

REPORT ON THE PROGRESS OF LAKE PROTECTION PERMITTING

2014 Act 172, Section 7

Submitted to the
Senate Committee on Finance
House Committee on Ways and Means
Senate Committee on Natural Resources and Energy
House Committee on Fish, Wildlife and Water Resources

Agency of Natural Resources
Department of Environmental Conservation

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Figure 1. Lake encroachment and shoreland permitting regions.

Executive Summary

Through 72 outreach presentations, meetings, and field trainings, merging 29 V.S.A. Chapter 11 (“lake encroachment”) permit and Shoreland Protection Act duties, creating three regions for both lake encroachment and shoreland permit review, development of guidance material, webpage development, and team based policy review, the Lakes & Ponds Management and Protection Program (Lakes & Ponds) has endeavored to bring efficiency and effectiveness to the implementation of the Shoreland Protection Act, and Lakes & Ponds other regulatory responsibilities. The Agency has delegated authority to implement the Shoreland Protection Act to four Vermont municipalities; Colchester, Greensboro, Burlington, and Elmore.

In the first fiscal year of the Shoreland Protection Act, July 1, 2014 to June 30, 2015 (SFY 2015), Lakes & Ponds issued 87 shoreland permits and 46 shoreland registrations. During this time period Lakes & Ponds issued no permit denials and applicants withdrew 10 shoreland permit applications and 2 shoreland registration applications. For the portion of the subsequent fiscal year evaluated for the purposes of this report, July 1, 2015 through November 1, 2015 (first five months of SFY 2016), Lakes & Ponds issued an additional 42 shoreland permits and 23 shoreland registrations. During this time period applicants withdrew 1 shoreland permit application and 3 shoreland registration applications. Issued shoreland permits and shoreland registrations were evenly distributed throughout the state. In the first year of implementation, a majority of issued shoreland permits were for redevelopment outside of existing footprint or for expansions to existing development, accounting for 68.2% of issued shoreland permits, while entirely new parcel development accounted for 16.3% of issued shoreland permits.

Lakes & Ponds established, through internal permit application review procedure, a target review period of 45 days for shoreland permits and 15 days for shoreland registrations. As established by a PEP standard, the review period of lake encroachment permit applications is 90 days. In SFY 2015 and in the first 5 months of SFY 2016, Lakes & Ponds has successfully completed public notice, review, and issuance within established review periods. Lakes & Ponds issued 6 permits for public recreation areas, accounting for 4.7% of all issued permits. Between July 1, 2014 and June 30, 2015, Lakes & Ponds issued 32 lake encroachment permits. In the portion of the subsequent fiscal year evaluated for the purposes of this report, July 1, 2015 through November 1, 2015, Lakes & Ponds issued an additional 21 permits.

In cooperation with the Department of Environmental Conservation’s Compliance Division and Lakes & Ponds’ draft Compliance and Enforcement Procedure, Lakes & Ponds has investigated 25 Shoreland Protection Act complaints/incidents and 11 lake encroachment complaints/incidents.

In the first fiscal year, the Shoreland Protection Act permit and registration revenue totaled \$57,634.56. For the same period, the estimated cost of implementation to Lakes & Ponds was \$180,000, which accounts for staffing of two Environmental Analysts and supporting resources.

Lakes & Ponds’ current plans for improvement include pursuing environmental citation authority, implementing a Lean process improvement review, and entering into the rule making process for comprehensive changes to improve the Lakes & Ponds’ ability to implement and enforce the Shoreland Protection Act while protecting Vermont’s lake resources and improving the stakeholder experience.

Chapter 1 – Overview of Shoreland Protection Act Implementation Efforts

Regionalization and Consolidation of Lake Encroachment and Shoreland Permitting

While activities landward of the mean water level of lakes are regulated differently than activities lakeward of the mean water level, it is often in a property owner's interest to discuss all aspects of lakeshore property development and management. To establish an efficient and customer service focused implementation effort, the Lakes & Ponds Management and Protection Program (Lakes & Ponds) consolidated the existing lake encroachment permitting staff with the new shoreland permitting staff. This consolidation effort enabled permitting staff to address property owner and stakeholder questions pertaining to both development activities within the protected shoreland area and those subject to lake encroachment permitting under 29 V.S.A. Chapter 11 ("lake encroachment").

Consolidating lake encroachment and shoreland permitting staff allowed for the regionalization of staff within Lakes & Ponds and the creation of three regions based on frequency of applications and inquires. Regionalization of lake encroachment shoreland permitting efforts realized two benefits for Lakes & Ponds. First, it enabled permitting staff to promptly schedule site visits with property owners, in turn facilitating property owners in making timely permit applications. Second, it fostered efficient use of staff field time through regional familiarity and decreased travel times.

To reflect Lakes & Ponds consolidation efforts, this report references both lake encroachment and shoreland permitting efforts, results, costs, and revenues. Although the statute governing each is distinct, Lakes & Ponds sees the two regulatory regimes, considering their physical proximity along the shoreline as requiring coordination in both administration and reporting.

