COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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THE OFFICE OF APPEALS AND DISPUTE RESOLUTION

April 2, 2021

In the Matter of
Groveland Realty Trust, LLC.

OADR Docket No. WET-2020-006
Groveland

RECOMMENDED FINAL DECISION

INTRODUCTION

Groveland Realty Trust, LLC. ("Petitioner" or "Groveland") filed this appeal concerning the real property at 4 Sewell Street, Groveland, Massachusetts ("the Property"). The Petitioner challenges a Superseding Order of Resource Area Delineation ("SORAD") that the Massachusetts Department of Environmental Protection's Northeast Regional Office ("MassDEP") issued pursuant to the Wetlands Act, G.L. c. 131 §40, and the Wetlands Regulations, 310 CMR 10.00. See 310 CMR 10.05(3) and (7).

Groveland contends that the SORAD incorrectly identifies the segment of Grindle Brook on its Property as perennial, instead of intermittent. A perennial stream is one that flows throughout the year, in contrast to an intermittent stream, which does not. The Groveland Conservation Commission ("Commission") had previously determined in an Order of Resource Area Determination ("ORAD") that the stream is perennial; Groveland appealed that determination to MassDEP, which concluded in the SORAD that the Stream is perennial.

In its de novo appeal here, to the Office of Appeals and Dispute Resolution ("OADR"), Groveland contends that the stream should be determined to be intermittent because it asserts

that the stream does not meet the regulatory criteria for watershed size and flow rate to qualify for the perennial presumption under the regulations. See 310 CMR 10.58(2)(a)1.c.i. Alternatively, Groveland contends that it rebutted that presumption under the regulations by showing the stream was not flowing for at least four days in a consecutive twelve month period, pursuant to 310 CMR 10.58(2)(d).

MassDEP disagrees with Groveland. It asserts that the StreamStats modeling software predicts the stream segment on the Property is presumed perennial based upon watershed size and flow rate. Moreover, MassDEP asserts that Groveland failed to rebut that presumption because it relied upon observations of no-flow in the stream at another property through which the stream flows, not the Property at issue. MassDEP asserts that Groveland's offsite observations of no-flow in the stream are not persuasive because streams can vary from being perennial to intermittent along their course and Groveland failed to observe stream flow patterns on the Property itself even though the stream was accessible.

After holding an adjudicatory hearing and reviewing the entire administrative record, I recommend that MassDEP's Commissioner issue a Final Decision affirming the SORAD. A preponderance of the evidence persuasively shows with the StreamStats modeling software that the stream segment on the Property is presumed to be perennial and Groveland failed to rebut that presumption by demonstrating that it was not flowing on the Property for at least four days in a twelve month period, even though the stream segment on the Property was accessible.

REGULATORY FRAMEWORK

SORAD Process. This appeal is rooted in Groveland's request for a determination of applicability that it filed with the Commission pursuant to 310 CMR 10.05 (3)(a)1. That provision provides that any person who wishes to know whether the Wetlands Act and Wetland

Regulations apply to land or to work that may affect a resource area may file a request for a determination of applicability with the local conservation commission. This process provides a procedure for a party to confirm the identification and delineation of wetland Resource Areas that are identified on the plans filed with the Conservation Commission. 310 CMR 10.05(4)(b)2. The Conservation Commission then issues an Order of Resource Area Determination (ORAD) that is binding as to the location of resource areas identified by the proponent for a period of three years. 310 CMR 10.05(6)(a)3; Matter of Boston Properties, LP, Docket No. WET 2004-012, Recommended Final Decision (May 4, 2012), adopted by Final Decision (May 11, 2012).

When a party appeals the ORAD to MassDEP, which was the case here, MassDEP issues a Superseding Order of Resource Area Delineation (SORAD), rendering its own de novo determination whether the Wetlands Act and Wetlands Regulations apply to the identified areas. The regulations are clear: "when requested to issue a [SORAD], the Department shall limit its review to the resource area delineations. The Department shall consider the objections to the resource area delineations stated in the request." 310 CMR 10.05(7)(g). In this case, MassDEP issued the SORAD, which Groveland appealed here to OADR.

Perennial Versus Intermittent. Under the Wetlands Act and Regulations, a river is defined as a natural flowing body of water that empties to any ocean, lake, or other river and which flows throughout the year. G.L. c. 131 § 40 ("River"); 310 CMR 10.58(2)(a)1.[1] Rivers include perennial streams because surface water flows within them throughout the year. Id.; 310 CMR 10.04 (definition of stream); G.L. c. 131 § 40 ("River"); see Matter of Robert Zeraschi, Docket No. 2006-115, Final Decision (December 8, 2008).

[1] Matter of Martha Jean Eakin, Docket No. 2002-013, Recommended Final Decision, (April 12, 2005), adopted by Final Decision (June 8, 2005) ("empties" refers to the type of waterbody into which a river ultimately discharges, not to changes in the nature of the stream during the course of its run).

Streams are defined as "a body of running water, including brooks and creeks, which moves in a definite channel in the ground due to a hydraulic gradient, and which flows within, into or out of an Area Subject to Protection under M.G.L. c. 131 § 40. . . . Such a body of running water which does not flow throughout the year (i.e., which is intermittent) is a stream except for that portion upgradient of all bogs, swamps, wet meadows, and marches." 310 CMR 10.04 (Stream). "Intermittent streams are not rivers . . . because surface water does not flow within them throughout the year." 310 CMR 10.58(2)(a)1.

Whether a stream is intermittent or perennial has important regulatory consequences. If a waterbody is perennial, under the Wetlands Regulations and Act it has a regulated bordering land area known as the Riverfront Area. The Riverfront Area is: "that area of land situated between a river's mean annual high-water line and a parallel line located two hundred feet away, measured outward horizontally from the river's mean annual high-water line." G.L. c. 131 § 40; 310 CMR 10.58(2)(a); 310 CMR 10.58(2)(c) ("The boundary of the Riverfront Area is a line parallel to the mean annual high water line, located at the outside edge of the riverfront area. At the point where a stream becomes perennial, the riverfront area begins at a line drawn as a semicircle with a 200 foot (25 foot in densely developed areas; 100 foot for new agriculture) radius around the point and connects to the parallel line perpendicular to the mean annual high water line which forms the outer boundary."); Matter of Skeffington, Docket No. WET 2009-049, Recommended Final Decision (March 30, 2010), adopted by Final Decision (April 9, 2010).

