

Response summary for comments received on the Vermont 2014 draft versions of the:

- ❖ *303(d) List of Impaired Waters (Part A)*
- ❖ *Other Priority Waters Lists (Parts B, D, E, & F)*

Attachment A: Listing of South Mountain Branch Tributary #3 and Jay Branch on Part B of Vermont's 2014 List of Priority Surface Waters

Attachment B: 1272 Order issued to Jay Peak Resort

Public Comment Period

The Department of Environmental Conservation (DEC) held a public comment period upon the release of the draft 2014 303(d) List of Impaired Waters and Parts B, D, E, and F of the Vermont 2014 List of Priority Waters. The comment period extended from March 28 through April 25, 2014. At the close of the public comment period, DEC had received comments from the following three parties:

Commenter	Identification
Stratton Area Citizens Committee	SACC
Vermont Natural Resources Council	VNRC
Jay Peak Resort	JPR

Part A and Interim List Comments

1. Comment: [SACC] Part A: Several of our high mountain streams are impaired due to Acidification. However, in many other respects these waters are Class A (especially Kidder Brook (11 – 15). Since TMDLs have been proposed for acidified lakes and ponds, would it be possible for streams to have a similar action to remove the stigma of “impaired”? (e.g.: a nationwide air pollution standard for fossil fuel plant emissions??)

Response: National air pollution reduction efforts over the past several decades appear to be having a positive impact on acidified streams, lakes, and ponds in the Northeast by reducing acid deposition. The problem is not solved, but trends in Vermont are heading in the right direction. Currently, total maximum daily loads (TMDLs) are not proposed for acidified streams in Vermont because a satisfactory methodology to relate acid deposition rates to stream biological health has not been identified. However, specific to Kidder Brook, biological trends appear to be improving, but they are not yet in compliance with Class A1 standards. As only a lightly buffered stream, pH measurements in Kidder Brook have often fallen below the general Vermont Water Quality Standards Criterion of pH 6.5. VWQS § 3-01(B)(9). Correspondingly, macroinvertebrate assessments have never met the Class A1 biocriteria included in the VWQS. VWQS § 3-02. Evaluations completed from 2012 and 2013 collections show Very Good-to-Good and Excellent-to-Very Good respectively. These ratings easily meet Class B standards but fall short of the Class A1 level. Therefore, Kidder Brook must still be listed as “impaired.”

2. Comment: [SACC] Delisted Part A: It seems like a reach for Mill Brook (11- 16) to meet Class B for Small High Gradient Streams when silt and sand remain prevalent. As a frequent user of Bromley’s parking lot, I maintain more could be done to improve the stormwater runoff.

Response: Sufficient biological data has been collected to show that Mill Brook is in compliance with the Class B aquatic life support biocriteria in the VWQS. VWQS § 3-04(B)(4). The water will continue to be monitored to ensure that it continues to meet the VWQS.

3. Comment: [SACC] Overall, the 2014 Impaired List signifies a worthy goal to improve surface waters in Vermont. This is a very large task and deserves the resources necessary for success. SACC is grateful to all those who participated in effort.

Response: Thank you. DEC also appreciates SACC’s commitment to improving water quality.

Other Priority Waters List Comments

4. Comment: [SACC] Part D: Styles Brook (11-15) has been on the Part D list for 12 years. The last implementation to remediate was several years ago and impact from development over the years has not helped the remediation efforts. Could it be that Styles Brook is permanently impaired?

Response: Styles Brook is not considered “permanently impaired.” If the stressors to the stream are removed, aquatic biota will return in sufficient numbers. While Styles Brook remains on the 2014 Priority Waters List as impaired (Part D), the most recent macroinvertebrate monitoring data suggests that over the past two years, Styles Brook has made substantial improvements. Specifically, the recent decrease of aquatic worms indicates less sediment and sand in the stream, which has been the goal of remediation efforts over the past decade.

5. Comment: [SACC] By creating additional categories to avoid Part A are we adapting to a lower standard of water quality? Does VT have the resources to apply stringent regulations to developers and follow up with enforcement?

Response: By no means is DEC lowering the standard for water quality through the development of various sections of the Priority Waters List. DEC works within the strict bounds of the federal Clean Water Act (CWA) regarding the development of the Part A and what waters it contains, and federal regulations provide the ability to list waters on Part B. Pursuant to the CWA, 33 U.S.C. § 1313(d)(1)(A), Part A is a priority ranking of waters in need of a TMDL. Under 40 C.F.R. § 130.7, DEC may choose not to list an impaired water on Part A, if other pollution control requirements (such as best management practices) required by local, state, or federal authority are expected to result in attainment of the VWQS over a reasonable period of time. Therefore, listing on Part B is not a lowering of standards but simply another way to achieve compliance with the VWQS. Pursuant to the CWA, 33 U.S.C. § 1313(d), waters on Parts D, E, and F are not appropriate for Part A listing, but are provided by DEC to give a more comprehensive view of the status of waters throughout the State.

While additional resources are always welcomed, as part of current operations, DEC staff routinely follow-up on issued permits to ensure their strict compliance. When situations arise where permit conditions are not being adhered to, staff will work with the permittee to bring a project into compliance. If satisfactory conditions cannot be achieved in a timely manner, the project is referred for enforcement action to compel the necessary activities to protect water quality.

6. Comment: [VNRC] The Agency has elected to utilize a 1272 Order to compel remediation of several streams at Jay Peak Resort to “allow for the rapid implementation of water quality fixes within a regulatory framework as opposed to the more complex Total Maximum Daily Load (TMDL) development process”. Clearly, this rapid implementation of water quality fixes is failing to work: these streams have been impaired for ten years due to Jay Peak Resorts failure to procure, or comply with, construction erosion prevention permits and operational stormwater permits in order to protect the waters. Indeed, additional stream reaches have been added to the impaired waters list at the resort.

Given that the actions of Jay Peak Resort have resulted in the impairment, that the current tool has been in effect for a decade, that Jay Peak Resort’s efforts have failed to remediate the streams, and that an

additional mile of stream has become impaired, it is clear that this 1272 Order approach is not an appropriate or effective tool to clean up the waters. The Agency, then, should compel the development of a TMDL for the streams at Jay Peak Resort.

