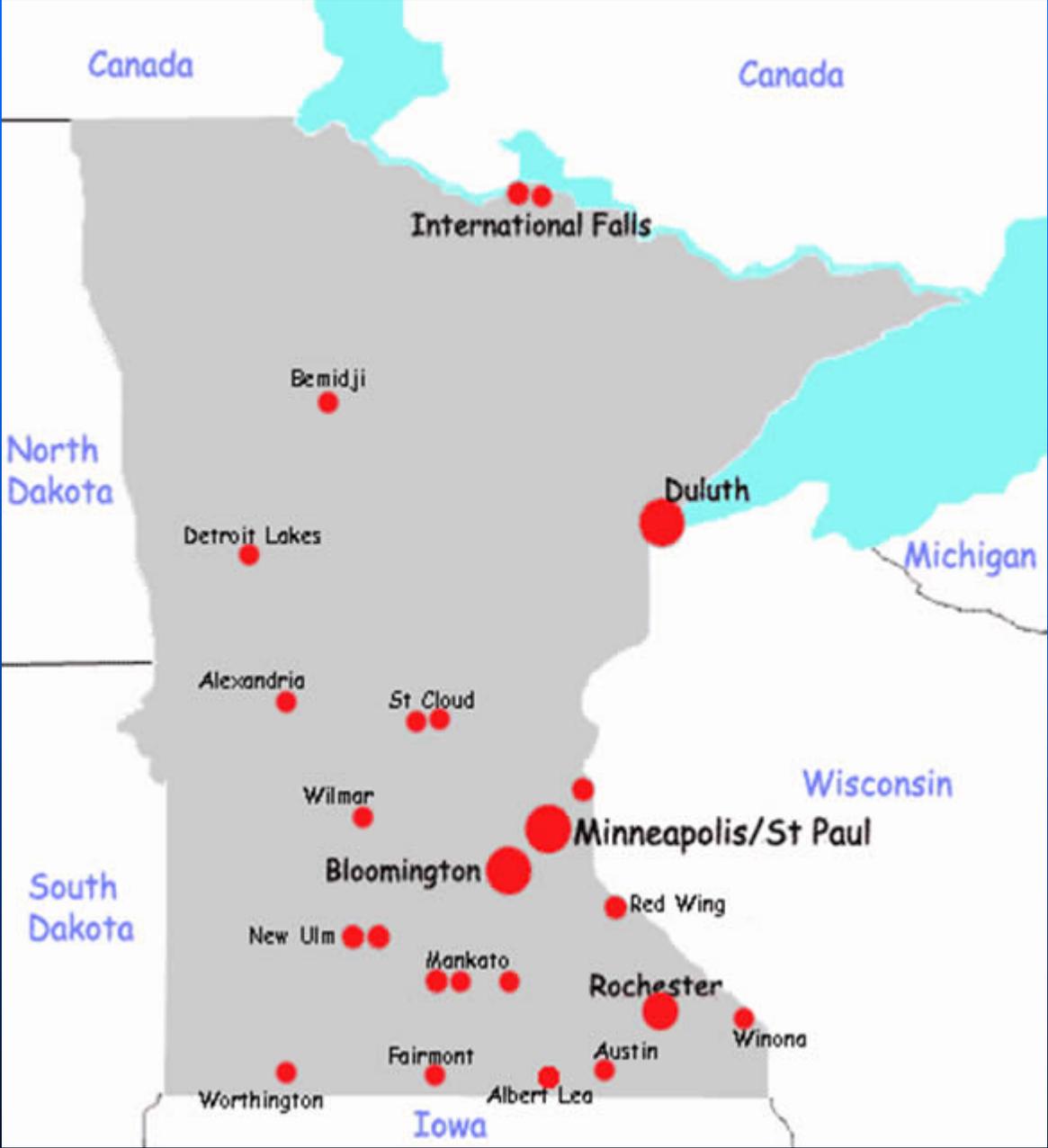


Communication

in

Rural Minnesota





BEMIDJI

PAUL
BUNYAN
1937



Minnesota Snowdrift



Emergency Planning

Improve Communication
Capability in Our Regions



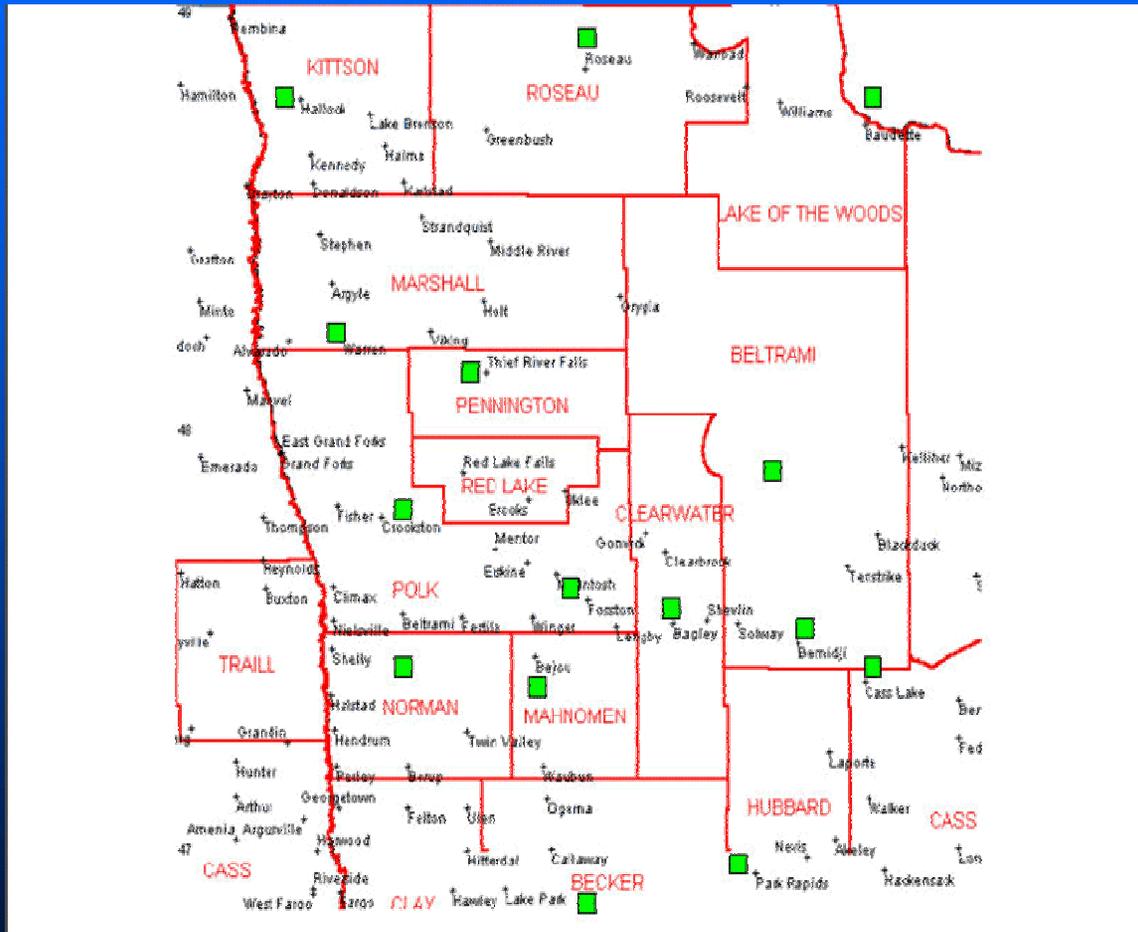
How to Link

- Local Health Departments
- Tribal Health Agencies
- Hospitals
- EMS Agencies
- Rural Clinics
- County EOC's

Northwest Minnesota

- 13 Counties
- 3 Indian Nations
- 11 Local Health Departments
- 15 Hospitals
- 21 EMS Agencies
- 3 Clinic Networks and Private Clinics

NW LHD's and Hospitals



Communication Options

- Telephones
- Cell Phones
- Internet (Email)
- Radios
 - VHF, Ham, 800 MHZ, UHF, low band
- Sat Phones

