



An Analysis of the
Economic And Environmental Impacts
Of the Introduction of
WILD TURKEYS and HUNTING in
Nearby North American Jurisdictions



Prepared for – Enterprise Fundy

Prepared by – J. F. Balcomb & Associates

October 1, 2005



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And Hunting in Nearby North American Jurisdictions**

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Executive Summary

Enterprise Fundy wishes to work in partnership with the New Brunswick Department of Natural Resources, the New Brunswick Department of Tourism and Parks and the National Wild Turkey Federation (NWTf) to create a wild turkey hunting season through the controlled introduction of wild turkeys to the province. Preliminary research done by *Enterprise Fundy* indicated that jurisdictions with a wild turkey hunting season benefited from a significant economic impact.

In addition to the enjoyment of the resident and non-resident hunters, spring and fall turkey hunting seasons provide significant economic spin-off benefits to rural jurisdictions and to state and provincial coffers through licensing fees. Restoration efforts in the U.S. and Canada over the past few decades have increased the wild turkey population to approximately 7 million, helping them recover from the major population demise experienced during the 1800's to mid 1900's from loss of habitat, over-hunting and no management plan. Today 49 states and 5 provinces have an active spring turkey-hunting season where over 2,289,000 hunters spent an estimated \$ 1.795 billion.

Working closely with the local Chapter of the National Wild Turkey Federation based in Sussex, *Enterprise Fundy* retained the services of *J.F. Balcomb & Associates* to research various aspects of turkey restoration and turkey hunting in some nearby jurisdictions, the results of which would be given to the provincial department of Natural Resources for their initial review. Specific topics researched were the economic and environmental impacts for the introduction of wild turkeys and the subsequent spring and/or fall hunting season have had in states of New York and Maine and in the provinces of Alberta and Ontario.

The research findings confirm that restoration efforts through partnership programs with the NWTf have been successful in increasing wild turkey populations. Habitat and climatic conditions today in these areas are conducive for successful survival and propagation just as they were when wild turkeys were abundant across most of North America in the 1700's. There are no major adverse environmental concerns that the wild turkeys present other than perception of minor nuisance to farmers. Upon closer examination of official "nuisance complaints" received by various state and provincial natural resources departments, most cases cannot be accurately attributed to only wild turkeys but may be caused by other wild animals.

The economic impact of introducing/re-introducing the wild turkey species for a specific hunting season, in spring and/or fall is significant and is primarily in the rural areas. The number of hunters taking up challenging, turkey hunting is growing in Canada. The President of the Canadian Board of the National Wild Turkey Federation believes the number of turkey hunters in Ontario will soon *surpass* the number of moose and deer hunters.

The research also found that there was virtually no public opposition to the restoration efforts in the two provinces and two states. One reason for this may be that in the 1970's and 1980's when turkey restoration was initiated, there was little or no public consultation process or environmental impact assessment undertaken that may indeed be required by those jurisdictions if the initiative was to occur today. Nevertheless, no documented current public opposition was found.

Because of the economic benefits, neighbouring provinces of Prince Edward Island and Nova Scotia are also desirous of establishing a wild turkey population and subsequent turkey-hunting season. Natural turkey migration to Quebec from New York State resulted in Quebec holding their first spring turkey hunt in April 2005. The NWTF is currently working with a new Chapter in PEI and with the government to possibly introduce turkeys there to augment their traditional hunting and tourism seasons. Similarly, efforts by hunting enthusiasts in Nova Scotia working in partnership with the National Wild Turkey Federation to introduce wild turkeys and a hunting season in that province have stalled over the past year. The Nova Scotia Department of Natural Resources rejected a proposal submitted by the Nova Scotia Chapters of the National Wild Turkey Federation, even though independent research undertaken for the government indicated there was a lack of evidence to suggest that wild turkeys would harm crops, livestock or other plant and wildlife species.

Wild turkeys can now be found in every county in Maine and have already been seen in New Brunswick in the McAdam and Nackawick areas by credible individuals. These migrating turkeys will continue to move throughout the province as they prosper in our similar climate and habitat. This will require a management plan for the species. The opportunity now exists for in-migration of turkeys for the province to proactively expedite the process, creating recreational and economic opportunities for New Brunswick in the same manner as it currently provides all but one U.S. state and a quickly, growing list of Canadian provinces.

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1.0 Background

A few years ago a group of interested sportsmen formed the New Brunswick Chapter of the National Wild Turkey Federation, a U.S. based organization that is very similarly modeled to Ducks Unlimited. The members of this first N.B. Chapter are predominantly located within the *Enterprise Fundy* geographic region and the current activities are centred here. This group approached the Provincial Government about wild turkey as a potential outfitter diversification opportunity for New Brunswick but the subject did not receive serious consideration, for a variety of reasons.

Preliminary discussions with this group and its affiliates in the U.S. indicate that the opportunity to introduce wild turkeys here is very viable from both an environmental impact/sustainable habitat perspective and that a wild turkey hunting season here would be a very positive financial opportunity for the outfitting sector of New Brunswick's tourism industry.

However, both of these issues have not been answered in a structured and complete manner such that the message could be clearly conveyed to government.

Working in partnership with the New Brunswick Chapter of the National Wild Turkey Federation, Enterprise Fundy hired a consulting firm that will review in depth the economic impacts and environmental impacts that would result from the introduction of wild turkeys. An analysis would be required of nearby jurisdictions with similar climates, terrain, native flora and fauna to New Brunswick. This review will document the work of other jurisdictions in studying the question of introducing wild turkeys and how the decision was arrived at.