Response: Because the streams at Jay Peak Resort have yet to achieve compliance with the VWQS, DEC issued a new 1272 Order on March 21, 2014. The current 1272 Order expands mandatory remediation efforts to address all current and newly discovered impairments. Through the monitoring efforts conducted in conjunction with the previous 1272 Order and Water Quality Remediation Plan (WQRP), a previously unknown impairment of the South Branch Tributary was discovered. This continued monitoring effort by Jay Peak Resort also uncovered the expanded impaired section of Jay Branch from river mile 8.3 down to 7.3. However, recently verified biomonitoring data from 2013 (previously unavailable when the Lists were released for comment) indicate that this expanded reach is now meeting biocriteria standards, which shows the inherent resiliency of the Jay Branch.

DEC believes that when a single entity is the main cause of a stream's impairment, the 1272 Order process leads to faster remediation by, in this case, compelling sediment source identification and accelerated implementation of remediation measures. This "direct to implementation" approach is gaining support with the U.S. Environmental Protection Agency (EPA) in lieu of TMDLs and has been borne out in similar situations where WQRPs have been successful at other ski areas. Rice Brook at Sugarbush and streams in the vicinity of Stratton have recovered using this approach. Even though a sediment TMDL was developed at Stratton, it was the WQRP that drove the recovery. Likewise, the recent issuance of 1272 Orders to Stowe Mountain Resort has resulted in significant and rapid remediation projects resulting in improved water quality. Additionally, initiating a TMDL process would certainly create implementation delays as technical problems in modeling and target setting were worked-out as discussed below.

7. Comment: [VNRC] TMDLs require load allocations and wasteload allocations and a margin of safety. A 1272 order provides neither wasteload allocation nor a margin of safety. The margin of safety would provide for enough buffering of the measures proposed so as to prevent additional reaches of stream from becoming impaired and to return waters to attainment. A margin of safety would account for any lack of knowledge concerning the relationship between effluent limitations (or in this case nonpoint source remediation measures) and water quality. This margin of safety could be either implicit in the analysis by using conservative assumptions or explicit as a separate loading allocation.

Response: In impairment situations driven by hydrologic and sediment loading, the development of workable allocations and a margin of safety requires a reasonably predictive hydrologic/sediment model. At the time when the methodology was being developed for the stormwater TMDLs, development of a similar modeling/TMDL approach was attempted for high elevation streams, like those at Jay Peak and other ski areas, but proved to be extremely difficult. Specifically, the calibration of a hydrologic model failed due to the wide-ranging and difficult modelling challenge posed at high elevations, including increased and unmonitored snowfall/rainfall, lack of flow gages, snowfall accumulation and melting predictions, steep slopes, and thin soils. No adequate TMDL methodology was developed.

Although there is no adequate methodology for creating a TMDL for the streams at issue, a significant difference these streams have compared to their lowland counterparts is that the vast majority of the sediment inputs are from a single entity. This is the ideal situation for issuing a 1272 Order that compels source identification and remediation measures because all of the responsibility falls to one party. Under a mandated monitoring plan, progress is tracked using the biological condition as the final determinate as to whether sufficient remediation has occurred. Through this adaptive management response, extensive remediation measures are front loaded in the WQRP to not only ensure VWQS compliance but to provide adequate resiliency for any potential future impacts.

8. Comment: [VNRC] A TMDL could provide extensive sediment source identification necessary to guide remediation measures to limit sediment loading to the brook.

Response: Problematic sediment source identification is the same no matter what framework is utilized, TMDL or 1272. Jay Peak Resort identified in its 2012 WQRP annual report multiple sediment sources in need of remediation. Working from this preliminary source identification work, the latest 1272 Order mandates fixes to these and other identified problems within two years.

9. Comment: [VNRC] A TMDL acts to formalize the connection between the remediation of the impaired waters and the requirements of the Clean Water Act with regard to impaired waters.

Response: The 1272 Order also formalizes this connection but with the added force of compelling remediation actions not necessarily required after the issuance of a TMDL.

10. Comment: [VNRC] TMDLs also require that seasonal variations be considered when allocations are proposed (the 1272 Order does not).

Response: By the very nature of the problem of sediment loading to streams, the seasonal variation (or critical condition) is wet weather discharges. Whether identified through a TMDL or WQRP process, the fixes remain the same.

11. Comment: [VNRC] Similar to other high elevation TMDLs or Water Quality Remediation Plans, a TMDL at Jay Peak Resort could require a percent reduction in sediment loading necessary to achieve an in-stream condition believed to provide optimal macroinvertebrate habitat conditions. The current method approved under the 1272 order is failing to result in attainment; a stronger solution is necessary.

Response: The failure to currently meet the VWQS results from deficiencies in the original 1272 Orders, in that they didn't prescribe enough implementation measures. The new 1272 Order acts to remedy that problem by compelling an exhaustive source identification process, a two-year timeframe to address those sources, and a comprehensive monitoring plan to track in-stream conditions, all under the close supervision of DEC.

12. Comment: [VNRC] TMDLs require allocations due to future growth that are incorporated into the load allocation. Given the amount of additional development that has occurred in the ten years since the streams were first listed as impaired and that additional growth is expected to be proposed at Jay Peak Resort, a better tool to address future growth is necessary.

Response: As noted in Response #7, developing allocations, including those for future growth, within the TMDL framework and relating them to biological response has proven problematic. However, the WQRP process provides a unique opportunity by addressing all sediment sources not just those under permit jurisdiction. By extending remediation measures beyond the regularly permitted areas associated with new development, compliance with the VWQS will likely be achieved more quickly and persist into the future. Expanded WQRP planning examples include improved management of snow and associated sand to limit discharges, on-mountain work road improvements, providing treatment for previously unpermitted areas, and paving of dirt roads, etc.

13. Comment: [VNRC] TMDLs must contain reasonable assurances that the implementation measures will be effective. EPA encourages states to provide reasonable assurances whenever possible that may include regulatory, non-regulatory, and or incentive-based measures.

