

Overview of the Nova Scotia Mineral Incentive Program, 2012-2016

R. D. Naylor and M. J. O'Neill

Introduction

The Nova Scotia Mineral Incentive Program (NSMIP) was established in 2012 with the goal to promote and increase mineral exploration and development in Nova Scotia. The program is administered by the Geoscience and Mines Branch of the Nova Scotia Department of Natural Resources, and comprises grants for mineral exploration, professional development training for prospectors, and more recently funding for university research that directly supports mineral exploration activities in the province.

This report provides an overview of the program from 2012-2016 with an emphasis on the value achieved through the grants provided for mineral exploration.

Program Funding

In 2012 funding for the NSMIP stood at \$700,000 per year. At the same time, a global downturn in availability of private sector financing for mineral exploration and mining resulted in the program being undersubscribed. As a result the annual program funding was reduced to its current annual level of \$400,000 in 2015.

Grants for Mineral Exploration

The NSMIP provides grants to support the mineral exploration activities of prospectors and junior mining companies. Two types of grants are available: Prospector Grants and Shared Funding Grants. Prospector Grants fund grass-roots mineral exploration activities. The maximum funding available for a Prospector Grant is \$15,000. Shared Funding Grants are an industry-government cost shared initiative that funds exploration activities that are beyond the grass-roots level. The

maximum funding available under the Shared Funding Grant program is \$150,000 for up to 50% of eligible exploration costs.

Figure 1 illustrates the total funding provided for Prospector and Shared Funding Grants from 2012 to 2016. The Geoscience and Mines Branch has created open file maps that illustrate the location, commodities explored for, and funding provided for each exploration grant. The open file maps are:

- [Open File Map ME 2017-001 - 2012](#)
- [Open File Map ME 2017-002 - 2013](#)
- [Open File Map ME 2017-003 - 2014](#)
- [Open File Map ME 2017-004 - 2015](#)
- [Open File Map ME 2017-005 - 2016](#).

Support for Professional Development

Helping Nova Scotia prospectors gain the skills to achieve exploration success is a key component of the NSMIP. Through the NSMIP the government has provided funding and expertise to support professional development to the Nova Scotia Prospectors Association, the Mining Association of Nova Scotia, Geoscientists Nova Scotia and individual prospectors. Support has been provided for marketing, technical training, field trips, seminars and career planning.

Professional development initiatives funded through the NSMIP include:

- The Mining Association of Nova Scotia and the Nova Scotia Prospectors Association created an online prospector training course that provides the basic information that all Nova Scotia Prospectors require. The course consists of 12 modules that cover topics ranging from how to stake a claim to mineral identification.
- The Nova Scotia Prospectors Association organized training and certification for their members to use X-ray Fluorescence analyzers.

