

VERMONT LAWS PERTAINING TO THE MINERAL INDUSTRY

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VERMONT LAWS PERTAINING TO THE MINERAL INDUSTRY

I. INTRODUCTION

Due to the geological make-up or composition of Vermont, the mineral industry is dominated by certain types of mining operations. U.S. Bureau of Mines (Mineral Yearbook) indicated that in 1985 Vermont ranked third in the country for the amount of production of dimension stone including granite, marble, and slate, but occupied the first place for the value of that production. Talc mines are also a major component of the mineral industry, Vermont ranking third in the country for production. Other mining ventures in Vermont include crushed stone, sand and gravel, and asbestos. However, due to health concerns, asbestos mining has decreased 50% in volume of production from 1983 to 1985. The state has experienced copper mining and exploration in the Orange County district. In addition, interest has been recently shown in redeveloping the kaolin mines near Bennington. Vermont has a history of gold mining and a possible future for oil and gas production and uranium mining.

This manual was written as an attempt to guide potential miners through the maze of pertinent laws in Vermont and acquaint them with the laws that govern mineral exploration, mining, and ore processing, and mined land reclamation in Vermont. This manual is a guide only. It is not a legal document. The author and/or the publisher assume no responsibility for errors in, omission of, or changes to the information in this guide, or for the repercussions of any actions taken or not taken as a result of using this manual. When in doubt, contact the people at the addresses given in the guide or check the statutes directly.

The first section of this guide focuses on land status determination and discusses the possible landowners, administrators, and regulators, along with possible restrictions on the use of the land. The next section pertains to the acquisition of rights for exploration, development, and operation of the mine site. The manual next breaks up the steps of development, operation, and closing and reclamation and deals with them individually. The last section contains information on mineral excavations with special provisions for sand and gravel, gold, oil and gas, and uranium.

References to statutes are placed throughout the text. These references or citations are in the following form: (Title 10 Section 6001). The title refers to the volume number of sorts and includes laws on certain designated topics of each title. The section number identifies where to look within the title. Statutes are not organized by page number, but by section numbers, to make them easier to change, add on to, or repeal. All references are to the Vermont Statutes Annotated unless otherwise indicated.

II. LAND STATUS DETERMINATION

Before the actual exploration takes place on the land, many preparatory steps must be taken. The first step should be land status determination. The potential miner must find out who owns the tract of land in question or if any restrictions apply to the use of the land. Another factor in this stage is understanding who may regulate the land and control these various restrictions. Land status determination involves both record and field examinations. In some instances, depending on the size of a project, a professional in this area may be required. Maps in the appropriate town clerk's office should be helpful in determining the owner of the land and possible restrictions.

A. Ownership, Regulators, and Administrators

Land in Vermont is owned by either the federal government, the state, the municipality, or a private landowner. Management responsibilities lie within various bureaus, agencies, and commissions. Leases, agreements, and other land renegotiations are the responsibility of the land management organizations, and will be discussed in the next section on acquisition of rights. The discussion below in this section is expanded to include regulators of activities on both public and private land. This will establish a regulatory framework for the reader to understand the bulk of this manual which is dedicated to these regulations in the development, operations, and closure and reclamation sections.

1. Federal Land

The focus of this manual is on Vermont mining laws. Federal mining laws that apply to federal lands are out of the scope of this manual. For more information, contact the federal administrators and regulators below.

a. Regulators: The Mine Safety and Health Administration is a regulator for mines in Vermont.

Northeastern District
U.S. Department of Labor
Albany Office Subdistrict
445 Broadway, P.O. Box 1894, Room 24B
U.S. Post Office, c/o Courthouse
Albany, NY 12201
(518) 472-3648

b. Administrators: For land in the Green Mountain National Forests, contact the Forest Supervisor of the Green Mountain National Forest.

Forest Supervisor
Green Mountain National Forest
P.O. Box 519
Rutland, VT 05701
(802) 773-0300

The administrators for other federal lands in Vermont are:

Eastern States Office
Bureau of Land Management
U.S. Department of the Interior
355 South Pickett Street
Alexandria, VA 22304
(703) 274-0138

2. State Land

a. Regulators: Vermont does not have a state mining agency. Regulators of the land in the state are found mainly in the Agency of Natural Resources (also referred to as the Agency in this manual) which consists, in part, of the following: Department of Fish and Wildlife; Department of Forests, Parks and Recreation; Office of the State Geologist; and Department of Environmental Conservation. All of the above mentioned departments (including the various divisions within departments) play an advisory role to the Secretary of the Agency of Natural Resources. The Secretary has the power and duty involved in policy making, rule making, and regulatory functions. In addition, the Fish and Wildlife Board, Environmental Board (see Act 250 process discussed in development section), and Water Resources Board (see Water Pollution Control Act discussed in operation section) gain support from the Agency and retain power given to them by the statute that created them to carry out regulatory or quasi-judicial functions. The departments and boards noted above are responsible for the environmental regulations in Vermont, many of which apply to the mining process. The Agency of Natural Resources is located at:

Agency of Natural Resources
103 South Main Street
Waterbury, VT 05676
(802) 244-6916

The Vermont Department of Labor and Industry and the Department of Health also regulate mining from the standpoint of worker's safety and health. For regulations, contact these departments at:

Department of Labor and Industry (VOSHA)
120 State Street
Montpelier, VT 05602
(802) 828-2765

Department of Health
Occupational and Radiological Health Division
10 Baldwin Street
Montpelier, VT 05602
(802) 828-2886

b. Administrators: Administrators of state land reside in different parts of state government. The Secretary of the Agency of Natural Resources, Commissioner of the Department of Forests, Parks and Recreation, Commissioner of General Services, Commissioner of Finance and Management, Commissioner of State Buildings, Governor and Attorney General of Vermont, Agency of Transportation and the University of Vermont all have a hand in the administration of state owned land. Administration may be through the leasing of various types of minerals and the right to mine on various types of state land. How state land is administered will be discussed in additional detail under the section on acquisition of rights (part III of this document).

3. Municipal Land

a. Regulators: The municipal planning commission regulates land use in the town through zoning ordinances and other regulatory techniques for land owned by the town and for land owned by private parties in the town.

b. Administrators: The administrators are the legislative body of the municipality. The appropriate body is identified under Title 24 Section 4303(2) as selectmen of a city or supervisor for an unorganized town or gore.

