



City-wide Creek Erosion Inventories: Methodologies of Risk Assessment and Prioritization for Municipal Management Programs

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For Planet & Progress

Outline

- Introduction
- Application of Inventories
- Lesson's Learned
 - Project Initiation, Scoping and Scaling
 - Background/Base Data
 - Data Collection & Management
 - Site Prioritization
 - Project Planning & Cost Estimates
- Key Takeaways



Introduction

Erosion inventories...

- Identify and evaluate channel erosion risks
- Prioritize sites for remediation using a standardized framework
- Manage both legacy and emerging erosion issues



Applications of Inventories



Planning Frameworks

- Master Plans
- Environmental Assessments
- Independent Studies



City Initiatives

- Stormwater Management Studies
- Flooding and Erosion Studies



Asset Management

- Infrastructure
- Parks & Trails
- Natural Assets
- Fisheries



Forecasting

- Monitoring Efforts
- Planning Horizons
- Climatic Impacts
- Development

Lessons Learned Along the Way...



Project Initiation, Scoping and Scaling



Background/Base Data



Data Collection & Management



Site Prioritization

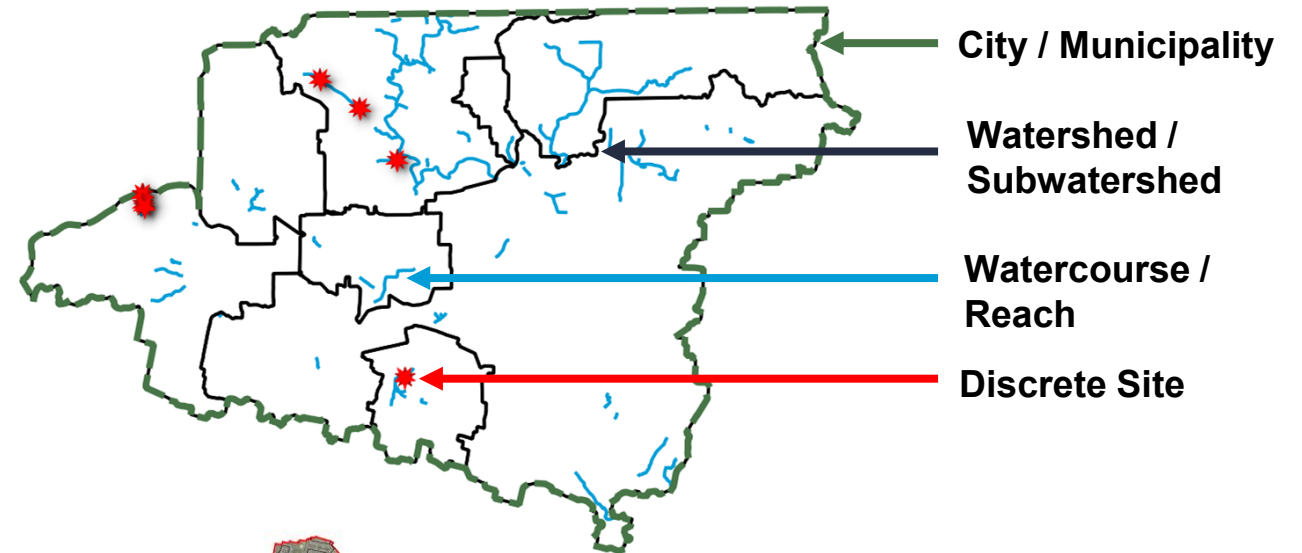


Project Planning & Cost Estimates



Project Initiation, Scoping & Scaling

- What is to be assessed?
 - “Inventory-led” Studies
 - “Planning-led” Studies
 - Only focused on erosion?
- At what scale?
 - Spatial scale
 - Temporal Scale



Desktop Assessment, Background/Base Data

- Erosion inventories first begin 'at the desk'
- Consideration of...
 - Data needs
 - Data availability
 - Data accuracy

