

Sudbury Wetlands Administration Bylaw Regulations

Revised: September 25, 2017

1. PURPOSE

The purpose of these regulations is to aid in the consistent and effective implementation of the Sudbury Wetlands Administration Bylaw by way of further definition; explanation and specification; and illustration and example of the Bylaw's provisions. These regulations are intended to clarify but not expand, extend, modify, or replace any provision of the Sudbury Wetlands Administration Bylaw.

2. JURISDICTION

2.1 Wetland Resources

Wetland resources protected by this bylaw include:

- 2.1.1 *Any creek, stream (intermittent or perennial), river, pond, lake, or vernal pool*
- 2.1.2 *Isolated and bordering land subject to flooding.*
- 2.1.3 *Any bank, freshwater wetland, marsh, swamp, wet meadow, or bog bordering on or having a hydraulic connection to any of the resources listed in 2.1.1 or 2.1.2.*
- 2.1.4 *Land under any of the bodies listed above*
- 2.1.5 *Any adjacent upland resource area as defined by the Bylaw or these regulations..*

2.2 Presumption of Vernal Pool Habitat

The Bylaw presumes vernal pool habitat exists if a wetland's physical characteristics conform with those defined for vernal pools in Section 9 (Definitions) of the Bylaw:

"The term "vernal pool" shall include, in addition to that already defined under the Wetlands Protection Act, G.L. Ch. 131, §40 and Regulations thereunder, 310 CMR 10.00, any confined basin or depression not occurring in existing lawns, gardens, landscaped areas, or driveways which, at least in most years, holds water for a minimum of two continuous months during the spring and/or summer, contains at least 200 cubic feet of water at some time during most years, is free of adult predatory fish populations, and provides essential breeding and rearing habitat functions for amphibian, reptile, or other vernal pool community species, regardless of whether the site has been certified by the Massachusetts Division of Wildlife and Fisheries."

This presumptive definition for vernal pools is based on systematic field observations in the Town of Sudbury by the Sudbury Conservation Commission showing that virtually all basins that possess the above characteristics actually host breeding vernal species. Undoubtedly this is a particular consequence of Sudbury's semi-rural character and enduring woodlands and wetlands.

The presumption of vernal pool habitat may be overcome, however, with the presentation of credible evidence which in the judgment of the Conservation Commission demonstrates that the wetland does not provide, or cannot provide, vernal pool habitat functions.

2.2.1 Demonstrating that a Ponding Area Is Not a Vernal Pool

For the purposes of overcoming the presumption of vernal pool habitat the Commission will consider:

2.2.1.1 Evidence that the ponding area does not hold water for at least two continuous months in most years. As a rule of thumb the term "most years" shall mean three out of five consecutive years.

2.2.1.2 Evidence that vernal pool species do not breed or have not bred in the ponding area for three of five consecutive years of normal rainfall. The Conservation Commission shall provide explicit guidelines for this evidence.

2.2.1.3 Evidence that the ponding area could not be a viable breeding site for vernal pool species due to incompatible physical, chemical, biological, or other persistent conditions at the site in most years. Such evidence could include, without limitation, several months of pH and dissolved oxygen measurements yielding values incompatible with amphibian or reptile breeding.

2.2.2 Timing of Evidence Collection.

Many of the indicators of vernal pool habitat are seasonal. For example, certain salamander egg clusters are only found between late March and late May. Wood frog chorusing only occurs between late March and May, and then only at night. Consequently, failure to find evidence of breeding must be tied explicitly to those periods during which the evidence is most likely to be available.

Accordingly, in the case of challenges to the presumption of vernal pool habitat the Conservation Commission may require that the determination be postponed until the appropriate time period consistent with the evidence being presented. The Commission may also require its own site visits as necessary to confirm the evidence.

Evidence gathered at inappropriate times shall be considered faulty and invalid and can be grounds for a denial of permit.

2.3 Intermittent Streams

Intermittent streams are important for storm damage prevention, flood control, ground water protection, wildlife habitat, and recreation values. During spring, summer, and fall these streams disperse snow melt and storm runoff across the landscape thereby preventing dangerous volumes and flows from spilling over roadways and property. This broad dispersal also allows for larger volumes of water to infiltrate into the ground, recharging groundwater supplies.

Intermittent streams are an essential source of food and water for wildlife, and are often the only source of water in higher elevation areas of town. The moist soils that border intermittent streams are significantly richer in herbs and flowering/fruited plants – the base trophic level of food -- than surrounding upland areas.

During all seasons, but especially in winter and spring, intermittent streams act as essential corridors for animal movement when food is scarce. Some animals, such as pickerel frogs and eastern spotted newts, rely heavily on intermittent streams for movement.

For these reasons the upland areas surrounding intermittent streams are heavily utilized by wildlife for living space, breeding, feeding, migrating, dispersal, and security.

Accordingly, this Bylaw protects intermittent streams of all forms (Regulations Section 9.9) and the adjacent upland resource within 100 feet of those streams. For the purposes of this Bylaw an intermittent stream is that segment of a flowing watercourse that regularly experiences naturally occurring sporadic flow interruptions such that it does not have a continuous sheet of surface water for five consecutive days or more annually.

The Conservation Commission recognizes two types of intermittent stream:

- Type I: Stream segments in which continuous standing water disappears for at least five (5) but not more than thirty (30) consecutive days annually.
- Type II: Streams in which continuous standing water disappears for more than thirty (30) consecutive days annually.

A 100 foot adjacent upland resource area exists for both type I and type II intermittent streams. In the case of the 100-foot adjacent upland resource area for Type I intermittent streams the Conservation Commission may, based on the specific functions and values of the resource, use protection guidelines adopted for the 100-foot Riverfront area for a perennial stream.

[See section 2.4 Perennial Streams, below, for specific evidence requirements to document intermittent streams.]

2.4 Perennial Streams

Under this Bylaw all flowing watercourses shall be considered to be perennial streams unless a preponderance of evidence deemed acceptable by the Conservation Commission rebutting this presumption is presented. Information necessary to overcoming this presumption includes, but is not limited to, direct observation and documentation of the:

- The absence of a continuous sheet of surface water throughout the watercourse, or relevant segment, for a minimum of five consecutive days annually in most years (excluding periods when local drought or other conditions abnormally lowering the water table are known to exist, or due to water withdrawals) as witnessed by a member of the Conservation Commission or its staff; which shall be considered definitive evidence in overcoming the presumption of perennial status.

Other information that may be relevant to overcoming the presumption of perennial stream status for a watercourse or a segment of that watercourse includes, but is not limited to, direct observation and documentation of:

- Absence of gravel, mineral, and riffle substrate;
- Absence of a clearly defined flow channel;
- Absence of bank undercutting;
- Presence of established non-aquatic plants in the flow path (i.e., plants that are unable to grow in continuously submerged conditions);
- Absence of a continuous sheet of surface water in the stream channel or relevant segment at a time when Conservation Commission designated perennial streams of comparable characteristics are flowing, as witnessed by a member of the Conservation Commission or its staff.

The Conservation Commission will also consider estimates from modeling studies of surface water and ground water hydrology in the relevant watershed. However, such information will only be considered as evidence in conjunction with the observable indicators noted above.

Observational evidence shall, in all instances, take precedence over estimates, calculations, and other inferential evidence.

The Conservation Commission shall consider all of the evidence available together, judging the validity and reliability of the information, and base its determination on the preponderance of acceptable evidence.