How to Communicate When

- There is no electricity
- Telephone landlines are down
- Cell phones are all busy
- The internet is down

Obstacles

- Distance and Topography
- Weather
- Outdated equipment
- Technical Knowledge
- Line A (Canadian Border)
- Money



Critical Decisions

- Use Hospitals as the Communication Backbone
- Upgrade Hospital System
- Use VHF for Other Health Organizations

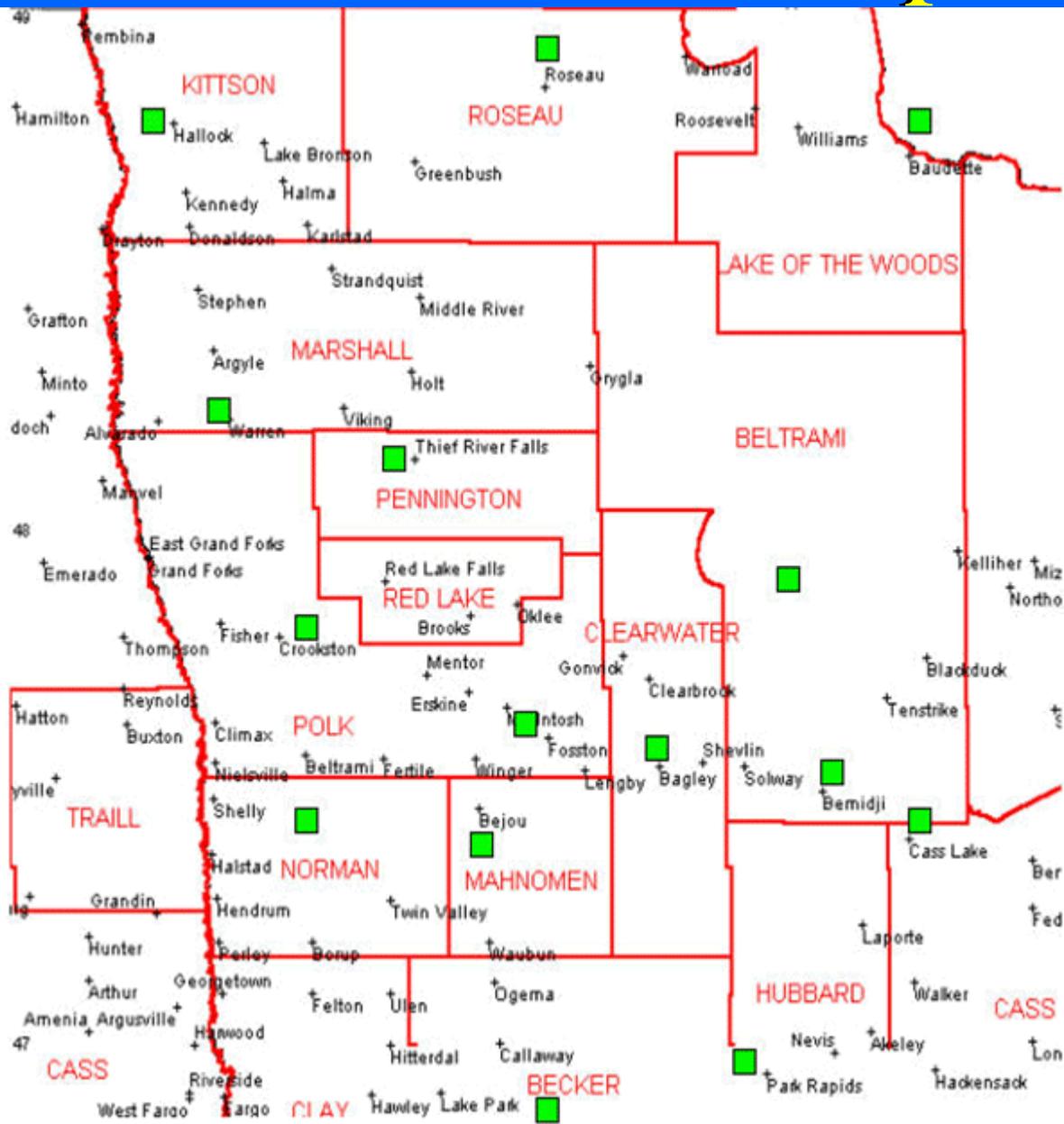
Objectives

- Link the health system via radios
- Each hospital to communicate with 2 other hospitals
- Compliance with FCC narrow band regulations
- Dual use

