



Valuing Common Assets for Public Finance in Vermont

VERMONT COMMON ASSETS TRUST FUND

623,000

Date: 2009

Pay to the order of: **Every Vermont Citizen** **\$1,972.00**

One thousand, nine hundred seventy-two and 00/100 Dollars

For: Payment for use of common assets

Treasurer of Common Asset Fund



Vermont Green Tax and Common Assets Project

MPA Program and Gund Institute
University of Vermont

November 2008

Acknowledgements

The Green Tax and Common Assets Project appreciates the support of our past and ongoing sponsors: The Orchard Foundation, Alex C. Walker Foundation, Vermont Community Foundation, Schalkenbach Foundation, and Lintilhac Foundation. Many thanks also to Chris Koliba of the MPA Program, Peter van Schaick, Peter Barnes, David Bollier, Bob Costanza, Josh Farley, Hinda Miller, Al Boright, Diane Snelling, Jon Anderson, Ginny Lyons, George Crombie, Jeffrey Frost, and Patrick Wood

Several individuals provided in depth presentation materials for the analyses contained in this report. Special thanks for their time and expertise to Wally Malley (Former Asst. Attorney General-Public Trust Doctrine), Jon Groveman (VNRC-groundwater), Dave Farnsworth (PSB-RGGI), George Gay (Northern Forest Alliance-Fish and Wildlife), Mark Langan (Dinse, Knapp, McAndrew-Trust Law),

Vermont Green Tax and Common Assets Project

This project has the purpose of achieving environmental sustainability, distributional equity, and an efficient economy through the use of market mechanisms like green taxes and common asset payments. We advocate achieving environmental sustainability and a steady-state economy by taxing throughput (depletion, land use, and pollution) more, and value added less. In addition, we promote a new economic paradigm based on the recovery of revenue from privatized common assets, and management of the commons by trustees responsible to current and future generations. Equity can be achieved by charging economic rent on unearned income from enclosure of "the commons", and distributing this revenue directly to everyone in society, as done by the Alaska Permanent Fund.

Director: Gary Flomenhoft

Website: <http://www.uvm.edu/giee/?Page=research/greentax/index.html>

These collected papers were written by the University of Vermont Public Administration #395 Spring 2008 class: "Valuing Common Assets for Public Finance in Vermont." (<http://www.uvm.edu/~gflomenh/PA395-CMN-ASSTS/>)

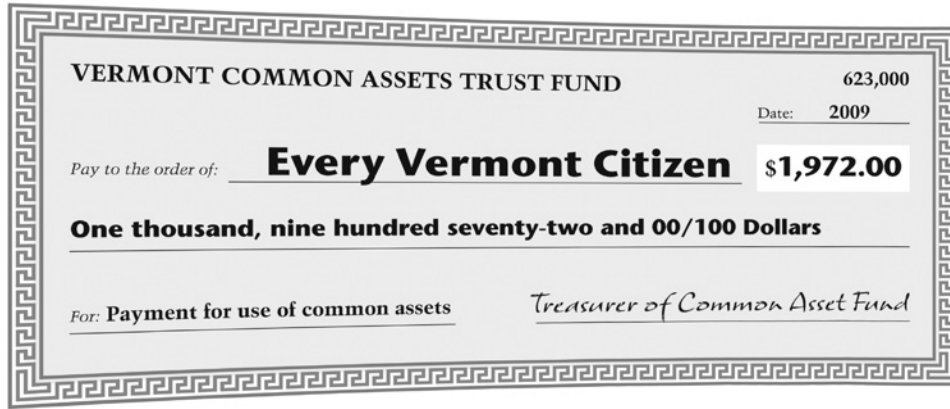
Authors: Conor Casey, Jennifer Kenyon, Mark Kolonoski, Ida Kubiszewski, Colin McClung, William Murray, Beth Nolan, Ian Raphael, Ross Saxton, Susan Skalka, Elliot Wilkinson-Ray.