Enterprise Fundy's goal is to determine as many of the economic and environmental impacts and factors that a possible, new, niche adventure-tourism product would have if introduced into the province. Wild turkey hunting has evolved throughout many American states and into some parts of Canada as being a major revenue generator, assisting existing guiding, outfitter and lodging operators in rural jurisdictions, as well as other retail and service sector industries.

This potential niche product could fit very well with the natural geography and existing outfitter businesses in the province, affording the opportunity to increase the operational season and bring in additional foreign tourist revenues.

The overall objective of this report is to provide an in-depth analysis of the economic and the environmental impacts wild turkey hunting has had in other jurisdictions. Both positive and negative concerns and implications will be summarized.

The results of this analysis should provide the Department of Natural Resources with a factual foundation on which to seriously consider the formal introduction of wild turkeys and a subsequent turkey-hunting season, and the resulting development of a new, niche tourism product in New Brunswick.

J.F. Balcomb & Associates have been retained to conduct the required research and analysis. The process utilized involved an extensive literature review of published industry, association and state and provincial government reports and data. In addition, the consultant conducted telephone interviews with a broad range of stakeholders including research, biological and field staff of the National Wild Turkey Federation, members of the Executive of the Canadian Board of the National Wild Turkey Federation, and staff of various state and provincial natural resources and/or fish and game departments.

2.0 Wild Turkey Population and Hunting in North America: An Overview

2.1 History

The wild turkey is native to the North American continent, having been the largest ground-nesting bird found by the first European immigrants. Its natural geographic range was from the southern tip of Florida to the current Northern States and into Canada what is now Ontario. Colonization led to depletion of turkey habitat. Pioneers hunted turkeys year-round for food, without any thought for conservation. Population numbers significantly declined to a point in the early 1900s where their continued existence was even questioned.

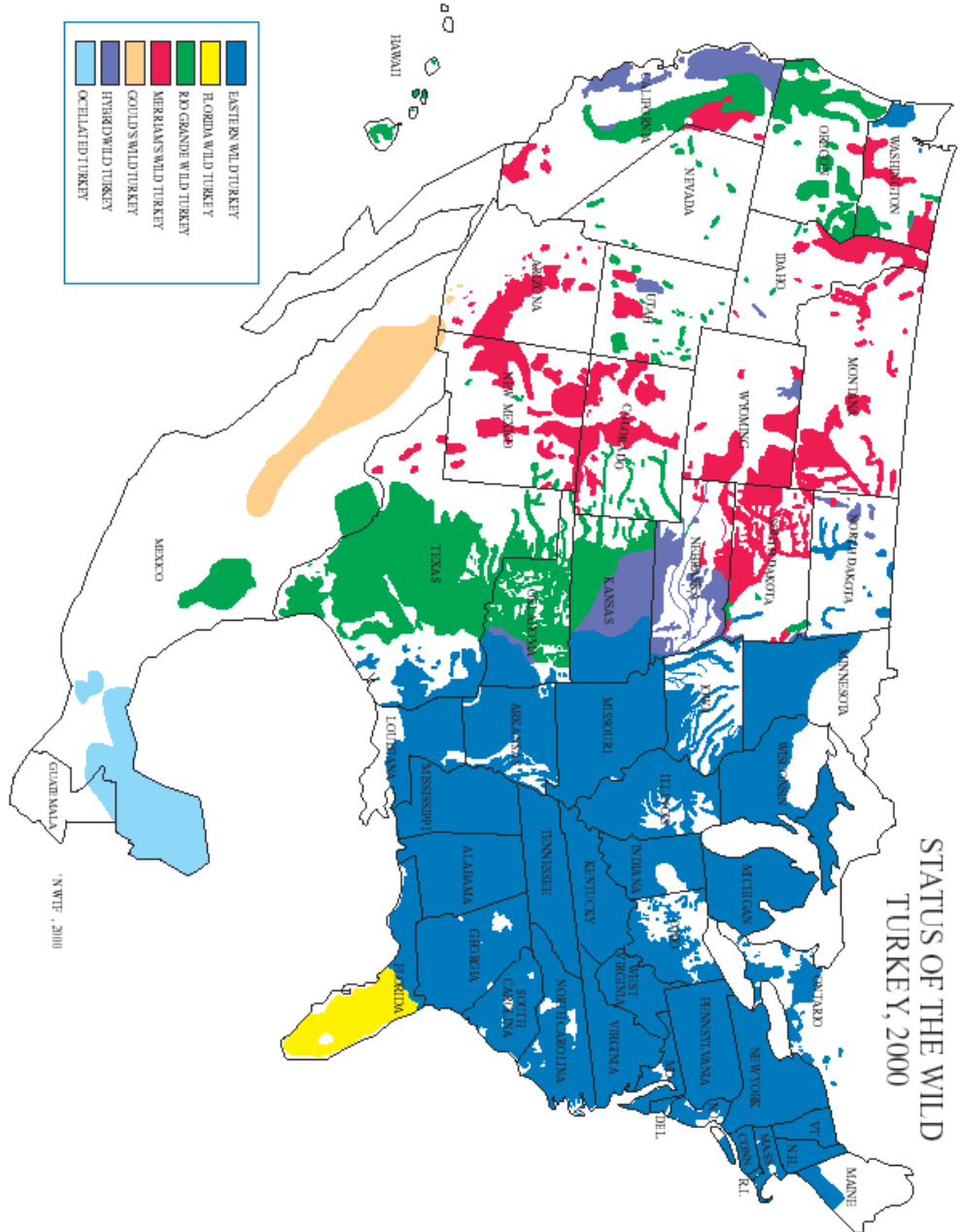
Active restoration and research programs in the United States were started after the end of WW II. These efforts, along with the regeneration of forest stands following the Great Depression have resulted in the very successful restoration of wild turkeys in North America. The *National Wild Turkey Federation* continues to work in partnership with state, provincial and municipal departments to undertake numerous projects to continue this trend. To speed migration efforts, a “trap and transfer” program has successfully transplanted wild turkeys into new, more northerly locations.

