USING ESRI TOOLS:
A PRACTICAL APPLICATION

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NAIT

esri Canada

INTRODUCTION

Hornbeck Cross Country Skiing Area is located 15 kilometers northwest of Edson, Alberta. The area consists of over 28 kilometers of trails that meander throughout the forest. There are several well marked loops, including a 15, 10, 7.5, 5, 3.75, 2.5, and 1 kilometer distances.
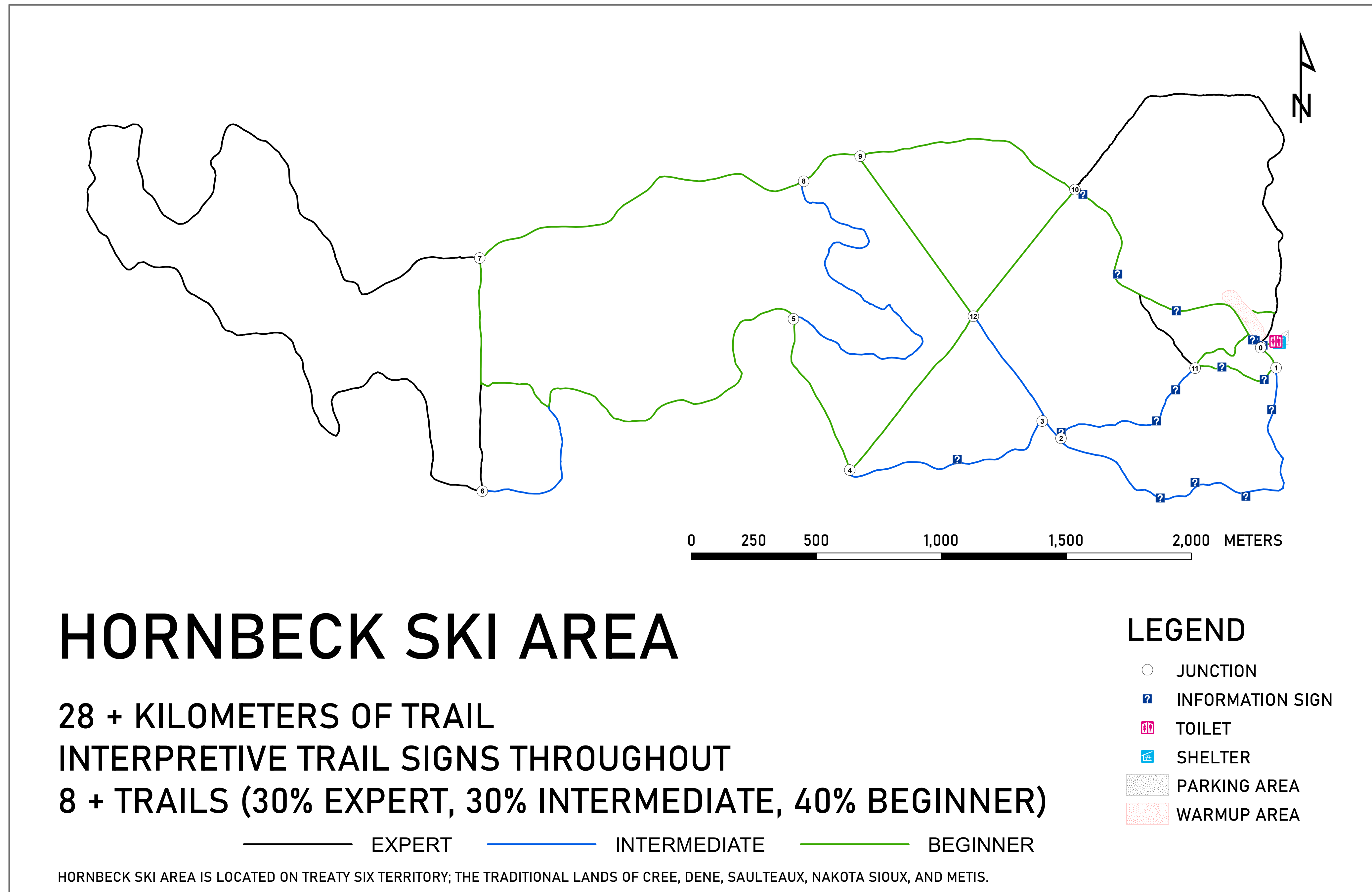
A data template was built using ArcMap, by creating feature classes for polygons, polylines and points. These layers were then exported to ArcOnline for use in Field Maps. All data was collected using Field Maps which included georeferenced photos.

