Government of Canada
Metadata Implementation Guide
for Web Resources

3rd edition – July 2004

Prepared by the
Ad Hoc Committee of Federal Metadata Experts
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Council of Federal Libraries

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This Guide is a project of the Council of Federal Libraries' Metadata Action Team. The Guide draws on the expertise of metadata practitioners in several disciplines and government departments who pooled their thoughts on the issues and best practices involved in the implementation of Treasury Board CLF (Common Look and Feel) for the Internet, Navigation and Format, Standard 6.3 (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp) and TBITS 39: Treasury Board Information Management Standard (http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit39_e.asp). The practitioners' expertise, time and commitment were invaluable in the creation of this document.

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Additions and Changes since the Last Edition

Adjustments to text and examples are based on new developments and on feedback from users of earlier editions.

- A new section entitled *Government of Canada Metadata Framework* has been added to Chapter 1.
- A new diagram of metadata in a practical context has been added to Chapter 1.
- The second edition's *Chapter 4, Specific Metadata Elements—Considerations* no longer exists. Material from this chapter has been merged with this edition's *Chapter 2, Guidance for Metadata Developers*.
- New sections have been added to *Chapter 2, Guidance for Metadata Developers*, including a section entitled *Expressing Dublin Core Metadata Elements.*
- Separate chapters have been created for required Common Look and Feel elements (Chapter 3) and optional elements (Chapter 4).
- Interpretation of the <dc.creator> element (Chapter 3) has been expanded to include non-GoC organizations.
- The sections on values for <dc.date> and <dc.title> (Chapter 3) have been revised.
- The meaning of "optional elements" has been clarified (Chapter 4).
- The section on guidance for <dc.description> has been revised (Chapter 4).
- Guidance for new optional elements <dc.audience> and <dc.format> has been added (Chapter 4).
- Information on Government of Canada constraints on Dublin Core element definitions has been added, where applicable (Chapters 3 and 4).
- A chart of metadata elements and their characteristics has been added (Appendix A).
- *Chapter 3, Guidance for Managers*, from the second edition of the Guide has been replaced by *Appendix B*, a checklist of important considerations for the management of metadata.
- References to the "National Library of Canada" have been changed to "Library and Archives Canada".
- Information on the Library and Archives Canada registry of authorized vocabularies has been added to applicable sections throughout the Guide.
- Page numbering has been added for the print version of this document.

Chapter 1: Introduction

In the year 2000, the Treasury Board of Canada issued a government-wide directive making it mandatory for federal government Web sites to include descriptive metadata, structured information about the content of Web-based resources. A Web resource is defined as a single Web page, a document (consisting of multiple Web pages), a digitized image, a sound file, or an animation such as a movie.

The metadata requirements are stated in CLF (Common Look and Feel) for the Internet, Standard 6.3 (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp). The official deadline for implementing this standard for external Web sites was December 31, 2002. The metadata requirements are still in effect.

The purpose of the *Government of Canada Metadata Implementation Guide for Web Resources* is to assist those responsible for implementing CLF Standard 6.3 and undertaking the ongoing maintenance of the metadata mandated by it. Like the first and second editions of the *Metadata Implementation Guide* (published in September 2002 and May 2003, respectively), this third edition was written by an ad hoc group of federal metadata experts and was facilitated by the Metadata Action Team of the Council of Federal Libraries.

Chapter 1, the introduction to this edition, explains what metadata is and why it is important. It sets out the metadata elements that Government of Canada (GoC) Web sites are expected to carry in order to comply with CLF Standard 6.3.

Chapters 2, 3, and 4 are for metadata developers. They offer practical assistance to those responsible for creating metadata content for federal government Web resources in accordance with GoC metadata standards. These chapters explain the tasks to be performed, demonstrate how the required information should be created, and direct users to other resources. They also provide instructions on how and where to insert required source code into a Web document.

The appendices to this Guide contain a chart of Dublin Core metadata elements in use in the Government of Canada, a list of key considerations for metadata managers responsible for developing metadata management policy and for meeting GoC metadata standards in their departments or agencies, options for linking metadata to Web pages, and sample source code.

Comments on the Guide and suggestions for improvements are welcome and should be directed to the Council of Federal Libraries (cfl-cbgf@lac-bac.gc.ca).

The *Metadata Implementation Guide* will be updated with new information as often as is necessary. For information on the status of updates, contact the Council of Federal Libraries (cfl-cbgf@lac-bac.gc.ca).

1.1 The Government of Canada Metadata Framework

The Government of Canada Metadata Framework (http://www.cio-dpi.gc.ca/im-gi/meta/frame-cadre_e.asp) establishes a strategy for the development of metadata within the Government of Canada (GoC).

The GoC has adopted the Dublin Core metadata standard. This standard was created and is maintained by the Dublin Core Metadata Initiative (http://dublincore.org). The Framework shows the relationship between the Dublin Core standard and other extensions for specific subject domains or purposes (i.e. records management, portal content management, and domain-specific metadata such as e-learning).

The five mandatory Common Look and Feel metadata elements (creator, date, language, subject and title) constitute the base of the Framework. These elements are expressed using the Dublin Core grammar and must be used by GoC departments and agencies to describe their Web resources.

The Framework is under revision and will be included in its new form in the upcoming GoC Metadata Strategy.

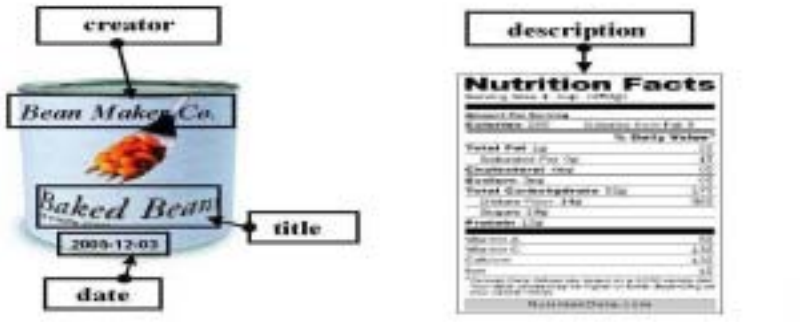
1.2 What is Metadata?

Metadata is structured information about the characteristics of a physical or digital object. Metadata serves the same function as a label. Just like other labels, metadata provides information about an object.

For example, an unlabelled, sealed tin can could contain motor oil, baked beans or cat food. The only way to ascertain its contents is to open it. A label, however, would describe what is inside the can and would permit an informed decision about whether to buy and/or open it.

A typical label for a tin can of baked beans might consist of the following information:

title:	Baked Beans
creator:	Bean Maker Co.
ingredients:	baked beans, distilled water, salt, ascorbic acid
date of manufacture:	2005-12-03



The label could also contain additional information, from allergy alerts to a toll-free number for consumers. Some jurisdictions, including Canada, require food processors to include a certain amount of mandatory information on their product labels or packaging. In addition, Canadian regulations require that the information be expressed in both of Canada's official languages.

The GoC's metadata standards are analogous to Canadian product labelling regulations: they require that federal government Web pages contain certain mandatory information (i.e. the metadata), expressed in a certain way (i.e. a standard).

Such information facilitates resource discovery in the same way that supermarket signage facilitates locating products or that library catalogues provide paths to required information. Metadata is used by search engines to improve matching between user queries and descriptions of resources indexed by the engine.

1.3 Why Does It Matter?

Good metadata helps people find the information they are looking for. Searching through unstructured text (i.e. performing a full-text search) or using uncontrolled terminology (i.e. keywords) may yield tens of thousands of results, the majority of which are usually irrelevant to the searcher. The structure of metadata records allows searching for terms in discrete elements (e.g. title, subject). Search results are therefore fewer and more focused.

Quality control and consistency are important. If a Web resource lacks essential metadata, or if the metadata is inaccurate or incorrect, search results will be negatively affected.

In the GoC context, metadata serves three separate but interrelated functions simultaneously:

- *Direct resource discovery by Canadians, a primary goal of the Government On-Line Initiative*.
  Web crawlers and indexes in departments and agencies, at the Canada Site, and at other government information aggregation services are being configured to use metadata to create searchable central indexes of department and agency Web resources.
- *Information sharing and exchange between federal organizations and their partners*.
  Metadata is increasingly being used by clusters and gateways to identify appropriate content.
- *The internal information management needs of federal organizations*.

1.4 Why a Common Standard?

Adopting a single metadata standard ensures that metadata on federal government Web sites will be coordinated and client-focused. In the context of the GoC, a single standard makes it possible for Canadian citizens and federal employees to search the GoC domain for Web information without needing to know which government department or agency produced it.

A common standard also makes it possible for systems to communicate the existence and characteristics of electronic information resources to other electronic applications or search tools. A standard also permits efficient migration of information from one application or search system to another. The ability of systems to communicate with other applications, search tools, systems, etc., is known as "interoperability".

1.5. Government of Canada Metadata Standards

1.5.1 Mandatory Dublin Core Elements

In CLF 6.3 (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp), Treasury Board mandates five elements for description of GoC Web resources. These five mandatory elements are **Title**, **Creator**, **Date**, **Language** and **Subject**.

In TBITS 39.1 (http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit391_e.asp), Treasury Board adopted the international Dublin Core metadata standard for use in the GoC. Of the sixteen Dublin Core metadata elements, the five required by Common Look and Feel are mandatory; the rest are optional.

The five mandatory elements are intended only as a starting point for federal organizations using metadata as part of their information management strategy. Expanding the metadata element set beyond the mandatory five to include such elements as Coverage, Description, and Type is encouraged, as is the use of local elements, provided that evolving guidance from the GoC and the Treasury Board Secretariat is followed. Canadians will benefit from improved resource discovery, and Web site managers will benefit from the improved information management capabilities provided by use of additional metadata elements in resource descriptions.

The five mandatory elements are briefly described below. Detailed guidance for each element is found in Chapter 3, Common Look and Feel Required Elements, and in *Common Look and Feel Metadata Standard Definitions and HTML Examples* (http://www.cio-dpi.gc.ca/im-gi/meta/clf-nsi-meta/clf-nsi-meta_e.asp).

Title

"Title" specifies the title given to a resource. When a title is ambiguous or unclear, an enhanced title may be developed.

Creator

"Creator" specifies the name of the organization(s) responsible for creating and maintaining the resource. Depending on local convention, this name may include an organizational hierarchy that includes the responsible unit.

Date

"Date" specifies one of two dates. The first, date created, identifies the date the resource was first posted on the Web. This element is mandatory. The second, date modified, identifies the date a substantially revised version of the resource was posted on the Web. This element is mandatory only when applicable.

Language

"Language" indicates the language of the resource.

Subject

"Subject" contains one or more words or phrases (descriptors) selected from an authorized controlled vocabulary to describe the subject of the intellectual content of the resource.

Inclusion of descriptors from a controlled vocabulary ensures that documents are indexed and can be searched using consistent terminology (e.g. everything about aircraft, airplanes or planes will be grouped together using one "preferred" term, such as "aircraft").

Under TBITS 39.2 (http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit392_e.asp), Treasury Board has mandated the *Government of Canada Core Subject Thesaurus* (http://www.thesaurus.gc.ca/) as the default controlled vocabulary to describe the subject(s) of GoC Web resources. "Default" implies that if no other registered vocabulary is available, the *Government of Canada Core Subject Thesaurus* must be used. This thesaurus was developed and is maintained by the Depository Services Program, Communication Canada specifically to provide subject access to Canadian government information.

Departments and agencies are urged to use *Government of Canada Core Subject Thesaurus* descriptors in the subject metadata element for metatagged information resources. Using these descriptors will enhance the interoperability of departmental information resources on GoC Web portals.

1.5.2 Optional Dublin Core Elements

Five optional Dublin Core metadata elements (**Audience**, **Coverage**, **Description**, **Format**, **Type**) are briefly described below. Detailed guidance is found in Chapter 4, Optional Elements.

Audience

"Audience" indicates for whom the resource is intended or useful. Values must be chosen from a registered controlled vocabulary.

Coverage

"Coverage" indicates the extent or scope of the content of the resource. In the GoC, coverage has been defined only in relation to geographic location. Values must be chosen from a registered controlled vocabulary.

Description

"Description" gives a natural language account of the content of the resource.

Format

"Format" describes the physical or digital manifestation of a Web resource. Values must be chosen from a registered controlled vocabulary.

Type

"Type" indicates the nature or genre of the content of the resource. Values must be chosen from a registered controlled vocabulary.

1.5.3 HTML Elements

Because most commercial search engines are not configured to read and use Dublin Core metadata elements as adopted by the GoC, it is highly recommended that in addition to the mandatory Dublin Core metadata elements, the HTML metatags <description> and <keywords> be included in Web resource descriptions:

```
<title>Insert title text here</title>
<meta name="description" content="Insert description text here">
<meta name="keywords" content="Insert keywords here">
```

Note that the *HTML 4.01 Specification* (www.w3.org/TR/html401) mandates that every HTML document must have a title element.

