Funding Brownfield Redevelopment

Interpreting and making sense of multi-level state funding

PRS Policy Brief 0506-08
Oct 25, 2006

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This report was written by undergraduate students at Dartmouth College under the direction of professors in the Rockefeller Center. We are also thankful for the services received from the Student Center for Research, Writing, and Information Technology (RWiT) at Dartmouth College.

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EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) defines a brownfield as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[1] In both Vermont and New Hampshire, the majority of these locations are polluted with petroleum products, but examples include many other types of sites, such as landfills, dry cleaners, and former industrial or manufacturing locations that may be contaminated with other hazardous substances in addition to petroleum products. Both Vermont and New Hampshire are placed in a more difficult position than more densely populated states in encouraging brownfield redevelopment because of the availability of land that is free of contamination. In more urbanized states, the high value for land reduces the relative cost of cleanup; the scarcity of land helps highlight the importance of redevelopment. The strong brownfield programs of Massachusetts and California reflect these effects. In rural states, the reuse of brownfields is less pressing due to the ample supply of greenfields (uncontaminated land), which are easier and less costly to develop. However, the redevelopment of these polluted sites is equally important to rural states for maintaining greenfields and for revitalizing the communities in which they occur. This report examines federal and state programs used to encourage and fund brownfield redevelopment and looks at the status of brownfields within both Vermont and New Hampshire in order to discuss potential actions that may facilitate future brownfield redevelopment.

EPA provides a major source of funding for brownfield assessment and cleanup. Between 2003 and 2006, Vermont received $5,410,000 and New Hampshire received $2,890,790 in EPA assessment and cleanup grants and revolving fund loans of the approximately $300 million in funding that EPA has distributed nationally.[2] Several other federal agencies have programs that provide brownfield funding for specific uses, such as economic redevelopment, housing and transportation projects, or general funding which may be directed toward brownfield projects. Understanding which grants may be applied to a specific project is valuable when trying to secure the necessary funding for brownfield redevelopment.

At the state level, both Vermont and New Hampshire have a variety of programs ranging from liability protection to revolving fund loans. Both states have well developed programs for petroleum brownfields, financed by taxes on petroleum products. These programs' activities include the clean up of spilled underground storage tanks and funding for low-income individuals to replace below standard home heating tanks. New Hampshire does not offer any grants for non-petroleum brownfields, while Vermont has funding available for both assessment and remediation of non-petroleum sites.

A number of steps may be taken in order to encourage additional brownfield redevelopment. Brownfields are often associated with low-income areas; therefore, approaching the sites as economic development problems rather than environmental ones can open projects to more funding sources. One resource that can provide both economic

and environmental benefits is the brownfield job training grants program administered by EPA. Offered as training programs for low-income workers, the programs teach the skills needed in brownfield remediation. Encouraging private investment in brownfields sites can often help spark redevelopment and create jobs in an area. Additionally, preventing new sites from occurring, by holding petroleum storage sites to higher standards, can help reduce brownfields in the future. Finally, encouraging local involvement can be valuable in identifying and addressing smaller sites important to a community.

1. BACKGROUND

1.1 Definition and Purpose. The term "brownfield" is a relatively new addition to the public policy lexicon, emerging into widespread usage in the early 1990s. The U.S. Environmental Protection Agency (EPA) defines a brownfield as: "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[3] Funding to assist the redevelopment of these sites through assessment and cleanup is available at the local, state, and federal level.

EPA initiated its first major brownfields pilot projects on old industrial sites in Richmond, Virginia and Bridgeport, Connecticut in 1995. Since then, the EPA Brownfields Program has focused significant attention upon remediating and redeveloping the estimated 450,000 sites across the country. The Agency has leveraged more than $6.5 billion in cleanup and redevelopment funding and estimates that 25,000 jobs were created as a result.[4]

The major goals of EPA Brownfields Program are: to protect the environment by cleaning contaminated sites, to provide economic stimulus through redevelopment, and to enhance the quality of life in affected communities.

1.2 Typical Examples of Brownfields. The definition provided by EPA for brownfields allows for a wide range of sites to be considered for funding. Typical sites include gas stations, manufactured coal/gas facilities, chemical manufacturing facilities, landfills and dumps, wood preservers, and auto salvage facilities.

There are many recent successful examples of federally assisted brownfield cleanup in New England. They include the conversion of a paper cup and plate manufacturing plant into a recreational park (Maine), textile mills and an ash dumping ground into a baseball field (Massachusetts), and a machine shop into a motorcycle showroom (New Hampshire).

2. BROWNFIELDS REDEVELOPMENT FUNDING AND ITS MECHANISMS

Historically, the perceived costs of redeveloping brownfield sites have been a major barrier to redevelopment. Because redevelopers often perceive costs of redevelopment to exceed the actual value of the land, many contaminated sites have remained neglected. The funding available for the assessment of contaminated sites along with advances in cleanup methods and technologies have mitigated this effect and made brownfield redevelopment more plausible.

There is no nationally uniform approach to brownfield redevelopment financing. Methods for allocating and distributing funds targeted to redeveloping brownfield sites differ widely according to the type of contamination at the site and the scope of the problem. Finding the appropriate option among the many federal, state, and local

funding mechanisms requires an understanding of the different funds for which a specific site is eligible.

2.1 EPA Funding. The federal funding of brownfield redevelopment is primarily centered on EPA programs. The EPA Brownfield Program "provides direct funding for Brownfields assessment, clean up, revolving loans, and environmental job training."[5] The EPA Brownfield Program also operates in conjunction with other EPA programs as well as additional federal and state government agencies to identify and provide further support to brownfields redevelopment activities.

Table 2.1 Governmental and Non-Governmental Entities Eligible for EPA Brownfield Program Funds.

Type of Applicant	Assessment	Revolving Load Fund	Clean up
General Purpose Unit of Local Government	X	X	X
Land Clearance Authority or other quasi-governmental entity that operates under the supervision and control of, or as an agent of, a general purpose unit of local government	X	X	X
Government Entity Created by State Legislature	X	X	X
Regional Council or group of General Purpose Units of Local Government	X	X	X
Redevelopment Agency that is chartered or otherwise sanctioned by a state	X	X	X
State	X	X	X
Indian Tribe other than in Alaska	X	X	X
Alaska Native Regional Corporation, Alaska Native Village Corporation, and Metlakatla Indian Community	X	X	X
Nonprofit organizations			X

Source: http://www.epa.gov/swerosps/bf/pg/fy06_guidelines.htm#section3

2.1.2 Categories of EPA Brownfield Program Grants

Brownfields Assessment Grants
EPA Brownfields Assessment Grants provide an amount up to $200,000 to "inventory, characterize, assess, and conduct planning and community involvement related to brownfield sites." If the anticipated level of contamination is sufficiently high, the party can apply for a waiver to raise the site grant limit to $350,000, and total grant fund requests should not exceed $400,000. With a two-year performance period for the grants, no single entity may apply for more than $700,000 in assessment funding.[6]

Case Study: Creating A Greenspace, Hartford, Connecticut
Located in a low-income section of Hartford, Connecticut, a 1.74 acre former site of a paint store was littered with tires, mattresses, and other debris. This site received $60,000 in assessment funding from an EPA grant to the city of Hartford. The high levels of lead found in the soil during this phase made the site's remediation a priority. Funding for the cleanup phase came from US Housing and Urban Development's Community Development Block Grants, the City of Hartford, and the Knox Parks Foundation. Additionally, the Kellogg Foundation at Trinity College contributed $38,000 for the use of phyto-remediation techniques. The site was redeveloped into a recreational park and community garden. Local community members and organizations, including a local middle school, also aided in the redevelopment efforts by planting and supporting the gardens that provide produce to a local soup kitchen.

