

Scottish Raptor Monitoring Scheme: report to the SRMG on achievements April 2017 to March 2018

BTO Scotland
Beta Centre (Unit 15)
Stirling University Innovation Park
Stirling
FK9 4NF
chris.wernham@bto.org

Introduction

This report to the Scottish Raptor Monitoring Group (SRMG) outlines the annual achievements of the Scottish Raptor Monitoring Scheme (SRMS) against the agreed work plan for the period 1 April 2017 to 31 March 2018 (as required under the Memorandum of Understanding for the SRMS for 2017-2018). It covers the activities coordinated by BTO Scotland on behalf of the SRMG.¹

The Memorandum of Agreement sets out the following benefits that can be achieved as a result of the SRMS Parties working together through the SRMG:

- To continue to collect (to six-figure grid reference level), collate and curate data, and report annually on breeding raptors, owls and raven within Scotland, including updating trends information;
- To increase the geographical coverage of breeding raptor, owl and raven monitoring;
- To provide information to support the evidence base in respect of human interference with breeding raptors, owls and raven; and
- To promote raptor monitoring within Scotland including increasing awareness of the SRMS and developing an entry level recording project to encourage new volunteers into raptor monitoring.

Key tasks of the Parties through the SRMG specified in the MoA include:

- To employ and manage a full-time Raptor Monitoring Coordinator (RMC) for the SRMS;
- To oversee development of an online data submission system, with associated website;
- To ensure improved data flows between Parties and to SNH, FCS and JNCC for statutory reasons and to wider stakeholders as appropriate;
- To develop an entry level raptor monitoring project to encourage wider interest in raptor monitoring;
- To encourage wider communication of the SRMS; and
- To provide objective information and other appropriate support to the National Wildlife Crime Unit in relation to raptor persecution.

The planned outputs from the Project during the period of the MoA include:

- A report on the breeding performance of raptors, owls and raven in Scotland by the end of April of the following year;
- Updates to the provisional trends in raptors, owls and raven across Scotland (annually where possible);
- Production of the Scottish Raptor Newsletter (thrice annually); and

¹ A separate report covers SRMS activity coordinated by the Scottish Raptor Study Group.

- Submission of Scheme data to the NBN Atlas Scotland (with agreed data access levels).

Staffing

Dr Amy Challis was employed full-time as the Scottish Raptor Monitoring Coordinator during 2017/18, and contributed to, or provided the majority of the work towards, all of the areas of SRMS work in the agreed work plan. She was supported in this work by BTO Scotland staff members: Dr Mark Wilson (Research Ecologist; providing analytical support for data work); Dr Chris Wernham (Associate Director; providing management and strategic support); and Dr Ben Darvill (Development and Engagement Manager; providing advice on volunteer engagement and training). Anne Cotton (Data and Administration Officer) provided administrative/data cleaning support when required.

SRMS Secretariat

Amy Challis continued to act as the Secretariat, producing draft agendas and papers for meetings, taking and drafting minutes. She was supported in this role by Andrew Stevenson (SNH, SRMS Chair) and Chris Wernham, and by the other members of the SRMG in checking meeting minutes.

Achievements against 2017-18 work plan

The agreed SRMS work plan and progress against tasks for 2017-18 is provided in Appendix 1a, and an indicative work plan for 2018-19 is provided in Appendix 1b (the latter still to be finalised once the level of funding for 2018/19 is known). Here we summarise progress in each of the work areas and issues that limited progress during the year, and provide short comments on priorities for future work (as set out in the draft forward work programme for the SRMS).

SURVEY METHODS & STANDARDS

Establish and maintain inventory of raptor survey coverage in Scotland

During 2016/17 a series of questions were developed that could be used in conjunction with draft maps and draft trends to meet with individual SRSG members and discuss their survey coverage and how it had varied through time. The approach was initially trialled with a small number of SRSG members (for Raven study areas) with Mark supporting Amy in visiting observers, and Amy visited several more observers during the 2017 field season. However, this work is very time intensive and much of Amy's time had to be spent on other urgent work areas (particularly annual reporting and data sharing) during 2017/18. It was agreed during further discussion with SRMG in the latter part of 2017/18 that SRSG would try to assist more in the delivery of this work by providing Amy with a subset of observers and study areas from which high quality trend information was most likely to be obtainable, on which she could the focus.

Future: Amy will continue to work with observers to build coverage information for each study area, which will feed into the development of species trends from each area. Work will then focus on ensuring that coverage information is kept up to date (increasingly, it is hoped, via the on-line data entry system).

Input to SCARABBS raptor surveys

No new species work was required as there is no SCARABBS raptor survey in 2017.

Future: Work subsequent to SCARABBS surveys to check consistency of data between the national survey (RSPB dataset) and SRMS dataset can be time consuming and a need has been identified to unify raptor data submission pathways as much as possible in future, to reduce the opportunities for inconsistent reporting to occur. There are no SCARABBS surveys planned for raptors until Merlin in 2020, and funding such surveys is becoming increasingly difficult. Completion of SRMS work on coverage and trends will allow SRMS to take stock of the outputs that can be derived from annual raptor monitoring efforts in Scotland (and to what extent these could replace the information collected via SCARABBS surveys). Effective uptake of the new online recording system and agreements over data sharing will provide an efficient pathway by which future national survey data might be captured. This underpinning work needs to be progressed in the next two years, ahead of the next potential SCARABBS survey scheduled for 2020.

DATA COLLATION & SHARING

Management of data submitted to the SRMS in 2017-18 and the master dataset

All 2016 and 2017 data underwent the usual checking, and most summary data required for annual report production (hard copy and website updates) can now be produced in an automated way. Production of the 2016 report was held back a little due to the need to produce material for the other sections of the new format report but was published ahead of the SRSR conference in February 2018. 2017 report production is well ahead of schedule and it should be published during summer 2018.

