Summary of Key Results for the 2008 Nova Scotia Genuine Progress Index, by component

Please note that a few aspects of this summary are still under review and undergoing final revisions and copyediting. The final version of these summary results will be placed on the GPI Atlantic website at www.gpiatlantic.org in November.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
DOMAIN: TIME USE **1. Civic and Voluntary Work**	
a. Trends in formal volunteer hours per capita	Volunteer hours have declined nationwide. Fewer volunteers are now putting in longer hours in order to maintain services.
b. Hours per volunteer and volunteer burnout	In 2000, volunteers in NS increased their volunteer hours by 32%. The sharp increases in annual volunteer hours—occurring at the same time as a significant decline in the number of volunteers—may provide a warning signal of potential future burnout among volunteers struggling to maintain the same level of services with fewer human resources.
c. Trends in formal plus informal voluntary work	Between 1992 and 2005, the most dramatic declines in civic and voluntary work contributions occurred in Newfoundland and Labrador (down 27%) and Nova Scotia (down 21%).
d. Economic value of civic and voluntary work	Canadian volunteers contribute the equivalent of $64.9 billion ($2007) worth of services annually to the national economy either through voluntary organizations or by informal volunteer work—far more than a wide range of other industries. In Nova Scotia, volunteers contributed the equivalent of $1.8 billion ($2007) worth of services in 2005. The decline in volunteerism in Nova Scotia between 1998 and 2005 cost the province $370 million in lost voluntary services in 2005.
2. Unpaid Housework and Childcare	
a. Total workload (paid and unpaid): men and women	Between 1992 and 2005, total work hours (paid and unpaid) per week for both men and women in dual-earner families have increased. Women continue to do the lion's share of unpaid work.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
b. Total work hours of full-time dual earner parents and lone-parent mothers	2005 total work hours data for these two groups are not publicly available, and therefore it is not possible to ascertain a trend at this time. However, 1998 Statistics Canada data show that the total weekly paid and unpaid work hours of full-time employed dual-earner parents aged 25-44 amounted to 71.4 hours for men and 73.2 hours for women in 1998. Total paid and unpaid work hours for full-time working mothers amounted to 74 hours a week and for full-time employed single mothers it added up to 75 hours a week. Trend data are available for women aged 25-54. Counting both full-time and part-time workers, the average time spent on paid and unpaid work by women aged 25-54 increased from 57.4 hours a week in 1986 to 61.6 hours a week in 2005.
c. Time stress	Between 1998 and 2005 there was an increase in severe time stress among Nova Scotians from 16.2% to 18.3% of the population. The proportion of Nova Scotian women suffering from severe time stress jumped from 17.4% in 1998 to 22.7% in 2005. Nova Scotian women are nearly 70% more likely to be severely time stressed than Nova Scotian men.
d. Value of unpaid housework and childcare	Unpaid household work and childcare contributed $10.4 billion to the Nova Scotia economy in 2005.
3. Leisure Time	
a. Trends in free time — men, women, and single mothers	Free time in Nova Scotia has declined by an average of half an hour a day or 186 hours a year since 1998 as Nova Scotians work longer hours. The biggest losers of free time were single working mothers, who saw their free time shrink by 2.7 hours a day or nearly 19 hours a week.
b. Value of free time	Nova Scotians are losing $1.25 billion worth of free time each year compared to what they had ten years ago.
c. Trends in composition of free time	Watching television comprises 40% of free time use in Nova Scotia. Nova Scotians spend 31% less time reading for pleasure than in 1992 and 35% less time socializing outside their homes.
4. Paid Work Hours	
a. Unemployment rate	There have been decreases in both the official unemployment rate and the supplementary unemployment rate for Canada and Nova Scotia since 2001. Unemployment last year was at its lowest level in more than 30 years.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
b. Economic cost of unemployment	The output loss (productivity) costs and fiscal costs associated with the official unemployment rate in 2006 of 7.9% were $3.6 billion or $3,941 per Nova Scotian, compared to $4.4 billion ($4,846 per capita) in 2001 when the unemployment rate was 1.8 percentage points higher. The potential economic burden of illness in Nova Scotia that may be associated with the 2006 official unemployment rate of 7.9% is estimated to be $162.2 million—down from $202 million in 2001 when the jobless rate was 1.8 percentage points higher.
c. Hours polarization	There has been a move away from hours polarization, with fewer people working at the extreme ends of the scale.
d. Overtime	Between 1997 and 2007, there was an increase in the incidence of overtime in Canada and Nova Scotia.