Response: The issuance of the 1272 Order compels extensive remediation efforts to address the impairment.

14. Comment: [VNRC] TMDLs require public participation. The 1272 Order provided no opportunity for the public – the users of the impaired waters – to comment or participate in the development of the Order. Given the failure of the 1272 Order to compel remediation of the streams, public comment on the impairment and the remediation process is long overdue.

Response: It is correct that there is no public participation requirement for the issuance of the 1272 Order.

15. Comment: [JPR] As you are aware, Jay Peak Resort has been working collaboratively with the Agency to identify and remediate areas of impact to water quality within these watersheds, and has been continuing to conduct a comprehensive water quality monitoring program to assess progress toward the goal of attainment of the Vermont Water Quality Standards. To that end, Jay Peak has recently committed to further actions which are enforceable through an Order issued by ANR pursuant to 10 VSA § 1272. Prior to this, and within the last year, Jay Peak has performed the following:

- Comprehensive update by VHB of the Resort’s Water Quality Remediation Plan (“WQRP Update”) in August 2013 to address all of the above waterbodies.
- Extensive sediment source identification (within the WQRP Update) which was used as a guide for additional actions that should be undertaken to address other known areas of water quality impact on the Resort.
- Completion of retrofit and certification by Trudell Consulting Engineers of all existing stormwater treatment systems on the Resort to ensure proper functionality.
- Completion of 2013 construction activities at the Stateside base area and vicinity (mostly within the South Mountain Tributary watershed), resulting in the provision of stormwater treatment and control measures consistent with the 2002 VSMM for approximately 5 acres of previously untreated impervious area, primarily consisting of existing day skier parking areas and roads.
- Completion of 2013 fall Biomonitoring in the subject waterbodies, which shows evidence of improving conditions in both the Jay Branch and Tributary 9.

Response: DEC believes that along with these previously completed actions, additional sediment control measures remain to be done. We will be looking for aggressive implementation actions over the course of the next two years as outlined in the latest 1272 Order and the forthcoming WQRP.

16. Comment: [JPR] In addition, through the recent issuance of the 1272 Order, ANR has mandated an accelerated schedule for the identification of additional water quality remediation measures that will be required to be implemented during the 2014 construction season at the Resort.

Based on the experience of Agency personnel and our own, it is clear that the nature of water quality remediation efforts such as that at Jay Peak represent an iterative process, otherwise known as adaptive management. It is also clear that a period of time is necessary following implementation of remedial measures prior to the occurrence of a biological response. Based on our professional judgment, as developed through experience at Jay Peak and other Vermont ski resorts where similar WQRP efforts have been successfully implemented to achieve attainment of the Vermont Water Quality Standards, it is our expectation that the actions and protocols currently in place will be successful within a reasonable period of time. Therefore, we support the proposed listing approach as presented in the 2014 Draft Priority Waters List – Part B.

Response: DEC is confident that a WQRP can be developed to ultimately bring these streams into compliance within a reasonable time. The experience and expertise of both parties will be needed as well as a stern commitment to full implementation within two years to succeed.

17. Comment: [VNRC] Part C as proposed fails to provide any sense of priority over those “stressed” waters as no information is provided as to the magnitude of the impact or the Agency’s priority to remediate them.

Response: Part C has never provided such information in the past. Part C, as proposed, simply acts to identify stressed waters. For additional details, too many to provide in a list, the Tactical Basin Plans and their incorporated assessment reports synthesize a stressed waters’ condition and potential management opportunities for improvement. Also, increasingly, web based tools provided by the Agency of Natural Resources (ANR or the Agency) are making available more detailed water quality information. These tools are expected to grow and provide even more information in the future.

18. Comment: [VNRC] Part D sends the reader to yet another website to view a TMDL that has been drafted without indication as to whether that TMDL has been implemented and, more importantly, has been successful. While this linking may be convenient for the Agency, it is difficult for the public to navigate and get a sense of the state of the water.

Response: The TMDL documents have never been available directly on Part D, this is simply too much information to list. Again, the Tactical Basin Plans are usually the best source providing information on project-specific TMDL implementation or a water’s assessed condition. However, DEC will work toward improving the connections between waters on Part D to associated TMDL documents, technical reports, and assessment reports.

19. Comment: [VNRC] Whether or not the River Program has made considerable progress on its database, removing Part G as a list makes information about the extent to which channel alteration is impacting the health of our waters unclear and essentially unavailable. Sending the reader to the Rivers Program website is of no help: even a seasoned reader of the 303(d) lists would be unable to easily glean information from that website related to channel stability of a particular water.

Response: At the time Part G was originally created, there was very little information on the number and extent of intractable channel alterations statewide; two waterbodies were identified on the list. Since that time, over 70% of the State's waters have Stream Geomorphic Assessments completed according to River Program protocols. An enormous database of geomorphic condition data has since been compiled, too much to be maintained and simply represented in a list. Therefore, DEC intends to eliminate Part G. However, numerous web-based tools have been developed to easily access these data, primarily through the Agency's Natural Resource Atlas. Numerous citizens and consultants routinely use this tool to investigate stream geomorphic conditions across the State.

20. Comment: [VNRC] The past practice of presenting this content in one document with numerous lists provided the information in a very clear format. Now, the proposed bifurcated format may serve the Agency but does not benefit the reader, especially the occasional reader of the lists. VNRC suggests that more attention to the reader's needs is warranted. Please consider:

- a) Providing the lists in one document.

Response: Due to past confusion about what each list contained, a slight restructuring has occurred. The Assessment web page, the jumping-off point for all the Lists, now clarifies that all waters on the Priority Waters List are not meeting standards. In the past there was confusion that only Part A waters were impaired when actually waters on Part B and certain waters on Part D were also impaired. This fact often went overlooked by the public.

- b) Providing more information on the intent of each section.

Response: This was the intent of the proposed re-structuring of the Lists. From the Assessment web page, a description of each list and what it contains is provided in tabular format with direct links to each section. This up-front information was considered an improvement over having to sort through all the lists in a single document. DEC will consider revising some of this information to provide even more clarity.