4. Private Land

a. Regulators: The private party may control his land to some extent i.e., for obtaining mineral rights, leases, etc. (see below). However, the role of the state as the regulator is pervasive over private property as well as state and municipal property. State environmental regulations apply to mining operations on state, municipal, and private land.

b. Administrators: Private landowners administrate their own land. They must be dealt with directly. Complications might arise if the mineral estate has been severed from the surface estate of the land. The owners of both the land and the mineral rights will have to be consulted.

B. Possible Restrictions On Land Use

Once the owner of the land, the regulators, and administrators are determined, the developer should find out if any restrictions apply to the use of the land that would prohibit or restrict

mining. These restrictions can be found at all levels of land ownership.

1. Federal Level

At the Governor of Vermont's request, the U.S. Secretary of the Interior may designate any federal lands in Vermont as unsuitable for non-coal mining pursuant to Title 30 Section 601 of the United States Code in the Surface Mining Control and Reclamation Act.

In addition, as of January 1, 1984, all lands within wilderness areas designated by Congress under the Wilderness Act of 1964 were withdrawn from the application of federal mining laws. Pursuant to Title 16 of the United States Code Section 1133(d)(3), only claims established before January 1, 1984, would be valid and no more mining would be allowed in wilderness areas.

2. State Level

One possible restriction on land use in Vermont is the Fragile Area Registry created in Title 10 Sections 6551-6555. Any area in the state, irrespective of ownership, with "scientific, ecological and educational interest" may be designated as a fragile area by the Secretary of the Agency of Natural Resources and entered into the register of fragile areas. The Secretary of the Agency of Natural Resources must be notified before "altering or transferring" any publicly owned property on the fragile areas register. The notification may allow the Secretary to mitigate the harm to the fragile area. It is unclear if mining is excluded from these areas. The Secretary of the Agency of Natural Resources most likely has the final decision if an activity such as mining could be conducted on a fragile area on state property. However, the Secretary's authority over a private landowner would not be binding.

Title 10 Section 905 gives duty to the Vermont Water Resources Board to adopt rules in identifying significant wetlands and adopt rules to protect these significant wetlands and the functions they serve in the ecosystem. These rules were not published at the time of this writing, but most likely they will exclude all dredging and mining from designated significant wetlands.

The Commissioner of the Department of Forests, Parks and Recreation with the approval of the Governor may designate certain lands in state forests and parks as natural areas which are worthy of preservation in Title 10 Section 2607. Land uses are subject to the regulation of the Department of Forests, Parks and Recreation to maintain areas in their natural conditions. Mining may be excluded from designated natural areas. If a miner is interested in such land, a notice and hearing procedure may be requested that, coupled with approval of the Governor, could

satisfy the requirement for withdrawal of the lands from a natural areas designation.

3. Municipal Level

Chapter 118 of Title 24 authorizes conservation commissions to receive gifts of land or other rights such as development rights in the interest of conservation. The commission has the power to administer these lands and others acquired by the municipality for conservation purposes. These lands or rights may not be sold or diverted to uses other than those to promote conservation and recreation unless the voters of the town agree in a vote for another use at an annual meeting. If a mining project is to be developed on such municipal lands, the voters of the town must approve it.

The planning commission, acting as regulators at the local level, may create zoning laws which permit only specified uses in various designated districts. There also may exist local laws or ordinances specially pertaining to mining in the area. The town clerk's office would provide the relevant information about these possible restrictions on land in the municipality, public or private.

4. Private Level

Conservation easements along with limited development restrictions are becoming widely used as a land preservation technique. These arrangements are used for private land but also may be applied to public land. Mining could be prohibited from lands under a conservation easement.

III. ACQUISITION OF RIGHTS FOR EXPLORATION, DEVELOPMENT, AND OPERATION

After determining the status of the land, the next step is to acquire the legal right to go upon the land and start exploration. One acquisition method is a leasing agreement with the landowner. The lease could be written for only exploration rights, or it could include provisions for development and operations if exploration is successful.

For the following two reasons, it is not advisable to overlook the acquisition of the exploration rights. Vermont has a law against "unlawful mischief" in Title 13 Section 3701 where a person with an intent to damage who actually damages personal or real property (land) is subject to various fines or jail sentences depending on the value of the damaged property. The second related law in Title 13 Section 3705 is that of "unlawful trespass" where a fine of \$500, 3 months in jail, or both will be given if a person having no legal authority or consent from the landowner enters or remains on the land where notice against trespass is given by an actual communication or signs stating no trespass. Trespass is against the law on state property. This is also in Title 10 Section 4148. Always contact the landowner first.

Rights for water use during exploration (and for use later during development and operation) will most likely need to be secured relatively early. Additional information on this topic is included in the Development section of this document (part IV G).

The Vermont legislature has set forth in statutes various acquisition methods for different types of public land.

A. State Forest and Park Land

Acquisition of rights for exploration, development, and operation on state forest and park lands owned by the state is found in Title 10 Section 2606. With approval of the Governor, the Commissioner of the Department of Forests, Parks and Recreation may lease mine and quarry sites or the rights to mine and quarry when such sites have been discovered on state forests and parks. The Commissioner is not bound to enter a lease agreement, but may use her/his discretion in the decision. However, the Commissioner is not allowed to grant oil and gas leases. This is discussed later in this document under Mineral Extractions with Special Provisions (part VII of this document).

B. Fish and Game Land

On fish and game lands, the Secretary of the Agency of Natural Resources with the approval of the Governor, Attorney General, and Commissioner of Finance and Management may exchange, sell, or lease lands under his/her jurisdiction (Title 10 Section 4147).

Agreements may be made to develop land when it is for the state's benefit and still carries out the goal of management of the game on the lands. This power does not extend to oil and gas leases.

C. Other State Lands

Under Title 29 Section 104, the Commissioner of State Buildings may lease, for no more than 10 years, any real property (land) owned by the state when this land is not being used for state purposes. The advice and consent of the Governor must first be granted. The Commissioner may not grant an oil and gas lease, but may sell or lease state land on which such a lease lies, subject only to the terms of the lease.

The Commissioner of State Buildings may also sell real estate owned by the state, as long as the Commissioner has obtained the authorization of the General Assembly with the advice and consent of the Governor. The highest bidder may buy the property through three possible techniques. The sale may be at a public auction or under sealed bids given to the Commissioner. The Commissioner may reject any oral bids. A notice will be provided in at least 3 public places in the town where the property is located. The notice must also be published 3 times in a local newspaper. The last publication must be no less than 10 days before the sale date, or the opening of the bids. A third mechanism is available to the Commissioner of State Buildings who may list the property with a licensed real estate agent.

