

Comments on Proposed Stream Reclassification of Blue Bank Brook in Ripton, Vermont
October, 2021
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This submission supplements comments we transmitted to the DEC in April, 2021, relative to the subject proposal.

In answer to our previous comment regarding concerns about the compatibility of logging and A(1) streams, DEC responded that they had performed an analysis of logging on stream quality. As permitted by the Vermont Open Record Act, we subsequently requested all documents related to these studies. We appreciate the DEC's prompt production of documents.

In response to our request, DEC produced, among other items, a document titled "Streams in excellent or very good biological condition after logging or harvesting operations" updated 2020 (hereinafter referred to as the Logging/Stream Study), a series of stream monitoring reports, and imagery used for the logging studies. The streams in the study were: Smith Brook, Bingo Brook, Chittenden Brook, Kidder Brook, Bartlett Brook, Fargo Brook, Holland Pond Tributary 3, Madison Brook, and Alder Brook.

The Logging/Stream Study states that streams were selected for their study specifically because they were in excellent or very good condition after logging operations. Such a restricted selection is not scientifically valid. For validity, the DEC would have had either to select for study all streams in whose watersheds logging occurred or to randomly select streams in whose watersheds logging had occurred. If one were to retroactively choose seven lovely autumn days when a jacket is not necessary, it would not follow that jackets are not necessary for any autumn days. Furthermore, none of the subject streams were classified as A(1), as is proposed for Blue Bank Brook, with the exception of Kidder Brook. After the studies were done, the DEC recommended that all of the streams retain a B(1) classification.

The imagery provided us by the DEC and used for the Logging/Stream Study was obtained from Google Maps. Some Google Maps imagery is clear; some is not.¹ On a few of images, DEC had drawn areas they apparently believed to have been logged. The DEC did not attempt to quantify the extent of the logging, either in the acres logged or the type of logging done (clear cut, shelterwood, patch cutting, etc.). The extent of logging might well have different impacts to streams. Because of long intervals between the map dates, the DEC was unable to pinpoint years when logging was done. It is disappointing that the DEC did not contact the Vermont Department of Forests, Parks and Recreation, which has detailed reports on logging, both as to extent and dates of the activities.

We verified that the imagery publicly available to us through Google Maps was the same imagery as was used by the DEC. We examined the imagery directly from Google Maps to determine whether statements made in the Logging/Stream Study appeared to be accurate.²

¹ We are aware that many states conduct regular imagery for agricultural purposes. This imagery is often superior to imagery from Google Maps. We do not know whether Vermont conducts such imagery. If it does, this may have been a better source of information to the DEC. We are also aware that aerial photographs have long been used by the U.S.G.S. for mapping purposes. These photographs are also superior to those in Google Maps. Record production from the federal government being at a glacial rate, we were not able to obtain aerials of the subject area before the due date for these comments.

² Both of us have had a longstanding interest in maps and aerial imagery. One of us has had professional experience, including determining 100-year flood boundaries for the National Flood Insurance Program, identifying changes in ground cover/land use over time in conjunction with wetland studies, and field-verifying U.S.G.S. maps. Both of us have had decades of experience teaching map reading to Scout and other youth groups.

Following are our comments on each of the streams included in DEC's study.

Smith Brook:

DEC's Logging/Stream Study stated that "significant logging" had occurred in this watershed in about 2003. DEC did not designate on its imagery where it determined logging had occurred.

In examining Google imagery, we were able to spot several logged areas. One clear cut area is about 27 acres in size is south-southeast of the sampling spot, but drains easterly, rather than into Smith Brook. A second clear cut area of about 8 acres lies northeast of the sampling site, partway between the brook and Forest Road 61. Drainage from this area would flow about 0.1 miles overland, then about 0.4 miles before reaching the sampling point. A third clear cut of 19 acres lies north of the forest road. Drainage from this area would flow about 0.3 miles overland, then about 0.4 miles to reach the sampling point. All three of these logged areas are clearly visible on the 1993 Google map. Thus, DEC's determination of the approximate date of the logging is mistaken by at least ten years. That 1993 also map shows several other large areas that appear to have been logged some years before 1993, when trees were already beginning to grow.

