

Tad Nunez  
Fairlee Town Administrator  
P.O. Box 95  
Fairlee, VT 05045

August 12, 2020

Dear Tad,

It was a pleasure to visit the Fairlee Town Forest, Lange Block, with you and Markus Bradley and Bruce Limlaw this past Monday. I am writing to summarize my observations from that visit for you and the Select Board. We drove up Knox Road to the junction with XMT trail, then walked that trail to near where it pitches downslope to Bald Top Road.

**Knox Road** (prior to the town forest) – The road itself, in the section leading to the Town Forest, is only in slightly better condition today, than when I last traveled it 10 years ago. And this after a substantial recent investment has been made. **The pattern over time has been that improvements are made to the road, at considerable expense, logging takes place, the road is closed out properly with waterbars, then the waterbars are removed by the Forest Board or degraded by traffic and the road erodes and degrades, requiring repetitive expense to fix it up again for the next logging entry. In order to protect the road, it really is critical that waterbars and other drainage structures be put in place at the close of logging operations and then be allowed to remain in place. In fact, the waterbars should be periodically repaired and maintained, and culverts periodically cleaned, by your Forest Board.**

“Daylighting” of the road, by cutting all trees for approximately 50 feet on each side of the road, was implemented prior to the recent road construction. **I find this work to have been extreme, unnecessary, and suspect that it will complicate future maintenance of the road. When raindrops fall from clouds a mile or more above the Earth, they are traveling at great speed when they reach the ground. Their impact with the road surface can dislodge and move fine road surface material resulting in erosion. When there is a tree canopy over the road, the impact of the raindrops is broken by the leaves and branches, reducing the direct impact on the road surface, and reducing erosion. I believe the idea was to allow more sunlight to reach the road surface, so that it would dry better, but unfortunately, removing all the trees from the road edge, not only removes branches and leaves that protected the road surface from the direct erosive impact of rain, but removed large trees that pulled tens of thousands of gallons of water from the soil in the course of normal photosynthesis. Removing the trees may actually have caused the road to be wetter in the short-run, than it would otherwise have been, and certainly makes the road more subject to erosion.**

The most effective way to dry a road or trail, is with water control structures like waterbars, broad-based dips, ditches and culverts, that quickly divert water off the road or trail surface and disburse it harmlessly into the woods.

Knox Road (beyond the XMT trail). Prior to our meeting, Markus drove me up this road to a point where a tree had fallen across the road. It was heavily waterbarred and the water bars appeared to be properly spaced and well-constructed. I suggested to Markus that more waterbars could be installed, as there were minor erosion gullies forming between waterbars in some places.

The first two landings, on the south side of Knox Road were well-closed out and appeared to be properly drained and stable. We did not have time to visit the landing at the end of the road. All landings should be seeded and mulched at the close of operations.

**XMT trail** – The stream crossing will use the existing, undersized culvert, with additional fill, for this logging entry (approximately 4-6 weeks). At the close of work, the crossing will be dismantled, the culvert removed, and a crushed stone ford constructed. This seems to be a good solution to maintain a functional crossing while reducing future maintenance costs.

North of the stream, the XMT trail currently splits into two sections, East and West. The plan is to stabilize and close out the wetter West section. It will not be used in this logging entry, and will be graded and waterbarred at the close of operations. I suggest also constructing a berm at each end to limit unwanted vehicle access.

The East trail will be used to access the landing, which will be constructed behind (east) of the stone foundation area. Beyond the landing, the East trail will not be used, but will need to be crossed in one location, just to the north of the stone foundation. Markus is aware of the need to respect and protect the foundation area and plans no harvest or traffic in that area, that would disrupt any stonework. The possible exception may be limited ash harvest in the immediate vicinity of the foundation. Ash removal would be intended to cut the trees, rather than let them die and fall on their own (due to Emerald Ash Borer) with the associated disruption or damage this would cause to the stone structures. Cutting them with the feller-buncher would mean moving the equipment just within reach, holding the tree in place while it is cut, then lifting it up and backing it out and away from the foundation. No trees would be expected to fall on, or be dragged across, any part of the stone foundation or any stonewalls.

At the close of operations, Markus will clear the landing of stumps and debris, and it will be graded, seeded and mulched.

The improved section of the XMT trail between Knox Road and the landing will be graded and waterbarred at the close of operations. The approaches to the stone ford would be seeded and mulched.

The portion of the XMT trail between the landing and Bald Top Road will be graded, and waterbarred too, but since this section of trail is not to be used during logging, the drainage work is not part of the negotiated logging arrangement. It was discussed that the proceeds from the timber sale would be used to stabilize and drain this section of trail, with Bryce Limlaw doing the work (since his equipment is on site) and Markus overseeing the job.

When all logging work is complete, and all grading and drainage work is complete on all trails and roads accessed via Knox Road, it is strongly recommended that a gate be installed at the entrance to the town forest on Knox Road. The gate should be a heavy duty, "industrial" gate, purchased by the town and installed by Limlaw, under the supervision of Markus. This should be adequate to limit unwanted vehicle entry onto the roads and trails that will have just been repaired. If possible, it would be good to build a small parking area just before the gate, that would accommodate 2-3 vehicles.

In addition, it would be advisable to block vehicle access to the XMT trail from the Bald Top Road at the same time.

AMP implementation on the remainder of the forest – I suggest working with Markus to inventory all drainage and water quality issues on all roads and trails throughout the entire forest. These issues, once fully identified, should then be brought into full compliance with State water quality rules, as quickly as is practicable. Once Markus has identified all AMP issues, he should confer with Rick Dyer to formulate a plan to address all of the issues. The town could then arrange for a contractor to do the work, under Markus' supervision.

Once all roads and trails have been stabilized and properly drained, it will be necessary to control unwelcome vehicle use, throughout the entire forest, in order to protect the completed work. Markus should be consulted on how this might take place.

I want to thank you and the Fairlee Select Board for allowing me to have input into this process. I am pleased that the Select Board is exerting rightful control over the Fairlee Town Forest and that the planned timber sale will be allowed to proceed. This forest is a spectacular town asset that deserves respect and careful attention, and with proper citizen input into future management decisions the full support of the town's people.

If I may be of additional service, I am at your disposal.

Sincerely,

A handwritten signature in black ink that reads "David Paganelli". The signature is fluid and cursive, with the first name "David" and last name "Paganelli" clearly legible.

David Paganelli  
Orange County Forester