Outreach Efforts

Prior to and after the start date of the Shoreland Protection Act (July 1, 2014) Lakes & Ponds held outreach events for a variety of stakeholders including the general public, lake associations, municipal officers, contractors, foresters, realtors, and sister programs, departments, and divisions within the Agency of Natural Resources. These events typically consisted of a presentation on the Shoreland Protection Act regulations along with an open discussion of questions and answers and were held throughout the state free of charge. The goals of the outreach campaign were to better educate stakeholders on the new regulations, dispel misinformation, provide contact information and initiate a working relationship with the stakeholders, and provide a variety of educational and permit materials. Lakes & Ponds conducted 32 outreach events in 2014 and 40 outreach events in 2015. These numbers do not reflect the numerous site visits conducted by regional analysts to better educate stakeholders regarding site specific concerns.

Shoreland Erosion Control Certification Training

Beginning on January 1, 2016, the Agency of Natural Resources, in consultation with the Associated General Contractors of Vermont, shall offer an optional shoreland erosion control certification program. The program shall include training related to development activities in a shoreland area, including best management practices for erosion control, clearance of vegetation, and construction of impervious surfaces in shoreland areas. The voluntary certification program shall be offered until January 1, 2018. – Act 172

During winter 2016, Lakes & Ponds will offer five “Natural Shorelands Erosion Control Certification” workshops to landscapers, contractors, and site workers across Vermont. One of these workshops will be hosted by the Associated General Contractors of Vermont in Montpelier. Others will be hosted by the Lake Champlain Basin Program headquarters in Grand Isle, the Northwoods Stewardship Center in Charleston, the Poultney Mettowee Natural Resource Conservation District in Castleton, and the Lake Champlain Sea Grant at the University of Vermont in Burlington.

This voluntary certification course will teach landscaping techniques that control stormwater runoff and conserve wildlife habitat, which are essential shoreland development practices for protecting Vermont lakes. Those who complete the full day-long workshop will be listed on the Agency of Natural Resources website; given priority for certain ANR grant-funded shoreland projects; and awarded professional development credits.

Objectives for the certification course are to:

- demonstrate lake-friendly landscaping techniques;
- connect landscapers, site workers, and contractors with the tools and techniques needed to manage lakeshores in ways that protect water quality and habitat;
- communicate development rules within the protected shoreland area; and
- foster partnerships for re-naturalizing shorelands.

Lakes & Ponds anticipates using a continuous improvement process as we continue to implement these trainings. Feedback from participants will be gathered not only at the conclusion of each day-long course but also after the construction season. This input will be used to revise and refine course materials for next winter’s round of workshops.

Best Management Practice Guidance

Under the standards of the Shoreland Protection Act, an applicant must implement best management practices if their proposed project exceeds the regulatory standards for percent slope, percent cleared area, or percent impervious surface. Lakes & Ponds, utilizing the technical expertise of the Lake Wise Program, which assists lakeshore property owners with voluntary best management practices advice, developed a series of best management practices guidance documents. These documents provide shoreland applicants with a suite of best management practices to address the component of their project in excess of the standards. Lakes & Ponds made these documents, along with all other regulatory guidance documents, available on the Shoreland Permitting webpage.

Through an Ecosystem Restoration Program led Watershed Management Division effort in concert with the Vermont League of Cities and Towns, in the fall of 2015 a contractor completed a Green Stormwater Infrastructure simplified sizing tool and factsheets for small projects. The sizing tool and factsheets, in covering best management practices ranging from cisterns and rain barrels to drywells, constitute an additional tool for shoreland permit applicants to use when addressing best management practices needs.

Webpage Development

Prior to the implementation date of the Shoreland Protection Act, Lakes & Ponds developed a webpage intended to act as an informational hub for guidance documents, informational inquiries, and permitting needs related to the Shoreland Protection Act. Lakes & Ponds developed the webpage with efficiency and ease of access in mind. Lakes & Ponds specifically designed its outreach and permitting guidance information so that homeowners could complete application materials without seeking professional assistance.

Application processing, public notice, and permit issuance have been handled electronically to the greatest extent possible.

Policy Review and Development

Through the initial stages of implementing the Shoreland Protection Act and in the subsequent year and a half, Lakes & Ponds staff met weekly to discuss jurisdictional inquiries and engage Agency of Natural Resources staff attorneys to help evaluate policy interpretations. For example, Lakes & Ponds staff worked in concert with Agency staff attorneys to develop policy memos to clarify the regulatory implications of parcel subdivision, utility vegetation management, and retroactive implementation of the Vegetation Protection Standards. When appropriate, Lakes & Ponds developed guidance materials and made them available through the shoreland permitting webpage for public access, such as a guidance document to explain the Shoreland Protection Act's transition language for jurisdictional projects initiated prior to the implementation of the Shoreland Protection Act.