e. Temporary work rate	The incidence of temporary work in Nova Scotia remained fairly steady between 2001 and 2007, but remains above 1997 levels.
f. Involuntary part-time rate	Rates of involuntary part-time work have declined since 2002, though they remain considerably higher than thirty years ago.
g. Work effort	Forty percent of the increase in real earnings between 1980 and 2001 for dual-earner Nova Scotian couples with children was purchased with increased work hours. The proportion is higher for couples shifting from single-earner to dual-earner status. Due to the high cost of data purchase from Statistics Canada, it is not possible at this time to assess progress for this indicator since 2001.
h. Work stress	Due to data comparability issues, it is not possible to ascertain a trend at this time.

DOMAIN: LIVING STANDARDS

1. Income Distribution

a. Income inequality (gap between rich/poor)	The gap between rich and poor Canadians has widened substantially since 1981 while it has narrowed somewhat in Nova Scotia. The regional income gap (between the richest and poorest provinces) continues to widen.
b. Prevalence of low income	There has been a decline in the prevalence of low income in both Canada and Nova Scotia. However, economic vulnerability remains highly concentrated among certain groups.
c. Gini coefficient	Since 1976, inequality as measured by the Gini coefficient has increased in all provinces, except PEI.
d. Gender wage gap	In Canada, the gender wage gap has narrowed between 2001 and 2008.

2. Financial Security and Debt

DOMAINS / COMPONENTS / INDICATORS	RESULTS
a. Wealth distribution by quintile	Since 1999, Canada's wealth gap has widened, with the richest 20% of Canadians increasing their wealth by 43% while the poorest 20% went deeper into debt—so deep in fact that they could not get out of debt even if they sold off everything they owned. The evidence points to declining financial security for millions of Canadians.
b. Regional distribution of wealth	Atlantic Canadians have a declining share of Canada's growing wealth—owning only 4.9% of the country's total household wealth—down from 5.3% in 1999, even though they make up 7.4% of Canada's households.
c. Debt growth versus asset growth	The rate of household debt growth is far outpacing the rate of household asset growth, particularly in Atlantic Canada and Ontario. Between 1999 and 2005, household debt grew by 62% in Atlantic Canada, while assets grew by 35%.
d. Debt growth versus income growth	In both Atlantic Canada and nationwide, debt growth is far outpacing income growth. Only the richest Canadians have seen income grow at a faster pace than debt.
3. Economic Security	
a. Index of Economic Security	Economic security in Nova Scotia declined during the 1981-2007 period, as it did nationwide. In 2007, the overall index of economic security in Nova Scotia was 0.581, a decline of 12.9% from its level of 0.667 in 1981. Nationwide the economic security index declined from 0.666 to 0.555, a drop of 16.7%. The declines were driven by increased economic risks due to illness, and the higher share of household budgets spent on private health care.
b. Minimum wage	There has been virtually no change in the real (inflation-adjusted) minimum wage in Nova Scotia over a 26-year period. In 2006, employable persons on minimum wage in Nova Scotia had to work more hours per week than they did in 1981 in order to reach the low income cut-off (LICO).
c. Social assistance benefits	Welfare benefits decreased nationwide in real terms over the period 1986-2006, but Nova Scotia saw a substantially sharper decline in welfare benefits than the Canadian average.
d. Child benefits	Total child benefit investments more than doubled in Nova Scotia from $11.1 million in 1998-99 to $27 million in 2006-07—an increase of 144%. This was somewhat below the national increase of 162%.

DOMAIN: HUMAN AND SOCIAL CAPITAL

1. **Population Health** *(This section still under review and revision)*

DOMAINS / COMPONENTS / INDICATORS	RESULTS
a. Self-rated health	Between 1994/1995 and 2007, the percentage of men and women rating their health as excellent or very good declined in both Canada and Nova Scotia.
b. Mortality due to selected causes	Mortality rates for selected diseases declined in both Canada and Nova Scotia between 1979 and 2004, except for the rate of mortality due to lung cancer, which increased in that time period.
