

**GUIDELINES FOR BASELINE DOCUMENTATION,
MONITORING AND ENSURING COMPLIANCE
OF CONSERVATION AGREEMENTS
IN MANITOBA**

By

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in Partial Fulfillment of the Requirements
for the Degree of

MASTER OF NATURAL RESOURCES MANAGEMENT

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**Guidelines for Baseline Documentation, Monitoring and Ensuring
Compliance of Conservation Agreements in Manitoba**

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**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree**

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ABSTRACT

The loss or alteration of wildlife habitat is currently the leading cause of wildlife depletion in the Canadian prairies. The majority of the human population in the Prairie Provinces is concentrated near the United States border where much of the wildlife habitat has been lost or dramatically altered. Conservation agreements are one tool that can more permanently conserve land in its natural state, through either partial or complete restrictions on land use and development. Conservation agreements involve landowners voluntarily entering into binding agreements with conservation agencies that place certain restrictions on the way land is used. Conservation agreements are an important private land conservation option that can be used in combination with other conservation tools to provide long-term protection of land on the agricultural landscape. Today, conservation agreements are the most widely used tool for private sector land conservation in the United States. In Manitoba, The Conservation Agreements Act was proclaimed in 1998 by the Legislature and came into force in 1999. The Act now enables conservation organizations like the Delta Waterfowl Foundation, Ducks Unlimited Canada, the Nature Conservancy of Canada and the Manitoba Habitat Heritage Corporation to enter into conservation agreements that can provide protection of land in its natural state in perpetuity. The objective of the study was to establish guidelines for conservation agencies in Manitoba on baseline documentation, monitoring, and ensuring compliance with the terms of conservation agreements. A series of interviews with individuals from various conservation agencies in Ontario, Saskatchewan, Alberta, Minnesota and North Dakota were conducted to reveal current techniques and practices for baseline data

reports, monitoring and enforcement of conservation agreements. Using the interview results and relevant literature a set of guidelines and sample forms for baseline documentation, monitoring and ensuring compliance with conservation agreements was developed to provide conservation agencies in Manitoba entering into conservation agreements with guidance.

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TABLE OF CONTENTS

ABSTRACT	I
ACKNOWLEDGEMENTS	III
LIST OF TABLES	VII
LIST OF FIGURES	VIII
LIST OF APPENDICES	IX
CHAPTER 1: INTRODUCTION	1
1.1 BACKGROUND.....	1
1.2 CONSERVATION IN SOUTHERN MANITOBA.....	7
1.3 THE DIRECTION OF CONSERVATION IN SOUTHERN MANITOBA.....	11
1.4 THE CONSERVATION AGREEMENT.....	13
1.5 ISSUES.....	15
1.6 ISSUE STATEMENT.....	17
1.7 OBJECTIVES.....	17
1.8 SCOPE AND LIMITATIONS.....	18
CHAPTER 2: METHODS	19
2.1 INTRODUCTION.....	19
2.2 LITERATURE AND DOCUMENT ANALYSIS.....	20
2.3 IDENTIFICATION OF THE JURISDICTIONS INVESTIGATED.....	21
2.4 IDENTIFICATION OF THE PARTICIPANTS.....	26
2.5 THE INTERVIEW PROCESS.....	28
2.6 DEVELOPMENT OF THE INTERVIEW GUIDE.....	32
2.7 ANALYSIS OF THE RESULTS.....	33
2.8 DEVELOPMENT OF THE GUIDELINES FOR CONSERVATION AGREEMENTS.....	38
CHAPTER 3: CONSERVATION AGREEMENTS	43
3.1 INTRODUCTION.....	43
3.2 CONSERVATION AGREEMENT USE IN THE UNITED STATES.....	44
3.3 CONSERVATION AGREEMENT USE IN CANADA.....	47
3.4 CONSERVATION AGREEMENT LEGISLATION.....	48
3.5 TAX IMPLICATIONS OF CONSERVATION AGREEMENTS.....	52
3.6 THE ECOLOGICAL GIFTS PROGRAM.....	53
3.7 BASELINE DOCUMENTATION, MONITORING AND ENFORCEMENT OF CONSERVATION AGREEMENTS.....	55
3.7.1 BASELINE DOCUMENTATION.....	55
3.7.2 MONITORING CONSERVATION AGREEMENTS.....	59
3.7.3 ENFORCEMENT OF CONSERVATION AGREEMENTS.....	62

