

Semantic Portals

CISTRANA Workshop, Feb 2006

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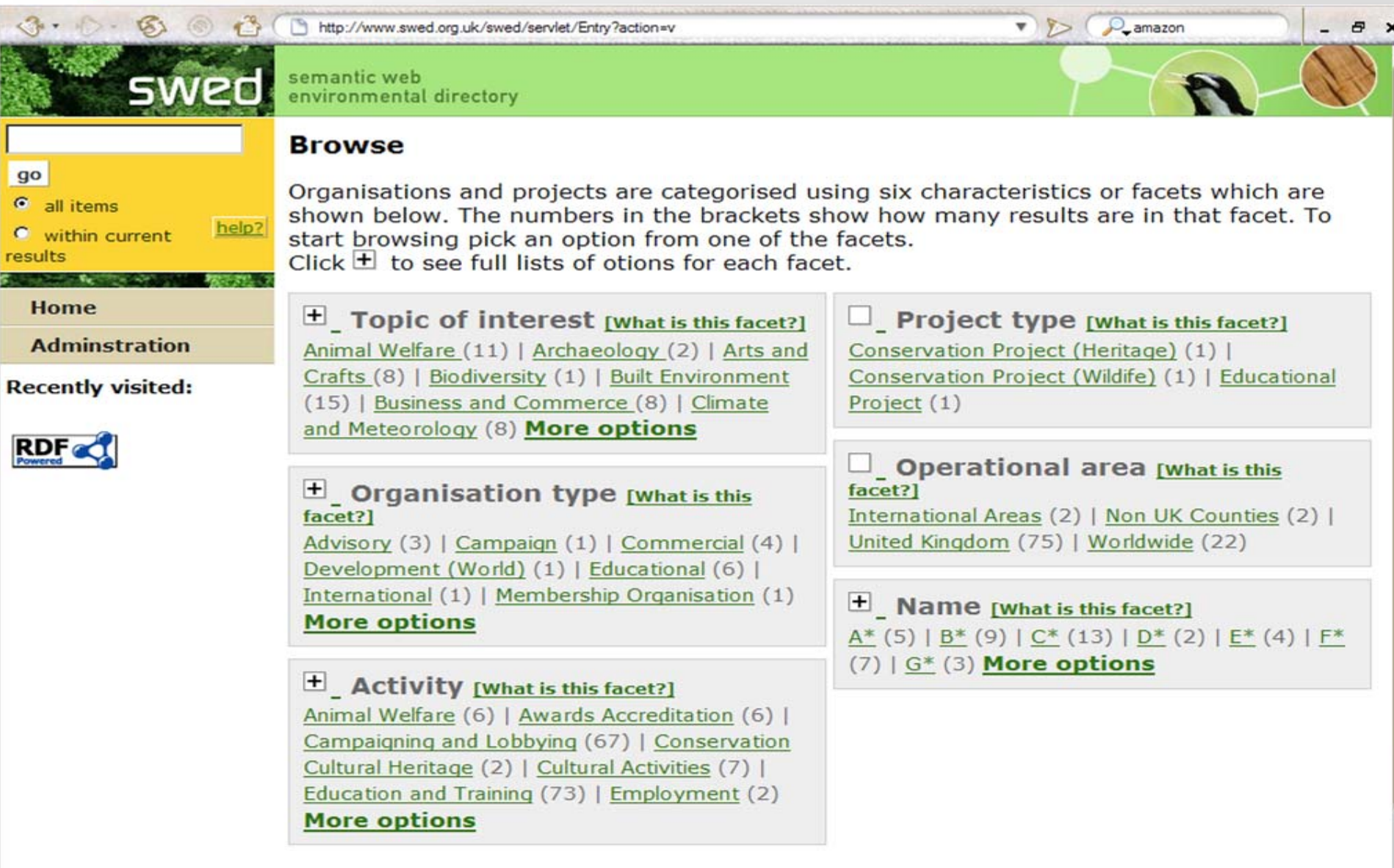
- Research and Development
- Semantic Technologies
- Research Projects
 - E.g. Semantic Web Advanced Development for Europe (SWAD-Europe)
- Standardisation and Best Practice
 - W3C Semantic Web Best Practices and Deployment Working Group

- 'Semantic Portal' demo
- How it works
- How it could be extended
- Discussion points



swed.org.uk

- 'Semantic Web Environmental Directory'
- An online directory of environmental organisations and projects in the UK
- Proof of concept demonstrator
- Developed by SWAD-Europe project (EU-IST) mostly by folks at HP Labs in Bristol
- (... and btw all code is open source and free to download, go to the 'technical resources' page.)



The screenshot shows the SWED (semantic web environmental directory) website. The browser address bar displays `http://www.swed.org.uk/swed/servlet/Entry?action=v`. The website header includes the SWED logo and the text "semantic web environmental directory". A green navigation bar contains a search box with the text "amazon" and a magnifying glass icon. Below the header, the main content area is titled "Browse" and contains a paragraph explaining the faceted browse system. To the left of the main content area is a sidebar with a search box, a "go" button, radio buttons for "all items" and "within current results", a "help?" link, and links for "Home" and "Administration". Below the sidebar is a "Recently visited:" section with an "RDF Powered" logo. The main content area lists six facets for browsing: Topic of interest, Project type, Organisation type, Operational area, Name, and Activity. Each facet is represented by a box with a plus or minus icon, a title, a link to "What is this facet?", a list of categories with counts, and a "More options" link.

Browse

Organisations and projects are categorised using six characteristics or facets which are shown below. The numbers in the brackets show how many results are in that facet. To start browsing pick an option from one of the facets. Click **+** to see full lists of options for each facet.

Topic of interest [\[What is this facet?\]](#)
[Animal Welfare](#) (11) | [Archaeology](#) (2) | [Arts and Crafts](#) (8) | [Biodiversity](#) (1) | [Built Environment](#) (15) | [Business and Commerce](#) (8) | [Climate and Meteorology](#) (8) [More options](#)

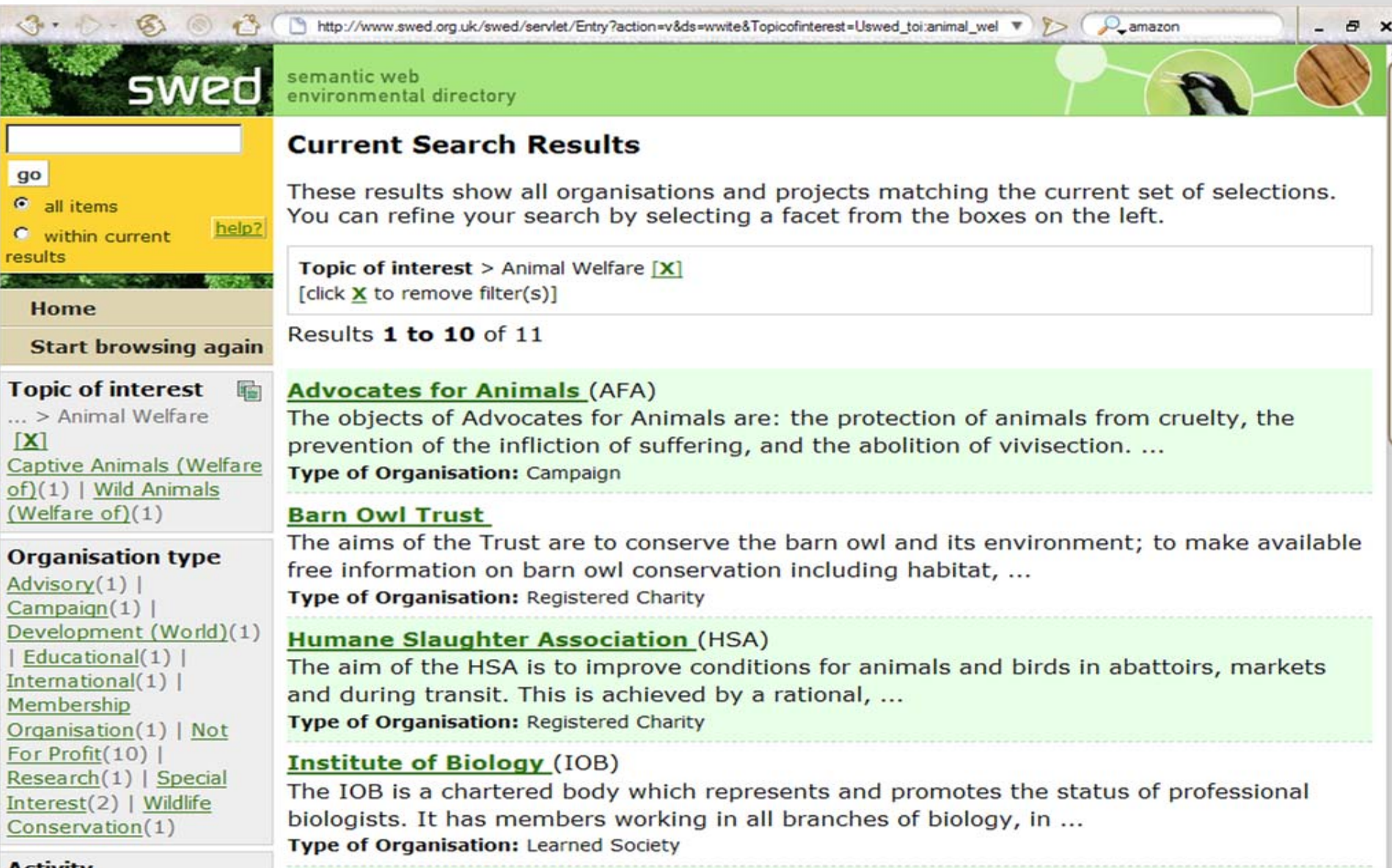
Project type [\[What is this facet?\]](#)
[Conservation Project \(Heritage\)](#) (1) | [Conservation Project \(Wildlife\)](#) (1) | [Educational Project](#) (1)

