"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

"Preparing Level Ground" Geospatial Strategy Implementation for Increased Web 2.0 Equity & Adoption

ESRI Federal Users Conference

Stephen Lowe

Geospatial Information Officer

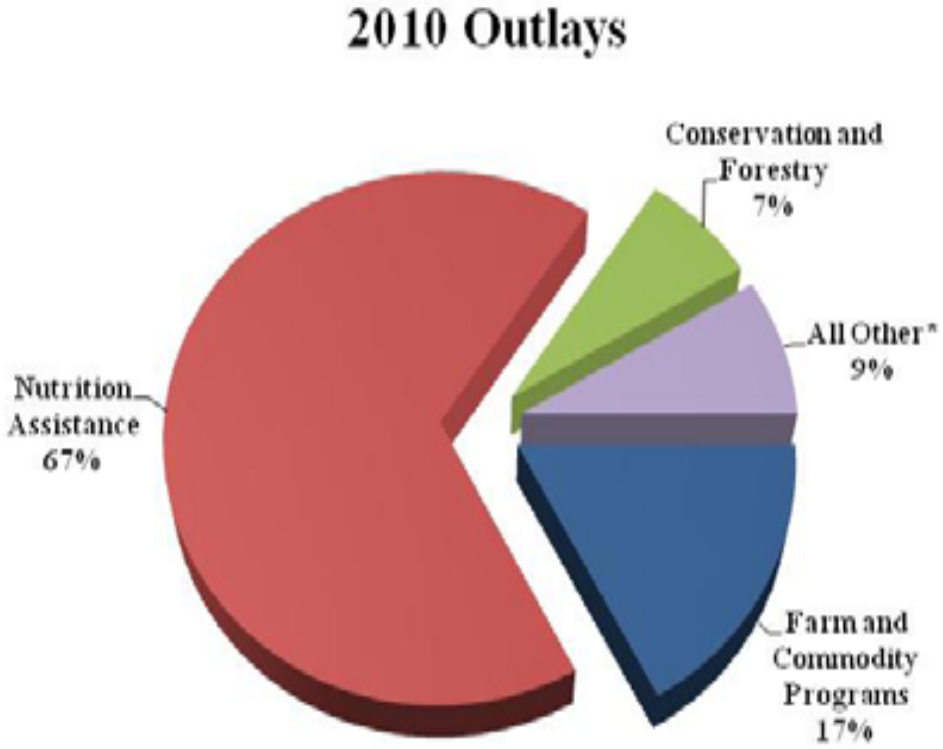
US Department of Agriculture

February 19, 2010

FY-2010 Facts & Figures

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- **Over 100,000 Employees**
- **$133 B Appropriation (FY2010); approx. 20% discretionary programs**
- **$9.8 B Direct loans, loan guarantees and grants**
- **$61.4 B SNAP**
- **Eight Core Mission Areas**
- **24 Line/18 Staff Programs**



*Includes Rural Development, Research, Food Safety, and Marketing and Regulatory functions

USDA Strategic Priorities

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- Rural communities **create wealth** so they are self-sustaining, repopulating and thriving economically.
- National Forest & private working lands are **conserved, restored and made more resilient** to climate change and are managed to enhance water resources.
- America leads the world in **sustainable** crop production and biotech crop exports.

USDA Strategic Priorities (cont.)

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- America's children and the world's children have **access** to safe, nutritious and balanced meals.
- USDA's constituents **understand and appreciate** what the agency can do for them every day in every way because USDA employees.

Understanding Equity

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- **Geographic Pluralism:** Upstream-Downstream
  - Organize for change, collective intention (Rural Economy)
- **Causal Story Telling:** Retrospective-Prospective
  - Link to consequences, access to evidence, localize problem transparency (Food Stamps)
- **Scalable Policies:** Size Matters
  - Empower good neighbors, share risk factors, lifetime events (Wildlife Habitat)
- **Appropriate Norms:** Measure-Visualize
  - Understand context before performance, avoid rituals (Smaller Farmer Grants)

Critical Advocacy & Outreach Goals

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- **Accelerate USDA information resources equity among new farmers and diverse populations**
- **Extend traditional, generational knowledge sharing**
- **Organize for greater market leverage in boutique commodities**
- **Expand sources of data and network effect**

Rural Challenges for Web 2.0

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- 90% producer population over age 55
- 90% youth leave rural area for career growth
- Agent-based USDA brand
- New Policy-Beneficiary learning gap
- Integration of second job infrastructure
- Broadband capacity limits
- Local relevance and granularity of useful content

