

Water Resources Sustainability

Otter Point, Shirley and Jordan River

K. Bowman, G. Hatchard, V. Ntomola, E. Rudderham

Pacific Priority Solutions, Royal Roads University

Pacific Priority Solutions

Student research group comprised of:

Victoria Ntomola

Emily Rudderham

Kodi Bowman

Gayle Hatchard

Project offers experience in the real world applications

- Water Resource Management
- Geographic Information Systems Technology

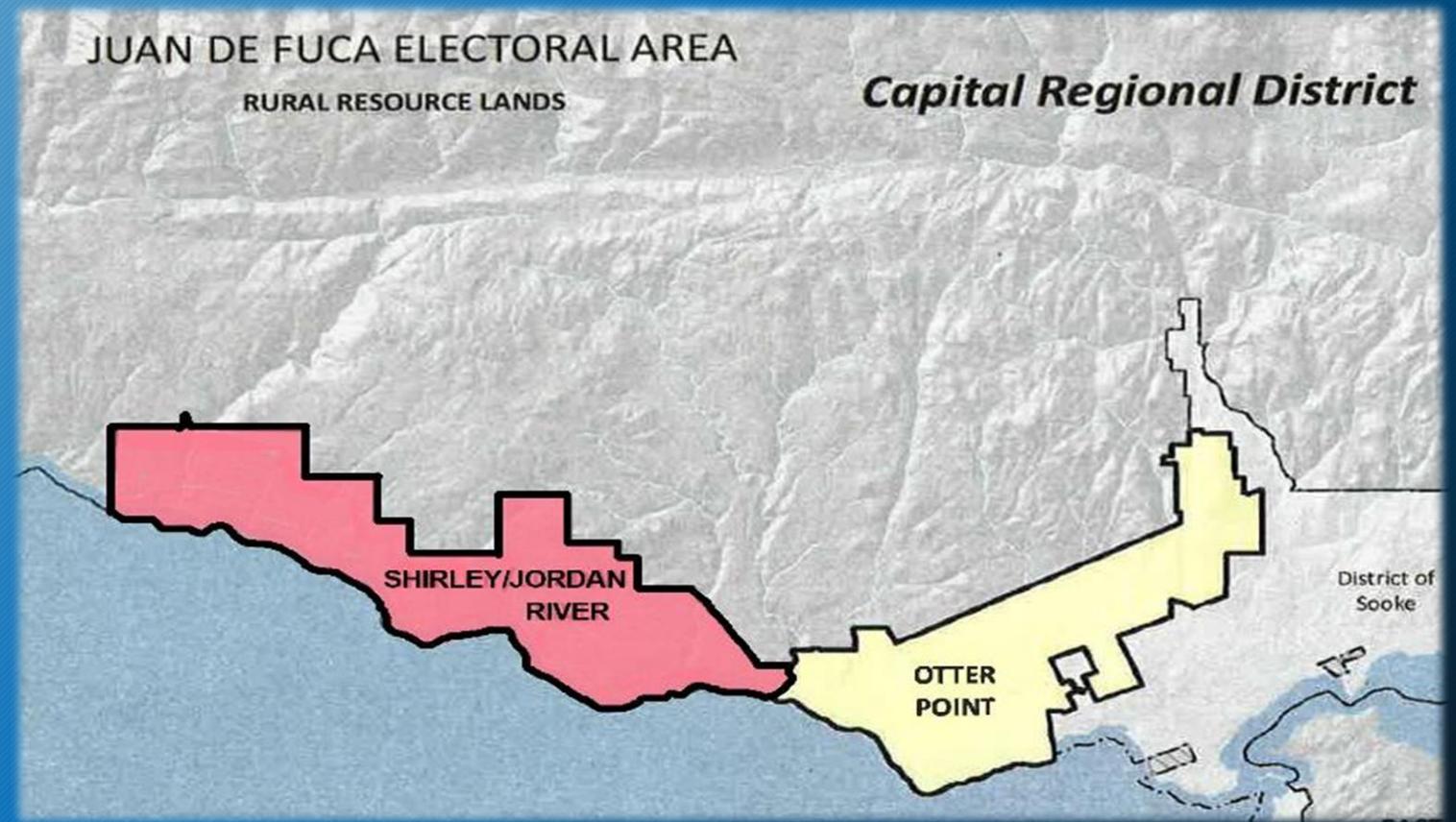


Agenda

- Background
- Overview & Objectives
- Research Questions
- Purpose
- Methodology
- Current Status
- Upcoming Milestones
- Conclusion

The Otter Point and Shirley Residents and Ratepayers Association (OPSRRA)