2.5 RIVERFRONT AREA

The term "River", as used in this section, shall mean a natural flowing body of water that empties to any ocean, lake, or other river and which flows throughout the year (in accordance with MGL Chapter 131 s. 40..

The term "Riverfront area", as used in this section, shall mean 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.

2.5.1 MEAN ANNUAL HIGH WATER

To protect the natural integrity of Sudbury's low gradient rivers, the definition of mean annual high water as used in this section, shall mean with respect to a river, the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and which distinguishes between predominantly aquatic and predominantly terrestrial land.

Under the Sudbury Wetlands Administration Bylaw, the purposes are to protect the private or public water supply; to protect the ground water; to provide flood control; to prevent storm damage; to prevent pollution; to protect land containing shellfish; to protect wildlife habitat; and to protect the fisheries; erosion and sedimentation control, storm damage prevention, avoidance of water and soil pollution, protection of fisheries, wildlife habitat, rare species habitat including rare plant species, agriculture, aquaculture, and recreation values,.

Therefore, the Mean Annual High Water line shall be based on the change from predominately aquatic due to prolonged presence of water to predominately terrestrial characteristics. The majority of perennial streams in Sudbury are low-gradient with low flow, where the use of mainly bankfull indicators to determine mean annual high water (or "bankfull" under the Wetlands Protection Act) does not reflect the true lateral extent of the mean annual flow channel of the river. As a result, the level of protection necessary to maintain the functions and values of the entire riverfront area is diminished when the entire area of inundation and flow is not defined as part of the mean annual high water of the river.

2.6 COLD WATER FISHERIES RESOURCES

Cold water fish species survive in only the coldest and cleanest water. They serve as indicators of the health of the watersheds they inhabit. Strong cold water fish species populations demonstrate that stream or river ecosystem is healthy and that water quality is excellent. A decline in cold water fish populations can serve as an early warning that the health of an entire aquatic system is at risk.

In recognition of the need to address threats to cold water fisheries (with Fisheries being a protected resource under the Sudbury Wetlands Administration Bylaw) the following definitions and performance standards shall apply to any work within areas subject to jurisdiction under this Bylaw where a cold water fishery is identified or presumed.

Cold Water Fisheries Resources are defined as waters that contain at least one of the following species:

- Brook trout (*Salvelinus fontinalis*)
- Rainbow trout (*Oncorhynchus mykiss*)
- Brown trout (*Salmo trutta*)
- Creek Chubsucker (*Erimyzon oblongus*)
- Fall fish (*Semotilus corporalis*)
- Slimy Sculpin (*Cottus cognatus*)
- (Longnose sucker (*Catostomus catostomus*))

Whereas most of our local streams have not been investigated to determine suitability for survival of the above cold water fish species, **all streams, and/or stream segments, that meet one or more of the following criteria shall also be considered cold water fisheries resources:**

- Any stream designated as a cold water fishery in 314 CMR 4.0;0
- Any stream designated as a cold water fishery by the MA Division of Fisheries and Wildlife;
- Waters where there is evidence based on a fish survey that a cold water fish population and habitat exist are also cold water fisheries;

- The mean maximum daily temperature in a stream over a seven day period generally does not exceed 70 degrees F near the stream bottom, and suitable habitat factors exist. Since coldwater fish species are known to seek cooler water, they will during a hot spell, migrate to cooler water where springs or spring-fed seeps enter the river. Therefore water temperatures are to be measured near the bottom, and at the coolest locations.

Because of the temporary migration to cooler water, a stream that temporarily exceeds 70degrees F, will not be removed from the CFR (Cold Water Fisheries Resource) listing. The temporarily (fish) vacated stream will be repopulated as the water cools, and is still to be considered a CFR.

If a stream qualifies for, and is designated as a CFR, the entire stream from its feeder streams, or its spring-fed seeps, to its effluence to the next stream, will be considered a CFR.

The failure of a stream or stream segment to appear in 314 CMR 4.00 or on the MA DFW list of cold water fisheries does not mean it is not a cold water fisheries resource. If the stream meets the temperature and habitat criteria, it will be considered a cold water fisheries resource for the purposes under this Bylaw, unless and until the applicant overcomes this presumption with qualified documentation.

In the case of challenges to the presumption of cold water fisheries resources, the Conservation Commission may require that the determination be postponed until the appropriate time period consistent with the evidence being presented. The Commission may also require its own site visits as necessary to confirm the evidence.

Evidence gathered at inappropriate times shall be considered faulty and invalid and can be grounds for a denial of a permit.

Activities within riparian areas that: a) reduce its natural vegetative cover, especially any reduction in streamside forest cover; b) contribute to an excessive level of nutrients or sediments getting into adjacent watercourses; c) involve the use and/or release of heavy metals, pesticides, herbicides and other toxics; or d) increase its imperviousness are likely to result in a degradation of a riparian area's fisheries protection function.

To protect the functioning of Cold Water fisheries Resources, the following performance standards for habitat creation, water quality, water quantity, and food shall apply. Further background for the purpose of the following standards can be found in *Riverways (Department of Ecological Restorations) Fact Sheet #4: Functions of Riparian Areas for Fisheries Protection dated July 8, 1997*, incorporated herein.

- maintain and/or restore an undisturbed, vegetated (forested) state within the riverfront area,. Although a streamside forest at least 80 feet wide on each side of a river or stream is adequate to ensure maximum stream shading, as much of the remainder of the riparian area as possible shall be kept in or restored to a naturally vegetated state in order to effectively filter out excess sediments, nutrients and other pollutants before they reach the water, as well as maintain adequate groundwater recharge. . Streamside forests help maintain streamflow in summer so that fish don't lose their habitat by having it dry up on them. Streamside forest areas serve as living biological buffers to absorb excessive levels of sediment, nutrients and other pollutants generated by adjacent development as well as from the stream itself. This function is key to maintaining the high water quality needed by a host of riverine organisms
- Retaining canopy shade along streams where most of the forest cover has been removed for other land uses is important. Riparian trees are valuable because stream temperature drops rapidly once a stream enters a forested riparian area.

- Logs, stumps and other large woody debris in and/or overhanging the water (even where undercut by the current) shall be left undisturbed to maximize food source and in-stream habitat for fish and other aquatic organisms as well as helping to keep harmful sediment movements under control.
- Connections between rivers and adjacent floodplains shall be maintained, as floodplains are valuable foraging, spawning and nursery habitat for some fish species.
- The level of phosphates and nitrates in the CWFR shall be established pre-construction. Post-construction monitoring of these levels shall be required and may continue with the Certificate of compliance. Should levels rise post-construction, the commission reserves the right to require reduction/mitigation of these levels. Phosphates and nitrates leaching from septic systems or running off fertilized cropland, pastureland, lawns, golf courses and the like, contribute to excessive levels of nutrients in streams, triggering a chain reaction of adverse impacts. Excessive nutrients promote excessive algae and aquatic nuisance weed growth which, in addition to inhibiting the growth of other aquatic vegetation of greater value to aquatic organisms, reduces the level of dissolved oxygen in the water. The resulting hypoxic (low oxygen) or anoxic (zero oxygen) state can cause fish kills and decreases in aquatic insect populations, as well as disruptions in the normal reproduction, food web, and water chemistry balance.
- The baseflow of stream shall be established pre-construction. Post construction baseflow monitoring shall be required and may continue in the Certificate of Compliance. Should baseflows decrease post-construction the Commission reserves the right to require the applicant to determine the cause of these reduced flows and mitigate for any reduction harmful to the functioning of the stream to support cold water fish species.
- Blockage of CFRs is not permitted without a special limited permit issued by the Conservation Commission. Therefore, any use that creates blockage of a CFR, such as stream crossing (through the water) with vehicles and resulting rutting, is not allowed except by special permit for repair vehicles. Stream crossing using an in-place bridge is permitted.
- The creation of man-made dams of any sort is prohibited, unless approved by Dept. of Mass. Fish & Wildlife and the Sudbury Conservation Commission.
- Any activity, disturbance, construction (including dams or other blockages), or habitat modifications in the CFR Watershed that will increase the stream's temperature, is prohibited.

