MAPPING PEOPLE IN NEED

THE WA STATE OFFICE OF CIVIL LEGAL AID WEB GIS

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TERRA GIS
TERRESTRIAL ENVIRONMENT REGIONAL ANALYSIS
Seattle

The Washington State Office of Civil Legal Aid
Geographical Information System

- **About this Presentation**
  - Example of an OS GIS implementation at the State level
- **Overview** of **OCLA GIS**
  - History and Goals
- **Functionalities, Data and User Support**
  - Main Functionalities and Data
  - Help Resources: User Guide and Support
- **Technical Framework**
  - PostGIS, MapServer, and Mapbender

About this Presentation

- Example of an OS GIS implementation at the State level
- How this GIS implementation helps OCLA and Alliance of Equal Justice in their daily work

- History
  - Build as an upgrade to the Access to Justice Board/Washington Bar Association system
  - Initial systems was built in 2006 for use in the development of the ATJ State Plan
- Goals
  - Establish capacity to capture, regularly update and spatially represent and analyze client demographic and client service capacity data
  - Build efficiencies in the daily work of the Alliance Member Organizations
  - Strategic planning of resources of demand and supply of civil legal aid

User Organizations

- Columbia Legal Services
- Northwest Justice Project
- Northwest Immigrant Rights Project
- Legal Foundation of Washington
- Team Child
- Washington State Bar Association
- Access to Justice Board
- Office of Civil Legal Aid

More than 110 data layers…

- Demographic data (Census 2000 and update 2006)
  - % in poverty
  - % in poverty by ethnicity
  - age groups
- Providers of Civil Legal Aid Resources
  - WSBA members and density
  - Alliance office locations and staff numbers (FTE's Full time employee equivalents)
  - Aggregation of data by County and Planning Region