Riverfront Areas generally receive heightened protection which limits development under the Wetlands Act and the Regulations because of the environmental benefits they provide, including: protection of the water supply (including groundwater), flood control, storm damage prevention, protection of wildlife habitat (including fisheries and habitat within the Riverfront

Area), and maintenance of water temperatures. They are critical to preventing water pollution by filtering contaminants before they reach the river and groundwater. See generally 310 CMR 10.58(1) (discussing in detail environmental benefits of the Riverfront Area).

The Wetlands Regulations provide the following four tests for determining whether a waterbody is perennial. First, "[a] river or stream shown as perennial on the current United States Geological Survey (USGS) or more recent map provided by the Department is perennial." 310 CMR 10.58(2)(a)1.a.

Second, "[a] river or stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size greater than or equal to one square mile, is perennial." 310 CMR 10.58(2)(a)1.b.

The third test provides that "[a] stream shown as intermittent or not shown on the current USGS map or more recent map provided by the Department, that has a watershed size less than one square mile, is intermittent unless:

> i. The stream has a watershed size of at least 1/2 (0.50) square mile and has a predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration using the USGS Stream Stats method. The issuing authority shall find such streams to be perennial . . . .

310 CMR 10.58(2)(a)1.c.i (emphasis added).[2] The fourth test encompasses categories of streams that are not relevant here: specific streams where StreamStats cannot be used, the watershed is less than .5 square miles, and there is at least 75% stratified drift. 310 CMR 10.58(2)(a)1.c.ii.

[2] "StreamStats is a Web application that provides access to an assortment of Geographic Information Systems (GIS) analytical tools that are useful for water-resources planning and management, and for engineering and design purposes. The map-based user interface can be used to delineate drainage areas for user-selected sites on streams, and then get basin characteristics and estimates of flow statistics for the selected sites anywhere this functionality is available. StreamStats users also can select the locations of U.S. Geological Survey data-collection stations, shown as triangles on the StreamStats map, and get flow statistics and other information for the stations. The types of flow statistics that are available vary from state to state. A variety of additional tools are available for discovering information about streams and the activities along them." https://www.usgs.gov/mission-areas/water-

If a stream is determined, or presumed, to be perennial according to one of the above methodologies, the Wetlands Regulations also provide a means to rebut that presumption. See 310 CMR 10.58(2)(a)1.d. It provides in relevant part the following:

> the issuing authority shall find that any stream is intermittent based upon a documented field observation that the stream is not flowing. A documented field observation shall be made by a competent source and shall be based upon an observation made at least once per day, over four days in any consecutive 12 month period, during a non-drought period on a stream not significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments, or other human-made flow reductions or diversions. Field observations made after December 20, 2002 shall be documented by field notes and by dated photographs or video. Field observations made prior to December 20, 2002 shall be documented by credible evidence. All field observations shall be submitted to the issuing authority with a statement signed under the penalties of perjury attesting to the authenticity and veracity of the field notes, photographs or video and other credible evidence. Department staff, conservation commissioners, and conservation commission staff are competent sources; issuing authorities may consider evidence from other sources that are determined to be competent.

EVIDENCE

The evidence in the administrative record is derived from the parties' pre-filed written testimony and exhibits and testimony elicited on cross examination at the adjudicatory hearing.[3] Testimony was submitted from the parties' following witnesses who were available for cross examination at the adjudicatory hearing:

Groveland:

1. Brian Butler. Butler is the President and Principal Scientist of Oxbow Associates, Inc., an environmental consulting firm. He has over 28 years of experience in

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resources/science/streamstats-streamflow-statistics-and-spatial-analysis-tools?qt-science_center_objects=0#qt-science_center_objects

[3] The adjudicatory hearing was held with the parties' consent on the Zoom Video Communications, Inc. videotelephony software communications platform because of Governor Baker's executive orders limiting in-person activities as a consequence of the COVID-19 pandemic.

wetlands and rare and endangered rare species consulting. He holds an MS degree in biology and a BS degree in biology/marine biology.

2. William Daly. Daly is the Trustee of Groveland Realty Trust, LLC. He has observed the stream on and off the Property since Groveland purchased it in 2017.

MassDEP:

1. Kyle Lally. Lally has been employed as an environmental analyst for MassDEP since January 2019. Lally was previously employed as a consulting wetland scientist for Hancock Survey Associates. He holds a BS degree in environmental science and an MS degree in environmental studies and conservation biology.

BACKGROUND

The Property consists of approximately 37.7 acres of land. Most of the Property is mixed forest with steeply rolling topography underlain by shallow bedrock. There is a bordering vegetated wetland resource area ("BVW") in the northeasterly and southerly portions of the Property. Lally PFT[4], p. 3; see 310 CMR 10.55 (discussing BVW definition and performance standards). The stream is generally located within the northeasterly BVW. Id. There is also an abandoned quarry on the Property.

In January 2020 during a site visit, MassDEP witness Lally observed the stream on the Property within the northeasterly BVW. The stream was approximately 6-8 inches in depth and variable in width. Lally PFT, pp. 3-4.

The stream originates in a pond located approximately 2,000 east of the Property's eastern boundary. Chalk 1. From the pond the stream flows west until it intersects the Property boundary, and then flows generally west for approximately two hundred feet before turning

[4] "PFT" is the acronym for the parties' pre-filed written testimony that was filed before the adjudicatory hearing on behalf of each witness.

north. Id. After exiting the Property's northern boundary the stream flows into a culvert under Salem Street, and then daylights on the other side of Salem Street on the property of A.W. Chesterton Company. Lally PFT, p. 4; Chalk 1. Some distance further to the north the stream flows into an indisputably perennial stream identified as Johnson Creek. Butler PFT, p. 2.