For more information, consult the Best Practices section of *Common Look and Feel - Navigation and Format Standards and Guidelines* (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp#bp6-3).

The HTML <title> tag and the Dublin Core metatag <dc.title> should have the same content. However, departments have considerable latitude in selecting the content for the HTML metatags <description> and <keywords>.

The HTML <description> metatag is a short, plain language résumé of the intellectual content of the resource. Some search engines display this description in search results. Users can review this information to determine which items in the search results most closely match their needs. If no <description> metatag is included in the resource, a search engine may display the first words that appear on the Web page (often the text of navigation links).

The HTML <keywords> metatag contains additional words or phrases to serve as access points for search engines. This metatag may be useful in the context of local information management systems. Keyword values are usually natural language terms that are not part of a controlled vocabulary. Whether and how keywords are used depends on local metadata access policies and search engine configuration.

1.6 Staying on Top of GoC Metadata Policies and Developments

For the most up-to-date information, visit the Information Management Resource Centre (http://www.cio-dpi.gc.ca/im-gi) and follow the link to the metadata page. The Information Management Resource Centre is a single-window source to information on GoC metadata development.

1.7 Further Assistance for Metadata Managers

Metadata managers are invited to seek further information from their organization's representative on the Government On-Line Metadata Working Group (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/intro_e.asp).

If department or agency is not represented on the Working Group, metadata managers should contact the Information Management Division, Treasury Board Secretariat for advice on securing appropriate representation (im-gi@tbs-sct.gc.ca). The Council of Federal Libraries can also provide assistance (cfl-cbgf@lac-bac.gc.ca).

See also Appendix B, Key Considerations for Metadata Managers, in this document.

Chapter 2: Guidance for Metadata Developers

2.1 General Guidance

Common Look and Feel Standard 6.3 (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp) requires five metadata elements for describing Web resources: Title, Creator, Date, Language and Subject. However, a given department or agency may require a larger element set which may include optional Dublin Core elements, elements from other metadata standards, and/or locally-defined elements.

Tools and procedures used to populate these elements will be determined by policies established by the department or agency and by the information system(s) used.

Although metadata information may be input using an electronic form, metadata embedded on an HTML page will look like this:

```
<link rel="schema.dc" href="http://purl.org/dc/elements/1.1/">
<meta name="dc.title" content="xyz">
<meta name="dc.creator" content="xyz">
<meta name="dc.date.created" content="xyz">
<meta name="dc.date.modified" content="xyz">
<meta name="dc.language" scheme="ISO639-2" content="xyz">
<meta name="dc.subject" scheme="gccore" content="xyz">
```

where *xyz* represents the metadata value.

The preceding template is the same for all Web pages whether pages are in English only, in French only, in both official languages, or in any combination of English, French and any other language.

When a Web page contains text in more than one language, the Title, Creator, Language and Subject elements are repeated to show separate elements for content in each language. It is unnecessary to repeat the Date element as the content is a numeric value.

For some elements (Subject, Audience, Coverage, Format and Type), content must be selected from authorized lists of values. The lists from which values can be selected are available on the *Canadian Government-maintained Controlled Vocabularies and Thesauri* Web page (http://www.collectionscanada.ca/8/4/r4-281-e.html), maintained by Library and Archives Canada.

2.2 Guidance Applicable to All Metadata Elements

2.2.1 Metadata Element Structure

Metadata elements must always appear as they are shown in the examples.

Follow the examples as to the use of upper and lower case, quotation marks and angle brackets.

2.2.2 Expressing Dublin Core Metadata Elements

Metadata can be expressed in different ways. The GoC uses HTML, XHTML or XML. When expressed using HTML or XHTML syntax, metadata elements can be embedded in the Web resources or they can reside in an external file. XML syntax generally requires that metadata be held in an external file.

Note that while XML and XHTML are in use in the GoC, there is as of yet no official GoC guidance on the use of these mark-up languages. This edition of the *Government of Canada Metadata Implementation Guide for Web Resources* provides only HTML examples. Future editions will have more guidance on the use of XML and XHTML.

Departments and agencies seeking information on XML and XHTML should consult their organization's representative on the Government On-Line Metadata Working Group (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/intro_e.asp). More information can also be found in the following documents:

> *Guidelines for implementing Dublin Core in XML* (http://dublincore.org/documents/dc-xml-guidelines)
> *Expressing Dublin Core in HTML/XHTML meta and link elements* (http://dublincore.org/documents/dcq-html/)

2.2.3 Syntax

In the context of these guidelines, syntax refers to the rules for the construction of metadata elements.

The basic HTML metadata element pattern is:

```
<meta name="abc" content="xyz">
```

where *abc* is the element name value (e.g. "dc.title") and *xyz* is the information pertaining to the element (e.g. the title of a resource).

When the metadata element requires the use of a scheme the pattern is:

```
<meta name="abc" scheme="def" content="xyz">
```

where *abc* is the element name value (e.g. "dc.subject"), *def* is the label of a recognized scheme (e.g. "gccore" in the case of the *Government of Canada Core Subject Thesaurus*), and *xyz* is the information pertaining to the element (e.g. the terms selected from the controlled vocabulary or scheme). If content from more than one scheme is used, the element must be repeated for each scheme.

In HTML, all parts of the metatag (except the values in the `content=` attribute) must appear exactly as shown in the examples in this Guide. Although the syntax appears to be in English, it

is actually machine-readable code that should never be translated. Values appearing in the `content=` attribute will be in English or French, depending on the language of the resource.

An example of a correct HTML syntax for a French resource is:

```
<meta name="dc.title" content="Quoi de neuf">
```

not:

```
<meta nom="dc.titre" contenu="Quoi de neuf">
```

2.2.4 Use of the Reference Statement

The following statement is necessary for machine validation of the Dublin Core schema and must appear once in the <head> of every Web resource:

```
<link rel="schema.dc" href="http://purl.org/dc/elements/1.1/">
```

When the audience element is used, a second instance of the <link rel> element must be specified:

```
<link rel="schema.dcterms" href="http://purl.org/dc/terms/">
```

For further information on the technical aspects of expressing Dublin Core, consult:

Encoding Dublin Core in HTML (http://www.ietf.org/rfc/rfc2731.txt).
Expressing Dublin Core in HTML/XHTML meta and link elements (http://dublincore.org/documents/dcq-html/).

2.2.5 Use of Upper and Lower Case

Dublin Core expressed in HTML (e.g. <meta name="dc.title">) is always in lower case.

Content may contain any alphanumeric characters (e.g. upper and lower case, numbers and symbols). However, terms selected from authorized controlled vocabularies must be exactly as they appear in the controlled vocabulary being used, including case and punctuation.

2.2.6 Proper Use of Schemes

Schemes are authorized lists of values from which content for metadata tags may be selected.

Library and Archives Canada maintains a registry of authorized schemes at http://www.collectionscanada.ca/8/4/r4-281-e.html. Authorized vocabularies are available for Audience, Coverage, Subject, and Type.

Instructions on how to register a controlled vocabulary or thesaurus with Library and Archives Canada may be found at http://www.collectionscanada.ca/8/4/r4-293-e.html.

Values from a scheme uniquely identified for use with one element may not be used as the content for another element. For example, it would be incorrect to use a term from the *Government of Canada Core Subject Thesaurus* (the default scheme for use in <dc.subject>) in the Coverage element. Only values from schemes registered for use inCoverage should be used as content for that element.

Because schemes are linked to their elements, misuse would have a negative impact on the reliability of search results and defeat the purpose of using metadata.

See the list of elements in Appendix A for information on the scheme associated with them.

2.2.7 Accented characters

As is the case with Web document content in general, metadata content can include accented characters (e.g. "é") or character entity equivalents (e.g. "é"). Although using the character entity equivalent provides an extra measure of assurance that the accented character will be widely decipherable, using the accented character itself is usually sufficient since most modern browsers and search engines interpret and display the ISO Latin-1 Character Set.

Accented characters or character entity equivalents should be applied consistently across Web sites.

2.2.8 Description vs. Evaluation

Metadata is used to describe resource content, not to evaluate or comment on that content. It is inappropriate to include editorial comments in metadata.

2.2.9 Uniqueness of Metadata Tagging

Every Web resource should have its own unique set of metadata tags reflecting the content of that resource. No two Web resources should contain exactly the same metadata.

2.2.10 Populating the Content Value

The content attribute of any metatag (<content="xyz">) must have a value; it cannot be left blank. Mandatory metadata elements (Title, Creator, Subject, Language, Date) must have content. For optional elements, if a resource does not require an optional element, that element should be omitted from the metadata entirely.

2.2.11 Order of the Elements

There is no prescribed order for the elements in a metadata record.

2.2.12 Repeatability

With the exception of <dc.date.created>, all elements are repeatable.

2.2.13 Updating Metadata as Resource Content Changes

The metadata for a resource is a reflection of the content of the resource. Whenever resource content changes, metadata developers must ensure that metadata still reflects the content accurately.

Chapter 3: Common Look and Feel Required Elements

All element definitions are taken verbatim from the *Dublin Core Metadata Element Set, Version 1.1: Reference Description* (http://dublincore.org/documents/2003/06/02/dces/).

3.1 Creator

3.1.1 Definition

An entity primarily responsible for making the content of the resource.

3.1.1.1 Government of Canada Constraint

At a minimum, the Creator element should include the government department or agency responsible for the content of the information resource. The Creator element may be repeated to include names of non-GoC organizations that also have responsibility for content of GoC resources. This element is not intended for personal names.

3.1.2 Usage

The Creator element is expressed in the form:

```
<meta name="dc.creator" content="abc">
```

where *abc* is the name of the responsible department, agency or non-GoC organization.

3.1.3 Guidance

All departmental or agency names must begin with "Government of Canada" followed by the departmental or agency name (e.g. Government of Canada, Natural Resources Canada).

For English- or French-only Web resources, use:

```
<meta name="dc.creator" content="Government of Canada, ddd">
```

where *ddd* represents EITHER the name of the department or agency (preceded by "Government of Canada") OR the full bureaucratic hierarchy of the responsible organizational unit.

Every responsible organization must be specified. The Creator element may be repeated when more than one department or agency is responsible for the information resource and when one or more non-GoC organization (e.g. provincial, territorial or municipal government departments, private sector businesses, not-for-profit groups) is responsible for the resource.

On bilingual pages, repeat the element for the creator name in English and in French.

Guidelines for this element are being revised. Revisions will be incorporated into future editions of this Guide.

3.1.4 Values

Local metadata policies and operational requirements will determine how <dc.creator> is applied. Some departments and agencies may need to express a full bureaucratic hierarchy, beginning with the major organizational division and ending with the name of the entity responsible for creating the Web resource.

3.1.4.1 Authorized sources of terminology

In order to ensure successful retrieval of Web resources, it is important that the form of name of the originating department or agency be identical in all metadata records. Authorized sources for organizational names must be used.

For GoC departmental/agency names, the current form of name can be found in the Treasury Board of Canada Secretariat *Titles of Federal Organizations* (http://www.tbs-sct.gc.ca/pubs_pol/sipubs/tb_fip/titlesoffedorg_e.asp). This information is also available in French as *Titres des organismes fédéraux* (http://www.tbs-sct.gc.ca/pubs_pol/sipubs/tb_fip/titlesoffedorg_f.asp).

The form of name of Government of Canada organizational divisions and sub-divisions can be found in Government Electronic Directory Services (http://direct.srv.gc.ca/cgi-bin/direct500/BE).

Guidance on ensuring consistency in naming non-GoC organizations is not yet available.

3.1.4.2 Abbreviations, Acronyms and Initialisms

Abbreviations for organizational components must not be used (e.g. "Atomic Energy of Canada Limited" should be used, not "AECL").

3.1.4.3 Changes of name

For newly posted content, the current form of creator name for a department or agency must be used. However, the creator name assigned to static and unchanging resources such as annual reports and other legacy documents should not be changed even when the name of the authoring organization has changed. Such resources were created by the organization under its name at the time of publication; metadata should not be updated to reflect subsequent name changes.

3.1.4.4 Punctuation

Levels in an organizational hierarchy should be separated with a comma (","), a period ("."), or a semi-colon (";"). Punctuation should be used consistently according to guidelines established by the department or agency.

3.1.5 Other Considerations

3.1.5.1 Organizational Hierarchies

Local metadata policy should include guidance on the level of organizational detail to be used when expressing <dc.creator>.

While use of the departmental or agency name alone is acceptable practice and is usually sufficient, the addition of organizational levels could be helpful or necessary. For example, lower levels in the organizational hierarchy should be included when a major organization is part of a larger department or agency and would not appear in <dc.creator> at all if the parent organization alone were used.

For example, the Geological Survey of Canada is part of Natural Resources Canada and would not appear in <dc.creator> if "Government of Canada, Natural Resources Canada" alone were used. The following hierarchical structure includes the Geological Survey and shows hierarchical relationship to the parent organization.