- c) Eliminating the need to visit websites to glean the information within the lists.

Response: By their very nature, simple lists can only provide a certain amount of information. Oftentimes, the complex nature of the impairment or the stressors contributing to it needs more explanation than a list can provide. In these cases, more detailed information has to be provided elsewhere such as in a TMDL document, Assessment Report, or Tactical Basin Plan. DEC will work toward making this information more easily accessible in the future.

- d) Providing more information on the Agency's priorities, progress and schedule for remediation of impaired waters, and providing progress indicators in all parts, especially Part D (is the TMDL working? Have the waters backslid?).

Response: This is the very type of information the new Tactical Basin Plan format is currently providing. Additionally, tracking tools associated with implementation of the Lake Champlain TMDL are envisioned, which will provide detailed information of the extent of nonpoint source remediation measure across the landscape.

- e) Highlighting which waters are newly added to or removed from each of the lists for the year.

Response: New and delisted waters are identified during the comment period for the 303(d) List but not for other sections of the List. A comprehensive accounting for all the changes to the other lists would lead to a significant increase in list length and complexity and would prove to be unmanageable.

- f) Restoring Part G to the listings.

Response: See Response #19.

**Attachment A: Listing of South Mountain Branch Tributary #3
and Jay Branch on Part B of Vermont's 2014 List of Priority
Surface Waters**

Listing of South Mountain Branch Tributary #3 and Jay Branch on Part B of Vermont's 2014 List of Priority Surface Waters

Based on relevant information available to the Vermont Department of Environmental Conservation (DEC), including information received during the development of Vermont's draft 2014 303(d) list, South Mountain Branch Tributary #3 and a one-mile section of Jay Branch (river mile (RM) 7.3 to 8.3) are listed on Part B of Vermont's 2014 List of Priority Surface Waters. Waters listed on Part B are assessed as impaired, but do not require development of a Total Maximum Daily Load (EPA Category 4b).

EPA's July 29, 2005 Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act (CWA) provides that state waters may be listed on Part B if technology-based limitations required by the Act, more stringent effluent limitations required by state, local, or federal authority or "other pollution control requirements" (e.g. best management practices) required by local, state, or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time. EPA conducts a case-by-case evaluation of a state's decision to list a water on Part B.

The decision of the DEC to list the South Mountain Branch Tributary #3 and a one-mile section of Jay Branch on Part B of Vermont's 2014 List of Priority Surface Waters is based on a determination that there are "other pollution control requirements" sufficiently stringent to achieve applicable water quality standards within a reasonable period of time. This memo summarizes the rationale for this decision in accordance with EPA's 2005 Guidance.

I. Statement of Problem Causing the Impairment

Previously during the 2006 listing cycle, two river reaches in the vicinity of Jay Peak Resort (JPR) were identified as impaired and listed on Part B – Jay Branch Tributary #9 and Jay Branch (RM 8.3 to 9.1). Subsequent to that listing, a 1272 Order was issued to JPR for the development and implementation of a Water Quality Remediation Plan (WQRP) to identify and remedy the issues contributing to the impairments. Since that time, JPR has successfully implemented a number of stormwater and sediment control measures and has conducted annual monitoring to track the condition of the impaired reaches. However, while water quality improvements have been measured over the years at these two sites, sustained compliance with the Vermont Water Quality Standards (VWQS) has yet to be realized. Tributary #9 showed marked improvements immediately following the implementation of the WQRP such that VWQS were achieved for two consecutive years but that improvement was not sustained and water quality deteriorated. However, the most recent monitoring data from 2013 indicates improvement to near compliance (Table 1). The Jay Branch at RM 8.3 followed a similar water quality trajectory with intermittent compliance following initial remediation measures followed by reduced water quality conditions. However, as with Tributary #9, the latest biomonitoring data from 2013 indicates renewed improvement just short of compliance

(Table 2). In these tables, community assessments (last column) of “fair” or “poor” indicate noncompliance and assessments of “good,” “very good,” or “excellent” indicate compliance. Also, for each sampling year listed in the first column, each associated row identifies the condition for each biometric as measured and whether or not it is above the threshold of compliance. For example, a green box indicates that that biometric for that sample date is well above the compliance threshold. Likewise a blue box indicates compliance but close to the threshold. Yellow and red boxes show degrees of increasing noncompliance respectively. It’s the sum of conditions for each biometric that provides for the overall community assessment.

Table 1. Macroinvertebrate monitoring results for Tributary #9.

Location: Jay Branch Trib 9								Location ID: 501763		
Town: Jay								Bio Site ID: 427809000001		
Description: Located above initial rise from Jay Branch, below golf course holes 1,2,3,8,9, practice.								WBID: VT06-08		
Date	Sample Method	Density	Richness	EPT Richness	PMA O	BI	Oligo.	EPT / EPT + C	PPCS F	Community Assessment
10/26/2004	KN	200	23.5	13.5	43.8	4.61	0.24	0.306	42.4	Fair
10/5/2005	KN	399	42.0	17.0	71.1	3.37	25.82	0.776	57.2	F-Poor
10/5/2005	KN	300	39.0	17.0	70.3	4.23	17.00	0.822	50.9	Fair
10/20/2006	KN	421	36.0	17.0	51.1	5.08	0.30	0.900	26.0	Fair
10/20/2006	KN	270	35.5	15.5	56.1	5.14	1.30	0.867	30.7	Fair
10/1/2007	KN	624	40.0	22.0	73.0	1.32	3.02	0.947	49.3	Ex-Vgood
10/1/2007	KN	344	30.0	20.0	60.1	1.12	0.87	0.953	29.7	Fair
9/26/2008	KN	300	40.0	21.0	84.8	2.26	0.00	0.910	50.1	Good
9/26/2008	KN	492	28.0	17.0	69.8	1.18	0.00	0.916	42.2	Good
9/25/2009	KN	252	28.0	15.5	79.7	1.72	7.87	0.952	60.7	Fair
10/20/2010	KN	176	22.0	16.0	63.4	2.73	23.10	0.980	53.5	F-Poor
9/30/2011	KN	77	22.5	15.0	65.1	1.59	7.61	0.489	58.2	Poor
10/3/2012	KN	95	25.5	15.5	68.3	1.96	21.25	0.928	54.5	Poor
10/4/2013	KN	157	30.0	19.5	74.4	2.07	13.59	0.913	58.0	

Table 2. Macroinvertebrate monitoring results for Jay Branch RM8.3.