Instructors/Editors: Gary Flomenhoft, Amos Baehr

For additional copies of this report contact:

Vermont Green Tax and Common Assets Project

617 Main Street
Burlington, VT 05401
802-656-2996
gary.flo@uvm.edu



Valuing Common Assets for Public Finance in Vermont

Contents

Introduction	2
Definition of Terms — Glossary	3
Executive Summary	4
Renting the Air: Curbing Emissions from Transportation and Heating in Vermont <i>by Jennifer Kenyan and Beth Nolan</i>	9
Current and Potential Economic Rent in the State of Vermont: Wildlife and Fish , <i>by Ross Saxton</i>	17
Assessing Revenue and Regulation of Vermont Forests , <i>by Mark Kolonoski</i>	20
Message in a Bottle: Bottling Economic Rent for Public Revenue , <i>by Colin McClung</i>	26
The Ownership of the Internet and the World Wide Web in Vermont , <i>by Ida Kubiszewski</i>	30
Use Value and Management Structure of Broadcast Spectrum in the United States , <i>by William Murray</i>	36
Who Owns Vermont’s Rocks? <i>by Ian Raphael</i>	40
Scratching the Surface: an Analysis of Vermont’s Surface Water Policy , <i>by Elliot Wilkinson-Ray</i>	44
Potential Revenue Collection through a Single Tax on Land , <i>by Conor Casey</i>	48
Wind Rent: Possibilities , <i>by Susan Skalka</i>	50

“There is nothing more difficult to carry out, more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For those who would institute change have enemies in all those who profit by the old order, and they have only lukewarm defenders in all those who would profit by the new order.”

— Nicolo Machiavelli, 1490

Introduction

One of the primary ways in which wealthy and poor countries differ is in their ownership and control of natural and social resources. Norway, Abu Dhabi, and Alaska all have major oil resources, and are relatively wealthy. Nigeria has massive oil deposits, Congo has gold, diamonds, cobalt, copper and coltan, and yet these countries are desperately poor. Why? One reason is that wealthy countries with good government, all exert sovereignty over their resources and collect resource rents and royalties for public revenue. Poor countries’ resources are often controlled by foreign corporations, local dictators, warlords, or militias, and revenue doesn’t benefit the public. During the economic slowdown, Norway is turning to its \$300 billion sovereign wealth fund to cushion the blow to its economy, instead of using debt. Alaska residents enjoy a nearly \$2000 annual dividend from their \$30 billion Permanent Fund, and Abu Dhabi’s sovereign wealth fund is the world’s largest at \$800 billion.

In terms of its resources, Vermont resembles an economic colony more than a sovereign state. Our major minerals are owned by a foreign corporation, our groundwater is exported by out of state bottling companies, our hydropower resources are owned by TransCanada, and 88% of surface-water withdrawals in Vermont are used by Vermont Yankee for cooling water. The federal government has given away 98% of our “public airwaves” for free, and allows private banks to create 93% of the currency with interest attached. Meanwhile, citizens and businesses are subject to taxation of earned income, which impacts job creation and economic productivity, while resource owners collect massive amounts of unearned income. All over the world countries are beginning to exert sovereignty over their resources such as Ecuador over oil, and Bolivia over lithium. Can Vermont reclaim sovereignty over its natural and social resources?

Since the Enclosure Acts in England during the 18th and 19th centuries it has been the prevailing trend in capitalist countries to privatize capital and natural resources. It is now apparent that unrestricted,

unregulated private ownership is an inefficient means of allocating resources and leads to environmental destruction, increasing inequality, speculation, and boom/bust cycles such as the recent S&L crisis, dot.com collapse, housing bust, and Wall Street meltdown. On the other extreme, history shows that a communistic system of total state ownership of “the means of production” is much worse. A new economic paradigm is needed.