In September 2019, Groveland recorded its observations that the stream was not flowing on the other side of Salem Street, on the A.W. Chesterton Company property approximately 300 to 400 feet from the northern boundary of Salem Street and approximately 860 feet from the northern Property line. The location was at a culvert within the parking area for A.W. Chesterton Company. Lally PFT, pp. 4-5; Chalk 1. From that location, Groveland's photographs and notes confirmed there was no-flow in the stream in September 2019. Lally PFT, p. 5. Lally observed the stream to be flowing at that point during his January 2020 site visit. Lally PFT, p. 4.

On August 28, 2019, Groveland submitted an abbreviated notice of resource area delineation ("ANRAD") to the Commission, requesting an ORAD. The ORAD found the BVW delineation to be accurate and determined that the stream was perennial. Lyle PFT, p. 2. Groveland appealed the ORAD to MassDEP, requesting a SORAD finding the stream on the Property to be intermittent. Groveland contended that it had rebutted the perennial flow presumption under 310 CMR 10.58(2)(a)1.c.i by documenting that the stream was not flowing for at least four days during a consecutive twelve month period. Lally PFT, Ex. D, p. 3.

MassDEP determined that the stream on the Property was perennial after it performed a StreamStats analysis showing the watershed is at least 0.50 square miles and the predicted flow rate at the 99% flow duration is 0.0109 cubic feet per second. Lally PFT, p. 5. Consequently, MassDEP was required to find that the segment on the Property was perennial. 310 CMR

10.58(2)(a)1.c.i. Lally PFT, p. 5. MassDEP also determined that Groveland had not rebutted that presumption because its observations that the stream was not flowing were recorded at a downstream location approximately 860 feet from the Property's northern boundary, even though the stream segment on the Property was accessible. Lally PFT, p. 5. MassDEP therefore issued the SORAD affirming the Commission's findings that the stream segment on the Property is perennial. Groveland appealed the SORAD to OADR.

BURDEN OF PROOF

As the party bringing this de novo appeal, the Groveland had the burden of going forward by producing credible evidence from a competent source in support of its position. 310 CMR 10.03(2); see Matter of Town of Freetown, Docket No. 91-103, Recommended Final Decision (February 14, 2001), adopted by Final Decision (February 26, 2001) ("the Department has consistently placed the burden of going forward in permit appeals on the parties opposing the Department's position."). Specifically, Groveland was required to present "credible evidence from a competent source in support of each claim of factual error, including any relevant expert report(s), plan(s), or photograph(s)." 310 CMR 10.05(7)(j)3.c. So long as the initial burden of production or going forward is met, which it was, the ultimate resolution of factual disputes depends on where the preponderance of the evidence lies. Matter of Town of Hamilton, Docket Nos. 2003-065 and 068, Recommended Final Decision (January 19, 2006), adopted by Final Decision (March 27, 2006).

"A party in a civil case having the burden of proving a particular fact [by a preponderance of the evidence] does not have to establish the existence of that fact as an absolute certainty. . . . [I]t is sufficient if the party having the burden of proving a particular fact

establishes the existence of that fact as the greater likelihood, the greater probability." Massachusetts Jury Instructions, Civil, 1.14(d).

The relevancy, admissibility, and weight of evidence that the parties sought to introduce in the Hearing were governed by G.L. c. 30A, § 11(2) and 310 CMR 1.01(13)(h)(1). Under G.L. c. 30A, § 11(2):

> [u]nless otherwise provided by any law, agencies need not observe the rules of evidence observed by courts, but shall observe the rules of privilege recognized by law. Evidence may be admitted and given probative effect only if it is the kind of evidence on which reasonable persons are accustomed to rely in the conduct of serious affairs. Agencies may exclude unduly repetitious evidence, whether offered on direct examination or cross- examination of witnesses.

Under 310 CMR 1.01(13)(h), "[t]he weight to be attached to any evidence in the record will rest within the sound discretion of the Presiding Officer."

DISCUSSION

I. A Preponderance Of The Evidence Shows MassDEP Correctly Determined With StreamStats Statistical Modelling That The Grindle Brook Segment On The Property Is Presumed Perennial

The Wetlands Regulations provide that "[a] stream shown as intermittent . . . on the current USGS . . . that has a watershed size less than one square mile, is intermittent unless:

> i. The stream has a watershed size of at least 1/2 (0.50) square mile and has a predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration using the USGS StreamStats method. The issuing authority shall find such streams to be perennial; . . . .

310 CMR 10.58(2)(a)1.c.i. (emphasis added). The current USGS map indisputably indicates the waterbody is presumptively intermittent pursuant to the above provision, depicting the stream with blue-dashed lines. Lally PFT, p. 6.

In accord with the above regulation, MassDEP employed StreamStats modeling software to analyze the accuracy of that presumption. To do that it focused on the most relevant portion of the stream—the stream segment on the Property—to determine whether that segment met the optimal modeling thresholds that would *predict* the segment to be presumptively perennial. See 310 CMR 10.58(2)(a)1.c.i. Those optimal modeling thresholds are specified by regulation as a watershed size of greater than .5 square miles and a predicted flow rate greater than or equal to 0.01. Id.

Lally chose a StreamStats data collection point ("data point") approximately where the stream crosses the downstream (northern) Property boundary as the downstream limit for the StreamStats analysis, in order to capture the entire contributing watershed for the stream segment on the Property. Tr., pp. 71-81.[5] Based on the StreamStats report MassDEP determined the drainage area is 0.50 square miles and the 99% flow duration is 0.0109 cubic feet per second. Lally PFT, pp. 5, 7.

Because the StreamStats thresholds were met, MassDEP determined the stream segment on the Property is presumptively perennial under the regulations. Lally PFT, p. 5; Butler Tr., 37. In other words, the modeling software demonstrated that there is a sufficiently large watershed and flow rate for the stream segment on the Property to *predict* that at least that segment is likely to be perennial. As a consequence, MassDEP was required to find that segment was perennial. 310 CMR 10.58(2)(a)1.c.i.