D. Public Lands

In Title 29 Sections 301-308, a different procedure is outlined for mines and quarries on public lands excluding state forest and park lands. The mines and quarries discovered on public lands or land beneath public waters (treated in more detail, later in text) are retained as property of the people of the State of Vermont. However, if a U.S. citizen discovers a mine or quarry on such public land, they may work the mine and receive the sole benefit of all the ore, and the same for his/her heirs, under several conditions. First, entering any public lands for discovery work, development, or operation of mines or quarries on such public land is not allowed without obtaining the written consent of the Commissioner of General Services beforehand. The appropriate land management organization will most likely be involved in this process. In addition, the written permission of the Commissioner of General Services is necessary before any buildings are erected.

Additional conditions follow. The discoverer must file a notice of discovery. Then, the discoverer must file a bond with the Commissioner of General Services before work begins in the mine to insure payment of royalty of 2% of the market value of the product as of when it is in its first marketable form. The royalty percentage is subject to change by the legislature. The mining

operators may only cut those trees that are necessary for clearing space for the mine itself or access roads. The Commissioner of Forests, Parks and Recreation declares the value of the amount and type of trees that are cut. This bill will be filed with the Commissioner of General Services and must be paid to the State Treasury. The mine operator must submit semiannually, a statement to the State Treasurer including the amount sold or removed from the mine or quarry under the claim notice and the amount of trees cut or destroyed on the same land.

The royalty payments are due semiannually into the State Treasury. If any discrepancies are found between the statement and the actual ore removed, the state will acquire the value of the mined material during the time period of the statement. If the royalties or timber fees are not paid, or the bond is not filed, the rights of the miner and his/her heirs are terminated. All mining operations that were discovered before January 28, 1911, are grandfathered in, so these provisions would not apply.

E. Municipal Land

The leasing or selling of municipal land is not treated in statutes that would apply to mining. Municipal land would fall under public land discussed above. In addition, the legislative body could lease or sell land like a private landowner. A town vote may or may not be required.

F. Private Land

The Vermont Legislature has entered only slightly into the realm of mining on private lands; two statutes apply. One pertains to the severance of mineral estate while the other is about real estate practices in general. First, pursuant to Title 27 Section 308, someone who obtains the mineral rights in severance of the ownership of the soil to mine or quarry, or just the right of mining or quarrying in the future, must record the deed, lease, or other transaction within 30 days after the execution of the document. The record should be submitted to the town clerk or wherever real estate transactions are recorded in the town. The grantee who receives the mineral estate is subject to a fine of \$50 if the transaction is not recorded within 30 days, payable to the town or to the county if the land is in an unorganized town.

The other general real estate provision is that if a lease is for longer than one year, the assignment of the lease must be by deed. Most mining leases would be for more than one year, so they would be labeled as deeds. A certain procedure must be followed for the deed to be valid. The deed must be signed by the grantor (landowner) in addition to two or more witnesses, before a town clerk or notary public. The deed must be recorded with the appropriate town clerk's office in the town where the lands exist.

After these few statutory provisions, the potential miner on private lands is left with a certain degree of flexibility. Within the deed or lease, the potential miner may be more creative in the following provisions: the length of lease or deed; amount of royalties, rentals, or mineral bonus as an incentive to sign the lease or deed; provisions for mandatory termination; implied or expressed covenants of development; provisions for additional rights such as access on other land via roads to the mining tract; installation of pipelines; operation of water wells; underground fuel storage; storage of general mining equipment; notice of commencement of operations; liability for damage to landowner's real or personal property; sound proofing mechanisms; operational time restrictions; water rights; mandatory conservation practices of erosion control; top soil storage and replacement, site rehabilitation; reseeding or planting and/or other concerns. Leases or deeds can become very complicated depending on what provisions are included. A lawyer trained in this field would be most helpful in writing leases or deeds for public or private land. Keep in mind, the lease or deed is still subject to state and local laws discussed in the following sections.

IV. DEVELOPMENT

After the exploration stage is completed and ore is found, the next stage is development where the actual construction begins, to make the mine a viable operation. The development process for both underground and surface mines may include building an infrastructure of buildings for storage of equipment and office space, a processing plant, or accommodations for the mining wastes. The size of the operation to be developed is determinant of the length of the development process. Even though the appropriate lease or deed for mineral rights or the right to mine is in place, another stage exists before the development may begin. The State of Vermont has a land use and development law, commonly called Act 250, found in Title 10 Sections 6001-6092. Additional predevelopment requirements are discussed after Act 250 and include stream alteration and dredging permits, new air contaminant source order, and an underground storage tank notification. The review process under Act 250 and the other predevelopment requirements should be done in conjunction with the lease or deed creation to prevent any holdups in the operation.

A. Act 250

Mining and quarrying fall under the definition of development in Act 250. All new mining and quarrying activities must undergo the review process. The definition considers the "construction of improvements of land...for commercial or industrial purposes" involving more than 10 acres as development. If a municipality has no permanent zoning and subdivision by-laws, development involving more than 1 acre is designated as development needing review.

There are 9 District Environmental Commissions around the state that consider the applications for development permits. The areas covered by each commission are shown on the District Environmental Commission boundary map in this publication. Addresses for district offices are below.

Vermont Environmental Board District Commissions District Environmental Offices

Districts 1 and 8

RD#2 Box 2161
Pittsford, VT 05763
(802) 483-2300 or 483-2313

Districts 2 and 3

RR#1 Box 33
North Springfield, VT 05150
(802) 886-2215

Districts 4, 6 and 9

111 West Street
Essex Junction, VT 05452
(802) 879-6563

District 5

255 North Main Street
Barre, VT 05641
(802) 828-2454

District 7

180 Portland Street
St. Johnsbury, VT 05819
(802) 748-8787

Permits are acquired through the process of filing an application with the District Commissioner responsible for the area, and providing notice and reapplication to the municipality, the municipal and regional planning commissions, and, if adjacent to another municipality at the boundary of the development, to the same entities in the adjacent municipality. The District Commission also sends notice and the application to various state agencies or other appropriate municipalities. Notice is then published in a local newspaper 7 days after receiving the application. Any of the parties given notice, or adjacent landowners, may call for a hearing on the development proposal. If no hearing is requested or ordered, the District Commission will either grant or deny the permit within 60 days of receiving the application. For the aggrieved developer, there is an available process for appeals to the Environmental Board, with a second level up to the Supreme Court of Vermont.