Lakes & Ponds continues, in coordination with Agency staff attorneys, to develop, review, and refine policy interpretations in an ongoing effort to implement the Shoreland Protection Act in the most effective and transparent manner possible.

Chapter 2 – Lake Encroachment Permits and Shoreland Permits and Registrations Issued and Denied

Lake Encroachment Permits and Shoreland Permits and Registrations Issued

Between July 1, 2014 and November 1, 2015 Lakes & Ponds received 12 determination requests, 69 shoreland registration applications, and 141 shoreland permit applications. During the same period Lakes & Ponds issued 64 shoreland registrations and 129 shoreland permits (Figure 2).

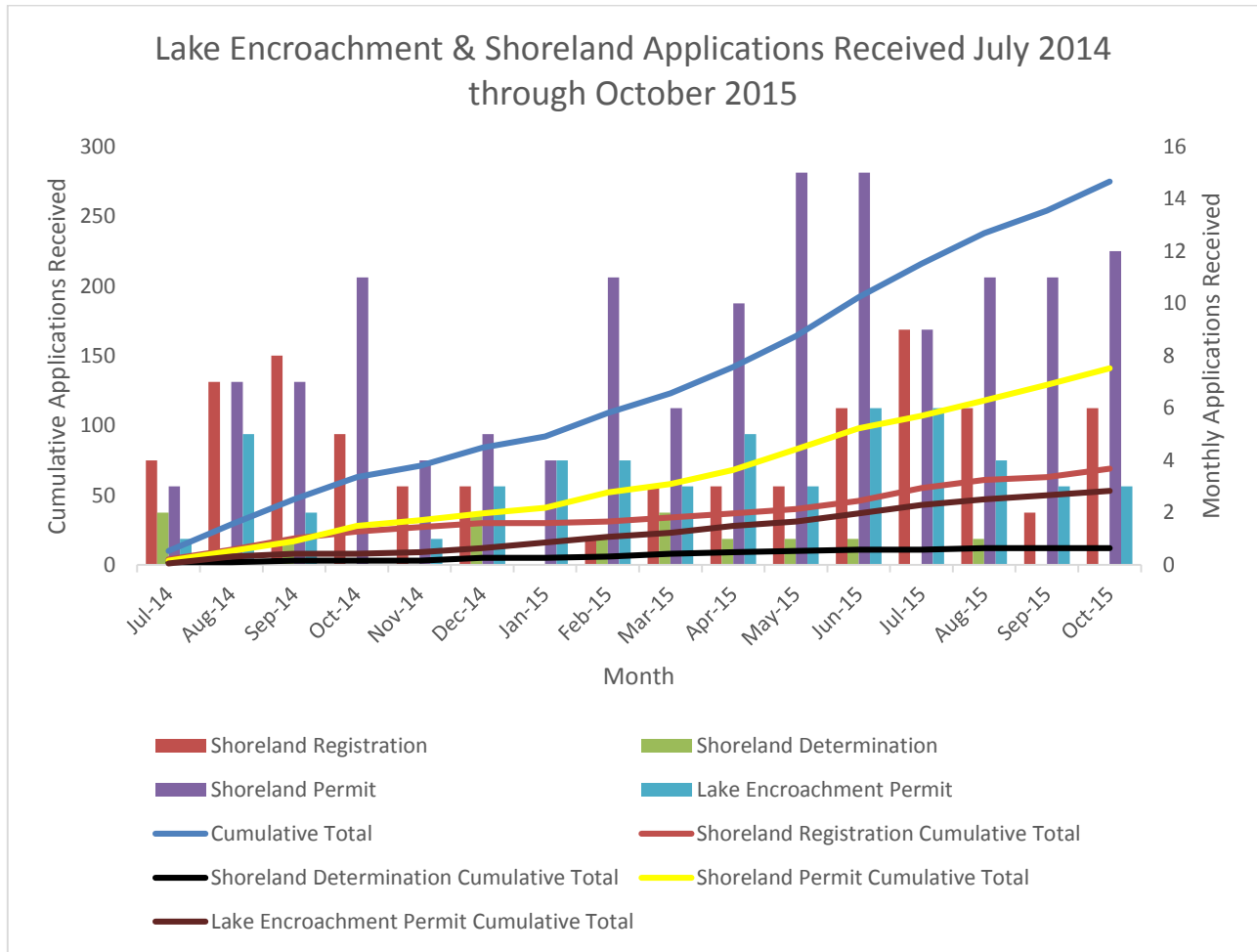


Figure 2. Combined number of lake encroachment permit applications, shoreland permit applications, and registration applications received, July 1, 2014 through November 1, 2015.

Of the 129 issued shoreland permits, 90 (69.8%) were for non-conforming projects (existing or proposed impervious surface within 100 feet of the mean water level), 33 (25.6%) were for conforming projects (existing or proposed impervious surface beyond 100 feet from mean water level, and 6 (4.7%) were for public recreation areas (generally state parks) (Figure 3).