StreamStats Data Point. Groveland asserts that MassDEP incorrectly applied StreamStats by focusing on only one data point at the most downgradient point of the stream segment on the Property. Groveland contends that much of the upgradient stream segment on the Property does not meet the regulatory thresholds of .5 square mile watershed and .01 CFS

[5] "Tr." is the abbreviation for the transcript of testimony elicited during the adjudicatory hearing.

flow rate, indicating (Groveland believes) that everything upgradient of the .5 mile threshold is intermittent. Butler PFT, ¶ 32. While Groveland's position is theoretically plausible, it is without merit.

MassDEP's practice is to use StreamStats by focusing on the most downgradient point of the stream on the property; it is the most logical modeling point and is "consistent with the statutory scheme" because it captures the entire watershed for that property and thus the potential stream flow *for that property's* stream segment.[6] See Matter of Jim Williamson—Barberry Homes LLC, Docket No. Wet 2014-014, Recommended Final Decision, (May 27, 2015), adopted by Final Decision (May 29, 2015) (MassDEP selects data point or "point of interest" at most downgradient property line). If there is an obstruction in the stream (such as a culvert with an elevated inlet) that may affect flow on the subject property, that point would also be used for modeling purposes because it may have an influence on stream flow. Id.

In Matter of Jim Williamson, supra, the stream segment on the property was found to be intermittent after the Presiding Officer concluded that MassDEP properly declined to use a data point further downgradient because that would be overinclusive, capturing watershed area that could not affect the property. As the decision states: "[T]he regulations rely on the StreamStats program, which defines a drainage area, another term for watershed, as an area that drains to a

[6] It is well established that administrative agencies may "develop policy through case-by-case adjudication rather than by the promulgation of regulations." 1 LNPG: Massachusetts Administrative Law & Practice § 2.03[2] (accessed March 2021) (citing Anusavice v. Board of Registration in Dentistry, 451 Mass. 786, 794 (2008) ("In carrying out its statutory charge, a[n] [agency] may exercise its authority by formal rule making, or may adopt policies by adjudication."); see City of Springfield v. Department of Telecomm. & Cable, 457 Mass. 562, 571 n.11 (2010); Board of Appeals of Woburn v. Housing Bd. of Appeals, 451 Mass. 581, 593 (2008); Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd., 448 Mass. 45, 51 (2006); Hastings v. Commissioner of Correction, 424 Mass. 46, 49 (1997); Massachusetts Elec. Co. v. Department of Pub. Utils., 383 Mass. 675, 679 (1981); Arthurs v. Board of Registration in Med., 383 Mass. 299, 312–313 (1981); Retirement Bd. of Barnstable County v. Contributory Retirement Appeals Bd., 43 Mass. App. Ct. 341, 345 (1997)). Indeed, "policies announced in adjudicatory proceedings may serve as precedents in future cases" and the "[agency] is not at fault if persons appearing before it are unaware of its decisions." Arthurs v. Board of Registration in Med., 383 Mass. 299, 312 (1981); see also Retirement Bd. of Barnstable County v. Contributory Retirement Appeals Bd., 43 Mass. App. Ct. 341, 345 (1997) ("An agency … may ordinarily elect to carry out its statutory duties either by promulgating rules and regulations, or it may proceed, as in this case, through individualized determinations.").

point on a stream, in square miles." Id. A data point below the property boundary "would tend to overstate the watershed size, and provide information as to whether the stream is perennial at that locus rather than at the property in question." Matter of Jim Williamson, supra.

Here, Groveland incorrectly contends that because data points upstream of the property boundary produce a watershed size less than .50 square miles, the upstream portions of the stream cannot be presumed perennial. Butler Rebuttal PFT, pp. 10-11. That interpretation is counter to MassDEP's practice, StreamStats modeling, and the science of stream morphology. It would produce an underinclusive watershed, the opposite of what the Petitioners sought in Matter of Jim Williamson.

Although StreamStats did not predict a watershed of .50 square miles until the downgradient property boundary, that entire half-mile watershed could influence stream flow at locations above the data point to produce perennial flow, not simply at the data point itself. The results for the data point are only a modeling estimate or prediction of where the contributing watershed reaches the minimal thresholds. Actual flow characteristics *within* the watershed itself do not necessarily follow the linear projections produced by StreamStats. Tr., pp. 119-120 (Lally testimony); Matter of Jim Williamson, supra.; Matter of Alan Marks, Tri Street Partners, LLC, Docket No. WET 2018-009, Recommended Final Decision (May 09, 2019), adopted by Final Decision (June 18, 2019) (detailed discussion of regulatory promulgation process). For example, how the water ultimately drains from the watershed to the data point where the stream exits the Property may vary significantly: on the one hand, there may be sufficient upgradient flow from the watershed directly to the upgradient streambed to produce perennial flow upstream, before the data point at the Property boundary. At the opposite extreme, the watershed may drain such that flows to the streambed are not sufficient to produce perennial flow until the data point where

the stream exits the Property. Id. The StreamStats watershed estimate was further corroborated by the next component of the model's projection, which predicted that flow at the data point would meet the minimal threshold for perennial flow, i.e. equal to .01 cubic feet per second, to produce perennial flow *within* the watershed. Tr., pp. 119-120 (Lally testimony).[7]

Groveland justifiably takes issue with Lally's conflicting testimony concerning the *hypothetical* impact of StreamStats data points downstream from the data point where the stream exits the Property. Lally's testimony on that point is at odds with MassDEP's practice and the regulations. Moreover, it has no bearing on the StreamStats results produced by the data point where the stream exits the Property.

Lally testified incorrectly that if a data point downgradient from the Property met the minimum thresholds he would have to conclude that the entire stream was perennial. Later, he altered that testimony and correctly testified that if the most downgradient point where the stream exits the property boundary did not meet the minimum threshold criteria, then he would terminate his StreamStats analysis and determine that the Property did not meet the minimum thresholds and thus the segment on the property was intermittent. See Matter of Jim Williamson, supra. He later changed that testimony, stating incorrectly that if the most downgradient point where the stream exits the property did not meet the minimum thresholds, he should continue performing StreamStats analysis farther downstream to see if there were a point that met the minimum thresholds up to a point where the stream "does something abnormal, in the sense that it crosses under a culvert, through a culvert, under a road, or there's some other factor." Tr., pp.

