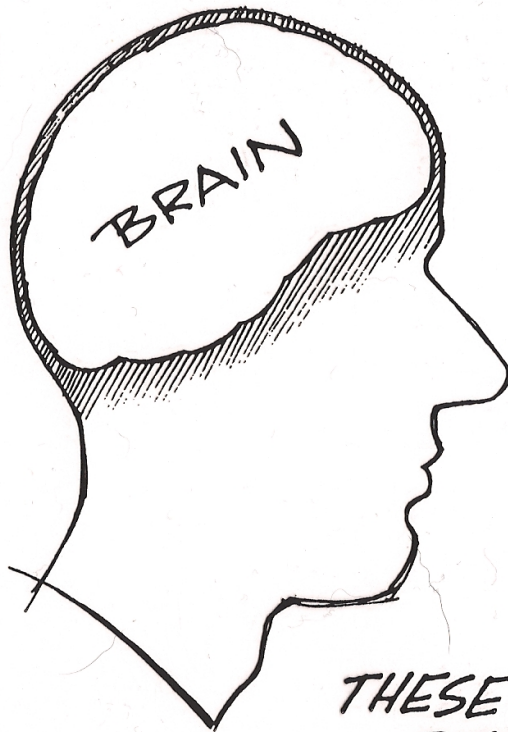
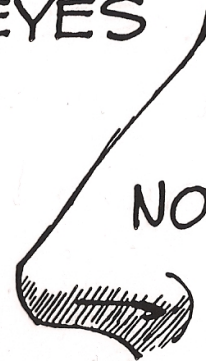


NAVIGATION



EYES



NOSE



EARS

THESE TOOLS WERE USED TO
DISCOVER THE WORLD -
Thousands of years before the compass.

Navigation Lessons Include:

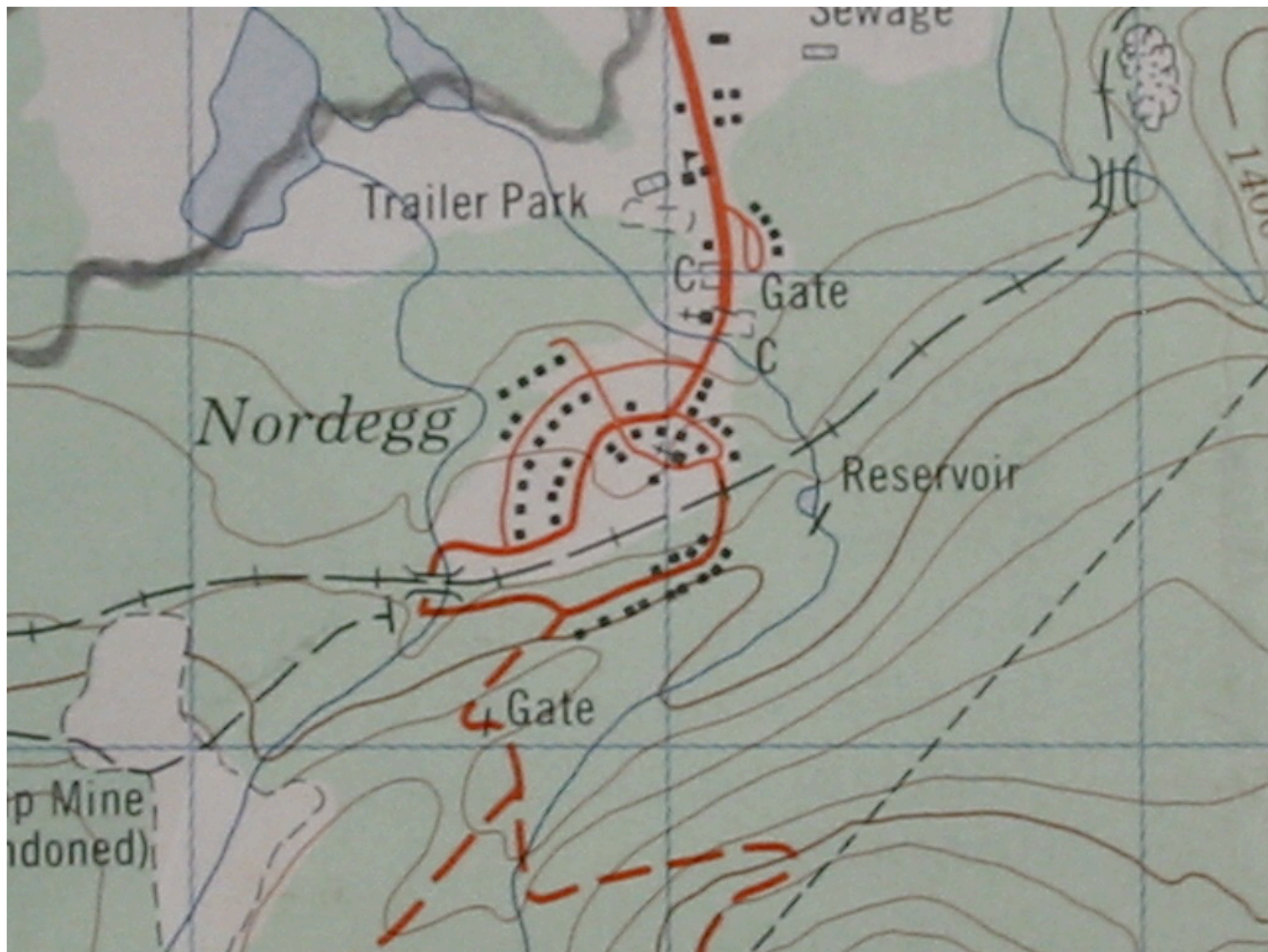
- Overview of Navigation
- Map Features
- Topography on maps
- UTM coordinate system
- Distances on maps
- Direction on maps
- Route Selection
- Triangulation

Navigation Learning Objectives:

- Be able to determine your location
- Be able to describe your location
- Be able to find a location by description
- Be able to recognize features
- Be able to select a route