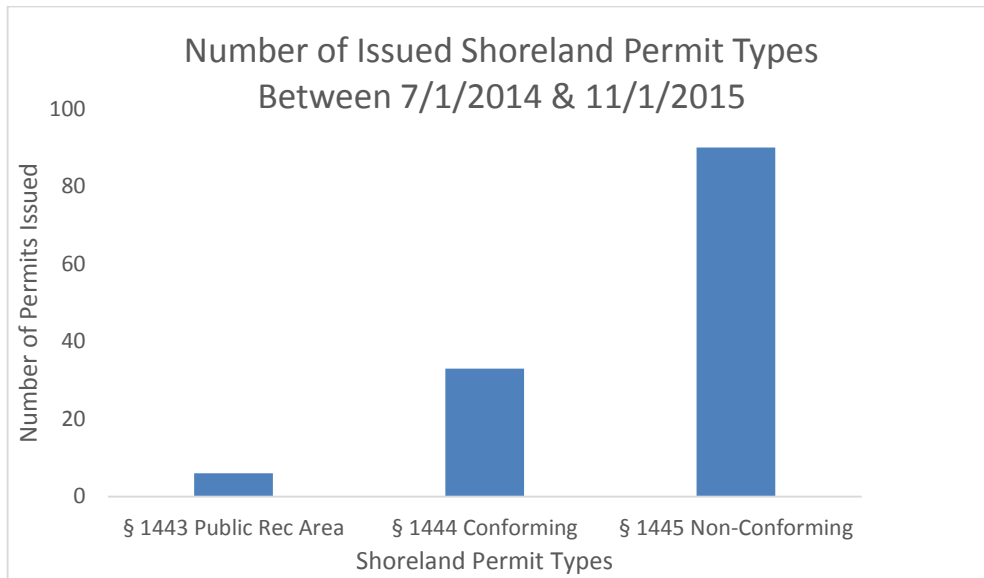


Figure 3. Number of issued shoreland permit types, July 1, 2014 through November 1, 2015.

During the July 1, 2015 through November 1, 2015 period Lakes & Ponds received 53 lake encroachment permit applications and issued 53 lake encroachment permits. Although Lakes & Ponds received the same number of applications as permits issued, that is not a result of a one-to-one application to permit process. Coincidentally, Lakes & Ponds held the same number of permit applications from SFY 2014 (for issuance in SFY 2015) as permit applications withdrawn in SFY 2015 and 2016.

As noted in more detail in the *Lake Encroachment and Shoreland Permits and Registrations Denied and Withdrawn* section below, permit application withdrawal is a part of the permit application review process for both lake encroachment and shoreland permit review processes.

Including determination requests, shoreland registration applications, shoreland permit applications, and lake encroachment applications, Lakes & Ponds received a total of 275 applications between July 1, 2014 and November 1, 2015. Geographically, Region 2 received the greatest number of determination requests, shoreland registration applications, shoreland permit application, and lake encroachment applications with 106, followed by region 1 with 84, and region 3 with 81.

Indicative of the increase in both lake encroachment and shoreland permit applications from 2014 to 2015, shoreland permit applications increased 21.8% from 2014 to 2015 for the period between July 1 and November 1. Lake encroachment permit applications increased 100% for the same period, for an overall increase in both lake encroachment and shoreland permit applications of 31.7% (Table 1).

Table 1. Lake encroachment and shoreland permit applications received from July-November 2014 and during the same period in 2015.

Applications Received	Received 7/1/14 to 11/1/14	Received 7/1/15 to 11/1/15	Percent Increase
Shoreland Applications	55	67	21.8
Lake Encroachment Applications	8	16	100
Total Applications	63	83	31.7

Lake Encroachment Permits and Shoreland Permits and Registrations Denied and Withdrawn

In the first year of implementation, SFY 2015, and for the portion of the second year that this report covers, the first five months of SFY 2016, Lakes & Ponds issued no denials of shoreland permits or registrations. Lakes & Ponds works with applicants to revise projects to meet the Shoreland Protection Act standards and lakes encroachment review criteria as necessary. In SFY 2015, applicants withdrew 10 shoreland permit applications and 2 shoreland registrations. For the portion of SFY 2016 evaluated for this report, applicants withdrew 1 shoreland permit application permit application and 3 shoreland registrations.

In SFY 2015, one lake encroachment permit application was denied in accordance with the Department's Interim Procedures for the Issuance or Denial of Encroachment Permits.