- Shirley
- Otter Point
- Jordan River



OPPSRA-Objectives

Development

*Resident
Best interests*

Co-operate

*Local
Government bodies*

Examine

*Government
Agencies policies and
performance*

Promote

*Community spirit,
Host community
events
and activities*

Encourage

Citizens to vote

OPSRRA - Role in Water Sustainability

- Surveyed communities in 2013, 2013 and 2015 regarding water use and resources in the communities
- Responses included concerns regarding watershed legislation, water supply shortages and protection of local wells
- A localized approach to water governance has been discussed



Status of Water Resources in the Study Region

- Nanaimo Lowland - physiographic region, low lying country
- Groundwater major freshwater resource
- Summer months dry - high pressure systems & rain shadow
- Thornthwaite classification - moisture deficit in summer
- Prime factor for water deficiency problems

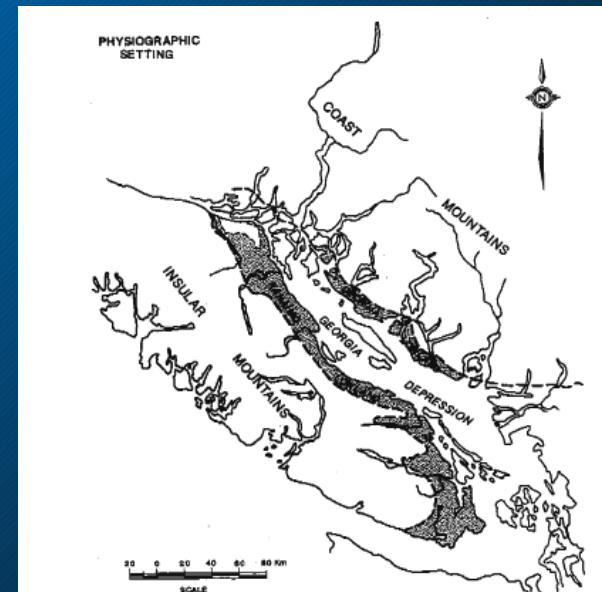


Image taken from http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/gwbc/C0912_Nanaimo_Georgia.html

Project Overview & Objectives

Project

Water Resources Sustainability Assessment of Otter Point, Shirley, and Jordan River

Objectives

- ArcGIS map and database featuring wells, water licenses, watersheds, groundwater, aquifers, etc.
- Identification of information gaps in existing water source data
- Analysis of the 2016 Water Sustainability Act

Research Questions

1. What geographical information (wells, water licenses, watersheds, etc.) is available to compile a GIS map and database?
2. What information gaps may impede the completion of a database and GIS map of the region's water resources? What further investigations may be needed?
3. Does the 2016 Water Sustainability Act reflect the communities' needs in terms of protection, regulation and development?

