



## **MANAGING STATE LANDS FOR WILDLIFE**

### **Stream Crossings**

Like habitat connectivity, streams require continuity to support the movement of aquatic organisms. Many species need different habitats for feeding, breeding, and shelter. The ability to move up or down stream is required for the natural dispersal of individuals. Disruption of stream continuity can result in the loss and degradation of habitat, block wildlife movement, and disrupt the ecological processes that occur in streams over time.

Intersections of streams and roads—or stream crossings—have been historically designed to pass water under a road without consideration of stream continuity. Flow variability, natural sediment transport, and aquatic organism passage are overlooked. Characteristic problems of culverts include undersized, shallow, or perched crossings resulting in low or high flow, unnatural bed materials, scouring, erosion, clogging, and ponding. Bridges generally have a lesser impact on streams but, if improperly designed, can still result in sediment deposition and/or streambed degradation.

Good stream crossing for wildlife are also good for people. Proper design and placement reduce erosion and damage to roads, infrastructure, and personal property.

Click here for more information on Fish and Game's [Fish Habitat Program](#).

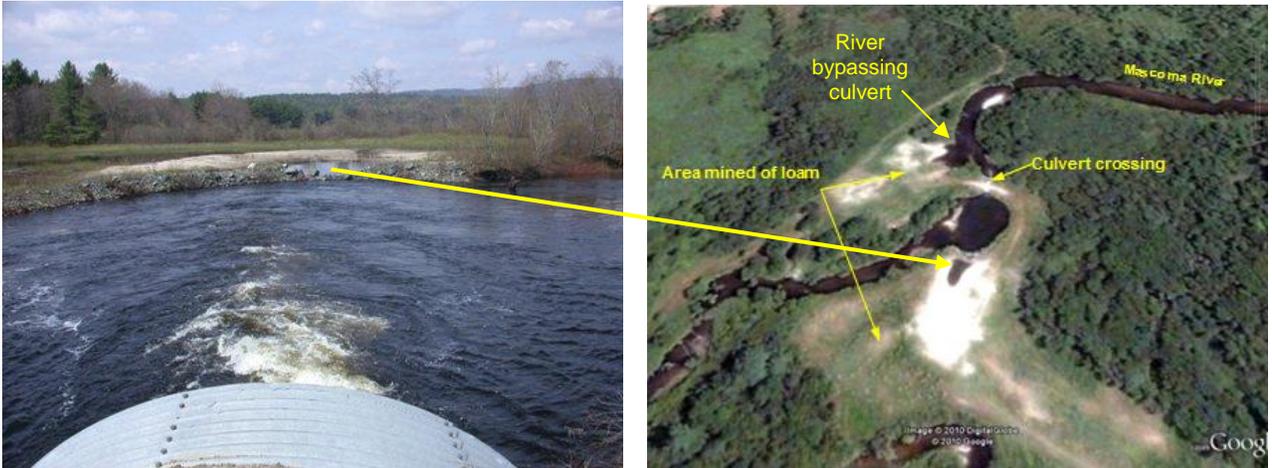
Click [here](#) for New Hampshire's Stream Crossing Guidelines and related resources from New Hampshire's Department of Environmental Services.

### **Mascoma WMA (Canaan)**

This property contained a 15 foot culvert used to cross the 60-80 foot wide Mascoma River that bisects the property. The culvert was installed by the former landowner. The constriction caused by the culvert led to significant riverbank erosion both up and downstream, forced the river to change course, and deterred fish passage. This situation was rectified in July 2011 when the culvert was removed, and the river bank restored and stabilized. Considerable work went into obtaining funding, designing the project, getting permits, contracting, and overseeing on-the-ground work. Funding for this project was provided by NRCS' Wildlife Habitat Incentives Program, USFWS Wildlife Restoration funds, and NHFG's Habitat Account.

Unfortunately, access to half of this 125-acre property was cut-off when the culvert was removed. Staff continue to investigate options to restore public and management access. This WMA is a popular destination for upland game bird hunters and wildlife watchers. It also

contains a significant amount of old field and shrubland habitat that require maintenance to maintain in their current vegetative condition.



*This undersized culvert on the Mascoma River created a water cannon effect causing considerable erosion along the river bank downstream (above). This culvert was pulled and the streambank restored this summer (below).*



### **Connecticut Lakes Natural Area (Pittsburg & Clarksville)**

Two new bridges were installed across Indian Stream and Perry Stream in the summer of 2013. These two bridges replaced two degraded and undersized bridges on main access roads. NRCS designed and provided significant funding for these bridge projects, which will provide long term access for forest and habitat management, and public recreation. Both bridges were designed to meet 100 year flows and to ensure adequate aquatic animal and fish passage. Since then three other stream crossings on the CLNA also saw major upgrades.



*Before (left) and after (right) pictures of streams crossings at Indian Stream (top) and Perry Stream (bottom). The new bridges will provide long-term management and recreational access while still allowing passage of fish and other aquatic organisms. Jill Kilborn photos.*