Source: EPA. "Hartford Creates a Community Greenspace in Blighted Neighborhood." http://www.epa.gov/swerosps/bf/success/hartford.pdf.

Brownfields Cleanup Revolving Loan Fund Pilots

EPA also provides Brownfields Cleanup Revolving Loan Fund (BCRLF) Grants to states, political subdivisions and, Indian tribes. At least 60 percent of the funds must be used to implement a revolving loan fund to provide no-to-low-interest loans for brownfield cleanup. This type of funding requires a 20 percent cost share. An eligible entity may apply for up to $1,000,000 over five years.[7] These funds cannot be used for sites on the National Priorities List, those at which a removal action is necessary within six months, or at which a federal or state entity is planning or conducting a response enforcement action.[8] EPA also provides Clean Water State Revolving Loan Funds to states for up to 20 years to finance activities including brownfield mitigation to prevent or correct water quality problems, including the excavation and removal of Underground Storage Tanks (USTs).[9]

BCRLF pilot programs are selected through a competitive process. Final selection of pilot programs is made by EPA senior management in Washington, DC, following the assessment by regional review panels. All proposals are initially evaluated by EPA regional evaluation panels and are assessed using the following criteria:

- Training Program Objectives and Plans
- Community Involvement and Employer Partnerships
- Programmatic Capability and Institutional Capacity
- Past Performance
- Performance Measurement
- Community Need

Other factors upon which the programs are evaluated are "fair distribution of funds between urban and non-urban areas and among the ten EPA Regions; designation as a federal Empowerment Zone, Enterprise Community, or Renewal Community; and

whether the proposed project will assist in addressing environmental justice concerns (such as the disproportionate impact on or presence of brownfields sites near low-income and/or minority citizens)."[10]

Case Study: Field of Dreams, Englewood, Colorado
Comprised of seven local governments, the Colorado Coalitions has received several revolving fund loans from EPA. The first loan reissued using this fund, for $705,041, went to the City of Englewood to transform a 9.4 acre landfill into a community park. Contaminated with heavy metals and methane, the owner originally planned to use the site as a waste transfer location. Opposing this use, the city and community worked to instead create recreational area including an all-star baseball field, connections to the South Platte River Trail, and access to boat chutes and whitewater facilities for kayakers. Additional funding came from the Colorado Rockies Field of Dreams Program and former Rockies Catcher Brent Mayne. The Colorado Coalition has received a total of seven revolving fund loans totaling $4.9 million. Other projects include the restoration of a 19 block area into a city center in Lakewood, Colorado.

Source: EPA. "The Union of Revolving Fund Loans." http://www.epa.gov/brownfields/success/co_coalition_co.pdf.

Brownfield Cleanup Grants
EPA provides Brownfield Cleanup Grants of up to $200,000 per site for cleanup activities. Funds may be used to clean up sites contaminated with petroleum, hazardous substances, pollutants, or other contaminants. Cleanup grants require a 20 percent cost share, which can be covered through the contribution of money, labor, material, or services, but which may not include administrative costs. However, this cost share can be waived in instances of extreme hardship. No single entity can apply for funding at more than five sites. Applicants must own the sites for which they request cleanup funds or show that they will acquire the titles. The grant performance period is two years.[11]

Brownfields Job Training Grants
EPA issues Brownfields Job Training Grants of up to $200,000 for a period of two years. These grants help provide environmental employment and training in communities affected by brownfields. The grants link job training organizations, investors, lenders, developers, labor and community groups, and affected residents to help restore economic life in impacted communities. The program has provided $20.6 million to fund 106 grants. These funds have contributed to the training of 2,700 individuals, of which 1,600 then entered related fields earning an average starting wage of $13 per hour. Both governmental entities and non-profit organizations may apply for the job-training grants. Additionally, the funds may be used toward costs of the program, including recruitment of participants, development of the curriculum, the cost of an instructor, needed facilities, and materials.[12]

Case Study: Brownfields Initiative for Local Development, Lewiston, Maine
The city of Lewiston, Maine used a job training grant to create its Brownfields Initiative for Local Development (BILD) Program. Working with several local partners, including the Central/Western Maine Workforce Investment Board, Central Maine Community College, and Women Unlimited, the program aimed to provide 75 to 85 low-income individuals[i] with OSHA training in HAZWOPER (Hazardous Wastes and Operations), lead and asbestos abatement, first aid, and basic constructions skills. The program also offered an optional hazardous waste transport course (including commercial transport license, handling of hazardous materials, and use of fork and aerial lifts) or brownfields redevelopment course (including training in framing, welding, scaffolding, and the use of fork and aerial lifts). Furthermore, the city worked with local companies to ensure the curriculum provided the skills and certification potential employers desired. Selected students could complete the 202-hour course either as a full-time, two-month program or as a six-month, evening and Saturday program.[ii]

Sources: [i] EPA. "Brownfield 2004 Grants Fact Sheet Lewiston, ME." http://www.epa.gov/brownfields/04jtgrants/lewiston.pdf
[ii] City of Lewiston. "Achieved Press Releases". http://www.ci.lewiston.me.us/news/news2004-07-

Targeted Brownfields Assessment Program
The EPA Targeted Brownfields Assessment (TBA) program provides financial and technical assistance for environmental assessment of brownfield sites. This program does not provide assistance for site cleanup or building demolition. This assistance can either come directly from EPA Regional Brownfields offices or from state or tribal voluntary response program offices that receive funds from EPA. These grants can be used for Phase I (examining historical site activity) and Phase II (determining the extent of the contamination) assessments as well as establishing cleanup options and cost estimates.[13] New Hampshire and Vermont are both located in EPA Region 1; the regional office has the ability to dispense environmental consultants to do assessments for a price of $50,000-$100,000.[14] Vermont sponsors a program in which participants receive a Site Investigation Report that describes all contamination of the site and, if necessary, proposes recommendations for the next phase of investigation. The only sites ineligible for this funding are state-owned properties.[15]

State and Tribal Response Program
The EPA State and Tribal Response Program funds up to $50 million for state and tribal authorities to establish or enhance their existing brownfields programs. The grants may be used to create new programs, capitalize a revolving cleanup fund, purchase environmental or other forms of insurance to finance cleanup activities, develop the necessary public record, oversee cleanup, and conduct site-specific activities.[16]

2.1.3 EPA Funding in Vermont and New Hampshire

Table 2.2. EPA Funding of Vermont and New Hampshire Brownfield Efforts[17]