Organisation type [\[What is this facet?\]](#)
[Advisory](#) (3) | [Campaign](#) (1) | [Commercial](#) (4) | [Development \(World\)](#) (1) | [Educational](#) (6) | [International](#) (1) | [Membership Organisation](#) (1) [More options](#)

Operational area [\[What is this facet?\]](#)
[International Areas](#) (2) | [Non UK Counties](#) (2) | [United Kingdom](#) (75) | [Worldwide](#) (22)

Name [\[What is this facet?\]](#)
[A*](#) (5) | [B*](#) (9) | [C*](#) (13) | [D*](#) (2) | [E*](#) (4) | [F*](#) (7) | [G*](#) (3) [More options](#)

Activity [\[What is this facet?\]](#)
[Animal Welfare](#) (6) | [Awards Accreditation](#) (6) | [Campaigning and Lobbying](#) (67) | [Conservation Cultural Heritage](#) (2) | [Cultural Activities](#) (7) | [Education and Training](#) (73) | [Employment](#) (2) [More options](#)



http://www.swed.org.uk/swed/servlet/Entry?action=v&ds=wwite&Topicofinterest=Uswed_toi:animal_wel

amazon

swed semantic web environmental directory

go

all items

within current results

help?

Home

Start browsing again

Topic of interest

... > Animal Welfare [X]

Captive Animals (Welfare of)(1) | Wild Animals (Welfare of)(1)

Organisation type

Advisory(1) | Campaign(1) | Development (World)(1) | Educational(1) | International(1) | Membership | Organisation(1) | Not For Profit(10) | Research(1) | Special Interest(2) | Wildlife Conservation(1)

Activity

Current Search Results

These results show all organisations and projects matching the current set of selections. You can refine your search by selecting a facet from the boxes on the left.

Topic of interest > Animal Welfare [X]
[click X to remove filter(s)]

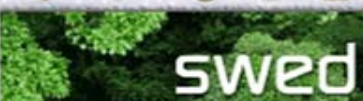
Results **1 to 10** of 11

Advocates for Animals (AFA)
The objects of Advocates for Animals are: the protection of animals from cruelty, the prevention of the infliction of suffering, and the abolition of vivisection. ...
Type of Organisation: Campaign

Barn Owl Trust
The aims of the Trust are to conserve the barn owl and its environment; to make available free information on barn owl conservation including habitat, ...
Type of Organisation: Registered Charity

Humane Slaughter Association (HSA)
The aim of the HSA is to improve conditions for animals and birds in abattoirs, markets and during transit. This is achieved by a rational, ...
Type of Organisation: Registered Charity

Institute of Biology (IOB)
The IOB is a chartered body which represents and promotes the status of professional biologists. It has members working in all branches of biology, in ...
Type of Organisation: Learned Society



[http://www.swed.org.uk/swed/servlet/Entry?action=page&ds=wwite&resource=Uswed_id:prorg0056](#)

- ☒ all items
- ☐ within current results

[Home](#)
[Start browsing again](#)
[Last search](#)
[View raw](#)
[Visualize links](#)

Recently visited:

- [Advocates for Animals](#)

Record 1 of 11 | [Back to Results](#) << | [Next](#) >>

Advocates for Animals (AFA)

Type of Organisation: Campaign

URL:

The objects of Advocates for Animals are: the protection of animals from cruelty, the prevention of the infliction of suffering, and the abolition of vivisection. Advocates for Animals campaigns for parliamentary legislation to protect animals; finances and takes part in 'special investigations' into animal abuse; and supplies speakers and campaign literature wherever a request is made.






Advocates for Animals also seeks to make contact with those using animals, whether they are in the laboratory, on the farm or elsewhere, in an attempt to find common ground which might result in better welfare for the animals involved.

Founded in: 1912


Contacts

Name: name withheld (Director) 10 Queensferry Street
tel: 0131-225 6039 Edinburgh
fax: 0131-220 6377 EH2 4PG
 Scotland