DEC provided us with stream samples from Smith Brook from 1997 through 2003 and from 2009 through 2017. Those results are:

1997: Excellent

1998: Excellent

1999 (September 16, before Hurricane Floyd): Excellent

10/12/99 (October 12, after Hurricane Floyd): Excellent

2000: Excellent

2001: Good/very good (attributed to Tropical Storm Irene)

2002: Excellent

2003-2009: Not sampled

2010: Very good

2011: Very good/good

2012: Very good

2013: Excellent/very good

2014: Very good

2015: Very good

2016: Excellent

Because the stream sampling did not begin until at least four years after the logging was done, it merely shows that logging does not have a long term effect on stream quality. It says nothing about the short term effect of logging on stream quality.

Bingo Brook

DEC's Logging/Stream Study states that logging in this watershed occurred through the early 2000's. The imagery maps provided by DEC do not designate any areas they assumed to have been logged. We could see logged areas of about 10 acres, 1.6 acres and 1 acre on the 2003 Google map. These

logged areas were about 1.8 river miles upstream of the stream sampling location. They were not visible on the 1992 imagery. No imagery was available between 1992 and 2003, so the logging is presumed to have occurred between those two dates

Bingo Brook was extensively sampled between 1999 and 2019.

The results of those samplings were:

1999: Good

2000: Excellent

2001: Excellent/very good

2003: Excellent

2004: Excellent

2005: Very good

2009: Very good/good

2010: Excellent

2011: Good-fair

2012: Very good/good

2013: Excellent/very good

2014: Very good

2015: Very good

2016: Excellent/very good.

The 1999 sampling showed the stream quality as only “good.” Without any written explanation of their reasoning, DEC assumed this was because of Hurricane Floyd, which occurred in the fall of that year. However, the imagery shows that logging was done in approximately the same time period. No attempt was made to pinpoint the dates of the logging or to determine if the 1999 quality determination could have been caused wholly or partially by logging.

Smith Brook, which was also included in this study, was sampled immediately before and after Hurricane Floyd and was designated “excellent” in both cases. Hurricane Floyd impacted most of Vermont. The Smith Brook sampling argues for the illogic of assuming, without analysis, that Hurricane Floyd was wholly responsible for any diminution in stream quality in 1999 in Bingo Brook.

Chittenden Brook

The DEC Logging/Stream Study stated that logging activity had occurred in 1993 and that activity was also noticeable between 2003 and 2006. The imagery provided by DEC had a marked logging area of about 10 acres. This logging was visible on the 1993 map and is about 3 miles upstream of the initial stream sampling point. Clear Google imagery is not available for years preceding 1993, so we could not determine when the logging was actually done. No additional logging areas were marked on the imagery provided by DEC. Our examination of the 2003 and 2006 imagery did not reveal any logging occurring after 1993. We request that the DEC specify where they believe such logging occurred.

Chittenden Brook was first sampled in 2003 near where it crosses the Route 73 bridge. The sampling continued in the two subsequent years. The

assessment ranged from Excellent/very good to Excellent. However, this sampling occurred far downstream of any logging and well after the logging identified on DEC's imagery occurred.

In 2014, Chittenden Brook was again sampled, this time in a location closer to where the logging had occurred. The quality of the latter sampling location has slightly degraded from 2014 when it was rated excellent to 2016, when it was rated very good. Our analysis of the imagery shows that this sampling was not done until at least twenty years after the logging.

Kidder Brook

The DEC Logging/Stream Study states that "it looks like" Kidder Brook was logged between 2009 and 2011. Indeed, their imagery delineates an area of about two acres of minor thinning which Google imagery shows occurred sometime between 2009 and 2011. This area is close to Kidder Brook and about 1.5 miles upstream of the sampling point.

Kidder Brook has been extensively sampled by the DEC. Its assessments are as follows:

1992: Very good
1999: Good-fair
2000: Good-fair
2001: Fair
2002: Good-fair
2003: Good-fair
2006: Excellent-very good
2008: Very Good
2009: Good
2010: Good
2011(September 14): Poor
2011(October 7): Fair-poor
2012: Very good-good
2013: Excellent-very good
2017: Excellent
2018: Good

Although DEC assumes that the 2011 degradation in quality was caused by Hurricane Irene, it is also possible that the stream quality was impacted by the logging.

The DEC does not attempt to explain the wide variation in assessments over time, including the most recent decrease from excellent to good in 2018. Kidder Brook is sufficiently high in altitude to be automatically classified as an A(1) stream. However, if Kidder were lower in altitude, DEC's assessments show it would not be eligible for an A(1) classification. Indeed, DEC's Logging/Stream Study states that Kidder Brook is "maintained B1" in classification.