	Funding Type	2003		2004		2005		2006			TOTAL 2003-2006	
		Funding ($)	Sites	Funding ($)	Sites	Funding ($)	Sites	Funding ($)	Sites		Funding ($)	Sites
Vermont	Assessment	1,000,000	4	610,000	3	800,000	4	2,000,000	10		*4,410,000*	*21*
	Cleanup	0	0	0	0	0	0	0	0		*0*	*0*
	RFL*	0	0	0	0	0	0	1,000,000	1		*1,000,000*	*1*
	Total	*1,000,000*	*4*	*610,000*	*3*	*800,000*	*4*	*3,000,000*	*11*		***5,410,000***	***22***
New Hampshire	Assessment	200,000	1	400,000	2	489,000	3	200,000	1		*1,289,000*	*7*
	Cleanup	0	0	400,000	3	200,000	1	0	0		*600,000*	*4*
	RFL	0	0	0	0	1,001,790	1	0	0		*1,001,790*	*1*
	Total	*200,000*	*1*	*800,000*	*5*	*1,690,790*	*5*	*200,000*	*1*		***2,890,790***	***12***
National	Assessment	30,700,000	117	37,600,000	155	33,600,000	172	36,600,000	184		*138,500,000*	*628*
	Cleanup	12,000,000	69	16,900,000	92	19,300,000	106	18,300,000	96		*66,500,000*	*363*
	RFL	30,400,000	28	20,900,000	18	20,800,000	13	15,000,000	12		*87,100,000*	*71*
	Total	*73,100,000*	*214*	*75,400,000*	*265*	*73,700,000*	*291*	*69,900,000*	*292*		***292,100,000***	***1,062***

*Revolving Fund Loan

2.1.4 National Priorities List and the Superfund

The EPA Superfund Program began with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which created the program to fund the cleanup of uncontrolled hazardous waste and included a tax on the chemical and petroleum industries. The Superfund provides for cleanup of sites on the National Priorities List (NPL), a list of the current 1,244 sites nationwide found to pose the greatest risk to human health. Funding to remediate these sites comes from the CERCLA Trust Fund and averages $25-30 million per site.[18] Locations to be placed on the list are determined by three criteria: the site score on the EPA Hazard Risk System, which looks at how contamination may spread and the severity of the contamination; whether or not individual states and territories select one top priority site for inclusion; and whether or not a health advisory is issued for the site by the US Public Health Service. Additionally, the EPA must also determine that placing the site onto the NPL is less expensive than emergency response.[19] A site may also be deleted from the list if it is demonstrated that the site no longer poses a threat to human health.[20]

Table 2.3 National Priorities List Sites by EPA Region[21]

Region	States*	Sites		
		Current	Deleted	Original
1	CT, MA, ME, NH, RI, VT	101	11	112
2	NJ, NY	211	51	262
3	DC, DE, MD, PA, VA, WV	164	42	206
4	AL, FL, GA, KY, MS, NC, SC, TN	166	43	209
5	IL, IN, MI, MN, OH, WI	227	60	287
6	AR, LA, NM, OK, TX	86	28	114
7	IA, KS, MO, NE	61	20	81
8	CO, MT, ND, SD, UT, WY	49	12	61
9	AZ, CA, HI, NV	109	16	125
10	AK, ID, OR,WA	70	26	96
Total		1,244	309	1,553

*Region 2 also includes Puerto Rico and the Virgin Islands; Region 9 includes the Pacific Islands.

Case Study: Old Works/East Anaconda Smelter, Anaconda, Montana
A remnant of the mining industry, the 1,500 acre site in Anaconda, Montana contained over 150 million cubic yards of contaminated soils, slag, and flue dust from its prior use for copper smelting. Working closely with the property owner, ACCO, EPA aimed to maintain the historical significance, while protecting the environment and local residents. Reusing the site as a golf course, employees of ACCO covered 250 acres of the site with 18-20 inches of soil, reestablished vegetation in the area, and installed a drainage system. The Warm Springs Creek embankments were also upgraded and additional areas covered with soil. Today, the gold course provides both a tourist destination and a reminder of the site history, as the designer used mining artifacts throughout the site and smelting slag for bunkers. Finally, a hiking trail along the course highlights the history of the industry.

Source: EPA. "Old Works/East Anaconda Smelter Case Study." http://www.epa.gov/superfund/programs/recycle/success/casestud/anaccsi.htm

2.2 Other Federal Sources of Brownfield Funds
Several other federal departments sponsor programs that can provide funds for specific types of brownfield remediation.[22] The U.S. Forest Service of the U.S. Department of Agriculture (USDA) administers an Urban Community Forest Program that provides financial and technical assistance to maintain, restore, and improve the health of forest ecosystems. The USDA Rural Development Business and Industry Guaranteed Loan Program guarantees up to 80 percent of a commercial loan to rural businesses for loans of up to $40,000,000. It also has an Intermediary Relending Program that capitalizes revolving loans to small businesses unable to receive bank financing independently and a Rural Business Opportunity Grant Program for economic development in rural areas. The Rural Business Grant Enterprise Program issues grants to public and non-profit entities for projects to help small and emerging private businesses with fewer than 50 new employees and have annual revenues of less than $1,000,000.

The U.S. Department of Commerce Economic Development Administration operates a Public Works and Economic Development Facilities Program that also supports brownfield redevelopment and the construction or rehabilitation of public infrastructure. The Economic Adjustment Assistance Program targets the redevelopment of brownfields in states and localities suffering from economic deterioration.

The U.S. Small Business Administration presents an option for businesses whose net worth does not exceed $7,000,000 and does not have an average net income in excess of $2,500,000 after taxes. The Section 504 Certified Development Company Program can provide a loan of approximately $300,000 to be used to acquire a brownfield or establish a business on it after cleanup is finished. The Section 7(a) Loan Guarantee Program provides capital to small businesses that would not otherwise be able to obtain financing.

The U.S. Department of Housing and Urban Development (HUD) offers the Brownfields Economic Development Initiative. This program will grant $10 million annually for

brownfields funding, with a maximum award of $1 million per project. The funds are issued in a 1:1 ratio with funds from Section 108 loans of the Community Development Block Grant and can be used to finance large scale development projects such as housing rehabilitation, public facilities and economic development. The funds must be used to benefit low to middle income communities, prevent and eliminate slums or address urgent community needs. Funds can be used for the site remediation, land writedowns, funding reserves and collateral for Section 108 loans. Additionally, several other HUD funds, including the Economic Development Initiative and the Community Renewal Initiative, can be applied to brownfields projects.

In addition, a federal Brownfields Tax Incentive allows environmental cleanup costs to be fully deducted from taxable income during the year or years in which the costs are incurred. In order to qualify, the property must be used by the taxpayer incurring cleanup expenses; hazardous substances must be present or potentially present on the property; and taxpayers must obtain a statement from a designated state tax agency verifying eligibility for the tax incentive.