Future: From 2018, an increasing proportion of SRMS data will be submitted via the new on-line system. In the longer term, the SRMS needs to ensure that a majority of the annual data (and ideally also historical data) is submitted via the on-line route, facilitating much more efficient annual collation and reporting. In the interim period, submission via the two different routes will add another layer of work to annual reporting and maintenance of the master dataset because of the need to integrate records that constitute a summary of each breeding attempt (traditional spreadsheet records) and records that record nest contents at each visit (on-line recording route). Programming work will be required to enable the existing master and online database content to be linked effectively for data request processing and ongoing analytical requirements.

Data sharing and data use protocols

Following much previous work on data sharing, during 2016/17 the SRMG agreed to adopt a modified and streamlined approach by combining the draft data sharing policies and protocols into one document (dealing with data sharing amongst all the SRSM partner organisations). This aimed to make the whole issue clearer by providing everything in one document, also better ensuring a consistency of approach across all partners. The simplified documents went out for consultation again during January 2017, with comments collated in March 2017, and subsequent discussion at the SRMS in August 2017 and the SRSR Chairs' Meeting in September 2017. After consideration of outstanding concerns (from SRSR), a shortlist of options for data sharing was prepared and circulated, with a deadline of December 2017 for a decision from SRSR. Following another major discussion at the SRMG meeting in November 2017, SRSR agreed to sign up to the data sharing policy as an organisation, whilst making provision for individual members to opt out of data sharing with the SRMS.

Future: There is a need to work quickly towards the signing of a data policy and sharing agreement that addresses the needs of all Partners and maximises mobilisation of SRMS data for agreed purposes. This will involve establishing the process by which observers opt in to sharing their data

with the SRMS. There is also a need to establish similar data sharing agreements with any other organisations that the SRMS Partnership agrees to support on a routine basis (National Wildlife Crime Unit – NWCU – as a priority). Structure(s) and protocols to allow data sharing to happen routinely will need to be set up, generally adopting a ‘web services approach’, where those with authorisation are able to access the data held on the centralised server. The extent to which everything can be achieved through such a web services approach will depend on the speed at which observers switch to the new on-line data submission system, and the extent to which the master SRMS dataset is integrated into the new system. The most desirable outcome would be to have all the existing SRMS data (and any new historical data submitted to the SRMS) fully integrated onto the new on-line system but this is unlikely to be completely achievable because per-visit information will be required for the new system (which has not been provided by most observers to date). Programming work will therefore be required to enable the existing master and online database content to be linked effectively for data request processing and ongoing analytical requirements. Work will also be required to mobilise/share data held by non-SRSG SRMS partner organisations. Work to prepare the SRMS for the new General Data Protection Regulation (GDPR) coming into force on 25 May 2018 will need to be put in place early in 2018/19.

Servicing of data requests

Data requests serviced by Amy on behalf of the SRMS during 2017/18 are shown in Appendix 2.

Future: The data supply process will become much more efficient once data sharing agreements (for routine uses) are established and now that the master SRMS cleaned dataset is complete. The finalisation of the SRMS Data Policy and Sharing Agreement and sign up by all partners will mean that Partners can service many routine raptor data needs themselves via web services approaches (and will need to make far fewer data requests). Further improvement to the timescales for consulting on data requests that fall outside the SRMS Data Policy and Sharing Agreement should be made.

On-line data submission functionality

A decision was taken that the SRMS on-line system should ‘piggy back’ on DeMon, and a modest amount of SRMS funding has been made available over the last two years to contribute towards the any bespoke development required for SRMS. This has been used: (a) to ensure that the requirements for SRMS were taken into account in the overall requirements documents and specifications for the work; (b) design an SRMS-specific front end for the software; and (c) provide time for the appropriate configuration of access permissions to suit the specific requirements of SRMS and the SRSG branches. Following the production of a detailed SRMS requirements document during 2016/17, work this year has focussed on implementing the full specification for the SRMS part of the system. Phase 1 of DeMon has now been rolled out to Nest Record Scheme participants, and selected SRMS participants will test the system during the 2018 breeding season. Liaison work by the SRMC and Dr Dave Leech at BTO (Thetford) has taken place through the building phase to explain the advantages of the on-line facility to volunteer raptor workers, with the hope of encouraging good take-up of the system once it is fully tested and ready for use. The supplementary funding provided by the SRMS for development of the on-line facility was adequate to produce a system that is functional for data inputting and routine sharing (e.g. amongst SRSG members/Species Coordinators/Chairs). It was never intended to cover more novel developments to take full advantage of the reporting potential of the new system, such as routine automated outputs for particular user groups or for streaming directly to the SRMS website to support annual reporting and trends updating. The funding was also not sufficient to cover production of an off-line application (for those without access to reliable broadband connections) or apps for field use. Discussions have also been initiated this year about how partners might be able to gain access to the SRMS centralised master database via web services type approaches, avoiding the need for partners to

hold copies of the master. However, resourcing for such systems (which were not covered in the funding for 2017/18) will need to be considered.

Future: The immediate priority will be to launch the Phase 1 system during the 2018 raptor breeding season and to provide guidance, training and support to volunteer observers. The latter is expected to be achieved via centralised user support from Amy and support and training for individuals within each SRSG branch who can then offer day-to-day support locally. Any bug fixing following first use in 2018 will need to be carried out ahead of the 2019 breeding season. Progress over SRMS data sharing (above) has established that the preferred route by which Partners gain access to the SRMS centralised master database will be via 'web services' approaches. These will require establishing, including taking into account the need to integrate records collected via the SRMS standard spreadsheet (summaries per breeding attempt) with the per-visit records input into the new on-line system.

