OTIA Bridge Delivery Program

Oregon Department of Transportation

Oregon's Statewide Bridge Program: Streamlined Process and Sustainable Results

Presentation to Joint TRB Summer Meeting

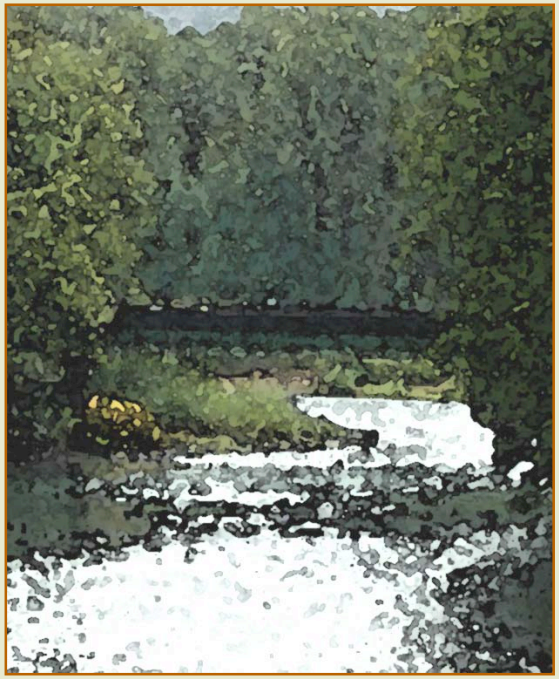
Santa Fe, NM – 9/12/05

What do we mean by Streamlining, Stewardship and Sustainability?

- Streamlining
  - Reducing Timelines
  - Increasing Predictability
  - Reducing Program Costs
  - Consolidating Processes
- Stewardship and Sustainability
  - Better impact avoidance
  - More environmental enhancement
  - Higher quality mitigation
  - Long-term benefits to environment, economy and community

Accomplishments

- "One Process" to meet 14 regulations and 6 permits
- "One Source" performance standards for permits and NEPA
- Permits covering 10 years of construction
- Detailed context studies on 400+ bridges
- Web-based data management
- Training program
- New mitigation/conservation program
- Enhanced agency relationships
- Better impact avoidance
- Better T&E species recovery
- Cost savings



National Recognition

Federal Highways Administration 2005
Environmental Excellence Award

"an outstanding example of interagency coordination and collaboration that provides significant benefits to transportation and the environment" – FHWA

Cost and Time Savings

First bridge replaced through the streamlined permit process

- Reduced permitting timeline by 3 months
- Reduced project timeline by 1 ½ years
- Saved one million dollars in project cost

Program Cost Savings

- Projected to reduce program costs by $50 - $100 million, compared to traditional approach

Some Comments on OTIA III's Streamlining so far

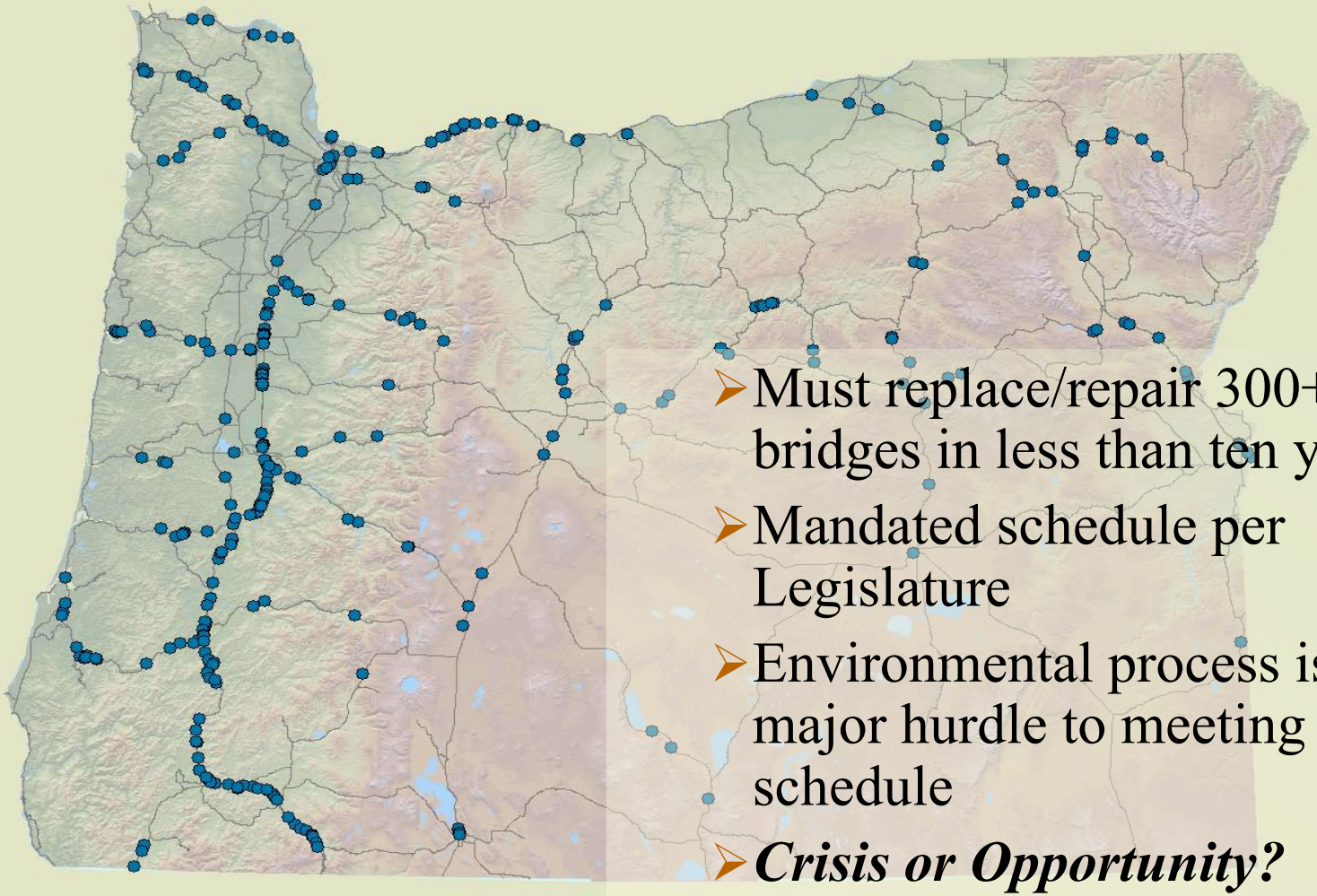
- *"Streamlining the permitting process will save Oregon millions of dollars and shave two years off the OTIA state bridge construction program"*