c. Health conditions /diseases Asthma Diabetes High blood pressure Cancer	**Asthma:** There has been no improvement in asthma rates among Nova Scotians or Canadians between 1994-95 and 2007. In 2007, Nova Scotia had the highest prevalence of asthma in the country. **Diabetes:** In both Canada and Nova Scotia, the prevalence of diabetes increased between 1994-95 and 2007 from 3.6% to 6.8% in Nova Scotia and from 3% to 5.8% in Canada. In 2005, the prevalence of diabetes in Nova Scotia peaked at 9.3%. **High blood pressure:** The prevalence of high blood pressure increased in both Canada and Nova Scotia between 1994-95 and 2007. The incidence in NS has consistently been higher than Canadian average, but the gap appears to be narrowing in recent years. **Cancer:** Between 1976 and 2006 cancer rates in Nova Scotia increased significantly—by 39% for Nova Scotian men and by 24% for Nova Scotian women. Cancer rates in NS are higher than the Canadian average.
d. Mental health Life stress Perceived mental health Self-esteem	**Life stress:** Fewer Canadians and Nova Scotians reported high levels of life stress in 2007 than seven years earlier. **Perceived mental health**: There was little change in the self-rated mental health of Nova Scotians between 2003 and 2007**.** **Self-esteem:** There was a significant improvement in the levels of self esteem among NS men and women between 1994-95 and 2003.
e. Behavioural (lifestyle) risk factors Smoking Obesity Physical inactivity	**Smoking:** Rates of smoking decreased in both Canada and Nova Scotia between 1994-95 and 2007 from 29.3% to 21.9% in Canada and from 32.7% to 24.4% in Nova Scotia. **Obesity:** Between 1994-95 and 2005, the rates of obesity increased in Canada from 12.7% to 15.5% and in Nova Scotia from 16.7% to 20.7%. Nova Scotia has consistently had higher rates of obesity than the national average. **Physical inactivity:** Between 1994-95 and 2007, there was a decrease in the percentages of Canadians and Nova Scotians who were physically inactive—from 54.6% to 48.2% in Canada and from 62.5% to 50% in Nova Scotia.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
f. Cost of tobacco use	Smoking costs the Nova Scotian economy an estimated $943.8 million a year ($2007), or about $1,000 for every person in the province. $171.3 million of this total is in direct health care costs.
g. Cost of obesity	Obesity costs Nova Scotia an estimated $148 million ($2007) a year in direct health care costs—or roughly 5% of the total health budget—and an additional $173 million ($2007) a year in indirect productivity losses, or more than $320 million in total costs.
h. Cost of physical inactivity	When direct medical costs and economic productivity losses are combined, the total economic burden of physical inactivity in Nova Scotia is estimated to exceed $395 million ($2007) annually.
i. Cost of chronic disease	Seven categories of chronic disease are estimated to cost Nova Scotia a total of $3.4 billion in direct health care costs and indirect productivity losses in 2007—$1.4 billion in direct health costs and more than $2 billion in indirect costs including lost productivity due to premature death and disability.
2. Safety and Security	
a. Crime rates Total crime Violent crime Homicides Property crime	**Total:** Since 1997 there has been a decline in the official crime rate in both Canada (by 18%) and Nova Scotia (by 12%), where the chances of being of victim of crime declined from one in eleven in 1997 to one in 13 in 2007. However, the overall crime rate in Nova Scotia now exceeds the national average and remains considerably higher than 30-40 years ago. **Violent crime:** Nova Scotia's violent crime rate increased between 1998 and 2004, and has since declined somewhat. However, in 2007, the provincial violent crime rate was nearly 15% higher than the Canadian rate, indicating a reversal of the "comparative advantage" enjoyed by Nova Scotia for roughly the two decades from 1967-1987. **Homicides:** There was a decline in the average homicide rate in Nova Scotia between the 1992-97 and 2002-07 time intervals. **Property crime:** The property crime rate in both Canada and Nova Scotia has been decreasing since the early 1990s.
b. Perceptions of crime	Satisfaction with personal safety from crime has improved nationwide—from 86% of Canadians in 1993 to 94% in 2004 and is highest in all four Atlantic provinces—Newfoundland and Labrador (99%), Prince Edward Island (98%), New Brunswick (97%), and Nova Scotia (95%).
c. Domestic violence	The rate of police-reported spousal violence in Canada peaked in 2000, but since then has steadily decreased.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
d. Economic cost of crime in Nova Scotia	The total comprehensive estimate for the cost of crime in Nova Scotia is $1.5 billion—a marginal decrease of 0.5% (or $8 million) over the last decade and about twice the magnitude of the conservative estimate ($704 million). If increases in the official crime rate are discounted by one-third to account for higher reporting rates in some areas in 2007 than in 1962, and if crime costs are roughly proportional to crime rates, then Nova Scotians could have saved $851.2 million in 2007 if crime rates were still at 1962 levels, according to the comprehensive estimate.