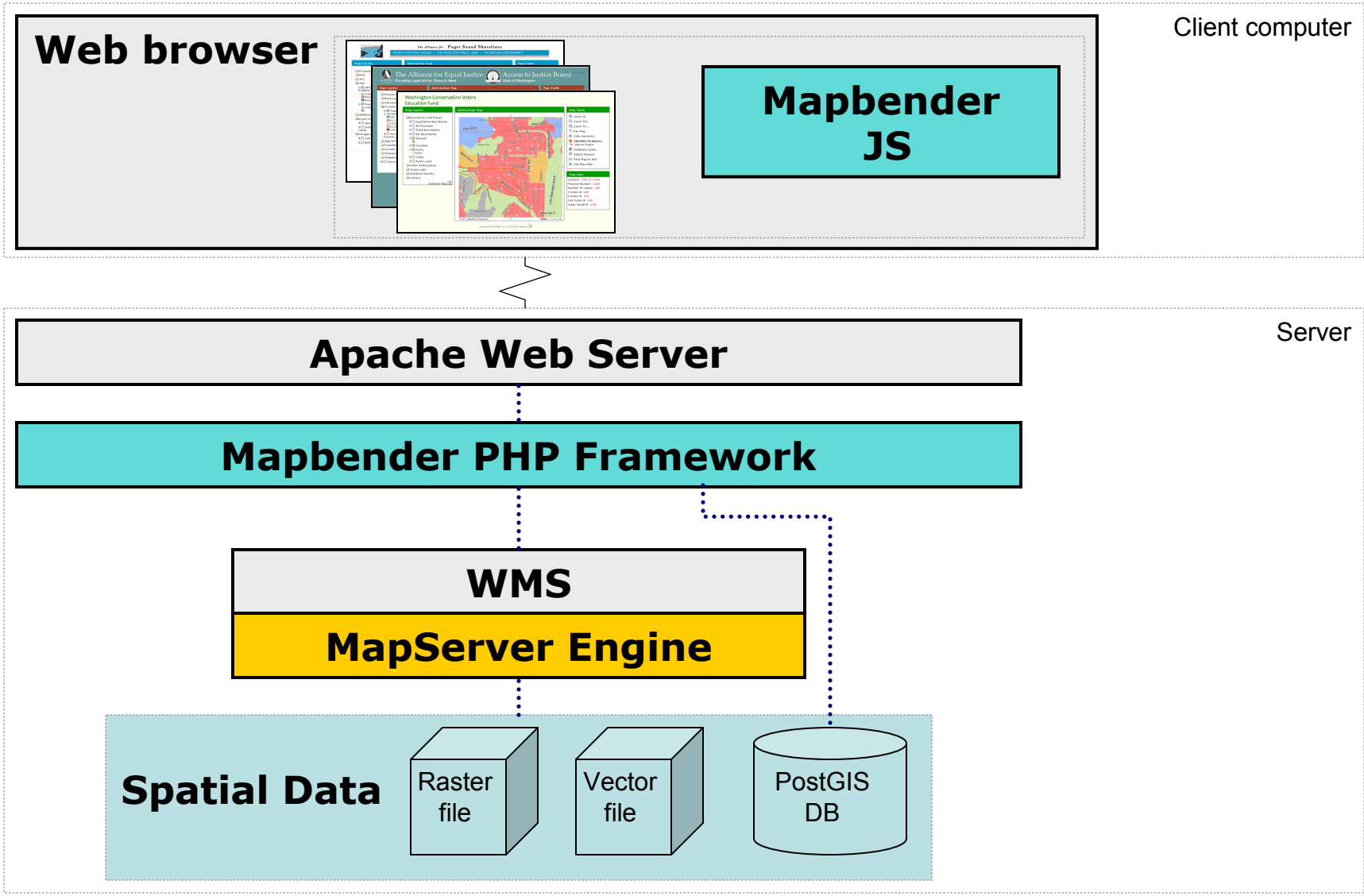
User and Technical Support

- User Guide/Manual
- Technical Installation Guide
- Hands on classroom and online training
- Group of Power users "GISRP" (GIS responsible person) in each of the main Alliance Member organizations
- Server hosting and maintenance contract

Technical Framework

- Server running Apache on HostGIS Linux
- PostGIS database
- MapServer (University of Minnesota)
  Map rendering Engine
- **Mapbender** Web mapping framework

Schematic View OCLA Web GIS



Map rendering Engine

Originally developed at the University of Minnesota (UMN), short "MapServer"

- one of the most mature open source projects
- written in C

Main Focus

- rendering spatial data
- development environment for spatially-enabled internet applications

Map output

- CGI mapserv (Linux) and mapserv.exe (windows)
- MapScript API available for Python, PHP, Perl, and Java
- Map/Layer configuration text file .map

Formats

- In: PostGIS, Oracle Spatial ArcSDE, WMS, GDAL and OGR formats
- Out: GIF, JPG, PNG, all GDAL formats, WFS and WMS

PostGIS – Spatial Database

- PostGIS is an extension for PostgreSQL
- adds support for geographic objects to PostgreSQL
- enables PostgreSQL server to be used as a backend spatial database for GIS
- Spatial operations and analysis simply mean running a (spatial) SQL query in the database
- Similar functions as SDE and much more ….

Web Mapping Framework Mapbender

Comprehensive Client - Server framework

- implemented in PHP, JavaScript and XML
- Management Database MySQL or PostgreSql/PostGIS

