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PREFACE

Organization of Report

The format of the 2004/2005 Sustainable Development Innovations Fund (SDIF) Annual Report is similar to previous Annual Reports in that funded projects are presented by category and program areas.

Projects are listed in the following categories and program areas:

SDIF Open Category Priority Program Areas:
- Eco-tourism
- Ecosystem Conservation
- Environmental Technology Innovation and Demonstration
- Northern Community Development and Environmental Issues
- Sustainable Agricultural Practices
- Sustainable Community Development
- Understanding Our Environment
- Water

Targeted Broad Allocations under the Fund:
- Environmental Youth Corps
- Manitoba Climate Change Action Fund
- Manitoba Forestry Association Woodlot Program
- Orphan Mine Site Assessment Program
- Orphan Mine Site Rehabilitation Program
- Waste Reduction and Pollution Prevention Fund
- Zebra Mussel Program

Purpose

The Fund was created in October 1989 to provide financial assistance towards development, implementation and promotion of environmental innovation and sustainable development projects. The Fund was continued under *The Sustainable Development Act,* proclaimed July 1, 1998.

The Fund provides support to research studies, demonstration of new technology, community enhancement and educational projects, which further the sustainability of Manitoba's economy, human health and social well-being, and help to protect Manitoba's environment. The Fund encourages the creation of sustainable communities and helps them meet their needs by providing grant funding to projects that demonstrate:

- Partnerships between groups and individuals;
- Pride in the community;
- Concern for the environment.

Source of Revenue

The Fund does not generally result in any revenue generation for the provincial government. However, the existence of the SDIF is notionally linked to provincial revenues collected from an environmental protection tax on glass liquor bottles and disposable diapers.

Communication

The Fund is promoted through the following activities:

- Manitoba Conservation web site – http://www.gov.mb.ca/conservation/pollutionprevention
- Community events, trade shows, exhibitions, and speaking engagements
- Ministerial news releases
- Acknowledgement in publications, printed material, and signage of funded projects
- Listings in various funding directories
- Provincial government offices and staff
- Word of mouth.

Process and Fund Management

The Pollution Prevention Branch of Manitoba Conservation is designated as the administrating branch for the Fund under The Sustainable Development Act and provides overall administrative support to the Fund, including the Open Category and the targeted Broad Allocations. This includes responding to inquiries, preparing documentation and reports, tracking expenditures, preparing cash flows, and reporting to Treasury Board.

The Branch also manages the Open Category of the SDIF with the cooperation of provincial government departments. Proposals submitted for funding consideration are evaluated by provincial staff against the SDIF criteria. The evaluations are compiled and summarized and then submitted for review to the SDIF Advisory Committee, which is comprised of representatives from provincial government departments. The Advisory Committee reviews the proposals and the evaluations and makes funding recommendations to the Minister of Conservation. The Minister of Conservation has delegated approval authority for projects receiving funding of $25,000 or less. Projects to be awarded funding in excess of $25,000 are subject to Treasury Board approval.

Projects requesting support under the SDIF Open Category are assessed against the following criteria:

- addresses one or more of the priority areas;
- demonstrates measurable progress towards achieving one or more of the Fund's objectives;
- promotes a sustainable approach, has clear environmental benefits, and takes into account benefits to the community and the economy;
- involves youth;
- has written support and has identified other financial or in-kind project support;
- has a realistic budget and uses appropriate resources to conduct the project;
- has a distinct start and finish, and will be implemented in a timely fashion;
- will be conducted in Manitoba or be of benefit to Manitoba;
- has a clear, concrete plan for future use, sharing, or replication.

Ineligible applications and funding requests under the SDIF Open Category include:

- projects that will result in proprietary knowledge and being held exclusively by the grant recipient;
- applications for debt financing or cost recovery purposes;
- purchase of playground and recreational equipment;
- purchase of real property, including land, buildings or vehicles;
- ongoing administration and established operational budgets;
- initiatives that must be undertaken as a result of a government order, such as removal of petroleum distribution systems, investigations, and remediation.

The Environmental Youth Corps (EYC) Program, Manitoba Climate Change Action Fund (MCCAF), and the Waste Reduction and Pollution Prevention (WRAPP) Fund, use similar processes.

A total allocation of $3.4 million was authorized to support the Fund in 2004/2005. The Fund is comprised of the following allocations:

SDIF Open Category (SDIF)
Environmental Youth Corps (EYC)
Manitoba Climate Change Action Fund (MCCAF)
Manitoba Forestry Association Woodlot Program
Orphan Mine Site Rehabilitation Program
Orphan Mine Site Assessment Program
Waste Reduction and Pollution Prevention (WRAPP) Fund
Zebra Mussel Program

The MCCAF is managed by Manitoba Energy, Science and Technology, the Orphan Mine Site Rehabilitation Program is managed by Manitoba Industry, Trade and Mines and the Zebra Mussel Program is managed by Manitoba Water Stewardship. The remaining broad allocations are managed by Manitoba Conservation.

In total, $2.969 million was expended against a total of $3.4 million. Sixty-seven new projects were allocated funding from the SDIF Open Category in 2004/05, expending approximately $1.43 million, while $30,958.50 was expended on three projects carried over from previous fiscal years. Projects funded under the SDIF Open Category included ventures that focus on Aboriginal interests, youth programming, training initiatives and scientific analysis. The seven targeted broad allocations expended approximately $1.5 million.

A summary of project expenditures under the Fund's SDIF Open Category and Broad Allocations is presented on the following pages.

SDIF OPEN CATEGORY SUMMARY — PRIORITY PROGRAM AREAS

Eco-tourism:

A total of $32,500.00 was expended in 2004/2005 for two projects described in the eco-tourism category. The projects approved under this category are initiatives that address ecosystem preservation, public education and economic opportunities through tourism with a priority on rural and northern communities.

Ecosystem Conservation:

A total of $159,896.00 was expended in 2004/2005 for eleven projects in the ecosystem category. The objectives of this category are to conserve resources, preserve and maintain urban forests and ecosystems and rehabilitate and revitalize degraded areas.

Environmental Technology Innovation and Demonstration:

A total of $160,560.00 was expended in 2004/2005 for seven projects in the environmental technology innovation and demonstration category. Projects that fall within this category include, but are not limited to, feasibility studies, research and development of new products and processes, environmental technology demonstrations, and special projects, such as strategic studies relating to industrial sectors.

Northern Community Development and Environmental Issues:

A total of $85,000.00 was expended during the 2004/2005 fiscal year for three projects funded in the northern community development and environmental issues category. Projects in this category should reflect the enhancement of the environment and sustainable economic development activities of northern and remote communities, with a priority on Aboriginal communities.

Sustainable Agricultural Practices:

A total of $167,712.40 was expended during the 2004/2005 fiscal year for five projects in the sustainable agricultural practices category. Projects that fall within this category include research, demonstration projects, and feasibility studies on agricultural practices that protect the environment and that will assist in diversifying Manitoba's agricultural sector.

Sustainable Community Development:

A total of $165,644.35 was expended during the 2004/2005 fiscal year for nine projects in the sustainable community development category. Sustainable community practices include eco-efficiency initiatives, environmental stewardship, capacity building mechanisms, and encouragement of inner city revitalization, with and emphasis on partnerships with Aboriginal people and youth.

Understanding Our Environment:

A total of $500,251.12 was expended during the 2004/2005 fiscal year for twenty-two projects in the understanding our environment category. Projects that fit into this category help Manitobans make educated decisions and take action regarding the environment, such as education and awareness activities, training, research, seminars and forums.

Water:

A total of $154,815.26 was expended during the 2004/2005 fiscal year for eight projects in the water category. Projects in this category include initiatives that address aquatic nuisance species, livestock stewardship, water quality protection, wise and efficient use of water resources, and scientific and technological innovation in the development, testing, and implementation of technologies that reduce water waste and conserve water.

BROAD ALLOCATIONS SUMMARY

Environmental Youth Corps:

A total of $199,980.13 was expended during the 2004/2005 fiscal year for seventy-eight projects funded through the Environmental Youth Corps (EYC) and the administrative cost of managing the Fund. The EYC supports projects in the various regions of Manitoba that include water quality, waste minimization, protection of flora and fauna, rehabilitation and conservation of the natural environment, wildlife conservation and habitat preservation.

Manitoba Climate Change Action Fund:

A total of $317,000.00 was expended during the 2004/2005 fiscal year for seven projects funded through the Manitoba Climate Change Action Fund (MCCAF). The priority areas within MCCAF include education and outreach, impacts and adaptation, technical innovation and energy efficiency.

Manitoba Forestry Association Woodlot Program

A total of $163,000.00 was expended during the 2004/2005 fiscal year to maintain the Woodlot Program. This program was established to encourage private landowners in Manitoba to use Agro-forestry and woodlot management practices that diversify farm income and maintain wildlife habitat.

Orphan Mine Site Assessment Program

A total of $113,019.66 was expended by the Department of Conservation during the 2004/2005 fiscal year to undertake two independent assessments of identified orphan mine sites and adjacent environment to characterize and determine the management strategy to protect the environment and residents.

Orphan Mine Site Rehabilitation Program:

A total of $150,000.00 was expended by Manitoba Industry, Trade and Mines during the 2004/2005 fiscal year to carry out rehabilitation measures at orphan mine sites in northern Manitoba.

Waste Reduction and Pollution Prevention (WRAPP) Fund:

A total of $543,714.75 was expended during the 2004/2005 fiscal year for thirty projects funded through the Waste Reduction and Pollution Prevention Fund (WRAPP) and WRAPP program development. The priority areas within the WRAPP Fund include composting, construction and demolition (C&D) waste management, green procurement, institutional waste reduction, integrated waste management, market development, pollution prevention, promotion and education and regional recycling.

Zebra Mussel Program:

A total of $25,000.00 was expended by Manitoba Water Stewardship during the 2004/2005 fiscal year to undertake activities that will prevent the spread of zebra mussels into Manitoba lakes, rivers and streams.

Table 1: **Summary of SDIF Open Category and Broad Allocation Projects**

Project Categories	Number of Projects Allocated Funding in 2004/2005	Amount Expended
Open Category		
Eco-tourism	2	$32,500.00
Ecosystem Conservation	11	$159,896.00
Environmental Technology Innovation and Demonstration	7	$160,560.00
Northern Community Development and Environmental Issues	3	$85,000.00
Sustainable Agricultural Practices	5	$167,712.40
Sustainable Community Development	9	$165,664.35
Understanding Our Environment	22	$500,251.12
Water	8	$154,815.26
Broad Allocations		
Environmental Youth Corps (EYC)	78	$199,980.13
Manitoba Climate Change Action Fund (MCCAF)	7	$317,000.00
Manitoba Forestry Association Woodlot Program[1]	N/A	$163,000.00
Orphan Mine Site Assessment Program	N/A	$113,019.66
Orphan Mine Site Rehabilitation Program	N/A	$150,000.00
Waste Reduction and Pollution Prevention (WRAPP) Fund	30	$543,714.75
Zebra Mussel Program	N/A	$25,000.00
Total for Broad Allocations	**115**	**$1,511,714.54**
Total for Open Category	**67**	**$1,426,399.13**
Projects Carried Over into 2004/05	**3**	**$30,958.50**
Total for SDIF	**185**	**$2,969,072.17**

[1] The Manitoba Forestry Association Woodlot Program, the Orphan Mine Site Assessment Program, the Orphan Mine Site Rehabilitation Program and the Zebra Mussel Program support specific activities related to these issues and do not award grants to project proponents.

ECO-TOURISM

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 2

Total Amount Expended: $32,500.00

Project Name	**Total Expended**
Red River Floodway Trail Coalition	$17,500.00
Red River Greenway – Mapping Project	$15,000.00

ECO-TOURISM

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

RED RIVER FLOODWAY TRAIL COALITION

Proponent: Rivers West-Red River Corridor Association Inc.
Date Approved: October 8, 2004
Total Amount Approved: $17,500.00
Total Amount Expended: $17,500.00

Summary:

The Red River Floodway Trail Coalition, comprised of forty-two groups, was formed in response to the Manitoba Floodway Expansion Authority's call for "Expressions of Interest Regarding Recreation and Economic Opportunities" associated with the expansion of the floodway. Its activities are coordinated by Rivers West through a steering committee. A grant of $17,500.00 was approved to develop a comprehensive plan for a greenway/trail along the expanded Red River Floodway. It is intended that the plan will consider the views of existing and potential trail and recreational users of the floodway, as well as satisfy the requirements of the Manitoba Floodway Expansion Authority. The proposed greenway/trail will be 46 km long and will link the Red River North Trail to the Crow Wing Trail. It is also proposed that the plan will include such features as a commemorative native grass/tree planting program; include interpretive products such as signage, pamphlets, staging area structures and education-kits; minimal maintenance requirements and promoting the use of non-motorized vehicles on the trail.

RED RIVER GREENWAY – MAPPING PROJECT

Proponent: Rivers West-Red River Corridor Association Inc.
Date Approved: October 8, 2004
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

Summary:

A grant of $15,000.00 was approved to develop a comprehensive database using information gathered on land use and ownership, as well create a series of maps of the Red River Corridor for use in developing Manitoba's portion of the international greenway. The Premier of Manitoba has made a commitment together with the governors of North Dakota, South Dakota and Minnesota to develop an international greenway along the Red River stretching from Lake Traverse in South Dakota to Lake Winnipeg in Manitoba. Manitoba's greenway along the Red River will be a combination of three types of greenways: ecological, recreational and cultural/historic, and is expected to provide multiple, on the ground benefits through riparian restoration, water quality enhancement, farmer/landowner incentives, community development and increased recreation, tourism and economic development. Once developed, the maps of land ownership will also assist in determining opportunities for land transfers and to identify lands that can be protected from future development through the various programs available.

ECOSYSTEM CONSERVATION

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 11

Total Amount Expended: $159,896.00

Project Name	**Total Expended**
Assessment of environmental effects of ATVs	$20,500.00
Assiniboine Forest Wetland Enhancement Project	$20,000.00
Escarpmental Erosion Control in the Rural Municipality of McCreary, Rosedale Drain	$10,000.00
Escarpmental Erosion Control in the Rural Municipality of McCreary, Slawinski Drain	$10,000.00
First Nations Wildlife and Disease Monitoring	$25,000.00
Native Grass and Wildflower Interpretive Display	$12,750.00
Native Plant Pollination	$3,796.00
Rare and Medicinal Plant Surveys	$4,050.00
Relocation of MWRO Wildlife Rehab Centre, Phase One	$25,000.00
Turtle Mountain Conservation Agreement Program	$25,000.00
Victoria Beach Forest Revitalization Program	$3,800.00

ECOSYSTEM CONSERVATION

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

ASSESSMENT OF ENVIRONMENTAL EFFECTS OF ALL TERRAIN VEHICLES

Proponents Are: Brandon University, Department of Botany
Date Approved: June 17, 2004
Total Amount Approved: $20,500.00
Total Amount Expended: $20,500.00

Summary:

A grant of $20,500.00 was approved to conduct a research project, in conjunction with Manitoba Conservation, to determine the impact and environmental effects of ATV use in Duck Mountain Provincial Park. The use of ATVs in the Park has become popular and has resulted in environmental degradation, such as habitat fragmentation, soil compaction, removal of vegetation cover, erosion, introduction of invasive species, increased litter, other waste disposition, increased noise and water pollution. ATV use in the Park can provide legitimate recreational and economic opportunities if managed appropriately. The study will identify trails currently being used by ATVs; catalogue damaged areas; identify vegetation, soil, slope and other site conditions that make areas susceptible to damage; and recommend a strategy for rehabilitating degraded areas and criteria for avoiding further degradation. The information gathered will provide the basis for future ATV management initiatives in the Province.

ASSINIBOINE FOREST WETLAND ENCHANCEMENT PROJECT

Proponents Are: Charleswood Rotary Club
Date Approved: October 8, 2004
Total Amount Approved: $20,000.00
Total Amount Expended: $20,000.00

Summary:

A grant of $20,000.00 was approved to preserve and enhance the wetland area along the east border of Assiniboine Forest, address the larger drainage issues in the entire south section of the Forest, and ensure a consistent water supply for the wetland region without compromising established vegetation or community dynamics. As a result of permanent flooding, the native aspen/oak tree species have died in this area. Preliminary site inspection and assessment by the City of Winnipeg Naturalist has determined that the early stages of a functional wetland are now present in this area. The intent of this project is to enhance the new wetland area and provide a sustainable solution to areas of standing water surrounding this wetland.

ESCARPMENTAL EROSION CONTROL IN THE RURAL MUNICIPALITY OF MCCREARY: ROSEDALE DRAIN

Proponents Are: Turtle River Watershed Conservation District
Date Approved: July 29, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000.00 was approved to construct a series of rock gradient erosion control structures to control channel erosion, stabilize the streambed and banks, and rehabilitate the riparian zone in the Rosedale Drain. This initiative is intended to restore the creek to its natural state by reducing downstream drain clean-ups, reducing erosion and build up of silt and shale, and improving water quality and groundwater recharge. Channelization of water has resulted in transportation of eroded material downstream to the agricultural lowlands where the materials settle in agricultural drainage channels and associated crossings. This impedes land drainage and causes flooding. Finer deposits are transported further down the watershed into the Turtle River and Dauphin Lake affecting fish habitat and recreational uses. Erosion control structures have been shown to temper flood peaks, slow water velocities, prevent further stream bank and streambed erosion and trap moving sediments. These structures also provide temporary songbird habitat, waterfowl staging and nesting areas, upland wildlife watering sites and pools for various fish species.

ESCARPMENTAL EROSION CONTROL IN THE MUNICIPALITY OF MCCREARY: SLAWINSKI DRAIN

Proponent Are: Turtle River Watershed Conservation District
Date Approved: July 29, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000.00 was approved to construct a series of rock gradient erosion control structures to control channel erosion, stabilize the streambed and banks, and rehabilitate the riparian zone in the Slawinski Drain. This initiative will help to restore the creek to its natural state by reducing downstream drain clean-ups, reduce erosion and build up of silt and shale, and improve water quality and ground recharge. Channelization of water has resulted in transportation of eroded material downstream to the agricultural lowlands where the materials settle in agricultural drainage channels and associated crossings. This action impedes land drainage and causes flooding. Finer deposits are transported further down the watershed into the Turtle River and Dauphin Lake affecting fish habitat and recreational uses. Erosion control structures have been shown to temper flood peaks, slow water velocities, prevent further stream bank and streambed erosion and trap moving sediments. These structures also provide temporary songbird habitat, waterfowl staging and nesting areas, upland wildlife watering sites and pools for various fish species.

FIRST NATIONS WILDLIFE AND DISEASE MONITORING

Proponents Are: West Region Tribal Council
Date Approved: October 8, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved for wildlife monitoring and sample collecting activities around Riding Mountain National Park. West Region Tribal Council, in conjunction with Manitoba Conservation and Parks Canada, will collect samples from big game populations in the Park to determine the prevalence of Bovine Tuberculosis (TB) and Chronic Wasting Disease (CWD). The project includes a community-based education and training program with the intent of increasing awareness among First Nations communities and their youth about wildlife resources and interactions of wildlife with other Riding Mountain National Park stakeholders. The project will integrate traditional ecological knowledge and scientific wildlife survey principles and sample collection. The project is intended to engage First Nations communities around the Park in wildlife management activities and enhance First Nations partnerships with the overall Bovine TB Management Plan.

NATIVE GRASS AND WILDFLOWER INTERPRETIVE DISPLAY

Proponents Are: Turtle Mountain Conservation District
Date Approved: May 25, 2004
Total Amount Approved: $12,750.00
Total Amount Expended: $12,750.00

Summary:

A grant of $12,750.00 was approved to establish an interpretative display of native Manitoba plants at the International Peace Gardens. Turtle Mountain Conservation District will be establishing this display in partnership with the International Peace Gardens, and Boissevain School. Native plant interpretive displays are rare and it is proposed that twenty-five plots within a 200 x 70 foot plot will be established. Plots will be planted with native grasses and flowers. The International Peace Gardens receives approximately 150,000 visitors per year, and with the creation of a native plant interpretive display, it will help to raise awareness on native grasses and wildflowers, as well as provide educational information on the importance and significance of indigenous plants and their habitat in the natural environment.

NATIVE PLANT POLLINATION

Proponents Are: The Manitoba Museum
Date Approved: May 25, 2004
Total Amount Approved: $3,796.00
Total Amount Expended: $3,796.00

Summary:

A grant of $3,796.00 was approved to conduct a study that will collect data on pollination ecology in the Tall Grass Prairie and determine which Tall Grass prairie plants are insect-pollinated, which insects specifically pollinate them and which plants are self-fertile. Many plant species rely on insects for successful reproduction, however little is known about the species involved in this ecological process. The long-term goal will be to determine which plant and insect species are most vulnerable to extirpation in Tall Grass prairie in Manitoba and to identify potential conservation strategies for their preservation. The information gathered will assist in the creation of sustainable Tall Grass prairie preserves within the province. The study will be undertaken at two locations: The Manitoba Museum in Winnipeg and the Tall Grass Prairie Preserve near Vita, Manitoba. Pollination activity on both large and small patches of Tall Grass prairie will be examined to determine the impact of habitat isolation on the long-term sustainability of prairie preserves.

