

Kelsey Notch Trail Environmental Compliance Report 2020

Date Reviewed: October 9, 2020

In attendance: Jake DeBow (NHFG) , Clint Savage (NH Trails Bureau), and Maggie Machinist (NH Forests and Lands)

Overview- The Department of Natural and Cultural Resources is required to complete and submit an environmental compliance report to CORP annually. This report is a requirement of the conditional approval to keep the Kelsey Notch Trail open.

Recommendations from 2019

- The bridges needed to be re-decked to alleviate safety concerns
- Fascia boards should be added to the bridges to eliminate sediment getting into the brooks.

There were a couple of recommendations made from last year that were completed, including re-decking the bridges and adding fascia boards. Partial fascia boards were added to the bridges, but in some spots, there was a little erosion occurring at the edge of the bridge.

Worked completed in 2020

In 2019, Chris Gamache, from the Trails Bureau, put out a trail counter on the Kelsey Notch Trail for the OHRV season, but the information was not available for the last monitoring report. The counter total came in at 2508 trips, but approximately 100 trips were from maintenance vehicles. The counters were out on the trail from July to October.

In August, the Trails Bureau re-built 5 bridges within the Kelsey Notch trail system. These bridges were supposed to be have built in 2018, but due to state budgets the money was not allocated until 2020. Their crew also spent 2 weeks completing trail maintenance with an excavator including re-shaping the trail, cleaning out the water diversion bars, cleaning out ditches where necessary, and general maintenance where needed.

Findings

Regional Forester, Maggie Machinist and Forester, Todd Caron, visited the trail in early August. The trail had not had any maintenance done for the year yet. This trail sees quite a bit of traffic and there is wear and tear on the trail at most times. Some of the hills had some washing and it was very bumpy (washboard), but none of it seemed to be getting into the larger streams, but there was evidence of erosion into the intermittent brooks and drainage ditches. It was obvious that the bridges were overdue to be re-decked and appeared to be dangerous.

On October 9, 2020 the Kelsey Notch trail was reviewed by the Trails Bureau District Supervisor-Clint Savage, Regional Wildlife Biologist- Jake DeBow and Regional Forester-Maggie Machinist as the official monitoring trip.

We stopped and looked at the two bridges nearest to the boundary and entrance, which were re-decked during the summer of 2020. These bridges were planned to be replaced in 2019, but the RTP funds were delayed and then there was a delay getting pressure treated wood. The bridges looked good and were built to standards to withhold a loaded log truck.



Figure 1- Newly built bridge

Then, we walked up the section of the trail that heads northwest toward Colebrook and Diamond Peaks. We walked out to the property line. Last year there was a recommendation to re-deck the bridges and add fascia boards to eliminate sedimentation. This project was finally completed after unexpected delays. Three new bridges were installed in this section of the trail, and they looked good. These bridges were made with steel I-beams and should last for a while. There was a small amount of silt washing on the approach to the bridge, hopefully, this does not continue. Some fascia boards seemed to be missing during installation.



Figure 2- Minor sediment washing on edge of bridge

There was wear on the trail toward the end near the boundary line (southwest section of trail) and some evidence of siltation in the ditches but overall this section of trail was in good condition and was a very hard packed trail.



Figure 3- Shows condition of trail

Section 2- Next we headed up toward Kelsey Notch and the boundary line. This main section had been re-shaped, ditches cleaned out and water diversion devices (rubber flaps) had been cleaned out. Due to the recent grading and trail maintenance, the trail was in good condition all the way to the boundary, however the rubber flaps were already filled with sedimentation again.