*“Navigation can
not be Taught.
It must be Learned.”*

Marius Vergenius



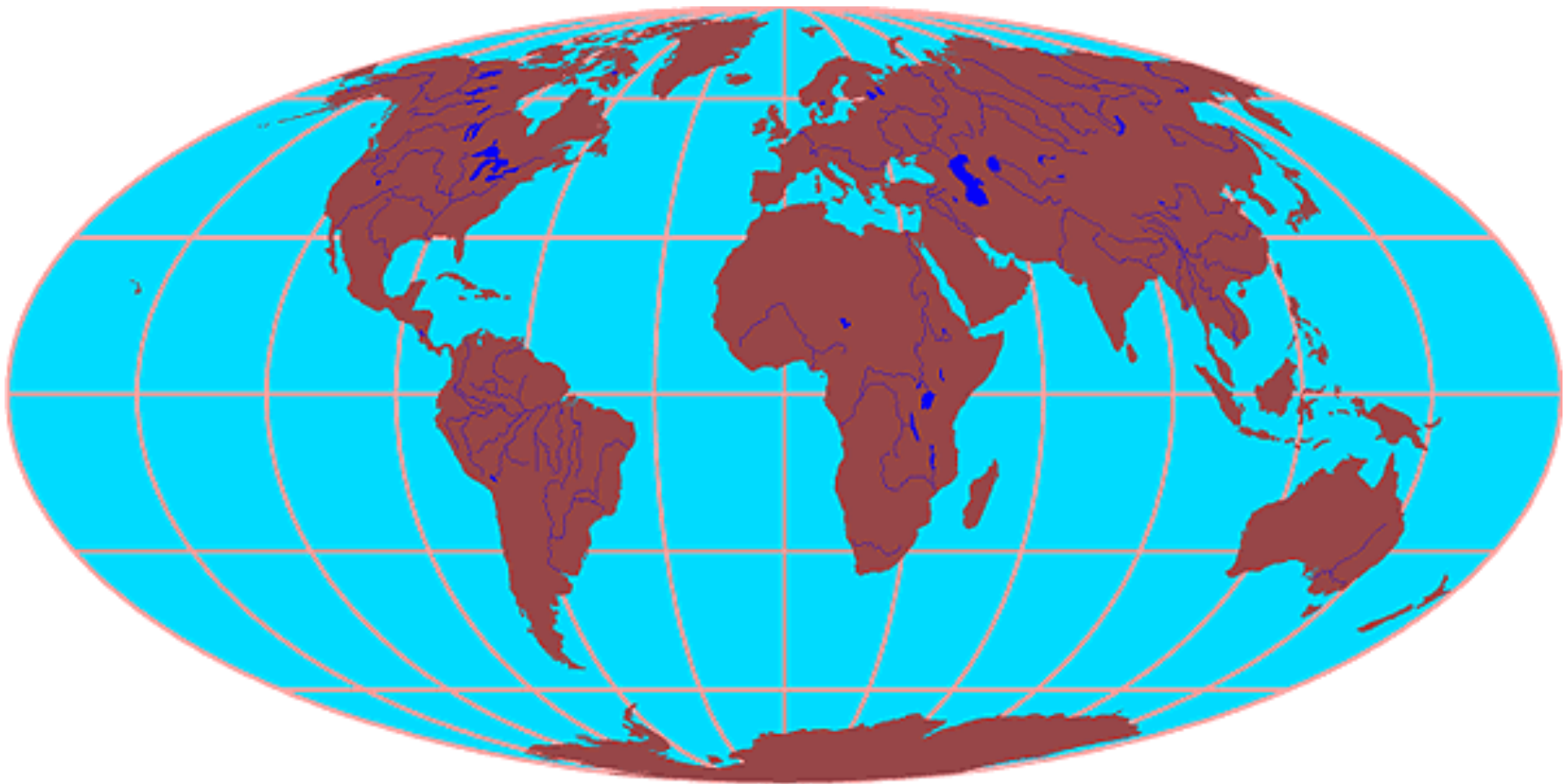
EARTH IS ROUND

MAPS ARE FLAT.....PROBLEM

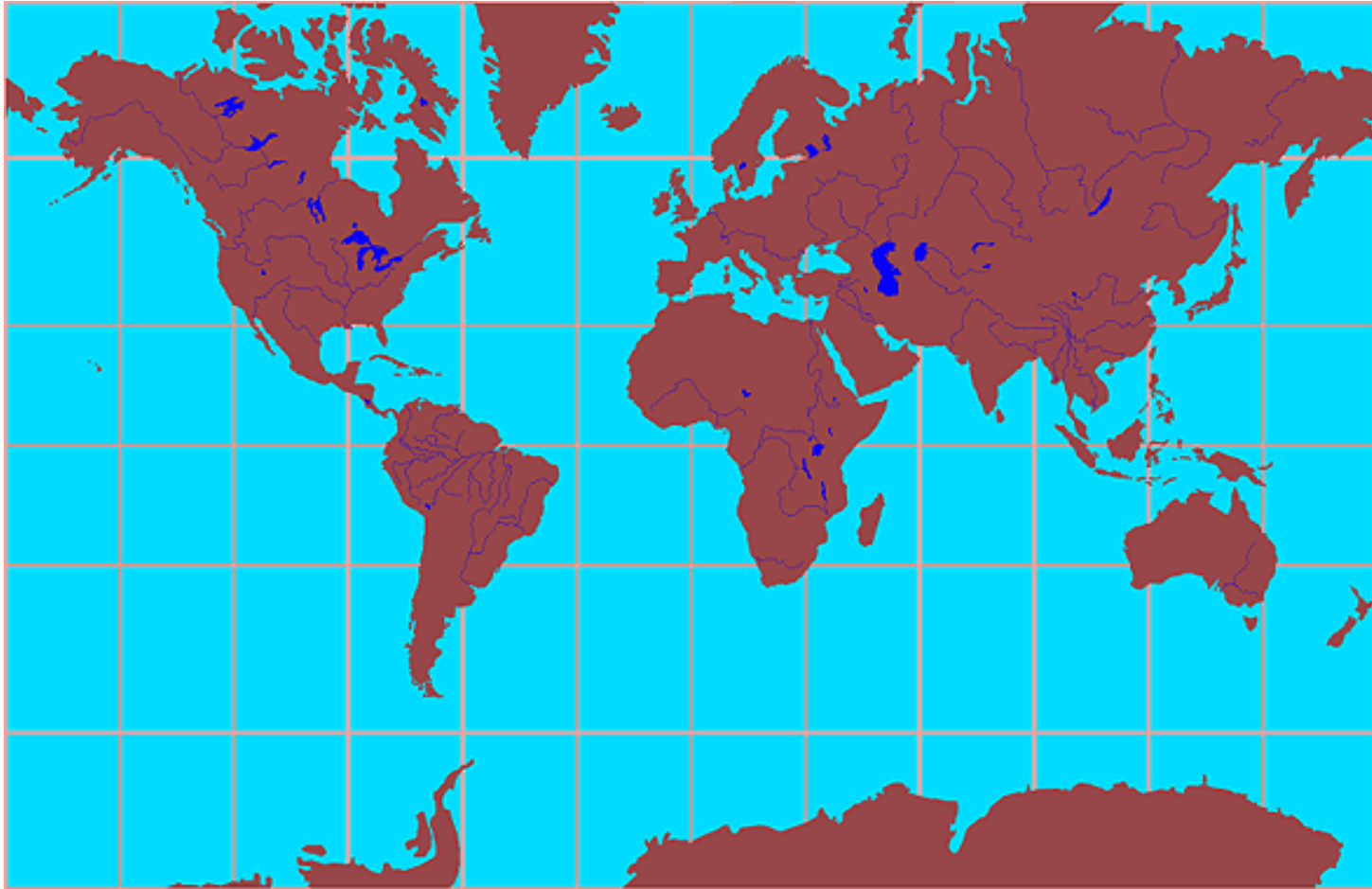