Base Data

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Infrastructure

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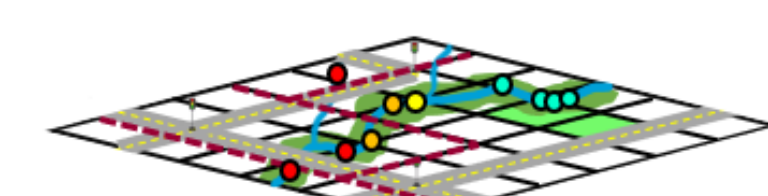
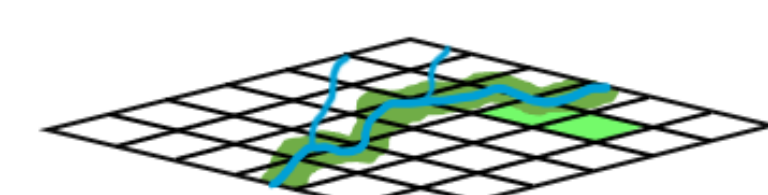
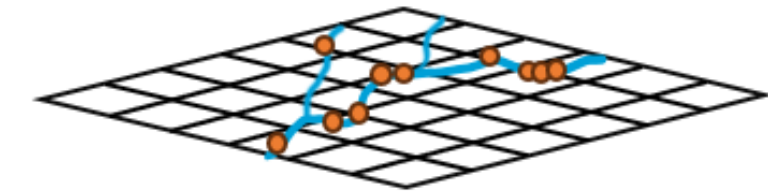
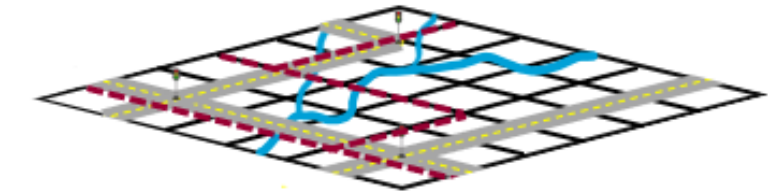
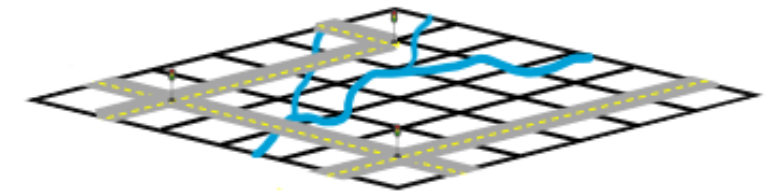
Erosion Inventory

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Natural Assets

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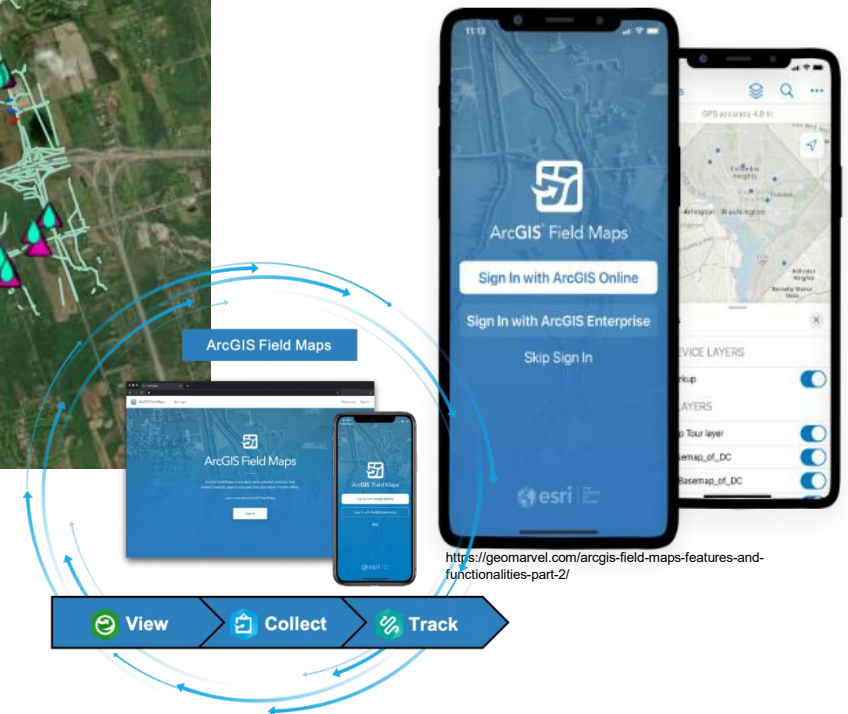
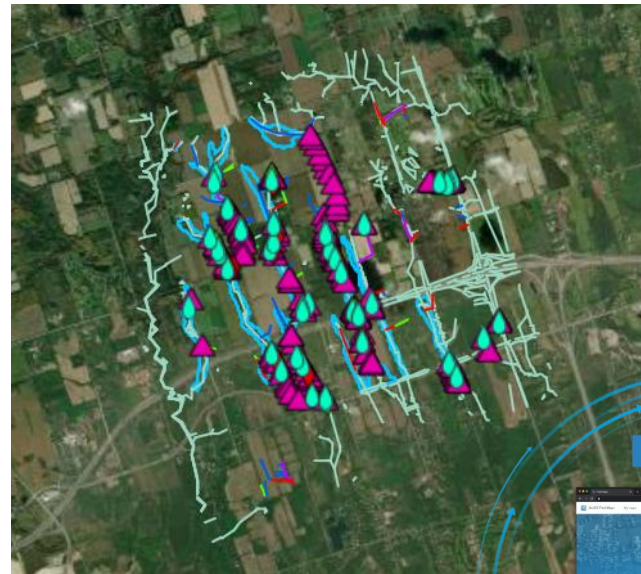
Integrated
Erosion
Inventory
Prioritization