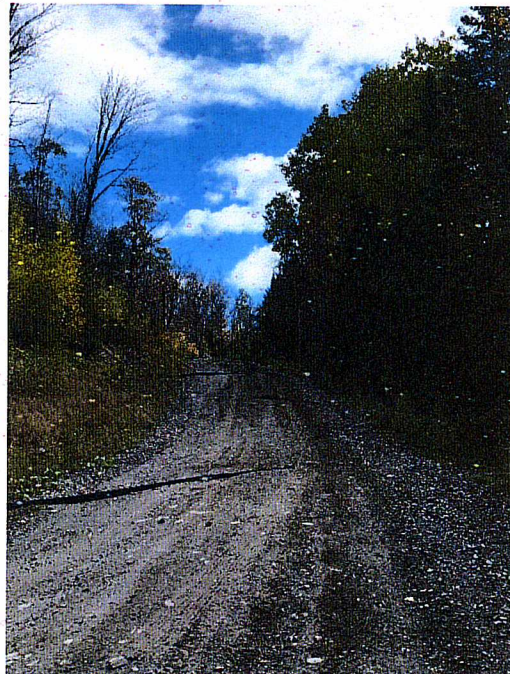


Figure 4- Showing the water diversion device

Each year, the sharp corner leading up to Kelsey Notch gets a significant berm. This happens from the dirt and rocks getting kicked out as the OHRVs turn and head up the hill, exacerbated with speed.

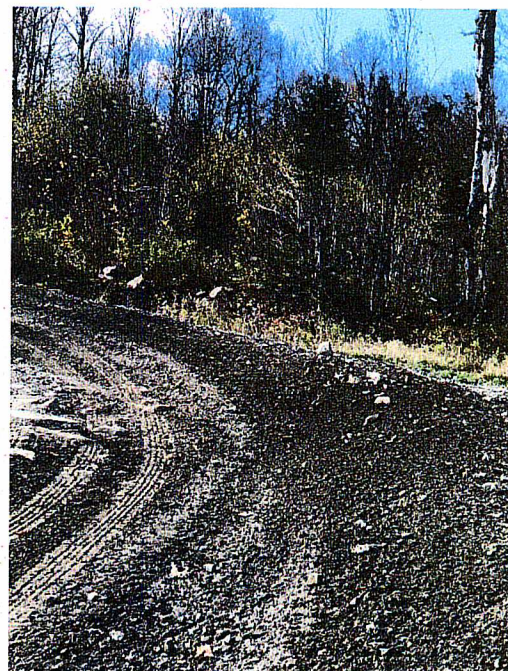


Figure 5- Shows berm on corner of trail

This year, we observed phragmites growing next to the trail in the ditch. This was not observed last year, but it may have been overlooked. There were a few spots that had small populations of this invasive species. It should be treated so that it is not spread. While the source of the invasive is not exactly known, it is logical to conclude that it was brought in either on equipment working on the trail or by ATV's.



Figure 6- Shows invasive species, phragmites

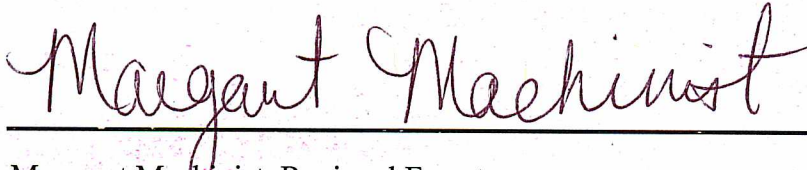
See additional attached comments from the Fish and Game Department.

Recommendations-

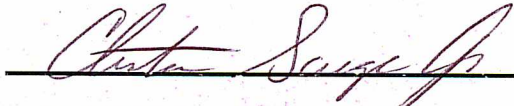
- Treat the invasive species with herbicide to minimize the spread. Flag those areas so that future road work and trail maintenance does not disturb those areas and spread the phragmites.
- Continue to monitor the amount of washing on the edge of the bridge
- Continue to monitor and clean out the rubber water diversion devices

Conclusion- The trail is in good shape though there is some minor erosion and sedimentation. The new bridges look great and will improve safety on the trail dramatically as well as reduce sedimentation. It was upsetting to find invasive species on the trail and it will be imperative to manage this with herbicide so that it does not get out of control. The trail appears to be in compliance with expectations, however, it will be continued to be monitored. It would be beneficial

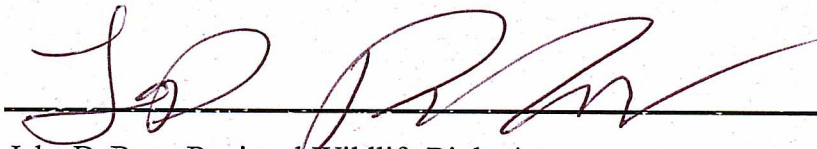
to visit the trail earlier several time throughout the season to see the level of use prior to maintenance. The trail is closed for the season.