RARE AND MEDICINAL PLANT SURVEYS

Proponents Are: Conserve Native Plants Society Inc.
Date Approved: March 16, 2005
Total Amount Approved: $4,050.00
Total Amount Expended: $4,050.00

Summary:

A grant of $4,050.00 was approved to locate populations of rare plants and provide Brokenhead and Buffalo Point First Nations with potential harvesting locations of medicinal and ceremonial plants. Two sites were chosen for the study: Belair Forest Provincial Park and the timber sales area south of Highway #1 from Ste. Anne east to the Ontario border. Potentially significant habitats will be identified for each site using aerial photos, satellite imagery and topographic maps. Site areas will be prioritized according to rare species and then field surveys will be undertaken. The location and population sizes of medicinal plants will be recorded, as well as, the location of rare wetlands. All specimens will become part of the Manitoba Museum's collection. Information and data collected will assist in conservation efforts and planning processes and will be shared with The Manitoba Museum, Manitoba Conservation and the Conservation Data Centre.

RELOCATION OF MWRO WILDLIFE REHAB CENTRE – PHASE ONE

Proponents Are: Manitoba Wildlife Rehabilitation Organization Inc.
Date Approved: October 8, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to develop a plan and research alternate sites for the relocation of the Manitoba Wildlife Rehabilitation Organization (MWRO) Wildlife Rehabilitation Centre. Currently, the MWRO is situated on 2.5 acres of land at the University of Manitoba, Glenlea Research Station, and the lease will expire by January 1, 2007. The project has been divided into three phases: the preliminary and preparatory phase, relocation phase, and the decommissioning of the Glenlea site phase. The MWRO intends to undertake Phase One, which includes evaluating sites to ensure it meets future needs. Negotiations will be undertaken for the acquisition of a new site. Site planning will include enhancing the capacity to treat wildlife and expansion of services. It will incorporate energy-efficient and eco-friendly construction and practices into the planning and design processes. As well, additional preparatory planning is proposed to include on-site release of rehabilitated birds and small mammals. The planning process will also incorporate on-site environmental programming for schools and community groups.

TURTLE MOUNTAIN CONSERVATION AGREEMENT PROGRAM

Proponents Are: Turtle Mountain Conservation District
Date Approved: March 16, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to ensure that the ecological integrity of the Turtle Mountain region is protected through habitat conservation of native upland and wetland habitat on private land. In southwestern Manitoba, a habitat island exists astride the International border that is being threatened by various land-use activities that may impact the ecological integrity of the area. The District has developed a program that is designed to permanently secure the remaining forest and wetland habitat in the Turtle Mountain region. The Conservation District is interested in forming partnerships with various government and non-governmental organizations, corporations and foundations to raise awareness regarding habitat conservation in the Turtle Mountain region and secure native forest and wetland habitat through conservation agreements. The benefit of this project to the environment is that by conserving native forest and wetland areas on private land within the Turtle Mountain region, a significant amount of contiguous habitat will exist for wildlife species. Protecting forest and wetland habitat will also reduce soil erosion, promote groundwater infiltration, yield better quality water and result in healthier watersheds in general.

VICTORIA BEACH FOREST REVITALIZATION PROGRAM

Proponents Are: Rural Municipality of Victoria Beach
Date Approved:
Total Amount Approved: $3,800.00
Total Amount Expended: $3,800.00

Summary:

A grant of $3,800.00 was approved to revitalize the municipal lands, including green spaces and park areas, while increasing public awareness of environmental issues. The municipality will be cutting deadfall into manageable lengths and any deadfall that can be used for firewood will be offered at no charge to the public. The remaining refuse will be disposed of in an appropriate manner. The majority of the work will be done manually as access is restricted and to minimize damage to existing growth. Where feasible, areas will be forested with seedlings in consultation with Manitoba Conservation, Manitoba Model Forest and other qualified professionals. The municipality will be hiring young adults to conduct the work and will encourage/recruit youth to volunteer their time to perform clean up duties that will not expose them to safety hazards, but will draw their attention to environmental issues.

ENVIRONMENTAL TECHNOLOGY INNOVATION AND DEMONSTRATION

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 7

Total Amount Expended: $160,560.00

Project Name	**Total Expended**
Biodiesel from Oilseed Screenings	$15,960.00
Bio-hydrogen Production from Waste Cellulose Materials	$23,100.00
Biomass Separation and Gasification	$25,000.00
NorthernAire Biodiesel Proposal	$7,500.00
Recycle of industrial waste to reduce nitrate load from municipal wastewater: Case study in Winnipeg	$25,000.00
Strawbale Wall Efficiency and Effectiveness Study	$14,000.00
Tree-Free Ag-Fibre Paper Prototype	$50,000.00

ENVIRONMENTAL TECHNOLOGY INNOVATION AND DEMONSTRATION

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

BIODIESEL FROM OILSEED SCREENINGS

Proponents Are: Arborg-Bifrost Community Development Corporation
Date Approved: May 25, 2004
Total Amount Approved: $15,960.00
Total Amount Expended: $15,960.00

Summary:

A grant of $15,960.00 was approved to undertake a feasibility study and demonstration project, in conjunction with Interlake Development Corporation that has the potential to create value-added opportunities for oilseed producers. It is proposed that this initiative will determine the feasibility of producing biodiesel from offcuts, screenings with wild mustard contaminants, sprouted/heated oilseeds and other salvageable oilseeds that have little or no market value. In undertaking this initiative, Arborg-Bifrost Community Development Corporation will conduct research activities to determine the quantity of oil needed from various feedstocks to produce biodiesel, as well as undertake technical and chemical analyses of the oil and biodiesel produced. The biodiesel product will be field tested using new and used vehicles on an ongoing voluntary basis. Also, the project will determine the feasibility by field testing mustard meal as an insecticide/larvicide under varying conditions. During the final phase of the initiative, the Interlake Development Corporation will conduct a market analysis, competitive analysis and cost analysis into the production and distribution of biodiesel for the Interlake region.

BIO-HYDROGEN PRODUCTION FROM WASTE CELLULOSE MATERIALS

Proponents Are: University of Manitoba, Department of Biosystems Engineering
Date Approved: June 17, 2004
Total Amount Approved: $23,100.00
Total Amount Expended: $23,100.00

Summary:

A grant of $23,100.00 was approved to conduct research, in conjunction with the Department of Microbiology, to evaluate bio-hydrogen production from cellulose waste feedstocks (straw, wood chips, grass residue, paper waste, sawdust, etc.). It is proposed that significant amounts of hydrogen can be produced from cellulose feedstock using conventional dark fermentation technology under conditions that favour hydrogen producing micro-organisms and inhibit others. The research will focus on an anaerobic bacterium that possesses the highest rate of cellulose degradation and produces the highest rate of hydrogen production. Potentially, hydrogen offers a clean, renewable energy source that is compatible with electrochemical and combustion processes for energy conversions without producing carbon-based emissions. Effective use of Manitoba's cellulose waste feedstocks for bioenergy would contribute to the direct mitigation of climate change and displacement of fossil fuel emissions.

BIOMASS SEPARATION AND GASIFICATION

Proponents Are: Home Farms Technologies Incorporated
Date Approved: July 29, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to verify and demonstrate a gasification process that uses solid hog manure as a biomass fuel and a liquid/solid separation process that is intended to produce solids suitable for providing electricity. This project is an advanced phase of research and development for two agricultural technologies, the Enviro Reactor™ and Energy Reactor™. It is proposed that by working in conjunction, these technologies once tested and demonstrated will offer solutions to odour emissions, environmental challenges such as water and soil contamination and identify answers to customer's energy needs in an economical and technologically innovative way. The demonstration and testing will be undertaken within the Rural Municipality of Portage la Prairie. The long-term goal is to develop and implement a model for farmers to explore a new market and gain additional value from agricultural by-products.

NORTHERNAIRE BIODIESEL

Proponents Are: NorthernAire Biodiesel
Date Approved: July 29, 2004
Total Amount Approved: $7,500.00
Total Amount Expended: $7,500.00

Summary;

A grant of $7,500.00 was approved to conduct research and demonstrate the benefits of biodiesel fuel as an alternative to regular diesel fuel. Biodiesel will be manufactured from waste vegetable oil collected from restaurants and fast food outlets. Once biodiesel fuel is produced, it will be tested against established standards and be tested in vehicles for hydrocarbon emissions, fuel consumption, and friction in the internal combustion engine. Initial results of biodiesel fuel prototype tested in various trucks show a general increase in engine performance and fuel economy. The proponent also proposes to streamline the manufacturing process to make it more economically viable for commercial production. The success of this project would be a step forward toward researching and developing a locally made fuel source that is renewable and sustainable, from an environmental perspective.

RECYCLE OF INDUSTRIAL WASTE TO REDUCE NITRATE LOAD FROM MUNICIPAL WASTEWATER: CASE STUDY OF WINNIPEG

Proponents Are: University of Manitoba, Department of Civil Engineering
Date Approved: October 8, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to conduct research to identify and test alternative sources of biodegradable carbon for nitrate removal in municipal plants by using wastewater or waste materials from various industry sources, such as potato processing, fibre-board manufacturing, pulp mill waste, wet grain milling, oil refining and distillery plants. The intent of the research is to conduct a continuous flow test simulating the proposed processes for three Winnipeg wastewater plants, augment them with a particular selected agri-food waste effluent and assess the benefits. The research will benefit municipal wastewater treatment facilities that are required to remove nutrients from wastewater via full biological nutrient removal (BNR) technology.

STRAWBALE WALL EFFICIENCY AND EFFECTIVENESS STUDY

Proponents Are: Building Alternatives Inc.
Date Approved: June 17, 2004
Total Amount Approved: $14,000.00
Total Amount Expended: $14,000.00

Summary:

A grant of $14,000.00 was approved to undertake a research project to determine the viability of strawbale construction in Manitoba by undertaking a comparative analysis of conventional versus non-conventional building systems. The study will evaluate and compare the embodied energy in a conventionally constructed building and a strawbale building. As well, thermal and moisture movement through existing strawbale walls at four sites in Winnipeg, Anola and Headingley will be monitored over a 12 month period. The monitoring sites represent both existing residential infrastructure and a new strawbale research facility at the University of Manitoba. This research is intended to generate quantitative data and increase awareness of strawbale building techniques.

TREE-FREE AG-FIBRE PAPER PROTOTYPE

Proponents Are: Prairie Pulp and Paper Inc.
Date Approved: November 2, 2004
Amount Approved: $50,000.00
Amount Expended: $50,000.00

Summary:

Prairie Pulp and Paper Inc., in conjunction with North Carolina State University, SNC Lavalin, and Straw Producers Co-op of Manitoba, will undertake Phase 2 of a multi-phased project related to producing wood free-paper. A grant of $50,000.00 under the Sustainable Development Innovations Fund and $50,000.00 under the Business Development Fund was approved to carry out Phase 2 of this initiative, which will focus on research and development activities to create paper made from wheat, oat and flax straw without using chlorine in the production process. The project intends to create a commercial grade, eco-friendly 8.5' x 11' computer paper that is 100% ag-fibre paper. The Phase 2 work plan includes: research and development to refine the protocols for pre-pulping, pulping and paper making; production of 1,000 pounds of agriculture fibre-based, 24-pound uncoated paper (specified to a minimum of ISO brightness of 85% and quality standards that meet or exceed industry performance standards for photocopy, lasergraphic, and inkjet copy applications). Unisource Canada Inc. will distribute the paper to end-use customers and collect feedback on the quality and functionality of the paper; specifications for production equipment; and detailed costing for the construction and operation of the commercial facility. This initiative has the potential to generate a new market for straw and to establish a commercial enterprise in rural Manitoba for producing and marketing straw-made paper.

NORTHERN COMMUNITY DEVELOPMENT AND ENVIRONMENTAL ISSUES

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 3

Total Amount Expended: $85,000.00

Project Name	**Total Expended**
Boreal Forest Display/Spirit Way	$10,000.00
Evaluation of the Arsenic Contamination in the Ground and Surface Water in Areas Surrounding the Arsenopyrite Stockpile, Snow Lake, Manitoba	$50,000.00
Lowland Park Karst Inventory, Grand Rapids, Manitoba	$25,000.00

NORTHERN COMMUNITY DEVELOPMENT AND ENVIRONMENTAL ISSUES

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

BOREAL FOREST DISPLAY/SPIRIT WAY

Proponents Are: Spirit Way Inc.
Date Approved: December 23, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000 was approved to depict linkages with the Boreal Forest and its contribution to the quality of life of northern Manitobans. Research will be conducted to identify and document boreal forest flora and fauna, Aboriginal use, global warming effects, and economic development of the boreal forest. Also as part of an overall walkway initiative, *The Spirit Way,* in Thompson Manitoba, a viewpoint will be constructed and a display developed to highlight unique aspects and various points of interest of the boreal forest. At the walkway entrance, markers and signage will be created and posted to identify the natural habitat, as well as provide information on where the boreal forest is located, what it is and how it contributes to the local quality of life.

EVALUATION OF THE ARSENIC CONTAMINATION IN THE GROUND AND SURFACE WATER IN AREAS SURROUNDING THE ARSENOPYRITE STOCKPILE, SNOW LAKE, MANITOBA

Proponents Are: University of Manitoba, Department of Geological Sciences
Date Approved: December 14, 2004
Total Amount Approved: $50,000.00
Total Amount Expended: $50,000.00

Summary:

A grant of $50,000.00 was approved to conduct a two-year research project that will investigate a potential source of environmental pollution and provide information for prevention of arsenic migration. It is intended that the research will provide information about the mobility and possible contamination by arsenic in and from the orphaned tailings at the New Britannia Mine in Snow Lake. Arsenic rich water flows from the vicinity of the Arsenopyrite Residue Pile and the flow patterns of the groundwater and the interactions with the surrounding environment are unknown. The results of this research will assist in creating baseline technical information that will help facilitate environmental management and mitigation of Manitoba's mine tailings.

LOWLAND PARK KARST INVENTORY, GRAND RAPIDS, MANITOBA

Proponents Are: Manitoba Industry, Economic Development and Mines, Manitoba Geological Survey
Date Approved: May 25, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant allocation of $25,000.00 was approved to develop a G.I.S. database of all known karst features in the Grand Rapids Uplands area, in conjunction with the Manitoba Speleological Society. The karst inventory is intended to provide valuable, accurate land base information on which to base decisions on landscape management issues. Karst is a type of landscape developed in the carbonate rocks that overlie the Thompson Nickel Belt, an area of high mineral potential. By Identifying and documenting the actual distribution of the karst landscape, the Geological Survey will be able to provide scientific input into the selection of lands that could be designated to the new Manitoba Lowlands National Park, preserving both economic and ecological values. The project will have significant stakeholder involvement, including provincial and federal governments, Manitoba Hydro and local northern communities. The information gathered for the G.I.S. database will be collected from previous ground traverses conducted by the Manitoba Geological Survey and Manitoba Speleological Society. Data will be used from air photos and maps that outline karst and geological features, MGS geological field stations, MGS core hole data and from the Geological Survey's information 2004 field sampling.

SUSTAINABLE AGRICULTURAL PRACTICES

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 5

Total Amount Expended: $167,712.40

Project Name	**Total Expended**
Development of design standards for Open Confined Livestock Areas	$25,000.00
EarthShare Organic Farm	$50,000.00
Manure Nutrients in Sensitive Land, Year 2	$24,810.00
McLeod Harvest New Grain Harvesting Technology	$51,402.40
Modeling the task of operating an agricultural sprayer	$16,500.00

SUSTAINABLE AGRICULTURAL PRACTICES

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

DEVELOPMENT OF DESIGN STANDARDS FOR OPEN CONFINED LIVESTOCK AREAS

Proponents Are: University of Manitoba, Department of Biosystems Engineering
Date Approved: October 8, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to conduct a comprehensive study that will fully assess the extent of contamination within selected Confined Livestock Areas (CLAs) under Manitoba conditions. The project is intended to identify the hydrologic and management factors that minimize the potential for groundwater contamination of CLAs and develop scientifically sound design standards for construction of CLAs. With higher than average precipitation in Manitoba compared to other areas of the Canadian Prairies where cattle production and feeding operations are concentrated, the potential for groundwater contamination from Confined Livestock Areas has been a concern. Previous Manitoba based studies have indicated that contamination can be detected under some areas of the CLAs. Manitoba Conservation and Manitoba Agriculture, Food and Rural Initiatives will be consulted regarding location of CLAs on different soils, landscapes and management conditions. Detailed Electromagnetic surveys, deep soil sampling and field surveying will be carried out to identify the problem areas, assess contamination levels and determine the slopes and general hydrological conditions of the CLAs. The effects of using liners and collection systems coupled with strategically placed interceptor drains to prevent leaching will be studied. The results will add to Manitoba's knowledge base and assist in the development of better design standards for construction of open confined livestock areas in Manitoba.

EARTHSHARE ORGANIC FARM

Proponents Are: EarthShare Agricultural Co-operative Limited
Date Approved: December 14, 2004
Total Amount Approved: $50,000.00
Total Amount Expended: $50,000.00

Summary:

A grant of $50,000.00 was approved to establish a 25-acre self-financing organic farm located at the Fort Whyte Centre, Winnipeg. The project intends to provide training and employment opportunities for refugees and inner-city youth and establish this location as a permanent site for agro-ecological research activities. As well, environment-related, sustainable and innovative agricultural practices, and unique and innovative technologies for heating and water conservation will be demonstrated and promoted. A series of workshops and guided tours will also be held to further promote and educate the public on agro-ecological principles and organic production methods, including: soil conservation, composting, crop rotation, water conservation, micro-irrigation techniques; energy conservation, integrated pest management, companion planting, floating row covers, cultivation, and mulching.

MANURE NUTRIENTS IN SENSITIVE LAND, YEAR 2

Proponents Are: University of Manitoba, Department of Soil Science
Date Approved: March 16, 2005
Total Amount Approved: $24,810.00
Total Amount Expended: $24,810.00

Summary:

A grant of $24,810.00 was approved to undertake the second year of a three-year research project that will contribute to the development of best management practices to reduce greenhouse gas emissions and nutrient build up, as well as transfer to ground and surface water. The proposed "Manure Nutrients in Sensitive Land" project will complement and build upon a larger research and demonstration initiative, being conducted in a commercial pasture near La Broquerie, Manitoba, entitled, “Best Management Practices to Improve Environmental Sustainability and Productivity of Grassland Systems Using Hog Manure”. This portion of the research intends to further the investigation of nutrient cycling and greenhouse gas emissions from soil from the larger research project. The results of the research are expected to contribute to the overall investigation of best management practices for reducing greenhouse gas emissions from animals and limiting transfer of harmful manure bacteria to the environment.

MCLEOD HARVEST NEW GRAIN HARVESTING TECHNOLOGY

Proponents Are: Manitoba Industry, Economic Development and Mines
Date Approved: March 23, 2004
Total Amount Approved: $200,000.00
Total Amount Expended: $ 51,402.40
Total Amount Projected: $148,560.00

Summary:

A grant allocation totaling $200,000.00 was approved over a four-year period ($50,000.00 per year) to provide funding assistance, in conjunction with Manitoba Hydro and the federal government, with a four-year commercial development program to bring the new McLeod harvesting technology to commercial application in the marketplace. The new grain harvesting technology, which has been developed as an alternative to combines, is expected to enhance the value of harvested grain through the production of animal feed from grain chaff. Recent research also indicates that the chaff can be used as feedstock in ethanol production. The new system also claims to provide significant environmental benefits through removal of weed seed from the field. This is expected to result in reduced pesticide use, less use of fossil fuels for spraying and tillage, and in reduction of farming input costs and greenhouse gases.

MODELING THE TASK OF OPERATING AN AGRICULTURAL SPRAYER

Proponents Are: University of Manitoba, Department of Biosystems Engineering
Date Approved: December 23, 2004
Total Amount Approved: $16,500.00
Total Amount Expended: $16,500.00

Summary:

A grant of $16,500.00 was approved to undertake phase two of a three-year field research project using GPS technology to reduce overuse of pesticides. The project proposes to qualitatively and quantitatively document agricultural sprayer activities and operator's eye glance behaviour. Currently, there is a guidance error by many agricultural sprayer operators that may result in the double application of pesticides and fertilizers. Doubling the application rate increases the probability of environmental contamination. It is proposed that if over application of crop inputs can be reduced or eliminated, it will not only lower the potential for environmental contamination, it will also lower production costs and reduce greenhouse gas emissions due to reduced consumption of fertilizer, pesticide and fuel. Information compiled from this research will describe how the task demands of a sprayer operator change from day to night operation when using a GPS lightbar system.

