Two Co-Located Conferences

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Produced By
IRM UK
...a collaborative approach to developing data standards in the Environment Agency

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Agenda

Standards and data standards – why do they matter?

The Environment Agency – data drivers, problems and opportunities

Developing data standards in the Environment Agency

What’s been achieved to date and what’s to come

Lessons learned along the way

Q&A
Standards are everywhere
Data Standards are rules by which data is described and recorded.

Define:
- Data Object and key attributes
- Format standards
- Content standards
What happens when data standards fail... Energy

• Several UK gas suppliers confused the two meter types
• Outcome:
  • Some customers overcharged by 130% per annum for 15 years
  • OFGEM (UK Regulator) ordered repayment of all overcharges
A common problem... what is a Customer?

**Licence Holder**
Someone who holds a permit, licence or authorisation to do something in the environment – emit substances, dispose of waste, fish etc.

**Citizen**
Someone who requests information or data

**Invoicee**
Someone who pays the bills & whom we invoice

**Community**
People who receive a service such as flood protection

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How many customers do we have?
How are our customers related?
How do we create a single customer view?
How should we segment our customer base?

AND SO ON...
The Environment Agency: Our Work
A typical data scenario...
What this means.....
<table>
<thead>
<tr>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A hydrologically connected collection of waterbodies</td>
<td>A defined area for environmental monitoring</td>
</tr>
<tr>
<td>A waterbody, such as a river or lake</td>
<td>A way of categorising and segmenting data for reporting purposes</td>
</tr>
<tr>
<td>An area of land that drains to a single point on the coast</td>
<td>A recognised group of waterbodies with similar hydrological characteristics</td>
</tr>
<tr>
<td>An area of land drained by a particular river at a particular point</td>
<td>A self-contained hydrological area</td>
</tr>
<tr>
<td></td>
<td>An area where rain falls and flows into a river</td>
</tr>
<tr>
<td></td>
<td>An area used for reporting the health of the environment</td>
</tr>
<tr>
<td></td>
<td>An area from which a school attracts its pupils</td>
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</tbody>
</table>
Naming issues

River Avon Upstream of B432

Upper Avon

Hampshire Avon U/S Nine Mile River

R. Avon (Hants) Headwaters to conf with Nine Mile River
Impact.....

18%

£!?!?!
Current issues and impact

- Time and Money
- Reputation
- Investment and Regulation
- Integration
- Consistency and Quality

- Legal compliance
- Joined up government
- Regulatory powers
- Open Data

[Diagram showing layers of issues and impacts]

Environment Agency
Defining Standards is not enough…

Define
- Priority
- Models
- Reference Data

Publish
- Machine readable
- Central Location
- Update once
- Propagate change

Govern
- Operating Model
- Processes

Implement
- Manage change
- Update
Challenges

- Business culture
- IT culture
- Long haul – no ‘quick fix’ solutions
- Prioritisation paradox
Key EA Principles

- Business problem
- Business led
- Global and local
- Re-use external standards
- New IT only
- Supporting technologies
- Align to data governance
Our six-step methodology for producing data standards

**STEP 1**
- Assess Data Holdings and Enterprise Data model
- Identify & prioritise main issues
- Create projects for Data Standards

**STEP 2**
- Agree project scope and terms of reference
- Identify stakeholders & data sources
- Identify custodian

**STEP 3**
- Agree Data Standard template(s)
- Schedule stakeholder interviews
- Understand uses of data

**STEP 4**
- Draft Data Standard
- Interview/consult stakeholders
- Review & finalise Data Standard with stakeholders

**STEP 5**
- Finalise and publish Data Standard
- Assign Custodian
- Revisit and update approach

**STEP 6**
- Update and maintain
- Review project & recommend future actions
- Enforce in new IT developments

Iterative Data Standard Development projects
A more strategic approach

Create Data Standards

Register

Governance

Data Model

Data Objects and Attributes

Data Definitions

Data standards

Data Object library

Data Dictionary

Deploy into new IT

KPIs

Measures

Improvement
Progress

Data Models

Data standards

Validated approach

Process & Governance

Business support
LESSONS LEARNED

OUR TOP 10
1. Secure Business Support

“Establishing a standard is a really important step in bringing our information together so we can be better joined up, better integrated and work together more efficiently. In short, if you’ve got even the slightest interest in how we plan and deliver outcomes on the ground, you should be taking an interest in this!”

National River Basin Operations Manager, Environment Agency
2. Governance is critical

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

SITUATION:
THERE ARE 14 COMPETING STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP ONE UNIVERSAL STANDARD THAT COVERS EVERYONE'S USE CASES. YEAH!

SOON:
SITUATION:
THERE ARE 15 COMPETING STANDARDS.
3. Apply Pareto’s Law (80/20)

A Data Standard should focus on the 80% of data and its application that can / should comply, and treat the other 20% as exceptions.

20% of the work will deliver 80% of the benefits, so aim to keep it as simple as possible.
4. Think strategically but be agile
5. Do Stakeholder Analysis
6. Engage early
7. Create a team for each standard
8. Look outside and adopt / adapt

And I have found this one works a lot better

DON’T REINVENT THE WHEEL
9. Build Data Standards into IT project and supplier contracts
10. Actively sell & educate
Thank you

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