Entrepreneur Peter Barnes offers a new paradigm in his book entitled Capitalism 3.0. In this paradigm, society’s common resources (the commons) are reclaimed for the public instead of privatized by corporations. Private enterprise continues as before, but trustees of the commons set sustainable limits on resource use, and resource users pay rent to the public for use of the commons. Ideally, with this increase in revenue there will be decreased need for taxation of earned income such as income and sales taxes on productive activities. Revenue from economic rent on the commons is allocated to restoration and protection of the commons, other public goods, and direct payments to citizens. A model is the Alaska Permanent Fund, where mineral rights belong to the people of Alaska, and 25-50% of oil royalties go into the Permanent Fund, which pays dividends to the citizens of Alaska. There is no reason Vermont cannot have a sovereign wealth fund funded by its common assets, as do Alaska, Abu Dhabi, and Norway.

During the legislative session of 2007/8, Hinda Miller introduced a bill embodying the principles of Capitalism 3.0, written by legislative counsel Al Boright, entitled the Vermont Common Assets Trust Fund Bill: S.44. Numerous co-sponsors signed on, including Senator Condos of Chittenden District, Senator Doyle of Washington District, Senator Illuzzi of Essex-Orleans District, Senator MacDonald of Orange District, Senator McCormack of Windsor District, and Senator Snelling of Chittenden District. After a meeting with David Bollier in September, 2007, legislators requested more information about potential revenue from common assets. The Green Tax and Common Assets Projects presents these collected papers in response to that request.

Definitions

(From State of the Commons, Tomales Bay Institute, 2003)

Commons: Embraces all the creations of nature and society that we inherit jointly and freely, and hold in trust for future generations.

Common Property: A class of human-made rights that lies somewhere between private property and state property. Examples include conservation easements held by land trusts, Alaskans' right to dividends from the Alaska Permanent Fund, and everyone's right to waterfront access.

Common Wealth: Monetary and non-monetary value of the commons in supporting life and well-being. Like stockholders' equity in a corporation, it may increase or decrease from year to year depending on how well the commons is managed.

Common Assets: Those parts of the commons that have a value in the market. Radio airwaves are a common asset, as are timber and minerals on public lands. So increasingly are air and water. In this report we include ground and surface water, air, land, spectrum, the internet, forests, fish and wildlife, minerals, and wind. Socially created assets like seigniorage (the right to print money), and markets for trading stocks and commodities are also common assets.

Economic Rent: Originally explained by Economist David Ricardo (Ricardian rent) as the excess return to some agricultural land- due to its favorable characteristics such as soil fertility, rainfall, access to markets, etc.- from the same effort compared to the output of less productive land. Ricardo called the excess return from the same effort the "unearned increment". The term economic rent has been expanded to include all unearned income from ownership of a resource,

from a monopoly, from scarcity, or any other reason resulting in unearned excess profits not due to work, risk, or enterprise. It is also defined as the excess revenue over and above what it takes for a business to reap normal profits. This is the origin of the derogative term "rent-seeking", referring to people who reap where they did not sow. A simple example of economic rent is the recent run-up in oil prices. It has been estimated that oil from the most expensive wells in deep ocean water cost about \$60 per barrel to extract including all other costs and normal profit. Easier-to-extract oil costs much less. At the recent price of \$147 dollar per barrel, oil companies received economic rent of at least \$87 per barrel on deepwater wells. Compared to the current price of \$39 barrel oil companies received \$108 per barrel of economic rent on their less expensive wells. The source of their "windfall profits" is economic rent.

Ecosystem services: Those extremely valuable services provided for free by nature (production of oxygen, pollination, habitat, etc.) that have an economic value in the market of zero, which often results in their liquidation.

Public Trust Doctrine: The law where some aspects of the commons are "held by the people in their character as sovereign in trust for public uses for which they are adapted in perpetuity." This doctrine has traditionally been applied to all surface waters in Vermont for "navigation of the waters, to carry on commerce over them, and have liberty of fishing freed from the obstruction or interference of private parties." In 2008 the public trust doctrine was extended to ground water by the legislature.

Executive Summary

In the following pages eleven students from the University of Vermont have estimated the value of common assets in Vermont, and analyzed current and future management of natural and social resources. By no means are these the final word on the value and management of the “common wealth” of Vermont; they merely begin the conversation about a new way to look at our common assets and public revenue. By recovering economic rent currently privatized, we can begin to shift our public revenue system from taxing value added to charging rent for use of common assets. This allows us to “tax bads, not goods”, as many economists from all sides of the political spectrum have urged in recent years.