Functionality

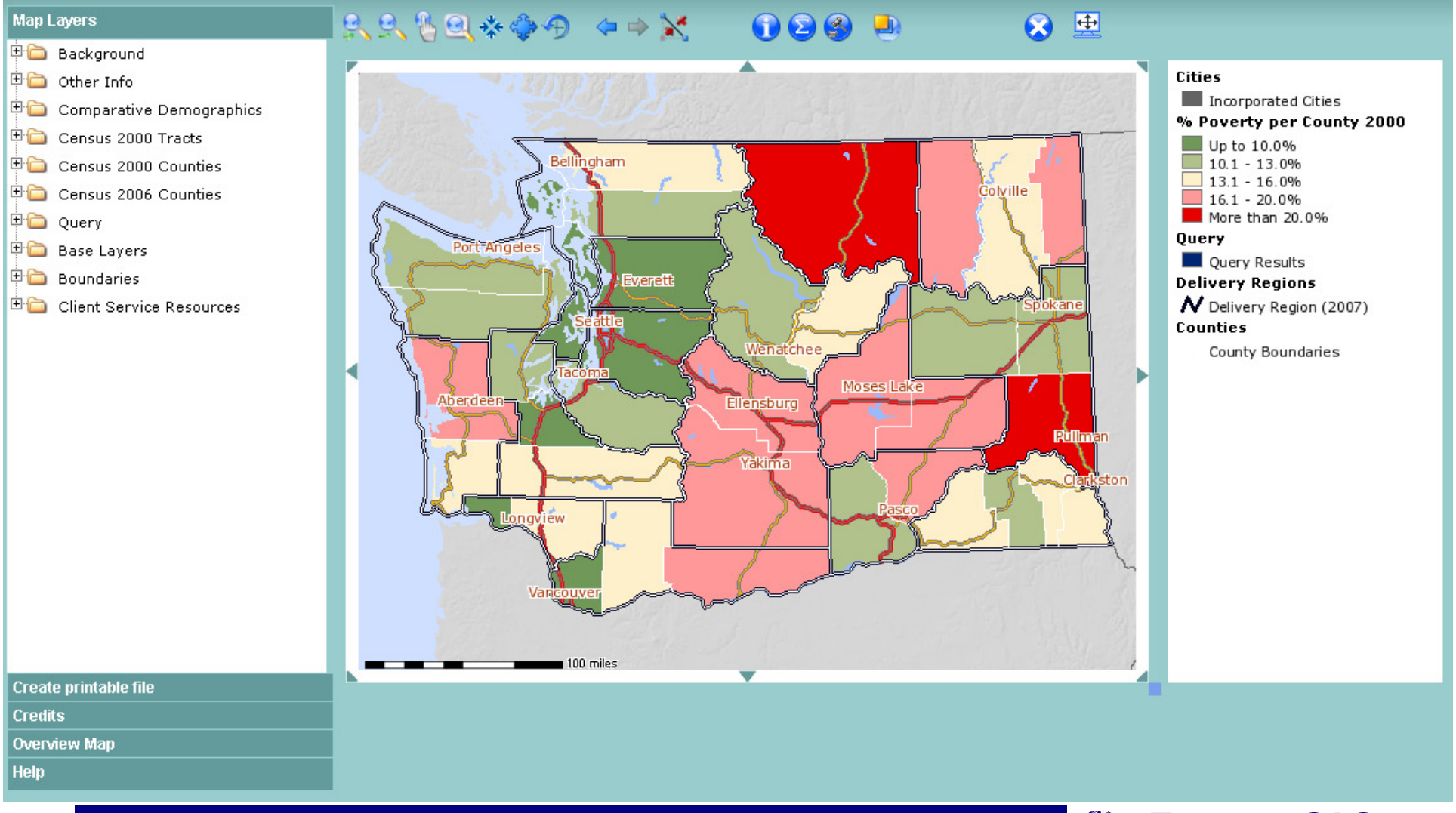
- displaying, navigating, editing and querying spatial data and maps
- map services authorization services (OWS proxy functionality)
- management interfaces for user, group and service administration
- Management of Web Map services and Web Feature services
- User interface configuration and tool stored in data base

Input

- Web Map services and Web Feature services (WMS,WFS)