The return of wild turkeys has been heralded as a wildlife management marvel. Today turkeys flourish in 49 states and many provinces.¹

2.2 Types

There are 5 different subspecies of wild turkeys in North America:²

- Eastern Wild Turkey (eastern half of the U.S.)
- Florida Wild Turkey (southern half of Florida)
- Merriam's Wild Turkey (Western U.S. and Canadian Mountain Range)
- Rio Grande Wild Turkey (South Central Plains and Northeastern Mexico)
- Gould's (Northwestern Mexico, Southern Arizona and New Mexico)



The Eastern Wild Turkey is the most abundant, widely dispersed and hunted subspecies. In 2000 there were an estimated 4.2 million birds comprising about 75% of the entire wild turkey population of the day. They occupy a landmass from Texas to all states north and east and into Ontario and Quebec.³



Eastern Wild Turkey

The eastern wild turkey can be found in the states shaded on the map of the United States and the provinces of Ontario and Quebec in Canada.

2.3 Population

The latest estimate by the National Wild Turkey Federation of the number of wild turkeys in North America is nearly **7 million** (2005).⁴

The following map depicts the relative densities of turkeys across the United States in 2000:

2.4 Economic Impact

According to the *National Wild Turkey Federation*, American hunters spend \$ 20 billion annually for equipment, travel, leases, membership fees and licenses. This in turn employs more than 1 million Americans.⁵ Obviously, wild turkey hunters constitute only a portion of this amount, but it is still significant. A 2003 economic analysis prepared by Southwick Associates Inc. for the NWTF found that in the 2003 season, 2,289,000 spring turkey hunters were estimated to have spent **\$ 1.795 billion**. They further estimate that these expenditures in turn stimulated a total of \$ 4.4 billion in economic activity, supporting 41,323 jobs. Sales tax receipts and income tax revenues accrued to the various states totaled \$ 88.9 million. A further \$ 198.6 million in federal income tax was attributed to turkey hunting and related activities.⁶

The report further states that a spring turkey hunter spends an average of **\$ 784.38 annually**. The highest expenditure region was the South at \$ 1091.37 while the lowest was the Northeast at \$ 526.72.

It is interesting to note that the total expenditures of \$ 1.795 billion by spring turkey hunters in 2003 also included \$ 80 million given to non-profit organizations for conservation and advocacy efforts related to spring turkey hunting.

In 2003, each hunter spent an average of 7.6 days hunting during the spring season and 2.1 days hunting in the fall.

2.5 Role of the National Wild Turkey Federation (NWTF)

The NWTF, a non-profit organization, was founded in 1973. Its mission is *the conservation of the wild turkey and the preservation of our hunting heritage*.

It currently has 525,000 members in 2,100 chapters, and is in every state and many provinces in Canada.

By working in partnership with various departments of natural resources and conservation at the municipal, state and federal level, with industry and with its local chapters, it helps fund numerous projects related to the enhancement of habitat for wild turkeys. To date, in excess of **\$ 186 million** from its own heritage fund has been spent on over 27,000 projects. Its successful “trap and transfer” program has helped to increase the population of wild turkeys from 1.3 million in 1973 to nearly 7.0 million today. In 2005 alone, 4,055 wild turkeys were trapped and transferred into 24 states and 2 provinces.⁷

The interest in hunting wild turkeys has increased in no small part as a result of the increased public awareness, conservation programs and relocation campaigns led by the NWTF. Hunters from across all age groups, both men and women, are enjoying the challenge of bagging the illusive bird. They are doing so in increasing numbers, using both shotguns and bows. Some jurisdictions have both a spring and a fall season because of the increased turkey population.⁸

3.0 Wild Turkey Hunting in Ontario

3.1 Population

In 1984 the population of wild turkeys was zero. Today, as a result of a dedicated, collaborative effort to re-populate the province, the current population is estimated to be 50,000.⁹ Other estimates are thought to be 80,000.¹⁰ In 1984, 287 birds captured in the United States were initially released in the province. Since then, a total of 3,173 wild turkeys from Ontario and 1,227 from the United States have been transferred throughout Ontario. According to a biologist at the Ontario Ministry of Natural Resources, all suitable range has been pretty well stocked with birds.

The birds received from the United States were in exchange for 50 adult moose and 100 ruffed grouse that were sent to Vermont and Michigan. They were released in small groups of 15 to 20 birds at a time throughout numerous areas of the province. By 1987 they had flourished so well that Ontario's first, controlled spring hunt was held where 64 birds were harvested.

In 2004, there were 8,246 wild turkeys harvested. Since 1987, the total number of wild turkeys harvested by hunters is 33,000. The success rate of hunters is 24.9%.

Given the success of re-population efforts and the demand of the over 21,000 hunters in the province, the Ministry of Natural Resources in 2005 has increased the legal wild turkey hunting hours to 7:00 p.m. from noon for the 37 day spring hunting season (April 25 to May 31).¹¹

3.2 Participation

There are an estimated **24,000** wild turkey hunters in Ontario today with it being one of the "hottest forms of hunting in the province".¹² Discussions with Mr. Jack Playne, President of the Canadian Board of the National Wild Turkey Federation revealed that it is expected that turkey hunting will soon surpass deer and moose hunting in popularity. In the 7-year period 1992-1999, the number of licenses issued increased from 2,497 to 9,305. Actual participation rates of these license holders were 86% in 1992 and 76% in 1999, representing an overall 150% increase in participation rate over the 7 years.¹³

Success rates remain constant at around 20%. It is reported that the number of turkeys "seen" by each hunter during the respective season from 1992-1999 is 6.1 birds per hunter.¹⁴

3.3 Economic Impact

Turkey hunters in 1999 spent approximately **\$ 1.9 million** on goods and services related to turkey hunting. This included new equipment, travel, food and beverages, accommodations, licenses and other miscellaneous expenditures.