CHAPTER 4: JURISDICTIONAL ANALYSIS	66
4.1 INTRODUCTION.....	66
4.2 ONTARIO INTERVIEW RESULTS.....	67
4.3 MINNESOTA INTERVIEW RESULTS.....	71
4.4 NORTH DAKOTA INTERVIEW RESULTS.....	75
4.5 SASKATCHEWAN AND ALBERTA INTERVIEW RESULTS.....	78
4.6 ISSUES IDENTIFIED THROUGH THE INTERVIEW PROCESS.....	85
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS	92
5.1 CONCLUSIONS.....	92
5.2 RECOMMENDATIONS.....	94
CHAPTER 6: GUIDELINES FOR BASELINE DOCUMENTATION, MONITORING AND ENSURING COMPLIANCE OF CONSERVATION AGREEMENTS FOR MANITOBA	97
6.1 DRAFTING THE AGREEMENT.....	98
6.2 BASELINE DATA REPORTS.....	99
6.3 MONITORING.....	105
6.4 ENFORCEMENT.....	110
6.5 VIOLATION RESPONSE PROCEDURES.....	113
LITERATURE CITED	117
PERSONAL COMMUNICATIONS	122

LIST OF TABLES

TABLE 1: SPECIES LISTED UNDER THE MANITOBA ENDANGERED SPECIES ACT.....	4
TABLE 2: SUMMARY OF LITERATURE ON BASELINE DOCUMENTATION.....	58
TABLE 3: SUMMARY OF LITERATURE ON MONITORING.....	61
TABLE 4: SUMMARY OF LITERATURE ON ENFORCEMENT.....	64
TABLE 5: SUMMARY TABLE I FOR ALL AGENCIES INTERVIEWED IN ONTARIO, MINNESOTA, NORTH DAKOTA, SASKATCHEWAN AND ALBERTA.....	81
TABLE 6: SUMMARY TABLE II FOR ALL AGENCIES INTERVIEWED IN ONTARIO, MINNESOTA, NORTH DAKOTA, SASKATCHEWAN AND ALBERTA.....	82
TABLE 7: SUMMARY TABLE II FOR ALL AGENCIES INTERVIEWED IN ONTARIO, MINNESOTA, NORTH DAKOTA, SASKATCHEWAN AND ALBERTA.....	83

LIST OF FIGURES

FIGURE 1: WETLAND AREAS AT RISK IN CANADA.....	6
FIGURE 2: THE DEGREE OF NATURAL AREA REPRESENTATION IN MANITOBA THROUGH THE PARKS AND PROTECTED AREAS INITIATIVE FOR 1990 AND 2000	10
FIGURE 3: STUDY SITES LOCATED IN THE PRAIRIE POTHOLE REGION OF NORTH AMERICA.....	23
FIGURE 4: THE MANITOBA PRAIRIE LANDSCAPE.....	25
FIGURE 5: AERIAL PHOTO OF THE PRAIRIE POTHOLE REGION OF MANITOBA.....	25
FIGURE 6: CRITERIA FOR DEVELOPMENT OF THE GUIDELINES.....	40

LIST OF APPENDICES

APPENDIX 1: ELIGIBLE CONSERVATION AGENCIES UNDER THE MANITOBA CONSERVATION AGREEMENTS ACT.....	123
APPENDIX 2: THE ELIGIBLE AGENCIES REGULATION.....	125
APPENDIX 3: INTERVIEW GUIDE.....	127
APPENDIX 4: INTERVIEW COVER LETTER AND CONSENT FORM.....	130
APPENDIX 5: LIST OF AGENCIES AND INTERVIEW DATES.....	133
APPENDIX 6: INTERVIEW RESULTS FOR ONTARIO, MINNESOTA AND NORTH DAKOTA.....	136
APPENDIX 7: SAMPLE BASELINE DOCUMENTATION FROM.....	146
APPENDIX 8: SAMPLE BASELINE DATA CHECKLIST.....	152
APPENDIX 9: SAMPLE MONITORING FORM.....	154
APPENDIX 10: SAMPLE MONITORING CHECKLIST.....	156
APPENDIX 11: SAMPLE ENFORCEMENT/VIOLATION POLICY.....	158
APPENDIX 12: EXAMPLE ENDOWMENT FUND CALCULATION.....	160

