



**BENEATH YOUR FEET:
A WOODLAND OWNER'S GUIDE TO
MINERAL AND GEOLOGICAL RESOURCES**

Introduction

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What you find on your woodland under your feet may not be as obvious – but is no less important – than what’s above. It provides the nutrients for tree and shrub growth, potentially material for roads and trails, and possibly some valuable minerals. Read on to learn what options and responsibilities you have as a landowner.

Responsible stewardship of your woodland requires consideration of *all* the natural resources which are present.

Your land may hold **mineral** or **geological resources** that you could develop yourself, such as **aggregate** or **geoheritage** sites. Perhaps your land contains minerals that may be of interest to a mining company. You may wish to know what could happen if an exploration company wants to explore your land. You might also be interested in knowing about any geological hazards, called **geohazards**, on your land and how they could affect you.

This module is intended to provide a basic introduction to geological resources and minerals, and how they might apply specifically to woodland owners. Specialized knowledge of how to identify these resources can be provided by a geologist - provincial geologists are available who can help you answer your questions. See the last section of this Module for a list of resources.

Geological Processes of Earth

Living things have only existed for a very small part of Earth’s 4.5-billion year history. We live on a continually active and dynamic planet which has an internal heat generation and circulation system that moves the crust of the Earth around in a process called **plate tectonics**. Earth’s plates move very slowly over hundreds of millions of years; its landscape has changed many times and continues to do so - even today.

Large-scale events like earthquakes and volcanic eruptions in other parts of the world seem far away, but that was not always the case. Nova Scotia’s geological history spans about a billion years of Earth’s history. During this time, mountains were built and eroded, northern Nova Scotia slid past southern Nova Scotia and volcanic lava spilled into what is now the Bay of Fundy. The rock formations, mineral deposits, landforms and water bodies we see today in Nova Scotia are the result of this billion-year journey.

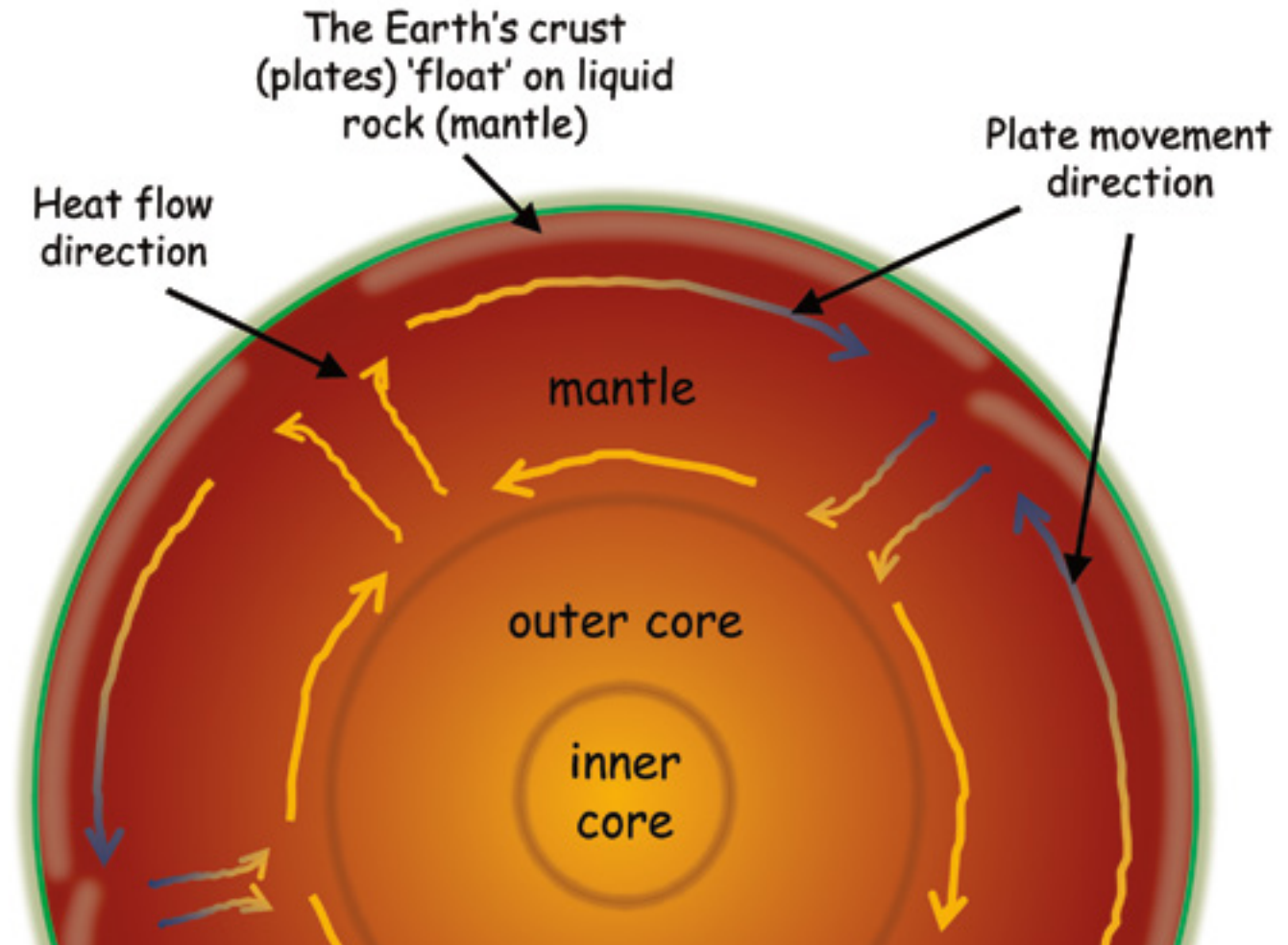


Figure 1. Cross-section of Earth.

Earth's **geology** influences climate, ecosystems, human settlement patterns, agriculture and economic activity.

While the geological foundation of Nova Scotia appears quite stable compared to other areas of Earth, this is an illusion.

The Earth is continually moving beneath us so slowly that we don't see this movement during our lifetimes. Although it may appear insignificant to woodland owners, geological history has played a huge role in determining what our woodlands contain.