[7] As discussed in greater detail below, the use of StreamStats and MassDEP's decision to use a .50 square mile and .01 flow rate as minimum thresholds was a rational policy choice that MassDEP made to facilitate analysis of over 9,000 miles of streams in the Commonwealth. MassDEP was aware that the modeling results would not be perfect, and thus it provided a means for challenging the perennial presumption via direct observation of the stream flow. See Matter of Alan Marks, Tri Street Partners, LLC, Docket No. WET 2018-009, Recommended Final Decision (May 09, 2019), adopted by Final Decision (June 18, 2019) (detailed discussion of regulatory promulgation process and deliberate policy decisions and compromises)

114-16. If it met the thresholds at that point, then he testified incorrectly that he would have to classify the *entire* stream as perennial. Tr., pp. 80-94, 116-119.

Lally's testimony concerning offsite data points is incorrect for a number of reasons. It is at odds with MassDEP's practice and the Wetlands Regulations, Matter of Jim Williamson, supra. The focus must be on the watershed that could possibly influence the stream on the subject property and thus a data point where the stream exits the property, unless there is a downstream abnormality that could influence flow *on the property*. Id. Lally's testimony is also inconsistent with well-established principles of stream morphology that a stream may vary along its length from perennial to intermittent and vice versa, precluding conclusions for the *entire* stream that are derived from limited analysis of isolated stream segments. See infra, pp. 21-26. Moreover, regulatory determinations downgradient or upgradient of the property at issue could affect the property rights of nonparties, creating fairness and due process issues. See infra, pp. 21-26. Last, it is a generally accepted truism in stream morphology that if one were to continue searching downstream, they would eventually find a point on many streams in the Commonwealth where the stream became perennial. And the converse is also generally true—if one were to continue searching upstream, eventually there would typically be a point where the stream was intermittent. See 310 CMR 10.58(2)(a)1. ("Rivers [perennial streams] begin at the point an intermittent stream becomes perennial or at the point a perennial stream flows from a spring, pond, or lake. Downstream of the first point of perennial flow, a stream normally remains a river [perennial] except where interrupted by a lake or pond. Upstream of the first point of perennial flow, a stream is normally intermittent.").

Margin of Error and Imprecision. Groveland admits that "there is general agreement that the application of StreamStats shows the segment [on the Property] to be perennial."

Groveland Reply Brief, p. 5; Butler PFT, pp. 10 (¶ 33), Ex. 2; Tr., pp. 36-38, 43. Groveland asserts, however, that StreamStats has a specified margin of error for its modeling predictions and that a 0.5 square mile watershed threshold falls outside of the margin of error for a minimum watershed threshold of 1.61 square miles, which could lead to inaccurately predicting a stream segment's status as being perennial or intermittent. Tr., pp, 37-38, 70-71; Butler Rebuttal PFT, pp. 9-10. MassDEP considered this issue in the early 2000s when it promulgated the regulatory standard. See Matter of Alan Marks, Tri Street Partners, supra (detailed discussion of regulatory promulgation process and deliberate policy decisions and compromises).

In particular, the Massachusetts Legislature had charged MassDEP with determining how over 9,000 miles of potentially riverine waterbodies should be analyzed to determine whether they "flow throughout the year"—the requirement for a water body to be a river, as opposed to an intermittent stream, which could flow as little as one day a year. Id. "[W]hat amounts to "flow" in a waterbody "throughout the year" is not commonly understood nor readily capable of proof. Instead, it is generally a matter of scientific judgment and expertise." Id. (citing Matter of Soursourian, Docket No. WET 2013-028, Recommended Final Decision (June 13, 2014), adopted by Final Decision (June 19, 2014).

To promulgate the regulation at issue MassDEP embarked upon a lengthy regulatory development process involving many private and public stakeholders and public hearings throughout the Commonwealth. Id. MassDEP ultimately decided to employ USGS maps and the USGS StreamStats modelling software because watershed size and flow rate are good predictors of which waterbodies are most likely flow throughout the year. Id.

As explained in Matter of Alan Marks, Tri Street Partners, supra, MassDEP chose to rely upon the StreamStats software because: "MassDEP['s] . . . Technical Advisory Committee

found numerous difficulties with relying upon field observations to predict whether a stream is likely to flow throughout the year. In addition to the practical difficulties of making such observations for the entire course of the stream MassDEP explained that atypical variations in the weather, in addition to the factors discussed above, could influence the recorded observations of flow for that time period; thus, long-term records of observations [of annual daily flow over many years] are necessary. As MassDEP explained, 'observations made during this period may not be definitive when the conditions are unusually wet or unusually dry compared to long-term records.' 2002 Regulatory Appendix, § A.1." Id.

"In fact, an intermittent stream does not have to become dry every year to be declared intermittent. It may become dry on less frequent basis, such as 'every third year, or even less frequently.' . . . As MassDEP elaborated, 'proving that a stream is perennial by direct observation requires multiple observations made in the late summer and early fall months over many years . . . .' 2002 Regulatory Appendix, § A.1 (emphasis added). And that determination must be made along the entire course of the river because flow may vary from one stream segment to another. MassDEP also noted that direct observation over many years is also "unworkable" because of time constraints faced by homeowners, builders, and others when trying to have a project permitted by the regulatory agency. 2002 Appendix, § 10b; Matter of Jim Williamson, supra ("Unfortunately, proving that a stream is perennial by direct observation requires multiple observations made in the late summer and early fall months over many years, and the Department could not craft a workable provision to accommodate those timeframes. . . . Thus, the absence of a methodology in the regulations to classify a stream as perennial based on field indicators or observations was intentional, and is not susceptible to a contrary interpretation.")." Alan Marks, Tri Street Partners, supra.

During the regulatory development process, MassDEP found that "[t]here was a direct correlation between flow and watershed size: the larger the watershed size the more likely the stream flows throughout the year, and the smaller the watershed size the less likely the stream flows throughout the year. . . . Also, the more stratified drift in an area, the more likely a stream flows throughout the year. Stratified drift refers to layers of sand and gravel deposited by glaciers. . . . Sand and gravel is highly permeable and thus water can infiltrate more easily to contribute to stream flows." Alan Marks, Tri-Street Partners, supra.