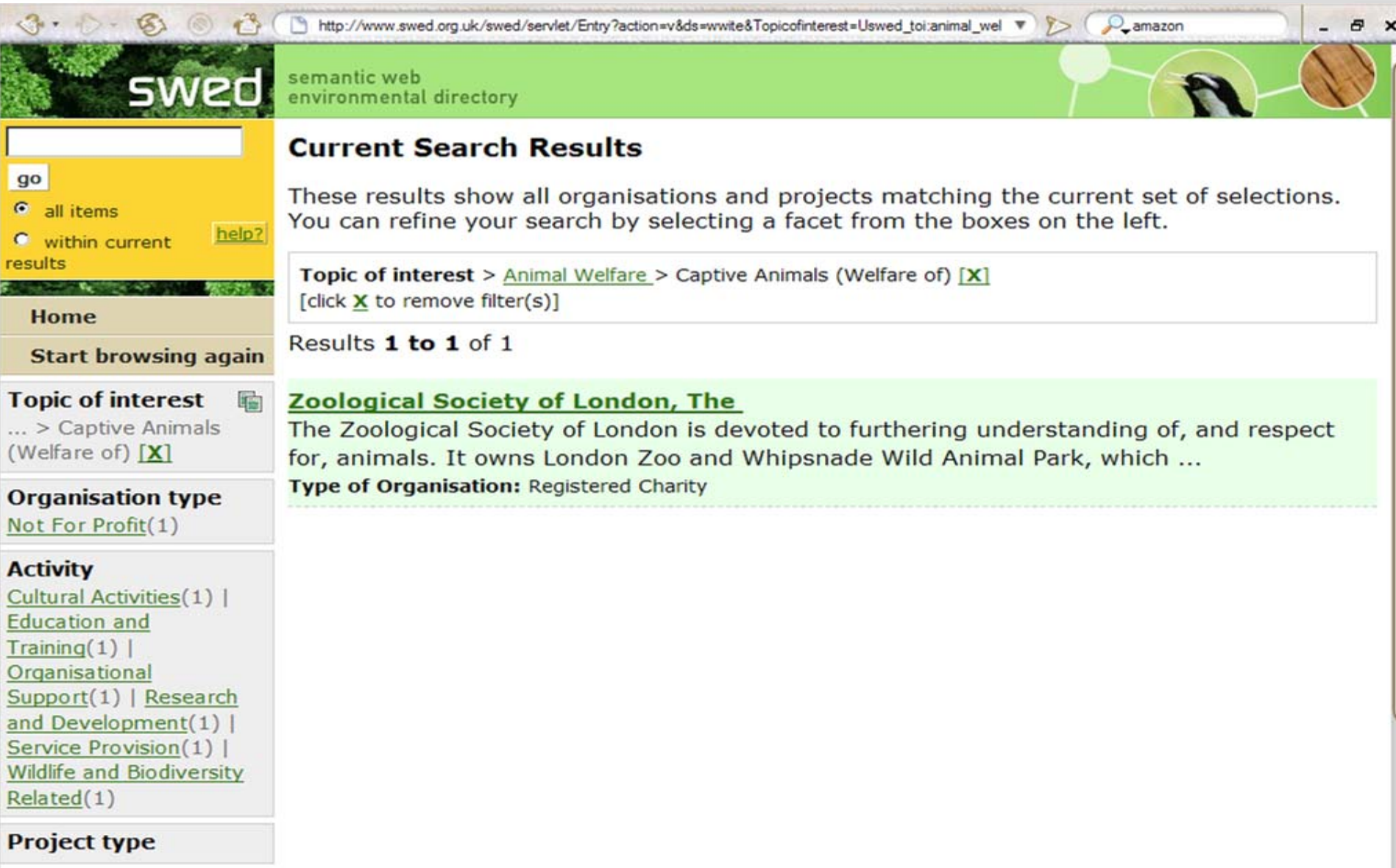
Classifications

Topic of interest	Animal Welfare Education Enquiries Species Teaching Resources
Activity	Animal Welfare  Awareness Raising  Campaigning and Lobbying  Information Provision 
Operational area	United Kingdom 

Demonstration data

Data on this page may be out of date. It is derived from an earlier publication: Who's Who in the Environment [1]. [Blue text](#) signifies that information is *not* from the primary source. Click on the  icon near the text to find out about the source of the information.

[Found a mistake?](#)



http://www.swed.org.uk/swed/servlet/Entry?action=v&ds=wwite&Topicofinterest=Uswed_toi:animal_wel

amazon

swed
semantic web
environmental directory

go
all items
within current results [help?](#)

Home
Start browsing again

Topic of interest
... > Captive Animals (Welfare of) [\[X\]](#)

Organisation type
[Not For Profit](#)(1)

Activity
[Cultural Activities](#)(1) | [Education and Training](#)(1) | [Organisational Support](#)(1) | [Research and Development](#)(1) | [Service Provision](#)(1) | [Wildlife and Biodiversity Related](#)(1)

Project type

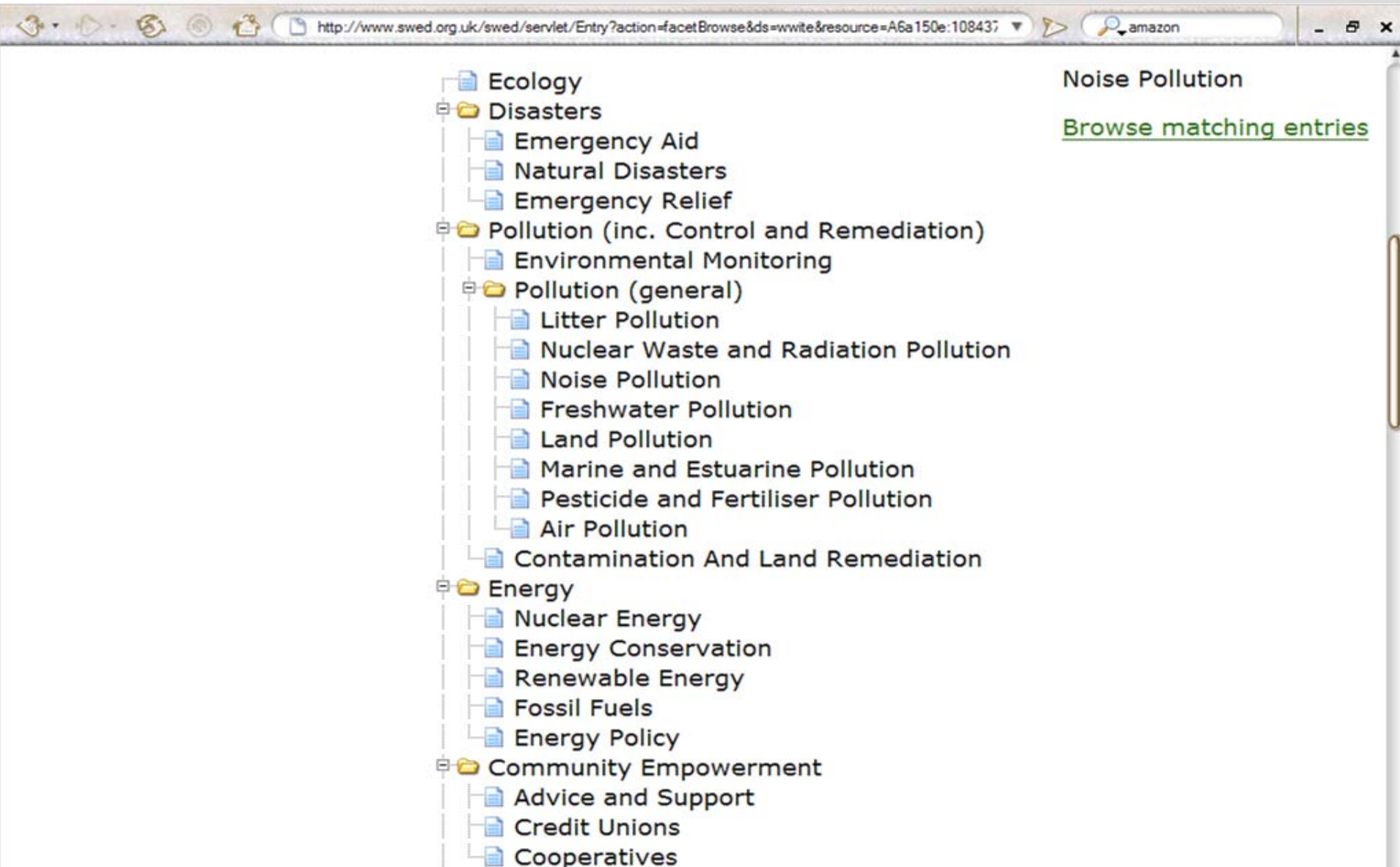
Current Search Results

These results show all organisations and projects matching the current set of selections. You can refine your search by selecting a facet from the boxes on the left.

Topic of interest > [Animal Welfare](#) > Captive Animals (Welfare of) [\[X\]](#)
[click [X](#) to remove filter(s)]

Results **1 to 1** of 1

[Zoological Society of London, The](#)
The Zoological Society of London is devoted to furthering understanding of, and respect for, animals. It owns London Zoo and Whipsnade Wild Animal Park, which ...
Type of Organisation: Registered Charity



