash.</li> <li>• cooperate with USGS to ensure that existing gages are maintained for public safety and to provide or restore gages on tributaries as proposed.</li> <li>• cooperate with TransCanada and town emergency management officials to create a warning system for riverfront towns and landowners to warn of coming high water or dam failure, and coordinate with managers of other dams in the area.</li> <li>• support federal initiatives to curb emissions of gases that cause climate change.</li> <li>• cooperate with TransCanada to educate local citizens about how the Connecticut River is managed in the region, the terms of the Fifteen Mile Falls Settlement Agreement, and how drought affects river management</li> <li>• discourage any new dam construction on the Connecticut River in Woodsville.</li> <li>• ensure that construction and demolition debris is handled by competent contractors.</li> <li>• not permit landfills, hazardous waste disposal facilities, auto salvage yards, junkyards, wastewater or septage lagoons to be located on aquifers.</li> <li>• require maintenance for permit-required wetlands and flood storage areas, perhaps by requiring the developer to post a bond for this purpose.</li> <li>• include riparian buffer restoration in road projects near streams and rivers.</li> <li>• offer an information packet to owners of shoreland to educate them about the best ways to manage their property.</li> <li>• develop best management practices for residential construction sites and driveways, and educate developers and local planning boards and commissions about the value of using them</li> <li>• enforce best/acceptable management practices and look more closely at the effect of nutrient enrichment and water level changes on river life forms, including fish.</li> <li>• enforce regulations respecting biosolid disposal, including setbacks from rivers.</li> <li>• keep brownfields and hazardous waste site information updated and pursue cleanup.</li> <li>• encourage use of vegetative stabilization if bank stabilization is deemed appropriate on eroding banks.</li> <li>• enforce present permitting process and guidelines for gravel removal, dredge, and fill activities.</li> <li>• educate landowners and the public on stewardship, erosion, and the value of forested riparian buffers.</li> <li>• train developers to provide vegetative buffers and maintain connections between wetlands within development projects.</li> <li>• continue to cooperate to better understand and address the Didymo infestation.</li> </ul>
<p>NH DES</p>	<ul style="list-style-type: none"> <li>• work with the University of New Hampshire to explore ways to reduce overlap in their water quality monitoring programs by sharing data and presenting it in one database.</li> <li>• educate riverfront landowners about registering their water withdrawals.</li> <li>• continue to develop and improve aquifer maps.</li> <li>• check New Hampshire towns for CSOs.</li> <li>• assist North Country Council in holding more frequent and more convenient household hazardous waste collections.</li> <li>• enforce the Shoreland Protection Act and provide GIS data and maps of protected shorelands.</li> <li>• work with the New Hampshire Lakes Association to set up a Lake Host program to check for invasive species at Moore and Comerford Reservoir boat launches.</li> <li>• develop guidelines and standards for development of impervious surfaces.</li> </ul>
<p>Vermont DEC</p>	<ul style="list-style-type: none"> <li>• establish a way of registering water withdrawals and share the information with NH. If water is withdrawn from non-impounded parts of the river, New Hampshire water withdrawal registration rules should apply.</li> <li>• identify and map groundwater supplies.</li> <li>• assist in eliminating combined sewer overflows in St. Johnsbury.</li> </ul>
<p>transportation agencies</p>	<ul style="list-style-type: none"> <li>• review their herbicide spraying program for rights of way near waterways, and consider alternatives; consult landowners about herbicide spraying, and provide an incentive for them to perform cutting as an alternative to spraying.</li> <li>• make an effort to retain riparian buffers between roads and rivers; when planning road widening near rivers, they should add width on the side away from the water. Include riparian buffer restoration in road projects near streams and rivers. Avoid cutting and mowing the riparian buffer near streams.</li> <li>• pursue alternatives to salt for de-icing, such as using larger sand particles, and follow best management practices for road maintenance and winter care.</li> <li>• move and cover the sand/salt pile near Cushman Brook in Dalton and replace the Rix Brook culvert under Route 135 with an adequately sized, natural bottom culvert.</li> <li>• take care to avoid spreading invasive species through ground disturbance and disposal of spoil.</li> </ul>
<p>Fish &amp; wildlife agencies</p>	<ul style="list-style-type: none"> <li>• discourage increased heavy-wake boating because of its potential to increase bank erosion, and plan boating access to avoid increasing erosion on sensitive shorelines.</li> </ul>