Location: Jay Branch								Location ID: 505192		
Town: Jay								Bio Site ID: 4278000000083		
Description: Located about 100m below Trib #9 (3-1), below Golf course holes 1,2,3,8,9,practice. Above trib # 8.								WBID: VT06-08		
Date	Sample Method	Density	Richness	EPT Richness	PMA O	BI	Oligo.	EPT / EPT + C	PPCS F	Community Assessment
10/26/2004	KN	324	27.0	17.5	59.6	1.96	7.20	0.978	55.5	G-Fair

10/5/2005	KN	768	49.5	23.0	71.9	2.55	15.12	0.826	52.4	Fair
11/3/2006	KN	851	34.0	21.0	57.9	2.65	0.30	0.954	29.1	G-Fair
10/1/2007	KN	363	31.0	20.5	75.6	1.09	8.28	0.958	60.0	Good
9/26/2008	KN	311	30.5	19.0	68.6	1.47	14.76	0.984	50.1	Fair
9/25/2009	KN	374	31.5	23.5	70.9	1.58	9.88	0.977	61.1	Good
10/20/2010	KN	361	30.5	24.5	56.8	1.36	5.70	0.492	52.5	Vg-Good
9/30/2011	KN	117	21.5	15.0	58.2	1.34	17.78	0.972	56.0	Fair
10/3/2012	KN	230	24.0	16.5	71.1	1.15	6.94	0.976	56.4	Fair
10/4/2013	KN	238	30.0	21.5	79.9	1.13	10.10	0.950	57.0	

During the development of the 2014 303(d) List of Impaired Waters, DEC evaluated the latest biomonitoring data associated with the streams in the vicinity of JPR. The data was provided by JPR as part of the 2012 WQRP update. Two additional reaches were identified as impaired, South Mountain Branch Tributary #3 and an additional one-mile reach (RM 7.3 to 8.3) of the Jay Branch downstream of the existing impaired reach. See Tables 3 and 4 respectively for the monitoring results.

Table 3. Macroinvertebrate monitoring results for South Mountain Branch Tributary #3.

Location: South Mountain Branch Trib 3		Location ID: 505199								
Town: Jay		Bio Site ID: 427807030001								
Description: Located above confluence with Jay Trib 7.		WBID: VT06-08								
Date	Sample Method	Density	Richness	EPT Richness	PMA O	BI	Oligo.	EPT / EPT + C	PPCS F	Community Assessment
9/30/2011	KN	35	11.5	8.0	54.3	1.07	35.58	0.897	48.1	Poor
10/3/2012	KN	259	34.5	22.0	67.2	0.93	20.72	0.927	56.9	F-Poor
9/25/2013	KN	434	34.0	18.5	44.6	1.40	54.94	0.933	36.4	F-Poor
10/4/2013	KN	133	21.5	15.0	58.3	1.04	29.59	0.925	50.1	

Table 4. Macroinvertebrate monitoring results for Jay Branch RM7.3.

Location: Jay Branch		Location ID: 501759								
Town: Jay		Bio Site ID: 427800000073								
Description: Located about 550m above 1st Route 242 bridge crossing east of Jay Peak Resort. Location is below all landuse activities at Jay peak resort. Also referred to as JPR 4-4a, but is well above Route 242 br		WBID: VT06-08								
Date	Sample Method	Density	Richness	EPT Richness	PMA O	BI	Oligo.	EPT / EPT + C	PPCS F	Community Assessment
10/26/2004	KN	222	26.0	19.5	60.8	1.54	4.39	0.976	54.4	Fair
10/5/2005	KN	405	34.0	20.0	55.5	1.12	8.52	0.978	40.2	Good
10/5/2005	KN	459	40.0	21.0	63.0	2.37	8.14	0.881	37.2	Good

11/3/2006	KN	1277	25.5	14.5	54.6	2.88	0.77	0.938	20.8	Fair
10/1/2007	KN	423	26.5	19.0	76.5	1.20	1.42	0.953	55.7	G-Fair
9/25/2008	KN	568	33.0	21.5	72.3	0.96	2.37	0.969	49.2	Ex-Vgood
9/25/2009	KN	906	38.0	22.0	71.5	1.51	10.93	0.963	59.9	Good
9/25/2009	KN	429	32.5	24.0	76.3	1.36	6.43	0.992	66.5	
10/20/2010	KN	344	30.5	23.0	54.7	1.12	1.32	0.996	54.1	Good
9/30/2011	KN	98	16.5	10.5	70.5	0.98	3.75	0.493	44.0	F-Poor
10/3/2012	KN	176	27.5	19.5	67.0	1.24	9.30	0.964	48.0	Fair
10/4/2013	KN	327	27.5	20.5	73.8	0.79	9.15	0.961	61.7	

Generally, two years of noncompliance with the biocriteria is sufficient for identifying an impaired water. For Tributary #3, three years of noncompliance (2011-2013) were observed and for the Jay Branch at RM7.3 noncompliance was identified in 2011 and 2012. However, the Jay Branch at RM7.3 showed improvement in 2013 such that it exceeded the minimum threshold for impairment but, as with identifying impairment, generally two years of compliance are needed to no longer consider the reach impaired.

The primary stressors believed to be responsible for the impaired condition of these reaches stem from runoff from developed areas as well as areas of erosion that contribute excess sediment to the stream channel. This excess sediment loading degrades the instream habitat for the macroinvertebrates and changes the community composition to a less than optimal condition. In order for aquatic biota habitat conditions to improve, DEC believes that additional sediment controls will need to be installed.