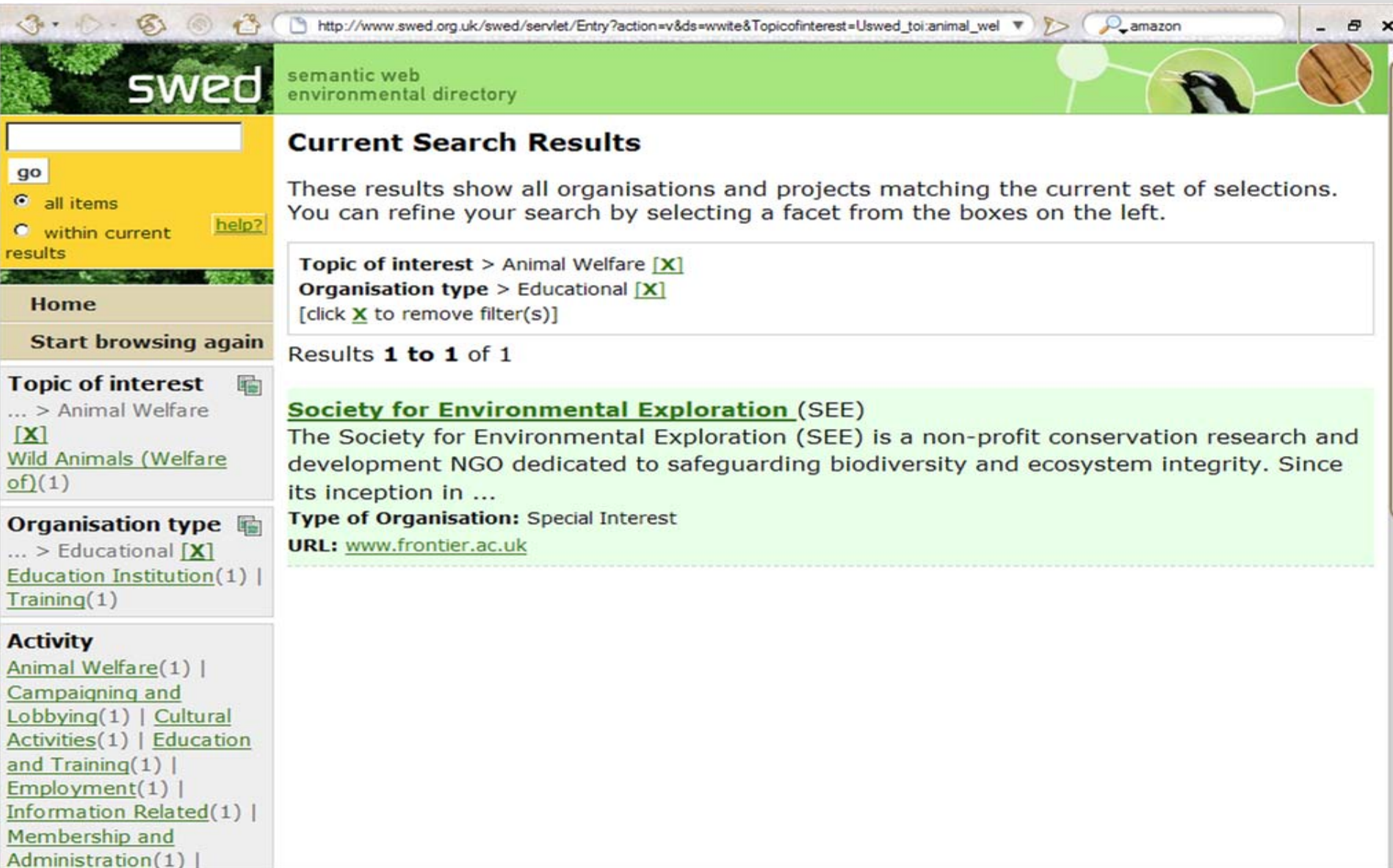
http://www.swed.org.uk/swed/servlet/Entry?action=facetBrowse&ds=wwite&resource=A6a150e:108437

amazon

- Ecology
- Disasters
 - Emergency Aid
 - Natural Disasters
 - Emergency Relief
- Pollution (inc. Control and Remediation)
 - Environmental Monitoring
 - Pollution (general)
 - Litter Pollution
 - Nuclear Waste and Radiation Pollution
 - Noise Pollution
 - Freshwater Pollution
 - Land Pollution
 - Marine and Estuarine Pollution
 - Pesticide and Fertiliser Pollution
 - Air Pollution
 - Contamination And Land Remediation
- Energy
 - Nuclear Energy
 - Energy Conservation
 - Renewable Energy
 - Fossil Fuels
 - Energy Policy
- Community Empowerment
 - Advice and Support
 - Credit Unions
 - Cooperatives

Noise Pollution

[Browse matching entries](#)



http://www.swed.org.uk/swed/servlet/Entry?action=v&ds=wwite&Topicofinterest=Uswed_toi:animal_wel

amazon

swed semantic web environmental directory

go

all items

within current results

help?

Home

Start browsing again

Topic of interest

... > Animal Welfare [X]

[Wild Animals \(Welfare of\)](#)(1)

Organisation type

... > Educational [X]

[Education Institution](#)(1) | [Training](#)(1)

Activity

[Animal Welfare](#)(1) | [Campaigning and Lobbying](#)(1) | [Cultural Activities](#)(1) | [Education and Training](#)(1) | [Employment](#)(1) | [Information Related](#)(1) | [Membership and Administration](#)(1) |

Current Search Results

These results show all organisations and projects matching the current set of selections. You can refine your search by selecting a facet from the boxes on the left.

Topic of interest > Animal Welfare [X]

Organisation type > Educational [X]

[click X to remove filter(s)]

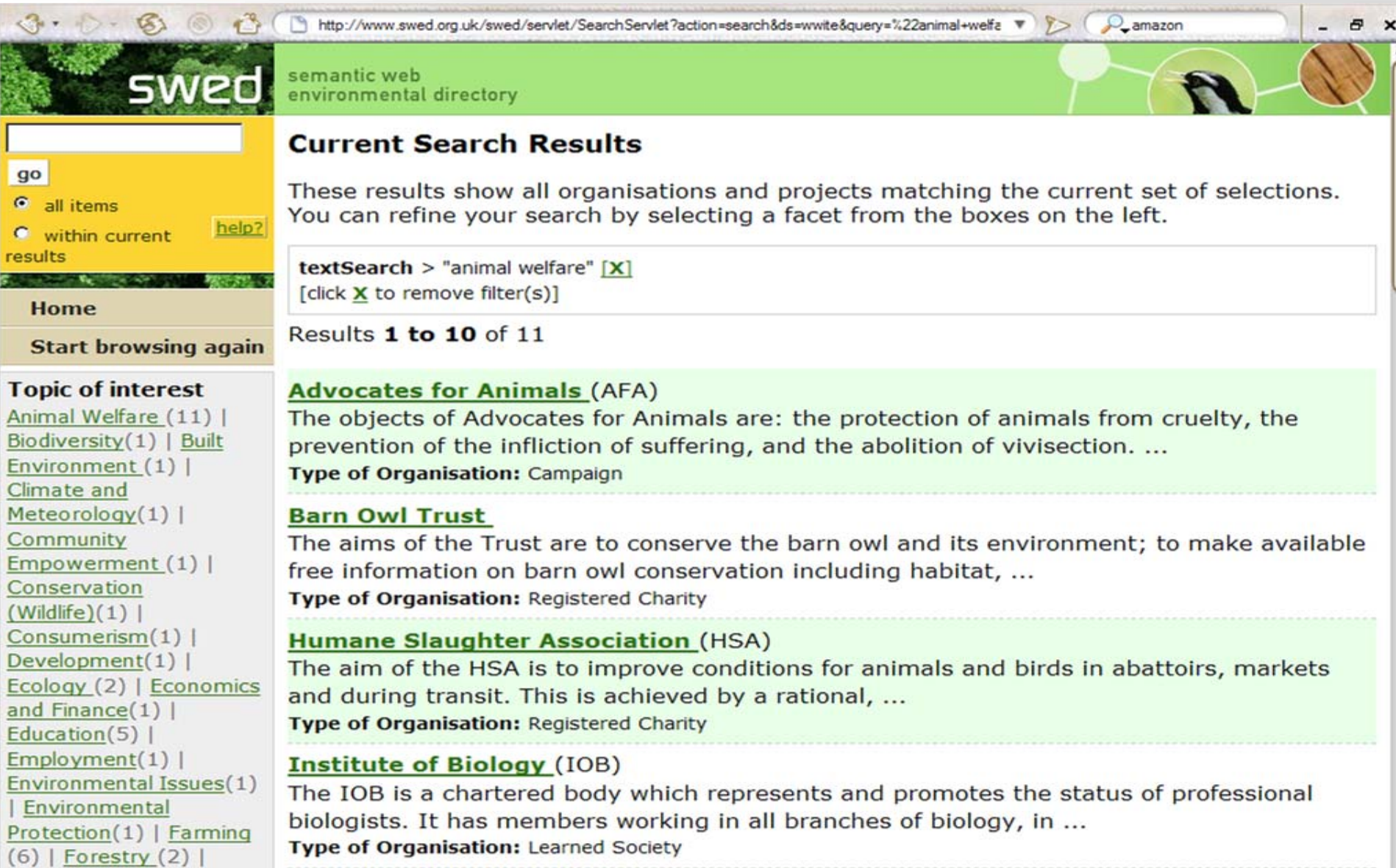
Results **1 to 1** of 1

[Society for Environmental Exploration](#) (SEE)

The Society for Environmental Exploration (SEE) is a non-profit conservation research and development NGO dedicated to safeguarding biodiversity and ecosystem integrity. Since its inception in ...