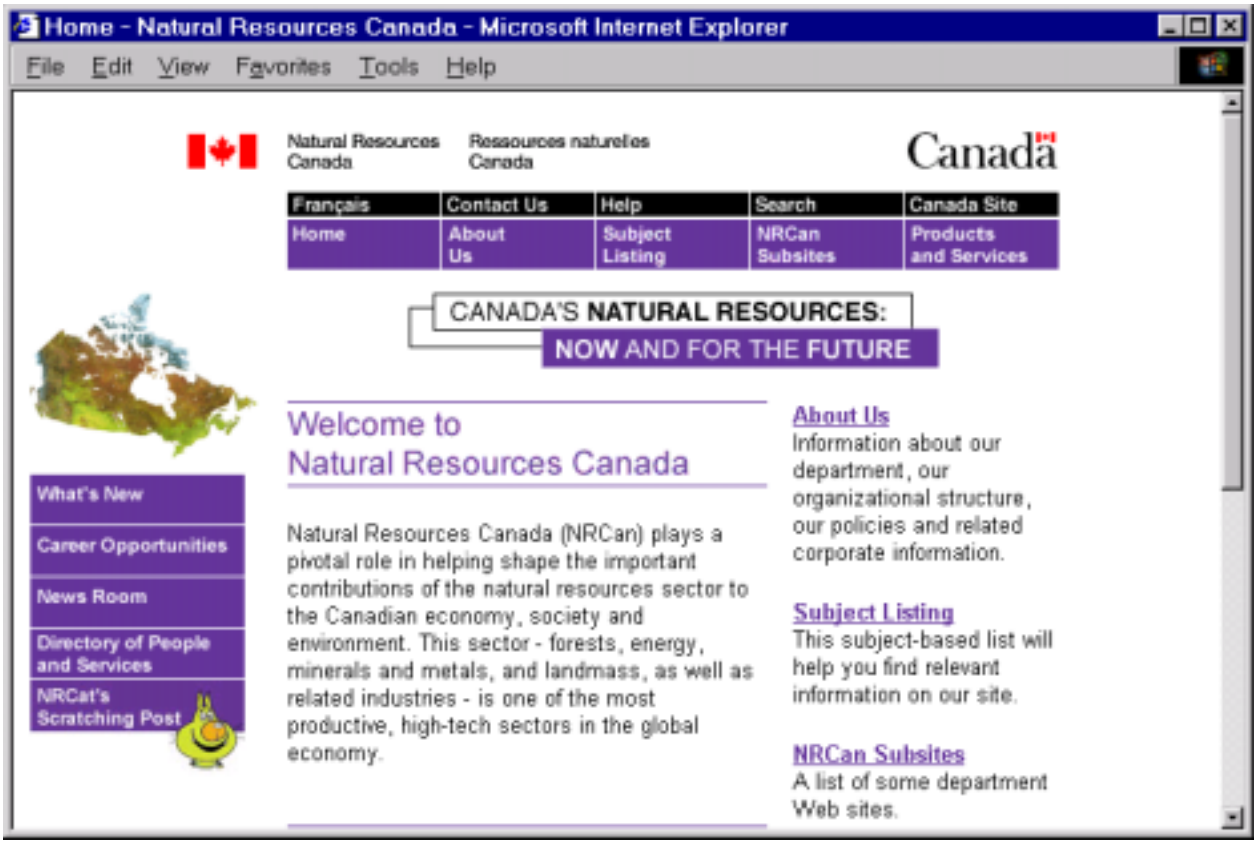
```
<meta name="dc.creator" content="Government of Canada, Natural
Resources Canada, Earth Sciences Sector, Geological Survey of
Canada">
```

3.1.5.2 Metadata Templates

Because the same content for the creator element will recur in the metadata for many different Web resources, local implementations may pre-fill this field as appropriate.

3.1.6 Examples

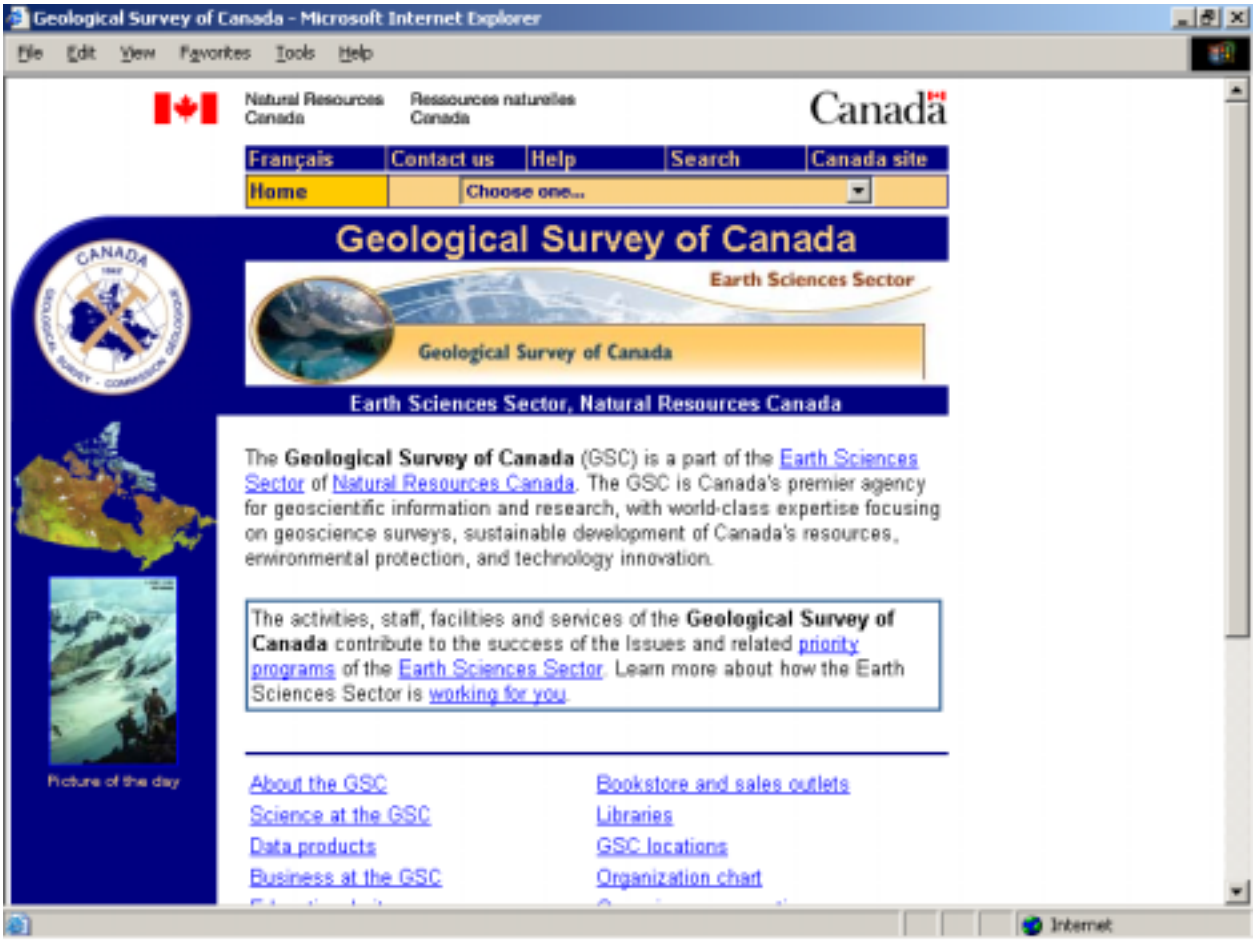
3.1.6.1 For a resource in English



The content of <dc.creator> is" Government of Canada, Natural Resources Canada".

Expressed in HTML as:

```
<meta name="dc.creator" content="Government of Canada, Natural
Resources Canada">
```



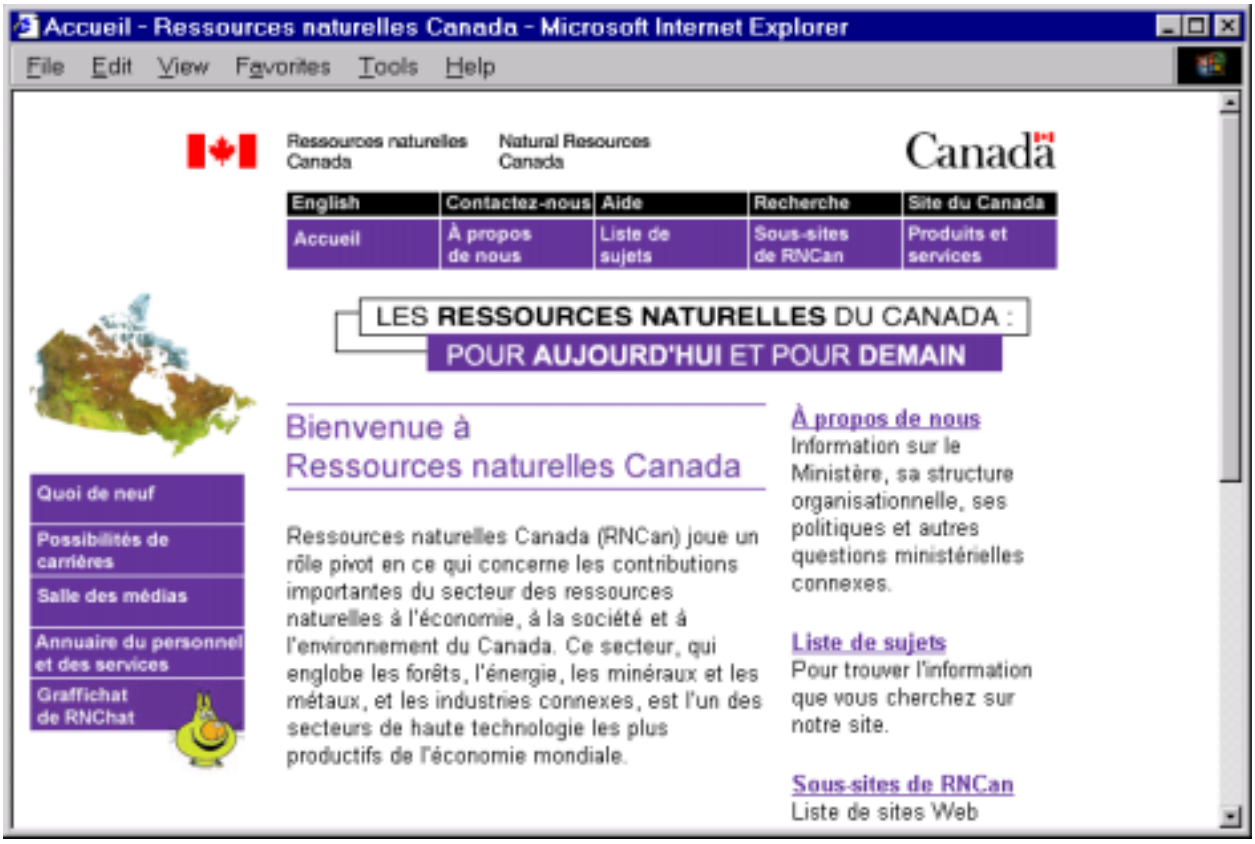
The responsible entity is the Geological Survey of Canada, a subdivision of Natural Resources Canada.

The content of <dc.creator> is "Government of Canada, Natural Resources Canada, Earth Sciences Sector, Geological Survey of Canada". This text represents the full bureaucratic hierarchy of the unit responsible for the page. The full hierarchy is applied because some Web users may believe the Geological Survey of Canada to be an independent entity.