It is estimated by the Ontario Ministry of Natural Resources that in 1999 turkey hunters contributed **\$ 2.3 million** to the Gross Provincial Income after indirect and induced multiplier effects are taken into account.

In 1999, \$ 153,533 was contributed to the Fish and Wildlife Special Purpose Account through the sale of turkey licenses.

These expenditures on turkey hunting in 1999 sustained 46.2 person-years of employment, a substantial increase over the 1992 figure of 19.9 person-years.¹⁵

3.4 Environmental Impact

The reintroduction of the wild turkey to Ontario has been a success story with very little environmental impact. Turkeys were once native to the province and survived until they were subjected to loss of habitat and uncontrolled hunting practices, reducing their numbers to near expiration. Growth in the total population will be controlled by factors such as natural predators, sufficient habitat and a controlled hunting season with appropriate bag limits, number of seasons and season duration. The research did not identify any documentation related to negative environmental impact as a result of the reintroduction of turkeys in Ontario.

Discussions with Mr. Mike Malhiot of the Ontario Ministry of Natural Resources indicated that the department is considering an overall wildlife management plan based on an *ecological zoning process*. This would follow the Terrestrial Eco-regions of Canada classification system¹⁶. This system is being used to identify where it is ecologically appropriate for turkeys to be managed. They acknowledge that turkeys may be able to survive elsewhere, but it may not be appropriate to put them there as part of a “trap and transfer” program, in an area when they never evolved in the presence of that assemblage of species. Accordingly, the Ministry has settled on the mixed woods plain but not the boreal shield. This is not yet policy but is seriously being considered as part of their updated wild turkey management plan.

There are the usual “nuisance” complaints by land owners claiming land or property damage that are reported to the Ministry of Natural Resources. In most cases there is not any proof or evidence that the act was indeed caused by a specific species. Turkeys may be blamed for activities that raccoons or other nuisance wildlife may have been responsible for. Mr. Malhiot stated that with an increasing turkey population it is likely that increased nuisance “claims” may be received. In cases where farmers improperly store corn or silage, creating a tempting visit by wild turkeys and indeed other animals, these are the locations where traps are set for the province’s “trap and transfer” program.

3.5 Public Support or Opposition

No documentation related to opposition or support for the reintroduction of wild turkeys in Ontario was found. Verbal discussions with Mr. Mike Malhiot indicated that back in 1984 public support was high for the reintroduction program. Fundraising occurred to offset the associated costs. At that time there was not a requirement for public consultation and/or an environmental impact assessment as would be the case if the initiative were to occur today.

4.0 Wild Turkey Hunting in Alberta

4.1 Population

The Merriam's wild turkey subspecies is present in Alberta. This species is less widespread and is less numerous than is the Eastern Wild Turkey in Ontario, Quebec and the Eastern United States. They have been successfully introduced in certain suitable habitat areas of the southern part of the province.¹⁷ The introduction program was an initiative of Alberta's Fish and Wildlife Division back in the 1960s.¹⁸ They are continuing to expand in the province.

While research was unable to identify the estimated provincial current population, one source revealed that the population in both Alberta and Manitoba was about 2,500 each at a time when the population of Eastern Wild Turkeys in Ontario was about 30,000.¹⁹ To put things into perspective, the current population of turkeys in Ontario is between 50,000 and 80,000. Another source estimated the 2004 population of turkeys in Manitoba to be approximately 10,000.²⁰ Assuming similar repopulation efforts in both Manitoba and Alberta, it would be reasonable to assume that the current number of turkeys in Alberta would also be around 10,000.

4.2 Participation

Overall hunting in Alberta has declined from a peak of nearly 170,000 hunters in the mid 1980s to about 100,000 in 2002,²¹ as evidenced from wildlife certificate sales. The reason for the decline is two-fold. First, there was a major decline in the number of waterfowl in the 1980s in Alberta and indeed throughout North America. This forced governments to restrict the number of birds that a hunter could kill which in turn caused many to leave the sport and not return once numbers eventually increased. A second reason is changing demographics, with more residents moving from the traditional rural hunting areas to an urban location.

The number of applicants for the annual turkey draw has continued to increase from 610 in 1997 to 2074 in 2001²². In response, the government has increased the number of resident-only turkey tags from 50 to 200 for the 2005 spring gobbler season.²³ This indicates that turkey hunting in Alberta is indeed becoming more popular as the population of turkeys continues to increase.

4.3 Economic Impact

Research undertaken did not identify any sources describing the economic impact of turkey hunting in Alberta, other than an increase in the number of turkey licenses sold.

4.4 Environmental Impact

Similarly, there is little published data and information on the environment impact of turkey hunting. In a report written by Mr. Mark S. Boyce, the Chair of the Alberta Conservation Association, it is suggested that additional research needs to be undertaken to determine the competitive effects the introduced wild turkeys have on other birds, small mammals, or deer.²⁴

4.5 Public Support or Opposition

There weren't any documented reports found on the public support or opposition for either the introduction of wild turkeys or for the current status of the population in the province.

5.0 Wild Turkey Hunting in New York State

5.1 Population

Excessive logging and intensive farming by the Colonists in the 1700s and 1800s destroyed much of the turkey habitat in New York State. Coupled with the unrestricted personal, subsistence and market hunting by the early settlers, the wild turkey nearly disappeared in the state. After the Civil War, many farms were abandoned in search of more fertile land in the west. Former farmland once again reverted to woodlands, and the wild turkey began its comeback. After an absence of nearly 100 years, in the late 1940s turkeys expanded their habitat from Pennsylvania into southwestern New York.