Type of Organisation: Special Interest

URL: www.frontier.ac.uk



http://www.swed.org.uk/swed/servlet/SearchServlet?action=search&ds=wwite&query=%22animal+welfa

amazon

swed semantic web environmental directory

go

all items

within current results

help?

Home

Start browsing again

Topic of interest

[Animal Welfare](#) (11) | [Biodiversity](#) (1) | [Built Environment](#) (1) | [Climate and Meteorology](#) (1) | [Community Empowerment](#) (1) | [Conservation \(Wildlife\)](#) (1) | [Consumerism](#) (1) | [Development](#) (1) | [Ecology](#) (2) | [Economics and Finance](#) (1) | [Education](#) (5) | [Employment](#) (1) | [Environmental Issues](#) (1) | [Environmental Protection](#) (1) | [Farming](#) (6) | [Forestry](#) (2) |

Current Search Results

These results show all organisations and projects matching the current set of selections. You can refine your search by selecting a facet from the boxes on the left.

textSearch > "animal welfare" [X]
[click X to remove filter(s)]

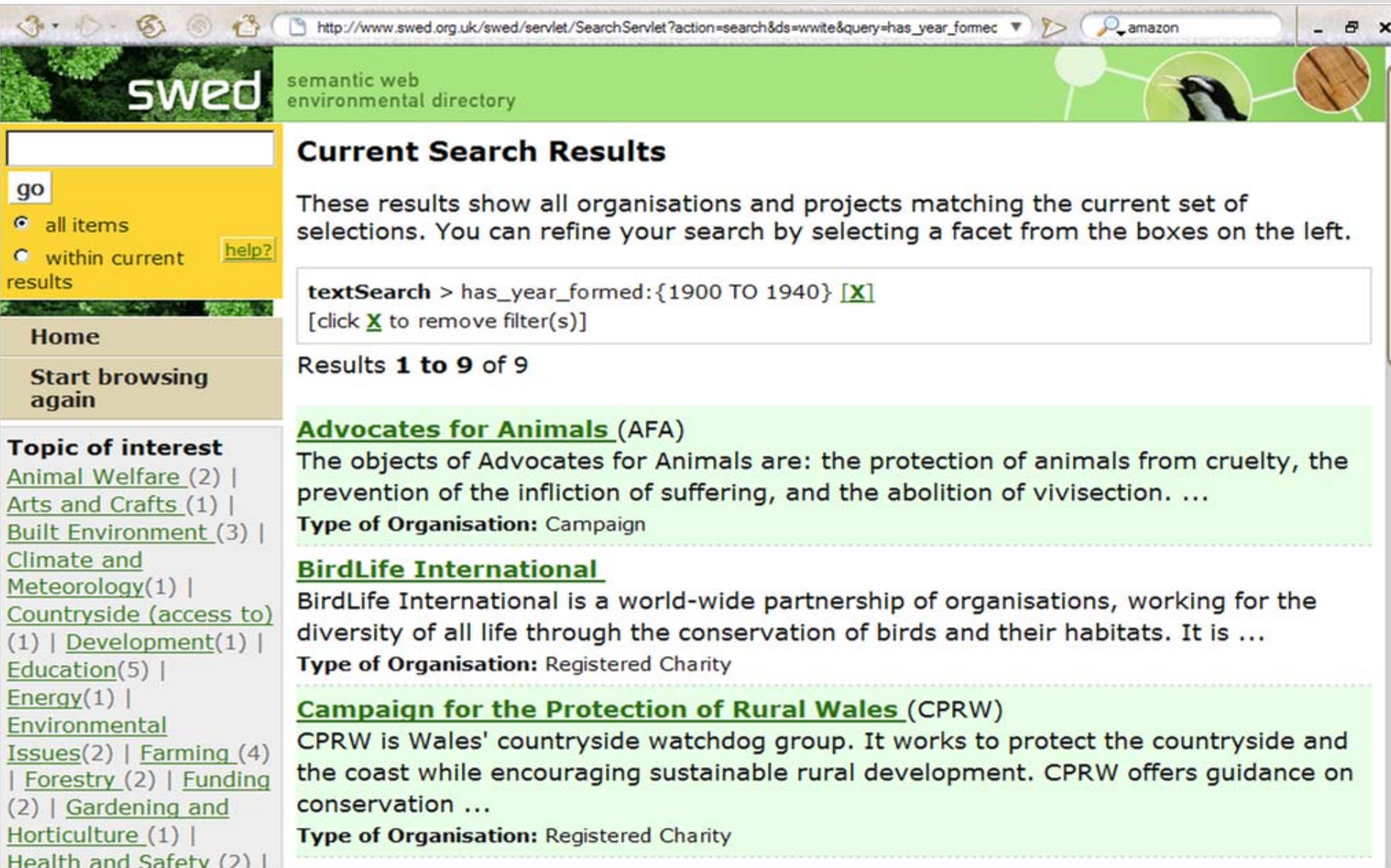
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Institute of Biology (IOB)
The IOB is a chartered body which represents and promotes the status of professional biologists. It has members working in all branches of biology, in ...
Type of Organisation: Learned Society



http://www.swed.org.uk/swed/servlet/SearchServlet?action=search&ds=wwite&query=has_year_formec

amazon

swed semantic web environmental directory

go

☐ all items ☐ within current results [help?](#)

[Home](#)

[Start browsing again](#)

Topic of interest

[Animal Welfare](#) (2) | [Arts and Crafts](#) (1) | [Built Environment](#) (3) | [Climate and Meteorology](#) (1) | [Countryside \(access to\)](#) (1) | [Development](#) (1) | [Education](#) (5) | [Energy](#) (1) | [Environmental Issues](#) (2) | [Farming](#) (4) | [Forestry](#) (2) | [Funding](#) (2) | [Gardening and Horticulture](#) (1) | [Health and Safety](#) (2) |

Current Search Results

These results show all organisations and projects matching the current set of selections. You can refine your search by selecting a facet from the boxes on the left.