Earth from Single Perspective



Earth from Modified Perspective



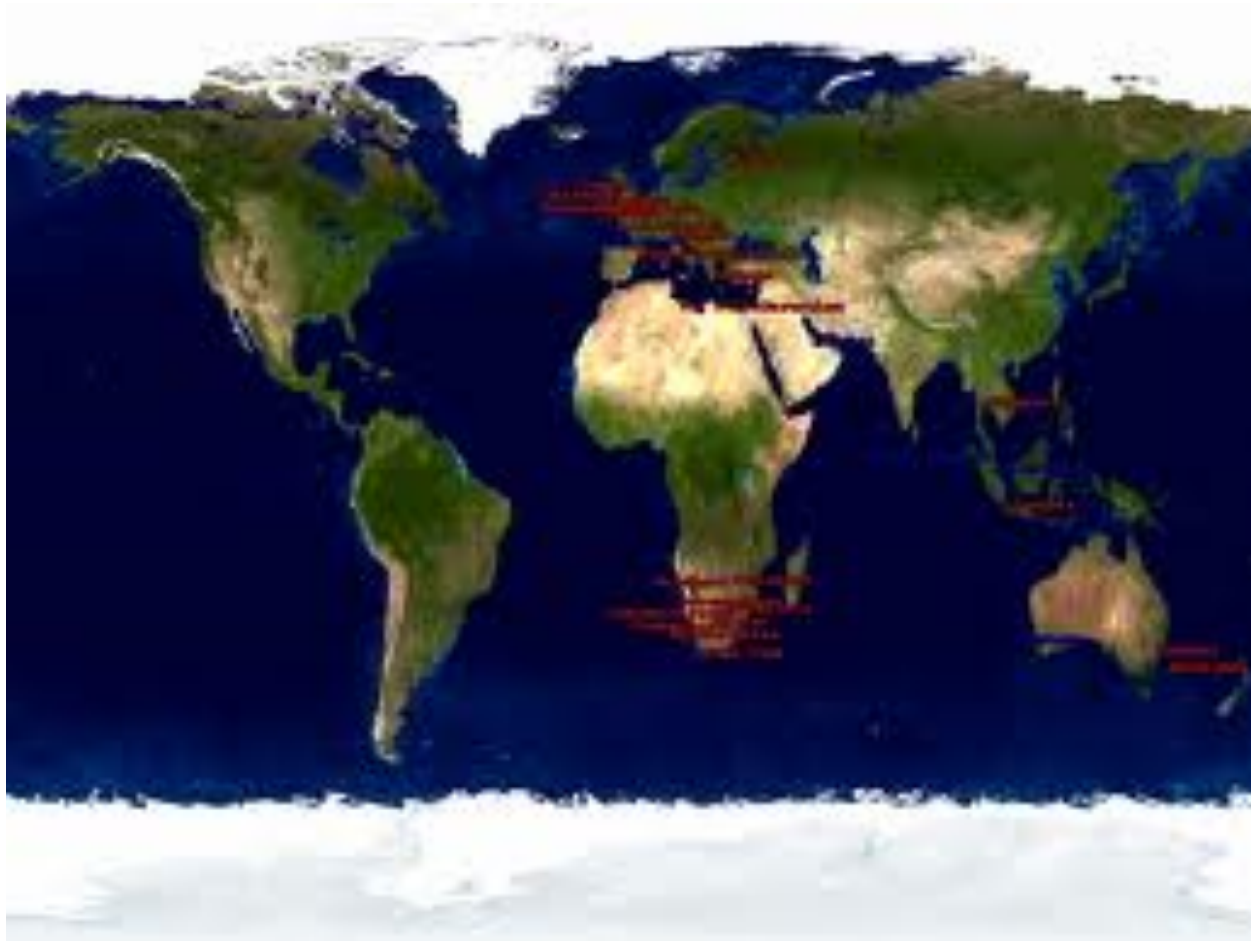
Miller Cylindrical Projection



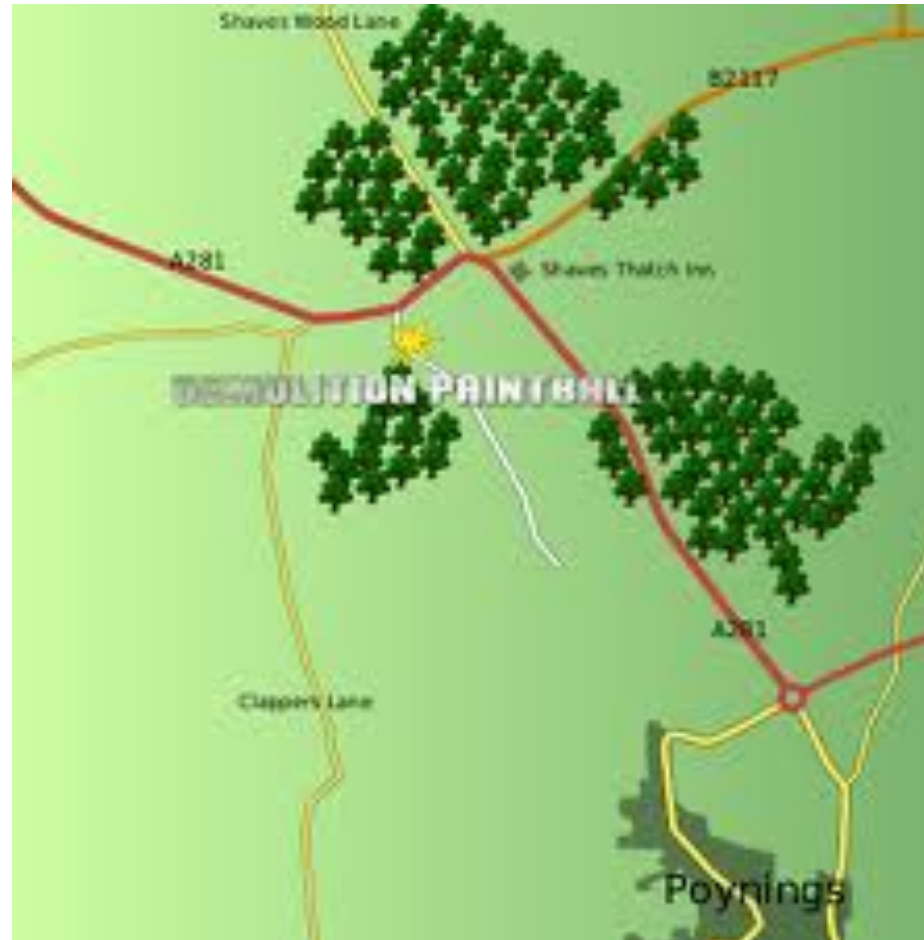
Detail and Scale



Very little detail, great coverage