Renting the Air: Curbing Emissions from Transportation and Heating in Vermont

Jennifer Kenyan and Beth Nolan

In this chapter Kenyan and Nolan look at expansion of the Regional Greenhouse Gas Initiative (RGGI) from the current system of cap and auction permits covering only electric power plants, to cover all greenhouse gas emissions including transportation and heating. They look at the current revenue on fossil fuels and motor vehicles of \$209 million, which only indirectly affects carbon emissions by taxing fossil fuel use. They find that expanding RGGI to include all emissions at the recent auction price of \$3.07 per ton of carbon would generate \$25.9 million. At the British Columbia price of \$10/ton it would generate \$84.4 million, and at the recent European price of \$40/ton this would be \$337.6 million. They propose a cap and dividend system to return some of the new revenue from carbon permits to the public to offset the increased price of energy. “If the rates consumers must pay increase, the regressive effects can be mitigated as long as there is a dividend to offset the cost to the consumer. In a cap-and-dividend system, we are regaining our property, reducing air emissions, putting money back into the hands of the consumers, and ultimately, continuing to stimulate our economy.”

Current and Potential Economic Rent in the State of Vermont: Wildlife and Fish

Ross Saxton

Of the \$14,702,882 of revenue currently received by the Vermont Fish and Wildlife Department in FY06, Saxton determines that about \$7.7 million is economic rent and the other approximately \$7 million is the result of taxes. He proposes a biodiversity and land conservation plan based on the number and scarcity of species in a given area based on “critical habitats”, and payment of rent proportional to species and habitat scarcity for use of these land areas. Saxton supports the recent effort to redirect 1/8 of one-cent sales tax from other programs to fish and wildlife. He also recommends increasing the capital funding of the Fish and Wildlife Trust Fund from \$1.6 million to \$12 million in order to generate more interest income to use as operating funds.

Assessing Revenue and Regulation of Vermont Forests?

Mark Kolonowski

Current public revenue of \$27 million from forests in Vermont consists of \$3.2 million from State Forest, \$6.58 million from State Parks, \$180,486 from Fish and Wildlife (logging), and \$17 million from the current use program. Private revenue totals \$774 million including \$207.4 million from Forest-based manufacturing, \$485 million from Recreation/tourism, \$32 million from Forestry and logging, and \$50 million from Paper and Pulp. Kolonowski proposes two new sources of revenue: a fee for depletion of ecosystem services by logging, and a higher charge for conversion of current use property to non-forest uses. Since logging removes a fund of trees providing ecosystem services such as CO2 absorption, climate regulation, reduction of erosion, habitat, etc. Kolonowski proposes a “Depletion of Ecosystem Services (DES) fee on forestry and logging. This would be similar to what other states capture in taxes on board-feet of lumber, but would reflect a charge

for depletion of the services provided by trees. A tax of 10% on just forestry and logging revenues of \$32 million would generate roughly \$3.2 million, which could be used to restore forests, and also feed a trust fund for the public. Another possibility is to revise the current use penalty when properties are removed from current use and sold for development. This penalty does not seem to adequately recover the revenue lost during the period of current use for forests. In 2007 the current use program resulted in a reduction of \$39.5 million in foregone property taxes, while in 2004 only \$404,155 was collected by the current use change tax. A better formula than the present one would recover all the lost revenue from the sale, by finding the original purchase price of the property, adjusting it for inflation, then subtracting it from the selling price. Kolonowski also proposes an auction and insurance bond regulation, and the creation of a Vermont forest land bank. Regarding changes in management, the DES fee could be managed by the Vermont Agency of Natural Resources, the state could appoint private woodland foresters, and the current use program could use additional employees.