Case Study: "Pumps to Parks—Cornerstone Parks of New York," Carmel, New York
Cornerstone Parks, a non-profit organization directed by Allison Whipple Rockefeller, aims to restore some of the nearly 1,500 closed gas stations in New York State. Cornerstone Parks assists local organizations through the revitalization process by providing support to connect local organizations, state agencies, individuals and businesses in transforming abandoned gas stations across the state into public assets. Cornerstone Parks focuses both on addressing community needs and on creating a network of parks that celebrate the history and heritage of New York. The first site restored through Cornerstone Parks is located in the center of downtown Carmel in Putnam County. Preserve Putnam, a local historical preservation non-profit organization, assisted the revitalization efforts. The property, which had been donated by a local businessman, was transformed into a 1,700 square foot visitors center and small park. The $400,000 costs were covered by grants from Putnam County and New York State.
Source: http://www.cornerstoneparks.org/

Table 2.4. Summary of Federal Programs Providing Brownfields Incentives

Department	Program	Eligible Entities	Program Type	Funds Available	Limitations/Notes
Environmental Protection Agency	Assessment Grants	Regional, State and Local Governments	Grant	Generally $200,000, maximum of $400,000/site,	
	Revolving Fund Loan	Regional, State and Local Governments	Loan	Up to $1,000,000	
	Cleanup Grant	Regional, State and Local Governments, Non-Profits	Grant	Maximum $200,000	20% cost share required
	Job Training Grants	Regional, State and Local Governments, Non-Profits	Grant	Maximum $200,000	
Department of Agriculture - Forest Service	Urban Community Forest Program	State Forestry Agencies, Local Governments, Private Sector, Non-Profits	Grant	Total $7.1 million in 2004	Funding capped at 50% of project
Department of Agriculture - Rural Development	Business & Industry Guarantee Loan Program	Rural Businesses, Non-Profits and Local Governments	Loan Guarantee	Up to $25 million for single entity ($40 million total)	Will guarantee 80% loan,
	Rural Business Enterprise Grant Program	Public and Non-Profits	Grant	Total $48 million in 2004	Located in town with population less than 50,000
	Rural Business Opportunity Grant Program	Public and Non-Profits	Grant	Limit $1.5 million, but normally $50,000 or less	Located in town with population less than 50,000
Department of Commerce - Economic Development Agency	Public Works and Economic Development Facilities Program	State and local governments, Non-Profits	Grant	Average $900,000	EDA has limited funding, and distribution is pegged to unemployment
	Planning Program	State and local governments	Grant	$10,000-200,000	EDA has limited funding, and distribution is pegged to unemployment
Small Business Administration	Certified Development Company Program	Small businesses	Loan	Up to $300,000 / company	For infrastructure and capital only
	Loan Guarantee Program	Small businesses	Loan Guarantee	Guarantees up to $150,000	For infrastructure and capital only
Housing and Urban Development	Community Development Block Grants	State and local governments	Grant	Based on population	Cities with greater than 50,000 people or urban areas greater than 200,000 people
	Section 108 Loan	State and local governments	Loan	Based on population	Difficult to get if not receiving CDBG
	Brownfields Economic Development Initiative	State and local governments	Grant	Max. $1 million / project	Need Section 108 grant
Internal Revenue Service	Brownfield Tax Expensing		Tax Relief	Can deduct cleanup expenses in year incurred	
	Low-Income Housing Tax Credits		Tax Relief	9% cost/year (4% if federal funding used)	Low-income areas only
	New Market Tax Credit		Tax Relief	39% cost of investment over 7 years	Low-income areas only

2.3 State Brownfield Funding

2.3.1 Vermont

Redevelopment of Contaminated Properties Program (RCPP)

The Redevelopment of Contaminated Properties Program reduces the liability on the affected property. Eligible applicants include current property or prospective owners who are not liable for the site contamination. A property is eligible if it is vacant, abandoned, underutilized or will be acquired by a municipality. Properties are not eligible if the only release is petroleum from an Underground Storage Tank (UST), if the site is already on the national priorities list, or if it is undergoing remediation under the federal Resource Conservation and Recovery Act (RCRA).

Participation requires a $500 application fee along with a $5,000 participation fee to cover state costs. Any additional cost over the $5,000 will be charged, but if the initial deposit is not depleted upon site completion the balance will be reimbursed. Participants receive liability protection from additional contamination discovered due to technological changes, changes in regulatory standards and any new releases caused during cleanup, which are cleaned up prior to completion. Liabilities not covered include new releases not during cleanup, pre-existing releases not mentioned in the application, third party liability and liability under other state and federal laws.[23]

Targeted Brownfield Site Assessment Grants (TBSAG)

The EPA Targeted Brownfield Assessment Grants program uses EPA funding to hire state-contracted environmental consultants. The sites eligible for TBSAG funding receive a Site Investigative Report describing any potential contamination and providing recommendations on further action, if necessary. The only sites not eligible are state-owned properties.[24]

Petroleum Cleanup Fund (PCF)

The Petroleum Cleanup Fund is divided into two separate accounts, one for motor fuel and another for heating oil, with similar protocols. The PCF pays certain uninsured costs for the cleanup and restoration of petroleum-contaminated soil and groundwater from aboveground storage tanks (ASTs) and USTs. The fund also compensates third party claims of damage and injury from petroleum releases of up to $1,000,000.[25] The PCF reimburses the AST or UST owner for all eligible cleanup costs up to $990,000 for USTs and $25,000 for ASTs. The owner must pay a deductible which ranges from $100 for residential tank owners to $1,000 for larger commercial owners.

In 2005, the fund provided $3,409,452 for motor oil cleanup and $1,579,587 for heating oil cleanup. Financing for the motor oil fund comes from a $0.01 per gallon fee on motor fuel and a $200 per tank assessment fee, while funding for the heating oil fund comes from a $0.005 per gallon tax on heating oil. Starting in October 2006, a $300 tank fee will be placed on heating oil tanks greater than 1,100 gallons ($100 for double-walled tanks) due to a revenue shortage.[26] The PCF can also provide no-interest loans of up to $40,000 to towns with fewer than 2,500 residents as well as to local gas stations and country stores with gasoline sales of less than 20,000 gallons per month to replace old,

high-risk gasoline tanks with newer double-wall systems. In addition, the PCF funds interest-free loans to upgrade or replace containment and release detection systems of tanks.[27]

Brownfield Initiative Grants
The Vermont Agency for Commerce and Community Development (ACCD) and Agency for Natural Resources (ANR) jointly administer the Vermont Community Development Program (VCDP), which has set aside a portion of its funding from the HUD-CDBG for brownfields redevelopment. In 2006, $746,732 is available to cities, towns and incorporated villages. The funds may be used for a variety of activities including: site assessment, obtaining a Corrective Action Plan, remediation and its planning, cleanup, monitoring, and site insurance. The funds can also be sub-granted to a non-profit organization or loaned to a for-profit developer. Although loans must be approved by the ACCD, they may be made available at below market rates. The grant has a two-year period in which the property must be remediated and redeveloped.