Great detail with very poor coverage



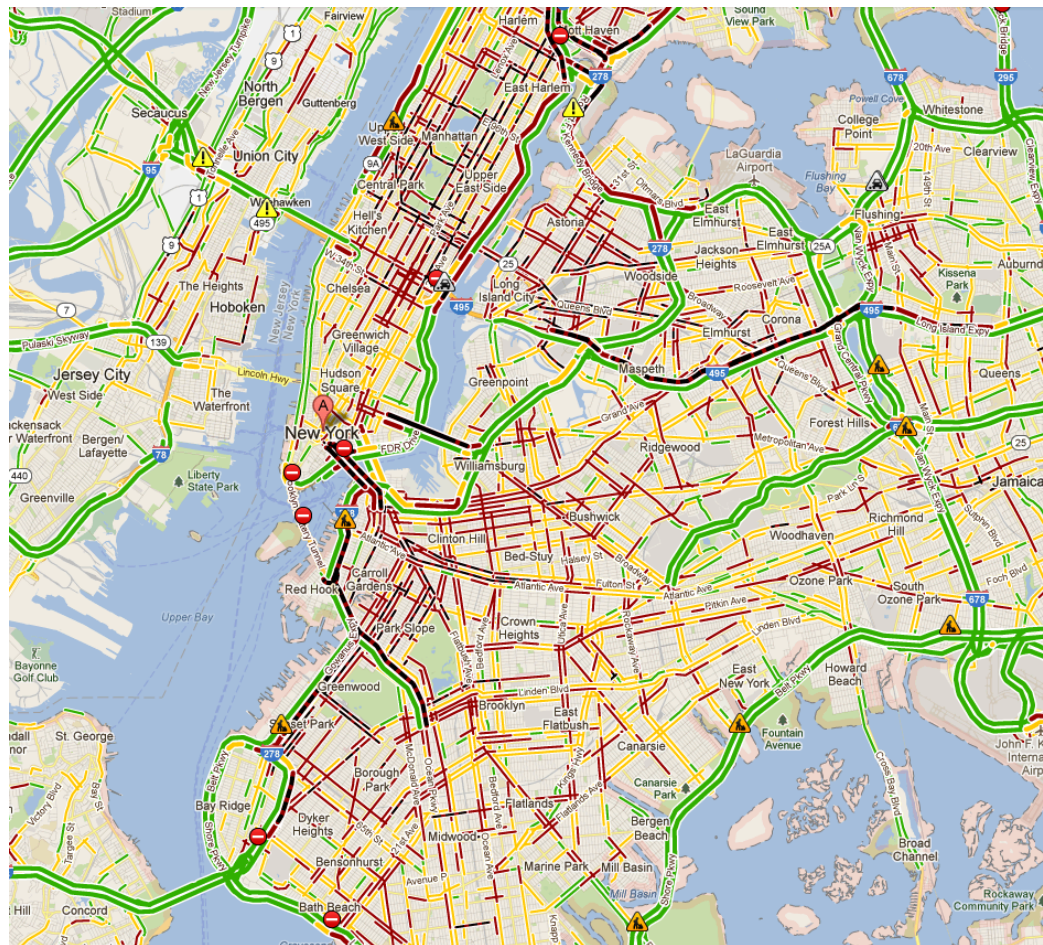
Types of Maps

- What features are you interested in?
- How much detail do you require?
- How are you traveling?