Expressed in HTML as:

```
<meta name="dc.creator" content="Government of Canada, Natural
Resources Canada, Earth Sciences Sector, Geological Survey of
Canada">
```

3.1.6.2 For a resource in French

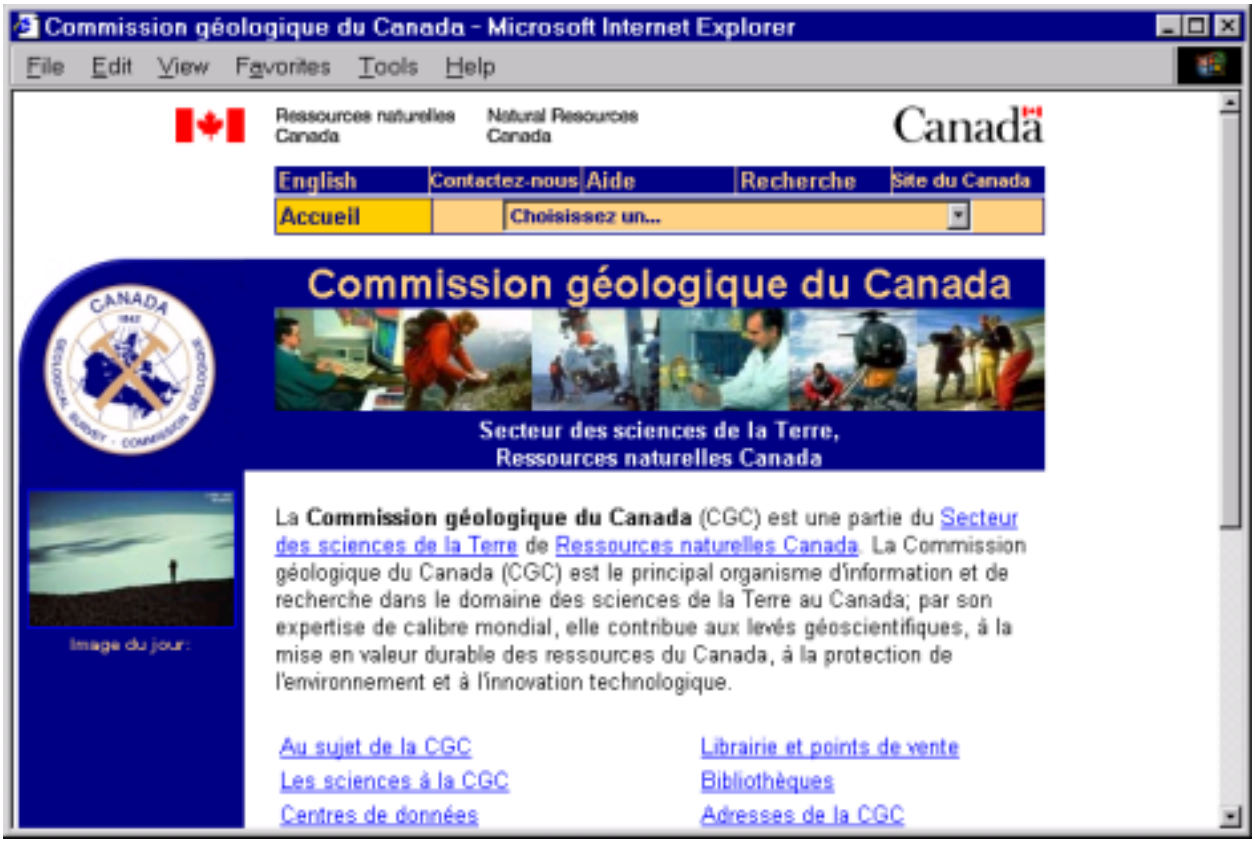


The responsible entity is Ressources naturelles Canada.

The content of <dc.creator> is "Gouvernement du Canada, Ressources naturelles Canada".

Expressed in HTML as:

```
<meta name="dc.creator" content="Gouvernement du Canada,
Ressources naturelles Canada">
```



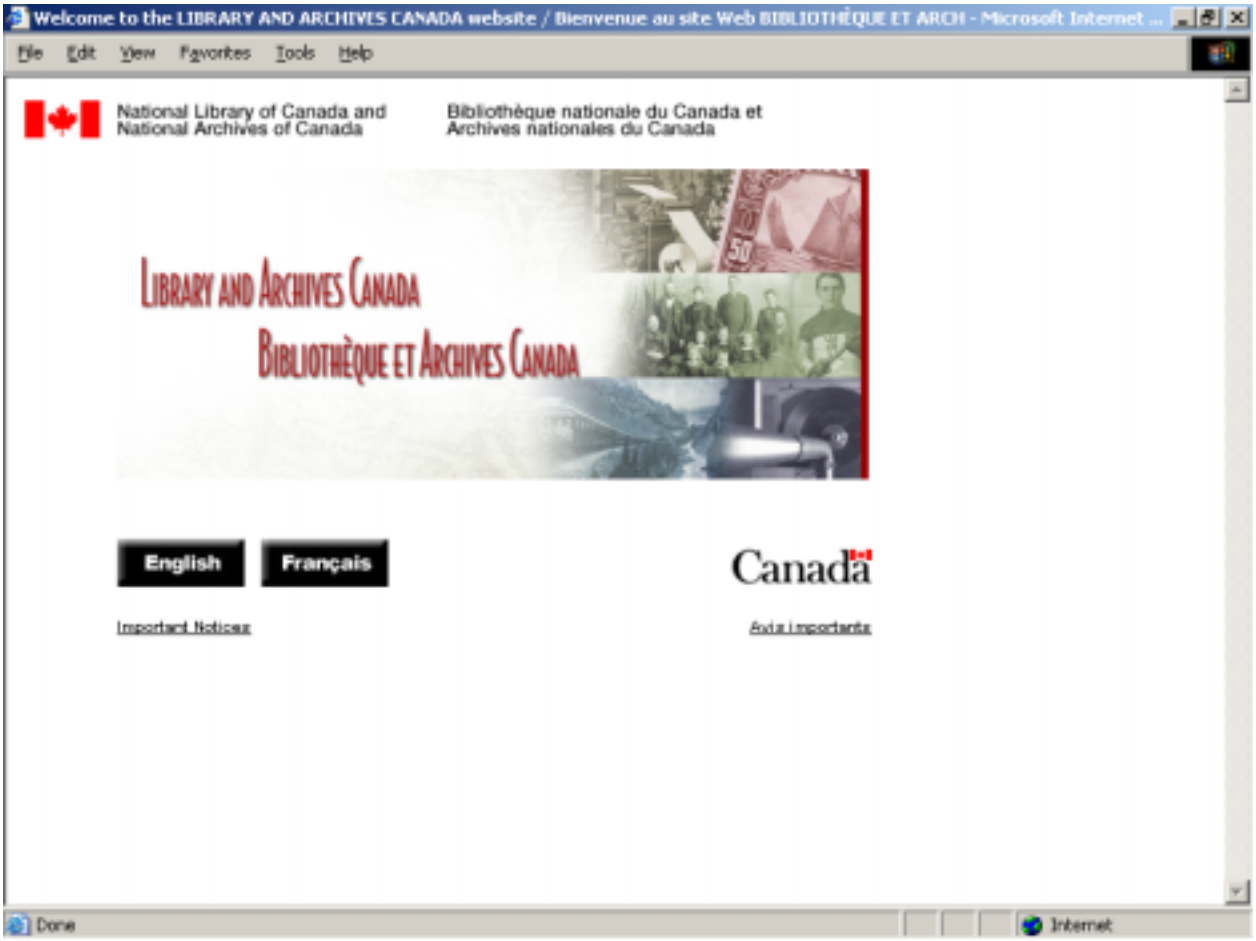
The responsible entity is the Commission géologique du Canada, a subdivision of Ressources naturelles Canada.

The content of <dc.creator> is "Gouvernement du Canada, Ressources naturelles Canada, Secteur des sciences de la Terre, Commission géologique du Canada". This text represents the full bureaucratic hierarchy of the unit responsible for the page. The full hierarchy is applied because some Web users may believe the Geological Survey of Canada to be an independent entity.

Expressed in HTML as:

```
<meta name="dc.creator" content="Gouvernement du Canada,
Ressources naturelles Canada, Secteur des sciences de la Terre,
Commission géologique du Canada">
```

3.1.6.3 For a bilingual Web resource



The content of <dc.creator> is BOTH "Library and Archives Canada" AND "Bibliothèque et Archives Canada". On bilingual pages, repeat the element for the creator name in English and the creator name in French.

Expressed in HTML as:

```
<meta name="dc.creator" content="Government of Canada, Library
and Archives Canada">
<meta name="dc.creator" content="Gouvernement du Canada,
Bibliothèque et Archives Canada">
```

3.2 Date

3.2.1 Definition

A date associated with an event in the life cycle of the resource.

3.2.1.1 Government of Canada Constraint

Date is considered to be the date a resource is posted on the Web. It does not refer to the date(s) relating to the content of the resource (e.g., the date the resource's content was created or the period during which time resource's content is valid).

3.2.2 Usage

Two date-related metadata element refinements are required for Web resources: created and modified.

<dc.date.created> expresses the date the resource was first posted on the Web.

<dc.date.modified> expresses the most recent date a substantially revised version of the resource was re-posted on the Web. The metatag <dc.date.modified> is mandatory only when such a revision has been posted; otherwise, it is not used at all.

The <dc.date.created> element is expressed in the form:

```
<meta name="dc.date.created" content="abc">
```

where *abc* is the date the resource was first posted on the Web, in the form YYYY-MM-DD, the World Wide Web Consortium Date and Time Format (http://www.w3.org/TR/NOTE-datetime). <dc.date.modified> is expressed in the same way.

3.2.3 Guidance

The Date element may not be used for dynamic Web resources (e.g. Web pages that are generated dynamically from a database).

For static Web resources,

a) use <dc.date.created> to reflect the date the resource is first posted on the Web; and
b) add <dc.date.modified> to reflect the date the resource is re-posted on the Web after its intellectual content has been substantially changed.

These rules apply whether the Web resource is English, French or bilingual.

3.2.4 Values

The Date element is expressed as YYYY-MM-DD, where YYYY is the year, MM is the month of the year between 01 (January) and 12 (December), and DD is the day of the month between 01 and 31.

If only the year and month are known, enter "01" for the day, e.g. 2003-04-01.

If only the year is known, enter "01" for both the month and the day, e.g. 2003-01-01.

Since automated information retrieval systems retrieve on all eight digits of the international date, constructing dates in this manner will ensure the ability of systems to search and retrieve on either month and year, or year only.

The <dc.date.created> value never changes.

3.2.5 Other Considerations

<dc.date.modified> must be used in conjunction with <dc.date.created>. It cannot exist without <dc.date.created>.

The date used in the content of <dc.date.created> cannot be earlier than or equal to the content for <dc.date.modified>.

The content value of <dc.date.created> and <dc.date.modified> cannot be left blank. If the date of original posting is not known, follow the department or agency's procedures for assigning an appropriate value.

3.2.6 Examples

For a Web resource first posted on May 6, 2003 and last substantially modified on December 20, 2004:

On the original posting date, the content of <dc.date.created> is the date of posting:

```
<meta name="dc.date.created" content="2003-05-06">
```

Any time after that date when punctuation or typographical errors are corrected and the resource is re-posted, the <dc.date.created> value is not changed:

```
<meta name="dc.date.created" content="2003-05-06">
```

When the resource is re-posted with intellectual content substantially changed, <dc.date.modified> is added to the metadata. <dc.date.modified> reflects the date of posting of the changed version. <dc.date.created> is not changed:

```
<meta name="dc.date.created" content="2003-05-06">
<meta name="dc.date.modified" content="2004-12-20">
```

3.3 Language

3.3.1 Definition

The language of the intellectual content of the resource.

3.3.1.1 Government of Canada Constraint

The ISO639-2 language encoding scheme must be used.

3.3.2 Usage

The Language element is expressed in the form:

```
<meta name="dc.language" scheme="ISO639-2" content="abc">
```

where *abc* is a language code and "ISO 639-2" refers to the language encoding scheme mandated for use in the GoC domain.

3.3.3 Guidance

If the Web resource is in one language, enter the appropriate language code.

If the resource is available in more than one language, repeat the Language element using the corresponding code for each language.

3.3.4 Values

The language codes are three-character lower-case alphabetic strings, usually based on the first three letters of the English form.

English	`eng`
French	`fre`

Codes for other languages may be found in *Codes for the Representation of Names of Languages* (http://lcweb.loc.gov/standards/iso639-2/englangn.html).

3.3.5 Examples

3.3.5.1 English-only Web resource

```
<meta name="dc.language" scheme="ISO639-2" content="eng">
```

3.3.5.2 French-only Web resource

```
<meta name="dc.language" scheme="ISO639-2" content="fre">
```

3.3.5.3 Bilingual Web resource (i.e. both English and French content)

```
<meta name="dc.language" scheme="ISO639-2" content="eng">
<meta name="dc.language" scheme="ISO639-2" content="fre">
```

3.3.5.4 Multilingual Web page (e.g. English, French and German)

```
<meta name="dc.language" scheme ="ISO639-2" content="eng">
<meta name="dc.language" scheme ="ISO639-2" content="fre">
<meta name="dc.language" scheme ="ISO639-2" content="ger">
```

3.4 Subject

3.4.1 Definition

The topic of the content of the resource.

3.4.1.1 Government of Canada Constraint

Subject terms must be selected from controlled vocabularies registered with Library and Archives Canada or recognized by the Dublin Core Metadata Initiative.

3.4.2 Usage

The Subject element is expressed in the form:

```
<meta name="dc.subject" scheme="abc" content="def">
```

where *abc* refers to an authorized controlled vocabulary, and *def* refers to one or more values chosen from that vocabulary.

3.4.3 Guidance

3.4.3.1 Considerations for selecting terms for <dc.subject>

Words or phrases used ("terms") should describe what the resource is about.

The title of the resource may not necessarily reflect the content of the resource. For example, the book "Men are from Mars, Women are from Venus" is about male-female communication, not astronomy.

User needs must be considered. Metadata developers should ask the question, "If I were searching for information using this term, would I want to retrieve this particular resource?"

Subject terms should be as specific as possible, not too broad or too narrow. Use of a broad term such as "Dairy industry" to describe a resource on a specific topic such as "milk" would mean that users searching for information on "milk" would not find the resource. Similarly, terms for individual dairy products should not be used for a resource focusing on the dairy industry as a whole, even if particular products are mentioned in the resource.

