

## Open Source Web Mapping for Natural Resource Management

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## What is Open Source Software?

- To most it means “free” software
- Also refers to:
  - A practice for developing software
  - Access to a project’s source code
- Linux, MySQL and Apache are amongst the most recognizable Open Source projects
- It is also prevalent in the geospatial software market as well

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## Open Source GIS

- Covers much of the commercial GIS space
  - Cartographic projection: Proj.4...
  - Data transformation: GDAL, OGR, JTS, GEOS...
  - Spatially enabled RDBMS: PostGIS, MySQL...
  - Desktop GIS & image processing: Grass, OpenJump, OSSIM, uDig...
  - OGC-compliant service: GeoServer, MapBender, MapBuilder, ...
  - Web mapping: MapServer, Autodesk MapGuide, MapNik, CartoWeb, ka-Map, OpenLayers...

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## Minnesota DNR Setup

- Running on Linux (Novell SuSE Linux with HP servers)
- Data sources: local shapefiles and imagery, **PostGIS**, Oracle Spatial, ESRI SDE
- Software: **MapServer** compiled with **GDAL/OGR** and **Proj.4**, **ka-Map** and **MapScript**

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## Map Display & Reporting

- Typical pan/zoom, inquiry applications
- Reports generated from spatial data or hyperlinked to
- Sometimes the map is the report, exists as map-only element in HTML pages



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## Data Discovery & Delivery

- Means of providing access to natural resource data
- Metadata, data status and “zip & ship” download
- Host OGC services for most raster layers
- WMS is in-house access method for large datasets



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## Data Creation & Management

- Using web-based applications to manipulate non-spatial AND spatial attributes
- Match functionality to the user
- Centralized data and application maintenance
- Potential cost savings



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## Conclusions

- Open Source GIS software are quite mature
- Applicable to any number of disciplines including natural resource management
- Organization needs the right technical capabilities to fully leverage
- For more information see [www.osgeo.org](http://www.osgeo.org)

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