SUSTAINABLE COMMUNITY DEVELOPMENT

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 9

Total Amount Expended: $165,664.35

Project Name	**Total Expended**
Dauphin Lake Co-Management Group: Fish Stock Survey	$24,949.35
Digital Ortho-rectified Aerial Images of UARCD	$50,000.00
Environmental Contamination & Hollow Water First Nation	$25,000.00
Marymound Community Garden Project	$ 3,015.00
Operation Clean-Up	$10,000.00
Permaculture Community Food Production Residency	$ 5,000.00
The Mennonite Gardens Project	$12,700.00
Tree Nursery	$10,000.00
Wanibigaaw Aki	$25,000.00

SUSTAINABLE COMMUNITY DEVELOPMENT

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

DAUPHIN LAKE CO-MANAGEMENT GROUP: FISH STOCK SURVEY

Proponents Are: Manitoba Conservation and West Region Tribal Council
Date Approved: May 25, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $24,949.35

Summary:

A grant of $25,000.00 was approved to continue a creel survey on Dauphin Lake to provide an estimate of the total harvest of walleye by sport fishers. Previous studies had been conducted in the tributaries of Dauphin Lake, but there were no estimates for angler harvest for the entire open water season and the winter season together. Two students from the local area are conducting the survey, supervised by the Regional Fisheries Biologist. This project is another step in the co-management process to develop a plan with West Region Tribal Council for sustainable allocation of Dauphin Lake fish resources. The resulting co-management plan is intended to guide the activities of all user groups and ensure the sustained viability of the fishery.

DIGITAL ORTHO-RECTIFIED AERIAL IMAGES OF UARCD

Proponents Are: Upper Assiniboine River Conservation District
Date Approved: March 16, 2005
Total Amount Approved: $50,000.00
Total Amount Expended: $50,000.00

Summary:

A grant of $50,000.00 was approved to acquire new ortho photographs from ATLIS Geomatics Inc. in Winnipeg during spring 2005. An ortho photograph is one that has been geo-referenced and corrected for scale distortion, using ground survey and a three dimensional terrain file. The resulting corrected image combines the measuring accuracy of a map with the realism of the photograph. The use of digital aerial photographs and amps can be used to determine how wetlands, streams and rivers have changed, deteriorated or improved since the last series of photos were taken. Access to current information will enable the district to identify areas with issues along various water courses that are affecting water quality and having other environmental impacts. Currently, the district is in the process of evaluating all designated creeks and streams within their boundaries; including undertaking a general health assessment and researching and evaluating riparian areas.

ENVIRONMENTAL CONTAMINATION & HOLLOW WATER FIRST NATION

Proponents Are: Hollow Water First Nation
Date Approved: June 17, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to investigate contaminant levels in water, sediments, wild meat and rice on the lands encompassing Rice Lake, Wanipigow River and Lake Winnipeg. Within the territory, a number of potential contaminate sources will be investigated including a gold mine tailing pond, hydro-electric development, an abandoned silica mine, municipal sewage, cottage development and herbicides and pesticides from the forestry industry. Community members will be trained as part of the water-monitoring program, and will assist in the collection and analysis of water samples. The results of the analyses will be compared to those generated in similar studies in the boreal forest, and with consumption guidelines produced by Health Canada and the World Health Organization. The findings and results will be presented at a community workshop.

MARYMOUND COMMUNITY GARDEN PROJECT

Proponents Are: Marymound Inc.
Date Approved: October 8, 2004
Total Amount Approved: $3,015.00
Total Amount Expended: $3,015.00

Summary:

A grant of $3,015.00 was approved to rejuvenate the main campus grounds by involving students to create a community garden. Student will assist in the planning, developing, maintaining and sustaining the garden, in cooperation with area seniors. Of the several garden plots to be created, one plot will be set aside for growing traditional plants that will be used in Aboriginal ceremonies. This initiative is intended to provide the young people at Marymound with landscaping and gardening skills, teach them about the relationship between food production and the land, and provide knowledge on environmentally sustainable ways to cultivate produce.

OPERATION CLEAN UP

Proponents Are: Operation Clean-Up
Date Approved: July 29, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000.00 was approved to clean a 50 km stretch of the Red River shoreline and surrounding areas from Selkirk south towards the City of Winnipeg from May to October. Much of the debris has been left behind by anglers, tourists, spring run-off and heavy water flow from the south. Operation Clean Up was launched six years ago. On a daily basis, during the summer season, two workers from the Rural Municipality of St. Clements clean up the refuse from the banks and more than 80 of the 45 gallon bins used for garbage collection. The project has participation from several partners and is used by Corrections Canada for community work experience.

PERMACULTURE COMMUNITY FOOD PRODUCTION RESIDENCY

Proponents Are: St. Norbert Arts Centre
Date Approved: May 25, 2004
Total Amount Approved: $5,000.00
Total Amount Expended: $5,000.00

Summary:

A grant of $5,000.00 was approved to assist in the five-stage development and implementation of a permaculture system through a residency program that will focus on research, training, design and implementation. The project is based on the concept of permanent agriculture (permaculture) and it promotes agricultural sustainability, self-reliance and community economic responsibility through educational processes to develop skills related to agriculture and food production. Once implemented it is proposed that the program will facilitate and empower a small community to produce their own fruits, vegetables, eggs and fish; facilitate sustainability of a small community; and improve an historical and ecological site by enhancing existing gardens.

THE MENNONITE GARDENS PROJECT

Proponents Are: Mennonite Heritage Village (Canada) Inc.
Date Approved: June 17, 2004
Total Amount Approved: $12,700.00
Total Amount Expended: $12,700.00

Summary:

A grant of $12,700.00 was approved to establish an extensive garden that will replicate historic Mennonite vegetable gardens and orchards on the Village grounds. To create an authentic gardening area for use in educational programming, a Summer Kitchen (a locale of food processing and interpretation centre) will be rebuilt and interpretive garden panels will be created. As well, an educational booklet on Mennonite gardening traditions and food processing will be produced. The long-term goal is to provide youth with increased knowledge on the processes and benefits of gardening, symbiotic relationships between plants and humans, and understanding of sustainable gardening practices.

TREE NURSERY

Proponents Are: Town of Neepawa
Date Approved: May 25, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000.00 was approved to establish a tree nursery for use towards reforestation of the town's urban forest and throughout the municipality. Many trees in Neepawa have succumbed to Dutch Elm Disease (DED), even with the Town's rigorous DED management program; therefore, a number of trees need to be replaced. The creation of a nursery is intended to help alleviate costs for tree replacement, provide accessible plant stock, facilitate local involvement to protect Neepawa's urban forest, and create more green space.

WANIBIGAAW AKI

Proponents Are: Hollow Water First Nation
Date Approved: October 8, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to complete a traditional land use study incorporating First Nation values they relate to traditional ecological and cultural knowledge, and how indigenous land use customs can support economic opportunities. The study will benefit the community for a wide variety of uses: community education, historical preservation, language preservation and land and resource protection, particularly with culturally sensitive areas such as ceremonial sites and pictograph sites. The traditional land use study will continue with collecting and compiling of stories, history and data. To complete the study, 20 elders and trappers will be interviewed and mapping of traditional trapping areas completed. This study is intended to bring traditional knowledge and oral history together with the latest in geographical information systems and computer technology to create an interactive database of traditional knowledge for the First Nation. Workshops and a community feast will be held to share information with community residents.

UNDERSTANDING OUR ENVIRONMENT

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 22

Total Amount Expended: $500,251.12

Project Name	**Total Expended**
2006 Canon Envirothon	$50,000.00
6th National Annual Sustainable Campuses Conference	$3,000.00
Biodiversity Publication – Manitoba Edition	$10,000.00
Camp Kaboomee	$25,000.00
Conservation and management of roadside habitat and farmland	$10,100.00
Dragonflies of Manitoba – Educational Program	$17,700.00
Dutch Elm Disease Research Project	$14,367.00
Effectiveness of Signage in Reducing Litter in Campsites	$8,000.00
Fisheries Sustainable Development Educational Science Exercises (Senior II to IV)	$2,369.48
Hayes River Educational Kit	$5,064.64
Lichens, Bryophytes and Climate Change	$16,000.00
Living on the Edge: Manitoba's Threatened Species Temporary Exhibit	$25,000.00
Living with Livestock – Environment and Change Conference	$10,000.00
Loggerhead Shrike Habitat and Awareness Initiatives	$25,000.00
Manitoba Municipal Efficiency Project, Phase I	$160,000.00

Project Name	Total Expended
Minimal Design and Construction Standards and Guidelines for School Facilities	$25,000.00
Product Creation for Public Awareness Campaign	$22,200.00
Protecting the Endangered Fringed Orchid in Manitoba	$5,000.00
Reconstructing Environmental and Cultural Adaptation	$21,950.00
Sounds Crazy!	$25,000.00
Student Ambassadors for Sustainable Development	$10,000.00
Using Enduring Features for Protected Areas Planning	$9,500.00

UNDERSTANDING OUR ENVIRONMENT

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

2006 Canon Envirothon

Proponents Are: Manitoba Forestry Association
Date Approved: March 24, 2005
Total Amount Approved: $50,000.00
Total Amount Expended: $50,000.00

Summary:

A grant of $50,000.00 was approved to host the 2006 Canon Envirothon in Winnipeg, a week-long event from July 23-29, 2006. The Canon Envirothon Competition is hosted annually by a member state or province. This is only the second time this event has been held in Canada. Envirothon is an Olympic style competition where students receive hands-on environmental education, in a team-based program. Winning teams from state and provincial competitions, held between March and May, will qualify to represent their respective jurisdictions at the 2006 Canon Envirothon Competition. The Competition is designed to help students understand their environment through exploration of ecology, natural resource management, and current environmental issues. Participants' knowledge is tested on five theme areas through eco-station field testing, as well as an orals competition on the current environmental theme. The theme in 2006 is "Water Stewardship in a Changing Climate".

6TH NATIONAL ANNUAL SUSTAINABLE CAMPUSES CONFERENCE

Proponents Are: Sierra Youth Coalition of Canada, University of Manitoba
Date Approved: October 8, 2004
Total Amount Approved: $3,000.00
Total Amount Expended: $3,000.00

Summary:

A grant of $3,000.00 was approved to host the 6th National Annual Sustainable Campuses Conference in October 2004 at the University of Manitoba. The conference addressed issues on sustainable transportation, renewable energy, social responsibility, social and environmental justice and education for sustainability, as well as highlighted local Indigenous sustainable accomplishments, perspectives and traditions. This was the first time a prairie university has hosted the conference. The conference was intended to stimulate discussion and action among Canadian students, faculty, and university staff on challenges facing the university community regarding sustainable development, social justice and environmental leadership on campuses. This initiative provides students from colleges and campuses across Canada with the opportunity to build capacity and develop skills to carry out sustainability projects in their own communities.

BIODIVERSITY PUBLICATION – MANITOBA EDITION

Proponents Are: Manitoba Conservation, Wildlife and Ecosystem Protection Branch and Keewatin Publications
Date Approved: March 16, 2005
Total Amount Approved: $17,000.00
Total Amount Expended: $10,000.00
Total Amount Projected: $ 7,000.00 (2005/06 FY)

Summary:

A grant allocation of $17,000.00 was approved to develop a 52-page magazine on Biodiversity. The project was undertaken to meet a need for a more comprehensive awareness of the interaction between plant and animal species, humans, and the collective ecosystem of which all are a part. Three provincial editions will be produced, one for each of the Prairie Provinces (Alberta, Saskatchewan and Manitoba). The Manitoba editions will consist of 20,000 English copies and 4,000 copies in French. Each edition will consist of four sections (global, national, Prairie Provinces, and province specific). About half of the copies will be distributed free of charge to Manitoba teachers and students in courses such as biology, natural resources and environmental sciences within the high school curriculum. The remaining copies will be distributed by the publisher to adult readers.

CAMP KABOOMEE

Proponents Are: Looking Glass Interactive Inc. and Cygnus Films Inc.
Date Approved: December 23, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to create a fun-filled, imaginative and creative interactive website for children ages five and up. This interactive and educational website will be accessible to children in Manitoba in a number of languages, including English, French, Inuuk, and Ojibway. The series and website will investigate environmental concerns and educate viewers about the life cycles of animals and plants. The website is intended to captivate a child's imagination through mystery solving opportunities, and allow them to participate interactively in finding answers and solutions to mysteries told in story form. The series is set in northern Manitoba.

CONSERVATION AND MANAGEMENT OF ROADSIDE HABITAT AND FARMLAND

Proponents Are: University of Manitoba, Faculty of Environment, Earth and Resources
Date Approved: March 16, 2005
Total Amount Approved: $10,100.00
Total Amount Expended: $10,100.00

Summary:

A grant of $10,100.00 was approved to conduct a study to examine roadside habitats in Manitoba at a landscape scale and document farmers' knowledge of these habitats. The role of these habitats as refuge for desirable native prairie species and as dispersal corridors for invasive and agricultural species will be examined. The landscape scale survey of roadside habitats will be conducted in three rural municipalities. Each area will be surveyed to assess the location and prevalence of native species of high conservation value, invasive species of concern to farmers and managers, and agricultural volunteers. Survey results will be analyzed to determine spatial distribution of plant populations of high conservation value, and populations of invasive exotics and of agricultural concern. Maps of these populations will be generated using GIS and these maps will then be related to landscape-scale features in the selected rural municipalities. Information from this project is intended to provide information regarding the movement of weeds and their seeds.

DRAGONFLIES OF MANITOBA – EDUCATIONAL PROGRAM

Proponents Are: Nature North and Manitoba Dragonfly Survey
Date Approved: March 16, 2005
Total Amount Approved: $17,700.00
Total Amount Expended: $17,700.00

Summary:

A grant of $17,700.00 was approved to develop and produce a website for the Manitoba Dragonfly Survey (MDS) and develop an educational program on the Dragonflies of Manitoba for the general public. Dragonflies inhabit all types of wetland habitats and are important indicator species for the health of the wetlands and the environment in general. They are increasingly being viewed as beneficial for their role in insect control. Recent work by MDS and by the Natural Services Branch, City of Winnipeg, has begun to document the biodiversity and general status of these insects in Manitoba. The information resources being developed in this project will be available and usable for all levels of Manitoba schools. The educational program will consist of digitally prepared materials that could be presented in the classroom and other settings through Microsoft Power Point, placed on a website and printed out as a desk-top display. The program will cover many aspects of dragonflies and damselflies biology, including life cycles, biodiversity, biogeography, food habits, flight capabilities, etc. The program will also help promote and further the efforts of the MDS project working to survey the dragonfly fauna of Manitoba. The website will ultimately be the entry site for the Dragonflies of Manitoba online education program. In conjunction with the digital program, a printed brochure will be produced providing basic information on dragonfly biology and outlining wetland stewardship techniques to help promote dragonfly diversity.

DUTCH ELM DISEASE RESEARCH PROJECT

Proponents Are: University of Manitoba, Department of Entomology
Date Approved: March 16, 2005
Total Amount Approved: $14,367.00
Total Amount Expended: $14,367.00

Summary:

A grant of $14,367.00 was approved to conduct a four-year research project that proposes to improve the method of controlling Dutch Elm Disease (DED) in Manitoba communities. The University of Manitoba will be working in conjunction with the Coalition to Save the Elms, Manitoba on this project. Removal of infected trees usually takes place during the fall and winter following the detection of DED symptoms, usually in June or July. The choice of removal time is based more on logistical considerations than on knowledge of disease transmission biology: other urban forestry activities are pressing at the time that DED symptoms are detectable and heavy equipment used for tree removal is less damaging to ground surfaces that are frozen. This project will investigate whether rapid removal - shortly after DED symptom detection - would decrease DED incidence. The project will investigate whether beetles emerging in August from newly-symptomatic trees carry fungal spores and what contribution these beetles might make to the overall disease pressure, and will also test in practical trials whether rapid removal is superior to current removal timing in reducing transmission of DED. As well, the project will investigate alternative insecticides that are better suited for use in urban environments. The new strategies developed as a result of this project are expected to assist in reducing the incidence of DED and bringing down the annual loss rate to a sustainable level.

EFFECTIVENESS OF SIGNAGE IN REDUCING LITTER IN CAMPSITES

Proponents Are: University of Manitoba, Faculty of Physical Education and Recreation Studies
Date Approved: July 29, 2004
Total Amount Approved: $8,000.00
Total Amount Expended: $8,000.00

Summary:

A grant of $8,000.00 was approved to conduct a study that will investigate alternative methods of reducing visitor impacts to parks and protected areas. Twelve campsites - six in the backcountry and six in the front country - will be monitored over the course of the study. The study will include two independent variables of anti-litter signage and location. The dependent variable will be the amount of litter found in campsites. Once the study is completed, all litter will be collected and the campsites will be restored to their previous litter free-state. The results of this research are expected to provide park managers with an understanding of the utility of signage in controlling litter and increasing visitors' awareness of environmental concerns so they will become partners in conserving natural environments.

FISHERIES SUSTAINABLE DEVELOPMENT EDUCATIONAL SCIENCE EXERCISES (SENIOR II TO IV)

Proponents Are: Manitoba Water Stewardship, Fisheries Branch
Date Approved: March 4, 2004
Total Amount Approved: $5,800.00
Total Amount Expended: $2,369.48
Total Amount Projected: $3,430.52

Summary:

A grant allocation of $5,800.00 was approved to develop a series of grade specific fisheries exercises and activities related to grades Senior II to Senior IV, working directly with independent science educators to complement the new science curricula being introduced into these grades. This program is intended to create educational awareness material and activities for educators and youth to learn and understand fisheries resource and sustainability practices in Manitoba, provide opportunities for youth to conduct research and fisheries studies through integrated class projects/field trips and the use of web based technology, and develop and understanding of environmental stewardship and capacity by building mechanism concepts that relate to the fisheries resource. The exercises and activities will be on the Manitoba Fisheries web site and will be a Manitoba first in integrating fisheries information into a science curriculum via the internet. The project will be completed in 2005/06.

HAYES RIVER EDUCATIONAL KIT

Proponents Are: Manitoba Conservation, Parks and Natural Areas Branch
Date Approved: October 28, 2002
Total Amount Approved: $9,635.00
Total Amount Expended: $5,064.64
Total Amount Projected: $4,570.36

Summary:

A grant allocation of $9,635.00 was approved to develop an educational kit on the Hayes River – a Canadian Heritage River - as well as the Canadian Heritage Rivers System, for use in Manitoba classrooms. The Hayes River was classified as a heritage river based on the river's exceptional cultural, historical and recreational attributes. As a result of consultations with local communities, a desire was identified to assist local students in developing a greater understanding both of the river's history and the river environment. The proposed kit will include activities that address student learning outcomes in such curricula as Social Studies, Language Arts, History, Mathematics, Science, Art and Music, and Environmental Studies. The kit is intended to foster awareness and appreciation of the environment, as well as of fur trade and Aboriginal history, culture and transportation through a variety of learning activities. The project will be completed in 2005/06.

LICHENS, BRYOPHYTES AND CLIMATE CHANGE

Proponents Are: University of Manitoba, Department of Botany
Date Approved: March 16, 2005
Total Amount Approved: $16,000.00
Total Amount Expended: $16,000.00

Summary:

A grant of $16,000.00 was approved to conduct a quantitative characterization of species composition and genetic diversity in lichens and bryophytes on the open beach ridges in Wapusk National Park, near Churchill, Manitoba. The study is expected to assist in determining the effects of global warming in northern Manitoba, the effects of animal migration on northern communities due to global warming, and provide education and awareness of lichens and bryophytes as bio-indicators.

LIVING ON THE EDGE: MANITOBA'S THREATENED SPECIES TEMPORARY EXHIBIT

Proponents Are: The Manitoba Museum
Date Approved: March 16, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to create an exhibit about Manitoba's endangered and threatened species and spaces: "Living on the Edge". The exhibit will be hosted in conjunction with the exhibition in summer 2005 of Discovering Chimpanzees: The Remarkable World of Jane Goodall. "Living on the Edge", intends to raise public awareness by exploring themes of habitat and species management, threatened species, and extinction and identify major threats, including: habitat loss, habitat fragmentation, invasive species, pollution and climate change. The grassland, forest, freshwater and arctic regions of Manitoba will be displayed. A series of case studies, panels, maps photographs and interactive activities will be created to explain the impact of habitat loss, invasive species and climate change on endangered species and flora and fauna of Manitoba. A long-term objective is to create a traveling exhibit to allow the sharing of this information with all Manitobans.

LIVING WITH LIVESTOCK – ENVIRONMENT AND CHANGE CONFERENCE

Proponents Are: Living with Livestock – Environment and Change
Date Approved: May 25, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000.00 was approved to assist the Living with Livestock – Environment and Change planning committee to host a national conference in Winnipeg from October 5 to October 7, 2004. This conference is held annually on a rotational basis within the three Prairie Provinces. This year's conference included a presentation that laid out a methodology on how the Province could deal with excess phosphorus in the environment from agricultural activities. The conference also showcased leading technologies developed in Manitoba and a poster session was held to illustrate various activities currently being investigated by the livestock sector in western Manitoba. Delegates had an opportunity to attend tours of new and emerging technologies related to odour control, mortalities management and manure management.