DATA ANALYSIS & REPORTING

Annual SRMS reporting

As of March 2018, SRMS Annual Reports up to, and including, 2016 have been published. Due to the way that data were submitted to the SRMS, and therefore the need for substantial checking and standardisation each year, until quite recently work to produce the Annual Report took up a high proportion of the SRMC's time and that of the Research Ecologist working on behalf of the SRMS. With the semi-automation of the processes to clean and standardise the data, and to produce the underlying data tables, for the Annual Report in the most recent years, it has been possible to develop the report (starting with the 2015 edition). The report has evolved away from simple presentation of the annual SRMS summary data for each species and geographical area towards a product that more effectively summarises information in a form of use to a variety of stakeholders, providing species trends as they are updated and also updates on other areas of research and information products derived from SRMS data (e.g. causes of failure and spatial variation in breeding success), as well as links to more detailed information on numbers monitored and breeding success broken down by geographical region available via the SRMS website (see <http://raptormonitoring.org/srms-2016-annual-report-now-published>). The SRMS aspires to produce its Annual Report by the end of April of the year following each breeding season. This is dependent on all relevant data being submitted by observers by the agreed 31 October deadline (so that it can all be input to the automated processes for report preparation). There have also been delays caused by the need to check the SRMS data against information being submitted via different routes for some species (e.g. White-tailed Eagle and Red Kite during the transition from RSPB leading on the monitoring of these species; and Golden Eagle and Hen Harrier data submitted via RSPB during national survey years).

Future: The work to realise the aspiration to make the SRMS more efficient, and reporting as timely as possible, needs to be completed, by: (a) automating as much of the annual report production as possible; (b) streamlining processes for checking against any other relevant data sets on Scottish raptors; and (c) placing much of the detailed annual summary material for each species on the SRMS website. For the first few years of use of the new on-line data capture system, annual report production processes will be complicated slightly by the need to integrate information submitted to the SRMS via two different pathways. Once the majority of SRMS data are submitted on-line, production of the information underpinning annual reporting can be almost entirely automated.

Development of trends, indicators and alerts for Scottish raptor populations

During 2017/18, focus was once again placed on development of the coverage information that is now required before further trends can be produced and published. It is hoped that updated trends for Red Kite and Raven should be ready for the 2017 Annual Report (to be published in summer 2018).

Future: Completion of the coverage inventory work is critical before further trends can be updated. There is then a need to update analyses of trends in breeding numbers and breeding parameters for all remaining SRMS species at study area, regional and national scale where possible, with publication on the SRMS website and via the Annual Reports. Funding permitting, the aim is to update all existing trends in year 3 of the next funded programme i.e. 2020/21). The aspiration to make all provisional trends definitive and keep trends updated regularly (ideally annually) can only be fulfilled once the SRMS holds coverage/effort information for all species and study areas and the data are submitted in a fully standardised format, with full six-figure grid referencing, so that much of the trend production process can be automated. The potential to do this should be much greater once a substantial proportion of the annual data returns are submitted via the new on-line system.

Optimise the use of SRMS data for understanding and tackling wildlife crime

This work progressed little during 2017/18 due to other calls on staff time. From summer 2018, the new on-line recording system will implement the standardised outcome codes (agreed following consultation with NWCUC and RSPB), so that manual checking will no longer be necessary once the majority of SRMS data are submitted via this route.

Future: The work to summarise the causes of failure (and any trends in these) that can be derived from the SRMS dataset to date needs to be finalised and reported in the Annual Report and on the website. Proposed work on spatial patterns in breeding success and occupancy across Scotland requires completion of the coverage work for all relevant species. Then a plan can be written suggesting a programme of analyses for suitable species and funding sought to do the work (which has not been included within the funding proposals for 2018/19-2020/21). The future aspirations are to: routinely present summary information on causes of breeding failure in the SRMS annual reporting; ensure that information on causes of failure is collected routinely and objectively in a standardised manner every year (via the new online reporting system); to ensure that the SRMS also encourages raptor observers to provide wildlife crime intelligence directly to the Police in a timely manner; and to agree routine data sharing protocols between the SRMS and the NWCUC.

SUPPORTING VOLUNTEERS

SRMS newsletters

Issue 16 of *Scottish Raptor* was produced in September 2017, updating raptor workers on the August 2017 SRMG meeting and discussions about the SRMS at the September SRMG Chairs meeting. Pressures of other work and a shortage of material to present precluded more issues being produced in 2017/18. An issue will be produced in spring 2018 as soon as a decision on SRMS funding for 2018/19 is announced.

Future: An issue of Scottish Raptor should be produced after each SRMG meeting (at least twice a year) to keep contributors updated with SRMS business. Work is required to keep the newsletter fresh and interesting for volunteers by sourcing and commissioning interesting articles to sit alongside SRMS news.

Addressing SRMS volunteer training needs and increasing the numbers of active volunteers

The SRSG has been the major source of observers contributing data to the SRMS. SRSG now has around 350 members and has had some success in recent years in attracting new ones into its branch network across Scotland. Not all SRSG branches consider that they have sufficient capacity to train and mentor new members however, particularly new volunteers who are complete beginners and need a lot of support. SRSG decided ahead of the 2016 breeding season to develop and launch *Raptor Patch*, a new initiative with the dual purpose of: (a) increasing coverage of some widespread but under-monitored species in Scotland (Common Buzzard, Raven, Kestrel and Sparrowhawk) using a complete coverage patch-based approach; and (b) providing opportunity for new volunteers to get involved and get training in raptor monitoring, in liaison with, but not dependent on, those within the SRSG branches. A series of 3 guidance leaflets, plus more detailed species-specific web-based materials, were prepared ahead of the 2016 field season (see <http://raptormonitoring.org/getting-involved/raptor-patch>) and the initiative was promoted by the SRMC at a modest number of conferences and other events attended by relevant audiences. One training day was held at the Argaty Red Kite feeding station, in March ahead of the field season in both 2016 (31 participants) and 2017 (16 participants). Amy and representatives from some SRSG branches provided support to the volunteers in setting up their patches and throughout the season. An on-line forum was also provided for them to share experiences and ask questions, and a reference photo collection was established to provide further guidance. The initiative was run for two pilot breeding seasons (2016 and 2017), during which 25 'patches' (average size 2 x 2 km; focused towards the Central Belt) were registered and monitored by volunteers. A full review of the two pilot seasons was carried out in autumn 2017, including contact with participants to assess why they had or had not taken part, what their experiences were in taking part and including the assessment of data submitted from 10 of the patches. Despite no proactive promotion of *Raptor Patch* in early 2018, 10 new patches were registered by the SRMC.

