A NOVA SCOTIA DEPARTMENT OF NATURAL RESOURCES PUBLICATION

Ecodistrict Profile

Ecological Landscape Analysis Summary
Ecodistrict 370: **St. Marys River**

An objective of ecosystem-based management is to manage landscapes in as close to a natural state as possible. The intent of this approach is to promote biodiversity, sustain ecological processes, and support the long-term production of goods and services. Each of the province's 38 ecodistricts is an ecological landscape with distinctive patterns of physical features. (Definitions of underlined terms are included in the print and electronic glossary.)

This Ecological Landscape Analysis (ELA) provides detailed information on the forest and timber resources of the various landscape components of St. Marys River Ecodistrict 370. The ELA also provides brief summaries of other land values, such as minerals, energy and geology, water resources, parks and protected areas, wildlife and wildlife habitat.

This ecodistrict, with a total area of 85,172 hectares, is named for the St. Marys River and bounded in part to the north by the east branch of the river and to the south by its west branch. The West River St. Marys gathers its headwaters near Trafalgar and flows east along the St. Marys Fault to Melrose to the confluence of the two rivers, which then flow south to the Atlantic Ocean.

Both major branches and the smaller north branch, as well as several of the tributaries, provide important spawning and rearing habitat for Atlantic salmon, with East River St. Marys being the more productive. All branches have benefited from several salmon fishing enhancement and habitat restoration projects.

Lakes and wetlands punctuate the dominant black spruce-pine forest of the St. Mary's ecodistrict.

The physical boundaries of this ecodistrict are easily recognized, both on the ground and from aerial photography, due to the prominence of the two parallel faults that resulted in a graben – a downfaulted block lying between two faults – and the subsequent escarpments that delineate the ecodistrict. The East River St. Marys parallels the Chedabucto Fault from Eden Lake to Melrose.

The shallow coarse soils, for the most part, support forests of black spruce and white pine. The better forests of red spruce and tolerant hardwoods will be found on the drumlins and upper slopes of the hills.

Natural fires have resulted in significant barrens in the ecodistrict, such as Eden Barrens and the Barren Brook area. Repeated post-settlement fires on these shallow, sandy soils have further worsened the inherent low fertility and their ability to produce better quality forests, contributing to the abundance of fire species, such as the black spruce.

The two branches of the St. Mary's River are home to one of the largest concentration of wood turtles, a species at risk in Nova Scotia.

Stands of medium-sized red oak and large white pine are found in the Indian Man Lake Nature Reserve.

Provincial Crown land accounts for 59% of the St. Marys River Ecodistrict. Private land totals 36% of the area with the remainder in other ownership.

Landscapes are large areas that function as ecological systems and respond to a variety of influences. Landscapes are composed of smaller ecosystems, known as elements. These elements are described by their physical features – such as soil and landform – and ecological features – such as climax forest type. These characteristics help determine vegetation development.

Element descriptions promote an understanding of historical vegetation patterns and the effects of current disturbances. This landscape analysis identified and mapped seven key landscape elements – one dominant matrix element, five smaller patch elements, and a corridor element – in St. Marys River.

Spruce Pine Hummocks is the matrix element, representing half of the ecodistrict's area. Low soil fertility leads to a forest dominated by black spruce and white pine, though red oak and red pine are found in some stands.

Tolerant Hardwood Hills and **Tolerant Hardwood Drumlins and Hummocks** are the two largest patch elements, representing a combined 39% of the area. Sugar maple and yellow birch are the dominant species. Red maple and red spruce are also common. White spruce is often found on abandoned fields. The other patch elements, in order of size, are **Spruce Pine Flats**, **Wetlands,** and **Floodplain**. **Valley Corridors** is a linear element associated with major waterways in the ecodistrict.