**Message in a Bottle:
Bottling Economic Rent for Public Revenue**
Colin McClung

Groundwater was put into the public trust in the legislative session of 2008. McClung finds that information is very hard to come by regarding bottling operations in Vermont. There is a question if all bottlers are registered as active or if some are subsidiaries of other active bottlers in order to come below the daily maximum of 50,000 gallons per day without a permit. He finds that groundwater maps are lacking in Vermont. 50 million gallons of groundwater are withdrawn per day in Vermont; 33 million are used for public and private drinking water supply. Some bottlers claim their source is “collected” or artesian” meaning they are collecting natural overflowing water from beneath the surface, and therefore not subject to groundwater limits. McClung finds that 97% of the cost of bottled water is in distribution and marketing, and less than 1% is in the cost of water. He contrasts this with the oil industry where 46% is in the cost of the resource. McClung suggests that at some point there will have to be an ecological cap placed on water withdrawals to prevent depletion of aquifers. 2007 bottled water extraction by just three companies is estimated at 34,017,330 gallons or 104.3 Acre-feet. At a gross profit of \$1,300,875 per acre-foot that equals a gross profit of \$135.7 million on total revenue of \$154.2 million. Giving the bottlers an 18% net profit margin, would still leave 70% of total revenue or \$107.9 million for the people of Vermont.. McClung also proposes a preservation fee of 2% on profit per acre-foot of water sold.

The Ownership of the Internet and World Wide Web in Vermont

Ida Kubiszewski

The internet is an interesting case, since it was created entirely with taxpayer’s money by DARPA, while the world wide web was created at CERN in Switzerland and placed into the public domain voluntarily in 1993. The internet and web have many features of a commons, and many people refer to the “internet commons”. Kubiszewski (pronounced cube-ih-shefski) explores the intricacies of the internet and world wide web to determine if internet companies are extracting economic rent from the public and how it could be recovered. She finds that companies are making a substantial profit by utilizing a resource that was developed by a collective whole and not through their own efforts. In particular, services of ISPs connecting people to the web should be subject to rent as well as the provision of web domain names.

Kubiszewski determined that the average profit for Fortune 1000 companies is 7% and everything above that could be considered economic rent. She finds that economic rent from public telecoms to be \$17 million, private ISPs to be \$3.3 million, and domain names \$9.3 million. “Totaling up all the economic rent, we find that economic rent owed to Vermonters is approximately \$30 million per year. Instead of dividing this money into equal dividend of about \$50 per person, which promotes consumption and encourages the investment into private goods, the money would be placed into a trust with the primary purpose of supporting and furthering research and intellectual development in an open forum.”

Use Value and Management Structure of Broadcast Spectrum in the US

William Murray

Murray tells us that after restructuring in 1994, broadcast frequencies have been allocated by a one-time auctioning system. Only 2% has been auctioned this way, while before restructuring, 98% of spectrum was merely given away to private entities for the exchange of “in-kind” public service rather than cash. This is despite the Communications Act of 1934, which states that broadcast spectrum belongs to the public. New technologies are available that use receivers capable of utilizing “smart” technologies to pick out only the channels they need. Signal interference could soon be a thing of the past, which could make exclusive licenses unnecessary. Currently 64% of the most valuable spectrum below 3.1 GHz is reserved for government use paying no fees. Murray cites a New America Foundation study which calculated the total annual use value of

spectrum at \$302 billion, mainly broadcast TV, mobile phones, and satellite communications. "Among all else, it is clear that the current mismanagement of socialized radio spectrum allocation provides one of the most promising opportunities for commons reform in the future." Murray's calculation of Vermont's share of spectrum value provides a figure of \$625 million. Using a normal profit of \$250 million, he calculates potential economic rent in Vermont from spectrum at \$375 million. Murray suggests an annual instead of one-time auction, which would provide an ongoing revenue stream from spectrum. "Given all of this information, spectrum policy should be one of the easiest cases to make for common asset reform in the future."

