

Provision of Information by the GIASIPartnership

Chris Lyal

Natural History Museum, UK

GIASIPartnership

Invasive Alien Species Gateway



Main purpose of Partnership

Mission: “Through global-scale cooperation, maximize the capacity of CBD Parties and their partners to access, exchange, analyse, and effectively apply the information and informatics tools needed to prevent, control and eradicate invasive alien species in a timely and reliable manner”



Main purpose of Partnership

- global-scale cooperation
- maximize capacity of CBD Parties & partners to prevent, control and eradicate IAS through:
 - access
 - exchange
 - analysis
 - effective application
 - of information and informatics tools needed
 - in a timely and reliable manner

Communication

- Effective means of communication (not a one-way process!)
- Targeting communication (content, language, understanding user needs and adapting to them)
- Rapid and effective response to needs / interrogation

Content

- Make information and tools available to Parties
 - Make available what is in place
 - Create what is not in place - develop novel resources
- Recognise and manage gaps and overlaps
- Develop and implement means of quality control on data and information
 - So that users can interpret fitness for use.

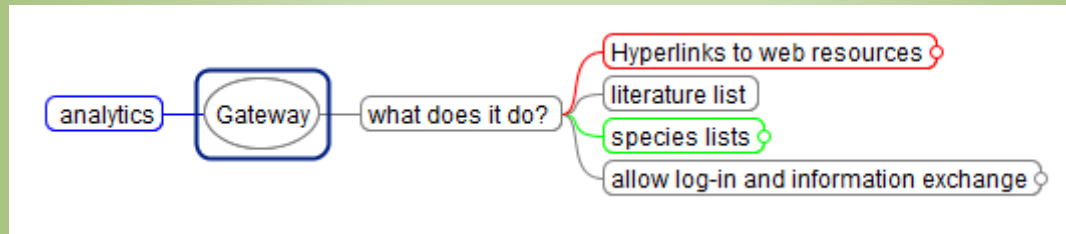
Not just on the internet

- We have a strong focus on digital media, BUT
not all users use the web as access point.
- **Examples include:**
- Identification aids in non web-based formats:
 - paper (individual pages to be assembled at need)
 - DVD / CD-ROM
 - Mobile apps
- Information-gathering
 - Mobile apps
- **Integration:**
 - how can we produce information that can be repurposed?
 - If we deliver materials for the web can a subset be downloaded as, e.g. information sheet?

Mobile apps

- Producing an App is a major interest among WG members
- Could initially be to assist identification
- Also possible to use it to upload images for expert identification
- And to report occurrences
- Discussed further in Working Group plans

GIASIPartnership Gateway



- Gateway is our web-based means of delivering information
- Delivery System rather than a separate resource
- Uses Drupal
- Created by a team based in NHM



GIASIPartnership Gateway: Hyperlinks to external websites

- Currently:
 - links organised on static pages, entered manually
- In place but not implemented:
 - links in database with key words corresponding to pages → display on current pages
- Developing:
 - additional key words (topic, geography, biome etc.) &
 - search facility
 - increase in number of links

GIASIPartnership Gateway: Literature list

- Requested in workshop here last year
- Ca 9,500 references on Invasive Species
- Each of which can be:
 - tagged with species names
 - linked to web resource or uploaded paper

GIASIPartnership Gateway: Species lists

- List of species names from Partners' databases
- Name in format and spelling of original
- Names in idiosyncratic classification
- System can accommodate taxonomic corrections
- From a name:
 - can link to external resources
 - Can upload images and text