District Commissions base their decisions on the legislatively created criteria found in Title 10 Section 6086, along with the other criteria the mine developer must comply with. All ten criteria must be considered when an application is made for a mining development.

Criterion 9 (D) is a preventive measure to reduce conflicting land uses. In order for a subdivision or development to be approved, it must be established that it is not on land likely to be considered for mineral extraction and will not interfere with any later mining or processing operations.

Criterion 9(E) deals with the extraction of earth resources itself. The potential mining developer must show, along with the other criteria, that the "extraction or processing operation and the disposal of waste will not have an unduly harmful impact upon

the environment or surrounding land uses and development". Another condition is also imposed, that of a site rehabilitation plan. Either the District Commissioner or the Environmental Board must approve the plan under the condition that the site will be left by the operators "in a condition suited for an approved alternative use or development". The burden of proof is on the potential developer to show no unduly harmful impact on the environment and to prepare the site rehabilitation plan.

If a permit is not used within 1 year after it is issued, this is considered abandonment of the development and the permit expires. When the permit naturally expires, with the expiration date decided by the District Commissioner or Environmental Board, the operator may ask for an extension of the permit before the expiration to avoid the duplication of the initial review and permit process.

This process applies to all state, municipal, and private lands and the development of mines and quarries there on. Act 250 is prospective in that only projects and development after 1970 apply. Pre-1970 operations are grandfathered in and only come up against Act 250 if any "substantial change" occurs in the development. This issue is discussed further in regard to sand and gravel pits.

B. Municipal Zoning Permit

Towns may require the issuance of a zoning permit. The administrative officer is appointed by the planning commission and uses his/her discretion in interpreting the ordinances to grant a permit for any land development covered by the zoning ordinances (Title 24 Section 4443). Contact the applicable municipal planning commission to see if this applies.

C. Stream Alteration Law

An operation planning to develop by altering a stream, must be familiar with Title 10 Sections 1021-1026. This stream alteration law prohibits any change, alteration, or modification of a stream with greater than a ten square mile drainage area at the area of proposed change. Gravel extractions are prohibited except for riparian or adjacent landowners. These landowners may extract up to 50 cubic yards of gravel per year from the river bordering their property if it is for the owner's use, the gravel is from above the water line, and the Secretary of the Agency of Natural Resources is notified 72 hours before extraction (if more than 10 cubic yards are taken). However, if the stream is proclaimed "outstanding resource waters" under Title 10 Section 1424(a), then the riparian owner may take no more than 10 cubic yards of gravel and must notify the Secretary 72 hours prior to the extraction.

If the stream has less than a 10 square mile drainage area, application to the Secretary of the Agency of Natural Resources for a stream alteration permit is possible. The permit may be granted if four criteria are satisfied. First, there must be no "adverse effects to public safety by floods", second, no significant damage to fish and wildlife, and third, no significant damage to other riparian rights.

The fourth condition applies to "outstanding resource waters" where the values must still be protected that made it an "outstanding resource waters" area. Anyone who alters a stream, even with a stream alteration permit, must abide by Section 1272 of Title 10 in the Water Pollution Control Act which regulates activities causing discharge or affecting significant wetlands. This is discussed more in the section on gold later in the text.

D. Dredging Permit

Before any development that dredges for gold or any mineral mining activities in any waters of the states, the mining developer must apply for a permit from the District Environmental Office. To obtain a permit application contact the Regional Engineer in the district where the dredging is to occur. This will be discussed further under the gold section (part VII C of this document). Additional criteria than those used in the standard Act 250 proceedings have been added to this special section for commercial dredging.

E. New Air Contaminant Sources Order

Vermont has a State Air Pollution Control Act located in Title 10 Sections 551-572. A predevelopment order is required under the statute. Those sections on development are discussed in the following paragraphs. Other pertinent provisions are discussed under the operations section of this manual.

The Division of Air Pollution was directed to classify air contaminant sources. Mineral product industries including mining, quarrying, and crushing operations are listed as contaminant sources. This suggests that any construction or modification of a mining operation will fall under the statute. The potential miner must submit a written notice to the Secretary of the Agency of Natural Resources who may require plans and specifications for analysis. An order will be made in 30 days or else the order is automatically approved. In the Air Pollution Statute, the word "order" is used but may be considered the same as a permit. The operation might have to attain the "most stringent emission rate" with available control technology. Costs of achievement will be considered to some extent. The operator might have to perform an air quality impact evaluation. The specifics involved in the order process for new construction or modification of existing construction are outlined in the rules of the Air Pollution

Division. Contact the Agency for the current air regulation and order process:

Air Pollution Division
103 South Main Street, 3 South Building
Waterbury, VT 05676
(802) 244-8731

Under Title 10 Section 561, if a mining operator believes there is no danger to health or safety from the operations, he/she may bring the case to the Solid Waste and Air Quality Board and apply for a variance to the order process. In addition, if the mining operator is aggrieved by the prohibition of new construction, he/she is allowed an opportunity to be heard through a hearing with the Secretary of the Agency of Natural Resources. There is a provision for an additional appeal level to the Vermont Supreme Court.

F. Underground Storage Tank Notification

Title 10 Sections 1921-1940 set up a notification process in effect when any underground storage tanks are placed in the ground. Upon installation of a new underground storage tank, the owner must notify the Secretary of the Agency of Natural Resources. The notice shall include the tank's size, type, and location along with the type and quantity of the stored substance. The tank owner should also record the existence of the underground tank in local land records. Certain procedures must be followed when the tank is unused or abandoned. In addition, specific regulations apply to large tanks for motor fuel or heating oil. Contact the Agency for the most recent regulations for underground storage tanks.

Hazardous Materials Management Division
Petroleum Sites Section
West Office Building
103 South Main Street
Waterbury, VT 05676
(802) 244-8702

G. Water Use

By the time of the development stage, the mining developer has already a need for water for human use if not use in the development process itself. The developer should have already made provisions for water in the lease or deed. Surface water is controlled under the common or judge-made law doctrine of riparianism. This area of law has been changed from the law of England by the courts here in Vermont over the past 150 years into the reasonable use doctrine. Riparian landowners are those whose property adjoins the surface water area. They have the right and responsibility to use the water in a reasonable manner causing no injury to other riparian landowners.