3. CONDITIONAL EXCEPTIONS

3.1 Exceptions for Existing Single Family Residential Structures

As stipulated in Section 3 of the Bylaw:

"The application and permit required by the Bylaw shall not be required for maintaining, repairing, replacing, or enlarging an existing and lawfully located single-family residential structure or appurtenance thereto unless said filing is otherwise required by state or federal law."

The intent of this partial exemption is to allow owners of single family homes, built prior to the Bylaw, to continue to live and work according to the rules, regulations, and assumptions under which they originally purchased their homes.

Any property owner, irrespective of when their property was developed, has the legal right to challenge any provision of the Bylaw at any time. However those whose properties were developed prior to the Bylaw might face an undue burden under the Bylaw because the configuration of their lot and associated development were determined without prior knowledge of the Bylaw. In contrast, single family residences built after the Bylaw could be appropriately planned around restrictions in order to minimize constraints.

3.1.1 Definition and Application of the Term "Existing"

The term "existing" refers to structures placed in service prior to July 27, 1994, and refers to both the single family structure and any appurtenance claiming exemption.

Therefore, the application and permit required by this Bylaw shall apply to work associated with entirely new structures (those that are not replacing antecedents) placed in service on or after July 27, 1994, whether or not they would be considered appurtenant.

In those instances where a state or federal filing is required for projects associated with existing single family residences, the full application and permit required by the Bylaw does apply.

The above notwithstanding there are a number of other special rules and exemptions in the Bylaw pertaining to single family residences that existed prior to July 27, 1994, such as delineation of certain adjacent upland resources, that might still apply.

3.2 Expansion of Agricultural Lands

Agriculture is one of the interests and values protected by the Sudbury Wetlands Administration Bylaw. Accordingly the Bylaw (Section 3) exempts certain work on lands already in agriculture from permitting as long as that work meets approved performance standards under the Bylaw.

Expansion of agricultural activities onto lands not previously in agriculture and within the jurisdiction of the Commission does require a permit. In protecting agricultural values and interests under the Bylaw the Commission may require as one of its conditions for approval that the land be placed under a deed restriction for at least 10 years limiting use of that land to agriculture, especially if that land was previously in an undisturbed state.

3.3 Farm & Fire Ponds

Historically farm and fire ponds have served as vernal pools across the New England landscape. Some of Sudbury's most important salamander breeding sites, including those of rare species, are abandoned and existing farm and fire ponds. Accordingly, stocking of farm and fire ponds with fish shall not be permitted except in those cases where the Commission determines that the pond does not currently, and in the future will not likely, serve vernal pool functions.

4. APPLICATIONS FOR PERMITS AND REQUESTS FOR DETERMINATION

4.1 Format for Application Materials

All application materials shall be submitted to the Commission in a searchable electronic format (e.g., pdf or Adobe) via email, or on a portable electronic storage device, or to a central cloud repository on the web, both initial application and all appended materials, including plans, forms and memorandum. Approved, as-built plans, and conservation restriction plans shall be submitted as both a PDF and in a format compatible with AutoCAD 2010, and ESRI ArcGIS 10.2.1, or an updated version currently in use by the Town. One signed, original hardcopy of all wetland filings shall be submitted in addition to the electronic documentation.

4.1 Timeframes for Submission of Documentation

All documentation -- including, plans, maps, tables, charts, reports, etc. -- to be considered as part of a permit filing by the applicant must be submitted to the Conservation Commission no later than four business days prior to the scheduled public hearing, or its continuation. This is the minimum time needed to allow the Commission and staff to properly review, analyze, and check the information provided. Documentation submitted with fewer than the minimum four business days for review may be excluded from consideration at the scheduled hearing and held for discussion at a subsequently scheduled meeting.

4.2 Wetland Resource Designations on Plans

All plans submitted to the Conservation Commission for a permit under Section 4. of the Bylaw must show all wetland resources on the property and within 100 feet of the property lines (200 feet in the case of perennial streams), regardless of whether or not the proposed work is expected to occur within the jurisdictional areas associated with the resource.

In those instances where the project is part of a subdivision, a plan must be submitted to the Conservation Commission showing all wetland resources located within the subdivision boundaries and within 100 feet of those boundaries (200 feet in the case of perennial streams). Failure to provide this information, or providing erroneous or false information, shall be grounds for denying, suspending, or revoking the permit as outlined in Section 7. of this Bylaw.

4.3 Notice of Resource Area Delineation

A Notice of Resource Areas Delineation (NRAD) or an abbreviated NRAD must include all potential wetland and adjacent upland resource areas under a single comprehensive delineation.

4.4 Documentation for Violations

All filings associated with a Notice of Violation shall include an accurate plan that clearly and explicitly shows all jurisdictional resource areas on the property and the area(s) of disturbance including an explicit tabulation of the size of the disturbance. The Conservation Commission may require a surveyed/engineering plan.

4.5 Single Minor Project

For the purposes of fee determination work to remove debris and hazardous materials from wetlands, and wetland restoration projects, and similar projects for improving the natural capacity of a wetland resource to protect or enhance wetland values shall be considered a single minor project.

4.6 Resource Restoration and Enhancement Projects

Wetland and/or adjacent upland resource restoration and enhancement projects that (1) are not the result of a Notice of Violation, and (2) are not part of a mitigation project tied to other work covered under another Notice of Intent, and (3) do not require a filing under Massachusetts Wetlands Protection Act or received a negative determination of applicability, may file an abbreviated Notice of Intent for Resource Restoration & Enhancement with the Conservation Commission.

- . • The conservation agent, acting at the direction of the Conservation Commission, shall determine whether a project qualifies for this special NOI.
- . • A special Notice of Intent for Resource Restoration & Enhancement application shall be used for qualifying projects.
- . • All standard bylaw NOI requirements and procedures, such as a butter notification, hearing publication, and final issuance of a certificate of compliance, shall be followed.
- . • The fee shall be \$25 for a single minor project, as noted in these regulations Section 4.4.

4.7 Subdivision Roadway Fees

For the purposes of fee determination the term roadways in the case of subdivisions shall include all common and private driveways associated with new lot construction. Therefore driveway sidelines that fall within the adjacent upland resource shall be added to the overall roadway sideline calculation pertinent to fees for roadway construction in the adjacent upland resource. In those instances where driveways for new lots are not included in the subdivision application, the pertinent driveway sideline charge shall be imposed when the specific lot plan is submitted. Where the \$500 base fee for roadways has already been paid as part of the subdivision application that fee shall also cover the base fee for subsequent driveway plans in the subdivision.