Who Owns Vermont's Rocks

Ian Raphael

"It is my belief that Vermont's wide array of stones and minerals fall into Paine's view of common property and that some sort of financial reparation should be made to the citizens of Vermont to compensate them for the excavation of this commonly shared non renewable natural resource," states Raphael in his introduction. He found that unlike Alaska, where the constitution states that the public owns the sub-surface resources, in Vermont mining companies pay only surface property taxes, and nothing to extract the minerals below. The mining industry is still governed by the Mining Act of 1872. He finds the value of minerals extracted in Vermont to be \$96.8 million annually not including talc and slate, which are claimed to be proprietary. They do this on land valued at \$132 million which means at the average property tax rate of 2.79% they are paying \$3.7 million in taxes. Adding the property and annual mineral value Raphael finds that mining companies are only paying 1.6% of this total in property taxes. He also points out that when the minerals are gone, Vermont loses jobs, income, and gets a large clean up bill when all that is left are abandoned mines and environmental waste. Raphael recommends a royalty system of 10% on the value of minerals extracted, which is lower than oil royalties in Alaska of 12-15%. This would generate \$9.7 million for a mineral trust fund. "Vermont needs to reclaim the rights to all its natural resources including minerals...By setting up a permanent fund to offset the extraction of non-renewable mineral resources, Vermont will ensure the prosperity of its amazing heritage and provide a current and future flow of revenue for its citizens."

Scratching the Surface: An Analysis of Vermont's Surface Water Policy

Elliot Wilkinson-Ray

According to Wilkinson-Ray, "First we must acknowledge the fact that water is a Public Trust resource in the state of Vermont. Therefore, the legal property rights for all of the surface waters in Vermont are granted to the public... Although in practice 93% (roughly 445 million gallons per day) of surface water withdrawals in Vermont are by private companies without any mandatory compensation for the citizens to which that water belongs." Current private revenue consists of \$35,000,000 for Public Supply, \$1,692,350 for Wastewater Permits, \$164,775,527 from Hydroelectric, \$100,000,000 from Thermolectric, and \$109,096,309 for Recreation for a total of \$410.6 million. Water utilities in Vermont currently charge on average \$3 per 1,000 gallons of water to just cover their costs. Wilkinson-Ray contends that, "a higher price that included payments towards ecosystem restoration and protection would help curb wasteful water practices."

Ending the local hydroelectric subsidy would generate \$6 million. Large hydroelectric facilities use 17.5 billion gallons of surface water per day, generating 578.5 megawatts peak. Hydro use of surface water is not considered "withdrawal". These facilities pay property taxes, but are too small to pay the Electric Energy Tax. Wilkinson-Ray suggests charging 10% on use of water for hydro in Vermont which would generate \$16.5 million. The Vermont Yankee Nuclear powerplant is the largest single withdrawer of surface water in Vermont, drawing 421 million gallons per day, or 153 billion gallons per year for condenser and reactor cooling. This is 88% of the surface water withdrawals in the state. Wilkinson-Ray suggests a charge of 5c per 1,000 gallons, or 2% of the current wholesale water rate which would generate \$7.6 million. For the public supply he recommends an increasing base structure, which would add approximately 10% of existing public revenue or \$639,000. For other water use he prescribes a fee of 5c/1000 gallons, generating \$438,000. The potential new revenue from water rental payments suggested by Wilkinson-Ray totals \$31.2 million.

He concludes, "Even in a small state, water has a large economic role. Yet, the general public, who rightfully own this resource according to Vermont common law, are not the ones benefiting from its use and exploitation."

Potential Revenue Through a Single Tax on Land

Conor Casey

In this essay Casey argues that while property taxes do collect some economic rent, they fail to collect all of it, and also conflate taxes on buildings with taxes on land. “Decoupling the land and building evaluations from the property tax rate would be a good start towards more effective rent collections...” He says that taxes should be economically efficient, eliminating deadweight losses, correcting perverse subsidies and generally promoting healthy economic growth. This he argues is accomplished by increasing taxes on land while reducing or eliminating taxes on buildings. He points out that median housing prices have increased by 5% annually since 1980, although from 2000-2007 the figure was 21.72% annually (before the recent housing bust). Using the long-term 5% figure as an estimate of economic rent would have yielded \$1.07 billion in land tax revenue for 2007. This would be a 44% increase over the actual property tax revenue of \$740,822,541 for 2007. Casey concludes, “Collecting economic rent from land is a perfectly viable way to fund most, if not all state obligations.”