State Overview % People in poverty/County

The Washington State Office of Civil Legal Aid
Geographical Information System



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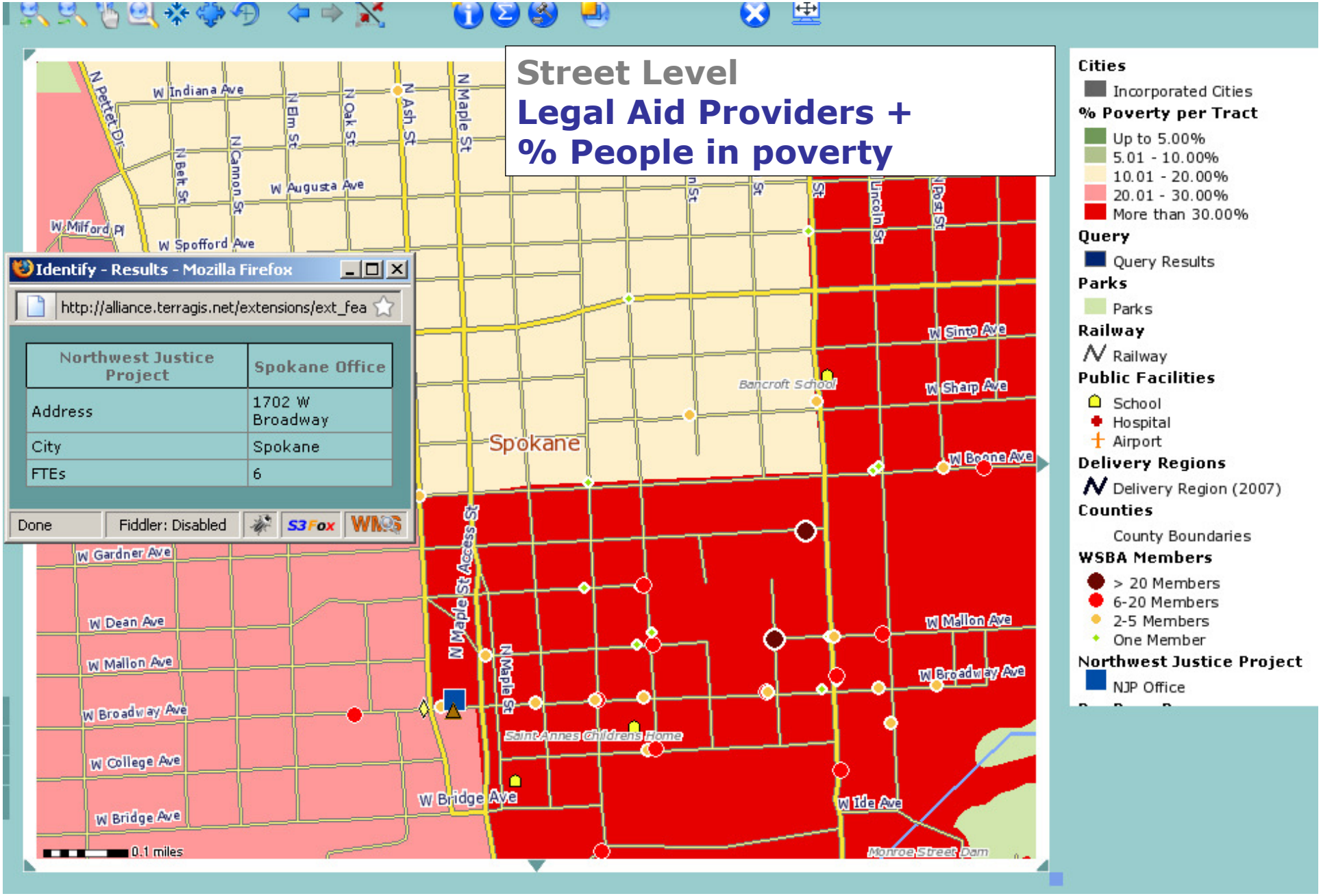

