

Esri Forestry GIS Conference

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Developing a Forestry Enterprise GIS Data Management System

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Collaborative Effort Between

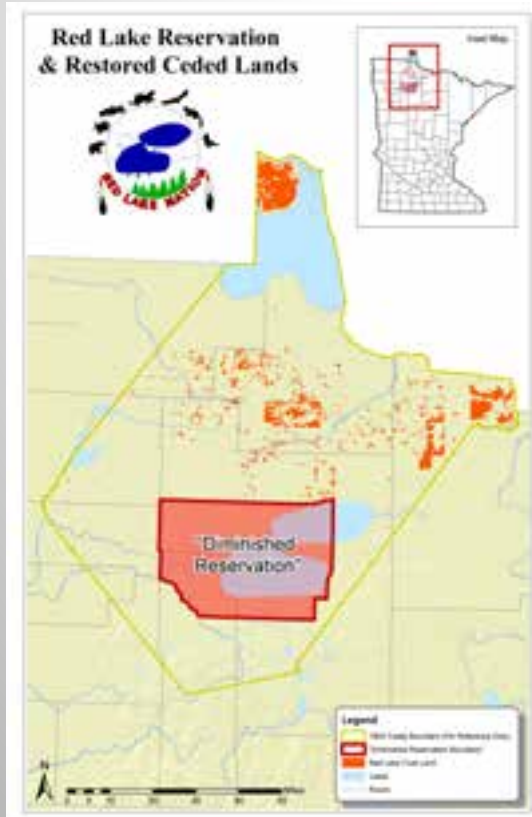
North Point
Geographic Solutions



Red Lake
Band of Chippewa



Red Lake Band of Chippewa



- **All Red Lake Tribal Lands/Water ~ 835,000 Acres**
- **Diminished Reservation ~ 649,082 Acres**
 - w/o Tribal portion of Upper/ Lower Red Lake ~ 413,694 Acres
- **Ceded Lands ~ 186,112 Acres**
 - NWA ~ 53,004 Acres
 - 342,000 Acres of Commercial Forest Lands

About Red Lake Band of Chippewa

- **Red Lake Band Membership ~10,200**
 - Over 4,000 Members live on the Red Lake Reservation
- **Primary Sources Employment**
 - Red Lake Tribal Gov't Offices & Businesses
 - Seven Clans Casinos
 - Natural Resources (RL Forestry, Red Lake Fishery)
 - Over 125 people connected with Red Lake Forestry
 - Loggers (15 Tribal Logging Operators □75 people)
 - Contractors (Tree Planters, Release Crews, Greenhouse, etc...)
 - DNR (Foresters, Dispatch, Greenhouse, Forest Techs, etc)
 - Fire Crew



Red Lake Forestry

- **Timber Sales**
 - Logging Operations
- **Forest Inventory/GIS**
 - Stand Cover Type
 - Forest Inventory
- **Forest Development**
 - Tree Planting
 - Site Prep
 - Thinning
- **Fire Program**
 - Prescribed Burns
 - Fuels Reduction Projects



The Good, the Bad, and the Ugly!

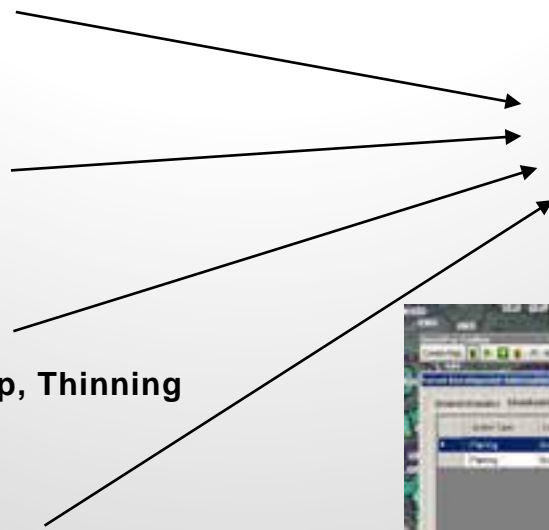
- We have data/documentation (Good)
- The data is spread out everywhere (Bad)
 - BIA database
 - GIS coverages / shapefiles
 - Paper copies somewhere?
 - Foresters Memory?
- Everything is disconnected (Ugly)