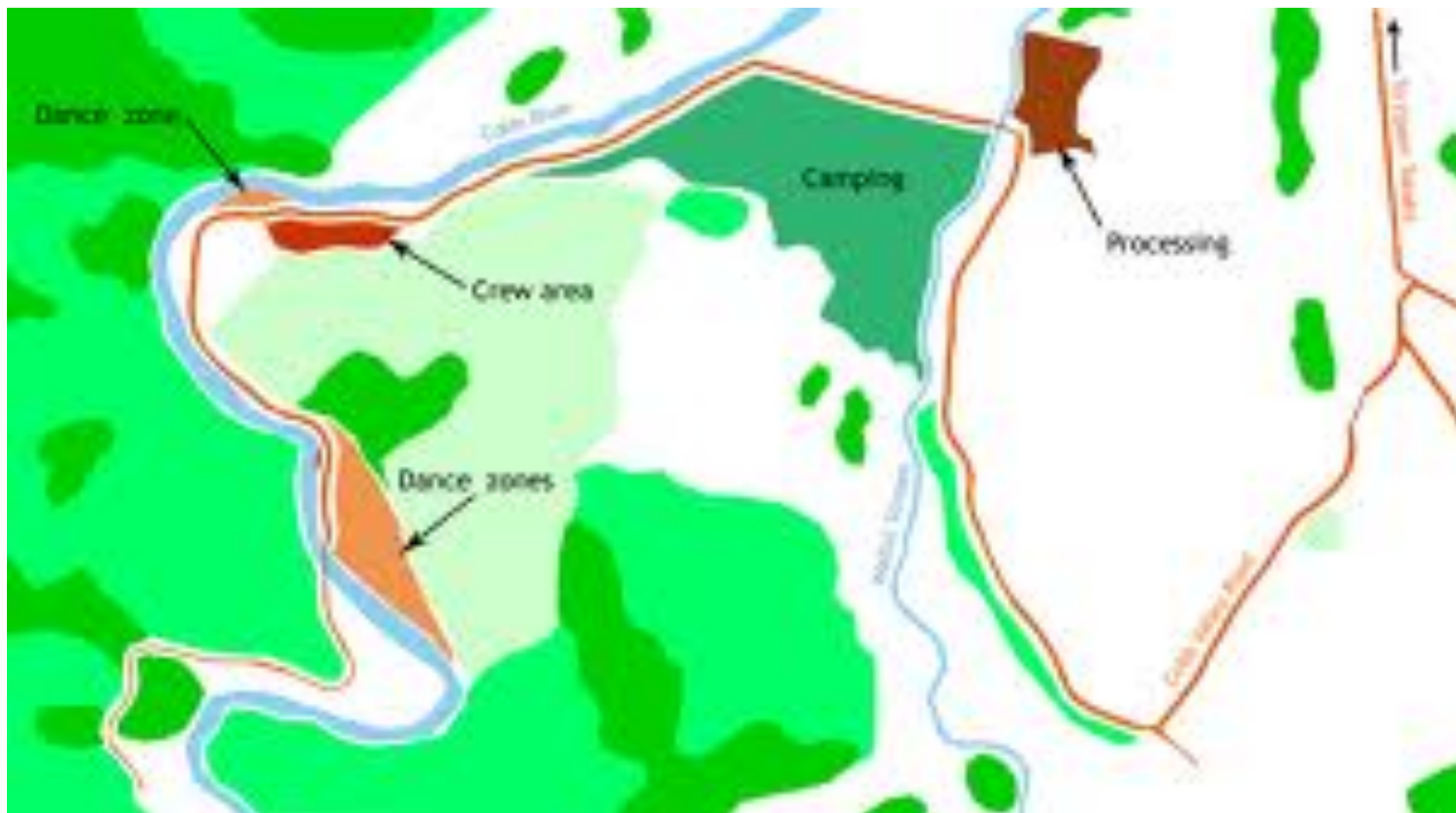
Satellite Imagery



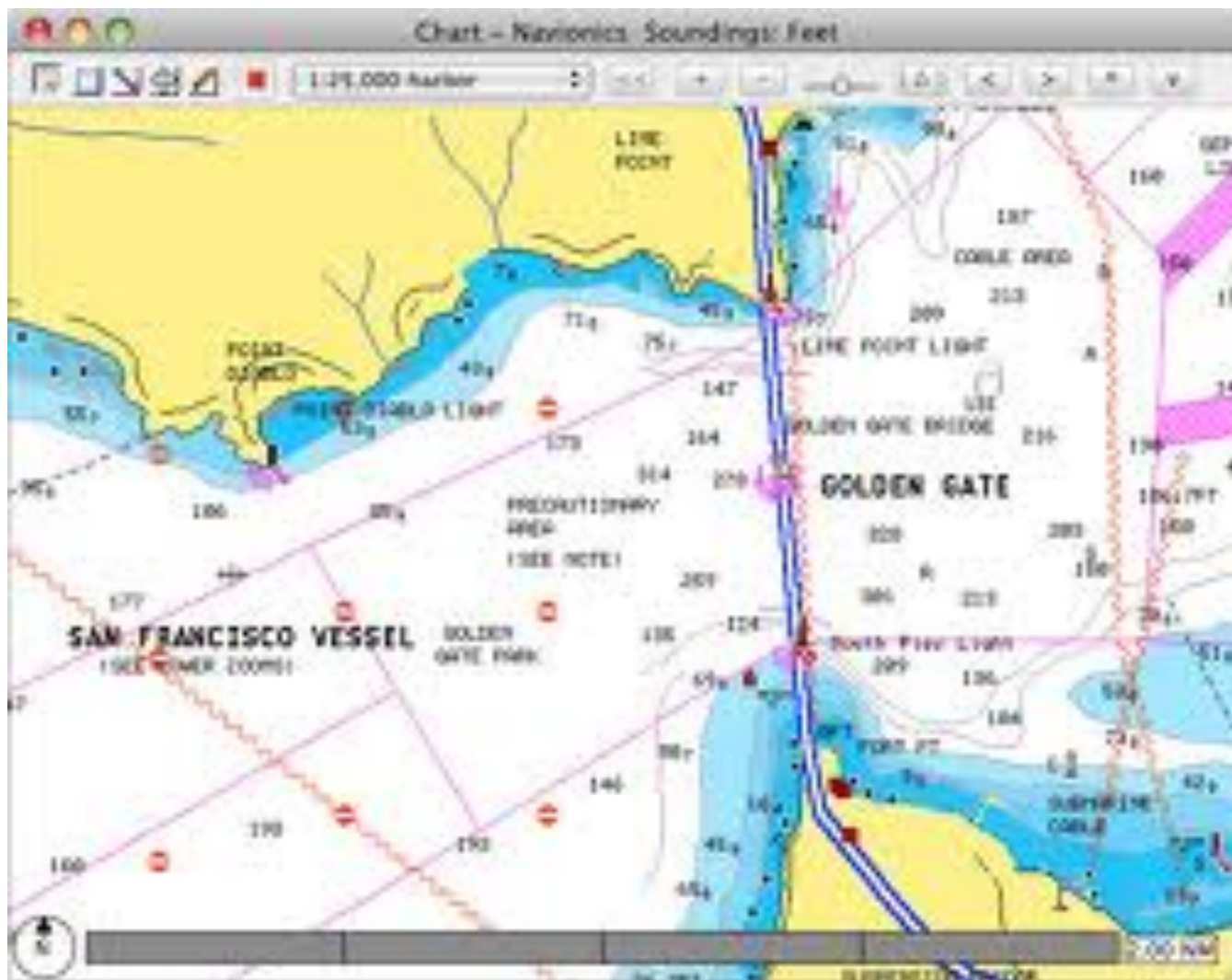
Road Maps

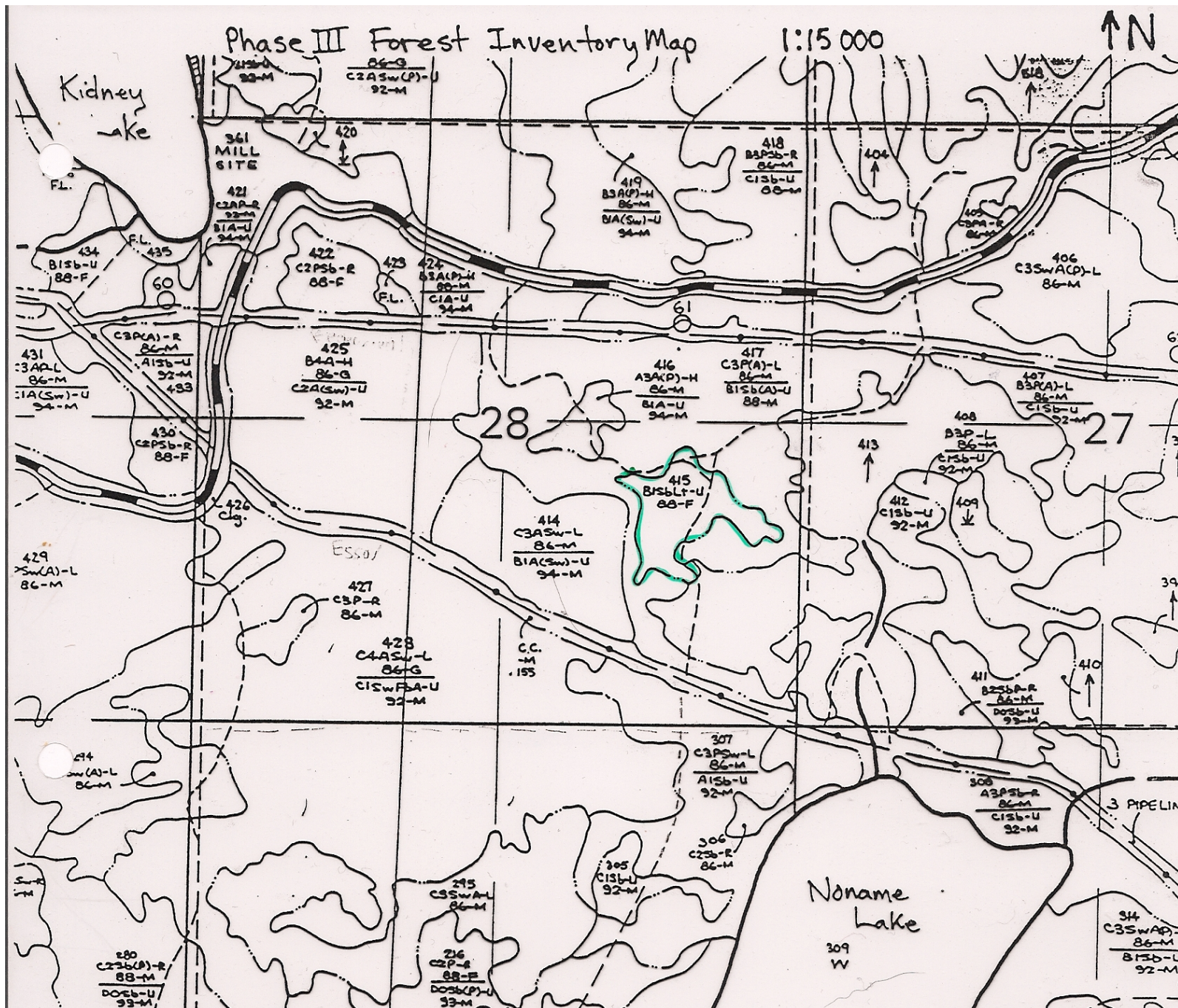


Camping Maps



Marine Maps

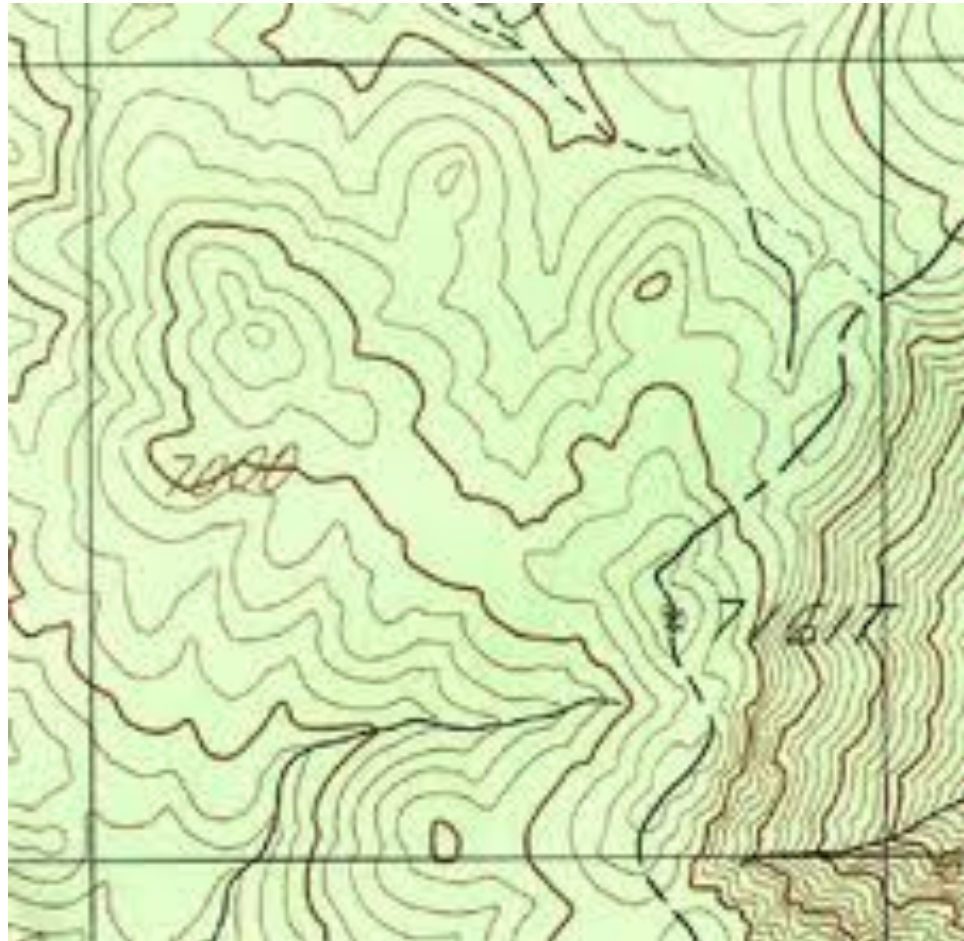




Shaded Terrain Maps



Topographic Maps



Map Features

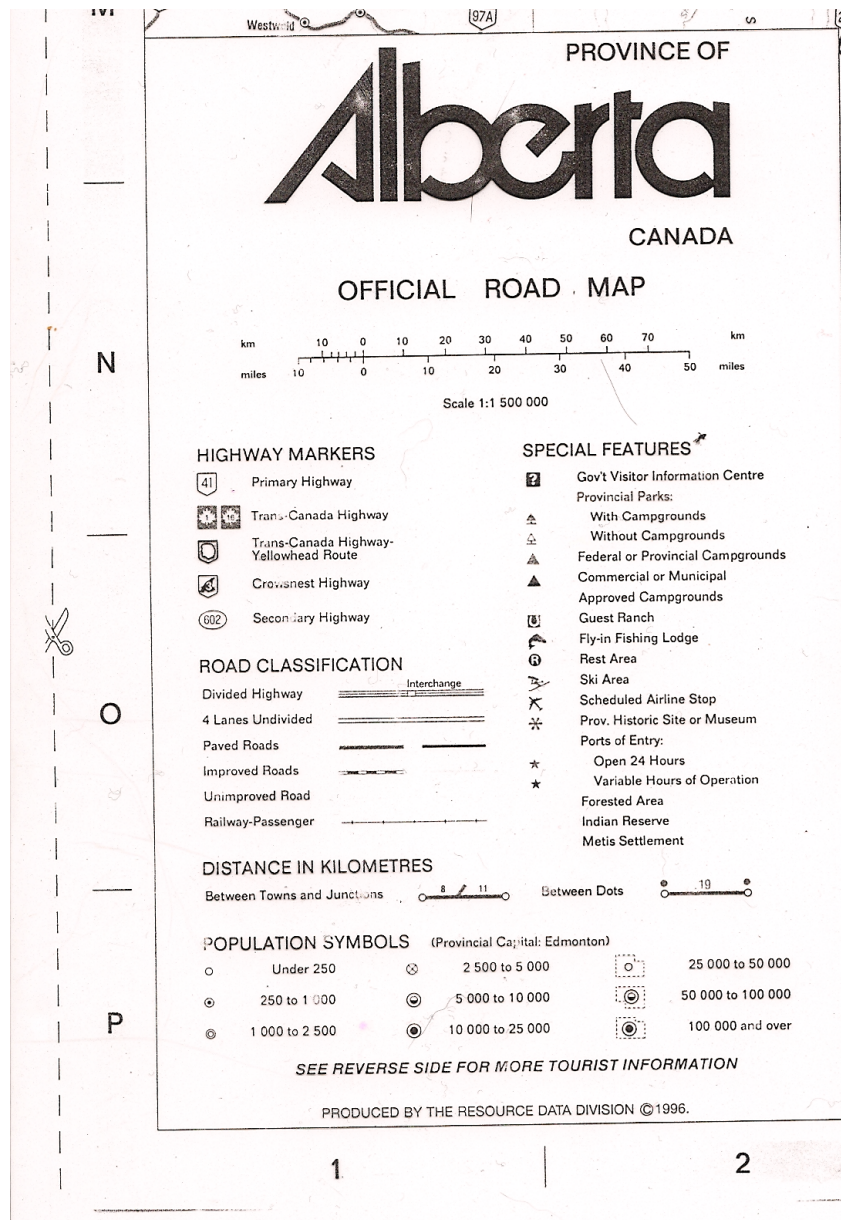
Navigation Lessons

Chris Jorgensen Jan 2013

Maps Legends

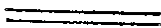
- Map Name
- North indicator