The Vermont legislature has recently taken groundwater out of the common or judge-made law area where absolute ownership was the rule with no conditions on use. This change can be found in Title 10 Sections 1390-1410 which also provides for the following. The Secretary of the Agency of Natural Resources is charged with developing a groundwater strategy with a groundwater classification scheme along with technical criteria and standards. A statutory cause of action is called for when unreasonable harm is caused by another water user who is withdrawing, diverting, or altering the characteristics or quality of the groundwater. Due to the new law, not only loss of the quantity, but also the detriment to the quality of the groundwater are factors to be considered. The operator will want to be careful in controlling possibly harmful polluting runoff from tailing piles or sludge runoff to avoid polluting the groundwater of someone who could now sue the mining operator. Groundwater regulations have been published. These rules affect a mining operation's use of groundwater. For more information contact the Groundwater Management Section of the Agency of Natural Resources.

Groundwater Management Section
Water Quality Division
103 South Main Street, 10 North Building
Waterbury, VT 05676
(802) 244-5638

A water discharge permit under Vermont's Water Pollution Control Act may be necessary in the development phase. More intensive use of water during the operational stage may also require a discharge permit. The Vermont Water Pollution Control Act is discussed more thoroughly in the Operations section of this text (part V of this document).

V. OPERATIONS

The operational state exists when the mine is actually extracting the ore. If processing or beneficiation are necessary, the operator might carry these out on site or ship the ore out to be processed at a mill site elsewhere. Various state environmental laws apply during this stage. Mining operations create air contaminants as defined under the Vermont Air Pollution Control Act, Title 10 Sections 551-572. The result of mineral extraction is the creation of solid waste in the materials not worth processing, resulting in tailing piles and waste heaps that need to be disposed of according to Vermont Solid Waste Management Law Title 10 Sections 6601-6613. Some of the waste from mines might be considered hazardous and need special alteration, under the same law. Runoff from the piles and heaps in a defined gully where the runoff is discharged into a water body, or indirectly discharged into the groundwater, need a permit under Vermont Water Pollution Control Act, Title 10 Sections 1250-1384. The following discussions will be limited to state environmental controls and the appropriate review processes pertaining to air, water, and solid and hazardous waste.

A. Vermont Air Pollution Control Act, Title 10 Sections 551-572

Air contaminants are defined under the Vermont Air Pollution Control Act as "dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof". Fugitive particulate matter is suspended particulate matter that does not come out directly from a stack. This is just one of the air contaminants covered in the statute, others include sulfur dioxide and carbon monoxide. Fugitive particulate matter is the most likely contaminant involved in a mining or crushing operation. An opacity test (which measures the degree of reduction of light transmission) is used to measure the emissions of suspended particulates.

After the mining developer has received the order for construction, the mining operator must maintain certain levels of ambient air quality standards for total suspended particulate matter. Primary ambient air quality standards for total suspended particulate matter are 75 micrograms per cubic meter as an annual geometric mean and 260 micrograms per cubic meter as a maximum 24-hour concentration not to be exceeded more than once per year. Secondary welfare levels are stricter and dictate that the 150 micrograms per cubic meter maximum concentration may not be exceeded more than once per year. To find out what level of ambient air quality standards apply to the air surrounding the mining operation and what the current standards are, contact the Agency of Natural Resources.

Air Pollution Division
103 South Main Street, 3 South Building
Waterbury, VT 05676
(802) 244-8731

In addition, to comply with the Air Pollution Act during operations, the operator must annually register with the Secretary of the Agency of Natural Resources if the mining operation emits more than five tons of air contaminants a year.

B. Vermont Water Pollution Control Act, Title 10 Sections 1250-1384

Under the Water Pollution Control Act, waste is defined in an all encompassing way as "effluent, sewage, or any substance or material, liquid, gaseous, solid, or radioactive, including leaked liquids whether or not harmful or deleterious to waters". The statute considers discharges as "placing, depositing, or emission of any wastes, directly or indirectly into an injection well or into the waters of the state. An indirect discharge means any discharge to the groundwater whether the discharge is subsurface, land-based, or otherwise.

Anyone who discharges waste into the waters of the state, an injection well, or any publicly owned treatment works must apply with the Secretary of the Agency of Natural Resources for a permit. The application for a permit is necessary if the waste does any of the four things listed below:

1. interferes with the waters of the state or treatment works
2. passes through or into these waters without treatment
3. is incompatible with the treatment works or has a substantial effect on that works
4. has substantial adverse effects on water quality.

The discharge permit outlines the "manner, nature, volume, and frequency of the permitted discharge". The Secretary of the Agency of Natural Resources may establish standards to require proper operation of any treatment or processing facility needed for the waste. Recording, reporting, monitoring, and inspection of the treatment or processing facility may be ordered by the Secretary along with other requirements to preserve water quality. These conditions placed on the discharge permit are at the discretion of the Secretary of the Agency of Natural Resources. The Secretary may also designate the time period for the discharge permit, but it may not exceed five years.

The prohibition found in Title 10 Section 1259(e) is geared toward on-site sewage systems with a capacity greater than 6500 gallons per day. However, the language states any new or increased

source of indirect discharge of wastes is required to get a discharge permit. Runoff from tailing piles or waste heaps, dewatering of a quarry or mine, or other mining practices may require an indirect discharge permit as a land-based discharge into groundwater. For more information, contact the Water Quality Division of the Agency of Natural Resources:

Water Quality Division
103 South Main Street, 10 North Building
Waterbury, VT 05676
(802) 244-5638 or 244-6951

If a mining operation is near a municipal water supply, the Department of Health has jurisdiction over protecting the water supply. For more information contact:

Environmental Health Division
Vermont Department of Health
60 Main Street, P.O. Box 70
Burlington, VT 05402
(802) 863-7326

C. Vermont Solid Waste Management Act, Title 10 Sections 6601-6613

The definitions of the act imply that mining is subject to the Vermont Solid Waste Management Act. Solid waste is defined partly as "discarded material including solid, liquid, semi-solid, or contained gaseous materials resulting from mining operations...". The waste definition also discusses mining products as such "material that is discarded or is being accumulated, stored, or physically, chemically, or biologically treated prior to being discarded or has served its original intended use and is normally discarded or is a manufacturing or mining byproduct and is normally discarded".

Title 10 Section 6605 describes the process for a solid waste management facility certification. On-site disposal of mining waste may fall under this certification process. The law is unclear on whether storage facilities leading to transportation of the waste would need to undergo the same process. Under Section 6605, no person is allowed to construct, alter, or operate a "solid waste management facility" without first obtaining a certification from the Secretary of the Agency of Natural Resources. The certification is valid for no longer than five years and includes the following:

1. location and limits on growth of the facility
2. requirement for proper operation based on the approved engineering plans
3. amount and types of waste projected to be disposed at the facility

4. type and number of equipment operating the facility
5. provisions for air, groundwater and surface water monitoring, and erosion control, landscaping and drainage systems
6. such measures deemed appropriate by the Secretary such as reporting, recording and inspections.