  - Governor Ted Kulongoski

- *"ODOT demonstrated the agency's commitment to environmental stewardship, collaboration and of course expedited processes… (this) should serve as a model for future transportation projects and programmatic efforts"*

  - Kemper McMaster, State Supervisor, USFWS

The Problem



- Must replace/repair 300+ bridges in less than ten years
- Mandated schedule per Legislature
- Environmental process is the major hurdle to meeting schedule
- ***Crisis or Opportunity?***

How did ODOT gain support for the program?

- Identified and documented the problem
- Clarified broad-based negative consequences (Economic, Mobility, Safety) of NOT acting
- Described the basic solution and clarified benefits of that solution
- Secured leadership support
  - ODOT leadership
  - Business and industry groups
  - Public groups
  - State and federal legislators
  - Governor

- $1.3 billion from state legislature (auto license fees and weight mile tax)

Solving the Environmental Problem: Started with Collaboration

- All units in ODOT
- Federal: FHWA, EPA, USFWS, NOAA, USACE
- State: ODFW, DSL, DEQ, SHPO
- Consultants
- Contractors
- Later added USFS and BLM

Focus of Early Collaboration

- What does each agency really care about?
- How can we better meet each agency's mission?
- What are problems to be fixed in the current approach (is it substance, technique, communications, resources?)
- What changes would make the **biggest improvements** in results?
- Find solutions that BENEFIT ALL

- ***Use Bridge Delivery Program as a pilot.***

What's Wrong with Current Approach?

Permit terms and conditions:

- Are hard to predict – *require substantial redesign effort*
- Are not coordinated among permits – *confusing, duplicative*
- Inhibit innovation – *overly prescriptive*

Process and effort:

- Agencies involved too late – *design, announce, defend*
- Issues keep popping up
- Not focused on real priorities
- Not easily coordinated between agencies

Mitigation expensive, lacks effectiveness

Environmental Strategy Goals

Collaborate

- Meet the missions of all agencies
- Openly work the problems and the solutions

Improve Efficiency and Predictability (Streamline)

- Meet the Program's delivery schedule
- Capture economies of scale
- Make permitting, design, and construction more **efficient** and more **predictable**
- Start by imposing streamlining on ourselves

Environmental Strategy Goals *continued*

Improve Stewardship and Sustainability

- Provide short- and **long-term** environmental benefits
- Don't just **protect** environment, **enhance** and help **recover**
- Address Economy, Environment and Community
- Be sensitive to **context**

Promote Innovation

- Provide flexibility for **innovative** design and construction

Provide Lasting Value

- Provide benefit to future ODOT and agency programs
- Ensure that the strategy is **transferable**

Framework: "CS^3"

Context Sensitive and Sustainable Solutions

- Incorporates the environmental strategy goals
- Provides framework for bridge design and design process
- Provides framework for implementing and managing all aspects of the bridge program
- Provides goals and objectives for monitoring and evaluating bridge program performance

Why were resource agencies willing to commit to streamlining?

- Leadership support and momentum helped
  - State priority
  - Exec Order on Streamlining and Stewardship
- Environmental quality opportunity
  - For earlier influence on impact avoidance
  - For better quality mitigation & enhancement
  - For T&E species recovery
  - To affect big picture issues
- Efficiency
  - Fund their involvement to create the strategy
  - Reduce the long-term demand on their staff time
  - Affect a whole program, not just a project

Key Elements of the Strategy

- Agency **collaboration**
- Detailed **Baseline/Context** reports
- **"One Process" permitting**
  - **Performance standards**
  - **Programmatic and Batched permits**
- Consolidated **Mitigation and Conservation** program
- Integrated data management
- Training
- Adaptive Management

Top to bottom Collaboration

- Secure agency leadership buy-in
- Fund agency positions to ensure active participation
- Use effective decision-making /dispute resolution
- Level One
  - Weekly coordination
  - Develop, review and advance products
- Level Two
  - Periodic management level review, approval
  - Resolve policy questions
- Level Three
  - Directors, Decision-makers
  - Solve major roadblocks; Final Signatures

Baseline (Context) Reports

WHAT: Upfront, Detailed Description of Context

WHEN: Before Design and Programming Begin

Purpose:

