

## BIRDLIFE INTERNATIONAL - JOB SPECIFICATION/DESCRIPTION

<b>JOB TITLE:</b>	<b>Data Architect</b>
<b>DIVISION/DEPARTMENT:</b>	<b>Information Management/Science, Policy and Information</b>

### 1. OVERALL PURPOSE OF JOB

You will lead on the design and implementation of a new database that will enable BirdLife to transition its existing World Bird and Biodiversity Database into a future World Database of Key Biodiversity Areas. This will involve identifying and addressing the needs of the BirdLife Partnership, adding extra fields and functionality to support the new Key Biodiversity Area (KBA) standard, a requirement to bring (currently separate) tabular and geospatial data together and a desire to more effectively utilise external datasets, often available through web APIs.

You will play a central part in all the phases of the project, from initial planning and scoping, through a requirements collection exercise and onto the database design itself (conceptual, logical and physical). Based on requirements, you will recommend a suitable database management system, implement the database design and load existing data. You will test your design to ensure it meets user needs and monitor the system to ensure it meets performance and security criteria. You will assist other team members in designing data applications that will allow data input from web-based forms, structured file uploads, GIS software and external APIs.

### 2. WORK RELATIONSHIPS

<b>REPORTING TO (LINE MANAGER):</b>
Alex Tate, Head of Information Management
<b>REPORTING TO JOB HOLDER (LINE MANAGED STAFF):</b>
There are currently no BirdLife staff that report to this position but this role may be expected to manage contracted third-party developers.
<b>PRINCIPAL OTHER WORKING RELATIONSHIPS/RESPONSIBILITIES WITHIN SECRETARIAT:</b> <i>(Include nature of work relationship)</i>
Information Management (IM) team – You will sit within the IM team and will work closely with the other team members who have a variety of GIS and database skills allied with a deep understanding of the underlying datasets. In addition, a full stack web developer is being recruited in 2018 and will work closely with the Data Architect, especially in the design of any data applications built on the new database.  All BirdLife staff – You will work closely with a large number of BirdLife staff, especially those in the Science, Conservation and Policy teams that work with Important Bird Areas (IBAs), Key Biodiversity Areas (KBAs) and species ranges data.
<b>PRINCIPAL WORKING RELATIONSHIPS/RESPONSIBILITIES WITHIN BIRDLIFE NETWORK :</b>
The BirdLife Secretariat manages the global IBA database on behalf of the BirdLife Partnership and relies on Partner staff to input, validate and review IBA data. Partners and their staff are therefore essential stakeholders for you to engage with in order to better understand their needs.
<b>PRINCIPAL EXTERNAL RELATIONSHIPS/RESPONSIBILITIES:</b>
Conservation NGOs – The KBA partnership (see <a href="http://www.keybiodiversityareas.org/">www.keybiodiversityareas.org/</a> ) of 12 leading global conservation organisations will provide a significant set of stakeholders (both scientific and technical) for you

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to engage with. You will also engage with the newly formed KBA secretariat (co-hosted by BirdLife International and IUCN).

Third-party contractors –A number of contracted third-party developers have been and are being used to develop data and information systems for both core and project-based work and you will assist with specifying requirements and ensuring deliverables meet these specifications.

Other stakeholders – Existing data and information systems have a wide range of stakeholders outside of the BirdLife secretariat and partnership including (in no particular order) decision makers, academia, businesses, funders, donors, educators, students, job seekers, bird enthusiasts and the general public. This role will focus on understanding the needs of these user communities and ensuring that data models are developed that take their needs into account.

**3. KEY WORKING RELATIONSHIPS GRID**

Contact	Level (1-3)	Contact	Level (1-3)	Contact	Level (1-3)
BirdLife network / other NGOs	3	General public	2	Policy makers (institutional /politicians/ corporations)	1
BirdLife advisory groups, committees, reg. councils	2	Press & media	1	Funding organisations (institutions, foundations, corporations )	1
BirdLife Global Council	1	Regulators/ legislators/ auditors	1	Individual donors/ members	1
Suppliers/service providers	2	Scientific community	2	VIPs/ royalty/ high worth individuals	1

**Level of Contact**

- 1.= General Informing. "Appearance, first impressions". May have some independent outside exposure and contact, primarily informative.
- 2.= Presenting/Representing/Reporting - "Relationship management". Independent exposure representing BirdLife. Maintaining individual contacts. Usually managing information flow.
- 3.= Justifying/Negotiating - "Influencing decision makers". Independent exposure as lead contact, representing Birdlife to highly influential people. Responsible for complex and sensitive/high risk communications.