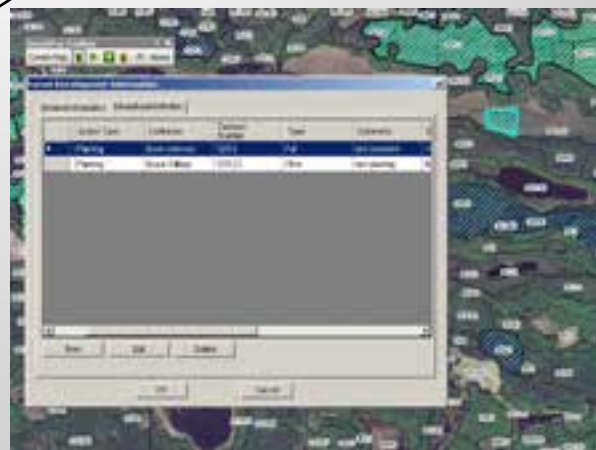
How are we going to track all these activities?

- **Timber Sales**
 - Logging Operations
- **Forest Inventory/GIS**
 - Stand Cover Type
 - Forest Inventory
- **Forest Development**
 - Tree Planting, Site Prep, Thinning
- **Fire**
 - Fuels Reduction
 - Fire

SmartFor Tools



How to connect everything?





SmartFor Setup, Structure, and Demo

A topographic map with green and yellow contour lines is visible at the top of the slide. The number '5074' is printed on the map.

ArcObjects – ArcGIS Add-In

- Foresters were familiar with ArcGIS Desktop
- Familiar development environment
- VB.NET
- Easy debugging
- Pain-less deployment



Demo

A topographic map header showing green and yellow terrain contours with some numerical labels like '5074'.

Future Steps

- Inventory Module
 - Old/New Inventory Data
 - Tie the data to our cover type layer
- Fire Module
- Fuel Module
- Click on a polygon - all forest activities are available to view