LOGGERHEAD SHRIKE HABITAT AND AWARENESS INITIATIVES

Proponents Are: Important Bird Areas Program, Manitoba/Ducks Unlimited Canada
Date Approved: March 16, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to conduct a study to assess habitat selection of the Eastern Loggerhead Shrike, examine landscape level behavioural information, create breeding habitat and create awareness on the concepts of ecosystem conservation and species at risk management. The endangered Loggerhead Shrike breeds in West St. Paul, making this area north of Winnipeg a globally significant Important Bird Area in Manitoba. Data will be collected on the bird's critical breeding habitat to identify specific habitats that require conservation and analyze sites for species recovery opportunities. The importance of habitat management for this bird species will be introduced and a habitat restoration program initiated. The restoration program consists of planting suitable nesting trees to attract Eastern Loggerhead Shrike. To create awareness within the Seven Oaks School Division, students will assist the project biologist in collecting data on the Manitoba population, productivity and survival within the schoolyard and their own backyards.

MANITOBA MUNICIPAL EFFICIENCY PROJECT, PHASE I

Proponents Are: Association of Manitoba Municipalities
Date Approved: March 24, 2005
Total Amount Approved: $160,000.00
Total Amount Expended: $160,000.00

Summary:

A grant of $160,000.00 was approved to provide 16 smaller municipalities with energy and water use audit reports of their municipal operations. In Phase one, consultants/contractors will be hired to audit municipally-owned, operated or funded buildings and water distribution and wastewater collection systems. This project is intended to reduce municipal utility expenses, determine priorities for water distribution and wastewater collection infrastructure, and enable planning for future upgrades. Implementation of audit recommendations, which is a key goal, will be initiated in Phase II.

MINIMAL DESIGN AND CONSTRUCTION STANDARDS AND GUIDELINES FOR SCHOOL FACILITIES

Proponents Are: Public Schools Finance Board
Date Approved: March 19, 2003
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to hire a contractor to develop a "Minimal Design and Construction Manual" for school facilities in Manitoba. The manual will be developed in consultation with experts in this field within Manitoba and outside the Province. The manual proposes to specify energy efficiency standards within the architectural, mechanical and electrical components of a capital school project. In addition to educating the school divisions and their consultants about energy efficiency standards, the Public Schools Finance Board will use the manual to ensure compliance when reviewing projects. It is proposed that newly approved capital projects will use the new standards as outlined in the manual. The manual will be distributed to all school divisions in the Province and to private sector consultants involved in school capital projects.

PRODUCT CREATION FOR PUBLIC AWARENESS CAMPAIGN

Proponents Are: Native Orchid Conservation Inc.
Date Approved: March 16, 2005
Total Amount Approved: $22,200.00
Total Amount Expended: $22,200.00

Summary:

A grant of $22,200.00 was approved to undertake a public promotion and awareness campaign, involving video, television, Public Service Announcements and informational brochures, to further the protection and conservation efforts of native orchid species in Manitoba. This material will be distributed across local television and radio, with the video being available for screening at various conventions, presentations and promotional campaigns undertaken by the Native Orchid Conservation Inc. (NOCI) membership. The materials will contain educational elements such as how to recognize orchids, what happens when orchids are encroached upon and how to assist in orchid preservation. Activities such as handling, picking and photographing orchids will also be covered.

PROTECTING THE ENDANGERED FRINGED ORCHID IN MANITOBA

Proponents Are: Manitoba Orchid Society
Date Approved: March 16, 2005
Total Amount Approved: $5,000.00
Total Amount Expended: $5,000.00

Summary:

A grant of $5,000.00 was approved to continue research into the mechanisms of reproduction of the Western Prairie Fringed Orchid. Additional research is needed to ensure a continued seed source is maintained to enhance or enlarge the existing orchid population, as well as to support initiatives to introduce the plant into other suitable areas of Manitoba. Past research indicates that two sphinx moth species pollinate the western prairie fringed orchid. One species is very scarce in Manitoba and perhaps even endangered itself, while populations of the other fluctuate widely every year. The scarcity of these moth species may have a major effect on the pollination success and subsequent seed production of the Western Prairie Fringed Orchid in Manitoba. Research will also be undertaken on other factors that may influence orchid pollination rates, including: competing nectar sources; access to plants that the sphinx moth caterpillars need to feed on, and other light sources that may attract moths away. The new data will be used to update the long term management and protection plan developed by Manitoba Conservation in the early 1990's.

RECONSTRUCTING ENVIRONMENTAL AND CULTURAL ADAPTATION

Proponents Are: Manitoba Archaeological Society
Date Approved: March 16, 2005
Total Amount Approved: $21,950.00
Total Amount Expended: $21,950.00

Summary:

A grant of $21,950.00 was approved to conduct phase two of a three-phase project at the Selkirk Healing Centre. Information on the natural and cultural history of the area will be collected and an interactive exhibit, edu-kit and teacher's guide will be developed. The long-term intent of the project is to enhance the understanding of past cultures and environments through the use of scientific data collection and analysis and traditional ecological knowledge.

SOUNDS CRAZY!

Proponents Are: Nicely Done Entertainment Ltd.
Date Approved: October 8, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to develop and produce an entertaining, interactive, multi-media learning resource for grade school students. Nicely Done Entertainment Ltd., in conjunction with Dispelling the Myth Productions Inc., intends to create a step-by-step guide "Sounds Crazy" that will focus on sustainable development and conservation issues, and will be piloted in select schools. The intent is to aid students to develop a life-long awareness of sustainability issues and provide educators with a sustainability curriculum resource.

STUDENT AMBASSADORS FOR SUSTAINABLE DEVELOPMENT

Proponents Are: John Pritchard School
Date Approved: May 25, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

Summary:

A grant of $10,000.00 was approved to develop and implement phase two of a student ambassador for sustainable development program for students in grades six through to senior one. John Pritchard School is one of nine schools in Manitoba to pilot Canada's participation in a global organization called ASPnet, a United Nations Educational, Scientific and Cultural Organization (UNESCO) program. ASPnet is a network of schools and students operating in 165 countries. It provides an umbrella for student projects that deal with significant social and scientific issues ranging from world poverty and children's rights to the preservation of rain forests and marine ecosystems. The program will address sustainability issues while creating lasting connections with students from around the world. The long-term goal of the initiative is to ensure students are better informed about environmental and sustainability issues.

USING ENDURING FEATURES FOR PROTECTED AREAS PLANNING

Proponents Are: University of Manitoba, Department of Botany
Date Approved: March 16, 2005
Total Amount Approved: $9,500.00
Total Amount Expended: $9,500.00

Summary:

A grant of $9,500.00 was approved to conduct a study within Chitek Park Reserve to determine the effectiveness of enduring features analysis for park planning. Over the last 15 years, there has been a movement to emphasize protection of landscapes and biotic communities. From this, an analytical technique was developed to assist park planners in identifying areas needing protection by using enduring features. The identification and representation of enduring features in a system of protected lands is considered a useful way of protecting biological diversity. The research will test whether enduring features analysis, based upon soil and landform characteristics, is adequate for protecting biological communities.

WATER

PROJECTS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 8

Total Amount Expended: $154,815.26

Project Name	Total Expended
Faecal Source Tracking in Manitoba	$20,000.00
Filtration System for Wash-pad Run-off	$2,940.26
Livestock effects on farm pond water quality in south-central Manitoba	$25,000.00
Support for the Lake Winnipeg Research Consortium's Namao	$25,000.00
Water Contamination Risk Indicators: Validation	$6,875.00
Water Quality in Lake Manitoba	$25,000.00
Water Quality on the East Side of Lake Winnipeg	$25,000.00
Water Reuse System	$25,000.00

WATER

DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

FAECAL SOURCE TRACKING IN MANITOBA

Proponents Are: Manitoba Technology Centre/Enviro-Test Laboratories
Date Approved: October 8, 2004
Total Amount Approved: $20,000.00
Total Amount Expended: $20,000.00

Summary:

A grant of $20,000.00 was approved to determine sources of *E. coli* contamination in water by using automated DNA ribotyping, a DNA-based test used to identify and classify bacteria based on genetic differences. Known sources of human and animal faecal materials will be collected from regions throughout the province and the DNA patterns of *E. coli* from contaminated water will be analyzed and compared to DNA patterns from known sources of faecal material. The automated ribotyping system is expected to provide fingerprints or patterns of ribosomal DNA and can type *E. coli* isolates within a 24 hour period. It is also proposed that a DNA library will be created for *E. coli* isolates specific to the source and region of the province. Unknown sources of faecal contamination will be ribotyped and compared with the library. Source tracking information will assist in determining the origin of faecal pollution of beaches, groundwater and drinking water that may pose a threat to human health and the environment. Also, identification of the origin of the *E. coli* will assist in developing preventative plans for both environmental and health protection and agricultural practices.

FILTRATION SYSTEM FOR WASH-PAD RUN-OFF

Proponents Are: Niakwa Country Club
Date Approved: June 17, 2004
Total Amount Approved: $3,000.00
Total Amount Expended: $2,940.26

Summary:

A grant of $3,000.00 was approved to demonstrate that a newly developed rinse water filtration system removes various contaminants from run-off water after washing equipment on an asphalt pad. The filtration system consists of a holding tank with pump and a series of tanks, with filtration capabilities, including sand to remove debris, peat moss to remove organics and pesticides and charcoal to further remove pesticides. The end result proved the system filters out contaminants such as gas, diesel, pesticides and phosphates, and with some modification will keep these contaminants out of the Seine River that runs adjacent to the golf course. Grass clippings became a major problem during the demonstration project, contaminating the media tanks. In 2005, the proponent will add a dry area, to collect grass clippings for composting. The system is cost-effective for most courses and will increase the likelihood that other golf courses will adopt similar systems.

LIVESTOCK EFFECTS ON FARM POND WATER QUALITY IN SOUTH-CENTRAL MANITOBA

Proponents Are: University of Manitoba, Delta March Field Station
Date Approved: March 16, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to determine the primary factors affecting rural water quality, including the nature of the surrounding landscape, the extent of agricultural activities, and in particular, the proximity and extent of livestock access. Previous studies, at sites on the Portage Plains, have shown that direct livestock access to ponds is correlated with increases in nutrients (nitrogen and phosphorus) and bacteria. The study will involve 100 farm ponds in an area of south-central Manitoba, including the Rural Municipalities of Cartier, Dufferin, Grey Macdonald, North Norfolk, Portage la Prairie, South Norfolk and Victoria. This area is well suited to this study because it encompasses a wide range of landscape cover (topography, vegetative type, soil type) and agricultural activity (cereal cropping to cow-calf operations). This project is consistent with provincial and federal governments' initiatives to foster better environmental stewardship in the agricultural sector.

SUPPORT FOR THE LAKE WINNIPEG RESEARCH CONSORTIUM'S NAMAO

Proponents Are: Manitoba Water Stewardship, Water Quality Management Branch
Date Approved: July 29, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant allocation of $25,000.00 was approved to support the research carried out by the Lake Winnipeg Research Consortium. The Consortium will collect environmental quality and resource management information that is necessary to meet the Province's priorities for the lake. The samples will be collected during the present open water season and the majority of the work will be conducted off the Canadian Coast Guard's ship Namao. This ship is leased each summer by the Lake Winnipeg Research Consortium to support research on Lake Winnipeg. This project will generate data allowing for assessment of the health of the lake and assist in its protection and conservation.

WATER CONTAMINATION RISK INDICATORS: VALIDATION

Proponents Are: University of Manitoba, Department of Soil Science
Date Approved: October 8, 2004
Total Amount Approved: $6,875.00
Total Amount Expended: $6,875.00

Summary:

A grant of $6,875.00 was approved to conduct research to correlate regional water quality and water indicators with estimates of phosphorus transfer risk from agricultural land. The use of indicators arises from a need for better information to guide and evaluate efforts to reduce environmental stresses. To estimate risk and quantify water quality, databases from several sources will be used and factors such as climate, time period and geographic location will be considered. Non-agricultural sources of phosphorus, such as urban and atmospheric sources will also be considered so that the contribution of phosphorus from agricultural land can be estimated correctly. This project is intended to help ensure that the Province of Manitoba's extension and regulatory programs, which are developed to control agricultural diffusion pollution, will be scientifically sound and targeted to the situations where corrective actions are needed.

WATER QUALITY IN LAKE MANITOBA

Proponents Are: University of Manitoba, Delta Marsh Field Station
Date Approved: December 23, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to conduct a two-year water quality study of Lake Manitoba. The study is being undertaken with support from Manitoba Water Stewardship Water Quality Management, in response to the findings and recommendations of a report submitted to the Province on the state of the Lake. The report indicates that the knowledge on water quality in Lake Manitoba is incomplete and studies are needed to address concerns expressed to the Lake Manitoba Regulation Review Committee regarding various potential threats to the lake's water quality. This study will be the first extensive lake-wide investigation of water quality in Lake Manitoba since the late 1960's, since which time development in the watershed has increased the potential threats to lake water quality. The study is expected to provide important information for evaluating future residential and agricultural development in the vicinity of Lake Manitoba, and background information for evaluating the effects of proposed lake level management by the Province.

WATER QUALITY ON THE EAST SIDE OF LAKE WINNIPEG

Proponents Are: Manitoba Model Forest Inc.
Date Approved: July 29, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to conduct two studies that will help to increase the knowledge base of water bodies on the east side of Lake Winnipeg. One study will collect baseline data by conducting water sampling of approximately 100 lakes on the east side of Lake Winnipeg from the northern portion of Whiteshell Provincial Park to Atikaki Wilderness Park. This study, being completed in conjunction with the University of Manitoba, will use lake water quality survey data and disturbance history information for determining rationale for managing watershed harvesting levels. The second study involves the establishment of a network of river, stream and creek monitoring sites across Tembec's Forest Management License. This study will be coordinated and implemented by Little Black River First Nation under the guidance of Miette Environmental Consulting and will examine the relationships between water quality, watershed features and disturbance history. The intent of the project is to better understand the ecology of boreal lakes, rivers and streams in terms of the influence of landscape features and disturbances on water quality; to improve the integration of aquatic resource management in forest management planning; to facilitate the establishment of a long-term aquatics monitoring program for the region and to directly involve First Nation youth in monitoring and managing aquatic resources. The long-term objective is to provide a vehicle to predict and test hypotheses with respect to the impacts of climate change on water resources in eastern Manitoba.

WATER REUSE SYSTEM

Proponents Are: Seven Oaks General Hospital
Date Approved: March 16, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A grant of $25,000.00 was approved to undertake a demonstration project to divert 6,800 cubic metres or 1.5 million Imperial gallons of water. Water currently being discharged at the Dialysis Clinic will be re-used in the Central Processing area of the hospital. The Hospital proposes to take clean water that is a by-product of the reverse Osmosis Production Units in the Dialysis Clinic, and pump it to the Central Processing Area where it will be used to run vacuum steam sterilization equipment. Once implemented, total water use is expected to decrease by 15%. Water meters installed at transfer points will confirm re-use predictions, and monitor effectiveness. This initiative supports demonstration of a new approach to water efficiency and conservation that will benefit the local and global environment by reducing use of fresh water, the demand on the City water supply, and utility costs to the Hospital, allowing diversion of operating funds to direct patient care facilities. The project has the potential for replication at other facilities operating reverse osmosis water equipment and steam sterilizers.

BROAD ALLOCATIONS

ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 7

Total Amount Expended: $1,511,714.54

Project Name	Total Expended
Environmental Youth Corps	$199,980.13
Manitoba Climate Change Action Fund	$317,000.00
Manitoba Forestry Association Woodlot Program	$163,000.00
Orphan Mine Site Assessment Program	$113,019.66
Orphan Mine Site Rehabilitation Program	$150,000.00
Waste Reduction and Pollution Prevention (WRAPP) Fund	$543,714.75
Zebra Mussel Program	$25,000.00

BROAD ALLOCATIONS
DETAILED LISTING OF PROJECTS ALLOCATED

FUNDING DURING THE 2004/2005 FISCAL YEAR

ENVIRONMENTAL YOUTH CORPS

Proponent: Manitoba Conservation
Date Approved: 2004/05 Estimates
Total Amount Approved: $200,000.00
Total Amount Expended: $199,980.13

Summary:

The Environmental Youth Corps (EYC) has provided Manitoba's young people with an opportunity to prepare for the environmental challenges of tomorrow by helping them gain valuable education and experience today. EYC encourages youth to volunteer within their community for projects to improve and protect Manitoba's environment. The EYC program allows youth the opportunity to be involved in a variety of environmental activities that may otherwise not occur. The EYC program has demonstrated the government's commitment of increasing the opportunities for young people to be involved in environment-related activities, and to further the commitment of environmental protection and education for youth.

Environmental projects eligible for funding to a maximum of $5,000.00 include (but are not restricted to): water quality, waste minimization (recycling, composting, etc.), protection of flora and fauna, rehabilitation and conservation of the natural environment, wildlife conservation and habitat preservation.

EYC SUMMARY

Total 2004/2005 EYC Allocation	***$200,000.00***
Applications Processed	89
Applications Approved	78
Applications Declined	9
Applications Deferred	1
Applications Withdrawn	1
Number of Youth Involved	5,039
Total Amount for Grants Approved	$174,887.00
Total Amount for Grants Expended	$170,717.89
Administration Costs (travel, printing, promotion, Coordinator's salary)	$ 29,262.24
Total Amount Expended	**$199,980.13**

Brief descriptions of the 78 projects approved under the EYC program during the 2004/2005 fiscal year are as follows:

RED RIVER REGION

Alhijra Islamic School, Winnipeg, received $300.00 to involve 40 youth in creating a community garden. Youth assisted in creating and planting a vegetable garden in the schoolyard, with the produce being donated to Winnipeg Harvest. The youth also participated in composting activities.

C.A.P.T. Inc. Daycare Centre, Winnipeg, received $1,600.00 to involve up to 30 youth in the creation of an outdoor classroom. The youth planted, weeded, watered, pruned and maintained a community garden. The youth also participated in recycling activities and a community clean up.

Chapman Elementary School, Winnipeg, received $773.00 to involve 22 youth in a schoolyard beautification project. The youth planted native shrubs, plants and wildflowers to attract butterflies, birds and insects. Youth also participated in composting activities and built birdhouses and bird feeders.

Coalition to Save the Elms MB Inc., Winnipeg, received $3,185.00 to involve 11 youth in a Tree Banding Campaign. The youth assisted in banding trees along Winnipeg's boulevards and riverbank corridors to protect them from cankerworm infestations.

Crow Wing Trail Association Inc., St. Pierre-Jolys, received $1,839.25 to involve up to 2 youth to assist in constructing the north/south link of the Crow Wing Trail, a 150 km trail extending from Winnipeg to Emerson. Community volunteers were recruited to build a boardwalk, clear bush, post directional and interpretative signs and construct the trail.

Dakota Plains First Nation, Edwin, received $2,261.00 to involve up to 20 youth in a community enhancement project. The youth picked up litter and planted trees, grass and flowers.

École Lagimodiere, Lorrette, received $2,900.00 to involve 8 youth in a schoolyard beautification project. The youth planted, weeded and watered trees.

École Riverbend Community School, Winnipeg, received $597.63 to involve up to 6 youth in a community beautification project. The youth picked up litter and helped to maintain the school flowerbeds by weeding and watering.

École Varennes, Winnipeg, received $750.00 to involve up to 325 youth in a schoolyard rejuvenation project. The youth planted perennial flowers, trees and native shrubs to add to their school garden.

Elmwood Youth Access Centre, Winnipeg, received $3,400.00 to involve 75 youth in a community beautification and enhancement project. The youth planted flowers, trees, and saplings, built birdhouses and created feeding stations for birds and other animals.

Faith Academy, Winnipeg, received $200.00 to involve 13 youth in a vermi-composting project. Senior 3 and 4 students will provide a vermi-composting bin and present vermi-composting

workshops to each elementary classroom. The finished compost will be used for indoor plants and other garden related projects.

Fort Whyte Centre, Winnipeg, received $2,750.00 to involve 170 youth in a trail enhancement project. The youth mulched, weeded and installed bird feeders along the trail. As well, youth surveyed the habitat and food sources of the different bird species.

Fort Whyte Centre, Winnipeg, received $4,350.00 to will involve 30 youth from the community service project, Young Entrepreneurs Co-op (YEC). Youth will participate in banding and planting trees, as well as, cleaning up walking trails and bird feeding stations.

Friends of the Garden, St. Claude, received $3,640.00 to involve 150 youth in a town beautification project. The youth recycled, planted flowers, trees and shrubs and cleaned up the community.