How to Drive Innovation

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Markets	Old Technologies	New Technologies
New	Architectural Innovation **(Skype VoIP)**	Radical Innovation **(Remote Sensing)**
Old	Incremental Innovation **(ERP)**	Disruptive Innovation **(Cloud Computing)**

USDA

Collaborative Innovation

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Markets \ Technologies	Stakeholder	Govt
Govt	Open, Ecosystem, Platform Innovation	Recombinant Innovation
Stakeholder	Democratized Innovation	Crowdsourcing Innovation

Web 2.0 Service Value

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Typical Technology Effort

0-5%	90-100%	0-5%

Identifying Core Values

Drafting and Redrafting IT Oriented Documents

Creating Alignment to Delivery Competency

Web 2.0 Best Practice

10-20%	0-5%	75-85%

Identifying Core Values

Drafting and Redrafting IT Oriented Documents

Creating Alignment

USDA

Web 2.0 Model Deployment

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- **Crowdcasting –** engage audience, create the network
- **Crowdsourcing –** generate collaborative solution capabilities, relevancy by results
- **Customization –** assemble-to-order on scale
- **Connectivity –** visibility across domains, fields, relationships, dependencies, and consequences
- **Confluence –** draw holistic value from complimentary, yet chaotic activities

Solving Public Information Problems

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Place-Based Norm	Facts	Iterations
Space (figure-ground relationship)	**Complexity** (too much information)	**Equivocality** (too many frameworks)
Time (bound units of measure)	**Uncertainty** (not enough information)	**Ambiguity** (no decision framework)
"Platform"		**"Collaboration"**
Definition	***Analysis***	***Interpretation***

Map-Making Metaphor

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- Maps are **primary guides** in our lives; we understand value
- Maps employ **common conventions**; cartography framework
- Maps **tell stories** with facts; they unveil mental models expressed as behavior patterns
- Maps help **simplify** and make sense of large amounts of complex information; offer bird's eye view of relationships
- Maps are **interpretive devises**; visualize the unknown
- Maps are **visual tools** for constructing or rediscovering ideas; they enable us to think differently about public policy

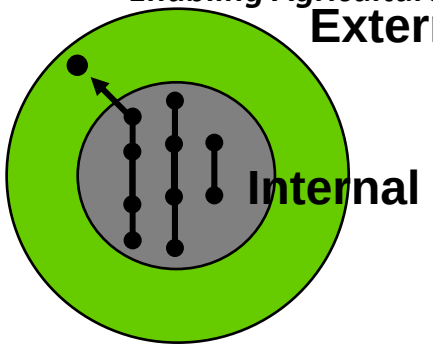
Geospatial Value Proposition

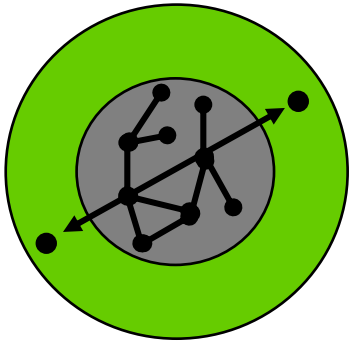
"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

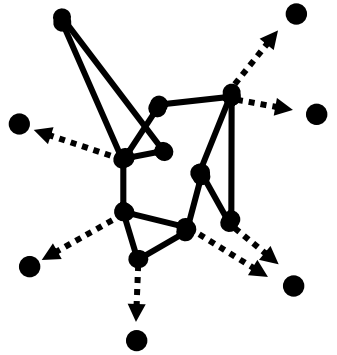
- **Where does geo-enabled solution contribute to the place-based policy and public benefit value chain administration?**
  - What is the nature of the solution value? (Economic, collaboration, simplification, change management)
  - How is it to be measured over its lifecycle? (Cyclical, periodic, immediate)
  - Who is responsible for measurement? (Program, technology, citizen)
  - What are the essential performance metrics? (Process time, production volume, elimination)
- **When and/or why will the solution be no longer viable?** (Obsolescence, sunset, emerging technology, built capacity, etc.)

Aligning Geo Solutions with Network

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."