In 1952, the State of New York's Conservation Department embarked on a dedicated restoration effort by releasing 3,100 game farm birds that had been raised in pens. This experiment failed as the game farm birds did not exhibit sufficient wildness to avoid predation and lacked the capacity to survive in the wild. Since then, the release of captive-reared turkeys has been prohibited in the state.²⁵

However, in 1959 the Conservation Department started trapping wild turkeys and then releasing them in suitable, unoccupied areas. This was the beginning of the successful “trap and transfer” method later used by the National Wild Turkey Federation in its efforts to continue the expansion and restoration of wild turkeys in North America. Turkeys from New York State have been trapped and successfully transferred to surrounding states and Ontario.

The first successful modern wild turkey hunting season was held in 1959, and continues today. In 1999 the estimated number of wild turkeys in New York State was 250,000.²⁶

5.2 Participation

The wild turkey is second only to deer as the most popular game species in New York State. In 2003, there was in excess of 250,000 turkey hunters licensed in New York. They reported a total spring season harvest of 7,117 turkeys.²⁷

5.3 Economic Impact

In the report prepared by Southwick Associates, Inc. entitled “The Economic Contributions of Spring Turkey Hunting”, it is stated that for retail sales alone, turkey hunting contributed in excess of **\$ 145 million** to the state economy. When a multiplier effect is factored in, this figure increases to nearly \$ 251 million. It claims to also be responsible for 2,332 jobs and for \$ 20.7 million in collected state and federal sales and income taxes.

The following table extracted from the report further describes the various expenditures:

TABLE C-6

New York

CATEGORY	RETAIL SALES	TOTAL MULTIPLIER EFFECT	SALARIES & WAGES	JOBS	STATE SALES TAX	STATE INCOME TAX	FEDERAL INCOME TAX
Food, Drink & Refreshments	\$12,979,446	\$23,890,185	\$5,257,109	176	\$173,058	\$153,763	\$897,565
Lodging (Motels, Lodges, Campgrounds, Etc.)	\$3,072,987	\$6,637,651	\$1,927,377	59	\$122,919	\$51,622	\$301,336
Public Transportation (Air, Car Rental, Etc.)	\$12,182,039	\$22,263,894	\$5,771,850	153	\$487,282	\$133,354	\$778,429
Transportation By Private Vehicle	\$7,936,242	\$11,307,628	\$1,740,696	52	\$1,918,958	\$45,646	\$266,452
Guide Fees, Pack Trip Or Package Fees	\$92,282	\$167,971	\$45,726	2	-	\$1,857	\$10,838
Public Land Use Or Access Fees	\$572,148	\$902,792	\$235,725	14	-	\$12,080	\$70,515
Other Trip Expenditures	\$882,215	\$1,504,000	\$388,880	10	\$35,289	\$9,038	\$52,760
Firearms	\$18,428,691	\$32,793,284	\$9,026,662	275	\$737,148	\$239,667	\$1,399,012
Archery Equipment	\$1,194,128	\$2,224,688	\$607,119	21	\$47,765	\$18,224	\$106,380
Sights, Scopes, Etc.	\$1,803,188	\$3,465,028	\$1,011,730	29	\$72,128	\$25,215	\$147,190
Turkey Calls	\$3,242,601	\$6,041,042	\$1,648,605	57	\$129,704	\$49,487	\$288,870
Ammunition	\$4,321,514	\$7,725,344	\$2,121,293	69	\$172,861	\$60,012	\$350,307
Handloading Equipment And Supplies	\$627,522	\$1,121,789	\$308,031	10	\$25,101	\$8,714	\$50,868
Decoys	\$1,497,735	\$2,790,316	\$761,479	26	\$59,909	\$22,858	\$133,427
Camping Equipment	\$2,634,648	\$4,908,411	\$1,339,509	46	\$105,386	\$40,209	\$234,710
Binoculars	\$3,290,772	\$6,323,588	\$1,846,382	53	\$131,631	\$46,017	\$268,618
Special Clothing	\$10,721,193	\$21,226,019	\$5,336,528	172	\$428,848	\$149,449	\$872,382
Taxidermy & Processing	\$0	\$0	\$0	0	\$0	\$0	\$0
Books & Magazines	\$1,306,065	\$2,421,786	\$596,465	16	\$52,243	\$13,668	\$79,782
Dues And Contributions To Non-Profits	\$1,759,815	\$3,591,079	\$1,104,988	59	-	\$51,320	\$299,569
Miscellaneous Items (Knives, Gun Cases, Etc.)	\$1,286,409	\$2,396,611	\$654,037	23	\$51,456	\$19,632	\$114,601
Boats	\$0	\$0	\$0	0	\$0	\$0	\$0
Trucks, Campers, Travel Trailers, etc.	\$9,228,188	\$16,966,261	\$3,069,925	91	\$369,128	\$79,346	\$463,167
Habitat Improvement Expenditures	\$33,156,676	\$46,882,981	\$17,131,594	767	\$1,326,267	\$668,122	\$3,900,040
ATV & Off-road Vehicles	\$6,561,242	\$10,919,497	\$2,395,914	79	\$262,450	\$68,645	\$400,702
Other Special Equipment (Ice Chests, GPS, Etc.)	\$1,255,034	\$2,259,404	\$590,965	19	\$50,201	\$16,483	\$96,218
Licenses, Tags, Permits And Other Fees	\$5,058,442	\$9,288,817	\$2,092,172	52	\$202,338	\$45,341	\$264,672
Land Owned Primarily For Spring Turkey Hunting	\$0	\$0	\$0	0	-	\$0	\$0
Land Leased Primarily For Spring Turkey Hunting	\$322,987	\$503,924	\$76,354	3	-	\$2,208	\$12,887
TOTALS	\$145,414,207	\$250,523,991	\$67,087,114	2,332	\$6,962,067	\$2,031,978	\$11,861,295