Certain mining wastes may be considered "hazardous material" defined in the act as "all petroleum and toxic, corrosive or other chemicals and related sludge..." The Vermont Legislature offers a lengthy definition of hazardous material in Title 10 Section 6602(4) and (16)(A) and (B) while partly deferring to the definition found in Section 101(14) of the federal Comprehensive Environmental Response, Compensation and Liability Act. If the waste is considered hazardous material, more stringent requirements such as liability insurance are needed for hazardous waste certification under Title 10 Section 6606 and specific rules issued by the Department of Transportation and the Secretary of the Agency of Natural Resources pertaining to the transportation of hazardous wastes under Section 6607. For more information on the subject of mining waste as solid waste or hazardous waste, contact:

Hazardous Materials Division
103 South Main Street, West Office Building
Waterbury, VT 05676
(802) 244-7341

Solid Waste Division
103 South Main Street, West Office Building
Waterbury, VT 05676
(802) 244-7831

A mine operator may apply for a variance under Section 6613 of Title 10, similar to the Air Pollution Control Act, where the variance would circumvent a specific rule of the Secretary of the Agency of Natural Resources. The variance may not endanger human health and safety along with other specific factors listed that must be addressed such as cost of achievement.

VI. CLOSURE AND RECLAMATION

In Vermont, there is no comprehensive state law on reclamation of mining sites. However, the state exerts control over developments of 10 or more acres through the Act 250 process. The District Commission and/or Environmental Board must approve of the site rehabilitation plan before development may even begin (Title 10 Section 6086).

At the municipal level, the town may require a site rehabilitation plan and a performance bond to assure the action, but only for sand and gravel extractions.

The federal Surface Mining Control and Reclamation Act of Title 30 Sections 1201-1328 in U.S. Code pertains specifically to coal mining. There is a provision discussed earlier for the designation of non-coal mining restrictions. Section 1236 might be pertinent in reclamation of rural lands. The language does not say this provision pertains only to coal mining. Under this section, landowners may enter an agreement with the federal Secretary of Agriculture to control the land for stabilization, erosion, sediment control, and reclamation. The Secretary is authorized to give financial and other assistance to carry out the conservation and development plan.

VII. MINERAL EXTRACTATIONS WITH SPECIAL PROVISIONS

A. Uranium

In the Act 250 process, the definition of development includes exploration for fissionable source material and the extraction or processing of such material. Exploration beyond reconnaissance requires a permit where reconnaissance is defined as literature research along with research techniques such as remote sensing, geophysical and chemical tests, which do not use explosives, induce land clearing, or road building, or introduction of chemicals to the environment. Other allowable techniques in the pre-permit stage include mapping, surveying, and sample collecting without explosives, drilling or chemical additives to the environment.

Fissionable source material includes ore that is extracted or processed for the purpose of becoming processed into fuel for nuclear fission reactors or weapons, or a mineral that contains uranium or thorium in high enough concentrations that it could reasonably be converted or processed into fuel for nuclear reactors or weapons.

When an application is submitted for a permit for extraction or processing of fissionable source material, the District Commission must obtain approval from the General Assembly through an act of legislation that extraction or processing of fissionable source material will promote the general welfare. Under this provision in Section 6083(c), the District Commission must deliver a written notice to the Speaker of the House of Representatives and to the President of the Senate, and make available any relevant material. The permit process is put on hold until this legislative grant of approval is issued. However, the approval that extraction or processing of fissionable source material will promote the general welfare does not grant approval to the permit itself. The permit may still be denied by the District Commission or Environmental Board.

Regarding the storage of radioactive waste, all "special nuclear, source, or byproduct material" is exempt from Vermont's treatment of hazardous waste management as described earlier in the hazardous waste section of solid waste. Title 10 Section 6602(4) exempts this material and defers to Atomic Energy Act of 1954 in Title 42 of the U.S. Code, the definitions of Section 2014. This federal act deals with source material itself. The federal Statute Resource Conservation and Recovery Act also defers radioactive waste to be covered in the Atomic Energy Act.

Vermont also has a statute on the storage of radioactive material. Under Title 10 Sections 6501-6506, no such facility may be constructed until the General Assembly approves of the construction. Approval is granted in a process similar to the Act 250 process for extraction or processing of fissionable source

material. A petition procedure is outlined which includes public hearings by the joint energy committee and notices to the affected parties. The General Assembly must create a bill or joint resolution approving the radioactive storage facility which includes their findings on no undue adverse effects or interference to a list of factors to be considered (as noted in Sections 6501-6506).

B. Sand and Gravel

The Act 250 process applies to new development after 1970. However, if the old existing pre-1970 operations undergo a "substantial change" as discussed in the Environmental Board Rule #2, the operation must apply for a new permit. In Declaratory Ruling, Number 90, Clifford's Loam and Gravel, Inc., as decided by the Environmental Board, a permit would not be required for pre-1970 pits reactivated where there was:

1. no increase of average annual extraction
2. no more land involved
3. no change in equipment or nature of the operation.

This declaratory rule case helps to define the meaning of "substantial change".

When regulating sand and gravel operations, municipalities may require a submission of an acceptable site rehabilitation plan for sand and gravel extractions and a bond to assure the rehabilitation.

Gravel or sand extractions from a stream are discussed under the section on development permits (see Stream Alteration Law, part IV C of this document).

C. Gold

Panning for gold requires no permits on federal or state lands. On private land, permission from the landowner is necessary to pan for gold.

To dredge or mine for gold on private or state property, the potential commercial miner must go through the Act 250 permit process and should contact the Regional Engineer at the District Environmental Office which applies to the land in question. For recreational dredging, the Regional Engineer should still be contacted, but the Act 250 process may not apply.

Whenever commercial dredging is involved, the Act 250 process is changed to include the additional criteria of the stream alteration law (Title 10 Section 1021-1026, discussed in the development section of this text, part IV) and the criteria of the Water Pollution Control Act (Title 10 Section 1272). The Water

Pollution Act regulates activities causing discharge or affecting significant wetlands, and calls for the Secretary of the Agency of Natural Resources to establish methods and procedures to control the activity and reduce or eliminate discharges.