GIASIPartnership Gateway: Information exchange

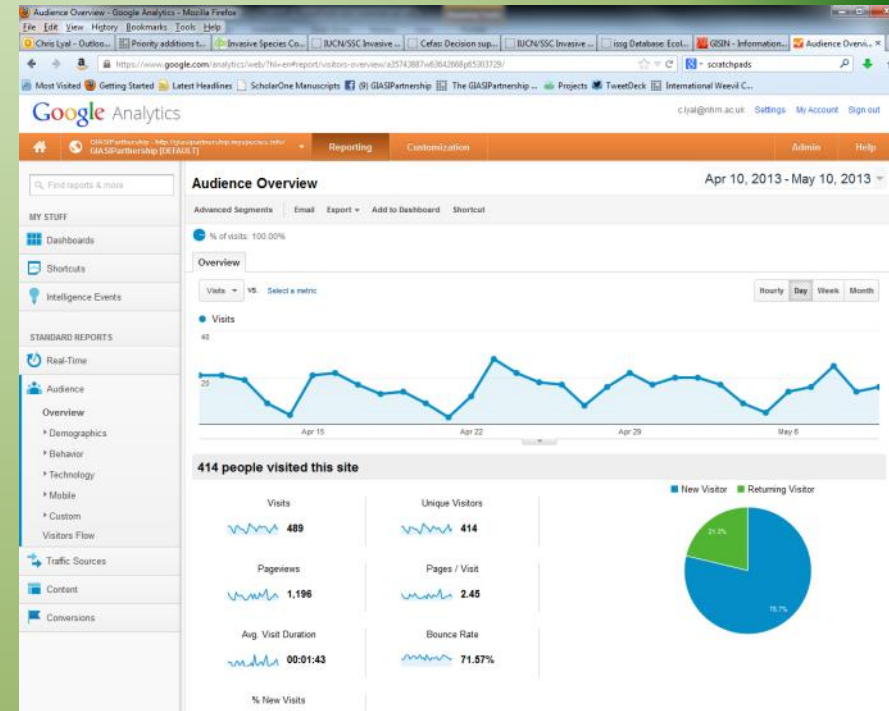
- Users can register and add content to the site
 - Range of permissions
- Events Module
- News feed (also RSS feed)
- Comments
- Forum
 - Potential for discussions, questions, information exchange
 - Requires some moderation, but mainly participation – resource / time issue

GIASIPartnership Gateway: Information exchange

- Some possibilities not implemented:
 - Pages can be added, e.g. by individual projects for their own use or to share (can be private)
 - Specimen data can be added and maps created
 - Blogs

GIASIPartnership Gateway: Assessment

- Use of Google Analytics
- Comments on site
- Feedback at meetings
- Project to understand workflows and uses



Workflows

- Species-level risk assessment:

Litoria caerulea in Jamaica



Workflows:

Litoria caerulea in Jamaica

Step 1: Distribution

- Tools / Distribution analysis tools / GBIF
 - Search in GBIF
 - many examples in Australia and New Guinea; 1 in Florida, none in Jamaica.
- Animal Species: *Litoria caerulea* → Descriptions
 - IUCN Red List information: native range is Australia, Indonesia, PNG
 - EoL information: native in Australia and New Guinea, introduced in New Zealand & USA.
 - EoL information: popular exotic pet throughout the world.

Workflows:

Litoria caerulea in Jamaica

Step 2: Habitat and climate

- Gateway lacks information on national habitats and also lacks general habitat mapping / comparison tools.
- Animal Species list → *Litoria caerulea* → Information from IUCN Red List and EoL: can tolerate wide range of dry to moist forest habitats, including monsoon – prefers dry habitats; can be found in urban areas.
- Other sources outside Gateway indicate that Jamaica has dry and moist forest, so habitat might be suitable.

Workflows:

Litoria caerulea in Jamaica

Step 3: Demography

- Animal Species list → *Litoria caerulea* → Information from IUCN Red List and EoL:
 - frequency of reproduction: once a year in the rainy season;
 - time to maturity: 2 years
 - viable offspring: EoL: 150-300 eggs / IUCN: 200-2000 eggs
 - Not hermaphrodytic
 - Size: 10cm

Workflows:

Litoria caerulea in Jamaica

Step 4: Environmental effects

- Tools / Distribution analysis tools / GISD → Search GISID
No results for *Litoria caerulea*
Results for *Litoria* include *L. aurea*: carnivorous with wide range of food sources; can threaten other amphibians and reptiles where introduced
- Information Services / Directories of resources / GISIN
Search *Litoria cinerea*: → USGS: non-native in Florida (pet trade releases); potentially competing with native frogs & may predate smaller species.
- Animal Species list → *Litoria caerulea*: Information from IUCN Red List and EoL:
Affected by chytrid fungus. [presumably potential vector].
information supplemented by references from literature list.

Workflows:

Litoria caerulea in Jamaica

Additional tool

- Gateway gives no direct information.
- Tools/Risk Analysis Tools/ISSG -> http://www.issg.org/risk_assessment_resources.htm -> provides link to “Decision support tools: Identifying potentially invasive non-native marine and freshwater species: fish, invertebrates, amphibians. Centre for Environment, Fisheries & Aquaculture Science (Cefas)” <http://www.cefasc.defra.gov.uk/our-science/ecosystems-and-biodiversity/non-native-species/decision-support-tools.aspx?RedirectMessage=true> which provided a tool to assess relevant likelihoods for amphibia.

Workflows:

Litoria caerulea in Jamaica

- Many questions can be answered
- Because species is not a known invasive anywhere information more limited than known invasives.
- Information requirements extend beyond current content – where to set limits and where to provide suggestions?
- Requires flexibility of search and some knowledge of where to look
- Clearer workflow would be advantage

GIASIPartnership

Invasive Alien Species Gateway