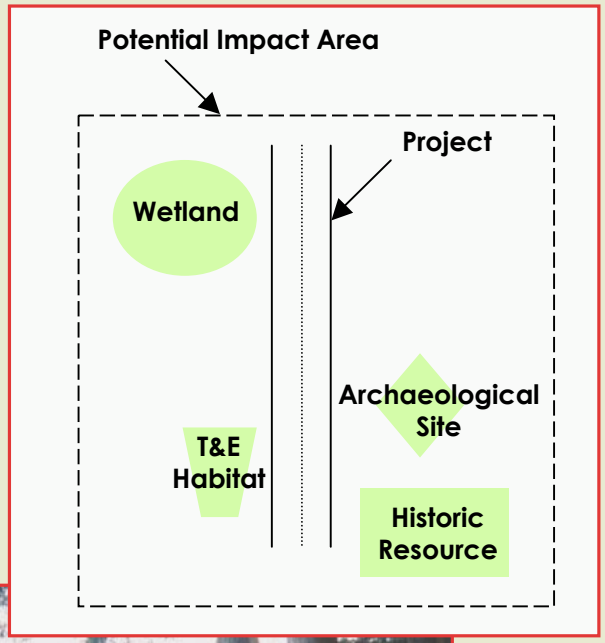
- Better impact avoidance
- Identify enhancement opportunities early
- Identify permit needs early
- Support development of programmatic permits and statewide mitigation program (per resource agency input)
- Support NEPA compliance
- More accurate cost estimates and schedules

What Data Are Collected?

- Archaeological surveys
- Air quality
- Fish, wildlife and habitat data
- Rare plant surveys
- Noxious weeds
- Hazardous materials testing
- Historic resource inventory
- Land use plans and policies
- Sensitive noise receptor information
- Section 4(f) / 6(f) resources
- Socioeconomic data
- Wetland delineations
- Water quality and flooding information
- Visual and aesthetics

What Data Are Collected?

- 90-acre *area of potential impact (API)*.
- Use of existing data.
- Collection of intensive new field data.
- Mobilized ten field crews.
  - Biology and Land Use
  - Rare plants
  - S&M Species
  - Hazardous Materials
  - Historic
  - Archaeology
- Creation of integrated, accurate GPS / GIS data.



Performance Standards – what are they?

- Single set of **terms and conditions** for the programmatic permits and NEPA review
- **Outcome** oriented versus **prescriptive** measures (*allow flexibility and innovation*)
- **Guidance** for other program goals and objectives *(eg, enhancement)*
- Defines level of effect allowed under programmatic permits
- Allows context considerations *(match the effect to the environment)*

CRITICAL:
Compliance with the Performance Standards equates to compliance with the programmatic permits.

Regulations Covered by "One Process" Programmatics and Performance Standards

- Federal Endangered Species Act
- Oregon Endangered Species Act
- Fish and Wildlife Coordination Act
- Migratory Bird Treaty Act
- Clean Water Act § 404
- Clean Water Act § 401
- Clean Water Act § 402 (NPDES)
- Bald Eagle Protection Act
- Coastal Zone Management Act
- Oregon Removal/Fill Law
- Marine Mammal Protection Act
- Magnuson-Stevens Fishery Conservation and Management Act
- National Environmental Policy Act
- Wild and Scenic Rivers Act

How Were Performance Standards Developed?

Collected from best existing examples

Created collaboratively

Proofed by "End Users":

- Regulatory and resource agency staff and specialists
- ODOT engineering, construction, contracts staff
- Consulting engineers and
- Industry design and construction contractors

Regulatory Performance Standards
(covering 404 & 401, CZMA, ESA, Removal-Fill, etc)

- Program administration
- Species avoidance and adverse effect minimization
- Habitat avoidance and removal minimization
- Water quality
- Site restoration
- Compensatory mitigation
- Fluvial

Other Performance Standards

Hazmat/Waste Performance Standards

- Materials Performance Standards
- Clean-up/Contamination Performance Standards

Diesel Emission Reduction

Visual/Aesthetics

Programmatic/Batched Permits

- Batched BA/BO
- Regional General Permit
- General Authorization
- 1200CA

CRITICAL FACTORS

- Relatively known body of project work
- Reasonably foreseeable impacts
- Collect/provide Detailed Context data

Batched BA/BO (Benefits to Program)

- Covers 17 USFWS and NOAA species
- Incidental take for 14 species
- Based on performance standards
- Streamlines consultation during design
- Potentially covers all of the bridges with one BO

Regional General Permit (RGP)

Clean Water Act 404

Clean Water Act 401

Section 10 Rivers and Harbors

Keystone for several federal mandates including:

- NEPA, ESA, Section 106, Wild & Scenic Rivers, CZMA, and FWCA

Regional General Permit Features

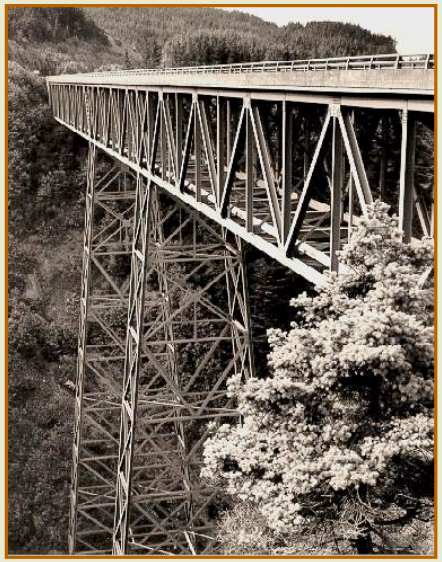
- Streamlined notification and reporting
- Pre-identified sensitive resources and mitigation opportunities
- Upfront, resource agency buy-in and approvals
- Allows up to 1.0 acre total fill per project