To prospect for gold beyond recreational panning on Green Mountain National Forest Land, a permit from the Forest Supervisor is required. A lease is required for dredging or mining for gold on federal land. Contact the Eastern States Office of the Bureau of Land Management, for additional information.

Forest Supervisor
Green Mountain National Forest
P.O. Box 519
Rutland, VT 05701
(802) 773-0300

Eastern States Office
Bureau of Land Management
U.S. Department of the Interior
355 South Pickett Street
Alexandria, VA 22304
(703) 274-0138

D. Oil and Gas

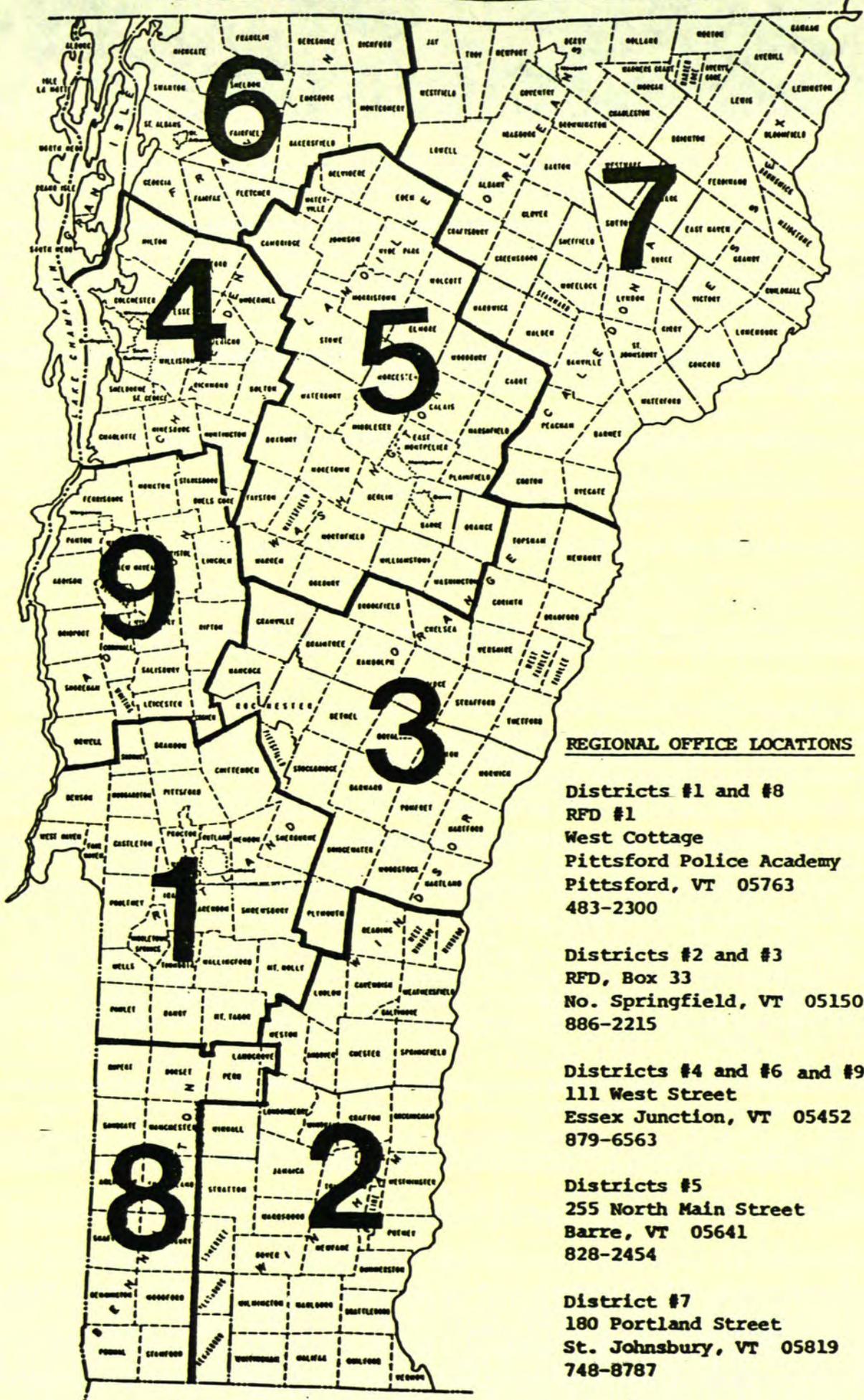
The Natural Gas and Oil Conservation Act of Title 29 Sections 501-566 created a Vermont Natural Gas and Oil Resources Board appointed by the Governor with the advice and consent of the Senate to administer and enforce the statute. All land agreements to lease or deed oil and/or gas must be brought to the attention of the board through a specific notification process within 30 days. On private lands, anyone drilling a well for oil and gas must first obtain a permit from the board for exploration, development, or production. The application for the permit should include such information as the location of the well, and the proposed drilling angle, direction, and depth. All information will be kept confidential, allowing only the State Geologist to have access. The permit must be recorded with the appropriate land record keeper in the appropriate town. The drilling permits expire after one year unless the operations are proceeding "with due diligence". The well operator shall provide the Board with the geologic well log along with yearly reports of the character of the well, operation method, and total production of the previous year.

Since the definition section of Act 250, Title 10 Section 6001(3), includes drilling an oil and gas well as development, a state Act 250 permit is needed in addition to the drilling permit from the Natural Gas and Oil Resources Board. Act 250 criteria under Title 10 Section 6086(a)(E)(ii) places the duty on the developer to also follow all the rules of the Natural Gas and Oil Resources Board.

For state lands, the same provisions of the Natural Gas and Oil Conservation Act apply. State land managers are designated as the highest ranking official in the agency or department responsible for the lands, or if no agency or department applies, the Secretary of the Agency of Natural Resources. State land managers may execute the oil and gas leases on lands under their jurisdiction. Like private land leases, the lease for state land must include that the exploration and production information, well logs and records from the operations be made available to the Board. In addition, public notice must be given of the intention to lease the state lands in question.

The board shall be notified before the abandonment of any well so a representative of the Natural Gas and Oil Resources Board may be present at the plugging of the well. An interest in oil and gas will be automatically abandoned if the right to the interest has not been used for a continuous period of 10 years or if no statement of interest has been filed in the local records for five years. The statements of interest should include a "description of the affected land, the nature of the claimed interest, the book and page of recording of the original grant of the interest, and the name and address of the person claiming the interest", as put forth in Title 20 Section 563(f).

