

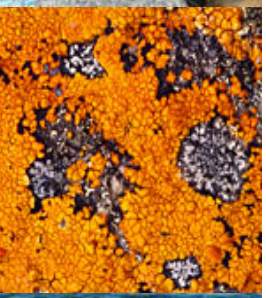

NatureMap

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ACT NOW FOR THE FUTURE

Department of Environment and Conservation
Our environment, our future

NatureMap

A new online window into Western Australia's biodiversity

A collaborative project between

Department of Environment and Conservation

museum

Why NatureMap?

- Increasing expectation for information and accountability for decisions
  - Timely, accurate, comprehensive, available
  - Underpinned with good science
- Costly FOI requests
- Urgent threats to biodiversity
  - Need to understanding the environment
  - Access to comprehensive research data
  - Communicate results
- Some challenges
  - Very high biodiversity to protect within the country's largest State landmass
  - Limited resources

Why NatureMap? (cont.)

- Data access issues
  - A perception of “withholding” data
  - In reality…
    - Data are hidden or obsolete
    - Backup, security issues
    - Inconsistency in how data are surveyed, databased and distributed
    - Significant time “assembling” datasets
    - Most large organisations have these problems.

Why NatureMap? (cont.)

- Propagating datasets
  - Versioning issues
  - Integration issues
  - Storage issues
- High cost of GIS capability
- GIS is still rocket science
- NatureBank Strategy (Science Division, 2002)

Aims and Objectives

- To deliver targeted biological information to stakeholders, researchers and the community
- Guiding principles
  - One stop shop
  - 80/20 rule
  - No GIS rocket science
  - Data to the masses

NatureMap

- Objectives
  - Provide species distributional information (“what is where?” and “where is what?”)
  - Deliver information online through the Internet
  - Provide a integrated and corporately available repository for key biological and related datasets, based on existing DEC spatial data framework

Aims and Objectives

- Deliverables
  - Distribution maps of species occurrences
  - GIS stuff (pan, zoom…)
  - Real-time point in polygon queries based on multiple attributes
  - Species lists and statistics for defined or arbitrary areas
    - Collector effort
    - Endemic species
    - Conservation species
    - Weeds and ferals
  - Publication quality maps
  - Downloadable datasets (subject to custodial caveats)

Source Data

- Species data

WA Herbarium Specimen Database	579198
WA Museum Specimen Database	173385
Salinity Action Plan Flora Survey Data	44050
Swan Coastal Plain Survey	22697
Banksia Atlas	10351
Declared Endangered Flora Database	13866
Salinity Action Plan Fauna Survey Data	14840
Salinity Action Plan Invert Data	9792
The Orchid Atlas of Western Australia	8686
Salinity Action Plan Waterbird Data	1906
Total	**878771**

- Spatial query layers
- Reference layers

Security Model

- Registration
  - Guest
    - Free and open to all
    - Full query functionality
    - Full GIS functionality
    - Reports, maps of both common and threatened taxa
  - Basic
    - Free and open to all
    - Personalise interface
    - Download data
    - Usage stats
  - Advanced
    - Access to detailed locality information for threatened species
    - Only available to vetted, bona fide researchers or planners and non-commercial applications

Online demonstration

NatureMap

Results

- NatureMap is in production
- Most comprehensive warehouse currently available of WA species occurrence data
- Increased collaboration between Government Agencies, NGOs, etc.
- Increased focus on better information management
- Initial seed funding and estimated time frame
  - $120,000, 6 months
- Actual cost and time frame
  - $400,000, 24 months
- Stakeholder feedback extremely positive
- Substantial productivity improvements

Results

% Development Time

Application development

- GUI 30
- Database tuning 5
- Query optimisation 5
- **Total** **40**

Data management

- Acquisition / licensing 5
- Cleaning 5
- Integration 10
- Dataset updates 5
- Warehouse refreshing 30
- Business processes 5
- **Total** **60**

Where to from here?

- Current issues
  - Cost of maintenance, enhancement
  - Connectivity, delivery of information
  - Scalability / performance
- The future?
  - More targeted functionality (themes)
  - More dots!
  - Wider focus than species occurrences eg vegetation communities, sites of special interest, publications…
  - Interoperability
  - Partners


Thank you