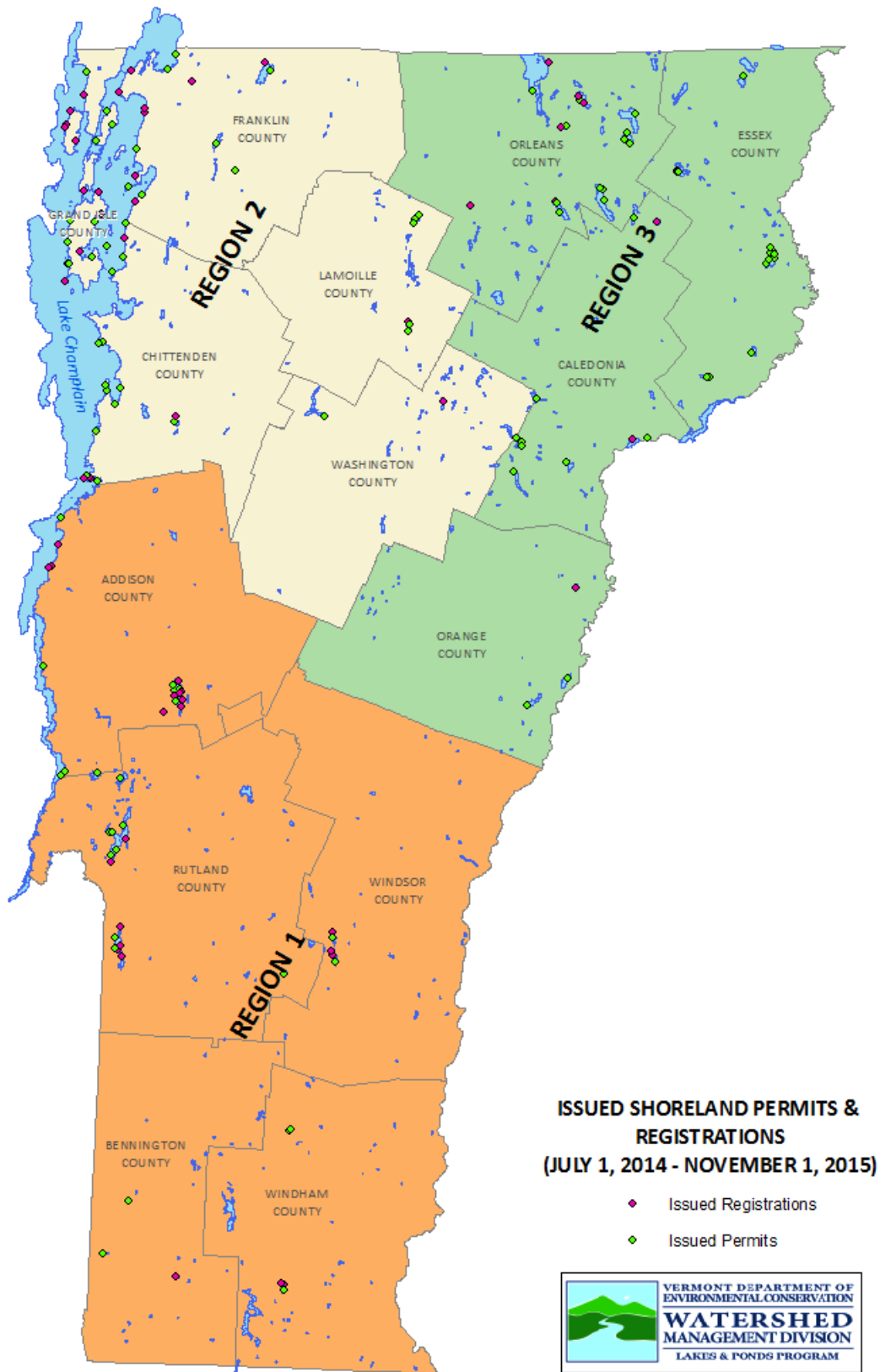


Figure 4. Distribution of issued shoreland permits and registrations, July 1, 2014 through November 1, 2015.

Chapter 3 – Application Review and Compliance Performance

Application Processing and Permit Issuance

Shoreland permit application review periods: As identified in the Shoreland Protection Act, a 30 day public notice period of a shoreland permit application is required. **Lakes & Ponds has been able to complete public notice, review, and shoreland permit decision issuance within a period of approximately 45 days.** As permit application workloads increase through the year with season change, application processing times increase correspondingly, which may be lessened in the future through additional staffing if determined necessary. Shoreland permit applicants have been pleased with Lakes & Ponds' efficient processing of applications given the required 30 day public notice period.

Shoreland registration application review periods: As identified in the Shoreland Protection Act, a shoreland registration takes effect within 15 days of receipt by the Agency, unless otherwise notified by the Agency. Unlike shoreland permit applications, shoreland registrations do not require public notice of the application. For the purposes of facilitating communication with applicants and interested parties, Lakes & Ponds has been posting registration applications on the website. **Lakes & Ponds has been able to review and issue effective shoreland registrations within 15-20 days of receipt in cases where additional administrative or technical information is not required.**

