The Evolution of Saskatchewan’s Forest Inventory

Yesterday, Today & Tomorrow

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Saskatchewan’s Provincial & Commercial Forests

- Saskatchewan: 65.2 million hectares
- Provincial Forests: 35.5 million hectares
- Commercial Forests: 12.6 million hectares
- Fringe Forests: 2.8 million hectares
## Forest Inventory Timeline

<table>
<thead>
<tr>
<th>Sources of information and collections techniques</th>
<th>Year</th>
<th>Requirements and technologies affecting forest inventory</th>
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<tbody>
<tr>
<td>Maps of areas of forests</td>
<td>1800</td>
<td>Perceived shortage of fuelwood (Central Europe)</td>
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<td>Visual estimation of timber over small areas</td>
<td>1825</td>
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<tr>
<td>Random and strip line surveys. Tree volume tables developed</td>
<td>1850</td>
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<td>Statistically sound surveys developed</td>
<td>1875</td>
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<td>Forest mensuration relationships increasingly used, e.g. volume : basal area</td>
<td>1900</td>
<td>Increased demand for information over large areas in North America and Australia</td>
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<td>Stratified sampling, aerial survey</td>
<td>1925</td>
<td>Major advances in technology including aircraft devices and computing devices</td>
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<td>Textbooks on statistically based survey methods. Variable probability sampling (plotless cruising)</td>
<td>1950</td>
<td>Increasing demand for multiple resource information, and information to aid large industry developments</td>
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<td>Sophisticated models (e.g. taper models), use of laser and sonic technology</td>
<td>1975</td>
<td>Microcomputers and GIS become freely available</td>
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<td>Multi-phase, multi-stage inventories. Linear and non-linear regression models. Expert systems</td>
<td>2000</td>
<td>Increasing concern over biodiversity and ecologically sustainable development</td>
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<td>2025</td>
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Historical Inventories

- 1950 Reconnaissance
- Northern Reconnaissance
- Meadow Lake Settlement Reconnaissance
- Township Inventory
- Universal Transverse Mercator (UTM) Inventory
Saskatchewan’s UTM Inventory

- Photo Based
- 1:12,500
- 1984-1995
- Commercial Forest
- Government Produced
- Time Consuming
- Basic Timber Info
NDLC / SDLC

- Satellite Based
- 30 meter
- 1990s
- Provincial Coverage
- Coarse Timber Typing
Fringe Inventories

- Photo/Satellite Based
- 1:50,000 – 1:60,000
- 1980-1982
- Forest Fringe
- Regional Wood Supply
- Basic Timber Info
Saskatchewan’s SFVI Inventory

- Photo Based
- 1:15,000
- 1996-2008
- FMAs
- Industry Produced
- Ecologically Based
A Vision for Tomorrow

1. Understand: *e.g. longevity study*
2. Update: *depletion, fire, blowdown*
3. Improve: *e.g. EWC & historical data*
4. Innovate: *e.g. SI & canopy ht. models*
5. Invest: *data & partnerships*