4.8 Drainage Structure Fees

The \$500 fee will apply to each independent or each network of hydraulically connected detention basins, retention basins, catch basins, or combination of swales, infiltration pits, and dissipation fields that;

- are located in whole or in part in a adjacent upland resource or resource area, and/or • discharges into a adjacent upland resource or resource area, directly or indirectly; and
- requires substantial review of pre and post drainage calculations.

Swales, infiltration pits, and dissipation fields networked with detention, retention, or catch basins will not be assessed an additional fee.

The above notwithstanding, In no case shall the fee for projects involving drainage structures be less than \$500.

4.9 Disturbed Adjacent Upland Resources for Commercial & Industrial Projects

The fee of \$0.50 per square foot of disturbed adjacent upland resource listed under Section 4 (f) of the Bylaw shall pertain to areas not previously or presently under industrial or commercial use.

4.10 Fees for Consultants

As provided by GL Ch. 44 § 53G, the Sudbury Conservation Commission may impose reasonable fees for the employment of outside consultants, engaged by the Conservation Commission, for specific expert services deemed necessary by the Commission to come to a final decision on an application submitted to the Conservation Commission pursuant to the requirements of the Wetlands Protection Act (GL Ch. 131 § 40, Conservation Commission Act (GL Ch. 40 § 8C), the Sudbury Wetlands Administration Bylaw and Regulations, or any other state or municipal statute, bylaw or regulation, as they may be amended or enacted from time to time.

Funds received by the Conservation Commission pursuant to these rules shall be deposited with the town treasurer who shall establish a special account for this purpose. Expenditures from this special account may be made at the direction of the Conservation Commission without further appropriation as provided in GL Ch. 44 §53G. Expenditures from this account shall be made only in connection with the review of a specific project or projects for which a consultant fee has been collected from the applicant. The Commission reserves the right to permit the applicant to pay the consultant fee(s) directly for smaller projects or in other appropriate situations.

Specific consultant services may include but are not limited to resource area survey and delineation, analysis of resource area values, hydrogeologic and drainage analysis, impacts on municipal conservation lands, and environmental or land use law. The consultant shall be chosen by, and

report only to, the Commission and/or its Administrator. The Conservation Commission will consult with other Town Boards to avoid duplication.

The Conservation Commission shall give written notice to the applicant of the selection of an outside consultant, which notice shall state the identity of the consultant, the amount of the fee to be charged to the applicant, and a request for payment of said fee in its entirety. Such notice shall be deemed to have been given on the date it is mailed or delivered. No such costs or expenses shall be incurred by the applicant if the application or request is withdrawn within five days of the date notice is given.

The fee must be received in its entirety prior to the initiation of consulting services. The Commission may request additional consultant fees if necessary review requires a larger expenditure than originally anticipated or new information requires additional consultant services. Failure by the applicant to pay the consultant fee specified by the Commission within ten (10) business days of the request for payment shall be cause for the Commission to determine that the application is administratively incomplete (except in the case of an appeal). The Commission shall state such in a letter to the applicant, copied to the DEP. No additional review or action shall be taken on the permit request until the applicant has paid the requested fee.

4.11 ADDITIONAL FEES

4.11.1 The Conservation Commission shall assess a fee, in addition to the fee required in M.G.L. Chapter 131 section 40, for Notice of Resource Area Delineations. The fee is \$500 for all new construction plus \$2.00 for each linear foot of resource area subject to the Bylaw. Exceptions are existing developed single family house lots where the fee is \$25.00. The Commission, at their discretion, may waive the Bylaw fee for single family house lots.

4.11.2 The Commission shall assess an inspection fee of \$50 for each status inspection conducted as a follow up to a Notice of Violation. The Commission, at their discretion, may waive the Bylaw inspection fee for single family house lots.

5. NOTICE and HEARINGS

6. COORINDATION with OTHER BOARDS

7. PERMITS and CONDITIONS

7.1 Insufficient information, False Information, and the Timing of Evidence

The Conservation Commission may deny a permit if the information presented to it is determined to be false, deficient, or insufficient (or if the applicant refuses to provide relevant information) to properly assess the likely impact of the proposed project to the interests and values protected by this Bylaw.

In some instances the timing of evidence collection is fundamental to proper analysis. (See section 2.2.2 of these Regulations for vernal pools). Accordingly, in such instances the Conservation Commission may require that the hearing be postponed until evidence can be properly collected during the appropriate time period. The Commission may also require its own properly timed site visits as necessary to confirm the evidence.

Evidence gathered at inappropriate times shall be considered faulty and invalid and may be grounds for a denial based on insufficient evidence.

7.2 Performance Standards & Design Criteria for Adjacent Upland Resource Areas

There is overwhelming scientific consensus that significant physical, chemical, or biological alterations to Adjacent Upland Resource Areas will have significant physical, chemical, or biological impacts on associated wetland areas. Thus, as stated in the Bylaw, Section 7 Permits and Conditions, Adjacent Upland Resource Areas

"...are presumed important to the protection of these resources because activities undertaken in close proximity to wetlands and other resources have a high likelihood of adverse impact upon the wetland or other resource, either immediately, as a consequence of construction, or over time, as a consequence of daily operation or existence of the activities. These adverse impacts from construction and use can include, without limitation, erosion, siltation, loss of groundwater recharge, poor water quality, and harm to wildlife habitat.

The Commission therefore may require that the applicant maintain a strip of continuous, undisturbed vegetative cover in part or all of the 100-foot area and set other conditions on this area, unless the applicant provides evidence deemed sufficient by the Commission that the area or part of it may be disturbed without harm to the values protected by the law."

In some circumstances some types of activities, when properly mitigated and conditioned, may be acceptable in adjacent upland resource areas. Under other circumstances even minimal adjacent upland resource disturbance may have serious harmful effects on resource area values and functions. When the presumption of significance is questioned the actual determination of impact must be made on a project-and site specific basis. And in this respect the actual impact of proposed adjacent upland resource work or activities on wetland values and functions can often be reduced substantially, and thus made permissible, when appropriate conditions are imposed.

Therefore the traditional approach of "all or nothing" adjacent upland resource restrictions unnecessarily creates conflicts between property use and resource protection. Accordingly the Bylaw gives the Conservation Commission broad discretion to permit, condition, and prohibit work within the adjacent upland resource as the specific situation warrants. 7.2.1 The Character of the Work or Activities Proposed and Alternatives

The applicant shall carry the burden of proof for demonstrating to the Commission's satisfaction that the proposed work or activities in the adjacent upland resource are necessary and that reasonable alternatives, including reducing the scale and scope of the project, do not exist.

The Commission shall consider the specific characteristics of the work proposed for immediate and cumulative impact on the resource area. For example, shrub landscaping in sensitive sections of the adjacent upland resource might be appropriate where a lawn might not due to concerns about nutrient runoff. Similarly, clearing a flat section of the adjacent upland resource to establish a vegetable garden might not threaten adjacent wetland values and functions. However, construction of a tennis court with extensive impervious surface on the same site and covering the same area might not be acceptable.

The Conservation Commission may offer suggestions and advice for altering plans and proposals to reduce impact on wetlands values and functions toward the goal of modifying the project to make it acceptable. However, the Commission is not obligated to do so and shall not be bound in its decision making by any prior advice or suggestions offered to applicants.