3. Educated Populace	
a. Average amount of government student debt at time of graduation and average postsecondary tuition fees	Postsecondary students in Nova Scotia today are graduating with unprecedented debt loads. NS has the second highest level of (university) student debt in the country. Nova Scotia has the highest average undergraduate tuition fees in Canada. Over the last 30 years, tuition has accounted for an increasing share of university operating revenue.
b. Public expenditures per full-time student (P-12)	Nova Scotia spent the second lowest amount of money per public school student in the country in 2004/2005.
c. Public versus private share of sponsored research at universities	The ratio of private to public funding of research has increased markedly since the early 1970s, posing a potential threat to the academic integrity and independence of Canadian university research.
d. Trends in prose and document literacy	Despite higher rates of postsecondary graduation, there was no real improvement in the literacy profiles of Canadians between 1989 and 2003.
e. Trends in general political knowledge by age cohort	The political knowledge of Canadians is in general decline. This decline is particularly marked among younger people, who tend to have considerably less political knowledge today than younger people did a generation ago.
f. Ecological footprint by educational attainment	Those with the highest levels of educational attainment have the greatest impact on the environment.
DOMAIN: NATURAL CAPITAL • **Soils and Agriculture**	
a. Net farm income	Net farm income has dropped an average of 91% in Nova Scotia since 1971, and in 2007 reached the lowest levels ever recorded in the province. Nova Scotia farms have recorded negative net farm income in four of the last six years.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
b. Expense to income ratio	The expense to income ratio increased from an average of 82% in the 1970s to an average of 97% in the last decade—far exceeding the 80% threshold estimated as needed for a healthy farm sector. In 2006, the expense to income ratio reached 100% for NS farms.
c. Debt to net farm income ratio	Total farm debt increased by 146% in Nova Scotia between 1971 and 2006 and the debt to income to income ratio grew steadily. For recent years it is not mathematically possible to calculate a ratio of debt to net income for NS when the latter is zero or less.
d. Solvency ratio	The solvency ratio increased by 106% in Nova Scotia between 1971 and 2006, indicating that NS farms are becoming much less sustainable with the rate of farm debt increase rapidly outstripping any appreciation in the capital value of farms.
e. Percentage of Nova Scotia consumer dollar going back to NS farmers	In Nova Scotia, it appears that only about 7% of the consumer food dollar is returned to farmers—down from 10% in the 1990s.
f. Soil cover days	According to the most recent data for 2001, the average number of soil cover days in Nova Scotia has remained fairly steady since 1991, but has increased slightly since 1981. The average number of soil cover days in Nova Scotia has remained consistently higher than the Canadian average.
g. Ratio of productive value of agricultural land to market land value	The net productive capacity of Nova Scotia's farm land has declined significantly relative to market land values, with the most dramatic decline occurring between 1996 and 2006 when farm income plunged dramatically.
h. Intensity of synthetic input use	The intensity of synthetic input use has decreased in Nova Scotia since 2000.
i. Proportion of farm land occupied by forest and wetland	In 2006, 49% of Nova Scotia farm land, 34% of Kings County farm land, and 8% of Canadian farm land was occupied by forest and wetlands. Due to changes made in the 2006 Census of Agriculture, it is not possible to assess a trend at this time.
• **Forests**	
a. Forest age class distribution	There has been a sharp and significant loss of old forests in Nova Scotia since the Province's first major forest inventory in 1958, with no significant improvements in age class distribution in recent times, and a continuing shift to ever younger forests.
b. Number of known forest-dependent species at risk	There has been an increase in the number of known forest-dependent species at risk in Nova Scotia since 2001.
c. Protected areas as percentage of total provincial landmass	There has been an increase in the percentage of Nova Scotia's total landmass under protection from 8.1% in 2001 to 8.5% in 2007.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
d. Harvest methods	There has been a marginal increase in the use of selection harvesting in the province. However, clearcutting remains by far the predominant harvest method in use.
e. Value-added per cubic metre of wood harvested	Between 1998 and 2004, the rate of value-added forest product per cubic metre of wood harvested declined in Nova Scotia—giving it the second-lowest ranking among the provinces in 2004.
f. Jobs per unit of biomass	Jobs per unit of biomass in the forest industry in Nova Scotia have not increased since 2001.
