

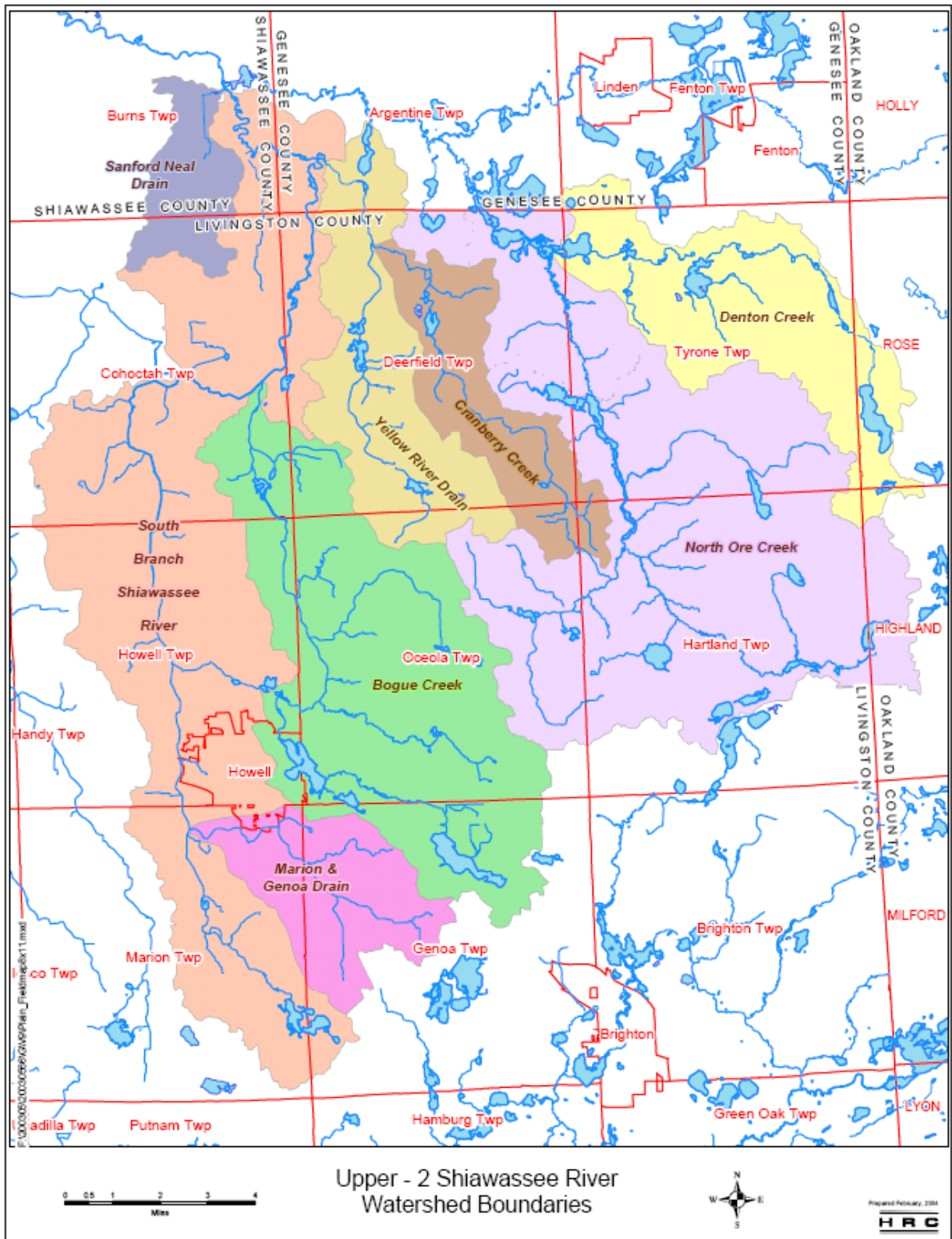
Upper-2 Shiawassee River Watershed Management Plan



October, 2005

Prepared in Cooperation With:

**Livingston County Drain Commissioner
Livingston County Road Commission
Hartland Township
Howell Township
Marion Township
Oceola Township
Tyrone Township**



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Howell Township
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Upper-2 Shiawassee River Watershed Advisory Group