Bartlett Brook

The DEC Logging/Stream Study states logging operations in this watershed occurred before 2003 and “wrapped up” about 2008. The Google imagery preceding and closest to the 2003 imagery occurred in 1995. That imagery does not show the logging. Our analysis of the imagery indicates that the canopy is sufficiently filled in by 2006 to date the logging closer to 1995 than 2003.

A single sampling on Bartlett Brook done in 2006 assessed the stream as “excellent.” The sampling was done well after the logging was complete.

Fargo Brook

The DEC logging study notes “minor logging” in 2012, and “significant” logging on the hill above the sampling site in 2015. No areas of logging were designated on the imagery provided us by DEC. We were unable to see any “significant” logging on 2015 or subsequent images. The logging may have been noticed by the person performing the stream sampling. Unfortunately, the DEC did not supply us with any field notes, which would have been responsive to our Open Records Request for “all information about... stream studies” contained in the logging/stream analysis, so we do not know how the determination of “significant” was made.

This is a case where logging reports from the Department of Parks and Forestry would have been particularly helpful in locating and quantifying the amount of logging. We suspect that various people may define “significant” differently.

The brook was sampled in both 2013 and 2015 and was rated excellent in both instances.

Holland Pond Tributary 3

DEC’s Logging/Stream Study Holland Pond tributary sampled once - in 2009 – when it was assessed as Excellent/very good, Heavy logging appears to have been done in this watershed prior to 1999. With sampling so far distant from the time that logging occurred, no possible short term effect of logging on the stream quality can be determined.

Madison Brook

DEC designated two areas of logging on the imagery they provided to us. This logging is evident on the 1999 imagery, so was done some time before that date. Our own review of Google imagery shows that patch cutting, not identified by DEC, was done in two areas tributary to the brook sometime between 2013 and 2015. One cutting has about 24 patches roughly 2 acres in size, extending over a total area of 146 acres. It is about 1.2 miles upstream of the sampling site. The other patch cutting consists of about 16 patches, varying in size from about 0.5 acres up to 2 acres, extending over a total area of about 24 acres, and about 0.7 miles upstream from the sampling site. Alas, the stream was apparently sampled only in 2000, 2012, and 2013. The stream was not sampled after the patch cutting noted above.

Alder Brook

DEC's Logging/Stream Study states that 67 acres of timbering had occurred within the Alder Brook watershed from 2005 to 2009. Their imagery did not designate any timbered areas. We were unable to find any significantly lumbered areas within the Alder Brook watershed. We would like the DEC to clarify where they think this occurred, how much logging occurred, and how far distant such logging may be from their sampling point.

Sampling on Alder Brook began in 2016 and has been done annually in each subsequent year. The 2016, 2017, 2018, and one 2019 assessments deemed the brook quality as excellent. A second sampling in 2009 was reported as "unable to assess," although no explanation was given for this anomaly. The 2020 sampling downgraded the stream to between excellent and very good. No explanation was given as to why this might have occurred. As is true of most of the streams above, the initial Alder Book sampling took place substantially after the logging had been completed, so did not measure any short term effects of logging on stream quality.

We were astounded that DEC's Logging/Stream Study did not include a very relevant instance of extensive logging close to Blue Bank Brook. One of our previous concerns was that the DEC had not sampled macroinvertebrates or fish near the confluence of Blue Bank Brook and the New Haven River, although chemical analysis had been done there in 2009. (The chemical analysis did not meet standards for A(1) streams.) The DEC responded that the sampling locations on Blue Bank brook and its tributary were selected in 2009 to monitor upstream logging activities by the U.S. Forest Service. Between 2014 and 2015, the U.S. Forest Service clear cut approximately 56 acres within 0.06 miles of Blue Bank Brook and about 0.25 miles upstream of the junction of Blue Bank Brook and the New Haven River. However, the DEC chose to establish two macroinvertebrate/fish sampling locations upstream of the logging area, rather than sampling downstream at the confluence of the brook and the river, a much more relevant sampling location given their stated reason for initiating sampling.

We do not contend that streams are permanently damaged by logging operations. Indeed, we have documentation that most of our lot # 122 was clear cut during the first decade of the 1900's. Our ancestors clear cut portions of our lots #119 and 120 over a period of years beginning in the late 1800's and extending through the mid-1900's. The clear cuts on lots 119 and 120 included all of the land west of the Natural Turnpike Road, most of the land between the brook and the Natural Turnpike Road, all of the land within several hundred yards of the brook, and significant portions of the land extending up the Chatfield arm of Breadloaf Mountain. Even in the past twenty years, some limited logging operations have occurred on our land. Obviously, Blue Bank Brook has recovered from the above logging operations.