• **Fisheries and Marine Resources**	
a. Fish in the sea: Measuring the quantity and value of fish stocks	Using groundfish in the Eastern Scotian Shelf region as an indicator of fish abundance, this measure has decreased substantially since the 1980s. The cod biomass shows no sign of recovery, while the haddock and pollock stocks show limited recovery. The value of the groundfish stocks in the Eastern Scotian Shelf region has decreased since the late 1980s, signifying a depreciation of natural capital. Despite modest increases in the value of the haddock and pollock stocks, the value of all groundfish stocks in the region remains low compared to the historically high levels of the mid to late 1980s. Lobster landings have increased nearly five fold since the 1970s—leading to a perception that lobster stocks are healthy, but increased levels of fishing effort on lobster may have contributed considerably to the increased catches since 2001. 2007 lobster landings in Nova Scotia suddenly dropped to 70% of the 2006 record level, returning to the lower levels of the 1990s. It is too early to determine the cause of this sharp decrease – and in particular what it says about the sustainability of the high catch levels of the previous few years. There is concern that lobster stocks could be in potentially serious trouble—possibly for the first time in recorded history.
b. Fish size: A measure of health and quality of individual fish	The 'size at age' of some finfish stocks around Nova Scotia have remained relatively stable over time, while other stocks show either increasing or decreasing trends over the past 10 to 15 years.
c. Mean trophic level of harvested species: Are we fishing down marine food webs?	There has been a steady decline in the mean trophic level of the species landed in Nova Scotia's fisheries since the mid 1980s. Species at the top of the marine food web have been depleted and lower trophic level species are now the primary target and source of revenue in Nova Scotia's fisheries.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
d. Marine species at risk	The two species groups examined here—marine mammals, and sharks and rays—have experienced substantial population declines in Atlantic Canada. While the mortality rate and birth rate of the North Atlantic right whale population have both increased since the previous GPI Fisheries and Marine Environment report (2001-02), the increased birth rate is insufficient to counter the rate of population decline and the population is now in even greater jeopardy.
e. Shellfish closures: A measure of marine environmental quality	The number of shellfish closures in Nova Scotia has increased steadily since 1940, and has more than doubled since 1985.
f. Employment: A measure of socioeconomic wellbeing of fishers and fishing communities	The number of fishers employed in Nova Scotia decreased greatly from the highs experienced in the late 1980s and early 1990s, to much lower levels later in the 1990s following the collapse of the groundfish fishery. After 2001, the number of fishers rose somewhat, then fell again, and certainly has not returned to the high, likely unsustainable, pre-collapse levels.
g. Fishery GDP: A conventional economic measure	Nova Scotia's fishery GDP was steady at high levels for several years up to the time of the groundfish collapse. Between 1992 and 1995, that fishery GDP decreased by almost half. After 1995, the fishery GDP increased again and by 2006 it had grown to nearly 80% of the 1992 level.
h. Age structure of fishers: A measure of fishery community resilience	The proportion of older fishers has increased since 1931, while the proportion of younger fishers has decreased. The proportion of middle-aged fishers has remained relatively stable.
i. Institutional expenditures: Resources to effectively manage fisheries and the marine environment	Expenditures by the federal Department of Fisheries and Oceans in Nova Scotia declined in the second half of the 1990s, jumped substantially in 2000, and then decreased steadily from 2000 to 2003. Provincial Department of Fisheries and Aquaculture expenditures show an overall increasing trend since 1996. However, both federal and provincial government expenditures as a proportion of the landed value of Nova Scotia fisheries have decreased over time.