George McDowell School, Winnipeg, received $1,150.00 to involve 55 Senior One students in a community tree planting project. The youth will learn about native species of trees in Manitoba and their methods of reproduction. Youth will also assist in planting trees around the school and throughout the neighbourhood.

Grant Park High School, Winnipeg, received $3,760.00 to involve 25 youth in a water quality monitoring project. Partnering with the University of Manitoba Environmental Science Department and the GLOBE project, youth will be linked to, and have access to worldwide databases. Youth will collect data on water quality and soil profiles along the Seine River and plant trees to improve the riparian buffer zone.

Indian & Métis Friendship Centre of Winnipeg, Inc., Winnipeg, received $2,075.00 to involve up to 15 youth in a community beautification project. During the first phase of a three phase project, youth created a garden space and cleaned up litter throughout the neighbourhood.

John W. Gunn Middle School, Winnipeg, received $1,345.00 to involve up to 30 youth in a recycling and greenhouse project. Youth sorted and organized recyclable materials and grew native plants which were transplanted to the schoolyard gardens.

Kildonan Youth Activity Centre, Winnipeg, received $3,700.00 to involve up to 50 youth in an environmental awareness and enhancement project. Youth picked up debris along a portion of the 42 km Hearts Walk trail, built birdhouses and feeders, made cloth lunch bags, and were encouraged to adopt waste minimization practices, such as recycling and other environmental practices.

Long Plain First Nation, Portage la Prairie, received $2,340.00 to involve up to 4 youth in planting a community garden. The youth learned and participated in non-conventional farming/gardening methods for growing organic vegetables and used natural fertilizers.

Lord Wolseley Community School Association, Winnipeg, received $5,000.00 to involve 300 youth in a schoolyard beautification and enhancement project. The intent of the project is to restore a natural habitat in an urban setting and to involve youth and the community in learning about their environment. Youth will assist in creating an outdoor classroom with the planting of trees and shrubs.

Machray School, Winnipeg, received $2,175.00 to involve 250 youth in a schoolyard beautification and enhancement project. The youth will assist in planting trees and creating flowerbeds in partnership with seniors living in the community.

Mennonite Collegiate Institute, Gretna, received $650.00 to involve 170 youth in a schoolyard enhancement and beautification project. The youth will assist in creating a rock garden and constructing a Purple Martin birdhouse. Youth will also participate in recycling and community clean ups.

Murdoch Mackay Collegiate Institute, Winnipeg, received $2,720.00 to involve up to 40 youth in a school beautification and enhancement project. The youth seeded grass, planted and pruned native shrubs, as well as participated in watering, spreading mulch, and weeding.

On the Move Inc., Winnipeg, received $1,000.00 to involve 269 youth in creating an outdoor classroom and a park-like area. The youth participated in planting annual, perennial and vegetable gardens, as well as composting, and tree planting.

River East Neighbourhood Network, Winnipeg, received $2,984.16 to involve up to 102 youth in a community beautification project. Youth learned proper plant care and created window box flower gardens.

River Osborne Community Centre, Winnipeg, received $355.00 to involve up to 70 youth in a community gardening project. The youth created a garden and planted native plant species, as well as participated in composting activities.

Ryerson School-Age Centre Inc., Winnipeg, received $4,168.00 to involve up to 21 youth in creating a community garden. The youth planted seedlings, bulbs and trees while learning the basics of recycling food waste to create compost.

Seine-Rat River Conservation District, La Broquerie, received $2,390.00 to create a nature trail. The youth assisted with trail development, tree planting and riverbank clean up.

Steinbach Christian High School, Steinbach, received $4,300.00 to involve 22 youth in a schoolyard enhancement and beautification project. The youth will assist in creating an outdoor classroom by planting trees and shrubs.

St. Margaret's Anglican Church, Winnipeg, received $480.00 to involve 12 youth in a community enhancement and beautification project. The youth planted community gardens and flowerbeds and undertook composting activities.

St. Norbert Arts Centre, St. Norbert, received $1,836.00 to involve up to 200 youth in a variety of tasks related to environmental conservation and education. Youth participated at the compost demonstration site, created wood chip paths, weeded mulched and watered seedlings and saplings, as well participated in riverbank and green space clean up activities.

The Salvation Army Multicultural Family Centre, Winnipeg, received $2,050.00 to involve up to 87 youth in a community beautification project. The youth planted deciduous trees, as well as enhanced garden space with soil and sod.

Victory School Lighthouse Program, Winnipeg, received $650.00 to involve 80 youth in an environmental awareness project. The youth will plant flowers, pick up litter and construct birdhouses and bird feeders.

Winakwa Community Centre, Winnipeg, received $3,085.00 to involve 15 youth in a beautification and enhancement project. The youth planted trees and shrubs, as well as laid sod.

Winnipeg Métis Association Inc., Winnipeg, received $1,100.00 to involve 9 youth in a community beautification and enhancement project. Throughout a number of communities in Winnipeg, the youth cleaned up litter and recycled materials collected.

EASTERN REGION

Community of Aghaming, Wanipigow, received $2,200.00 to involve up to 5 youth in a community beautification project. The youth participated in a community clean up, planted flower beds, as well as, helped to clear debris from along the Wanipigow River.

Friends of Beausejour Daylily Park, Beausejour, received $1,750.00 to involve up to 25 youth from the RCACS 249 Beausejour Air Cadets, in planting a variety of plant materials at the American Hemerocallis Daylily Display Garden. The youth helped plant approximately 500 flowers, 200 canna bulbs, trees and shrubs.

Wings of Power, Pine Falls, received $711.57 to involve 14 youth to in a community beautification and enhancement project. The youth assisted in creating a composting demonstration site, gathered information for a lending library, constructed birdhouses and feeders and planted native plants and grasses.

INTERLAKE REGION

Dauphin River School, Gypsumville, received $3,330.00 to involve 20 youth in a community beautification and enhancement project. The youth collected garbage, and assisted in enhancing community green spaces and flowerbeds.

Matheson Island Community Council, Matheson Island, received $3,330.00 to involve 18 youth in a community clean up and enhancement project. The youth assisted in constructing recycling and garbage bins, cleaned up debris, as well as, planted flowers and trees.

Peguis First Nation Training & Employment, Peguis, received $1,717.00 to involve up to 40 youth in a beautification and enhancement project. The youth assisted with removing debris from drainage ditches throughout the community.

St. Laurent CDC, St. Laurent, received $2,532.00 to involve 8 youth in a community beautification and enhancement project. The youth cleaned up debris resulting from receding water in the spring along ditches and shorelines.

Town of Teulon, Teulon, received $478.10 to involve up to 43 youth in a community and trail clean up. The youth cleaned debris and installed bat and birdhouses along a 2.5 km walking trail located in Teulon-Rockwood Green Acres Park.

NORTHEAST REGION

Barren Lands First Nation, Brochet, received $1,289.00 to involve up to 68 youth in a community clean up project. The youth picked up litter in the community and debris along the shoreline.

Disbrowe School, Red Sucker Lake, received $600.00 to involve up to 4 youth in a community enhancement project. The youth cleaned up debris and located trash receptacles along a one km trail and established a composting area. Youth also assisted in establishing a recycling depot and prepared vegetable garden plots.

Garden Hill High School, Island Lake, received $2,450.00 to involve 8 youth in a community enhancement project. The youth helped to remove graffiti, cleaned up garbage and recycled aluminum cans.

God's Lake Narrows Community Council, God's Lake Narrows, received $2,340.00 to involve 4 youth in a community beautification and enhancement project. The youth picked up litter and painted garbage cans throughout the community.

Incorporated Community of South Indian Lake, South Indian Lake, received $2,255.30 to involve 20 youth in a community beautification and enhancement project. To create a park-like setting, youth picked up debris, cleared brush and helped to construct garbage bins and picnic tables.

Manto Sipi First Nation, Gods River, received $870.00 to involve 15 youth in a community beautification project. The youth cleaned up 2 km of shoreline along God's River.

Nisichawayasihk Cree Nation, Nelson House, received $4,575.00 to involve up to 116 youth in a community beautification project. The youth created a park-like area by constructing picnic tables, clearing brush and planting trees and flowers.

Shamattawa First Nation, Shamattawa, received $3,830.00 to involve 5 youth in a river clean up project. The youth picked up garbage and debris along the shoreline to help restore the river to its natural state.

Westwood Elementary School, Thompson, received $2,000.00 to involve 40 youth in a school yard enhancement project. The youth planted trees and watered the grounds to create shelter and shade for outdoor classroom sessions.

NORTHWEST REGION

Cormorant Community Council, Cormorant, received $2,104.53 to involve 10 youth in a community beautification and enhancement project. The youth cleaned up litter, created a community sign and planted a flowerbed.

Grand Rapids First Nation, Grand Rapids, received $880.00 to involve 10 youth in a community beautification project. The youth participated in cleaning the riverbank. All debris and garbage collected were sorted for recycling.

Joseph H. Kerr School, Snow Lake, received $500.00 to involve 150 youth in a schoolyard revitalization project. The youth will start seedlings indoors for transplanting to schoolyard gardens. Youth will also participate in soil testing, study plant genetics and learn sustainable growing practices.

Mosakehiken Cree Nation, Moose Lake, received $600.00 to involve 42 youth in a community beautification project. The youth helped to beautify the community by cutting grass and picking up bottles, cans, and litter from ditches and roadways.

Opaskwayak Cree Nation, Opaskwayak, received $3,508.00 to involve 15 youth in a community beautification project. The youth assisted in designing a brochure to educate the public on environmental and pollution prevention practices. Youth also participated in planting trees in community parks and along walking paths, as well as cleaning roadsides of garbage.

WESTERN REGION

Barrows Community Council, Barrows, received $150.00 to involve 36 youth in a community beautification project. The youth planted trees and flowers and weeded and watered flowerbeds, as well as participated in community clean up activities.

Camperville Community Council, Camperville, received $3,440.00 to involve 10 youth in a beach restoration and rehabilitation project. The youth participated in a beach clean up and prepared the site for planting grass seed, trees and shrubs. Youth also installed litter receptacles, constructed picnic tables, created signage and promoted the project to community residents.

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City of Brandon Community Services, Brandon, received $1,450.00 to involve up to 154 youth in various environmental activities. The youth participated in projects that increased awareness on environmental issues such as recycling, composting and green space awareness. Other activities included community clean up, flower planting, and tree identification.

Crane River Recreation Committee, Crane River, received $2,540.00 to involve up to 6 youth in a park enhancement and community beautification project. The “Fun in the Sun” program provided youth the opportunity to participate in community clean up activities, as well as maintaining community green spaces.

Dauphin Joint Recreation Commission, Dauphin, received $4,678.35 to involve up to 150 youth in a number of activities to enhance Vermillion Park. The youth helped to construct wood duck, bat and blue bird boxes, as well as maintained flower beds and undertook clean up activities throughout the park.

Decker Colony School, Decker, received $3,725.00 to involve 48 youth in a schoolyard beautification and enhancement project. The youth constructed birdhouses and birdfeeders, and planted over 800 trees and shrubs.

Green Acres School, Wawanesa, received $3,200.00 to involve up to 7 youth in a tree-planting project. The youth planted and watered trees and assisted with the construction of nature trails and walking bridges.

Meadow Portage Community Council, Meadow Portage, received $2,540.00 to involve 4 youth in beautifying the community park and surrounding area by painting and repairing recycling bins and area signs. Youth also cleaned roadsides and planted grass and flowers at a new historical site.

Nature Valley School, Wawanesa, received $1,475.00 to involve 16 students in a beautification project located in the Village of Dunrea. The students assisted in assembling flower boxes, planted flowers and shrubs and created garden pathways using recycled materials such as wood chips and rubber.

Neelin High School, Brandon, received $2,600.00 to involve up to 500 youth in a tree planting project at King George School. The classrooms adopted one of 20 trees being planted on their school grounds, and youth cared for their tree by mulching, staking, and watering.

Pine Creek School, Camperville, received $940.00 to involve 13 youth in a schoolyard enhancement project. The youth transplanted pine trees from the local forest to the schoolyard. It is intended that the Kindergarten class will adopt and maintain the newly planted trees throughout their school years.

Red Deer Lake Community Council, Barrows, received $2,775.00 to involve 11 youth in a community beautification and enhancement project. The youth will pick up litter; create a flowerbed, and plant trees and flowers. Youth will also build recycling, compost and garbage bins and inform local residents of composting practices.

Riverheights School, Brandon, received $140.00 to involve 15 youth in a community beautification and clean up project. During the spring and fall, youth picked up litter and debris throughout the neighbourhood.

Roblin Elementary Parent Advisory Council, Roblin, received $5,000.00 to involve up to 283 students in creating an outdoor learning centre. The students planted trees, shrubs, vegetables and flowers while learning how to care for their own plants and environment.

Rolling River First Nation, Erickson, received $5,000.00 to involve up to 80 youth in a community enhancement project. The youth planted trees at Eagles Lake and participated in environmental clean up of building remnants and removed garbage from sections of Perch, Eagles, Bast and Hellens Lake.

Rossburn Collegiate, Rossburn, received $2,225.00 to involve 45 youth in a park rehabilitation project. The youth assisted with the removal of debris and the construction of birdhouses. Youth also planted grass, spread soil and pruned trees.

Shoal Lake School, Shoal Lake, received $350.00 to involve 12 youth in a schoolyard enhancement project. The youth planted native prairie flowers to attract birds and to demonstrate how native plants adapt to their environment.

Spence Lake Recreation, Rorkerton, received $2,540.00 to involve 6 youth in enhancing and beautifying Spence Lake Park. The youth planted and watered trees and flowers, constructed bird houses and cleaned ditches and roadsides.

St. Augustine School, Brandon, received $2,890.00 to involve 214 youth in a school yard enhancement and beautification project. The youth will plant and maintain trees, shrubs and flowers.

Wuskwi Sipihk First Nation, Birch River, received $1,350.00 to involve up to 20 youth in an environmental enhancement and awareness program. The youth cleaned up Kettle Hills, a Heritage Park and tourist area.

MANITOBA CLIMATE CHANGE ACTION FUND

Administering Department: Manitoba Energy, Science and Technology, Climate Change Branch
Date Approved: 2004/2005 Estimates
Total Amount Approved: $325,000.00
Total Amount Expended: $317,000.00

Summary:

During its 2004/2005 Estimates process, Treasury Board approved a one-year Broad Allocation of $325,000.00 under the Sustainable Development Innovations Fund for the Climate Change Action Fund (MCCAF). Manitoba Energy, Science and Technology, Climate Change Branch, administers the Manitoba Climate Change Action Fund (MCCAF) to support practical, Manitoba based, actions that respond to the issue of Climate Change. MCCAF will support projects focusing on public education and outreach; the scientific understanding of climate change impacts and potential adaptation practices; technological innovation (research and commercialization); energy efficiency and alternative or "green energy". MCCAF will provide up to 50% of the total budget costs.

MCCAF SUMMARY

Total Allocation for 2004/2005	**$325,000.00**
Applications Processed	7
Applications Approved	7
Applications Deferred	0
Applications Declined	0
Applications Withdrawn	0
Total Amount for Grants Approved	$317,000.00
Total Amount Expended	**$317,000.00**

Brief descriptions of the seven (7) projects approved under the Manitoba Climate Change Action Fund during the 2004/2005 fiscal year follow.

Education and Outreach

Climate Change Connection Phase III

Proponents Are: Manitoba Eco-Network Inc.
Date Approved: August 10, 2004
Total Amount Approved: $42,000.00
Total Amount Expended: $42,000.00

A grant of $42,000.00 was approved to continue Manitoba Eco-Network's role as a host to the Climate Change Connection (CCC), Manitoba's climate change public education and outreach hub. The Connection will continue to create awareness about climate change, to empower Manitobans to take action to reduce the GHG emissions and to assist Manitobans in making the changes necessary to live more sustainable and climate-friendly lifestyles.

Resource Conservation Manitoba

Proponents Are: Resource Conservation Manitoba
Date Approved: August 17, 2004
Total Amount Approved: $100,000.00
Total Amount Expended: $100,000.00

A grant of $100,000.00 was approved to provide programs and services aimed at reducing Greenhouse Gas (GHG) emissions in the urban transportation sector through a series of four (4) climate change and urban trip reduction programs, delivered through a strategic and coordinated approach, that promote climate-friendly transportation. These programs will include Active & Safe Routes to School, Off Ramp Manitoba, Workplace Trip Reduction Project and Commuter Challenge 2005.

Commuter Challenge
The Commuter Challenge, which received $25,000.00, is a good-natured competition among Canadian cities that promotes environmentally friendly ways of getting to work and school during Environment Week each June. Workplaces compete in various size categories, and those with the highest proportion of "green commuting" trips are the winners of the Challenge. Schools also participate on Clean Air Day (Wednesday of Challenge Week). RCM led Winnipeg to a first place finish in the national Commuter Challenge in 2003 and 2004. In 2004, 16 Manitoba communities outside Winnipeg registered for the Challenge. The event has proven to be a highly successful way to get thousands of Manitobans thinking about the environmental, fitness and financial consequences of their commuting choices. It is a critically important tool in gaining standing for climate change and transportation issues at participating workplaces and schools. GHG reductions are automatically calculated through Web-based participant registrations in the event.

Workplace Trip Reduction Initiatives
This program, which received $25,000.00, follows up with Commuter Challenge worksites to support year-round sustainable transportation choices. Through transportation demand management (TDM) approaches, the program aims to increase transportation efficiencies and helps to reduce GHG emissions by encouraging alternatives to the use of single-occupant vehicles. Using tools such as surveys, checklists, site assessments, education, incentives, and removal of barriers to alternative modes of travel, TDM is a flexible means of achieving environmental, cost-saving and health benefits at participating locations. Trip reduction programs like this are a means to encourage the adoption of alternative modes of transportation including transit, safe cycling, walking, carpooling, and telecommuting. Employee surveys identify any needed workplace improvements and capture modal shifts among participants.

Off Ramp Manitoba

Off Ramp Manitoba, which received $20,000.00, is a student-led trip reduction program targeted to secondary schools. The purpose is to reduce GHG emissions by encouraging high school students to walk, cycle, carpool, or take transit to school. Off Ramp Manitoba also aims to raise students' awareness about the environmental impacts of automobile use (notably, climate change). With training and support from RCM, student organizers at participating schools first assess opportunities for sustainable transportation at their school, using tools provided by the program (baseline surveys, checklists). They then develop a campaign to encourage their peers to choose sustainable modes of travel to school. The program provides ideas for events and activities to help motivate student participation. Pre- and post-program surveys document modal shifts and provide GHG reduction estimates.

Active and Safe Routes to School (ASRTS)

This program received $30,000.00. The primary purpose of ASRTS is to reduce GHG emissions by decreasing the use of cars to transport children to and from school. As co-benefits, ASRTS also aims to improve air quality, promote children's fitness, raise traffic safety awareness, and increase the profile of ecologically sustainable transportation choices. The program relies on tools such as walking school buses, Walking Wednesday Clubs, and International Walk to School Week to get children safely to and from school under adult supervision. ASRTS also works to establish 'no-idling' zones for cars around schools. RCM provides kits, posters and ongoing support to encourage active participation in ASRTS.

Climate Change Community Challenge

Proponents Are: Manitoba Energy, Science and Technology
Date Approved: October 26, 2004
Total Amount Approved: $150,000.00
Total Amount Expended: $150,000.00

A grant allocation of $150,000.00 was approved for the Manitoba Climate Change Community Challenge to enable Manitoba Energy, Science and Technology, in partnership with the federal government's One-Tonne Challenge and the Federation of Canadian Municipalities, to assist communities to identify, plan, and implement innovative energy and resource conservation initiatives that will result in reduced GHG emissions. This project, the first such collaborative partnership in Canada, will allow Manitoba communities to conduct practical projects that address the challenge of climate change locally, while also achieving sustainable economic success through innovative energy and resource conservation methods.

IMPACTS AND ADAPTATION

Manitoba-PARC Climate Change Impacts and Adaptation Research Coordinator

Proponents Are: University of Winnipeg – Centre for Forest Interdisciplinary Research (C-FIR)
Date Approved: January 4, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved for a Manitoba-PARC Coordinator at the University of Winnipeg/Centre for Forest Interdisciplinary Research to continue to coordinate climate change research efforts in the province in order to ensure that duplications are minimized, available resources are used most effectively and that strategic gaps relating to research expertise and to areas with significant funding and growth potential, as well as impact on the public good, are addressed.

MANITOBA FORESTRY ASSOCIATION WOODLOT PROGRAM

Managing Department: Manitoba Conservation, Forestry Branch
Date Approved: 2004/2005 Estimates
Total Amount Approved: $200,000.00
Total Amount Expended: $163,000.00

Summary:

A Broad Allocation of $200,000.00 was approved commencing in 2004/2005 under the Sustainable Development Innovations Fund to support the operations of the Manitoba Forestry Association's Woodlot Program.

The objectives of the Woodlot Program are to promote land stewardship, and to help landowners realize the potential of their wooded property in meeting their personal goals.