Applicants must have a completed redevelopment plan, obtained a Corrective Action Plan (unless the cost of obtaining such is within the grant request), and have demonstrated that all federal, state and local sources of brownfield funding have been pursued. In some cases, a $500 application fee may apply to cover the cost of a business analyst study. The minimum grant request is $50,000, while the maximum is $200,000 for public use facilities and $746,732 for a housing or community development project.[28]

Brownfields Revitalization Fund
Established in 1995, the Brownfields Revitalization Fund was not financed until 2005 when $400,000 was appropriated to the fund. Jointly administered by ACCD, ANR and Economic Development Agency (EDA), the fund provides the necessary resources for the 20 percent match needed to obtain a revolving fund loan from the EPA. Applicants may borrow up to $250,000, often at below market interest rates for a five-year period. Eligible sites must be abandoned, vacant or underutilized, and on the ANR list of sites needing remediation. Also, it must be shown that the sites redevelopment will reduce a threat to public health, provide economic development, or a return on public investment. Both sites with hazardous substances and petroleum contamination are eligible. Funds may be used for assessment, remediation, planning or cleanup.[29]

Regional Programs
In addition to state-sponsored programs, many regional groups have taken initiatives to encourage brownfield redevelopment in their communities. For example, the Central Vermont Regional Planning Commission used funds from two EPA assessment grants to create the Central Vermont Brownfields Inventory and Assessment Initiative. Choosing sites based on redevelopment potential, locations are ranked according to public health, environmental, and land use issues, along with the municipal support and potential public benefit. Chosen sites receive full funding for a Phase I assessment and, depending on the available funds, partial or full funding for a Phase II assessment. Although the fund does not provide monetary assistance with cleanup, it will aid in developing a cleanup plan

and locating other funding sources. Across the state, six other regional organizations have founded similar brownfields programs.[30]

2.3.2 New Hampshire

Brownfield Covenant Program

The Brownfield Covenant Program aims to encourage voluntary cleanup and redevelopment by providing liability protections for parties who did not contaminate the site. Potential participants include secured creditor or mortgage holders, prospective buyers, and municipalities that are owed taxes on the property. Current owners may participate provided they can demonstrate that they neither caused nor contributed to the contamination. Furthermore, in order to qualify the property must be contaminated with hazardous waste or materials or oil, but must not be in non-compliance with an environmental or corrective action and must not qualify for one of the New Hampshire petroleum reimbursement funds (see below).

There is a $3,000 participation fee in addition to a $500 application fee, although state and local governmental organizations are exempt from these fees; based on the nature of the project, further fees may follow. The participant must then enter a remedial action plan, which will be approved by the Department of Environmental Services (DES). Then, the Department of Justice will supply a "Covenant Not to Sue" that provides protection from state law as long as the condition of the site has not worsened. Upon completion of the cleanup, DES will issue a "Certificate of Completion" if "site investigations and remedial actions are performed in accordance with DES," which may include conditions such as site monitoring and maintenance.[31]

Brownfield Revolving Loan Fund

The Brownfield Revolving Loan Fund (BRLF) provides low-interest, short- or medium-term loans for the cleanup of eligible properties both to public and private entities, including non-profit organizations. A typical loan is between $50,000 and $200,000, although there is no maximum; the negotiable interest rate ranges from three to seven percent. Although short-term loans of six to eighteen months are preferred, longer-term loans may be issued. Eligible sites must be in accordance with DES and have an actual or strong threat of release of a hazardous substance other than petroleum that provides a threat to public health. Sites are ineligible if they are on the national priorities list, an EPA remedial action is planned within six months, or if a federal or state agency is conducting a response. Loans from BRLF may be used for cleanup activities to remove, mitigate, or prevent release of the substance other than natural substances, lead paint or asbestos; site monitoring only as necessary for cleanup; and costs from worker health and safety measures, public participation and interagency coordination. Funds may not be used toward initial or follow up assessments or development activities not relate to cleanup.[32]

Petroleum Reimbursement Fund

The Petroleum Reimbursement Fund consists of four separate funds with a common goal of providing assistance to prevent petroleum spills and aid in petroleum cleanup to storage tank and water supply owners. The four funds are the Oil Discharge and Disposal

Cleanup Fund (ODDCF), the Fuel Oil Discharge Cleanup Fund (FODCF), the Motor Oil Discharge Cleanup Fund (MODCF), and the Gasoline Remediation and Elimination of Ethers (GREE) Fund. Funding for the program is generated from import taxes on petroleum products; oversight is provided by the Oil Fund Disbursement Board.

Oil Discharge and Disposal Cleanup Fund

The Oil Discharge and Disposal Cleanup Fund reimburses owners of motor fuel USTs and ASTs for the cleanup of spills. Financed by a $0.0125 per gallon tax on motor fuels, the fund has an annual budget of $13,812,797 for 2006.[33] Eligible recipients may receive up to $1.5 million and are required to pay a deductible of $5,000 to $30,000 based on the size of the facility.[34] The majority of the contamination cleanup efforts occurred in either the late 1980s or early 1990s, as new UST regulations implemented in 1998 have greatly reduced the number of leaks. The decrease in the number of new spills is reflected in the fact that only five new projects were undertaken in 2004, compared to the overall total of 1,461 projects since the creation of the fund in 1988.[35]

Fuel Oil Discharge Cleanup Fund

The Fuel Oil Discharge Cleanup Fund is concerned with the cleanup and prevention of heating oil spills and deals primarily with home owners. The fund has an annual budget of $4,048,218 for 2006 coming from a $0.01 per gallon tax on heating oil. The fund undertook 123 new projects in 2004 for a total of over 1,160 actions since its inception in 1993.[36] With only a $100 deductible, owners may be reimbursed up to $500,000 for the cost of cleanup.[37] The FODCF also includes the New Hampshire SAFETANK Program, which provides up to $1,500 to homeowners demonstrating financial need to replace substandard heating oil storage tanks with only a $100 deductible. Maximum allowable incomes are set at lower than 80% of median incomes within an area. Determined by HUD, these limits vary by location and family size;[38] for example, a family of four in Manchester must have an annual income less than $55,850 to qualify.[39] In 2006, the fund plans to spend $550,000 for release prevention.

Motor Oil Discharge Cleanup Fund

The Motor Oil Discharge Cleanup Fund reimburses owners of motor oil storage facilities for the cost of cleanup. Primarily dealing with automobile dealers and service stations, the fund is financed by a $0.04 tax per gallon on motor oil. The smallest of the Petroleum Reimbursement Funds, MODCF has a 2006 annual budget of $490,807.[40] Facility owners may be awarded up to $500,000 and must pay a deductible ranging from $5,000 to $30,000 based on the size of their facility.[41] It undertook only one new project in 2004 for a total of 28 projects since its inception in 1995. Due to the relatively few reported spills, activity in the fund is limited.[42]

Gasoline Remediation and Elimination of Ethers Fund

The Gasoline Remediation and Elimination of Ethers Fund aids in the cleanup and remediation of water supplies, which have been contaminated with petroleum ethers such as methyl tertiary-butyl ether (MtBE). The fund can cover the cost for both site monitoring and cleanup and pay for the provision of potable drinking water until cleanup is complete. Financed from a $0.0025 per gallon tax on gasoline containing ethers, the

fund has an annual budget of $2,886,747 for 2006. With 19 new projects in 2004, the fund has undertaken a total of 100 projects since its inception in 2001. An example of GREE funding is the connection of 45 homes to the public water supply in Salem. In conjunction with local, state and federal sources, GREE funded 54 percent of the $2.5 million connection project.[43]