• **Air Quality**	

DOMAINS / COMPONENTS / INDICATORS	RESULTS
a. Criteria air contaminant emissions Carbon Monoxide (CO) Total Particulate Matter (TPM) Particulate Matter < 10 Microns (PM_{10}) Particulate Matter < 2.5 Microns ($PM_{2.5}$) Sulphur Oxides (SO_X) Nitrogen Oxides (NO_X) Volatile Organic Compounds (VOCs) Mercury (Hg)	**CO:** Nova Scotia's carbon monoxide emissions have declined steadily since 1990, and are projected to reach about half of 1990 levels by 2015, but remain higher on a per capita basis than other OECD countries. **TPM:** Total particulate matter emissions declined by 42% from 1990 to 2005, but are projected to increase by about 50% from 2005 levels in the coming decade. **PM_{10}:** Particulate matter < 10 microns emissions declined by nearly 40% from 1990-2005 but are projected to increase by about 30% over the coming decade. **$PM_{2.5}$:** Particulate matter < 2.5 microns emissions declined by one-third from 1990 to 1995, but have seen no further improvement since then and are projected to remain stable at 1995-2005 levels over the coming decade. **SO_X:** Sulphur oxide emissions declined by 22% from 1990 to 2005, and are projected to decrease by another third by 2010. Due, however, to its heavy reliance on coal for electricity generation, per capita SO_X emissions in Nova Scotia are more than double the Canadian average, and higher than in all other provinces and all of 30 reporting OECD countries—more than three times the level in the United States and more than 20 times that in Germany. **NO_X:** Nitrogen oxide emissions increased by more than 20% between 2000 and 2005 to reach their highest level since the 1980s, but are forecast to decline by more than 40% from peak 2005 levels in the coming decade. Per capita NO_X emissions in Nova Scotia were about 10% above the Canadian average and higher than in all but one of 30 reporting OECD countries—65% above U.S. levels, and 5.5 times German levels. **VOCs:** Volatile organic compound emissions declined by over 40% between 1990 and 2005, and are expected to remain stable at 2005 levels over the coming decade. Per capita VOC emissions in Nova Scotia were about 30% below the Canadian average but still higher than in all 30 OECD countries and more than three times the levels in Germany. **Hg:** Coal-fired power generation account for more than 90% of recorded mercury emissions in Nova Scotia. Nova Scotia Power mercury emissions declined sharply between 2000 and 2002, have remained relatively stable since then, and are mandated to decrease by 70% from pre-2001 levels by 2010.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
b. Ambient air quality Carbon Monoxide Particulate Matter (TPM, PM_{10} and $PM_{2.5}$) Sulphur Oxides (SO_X) Nitrogen Oxides (NO_X) Ozone	Atmospheric concentrations of carbon monoxide, total particulate matter (including PM_{10} and $PM_{2.5}$), and sulphur dioxide have all declined in Nova Scotia since 1990 and remain within accepted guidelines. Nitrogen dioxide concentrations have not declined substantially since 1990 but remain within accepted guidelines. However, ground-level ozone concentrations remain among the highest in the country—largely due to transboundary pollution—and regularly exceed "maximum acceptable concentrations."
c. Economic costs of air pollution	Health and environmental damages due to Nova Scotia's air pollutant emissions in 2005 are valued at more than a half a billion dollars, or $560 for each Nova Scotian. Sulphur oxide emissions—primarily from Nova Scotia Power's coal-fired power plants—accounted for more than 40% of all air pollution costs. As emissions continue to decline, estimated air pollution costs in 2015 are projected to be 25% less than in 2000 and 40% less than in 1990.
• **Water Quality** *(This section still under review and revision)*	
a. Releases of water pollution: industrial, municipal, and agricultural.	* The 2004 pollutant release to surface waters in Nova Scotia increased by over 300% when compared to releases in 1995. However, changes in inventory methodologies and the pollutants included in the inventory are likely largely responsible for this large increase. In the same time period, on-site pollutant releases to land decreased by over 400% from 435 tonnes in 1995 to 30 tonnes in 2004. Currently, 25% of Nova Scotia's sewage (approximately 375,000 cubic metres per day of wastewater) is handled through 125 municipal wastewater treatment facilities. Onsite septic systems treat 45%, and raw sewage discharges make up the remaining 30%, of sewage management in the province. * The intensification of agricultural practices—in particular, the growing use of fertilizers and pesticides, and the increased specialization and concentration of crop and livestock production—has had an increasing impact on water quality in Nova Scotia. The main agricultural water pollutants that are released include nitrates, phosphorus, and pesticides. * The main sources of water pollution can be attributed to the release of industrial effluent, discharge from municipal sewers, and run-off from agricultural fields.
b. Drinking water quality: Municipal Water Supply Compliance to Water Quality Health Standards and Aesthetic Objectives	All drinking water quality indicators point towards a marked improvement in drinking water quality in Nova Scotia in the past decade.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
c. Surface water quality Acidification of lakes Commercial and Recreational Fisheries Loss of wetlands Trends in beach closures Areas closed to shellfishing	* Significant decreases in sulphate deposition have been measured in Nova Scotian lakes in the past decade. However, the recovery of alkalinity and pH has not occurred to the extent necessary to reduce acid deposition below critical loads (harmful levels) and to ensure the recovery of aquatic and terrestrial ecosystems. * Recreational fishing catches of Atlantic Salmon and Brook Trout that are impacted by acid rain have continued to decline steadily. * A comprehensive inventory of Nova Scotia's wetlands, which provide many important ecological services, has been completed. As of 2007, there are estimated to be approximately 377,000 hectares of wetlands in Nova Scotia, an estimated loss of 17% of freshwater wetlands and 62% of saltwater wetlands from the original area of wetlands in Nova Scotia.
f. Full cost accounting of water pollution and wetland loss	An estimated total of $3.45 billion/year ($2006) in damage, restoration, and health costs is associated with wetland loss and water pollution in Nova Scotia. By far the largest cost component is the value of services once provided by wetlands that have been lost.