"Given this evidence, the Technical Advisory Committee determined that for streams not shown as intermittent or not shown on the current USGS map, the streams should be determined *not* to flow throughout the year *except* when the watershed is at least .5 square miles and has a predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration using the USGS StreamStats methodology. . . . That is because the research revealed that streams with a watershed size as small as .5 square miles in size could flow throughout the year when other factors, such as steeper mean basin slope and higher percentage of stratified drifter was present. . . . As a consequence, the Technical Advisory Committee decided to use the more conservative .5 square miles as a threshold, but added the other criteria for positive flow rate [i.e., the minimum of .01 CFS] in order to more precisely distinguish between perennial and intermittent streams. . . . In the Committee's view, use of the .5 square mile threshold accurately determined the vast majority of perennial streams across the state." Alan Marks, Tri-Street Partners, supra.

The Technical Advisory group recognized that the science and principles of stream morphology establish that in nature streams defy easy binary categorization as either perennial or intermittent, especially along the entire length of the stream. To regulate over 9,000 miles of

streams, however, MassDEP acknowledged that it was necessary as a matter of policy to categorize streams, despite the variability from stream-to-stream. The Technical Advisory group explicitly recognized that the StreamStats modeling approach could be both under- and over-inclusive, i.e., some streams that flowed throughout the year would not be captured as perennial and some streams that did not flow throughout the year would be captured as perennial. However, with respect to being under-inclusive MassDEP considered that "even if some smaller [perennial] streams are not encompassed by the .5 square mile watershed and predicted flow rate greater than or equal to 0.01 cubic feet per second at the 99% flow duration, they still receive protection as intermittent streams." Alan Marks, Tri Street Partners, supra[8]; see also Matter of 518 South Ave, LLC, Docket No. WET 2019-028, Recommended Final Decision (May 8, 2020), adopted by Final Decision (May 11, 2020). And with respect to being over-inclusive, MassDEP provided a means for rebutting the StreamStats perennial presumption by direct observations showing the stream on the property not flowing for at least four days in a consecutive twelve month period. 310 CMR 10.58(2)(a)1.d. That is precisely what Groveland sought to do in this appeal, as discussed below.[9]

C. Groveland Failed To Present A Preponderance Of The Evidence That The Stream Segment On The Property Is Intermittent By Showing That It Has Been Observed And Recorded To Be Not Flowing For At Least Four Days In A Consecutive Twelve Month Period Pursuant To 310 CMR 10.58(2)(d)

Groveland endeavored to avail itself of the regulatory provision that provides a means to rebut a StreamStats prediction that a stream segment is perennial. That provision provides in relevant part the following:

[8] The decision in Alan Marks, Tri-Street Partners, supra, addresses this over- and under-inclusion more specifically and concludes that the regulation is nevertheless a valid exercise of MassDEP's regulatory authority.
[9] Groveland did not challenge the validity of the regulation, which was done in Matter of Alan Marks, Tri Street Partners, supra (addressing validity of regulation even though the StreamStats prediction maybe over- or under-inclusive).

> the issuing authority shall find that any stream is intermittent based upon a documented field observation that the stream is not flowing. A documented field observation shall be made by a competent source and shall be based upon an observation made at least once per day, over four days in any consecutive 12 month period, during a non-drought period on a stream not significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments, or other human-made flow reductions or diversions. Field observations made after December 20, 2002 shall be documented by field notes and by dated photographs or video. Field observations made prior to December 20, 2002 shall be documented by credible evidence. All field observations shall be submitted to the issuing authority with a statement signed under the penalties of perjury attesting to the authenticity and veracity of the field notes, photographs or video and other credible evidence. Department staff, conservation commissioners, and conservation commission staff are competent sources; issuing authorities may consider evidence from other sources that are determined to be competent.

310 CMR 10.58(2)(a)1.d. Groveland sought to meet the criteria in this provision by providing evidence that the stream was not flowing from a location approximately 286 yards *downstream* (northerly) of the Property, after the stream enters a culvert and crosses under Salem Street. Lally PFT, p. 5. There is no dispute that Groveland's recorded observations demonstrated the stream was not flowing at the offsite location for at least four days in a consecutive twelve-month period.

MassDEP, however, asserted that Groveland's position is unpersuasive because: (1) the observations were recorded offsite, even though the stream segment on the Property was accessible; (2) Groveland's no-flow observations were recorded downstream from a culvert and its inlet that is at an elevation above the stream bottom, both of which could negatively affect stream flow; and (3) Groveland was required to focus on the waterbody on its Property because this is a SORAD appeal, which must by regulation pertain only to the identified resource areas on the property at issue.

Groveland asserts that MassDEP's position is unfair, arbitrary, and incorrectly applies 310 CMR 10.58(2)(a)1.d. because it is inconsistent with the plain terms of the regulation, which, Groveland argues, left it with insufficient notice that observations of the segment on the Property would be required. Groveland contends that observations at any point along a stream should suffice to demonstrate the status of the *entire* waterbody. Groveland adds that it chose the specific offsite location because it was just downstream of the Property and easily observable, while the segment on the Property is difficult to observe and inaccessible.

I disagree with Groveland's position. It is contrary to: (1) principles of regulatory interpretation; (2) several longstanding adjudicatory decisions affirming MassDEP's practice of requiring direct observation of the stream segment at issue; (3) law governing issuance of SORADs which are required to focus on the property at issue; and (4) a preponderance of the evidence demonstrating that the stream segment on the Property *was* accessible.

For approximately the last twenty years MassDEP's determinations whether a waterbody is intermittent or perennial have focused on the segment of the waterbody that is directly at issue, i.e. the section that travels through the subject property. That is because it is the most relevant portion of the waterbody and because it is possible for flow to vary significantly along a waterbody, changing from perennial to intermittent and vice versa. This practice dates to at least two seminal adjudicatory decisions that discussed in detail how and why streams can vary significantly in flow and status along their entire length, and even in shorter segments.[10] See Matter of Martha Jean Eakin, Docket No. 2002-013, Recommended Final Decision, (April 12, 2005), adopted by Final Decision (June 8, 2005) (a stream may vary from being perennial to intermittent and vice versa); Matter of Robert Winter, Docket No. 2002-010, Recommended Final Decision, (May 15, 2003) (analyzing in detail how and why rivers may vary along their

[10] See supra, n. 6 (discussing agency establishment of policy through adjudication).

course from perennial to intermittent and vice versa), adopted by Final Decision (August 11, 2003).