As many terms as are required should be used to describe the resource accurately. Terms that are too specific will result in only a small portion of the content of the resource being covered.

3.4.3.2 Using multiple subjects

Multiple subjects from the same scheme may be included in the content of a <dc.subject> metatag. Values should be separated by a semi-colon (";"). A semi-colon is used as a separator rather than a comma because a controlled subject term may include a comma within the term.

3.4.3.3 Using multiple vocabulary schemes

If more than one authorized controlled vocabulary is used for Subject, a separate <dc.subject> tag is required for each vocabulary. For example, terms from the e-Health Thesaurus may not be used in a metatag containing terms from the *Core Subject Thesaurus*, and vice versa.

Each subject metatag must include the scheme label assigned to the vocabulary. The labels are part of the vocabulary descriptions in the registry of controlled vocabularies at the Library and Archives Canada Web site (http://www.nlc-bnc.ca/8/4/r4-281-e.html).

3.4.3.4 Terms not appropriate for <dc.subject>

Terms from controlled vocabularies devised for the following Dublin Core elements may not be applied to <dc.subject>: <dc.audience>, <dc.coverage>, <dc.format>, <dc.type>.

3.4.4 Values

3.4.4.1 Controlled Vocabularies

A controlled vocabulary is a set of standardized words or phrases used in indexing and information retrieval. Controlled vocabularies prescribe a single term to identify a concept, thereby reducing or eliminating choice and, consequently, the use of synonyms. Examples include subject heading compendia such as *Library of Congress Subject Headings* (LCSH) and thesauri such as the *Government of Canada Core Subject Thesaurus* (CST).

Using terms from a controlled vocabulary to describe the subject or "aboutness" of Web resources facilitates access to information produced by many different creators. Using standardized terminology from one or more lists of controlled subject terms or thesauri allows searchers to find resources on the same subject consistently and efficiently.

A thesaurus is a specific type of controlled vocabulary arranged in a particular order (not necessarily alphabetical) in which equivalence (USE; USE FOR), homographic (variant spellings), hierarchical (Broader Term; Narrower Term) and associative (Related Term) relationships among terms are clearly displayed and identified by standardized relationship indicators. A thesaurus normally conforms to international standards.

Note that dictionaries, which list one or more meanings for a given term, and unstructured, alphabetized word lists such as glossaries, are NOT controlled vocabularies. They do not control synonyms.

Typically, a controlled vocabulary is designed to be used in a specific context. Prefatory material or other instructions for use should be carefully considered before a given vocabulary is adopted. For example, terminology from the *Library of Congress Subject Headings*, a standardized vocabulary used in library catalogues, is intended to be applied with sub-divisions of various kinds (form, geographic area, etc.). Thesauri may have various forms of term arrangement and display and may be pre-coordinated (entries include base terms as well as modifiers and sub-divisions) or post-coordinated (terms are not linked together semantically; one or more individual terms is used by indexers to build an overall description of the subject).

For more information on using a controlled vocabulary, consult the departmental or agency library or the FAQ section of *Implementing a Controlled Vocabulary on Government of Canada Web Sites* at the Library and Archives Canada Web site (http://www.collectionscanada.ca/8/4/r4-294-e.html).

3.4.4.2 Sources of Controlled Terminology for <dc.subject>

The principal controlled vocabulary for federal government departments and agencies is the *Government of Canada Core Subject Thesaurus* (CST) at http://www.thesaurus.gc.ca/**.** Other authorized vocabularies may be used, provided that a separate subject element is created for each vocabulary set employed.

The CST does not include specialized terminology used in specific and limited disciplines. It may be necessary to select additional terms from one or more specialized controlled vocabularies that are registered with Library and Archives Canada. Vocabularies registered with the Dublin Core Metadata Initiative (http://dublincore.org) may also be used provided that equivalent terms in both official languages are available (see Section 3.4.4.4).

If a department or agency uses one or more authorized vocabularies other than the CST, it is highly recommended that one or more CST terms be selected as content for a separate <dc.subject> tag. Doing so allows for the consistent application of subject terms that apply to multiple federal organizations.

Detailed guidance on the use of the CST is available at http://www.thesaurus.gc.ca/. For generic information on the selection of subject terms, see *Guidelines for Indexes and Related Information Retrieval Devices* by James D. Anderson (http://www.niso.org/standards/resources/tr02.pdf).

For more information on thesauri, consult the Thesauri and Controlled Vocabularies pages on the Library and Archives Canada Web site at (http://www.collectionscanada.ca/8/4/r4-280-e.html), or contact the Metadata Coordinator, Library and Archives Canada (819 994-6889; meta_coord@lac-bac.gc.ca).

3.4.4.3 If the Core Subject Thesaurus is not deemed suitable

1. Every effort should be made to use at least one term from the CST to describe GoC Web resources.
2. If the CST meets the vocabulary needs of a department or agency most of the time, but useful terms are identified which are not listed there, contact the Thesaurus Manager (see http://en.thesaurus.gc.ca/contact_e.html) to discuss how these terminological needs can be met.
3. If the CST, because of its general nature, is judged as not suitable, consult the list of Canadian Government-maintained controlled vocabularies (http://www.collectionscanada.ca/8/4/r4-281-e.html) on the Library and Archives Canada Web site to see what other vocabularies are registered for use in the GC.CA domain. This list includes information about the vocabulary label names for use in the coding of <dc.subject> scheme component, with links to the online version of the vocabularies.
   If a controlled vocabulary other than the CST is used, the scheme label for that vocabulary MUST be present in the <dc.subject> metatag.
4. If none of the vocabularies registered in the GoC domain suits the terminological needs of a department or agency, consult the list of controlled vocabularies registered by the Dublin Core at http://dublincore.org.

Only vocabularies in this registry with equivalent terms in both official languages will be acceptable for use. "Equivalent terms" is used instead of "translations" as there are instances when the term for a concept in one language does not have an exact match in the other (see Section 3.4.4.4).

5. If none of these vocabularies are suitable, an in-house solution may be the best option. Alternatives:
    - Development of a bilingual thesaurus for the subject domain: This will require help from an expert as a thesaurus is highly structured and built according to established international criteria and standards with relationships among terms clearly displayed and identified by standardized relationship indicators.
    - Development of a customized controlled vocabulary: A controlled vocabulary is less rigorous than a thesaurus. HOWEVER, synonyms MUST be controlled (i.e. non-preferred terms must point to preferred terms), as this is the most basic form of terminology control.

    Vocabularies developed in-house for use in <dc.subject> must be registered with Library and Archives Canada. The terms in such locally controlled vocabularies can be mapped to more general terms in the CST so that both specific terminology and more general CST terminology are part of the metadata. For example, the in-house vocabulary term "aquacultural biotechnology" could be mapped to "Biotechnology", found in the CST. The metadata would contain two <dc.subject> metatags, one for the broad CST term, one for the specific local vocabulary term.
    For advice on building or registering a vocabulary, consult the Metadata Co-ordinator at Library and Archives Canada (meta_coord@lac-bac.gc.ca).

3.4.4.4 Language Equivalents

For resources that are available in both official languages, English subject terms must be assigned to the English version, and French to the French version.

For each term in one official language there must be an equivalent term (or terms) in the other. This is straightforward when selecting terms from vocabulary lists with English and French equivalents, but is more challenging when selecting from one list in one official language, and from a different list for the other. Until formal guidance is available, contact the Treasury Board Secretariat's Information Management Division at im-gi@tbs-sct.gc.ca for advice.

3.4.5 Other Considerations

Populating the subject element presents significant challenges. The correct selection of terms from controlled vocabularies is not normally in the skill set of people responsible for managing Web resources. Rather, it is principally a skill of professional librarians and indexers. The complexity of the challenge of selecting terms increases when more than one controlled vocabulary is employed.

Managers are urged either to provide appropriate subject analysis training for their metadata developers or to obtaining assistance from their departmental libraries or information resource centres in populating this crucial field.

3.4.6 Examples

3.4.6.1 English-only Web resource using terms from the Core Subject Thesaurus
http://www.nrcan-rncan.gc.ca/inter/index_e.html

```
<meta name="dc.subject" scheme="gccore" content="Natural
resources; Climate; Forests; Minerals; Metals; Maps; Energy;
Energy conservation; Geology; Environmental management">
```

3.4.6.2 French-only Web resource described using terms from the Core Subject Thesaurus
http://www.nrcan-rncan.gc.ca/inter/index_f.html

```
<meta name="dc.subject" scheme="gccore" content="Ressources
naturelles; Climat; Forêt; Minéral; Métal; Carte; Énergie;
Conservation de l'énergie; Géologie; Gestion de
l'environnement">
```

3.4.6.3 Bilingual Web resource described using terms from the Core Subject Thesaurus
http://www.nrcan-rncan.gc.ca/inter/index.html

```
<meta name="dc.subject" scheme="gccore" content="Natural
resources; Climate; Forests; Minerals; Metals; Maps; Energy;
Energy conservation; Geology">
<meta name="dc.subject" scheme="gccore" content="Ressources
naturelles; Climat; Forêt; Minéral; Métal; Carte; Énergie;
Conservation de l'énergie; Géologie">
```

3.4.6.4 Multiple vocabularies to describe a single Web resource

3.4.6.4.1 English-only Web resource described using terms from both the Core Subject Thesaurus and the eHealth Thesaurus

```
<meta name="dc.subject" scheme="gccore" content="one or more
English terms from the Core Subject Thesaurus">
<meta name="dc.subject" scheme="gcicth" content="one or more
English terms from the e-Health Thesaurus">
```

3.4.6.4.2 French-only Web page described using terms from both the Core Subject Thesaurus and the eHealth Thesaurus

```
<meta name="dc.subject" scheme="gccore" content="one or more
French terms from the Core Subject Thesaurus">
<meta name="dc.subject" scheme="gcicth" content="one or more
French terms from the eHealth thesaurus">
```

3.5 Title

3.5.1 Definition

The name given to the resource.

3.5.2 Usage

The Title element is expressed in the form:

```
<meta name="dc.title" content="abc">
```

where *abc* is the title of the resource.

3.5.3 Guidance

The title is transcribed from the authoritative source. For Web resources, this is the resource itself.

A title should be sufficiently informative to convey the content of the resource as succinctly as possible.

On individual Government of Canada Web sites, no two pages may have identical titles.

The <dc.title> metatag and the HTML <title> element should have the same content.

For bilingual Web pages (i.e. "Welcome" or "splash" pages), English and French titles may not be included in the content of a single <dc.title> metatag. Two separate <dc.title> tags must be used, one containing the English title and one containing the French.

3.5.4 Values

Each department or agency will have its own method of determining titles for its Web resources. The following steps are suggested as best practices.

To determine the content for <dc.title>, metadata developers should

1. Determine HTML <title> element content and use this same content to populate <dc.title>. The HTML <title> element can be found in the coded version of a page by selecting View—Source in Internet Explorer or View—Page Source in Netscape.
2. Depending on departmental or agency policy, enhance <dc.title> content if the HTML <title> is not sufficiently informative. For example, an HTML <title> such as "About Us" or "Home Page" may be enhanced to provide context: "About Us—Name of Department" or "Home Page—Name of Department".
3. Devise a title for <dc.title> if a Web page does not have an HTML <title>. When devising titles, metadata developers should identify prominent wording found at the top of a Web page, either in text or in a title graphic, and use this wording as content for <dc.title>. Again, depending on departmental or agency policy, prominent wording may be enhanced to provide context.