Data Collection & Management

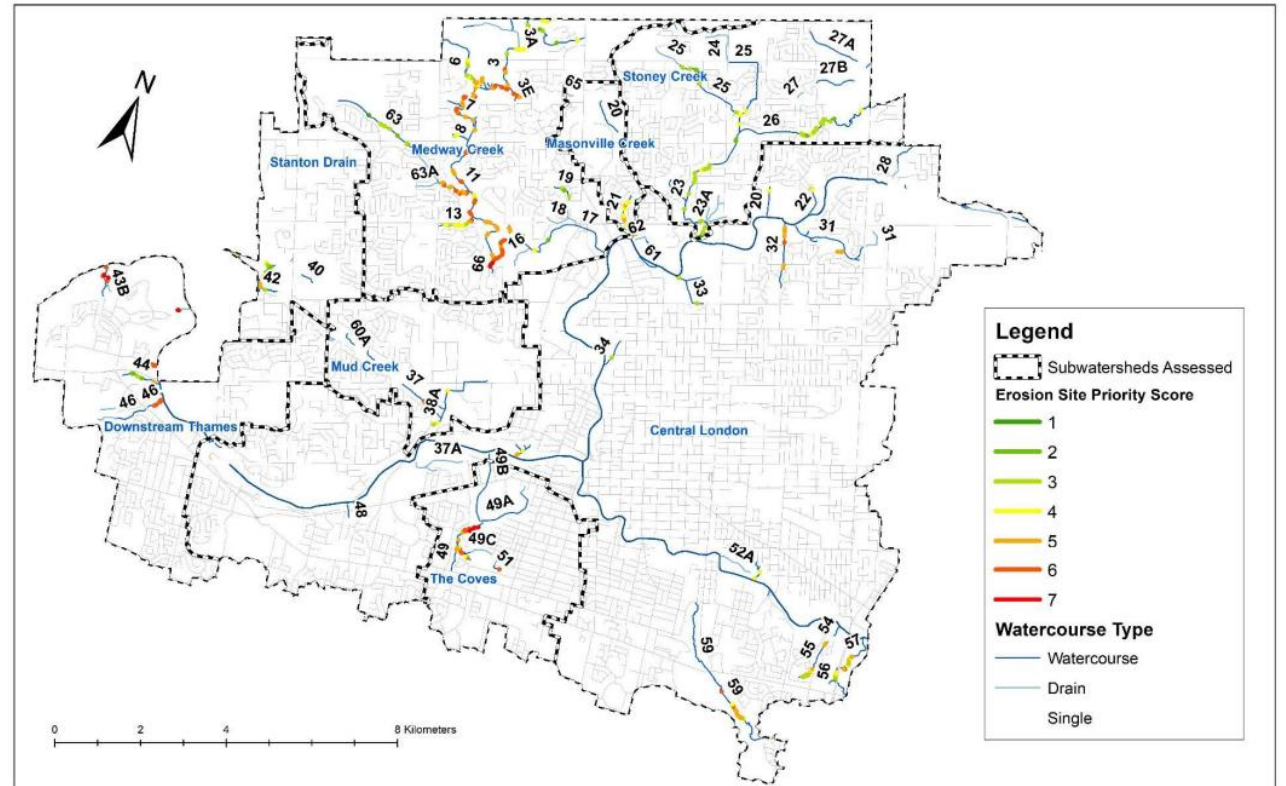
Erosion inventories typically result in a lot of data....