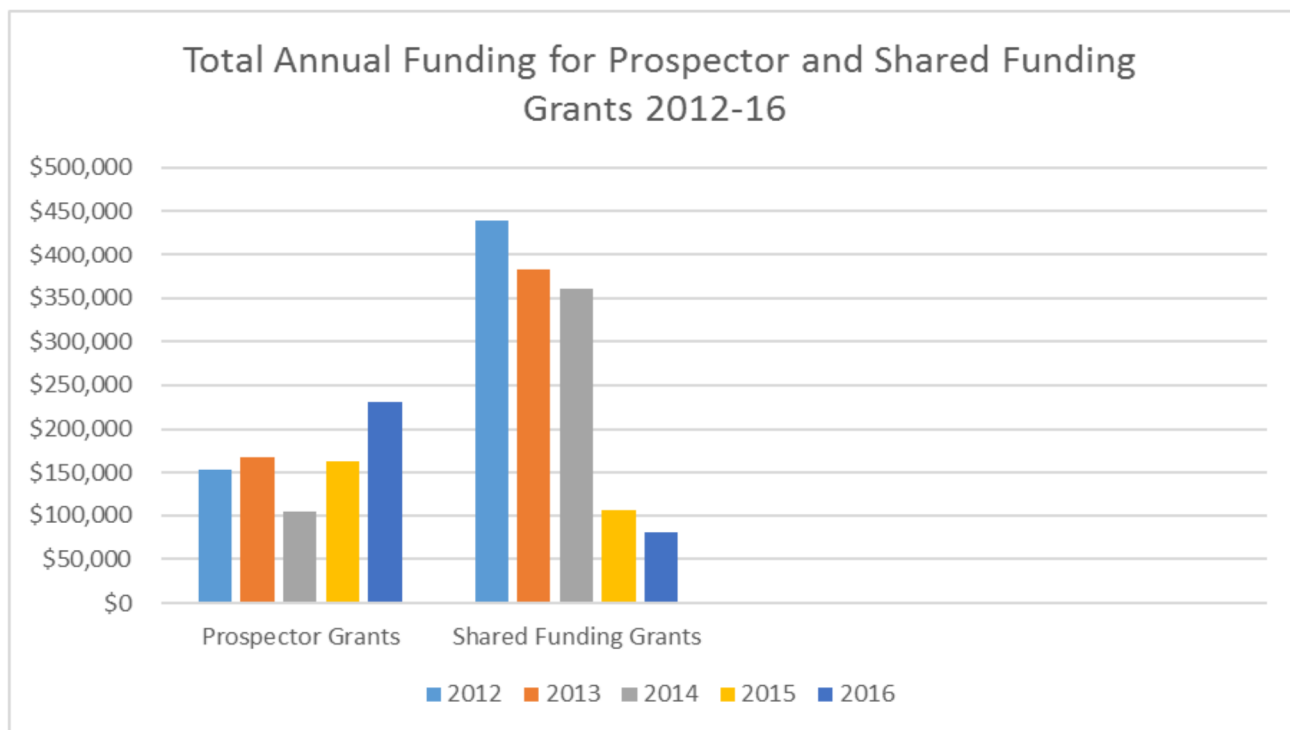


Figure 1. Total funding provided for Prospector Grants and Shared Funding Grants from 2012 to 2016.

- X-ray Fluorescence analyzers are leading edge technology that provide prospectors with quick, inexpensive access to geochemical analysis.
- The Nova Scotia Prospectors Association provided a series of workshops for their members on how to use geographic information systems to create geological maps.
 - Geoscientists Nova Scotia held workshops on best practices for community engagement for mineral exploration projects. The workshops were attended by geologists, engineers and prospectors.
 - NSMIP funding has been provided annually for prospectors to market their properties at the Prospectors and Developers Association of Canada Convention and The Association for Mineral Exploration Roundup Conference. Technical support was also provided by Geoscience and Mines Branch geologists to help prospectors prepare for these events.
 - NSMIP funding has allowed prospectors to contract the services of professional geologists to assist with evaluation of prospects. Prospectors have reported that working directly with professional geologists has provided excellent learning opportunities.

In addition to these initiatives, NSDNR geologists have provided ongoing professional development support for prospectors. Assistance has been provided for developing exploration plans, planning and undertaking geochemical sampling and geophysical surveys, communicating effectively with landowners, meeting regulatory requirements, and preparing marketing plans and materials. Prospectors have also received considerable support with preparing NSMIP funding applications and reports.

Linking University Research to Mineral Exploration in Nova Scotia

Geoscientists at Nova Scotia's Universities have the expertise to undertake mineral deposit research that is beyond the typical capacity of prospectors and junior mining companies. Tapping into this geoscience expertise provides an important opportunity to gain new insight into Nova Scotia's mineral exploration potential. Beginning in 2015, funding was made to Nova Scotia Universities for geoscience research that directly supports mineral

exploration and development in Nova Scotia. University researchers go through a formal application and approval process, and applicants must directly link their research proposals to ongoing mineral exploration efforts in the province.

To date four research grants have been awarded totaling nearly \$50,000. Research projects funded to date include:

- The origin and evolution of rare earth element-enriched peralkaline rocks in the Cobequid Highlands, Nova Scotia – Dr. Alan Anderson, St. Francis Xavier University (\$15,000).
- The geological setting of Au-Cu-Fe-Ni occurrences in the second gold brook area, western Cape Breton – Dr. Sandra Barr, Acadia University (\$4800).
- The litho geochemistry of the Dominique Sn-Zn-Cu-Pb-Ag vein prospect, Yarmouth County – Dr. Cliff Stanley, Acadia University (\$15,000).
- Exploring the presence and speciation of hydrocarbons as a vector to disseminated-type Meguma gold deposits - Mitch Kerr; Dr. Jacob Hanley, St Mary's University (\$14,900).

Response to the Program

Overall the response to the NSMIP has been very good. Although the mineral exploration industry has been facing many challenges locally and internationally, support for the NSMIP has remained high, particularly among prospectors. To ensure that the program is adapting and improving to meet client needs, Geoscience and Mines Branch staff meet annually with the Nova Scotia Prospectors Association (NSPA) to seek their advice. Based on input from the NSPA significant improvements have been made to the program including:

- Providing better feedback to applicants that do not receive a grant to help them improve future funding requests.
- Raising of funding limits for incidental expenses such a fuel and other travel costs to better reflect actual costs incurred by prospectors.
- Acceptance of applications year-round to allow for unspent funds to be quickly reallocated.
- Refining the application review procedure to make it more clear and efficient.