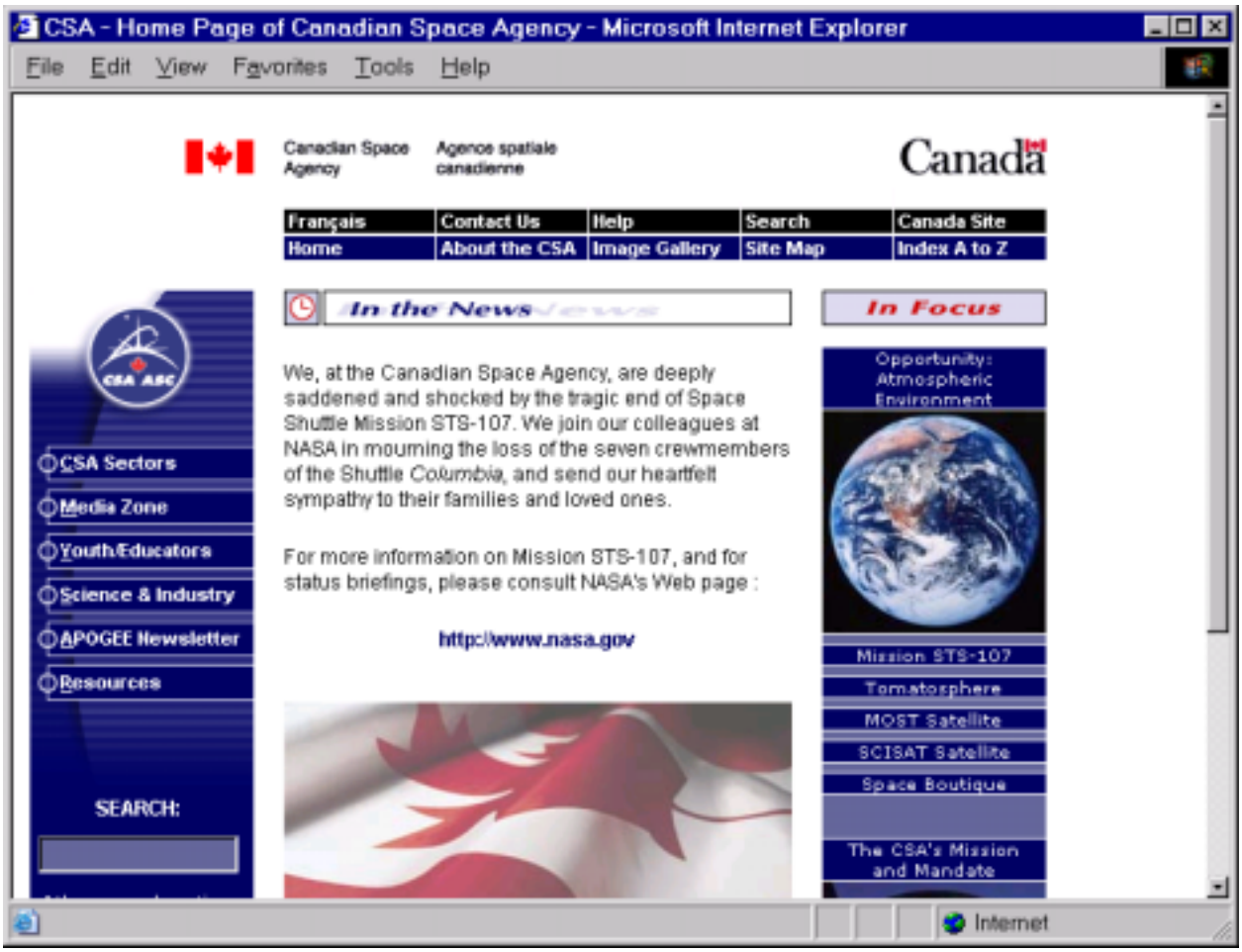
3.5.5 Other Considerations

Information-rich titles aid in the resource discovery process. Departmental publishing guidelines should include guidance on assigning useful titles.

Departments and agencies should develop processes to ensure that no two pages have identical titles.

3.5.6 Examples

3.5.6.1 HTML <title> as source for the title of the Web page

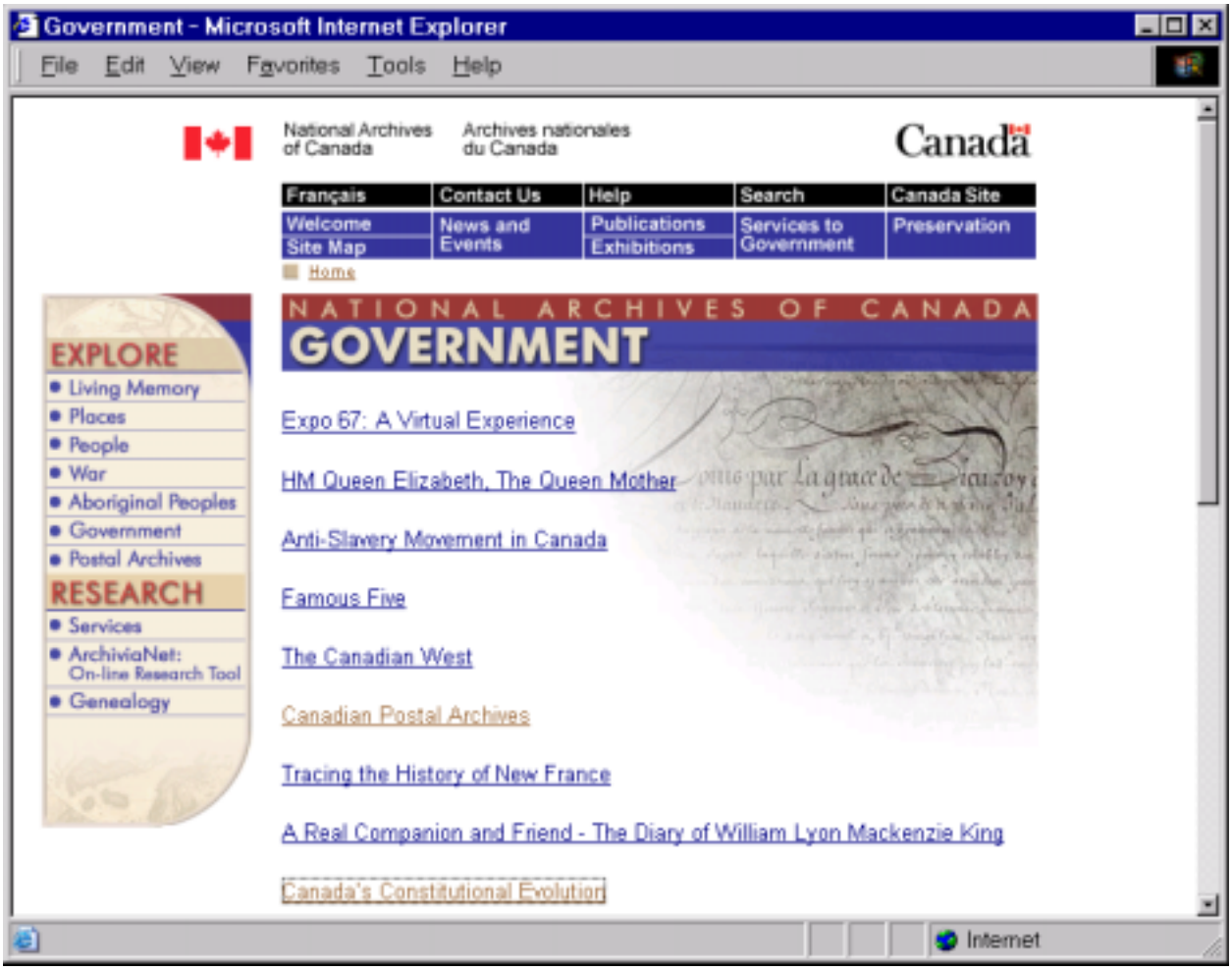


The content of the HTML <title>, "CSA - Home Page of Canadian Space Agency" (found in the coloured bar at the top of the browser screen), may be used to populated <dc.title>.

Expressed in HTML as:

```
<meta name="dc.title" content="CSA – Home Page of the Canadian Space
Agency">
```

3.5.6.2 HTML <title> tag contains insufficient information

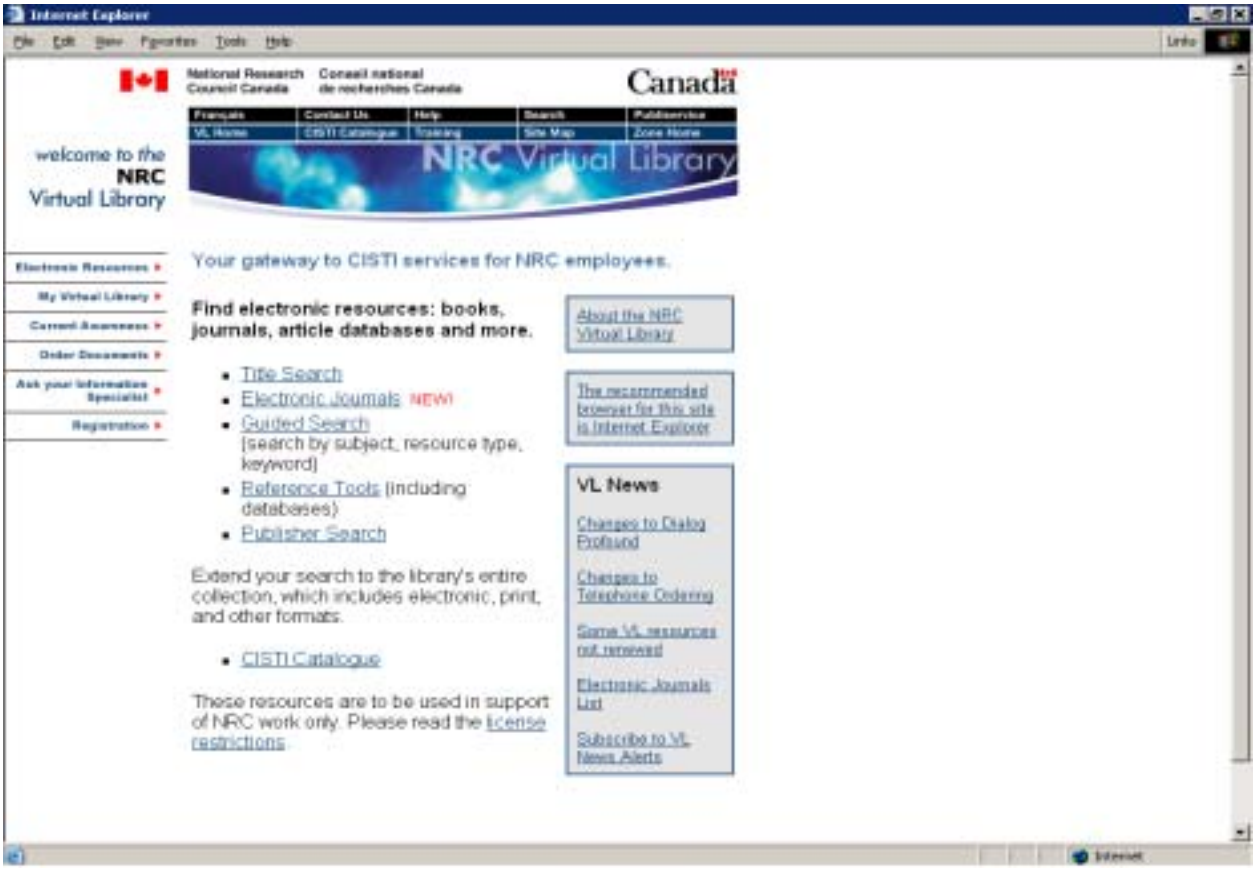


The HTML <title> tag "Government" provides no context. Depending on departmental or agency policies, enhancement from the graphical title may be necessary. The content of <dc.title> may be enhanced with the organization name: "National Archives of Canada – Government".

Expressed in HTML as:

```
<meta name="dc.title" content="National Archives of Canada –
Government">
```

3.5.6.3 No HTML title available



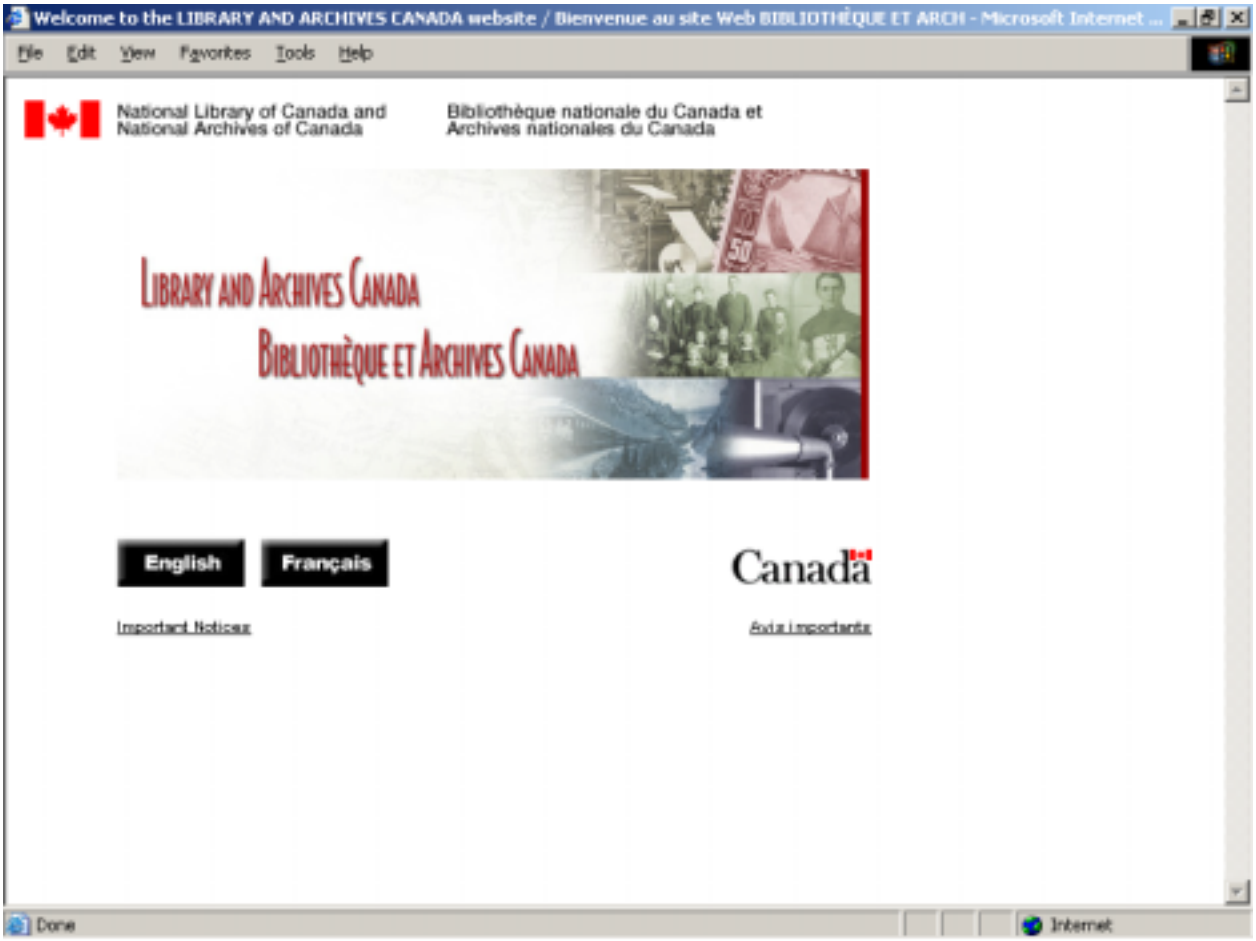
The source code for this page does not contain an HTML <title>. The content of the <dc.title> tag should be taken from prominent wording found at the top of a Web page, either in text or in a title graphic.