• **Energy**	
a. Total energy demand, by sector and fuel type	Nova Scotia's total energy demand grew by 25% from 1991 to 2005 and then fell by 11% between 2005 and 2006. Transportation accounts for the highest share of energy demand (34%)—up from 26% in 1978.
b. Per capita energy demand, Canada and provinces	Nova Scotia's per capita energy demand increased by 22% from 1991 to 2005 and then fell by 11% between 2005 and 2006. Among the provinces, Nova Scotia had the second lowest per capita energy demand in the country—21% below the national average.
c. Total primary energy production	Primary energy production in Nova Scotia increased sharply from 1999 to 2001 due to Sable Island natural gas production, but has declined by 29% since then. The Province is again a net importer of energy—with the vast majority of its energy needs dependent on foreign oil and coal.
d. Per capita primary energy production, Canada and provinces	Per capita primary energy production in Nova Scotia increased sharply from 1999 to 2001 due to Sable Island natural gas production, but has declined by 28% since then. In 2006, Nova Scotia ranked fifth among the provinces in primary energy production—62% below the national average.
e. Proportion of electricity generated from renewable sources	In 2006, 80.4% of Nova Scotia's electricity was from coal—the highest share since 1993. Renewables accounted for just 8.8%—relatively unchanged since 1993 and mostly from older, small-scale hydro projects. In 2006, wind energy production had not yet significantly changed the mix.
f. Primary sources of coal for electricity generation	Coal—accounting for over 80% of Nova Scotia's electricity fuel mix—is almost entirely imported from foreign countries, where coal production has produced some serious social and environmental problems.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
g. Full cost of energy in Nova Scotia	Damage costs attributable to air pollutant and GHG emissions from Nova Scotia's stationary energy sources (power plants and refineries) in 2005 are estimated at more than $380 million or $400 per Nova Scotian.
DOMAIN: HUMAN IMPACT ON THE ENVIRONMENT	
1. Solid Waste	
a. Solid waste disposed per capita	Since 2001, Nova Scotians have been producing and disposing more garbage per capita. Since 2006 there has been a slight reversal of this upward trend.
b. Diversion rate	In 2006-2007, the Nova Scotia waste diversion rate (36%) was well below the 50% peak achieved in 1999-2000, but remained highest among the provinces.
c. Residential recycling and composting rates	Residential recycling and composting rates in Nova Scotia have increased since 2001 and Nova Scotia continues to boast the highest rates among those provinces reporting.
d. Hazardous and toxic wastes	Due to lack of a tracking system, and therefore the absence of any raw data, it is not possible to evaluate progress on the disposal of household hazardous waste.
e. Stewardship agreements with producers	There has been one new stewardship agreement (for electronic waste) put in place since the last GPI solid waste study (2004). Progress continues to be made in this area.
2. Ecological Footprint	
a. Ecological Footprint for Canada (Note: NS data are presently unavailable, but chapter notes that reliance on coal for electricity likely expands the NS Footprint)	According to the 2008 Edition of the Canadian National Footprint Accounts, Canada's 2005 Ecological Footprint was 7.07 gha—8% smaller than the 7.6 gha for 2003, but 2.6 times larger the world average per capita Footprint of 2.69 gha. In 2005, according to the Canadian National Footprint Accounts, the total global supply of productive area or biocapacity was 2.06 global hectares per capita. This means that if everyone in the world lived and consumed like Canadians do, we would need 3.43 planets to support that lifestyle.
3. Greenhouse Gas Emissions	
a. Total greenhouse gas emissions, 1990-2006	Nova Scotia's GHG emissions decreased by nearly 10% from 2005-2006. However, this decrease is largely the result of indirect changes in energy supply and demand, suggesting that radical changes are still needed in order to meet GHG reduction targets.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
b. Per capita greenhouse gas emissions, 1990-2006	Nova Scotia's per capita GHG emissions decreased by nearly 10% from 2005-2006. The Province's rate of 21 tonnes of CO_2 equivalent GHGs per capita was the fourth highest in Canada in 2006, and according to the UNFCC, puts Nova Scotians among the largest emitters of GHGs in the world.
