

Appendix 1: Summary of delivery of project objectives and milestones.

Below is a list of the project objectives, with the evidence for delivery associated with each in red underneath. Overleaf is an associated timetable of milestone delivery (Table 1).

1. Data update and extension.

1. Update and extend time-series used in Phase I to describe changes in terrestrial biodiversity.

Achieved as precursor to modelling (M1.1)

2. Collate long-term time-series that describe changes in freshwater biodiversity
Achieved as precursor to modelling (M1.2), although it was not possible to obtain water chemistry data for analysis (Obj 4.2ii, M4.3)

2. Co-ordination of statistical analyses.

Achieved (see methods / results of final report) (M2.1)

3. Analyses of terrestrial population time-series.

1. To better identify climate change impacts, use multiple regression models to extend previous analyses of population trends at a national-scale.

Achieved (M3.1. Section 4.2-4.3 of final report)

2. Fine-scale analysis of population trends to distinguish climate change impacts from other drivers of change, and quantify interactions between different drivers. This will include

i) Fine-scale analysis of national monitoring scheme data at the site level.

Achieved (M3.3, Section 4.4 of final report).

ii) Analyses of biodiversity measurements at the 12 terrestrial ECN sites accompanied by co-located meteorological, atmospheric deposition chemistry, soil temperature and soil chemistry data. Comparable analysis will be conducted on freshwater ECN data in Task 4.2.

Achieved (M3.4, Section 4.5 of final report). Analysis only focussed on moths and butterflies and did not consider other covariate environmental data as unlikely to directly affect the species concerned.

4. Analysis of freshwater population time-series

1. Analysis of Upland Waters Monitoring Network (UWMN) lakes and streams, supplemented with longer-term data from the Llyn Brianne Stream Observatory.

Achieved (M4.1 - section 4.6 of final report)

2. Analysis of national-scale river macro-invertebrate monitoring data in the following ways.

i) Community level analysis across England and Wales.

Achieved (M4.2 - section 4.7 of final report)

ii) Family and species-level analysis of distribution and abundance change

Achieved (M4.3, section 4.8 of final report).

iii) ECN analysis of co-located species-level population and detailed environmental data, in common with terrestrial analysis of Task 3.2.

Freshwater ECN data contributing to UWMN analysis (Task 4.1).

5. The development of climate change indicators

1. Short review in order to identify the most appropriate methodology to be developed and used through the BICCO-Net project and the production of national climate change indicators.

Achieved (M5.1 - Sections 4.9 & 4.10 of final report)

2. Production of example maps of spatial variation in the climate change indicator for birds.

Achieved (M5.2 - Section 4.10 of final report)

6. Traits analysis

1. Report describing traits analysis of the sensitivity of populations to climate change, and comparing responses between terrestrial and freshwater systems to temperature

Achieved (M6.1 - Sections 4.11 of final report)

7. Knowledge transfer

1. Production of a knowledge transfer plan.

Achieved (M7.1 - 2013 progress report)

2. Dissemination of project information through appropriate web-pages to be identified in consultation with the project steering group.

M7.2,5-8. Partially achieved. A policy-focussed project summary was produced, but due to restrictions preventing the use of a web-site to promote project outputs, communication through the internet was not possible.

Table 1. Summary of delivery of BICCO-Net II milestones.

	Target date	Milestone	Delivery date
1	31/10/2012	M1.1. Collation of terrestrial data	Dec 12
2	15/03/2013	M1.2. Collation of freshwater data	Dec 13
3	30/11/2012	M2.1. Extended project meeting	Nov 12
4	28/02/2013	M3.1. Draft report summarising large-scale analyses of longest time-series.	Jan 14
5	28/02/2013	M3.2. Input M3.1 results to report card	NA
6	30/09/2013	M3.3. Draft report based on fine-scale analysis of terrestrial time-series data	Jul 14
7	30/09/2013	M3.4. Draft report based on fine-scale analyses of both terrestrial and freshwater ECN data	Jul14
8	31/03/2013	M3.5. Proposal to examine the effects of climate change on ecological communities	Not pursued
9	31/07/2013	M4.1. Draft report on impacts of climate change on biodiversity in upland waters	Feb 14
10	31/07/2013	M4.2. Draft report summarising community level analysis across England and Wales	Jul 13
11	31/12/2013	M4.3 Draft report of integrated analysis of macro-invertebrate distributional change	Jul 14
12	30/11/2012	M5.1 Review of climate change indicators	Mar 13 & Jan 14
13	15/03/2013	M5.2 Production of climate change indicators	Feb 14
14	30/06/2013	M5.3 Mapped outputs of the climate change indicator	Feb 14
15	31/01/2014	M6.1 Draft report of traits analysis comparing responses between terrestrial and freshwater systems.	Jul 14
16	31/10/2012	M7.1. Knowledge transfer plan	Mar 13
17	30/11/2012	M7.2. BICCO-Net website update	Not possible
18	28/02/2013	M7.3. Input to biodiversity report card	NA
19	28/02/2013	M7.4. Input to freshwater report card	NA
20	15/03/2013	M7.5. Policy summary I	Only one produced (M7.7)
21	15/03/2013	M7.6. End of year website update	Not possible
22	14/03/2014	M7.7. Policy summary II	Jul 14
23	14/03/2014	M7.8. Final website update	Not possible
24	31/10/2012	M8.1. Inception plan agreed	Mar 13
25	30/11/2012	M8.2. First project steering group meeting	Mar 13
26	28/02/2013	M8.3. Second project steering group meeting	Jul 13
27	15/03/2013	M8.4. End of year progress report	Mar 13

28	31/08/2013	M8.5. Third steering group meeting	Sep 13
29	31/01/2014	M8.6. Submission of draft final report	Feb 14
30	14/02/2014	M8.7. Final project steering group meeting	Mar 14
31	14/03/2014	M8.8. Submission of final report	Jul 14