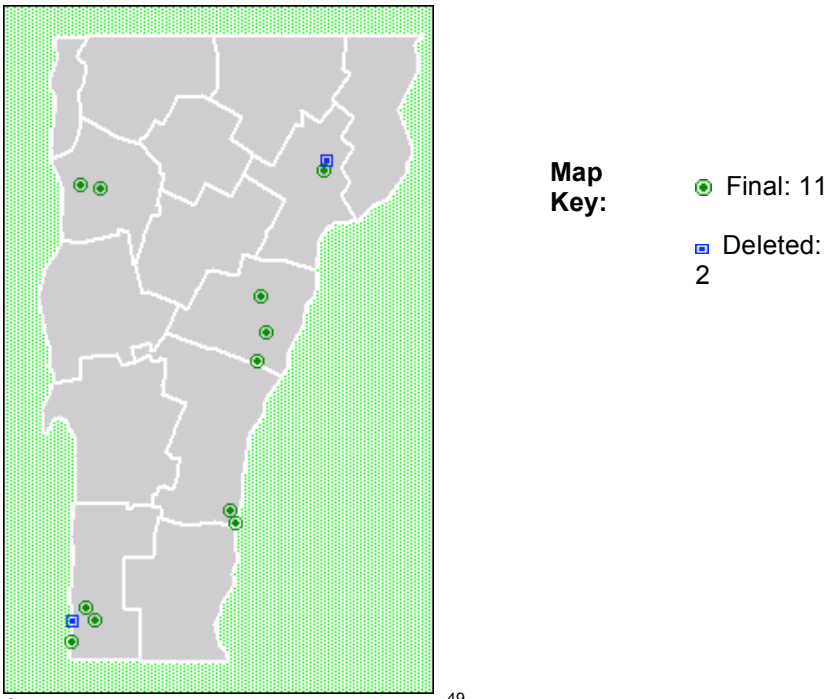
3. THE CURRENT STOCK OF BROWNFIELDS IN VERMONT AND NEW HAMPSHIRE

3.1 Vermont

Measurements of the number of brownfields are often uncertain as sites may remain unidentified. Vermont currently has 1,465 state recognized sites that require remediation, have begun remediation, or continue to be monitored. The figure includes both petroleum and non-petroleum sites.[44] Of these sites, approximately 120 are non-petroleum brownfield sites Vermont.[45] The non-petroleum sites (those sites ineligible for the petroleum cleanup fund) are primary former landfills, dry cleaners and other perchloroethylene (PCE) sites, and locations contaminated with petroleum mixes. However, the majority of sites noted as high priority locations are former industrial locations, including two mines and several sites contaminated with heavy metals.

Additionally, Vermont has 11 sites on the National Priorities List.[46] Of the Vermont sites, six are former landfills or dumps and three are former copper mines. Additionally, Vermont had two sites, the Darling Hill Dump and Transition Electronics, deleted from the National Priorities List because remediation was complete.[48]

Chart 3.1. National Priorities List Sites in Vermont



Source: Environmental Protection Agency[49]

Case Study: Waypoint Visitors Center, Bellows Falls, Vermont
The abandoned rail yard in Bellows Falls, Vermont was transformed into an award-winning visitors' center for those traveling along the Connecticut River. The one-acre property had been contaminated with trichloroethylene (TCE), a solvent for metal cleaning. The site used part of an EPA Brownfields Assessment Grant, which had been awarded to the Windsor Regional Planning Commission to finance the $30,000 cost for site assessment and monitoring. Additional funding for the redevelopment phase of the $1.26 million project came from several grants, including Federal Highway Scenic Byway Program, Vermont Agency of Transportation Enhancement Grants, Housing Vermont, and the Connecticut River Joint Commissions Partnership program. The center now provides visitors with a perspective on Bellows Falls history and an opportunity to explore the present Connecticut River Valley.

Source: EPA. "Waypoint Visitors Center – Bellows Falls, VT." http://www.epa.gov/region1/brownfields/success/06/wvc_bellowsfalls_vt_ag.htm.

3.1.1 Petroleum Sites and Underground Storage Tanks

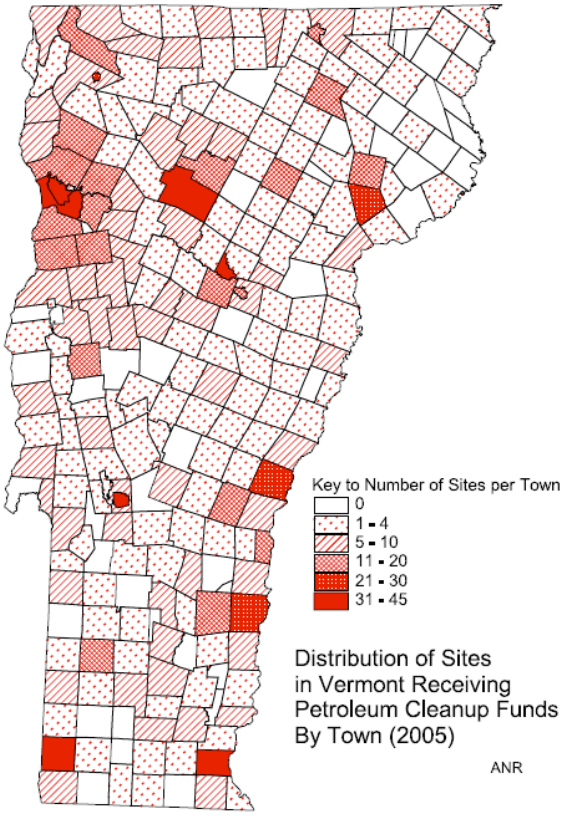
According to EPA findings, there are currently over 3,000 USTs in use in Vermont. There have been approximately 1,930 confirmed releases from USTs, of which 1,136 have been cleaned up, with 794 still in need of remediation.[51] Although more sites have been treated in larger communities, funding from the Petroleum Cleanup Fund has been distributed throughout the state.

In 2003, EPA began using a set of Significant Operational Compliance Standards to measure the quality of USTs. To meet the standards for release detection, a UST must have a method to detect releases that functions properly and have records of monthly monitoring for releases. Depending on the type of UST, additional requirements may apply. Additionally, Vermont has more stringent requirements, stating that the tank must be monitored weekly and that inventory control is not an acceptable form of release detection.[52] The release prevention standards assess spill and release prevention, the operation and maintenance of the tank, and corrosion protection.[53] Only 57 percent of Vermont's USTs meet the EPA's Significant Operational Compliance Standards for release prevention, 59 percent of USTs meet the regulations for release detection, and 54 percent met both criteria. This compared to national compliance rates of 77 percent, 72 percent and 63 percent respectively.[54]

3.1.2 Vermont's Record of Brownfield Redevelopment

Vermont's brownfields programs have identified over 3,000 sites in need of remediation and successfully cleaned up over 1,500 of these locations, with 1,465 sites remaining active).[55]

Chart 3.2. Sites Receiving Funding From Vermont's Petroleum Cleanup Fund



Source: Vermont Department of Environmental Conservation[56]

