

**PARTIAL LISTING OF RESEARCH &
DEVELOPMENT PROJECTS
SUPPORTED BY MANITOBA HYDRO**

WATER

Velocity Measures of Fish at Pinawa
Coastal Wetlands of Manitoba Great Lakes
Mercury and Greenhouse Gas Studies – ELARP
Lake Winnipeg Research Consortium
Winnipeg River Lake Sediment (Queens)
Seals in Hudson Bay Population Survey
Seals in Hudson Bay Satellite Tracking
Seals in Hudson Bay & Climate Change
Whales in the Nelson River Estuary
Pinawa Research Station (95-04)
Canadian Rivers Institute (NCE, Manitoba Hydro and NSERC)
Ringed Seals Climate Change
Hydrologic Monitoring Goose Creek and Deer River
Mercury Inputs to Hudson Bay
Fluvial Loading to Hudson Bay
Mercury and Selenium in Boreal Reservoirs
Deposition, Re-emission & Transport of Mercury in the High Arctic Ecoregion
In Situ Methylmercury Production in Natural Waters
Mercury Contamination in Flooded Hydroelectric Reservoirs
Environmental Variation and its Influence on Predator – Prey Interaction within Shallow Aquatic Ecosystem
Feeding Habits of Hudson Bay Beluga Whales
Deep River Science Academy
Studies on Mercury & Greenhouse Gases in an Experimental Boreal Reservoir
Protection of Lake Sturgeon and their Habitat
Freshwater Fishes of Manitoba
A 1000-Year Reconstruction of Southern Manitoba Droughts
Elimination of Mercury from Fish Tissues
Particle Image Velocimetry Measurements at the Pinawa Flume for Fish
Beluga Whales in the Nelson Estuary and Hudson Bay
Testing Lowhead Hydroelectric Unit
Carmine Shiner distribution and life history characteristics in Manitoba
Effects of rainbow smelt on mercury concentrations
Effect of Climate Change on Water Supply for MH System
Swimming Ability of Man. Freshwater Fish - Fishway
Mercury Modeling & Bioaccumulation in Reservoirs
Climate Warming water/carbon cycles, Boreal Forest Dist'n & Abundance of Seals in Western Hudson Bay

Lake Sturgeon Study on the Pigeon and Wpg. Rivers
The Effects of UV Radiation on Aquatic Organisms
Red River as a Source of PCB's to Lake Winnipeg
I.D. of Microorganisms that Methylate Mercury
Small Hydro in Manitoba
I.D. of a Water Quality Model for Nelson River
Paleoclimatic Indicators of Drought
Sloped Rockfill Fish Passage Studies
Environmental Variation and Its influence of Predator-Prey Interactions within Shallow Aquatic Ecos
Mercury Cycling in Hudson Bay and its Response to Changing Terrestrial-Marine Relationships
Fluvial Loading of Suspended Solids, Dissolved Organic Matter and Heat to Hudson Bay
Factors affecting Survival of Stocked Sturgeon
Saskatchewan River Delta (SRD) Summerberry Marsh Research Program
Paleohydrology of the Churchill River Basin
In Situ Methylmercury Production in Natural Waters
Wuskwatim Project "Materials Transportation Study"
Satellite Tracking of Harbour Seals Summerizing in the Churchill River
UV Radiation Effects on Aquatic Organisms
Mercury and Selenium in Boreal Reservoirs
Determination of the Mechanism of Methyl Mercury Uptake in Bacteria
Dechlorination of Natural Organochloride Compounds by Bacteria
Env. Factors Controlling Prod. M.M. in Reservoirs
Reservoirs, Greenhouse Gas Prod.& Mercury Methylation
The Effects of Fish Mercury Concentration in Lakes
Microturbines for Energy Efficient Energy Control
Effects of Turbidity on Plankton/Zooplankton in a managed boreal river
The Effects of Rip Rap Shoreline Armouring on Fish Habitat
Effects of Rainbow Smelt Invasion on Mercury Dynamics in Boreal Lakes
Aquaculture Feasibility Study in Grand Rapids Area
Frequency/Severity and Causes of Extreme Droughts in Wpg River Basin
Experimental Lakes Area Reservoir Project (ELARP)
Intensive Walleye Culture Operations
Economic Water Utilization
Wuskwatim G.S. Spillway Tailrace Erosion Studies
Churchill Water Supply
Dorsey- Water Treatment System
Ultra Violet Waste Water Disinfection
Methyl Mercury Production Experimental Reservoirs
Drought Probability (SPIGOT)
The Effects of Thermal Effluent on Fish