II. Description of Proposed Implementation Strategy and Supporting Pollution Controls

EPA's 2005 Guidance provides that EPA, in evaluating whether a particular set of pollutant controls are sufficient to allow placement of an impaired water on Part B, will consider a number of factors, including: 1) the authority (local, state, federal) under which the controls are required and will be implemented with respect to sources contributing to the water quality impairment; 2) existing commitments made by the sources to the implementation of controls (including an analysis of the amount of actual implementation that has already occurred); 3) the availability of dedicated funding for the implementation of the controls; and 4) other relevant factors as determined by EPA on a case by case basis. Since the overriding objective of the Part B alternative is to promote implementation activities designed to achieve water quality standards in a "reasonable period of time," the 2005 Guidance provides that EPA will also consider the existence of identifiable consequences for the failure to implement the proposed pollution controls.

DEC has a number of existing regulatory and enforcement tools that it considers sufficient "pollution control requirements" that will result in the attainment of water quality standards in the identified streams in the vicinity of JPR within a reasonable period of time. Given that the existing impairments in the stream are likely due to the

activities of a single entity, JPR, these tools can be applied in a coordinated fashion to efficiently attain water quality standards.

The following permitting and enforcement tools have been, and others may be, utilized to remediate these impaired streams in question:

A. 1272 Orders

Order Relating to Development of Water Quality Remediation Plan

During the 303(d) List of Impaired Waters development period, representatives of JPR contacted DEC to discuss remediation options for the impaired reach of the Jay Branch, Tributary #9, and South Mountain Branch Tributary #3. It was determined that an updated WQRP should be developed to reinvigorate and expand management actions on the previously impaired segments and to develop plans to control sediment discharges on the newly discovered impairment of South Mountain Branch Tributary #3. Actions under the WQRP will be implemented within a short timeframe and shall be of sufficient magnitude to ensure compliance with the VWQS.

On March 21, 2014 DEC issued an order pursuant to 10 V.S.A. § 1272 ordering JPR to complete a field investigation to identify sediment sources, to prioritize remediation of sediment sources to be implemented within two years, and to develop a monitoring plan to track water quality conditions moving forward. Upon receipt and approval of the updated WQRP, DEC intends to issue a second 1272 Order to compel remediation of identified sediment sources within two years. As of this writing, JPR has submitted its final WQRP within the allotted time and DEC is reviewing it for completeness.

B. Permitting Tools

Stormwater Operational Permits

DEC has broad authority to regulate discharges of stormwater runoff from both existing and future impervious surfaces constructed at JPR. This authority is provided in Vermont's stormwater statute, 10 V.S.A. § 1264, and in DEC's Stormwater Management Rule. Although the permitting threshold has changed over time, permits have been required for discharges of stormwater runoff from impervious surfaces since 1978. Significant areas at JPR are currently covered under these operational stormwater permits. These permits require the collection, treatment, and control of stormwater runoff from impervious surfaces. Permit terms and conditions are enforceable through an action in the Environmental Division of Vermont's Superior Court pursuant to the Agency's Environmental Enforcement Statute, 10 V.S.A. § 8001 *et seq.*

If needed to manage currently unpermitted stormwater discharges, the Stormwater Management Rule provides broad authority for DEC to "reach back" and require stormwater treatment for existing impervious surfaces if this is ultimately necessary to

restore the streams in the vicinity of JPR. This broad permitting authority is provided in Section 18-302(a)(5) of the Stormwater Management Rule, which provides that a stormwater discharge permit is required for the following discharges of regulated stormwater runoff:

A discharge from any size of impervious surface if the Secretary determines that treatment is necessary to reduce the adverse impacts of the discharge due to the size of the impervious surface, drainage pattern, hydraulic connectivity, installation or modification of drainage or conveyance structures, location of the discharge, existing stormwater treatment, or other factors identified by the Secretary.

This authority allows the Secretary to require treatment on impervious surfaces that did not previously meet stormwater permitting thresholds as necessary to prevent an adverse impact on receiving waters. Impervious surfaces that may have predated stormwater permitting requirements or that did not meet prior stormwater permitting thresholds may therefore be required to obtain a stormwater permit as the Secretary deems necessary pursuant to Section 18-302(a)(5) of the Stormwater Management Rule.

In addition, DEC has broad authority to impose whatever permit conditions are necessary to meet Vermont's Water Quality Standards through 10 V.S.A. § 1264(e)(1), which provides:

The Secretary may issue, condition, modify, revoke, or deny discharge permits for regulated stormwater runoff, as necessary to assure achievement of the goals of the program and compliance with state law and the federal Clean Water Act. . . The permit shall contain such additional conditions, requirements, and restrictions as the Secretary deems necessary to achieve and maintain compliance with the water quality standards, including requirements concerning recording, reporting, and monitoring the effects on receiving waters due to the operation and maintenance of stormwater management facilities.

Section 18-309(1)(C) of the Stormwater Management Rule also provides DEC with broad authority to include permitting conditions necessary to achieve and maintain the Vermont Water Quality Standards.

Stormwater Construction Permits

DEC is the delegated authority in Vermont for the federal National Pollutant Discharge Elimination System (NPDES) stormwater construction permitting program. DEC currently requires permit coverage for any construction activity that disturbs equal to or greater than one acre. Coverage is provided through an individual construction permit or through an authorization to discharge issued pursuant to DEC's General Permit 3-9020 for Stormwater Runoff from Construction Sites. Permit coverage requires the implementation of erosion prevention and sediment control measures during construction activities.

Residual Designation Authority

Under section 402(p) of the CWA, 33 U.S.C. § 1342(p), the United States Environmental Protection Agency (EPA) established permitting requirements for certain stormwater discharges. EPA established such requirements in two phases: Phase I, 55 Fed. Reg. 47990 (Nov. 16, 1990); and Phase II, 64 Fed. Reg. 68722 (Dec. 8, 1999). In addition, section 402(p)(2)(E) and (6) and 40 C.F.R. § 122.26 (a)(9)(i)(C) and (D), provide that the EPA Regional Administrator or, in states where there is an approved state program, the State Director may designate additional stormwater discharges as requiring NPDES permits where he or she determines that: (C) stormwater controls are needed for the discharge based on wasteload allocations that are part of “total maximum daily loads” (TMDLs) that address the pollutants of concern, or (D) the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This authority is commonly referred to as the Residual Designation Authority (RDA). This authority is an additional tool that ANR has at its disposal to ensure that water quality violations in the vicinity of JPR are remediated. DEC has already exercised RDA to require stormwater treatment on existing impervious surfaces that discharge to five stormwater impaired waters in Vermont and plans to similarly exercise RDA in Vermont’s additional twelve stormwater impaired waters.