3.2 New Hampshire

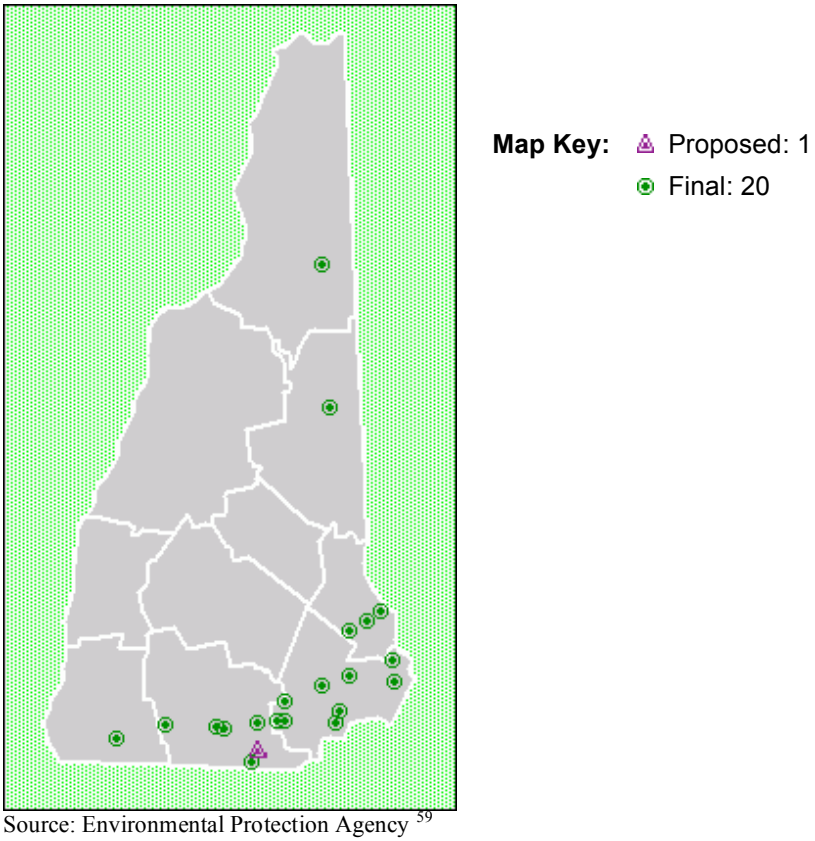
There are currently 116 sites involved with New Hampshire brownfields programs (non-petroleum sites) and an additional 36 locations where cleanup has been completed.[57] These sites are spread throughout the state, although the more developed counties in the southern part of the state have significantly more brownfields. The remaining brownfields in New Hampshire are predominately old industrial sites, including former gas and oil companies, tanneries, and manufacturers. The sites where cleanups have been completed have similar histories, as the list includes formers mills, a tannery and other industrial sites.

In addition, New Hampshire has 20 sites on the National Priorities List, along with one proposed site. The New Hampshire sites are primarily former industry locations, such as a Chlor-Alkali facility and plating company as well as former landfills and waste sites. Many of the locations are within a short distance of streams or wells, fostering concerns about contaminating water supplies. Seventeen of the sites are currently in the cleanup phase and another two are in the cleanup design phase; it is expected that by 2007 all the sites will be either in the cleanup phase or have been completed.[58] The majority of these sites are located in the southeastern part of the state, with 15 of the sites occurring in Rockingham and Hillsborough counties.

Table. 3.2 Locations of Brownfields Involved in New Hampshire Programs

County	Number of Brownfield Sites		
	Active	Closed	Total
Belknap	7	5	12
Carroll	3	0	3
Cheshire	14	3	17
Coos	3	1	4
Grafton	9	2	11
Hillsborough	27	11	13
Merrimack	17	4	21
Rockingham	13	6	19
Strafford	17	2	19
Sullivan	6	2	8
TOTAL	116	36	152

Chart 3.3. National Priorities List Sites in New Hampshire



Source: Environmental Protection Agency [59]

3.2.1 Petroleum Sites and Underground Storage Tanks

The roughly 1,400 petroleum contaminated sites comprise 60 percent of the New Hampshire brownfields. The majority of these locations are small sites in urban or commercial areas.[61] Currently, there over 2,900 active underground storage tanks in New Hampshire. With 2,218 confirmed releases from USTs, New Hampshire has completed a total of 1,389 cleanups with 829 sites remaining.

EPA uses a set of Significant Operational Compliance Standards to measure the quality of USTs. To meet the standards for release detection, a UST must have a method to detect releases which functions properly and have records of monthly monitoring for releases. Depending on the type of UST, additional requirements may apply.[62] The release prevention standards assess spill and release prevention, the operation and maintenance of the tank, and corrosion protection. Only 63 percent of Hampshire's USTs meet the EPA's Significant Operational Compliance Standards for release prevention, 54 percent of USTs meet the regulations for release detection, and 41 percent met both criteria. This compared to national compliance rates of 77 percent, 72 percent and 63 percent respectively.[63]

Case Study: Former Belmont Gulf Gas Station, Belmont, New Hampshire
A one-acre site in Belmont, New Hampshire used funding from the UST Field Pilot Program to redevelop the petroleum contaminated property into a RideShare location. The former gas station had been in operation until the mid 1980s when four USTs were removed. Although a site investigation was completed in 1988, no action was taken on the abandoned property until drums and containers were removed in 1996. Still, a limited investigation showed additional contamination remained. Funds from the UST Field Pilot Program were used to provide a site investigation and remove underground debris. With an administrative order against the former owner, DES also recovered past cost and made the site eligible for the petroleum reimbursement fund to cover continued monitoring. The town of Belmont then took over the site on the basis of back taxes. Working with New Hampshire's Department of Transportation and the local planning commissions, the town transformed the site into a RideShare and provided a parking lot with access to the Belmont Town Forest.

Source: NH DES. "Former Belmont Gulf Gas Station, Belmont." http://www.des.state.nh.us/BrownfieldsNH/pdf/BelmontGulfStation.pdf

New Hampshire also participated in the EPA UST Field Pilot Program, receiving one of ten grants in 2000 and another two of forty grants in 2002. Each award provided $100,000 from the Leaking Underground Storage Tank (LUST) Trust to assess and clean up petroleum contaminated brownfields. New Hampshire used the grant funds in combination with EPA brownfield assessment grants to remove several underground storage tanks. These actions made the sites eligible for funds from the New Hampshire Petroleum Reimbursement Fund to help finance the remaining cleanup.[64]

Funding from the Petroleum Reimbursement Fund has gone to communities throughout the state.

Table 3.3. Petroleum Reimbursement Fund by County[65]

County	Registered UST*	Registered AST+	Total Oil Disbursement Funding Received ($) (Sept. 2004)
Belknap	368	64	9,640,150
Carroll	383	66	7,955,550
Cheshire	453	72	6,169,033
Coos	348	80	3,915,475
Grafton	666	104	12,505,790
Hillsborough	1493	218	25,487,562
Merrimack	712	141	13,413,740
Rockingham	1075	233	25,331,006
Strafford	447	89	12,414,101
Sullivan	278	50	3,332,864
TOTAL	6,223	1,117	120,165,271

*Registration is required for all non-heating oil tanks greater than 110 gallons, and heating oil tanks greater than 1,100 gallons. [66]
+Registration is required for any single tank greater than 660 gallons or a total storage capacity of greater than 1,320 gallons. [67]

3.2.2 New Hampshire's Record of Brownfield Redevelopment

New Hampshire's brownfields programs have successfully cleaned up 36 non-petroleum sites and nearly 1,400 petroleum sites.[68]

4. FINDINGS

Brownfield Job Training

Both Vermont and New Hampshire have taken advantage of funding offered by the Environmental Protection Agency for assessment grants. However, neither has ever received a job training grant. This program provides funding to create and conduct a course, generally for low-income individuals, which provides the training needed for jobs related to brownfield redevelopment. Because brownfields are often associated with poorer areas, these programs can aid both economic and environmental recovery of the area. Lewiston, Maine successfully used a job training grant to create a 200-hour program which taught basic construction and hazardous waste handling skills to eighty individuals.