In all cases, the Conservation Commission shall require mitigation measures to offset impacts to protected resource area functions"

7.2.2 Setting Disturbance Restrictions.

A growing body of research evidence suggests that even "no disturbance" areas reaching 100 feet from wetlands may be insufficient to protect many important wetland resource characteristics and values. Problems of nutrient runoff, water pollution, siltation, erosion, vegetation change, and habitat destruction are greatly exacerbated by activities within 100 feet of wetlands. Thus, in general work and activity within 100 feet of wetlands should be avoided and discouraged and reasonable alternatives pursued.

Accordingly, the Conservation Commission shall begin with the presumption that lands within the adjacent upland resource of a resource are best left in an undisturbed and natural state. [Note: The Bylaw contains a number of exemptions for single family residences existing prior to July 27, 1994].

However the Commission shall designate areas of the adjacent upland resource to be suitable for temporary, limited, or permanent disturbance as appropriate when the applicant can demonstrate to the Commission's satisfaction that the proposed work or activity will not affect resource values singularly or cumulatively and that reasonable alternatives to the proposed work or activity do not exist. This approach is intended to allow maximum flexibility for property use while maintaining adequate levels of resource protection.

7.2.2.1 No Disturbance Area .This is an area in which virtually no activities or work, other than passive passage, are permitted. No vegetation may be disturbed, leaf litter and debris remains in place, etc. The no disturbance area should remain unchanged from its pre-project state.

7.2.2.2 Temporary Disturbance Area. This is an area in the adjacent upland resource where temporary disturbance for a limited period of time is permitted, such as for regrading or travel by heavy machinery. Once the activity is completed, however, the area will be allowed to return to natural vegetation and function. Any subsequent disturbance or activity shall require a new filing.

The Conservation Commission shall establish specific time frames and conditions for allowing temporary disturbances, as well as setting criteria for assessing the successful return of the adjacent upland resource to natural functions.

7.2.2.3 Limited Disturbance Area .This is an area in the adjacent upland resource where a limited set of activities and work is permitted in perpetuity. For example understory clearing of poison ivy might be allowed, but no clearing of overstory and no planting of lawn. Limited (sustainable) harvesting of wood, composting of brush, and storing firewood are other examples of limited activities that might be allowed.

7.2.2.4 Permanent Disturbance Area. This is an area in the adjacent upland resource in which most, if not all, legal activities and permanent disturbances are permitted. Houses, porches, driveways, gardens, and lawns in the adjacent upland resource represent permanent disturbance areas.

Nevertheless, within the context of permanent disturbance the Conservation Commission may set specific conditions prohibiting or restricting those forms of work and activities in the adjacent upland resource deemed potentially harmful to the resource area values, such as the use of herbicides and pesticides, use of interceptor drains, or installation of in-ground sprinkler systems for irrigating areas in the adjacent upland resource.

7.2.3 Values and Functions of the Resource Area:

The quantity and quality of resource values and functions should be considered explicitly in placing conditions on adjacent upland resource work. Some isolated land subject to flooding, for example, may serve for temporary flood storage only. Minimal adjacent upland resource restrictions within several feet of the resource might be necessary only to prevent erosion.

Other isolated land subject to flooding might provide vernal pool habitat. It might also provide important flood storage capacity and intersect ground water. In this instance far stronger adjacent upland resource restrictions would be appropriate because a larger number of functions are involved and some functions, such as habitat, are more sensitive to adjacent upland

resource activity and require greater protection. If rare or endangered species, such as blue spotted salamanders, were found at the site then still greater levels of restrictions would be appropriate.

7.2.4 Pre-Project Characteristics of the Site :

Ground slope, soil conditions, vegetation, and prior disturbance are just a few of the site specific characteristics that shall be considered in setting conditions for work in the adjacent upland resource.

For example land that slopes toward a wetland demands greater restrictions on work and activity and larger no-disturbance distances to prevent pollution and silt from stormwater runoff from harming wetlands values. Larger slopes imply greater restrictions.

7.2.5 Wildlife Habitat and Rare Species

The near-upland areas around wetland resources often play important roles in determining and maintaining the wildlife habitat values of associated wetlands. While it is common to think of the protective or "buffering" value of adjacent upland resources in terms of area undisturbed, habitat values may be equally affected by the configuration of the adjacent upland resource perimeter, the inclusion or exclusion of specific topographical and ecological features (such as an abutting sandy knoll or tree canopy), etc.

Therefore where significant wildlife habitat values and functions are present delineation of non-disturbance areas within the adjacent upland resource shall, as is reasonable, minimize the length of perimeter to area left undisturbed, exclude fingers, islands, or other projections or indentations of the non-disturbance zone, and in general avoid delineating oddly shaped nondisturbed areas. The Commission shall give special attention to inclusion inside the no disturbance area of those topographical and ecological features that it deems important for maintaining the wildlife habitat value of the resource.

The potential presence of rare or endangered species and their specific sensitivity to adjacent upland resource activity shall be considered in determining adjacent upland resource restrictions. Evidence of the presence of such species or evidence of likely habitat shall be considered by the Conservation Commission. Prior designation of rare or endangered species habitat by the Division of Fisheries and Wildlife Natural Heritage Program is not necessary. The Commission may consult with the Division of Fisheries and Wildlife Natural Heritage Program or other authorities as it deems necessary for guidance and recommendations.

7.3 No Significant Adverse Impact On Wildlife Habitat

Wildlife habitat serves a variety of functions in support of wildlife. Food, water, breeding space, shelter, security, movement and migration space, territory, and connections to other habitat areas are all equally important. All of these wildlife habitat functions are presumed to exist in all resource areas and therefore all resource areas are presumed significant for wildlife habitat interests and values.

In accordance with the Bylaw's fundamental purposes (see Section 1) no project may have a significant adverse project/site-specific impact or an adverse cumulative impact on wildlife habitat for more than two growing seasons.

For wildlife habitat purposes, a significant adverse project-specific impact is defined as an impact caused by work or other activities in a resource area that would under reasonable assumptions (a) result in a measurable decrease in the capacity *of the site* to provide wildlife habitat functions such as (but not limited to) food, shelter, breeding space, or inter-habitat/intrahabitat movement, or (b) impair, damage, destroy, or reduce in value for wildlife purposes certain specific habitat features. Examples of habitat features that shall be protected include (but are not limited to):

- Large cavity trees
- Turtle nesting areas
- Existing nest trees for birds that reuse nests (e.g., great blue herons, osprey)
- Beaver dams, dens, and lodges

- Mink or otter dens
- Vernal pools
- Vertical sandy banks
- Movement corridors that provide connectivity between wildlife habitats
- Sphagnum hummocks and pools suitable to serve as nesting habitat for four-toed salamanders

The relative abundance of these features off the project site is irrelevant to the determination of site-specific impact.

Wildlife studies have shown that direct impacts from work – filling, grading, vegetation removal, construction of barriers to movement, etc. – in resource areas can severely harm wildlife populations. For example, low stone walls bisecting a resource area can prevent amphibians that live in upland areas from reaching breeding pools, marshes, and streams. Or, removal of large snags (dead trees) can virtually eliminate nesting by barred owls, pileated woodpeckers, mink, etc. Accordingly, the Commission shall prohibit the placement of fences or other barriers to wildlife movement within and between resource areas and the destruction of specific habitat features.