- Data collection structure and platform
- Staffing and technical practice
- Data storage and transfer



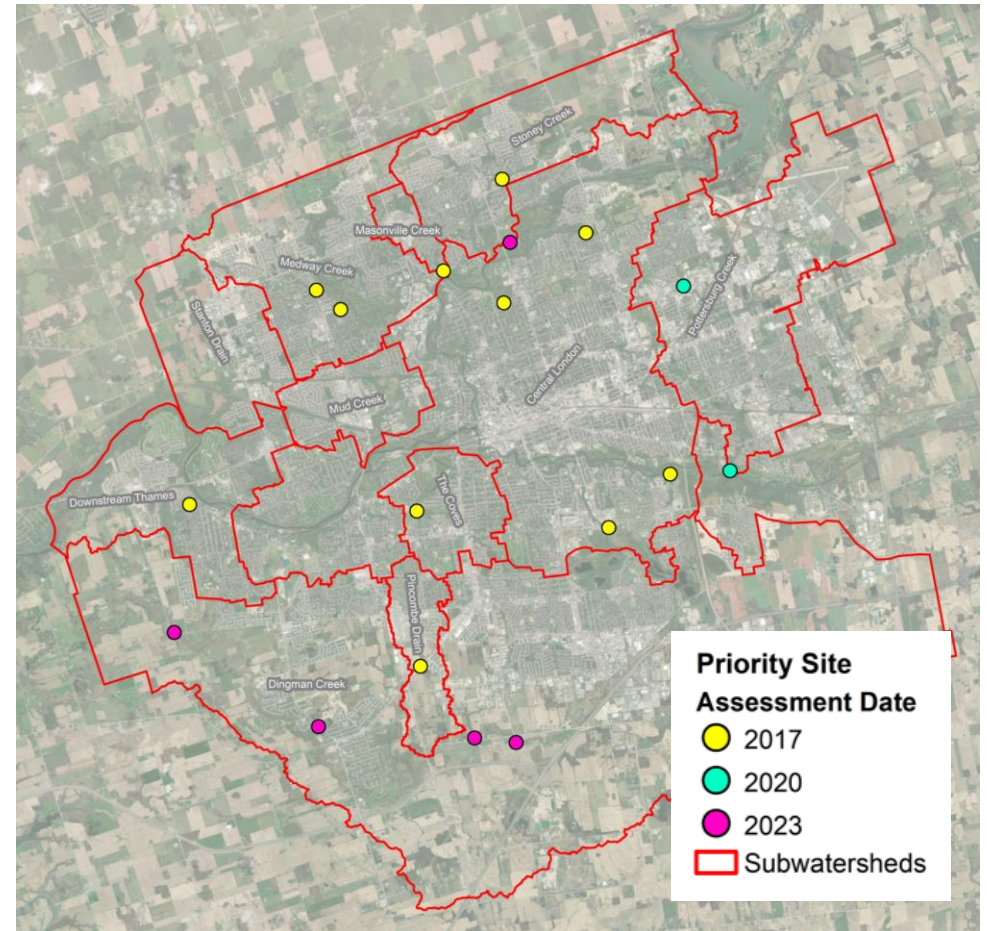
Site Prioritization

- Probability of Erosion
- Consequence of Erosion
- Environmental Impact or Opportunity
- Implementation Plan



Project Planning & Cost Estimates

- Scale of works (local repairs vs. systemic issues)
- Evaluation of alternatives or concepts
- Timelines for works (planning horizons)
- Cost estimates
- Cost sharing opportunities
- Continuous monitoring programs



Key Takeaways

- Project success begins... at the beginning
- Data needs, availability and accuracy
- Establish inventory 'starting point'
- Implementation plans provide guidance with flexibility
- Consideration of municipal budgets and timelines
- Opportunities for continuous monitoring



Thank You

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