Work Programme needs: Given the need to focus on other urgent areas of SRMS work, in particular the launch of the on-line system and data sharing arrangements, the SRMG has agreed that the SRMC should continue to support existing Raptor Patch participants during the 2018 and 2019 breeding seasons, and service any new requests to join, but not pro-actively promote and expand Raptor Patch further for a year or two. After that, further promotion of Raptor Patch will be required, focused either within one additional SRMS region or across Scotland, including appropriate training/de-briefing events ahead of each breeding seasons. The initiative and its value for information provision and volunteer engagement should be further reviewed in autumn/winter 2020.

Development of the SRMS website

The SRMC has kept the website up to date, adding new issues of the SRMS Annual Report and supplementary tables, and *Scottish Raptor*. Work on this was modest in 2017/18 due to the lack of progress in updating species trends but the website remains fully functional and valuable for promoting the SRMS and its products and services.

Future: The aim is to move towards a fully functioning website that is updated with new material annually, with the website eventually receiving both manually loaded information and some automated updates once the SRMS data are in a form that allows this to happen. The need to integrate records coming in via the on-line route with the existing dataset and those continuing to be received off-line, will mean that automated updates are unlikely to be achieved for a few years yet (but in the long term they are an efficient way forward).

SRMS DEVELOPMENT, PROFILE & FUNDING

Liaison with SRMS partners, SRMS profile-raising & SRMG Secretariat

Amy has continued all her routine liaison and updating duties, including: attending the SRSG Annual Conference in February 2018; attending as many spring and autumn SRSG branch meetings as possible; producing an issue of the *Scottish Raptor* newsletter (see <http://raptormonitoring.org/scottish-raptor-september-2017>); meeting individual raptor workers to discuss coverage; and updating the SRMS website. Amy has once again spent time supporting SNH in checking SRSG mileage claims and data submission to support Schedule 1 licence applications. Amy supplied the secretariat for, and attended, three SRMG meetings (August and November 2017 and January 2018), with Chris Wernham also attending all meetings and Mark Wilson attending the August meeting.

Future: All of the above will continue to be required on an annual basis. It will be particularly important to ensure that the processes for checking SRSG mileage expenses and Schedule 1 licence renewals are efficient for both the volunteers and the SRMC/SNH staff involved, as otherwise this consumes time that needs to be spent by the SRMC on other SRMS activities. In the medium-term (years 2 or 3 of the next funded programme) there will need to be (a) increased commitment to promoting volunteering for Raptor Patch; (b) continued commitment to improving web-based materials; and (c) further profile raising with users (NWCU; PAW Scotland; Scottish Government etc) – perhaps with the production of an SRMS promotional brochure in Year 3?

Securing resources for the continuation of SRMS funding beyond March 2018

Funding is expected to be agreed for a further year (1 April 2018 to 31 March 2019). As in previous years, and in a climate of reduced funding availability, there will be a continuing need to deliver key outputs to demonstrate the worth of the SRMS and improve key processes, to ensure the SRMS is run as efficiently as possible.

Future: There is every likelihood that SNH will not be able to provide the level of financial support that has been available previously into the future, and therefore work will need to be carried out during 2018-19 to identify and apply for new funding streams to diversify SRMS income.

Funding and expenditure 2017-18 (summary provided in Appendix 3)

The total funding available to BTO for work in 2017/18 was £98,685, and consisted of:

- Funding of £86,865 agreed for 2017/18 as detailed in the MoA (£71,865 from SNH, £10,000 from FCS and £5,000 from RSPB);
- Agreed carry forward of £8,572 from BTO from 2016/17; and
- Carry forward from the SRSG of £3,258 to be used to fund 8.3 days extra of Mark Wilson's analytical time.

SOC also agreed to contribute £1,750 per year for three years for printing the 2017 and subsequent Annual Reports (but this was not used, as the 2017 report is still to be printed in summer 2018).

Total expenditure by BTO for the year was £98,358, resulting in an overall underspend of £337. This comprised overspend of £3,975 on staff costs but underspend of £2,774 on direct costs (printing and training costs; T&S costs were on budget) (see Appendix 3).

In terms of agreed in-kind staff contributions, which are treated separately from the main budget above, website support time was not required in 2017-18 (and the result was underspend of just under 2 days (saving to BTO of £699 at the agreed partnership rates for SRMS work).

Acknowledgements

We thank fellow members of the Scottish Raptor Monitoring Group, who have lent their full support to this work: Andrew Stevenson (SNH, Chair of the SRMG); Brian Etheridge, Alan Heavisides, Wendy Mattingley, Patrick Stirling-Aird and Ewan Weston (SRSG); Staffan Roos (RSPB Scotland); Mark Holling (RBBP); Gordon Riddle (SOC); David Stroud (JNCC); Kenny Kortland (FES); and Colin Edwards (FCS). We also thank those additional representatives who sat on the SRMS Training Working Group and helped with the running of training events: Dave Anderson; Jim Craib; Brian Etheridge; Ronnie Graham; Andrea Hudspeth; David Jardine; Tony Lightly; Clive McKay; Helen Riley; Gordon Riddle; John Simpson; Mike Thornton; and Jenny Weston.