This possible variance in stream status is confirmed by the regulations and many factors that may possibly affect interpretation of stream status and flow in particular segments, thus influencing whether a particular segment is determined to be perennial or intermittent. Beginning with the most general perspective, the regulations introduce how they can vary along their course, stating: "[r]ivers begin at the point an intermittent stream becomes perennial or at the point a perennial stream flows from a spring, pond, or lake. Downstream of the first point of perennial flow, a stream normally remains a river except where interrupted by a lake or pond. Upstream of the first point of perennial flow, a stream is normally intermittent." 310 CMR 10.58(2)(a)1.

Delving deeper into what constitutes "flow," further informs the inquiry. In fact, what amounts to "flow" in a waterbody "throughout the year" is not commonly understood nor readily capable of proof. Instead, it is generally a matter of scientific judgment and expertise. See e.g., Matter of Soursourian, Docket No. WET 2013-028, Recommended Final Decision (June 13, 2014), adopted by Final Decision (June 19, 2014).

In fact, for a water body to be considered flowing it must be because of hydraulic gradient. See Matter of Pyramid Mall of Hadley Newco, LLC, Docket No. 2006-49, Final Decision (September 24, 2010). Water that moves without hydraulic gradient is not considered to be flowing. Id.

Moreover, water in a waterbody may properly be interpreted as flowing even though segments within that waterbody contain pockets of flowing water that are separated by pockets or pools that are not flowing. Matter of Pyramid Mall, supra. Indeed, the Wetlands Regulations

necessarily expound on the concept of flow in this context, stating: "When surface water is not flowing within an intermittent stream, it may remain in isolated pools or it may be absent. When surface water is present in contiguous and connected pool/riffle systems, it shall be determined to be flowing." 310 CMR 10.58(2)(a)1 (emphasis added).

The regulations further clarify other areas that are ambiguous for purposes of what it means to flow throughout the year. For example, rivers "include perennial streams that cease to flow during periods of extended drought," as defined in the regulation. 310 CMR 10.58(2)(a)1.f. Further, from a layperson's perspective a stream may not be flowing throughout the year even though from a hydrological perspective it does, or should, flow throughout the year, and thus is technically perennial. For example, "[r]ivers and streams that are perennial under natural conditions but are significantly affected by drawdown from withdrawals of water supply wells, direct withdrawals, impoundments, or other human-made flow reductions or diversions shall be considered perennial." 310 CMR 10.58(2)(a)1.f.

And there are other unusual flow characteristics that may affect the perennial determination. For example, "[a] water body identified as a lake, pond, or reservoir on the current USGS map or more recent map provided by the Department, is a lake or pond, unless the issuing authority determines that the water body has primarily riverine characteristics. When a water body is not identified as a lake, pond, or reservoir on the current USGS map or more recent map provided by the Department, the water body is a river if it has primarily riverine characteristics. Riverine characteristics may include, but are not limited to, unidirectional flow that can be visually observed or measured in the field. In addition, rivers are characterized by horizontal zonation as opposed to the vertical stratification that is typically associated with lakes and ponds. Great Ponds (i.e., any pond which contained more than ten acres in its natural state,

as calculated based on the surface area of lands lying below the natural high water mark; a list is available from the Department) are never rivers." 310 CMR 10.58(2)(a)1.h.

In addition to the above multiple influences on stream flow and interpretation that could vary along a stream's course, MassDEP's adjudicatory decisions have long focused on the need to analyze the segment on the affected Property for another reason: an offsite determination may have regulatory effects on the properties through which the stream travels and, if Groveland's position were accepted, for the entire length of the stream.[11] That could have profound property rights and due process implications for the offsite property owners who may not have been parties to the determination that affects their property. As explained in Matter of Winter, supra: "If . . . the Regulations are read to allow for findings that a stream is perennial for certain stretches and intermittent for others, property owners along the stream would not necessarily be impacted. Moreover, the issuing authorities could focus exclusively on the nature of the stream *at the site without having to consider* whether some change in flow characteristics upstream or downstream has a bearing on the stream's status." Matter of Winter, supra (emphasis added).

Groveland incorrectly asserts that this focus on stream segments is not supported by the regulatory provision at issue, 310 CMR 10.58(2)(a)(1). It hones in on the introductory sentence which states that the regulatory authority "shall find that any stream is intermittent based upon a documented field observation that the stream is not flowing." (emphasis added) Groveland's argument is that the reference to "stream" instead of "stream segment" must mean that the intent was to allow for observations along any portion of the stream to be used in determining whether the entire stream is perennial or intermittent. While that interpretation may have superficial

[11] As discussed above, perennial streams generally have 200 foot Riverfront Areas on each side of the stream, whereas intermittent streams generally have 100 foot buffer zones associated with their banks. The regulatory differences on the abutting properties can be significant. Compare 310 CMR 10.58 and 10.54.

appeal it is undermined by principles of regulatory construction, as discussed close to twenty years ago in Matter of Winter.

Concerning the latter point, although statutory and regulatory terms must generally be applied according to their plain terms, that principle ceases to hold when an interpretation would lead to an absurd result or frustrate the underlying intent. See Worcester v. College Hill Props., LLC, 465 Mass. 134, 138, 987 N.E.2d 1236 (2013). Here, as discussed above: established principles of varying stream morphology; unfairness and potential due process implications for unrepresented off-site property owners; longstanding adjudicatory decisions; and the entire body of 310 CMR 10.58 all demonstrate that allowing flow observations at any point along a stream to determine the status of the stream along its entire course could lead to absurd results that would frustrate the intent of the regulations to focus on the status of the stream for the particular property at issue.

