OVERVIEW OF CHANGES TO NPRI DATA PRODUCTS

NPRI Data User Workshop
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OUTLINE

• Approach to Improving NPRI data products
• Data user research and key findings
• Ongoing efforts:
  • Changes to the NPRI website
  • Changes to Open Data
  • New NPRI Data Search: Demo
• Future work
NPRI DATA PRODUCTS – TYPES AND FORMATS

Online queries
NPRI Data Search

Tabular (CSV & XLSX)
Single year tabular data
Five year release data
Bulk data

Map Layers
Virtual Globe including Google Earth™
Open Mapping services
APPROACH TO IMPROVING NPRI DATA PRODUCTS

• Continuous Improvement of annual publications
  – Informed by user and non-user feedback, and web analytics
  – Implemented based on technical feasibility and availability of IT resources

• NPRI’s Data Quality Management Framework: defines data quality in terms of seven elements

• Canada’s 2018-2020 National Action Plan on Open Government and Canada’s Open Data Principles
FEEDBACK AND ANALYTICS: SOURCES OF INFORMATION

- NPRI website analytics
  - 10,000 visits annually
  - Outbound clicks to NPRI data product
- Open Data Portal analytics
  - 8000 downloads annually
- Survey of internal (ECCC) data users
  - 40 participants
  - Satisfaction, most used products and future needs
- External Data user feedback
  - NPRI Inbox
  - Comments on Open Data
- Public Opinion Research (2019)
FEEDBACK AND ANALYTICS: KEY FINDINGS

• Most popular Data Products:

<table>
<thead>
<tr>
<th>Online Query Site</th>
<th>Single Year Tabular Data</th>
<th>Bulk Data</th>
<th>Virtual Globe</th>
<th>Five-year Tabular Data</th>
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</thead>
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• Feedback:
  – Current products are satisfactory (internal and external data users)
  – Difficult to access information and data
  – Difficult to use and understand information and data

• Additional needs:
  – Online tools (e.g. web services, online visualization)
  – More years of data
  – More contextual information to data products
  – Create step-by-step guides
NPRI WEBSITE IMPROVEMENTS

• Fall 2017: migrated to Canada.ca

• All pages must be re-written by end of 2020
  – Plain simple language
  – Clear and easy to understand
  – Every page needs to be accessible

• Hired a non-technical writer to help with our pages

• Simplified url: www.Canada.ca/NPRI

• Objective: improve ease of access/findability of data products
ACCESSING NPRI DATA PRODUCTS – EXPLORE DATA

• New **Explore NPRI data** page replaces Access Data page

• Redesigned and simplified with different types of data users in mind

• Contains descriptions and links to all the NPRI data products
ACCESSING NPRI DATA PRODUCTS – OPEN DATA

Open Data

Search open data that is relevant to Canadians, learn how to work with datasets, and see what people have done with open data across the country.

Search through our Open data portal.

NPRI

Find

Browse by subject

Agriculture
Arts, Music, Literature
Economics and industry
Education and Training
Government and Politics
Health and Safety
History and Archaeology
Information and Communications
Labour
Language and Linguistics
Law
Military
Nature and Environment
Persons
Processes
Science and Technology
Society and Culture
Transport
IMPROVEMENTS TO OPEN DATA

- Clearer titles and descriptions
  - Reviewed in collaboration with a non-technical writer.
  - Include a short description of NPRI, a short description of the content of the page itself and links useful resources.

- Clearer file names
  - More understandable
  - Standardized nomenclature (when possible)
  - Bilingual titles for bilingual files

- Reviewed keywords
  - To ensure that the whole extent of NPRI is covered by the keywords, without adding unnecessary words
NEW AND IMPROVED DATA PRODUCTS

• New relational database
  – Smaller IT footprint, easier and faster queries
  – Streamlines the creation of Data Products
  – Enables more frequent data updates
  – Available on Open Data with its data dictionary
• New NPRI Data Search (demo)
  – Powered by an new API
  – Improved layout
  – More data
  – Improved search capabilities
  – Enables more frequent data updates
  – Web traffic analytics enabled
• Single Year Tables
  – More years available (5)
FUTURE WORK

• Updated and new data product-specific tutorials (2020)
• Transform and load historical data in the new data base (2020)
• Continue to track data user feedback and web analytics to inform the annual improvement process.
• Application programming interface (API)
  – Develop and publish documentation
  – Add to the Government of Canada API Store
• Add NPRI data to the Open Science and Data Platform
• Explore data visualisation tools
• Explore tools and formats for data linkages
THANK YOU!

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SUPPLEMENTARY INFORMATION
DATA QUALITY MANAGEMENT ACTIVITIES

• **Relevance:** data meets the needs of users
  – Stakeholder and data user consultations
  – Review of the NPRI substances list
  – Website analytics to inform web development

• **Accuracy & Reliability:** data describes what it measures and can be combined confidently with other information
  – Annual quality control process (e.g. sectoral engagement)
  – Reporting tools (e.g., guide, toolbox, questions and answers)

• **Completeness:** expected data are described
  – Sector and substance coverage analysis
  – Compliance promotion

• **Understandability:** supplementary information and metadata are available
  – Contextual information
  – Frequently asked questions
  – Guide for using and interpreting NPRI data

• **Accessibility:** data is made available in a number of formats
  – Formats such as online data search, downloadable datasets and map layers

• **Timeliness:** data is published on schedule
  – Annual publication of NPRI data (i.e. preliminary and reviewed data)
OPEN DATA

• Open Data is defined as structured data that is machine-readable, freely shared, used and built on without restrictions.

• Canada’s Open Data Principles

- Completeness
- Primacy
- Timeliness
- Ease of Physical and Electronic Access
- Machine Readability
- Non-discrimination
- Use of Commonly Owned Standards
- Licensing
- Permanence
- Usage Costs
Single year data tables by facility – releases, transfers and dispositions

Description
The National Pollutant Release Inventory (NPRI) is Canada’s public inventory of pollutant releases (to air, water and land), disposals and transfers for recycling.

Each file contains facility-reported data listed by facility and substance for a given year. Data are presented in a table and can be filtered.

Please consult the following resources to enhance your analysis:

Data Resources

Dataset
- NPRI-INRP_DataDonnees_2018.xlsx
- NPRI-INRP_DataDonnees_2018.csv
- NPRI-INRP_DataDonnees_2017.xlsx
- NPRI-INRP_DataDonnees_2017.csv
- NPRI-INRP_DataDonnees_2016.xlsx
- NPRI-INRP_DataDonnees_2016.csv

Geographic Extent
-141.41.68, -52.62 23.11

Geographic Scope
National (CA)

Time Period
2015-01-01 - 2018-12-31

Function
Assess, Identify, Manage and Monitor for Environmental Protection of Hazardous Substances and Waste

Data Classification

Theme

GC Core Subject Theauras
Pollution, Pollution prevention, Environmental programs

Topic category
Environment

Information Category
Pollution and Waste, Air, Water, Air - Quality, Water - Quantity