LAND

PARC tree-ring Upper Churchill
PARC IRC
Lake Winnipeg Post-Glacial Rebound
Discrimination of Peatlands
Microclimate of Bat Hibernacula in Grand Rapids
Gel Cap Herbicide Injection System
Vegetation Control
Foam Fill to Repair Woodpecker Cavities
Native Grasses Feasibility Study
Plant Stability
Prevention of Woodpecker Damage on Utility Poles
Plant Community Devel.- Selective Herbicide Applic
The Use of Hydro Utility Poles by Woodpeckers
Cedar Lake Fallen Timber Clean-up & Marketing
Proactive Gravel Pit Rehabilitation Strategy
Habitat Suitability & Abundance of Piping Plovers
on Remote Shorelines and Lakes in Manitoba
Lake Winnipeg Shore Processes Research
Lake Winnipeg Physical Environment Phase II
Methylmercury Effects on Birds
Paleodietary Analysis of Peoples of South East Mb.
Manitoba Hydro Lines as Potential Grassland Bird
and Butterfly Habitat
Risk Assessment of RipRap Degradation at Grand
Rapids GS
Man. Educational Geographic Info. Sys. Consortium
Assessing Transmission ROW's to Moose Habitat
Use
Discrimination of Peatlands and Flooded Forests in a
Sub Arctic Reservoir
Habitat Use & Abundance of Garter Snake at the
Northern Limit of MB
Feasibility of Wind Turbines in Manitoba
GPS Technology on Woodland Caribou & G070B
GPS for Woodland Caribou
Laurel Ceramics from Northern Manitoba
Run-off Response to Land Cover & Climatic
Changes
Coastal Wetlands of the Manitoba Great Lakes
(G169a & B)
Climate Change and Hudson Bay Seals
Pictographic Warning Signs
Measurement of Postglacial Rebound
Lowbush Blueberries as a Sustainable Crop
Fungal Microbiology
Peregrine Falcon
Environmental Self-assessment of LV Trans. Lines
Machine & Software Classification of Wildlife
Sustainable Harvesting Seneca Snakeroot on ROW
Special Forest Products from the Boreal Forest
Birds & Transmission Lines
Assessment of Burrowing Owl Habitat Re: MH
Stable Plant Communities
Application of GIS/GPS to Ground Spray Operations
Protection of Trans. Lines Sharing the R.O.W.

Topographic Terrain Modeling using LIDAR
Technol.
CD Data Systems Plant Material
Erosion Control along Transmission Corridors
Secondary Effects of Herbicide Applications
Impact, Reliability and Operation of a Plug-In Hybrid
Electric Vehicle (PHEV)
Post-Harvest Preservation of BioActive Compounds
in Sea Buckthorn Berries
Windrow Composting of Biosolids and Woodchips in
a Cold Climate

AIR

Greenhouse Gas Emissions from Lake Winnipeg
Climate Warming Carbon/Water Cycles Boreal
Forest
Canadian Regional Climate Model to study the
Impact of Climate Change in the WPG. River Basin
Monitoring Instrumentation Prototype and Assess
GHG Fluxes
Greenhouse Gas Emissions from Lake Winnipeg
Volatile Organic Compounds in Air and Water
Mercury Inputs to Hudson Bay from Springtime
Atmospheric
Fly-Ash Conversion to Zeolite Absorbent Material
Greenhouse Gases & Methyl Mercury - Boreal
Reservoir
Solar Energy Greenhouses for Winter Greenhouses
Production
Fire Stops & Alternatives to Halons

CONTROLLED PRODUCTS

Bioremediation Strategies Mercury Contamination
Bioremediation of Soil Contaminated with Diesel
Pentachlorophenol Migration- Pole to Soil
Investigation of Decommissioned Diesel Gen. Sites
In Situ Bioremediation of Spilled Diesel-Fine Soil
Electrokinetic Remediation of Contaminated Soils
In Situ Bioremediation of Soil
Analytical Methodologies - Diesel Fuel Contaminant
Groundwater, Soil & Sediments and Contamination
Bioremediation Strategies for Mercury
Contamination in Flooded Reservoirs
Remediation of Polychlorinated Paraffin Oils in
Water
Resistance to Oxidization of Decontaminated Oil
Petroleum Hydrocarbon contamination
In Situ Bioremediation (heavy clay soil, w/Diesel)
Freezing and Thawing Cycles on Contaminated Soils
Lac Brochet Diesel Site Monitoring
Photocatalytic Degradation as a Remediation Tech.
for Contaminated Water
Natural Bioremediation
Soil Analysis using Near-infrared Spectroscopy

RECYCLING

CIRCA (Assoc. of Cdn. Ind. Recycling Coal Ash)
Biochemical Methane Potential of Municipal Solid
Waste at Brady Road Landfill
Increased Energy Recovery from Biosolids
Study of the Means to Recycle Fuller's Earth

CONSERVING ELECTRICITY

Attic Heat Relief Using Natural Convection
Energy Efficient Fluorescent Lighting for Growth
Chambers
Assessment of Demand-side Mgmt. Programs
Ground Source Heat Pumps for Greenhouse
Upper Carbonate Aquifer for Heating & Cooling -
Potential for Sustainable Development
Assessment of Wide Scale use of Geothermal Tech.
Greenhouse Energy Efficiency
Ground Source Heat Pump in Arena
Greenhouse Heating
Biofiltration for Hog Barns
Classification System to Rank Contaminated Sites

Industrial Heat Pump Application
Groundwater and Thermal Energy Pollution
Harvesting System to Promote Sustainable Develop.
House Energy Analysis

OTHER

Effects Based Cumulative Affects Assessment
Scientific Basis for Cumulative Impact Assessment
Effects-Based Cumulative Effects Assessment. Pine
Falls Region of the Wpg River
CEA Strategic Options for Sustainable Generation IG
Sustainable Measures for Project Decisions
Sustainable Development Indicators for MH's
Equitable Decision-Making -Environmental Impacts
Environmental Management Systems