We are grateful to BTO colleagues who have supported SRMS work: Anne Cotton (BTO Scotland; data assistance); Ben Darvill (BTO Scotland Development and Engagement Manager); David Noble (BTO Principle Ecologist for Monitoring); Dave Leech (BTO Head of Nest Record Scheme; now Head of Ringing); Graham Austin (Senior Ecologist and DeMon Project Manager); William Skellorn (BTO Web Manager); and Karen Wright and Andy Musgrove (previous and present BTO Associate Directors of IS). We also thank Ben Ross (SNH) and Jez Blackburn and Ros Green (BTO) for effective liaison over raptor licensing issues.

We thank all the Chairs and Species Coordinators of the SRSG branches around Scotland for the help they have given in data collation and facilitating communication with SRSG Members, and all those additional members of the SRSG who participated in discussions around data sharing.

We are very grateful to SNH, BTO, FCS and RSPB for funding the SRMS during the year and to the SRSG and all other SRMS partners for the huge amount of in-kind support they provide to the SRMS.

Importantly, we thank all the volunteer raptor observers who give so freely of their time to carry out survey work and submit their data to the SRMS, for all they do to provide the evidence base to support raptor conservation in Scotland.

Appendix 1a – Scottish Raptor Monitoring Scheme work plan 2017-18

Tasks			Dependencies	Lead	Support	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	SUGGESTED HIGHEST PRIORITY (because they have many dependent tasks or are critical to efficiency in future)		
1. SURVEY METHODS & STANDARDS																				
1.1 Establish and maintain inventory of raptor survey coverage in Scotland.	1.1.1 Complete the picture of coverage for each SRMS species:	Peregrine		MW/AC														*		
		Raven		MW/AC															*	
		Golden Eagle		MW/AC															*	
		Hen Harrier		MW/AC															*	
		Other SRMS species		MW/AC															*	
	1.1.2 Establish a process to integrate coverage and trend information with new information submitted (via the online system and via a semi-automated annual process for non-online users).		2.5.7	MW	AC/CW															
1.2 Recommendations for enhancing raptor monitoring coverage in Scotland.	1.2.1 Produce species-specific guidance for enhancing raptor monitoring coverage in Scotland as coverage and trends information becomes available.	Peregrine	3.2.1	MW/AC	CW															
		Raven	3.2.1	MW/AC	CW															
		Golden Eagle	3.2.1	MW/AC	CW															
		Hen Harrier	3.2.1	MW/AC	CW															
		Other SRMS species	3.2.1	MW/AC	CW															
	1.2.2 Produce overarching plan (with priorities) for enhancing raptor monitoring coverage in Scotland.		5.2.1	MW/AC	CW															
1.3 Input to SCARABBS raptor surveys.	1.2 Explore whether future needs of SCARABBS may be met by the SRMS online data entry system to minimise double data entry in future SCARABBS survey years.	No raptor SCARABBS survey planned for 2017/2018		AC																

Tasks			Dependencies	Lead	Support	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	SUGGESTED HIGHEST PRIORITY (because they have many dependent tasks or are critical to efficiency in future)	
2. DATA COLLATION & SHARING																			
2.1 Collation and cleaning of breeding data.	2.1.1 Complete cleaning of master dataset up to 2015.	- finish assigning observer identities to all records (some outstanding initials to run past SRS Chairs).		AC	MW													*	
		- audit to check all data apparently included.		AC	MW														*
		- matching data through grid refs and site codes.		MW	AC														*
		- incorporate outcome code information into SRMS master dataset for 2003-2015.		MW															*
	2.1.2 Collate and clean 2016 season breeding data.			AC/MW															*
	2.1.3 Collate and clean 2017 season breeding data.			AC/MW														*	
	2.1.4 Maintain the SRMS master dataset to ensure it is kept updated with new historic data as it comes to light (e.g. historic data that the SRMS has never held and corrections that may come to light such as erroneous grid refs revealed by a move to the online system).			AC/MW														*	
2.2 Exploration of the potential for developing a secure master SRMS database.	2.2.1 Explore integration of existing SRMS data (and any new historical data submitted to the SRMS) with that entered via the online data entry system.			AC/MW	BTO Theftford IS team														
	2.2.2 If full integration is not possible, create a process for ensuring that the existing master and online database can be linked effectively for data request processing and ongoing analytical requirements.	2.2.1		MW	AC														
2.3 Development of protocols for data sharing and data use.	2.3.1 Finalise SRMS data sharing and use policy.	- process any outstanding feedback from SRMG on Draft 2 of the document.		AC	CW													*	
		- produce Draft 3 of the document.																	*
		- SRMG approval to put DRAFT 3 out for consultation with SRMS contributors.		SRMG															*
		- put out for consultation with existing SRMS contributors.		AC	CW														*
		- process any feedback from consultation with SRMS contributors.		AC	CW														*
		- SRMG sign off of final policy.		SRMG															*
	- Publish policy on SRMS website.		AC															*	

Tasks			Dependencies	Lead	Support	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	SUGGESTED HIGHEST PRIORITY (because they have many dependent tasks or are critical to efficiency in future)	
2. DATA COLLATION & SHARING																			
2.4 Servicing of data requests.	2.4.1 Share master dataset annually in line with published data sharing agreements.		2.1.1, 2.1.2, 2.3	AC/MW														*	
2.5 Development of on-line data submission functionality.	2.5.1 Complete building of SRMS on-line data entry system.			BTO Thetford IS team														*	
	2.5.2 Testing of SRMS data entry system.		2.5.1	Selected SRSB members	AC													*	
	2.5.3 Bug fixing following pilot.		2.5.2	BTO Thetford IS team														*	
	2.5.4 Work with SRSB to establish definitive list of sites and permissions to be pre-loaded onto online system.		2.5.3	AC	MW														*
	2.5.5 Pre-load sites and set permissions for SRSB folks on online system.			AC															*
	2.5.6 Full roll-out of SRMS data entry system.		2.5.5	AC															*
	2.5.7 Training for SRSB branch local online ambassadors in use of the online system.			AC															*
	2.5.8 Consider further enhancements to online system for a future funding package.	Need to consider ahead of next funding bids	2.5.7	AC/MW	CW														