CHAPTER 1

INTRODUCTION

1.1 Background

Over the last 150 years, Canada's prairie ecosystems have undergone many dramatic changes. The fur-bearing prairie species were the first to experience significant losses as the fur trade reached its peak between 1840 and 1870. Uncontrolled trapping in the mid 1800s nearly drove the once abundant beaver (*Castor canadensis*) to extinction and drastically reduced populations of fisher (*Martes pennanti*), otter (*Lontra canadensis*) and weasel (*Mustela nivalis*) (Oetting, 1973). Increased use of fire and firearms in the prairies drove the bison (*Bison bison*) completely from southern Manitoba by 1819 and by 1870 the great bison herds that once roamed the prairies were gone. The plains grizzly (*Ursus arctos horribilis*) had become extinct by 1850 and the plains wolf (*Canis lupus*) soon followed. Lynx (*Lynx canadensis*), wolverine (*Gulo gulo*), black bear (*Ursus americanus*) and timber wolves (*Canis lupus*) were pushed north completely out of southern Manitoba as the fur trading economy that had dominated Western Canada for nearly 150 years began to collapse (Oetting, 1973).

All time low wildlife populations were experienced in the late 1800s and in 1876 the Province of Manitoba passed its first game laws. Although these laws were extremely liberal, once trapping pressures were reduced, fur-bearing species that were not extirpated

or extinct began to recover their numbers (Oetting 1973). The fur trade was only the beginning of many dramatic changes that would significantly alter the prairie landscape.

The first group of immigrants settled in the Red River Valley near Winnipeg and began farming in 1812. The settlers' numbers had increased by 1900 and so had the number of acres that were annually cultivated (Oetting 1973). Soon much of the open grasslands that once extended from the Red River Valley as far south as Texas were converted to agricultural land for their rich fertile soils (Manitoba Natural Resources 1998). Cities and towns were constructed, along with the railway and an extensive network of roads, which today, fragments much of the prairie landscape. Species that once inhabited the prairies like the passenger pigeon (*Ectopistes migratorius*) also soon became extinct. Other species like the swift fox (*Vulpes velox*) and the black-footed ferret (*Mustela nigripes*) were extirpated from Manitoba as the human population continued to grow and wildlife habitat continued to shrink (Potyondi 1995).

Agricultural programs like the Special Canadian Grains Program, the Western Grain Stabilization Program, and the Western Grain Transportation Act raised commodity prices and increased the demand for agricultural land, thus increasing the number of acres of land in production (van Kooten and Schmitz 1992). In the 1980s and early 1990s, cropping acreages responded positively to agricultural policies, like the Canadian Wheat Board Quota System, that were based on the area of land under production. Subsidies, financial assistance and crop insurance made it profitable to continue production on marginal land, and initiated the conversion of additional acres of marginal land to agricultural land. These policies also encouraged the drainage of many wetlands throughout the Canadian Prairies (Batt 1996). In the early 1980s, population

data showed a series of record low populations for most migratory bird species in the central flyway (Environment Canada 1998).

Agricultural policy has changed significantly in the last decade with the elimination of grain transportation subsidies and the decoupling of farm income safety nets from the grain and oilseed sectors allowing producers to respond to prevailing market signals (McRae et al. 2000). There have also been many national and international policies like the United Nations Economic Commission for Europe (UNECE) Protocol on Persistent Organic Pollutants, The Canadian Environmental Protection Act (CEPA), the Canadian Environmental Assessment Act and the North American Agreement on Environmental Cooperation (NAAEC) as well as provincial acts and regulations, municipal bylaws and provisions that encourage sustainable agricultural practices throughout Canada (McRae et al. 2000).