The content of <dc.title> is "Welcome to the NRC Virtual Library".

Expressed in HTML as:

```
<meta name="dc.title" content="Welcome to the NRC Virtual
Library">
```

3.5.6.4 Bilingual "Welcome" Page



HTML <title> indicates that the title of the page is "Welcome to the LIBRARY AND ARCHIVES CANADA website / Bienvenue au site Web BIBLIOTHÈQUE ET ARCHIVES CANADA". The content of <dc.title> is

> English title: Welcome to the LIBRARY AND ARCHIVES CANADA website
> French title: Bienvenue au site Web BIBLIOTHÈQUE ET ARCHIVES CANADA

Expressed in HTML as:

```
<meta name="dc.title" content="Welcome to the LIBRARY AND
ARCHIVES CANADA website">
<meta name="dc.title" content="Bienvenue au site Web
BIBLIOTHÈQUE ET ARCHIVES CANADA">
```

Chapter 4: Optional Elements

In the GoC context, "optional" means that the elements described below are not required for Common Look and Feel Standard 6.3 compliance. However, the use of some or all of these and/or other Dublin Core elements may be mandatory within a particular department or agency.

All element definitions are taken verbatim from *DCMI Metadata Terms* (http://www.dublincore.org/documents/dcmi-terms/).

4.1 Audience

4.1.1 Definition

A class of entity for whom the resource is intended or useful.

4.1.1.1 Government of Canada Constraint:

Terms must be selected from an authorized controlled vocabulary.

4.1.2 Usage

There are two ways to express this element in HTML: <dc.audience> and <dcterms.audience>.

<dc.audience>

The Audience element is expressed in the form:

```
<meta name="dc.audience" scheme="abc" content="def">
```

where *abc* is the label for a specific scheme, and *def* is a value selected from the scheme to describe the audience for the resource.

N.B.: The use of <dc.audience> is to be considered a temporary method of expression that will change as Dublin Core develops. The following method of expressing the audience element is preferable to the one given above.

<dcterms.audience>

The Audience element is expressed in the form:

```
<meta name="dcterms.audience" scheme="abc" content="def">
```

where *abc* is the label for a specific scheme, and *def* is a value selected from the scheme to describe the audience for the resource.

The Audience element is defined by the Dublin Core Metadata Initiative in the DCTERMS namespace. Departments or agencies using <dcterms.audience> must include a second instance of the <link> element to support the HTML code. This additional <link> element is:

<link rel="schema.dcterms" href="http://purl.org/dc/terms/">

4.1.3 Guidance

It is strongly recommended that the audience element be applied to all resources to which GoC institutions apply other mandatory and optional metadata elements when those resources are identified as being directed towards one or more particular audiences.

The Audience element should be repeated, with the appropriate scheme label, for each audience type that applies to the resource.

For more guidance on the use of the Audience element, including the use of additional audience schemes, see the *Final Report 2002-03-25 of the GOL Metadata Working Group <dc.audience> Sub-group* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/aud-aud/docs/2003/aud-final/aud-final00_e.asp).

4.1.4 Values

It is strongly recommended that metadata developers use values from the *Government of Canada Audience Scheme* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/aud-aud/docs/2003/schemfinal/schemfinal_e.asp). This scheme includes terms that describe a wide variety of GoC Web site users. While it includes a broad range of terms, it is not intended to be an exhaustive list of audiences.

The *Government of Canada Audience Scheme* is registered as a controlled vocabulary with Library and Archives Canada. The scheme label for the *Government of Canada Audience Scheme* is **gcaudience**.

Departments or agencies requiring that new audience terms be added to the vocabulary should address their inquiries to the Information Management Division, Treasury Board Secretariat (im-gi@tbs-sct.gc.ca).

4.1.5 Example

```
<meta name="dcterms.audience" scheme="gcaudience"
content="seniors">
```

4.2 Coverage

4.2.1 Definition

The extent or scope of the content of the resource.

4.2.1.1 Government of Canada Constraint

Guidance is provided for spatial/geographic coverage only. The element must be populated with terms found in authorized controlled vocabularies.

4.2.2 Usage

The Coverage element is expressed in the form:

```
<meta name="dc.coverage.spatial" scheme="abc" content="def">
```

where *abc* is the label for an authorized list of geographic names and *def* is a specific location chosen from the authorized source or set of geographic coordinates.

4.2.3 Guidance

Geographic overage should be implemented when the content of the resource is applicable to a place, as in the following examples:

- Employment opportunities for a certain region (information that is organized by area)
- Environmental impact assessment for a watershed (information pertaining to an area)
- Sites of historical significance (location information).

Geographic information contained in the coverage element can allow a user to search on a specific location, exclude certain areas, or sort by nearest location. Geographic coverage can be used to describe the geographic aspects of a resource not normally included in <dc.subject> or <dc.description>.

Geographic coverage is distinct from the subject of a resource. For example, if a resource were about the minerals of Ontario, the content value of the <dc.subject> tag would be "Minerals" and the content value of the <dc.coverage.spatial> tag would be "Canada; Ontario".

Further guidance on the use of <dc.coverage.spatial> is available at *Geographic Coverage Sub-group: dc.coverage – Guidelines* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/gcs-scg/docs/2002/element/element_e.asp).

4.2.4 Values

Values for geographic coverage must be taken from an authorized controlled vocabulary, authority file or other registered scheme. A listing of authorized controlled vocabularies for <dc.coverage.spatial> may be found at http://www.collectionscanada.ca/8/4/r4-281-e.html.

The most appropriate choice of vocabulary depends on the resource being documented. More than one vocabulary may be required to describe a single resource. The <dc.coverage.spatial> tag may be repeated as needed; the appropriate scheme name must be used for each location described in the metadata.

The preferred vocabulary for Canadian place names is found at *Canadian Geographical Names* (http://geonames.nrcan.gc.ca/index_e.php).

"Canada" will likely appear as part of a hierarchy (e.g. "Canada; Ontario; Ottawa"). However, "Canada" alone should not be used as a default <dc.coverage.spatial> term. There is no

advantage in populating coverage with a value of "Canada" when a resource is implicitly Canadian. "Canada" is a valid descriptor when the resource explicitly pertains to all of Canada (e.g. a map of Canada).

The language equivalency rule (see 3.4.4.4) applies for place names.

4.2.5 Examples

4.2.5.1 Resource describing plans for a national historical site in Halifax, expressed using the Canadian Geographic Names Database.

```
<meta name="dc.coverage.spatial" scheme="gcgeonames"
content="Canada; Nova Scotia; Halifax">
```

4.2.5.2 Resource containing employment opportunity information for Peterborough and North Bay, expressed using the Canadian Geographic Names Database.

```
<meta name="dc.coverage.spatial" scheme="gcgeonames"
content="Canada; Ontario; Peterborough">
<meta name="dc.coverage.spatial" scheme="gcgeonames"
content="Canada; Ontario; North Bay">
```

A separate <dc.coverage.spatial> metatag must be used for each geographic location.

A semi-colon (";") is used to separate each element of a single place name.

4.3 Description

4.3.1 Definition

An account of the content of the resource.

4.3.2 Usage

The Description element is expressed in the form:

```
<meta name="dc.description" content="abc">
```

where *abc* is the description of the resource.

4.3.3 Guidance

An accurate, clear, concise and objective description assists users in determining whether a resource will be useful to them.

The words in a description can be indexed by search engines. The text is often displayed in search results. As a general rule, descriptions should be no more than 100-120 words in length.

Because only the first few lines of a description may be displayed in a listing of Web resources, it is important that the most significant information be contained in the first few sentences.

4.3.4 Values

4.3.4.1 Tips on Preparing a Description

- Use the headings, table of contents, and the introduction or summary as a guide for information about the resource.
- Try to identify the type of product or service in the description, e.g. "This report (document, CD-ROM, publication, diskette)..."
- Use simple direct language.
- Use words that clearly describe the product or service.
- Make the description understandable to a wide audience.
- Use the objective third person point of view (avoid using "you" or "we").
- Be brief but as complete as possible.
- Ensure that the description is coherent.
- Use abbreviations, acronyms, and initialisms if they are widely known (e.g. NATO, UNESCO), but define unfamiliar terms and symbols the first time they occur.
- Avoid jargon.
- Ensure that the description informs the reader about the subject of the resource and presents each distinguishing characteristic of the product or service.

4.3.4.2 HTML <description> and <dc.description>

Departments or agencies using HTML may wish to apply both the HTML <description> metatag and the <dc.description> metatag. In such cases the content values of these tags must be identical.

4.3.5 Other Considerations

Departments or agencies are urged to develop their own organizational guidance for writing descriptions based on *Guidelines for Writing Descriptions for Government of Canada Web Sites* (http://www.cio-dpi.gc.ca/im-gi/references/meta-descrip/meta-descrip00_e.asp).

4.3.6 Examples

4.3.6.1 English-only Web resource

http://www.collectionscanada.ca/trains/index-e.html

```
<meta name="dc.description" content="Contains three main
sections. Ties That Bind provides a short history of railways in
Canada and how they marketed their passenger services. It
creates a context for the other two sections, Transcontinental
Tour and Tracking Time.">
```

4.3.6.2 French-only Web resource

http://www.collectionscanada.ca/trains/index-f.html

```
<meta name="dc.description" content="Compte trois sections
principales. La section Lignes qui unissent présente un bref
historique des chemins de fer au Canada et de la manière dont
les compagnies ont commercialisé leurs services voyageurs. Cet
historique sert de cadre aux sections Circuit transcontinental
et Ligne chronologique.">
```

4.3.6.3 Bilingual resource
http://bsa.cbsc.org/

```
<meta name="dc.description" content="The Business Start-up
Assistant (BSA) is a one-stop site for information on starting a
business in Canada. It covers topics such as market assessment,
financing, taxation, writing a business plan and many more - all
critical to starting a business.">
<meta name="dc.description" content="Le Système d'aide au
démarrage d'une entreprise (SADE) est un guichet unique
d'information sur le démarrage d'une entreprise au Canada. Le
site Web couvre plusieurs sujets, notamment les études de
marché, le financement, la fiscalité, la préparation d'un plan
d'affaires, tous essentiels au démarrage d'une entreprise.">
```

4.4 Format

4.4.1 Definition

The physical or digital manifestation of the resource.

4.4.1.1 Government of Canada constraint

Terms must be selected from an authorized controlled vocabulary.

4.4.2 Usage

The Format element is expressed in the form:

```
<meta name="dc.format" scheme="abc" content="def">
```

where *abc* is the label for a specific scheme, and *def* is a value selected from the scheme to describe the format of the resource.

4.4.3 Guidance

The Format element should not be used unless an organization has the ability to manage metadata in a database or a repository.

Every distinct resource should have distinct metadata. Metadata contained in the source code of an HTML resource describes the HTML resource itself. It does not describe resources linked to, or displayed on, that resource. As a result, metadata that describes a sound, video, other textual non-HTML format, etc., should not be stored in the source code of an HTML resource.

This situation may be confusing. A photo or image (using ".gif" or ".jpeg" file formats) appears to be part of the HTML resource in the Web browser; indexers may wish to describe that picture, sound, etc., in the metadata for the HTML resource. However, it is important to separate the metadata for these resources.

Consequently, metadata for a non-HTML resources will likely have to be stored and managed in a database or a repository.

The Format element should be repeated, with the appropriate scheme label, for each format that applies to the resource.

For more guidance on the use of <dc.format> see *<dc.format> Guidelines* at http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/fmt-fmt/docs/2003/guidelines-lignes-directrices_e.asp).