Benefits of Regional General Permit

- Potentially covers all the bridges
- Establishes accounting for impacts and compliance monitoring
- Expedites reviews: E-notifications, tiered reporting
- Identifies process for variances and changes
- Promotes environmentally sound bridge designs
- More efficient for ODOT and resource agencies

Section 106 – Historic Resources

Context Statements: The framework for assessing and documenting resources as well as mitigation



Two historic context statements:

1. Slab, beam and girder bridges

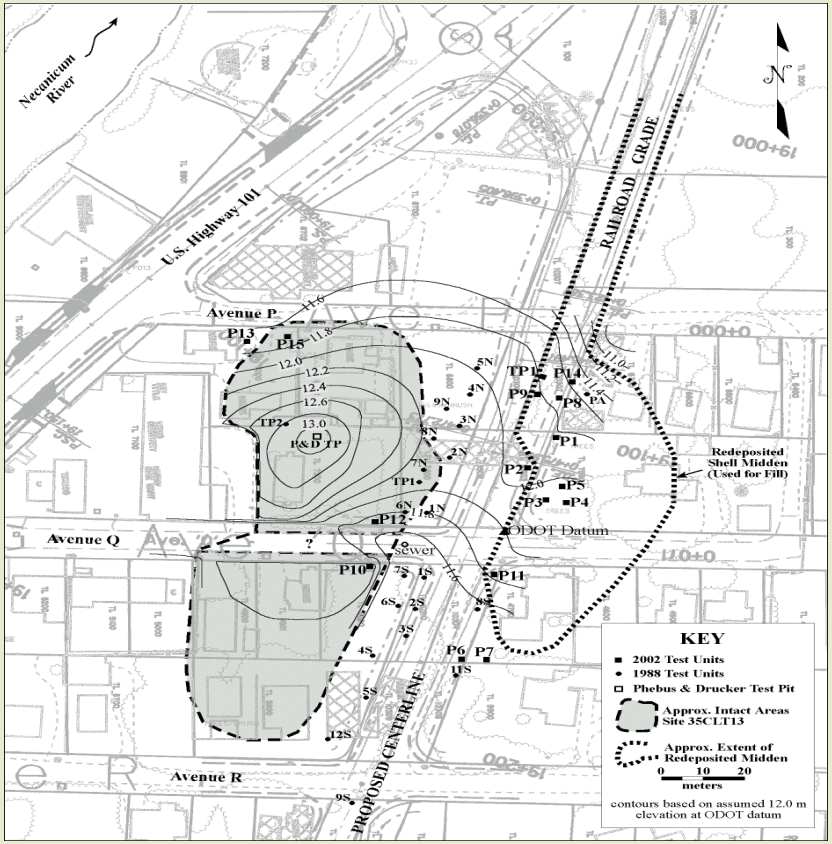
2. The Interstate system in Oregon

Benefits:

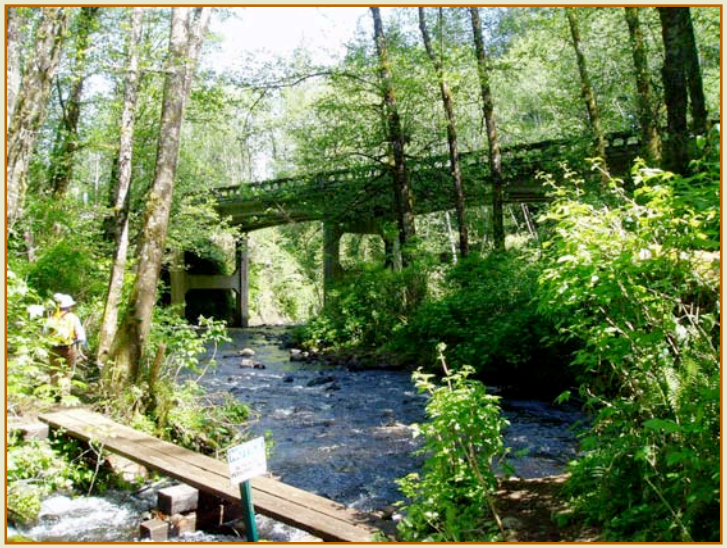
- Streamlines DOE process
- Provides "mitigation"

Section 106 – Archaeological Resources

- Early comprehensive reconnaissance
- Additional investigation of suspect sites
- Site evaluation
- Permit process
- Tribal consultation



NEPA Review



- FHWA Lead Agency
- Documented Categorical Exclusion (DCE) for each bridge
- Prepare individual EAs or EISs if necessary
- MOA with USFS and BLM to accept ODOT NEPA and permitting approach

Integrating NEPA with permit process

- The DCE guides design rather than just documenting impacts
- Proposed Action:
  - Conceptual (1%) design
- Affected Environment:
  - Environmental Baseline/Context Report
- Impact Analysis and Mitigation:
  - Performance Standards keep impacts below significance threshold
  - Add Performance Standards as needed

Comprehensive Mitigation/Conservation Banking

- Establishes banks that address multiple mitigation requirements: 404, ESA, FWCA, MBTA, etc.
- Establishes framework for valuating and comparing habitat types to:
  - Developed collaboratively with federal and state agencies
  - Covers Bridge Program and ODOT's other programs (eg STIP)