The three components of this program are management plans, return visits, and public education/extension. Brief descriptions of the three components and achievements for 2004/2005 are as follows:

Management Plans

The primary component/service offered by the Woodlot Program to the landowner is an initial "onsite" visit and the preparation of a Woodlot Management Plan. A Manitoba Forestry Association Extension Officer meets with the landowner and during their "walk and talk" visit discusses various possibilities available for the development and maintenance of the property. This meeting is deemed invaluable as many landowners appreciate the opportunity to exchange ideas with the Extension Officer.

Following the visit, the Extension Officer prepares a detailed management plan based on the specific topics/objectives discussed during the "walk and talk". The plan, along with additional information required to carry out the recommendations in the plan, is presented to the landowner. The landowners are also invited to join various organizations such as the Manitoba Forestry Association for the benefits these organizations provide.

Sixty-five woodlot management plans were completed between April 1, 2004 and March 31, 2005. There are currently twelve landowners on a waiting list for a management plan. The Manitoba Forestry staff has completed 966 management plans on 41,586.65 forested acres since the beginning of the Manitoba Forestry Association Woodlot Program in 1992, throughout 57 municipalities across Manitoba.

Return Visits

The second component of the Woodlot Program is the return visit. A return visit, after the initial "walk'n talk", is a valuable complement to the written plan provided to the landowner. Return visits offer assistance to the woodlot owner who wishes to proceed with timber harvesting (Operational Return Visit) or has completed initial recommendations contained in his/her management plan and may want to carry out additional work in the woodlot (Technical Return Visit).

a) Operational Return Visit

During an operational return visit the MFA Extension Officer may provide a liaison service to landowners who need assistance in marketing their timber. This service is tailored to the needs of the individual landowner and the size and complexity of the proposed timber harvest. The technician will contact and arrange a meeting with a potential wood buyer, assist with securing a contract, monitor the harvesting operation and possibly scale the wood.

Information on tree species, composition, age, growth rate, health and volume (m^3/ha) are reviewed with both parties. This information, combined with the landowner's objectives and the technician's recommendations, will result in a sustainable timber harvest. The recommended harvesting method is discussed in the operational return visit. This includes selection, shelterwood, seed tree, group selection or clearcutting. The Extension Officer also addresses tree marking, harvest timing and landing site selection, as well as trail layout, cutblock arrangement and regeneration with the landowner and contractor so that both parties have a clear understanding of their obligations.

The newly produced "Beneficial Management Practices" (BMP's) manual will serve as a valuable tool ensuring the landowner's rights and interests are respected. The BMP's are also designed to help contractors and landowners conduct woodlot management activities in an environmentally responsible manner, to minimize damage to the existing trees and sustain the productive potential of the woodlot. Funding from the Manitoba Model Forest made the development of this manual possible.

The return visit is a valuable service to both the landowner and the wood purchaser in that both parties are comfortable with the Extension Officer's technical involvement throughout the process. The program has been instrumental in joining woodlot owners with potential forest buyers.

b) Technical Return Visit

The technical return visit is provided to landowners who:

- have or are in the process of completing recommendations contained in their woodlot management plan and request an evaluation of their ongoing silivicultural practices or,
- who wish to advance to the next level of woodlot management.

Some landowners require technical assistance following an inspection of their silvicultural activities by the Extension Officer. The technical return visit provides assurance to the landowner that he/she is on track with ongoing recommendations contained in the woodlot management plan. Other landowners such as Christmas tree growers require insect/disease identification and control measures on an ongoing basis.

Landowners' rekindled interest in tree planting, recreational opportunities, eco-tourism, and non-timber forest products often result in a return visit by the Extension Officer.

Landowners in eastern Manitoba continue to become involved in small-scale timber harvests from their woodlots for economic benefits. While providing supplemental income for the landowner, these patch cuts improve the health of the overall woodlot and enhance wildlife habitat and recreational opportunities.

As the demand for fibre increases, many landowners have become involved in small-scale commercial harvesting activities in eastern Manitoba. These landowners received operational return visits and the estimated volume for sawlogs/pulp/firewood from these activities for 2004/2005 are 10,700 m^3 of softwood and 41,875 m^3 of hardwood. Market demand for timber has increased the stumpage values considerably. Landowners continue to derive supplemental income through sustainable low impact harvesting.

Our newly developed landowner database will be able to provide detailed information on a variety of aspects relating to woodlot management activities. The database will soon be operational and will be able to generate additional statistical information for next year's reports. Funding from the Manitoba Model Forest made the development of the database possible.

A total of 35 return visits were completed for landowners during the period of April 1, 2004 to March 31, 2005.

Landowner Interests with Respect to Management Plans and Return Visits

Increased stumpage prices for aspen have resulted in an increase in harvesting activities on private land. Some landowners are feeling pressure to harvest their wooded areas and are seeking the advice of the Manitoba Forestry Association Woodlot Program staff for information enabling them to make informed decisions.

The percentage of landowner interest on management activities and specialty products being produced from private land are as follows:

a) 27.7% - Traditional Tree Harvesting for Income. This includes harvesting for the sale of sawlogs and pulpwood; harvesting for value-added products such as planning, kiln drying and grading lumber for market within the community and for lumber used for on site building materials; and harvesting for firewood.
b) 22.8% - Non-Traditional Forest Products. This includes Manitoba maple syrup, mushroom production, jams/jellies, Christmas trees and hybrid poplars for pulpwood, sawlogs and future carbon sequestering benefits.
c) 49.5% - Environmental Benefits. This includes recreation (trail construction), wildlife enhancement, eco-tourism and tree planting.

Public Education/Extension

The Manitoba Forestry Association delivers a number of educational and extension activities as a part of the third and final component of the Woodlot Program. The Public Education/Extension component includes a variety of other woodlot activities such as woodlot education seminars, skills development seminars, bus tours, workshops and field days, as well as programming with groups and agencies supportive of woodlot management

Over 50 requests for site visits and subsequent woodlot management plans result from the Woodlot Program activities. A list of activities undertaken by the Woodlot Program staff during the period of April 1, 2004 to March 31, 2005 is as follows:

a) Evening Seminars and Special Presentations. As part of Manitoba Forestry Association's ongoing "Woodlot Series" evening presentations, numerous seminars were held through the province during 2004-2005. Management Seminars were held in Selkirk, Norway House, Assiniboine Forest, Nelson McIntyre School, Arborg, Erickson, and Winnipeg for the Whiteshell Cottage Owners' Association, Pinawa, Beausejour, Gimli, Eriksdale, and Winnipeg in cooperation with the Manitoba Naturalist Society and Carman in cooperation with Manitoba Agriculture, Food and Rural Initiatives. These evening seminars result in numerous requests for personalized woodlot management plan.

b) Field Days and Workshops. In April 2004, a Maple Syrup Field day was held in Beausejour; a 'How to Start a Christmas Tree Farm' seminar was held in Steinbach; and the 6th Annual St. Peter's Church Woodlot Walk 'n Talk was held in East Selkirk. During June 2004, staff attended the Loggers and Haulers 2004 Forestry Demo in Swan River to distribute information, answer questions and talk to the locals about woodlot management. In September 2004, the Woodlot Association of Manitoba held their fall field day titled "A Day in the Boreal Forest" partnering with the Manitoba Forestry Association and Manitoba Model Forest.

c) Bus Tours. The Manitoba Forestry Association Woodlot Program in partnership with the Manitoba Model Forest, Woodlot Association of Manitoba and South Interlake School Division held the following tours: Garter Snakes and Pickerel Lakes Bus Tour, and Prime Meridian Bus Tour, Forest to Finished Products Bus Tour.

d) Annual Meetings. Manitoba Forestry Association staff helped to organize the Manitoba Christmas Tree Growers Association Annual Meeting in Steinbach and delivered a review of the Woodlot Program activities in 2004 at the Woodlot Association of Manitoba Annual General Meeting at Oak Hammock Marsh in January 2005.

e) Seedling Distribution. The second annual "Day in the Pines" seedling distribution and tours were held in May 2004 at the Manitoba Forestry Association Sandilands Forest Education Centre. The seedling distribution program has helped to provide hundreds of thousands of seedlings to landowners across the province. Seedlings are planted for numerous purposes including shelter, lumber products, Christmas trees, landscape sales, wildlife enhancement and aesthetic value. During the two-day event, over 130,000 trees were distributed to approximately 180 landowners.

f) Staff Education. Two staff completed an Introduction to ArcGIS course at the University of Winnipeg. This computer program is a tool that will be used in association with the Manitoba Forestry Association's newly developed database to produce statistical information in the form of text as well as maps for the ongoing woodlot program.

g) Audio/Visual. An Insect and Disease power presentation was developed to use at ongoing workshops, seminars and evening sessions across Manitoba.

h) Program Promotion/Partnerships. Staff continue to be active with the Manitoba Model Forest Woodlot Working Group; assist in developing plans for the Model Forest Demonstration Woodlot, offer technical assistance in developing community woodlots; continue to work with and assist the Manitoba Christmas Tree Growers Association; and continue to manage the activities of the Forest 2020 Plantation Demonstration Initiative, in partnership with the Canadian Forest Service and Manitoba Conservation.

Conclusion

Woodlot management objectives vary between landowners as they manage their woodlots for environmental benefits, timber and non-timber forest products. However, small scale harvesting is becoming more frequent as demand for aspen continues. Staff continues to be busy assessing woodlots for timber volume and quality. Landowners find the "contract for sale of standing timber", that we include in their woodlot management plan, very helpful and reassuring when conducting a timber harvest.

Thirty-five return visits to management plan participants show the continued interest of landowners involved in sustainable woodlot management. These return visits have now become an integral part of the Manitoba Woodlot Program.

The Manitoba Forestry Association-Woodlot Program continues to promote sustainable woodlot management opportunities available to landowners across Manitoba. Through newsletters, field days, bus tours, seminars and general word of mouth, the program continues to help rural Manitobans manage their woodlots for economic, environmental and social benefits.

A process has been put into place to expand services to the Swan River Valley area. An advertisement has been placed to hire a contract person to deliver woodlot extension services based out of Swan River. It is planned to have this contract person in place by April 2005.

ORPHAN MINE SITE ASSESSMENT PROGRAM

Managing Department: Manitoba Conservation, Headquarters Operations
Date Approved: 2004/2005 Estimates
Total Amount Approved: $250,000.00
Total Amount Expended: $113,019.66

Summary:

Treasury Board approved a four year $1.0 million Broad Allocation ($250,000.00 annually) commencing in 2001/2002 under the Sustainable Development Innovations Fund for the Department of Conservation to undertake site specific human health and environmental site assessments at identified orphan/abandoned mine sites (Refer to Table 1).

TABLE 1

A total of $1,000,000.00 was approved over a four-year period for the following assessment projects:

Location	Approved *Amount*	Assessment Project	Status	Total Expenditure to March 31, 2005
Sherridon	$375,400.00	• Hydrogeological/chemistry study • Site Specific Human Health and Ecological Risk Assessment	- Completed - Initiated December 2002	$352,676.88
Gods Lake	$80,000.00	• Site Specific Human and Ecological Health Risk Assessment	- Initiate in 2005/06	
Lynn Lake	$384,600.00	• Site Specific Human and Ecological Health Risk Assessment	- November 2001 to March 2005	$391,161.18
Snow Lake	$80,000.00	• Site Specific Human and Ecological Health Risk Assessment	- Initiate in 2005/06	
Baker Paton	$80,000.00	• Site Specific Human and Ecological Health Risk Assessment	- Initiate in 2005/06	

Two assessments have been initiated since the program's inception, one at Sherridon and the other at Lynn Lake. The hydrogeological/geochemical study of the Sherridon mine tailings impoundment was initiated in 2001/2002. This study provided important environmental information on the impacts of the mine tailings on the adjacent water bodies and the data obtained will be applied in the site specific risk assessment that was initiated in 2002/2003. Data collection was collected over the summer and early fall of 2001 with additional sampling work conducted in 2002/2003. This involved collection of groundwater and surface water samples around the mine tailings impoundment and assessment of hydrogeological/geochemical conditions. The samples were analyzed and the data assessed. The study determined that contaminants continue to be released to the aquatic environment and this will continue for the next 100 years. The information from the study will be applied in the site specific risk assessment.

COLD LAKE/SHERRIDON RISK ASSESSMENT

Total Amount Expended 2004/2005: $106,523.08

In August 2002, Manitoba Conservation met with the Cold Lake/Sherridon Town Council and conducted a public meeting on the proposed Cold Lake/Sherridon Human Health and Environmental Risk Assessment. A Request-for-Proposal (RFP) was developed and issued. The selection committee, consisting of representatives from Manitoba Conservation, Manitoba Industry, Trade and Mines and Manitoba Health, reviewed the consultants' proposals. UMA Engineering, in association with Senes Consulting, was selected to undertake this risk assessment. In November 2002, UMA initiated a review of existing human health and environmental data. Based on the available information, UMA proposed a monitoring plan that was reviewed by Manitoba Conservation's Technical Advisory Committee (TAC). This TAC consists of the same representation as the Lynn Lake TAC, however the Town Council of Cold Lake/Sherridon selected their representative to participate in the TAC.

Air monitoring stations and sample collection locations were selected and data collection commenced in the spring of 2003. Water, soil, sediment, vegetation and biological samples were collected and analyzed over the summer and fall of 2003. In October 2003, Manitoba Conservation and their consultants presented the available results from the sampling program to the Town Council and public. Additional sampling has since been undertaken to supplement available data and the risk modeling has been initiated. The project is scheduled to be completed in March 2004.

LYNN LAKE ASSESSMENT

Total Amount Expended 2004/2005: $6,496.58

On September 5, 2001, a public meeting was held in Lynn Lake to provide the local community and the Marcel Colomb First Nation an opportunity to provide input on a Request-for-Proposal (RFP) to undertake a site specific human health and environmental risk assessment at Lynn Lake. The RFP was issued in October 2001 and a contract was awarded to Dillon Consulting Limited in November 2001. A Technical Advisory Committee (TAC) consisting of technical staff from Manitoba Conservation, Manitoba Health and Manitoba Industry, Economic Development and Mines was established to provide guidance to the consultant. The Town of Lynn Lake and the Marcel Colomb First Nation were invited to participate in the TAC.

The consultant reviewed existing human health and environmental data to determine data gaps. The consultant developed and implemented in the spring of 2002, a monitoring plan to acquire the necessary data for the risk assessment. In addition, the consultant initiated work on environmental and human receptor characterization. This work identified important ecological

features in order to develop a clear understanding of the local ecosystems and indigenous wildlife and all relevant human receptors in the community. These tasks were completed by February 2002 and on March 20, 2002 meetings were held with the Town of Lynn Lake Council, Marcel Colomb First Nation and the Community Adjustment Committee, and a public open house was conducted to solicit community input. Contaminant characterization that will assess ambient air exposure, indoor air exposure, contaminant releases, exposure pathway analysis, aquatic/terrestrial exposure and uncertainty analysis, were completed and the results presented to Marcel Colomb First Nation, Town Council and the public in November 2002. In March 2003 the provincial Technical Advisory Committee provided comments to the consultant on the draft risk assessment report. In April 2003 the report was finalized and presented to the Town Council, Marcel Colomb First Nation and the public.

The risk assessment indicates that mine tailings in and near Lynn Lake pose a risk to the local environment of the Lynn River, from the mouth of the town ditch to the confluence of the Keewatin River. This risk includes portions of the terrestrial environment from the East Tailings Management Area to the southwest and southeast to the Lynn River. Additional hydrogeological/geochemical studies were undertaken in 2003/2004 to provide additional scientific support to the risk assessment.

ORPHAN MINE SITE REHABILITATION PROGRAM

Managing Department: Manitoba Industry, Economic Development and Mines, Mines Branch
Date Approved: 2004/2005 Estimates
Total Amount Approved: $150,000.00
Total Amount Expended: $150,000.00

Summary:

A four-year $1.0 million Broad Allocation ($250,000.00 annually) from the Sustainable Development Innovations Fund to the Department of Industry, Economic Development and Mines, Mines Branch, for an Orphan Mine Site Program to rehabilitate Crown owned orphan mine sites in Manitoba commencing in 2000/01. The four-year work plan included rehabilitation at Sherridon, Gods Lake, Baker Paton, Snow Lake and East Lynn Lake. In 2004, the program was extended to five years. The amount approved for Fiscal Year 2004/2005 represents the unexpended portion of the $1.0 million allocation.

The total expenditure for Fiscal Year 2004/2005 was $150,000.00 and the details are given below in Table 1.

TABLE 1

Project Location	**Total SDIF Approval ($)**	**Expenditure to March 31, 2004**	**Expenditure for 2004/05**	**Total Expenditure up to March 31, 2005**
Sherridon	100,000.00	$93,543.14		$93,543.14
Gods Lake	250,000.00	$258,964.26		$258,964.26
Snow Lake	20,000.00	$54,430.33		$54,430.33
Lynn Lake	480,000.00	$197,802.51	$150,000.00	$347,802.51
Baker Paton	150,000.00	$202,069.49		$202,069.49
Emergency Work Gunnar Mine, Central Manitoba Mines		$43,000.00		$43,000.00
Total	**1,000,000.00**	**$849,809.73**	**$150,000.00**	**$999,809.73**

Summaries of the work carried out at the mine sites are given below:

Sherridon

In 2001/2002, fences of five open (glory) holes were repaired and three open shafts were capped by Sherridon Community Council and B.B. Contractors of The Pas. A "Raw Water Quality" study was carried out by Stantec Consultants Ltd. The study was completed in March 2001 and a copy of the report with recommendations was forwarded to Manitoba Aboriginal and Northern Affairs for action. Dr. C. Ptacek from the University of Waterloo and Environment Canada carried out a study of the hydrogeology and geochemistry at Sherridon tailings. Dr. C. Ptacek also carried out investigative work on the tailings. This study was jointly funded by Environment Canada and Manitoba Conservation. Engineering design for rip-rap stabilization of Sherlett Creek embankment was completed and forwarded to Manitoba Aboriginal and Northern Affairs for action.

In 2002/2003, Camp Lake area, one rectangular perimeter fence 60m x 25m, to accommodate all hazardous areas and around the main shaft headframe, and perimeter fences around two open ventilation raises (5m x 5m each) were installed with warning signs.

In 2003/2004, a 12m x 15m perimeter fence was installed around the old shaft area with warning signs. All corner posts were braced and secured. All brush was removed from either side of the fence and debris was disposed of in the designated landfill.

Total expenditure over four years (2000 - 2004) was $93,533.14

God's Lake

In 2001/2002, using winter roads, all pre-cast concrete caps were transported to Elk Island in March 2002. Shaft caps were installed on #1 Shaft, Smelter Bay Shaft, pumphouse raise and existing shaft caps at #2 Shaft were replaced on Elk Island. The winter roads were only opened for about a week to the full load capacity. This caused delay in the planned work for 2001/2002. The mill foundation was demolished and leveled.

In 2002/2003, on No. 1 and Pumphouse Raise, the outstanding work of re-leveling of the shaft caps due to settlement, the tightening of rock bolts and grouting of the lifting hooks indentations were completed. On Jowsey Island, the shaft cap and the asbestos lined boiler were removed from the site.

A final site inspection was carried out in June 2003 and the contractor was asked to correct the deficiencies such as leveling of the broken concrete at the mill site, leveling the pre-cast slabs at No. 4, tightening the holding down bolts on the shaft caps and supplying the documentation regarding the appropriate disposal of the asbestos line boiler. All the deficiencies have been corrected and the project was completed in the latter part of 2004.

Total expenditure over four years (2000 - 2004) was 258,964.26

Snow Lake

A grant agreement for the amount of $45,000 was signed between the Mines Branch and the University of Manitoba. Dr. Barbara Sherriff conducted the investigative and analytical work on the Arsenopyrite Pile at Snow Lake. The test work commenced in the summer of 2002 and the final Masters of Science thesis on the investigative work was published in March 2004.

In order to collect samples for the study, four holes were drilled into the pile by Midwest Drilling. The holes were drilled through the rock cap, the tailings and into the clay at the base. The total

length drilled was 145 feet and 99 feet of residue was collected. The drill holes were grouted with cement and bentonite clay.

Findings from the study are as follows:

- The waste rock, clay and silt cover installed in year 2000 prevent water infiltration and oxidative release of arsenic. The oxidation front is now located about 2.3 metres below the original surface of the water.
- The pore water sampled contained up to 100 mg/L total arsenic (high). This arsenic could be released into drainage water flow through the pile.
- Arsenic concentrations in surface water at Canada Creek and Snow Lake are well below the Metal Mining Effluent Regulation (MMER) guideline of 0.5 mg/L. The lasting impact of the arsenopyrite stockpile appears to be concentrated in the immediate vicinity of the pile.
- The study recommends further groundwater flow regime near the pile to establish the possibility of horizontal arsenic contamination from this pile.