RESULTS

The results of the data collected produced a complete trail map of the area, including points of interest with photos. The purpose of this trail map (on the right) is allow the Muskeg Flyers ski club to use and distribute at their discretion. Additionally, the StoryMap created will serve as an interactive platform for skiers to familiarize themselves with the area. For the purpose of this poster, various Esri tools will be referenced for novice GIS users.
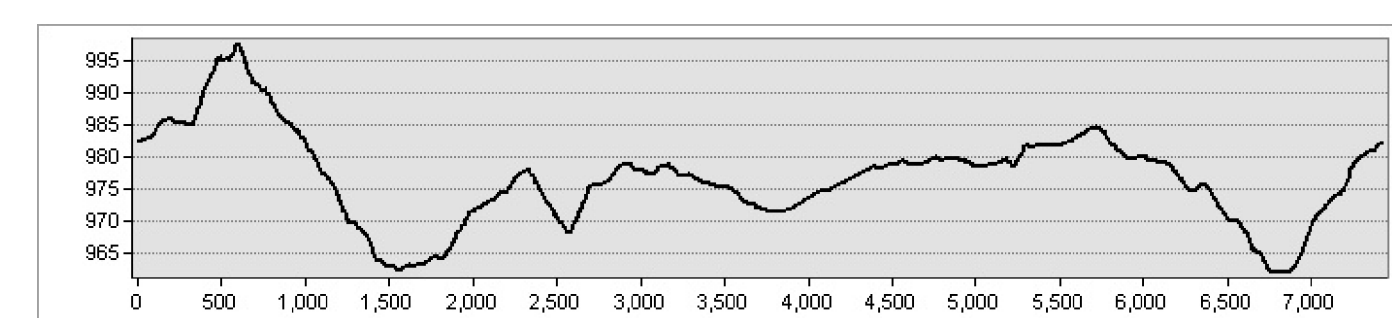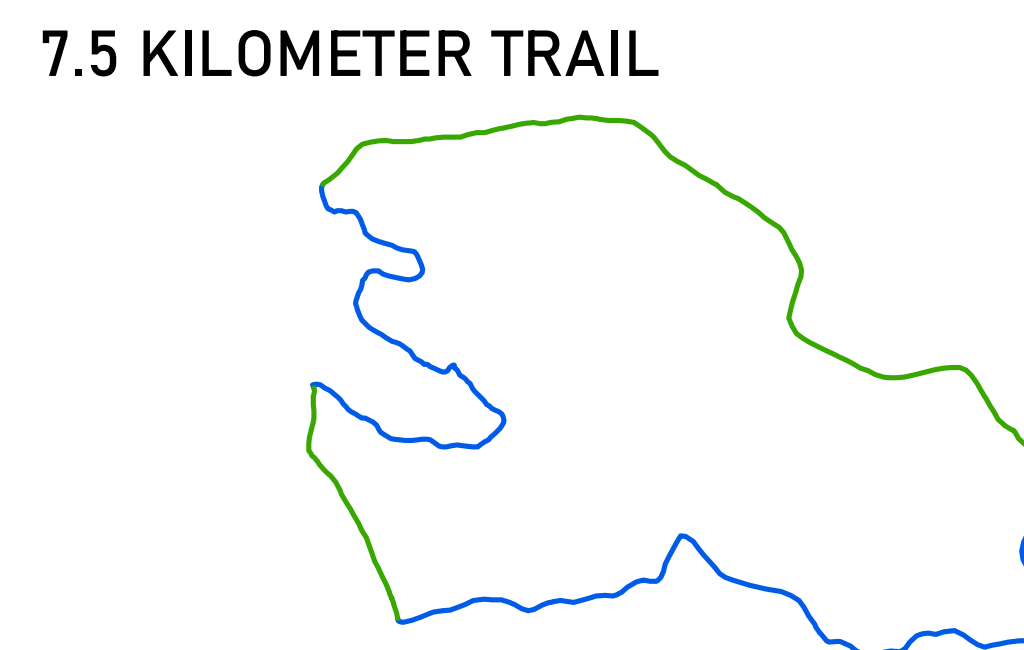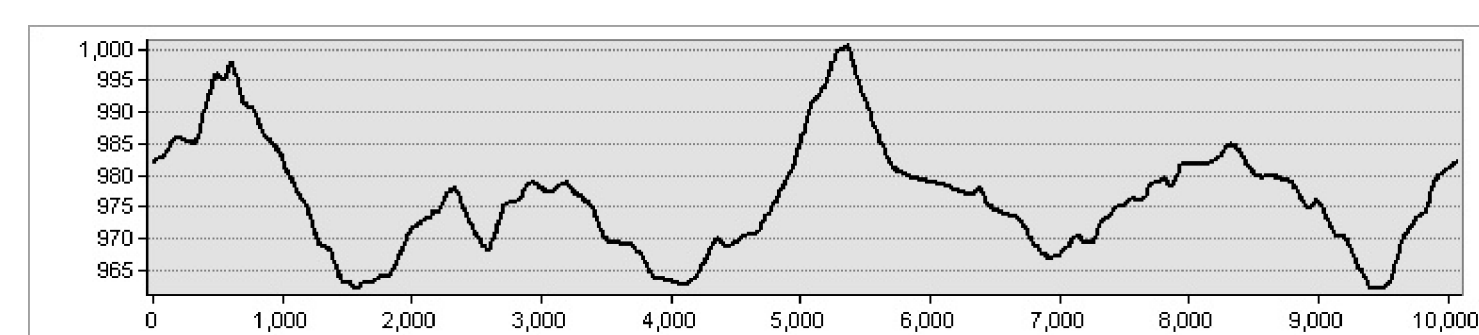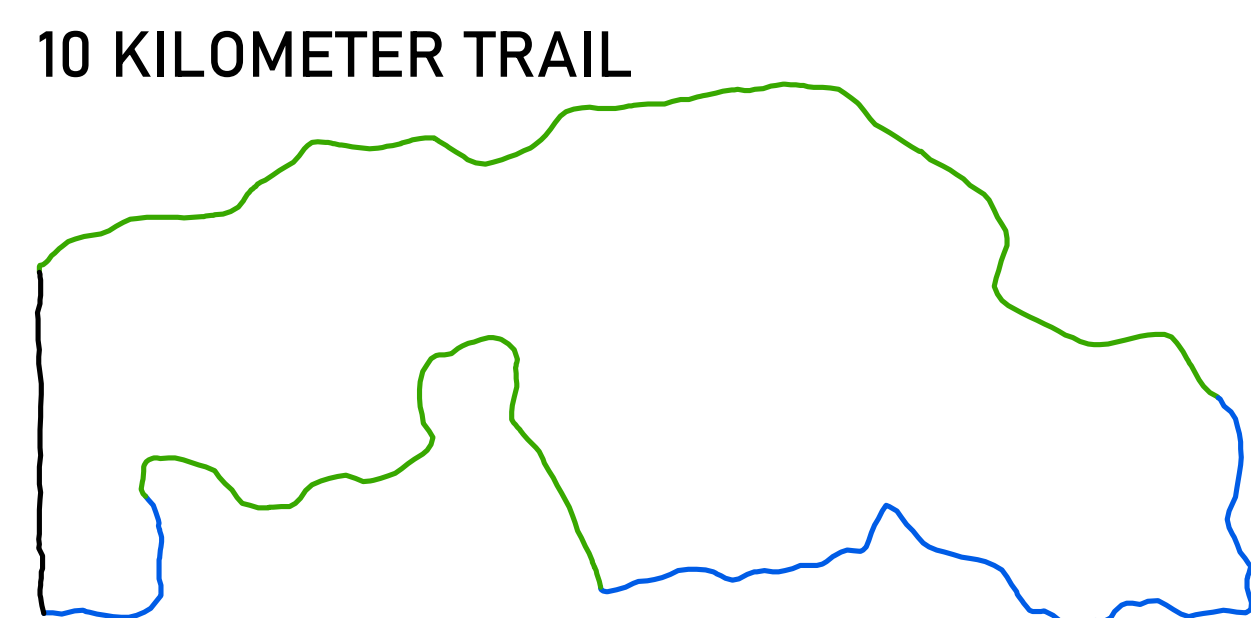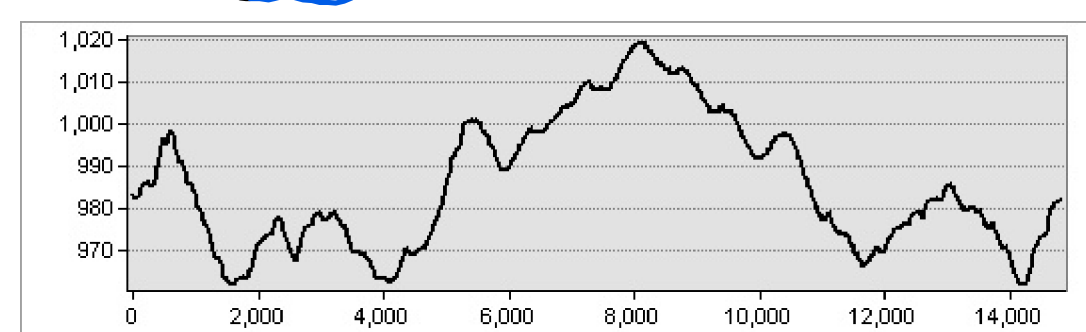
A basic geodatabase was created in ArcMap, which included polygon, polylines and point features. These layers were published to ArcOnline which added a feature layer to my content. By creating a map in ArcOnline using this feature class, I was able to use Field maps for all data collection. This data was than transferred back into ArcMap for data intrepation and editing.