C. Enforcement Options

ANR possesses two primary enforcement tools which could be utilized as necessary to ensure that JPR takes all steps necessary toward attaining water quality standards. First, ANR’s Environmental Enforcement Statute, 10 V.S.A. § 8001 *et seq.* provides for an enforcement action in the Environmental Division of Vermont’s Superior Court for non-compliance with a statute, related rules, permits, assurances, or orders. The Enforcement Statute also provides for the issuance of assurances of discontinuance, administrative orders, emergency orders, administrative orders, administrative penalties, and permit stays. Second, ANR has broad authority to impose necessary conditions through the issuance of a Section 1272 Order. Section 1272 of Title 10 of the Vermont statutes provides broad authority as follows:

If the Secretary finds that any person’s action, or an activity, results in the construction, installation, operation, or maintenance of any facility or condition which reasonably can be expected to create or cause a discharge to waters in violation of this subchapter, or to violate the Secretary’s rules under section 905b of this title relating to significant wetlands, the Secretary may issue an order establishing reasonable and proper methods and procedures for the control of that activity and the management of substances used therein which cause discharges or violations of the Secretary’s rules with respect to significant wetlands in order to reduce or eliminate those discharges and rule violations with respect to significant wetlands.

III. Estimate of Time When Water Quality Standards Will be Met

EPA's 2005 Guidance provides that impaired streams for which a TMDL are not required must attain water quality standards within a "reasonable period of time." What constitutes a reasonable period of time will vary depending on factors such as the initial severity of the impairment, the cause of the impairment, riparian condition, channel condition, the nature and behavior of the specific pollutant, the size and complexity of the segment, the nature of the control action, cost, public interest, etc.

Given the nature of stormwater runoff control practices, it is not possible to estimate with precision when water quality standards will be met. However, due to the limited size of the watershed and the developed areas within it, identification and remediation of problems should be fairly straight-forward. It's believed that the impaired reaches in the vicinity of JPR will respond rather quickly after the pollutant sources are identified and properly remediated. In situations of similar scale (e.g., Rice Brook in Warren, VT), concerted efforts to remediate sediment discharges resulted in achievement of in-stream attainment in a matter of only three years. In the Big Spruce Brook watershed in the vicinity of Stowe Mountain Resort, evidence of improvement was available within one year of implementation of controls.

IV. Schedule for Implementing Necessary Pollution Controls

The 1272 Order issued to JPR includes tight timeframes for performing the necessary work. Once DEC has approved the implementation measures pursuant to the March 21, 2014 Order, JPR will have until the end of 2015 to complete implementation.

V. Description of and Schedule for Monitoring Milestones for Tracking and Reporting Progress on Implementation of Pollution Controls

Post-implementation monitoring data will be gathered as part of the approved WQRP prepared by JPR pursuant to the 1272 Order. This data will be used to revise order terms to ensure that necessary actions are taken to achieve water quality standards compliance.

VI. Commitment to Revise as Necessary the Implementation Strategy and Pollution Controls

DEC is committed to requiring JPR to revise, as necessary, the WQRP which is submitted pursuant to DEC's 1272 Order. DEC is also committed to using the full range of its permitting tools as outlined above to ensure that permitting conditions work in tandem with the remediation measures required in the water quality remediation plan in order to move toward attainment of water quality standards.

Attachment B: 1272 Order issued to Jay Peak Resort

**IN THE MATTER OF: Jay Peak Resort and Water Quality Related to Jay Branch,
Jay Branch Tributary #9, and South Mountain Branch
Tributary #3**

In accordance with the provisions of 10 V.S.A. § 1272, the Secretary (Secretary) of the Vermont Agency of Natural Resources (Agency) makes the following:

FINDINGS OF FACT

Jay Branch and Tributary #9 to Jay Branch:

1. In 2004 and 2005 at Jay Peak Resort (JPR or the Resort), the Agency observed multiple violations of the Vermont Water Quality Standards (VWQS), including the release of sediment into Jay Branch and Tributary #9 to Jay Branch, associated with the construction of residential units and a golf course;
2. Based on biological monitoring conducted in 2004 and 2005, the Vermont Department of Environmental Conservation (DEC or Department) identified these two stream segments as impaired, specifically for aquatic life support. The specific cause of these impairments was embeddedness of the stream bed habitat due to excess sediment deposition;
3. As a result of consecutive year measurements indicating VWQS violations for aquatic life support, both Tributary #9 and Jay Branch from river mile (RM) 8.3 upstream 1.9 miles were listed as impaired on Part B of Vermont's 2006 Priority Waters List. Waters listed on Part B do not require the development of a Total Maximum Daily Load (TMDL) pursuant to the Clean Water Act because alternative regulatory means are available to compel restoration of the impairments. On April 28, 2006, DEC issued a Section 1272 Order that mandated JPR to develop a water quality remediation plan (WQRP). The WQRP was subsequently approved by DEC for the remediation of the two streams to meet the VWQS within a reasonable period of time;
4. JPR began implementing the WQRP in 2006 at the same time that additional development was undertaken at the Resort. While there were initial signs of attainment in the years following implementation, improvement has not continued. Based on the most recent biological monitoring conducted by JPR in 2012, these two stream segments remain impaired. Additionally, monitoring results from 2011 and 2012, the last two

years of verified data, now indicate that the Jay Branch impaired segment has expanded downstream from RM 8.3 to RM 7.3;

5. The most recently available preliminary monitoring results from 2013 suggest improvement in Tributary #9 and Jay Branch. In Tributary #9, macroinvertebrate density was well short of attainment and percent oligochate was on the margins of attainment but overall improvement was indicated. In Jay Branch at RM 8.3, all but the macroinvertebrate density indicated attainment with Class B biological criteria. Monitoring at Jay Branch RM 7.3 indicated possible attainment of all metrics;
6. The Department is aware that excessively heavy flow events outside of JPR's control impacted these surface waters in 2011 and 2012. These flow events may have slowed the pace of recovery of Tributary #9 and the Jay Branch impaired reach. However, reference locations in the Jay Branch watershed did not suffer impairment as a result of these flooding events. These findings suggest that there is a lack of resiliency in the Tributary #9 and Jay Branch reaches which results from existing sediment sources;
7. As a result of the most recent verified monitoring data, DEC is unable to remove Tributary #9 or the existing impaired Jay Branch reach from the Part B List of Priority Waters, and is further proposing to extend the impaired segment of Jay Branch, from RM 7.3 to RM 8.3, on the 2014 Part B List of Priority Waters.