CMCS vs. Traditional Mitigation Approach

Traditional Mitigation

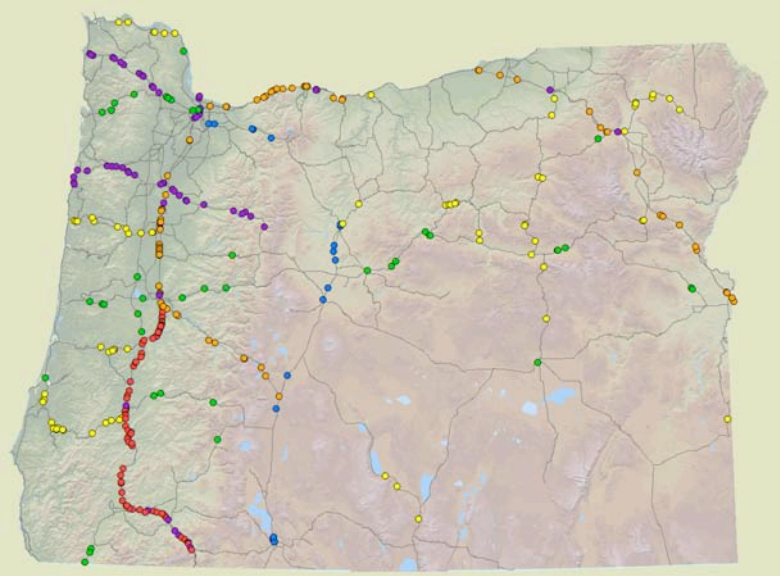
- Requires designing, permitting, constructing and monitoring 100+ small, scattered mitigation sites
- Costs are unknown until late phase of project delivery
- Mitigation/conservation is on project critical path
- Generally in-kind mitigation only

CMCS

- 3-6 regional sites will address most permanent mitigation needs
- Costs are known early, and typically at least 50% lower
- Mitigation/conservation is off project critical path
- Allows out-of-kind mitigation, and supports ecoprovince priorities

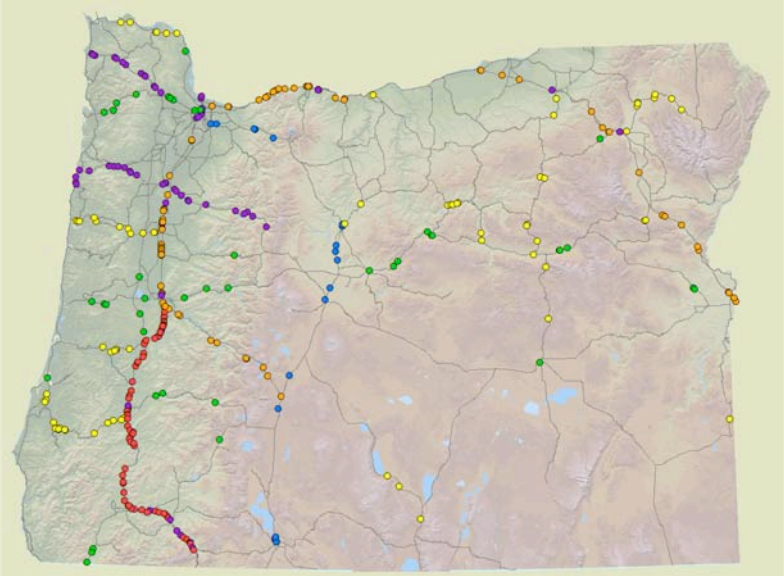
Role of GIS in Program

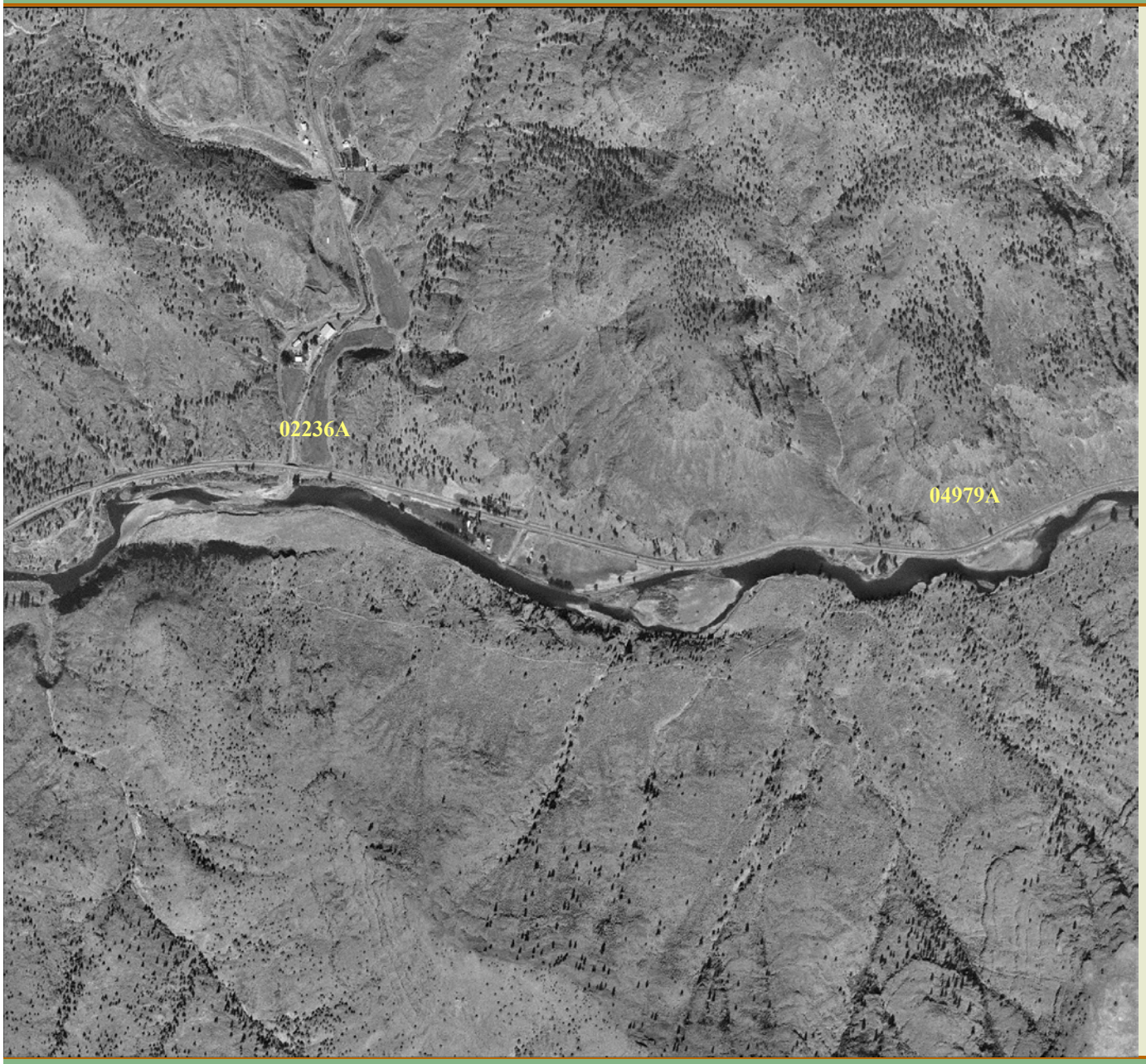
- Centralized, efficient and accurate management of data
- Website application for broad access
- Provides tools for analysis
- Facilitates communication