DISTRICT ENVIRONMENTAL COMMISSION BOUNDARY MAP



REGIONAL OFFICE LOCATIONS

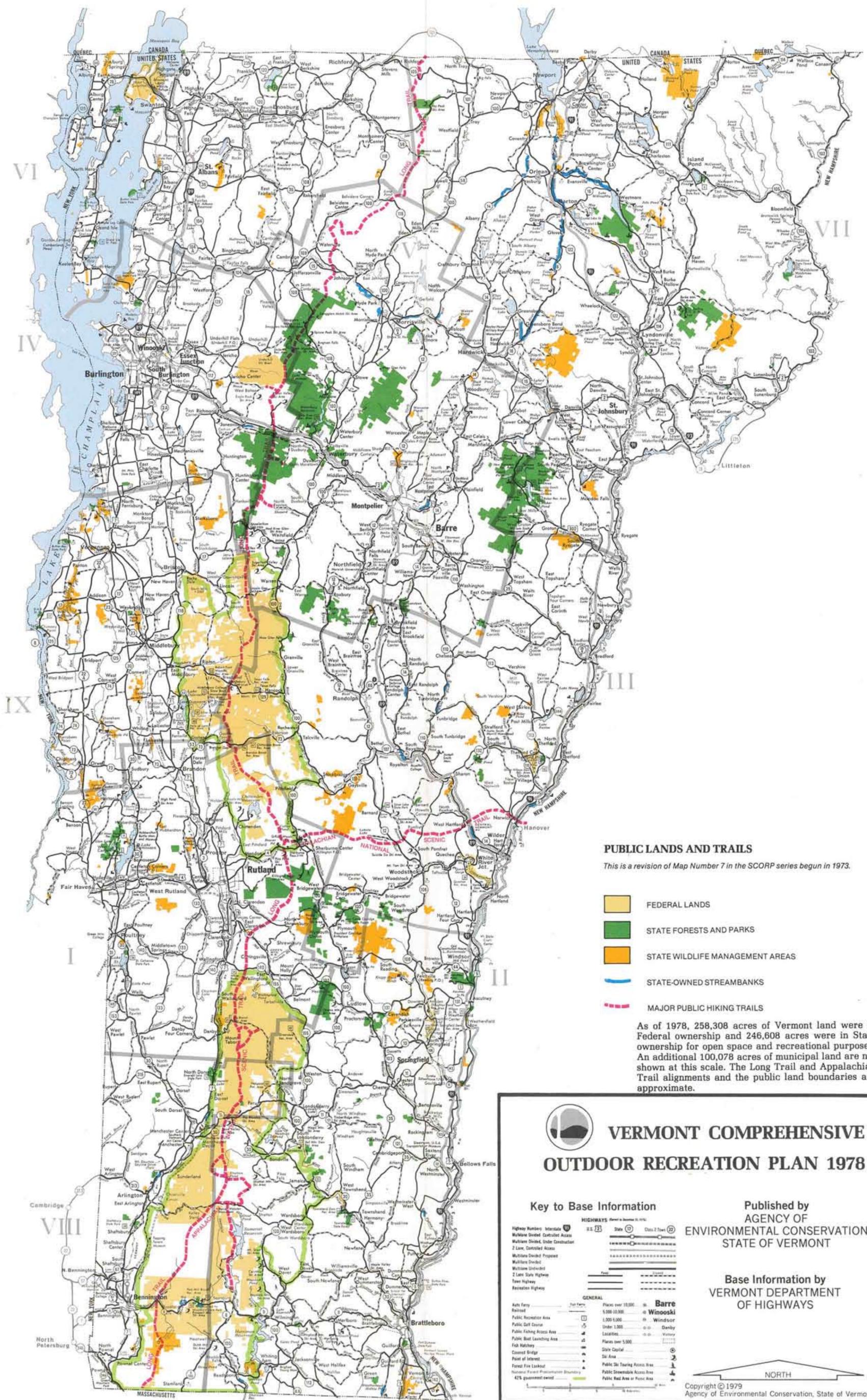
Districts #1 and #8
 RFD #1
 West Cottage
 Pittsford Police Academy
 Pittsford, VT 05763
 483-2300

Districts #2 and #3
 RFD, Box 33
 No. Springfield, VT 05150
 886-2215

Districts #4 and #6 and #9
 111 West Street
 Essex Junction, VT 05452
 879-6563

Districts #5
 255 North Main Street
 Barre, VT 05641
 828-2454

District #7
 180 Portland Street
 St. Johnsbury, VT 05819
 748-8787



PUBLIC LANDS AND TRAILS

This is a revision of Map Number 7 in the SCORP series begun in 1973.

- FEDERAL LANDS
- STATE FORESTS AND PARKS
- STATE WILDLIFE MANAGEMENT AREAS
- STATE-OWNED STREAMBANKS
- MAJOR PUBLIC HIKING TRAILS

As of 1978, 258,308 acres of Vermont land were in Federal ownership and 246,608 acres were in State ownership for open space and recreational purposes. An additional 100,078 acres of municipal land are not shown at this scale. The Long Trail and Appalachian Trail alignments and the public land boundaries are approximate.

**VERMONT COMPREHENSIVE
OUTDOOR RECREATION PLAN 1978**

Published by
AGENCY OF
ENVIRONMENTAL CONSERVATION
STATE OF VERMONT

Base Information by
VERMONT DEPARTMENT
OF HIGHWAYS

Key to Base Information

HIGHWAYS (Revised to December 31, 1978)	
Highway Number: Interstate	U.S.
Multi-lane Divided, Controlled Access	State
Multi-lane Divided, Under Construction	Class 2 Road
2 Lane, Controlled Access	
Multi-lane Divided, Proposed	
Multi-lane Divided	
Multi-lane Undivided	
2 Lane State Highway	
Town Highway	
Recreation Highway	
GENERAL	
Auto Ferry	Fair Term
Railroad	Places over 10,000
Public Recreation Area	5,000-10,000
Public Golf Course	1,000-5,000
Public Fishing Access Area	Under 1,000
Public Boat Launching Area	Locations
Fish Hatchery	Places over 5,000
Control Bridge	State Capital
Point of Interest	Ski Area
Forest Fire Lookout	Public Ski Touring Access Area
National Forest Proclamation Boundary	Public Stewardship Access Area
42% equipment owned	Public Road Area or Point Area

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Agency of Environmental Conservation, State of Vermont

Map 4: Public Lands and Trails

Prepared by S.A. Foltz Map Co., Westminster, Vt. 05158
with Horne Ward Associates