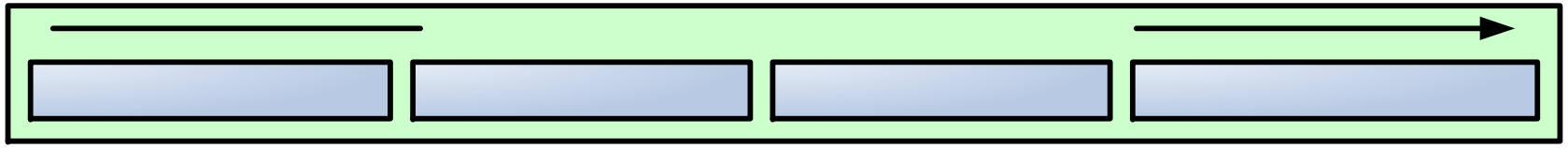
	Routine Response	Modular Response	Customized Response
Problems	• Familiar Problems • Process Execution • Defined Boundaries • Centralized Decision-making	• Complex Problems • Role of Participant • Cross Functional • Role-based Decisions	• Ambiguous Problems • Other's Expertise • Permeable Boundaries • Collaborative Decisions
Patterns	• Categorization/Classification • Prediction • Scheduling/Planning • Evaluation	• Configuration/Selection • Monitoring • Interpretation/Analysis	• Framework Design • Hypothesis Testing • Diagnosis

Geo-Enablement in Web 2.0 Adoption

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

- **Generate technology adoption with *map conventions*; offer familiar, less threatening structure with immediate return**
- **Empower field agents to disseminate program information by *geographic regions* based on local expertise; supplement web content**
- **Mitigate complexity of program participation criteria through *place-based eligibility*; business rules represented in mapping layer interface**
- **Introduce geo platform as *rapid development container*; local solutions ideation, knowledge transfer, mashup, etc.**

Geospatial Provisioning



"Self-Service"

Create:
- Case for Action
- Blueprint
- Clear Process
- Behavioral Network Map

Eliminate:
- Uncertainty
- Waiting
- Excessive Controls
- Communication Gaps
- Slack Resources
- Search Costs

Individual Recognition

Team Interpretation

Geo-Enablement Life

"Roadmap to Place-Based Maturity"

Learning **Critical Thinking** **Creativity** **Synthesis**

USDA

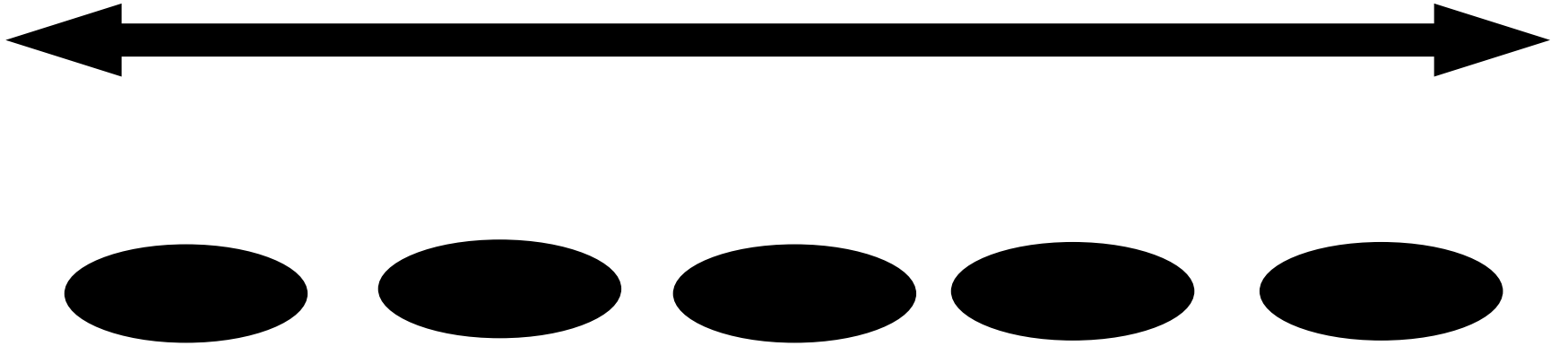
Stephen Lowe USDA GIO 2010

"Normalization"

Create:

USDA Geospatial Maturity Model

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."



Standards Visibility Productivity Diffusion

Institutionalized Federated Ente

Service Delivery Service Va

Functionality Cre

Enterprise Geospatial Management Office
Office of the Chief Information Officer
Stephen Lowe USDA GIO 2010

"Enabling Agriculture Innovation and Service Excellence through Geographic Solutions."

Questions & Comments

stephen.lowe@usda.gov

202-720-0880