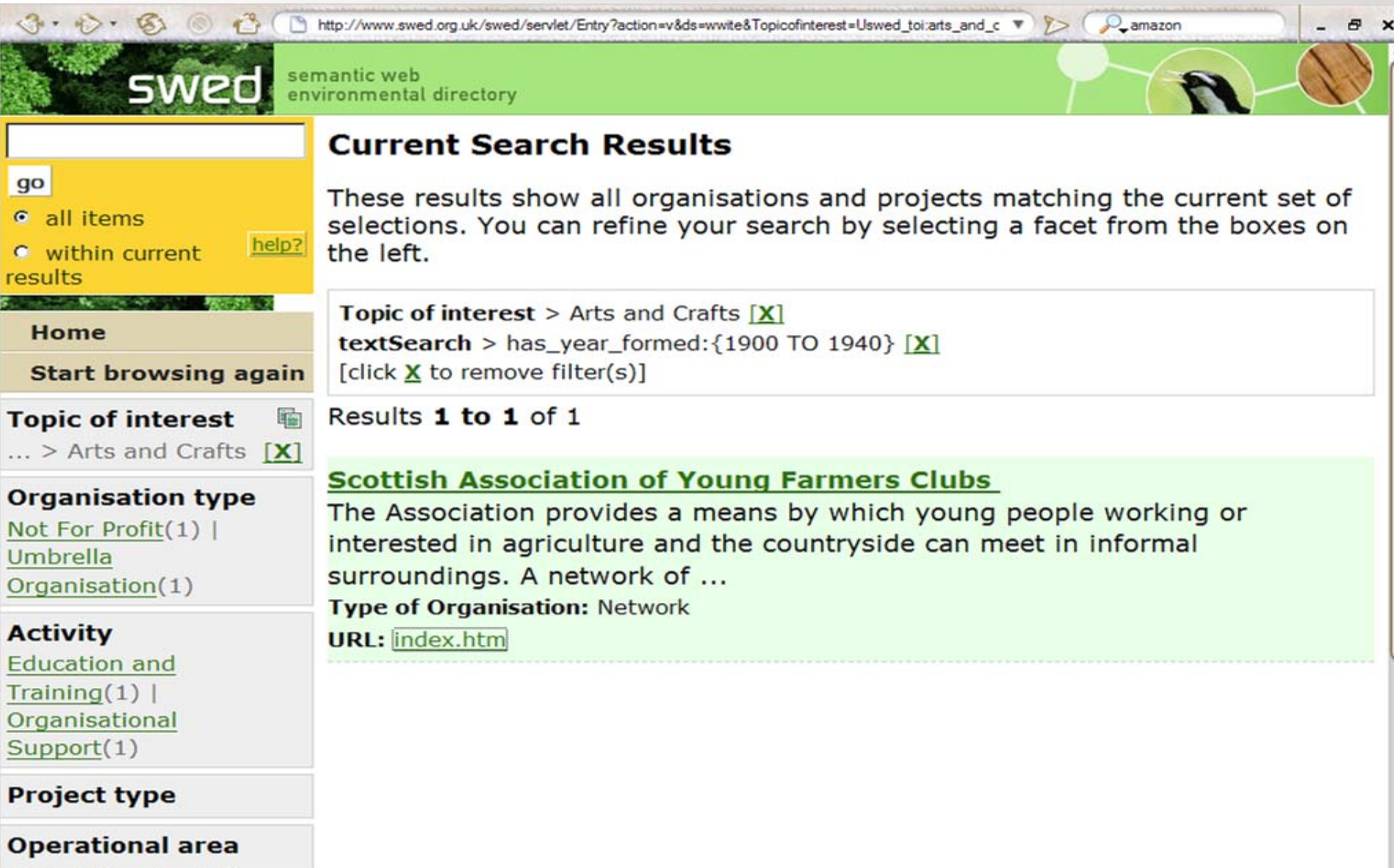
textSearch > has_year_formed:{1900 TO 1940} [\[X\]](#)
[click [X](#) to remove filter(s)]

Results **1 to 9** of 9

[Advocates for Animals](#) (AFA)
The objects of Advocates for Animals are: the protection of animals from cruelty, the prevention of the infliction of suffering, and the abolition of vivisection. ...
Type of Organisation: Campaign

[BirdLife International](#)
BirdLife International is a world-wide partnership of organisations, working for the diversity of all life through the conservation of birds and their habitats. It is ...
Type of Organisation: Registered Charity

[Campaign for the Protection of Rural Wales](#) (CPRW)
CPRW is Wales' countryside watchdog group. It works to protect the countryside and the coast while encouraging sustainable rural development. CPRW offers guidance on conservation ...
Type of Organisation: Registered Charity



The screenshot shows a web browser window displaying the SWED (semantic web environmental directory) search results. The browser's address bar shows the URL: http://www.swed.org.uk/swed/servlet/Entry?action=v&ds=wwite&Topicofinterest=Uswed_toi:arts_and_c. The SWED logo and name are visible in the top left. The search results are displayed in a green box. The left sidebar contains navigation links and filters. The main content area shows the current search results, including the topic of interest, search criteria, and the results themselves.

Current Search Results

These results show all organisations and projects matching the current set of selections. You can refine your search by selecting a facet from the boxes on the left.

Topic of interest > Arts and Crafts [X]
textSearch > has_year_formed:{1900 TO 1940} [X]
 [click X to remove filter(s)]

Results **1 to 1** of 1

Scottish Association of Young Farmers Clubs
 The Association provides a means by which young people working or interested in agriculture and the countryside can meet in informal surroundings. A network of ...
Type of Organisation: Network
URL: [index.htm](#)

Left Sidebar:

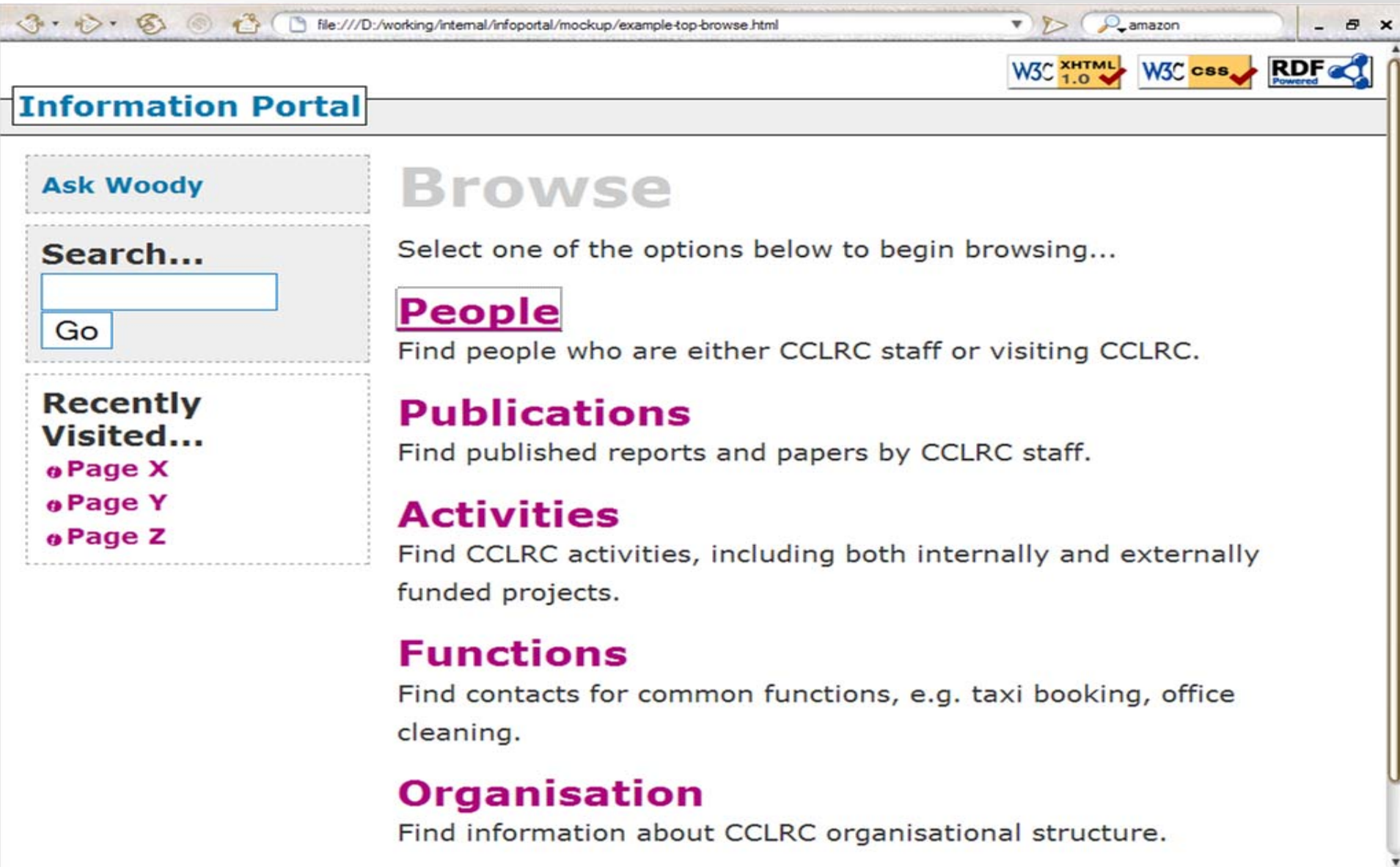
- Home
- Start browsing again
- Topic of interest
 - ... > Arts and Crafts [X]
- Organisation type
 - [Not For Profit\(1\)](#) |
 - [Umbrella](#)
 - [Organisation\(1\)](#)
- Activity
 - [Education and Training\(1\)](#) |
 - [Organisational Support\(1\)](#)
- Project type
- Operational area

