

Integrated Watershed Management Plan

Residential Water Management

ISSUE	ACTION
Indoor Residential Consumption	<p>Use water conservatively:</p> <ul style="list-style-type: none">▪ Run dishwasher, laundry with full loads▪ Fill sink with less water to do dishes▪ Turn off water when not using▪ Check home for leaks in pipes, dripping taps etc. <p>Install low-flow appliances and hardware</p> <p>Install high-efficiency appliances</p>
Outdoor Residential Consumption	<p>Install rain-barrels</p> <p>Water lawns during the night, and plants in the morning</p> <p>Xeriscape and use native plants</p> <p>Use organic/natural fertilizers and pest control</p> <p>Compost materials and use in gardens</p> <p>Use mulch to maintain moisture</p> <p>Water with soaker hoses, drip irrigation and water sensors to reduce evaporation</p>
Reuse & Recycle	<p>Capture grey water and use for toilets, irrigation, cooling, etc.</p>
Water Quality	<p>Appropriately dispose of chemicals/pharmaceuticals</p> <p>Use eco-friendly cleaning and household products</p>

District Water Management

ISSUE	ACTION
Surface water management	<ul style="list-style-type: none"> Minimize nutrient & chemical use Allow for natural processes in riparian areas
Groundwater management	<ul style="list-style-type: none"> Map and protect local aquifers and recharge areas Map using Nested Approach (well–local aquifer–regional system) Establish the Precautionary Approach as rule Determine sustainable yield prioritizing ecosystem needs Enforce groundwater use regulations and policies Establish buffer zones along drainage points Prevent and reduce nitrate contamination Strengthen protection planning around petroleum exploration and storage
Infrastructure management	<ul style="list-style-type: none"> Promote demand management Soft Path model Maintenance schedule; detecting & fixing leaks right away, metering and monitoring Building materials and practices follow regulation Waste and water treatment Tailing ponds are properly maintained Sewage is properly disposed and treated Well sealing
Drinking Water Quality	<ul style="list-style-type: none"> Monitor drinking water quality Monitor well quality

Soil/Erosion Control	<p>Prevent bacterial/pollutant contamination</p> <p>Protect source water</p> <p>Enable & install natural shoreline vegetation</p> <p>Encourage shoreline stabilization procedures to home & cottage owners</p> <p>Create buffer zones along banks to minimize disruption</p>
Drainage/ Flood Management	<p>Improve wetland protection incentives for landowners</p> <p>Restore wetlands</p> <p>Mitigate climate change</p>
Riparian/Ecosystem management	<p>Inventory riparian and ecologically sensitive areas</p> <p>Integrate wetlands into water treatment and management practices</p> <p>Protect or restore wetlands</p> <p>Install weirs</p> <p>Protect & enhance riparian habitat</p>
Public involvement and education	<p>Integrate public involvement and education into every step of the watershed management process</p> <p>Establish interpretive trails & boardwalks with signage</p> <p>Create interactive community festivals and activities around local water issues</p> <p>Incorporate educational watershed programs in schools, including student water quality monitoring</p> <p>Promote eco-tourism in the watershed</p> <p>GIS mapping of districts with appropriate attributes</p>

Technological investigation

Inventory of major culverts, drainage points, wells, et

Farm Management

ISSUE	ACTION
Livestock Management	<ul style="list-style-type: none">Promote small-scale farming/discourage intensive systemsKeep animals away from waterways during times of significant run-offMaintain a buffer zone of 15-30m from any water sourcesPump water to off-stream locations for feedingInstall and maintain fencing around water sources year-roundRelocate livestock containment facilities out of riparian areasProperly manage and dispose of animal waste
Farm Practices	<ul style="list-style-type: none">Implement and follow Best Management PracticesReduce chemical useCrop selection and rotation to reduce water need & diseaseDiscourage the use of genetically modified organismsDiscourage monoculture
Soil/Erosion Control	<ul style="list-style-type: none">Crop rotation and strip cropping, conservation tillage, mulching, winter cover cropping methods to reduce erosionEstablished buffers should be planted with deep-rooted, native species

Call for Regulatory Action on All Governing Levels

ISSUE	ACTION
Water policy implementation	<p>Demand comprehensive national water policy</p> <p>Implement aggressive water policy framework</p> <p>Create and enforce environmental laws (building codes, permits, rebates, regulations & by-laws)</p> <p>Strengthen inter-jurisdictional and transboundary agreements</p> <p>Establish water conservation education programs</p>
Improve infrastructure	<p>Provide adequate funding for infrastructure</p> <p>Improve scientific basis for planning and management</p> <p>Increase water quantity/quality monitoring sites/frequency</p> <p>Recognize ecosystems as legitimate water users and fully account for their needs in water allocation systems</p>
Water use regulations	<p>Establish water permits, regulations, and by-laws</p> <p>Establish landscaping ordinances (turf-limitation by-laws)</p> <p>Monitor water use with metering</p> <p>Pricing structures</p> <ul style="list-style-type: none"> - Seasonal rates - Increasing block rates - Marginal cost pricing - Daily peak-hour rates - Sewer and waste water charges <p>Revision of plumbing codes in new buildings</p> <p>High consumption fines & penalties</p>
Funding & Incentives	<p>Provide funding for water management projects on residential, municipal, watershed, and federal levels</p> <p>Rebates for efficient technologies</p>

Public involvement

Wetland/watershed protection incentives to landowners

Tax credits for reduced use

Engage public every step of the way

Funding & Resources

ALUS

MB Hydro Forest Enhancement Initiative

Ducks Unlimited

Nature Conservancy Canada

Ministry of Water Stewardship

Home Depot – Evergreen Rebuilding Nature funding group

Prairie Farm Rehabilitation Administration (PFRA)

Manitoba Agriculture, Food and Rural Initiatives (MAFRI)

Agricultural Policy Framework- Environmental Farm Plan

Agriculture and Agri-Food Canada's Greencover Canada program

Cooks Creek Experimental Watershed

South Tobacco Creek/Steppler Watershed

Agriculture & Agri-Food Canada

Environment Canada

Fisheries & Oceans Canada

Manitoba Cattle Producers Association

Manitoba Conservation

Manitoba Conservation Districts

Manitoba Habitat Heritage Corporation

Manitoba Water Stewardship

International Institute for Sustainable Development

Manitoba Model Forest Project

North American Wetlands Conservation Council

Canadian Wildlife Services

Association of Manitoba Municipalities

Manitoba Forestry Association

Manitoba Hydro

Manitoba Naturalist Society