Total expenditure over four years (2000-04) was $54,430.33

Lynn Lake

In 2001/2002, the study on dyke safety, geotechnical investigation, foundation conditions, slimes investigation, relative impact of acidic drainage on receiving environment with recommendations, and cost associated to stabilize the dykes was completed. The estimated cost to establish the long-term stability of the dykes varies from $1 M to $26M.

In 2002/2003, an evaluation of the acid generation potential of the road base fill used in the construction of the north end of Burnt Timber mine access road, located southeast of the Town of Lynn Lake was undertaken. A site investigation was carried out along a 3 km stretch of the Burnt Timber Road located north of PR #397. Based on the laboratory tests results and the visual inspections, it was concluded that the road bed material used in the construction of this stretch of road section is not acid generating, with the possible exception of a 700m section at its north end, where sulphide-bearing material may have been mixed up and used with sulphide-free borrow material, in an unknown proportion.

Dyke Stabilization in 2002/2004

- UMA Engineering Consultants completed the specifications for Dykes Nos. 4 and 5 stabilization and replacement of Weirs “C” and “D”.
- Dykes 4 & 5 upgrading consisted of placement of geotextile (7600m^2), granular rip-rap (4000m^3), granular filter material (5500m^3) and granular backfill material (7500m^3).
- Overflow channel and weir construction consisted of replacement of Weir C in Dyke 4, Weir D in Dyke 5, placement of granular rip-rap (1500m^3), and geotextile (2000m^3).
- Weir demolition and culvert removal consists of weir demolition and removal of culvert. Tenders were invited and Smook Bros. From Thompson was the low bidder. The work was awarded to Smook Bros. at an estimated cost of $344K. The construction was completed at a total cost of $361K. The engineering design, supervision and inspection cost being $118K. As per the MOU between Viridian Inc. and Manitoba, the province met a portion of the total cost in 2003/2004. The balance of the construction cost of $70.2K was paid to Veridian in 2004/2005.

Ground/surface water flow field studies were conducted in 2003/2004. The study models will be linked to help characterize the contaminate flows from the ETMA.

Permeable Reactive Barriers (PRB)

A PRB is constructed excavation at a location and depth for intercepting contaminated groundwater flow, which will be filled with a mixture of permeable materials capable of reacting with contaminants of interest. An engineered reactive barrier filled with limestone and organic

materials can react with acidic metal-bearing groundwater such that the groundwater leaving the barrier can have lower acidity and metal content. Additional field investigations and laboratory studies at the University of Waterloo with respect to potential applications of PRB technology to treat acid run-off was supported by the Branch. The preliminary results of the column result using "engineered water" looked promising. The test work was completed and the profile of the water quality is underway. The column test will be conducted using acid water from mine site. Based on the end results, a final decision will be taken. Veridian was paid $79.8K in 2004/2005 towards the column study.

Total expenditure on Lynn Lake projects over five years (2000 - 2005) was $347,802.51

Baker Patton

In 2002/2003, a contract was awarded to Acres Manitoba Ltd., the consultant reviewed all pertinent information related to Baker Paton mine site, including historic data, drawings, repairs, air photos, maps, etc.; a site inspection was carried out and detailed scope of work was prepared. The scope was reviewed by the Technical Advisory Committee (TAC) and the final scope was established in December 2002.

A Request for Proposals (RFP) was invited and the actual rehabilitation work for $175K was awarded to Strilkiwski Contracting Ltd. of Dauphin, Manitoba in March 2003.

The primary scope of work is to remove about 5000 cubic yards of sulphide-bearing mine rock, to remove all the oxidized sediments from the creek bed and revegetate the site. The work commenced in March 2003. The creek bed was scraped; creek banks and the exploration trench were cleaned; all acid waste rock was removed, fertilized and seeded to regenerate vegetation. To minimize the damage to the access road, the mine waste rock from the site was hauled during the winter of 2004. The project was completed in March 2004. All deleterious waste including scrap metal, tires and oil drums along the creek were removed and disposed of appropriately. All acid generating waste rock material from the site ($5000m^3$) was hauled and disposed of into the Hudson Bay Mining Smelter tailings impoundment area in Flin Flon. Fertilizer was spread, seeded and erosion control blankets were secured with pins. Dry waste wood from logging operation stored on the site was mulched and spread on top of the erosion control blankets to regenerate vegetation. Costs were 25% over the estimate due to a number of factors which included poor winter road conditions, increased engineering and site supervision and more stringent environmental requirements.

Total expenditure over four years (2000 - 2004) was $202,069.49.

WASTE REDUCTION AND POLLUTION PREVENTION (WRAPP) FUND

Proponents Are: Manitoba Conservation, Pollution Prevention Branch
Date Approved: 2004/05 Estimates
Total Amount Approved: $550,000.00
Total Amount Expended: $543,714.75

Summary:

On May 30, 2000, Treasury Board authorized the Department of Conservation to proceed with the implementation of a new Broad Allocation, the Waste Reduction and Pollution Prevention (WRAPP) Fund, to be funded from the Sustainable Development Innovations Fund. This program was allocated $550,000.00 for the 2004/2005 fiscal year.

The WRAPP Fund will support projects in the following priority areas: construction and demolition waste management; composting; institutional waste reduction; market development; pollution prevention; integrated waste management system development and planning; promotion and education; parks projects; regional recycling; green procurement; and other. Financial partnerships are encouraged.

Up to $100,000.00 of the total allocation is set aside for program development.

The Minister of Conservation has delegated grant approval authority up to $25,000.00, including approvals cash flowed or phased over more than one fiscal year.

WRAPP FUND SUMMARY

Total Allocation for 2004/2005	**$550,000,00**
Applications Processed	40
Applications Approved	30
Applications Deferred	1
Applications Declined	9
Applications Withdrawn	0
Total Amount for Grants Approved	$482,690.00
Total Amount for Grants Expended	$482,690.00
Program Development (consultations, promotions, requests for proposals, seminars, materials, etc.)	$ 61,024.75
Total Expended	$543,714.75

Brief descriptions of the thirty (30) projects within the priority WRAPP areas follow.

COMPOSTING

A LOW MAINTENANCE APPROACH TO COMPOSTING CATTLE MORTALITIES ON THE FARM

Proponents Are: University of Manitoba, Department of Biosystems Engineering
Date Approved: February 28, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved to address the long-term needs of "normal" mortality management in beef and dairy operations in Manitoba. The project was initially started in January of 2004 to explore a simple, practical, and low-cost stack pile composting approach to composting cattle mortalities on rural farms. The original project placed a single cattle carcass in a composting pile that included straw, wood shavings/sawdust, wood chips and sunflower seed hulls. This project is a continuation of the January 2004 Phase I project and will evaluate highly variable factors affecting the compost process including, time of mortalities on the farm, size of carcass, and weather conditions at varying locations. Further studies will include the feasibility of composting two or more carcasses at farms where multiple mortalities have occurred.

BACKYARD COMPOSTER SALE

Proponents Are: City of Winnipeg
Date Approved: February 28, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved to undertake the third year of the City of Winnipeg's backyard composting project. Both previous years were successful in raising awareness of the benefits of composting in Manitoba. The City has estimated that backyard composting can reduce amount of household organic material entering the landfill by 100 kilograms per year. The project involves the sale of up to 5,000 Earth Machine composters from four different locations in Winnipeg. Composters will be sold at a subsidized price of $25.00 each.

MANITOBA LOTTERIES CORPORATION IN-VESSEL COMPOSTING INITIATIVE

Proponents Are: Manitoba Lotteries Corporation
Date Approved: February 28, 2005
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved to establish an in-vessel composting system to compost all organic waste generated by restaurant services at its Casinos. A waste audit of casino services identified 100-150 Tonnes of organic waste generated each year. A technology selection process will identify a potential technology vendor. The Greenhouse Gas reductions resulting from the composted organics will be tracked using the US EPA's WARM modeling system and compost will be used on casino grounds and used to support Winnipeg Harvest's Grow A Row program.

SELKIRK COMPOST PROJECT

Proponents Are: City of Selkirk
Date Approved: July 20, 2004
Total Amount Approved: $20,000.00
Total Amount Expended: $20,000.00

A grant of $20,000.00 was approved to implement a centralized composting program in addition to the City's backyard composting program. The initial goal is to begin curbside collection of organics, with the project then progressing toward the implementation of a confined system, including food and paper waste as part of the compostable feedstock. An integral part of this project is the purchase of a tree branch chipper which will not only divert solid waste from the landfill, but will also reduce present and future costs that accrue due to the need to rent equipment.

ST. ANDREWS RECYCLING AND COMPOSTING INITIATIVE

Proponents Are: Rural Municipality of St. Andrews
Date Approved: July 20, 2004
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

A grant of $15,000.00 was approved to enhance the existing recycling and composting activities within the Rural Municipality of St. Andrews. Some of the project goals include: building a new compost area at the Earl Grey Landfill site; building a new recycling depot and purchasing a brush chipper for residential use. By facilitating the composting of materials, the ease by which residents can recycle, and the chipping of trees, the RM will reduce the quantity of waste that is currently being sent to landfill. This project will increase the life of the current landfill, facilitate the reuse of materials, and encourage citizens to be more responsible regarding the environment.

INTEGRATED WASTE MANAGEMENT

ALUMINUM CAN SORTING AND STORING FACILITY PROJECT

Proponents Are: Cans for Cures Inc.
Date Approved: July 20, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

A grant of $10,000.00 was approved to upgrade the current facilities and marketing program of the Cans for Cures organization. Some of the required upgrades include: construction of a security fence; construction of a sorting table to separate aluminum cans from non-aluminum waste; and the purchase of a baler. A volunteer database will be developed, and metal and wood bins will be placed at participant sites. In order to ensure the community is aware and involved in the process, a marketing program will be established, including the creation of a website. All revenues generated from the collection of aluminum cans are donated to organizations dealing with the special health needs of children.

FIELD DEMONSTRATION OF RETROFIT LANDFILL LEACHATE EXTRACTION WELLS

Proponents Are: University of Manitoba, Department of Civil Engineering
Date Approved: February 28, 2005
Total Amount Approved: $20,000.00
Total Amount Expended: $20,000.00

A grant of $20,000.00 was approved to demonstrate the installation of retrofit extraction wells, which work similar to groundwater extraction wells, constructed within refuse piles to remove excess leachate. Many landfills currently have clogged leachate collection systems. It might be necessary to install leachate extraction wells or drains into the waste in order to collect and remove excess leachate. If leachate is not removed from the landfill, there is greater potential for groundwater, surface water, and soil contamination. All changes in leachate composition and rate of leachate flow throughout the refuse will be used to further enhance BIOCLOG, a unique one-of-a-kind numerical modeling code developed by University of Manitoba personnel. It is expected that the findings from this research will have an impact on the design of retrofitted extraction wells and will be useful by landfill designers, owners and regulators throughout North America.

LABORATORY AND DEMONSTRATION STUDY OF LANDFILL LEACHATE TREATMENT USING MEMBRANE BIOREACTORS

Proponents Are: University of Manitoba, Department of Biosystems Engineering
Date Approved: July 20, 2004
Total Amount Approved: $20,000.00
Total Amount Expended: $20,000.00

A grant of $20,000.00 was approved to develop a process (technology) that will reduce the organic carbon and nitrogen content in landfill leachate. The proposed process will decrease the toxicity and heavy metal content of landfill leachate to levels suitable for discharge into municipal wastewater treatment systems. By establishing an on-site treatment system, the current practices of trucking and disposal of leachate at the City's wastewater treatment plant would be eliminated and consistent with recent recommendations of the Manitoba Clean Environment Commission. The Engineering Department is planning a pilot scale system to evaluate the biological treatment of landfill leachate utilizing membrane bioreactor technology. A laboratory scale membrane bioreactor was constructed and tested to optimize reactor design. A demonstration scale system will be established at Brady Road Landfill to evaluate the on-site performance of this technology.

MANITOBA INFORMATION TECHNOLOGY (IT) WASTE MANAGEMENT SERVICE

Proponents Are: Computers for Schools Manitoba
Date Approved: February 28, 2005
Total Amount Approved: $24,900.00
Total Amount Expended: $24,900.00

A grant of $24,900.00 was approved to establish a sustainable, cost-efficient and environmentally sound mechanism for the collection and management of the growing volume of school computer waste. The project involves a considerable expansion of the organization's information technology (IT) waste management facilities where collected materials would be organized, packaged and shipped to the appropriate recycling facilities. The main objectives of this project are to manage an additional 40 to 50 tons of computer waste each year in an environmentally sound way; provide school divisions with an affordable solution to disposing of stored computer waste; and integrate a computer waste management service with the proponent's current computer refurbishing service.

RECYCLING DEPOT EXPANSION

Proponents Are: Sprucedale Industries Inc.
Date Approved: July 20, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

A grant of $10,000.00 was approved to purchase a forklift to make the current recycling operation more efficient. By purchasing a forklift, the facility staff will be able to load the semi-trailer trucks when necessary rather than having to call upon the local lumberyard to bring their forklift and load on their time. Sprucedale Industries has ongoing agreements with the Rural Municipality of North Norfolk and the Village of MacGregor.

RECYCLING DEPOT EXPANSION

Proponents Are: Rural Municipality of North Norfolk/Village of MacGregor
Date Approved: July 20, 2004
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

A grant of $25,000.00 was approved to enhance and expand the current recycling facility. The project entails construction of a concrete slab floor and a tin clad cold storage recycling depot. The Rural Municipality anticipates that being able to store the recyclables will divert 50% more of the waste that is currently going into the landfill. Constructing a depot will also ensure that the surrounding environment does not become degraded due to the storage of recyclables outside the facility (as now occurs). The Rural Municipality of North Norfolk/Village of MacGregor has ongoing agreements with Sprucedale Industries Inc. for recycling services.

WASKADA RECYCLING COLLECTION ENHANCEMENT

Proponents Are: Village of Waskada
Date Approved: July 20, 2004
Total Amount Approved: $4,000.00
Total Amount Expended: $4,000.00

A grant of $4,000.00 was approved to increase the capacity of the current storage facility for recyclables at the landfill site. Also, the Village plans on building a recycling depot in town. This project will not only divert a significant amount of waste from the local landfill, it will also provide the citizens of the community with a more user friendly recycling system. The long term goals of the Village of Waskada include implementing a blue box program and actively pursuing an education program whereby the Village can promote the benefits of recycling.

WASTE TRANSFER STATION

Proponents Are: Rural Municipality of Roland
Date Approved: February 28, 2005
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

A grant of $15,000.00 was approved to construct a containerized waste-collection system. The Rural Municipality intends to establish a waste transfer station that will result in the diversion of a significant amount of waste from the landfill. The grant will be used towards the purchase of materials, the hiring of a contractor to carry out the various aspects of the project and the improved working conditions of the transfer station operator.

MARKET DEVELOPMENT

RECYCLED GLASS CRUSHING AND REUSE

Proponents Are: McDon's Repair (Boissevain)
Date Approved: July 20, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved to increase McDon's Repair glass crushing capabilities within current operations. By utilizing recycled glass from recycling depots within Manitoba and processing it into a useable and saleable product (glass grit) for sandblasting, the proponent will be able to demonstrate the viability of an environmentally friendly way to reuse glass products. By reusing glass products, the proponent will be assisting in the reduction of reusable glass products currently being sent to landfills.

POLLUTION PREVENTION

IMPROVED DISPOSAL OF SOLID ROCKET PROPELLANT

Proponents Are: Bristol Aerospace Limited
Date Approved: July 20, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved to design, install and optimize a water wash-out facility for the disposal of solid propellant rocket motors at Bristol's Rockwood Plant. Historically, the propellant has been burned off, emitting hydrogen chloride gas and other hazardous compounds. Bristol proposes the wash-out method as a more environmentally sound alternative to the current practices. Also, as this procedure will allow for the separation of the oxidizer and the binder the fuel, the oxidizer can then be recovered and shipped to an American company for reuse.

PROVINCIAL BUILDING ENERGY ANALYSIS PROJECT

Proponents Are: Manitoba Hydro and Manitoba Conservation
Date Approved: February 28, 2005
Total Amount Approved: $8,000.00
Total Amount Expended: $8,000.00

A grant allocation of $8,000.00 was approved to provide Manitoba Conservation with Energy Evaluations of 16 office buildings that are located throughout the province. The Energy evaluations will enable Manitoba Conservation in partnership with Manitoba Government Services to identify opportunities to improve the energy efficiency of these office spaces and to identify appropriate energy upgrades.

PROMOTION AND EDUCATION

COMPOST CAPACITY BUILDING

Proponents Are: Resource Conservation Manitoba
Date Approved: October 26, 2004
Total Amount Approved: $50,000.00
Total Amount Expended: $50,000.00

A grant of $50,000.00 was approved to increase composting throughout Manitoba at the level of household, mid-scale and centralized municipal operations. This project is year one of a three-year program. Resource Conservation Manitoba (RCM) will provide tools, resources and training in order to complete this task. Some of the planned activities include: providing free public workshops; conducting research on composting; providing proactive outreach to communities; and distribution of a manual on establishing backyard composting programs in Manitoba municipalities. New support materials will also be distributed as a means of promoting the compost infoline, website and program as a provincial clearinghouse and referral agency for mid to large scale compost operations. In addition, RCM is seeking to develop and expand established relations with municipalities and compost related groups such as neighbourhood community gardens and Communities in Bloom.

INSTITUTIONAL, COMMERCIAL, INDUSTRIAL (ICI) RECYCLING 101

Proponents Are: The Marquis Project
Date Approved: February 28, 2005
Total Amount Approved: $24,000.00
Total Amount Expended: $24,000.00

A grant of $24,000.00 was approved to conduct research, educate, demonstrate and promote the economic benefits of composting and recycling to the Institutional, Commercial, Industrial (ICI) sector in Brandon and surrounding communities. A pilot case study will be researched and implemented to demonstrate model ICI recycling and composting systems (corrugate cardboard and paper, recyclables and compost). The activities will result in sustainable waste reduction practices for business in the Brandon region. In addition, the project will expand Brandon's bio-fuel project by increasing cooking oil recovery.

MEMORANDUM OF UNDERSTANDING FOR ENVIRONMENTAL INFORMATION SERVICES

Proponents Are: Resource Conservation Manitoba
Date Approved: July 20, 2004
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

A grant of $25,000.00 was approved to support year two for the delivery of Environmental Information Services between Manitoba Conservation and Resource Conservation Manitoba (RCM). The continuation of the MOU will allow for the provision of information and referral services to respond to public inquiries on waste reduction, recycling, climate change and sustainable transportation. Information services include a toll-free information line, website and information brochures/sheets. RCM will continue to provide stakeholder input into environmental initiatives with partners and other stakeholders.

REGIONAL RECYLCING BEST PRACTICES RESEARCH AND PROMOTION PROJECT

Proponents Are: Manitoba Association of Regional Recyclers
Date Approved: February 28, 2005
Total Amount Approved: $7,290.00
Total Amount Expended: $7,290.00

A grant of $7,290.00 was approved to document the successes and challenges of recycling in rural Manitoba in order to strengthen the capacity of its members to deal with changes in the recycling industry. Through a comprehensive case study, six sites will be chosen to share their experiences, practices and future initiatives on the current and future state of the recycling industry in Manitoba. Along with the case studies, a mentoring database will be created to document a list of knowledgeable persons to serve as ongoing resources to other municipalities. The end goal is to identify the need for fundamental industry education on such topics as sustainable integrated waste management systems, development, and planning. A joint project with Resource Conservation Manitoba and the Compost Action Project will be carried out in a series of regional workshops. To conclude this project, a province-wide conference will be held to share the results of the case studies and to discuss a wide range of issues that face the recycling industry.

REGIONAL RECYCLING

CARMAN BLUE BOX PROJECT

Proponents Are: Town of Carman
Date Approved: July 20, 2004
Total Amount Approved: $5,000.00
Total Amount Expended: $5,000.00

A grant of $5,000.00 was approved to encourage citizens to recycle more by involving the whole community in the project. The Carman Area Foundation will encourage residents to recycle by providing and distributing a blue box to households within the Town of Carman (1,500 boxes). While the initial blue box will be given to households, any additional blue boxes that the residents require are to be subsidized by the Foundation. The Town currently does curbside pick up twice a month, however, by initiating a blue box program, increased volumes of recycling can be achieved.

COMMUNITY REYCLING PROJECT

Proponents Are: Rural Municipality of Hanover
Date Approved: February 28, 2005
Total Amount Approved: $6,000.00
Total Amount Expended: $6,000.00

A grant of $6,000.00 was approved to install new community recycling bins in three urban centres within the municipality. The new bins will be placed in high traffic areas in the communities of Blumenort, Mitchell and Kleefeld. The Hanover Public Works staff will landscape the bin locations by preparing the sites with gravel and machine work to allow for proper drainage and access to the bins. The main goal of the project is to reduce the amount of waste sent to Steinbach landfill for disposal.