Long-term Benefits of Using GIS

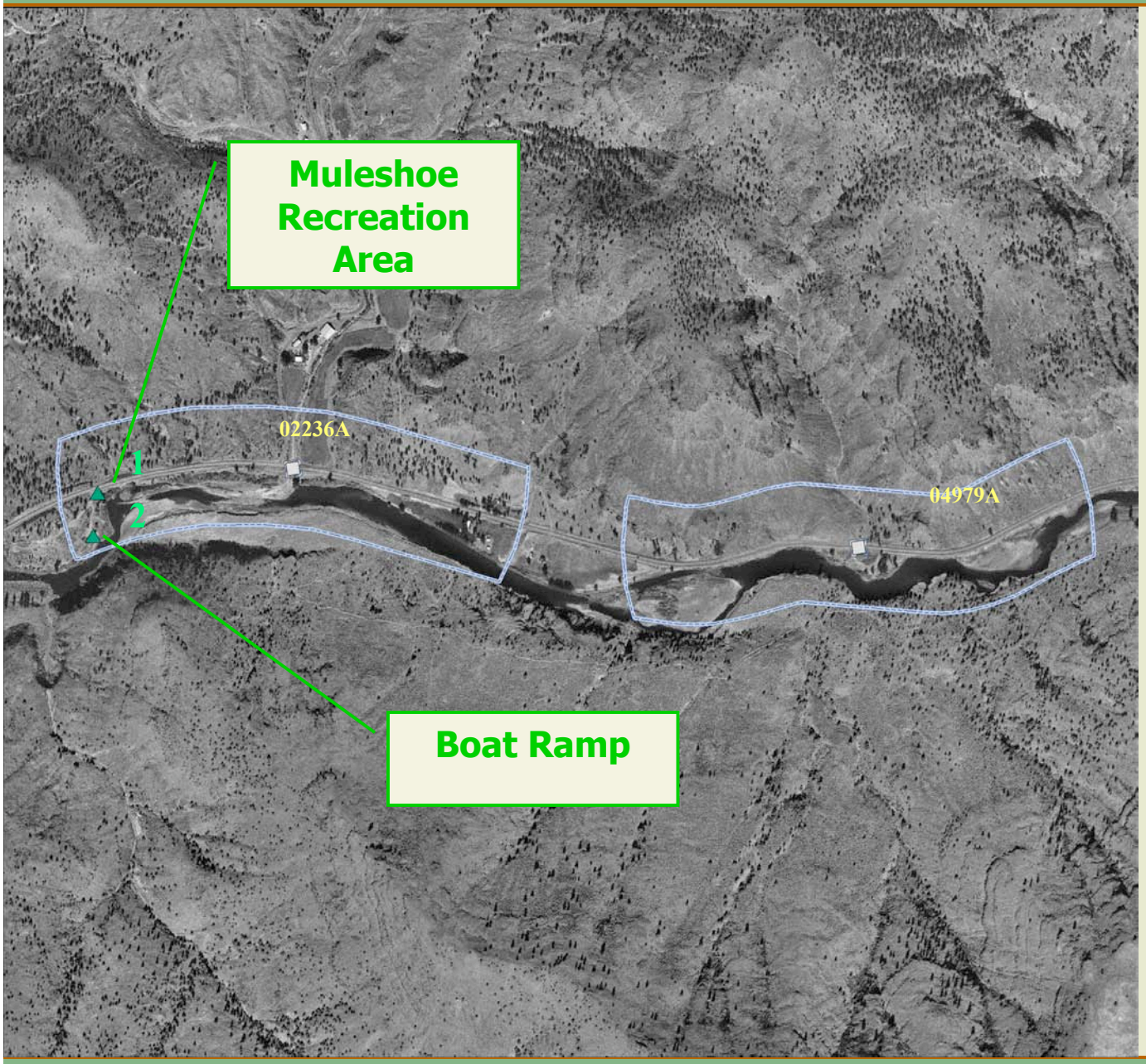
- Guiding future efforts with templates
- Building a framework for standardization
- Decreasing time and cost on projects
- Giving information a life cycle