Tasks			Dependencies	Lead	Support	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	SUGGESTED HIGHEST PRIORITY (because they have many dependent tasks or are critical to efficiency in future)	
3. DATA ANALYSIS & REPORTING																			
3.1 Annual SRMS reports.	3.1.3 Publish 2016 tables on SRMS website.		3.1.1	AC														*	
	3.1.4 Publish 2016 annual report.		3.1.1	AC														*	
	3.1.5 Publish 2017 tables on SRMS website.		2.1.3	AC															
	3.1.6 Publish 2017 annual report.		2.1.3	AC															
3.2 Development of trends, indicators and alerts for Scottish raptor populations.	3.2.1 Generate trends.	Peregrine	1.1.2	MW	AC														
		Raven	1.1.2	MW	AC														
		Golden Eagle	1.1.2	MW	AC														
		Hen Harrier	1.1.2	MW	AC														
		Other SRMS species	1.1.2	MW	AC														
3.3 Optimise the use of SRMS data for understanding and tackling wildlife crime.	3.3.1 Develop a process for reporting on patterns of wildlife crime and causes of raptor breeding failure annually.		2.1	MW/CW	AC														
	3.3.2 Develop draft data sharing agreement between SRMS and NWCUC.	- develop draft agreement.		AC	Charlie Everitt														High priority but cannot be progressed until data sharing with partners is agreed
		- feedback from SRMG.		SRMG															
		- process any feedback from SRMG.		AC	Charlie Everitt														
		- SRMG approval to put out for consultation with SRMS contributors.		SRMG															
		- put out for consultation with existing SRMS contributors.		AC	Charlie Everitt														
		- process any feedback from consultation with SRMS contributors.		AC	Charlie Everitt														
		- SRMG sign off of final agreement.		SRMG															
- Publish agreement on SRMS website.		AC																	

Tasks			Dependencies	Lead	Support	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	SUGGESTED HIGHEST PRIORITY (because they have many dependent tasks or are critical to efficiency in future)	
4. SUPPORTING VOLUNTEERS																			
4.1 SRMS newsletters.	Newsletter issue 16.			AC															
	Newsletter issue 17.			AC															
	Newsletter issue 18.			AC															
4.2 Addressing SRMS volunteer training needs and increasing the numbers of active volunteers.	4.2.1 Raptor Patch.	- Produce Health & Safety guidance.		AC															
		- Produce closed Facebook group for Raptor Patch volunteers to connect with each other and an network of keen volunteers keen to offer support.		AC															
		- Review second pilot Raptor Patch year.		AC	CW, BD														
		- Develop plan for promotion of Raptor Patch. <i>Feature articles in partner newsletters? Evening talks? Mention on Springwatch?</i>		AC	CW, BD														
		- Launch Raptor Patch.		AC															
		- Plan Raptor Patch training days. - Hold Raptor Patch training day(s).		AC	BD														
	4.2.2 Online data entry system - see 2.5.8.	- Develop training materials. <i>Consider producing a demo video?</i>	2.5.8	AC	BTO Thetford IS team														
		- Plan a series of training events. <i>Could attempt to tie in with SRSG spring meetings? Workshop at the SRSG spring conference? A train the trainers-type event?</i>		AC	BTO Thetford IS team														
		- Deliver training events.		AC															
	4.2.3 Training for existing raptor experts.	- Support SRSG-led training events.		AC															
4.3 Development of the SRMS website.	4.3.1 Upload trends information once available.		3.2.1	AC															
5. SRMS DEVELOPMENT, PROFILE & FUNDING																			
5.1 MOA for 2017/2018	5.1.1 Draft MOA for circulation			AS	SRMG													*	
	5.1.2 Sign MOA			SRMG														*	
5.2 Securing resources for the continuation of SRMS funding beyond March 2018.				SRMG														*	
5.3 Liaison with SRMS partners.				AC															
5.4 SRMS profile-raising.	5.4.1 Write article on the SRMS for Supplement Issue of Bird Study publishing proceedings of the last EURAPMON conference.			AC															