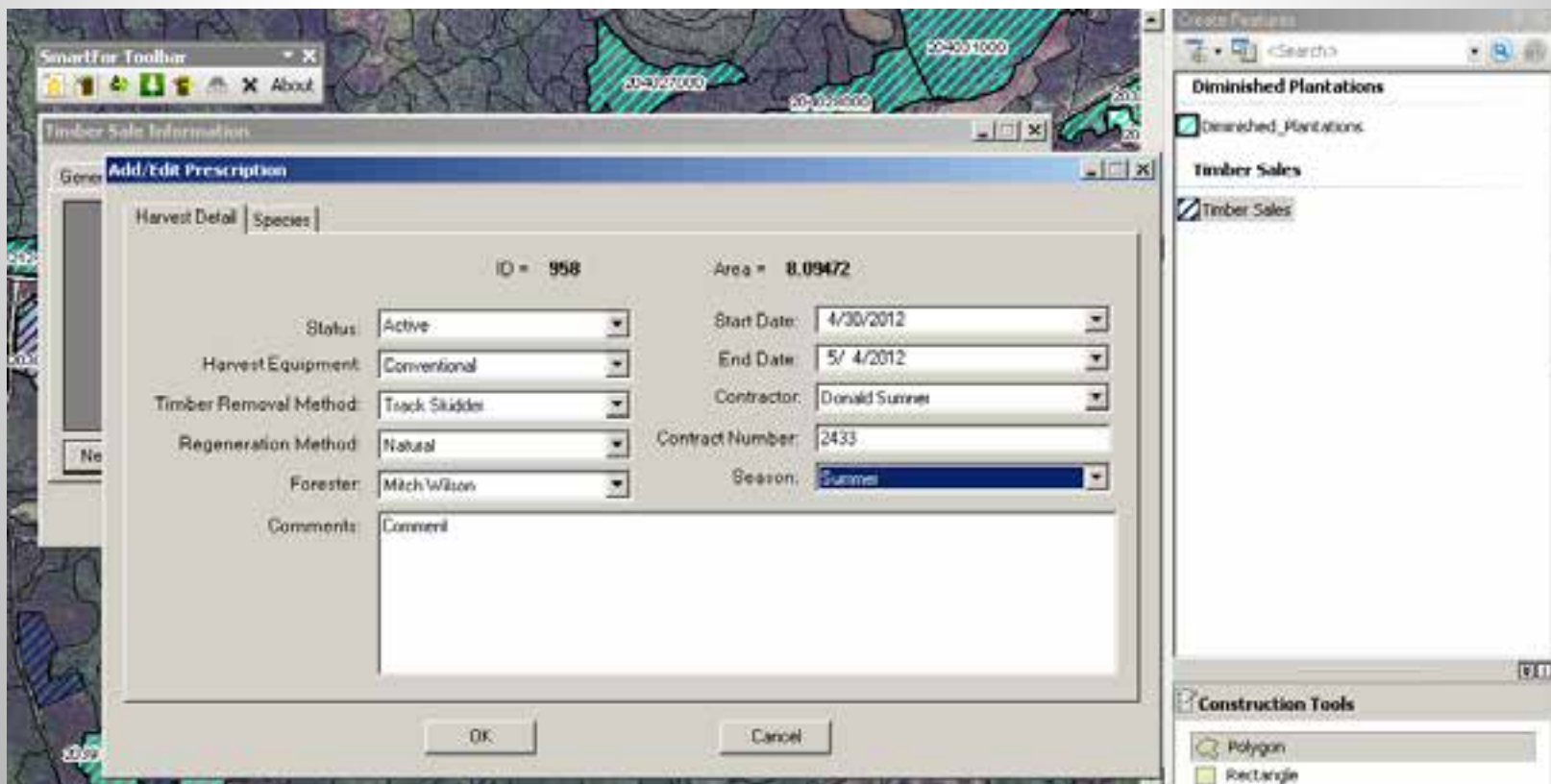
Database Design

ForestDevelopment	File Geodatabase Feature Dataset
Sct	File Geodatabase Feature Dataset
Timbersales	File Geodatabase Feature Dataset
Age	File Geodatabase Table
chemical_type	File Geodatabase Table
Container	File Geodatabase Table
Contractor	File Geodatabase Table
forester	File Geodatabase Table
Harvest_Equipment	File Geodatabase Table
km7_polygon	File Geodatabase Feature Class
Nursery	File Geodatabase Table
Planting_Species_Detail	File Geodatabase Table
Planting_table	File Geodatabase Table
Planting_to_PlantSpeciesDetail	File Geodatabase Relationship Class
Planting_type	File Geodatabase Table
pls_sections	File Geodatabase Feature Class
Pruning_table	File Geodatabase Table
Regen_Methods	File Geodatabase Table
Release_table	File Geodatabase Table
Removal_methods	File Geodatabase Table
seasons	File Geodatabase Table
SitePrep_table	File Geodatabase Table
SPECIES_TYPE	File Geodatabase Table
stock_type	File Geodatabase Table
survival	File Geodatabase Table
Survival_Species_Detail	File Geodatabase Table
survival_toDiminished	File Geodatabase Relationship Class