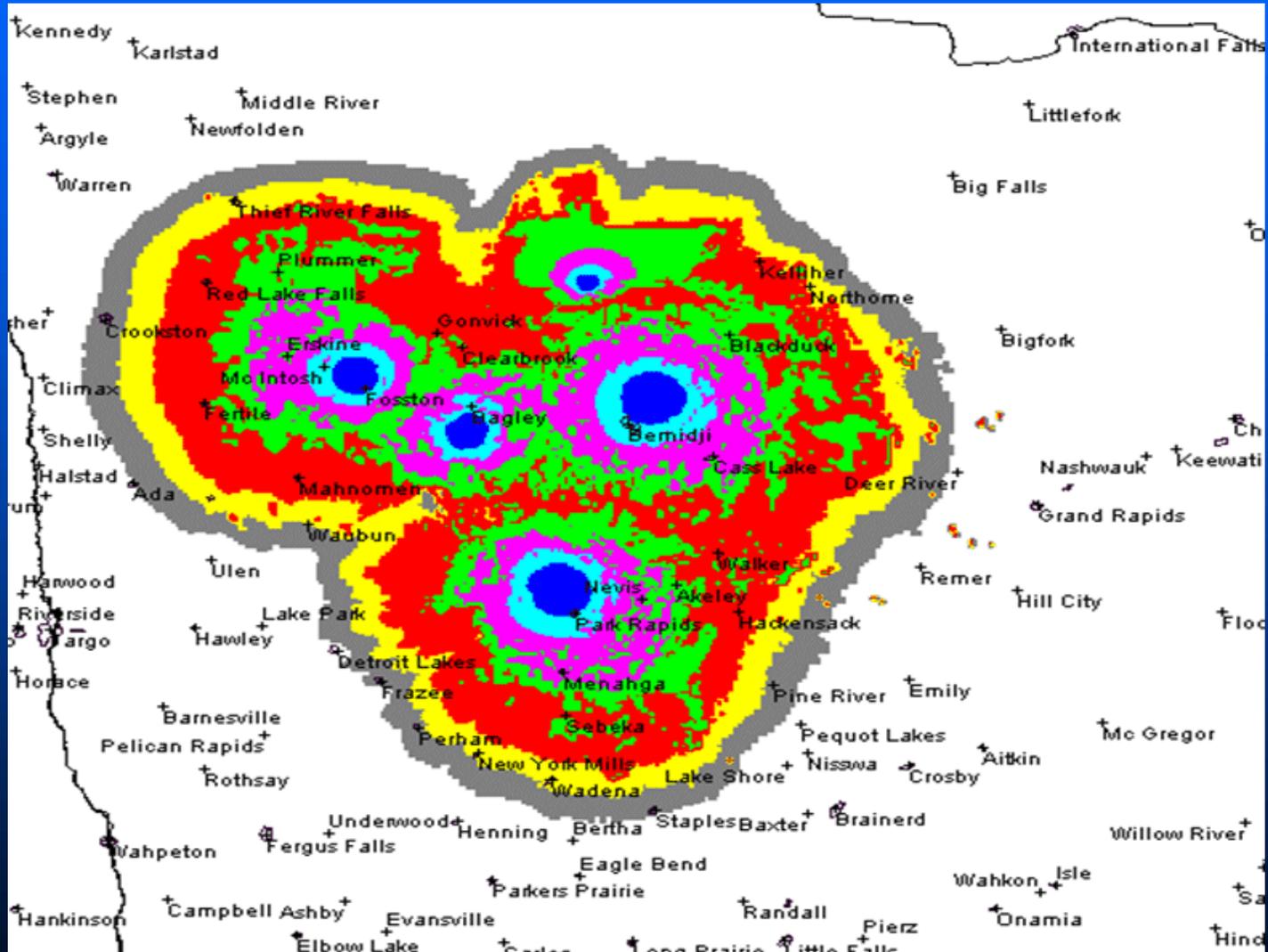
Survey

- Equipment
 - Base Stations
 - Cabling
 - Antennas
- Coverage Areas
- Interoperability Issues
- FCC Compliance for the Future
 - Wide Band vs Narrow Band