Brownfields and Economic Development

A successful method in redeveloping brownfields in many communities has been to approach the redevelopment as an economic development problem, not only an environmental one. This opens the projects to many additional funding opportunities from the federal government (Table 2.4), the aims of which are to encourage economic development. In addition, many environmentally focused brownfield programs only provide grants for the assessment phases of a project. Many successful projects, including those within Vermont and New Hampshire, have used brownfield funding for the assessment costs and either general development funding or reuse specific funding

(potential reuses include commerce, housing, transportation and historical projects) to finance both the cleanup and redevelopment costs. For example, in Somerville, Maine, the Visiting Nurses Association used EPA assessment funding to evaluate an abandoned warehouse. The city then provided $100,000 in cost overrun coverage, which was combined with loans from several governmental housings organizations and nearly $6 million in low-income tax credits. By using the brownfield grant in combination with other funding opportunities, the group successfully financed the $14 million project that created 97 new assisted living units and created more than 45 new jobs.[69]

Private Sector Participation

While funding is often an issue for public and non-profit entities wishing to pursue brownfield projects, both states could also "do more" to encourage private sector investment in these areas. Private sector involvement can provide economic benefits, such as the creation of new jobs that would not result from a governmental response. A common difficulty for the private sector in brownfield redevelopment is the uncertainty regarding the total cost. The full extent of the contamination is often unknown when an investor decides to pursue a brownfield project. The potential for contamination and its cleanup cost to exceed expectations can discourage redevelopers from pursuing brownfields projects.

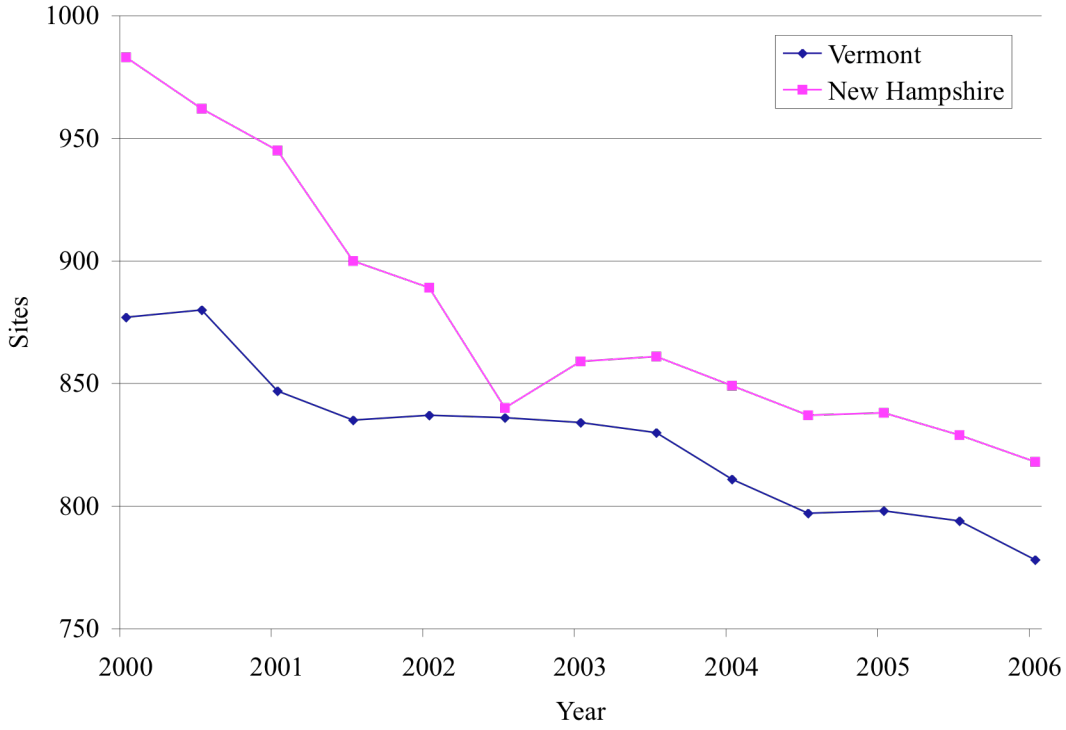
California has implemented a successful program to reduce this risk; it offers protection from uncertainty associated with brownfields through environmental insurance from third party liability, loan default or foreclosure resulting from the pollution, and costs exceeding initial estimates. By joining the state program, a developer receives a pre-negotiated package and the state contributes 50 percent of the deductible.[70] A similar program could benefit both Vermont and New Hampshire by reducing the risks for redevelopers and; therefore, encouraging private investment in brownfield sites.

The consequence of private involvement is that it reduces the state role in determining the reuse of the land. For example, a private developer would likely reuse the site for commercial purposes; whereas, a public or non-profit entity may choose to create a greenspace, such as a park or playing field.

Petroleum Site Inspections

The majority of brownfields in both Vermont and New Hampshire are petroleum sites. Although both have programs focusing on the remediation and prevention of these sites, a backlog of sites needing remedial action persists in both states. At the current rate of remediation, neither state can expect to eliminate the backlog within the next few decades. Furthermore, *there has been no decrease in the number of new releases since 2000 in either state*.

Chart 4.1. Backlog of UST Releases in Vermont and New Hampshire



Source: EPA. "Corrective Action Measures Archive." http://www.epa.gov/swerust1/cat/camarchv.htm

The Energy Policy Act of 2005 mandates inspections of all USTs on a three-year cycle. In many states, including both Vermont and New Hampshire, this will involve a drastic increase in inspections. For example, Vermont will need to increase its yearly inspections from 75-100 sites per year prior to 360 inspections per year.[71] The Energy Policy Act also aims to prevent leaks caused by improper operation by requiring that all routine operators of USTs participate in a state-sponsored training program.

Switching from MtBE to Ethanol

Starting in 2007, both Vermont and New Hampshire will switch to gasoline with ethanol as an oxygenate, rather than methyl tertiary-butyl ether *(*MtBE). Although the change should not affect the number of new leaks, it will reduce the health risks associated with them. The switch follows a nationwide trend, as high levels of MtBE in the groundwater have been linked to several cancers. Furthermore, MtBE spreads through soil much more easily than other gasoline contaminates due to its higher solubility.[73]

Currently, Vermont has 1,500 sites with MtBE contamination, including 300 drinking wells that exceed the state limit of 40 ppb.[74] New Hampshire has found contamination in 15 percent of private wells statewide, although only 4 percent exceed the state limit of 13 ppb.[75] Unlike MtBE, ethanol, which is easily degradable in groundwater, would likely not persist beyond the source and should not pose a risk to drinking water.[76] Remediation

of current petroleum sites containing MtBE remains a priority, as these sites present not only environmental, but also health concerns.

Local Involvement

Approaching brownfields from the regional or local level can aid a community in dealing with smaller brownfields. For example, in Vermont, several local planning commissions and cities have taken action, such as applying for EPA assessment grants to create local assessment programs. In contrast, New Hampshire brownfield efforts remain predominately initiated at the state level. These regional programs often serve as intermediaries that allow smaller sites to receive funding from the EPA assessment grants and provide information and aid throughout the remediation process. For example, the South Windsor Planning Commission has spent over $360,000 from EPA assessment grants to help 11 different sites, chosen based on local priority, through the assessment process.[77]

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