Indirect impacts – the effects of human activities near wildlife habitat – can have equally harmful effects. For example, floodlights continuously illuminating feeding, nesting and movement areas can effectively deny those areas to wildlife. Depositing storm water runoff from paved surfaces can change the temperature of receiving waters (e.g., vernal pools). **Therefore the Commission shall take into account indirect effects on a project by project basis.** So, for example, due to the effect of noise no work within resource areas shall be permitted within 100 feet of existing beaver, mink or otter dens, or within 200 feet of existing osprey or great blue heron nests. (For a more comprehensive list of features and activities see Appendix A of the DEP *Wildlife Habitat Protection Guidance*.)

As clearly stated in Section 1 of the Sudbury Wetlands Administration Bylaw the purpose of the Bylaw is to preserve for future generations of residents the natural resources and amenities – including wildlife – we presently enjoy in Sudbury. The Bylaw protects future values as well as current ones.

A cumulative impact may occur in several ways. First, it may occur when two or more individual effects from a given project compound to increase harmful environmental effects. Second, it may occur when the individual effects of a segmented (phased) project (e.g., individual house lots in a subdivision) compound to increase harmful environmental effects. Third, a cumulative impact may occur when the individual impact of the proposed project is considered in the context of past, present, and reasonably foreseeable future projects occurring within the neighborhood, town, or watershed. In other words, cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (Council on Environmental Quality, 1978). Therefore, the Commission must be especially cognizant of the likely cumulative impact of work within resource areas and shall set conditions that ensure no significant cumulative adverse impact...

Thus, for wildlife habitat purposes a significant cumulative adverse impact occurs when work or other activities in a resource area would under reasonable assumptions (a) result in a measurable decrease in the collective capacity *of the site, the neighborhood, the town, or the watershed (collectively known as the vicinity)* to provide wildlife habitat functions such as (but not limited to) food, shelter, breeding space, or inter-habitat/intra-habitat movement, or (b) impair, damage, destroy, or reduce in value for wildlife purposes certain specific habitat features. Incorporating cumulative impacts avoids the pitfall of placing an unreasonable burden of resource protection on subsequent applicants/projects in the vicinity while subsidizing those who are first to develop land. It allows the Commission to level the marginal impact of all proposed projects in the vicinity while ensuring appropriate protection – present and future -- of the values and interests protected by the Bylaw.

The Conservation Commission at its discretion may require, as part of the permitting process, that the applicant to have the plan approved by the Massachusetts Division of Fisheries and Wildlife if it appears that the work may have a significant adverse impact on wildlife habitat.

7.4 Wildlife Habitat Evaluations

For the purposes of protecting wildlife habitat values and interest the Conservation may require, at its discretion, a wildlife habitat evaluation. The wildlife habitat evaluation shall be conducted by an expert of the commission's choosing and paid for by the applicant. The scale and scope of that study shall be determined by the Conservation Commission.

The expert must have at least a master's of science in wildlife biology or comparable field, or comparable field experience.

For the purposes of this Bylaw the Wildlife Habitat Evaluation shall use Appendix B of the DEP *Wildlife Habitat Protection Guidance*.

7.5 Projects to Enhance or Benefit Wildlife Habitat

The Conservation Commission at its discretion may require, as part of the permitting process, that the applicant have any component of a project intended to enhance or benefit wildlife habitat be approved by the Massachusetts Division of Fisheries and Wildlife.

7.6 Subdivision Roadways

The construction of impervious surfaces such as roadways, parking lots, driveways, etc. in watersheds can significantly alter the quantity and quality of stormwater runoff and affect important ground water characteristics. Impervious surfaces reduce surface infiltration, potentially worsening flooding problems by increasing stormwater runoff volumes and by redirecting flows within a watershed.

The increase in surface flows from impervious surfaces may create new erosion problems where storm flows are directed and discharged.

Impervious surfaces increase the opportunities for various pollutants to mix in water flows. Roadways, for example, will retain a surface coating of petroleum and combustion by-product pollutants that will flush during the early stages of a storm. Roof runoff can pick up a variety of chemicals used in fertilizers, pesticides, and herbicides as it transverses lawns and landscape areas.

Impervious surfaces that direct water flows into wetlands may inundate sensitive resources and thereby destroy vital vegetative and wildlife characteristics, reduce preexisting flood storage capacity, and contaminate ground water recharge areas.

Conversely, impervious surfaces may direct traditional water flow patterns away from wetlands and thereby destroy the necessary hydrological conditions needed to maintain wetland functions and values.

Therefore, for purposes of flood control, erosion control, water quality protection, and wildlife habitat preservation the Conservation Commission shall review all roadway construction plans for impact, immediate and cumulative, on wetland functions and values. In particular, the Conservation Commission shall, at a minimum, enforce the Sudbury Stormwater Management Bylaw and the Sudbury Stormwater Management Bylaw Regulations (adopted Sept. 9, 2009) performance standards as may be amended, which include, but are not limited to the following

7.6.1 Minimize Pre-Project to Post-Project Changes in Site Hydrology

Pre-project and post-project hydrology should remain fundamentally the same as it pertains to protecting wetlands functions and values. Of course some minor degree of change in hydrology is inevitable in any engineering/construction project and within reasonable limits the Commission shall permit such variation when in its judgment such changes will not produce a significant impact of wetlands functions and values. In accordance with the Sudbury Stormwater

Management Bylaw, a primary goal of stormwater design includes Limited Impact Development (LID) principles focusing on infiltration of runoff throughout the site to mimic natural rainfall whenever possible.

Erosion control may require limiting stormwater discharge volumes and velocities. Therefore the Commission may require the construction of such stormwater control structures, and specify particular engineering and design details, as it deems necessary to protect wetland resources, values, and functions.

7.6.2 Minimizing Change In Runoff Water Quality.

The physical, chemical, and biological qualities of stormwater runoff are altered by encounters with impervious surfaces, especially roadways and related structures. Increases in water temperature, reduction in pH, chemical and nutrient contamination, and transport of silt are just a few of the degrading shifts that may occur.

Where such waters are likely to contact wetland resources or adjacent upland resources the Commission shall impose conditions that in its judgment reduce undesirable water quality changes to levels that will not harm wetland functions or values, immediately or cumulatively. The Commission may require the construction of specific structures to improve stormwater runoff quality,

7.6.3 Requirements for Hydraulic Calculations

In accordance with the above and the Sudbury Stormwater Management Bylaw, the Conservation Commission shall require as part of the application for permit complete hydrological calculations for the one, two, five, ten, twenty-five, and one-hundred year storm events. Such calculations shall include

7.3.3.1 runoff from all impervious surfaces associated the project including individual lot construction; and

7.3.3.2 both pre- and post-project calculations for discharge volumes, concentration times, discharge velocities, and other quantities that the Commission may require for complete information.

7.7 Site Visits

As stated in Section 7, Permits and Conditions, the Conservation Commission may deny a permit if the applicant fails to provide the information requested. "Information" in this instance includes site visits by the Commission and its staff or representatives for the purpose of directly observing pre-project and post-project conditions on the property, at seasonally appropriate times.

7.8 Resource Replications

The history of wetland replication is mixed. Scientific reviews conclude that for the most part replications fail to reproduce the range of values — in quantity and quality — of the wetlands they ostensibly replace. In particular, difficulties in replicating proper hydrological conditions in a consistent and enduring fashion seem to be the source of the problem

Accordingly, the Conservation Commission strongly discourages any plan that requires replication. In those instances where replication is not approved by the Commission, additional mitigation may, at the discretion of the Commission, be provided in the form of existing wetland function enhancement, and permanent conservation restrictions. The applicant is responsible for obtaining approval from DEP under M.G.L. Chapter 131 section 40 and 310 CMR 10.00 for nontraditional wetland replication. If traditional wetland replication is approved by the Commission the following conditions must be met:

7.8.1 The replicated wetland must be constructed in full and conditionally approved prior to construction of any structures.