Margaret Machinist, Regional Forester

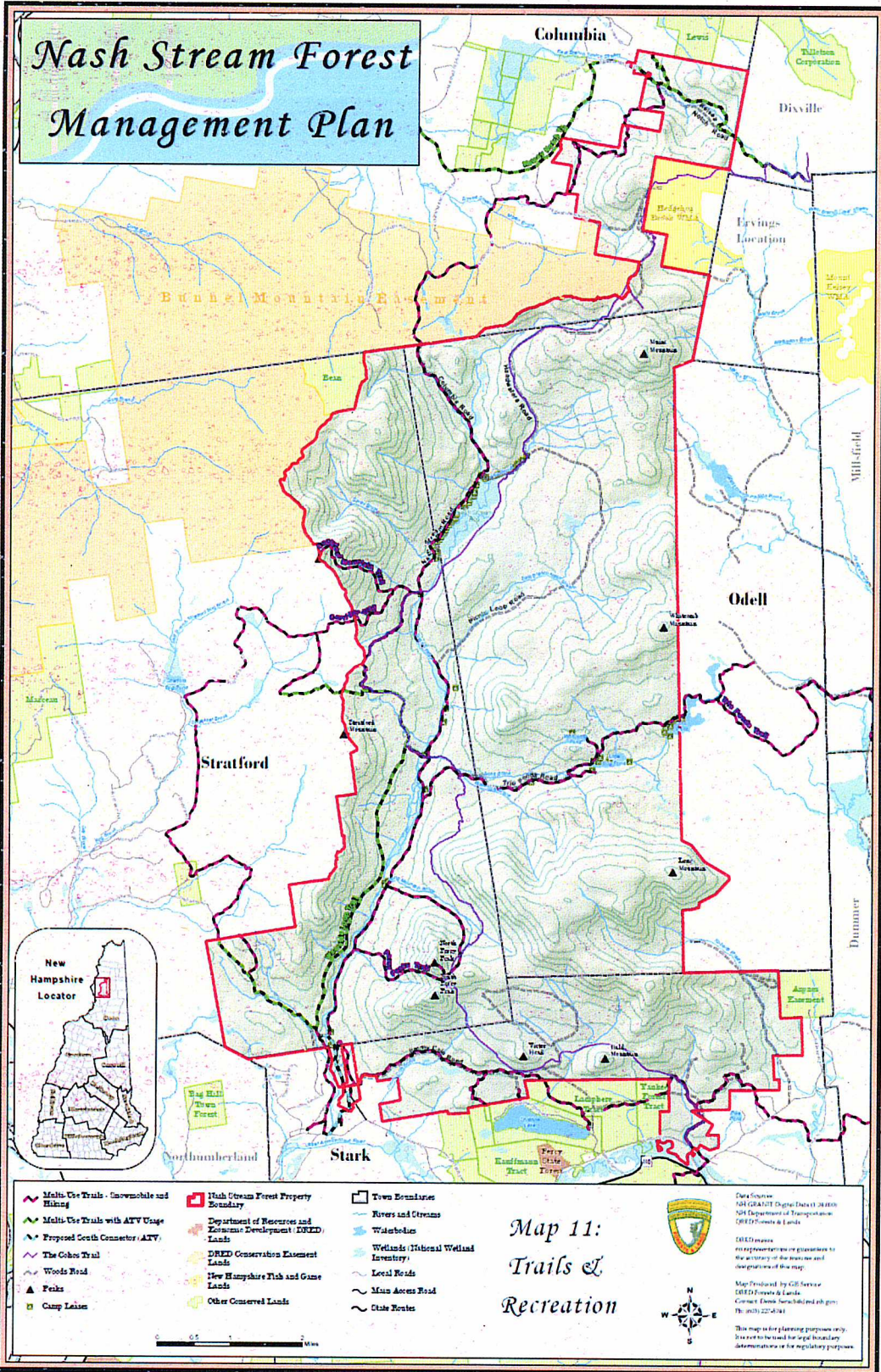


Clint Savage, Trails Bureau District Supervisor



Jake DeBow, Regional Wildlife Biologist

Nash Stream Forest Management Plan





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Attachment 1

New Hampshire Fish and Game **Kelsey Notch Trail Environmental Compliance Report 2020**

