

The New Zealand Bio-data Services Stack Implementation of a Demonstration Service

Draft Report of Phase Three of the New Zealand Bio-data Services Stack Project

TFBIS project 299: “A national network for connecting and mobilising primary
biodiversity data”

<https://teamwork.niwa.co.nz/display/NZBSS>

August 2015

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New Zealand Bio-data Services Stack (BSS) – Facilitating biological data exchange across New Zealand

Background

During 2014 the TFBIS funded “New Zealand Bio-data Services Stack” project (TFBIS project 299: “A national network for connecting and mobilising primary biodiversity data”) has worked with key stakeholders on defining what a national Bio-Data Infrastructure (BDI) for better integration of New Zealand biological data derived from multiple distributed sources should look like. The BSS project restricted its scope on observed species abundance data, and focused on four ‘species domains’: birds, pest plants, freshwater fish, and freshwater invertebrates. These were selected as they were perceived by the New Zealand bio-data community (as represented at the 2013 Dataversity workshop) as most important for the country’s environmental management needs. Please refer to the project WIKI (<https://teamwork.niwa.co.nz/display/NZBSS>) for background on the project.

Project Progress

The BSS project aims to demonstrate inter-agency bio-data federation for selected data sources. The BSS project consists of three phases.

In Phase One we identified the BSS requirements focussed on the identified case studies and related data sources. As part of that, data sources and barriers were identified, and some initial draft national standards and guidelines for data exchange developed. The report on BSS Phase One has been published as Lambie et al. (2014) and is available on the project WIKI.

In Phase Two we have been further developing and applying relevant infrastructure components, and in particular have been working with data providers through a number of workshops on enabling them to publish data to standards. We have demonstrated a working prototype of the Bio-data Services Stack through limited set of services and client tools. The experiences of Phase Two have been used to define the national Bio-Data Infrastructure (BDI) required to meet the BSS needs (as identified in BSS Project Phase One), and demonstrate the feasibility of the BDI through a working prototype of a limited number of services and clients. During this Project Phase we have worked with a number of key agencies in federating some of their data according to BSS guidelines, hence develop a ‘proof of concept’ for the wider roll-out. The report on BSS Phase Two has been published as Schmidt et al. (2015) and is available on the project WIKI.

This report documents Phase Three of the project, which is dedicated to the refinement of the developed standards and broader uptake of BSS with all BSS project partners.

BSS Project Phase Three Work Programme

Overview

As a result of the first two BSS Project phases, a BSS Code of Practice based on GBIF standards technologies was developed (refer to the BSS WIKI, <https://teamwork.niwa.co.nz/display/NZBSS>) and tested through stakeholder feedback and a series of workshops (dates and venues are listed on the BSS WIKI, <https://teamwork.niwa.co.nz/display/NZBSS>) and a number of demonstration implementations.

Key goals of the BSS Phase Three work programme are (1) to continue the work with all BSS project partners to enable them publish some of their key bio-data sets in a BSS compliant way; and (2) to scope a BSS profile for bio-data federation based on OGC and linked data technologies (see project report BSS Phase Two).

Implementation progress

Progress has been / is being made through the following activities

- Key stakeholder contacts identified and documented on project WIKI under <https://teamwork.niwa.co.nz/display/NZBSS/BSS+implementation+work+stream>
- Workshops held with key stakeholders and key datasets identified and strategy for data publication developed (dates and venues documented on the project WIKI)
- Setup IPT server to assist stakeholders with data publication – planned for August 2015
- 2nd tranche of workshops planned August – December 2015
- Scoping of an OGC based BSS Profile in progress through Landcare Research.

The following table summarizes the Data Providers and Datasets to be federated through the BSS demonstration project.

Provider / BSS Project Partners	Key Contacts	Datasets planned to be published
Auckland Council	Simon Tredgett / Mike McMurtry	Akl C TBMP birds data; Akl C FW inverts data; Akl C Weeds data 2014 (data holdings in BioMap)
Horizons Council	Jon Roygard / Sean Hodges	Horizons Weeds Dataset; Horizons Invertebrate Dataset; Horizons Freshwater Fish Dataset
Hawkes Bay Regional Council	Ian Maxwell / Jeff Cooke	HBRC FW inverts; HBRC estuary infauna; HBRC wetlands data; HBRC terrestrial plants dataset
Greater Wellington Regional Council	Lian Butcher / Jon Marks	GW Invert Database Mapping (data holdings in CADDIS)
Department of Conservation	Allan Ross / Benno Kappers	DOC Reptiles Amphibian Database Mapping (data holdings in Bioweb)
Environment Southland	John Prince / Neil de Jong	ES Weeds dataset; ES fish dataset; ES Invert dataset
Landcare Research	Nick Spencer / Aaron Wilton	Allan Herbarium; New Zealand Fungal Herbarium (PDD)
NIWA	Jochen Schmidt / Jane Robbins	Freshwater Fish Database; Freshwater Bio Information System