7.8.2 At minimum the replicated wetland must reproduce all the values and functions of the original wetland as determined by the Conservation Commission.

Site conditions permitting the Commission may require that additional values and functions be incorporated into the replication design.

In particular, in circumstances where replacement of specific functions and values would require substantial amounts of time before being completely replicated (for example, those provided by large mature trees) the Commission may require additional compensation of area, functions, values, etc. beyond those required in other sections of the Bylaw and its regulations.

7.8.3 The area of replication must be at least twice as large as the area of the original resource that will be destroyed.

The actual area ratio of replacement shall be decided on a case-by case basis in accordance with 7.8.2.

7.8.4 In most instances the replication of wetland resource areas will result in the destruction of adjacent upland resource areas. In such instances the adjacent upland resource areas will be redesignated in accordance with the definitions in this Bylaw.. Replication of new adjacent upland resources shall follow 7.5.2 and 7.5.3.

7.8.6 The top 12" of soil from the original wetland must be transplanted with soil structure – especially lamination and density profile – intact to the replication.

This is intended to preserve plant, invertebrate, and planktonic communities of the wetland and inhibit the blossoming of invasive species.

7.8.7 Any replication or restoration work that creates a resource on abutting properties shall require an easement from the abutting property owner covering the full extension of the resource on that property prior to commencement of the work.

7.8.8 A bond shall be posted that will enable the Commission to complete the replication should the applicant fail to fulfill obligations set forth in the Order of Conditions.

Standards for the replication shall be specified and verified in terms of functions, values, and actual performance. Technical and engineering specifications used for design and construction shall be considered approximate. Criteria for acceptance and approval shall be based solely on function and performance as specified in the Order of Conditions. In other words replications will be evaluated on what they are expected to do, not how closely actual construction matched the plan.

For example, although elevations may be used for design and planning of a pond the standards shall be set in terms of volume and depth of water over the course of a year. In vernal pool replication the pool must be capable of sustaining full development of vernal pool species, regardless of design elevations or siting.

Replications that do not properly perform the approved functions and values as specified in the order of conditions will not be deemed acceptable no matter how closely they adhere to approved engineered plans.

The Commission may set other conditions on a project/site specific basis.

7.9 Orders of Conditions for Violation Permits

Orders of Conditions for permits associated with violations shall include explicit dates for milestones and completion of work.

7.10 River Front Area Protection

For the purposes of this Bylaw the protections afforded to River Front Areas under the 1996 amendment to the Massachusetts Wetlands Protection Act shall follow the regulations as listed under sections 7.2 and 7.3 for adjacent upland resources except that the reach of jurisdiction shall extend throughout the entire riverfront area.

7.10.1 Wastewater Treatment Plants

Wastewater treatment plants in the riverfront area are not exempt from review under this Bylaw. Wastewater treatment plant design, placement, construction, and other characteristics shall conform to guidelines set the Conservation Commission on a site-specific basis.

7.11 Storm Water Runoff Best Management Practices

All storm water runoff systems shall at minimum conform to best management practices as specified in the Sudbury Storm Water Management Bylaw and Regulations. The Conservation Commission may impose more stringent conditions where resource values and functions warrant it.

7.12 Alternative Analysis

The Sudbury Wetlands Administration Bylaw clearly states that projects and associated disturbances should be located outside of any resource that falls under the jurisdiction of this Bylaw, including the adjacent upland resource area. Practical alternatives to locate the project outside these areas must be investigated and should one or more prove feasible the plan must be amended to relocate all activities accordingly.

The Commission shall consider as practical alternatives options that were available to the applicant but appear to be precluded due self-imposed hardships and constraints (e.g., lot, roadway, and drainage layouts engineered without prior regard to impact on Bylaw resources.)

Mitigation measures shall be commensurate with the scope of the projects impacts and shall be implemented to offset potential impacts. The mitigation must improve the natural capacity of the resource area(s) to achieve the interests protected by the Bylaw. If in the Commission's view there are no practical alternatives project impacts must be minimized and mitigated so there are no adverse impacts to the resources. If the Commission determines that the project will have significant adverse impacts on the resources then the project shall be denied.

7.13 Septic Systems and Title V

A Title V permit may not be deemed sufficient for protecting the interests of this Bylaw. Title V does not take into account many harmful effects of septic system effluent on wetlands and adjacent upland resources. For example, eutrophication effects are not considered in Title V reviews.

Therefore the Conservation Commission may require more stringent standards including larger setbacks, greater separation to ground water, secondary treatment, alternative technologies, etc. In some circumstances, mitigation for septic enlargement or non-septic system related work on site may consist of adding secondary treatment, such as denitrification, in areas where nitrogen loading in the receiving wetland impairs, or may impair water quality.

7.14 Tree Removal Performance Standards

Property owners often approach the Commission for approval to remove trees in the wetland or upland resource area of their lot for safety reasons. These safety reasons may be perceived hazards or documented hazards. Heavy rains and more severe storms in the past several years have resulted in a significant increase in tree removal requests.

A property owner may submit a report from a state licensed arborist to show that the tree(s) are documented health or safety hazards (diseased, struck by lightning, causing serious mold or mildew within the dwelling, etc.). Based on the functions of the trees, the Commission, at its discretion and based on wetland function, may or may not require replanting of other native plant species to preserve wetland values and functions.

Property owners wishing to remove trees that are not imminent threats and show no signs of being compromised will be required to submit a restoration planting plan to preserve and enhance the wetland and adjacent upland values and functions.

Property owners may trim tree branches directly overhanging dwellings without a permit.

8 REGULATIONS

9 DEFINITIONS

9.1 Adjacent Upland Resource Areas

As described in the Bylaw, section 9, in general an adjacent upland resource area is “..all lands within 100 feet of wetland resource areas as enumerated in Section 2,” with some exceptions as noted in the Bylaw. This includes all undisturbed areas meeting this criterion that may be separated from the associated resources by some obstacle, structure, or other developed area. For example, undisturbed land within 100 feet of a pond that is separated from the pond by a bisecting road is adjacent upland resource.

Similarly, the bylaw notes that the adjacent upland resource area for vernal pools shall not extend over existing lawns, gardens, landscaped or developed areas. This exclusion pertains only to the area that is developed; undeveloped land beyond these features remain an adjacent upland resource area.

9.2 Appurtenance

The term appurtenance shall mean any structural adjunct to a single family residential structure, such as a septic system, garage, deck, porch, patio, driveway, or sidewalk. Items not considered appurtenances include, without limitation, swimming pools, tennis courts, lawns, landscaping or gardens, and in-ground sprinkler systems.

9.3 Direct discharge

Direct discharge includes, without limitation, any outfall of water that empties into the resource area or adjacent upland resource, including infiltration.

9.4 Distance

All distances noted in the Bylaw (excluding depth), such as adjacent upland resources distances, are planar distances measured along a single elevation. Consequently, on steeply sloped topography the measured over-ground distance may not accurately reflect the distances specified in the permits and conditions specified by the Bylaw. In particular, the 100-foot adjacent upland resource on steeply sloped land will measure considerably more than 100 feet when measured over-ground on site.