On Friday, October 9th, 2020 Regional Wildlife Biologist Jacob DeBow accompanied Maggie Machinist (NH Forests and Lands) and Clint Savage (NH Trails Bureau) to the portion of the Kelsey Notch Trail that crosses Nash Stream Forest for the annual monitoring visit. During this visit we viewed all of the approximate 3 miles of trail that occurs within the boundaries of the Nash Stream Forest.

On this section of trail we saw multiple steel beam bridges with wooden decking that were installed this previous summer. These bridges allow for the free flow of water within their natural channels and the movement of various reptile, amphibian, and small mammal species that may utilize the brooks. Some slight erosion is showing at the lip of two bridges. Sedimentation from runoff and settling dust from high trail use is of concern in these runoff streams for wildlife that require clean and clear water.

On the section of trail that we viewed minor erosion had occurred in no more than three sections of trail. Here minor erosion is defined as small grooves washed out of trail, into the ditch. The steepest section of trail that heads into Kelsey Notch proper showed signs of wash boarding. From what was witnessed the wear and tear on the trails is what would be expected of a high use ATV trail.

In summary, New Hampshire Fish and Game has continued concern surrounding the intensity of use on this section of trail and how increased use affects ecological integrity of Nash Stream Forest and the surrounding subwatersheds. The condition of the trail appeared adequate during the site review, but varied levels of use influences this ecosystem, as well as others, differently. In particular, sedimentation from OHRV's impacts terrestrial and aquatic habitat and increased noise pollution from higher traffic and loud machines is of concern as it displaces wildlife.

This section of trail crosses multiple first order streams, which form the headwaters of Simms Stream. The East Branch flows directly into Silvio Conte National Wildlife Refuge – Blueberry Swamp. Increased sedimentation in these upper waterbodies can be detrimental to lowland swamps and wetlands. Increased deposition can fill in high quality vernal pools and other important seasonal habitats. Sedimentation and turbidity within aquatic systems can alter food chains by depleting food sources at the highest trophic level, depress growth rates, and limit reproduction (Henley et al., 2000). Due to limited information on this section of trail we do not

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know the level of sedimentation that enters these streams but assume it to present based on observations of other ATV trails during the summer months. Localized research would have to be completed to better address this concern.

In regards to the influence of noise on local wildlife we have concern about potential increases in flight behavior around active trails (Stankowich, 2008). While little research is available from New England trails, impacts from ATV use has been documented on western wildlife like Rocky Mountain elk, showing impacts up to 3000 meters from a trail (Preisler et al., 2006). There are several steep sections of this trail which inadvertently causes ATV's to increase RPM's, creating louder noise. We have concern for how this may disrupt the normal cycles of wildlife within ear shot of the trail by interfering with breeding behavior, decreasing time spent foraging, and increasing time spent on alert and on edge as machines constantly pass by.

Sincerely,



Jacob DeBow
Regional Wildlife Biologist

Citations:

Henley, W. F., et al. "Effects of sedimentation and turbidity on lotic food webs: a concise review for natural resource managers." *Reviews in Fisheries Science* 8.2 (2000): 125-139.

Preisler, Haiganoush K., Alan A. Ager, and Michael J. Wisdom. "Statistical methods for analysing responses of wildlife to human disturbance." *Journal of Applied Ecology* 43.1 (2006): 164-172.

Stankowich, Theodore. "Ungulate flight responses to human disturbance: a review and meta-analysis." *Biological conservation* 141.9 (2008): 2159-2173.