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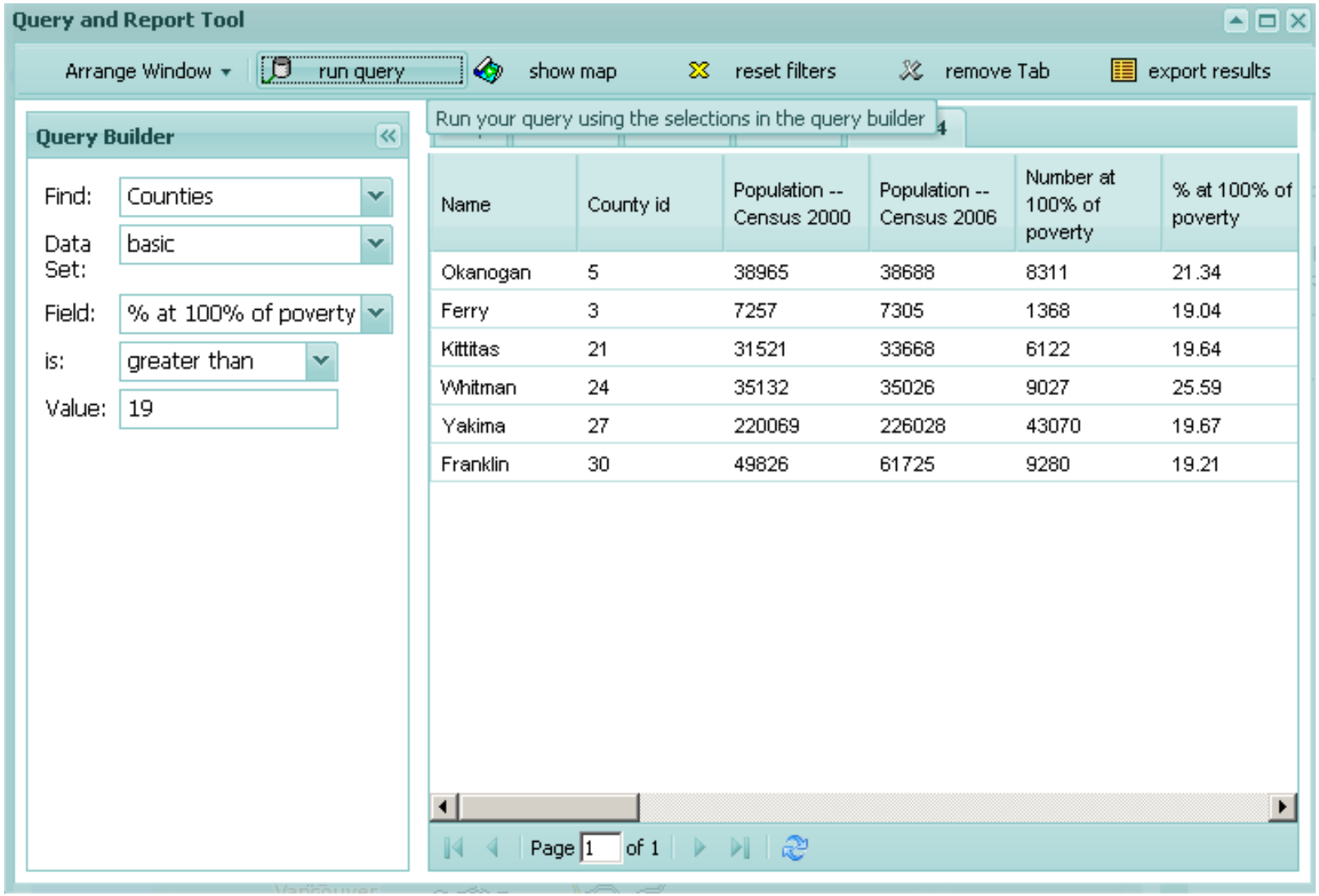
Query Builder (ExtJS based)