Appendix 1b – Draft Scottish Raptor Monitoring Scheme work plan 2018-19

Tasks	Sub-tasks	Dependencies	2018/19	2019/20	2020-21
1. SURVEY METHODS, STANDARDS & MONITORING COVERAGE					
1.1 Establish and maintain inventory of raptor survey coverage in Scotland.	1.1.1 Complete the picture of coverage for each SRMS species:	5.1.2	Complete coverage information for Kestrel, Raven, Peregrine, Hen Harrier and Merlin	Complete coverage information for Golden Eagle, Red Kite, White-tailed Eagle and Buzzard.	Complete coverage information for remaining SRMS species.
	1.1.2 Establish a process to integrate coverage and trend information with new information submitted (via the online system and via a semi-automated annual process for non-online users).	2.4 (2.4.6 in particular)	Timescales depend on uptake of new system and building of reporting facilities. Likely to start in Year 2 and complete in Year 3.		
1.2 Enhance raptor monitoring coverage in Scotland.	1.2.1 Produce species-specific guidance for enhancing raptor monitoring coverage in Scotland as coverage and trends information becomes available.	1.1.1	Guidance on enhancing coverage for Kestrel, Raven, Peregrine, Hen Harrier and Merlin	Guidance on enhancing coverage for Golden Eagle, Red Kite, White-tailed Eagle and Buzzard.	Guidance on enhancing coverage for remaining SRMS species.
	1.2.2 Assess the potential of <i>Raptor Patch</i> to deliver enhanced monitoring coverage for widespread species.	4.2	Run <i>Raptor Patch</i>	Run <i>Raptor Patch</i>	Full review of <i>Raptor Patch</i> potential
	1.2.3 Produce overarching plan (with priorities) for enhancing raptor monitoring coverage in Scotland.	1.2.1, 1.2.2, 1.4.2	Individual species coverage and gaps work	Individual species coverage and gaps work. Begin thinking about enhancement Strategy.	Finalise over-arching Strategy and Plan.
1.3 Support for SCARABBS raptor surveys (national surveys and their outputs)	1.3.1 Explore whether future data submission needs of SCARABBS may be met by the SRMS online data entry system to minimise double data entry in future SCARABBS survey years.	2.4	Demo online system to key individuals within SCARRABBS organisations to establish whether the SRMS online system has the potential to meet SCARRABS needs, whether there is an appetite for this approach, and what further enhancements would be required.	If SRMS online system is to be used for future SCARRABS, ensure any additional functionality is built into the system for trialing from the Merlin national survey in 2020. Additional functionality may require additional resources not currently in budgeted costs.	There may be a national Merlin survey in 2020 (so thinking needs to be done ahead of this).
	1.3.2 Assess the extent to which outputs from national surveys (population estimates and change estimates) can be generated from annual monitoring information submitted to the SRMS.	1.1 & 3.2	Assess individual species once coverage/trends work is complete.	Assess individual species once coverage/trends work is complete.	There may be a national Merlin survey in 2020 (so thinking needs to be done ahead of this).
1.4 Survey and monitoring good practice methods	1.4.1 Review the value of producing a revised/online/app version of <i>Raptors - a field guide to surveys and monitoring</i>	Possibly 1.4.2 (or at least some of it)		Enough information from 1.1.1 and 5.1.2 to start this in Year 2.	Complete in Year 3.
	1.4.2 Draw together informal review of survey approaches (coverage and effort) employed in all major study areas contributing data to the SRMS to inform future survey guidance needs.	1.1.1 & 5.1.2		Enough information from 1.1.1 and 5.1.2 to start this in Year 2.	Complete in Year 3.

Tasks	Sub-tasks	Dependencies	2018/19	2019/20	2020-21
2. DATA COLLATION & SHARING					
2.1 Management of data submitted to the SRMS	2.1.1 Collate and clean data set submitted in 2018 (ensure the following: all observer identities assigned; audit to check all know data submitted; matching through grid refs and site codes; standardised outcome codes).	2.1.5	Collate and clean 2018 breeding season data.	N/A	N/A
	2.1.2 Collate and clean data set submitted in 2019 (ensure the following: all observer identities assigned; audit to check all know data submitted; matching through grid refs and site codes; standardised outcome codes).	2.1.5	N/A	Collate and clean 2019 breeding season data.	N/A
	2.1.3 Collate and clean data set submitted in 2020 (ensure the following: all observer identities assigned; audit to check all know data submitted; matching through grid refs and site codes; standardised outcome codes).	2.1.5	N/A	N/A	Collate and clean 2020 breeding season data.
	2.1.4 Maintain the SRMS master dataset to ensure it is kept updated with new historic data as it comes to light (e.g. historic data that the SRMS has never held, and corrections that may come to light such as erroneous grid refs revealed by a move to the online system).		Keep SRMS master dataset up to date.	Keep SRMS master dataset up to date.	Keep SRMS master dataset up to date.
	2.1.5 Develop effective process for ensuring that the existing master and online database are linked effectively for data sharing and ongoing analytical and reporting requirements (involving the integration of data submitted on- and off-line).	2.4, 2.2.2		Most work in Year 2.	Completion in Year 3.
2.2 Data sharing	2.2.1 Finalise SRMS Data Sharing and Use Policy.		Finalise SRMS Data Sharing & Use Policy and make available on SRMS website.	Annual review of SRMS Data Sharing & Use Policy	Annual review of SRMS Data Sharing & Use Policy
	2.2.2 Establish protocols and pathways for routine data sharing between SRMS Partners (web services).	2.2.1	Agree web services, or alternative(s), as the main pathway for routine sharing of data from SRMS to partners. Set up protocols and pathway infrastructure.	Share SRMS data in line with SRMS Data Sharing & Use Policy and agreed protocols.	Share SRMS data in line with SRMS Data Sharing & Use Policy and agreed protocols.
	2.2.3 Develop data sharing agreement and protocols for sharing with National Wildlife Crime Unit.	Would be odd to progress this ahead of 2.2.1?	Develop data sharing agreement with NWCUCU.	Finalise data sharing agreement with NWCUCU. Mobilise data through appropriate pathways.	Annual review of data sharing agreement with NWCUCU.