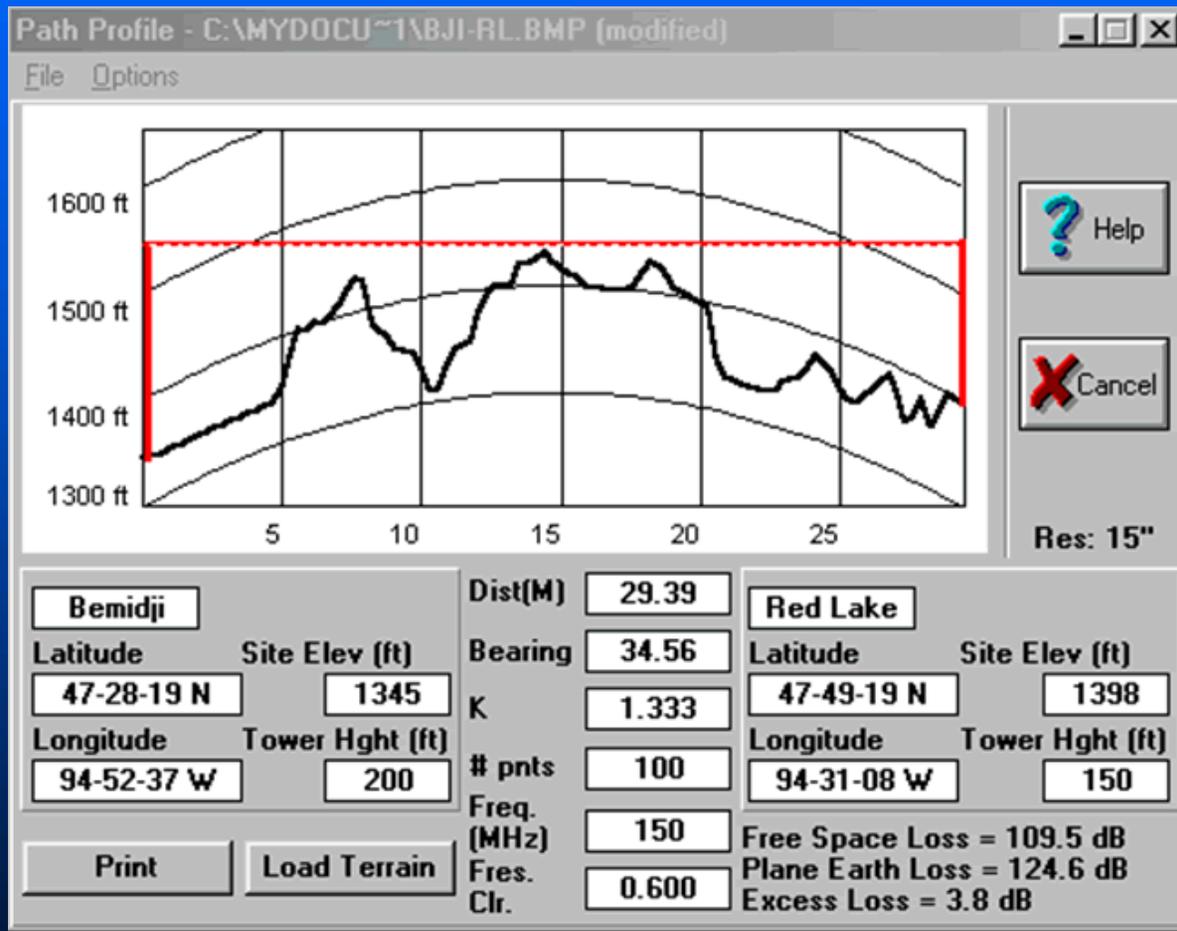
NW LHD's and Hospitals



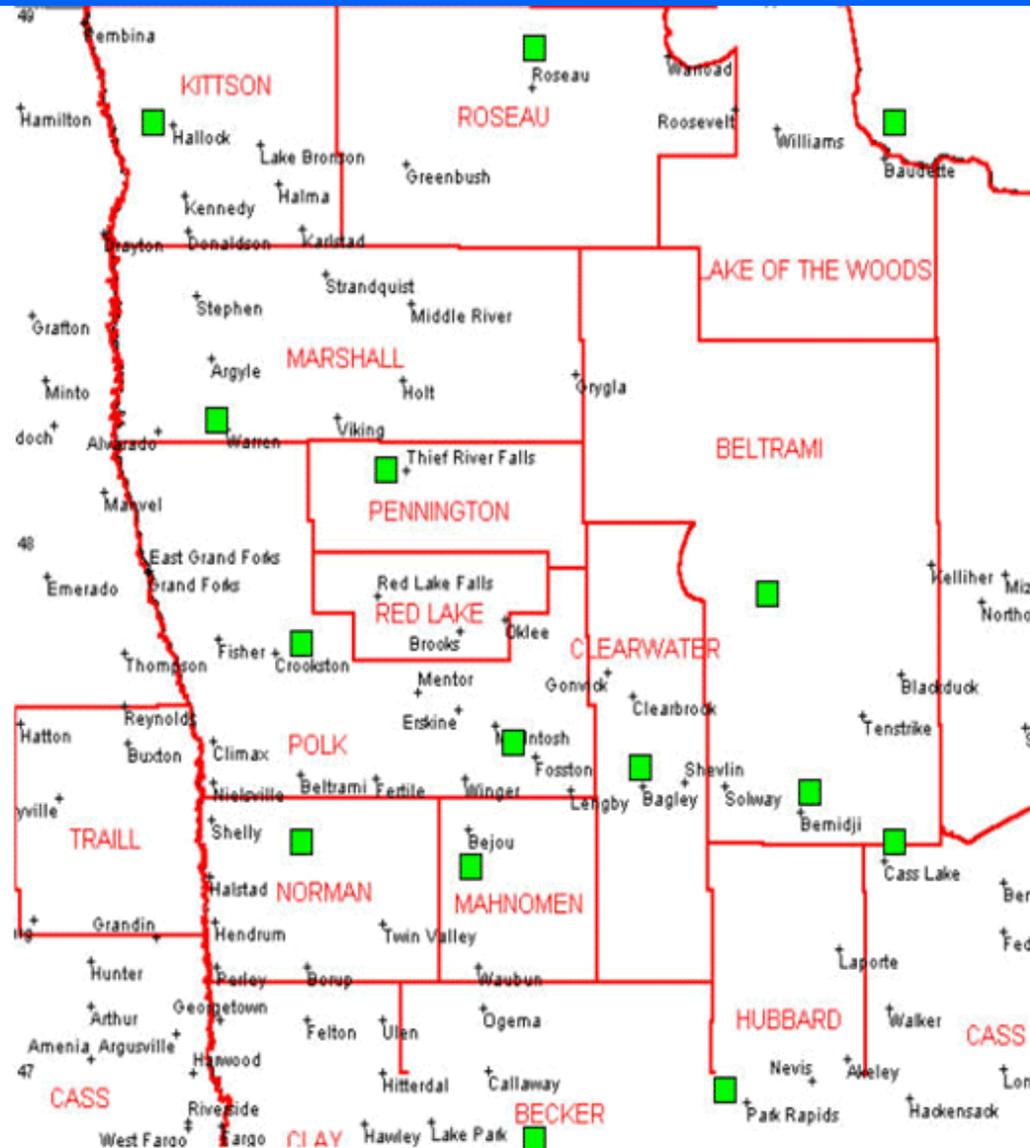
Coverage Circles



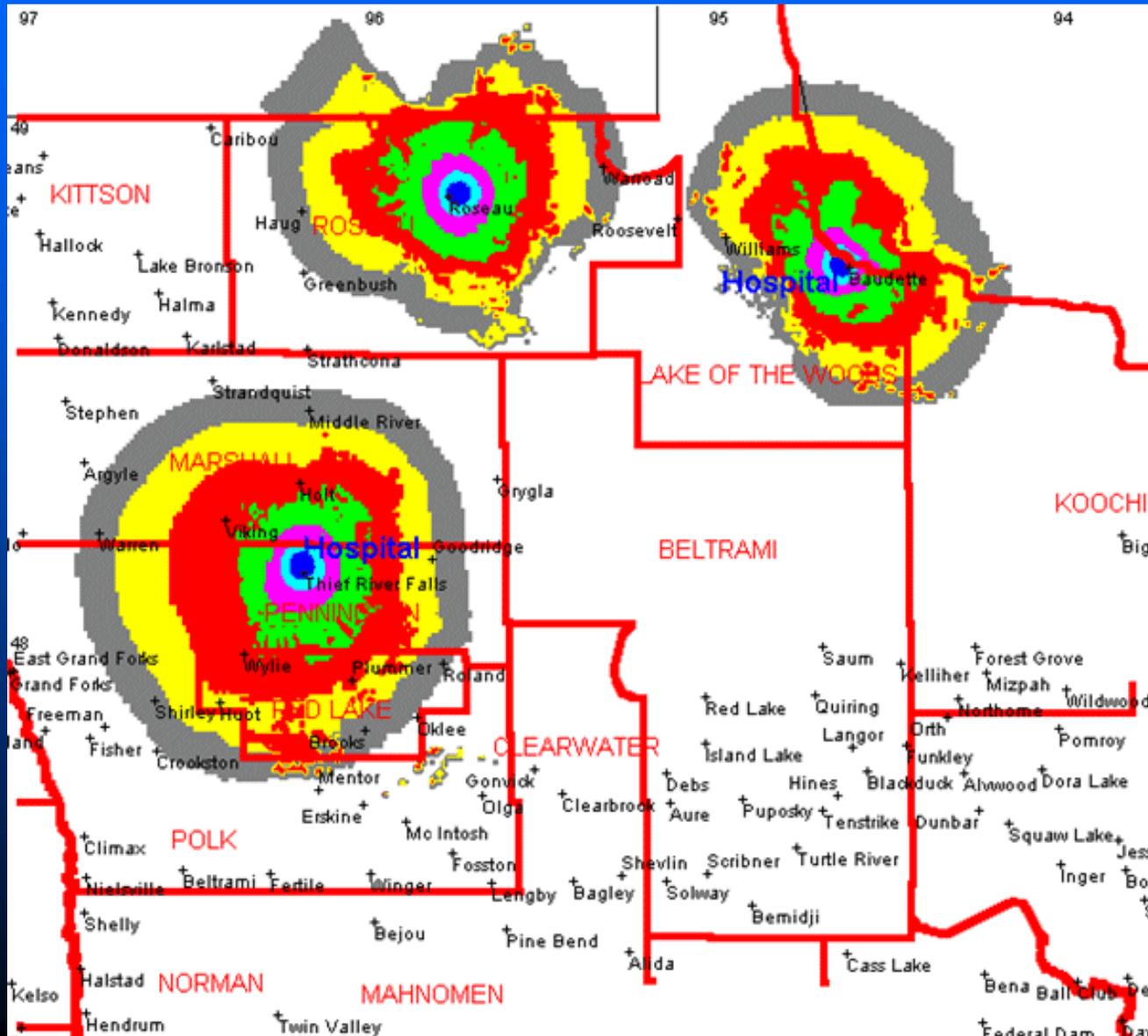