South Mountain Branch Tributary #3

8. Based on biological monitoring conducted by DEC and JPR in years 2011 - 2012, South Mountain Branch Tributary #3 was shown to be impaired due to sediment;
9. In the report entitled "Jay Peak Resort Remediation Plan – 2012 Update" (2012 Update), specifically Appendix 6, JPR identified several problematic conditions likely to be contributing to the impairment, including streambank erosion, headcuts, gravel road and ditch erosion;
10. Additionally, the 2012 Update identifies stressors to South Mountain Branch from outside the holdings of JPR;
11. As a result of the most recent monitoring data, DEC is proposing to include South Mountain Branch Tributary #3 on the 2014 Part B List of Priority Waters.

WHEREFORE, the Secretary, based on the above findings of fact, issues the following Order, under the authority of 10 V.S.A. § 1272, to establish methods and procedures to eliminate or control the discharges:

ORDER

- A. JPR shall hire a qualified consultant to adapt and update the existing WQRP, to bring Tributary #9 to Jay Branch, Jay Branch, and Tributary #3 to South Mountain Branch into compliance with the VWQS. The updated WQRP (the Plan) shall revisit and prioritize actions in the existing WQRP previously developed for Jay Branch and

- Tributary #9, and create a prioritized schedule of implementation measures for Tributary #3 to South Mountain Branch;
- B. The overall goal of the Plan shall be to identify the causes of the impairments in Tributary #9, Jay Branch, and Tributary #3 to South Mountain Branch, and to plan a comprehensive set of geographically explicit actions to remediate these impairments;
 - C. The Plan shall:
 - i. Identify and rank, for the purposes of remediation planning, all potential sources of sediment loading to the streams of concern;
 - ii. Identify BMPs, in priority order to reduce these sediment load sources, including any necessary treatment and control BMPs to be retrofitted or constructed, and a description of necessary controls for any new or anticipated sources;
 - D. The Plan shall include the following information for Tributary #9, the Jay Branch, and Tributary #3 to South Mountain Branch:
 - i. Delineation of watershed areas;
 - ii. Identification and mapping of all sediment sources;
 - iii. Identification and mapping of all projects currently regulated under a stormwater permit and their respective collection areas. The Plan must include the level of treatment being provided for these projects (i.e. manual year standard);
 - iv. Identification and mapping of all currently untreated areas that are outside currently permitted project areas identified in D.iii above;
 - v. A systematic numbering convention for identification of each source and each existing or proposed remediation project that allows for consistent referencing across various parts of the Plan (e.g. maps, tables, photographs, and specific actions listed in appendices);
 - E. The Plan shall include a methodology to track progress of sediment load reductions through time as remediation projects are implemented;
 - F. Each action identified in the Plan shall include a corresponding schedule for implementation of necessary BMPs and other remediation measures, to be achieved within a two-year timeframe (i.e. two construction seasons);
 - G. The Plan shall include a monitoring plan designed to assess progress towards achievement of sediment load reductions with appropriate biological monitoring;
 - H. Within 45 days of this Order's issuance, the consultant shall meet with DEC to present a draft WQRP;
 - I. Within 60 days of this Order's issuance, JPR shall submit the final draft WQRP to DEC;

- J. Once DEC has approved the final remediation plan, DEC anticipates issuing another Section 1272 Order requiring implementation of the remediation measures identified in the remediation plan;
- K. The state of Vermont and the Agency reserve continuing jurisdiction to ensure future compliance with all statutes, rules, and regulations applicable to the facts and violations set forth herein;
- L. Nothing in this Order shall be construed as having relieved, modified, or in any manner affected JPR's on-going obligation to comply with all other federal, state, or local statutes, regulations, or directives applicable to JPR in the operation of its business, nor does it relieve JPR of the obligation to obtain all necessary federal, state, and local permits;
- M. This Order is not a resolution of any enforcement action that may be pending, contemplated, or initiated in these matters;
- N. This Order does not grant any exclusive rights or privileges, which would impair any rights possessed by other riparian or littoral owners of the state of Vermont. It does not grant any right, title, or easement to or over any land not owned in fee by JPR, nor does it authorize any damage to private property or invasion of private rights or the violation of federal, state, or local laws or regulations;
- O. The Agency, in issuing this order, accepts no legal responsibility for any damage, direct or indirect of whatever nature and by whoever suffered arising out of the activities described;
- P. JPR shall allow access to Agency representatives to inspect the subject site and sample any discharge or receiving waters as necessary to assess compliance with this Order and other applicable state laws related to water quality. The Agency shall either get prior permission from JPR to access the site or JPR shall allow access to Agency representatives upon the representatives' presentation of proper credentials.
- Q. Pursuant to 10 V.S.A. chapter 220, any appeal of this Order must be filed with the clerk of the Environmental Division within 30 days of the date of the Order. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Division is: 2418 Airport Road, Suite 1, Barre, VT 05641 (Tel. # 802-828-1660).

R. This Order shall be effective immediately upon signing and remain in effect until such time as the activities governed under this Order are completed or until such time as the Agency rescinds this Order or issues a subsequent Order, or whichever comes first;

State of Vermont
Agency of Natural Resources

David K. Mears, Commissioner
Department of Environmental Conservation

BY:

Peter LaFlamme, Director
Watershed Management Division