c. Total greenhouse gas emissions by sector, 2006	Electricity production accounts for over 31% of Nova Scotia's total GHG emissions, highlighting the need to shift away from coal-fired power plants. Transportation accounts for 29% of total GHG emissions, with light-trucks (SUVs and minivans) accounting for over 31% of GHG emissions from road transport.
d. Nova Scotia performance relative to various greenhouse gas emissions reduction targets, 1990-2006	Nova Scotia would have to reduce its 2006 GHG emissions by 9% in 2-4 years to achieve the Kyoto reduction targets; by 13% by 2020 to meet the Environmental Goals and Sustainable Prosperity Act reduction targets; by 27% by 2020 and by 81% by 2050 to meet the Suzuki Foundation targets.
e. Full cost accounting of Nova Scotia's greenhouse gas emissions	Nova Scotia's 2006 GHG emissions could cost the global economy more than $725 million in predicted climate change damage costs, according to the lowest (most conservative) estimates available. It is therefore clear that Nova Scotia's GHG emissions, while only a tiny fraction of the world's emissions, will still have a significant adverse impact on the world. The 2006 GHG emissions released from Nova Scotia's electricity generation stations alone are predicted to cause a minimum of $227 million in climate change damages to the global economy. Per capita GHG emissions in Nova Scotia were 21 tonnes in 2006, which translates into global damage costs of at least $777 for each Nova Scotian. A comparison of control costs and damage costs indicates that investments in greenhouse gas reduction are highly cost-effective, and that attainment of the Province's legislated EGSPA reduction targets will save more $800 million net, when control costs are subtracted from predicted damage costs.
4. Transportation *(This section still under review and revision)*	
a. Total road passenger movement	Total road passenger movement in NS has increased by 19% since 1990. The use of light trucks (including SUVs and minivans) increased by 65% between 1990 and 2006, while passenger movement by bus decreased by nearly 10% in that same time period.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
b. Road passenger movement per capita, in Nova Scotia and Canada-Wide	Per capita road passenger movement in Nova Scotia has increased by 16% since 1990. Nova Scotia's per capita rate was third highest in Canada in 2006. Per capita road travel using light trucks (including SUVs and minivans) increased by 61% between 1990 and 2006, while per capita passenger movement by bus decreased by nearly 12% in that same time period.
c. Total transportation energy use	Total transportation energy use in Nova Scotia declined by nearly 9% between 2005 and 2006. Energy use by off-road vehicles has increased by 170% since 1990.
d. Per capita transportation energy use	Per capita transportation energy use declined by just over 8% between 2005 and 2006. Nova Scotia's per capita transportation energy use of 82.8 GJ was 6th highest in the country and nearly 9% above the national average.
e. Total greenhouse gas emissions from transportation	Greenhouse gas emissions from Nova Scotia's transport sector declined by nearly 10% between 2005 and 2006, but were still 14% higher than 1990 levels. Road transportation accounted for 68% of transport-related GHG emissions in the Province in 2006. The share of transport-related GHG emissions from light trucks (including SUVs and minivans) increased by nine percentage points between 1990 and 2006.
f. Per capita greenhouse gas emissions from transportation, Nova Scotia and Canada-Wide	Per capita GHG emissions from transportation were down 9% in 2006, but still remain nearly 11% higher than in 1990. In 2006, Nova Scotia had the 3rd lowest per capita GHG emissions from transportation in the country.
g. Number of fatalities and injuries from road accidents h. Number of fatalities and injuries from road accidents per 100,000 residents, Nova Scotia and Canada-Wide	The total number of injuries and fatalities from road transportation declined by 11% and 52% respectively between 1990 and 2005. In 2005, traffic injuries per 100,000 residents in Nova Scotia were 20% below the national average, and traffic fatalities per 100,000 residents were 15% below the national average.
i. Commute modal split	84% of Nova Scotian commuters use a car to get to work—73% as drivers and another 11% as passengers. 6% use public transit, and 9% walk or bicycle to work.
j. Commuting distance	55% of all commutes in Nova Scotia are under 10 km, 23% are 10-20 km, and 22% are more than 20 km.
k. Government spending on public transit as % of total spending on road transportation	8% of total Government spending on road transportation in Nova Scotia is on public transit—up from 4.5% since 1990 but still about 50% below the national average.

DOMAINS / COMPONENTS / INDICATORS	RESULTS
l. Road passenger transportation costs	The full cost of private automobile use in Nova Scotia is estimated at more than $7.2 billion a year ($2007) when a full range of economic, social, and environmental costs is considered. About one-third of these costs are “external” —or borne by society rather than by car users.