Bridge 02236A and 04979A

Wheeler County



Bridge Center Points

APIs

4(f) Resources

Bridge 02236A and 04979A

Wheeler County

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Bridge Center Points

APIs

4(f) Resources

Field Photos

Photo Log

Bridge 02236A and 04979A

Wheeler County

TransGIS Project Delivery - Bridges

File Edit View Main Systems STIP Help

Active Layer: Bridges

Refresh Map

Map Layers

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- Air
- Aquatic
- Botany
- Boundaries
- Bridges
- Hazardous Materials
- Historic
- Hydrology
- Land Use
- Socioeconomic
- Transportation
- Water Quality
- Wetlands
- Wildlife
- Visual and Aesthetics

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25 50 75 100 Miles

Physical Relief | Bridge Points | API's | Highways | Rivers and Streams | 1: 2,500,000

Query String: This is the query string display

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TransGIS Project Delivery - Bridges

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Active Layer: Bridges

Refresh Map

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Physical Relief | Bridge Points | API's | Highways | Rivers and Streams | 1: 100,000

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TransGIS Project Delivery - Bridges

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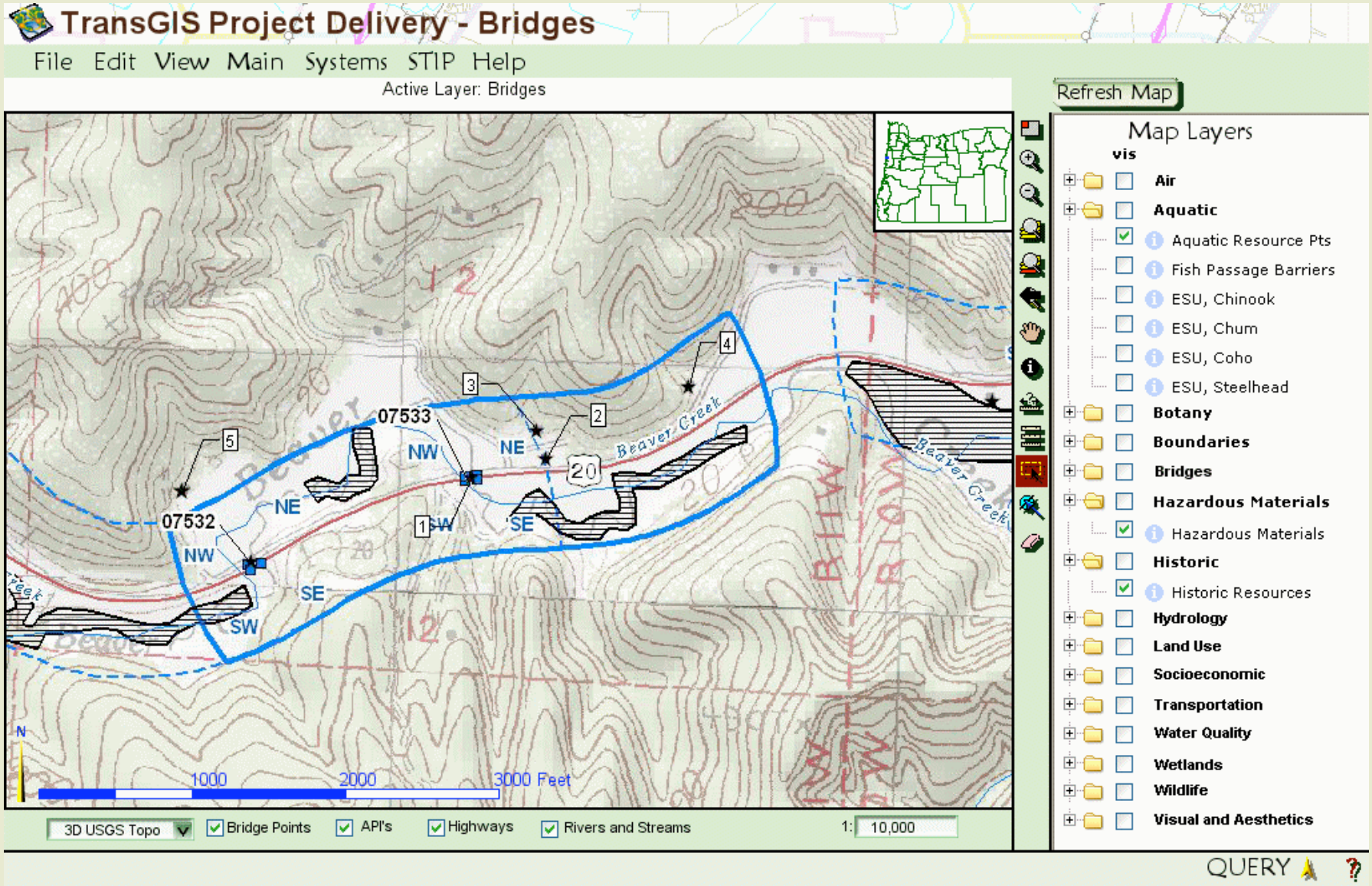
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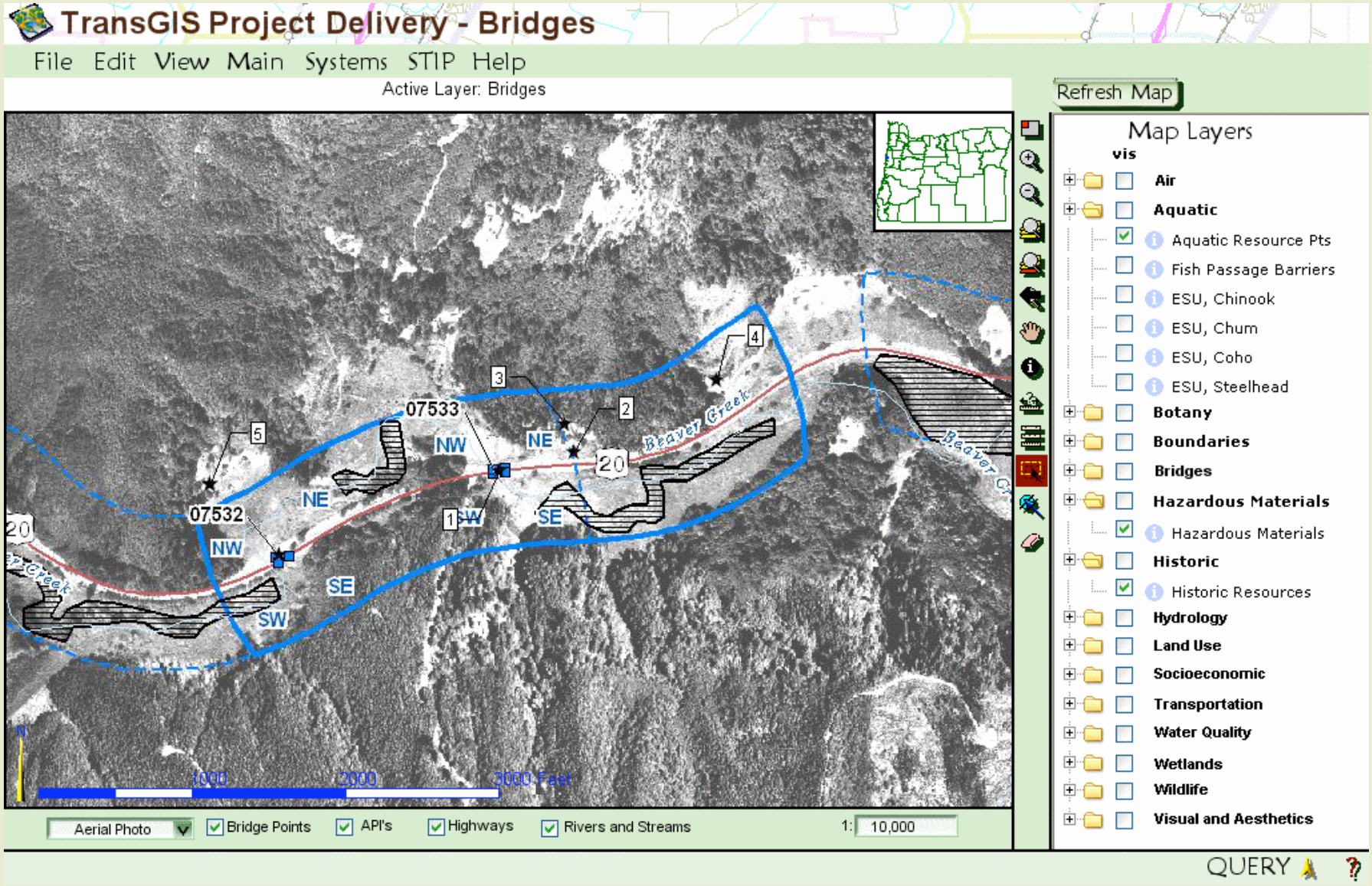
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Training

- Providing Training Workshops
  - Design Teams