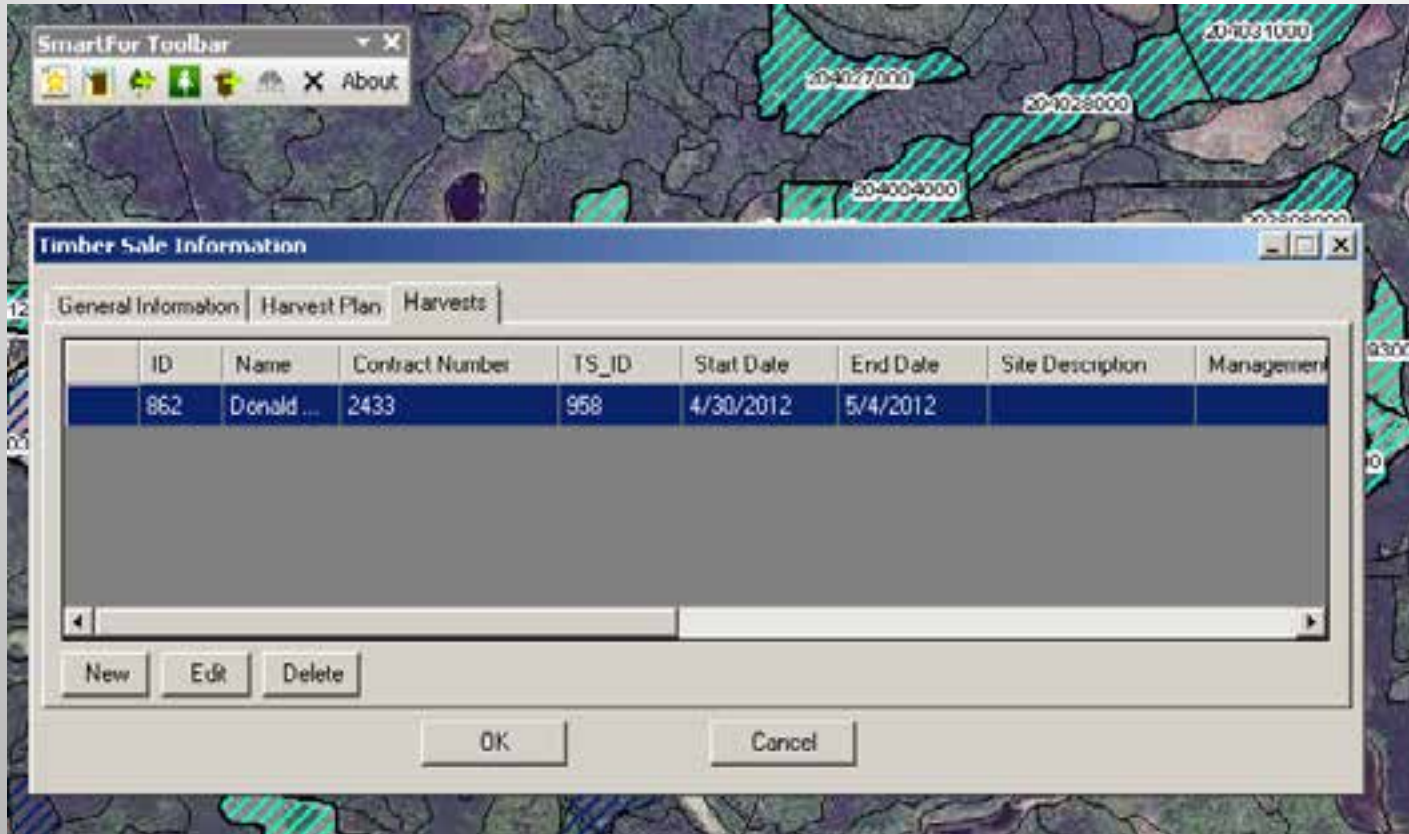
ArcGIS Toolbar



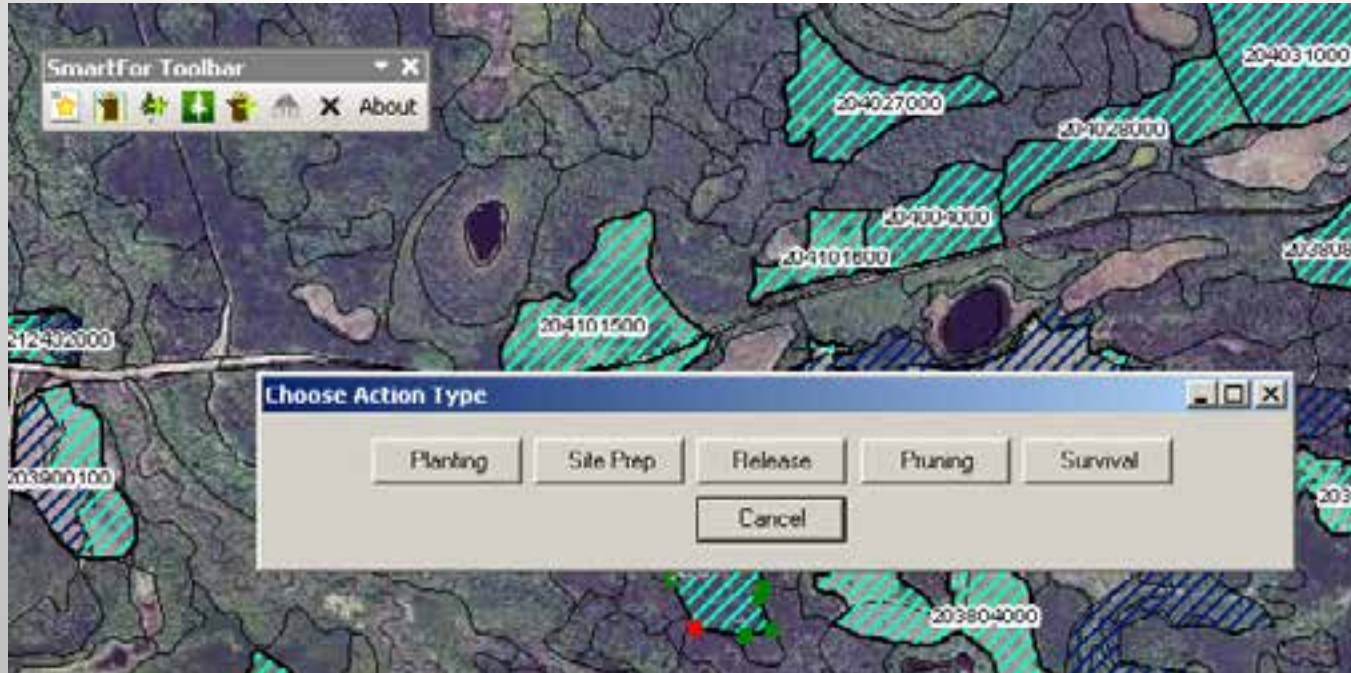
Add Timber Sale



Add New Harvest



Add Forest Development



Add New Forest Development Activity - Planting

Planting Information

ID = _____ Area = 11.58579

Contractor: Calvin Spears Start Date: _____
Contract Number: 34534 End Date: _____

Planting

Species: White Pine Type: Replant
Stock Type: Bareroot Total Trees Planted: 1200
Nursery: Pineland Target Trees/Acre: 100
Age: 0-2 EQUIP: Yes
Container: Split Pot Forester: Scott Abel