Lake encroachment permit application review periods: As identified in 29 V.S.A. Chapter 11: Management of Lakes and Ponds, lake encroachment permit applications must be public noticed for a period of not less than 10 days. Lake encroachment permit application review is subject to a PEP Standard of 90 days. Historically public notice typically occurred at the end of the application review period. In light of the consolidated regional permitting approach, lake encroachment permit application public noticing processes have been aligned with shoreland permit application public noticing for a period of 30 days, creating more predictability and consistency for applicants and the interested parties. In addition to lengthening the public notice period, Lakes & Ponds incorporated final technical application review and permit decision development into the notice period to the extent possible, decreasing the amount of time after public notice required for review, decision making, and issuance. As a result, lake encroachment permit application processing times have decreased from historical review times with the exception of complex projects that often solicit public comment or public information meetings and require more detailed review. **Lakes & Ponds has been able to complete public notice, review, and lake encroachment permit decision issuance within a period of approximately 60 days.** The enactment of the Shoreland Protection Act has highlighted and perhaps brought new attention to the existing encroachment regulation that is expected to result in an increase in permit application numbers and an increase in overall compliance with the existing regulation.

Recent changes to administrative support services for Lakes & Ponds from the Watershed Management Division's Business & Operational Support Services has immensely improved permit process efficiencies. Overall review times, however, are expected to increase as permit application numbers continue to increase.

Landowner Compliance & Program Compliance Summary

As with other state environmental regulations, compliance and enforcement is most often complaint driven, but notably landowners aim to comply with applicable regulations when they are aware of a regulation, and they generally seek assistance to understand how best to comply with regulations. Lakes & Ponds has made a substantial commitment to outreach and education on the regulations that are applicable to lakeshore property. As a result, Lakes & Ponds has generally seen the public respond with a desire to learn and understand the provisions of the new Shoreland Protection Act regulations. This has been evinced by the quantity of inquiries that come into the Lakes & Ponds by phone and email and through the healthy attendance at many of Lakes & Ponds' outreach events. More specifically, members of the public often contact Lakes & Ponds for review of dead, diseased, or unsafe tree removal, and for understanding the new Vegetation Protection Standards and how vegetation management may proceed in compliance with the regulation. Lakes & Ponds has utilized these outreach opportunities and inquires as opportunities to educate landowners on the existing lake encroachment regulations applicable to lakeshore activities lakeward of the mean water level. For both the new Shoreland Protection Act standards and the existing lake encroachment regulations, there seems to be overall recognition and a willingness to comply by the regulated community.

As with any new or existing regulation, there are exceptions to those who are willing to comply. A challenge for Lakes & Ponds has been that lakeshore properties are often vacation properties owned by out-of-state residents, many of whom may not have been as aware as in-state residents of the legislature's development of the regulation. Accordingly, those residents may have had a more challenging time complying with the Shoreland Protection Act standards, particularly in municipalities without zoning. Lakes & Ponds continues to work with various partners, including municipalities, on efforts to increase awareness.

Since Shoreland Protection Act implementation in July 2014, Lakes & Ponds, in cooperation with the Department's Environmental Compliance Division, has responded to and/or investigated several complaints in regards to both Shoreland Protection Act violations and lake encroachment violations. During 2014, a number of complaints were related to projects already started or otherwise engaged in existing local and state permitting prior to the effective date of the Shoreland Protection Act and qualified for an exemption under Section 9, Transition.

Lakes & Ponds investigated the greatest number of compliance concerns in region 2, totaling 18 compliance investigations, followed by region 3 with 16 compliance investigation, and region 1 with 12 compliance investigations (Table 2).

Table 2. Estimated compliance investigation summary for Shoreland Protection Act and lake encroachment violations in SFY 2015 and 2016.

Region	Compliance Investigation Summary	
	Shoreland Permitting	Lake Encroachment Permitting
Region 1 (Bennington, Windham, Windsor, Rutland, Addison)	6	6
Region 2 (Chittenden, Franklin, Grand Isle, Washington, Lamoille)	16	2
Region 3 (Orange, Caledonia, Orleans, Essex)	13	3

The majority of lake encroachment and shoreland permitting compliance investigations have either identified no violation or minor non-compliance, most of which have been voluntarily corrected where possible. Several investigations of more significant non-compliance are pending further investigation or have otherwise been referred to the Department’s Environmental Compliance Division for the next course of action.

Lakes & Ponds has developed a draft Compliance Protocol for managing compliance and enforcement investigations and follow up to be consistent with the Watershed Management Division and Department procedures, which identify and distinguish between minor non-compliance and significant non-compliance and the general course of action related to investigation process and enforcement. The Department generally seeks voluntary corrective action when possible, but also may consider a number of factors in identifying the appropriate course of action, including but not limited to potential or actual environmental harm. The Department may seek to gain citation authority for enforcement of the Shoreland Protection Act, as it currently has for enforcement of the lake encroachment regulations. The Agency utilizes environmental citations, civil complaints pursuant to 10 V.S.A. § 8019, as a tool to address environmental violations. The rules outlining environmental citation authority, contained within Environmental Protection Rule Chapter 25, describes the violations eligible for an environmental citation and the maximum and minimum penalties for a violation, among other components of the environmental citation program. *See* Environmental Protection Rule Chapter § 25-105.