4.4.4 Values

It is strongly recommended that metadata developers use values from the *Government of Canada Format Scheme* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/fmt-fmt/docs/2003/schem_e.asp). This scheme includes terms that describe a wide variety of GoC Web site formats.

The *Government of Canada Format Scheme* is registered as a controlled vocabulary with Library and Archives Canada. The scheme label for the Government of Canada Format Scheme is **gcformat**.

The *Government of Canada Format Scheme* is intended to encompass all formats found on GoC Web sites. Departments or agencies requiring that new formats be added to the vocabulary should address enquiries to the Information Management Division, Treasury Board Secretariat (im-gi@tbs-sct.gc.ca).

4.4.5 Example

```
<meta name="dc.format" scheme="gcformat" content="image/jpeg">
```

4.5 Type

4.5.1 Definition

The nature or genre of the content of the resource.

4.5.2 Usage

The Type element is expressed in the in the form:

```
<meta name="dc.type" scheme="abc" content="def">
```

where *abc* is the label for a specific scheme, and *def* is a value selected from the scheme to describe the type of resource.

4.5.3 Guidance

The Type element is used to describe general categories, functions, or genres of Web resource contents. It is not to be confused with the Format element, which describes the physical manifestation of a resource or the Subject element, which describes the topic of a resource.

Including a value for <dc.type> helps users find the information by giving them an additional way to narrow their search queries. When users select a resource type along with other terms (such as title, subject, date, etc.) in a search query, they will be able to narrow their search for an event, presentation, report, policy, etc. For example, a user can reduce the results of a subject search for "information management" by also selecting the type "event" or "policy".

The Type element must be repeated, with the appropriate scheme label, for each type that applies to the resource.

For more guidance on the use of <dc.type>, including the use of additional type schemes, see < *dc.type> Sub-Group: Usage Guidelines* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/typ-typ/docs/2003/usage-util/usage-util_e.asp).

4.5.4 Values

It is strongly recommended that metadata developers use values from *the Government of Canada Type Scheme* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/typ-typ/docs/2003/schem/schem_e.asp). This scheme includes terms that describe a wide variety of resource types found on Government of Canada Web sites.

The GoC Type Scheme is registered as a controlled vocabulary with Library and Archives Canada. The scheme label for the Government of Canada Type Scheme is **gctype**.

While the Government of Canada Type Scheme includes a broad range of terms, it is not intended to be an exhaustive list of types. For information on adding terms to the gctype scheme, see < *dc.type> Sub-Group: Process for Updating the GoC Type and Aggregation Level Schemes Draft* (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/typ-typ/docs/2003/type/type_e.asp).

Organizations may also request the inclusion of new resource types by contacting the Information Management Division of the Treasury Board Secretariat at im-gi@tbs-sct.gc.ca.

4.5.5 Other Considerations

An organization may develop a local scheme (or schemes) to achieve a more precise description of resource types for local indexing and retrieval needs. Any such schemes must be registered with Library and Archives Canada. Contact the TBS Information Management Division for assistance in developing local schemes. It is recommended that organizations using local schemes include at least one term for the GoC Type Scheme.

4.5.6 Examples

4.5.6.1 English resource

The National Flag of Canada
http://www.canadianheritage.gc.ca/progs/cpsc-ccsp/sc-cs/df1_e.cfm

```
<meta name="dc.type" scheme="gctype" content="still image">
```

4.5.6.2 French resource

Le drapeau canadien
http://www.canadianheritage.gc.ca/progs/cpsc-ccsp/sc-cs/df1_f.cfm

```
<meta name="dc.type" scheme="gctype" content="image fixe">
```

4.5.6.3 Bilingual resource

Welcome page of Canadian Heritage
http://www.canadianheritage.gc.ca

```
<meta name="dc.type" scheme="gctype" content="welcome page">
<meta name="dc.type" scheme="gctype" content="page de
bienvenue">
```

4.5.6.4 Resource with multiple <dc.type> element terms

The Type element is repeated for each individual term.

```
<meta name="dc.type" scheme="gctype" content="educational
material">
<meta name="dc.type" scheme="gctype" content="geospatial
material">
```

Appendix A: Chart of Dublin Core Metadata Elements

Element	Requirement	Scheme (or convention)
<dc.creator>	Mandatory	Titles of Federal Organizations and GEDS
<dc.date.created>	Mandatory	YYYY-MM-DD
<dc.date.modified>	Mandatory (if content changed substantially)	YYYY-MM-DD
<dc.language>	Mandatory	ISO 639-2
<dc.subject>	Mandatory	gccore
<dc.title>	Mandatory	N/A
<dc.audience>	Optional	gcaudience
<dc.coverage.spatial>	Optional	gcgeonames
<dc.description>	Optional	N/A
<dc.format>	Optional	gcformat
<dc.type>	Optional	gctype

Appendix B: Key Considerations for Metadata Managers

Metadata managers should be aware that there are important considerations in the creation and maintenance of metadata for departments or agencies.

A checklist of these considerations is provided below, followed by suggested priorities for metadata development.

Checklist for metadata managers

✓ Keep up to date with key federal information management policies and programs, particularly those relating to metadata. Important resources include:

Common Look and Feel (CLF)

CLF for the Internet – Navigation and Format, Standard 6.3, Metatags (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-06-03_e.asp).

CLF for the Internet – Official Languages, Standard 7.8, Metatag Languages (http://www.cio-dpi.gc.ca/clf-nsi/inter/inter-07-08_e.asp)

Government On-Line Metadata Working Group

The Government On-Line Metadata Working Group (http://www.cio-dpi.gc.ca/im-gi/mwg-gtm/intro_e.asp) is composed of representatives from 28 departments and agencies. It meets monthly to advise Treasury Board Secretariat (TBS) on metadata issues. Sub-groups develop guidance for specific applications and elements. Contact the Information Management Division of the Treasury Board Secretariat (im-gi@tbs-sct.gc.ca) with any questions concerning representation on the Working Group

Information Management Resource Centre (IMRC)

IMRC – Metadata (http://www.cio-dpi.gc.ca/im-gi/meta/meta_e.asp)

IMRC – Government of Canada Metadata Guidance (http://www.cio-dpi.gc.ca/im-gi/meta/meta-cdn_e.asp)

IMRC Common Look and Feel Metadata Standard Definitions and HTML Examples (http://www.cio-dpi.gc.ca/im-gi/meta/clf-nsi-meta/clf-nsi-meta_e.asp)

IMRC - Government of Canada Metadata Framework (http://www.cio-dpi.gc.ca/im-gi/meta/frame-cadre_e.asp).

IMRC – Information Management Glossary (http://www.cio-dpi.gc.ca/im-gi/glossary/glossary_e.asp)

IMRC – Framework for the Management of Information in the Government of Canada (http://www.cio-dpi.gc.ca/im-gi/fmi-cgi/fmi-cgi_e.asp)

Library and Archives Canada – Controlled Vocabularies and Thesauri

Thesauri and Controlled Vocabularies (http://www.collectionscanada.ca/8/4/r4-280-e.html).

Implementing a Controlled Vocabulary on Government of Canada Web Sites (http://www.collectionscanada.ca/8/4/r4-294-e.html).

Canadian Government-maintained Controlled Vocabularies and Thesauri (http://www.collectionscanada.ca/8/4/r4-281-e.html). Contains vocabularies for Audience, Coverage, Subject, and Type.

Registering a Standardized Vocabulary (http://www.collectionscanada.ca/8/4/r4-293-e.html).

Management of Government Information

Policy on the Management of Government Information (http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/TB_GIH/mgih-grdg_e.asp).

Treasury Board Information Management Standard (TBITS)

TBITS 39: Treasury Board Information Management Standard, Part 1: Government On-Line Metadata Standard (http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit391_e.asp)

TBITS 39: Treasury Board Information Management Standard, Part 2: Controlled Vocabulary Standard (http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit392_e.asp)

✓ Ensure that metadata creation, quality verification and maintenance are integral parts of the information management policies and priorities of the department or agency.

✓ Identify and establish an informal network of specialists within and outside the department or agency to facilitate information sharing and mutual support. These specialists include:

- Departmental or agency representative on the GOL Metadata Working Group
- Appropriate members of the IM and IT Divisions
- Departmental or agency Information Resource Centre or Library
- The Metadata Coordinator at Library and Archives Canada
- The Information Management Division of the Treasury Board Secretariat

✓ Ensure that the metadata effort within the organization has adequate resources for staff, training, equipment, etc.

- ✓ Establish a clear workflow that addresses whether metadata developers will provide some or all of the required metadata content, and how metadata development will be tracked, verified and updated.

- ✓ Establish and thoroughly document organizational priorities for metadata development.

Priorities for metadata development

Departments and agencies are responsible for determining how much metadata is to be added to Web resources. However, to be compliant with Common Look and Feel Standard 6.3, all Government of Canada Web resources must include, as an absolute minimum, the five mandatory Common Look and Feel metadata elements.

According to TBITS 39.1 (http://www.cio-dpi.gc.ca/its-nit/standards/tbits39/crit391_e.asp), the five mandatory Dublin Core elements must be applied to the following kinds of pages:

- Welcome pages and Home pages (the major entry point to an institution or an organizational unit of an institution that is likely to be perceived by the public as a distinct entity);
- Topics/services in high demand by the community served by the institution (high-demand services can be selected on the basis of statistics or by a subjective determination of which documents have the greatest potential public interest);
- Information required by the public to understand their entitlements to government assistance or obligations;
- Pages that provide an actual on-line service to the public (such as payment forms and application forms);
- Pages required to meet a prescribed legal or service obligation by the institution;
- Entry points to specific on-line services and indexes (e.g. an entry point to a legal database);
- Major formal publications (e.g. annual reports, corporate strategic plans, public policy and accountability documents, etc);
- Media releases;
- Major entry points or indexes and menus to a range of closely related topics, programs or policies;
- Information about agency powers affecting the public, and manuals and other documents used in decision making that affects the public; and
- Substantial descriptive or marketing information about institutions, their services, activities and collections.

Departments and agencies are responsible for determining if the mandatory elements should be applied to pages other than those listed above and if optional Dublin Core or other metadata elements should be used as well.

Questions on metadata implementation issues can be directed to the Information Management Division, Treasury Board Secretariat (im-gi@tbs-sct.gc.ca)

Appendix C: Options for Linking Metadata to Web Pages

When the content of all five required Dublin Core metadata elements has been determined and approved, it is added to the source code of the Web page it describes. An example of the source code appears in Appendix D. The required elements have been highlighted in bold face.

This source code may reside on the server, filed permanently alongside the HTML code for the Web page content, or it may reside in a separate file that is called into service only when the Web page is displayed or when a search tool initiates a search. These two approaches to metadata incorporation are called static and dynamic, respectively.

The static method involves coding the metadata directly into the Web page. There are several ways to do this. The range of options includes:

- Typing the metadata directly into the source of the Web page using a simple plain-text editor such as Notepad.
- Typing the metadata into a template and then using the cut-and-paste functions to transfer the metadata into the source code of the appropriate Web page.
- Inputting the metadata into a WYSIWYG (What You See Is What You Get) editor such as Front Page or Dreamweaver.

Metadata practitioners should consult their department's Information Technology (IT) section for options.

Departments that store metadata separately from the HTML content source code of the Web page and append it dynamically when the page is displayed will need to maintain a database or other external file system for this purpose.

For further guidance, consult your IT section.

Appendix D: Sample Metadata Source Code

The following is an example of how required and optional metadata elements would appear in the HTML source code for an English sub-site of Health Canada. Required elements have been highlighted in bold face.

```
<link rel="schema.dc" href="http://purl.org/dc/elements/1.1/">
<link rel="schema.dcterms" href="http://purl.org/dc/terms/">
<meta name="dc.title" content="Conferences - eHealth Resource Centre">
<meta name="dc.creator" content="Government of Canada, Health Canada,
Office of Health and the Information Highway (OHIH)">
<meta name="dc.language" scheme="ISO639-2" content="eng">
<meta name="dc.date.created" content="2000-00-00">
<meta name="dc.date.modified" content="2003-03-17">
<meta name="dc.subject" scheme="gcicth" content="Health care; Information
and communications technologies; Telehealth; Health informatics;
Databases">
<meta name="dc.subject" scheme="gccore" content="Conferences; Health
care; Databases; Meetings">
<meta name="dcterms.audience" scheme="gcaudience" content="educators">
<meta name="dc.coverage.spatial" scheme="gcgeoname" content="Ontario">
<meta name="dc.description" content="Links to information and
communications technologies in health, conferences, tradeshows, and
workshops">
<meta name="description" content="Links to information and communications
technologies in health, conferences, tradeshows, and workshops">
<meta name="dc.type" scheme="gctype" content="resource list">
<meta name="keywords" content="conferences, health care, healthcare,
information and communications technologies, information and
communications technology, ICT, ICTs, telehealth, health informatics,
databases, meetings, e-health, ehealth">
<title>Conferences - eHealth Resource Centre</title>
```