Although there have been many initiatives that encourage sustainable agricultural practices throughout the prairies, there are currently 11 plant and animal species listed as endangered, 9 listed as threatened and 8 that are listed as extirpated under the Manitoba Endangered Species Act alone (Table 1). Of the three distinct grassland communities in the Canadian Prairies, less than one percent of the original tall grass prairie, less than 13 percent of the short grass prairie and less than 19 percent of the mixed grass prairie still remain today (Manitoba Natural Resources 1998). Of the once extensive fescue prairie less than five percent can still be found in the Canadian Prairies (Troffier 1992).

Table 1: Species Listed Under The Manitoba Endangered Species Act.

Animals	Plants
<p>Endangered:</p> <ul style="list-style-type: none"> • Baird's Sparrow (<i>Ammodramus bairdii</i>) • Burrowing Owl (<i>Athene cunicularia</i>) • Eskimo Curlew (<i>Numenius borealis</i>) • Loggerhead Shrike (<i>Lanius ludovicianus</i>) • Peregrine Falcon (<i>Falco peregrinus</i>) • Piping Plover (<i>Charadrius melodus</i>) • Uncas Skipper (<i>Hesperia uncas</i>) • Whooping Crane (<i>Grus americana</i>) <p>Threatened:</p> <ul style="list-style-type: none"> • Dakota Skipper (<i>Hesperia dacotae</i>) • Ottoe Skipper (<i>Hesperia ottoe</i>) • Ferruginous Hawk (<i>Buteo regalis</i>) • Great Plains Toad (<i>Bufo cognatus</i>) • Mule Deer (<i>Odocoileus hemionus</i>) <p>Extirpated:</p> <ul style="list-style-type: none"> • Greater Prairie-Chicken (<i>Tympanuchus cupido</i>) • Grizzly Or Brown Bear (<i>Ursus arctos horribilis</i>) • Kit Or Swift Fox (<i>Vulpes velox</i>) • Long-Billed Curlew (<i>Numenius americanus</i>) • Muskox (<i>Ovibos moschatus</i>) • Pronghorn (<i>Antilocapra americana</i>) • Riding's Satyr (<i>Neominois ridingsii</i>) • Trumpeter Swan (<i>Cygnus buccinator</i>) 	<p>Endangered:</p> <ul style="list-style-type: none"> • Great Plains Ladies'-Tresses (<i>Spiranthes magnicamporum</i>) • Small White Lady's-Slipper (<i>Cypripedium candidum</i>) • Western Prairie Fringed Orchid (<i>Platanthera praeclara</i>) <p>Threatened:</p> <ul style="list-style-type: none"> • Western Silvery Aster (<i>Aster sericeus</i>) • Western Spiderwort (<i>Tradescantia occidentalis</i>) • Riddell's Goldenrod (<i>Solidago riddellii</i>) • Culver's-root (<i>Veronicastrum virginicum</i>)

Source: Manitoba Conservation - Wildlife Branch December 2001.

Prairie wetlands also referred to as potholes, are very productive and biologically diverse ecosystems that provide important habitat for many migratory bird species (Wildlife Habitat Canada 1998). It is on the agricultural landscape that wetlands have traditionally experienced significant losses and the prairies are one of the areas where wetlands are at greatest risk (Figure 1) (Wildlife Habitat Canada 1998). Approximately 14 percent of the wetlands in Canada have been lost over the past 200 years. In the southern prairies, southern Ontario and the Fraser lowlands, over 70 percent of the wetlands have been altered or converted to other land uses (North American Wetlands Conservation Council 1994). In southwestern Manitoba alone, it is estimated that as much as 57 percent of the wetlands have already been lost (Glooschenko et al. 1993 in Batt 1996).

The prairie ecosystem has undergone such dramatic alteration that it has become one of the most altered ecosystems in North America (Samson and Knopf 1996; Manitoba Natural Resources 1998). The loss and/or alteration of wildlife habitat are the leading causes of wildlife depletion in the Canadian Prairies today (McRae et al. 2000). As the Human population continues to expand in the prairies, conservation of wildlife habitat on private land has begun to take on a new role in the conservation of the prairie landscape.