<p>VT Dept. of Forests, Parks, Recreation</p>	<ul style="list-style-type: none"> <li>• permit riparian buffer protection on lands enrolled in the current use taxation program.</li> </ul>
<p>NH Dept. of Agriculture</p>	<ul style="list-style-type: none"> <li>• stipulate that manure may not be spread between December 15 and April 15, and not rely solely upon voluntary compliance with best management practices.</li> </ul>

	NH Dept. of Safety	<ul style="list-style-type: none"> <li>enforce boating laws to help protect shorelines against erosion.</li> </ul>
Towns	town management	<ul style="list-style-type: none"> <li>cooperate with TransCanada and NH DES Dam Bureau to create a warning system for riverfront towns and landowners to warn of coming high water or dam failure, and coordinate with managers of other dams in the area. Emergency management plans should call for better coordination with dam managers. Towns should participate in testing of the Connecticut River Emergency Action Plan in 2008.</li> <li>pursue careful and prompt maintenance of all wastewater treatment facilities which discharge into waters which reach the Connecticut River. Plan ahead for updating and replacing aging facilities.</li> <li>encourage oxbow wetlands to develop naturally by giving tax breaks for this land.</li> <li>avoid constructing new roads near rivers and streams.</li> <li>support a policy of low salt use on roads.</li> <li>test the areas where they have piled snow for many years, to see if lead has accumulated in the soil.</li> </ul>
	Planning boards & commissions	<ul style="list-style-type: none"> <li>prohibit development in the 100-year floodplain, as has Bath, to protect their citizens and businesses from damage, to avoid adding to flooding of their downstream neighbors, and to reduce the public cost of disaster relief.</li> <li>encourage developers to establish and/or maintain buffers of native vegetation along rivers and streams for pollution control and riverbank stability.</li> <li>consider adopting agricultural soil protection ordinances to keep valuable soils available for farming and to keep development from interfering with flood storage.</li> <li>consider surficial geology mapping for more specific groundwater supply information and evaluate water supplies for short and long term growth. Work with state geologists to map varves, to be sure major construction does not take place on unsafe soils.(50/50 match USGS)</li> <li>ensure adequate setbacks and lower density for clearing, building, and septic systems.</li> <li>consider wellhead protection; take advantage of source water protection grant and loan programs.</li> <li>ask for help from regional planning commissions to survey culverts and bridges to identify those that are undersized; also note if they block fish passage and seek grants for replacing them where necessary.</li> <li>confirm with the state if their identified water supply information is correct.</li> <li>consider discouraging roads and development on steep slopes to control stormwater runoff.</li> <li>look at ways to include "low impact development" ideas as they review projects, and at how to change existing development to reduce runoff and promote stormwater infiltration. Require that all new development include provisions for infiltration of stormwater runoff on the site.</li> <li>encourage developers to provide vegetative buffers and maintain connections between wetlands within development projects.</li> <li>include stormwater runoff and culvert upgrading expenses in projecting impact fees and site plan review.</li> <li>require sedimentation and erosion controls during and after construction.</li> </ul>
Towns	Planning boards & commissions	<ul style="list-style-type: none"> <li>not permit landfills, hazardous waste disposal facilities, auto salvage yards, junkyards, snow dumps, wastewater or septage lagoons, and outdoor salt storage or other de-icing chemical storage to be located on aquifers.</li> <li>ask developers to keep natural drainage patterns and use swales and depressions ("rain gardens") to reduce runoff and recharge groundwater.</li> <li>identify the extent of sewage disposal problems, especially among seasonal homes converted to year-round use; inspect sewage systems before they are completed; educate home buyers and real estate agents.</li> <li>in NH, do not issue permits for projects that violate the state shoreland protection law, and should set up a checklist for permitting to be sure that all appropriate parties have been alerted and that all applicable laws are observed.</li> <li>require additional treatment to remove oil, solids, and metal for new discharges and redevelopment projects to surface waters and dry wells.</li> <li>ask regional planning commissions for advice in how to avoid runoff problems related to large scale clearing. Discourage development of steep slopes to minimize flashy flow.</li> <li>discourage black-topping of driveways and parking areas, and encourage ledge pack, gravel, pervious pavement, and other pervious surfaces as an alternative.</li> </ul>