5.4 Environmental Impact

The only environmental impact from wild turkeys that was revealed in the research was the increased incidence of nuisance and damage complaints. Most were related to agricultural damage, but new areas of complaints are from damage to golf greens, storage silage, vineyards and hazards to aircraft when turkeys are on runways.²⁸

It should be noted that the total number of turkey-related complaints do not approach the magnitude of those generated by deer or beaver. Nevertheless, the Department of Environmental Conservation of the State of New York has recommended in its Draft Wild Turkey Management Plan an action plan and protocol to investigate, document and intervene if required, all reports of turkey-related damage.

5.5 Public Support or Opposition

Research undertaken did not identify any current public opposition to wild turkeys or turkey hunting, or of the efforts made in the 1950s to repopulate the species.

An increasing number of turkey hunters and also a growing interest in the public desiring to just observe wild turkeys in their natural habitat is evidence of support.

6.0 Wild Turkey Hunting in Maine

6.1 Population

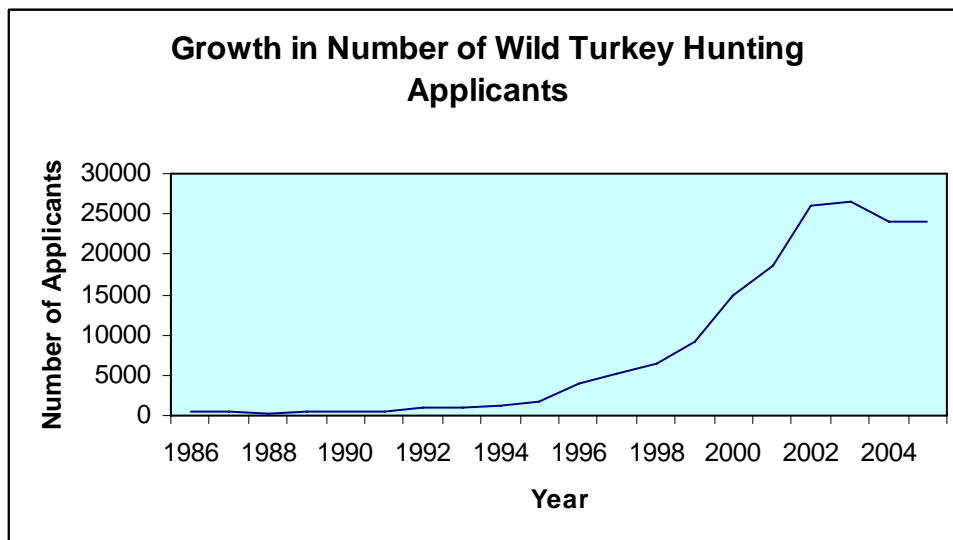
Wild Eastern Turkeys historically appeared in significant numbers in many parts of the state. Unrestricted shooting and loss of habitat due to increased land clearing for agricultural purposes resulted in their extirpation in the early 1800s. Natural reforestation of former farmlands produced new habitat for turkeys to start a come back. Attempts were made by the Department of Inland Fisheries and Game in 1942 to re-introduce turkeys by releasing captive-reared turkeys into the wild, but without success.