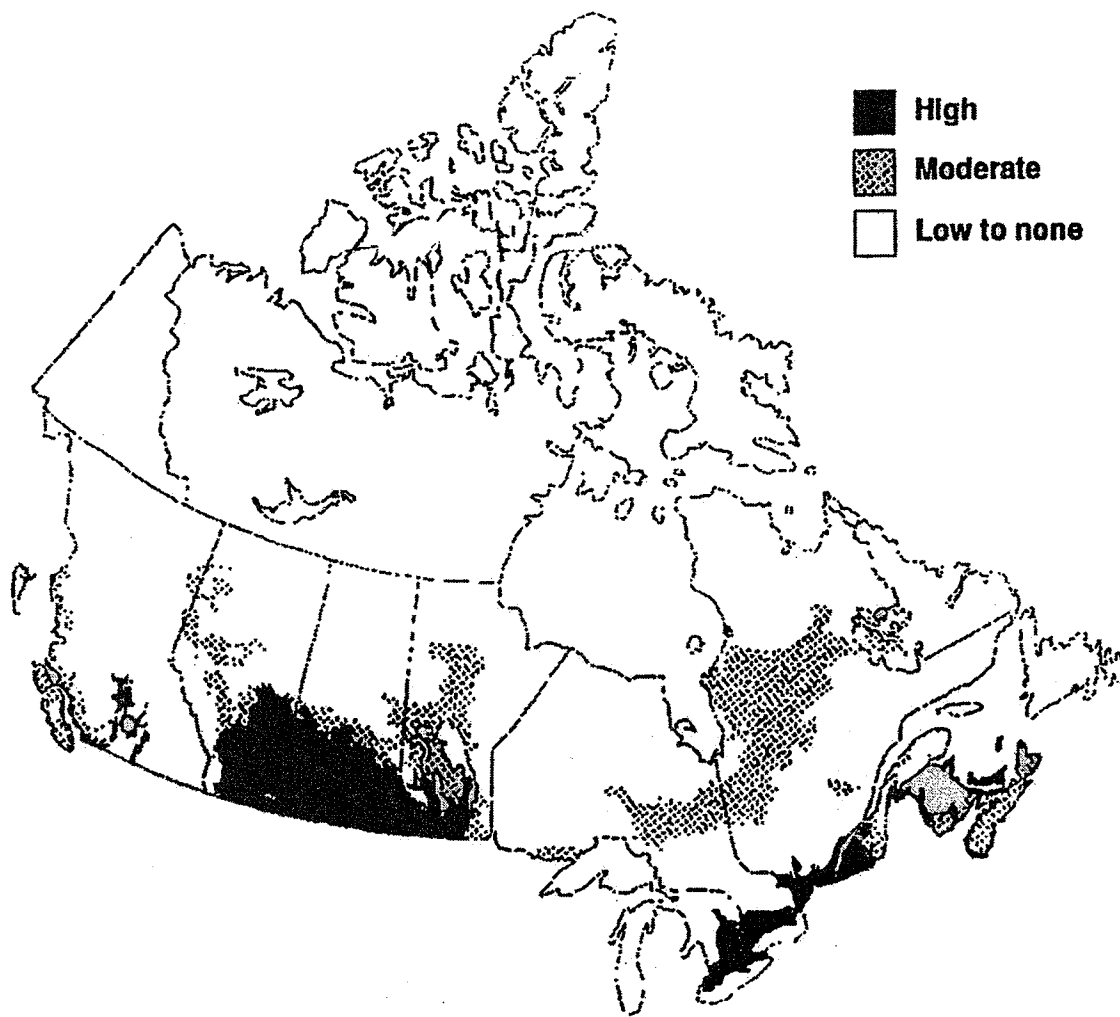


Figure 1: Wetland Areas at Risk in Canada

Source: North American Wetlands Conservation Council 1994

1.2 Conservation in Southern Manitoba

Southern Manitoba presents a challenge for natural resource managers, as the majority of land is privately owned and under annual cultivation, making it difficult for provincial and federal programs to secure land for protection. The agricultural landscape also surrounds the most densely populated part of the province adding to land use conflicts, making conservation even more difficult (Wildlife Habitat Canada 1998). Over the last 20 years numerous conservation programs have been initiated in Manitoba to address habitat loss in the prairie ecosystem.

