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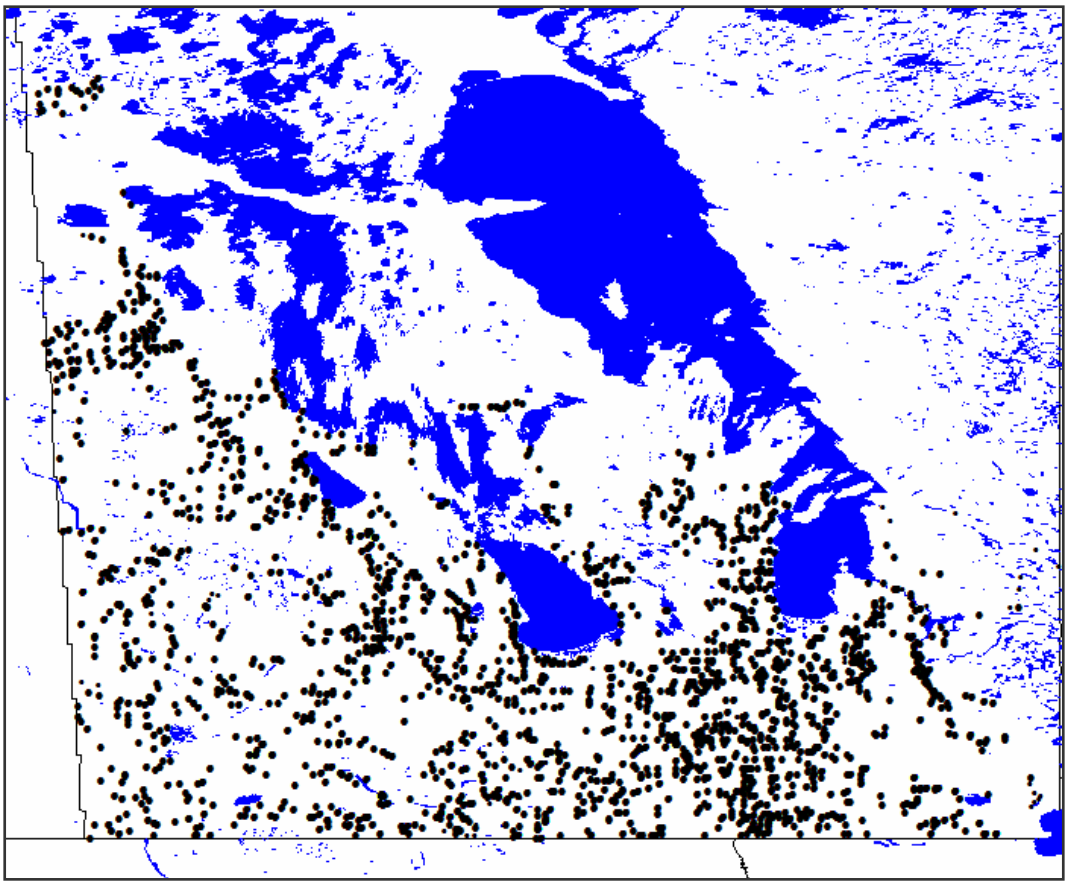
Section 6.5 – Fish Habitat Inventory for Agricultural Manitoba with Comments on the La Salle River Watershed (Source: Fisheries and Oceans Canada)

In the spring of 2002, the Department of Fisheries and Oceans Canada initiated a fish habitat inventory of streams and drains in agricultural areas of Manitoba. The final season of the inventory was completed in the summer of 2006. The data collection was focussed on smaller river systems, headwater tributaries, channelized streams and constructed drains.

The purpose of the fish habitat inventory was to gather information from areas where little or no sampling had been carried out to date. The inventory utilized sampling protocols adapted from the U.S. Environmental Protection Agency *Rapid Bioassessment Protocols for use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish. Second Edition* (Barbour et al. 1999).