- faceted browse
 - e.g. **topic of interest**, **organisation type**, **operational area** ...
- refine a search
 - e.g. **topic of interest:** animal welfare > captive animals (welfare of)
- tree search
- complex search
 - e.g. **topic of interest:** animal welfare
organisation type: educational
- basic text search
 - e.g. “animal welfare”
- advanced text search
 - e.g. “has_year_formed:{1900 TO 1940}”
- complex text and semantic search
 - e.g. **topic of interest:** Arts and Crafts
textSearch: has_year_formed:{1900 TO 1940}

- Information is decentralised ...
 - An organisation creates a ***machine-understandable description of itself***, and ***publishes it*** on its own website.
 - An organisation then ***registers*** with SWED, ***submitting only the URL*** of its self-description.
 - SWED then periodically ***harvests*** descriptions from registered locations and updates the directory.

- Shared meaning ...
 - Organisations use ***shared ontologies and taxonomies*** to describe themselves.
 - Ontologies, taxonomies and descriptions are published using (emerging) ***web standards*** (RDF, OWL, SKOS).

- SWED – only one ***type*** of search object
 - I.e. an organisation/project
- Extend to several types of search object
 - E.g. people, publications, organisational units, activities, programmes, facilities ...
 - Each type has different search facets



The screenshot shows a web browser window with a file path in the address bar and a search bar containing 'amazon'. The page title is 'Information Portal'. The main content area is titled 'Browse' and lists several search options: 'People', 'Publications', 'Activities', 'Functions', and 'Organisation'. Each option has a brief description. On the left sidebar, there is a search box with a 'Go' button and a 'Recently Visited...' section listing 'Page X', 'Page Y', and 'Page Z'. The browser's status bar at the bottom indicates the page is powered by W3C XHTML 1.0, W3C CSS, and RDF.

Information Portal

Ask Woody

Search...

Go

Recently Visited...

- Page X
- Page Y
- Page Z

Browse

Select one of the options below to begin browsing...

People

Find people who are either CCLRC staff or visiting CCLRC.

Publications

Find published reports and papers by CCLRC staff.

Activities

Find CCLRC activities, including both internally and externally funded projects.

Functions

Find contacts for common functions, e.g. taxi booking, office cleaning.

Organisation

Find information about CCLRC organisational structure.

People

+ First Name [\[What is this facet?\]](#)

+ Surname [what is this facet?]

Status [\[What is this facet?\]](#)

Organisational Unit [What is this facet?]

Location [What is this facet?]

Band [What is this facet?]

Start Browsing Again
Ask Woody


Search...

Go

☒ people ☐ all

Recently Visited...

- ❶ Page X
- ❷ Page Y
- ❸ Page Z


file:///D:/working/internal/infoportal/mockup/example-page-person.html
amazon

W3C XHTML 1.0
W3C CSS
RDF Powered

Information Portal

Start Browsing Again
Ask Woody

Search...

☒ people
☐ all

Recently Visited...

- Page X
- Page Y
- Page Z

People


Alistair Miles

First name:
Surname:
Status:

Organisational unit:
☒ BITD (department)
☒ EIN (division)
☒ ISE (group)

Office Location:

Links: [Corporate homepage](#)

Images: 

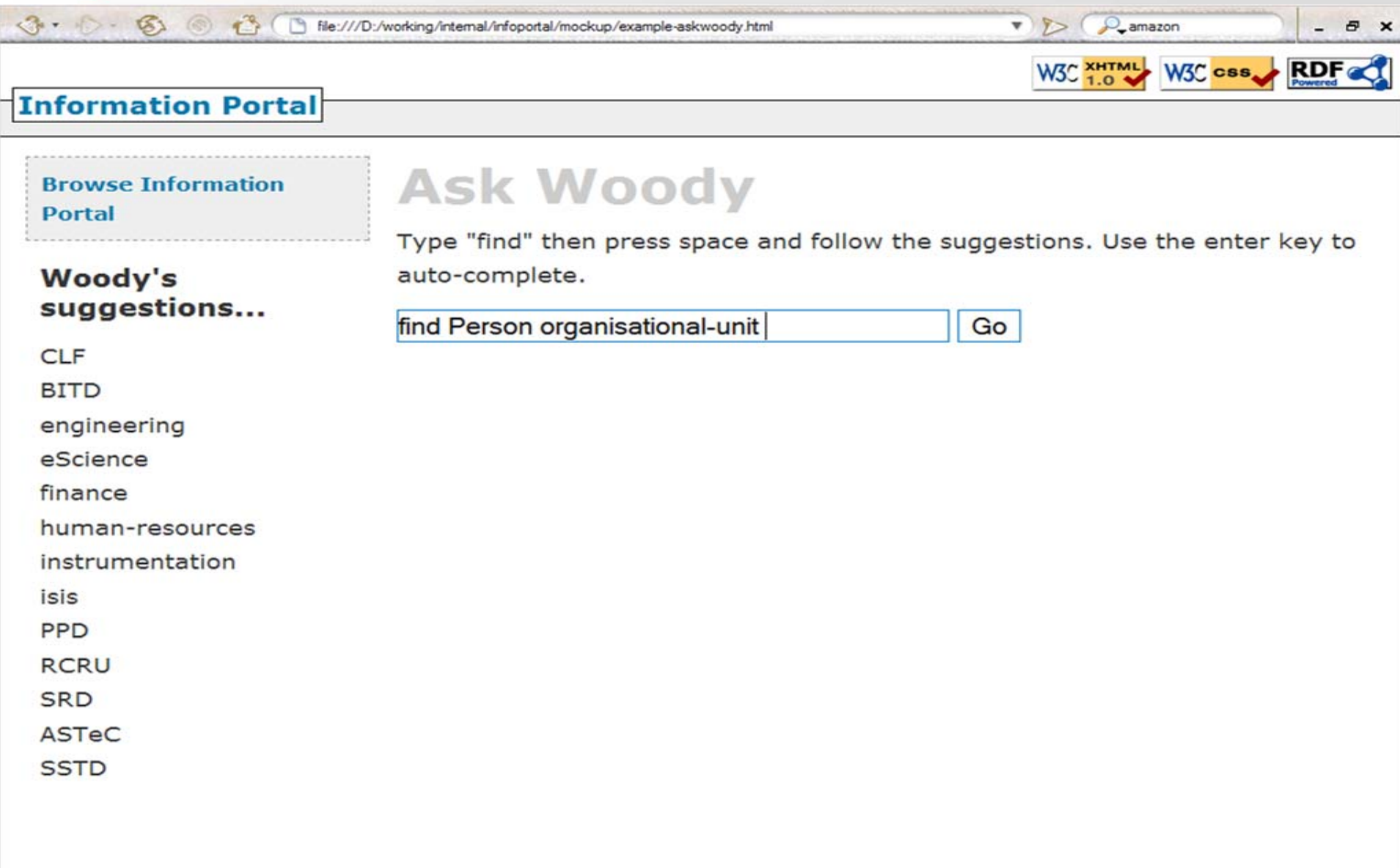
Functions:
☒ Some Function
☒ Another Function

Skills and knowledge:

Publications:
☒ Pub A (2005)
☒ Another pub (2004)

Activities:
☒ Project A (team member)
☒ Another project (project manager)

Relationships:
☒ Joe Bloggs (direct report)
☒ Simon Lambert (line manager)



The screenshot shows a web browser window with a file path in the address bar: `file:///D:/working/internal/infoportal/mockup/example-askwoody.html`. The browser's search bar contains the text 'amazon'. Below the browser window, there is a header bar with the text 'Information Portal' and several logos: W3C XHTML 1.0, W3C CSS, and RDF Powered. The main content area is divided into two sections. On the left, there is a sidebar with a dashed border containing the text 'Browse Information Portal' and a section titled 'Woody's suggestions...' listing various categories: CLF, BITD, engineering, eScience, finance, human-resources, instrumentation, isis, PPD, RCRU, SRD, ASTeC, and SSTD. On the right, there is a large heading 'Ask Woody' followed by instructions: 'Type "find" then press space and follow the suggestions. Use the enter key to auto-complete.' Below this, there is a search input field containing the text 'find Person organisational-unit' and a 'Go' button.