The North American Waterfowl Management Plan (NAWMP) was initiated with the signing of an agreement between Canada and the United States in 1986 with Mexico joining the program in 1988 (Environment Canada 1998). The goal of NAWMP is to restore waterfowl populations to mid-1970s levels by securing, enhancing, and managing wetland and upland habitat across the continent (Environment Canada 2001a). NAWMP is implemented and financed through an innovative partnership program of joint ventures consisting of federal, state, and provincial/territorial government agencies, non-government organizations, the private sector, and landowners (Environment Canada 2001a). The partner's efforts to conserve waterfowl and waterfowl habitat in the prairie region of Canada are coordinated through the Prairie Habitat Joint Venture. NAWMP encourages agricultural producers to maintain wetlands and upland for waterfowl habitat as just one of its many objectives. To date, the Prairie Habitat Joint Venture has conserved over 700, 000 acres of upland and associated wetlands in the prairie region alone (NAWMP 2001).

The Permanent Cover Program (PCP) delivered by the Prairie Farm Rehabilitation Administration (PFRA) as one component of the National Soil Conservation Program (NSCP) was initiated in 1989 in Manitoba, Saskatchewan and Alberta. Initially the PCP was a three-year program with the objective to reduce soil degradation on marginal land classes 4, 5 and 6 under the Canada Land Inventory system. Marginal lands that exhibited a high risk of erosion under annual cultivation were targeted for the Program (Vaisey et al. 1996). The program offered landowners a seed payment to convert eligible lands to perennial forage or tree cover with economic incentives encouraging landowners to sign long term contracts.

The PCP was extended in 1991 to include the Peace River Region of British Columbia and Alberta. The initial PCP converted 168, 000 hectares from crop to forage and an additional 354, 000 hectares were converted through the PCP II. In total, 15, 000 contracts were signed by 1992 and 522, 000 hectares of marginal lands were converted to alternative productive uses with 64 percent of the contracts for a 21-year term (Vaisey et al. 1996). The PCP was a relatively short-term initiative, acceptance to the program between 1989 and 1992, with relatively long-term implications (Vaisey et al. 1996). The first of the 10-year contracts began to expire in 1998 and by 2013 the last of the 21-year contracts will expire leaving no permanent protection on the enrolled lands.

The Critical Wildlife Habitat Program originated in 1989 as a cooperative program involving five conservation organizations; Manitoba Natural Resources, the Manitoba Habitat Heritage Corporation, Wildlife Habitat Canada, the World Wildlife Fund, and the Manitoba Naturalists Society (Environment Canada 2001). The Nature Conservancy of Canada joined the Program in 1992 and the Canadian Wildlife Service in

Guidelines for Baseline Documentation, Monitoring and Ensuring Compliance of Conservation Agreements in Manitoba

1993 (Environment Canada 2001). The goal of the Program is to identify, preserve and manage the remaining critical wildlife habitats in Manitoba, including native grasslands, forested landscapes, and rare and endangered species habitat (Environment Canada 2001). In 1989, the Critical Wildlife Habitat Program began to secure land in the Tolstoi and Gardenton areas, and today the Tall Grass Prairie Preserve protects over 2000 hectares of tall grass prairie in southern Manitoba (Environment Canada 2001).

The Manitoba Government has committed to creating a network of protected areas across Manitoba that will adequately represent each of Manitoba's 18 ecoregions. The Parks and Protected Areas Initiative has made many achievements in Manitoba with the designation of provincial parks, wildlife refuges and ecological preserves. These achievements along with the many other conservation programs in the Province have increased the percentage of natural area representation in Manitoba significantly in the last ten years (Figure 2). Despite the many successful conservation efforts to date, much of southern Manitoba remains, according to the Parks and Protected Areas Initiative, less than adequately represented (Figure 2).