  - Regulatory staff
  - ODOT staff

- On-line Training tools
- Contractor certification
- Specialized training, as needed

Costs and Risks of New Strategy

Costs

- Up-front investment (1% of program $)
- Extensive up-front agency coordination

Risks

- New is always risky
- Desire to make it perfect

Hurdles

- Resistance to change
- Lack of trust

Benefits to Cost & Schedule

- Permits off critical path
- Mitigation off critical path
- More efficient and shorter permitting and design process
- More predictable design costs and schedule
- Substantial cost savings (expecting over 400% return on investment)
- Less demand on staff time - ODOT and resource agency staff

Other Benefits

- Better impact avoidance
- Higher value mitigation
- Statewide environmental database
- Statewide mitigation/conservation banks for all ODOT programs to use
- Improved relations with permitting agencies
- Transferable model

Lessons Learned

- Secure **leadership support** for making changes
- Ensure that the **right people** are in place to make changes
- **Mutual Benefits**! Involve, understand & help key stakeholders meet their missions (collaborate!!)
- Don't give in to, "That's nice but it won't work here"
- **Understand laws** and regulations AND their **flexibility**
- Remove the **internal roadblocks** to streamlining
- Build on your and others' **past successes**
- Plan for and facilitate **conflict/dispute resolution**
- Don't let the **perfect** be the enemy of the **good**
- **Monitor**, evaluate and **improve** (beta tests, end user reviews)
- **Train, educate and Follow through**