Standards

GPS Validation Networks
EDM Baselines
Calgary Marker Farm
GHOST Software
Local Accuracy Standards

M. Craymer, E. Lapelle, L. Hennessey
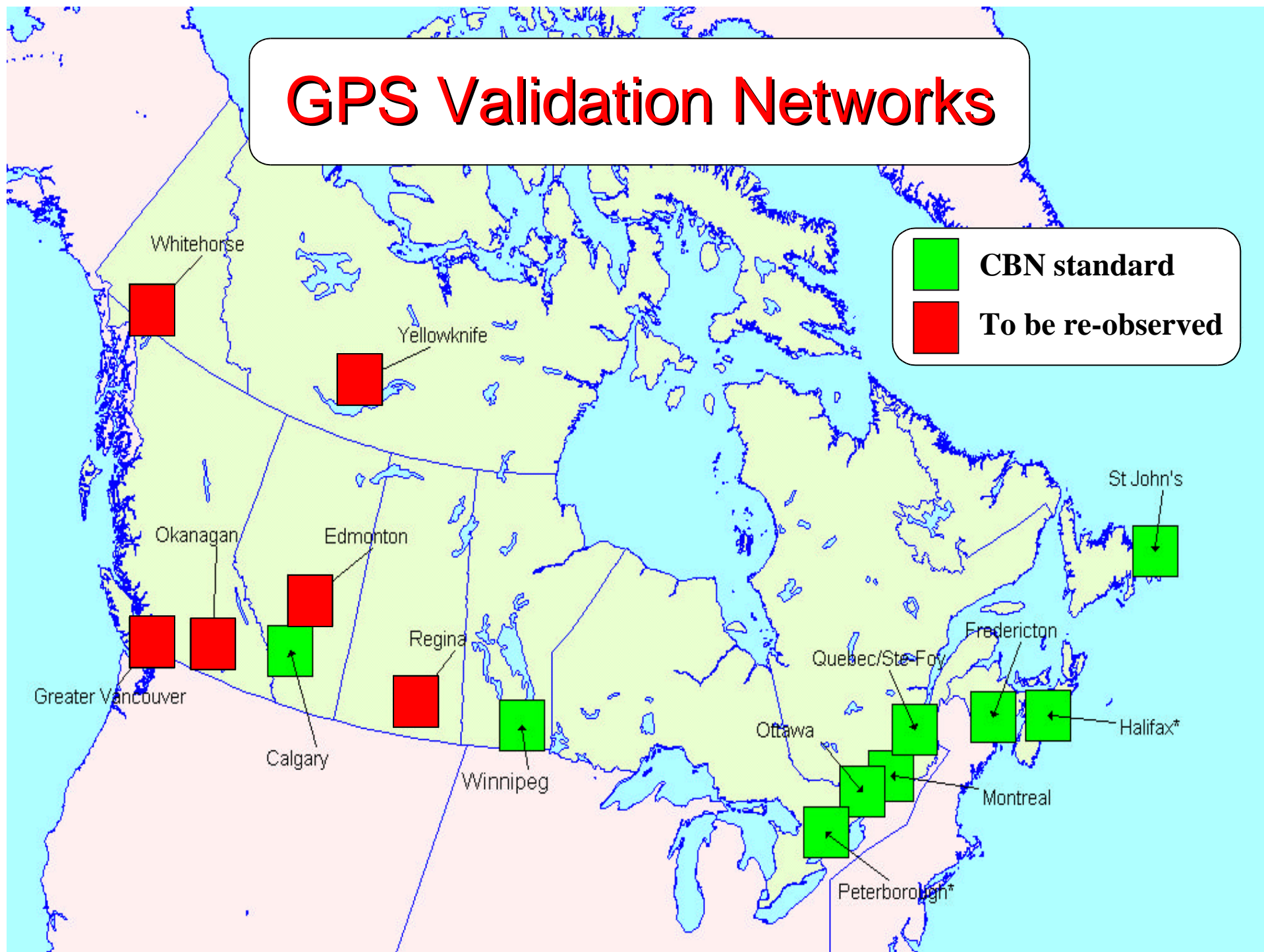
Geodetic Survey Division, Natural Resources Canada

Canadian Geodetic Reference System Committee

Ottawa, May 13-15, 2002

Natural Resources Canada   Ressources naturelles Canada

GPS Validation Networks

- Basenets observed to CBN standard (3 x 24 hrs)
  - St. John's 2000   Ottawa 1996
  - Halifax 1996/97/00   Peterborough 1997/98
  - Fredericton 2000   Winnipeg 2000
  - Quebec City 2000   Calgary 1996
  - Montreal 1996

- All included in CBN v3.1 (official coordinates)
- Updated basenet booklets outstanding