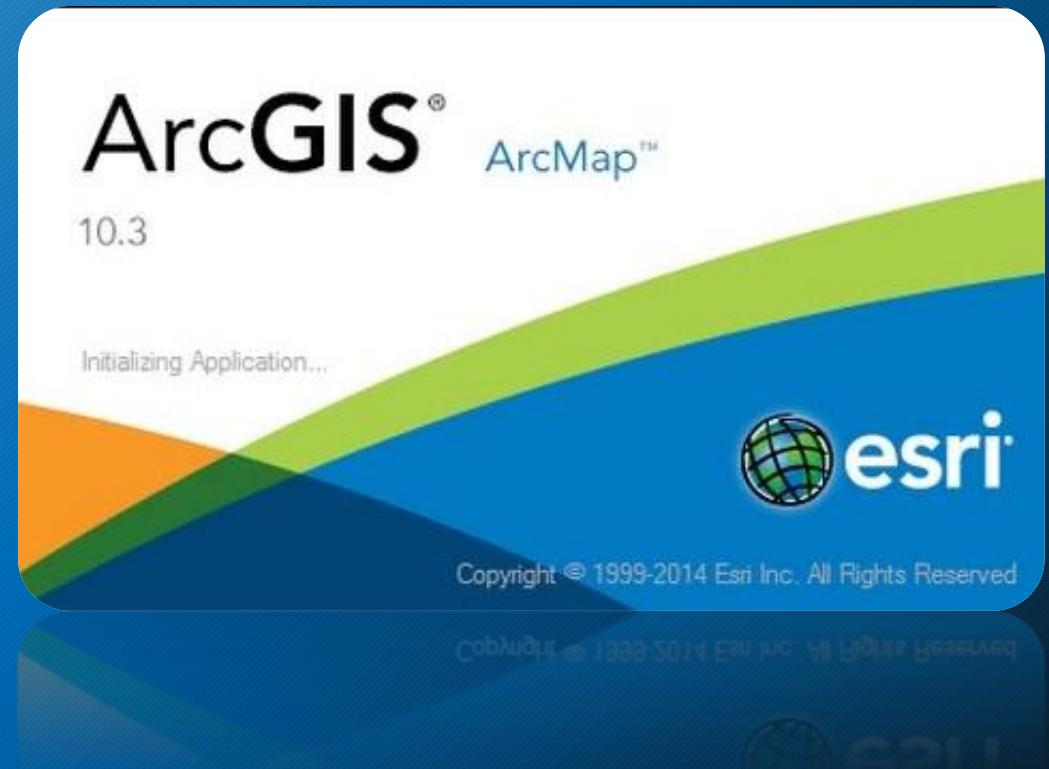
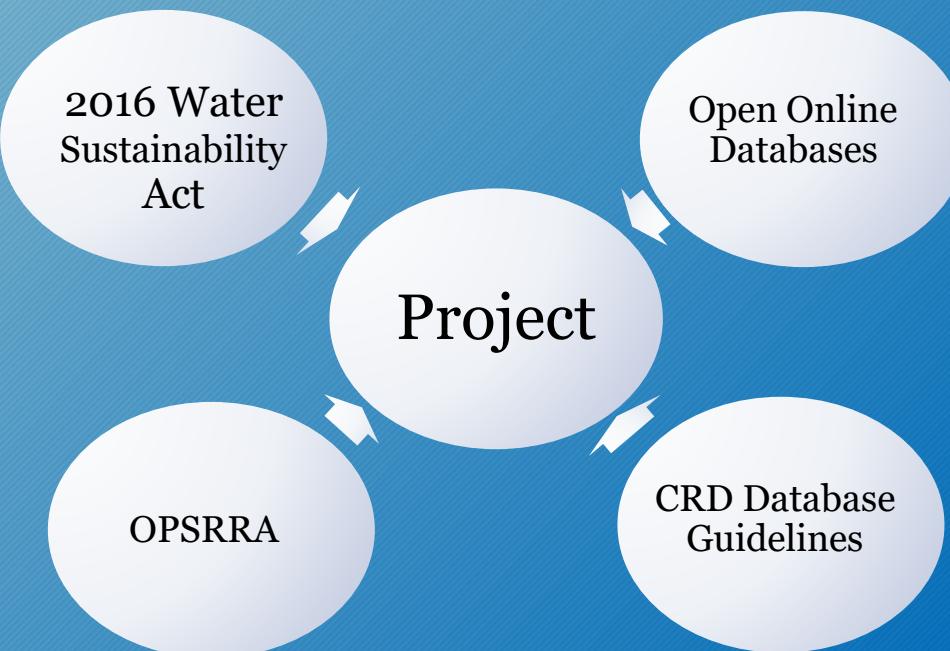
Purpose

Provide a tool which will :

- Improve water security
- Enable the community to make informed decisions regarding current and future water use
- Anticipate the impacts of development on existing resources, the community, and ecology
- Aid in maintenance, regulation, and protection of existing water resources

Methodology: ArcGIS Map and Database

Stage 1: Data Acquisition



ArcGIS Map and Database

Stage 2: Process and standardize to fit CRD GIS data standards for external agencies

- Metadata requirement
- Data formats
- Data standards



ArcGIS Map and Database

Stage 3: Organization of Converted Metadata

- GIS data layers

Stage 4: Creation of a Water Resource Archive

- ESRI geodatabase
- Computer backup



Identification of Information Gaps

Identifying information gaps

- Unlicensed wells
- Trucked water
- Roof top collection systems

Ways to fill information gaps

- Detailed Aquifer Studies
- Community surveys of unconventional water acquisition.

Analysis - 2016 Water Sustainability Act

- To analyze and summarize findings of the 2016 Water Sustainability Act.
- Compare current water resources sustainability to past and anticipated use.
- Compare past WSA to the 2016 WSA, what changes occurred that may affect water resources.



Current Milestones

- Established methodology, and direction of project
- Finalized Project Agreement
- Annotated Table of Contents
- Timeline
- Budget

Timeline 3rd Quarter -2016

**Data
Gathering**

Site Visit

29th March

**Interim Report
including
Progress Report**

31st May

**Financial
Statement**

31st May

**Interim
Major
Project
Presentation**

10th June

Timeline 4th Quarter -2016

**Final Report
To RRU**

19th August

**Project
Financial
Statement**

26th August

**Major Project
Presentation**

26th August

Conclusion

Our Tasks

- Collect Data
- Identify Data Gaps
- Analyse the 2016 Water Sustainability Act



Thank you
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