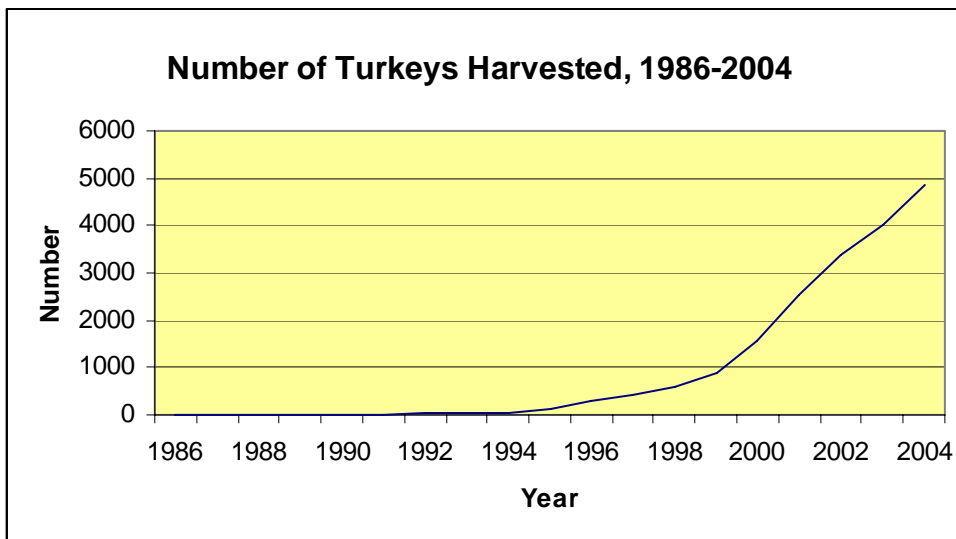
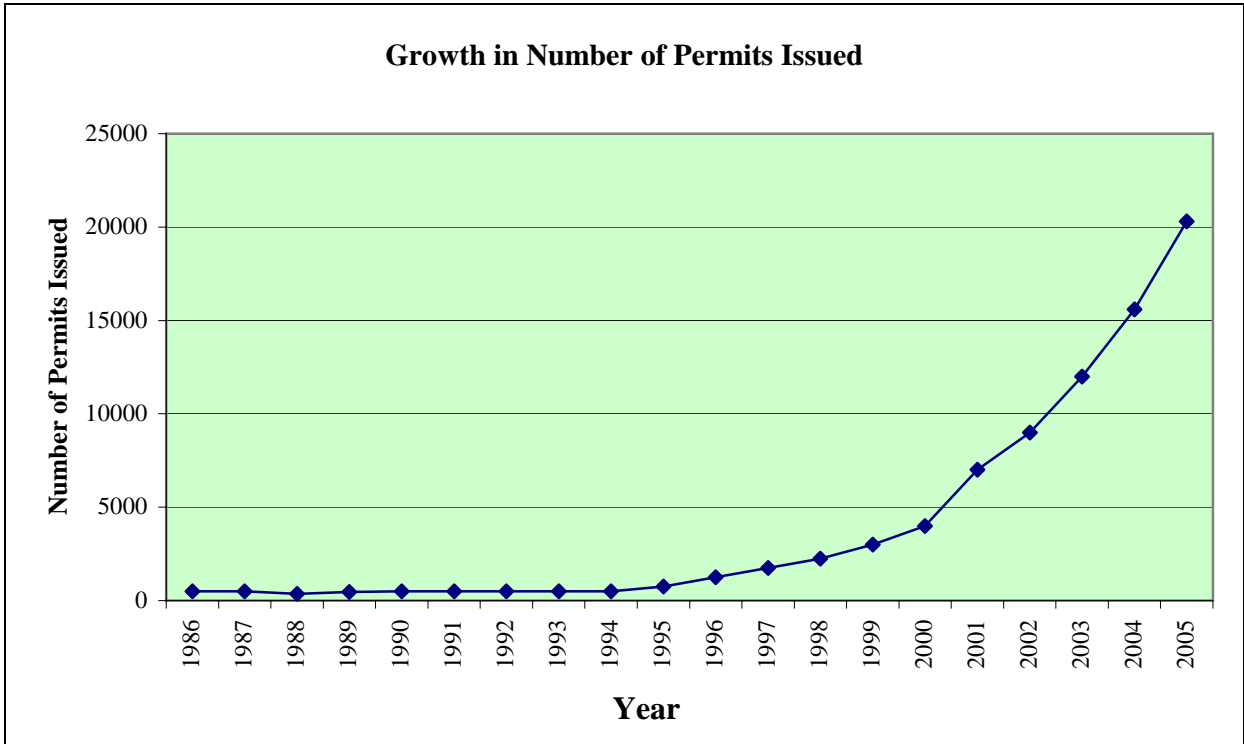
Encouraged by the success realized in Vermont and New Hampshire by trapping and transporting small groups of wild turkeys into new areas, the department obtained 41 turkeys from Vermont and released them in the towns of York and Elliot in 1977 and 1978. In the early 1980s there was sufficiently large enough population to enable it to serve as a source for trapping and releasing small groups in other counties. Since 1990, instate trapping and further releasing of birds has occurred every year through collaborative efforts of the Maine Chapter of the National Wild Turkey Federation and state officials. Today there are wild turkeys flourishing in Houlton and even further north. Discussions with biologist Mr. Phil Bozenhard of the Department of Inland Fisheries and Wildlife revealed that he believes the current population to be between **35,000 and 40,000**.

6.2 Participation

The first official spring turkey-hunting season occurred in 1986. 605 hunters applied for the 500 available permits for the season from May 8th until May 24th. 9 wild turkeys were harvested. Over the 19 years, the number of applicants has escalated to 23,949 for 20,300 permits. In 2004, there were 4,839 wild turkeys harvested.²⁹ In April of 2005, the State Legislature passed a bill to issue a turkey license to all of the 23,949 hunters who applied. Starting in 2006, there will no longer be a lottery for turkey hunting permits; all who apply will be issued with a permit.

The dramatic increase in the number of applicants, permits issued and harvested birds is directly attributable to the successful re-population efforts of the state in cooperation with the Maine Chapter of the National Wild Turkey Federation.





Maine Wild Turkey Hunting Effort and Harvests, 1986-2004			
Year	Number of Applicants	Number of Permits	Wild Turkeys Harvested
1986	605	500	9
1987	536	500	8
1988	355	355	16
1989	464	463	19
1990	500	499	15
1991	508	500	21
1992	886	500	53
1993	1,079	500	46
1994	1,185	500	62
1995	1,712	750	117
1996	3,952	1,250	288
1997	5,091	1,750	417
1998	6,449	2,250	594
1999	9,294	3,000	890
2000	14,909	4,000	1,559
2001	18,685	7,000	2,544
2002	25,954	9,000	3,395
2003	26,505	12,000	3,994
2004	24,040	15,600	4,839
2005	23,949	20,300	

6.3 Economic Impact

Research did not identify a value of the economic impact wild turkey hunting has had in the State of Maine. However, based on the Southwick Associates, Inc. report, where the average turkey hunter in the Northeast spends \$526.72 annually, it can be estimated that the 23,949 applicants in 2005 will spend approximately **\$12,614,418** on equipment, goods and services. The total economic impact will be much greater when the multiplier effects of indirect and induced impacts are considered.

6.4 Environmental Impact

No published data or reports on the environmental impact of wild turkey hunting in Maine were found. Discussions with Mr. Paul Bozenhard confirmed that there are an increased number of turkey-related nuisance complaints, primarily by farmers where turkeys access trench silos of corn. They are doing what they do naturally, searching for food, and in these cases, there exists an abundant supply for a flock of 50-80 birds if the farmer does not properly cover up or place the silos. It is from these areas where the turkeys are usually trapped for later transport and release in other geographic areas of the state.

6.5 Public Support or Opposition

There were not any documented reports on either support for or opposition against the introduction of wild turkeys into the state.