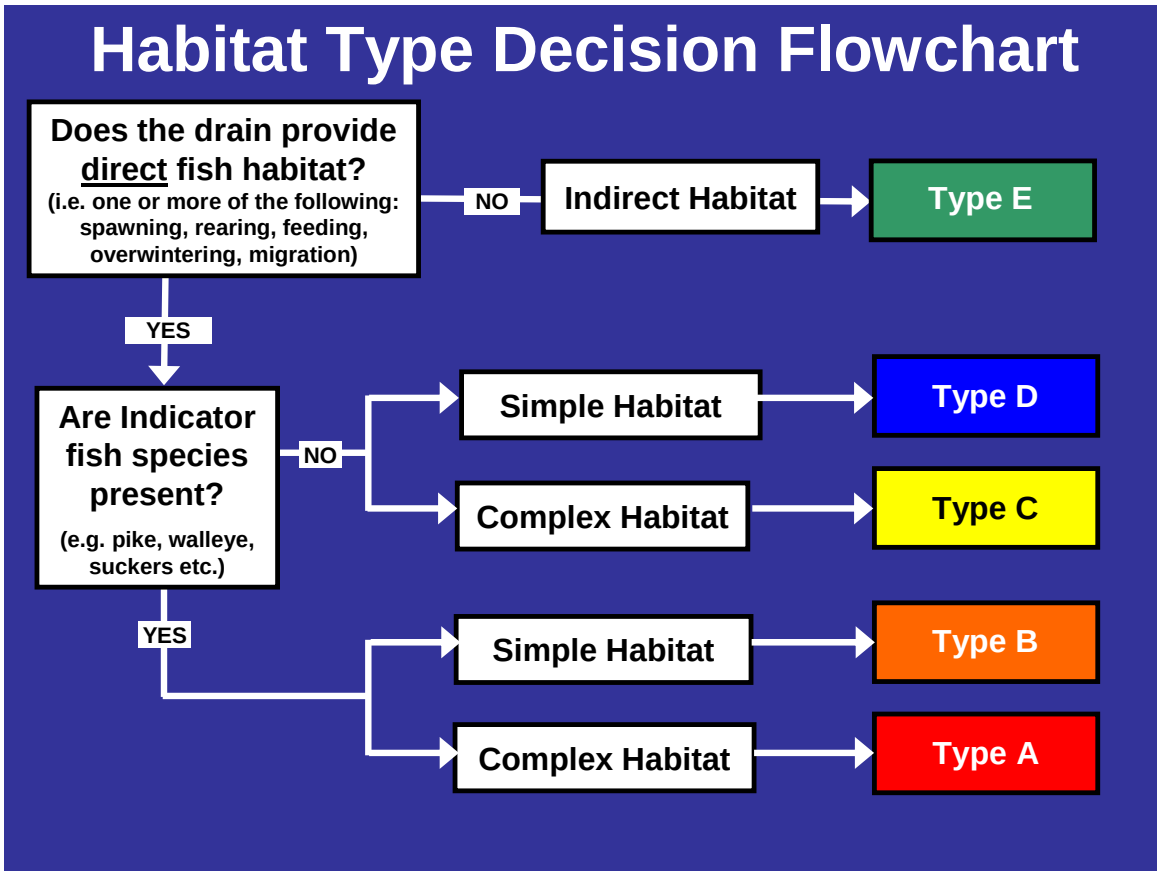
The results of the fish habitat inventory are being used to classify the fish habitat based on habitat complexity (diversity), the fish community utilizing the stream reach, and flow duration. The results of the fish habitat inventory and habitat classification will be published in the fall/winter of 2006.

Figure 1: Map showing the location of the 2,371 reaches surveyed between 2002 and 2006 throughout agro-Manitoba.



The results of the fish habitat inventory will be used to classify the stream/drain network using the following decision schematic.

Figure 2: Fish habitat type decision schematic.



Indirect Habitat typically has insufficient flow duration for fish to complete one or more of their life processes (spawning, rearing, feeding, over wintering or migration). These ephemeral channels do provide water and nutrients to downstream areas, and works occurring in or near Indirect Fish Habitat can impact Direct Fish Habitat through the transport and deposit of sediment and other deleterious substances.

Indicator Species include those fish with sport or commercial fishery value, and includes species at risk.

Simple Habitat is typically linear, has a trapezoidal channel cross-section, grassed banks or dikes, and a soft bottom, or a single substrate type.