	conservation commissions	<ul style="list-style-type: none"> <li>encourage water quality monitoring programs in their towns, using state protocols.</li> <li>survey smaller wetlands so they know where they are, and consider adding protection for them in towns that do not have such protection in place.</li> <li>identify old dump sites to look for those close to ground and surface water supplies.</li> <li>educate people to handle automotive fluids, pesticides, and other chemicals properly so they don't contaminate their own wells, and to keep their septic systems in good operating condition.</li> <li>encourage use of low-phosphorus detergents to reduce phosphorus entering wastewater treatment plants.</li> <li>educate people to wrap and discard their unused and out-dated medicines in regular household trash rather than flushing.</li> <li>strongly encourage citizens to make use of regular household hazardous waste collections and should organize car pooling or "waste pooling" to distant collection sites.</li> <li>hold an annual "Green Up" Day.</li> <li>encourage landowners to establish and/or maintain buffers of native vegetation along rivers and streams for pollution control and riverbank stability.</li> <li>educate NH town officials and landowners about the Shoreland Protection Act.</li> <li>working with road crews, ensure that culverts are properly sized and placed for fish passage when replacing them during road work; use a natural bottom where possible and appropriate.</li> <li>survey the riverbank for the presence of eroding cavities.</li> <li>initiate programs to eliminate invasive plants before they become widely established, especially along roads near waterways.</li> </ul>
	Fire departments	<ul style="list-style-type: none"> <li>enforce ban on backyard burning of trash.</li> </ul>

	Road crews	<ul style="list-style-type: none"> <li>• make an effort to retain riparian buffers between roads and rivers; when planning road widening near rivers, they should add width on the side away from the water, and not just take the buffer because it's the easy way out. Include riparian buffer restoration in road projects near streams and rivers. Avoid cutting and mowing the riparian buffer near streams.</li> <li>• pursue alternatives to salt for de-icing, such as using larger sand particles, and follow best management practices for road maintenance and winter care.</li> <li>• working with conservation commissions, ensure that culverts are properly sized and placed for fish passage when replacing them during road work; use a natural bottom where possible and appropriate. Increased minimum design standards may be necessary based on recent research in New Hampshire.</li> <li>• follow snow disposal best management practices. Snow should be stored on flat, pervious surfaces, such as grass, and at least 25-100 feet from the edge of a stream or river, with a silt fence between the snow and the stream. There are larger setbacks for snow disposal near public wells. Once snow melts, debris should be quickly cleared from the site and brought to the landfill.</li> <li>• keep culverts clear of woody debris. Ensure that culverts are sized in anticipation of runoff from future cleared slopes.</li> <li>• take care to avoid spreading invasive species through ground disturbance and disposal of spoil.</li> </ul>
Regional organizations	Regional Planning Commissions	<ul style="list-style-type: none"> <li>• educate homeowners on the many benefits of household hazardous waste collection, and encourage homeowners to car-pool for convenience in using these collections.</li> <li>• educate people to wrap and discard their unused and out-dated medicines in regular household trash rather than flushing.</li> <li>• help towns and state highway agencies anticipate downstream effects in planning for future transportation projects and assist with surveys and evaluation of bridge and culvert adequacy. Develop a simple method to calculate this in chart or graph form.</li> </ul>
	Land conservation organizations	<ul style="list-style-type: none"> <li>• purchase development rights from willing owners of land, especially in the natural valley flood storage area, to help prevent flooding downstream, to keep the land free from development and open for farm production.</li> </ul>
	regional waste districts	<ul style="list-style-type: none"> <li>• educate homeowners on the many benefits of household hazardous waste collection, and encourage homeowners to car-pool for convenience in using these collections.</li> </ul>
Utilities	Trans Canada	<ul style="list-style-type: none"> <li>• cooperate with town emergency management officials and NH DES Dam Bureau to create a warning system for riverfront towns and landowners to warn of coming high water or dam failure, and coordinate with managers of other dams in the area.</li> <li>• communicate with the states and the US Fish and Wildlife Service under extreme weather conditions, in order to operate its dams to manage the river in an environmentally sensitive manner.</li> <li>• update and correct Emergency Action Plans for Moore and Comerford Dams as planned.</li> </ul>