ENHANCED CARDBOARD AND PAPER RECYCLING PROJECT

Proponents Are: Town of Boissevain
Date Approved: July 20, 2004
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

A grant of $10,000.00 was approved to make the Town's current recycling facility more efficient. By baling recycled paper and cardboard, the facility will be able to cut the cost of freight reduce the number of working hours required of volunteers, and facilitate the more efficient removal of the increasing volumes of recyclables that are currently being collected at the centre. By purchasing a baler, these goals can be achieved. The current methods and equipment utilized at the centre are not adequate for the increasing volumes of recyclables that the centre is receiving.

HAMIOTA RECYCLING PROGRAM IMPROVEMENTS

Proponents Are: Hamiota and District Recycling Group
Date Approved: February 28, 2005
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

A grant of $15,000.00 was approved to implement a curbside Blue Box recycling program and an enhanced recycling facility in the municipality. A baler would also be purchased to help deal with current and future volumes. The project will begin with the purchase of a trailer and 700 blue boxes, which will be distributed to the residents free of charge within the District, with extras available for purchase. The trailer will be used for collection and sorting the recyclable material and could be easily hauled by a normal pickup truck. The trailer would also act as a drop off location for residents.

NORTHLANDS FIRST NATIONS COMMUNITY OF LAC BROCHET REYCLING PROGRAM

Proponents Are: Petit Casimir Memorial School
Date Approved: February 28, 2005
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

A grant of $15,000.00 was approved to extend the recycling program, initiated by Petit Casimir Memorial School to the rest of the Lac Brochet community. Lac Brochet is a remote native reserve located roughly at the same latitude as Churchill. The local school, Petit Casimir Memorial School, recently received a Student Action for Recycling (STAR) grant from the Manitoba Product Stewardship Corporation (MPSC) to be used towards starting and maintaining a recycling program within the school. Project activities (for the extended recycling program) include the promotion and education of recycling to residents, businesses and organizations, as well as, securing a mobile recycling centre for collection of recyclables with a feasible transportation plan. The project is to be undertaken in partnership with North Central Development's Regional Recycling Coordinator.

OUTSIDE DROP-OFF BINS

Proponents Are: North Eastern Regional Recycling Facility (NERRF)
Date Approved: February 28, 2005
Total Amount Approved: $8,000.00
Total Amount Expended: $8,000.00

A grant of $8,000.00 was approved to obtain nine durable steel recycling bins that can replace the wooden ones that NERRF currently has. Once the new steel bins are in place, the older bins will be fixed up and relocated to Tyndall and Garson where they can begin to collect more recyclable material. The newer steel bins will save NERRF money in the long-run since they will not have to fix or replace the bins as often as in the past. The older bins placed in a newer market will encourage recycling start-ups in these areas.

RECYCLE DEPOT

Proponents Are: Rural Municipality of Edward
Date Approved: February 28, 2005
Total Amount Approved: $3,500.00
Total Amount Expended: $3,500.00

A grant of $3,500.00 was approved to design and implement a recycling depot to service the Town of Pierson and surrounding municipality. A shipping container is to be purchased and placed at the local landfill as a recycling depot. Residents are asked to place their recyclable materials in clear plastic bags, separate from their weekly refuse, on the curb for weekly pickup. All recyclable material will be deposited into the shipping container depot and processed as part of the regional recycling system.

RM OF LAWRENCE RECYCLING PROGRAM

Proponents Are: Rural Municipality of Lawrence
Date Approved: July 20, 2004
Total Amount Approved: $15,000.00
Total Amount Expended: $15,000.00

A grant of $15,000.00 was approved to make modifications to the current recycling facility in order to make the facility more efficient. Landscaping tasks will also be undertaken in order to separate the recycling building from the landfill site. The proposed building modifications include: the construction of bin hatches on the wall; construction of bins within the building; and construction of appropriate signage at the building and within the area leading into the site. A used oil collection depot will also be part of this project. This project will help to improve the material handling efficiency at the depot and encourage increased recovery of recyclables.

RM OF SOUTH NORFOLK GLASS RECYCLING INITIATIVE

Proponents Are: Rural Municipality of South Norfolk
Date Approved: February 28, 2005
Total Amount Approved: $2,000.00
Total Amount Expended: $2,000.00

A grant of $2,000.00 was approved to start a glass recycling program within the Municipality of South Norfolk in order to improve the quality of recycling in that area. The project objectives include encouraging ratepayers to recycle glass in order to reduce the amount of glass shipped to the neighbouring Rural Municipality of Thompson, as well as, purchasing a glass crusher. The glass crusher along with the ability of residents to use the crushed product will enable them to recycle a minimum 75% of the glass they use. Education programs would entail environmentally friendly ways in which the glass can be used, as opposed to using other products that are harmful to the environment.

TOWN OF NEEPAWA RECYCLING

Proponents Are: Town of Neepawa
Date Approved: February 28, 2005
Total Amount Approved: $10,000.00
Total Amount Expended: $10,000.00

A grant of $10,000.00 was approved to encourage the residents of Neepawa to recycle more material instead of being disposed of in the garbage. The main objectives of this project include recycling, reducing waste disposal, reducing landfill costs, and reducing pollution. When instituted, Neepawa's recycling program will provide residents with weekly curbside pick-up of recyclable materials. The program will provide blue boxes to residents for their recyclables and blue bags for paper products, thus making it easier for residents to recycle.

PROGRAM DEVELOPMENT

An allocation of up to $100,000.00 was approved for WRAPP program development in fiscal year 2005/2005.

In 2004/2005, the WRAPP Fund expended $61,024.75 supported the following key activities:

- Green Transportation and Commuter Challenge
- Composting Conference and Training
- Water Conservation
- Ozone Depleting Substances Management Program
- Waste Reduction Week
- Sustainable Development – Greening Government
- Product Stewardship Program Development
- Pollution Prevention Awards and Promotion
- Regional Waste Management Activities

ZEBRA MUSSEL PROGRAM

Managing Department: Manitoba Water Stewardship
Date Approved: 2004/2005 Estimates
Total Amount Approved: $25,000.00
Total Amount Expended: $25,000.00

Summary:

A broad funding allocation totaling $75,000.00 over three years, 2002/2003 to 2004/2005, was approved from the Sustainable Development Innovations Fund (SDIF) to conduct a zebra mussel inspection/prevention program.

Zebra mussels are small clam-like organisms that are not native to North America. They were discovered in Lake St. Claire in 1988 and it is generally believed that they were transported to North America in the ballast water of an ocean-going vessel. This ballast water was then discharged into the Great Lakes system in approximately 1986. Since that time, zebra mussels have spread quickly to all of the Great Lakes, the St. Lawrence and Ottawa rivers, Trent-Severn and Rideau Canal systems, Mississippi River from St. Paul Minnesota to the Gulf of Mexico delta including its major tributaries. More recently, zebra mussels have been found in the Missouri River at Sioux City, Iowa. Although not presently found in Manitoba waters, this costly foreign species is close to our watershed boundaries; Thunder Bay on Lake Superior, and St. Paul Minnesota near the headwaters of the Mississippi River.

Zebra mussels attach themselves to any suitable submersed surface including the inside of man-made structures. They have caused millions of dollars of damage in the Great Lakes region of Ontario and the US by clogging the intakes of towns, cities, manufacturing industries, and utilities. They have severely reduced the recreational value of beach areas, and reduced native species important in the food chain.

Dispersion of zebra mussels in large connected water basins is largely due to the movement of commercial watercraft such as large ships and barges that have zebra mussels attached to the hull. Movement of zebra mussels from infected bodies of water to other, isolated bodies of water is due to accidental transport on water-based equipment including boats, trailers, motors, as well as in live wells and bait buckets.

Manitoba remains vulnerable to invasion by zebra mussels. For example, on June 30, 1999, zebra mussels were found on a pleasure boat that was purchased five days earlier at Orillia Ontario (Lake Simcoe) and trailered to a yacht club on the Red River just north of Winnipeg. All zebra mussels were dead, and no immatures were found in the bilge water. As a precaution, however, the owner was ordered to scrape the boat and wash it down with water containing bleach.

Water quality data indicate that numerous lakes and rivers in Manitoba would support populations of zebra mussels should they be accidentally introduced into the province. Trailered watercraft with attached zebra mussels has resulted in dispersion to unconnected or isolated bodies of water throughout Michigan, Wisconsin, southern Ontario, and most recently, Minnesota. Trailered watercraft is recognized as a key vector of zebra mussel dispersion by North American agencies responsible for Aquatic Nuisance Species (ANS) prevention and management.

Program Results 2004/05:
The primary goal of this program is to prevent accidental introduction of zebra mussels and other aquatic nuisance species into the province of Manitoba by visitors transporting water-based equipment across our borders. This goal also provides a means to heighten public awareness to the issues of zebra mussels and other Aquatic Nuisance Species (ANS) in Manitoba. This goal will be achieved by the following objectives:

To inspect and survey visitors transporting water-based equipment at various international border crossings in eastern Manitoba. Whiteshell Provincial Park is also a popular recreational destination for visitors. As such, inspections of boats and trailers will be conducted where practical (boat launches, Travel Manitoba Info Centre).

A total of 1,982 inspections of water-based equipment were conducted in southeastern Manitoba including boarder inspections at Emerson and Sprague, Whiteshell Provincial Park, and various boat launch areas in the Red River corridor. No evidence of zebra mussels was found on any equipment. In addition, 356 interviews of boaters trailering equipment were conducted at border crossings and in Whiteshell Provincial Park. Approximately 52% of the visiting boaters into Manitoba originated from Minnesota and overall 75% (same as 2003/2004) of the trailered boats entering Manitoba originated from States known to have zebra mussels. Over 99% of visiting boaters drained their boat before entering into Manitoba.

To provide literature (brochure and gift of appreciation) to boating visitors about how to prevent accidental introduction of zebra mussels into Manitoba. All boaters that were interviewed were provided with promotional material as a gift of appreciation for an interview and a brochure outlining actions that boaters can take to prevent or reduce the risk of accidental introduction of ANS. Brochures were also placed under wiper blades of vehicles with boat trailers found at boat launches.

To supply information to Manitoba Conservation Regional offices (brochures, fact sheets, boat-ramp signage) for distribution and posting.
Since boating visitors into Manitoba often stop for information at Manitoba Tourism Offices (Emerson, and Trans-Canada Hwy east), as well as at Manitoba Conservation Regional Offices, brochures and fact sheets were provided at these locations. Signage for posting at boat launches was also provide to MB Conservation Regional Offices to be placed at all public boat launch areas including provincial parks.

Target the boating audience with the clear message of preventing accidental zebra mussel introduction into Manitoba (information provided to registrants of fishing derbies, booth at the Mid-Canada Boat Show, advertisement in the Manitoba Angler's Guide, written articles).
In cooperation with Fisheries Branch, Green Team students working in Whiteshell Provincial Park spent some of their time at the Fish Hatchery educating visitors about zebra mussels, and preventing introductions of invasive exotics. A zebra mussel advertisement aimed at boaters and specific prevention actions will appear in the Manitoba Angler's Guide in February 2005. A zebra mussel booth will be present at the Mid Canada Boat Show in February 2005.

To provide employment to students under the Green Team Employment Initiative, under the STEP Employment Initiative. The zebra mussel inspection/prevention program provided employment to two Green Team Students working in Whiteshell Provincial Park (eight week program), and two STEP students (17 weeks). The STEP students began their employment in early May 2004; 3-4 weeks earlier than in previous years. This allowed for an extended employment opportunity as well inspecting watercraft earlier in the fishing season.

Communication is a key focus of the zebra mussel inspection program. An informed and educated boating public is critical in preventing accidental introduction of zebra mussels and other aquatic nuisance species.

Education and Promotion:
A zebra mussel brochure was re-drafted and distributed for the boating public and a key-chain compass was designed and printed. Brochures outlining the steps boaters can take to prevent accidental introductions and key-chains reminding boaters to check their equipment were provided to each boater who was inspected and surveyed at the international borders and other boat ramps in eastern Manitoba including Whiteshell Provincial Park.

- During the open water season of 2004, two Green Team students and two STEP students were employed by Manitoba Conservation to inspect trailered watercraft traveling into Manitoba. STEP students were hired 2-4 weeks earlier in the season than in previous years. This allowed for inspections to occur earlier in the fishing season. Inspections were made at the international border crossings at Emerson and Sprague. In addition, inspections of boat trailers were made at launch sites in the Whiteshell Provincial Park, and along the Red River corridor from Emerson to Selkirk Park. In addition to equipment inspections, boaters were surveyed (where possible) about their general knowledge of ANS. Results of the inspections and surveys are summarized as follows:

  Border Crossings:
  Students inspected trailered watercraft entering Manitoba at Sprague and Emerson from approximately May 14th to August 26th, 2004. Many inspections were conducted on weekends and after regular business hours to include the boating visitors traveling at night.
    - 346 border inspections and interviews were conducted at two international border locations, and 356 interviews were conducted at various boat launches where boaters were present.
    - 1,626 inspections of boat trailers were conducted in the Whiteshell Provincial Park and Red River Corridor;
    - 220 trailered watercraft were recorded entering Manitoba across the Manitoba/Ontario border during 8 survey observation periods;
    - 268 boats out of 356 (75%) crossing the international border into Manitoba originated from jurisdictions that have waters with zebra mussels;
    - no evidence of zebra mussels or other ANS was found on any boat or trailer;
    - 7% of the visitors interviewed did not know about aquatic invasive species,
    - boats crossing the international border into Manitoba originated mostly from the following jurisdictions: Minnesota (53%), North Dakota (12%), South Dakota (7%), and Nebraska (6%) Iowa (5%) Wisconsin (4%).

Public Boat Launch Inspections:
- 1,626 boat trailers were inspected at 17 launch sites;
  - >99% originated within Manitoba;
- no evidence of zebra mussels or other ANS were found on boat trailers.

Road Counts of Trailered Watercraft:
- 217 trailered watercraft were observed traveling west across the Manitoba/Ontario border;
  - 60% were boats trailered with Manitoba license plates;
  - 14% were boats trailered with Ontario license plates;
  - 3% were boats trailered with /Quebec license plates;
  - 3% were boats trailered with Alberta license plates;
- 78 % of the trailered boats were fishing/pleasure boats, and 22 % were jet ski/canoes.

Financial Implications
$25,000.00 in funding provided in 2004/05 by broad allocation of the Sustainable Development Innovations. Details of the 2004/05 expenditures are as follows:

Item	Budget
Transportation: Vehicle rental and mileage charges	$6,000.00
Student Salary: Student Salaries, per diem expenses from May to August, 2003	$15,200.00
Communication and Promotion:	$3,800.00
Totals	**$25,000.00**

PROGRAM EVALUATION:
A critical evaluation of the program indicates that during 2004/05, all five-program objectives were met. Approximately 1,982 equipment inspections were completed from various locations in eastern Manitoba, and 346 surveys of visiting boaters were completed. Brochures and key-tags reminding boaters about Aquatic Nuisance Species (ANS) were handed out to visiting boaters. Information about the prevention of zebra mussels was also sent to registrants of those Manitoba fishing derbies likely to attract international competitors.

In cooperation with Fisheries Branch, Green Team students working in Whiteshell Provincial Park spent some of their time at the Fish Hatchery educating visitors about zebra mussels, and prevention of invasive exotics. Manitoba Conservation regional offices were sent boat ramp signs reminding boaters not to transport zebra mussels and how to inspect their equipment before launching. These efforts provided employment for five Green Team Students and one STEP student. The student's work schedule was very flexible allowing for inspections of water equipment to take place after business hours at the Emerson border crossing.

Although all objectives of the program were met, shortcomings were recognized at the planning of the project. Two STEP students were hired for the survey and inspections at Canada Custom facilities at the border crossings. These students were based in Winnipeg to ensure proper supervision and that meant much of their workday was spent driving to Sprague or Emerson.

CONCLUSION
The threat of zebra mussels being accidentally transported and released into Manitoba waters remains high. The likely route of entry into the province is attachment to trailered recreational watercraft originating from the Great Lakes area of Ontario and from northeast and central US.

The zebra mussel inspection program provided summer employment for students during 2004. The success of this program relies on competent, field staff to conduct inspections and survey boaters entering Manitoba at international border crossings and in Whiteshell Provincial Park. Green Team students working in Whiteshell Provincial Park were supervised by Parks Branch staff. Water Branch staff (Manitoba Water Stewardship) from Winnipeg supervised STEP students responsible for inspections and communications at the international border crossings. These students were expected to report daily to the Winnipeg office before heading to their destination. During the open water season of 2004, STEP students working at border crossings were expected to work odd hours and on weekends.

Communication is key to the success of this project. In addition to equipment inspection, surveying visiting boaters and providing written material aids to heighten public awareness of zebra mussels and other ANS. To this end, brochures and promotional items will be provided to fishing derby registrants (with the assistance from Fisheries Branch) who may be transporting boats into Manitoba. Brochures and promotional items will also be provided for target events, where reasonable, to inform boaters potentially planning future visits to Manitoba. Booth space rental and information about prevention of ANS will also be made available to the general public at the 2005 Mid Canada Boat Show in Winnipeg, as well as at all regional offices of Manitoba Conservation and Manitoba Tourism outlets. Manitoba is represented at the Western Regional Panel on Aquatic Nuisance Species. This Panel represents all of the Provinces and States west of the 100th Meridian in an effort to prevent or slow ANS introductions to the West. Manitoba gains knowledge from the experiences encountered in other jurisdictions on strategies for public education and information, potential pathways, and prevention. Manitoba is also represented on the Canadian Council of Ministers of Fisheries and Aquaculture Task Group on Aquatic Invasive Species. This Task Group aims to coordinate provincial and federal efforts in the prevention, public information and education of Aquatic Invasive Species in Canada. This Task Group has just completed the first its mandate to produce; A Proposal for a Canadian Action Plan to Address the Threat of Aquatic Invasive Species. The next mandate for this Task Group will be to implement the recommendations. Water Stewardship staff from Water Quality and Fisheries are represented on this Task Group. Manitoba's Introductions and Transfers Committee also meets twice per year to discuss all submitted proposals for either introducing non-indigenous species or requests for transferring native species within Manitoba.

Government has also committed to include in its AIS information and education campaign inspections and dissemination of information regarding black algae in Whiteshell Provincial Park. As far as we are aware, black algae is considered a non-native species that has been introduced into some lakes in the Whiteshell. As part of our educational and informational efforts regarding the spread of AIS, black algae will be part of any new initiative.

The prevention of ANS requires input to public education and awareness efforts on an on-going basis. ANS introductions into North America are not likely to decrease, but rather each year new species are introduced into this continent. Public awareness of this issue and steps the boating public can take to reduce the risk of accidental introduction of these foreign species is an on-going effort.

PROJECTS FROM PREVIOUS YEARS

PROGRAMS ALLOCATED FUNDING

DURING THE 2004/2005 FISCAL YEAR

Number of Projects: 3

Total Expended: $30,958.50

Project Name	**Total Expended**
SUSTAINABLE AGRICULTURAL PRACTICES	
Livestock Manure Phosphorus Expert Committee, Year 2	$13,343.28
UNDERSTANDING OUR ENVIRONMENT	
Maximum Toilet/Flapper Evaluation	$14,300.00
Petroleum Storage Tank Program	$3,315.22

DETAILED LISTING OF PROJECTS

FROM PREVIOUS YEARS WITH CARRYOVER AUTHORITY

IN THE 2004/2005 FISCAL YEAR

Projects listed below are those that were initially allocated funding from the Sustainable Development Innovations Fund in previous fiscal years, but had carryover authority for the 2004/2005 fiscal year.

Project descriptions have been provided in previous Annual Reports.

SUSTAINABLE AGRICULTURAL PRACTICES

LIVESTOCK MANURE PHOSPHORUS EXPERT COMMITTEE, YEAR 2

Proponent:	Manitoba Conservation, Regional Support Services
Date Approved:	June 26, 2003
2004/05 Expenditures:	$13,343.28
Total Amount Projected:	$ 0.00

UNDERSTANDING OUR ENVIRONMENT

MAXIMUM PERFORMANCE TOILET/FLAPPER EVALUATION

Proponent:	Manitoba Conservation
Date Approved:	December 23, 2003
2004/05 Expenditures:	$14,300.00
Total Amount Projected:	$ 0.00

PETROLEUM STORAGE TANK PROGRAM

Proponent:	Manitoba Conservation
Date Approved:	April 21, 1994
2003/04 Expenditures:	$3,315.22
Total Amount Projected:	$ 0.00

APPENDIX I

Sustainable Development Innovations Fund
Five Year Expenditure Summary ($000)
for years ending March 31, 2001 - March 31, 2005

APPROPRIATION	Actual/Adjusted Expenditures				
	2000/01	2001/02	2002/03	2004/04	2004/05
Sustainable Development Innovations Fund	2,073.3	2,865.8	2,848.3	2,938.8	2,969.1
Total	2,073.3	2,865.8	2,848.3	2,938.8	2,969.1