9.5 Existing:

The term "existing" as used in the Bylaw shall mean existing in full as of July 27, 1994, unless specified otherwise in the Bylaw.

"Existing house foundation" refers to the foundation of single family house where the house was fully constructed prior to July 27, 1994.

9.6 Discharges into Wetlands

Discharges into wetlands, as listed under Section 2, shall include, without limitation, any discharge from the project that flows to a wetland resource or adjacent upland resource through new or existing drainage structures, including existing road drainage pipes, that empty into wetland resources or adjacent upland resources regardless of the distance between the project site and the wetlands resources or adjacent upland resources.

9.7 Hydraulic Connection

A hydraulic connection is any surface water or groundwater water, whether natural or artificially created, modified, or confined in (but not limited to) surface and subsurface pipes, culverts, ditches, etc. regardless of distance.

9.8 Recreation

The term recreation connotes passive recreation activities that do not conflict with or diminish other wetland values and functions. Examples include, without limitation, bird watching and other nature studies, walking and hiking, canoeing, and as appropriate fishing, hunting, etc.

9.9Wet Detention Basin

A wet detention basin is a detention basin designed to hold water for at least two continuous months during the spring/summer, where the ponding area covers at least onethird of the basin floor to an average depth of six inches of water, which supports wetland vegetation, and which meets the other design requirements set by the Conservation Commission.

For the purposes of the Bylaw a wet detention basin shall be considered a constructed wetland and not acceptable as part of a wetland replication plan. As a constructed wetland a wet detention basin shall be presumed to serve two wetlands values: pollution attenuation and flood control. The adjacent upland resource for wet detention basins shall extend two feet beyond the break in slope of the detention basin, unless the basin wetland attains dimensions consistent with jurisdiction under the Massachusetts Wetlands Protection Act in which case a full 100 foot adjacent upland resource shall apply.

9.9Volume Of A Detention/Retention Basin

Basin volume shall be calculated as that volume contained between the basin's 100year flood elevation and the lowest elevation of the basin floor, except that in the case of a wet detention basin 50% of the calculated volume shall be used for fee determination purposes.

9.10Intermittent Stream

Intermittent stream is a defined channel with a hydraulic gradient through which water flows during part of the year and which either flows out of, into, or within a wetland resource under this bylaw. A portion may flow through a culvert or under a bridge. [see section 2.3 for defining characteristics]

9.11Vernal Pool Species

Any species of reptile, amphibian, or invertebrate that breeds in a vernal pool. These species may be obligate or facultative.

9.12Flood Storage as an Alteration

The term "alter" includes storage of flood waters and storm water runoff waters in wetlands. Storage of flood waters and storm water runoff is prohibited unless the Conservation Commission deems that such action would enhance wetland values and functions.

9.13Vicinity

The neighborhood, town, and watersheds in which the project is located.

9.14 Establishing the Presence of Hydric Soils and Wetland Hydrology

The Conservation Commission reserves the right to look for hydric indicators to a depth of 24" in disturbed soils when other wetland indicators are also present.

10. SECURITY

10.1Orders Of Conditions & Bonding

In the specifying of an Order of Conditions and setting of bond the Conservation Commission may, at its choosing, take into account the prior history of applicant and the applicant's representatives, consultants, builders, or other contractees. When in the Commission's opinion prior instances of disregard for orders of conditions, violations of wetlands regulations and policies, practices known to threaten wetlands values and functions, or other failures to fulfill legal obligations pursuant to wetlands protection raise questions about the applicant's willingness or ability to abide by permit requirements the Commission can set additional conditions and impose bond requirements to ensure adherence to permit requirements.

10.2 Permitting in the Context of Outstanding Violations

No permit shall be issued for any project to an applicant who has an outstanding violation of this Bylaw for which either (a) no corrective Order of Conditions has been recorded at the Registry of Deeds, or (b) which is not under legal appeal.

11. ENFORCEMENT

11.1 Recording a Notice of Violation

The Conservation Commission shall record a Notice of Violation issued under Section 11 of this Bylaw with the Registry of Deeds when (1) it has information that the property in violation of this Bylaw may change ownership, (2) when the owner of the property in violation has failed to respond to the Notice of Violation after ten business days, or (3) when the owner of the property in violation has failed to file a corrective Notice of Intent within 30 days of receipt of the Notice of Violation.

11.2 Municipal Lien Certificate

The Conservation Commission may request that the Town Treasurer record a municipal lien certificate against any property for which outstanding fines levied under this Bylaw have not been paid.

11.3 Abatement of Fines

The Conservation Commission may abate fines imposed under this Bylaw, in part or in whole.

11.4 No person shall remove, fill, dredge, build upon, degrade, or otherwise alter resource areas protected by this bylaw, or cause, suffer, or allow such activity, or leave in place unauthorized fill, or otherwise fail to restore illegally altered land to its original condition, or fail to comply with a permit or an enforcement order issued pursuant to this bylaw.

The Conservation Commission, its agents, officers, and employees shall have authority to enter upon privately owned land for the purpose of performing their duties under this bylaw and may make or cause to be made such examinations, surveys, or sampling as the Commission deems necessary, subject to the constitutions and laws of the United States and the Commonwealth .

The Commission shall have authority to enforce the Wetland Bylaw, its Regulations, and permits issued thereunder by letters, phone calls, electronic communication and other informal methods, violation notices, non-criminal citations under G.L. Ch. 40 §21D, and civil and criminal court actions. Any person who violates provisions of this bylaw may be ordered to restore the property to its original condition and take other action deemed necessary to remedy such violations, or may be fined, or both.

Upon request of the Commission, the selectboard and town counsel shall take legal action for enforcement under civil law. Upon request of the Commission, the chief of police shall take legal action for enforcement under criminal law.

Municipal boards and officers, including any police officer or other officer having police powers, shall have authority to assist the Commission in enforcement.

Any person who violates any provision of the bylaw, or regulations, permits, or administrative orders issued thereunder, shall be punished by a fine of not more

than \$100 for each violation. Each day or portion thereof during which a violation continues, or unauthorized fill or other alteration remains in place, shall constitute a separate offense, and each provision of the bylaw, regulations, permits, or administrative orders violated shall constitute a separate offense.

As an alternative to criminal prosecution in a specific case, the Commission may issue citations with specific penalties pursuant to the non-criminal disposition procedure set forth in G.L. Ch. 40 §21D, which has been adopted by the Town.

11.5 Acquisition of Property with Pre-Existing Violation(s)

Any person who purchases, inherits or otherwise acquires real estate upon which work has been done in violation of the provisions of this by-law or in violation of any order issued under this by-law shall forthwith comply with any such order to restore such land to its condition prior to any such violation. The Board of Selectmen may, upon request of the Conservation Commission, request that Town Counsel take such legal action as may be necessary.

12. Burden of Proof

The applicant for a permit shall have the burden of proving by a preponderance of the credible evidence that the work proposed in the permit application will not have unacceptable significant or cumulative effect upon the resource area values protected by this bylaw. Failure to provide adequate evidence to the Conservation Commission supporting this burden shall be sufficient cause for the Commission to deny a permit or grant a permit with conditions.

13. Appeals

A decision of the Conservation Commission shall be reviewable in the superior court in accordance with G.L. Ch. 249 §4.