	Railroad	<ul style="list-style-type: none"> <li>• review their herbicide spraying program for rights of way near waterways, and consider alternatives; consult landowners about herbicide spraying, and provide an incentive for them to perform cutting as an alternative to spraying.</li> <li>• avoid cutting and mowing the riparian buffer near streams.</li> </ul>
	Utility companies	<ul style="list-style-type: none"> <li>• review their herbicide spraying program for rights of way near waterways, and consider alternatives; consult landowners about herbicide spraying, and provide an incentive for them to perform cutting as an alternative to spraying.</li> <li>• TransCanada should cooperate with the New Hampshire Lakes Association to set up a Lake Host program to check for invasive species at Moore and Comerford Reservoir boat launches.</li> </ul>
volunteer groups	watershed groups	<ul style="list-style-type: none"> <li>• groups such as the Connecticut River Watershed Council should help set up volunteer water quality monitoring</li> <li>• encourage continued communication between TransCanada and its successors, with local communities and landowners.</li> <li>• The New Hampshire Lakes Association should set up a Lake Host program, with the assistance of TransCanada and NH DES, to check for invasive species at Moore and Comerford Reservoir boat launches.</li> </ul>
	recreation groups	<ul style="list-style-type: none"> <li>• anglers should practice "catch and release" to avoid exposure to mercury-laden fish. • ensure that trails have water bars to keep stormwater from eroding compacted soils.</li> <li>• Local outfitters and guides should educate their customers about Didymo and other invasives, and to clean their gear.</li> <li>• Boaters or divers traveling from waters infested with zebra mussel must wash and dry all equipment before reuse, hose off the boat, diving gear or trailer, and drain and flush the engine cooling system and live wells of the boat, bait buckets and the buoyancy control device from diving equipment. Fishermen and other recreationists must carefully clean their gear after visiting the Connecticut River and report sightings of invasive aquatic species to state agencies. Do not release unused bait into the water.</li> </ul>
Land owners	Farmers	<ul style="list-style-type: none"> <li>• use setbacks from streams for pesticide use.</li> <li>• move hay and equipment out of fields subject to flooding as soon as they are done working.</li> <li>• consider practicing no/low till; keep soil covered throughout the year to reduce erosion; rotate corn frequently with other crops, particularly on flood-prone land.</li> <li>• use filter strips more consistently on agricultural lands to keep sediment and nutrients from washing into surface waters; seek assistance for fencing to keep livestock out of waterways.</li> <li>• in VT, look into the possibility of adding buffers with help from the Conservation Reserve Enhancement Program.</li> </ul>
	Forest landowners	<ul style="list-style-type: none"> <li>• follow best/acceptable management practices for timber harvesting, and minimize the water quality and visual impacts of clear-cutting and other timber harvesting operations, particularly near surface water. Skidder ruts should be smoothed and seeded as soon as possible once a timber harvest is done.</li> </ul>

	Waterfront landowners	<ul style="list-style-type: none"> <li>• learn about stewardship, erosion, and the value of riparian buffers. Retain buffers of native woody vegetation along the banks, and consider planting some of the many ornamental native plants listed in CRJC’s riparian buffer guidance. Such plants require less water and are better adapted to riverbanks, and offer food and cover for wildlife. Allow trees and vegetation to help stabilize the banks and keep waters cooler, and to provide privacy.</li> <li>• avoid using fertilizer near rivers or streams.</li> </ul>
	All landowners	<ul style="list-style-type: none"> <li>• avoid using household items containing mercury and recycle them so the toxin does not end up in a landfill or trash incinerator where it could escape into the environment.</li> <li>• reduce or eliminate use of pesticides.</li> <li>• avoid backyard burning of household trash, which is illegal in both states.</li> <li>• avoid filling wetlands.</li> <li>• check culverts on their land often to be sure they are not blocked.</li> <li>• support federal initiatives to curb emissions of gases that cause climate change.</li> <li>• keep culverts clear of woody debris.</li> <li>• pick up after their pets when walking their dogs near rivers.</li> <li>• support local agriculture.</li> <li>• support the efforts of the New England states to force EPA to enforce its own rules on pollutants and to decrease airborne pollution entering the region from the Midwest.</li> <li>• obey the ban on burning of trash in backyard barrels or in outdoor furnaces.</li> <li>• avoid dumping aquarium plants or animals into any water body, but dispose of them by freezing or drying before putting them in the trash.</li> </ul>