It is undoubtedly true that in exceedingly rare instances particular segments of streams may be inaccessible and thus not directly observable.[12] See Matter of 518 South Ave, LLC, supra. However, to determine the status of the inaccessible segment in those instances, the administrative record must demonstrate that the party attempted to utilize best available measures to access and observe the segment *and* that there is sufficient circumstantial evidence to reach a determination regarding the status of the inaccessible segment. Id.

[12] Groveland provides hypothetical examples of other instances where it believes offsite observations may actually be required, for example when a stream segment is not on the property at issue but its Riverfront Area may still affect the property. Butler Rebuttal PFT, pp. 8-9; Butler PFT, pp. 12-13. While that may be true, it is irrelevant to the analysis in *this* appeal. Moreover, Groveland misstates that it is MassDEP's position that observations *must* be "limited" to the stream segment on the subject property. The correct position is that the first priority should be to observe the stream segment on the property, and to the extent that offsite observations are necessary *and* relevant, they may also be considered. See e.g. 518 South Ave. LLC, supra. To determine the status of an inaccessible segment, the administrative record must demonstrate that the party attempted to utilize best available measures to access and observe the segment and that there is sufficient circumstantial evidence to reach a determination regarding the status of the inaccessible segment.

In Matter of 518 South Ave, LLC, for example, the property owner presented overwhelming evidence that the stream bottom was primarily dry and not flowing for approximately 10 days in a consecutive twelve-month period *immediately upstream on its property* and downstream directly *adjacent to* the inaccessible segment. The evidence also demonstrated the watershed size was significantly less than .50 square miles.[13]

Further, in Matter of 518 South Ave., several witnesses testified that the segment could not be accessed without additional equipment and clothing and alteration or destruction of wetland flora; alteration or destruction of wetlands flora is generally unlawful without proper authorization. The evidence demonstrated that there was extremely dense vegetation in a boggy area of the BVW through which the stream travelled, including buckthorn, bittersweet, vines, and poison ivy. One expert witness testified that the BVW was one of the more "impenetrable vegetated wetlands [he has] ever traversed in [his] 35 years of experience." This was corroborated by multiple witnesses including the MassDEP witness. Last, there was no evidence disputing the evidence that the segment was inaccessible to all parties. As a consequence, in 518 South Ave, there was an "overwhelming preponderance of circumstantial evidence . . . leading to the reasonable inference that the unobserved portion of the Stream was not flowing on the same days that the nearby upstream and downstream segments were directly observed to have no flow." Id.

Here, in sharp contrast to 518 South Ave, there is no evidence the stream was not flowing on the Property itself; the stream segment on the Property meets the StreamStats thresholds for the perennial flow presumption (.5 sq. mile watershed, .01 CFS flow rate); the property owner in 518 South Ave, demonstrated that the no-flow conditions were not affected by "human-made

[13] It should be noted that the Petitioners in Matter of 518 South Ave., LLC, reserved their right to challenge that watershed size in the next phase of the litigation, which became unnecessary because of the result against them in the first phase.

flow reductions or diversions"; and, perhaps most importantly, the evidence in this appeal shows the stream segment *was* accessible.

Lally testified that when he visited the Property in January 2020 he was able to access and observe the stream within the BVW on the Property, although he was unclear as to the precise location. Tr., pp. 98-100, 102, 103. Groveland admits that it was able to access the entire stream segment on the Property and record observations, but those observations were recorded during a declared drought, and thus cannot by law be accepted as proof of no-flow.[14] 310 CMR 10.58(2)(a)1.d (observations must be made during non-drought period); Daly Rebuttal PFT; Tr., pp. 9, 33-36; Groveland Memorandum of Law, pp. 5-6; Groveland Reply Brief, pp. 4-5; Butler Rebuttal PFT, pp. 5-6; Butler PFT, pp. 10-12; Daly PFT, Exhibits.

CONCLUSION

I recommend that MassDEP's Commissioner issue a Final Decision affirming the SORAD. A preponderance of the evidence persuasively shows with the StreamStats modeling software that the Stream is presumed to be perennial and Groveland failed to rebut that presumption by demonstrating that it was not flowing on the Property for at least four days in a twelve month period, even though the stream segment on the Property was accessible.

NOTICE- RECOMMENDED FINAL DECISION

This decision is a Recommended Final Decision of the Presiding Officer. It has been

[14]Butler opined that the stream on the Property is a palustrine, and not a riverine system, which would not support fish and other perennial stream wildlife; he believes this further supports his position that the stream is intermittent. Butler Rebuttal PFT, p. 6; Butler PFT, pp. 11-12. However, when MassDEP promulgated the regulations at issue it deliberately decided to exclude this type of evidence and other factors from consideration when determining whether a stream is intermittent or perennial. See Alan Marks, Tri-Street, supra; Matter of 518 South Ave, supra; see also e.g. Jim Williamson, surpa. (contrary to petitioners' assertion, fish use intermittent and perennial streams, and thus their absence is not a good indicator of stream status). Groveland also contends that Notices of Intent and Order of Condition, issued between 7-18 years ago that found offsite segments of Grindle Brook to be intermittent. Butler PFT, pp. 7-8.; Butler Rebuttal PFT, pp. 2-3; Daly Rebuttal PFT. Assuming this assertion is true, it has no bearing under the circumstances in this appeal because the orders of conditions are only binding for three years; the findings were made from other properties and pertain only to those properties; and the segment on the Property in this matter is accessible.

transmitted to the Commissioner for his Final Decision in this matter. This decision is therefore not a Final Decision subject to reconsideration under 310 CMR 1.01(14)(d), and may not be appealed to Superior Court pursuant to M.G.L. c. 30A. The Commissioner's Final Decision is subject to rights of reconsideration and court appeal and will contain a notice to that effect.

Because this matter has now been transmitted to the Commissioner, no party shall file a motion to renew or reargue this Recommended Final Decision or any part of it, and no party shall communicate with the Commissioner's office regarding this decision unless the Commissioner, in his sole discretion, directs otherwise.

Date: April 2, 2021

Timothy M. Jones
Presiding Officer

SERVICE LIST

In The Matter Of:	Groveland Realty Trust, LLC.
Docket No. WET-2020-006	File No. 030-0456 Groveland
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