Chapter 4 – Municipal Delegation of Shoreland Protection

Since July 1, 2014, the Agency has delegated authority to implement the Shoreland Protection Act to four Vermont municipalities, in the following order: Colchester, Greensboro, Burlington, and Elmore. Each municipality requested delegation and identified their zoning bylaw that would provide functionally equivalent shoreland protections and regulate the creation of impervious surfaces and cleared areas within the Protected Shoreland Area for lakes, ponds, and reservoirs greater than 10 acres in surface area within town borders.

The Agency initially issued Greensboro and Burlington delegations with specific conditions pending changes to their zoning bylaws. Greensboro required changes to incorporate additional waterbodies within their town borders into their shoreland protection zoning. Greensboro has since met a portion of those conditions, having completed modifications to their zoning to incorporate Little Eligo and Horse Pond into their zoning. Lakes & Ponds is currently in the process of preparing a revised delegation agreement reflecting Greensboro's recent efforts and changes to their zoning. Greensboro's delegation is conditional upon one further required change to existing zoning to incorporate the shoreland areas on the eastern side of Lake Eligo.

The City of Burlington is required to modify their zoning bylaw to extend the zoning district to the mean water level (MWL) of Lake Champlain, 95.5 feet National Geodetic Vertical Datum (NGVD) 1929. The City of Burlington's current zoning district only extends to the 100 foot elevation along Lake Champlain, and until such a change is made in accordance with the delegation agreement, the Agency retains authority for the area between the 100 foot elevation and the MWL. The Agency expects the City of Burlington to modify their zoning bylaw to extend their zoning to the MWL.

The Agency, led by the efforts of Lakes & Ponds, continues to work with municipalities, and state regional partners, including regional planning commissions, on issues pertaining to delegation under the Shoreland Protection Act. No additional delegation requests are pending at this time.

Chapter 5 – Lake Encroachment and Shoreland Permitting Revenues

Predicted Fee Revenue

During the development of the Shoreland Protection Act the Department estimated fee revenue to support shoreland permitting based on surveys of selected Vermont towns and discussions with staff of the New Hampshire shoreland regulatory program.

- Based on surveys of Vermont town permit records, the Department estimated that 80-90% of shoreland projects would be small (i.e., 500 square feet or less in size).
- Based on surveys of Vermont towns and discussions with NH program staff, the Department estimated there would be between 450 and 600 permit applications a year.
- The Department added a 20% compliance and enforcement inspection rate into staff time needed.

Based on these estimates, the Department requested the fee structure of \$100 for shoreland registrations and \$125 in addition to \$0.50 per square foot of new impervious surface for permits (Table 3).

Table 3. Shoreland permit and registration fee structure.

Description	Fee (\$)
Registration Application	\$100
Permit Application	
<i>Administrative</i>	\$125
<i>New Impervious Surface Area</i>	\$0.50 per square foot

Utilizing the requested fee structure and registration and permit request estimates based on surveys of Vermont towns and the New Hampshire regulatory program, the Department estimated annual revenue of \$272,500 (Table 4).

Table 4. Shoreland permit and registration fee revenue (fiscal year) estimate during development of Shoreland Protection Act.

Type of shoreland proposal	Est.# statewide	Proposed fee (\$) At \$0.50 sq ft	Total (\$)
De minimis activities	-	-	-
Registrations	200	\$100	\$20,000
Indiv Permit, addition ~200 sq ft impervious	150	\$100 sq ft fee + \$125 base fee	\$33,750
Indiv Permit, addition ~500 sq ft impervious	150	\$250 sq ft fee + \$125 base fee	\$56,250
Indiv Permit ~2000 sq ft impervious	50	\$1000 sq ft fee + \$125 base fee	\$56,250
Indiv Permit ~4000 sq ft impervious	50	\$2000 sq ft fee + \$125 base fee	\$106,250
		Total	\$272,500

SFY 2015 and 2016 Fee Revenue and Costs (Lake Encroachment and Shoreland Permitting)

In SFY 2015, Lakes & Ponds calculated revenues as a result of the shoreland permits and registrations to amount to \$57,634.56 (Table 5). As anticipated, revenue resulting from shoreland permit and registration application fees was lower in SFY 2015 than predicted. This can be attributed to lake shoreland property owners acquiring or applying for applicable land use permits, or simply starting or completing their projects prior to the effective date, and thus qualifying for an exemption under the Transition language established in the Act. In addition, Lakes & Ponds may have overestimated the project size and number of applications that would be submitted during the initial period. Application fee revenue is however anticipated to increase, as demonstrated by the greater than 20% increase in applications when comparing July through November for SFY 2015 and SFY 2016. In addition, the new shoreland regulation has resulting in increased awareness and compliance with lake encroachment permitting requirements, and as such an increase in the number of those applications is also evident. With a now consolidated shoreland and lake encroachment permitting effort, including staffing, it is also important to examine fee revenue for both shoreland and lake encroachment individually and in total (Table 5).