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Abbreviations and Acronyms

ATSDR Agency for Toxic Substances and Disease Registry

BMP	Best Management Practice
CFC	Cast Forge Company
cfs	cubic feet per second
DO	dissolved oxygen
EAH	Environmental Awareness Handbook
EPA	U.S. Environmental Protection Agency
FCA	Fish Consumption Advisory
IARC	International Agency for Research on Cancer
IDEP	Illicit Discharge Elimination Plan
LCDPH	Livingston County Department of Public Health
LCDC	Livingston County Drain Commissioner
LCDP	Livingston County Department of Planning
LCRC	Livingston County Road Commission
LUST	Leaking Underground Storage Tank
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MDPH	Michigan Department of Public Health
MEP	Maximum Extent Practicable
MHOG	Marion, Howell, Oceola, and Genoa Water Authority
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OCDC	Oakland County Drain Commissioner
OSDS	Onsite Sewage Disposal System
OSHA	Occupational Safety and Health Administration

PCB	polychlorinated biphenyl
PEP	Public Education Plan
ppb	parts per billion
ppm	parts per million
PPP	Public Participation Plan
ROD	Record of Decision
SEMCOG	Southeast Michigan Council of Governments
STEPL	Spreadsheet Tool for Estimating Pollutant Load
SWPPI	Storm Water Pollution Prevention Initiative
WAG	Watershed Advisory Group
WHO	World Health Organization
WMP	Watershed Management Plan
WWTP	Waste Water Treatment Plant
USLE	Universal Soil Loss Equation
USR	Upper-2 Shiawassee River

Glossary of Terms

Confluence	Point at which two or more watercourses intersect.
Critical Area	That part of the watershed that is contributing a majority of the pollutants and is having the most significant impacts on the waterbody.
Designated Use	Recognized uses of water established by state and federal water quality programs.
Desired Use	Additional uses for land and water resources as defined by stakeholders in the watershed.
<i>E. coli</i>	Bacterium used as an indicator of the presence of waste from humans and other warm-blooded animals.
Erosion	Detachment and movement of rocks and soil particles by gravity, wind, and water.

Groundwater	The subsurface water supply in the saturated zone below the water table.
Headwaters	The origin and upper reaches of a river or stream.
Impervious	A surface through which little or no water will move.
Infiltration	The penetration of water through the ground surface into subsurface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls.
Managerial Controls	Control measures or practices that usually involve the use of programs related to training and education of local stakeholders that promote pollution prevention and stormwater management principles.
Nonpoint Source Pollution	Pollution caused when rain, snowmelt, or wind carry pollutants off the land and into waterbodies.
Permit	An authorization, license, or equivalent control document issued by the EPA or an approved state agency to implement the requirements of an environmental regulation.
Point Source	The release of an effluent from a pipe or discrete conveyance into a waterbody or a watercourse leading to a body of water.
Pollutant	Any substance of such character and in such quantities that when it reaches a body of water, soil, or air, it contributes to the degradation or impairment of its usefulness or renders it offensive.
Riparian	Person who lives along or holds title to the shore area of a lake or bank of a river or stream.
Riparian Corridor	Areas bordering streams, lakes, rivers, and other watercourses. These areas have high water tables and support plants requiring saturated soils during all or part of the year.
Runoff	That portion of the precipitation or irrigation water that travels over the land surface and ends up in surface streams or waterbodies.
Sediment	Soil, sand, and minerals which can take the form of bedload, suspended, or dissolved material.
Soil Erosion	The wearing away of land surface by wind or water. Erosion occurs naturally from weather or runoff but can be intensified by land-clearing practices related to farming, residential, or industrial development, road building, or clear-cutting.
Stakeholder	Any organization, governmental entity, or individual that has a stake in or may be affected by a given approach to environmental regulation, pollution prevention, or energy conservation.

Storm Drain (Storm Sewer)	A slotted opening leading to an underground pipe or an open ditch that carries surface runoff.
Stormwater	Runoff from a rainstorm, snow melt runoff, and surface runoff and drainage.
Structural Controls	Control measures or practices that usually involve the use of “brick and mortar” technologies to address stormwater runoff quantity and quality.
Surface Water	All water naturally open to the atmosphere (rivers, lakes, streams, reservoirs, wetlands, impoundments, and seas).
Suspended Solids	Sediment particles in the water column and carried with the flow of water.
Topography	The physical features of a surface area including relative elevations and the position of natural and man-made features.
Tributary	A river or stream that flows into a larger river or stream.
Vegetative Controls	Control measures or practices that usually involve the use of cropping systems, permanent grass, or other vegetative cover to reduce erosion and sedimentation.
Water Quality	The biological, chemical, and physical conditions of a waterbody, often measured by its ability to support life.
Watershed	The geographic region within which water drains into a particular river, stream, or body of water. Watershed boundaries are defined by the ridges separating watersheds.
Wetland	An area that is regularly saturated by surface or groundwater and subsequently is characterized by a prevalence of vegetation adapted for life in saturated soil conditions. Examples include swamps, fens, bogs, and marshes.
Windshield Survey	Conducting an inventory of the watershed via a motorized vehicle.