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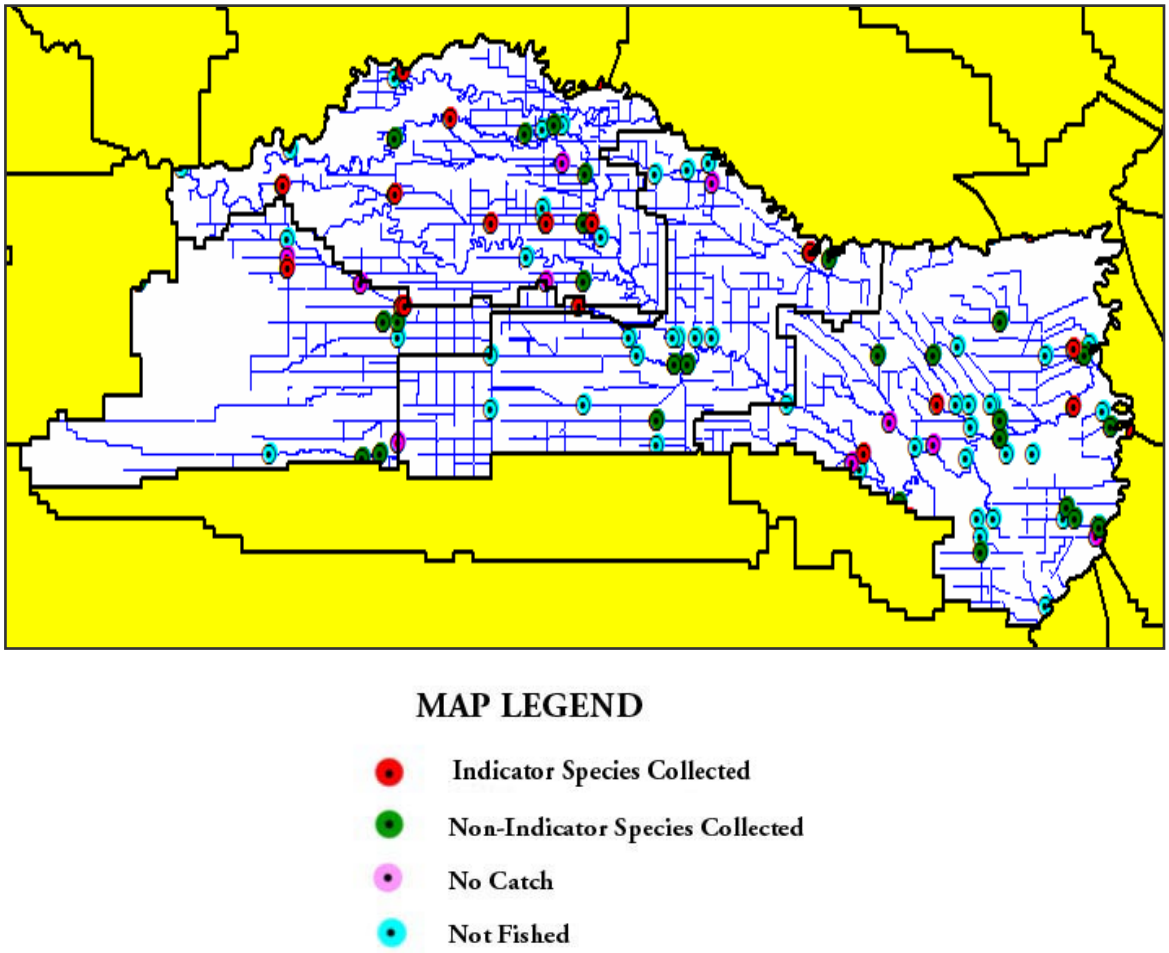
Reach Surveys Carried Out in the La Salle River Watershed:

Reach surveys were carried out at 92 locations in the La Salle River watershed. A full reach survey included the measurement of basic water quality parameters, sampling the fish and benthic invertebrate community, assessing and rating 14 habitat parameters, documenting reach conditions in a series of photographs and a field sketch to document sampling locations, channel dimensions, riparian conditions, adjacent land use practices and other features of interest.

If a reach was dry, or unsafe to wade due to high water, data collection was limited to documenting the site conditions to help determine habitat complexity.

Figure 3: Map showing the location and status of surveyed reaches in the La Salle River watershed.



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Fish Habitat Classification Mapping:

The map base for the fish habitat classification exercise will utilize a combination of the Indexed Drains Layer (Designation of Drains Map line data available from the Manitoba Lands Initiative website), and line and polygon data that is presently being developed (National Hydrological Network, set for rollout in 2009).

Version 1.0 of the fish habitat classification maps is now being prepared and will be reviewed by the Manitoba/Canada Agricultural Drainage Committee in September. The fish habitat maps will be released for public use as soon as the Committee review is completed. A DRAFT version of the La Salle River watershed fish habitat classification map is provided for review purposes only. The results of the fish habitat inventory and habitat classification maps are still in preparation and are subject to change.

Figure 4: Draft Fish Habitat Classification Map for the La Salle River watershed.