Table 5. Shoreland permit, shoreland registration, and lake encroachment permit revenues in SFY 2015 and SFY 2016.

Authorization Type	SFY2015	FY2016 (July – Nov.)
Shoreland Permit	\$53,434.56	\$22,421.75
Shoreland Registration	\$4,200	\$2,000
Total Shoreland Only	\$57,634.56	\$24,421.75
Lake Encroachment Permit	\$26,623.26	\$23,491.21
Shoreland and Lake Encroachment	\$84,257.82	\$47,912.96

The estimated funding that was determined to be needed for annual (SFY) implementation of shoreland permitting was \$270,000, which accounted for three positions (\$80,000 each including benefits) and necessary program resources (\$10,000 per employee). Following implementation, the Department hired only two of the three identified positions in consideration of anticipated project numbers that would be less than predicted in the first year due to Transition exemptions as noted above and in consideration of opportunities for consolidation with existing lake encroachment permitting staff (1).

The Department estimated the cost for implementation of shoreland permitting during SFY2015 to be \$180,000; \$160,000 for two Environmental Analysts (\$80,000 each) and \$20,000 for equipment and travel.

The existing lake encroachment permitting staff (1) was consolidated with shoreland for an overall cost of approximately \$270,000 during SFY2015. The cost to the Department for implementation of both shoreland and lake encroachment permitting has been identified to be greater than the revenue received and thus until the permit volume increases, an additional \$100,000 in revenue may be needed to fully support continued implementation. It should be noted that encroachment permitting has historically been supported by Department funding other than application fee revenue as fees associated with encroachments are not significant for most projects. The Department and Lakes & Ponds anticipates continuing to review permit application trends and associated fee revenue quarterly to evaluate any changes that may be necessary to support continued permitting efforts. Increases in the number of permit applications are expected in coming years.

Chapter 6 – Recommendations for Lake Encroachment and Shoreland Permitting Improvement

Through the 129 shoreland permits and the 69 shoreland registrations that Lakes & Ponds has issued since the implementation of the Shoreland Protection Act, a number of development scenarios, unforeseeable during the legislative process, have come to the attention of Lakes & Ponds and have prompted continual policy review and programmatic change to improve permitting efficiency and the customer service experience of stakeholders. In some cases, internal review over the past year and half of implementation has inspired plans for future administrative improvement and policy consideration.

Administratively, Lakes & Ponds plans, as mentioned in Chapter 3, to seek citation authority, a tool the Agency utilizes to issue civil complaints pursuant to 10 V.S.A. § 8019 for environmental violations, to bolster compliance efforts and further align lake encroachment and shoreland permitting. Lakes & Ponds is undertaking the additional administrative effort of a Lean process improvement review with the purpose of highlighting areas for administrative improvement and technological efficiencies.

In large part due to Lakes & Ponds development of thorough best management practice guidance and the Department's completion of the Green Stormwater Infrastructure sizing tool and factsheets, applicants have been able to address water quality, slope stability, erosion, and protection of wildlife habitat through implementation of best management practices when proposed shoreland projects exceed limitations on impervious surface or cleared area as established by the Shoreland Protection Act standards.

Impacts to lake health from shoreland development activities are known to be cumulative lake-wide; however, activities also have a measurable impact in areas adjacent to parcel development. As a result Lakes & Ponds does not identify offsite mitigation as a feasible approach for most projects to minimize and prevent the impacts resulting from new or increased shoreland development. Offsite mitigation, if allowed through statute modification or rule making, should be required to be located within a certain distance of the proposed project and should be located on land owned and controlled by the permit applicant. In consideration of offsite mitigation, Lakes & Ponds advocates for a higher standard to be established when offsite mitigation is used, and sees the need for an established standard for vegetative cover reestablishment that requires restoration and protection of wildlife habitat in defined near shore areas of the Protected Shoreland Area and requires first considering meeting the standards on site through a feasibility analysis. Offsite mitigation as an option may also be more geared towards public recreational area projects that may offer larger parcels and may be more apt to promote public trust uses of the water. If offsite mitigation is considered an option going forward, Lakes & Ponds finds that it would be best considered through the rulemaking process.

Lakes & Ponds does not identify offsite mitigation as a current need, but does identify refining how and when best management practices are implemented as a possibility for improvement. Lakes & Ponds recommends accomplishing this improvement through more widespread use of the completed Green Stormwater Infrastructure sizing tool and factsheets and refinement of the statutory best management practice requirements. Lakes & Ponds will continue to reassess needed changes, such as identifying projects where implementing offsite mitigation would be beneficial and reasonable, and will suggest and implement changes as needed. During the coming monitoring season and through subsequent monitoring seasons, Lakes & Ponds will utilize water quality and habitat monitoring efforts to assess the biological

condition of sites developed in accordance with the Shoreland Protection Act standards relative to sites developed prior to the Act's passage.