Our contention is that logging may temporarily affect streams as recognized in Vermont's Acceptable Management Practices for logging: "Usually, it is impossible to avoid disturbing some soil or concentrating some flowing water during a harvest."³ This is especially relevant to us because the DEC is currently sampling Blue Bank Brook in two locations. One is immediately downstream of our property, the other is on our property. DEC's Logging/Stream Study does not

³ https://fpr.vermont.gov/sites/fpr/files/Forest_and_Forestry/Forest_Management/Library/FullDocument-7.29.pdf, page 17.

at all alleviate this concern. The studied logging projects were considerably smaller than ours would be. None straddled the subject brook as ours will. Most occurred a considerable distance from the sampling point. If the Blue Bank Brook were to be reclassified, our logging operations would be held to a higher standard than other logging operations in the state, thus increasing our costs and potentially making logging uneconomical. While some people might think that underhandedly preventing logging would be a laudable goal of the stream reclassification, we believe that this would be an unlawful taking of our property.

One of our previous comments was a concern that that the DEC sampled a tributary of Blue Bank Brook on our property at location 44.027400970459, -72.9695281982422, without notifying us, let alone obtaining our permission. The DEC did not address this comment in its replies to our initial comments. However, pursuant to our Public Records request, we received copies of internal DEC e-mail correspondence dated 3 October and 14 October 2019 between Ethan Swift, Aaron Moore, and Jim Deshler. That correspondence stated that Mark Nelson, the petitioner, who had been “championing” (DEC’s wording) the stream reclassification had asked to accompany the DEC on the 2019 sampling round. The DEC agreed to “invite” him along. We find it troubling that the DEC invited Mr. Nelson to take part in an activity on our land when they had never told us such activity was taking place.

One of our significant concerns continues to be that natural deterioration/destruction of beaver dams can affect the brook quality. Very pertinent to this concern is that an onsite visual inspection in October, 2021, of one of the ponds on our property indicated the beavers may have moved on. The water level is lower than it was in 2019. No recent beaver chew was seen surrounding the pond. We cannot know if the dam will fail catastrophically or gradually. However, we do know that, without beaver maintenance, the dam will fail and such failure will very likely impact the stream quality. If that failure were to occur proximate in time to our logging operations, we are anxious that DEC may assign any degradation in stream quality to our logging operations, rather than failure of the dam.

We enjoy the beauty of our lands. We recognize that many others do, as well. At the same time, we are not naifs.⁴ As soon as we begin logging, some people will begin howling that we are despoiling land that they deem should remain forever untouched. Their untrained eyes do not recognize our lots have been continually managed for over a century and a half for agricultural and timber usage. Logging in a particular location does not happen every year. It typically occurs in a relatively short period of time, often one or two years, after which trees are allowed to grow over a period of many decades before the land is again logged. Our land is now reaching the point in the cycle where logging is indicated. No doubt, people seeing our upcoming planned logging, duly approved by Vermont’s County Forester, will insist that the DEC closely monitor the stream during the logging operations. The DEC’s ability to segregate natural variations in stream quality, including possible degradation from failure of beaver dams, from any possible impact of our logging operations is paramount. Nothing the DEC has provided us demonstrates their ability to do so.

Another of our previous concerns was that regulations can change without our knowledge. Lacking that knowledge, we would not be able to have input to such changes. In April, 2021, the DEC proposed changes to the Water Quality Standards. The DEC identified “interested parties” which did not include us, despite our concern about regulation changes

⁴ Both having reached the age of being long in the tooth, we have decades of experience with the regulatory environment, both from the viewpoint of being regulated and from objecting to the despoliation of the environment by others.

expressed in our comments submitted in March, We further noticed that none of the “interested parties” included any forestry associations. The proposed changes included extended setbacks from river beds and banks to include the entire riparian zone. This change would directly affect us. We are anxious that future changes in regulations can impact us without our being given an opportunity for input to those regulations because the DEC apparently does not deem us an “interested party.”

The director of the DEC is required to make stream reclassifications in accordance with the public interest. We have both ethical and monetary interests in following Accepted Management Practices during all our logging operations – no matter whether or not we are required to do so by any governmental agency. We fully intend to contractually require any loggers we hire to follow those practices. However, we believe that keeping the current B(2) stream classification of Blue Bank Brook is the most realistic solution to balancing competing public interests between logging and stream quality. Retaining this classification will not lead to any long term degradation of the brook.