I was unable to find an accurate contour mapping layer for this project, however I wanted to create elevation profiles for each trail. Using ArcGIS 10.1 GIS Tutorials Basic Workbook I was able to create a Triangulated Irregular Network (TIN). The resulting elevation profile is more rudimentary than I had hoped for, but without a digital elevation model or contour layer the profiles meet the objective.

HORNBECK SKI AREA

28 + KILOMETERS OF TRAIL
INTERPRETIVE TRAIL SIGNS THROUGHOUT
8 + TRAILS (30% EXPERT, 30% INTERMEDIATE, 40% BEGINNER)

—— EXPERT   —— INTERMEDIATE   —— BEGINNER

HORNBECK SKI AREA IS LOCATED ON TREATY SIX TERRITORY; THE TRADITIONAL LANDS OF CREE, DENE, SAULTEAUX, NAKOTA SIOUX, AND METIS.

LEGEND

○ JUNCTION
🛈 INFORMATION SIGN
🚻 TOILET
🏠 SHELTER
▨ PARKING AREA
▨ WARMUP AREA

15 KILOMETER TRAIL

10 KILOMETER TRAIL

7.5 KILOMETER TRAIL

CONCLUSION

This project used a variety of Esri products to develop a basic trail map. By combining Esri products such as Field Maps, ArcOnline and ArcMap I was able to create an interactive trail map as well as a practical geo-referenced trail map for recreational users. All of this data was shared with the local ski club, Muskeg Flyers for distrubution as they see fit.

As a forest technology student, with limited GIS experience I found Esri products to be user-friendly with excellent support resources.

This poster was created on behalf of a scholarship application through Northern Alberta Institute of Technology. Access to the interactive report can be viewed by following the QR code.