Hospital Path Study-Bemidji



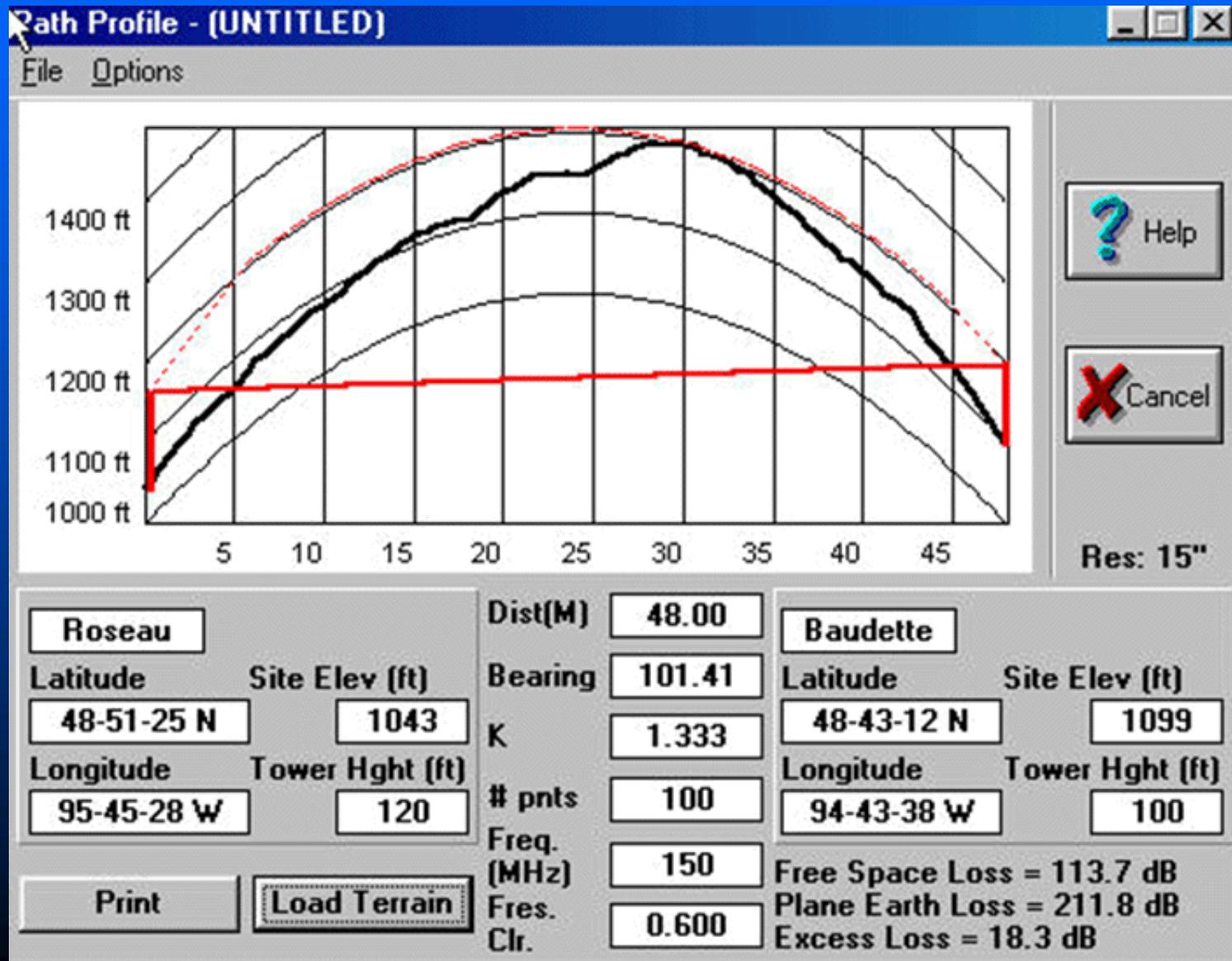
NW LHD's and Hospitals



Coverage Circles



Path Study-Roseau



Actions To Date

- Purchased base stations, antennas, cabling for hospitals
- Radios for EMS providers
- Radios for remote clinics (>20 miles from nearest hospital)
- Radios for LHD's
- HAM radios and antennas

Yet to be Done

- Possible Repeater(s) in the north
- Higher Towers in the north
- More Radios for LHD's
- Training, training, training
- Drills, drills, drills