Wind Rent: Possibilities

Susan Skalka

In this essay Skalka introduces the novel idea that wind blowing through the air, captured by wind turbines, like water flowing down a stream captured by hydroelectric dams, is a common asset that could generate revenue for the public. Should landowners be the only beneficiaries? She contrasts the “democratic theory of rent” where governments should maximize their collection of rent to benefit the public, with the currently operating “liberal theory of rent”, where public resources are made private and rent remains in private hands. She recommends we encourage the nascent wind industry, but keep in mind the possibility of monopoly rents in the future, which should be recovered for the public. Skalka discusses the possibility of using a progressive profits tax as a model for how economic rent could be adjusted. If we installed 225MW of wind power generating 10% of Vermont’s electrical power, wind could generate from \$6.9-\$172.5 million in economic rent in the future, depending on the price of electricity.

Summary

This report provides a new way to look at public revenue, focusing on collection of economic rent from use of the commons, rather than taxation of value added. Economists insist that collection of unearned economic rent does not distort the productive economy or discourage investment, while taxation of earned income does. This should appeal to all sides of the political spectrum. Less taxation of earned income should appeal to conservatives; charges for depletion, land use and pollution should appeal to greens; and more equitable distribution of revenue should appeal to liberals.

The total new potential revenue is estimated to be about \$1.2 billion (see chart) which equals nearly half of Vermont’s 2008 instate revenue of \$2.84 billion (Joint Fiscal office). Of the assets described in this report, only minerals are a non-renewable resource subject to depletion. This warrants a permanent fund similar to Alaska to replace the resource when it is gone, and manage environmental restoration and cleanup. Most of the other resources are renewable and could generate revenue on a continual basis in perpetuity. Economic rent could be distributed annually. Pollution fees such as carbon permits are a special case since the tax base may decline over time. What revenue to put in a permanent fund and what revenue to distribute is a question for future research and debate.

If \$1.2 billion in annual revenue were distributed equally to all 623,050 (2005 estimate) Vermont residents, this would amount to \$1972 per person annually. If we believe that the natural and social assets of Vermont belong to Vermonters, then it is imperative to recapture this value and return it to all the citizens of Vermont rather than leaving it in a few private hands. At the same time, this provides less justification for taxation of earned income on value added. We hope this report will stimulate discussion about new ways to collect public revenue, particularly in these tough budgetary times.

Estimate of Total Revenue Potential from Common Assets in Vermont

Asset	Current Revenue (Million \$)	Potential new revenue (Million \$)	Increase (Million \$)	Source
Air/transport	209	7-153	7-153	carbon permits
Air/heating	17	4-93.6	4-93.6	carbon permits
Air (total)	0	25.9	25.9	carbon permits
Fish and Wildlife	14.7	10.4	10.4	fees
Forests	Net loss	3.2	3.2	depletion fees
Ground Water	~0	107.9	107.9	bottlers
Internet	~0	30	30	ISPs & domains
Spectrum	~0	375	375	annual auction
Minerals	3.7	9.7	6	royalties
Surface Water	~0	31.2	31.2	user fee
Land	741	1071	330	land rent
Wind	.75	5.5	4.75	progressive rent
Speculation*	(capital gains?)	269	269	.25% Tobin tax
Seignorage*	~0	35.7	35.7	1% of loans
TOTAL NEW REVENUE		\$1.229 billion/year		
PER CAPITA DIVIDEND		\$1972 each/year		

* Note: The Stock and commodities markets are socially created common assets, as is the monetary system. The right to create money is a government privilege granted to the private banking system, which creates 93% of the money in the US through loans. Potential revenue from speculation and monetization (seigniorage) were estimated in a previous UVM study. A Tobin tax of .25% was applied to all financial speculation. Economic rent of 1% was applied to all bank loans, which represent money creation.