EDM Baselines
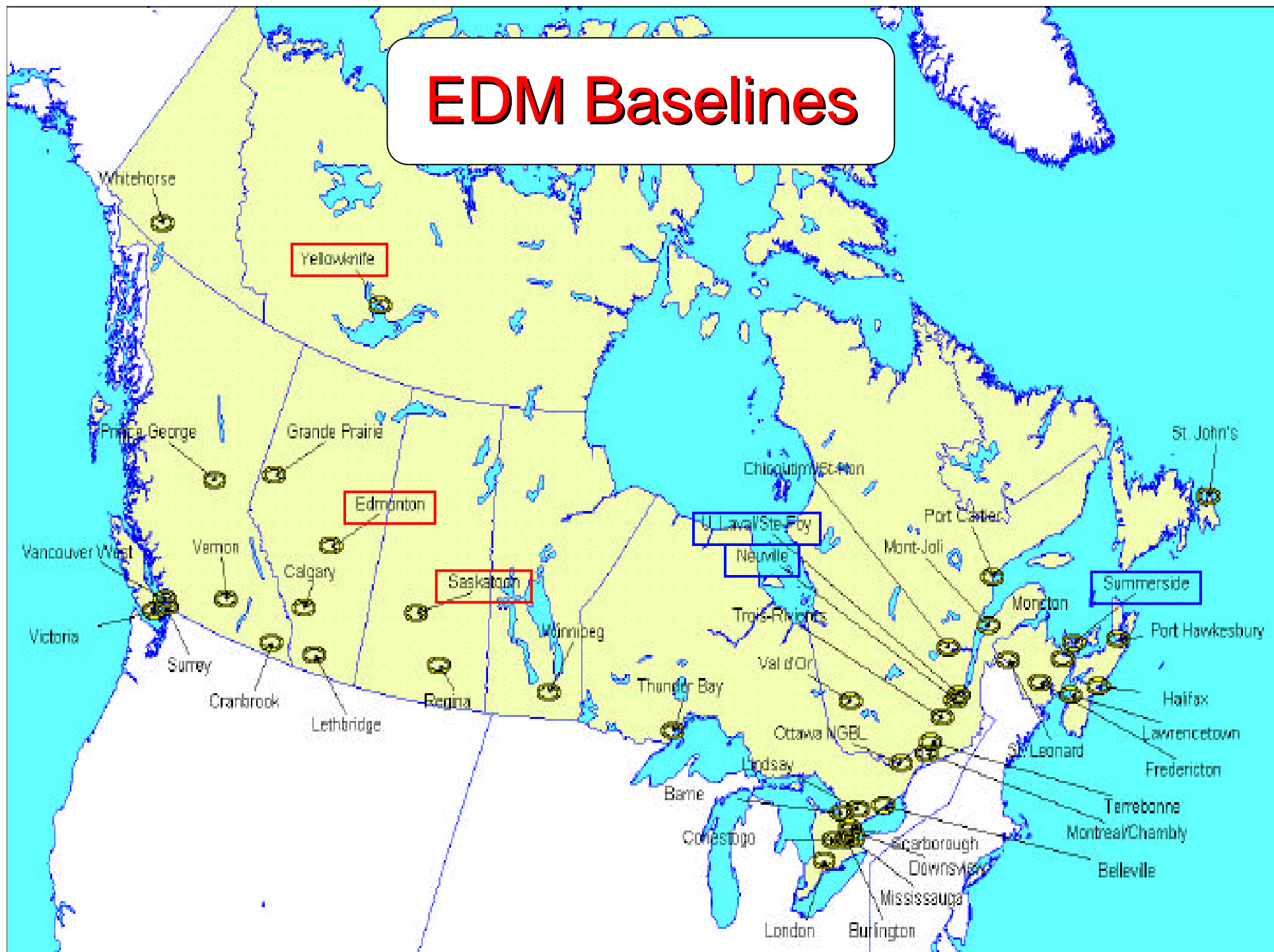
EDM Baselines

- Baselines observed in 2001
  - Edmonton, Saskatoon, Yellowknife
  - No significant movements

- Primary baseline
  - All province have made their selection except...
  - NB   No stable baseline; has recommended users go to Summerside or Halifax?
  - ON   Belleville, Barrie or London ??
  - BC   Surrey ??

Calgary Marker Farm

- Monument stability test network in Calgary
  - Many different types of monuments (pillars to rebar)
  - Several measurement epochs made 1994 to 1996 (?)
- Being demolished soon
- Made one last measurement in 2001
  - Horizontal only !
  - Most movement in vertical
  - No analysis yet

Local Accuracy Standards

- A measure of relative accuracy
  - Relative to other stations in neighbourhood
  - Need to define "neighbourhood"
- Network & local accuracies implemented in GHOST
  - Neighbourhood definitions available:
    Connected stations   Stations with a specified radius
    Adjacent stations   File of stations
- Provincial classification standards
  - Only Alberta has provided feedback

GHOST Software

- Current version: LINUX2001Mar

  - Mainly a port of "PC-98-12" version to Linux

  - Added network and local accuracy standards

  - Executables for Linux and PC now available on FTP

  - Source not available yet; need to sort out RCS archives

- Next version: LINUX2002Mar

  - Converted to Fortran 95

  - Added: Estimation of "local" variance factors
            Utility to automate scaling with local VFs