Environment Canada Environnement Canada

Canada

A CWS Data Security Model

Presentation to OFWIM
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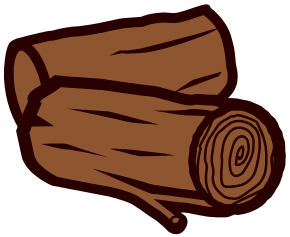
Rationale

- Sensitive data: Data the release of which could reasonably be expected to cause injury to the interests of persons, institutions, or nations, or to environmental assets such as species and habitats.
- Organizations need a policy and mechanism to identify sensitive data and to design systems to control access, even if a small proportion of the institutional data is sensitive.
- Creates a way to consistently identify and protect our most sensitive environmental assets in the face of strong demand for access to information.

Rationale …

- The logjam clears: non-sensitive data are disseminated quickly, sensitive data are consistently and appropriately protected.
- Public trust is improved:
  - Access to tax-funded data
  - Responsible stewardship of sensitive species, consistent with the CWS mandate.



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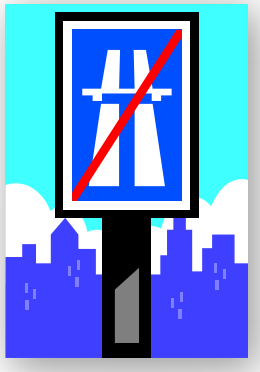
Why now?

- External Demand
  - Open Data
  - Open Government
  - Until recently, no obligation to share science data with the public, other than through Access to Information.
- Partnerships
  - New data sharing agreements
- Redesigning our data system to serve all clients
- It all requires overarching policy for the wildlife context

The Basics

- Rules are needed why?
  - Reflect organizational values/policy/legislation
  - Policy helps to establish working culture, provides a starting point for evolution of ideas.
  - Consistent application of policy reduces end-runs and one-offs
    - No second chances
  - Improved ability to defend denials of access (Access to Information Act)
- Key questions:
  - What will we share?
  - With whom?
  - In what form?
  - Based on what facts?



Design Tasks

- Define components of sensitivity
- Define data groups having consistent sensitivity
  - Variations by human effects, geography, accessibility
- Define user classes
- Define modification/generalization methods
- Link to government security classification
- Define system permissions, at the record level
- Generation of metadata on access/use restrictions

Proposed Model

Generalization

- Reduced geographic precision (e.g. .1, .01, .001 degrees) – Chapman & Grafton 2008
- Reduced taxonomic precision, habitat info, observer's name, traditional uses: i.e. limit data mining
- Guidance in CH ID Toolbox.

Consultations

- With SAR experts and IM/IT management committee…
- Are these the right decision factors?
- Parse each factor:
  - Restrictions
  - Data groups (sub-/supra-specific)
  - User classes
  - Generalization methods/levels
- Parameterize the table with contrasting datasets; reparse factors until stable.
- Legal review of restriction criteria
- Define a priority species list for implementation
- A “no ecological sensitivity” list → rapid access

Considerations

- Species at Risk Act (SARA)
  - Critical habitat is defined as "*The habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' CH in the recovery strategy or in an action plan for the species. "*
- Advice from Legal Services, 2007
  - *Critical habitat is the habitat that is identified in a recovery strategy or action plan that is included in the Public Registry. Therefore, if the decision is taken to* ***not include Critical Habitat*** *in a recovery document using s. 124 of SARA because of threats to the species and/or its habitat, there is effectively no Critical Habitat for the purposes of SARA.*
  - Hence no legislative protection under SARA

Balance of Risks

- Risk of intentional destruction based on released information
  - Retaliatory killing or habitat destruction by irate landowners
  - Data mining based on stenotypic habitat requirements
  - Market value & poaching
- Risk of unintentional destruction due to insufficient information
  - Exclosures
  - Routing of trails, roads, pipelines
  - Development easements
- Hence need an ongoing review cycle.

Q & A

- How do you make data sharing decisions in your organization?
- Can you recommend improvements to the model?