**4. MAIN DUTIES/WORK PROGRAMME RESPONSIBILITIES**

By main work area:

**Development of the World Database of Key Biodiversity Areas (WDKBA)**

You will take the lead role in completely redeveloping the existing World Bird and Biodiversity Database in order to meet the needs of a wide range of stakeholders including the BirdLife Partnership and the KBA partnership. Work duties will include:

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- Database planning and systems definition.
- Requirements collection and analysis to ensure that any new database satisfies the needs of a wide range of stakeholder groups.
- Database design including conceptual, logical and physical designs.
- Selecting an appropriate database management system to best match the identified requirements followed by prototyping and implementing the new physical database design.
- Data conversion and loading followed by testing, monitoring and operational maintenance.
- Ensuring that performance and security criteria are met.
- Assisting other members of the Information Management team with data application design and development.

### **Leadership, strategy and planning**

- Assisting in the development of a long-term strategy for BirdLife's data architecture.
- Keeping up to date with industry best practice and researching new technologies relevant to current and future projects.

### **People and resources**

- Acting as a bridge between technical staff (web developer, database manager, GIS analysts) and end-users producing and using the global-level datasets managed by BirdLife.
- Developing and maintaining positive relationships with external web development companies ensuring service levels are suitable for organisational and staff needs.

### **Communication and user engagement**

- Providing a forum for user engagement and a process to collect and act on user feedback.
- Developing and maintaining technical documentation associated with all development work.
- Providing user training where necessary

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**5. LIMITS OF AUTHORITY/RESPONSIBILITY FOR RESOURCES**

<b>RESPONSIBILITY AREA</b>	<b>LEVEL OF AUTHORITY</b>
<b>Financial/Budgetary</b>	Delegated authority from Head of Division as needed to spend from divisional and/or project budgets
<b>Contracts – Funders</b>	Delegated responsibility from Head of Division as needed to submit proposals and negotiate contracts
<b>Contracts – Staff/Consultants</b>	May have delegated responsibility to hire short term/project staff/consultants and recruit interns/volunteers
<b>Contracts – Service providers</b>	May have delegated responsibility to negotiate contracts
<b>Legal Responsibility</b>	May have delegated responsibility to negotiate funding contracts
<b>Other</b>	

**6. EDUCATION/SKILLS AND OTHER SPECIAL REQUIREMENTS**

<b>REQUIREMENTS</b>	<b>KNOWLEDGE/SKILLS/ATTRIBUTES</b>
<b>Minimum General Education</b>	Degree or higher in a relevant subject area.  OR equivalent relevant work experience
<b>Job Specific Education/Qualification</b>	BSc, Computer Science or equivalent  OR equivalent relevant work experience
<b>Job Specific Knowledge</b>	<ul style="list-style-type: none"> <li>• Extensive knowledge of Relational Database Management Systems such as PostgreSQL, Oracle, SQL Server, MySQL etc.</li> <li>• Proficient in SQL and knowledge of database procedural languages such as PL/pgSQL.</li> <li>• Knowledge of data indexing and searching.</li> <li>• Knowledge of database performance testing and tuning.</li> <li>• Knowledge of database security best practice.</li> </ul>
<b>Experience</b>	<ul style="list-style-type: none"> <li>• Demonstrable experience of designing databases and implementing these designs in a previous role.</li> <li>• Experience of collecting and analysing user requirements.</li> <li>• Experience with geospatial database extensions and working with geospatial data.</li> </ul>
<b>Management &amp; organisational skills</b>	<ul style="list-style-type: none"> <li>• Ability and motivation to deliver high quality work with minimum supervision.</li> </ul>
<b>Communications skills</b>	<ul style="list-style-type: none"> <li>• Excellent interpersonal and oral communication skills with the ability to present, consult, influence and build credibility with colleagues at all levels.</li> <li>• Excellent written skills with the ability to produce technical reports for a non-technical audience.</li> </ul>
<b>Creativity &amp; Initiative</b>	<ul style="list-style-type: none"> <li>• Logical, practical and creative approach to problem solving.</li> <li>• Experience of keeping up to date with new technology and industry best practice.</li> </ul>
<b>Computer Literacy</b>	Covered in job-specific knowledge.
<b>Languages</b>	Fluency in English required. Other languages an advantage but not essential.
<b>Travel requirements</b>	<ul style="list-style-type: none"> <li>• Occasional travel to relevant training events, workshops and conferences.</li> </ul>
<b>OTHER DESIRED/HELPFUL KNOWLEDGE/SKILLS/ATTRIBUTES</b>	

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- Database Administrator experience.
- Specific experience designing databases based on scientific research data.
- Knowledge of a range of back-end and front-end programming languages.
- Project management experience and qualifications (e.g. Agile).
- Knowledge and experience of working with biodiversity data.

<b>Prepared by:</b>	<b>Date:</b>
Alex Tate	15/12/2017