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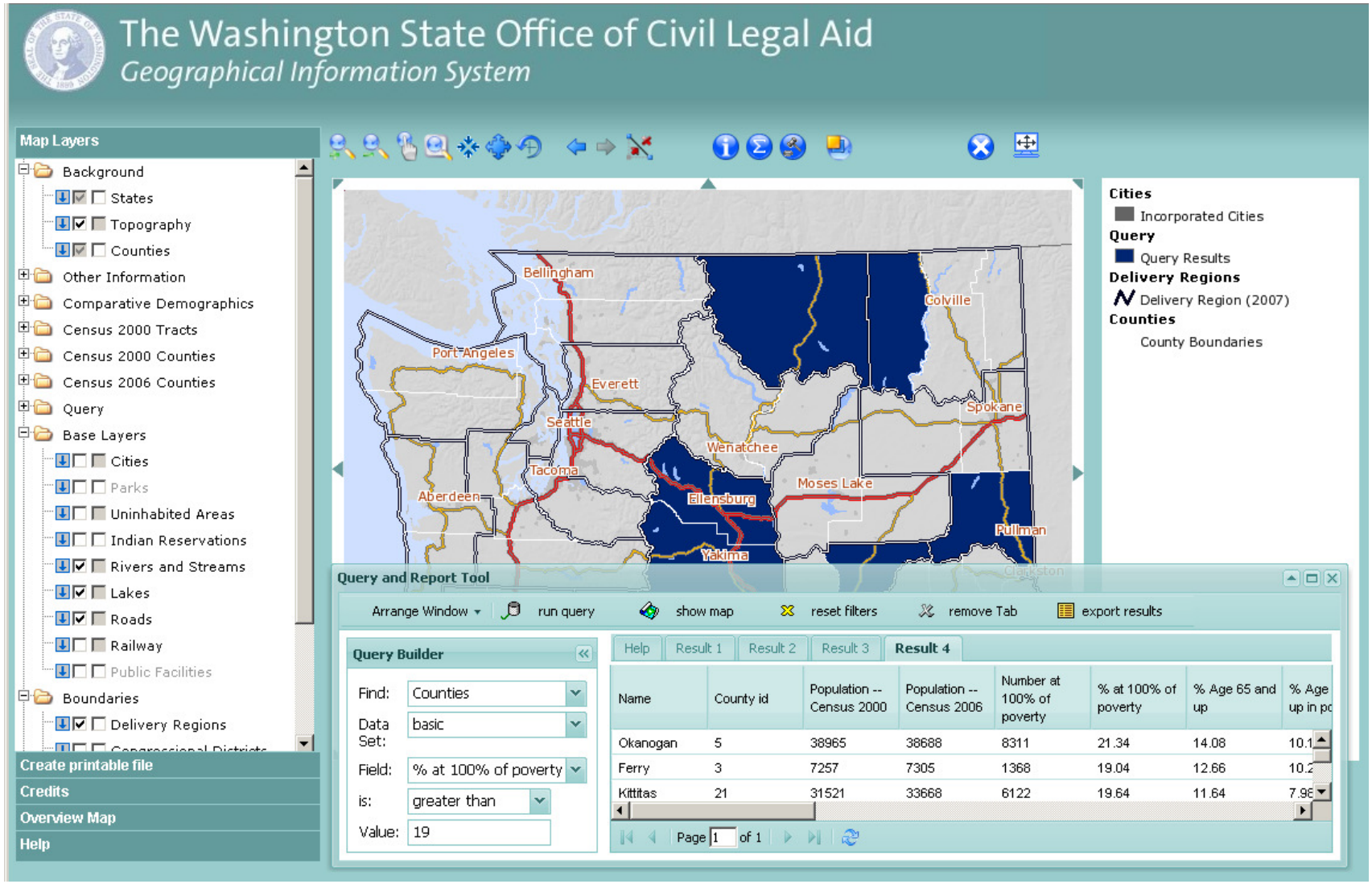
Display of Query results on the Map



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