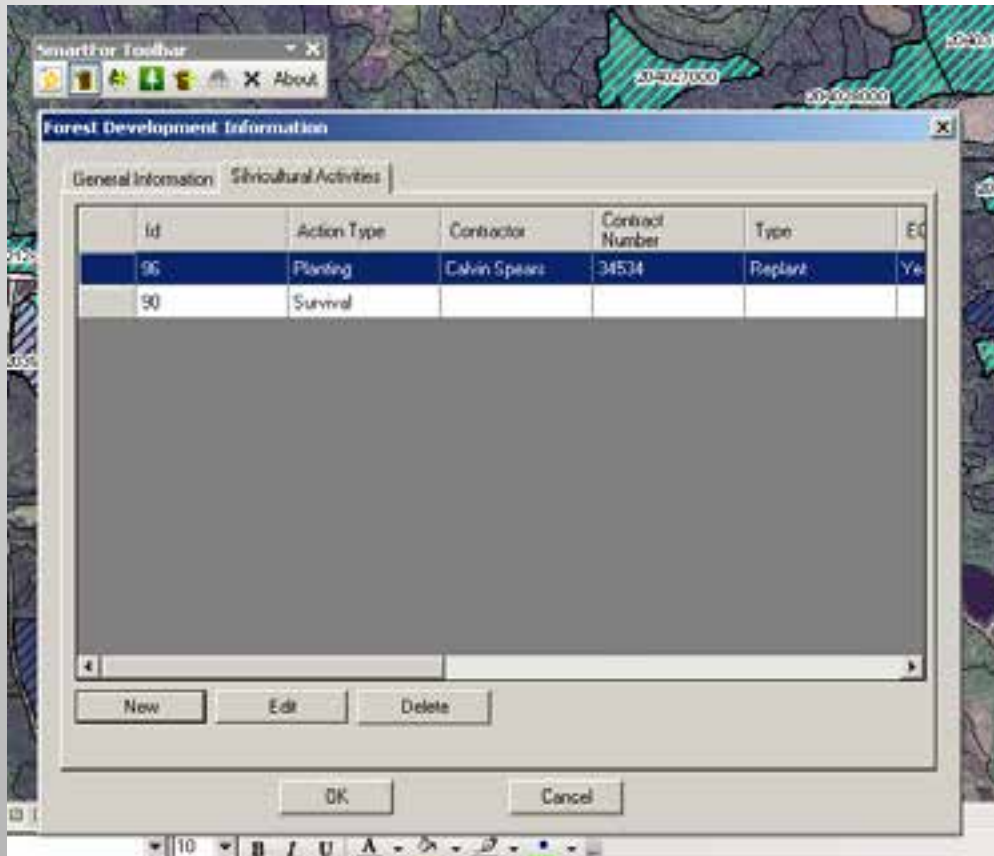
< Back Next > Add

* To add a new species click "Add." To cycle between existing species click "Next" or "Back."

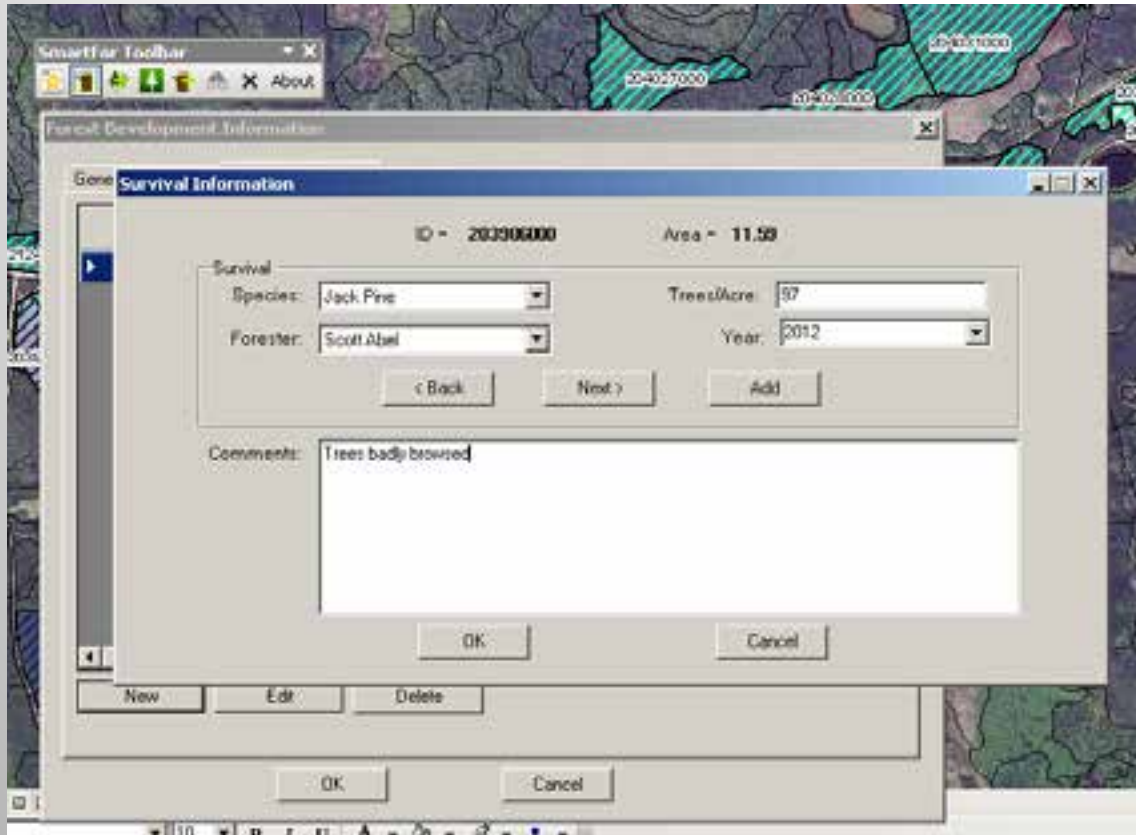
Comments: Comment

OK Cancel

Adding More Forest Development Activity



Adding More Forest Development Activities - Survival



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