Based on the increased number of hunter applicants over the 20 years, the continued increasing of the population through annual trap and transfer programs, and the state legislature decision to no longer conduct a license lottery but to issue one to all applicants, there appears to be significant support for wild turkey hunting in Maine.

7.0 Wild Turkey Hunting in Quebec, Nova Scotia and Prince Edward Island

Hunters in Quebec, PEI and Nova Scotia have seen the success of the re-population program in Maine. Local Chapters of the National Wild Turkey Federation have been created to work with their provincial department of Natural Resources to undertake a trap and transfer program, with a view of conducting a first hunt in a couple of years.

7.1 Quebec

In the spring of 2005, Quebec conducted their first spring turkey hunt. During the 5-day season, 98 hunters harvested 34 turkeys. A total of 160 hunters applied for the 98 tags. It is estimated that the population of turkeys in Quebec is 1,225, primarily in the area south of Montreal near the New York State border.³⁰

7.2 Prince Edward Island

A new Chapter of the NWTF is being established in Prince Edward Island. Initial discussions the NWTF regional representative has had with both government officials and hunting enthusiasts are extremely positive regarding the introduction of turkeys to the island through a trap and transfer program.

7.3 Nova Scotia

The Nova Scotia Chapter of the National Wild Turkey Federation submitted a proposal in 2001 to the Nova Scotia Department of Natural Resources to introduce Wild Turkeys in Nova Scotia.³¹ The proposal was based on scientific research conducted by staff biologists at the NWTF. It was concluded in the proposal that the Annapolis Valley area of the province was a prime location for the introduction. This area had similar habitat, food supply, temperatures and snowfall amounts as do most areas of Maine where the wild turkeys have been successfully re-populated over the past 19 years.

The Nova Scotia government conducted a two-month public review and input process. Of the 161 written responses that were received, 135 were in favour and 23 were opposed, with 3 offering no specific opinion.

Based on the comments from those opposed to the introduction, the Minister of Natural Resources decided to get a third party opinion and requested the *International Association of Fish and Wildlife Agencies* to complete an independent scientific review of the NWTF's proposal and the issues that were raised by the public input process. Their report was completed in the spring of 2003. It outlined some additional steps for the NSDNR as well as some outstanding issues for the NWTF. The NWTF responded with a Supplemental Submission in July 2003.

A final issue to be addressed was the need for an assessment of wildlife disease and parasite risks associated with the introduction of wild turkeys. A report was conducted by Dr. Ted Leighton of the *Canadian Cooperative Wildlife Health Center*, and concluded that overall, the parasite/disease risks to agricultural animals and/or wildlife are low.

Additional focus group workshops were conducted amongst various interest groups to relay additional scientific information. The Nova Scotia Department of Agriculture in December of 2004 rejected the wild turkey introduction proposal on the fear of even a low risk for agricultural groups concerned about avian flu and mad cow disease.

The NWTF is reviewing its options with its local chapter in Nova Scotia, as NWTF biologists refute the concern. Over the past 50 years, 185,000 wild turkeys have been moved throughout North America without any single piece of scientific or anecdotal evidence to suggest diseases are transferred to wild or domestic animals.³²

8.0 Conclusion and Recommendations

Turkey populations and hunting were examined in two Canadian provinces and two Northeastern states. In particular, the *economic and environmental impacts* were researched through government records and reports, through industry and associations' studies and reports and through personal discussions with various stakeholders from both government and from wildlife associations.

It is concluded that in all 4 jurisdictions analyzed, the economic impact of turkey hunting is significant, especially considering most expenditures are made in the rural regions of the state or province. Environmental impacts are minimal considering the tremendous growth seen in the turkey populations over the past 10 years. Most environmental issues are of a nuisance nature, which cannot always be confirmed to be caused by turkeys. Some farmers are experiencing minor loss of silage feed and damage due to inadequate storage techniques.

The State of Maine is a model that could easily be replicated in New Brunswick for the introduction of wild turkeys and subsequent turkey hunting. Habitat, climate and vegetation are very similar. Already, some of the more northerly-released turkeys are finding their way into New Brunswick near the Maine border. Interviews were conducted with three persons who stated that they have seen wild turkeys in the province. It will just be a matter of couple of short years before the migrating turkeys will start to flourish on their own throughout New Brunswick.

Not only would New Brunswick have its own turkey population without any government-sanctioned program, it could also be surrounded by jurisdictions that have turkeys and turkey hunting. All would enjoy the economic benefits except New Brunswick.

It is recommended that the New Brunswick Chapter of the National Wild Turkey Federation again approach the New Brunswick Department of Natural Resources with an official proposal submission. They should seek the assistance of the NWTF in writing a proposal and in designing a pilot trap, transfer and monitoring program. It is further suggested that New Brunswick Department of Natural Resources biologists confer with their counterparts in Maine to hear and see first-hand the success of that states' "trap and transfer program".

APPENDICES

- I. The 2003 Economic Contributions of Spring Turkey Hunting, Southwick Associates, Inc., August 2003
- II. Behavioral, Attitudinal, and Demographic Characteristics of Spring Turkey Hunters in the United States, Responsive Management National Office, 2003
- III. Socioeconomic fact Sheet, Wild Turkey Hunting, Ontario Ministry of Natural Resources, August, 2000
- IV. The Economic Impact of Turkey Hunting in Ontario, 1999, Lands and Waters Branch, Conservation and Planning Section, Ontario Ministry of Natural Resources, August 2000
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LIST OF CONTACTS

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8. Mr. Joel Petersen, Senior Biologist, National Wild Turkey Federation

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- ¹³ Ontario Ministry of Natural Resources, Socioeconomic Fact Sheet, August 2000, “Wild Turkey Hunting”
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- ¹⁵ *ibid*
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