- Expanding support for exploration to include providing funding for the NSPA to purchase an X-ray fluorescence analyzer and a rock crusher.
- Creating Research Grants to link university-based researchers to mineral exploration initiatives in Nova Scotia

Program Results

Statistics supplied by Natural Resources Canada show that Canada experienced an overall decline of 66% in mineral exploration expenditures from 2012 to 2015. During the same period Nova Scotia experienced a 48% drop in mineral exploration expenditures, an improvement over the national average, but still a major blow to mineral exploration in the province.

The large drop in funding provided for Shared Funding Grants from 2012 to 2016 (Fig. 1) mirrors the significant decline in industry activity during this period. However, the funding provided through the NSMIP has clearly helped the local mineral exploration industry deal with a very difficult period. From 2012 through 2016 the NSMIP provided \$108,000 to fund 72 opportunities for prospectors to market their properties at events such as the Prospectors and Developers Association of Canada convention and the Association for Mineral Exploration Roundup meeting. The online Prospector Course and training seminars funded by the NSMIP have helped Nova Scotia prospectors advance their mineral exploration skills and significantly raised the bar for how prospectors work in Nova Scotia. The biggest contribution, however, has been funding provided for boots on the ground mineral exploration. From 2012 to 2016 a total of \$820,000 were provided for Prospector Grants and \$1,368,000 for Shared Funding Grants. This funding has led to new discoveries and attracted new investment in mineral exploration in the province. Some examples that illustrate program successes include:

- In 2012 and 2013, Joe Richman received Prospector Grants of \$15,000 to evaluate gold potential on claims that he held in the Cape Breton Highlands. In 2013 Mr. Richman

received a \$983 business development grant to attend the Prospectors and Developers Association of Canada Convention in Toronto. This led to a deal with IAMGOLD Corp., a major Canadian gold mining and exploration company with assets in North and South America and West Africa. In 2014 IAMGOLD received a \$50,000 Shared Funding Grant to help undertake exploration work on the property. Over a two-year period IAMGOLD Corp. spent approximately \$480,000 assessing the property.

- Between 2012 and 2014 Thundermin Resources spent approximately \$435,000 assessing the Stirling deposit in Richmond County, Cape Breton. This work was supported and encouraged by two Shared Funding Grants totaling \$75,000. Although further exploration work did not proceed, interest in the Stirling deposit remains high in part based on new discoveries made by Thundermin Resources.
- In 2014 and 2015, Avalon Rare Metals received two Shared Funding Grants, which together totaled \$135,000. This funding help support work on their tin-indium property at East Kemptville. To date Avalon Rare Metals has made a very significant financial investment in the East Kemptville project, and they are currently working to acquire a mining lease to allow them to begin mining at a small scale.

The Future of the NSMIP

The NSMIP is making a valuable contribution toward supporting mineral exploration in Nova Scotia. Despite the world-wide downturn in the mineral industry, the NSMIP has funded high quality projects that have led to new discoveries and a greater understanding of the province's mineral resource potential. The economic outlook

for the mineral industry is beginning to improve. In Nova Scotia, renewed interest in mineral exploration will be driven by the global upturn in the mineral industry, new mineral deposit research undertaken by DNR and university geoscientists, new discoveries by industry, and the development of new gold mines along the province's eastern shore. Increased interest in mineral exploration in Nova Scotia will increase interest in accessing NSMIP funding. This in turn will help ensure that high quality mineral exploration projects will be available to fund.

Funding for professional and business development for prospectors must continue to be an important component of the NSMIP. Moving forward it will be important to continually seek ways to improve prospector training. A significant challenge is providing training that is tailored to the individual prospector's level of experience. It is also important that prospectors are provided with clear guidelines with respect to what is required to be considered for marketing opportunities at PDAC and Roundup.

To help ensure that the NSMIP is achieving its objectives the program coordinator should seek more detailed information from grant recipients about how program funding has resulted in new investment in mineral exploration and mining. This will require the full support of all grant recipients and will help to ensure that NSMIP funding is used most effectively.

To date the NSMIP has been very successful. With the willingness of industry to work with government to continually improve the program, the NSMIP has a bright future.