- Scale
- Grid referencing/ Cartesian
- Symbols
- Date
- Declination
- Topo Interval

Provincial Road Map

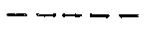


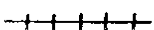
BASIC MAP SYMBOLS

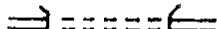
 (RED) **HARD SURFACE ROAD**

 **DIRT, GRAVEL ROAD**

 **DIRT ROAD (POOR)**

 **TRAIL**

 **RAILROAD**

 **TUNNEL**

 **HOME, BUSINESS LOC.**

 **SCHOOL, CHURCH**

 **BARN, WAREHOUSE, ETC.**

 **POWER LINE**

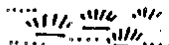
 **OPEN PIT, MINE, QUARRY**

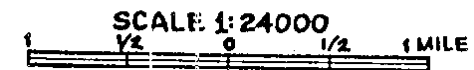
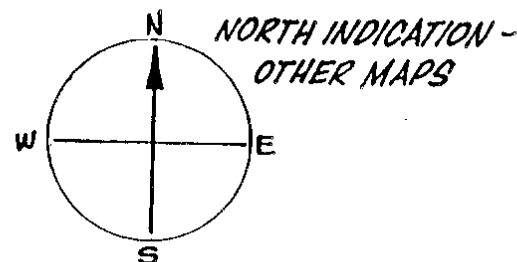
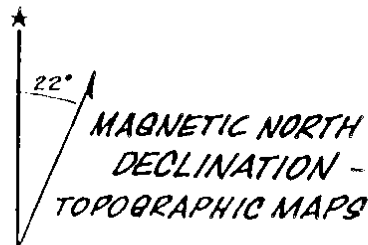
 **SHAFT, TUNNEL ENTRANCE**

 **ELEVATION LOCATION**

 **CONTOUR LINES**

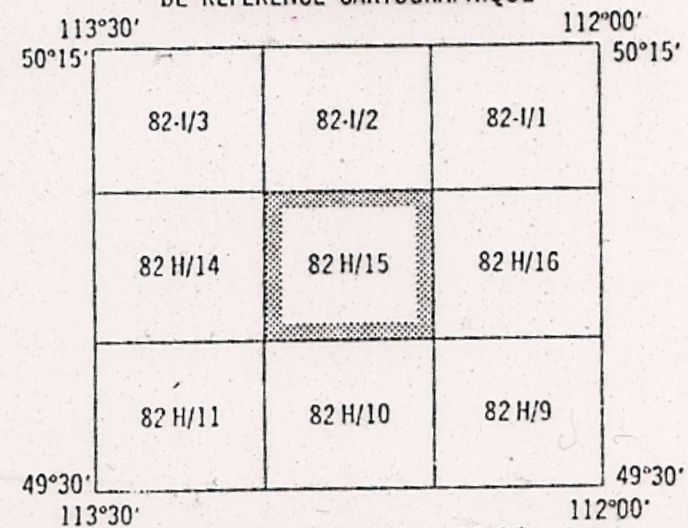
 **STREAM**

 **MARSH**



Map Name and Reference

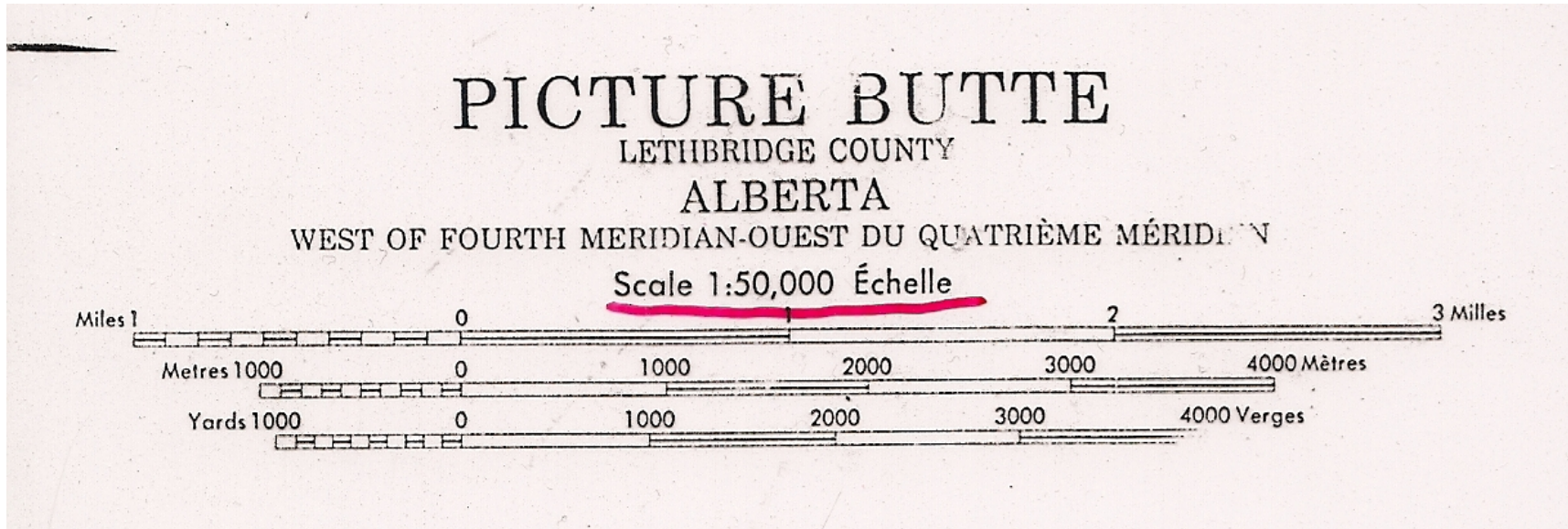
TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE



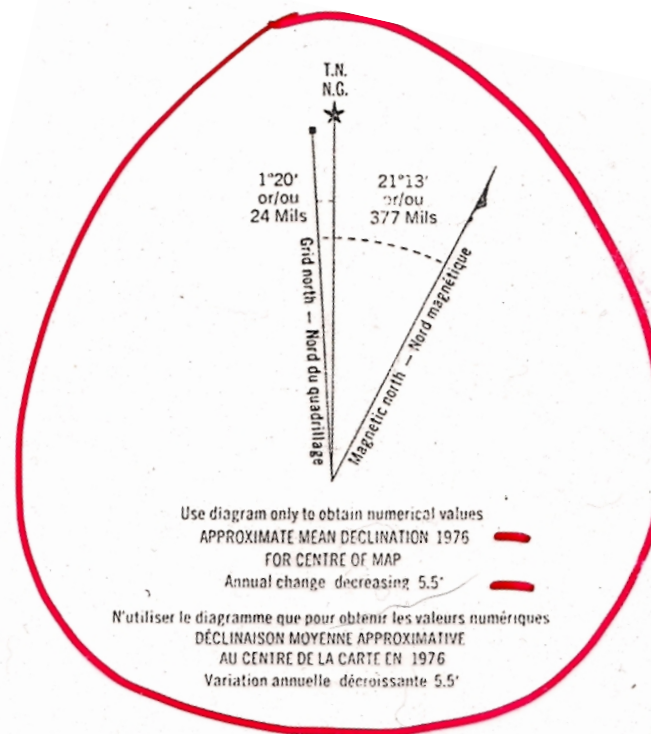
INDEX TO ADJOINING MAPS OF
THE NATIONAL TOPOGRAPHIC SYSTEM

PICTURE BUTTE
82 H/15
EDITION 2

Map Scale



Map Declination

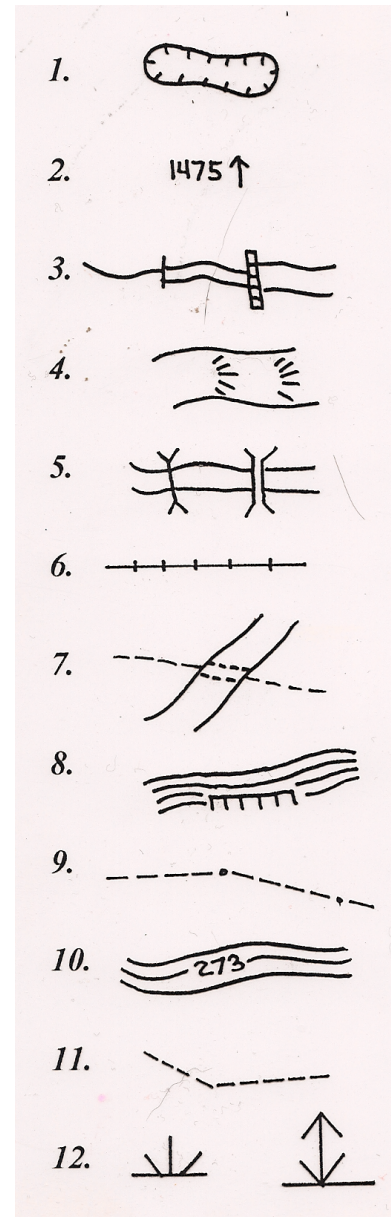


ONE THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 12
QUADRILLAGE DE MIL ET MÈTRES
TRANSVERSE UNIVERSEL DE MERCATOR

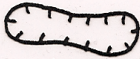
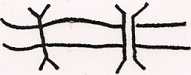
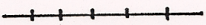
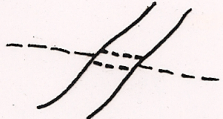
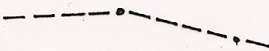
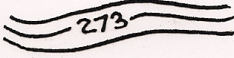
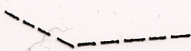
GRID ZONE DESIGNATION: DÉSIGNATION DE LA ZONE DU QUADRILLAGE:	100,000 M. SQUARE IDENTIFICATION IDENTIFICATION DU CARRÉ DE 100,000 M.
12U	UL

Legend Exercise

Write down what you think each symbol represents



Exercise Answers

1.		<i>DEPRESSION</i>
2.	1475 ↑	<i>BENCH MARK/ELEVATION</i>
3.		<i>DAM</i>
4.		<i>RAPIDS</i>
5.		<i>FOOT/TRUCK BRIDGE</i>
6.		<i>RAILWAY</i>
7.		<i>FORD</i>
8.		<i>CLIFF</i>
9.		<i>POWER LINE</i>
10.		<i>CONTOUR ELEVATION</i>
11.		<i>CUT LINE OR TRAIL</i>
12.		<i>MARSH/MUSKEG</i>

Exercise Beaver Mines 82G/8

- 1) What is the scale?
- 2) What is the grid zone designation?
- 3) What is the year of update/ culture check?
- 4) What is the contour interval?
- 5) What is the next sheet to the north?
- 6) What is the Datum of this sheet?
- 7) What feature is SE corner of Beauvais Lake?

Exercise Beaver Mines 82G/8

Answers

- 1) What is the scale? 1:50 000
- 2) What is the grid zone designation? 11U
- 3) What is the year of update? 1975 (vary)
- 4) What is the contour interval? 100'
- 5) What is the next sheet to the north? 82G/9
- 6) What is the Datum of this sheet? NAD 27
- 7) What feature is SE corner of Beauvais Lake?

Swamp/ marsh



MY GOD...
I **AM** ONE OF THOSE
FOOFY LITTLE DOGS.

guy &
r God