Information Portal

Browse Information Portal

Woody's suggestions...

- CLF
- BITD
- engineering
- eScience
- finance
- human-resources
- instrumentation
- isis
- PPD
- RCRU
- SRD
- ASTeC
- SSTD

Ask Woody

Type "find" then press space and follow the suggestions. Use the enter key to auto-complete.

find Person organisational-unit

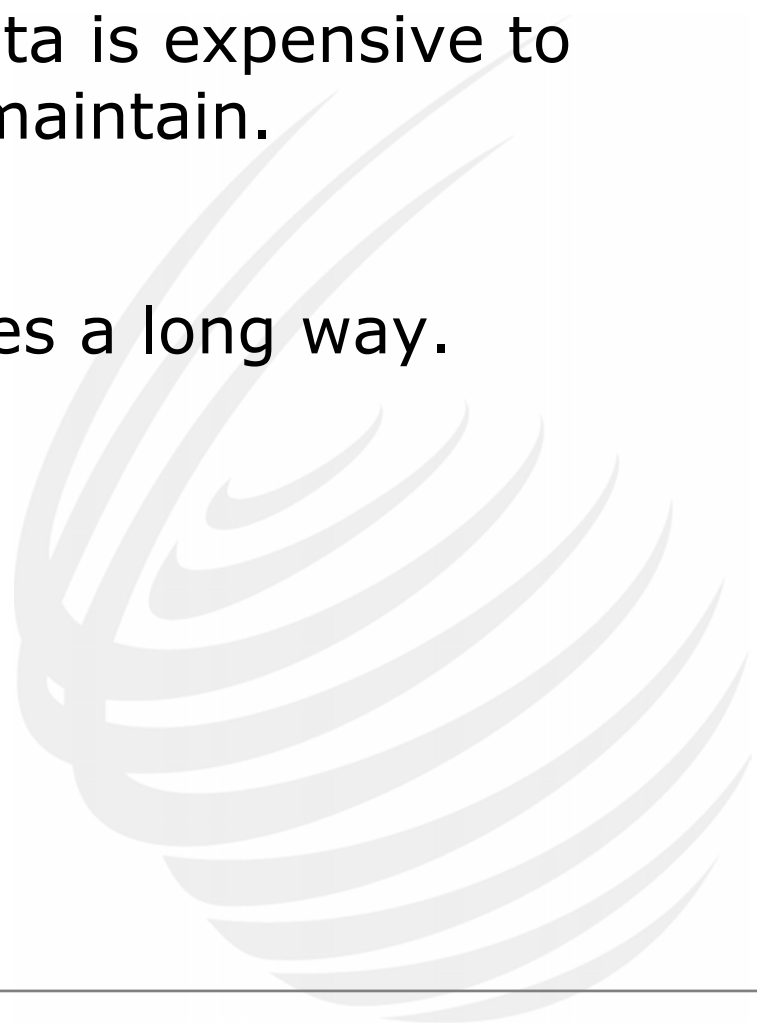
Discussion points ...



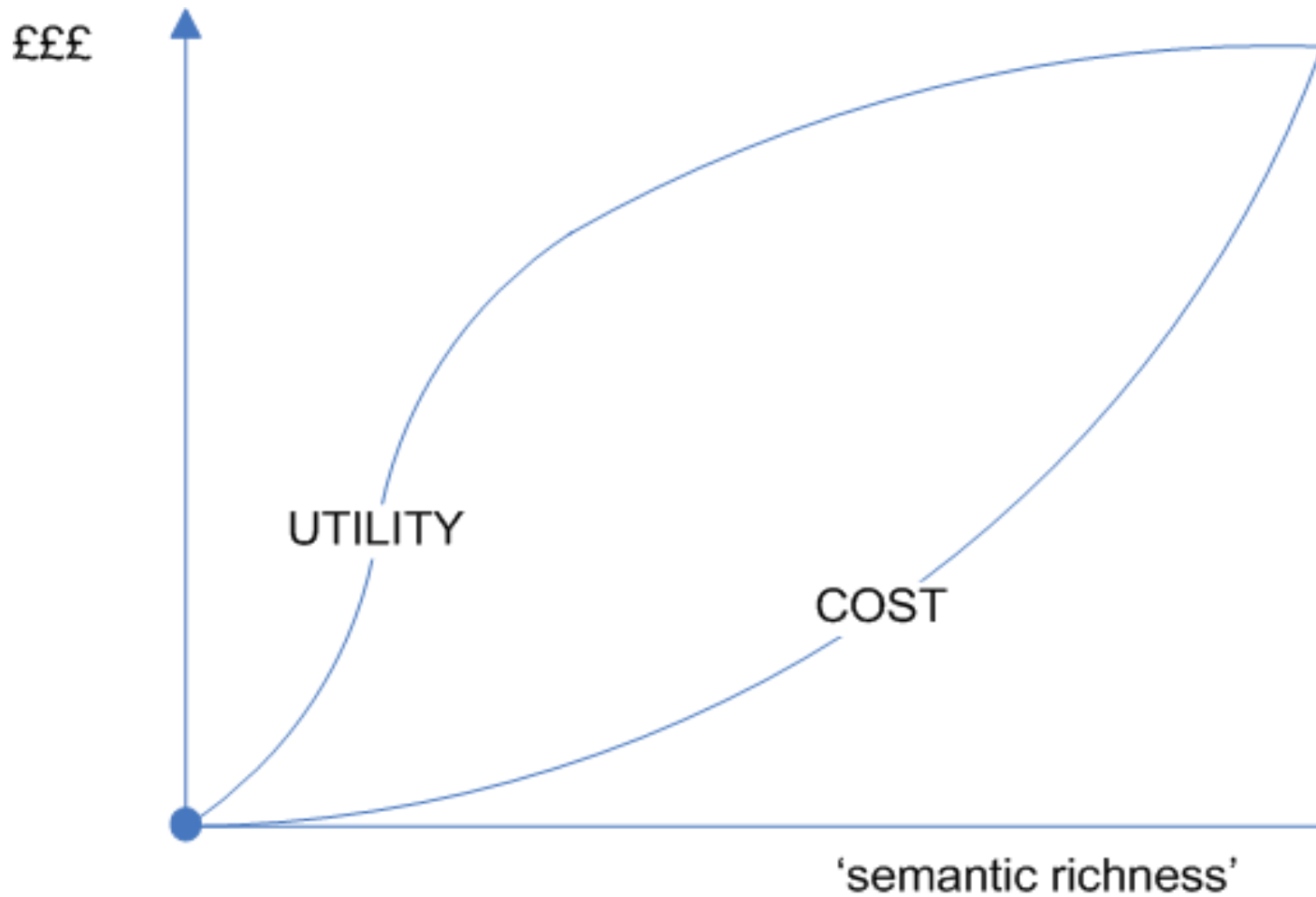
- Maintenance overheads
- Redundancy
- Provenance
- Collaboration
- Rights & access



- Cost
 - ‘Semantically rich’ metadata is expensive to create, and expensive to maintain.
- Benefit
 - A little bit of ‘meaning’ goes a long way.



The cost of meaning



- **SWED 'Semantic Portal'**
 - directory of UK environmental organisations and projects
- **How it works**
 - decentralisation
 - shared meaning
 - web standards
- **Extending to multiple search types**
 - e.g. people, publications, projects ...
- **Discussion**
 - pros and cons of decentralisation
 - cost and utility of semantics