Tasks	Sub-tasks	Dependencies	2018/19	2019/20	2020-21
2. DATA COLLATION & SHARING					
2.3 Servicing of data requests.	2.3.1 Run an efficient and professional data request service (for non-Partner organisations and data requests that fall outside the SRMS Data Sharing and Use Policy).		Review current SRMS data request form and make available on SRMS website. Ensure SRMS Data Shaing & Use Policy explains the data request process for requests for non-partner organisations and requests falling out of scope. Agree the extent to which there is a desire for SRMC to assist partners with data extraction to service these requests and (in the case of SRSg) handling of payments for commercial requests.	Service data requests in a timely manner.	Service data requests in a timely manner.
2.4 On-line data submission functionality.	2.4.1 Develop guidance materials for data submission using the new on-line system (to underpin training; see XXX).		Adapt guidance materials produced for Nest Record System to make them SRMS specific and make available on the SRMS website.	Review and update guidance materials in line with feedback received from users.	Keep guidance materials up to date.
	2.4.2 Work with SRSg to establish definitive list of sites and permissions to be pre-loaded onto online system.		Liaise with observers/Species Coordinators/SRSg Chairs as necessary.	Liaise with observers/Species Coordinators/SRSg Chairs as necessary.	Liaise with observers/Species Coordinators/SRSg Chairs as necessary.
	2.4.3 Pre-load sites and set permissions for SRSg folks on online system.		Pre-load sites and set permissions, prioritising known testers.	Continue to help new users with setting up site lists etc	Continue to help new users with setting up site lists etc
	2.4.4 Pilot the new on-line system with observers during data submission in 2018 - including provision of central support from the SRMC.		Pilot with a range of observers according to an agreed strategy and priorities.		
	2.4.5 Review feedback and functioning of the system and de-bug ahead of 2019 field season.			Carry out review of 2018 field season and address any major bugs.	Keep under review.
	2.4.6 Assess reporting requirements from the new system and further IS developments required.	1.3.1, 2.4.5		Review utility of existing query/reporting features and assess additional needs (of the SRMS and its observers and Partners).	
	2.4.7 Implement further IS developments to provide necessary reporting/querying functions.	2.4.6		Develop and implement those new features that can be addressed with the budget set aside for this. Develop proposals to seek additional funding if required.	

Tasks	Sub-tasks	Dependencies	2018/19	2019/20	2020-21
3. DATA ANALYSIS & REPORTING					
3.1 Annual SRMS reporting	3.1.1 Finalise processes and programming to automate as much of the annual reporting process as possible, including integration of information submitted on-line.	2.4	Ensure process using off-line data is automated as far as possible.	Set up processes for integrating data received on-line.	
	3.1.2 Streamline processes for checking SRMS data against data submitted via other routes.		Ensure these processes are efficient as possible (fit for purpose for SRMS annual reporting)	New processes will need to be added as data are submitted to the SRMS from other Partners.	
	3.1.3 Publish 2017 annual report and associated web-based supplementary information.	2.1.1, 3.1.2	2017 annual reporting.		
	3.1.4 Publish 2018 annual report and associated web-based supplementary information.	2.1.2		2018 annual reporting.	
	3.1.5 Publish 2019 annual report and associated web-based supplementary information.	2.1.3			2019 annual reporting.
	3.1.6 Publish 2020 annual report and associated web-based supplementary information.				2020 annual reporting (if processes can be fully automated to increase efficiency).
3.2 Development of trends, indicators and alerts for Scottish raptor populations.	3.2.1 Complete generation of trends in breeding numbers and breeding parameters at study area, regional and national scales where appropriate for all SRMS species.	1.1	Trends completed for Raven, Peregrine, Hen Harrier and Merlin	Trends completed for Golden Eagle, Red Kite and Buzzard.	Trends completed for remaining SRMS species.
	3.2.2 Update all existing trends in Year 3 of the funding period.	1.1.2			All species trends updated in Year 3.
3.3 Optimise the use of SRMS data for understanding and tackling wildlife crime.	3.3.1 Complete summary of causes of failure work across all SRMS species since 2003 (and any feasible trends) for publication in the Annual Report and website.	2.1.4	Ideally should be completed in 2018/19 if sufficient Research Ecologist time can be funded.		
	3.3.2 Develop plan for analyses of spatial variation in breeding success and occupancy and seek additional funding.	2.1.4	Ideally should be completed in 2018/19 if sufficient Research Ecologist time can be funded.		
3.4 Other research using SRMS data to supporting the evidence base on raptors in Scotland.	3.4.1 Support the production of an objective scientific review of the current drivers of the decline in the Scottish Kestrel population (akin to a Kestrel Conservation Framework).		Support and review the work being carried out by Staffan Roos and Gordon Riddle as required.		
	3.4.2 Keep a watching brief and respond to other needs in terms of raptor research using SRMS datasets (which may come from e.g. the Joint Raptors and Forestry Working Group or PAW Scotland).		Keep a watching brief and respond accordingly.	Keep a watching brief and respond accordingly.	Keep a watching brief and respond accordingly.

Tasks	Sub-tasks	Dependencies	2018/19	2019/20	2020-21
4. SUPPORTING VOLUNTEERS & GROWING VOLUNTEERS & THE SRMS					
4.1 "Scottish Raptor" - SRMS newsletters.	4.1.1 Produce an issue of "Scottish Raptor" after each SRMG meeting (aiming for minimum two and ideally three issues per year).		Publish 2-3 issues.	Publish 2-3 issues.	Publish 2-3 issues.
4.2 Increasing the numbers of active raptor monitoring volunteers in Scotland	4.2.1 Continue to run the new <i>Raptor Patch</i> initiative for monitoring widespread raptors, seeking to increase the number of study areas registered (with a focus over the next 3-year period on at least one SRMS region in addition to the current Central Belt focus).		No proactive promotion to new audiences or training events in 2018/19 but Amy to support existing volunteers and set up any new patches requested.	As for 2018/19 but also review time allocations of the SRMC and decide whether further promotion is feasible in 2019/20 (e.g. to target one other region) or whether this must wait until 2020/21.	Return to active promotion and expansion of <i>Raptor Patch</i> , with either a regional or Scotland-wide focus depending on the time and resources available.
	4.2.2 Run <i>Raptor Patch</i> training/de-briefing events.	4.2.1	No events in 2018/19.	Deliver up to two training/de-briefing events if resources allow.	Deliver two training/de-briefing events.
	4.2.3 Carry out a further review of <i>Raptor Patch</i> to assess its potential both for raptor information provision and volunteer engagement.	4.2.1 & 4.2.2			Carry out review and plan the next phase of <i>Raptor Patch</i> development.
4.3 Volunteer training needs and opportunities	4.3.1 Develop guidance and training materials for use of the new on-line data submission system (See 2.4.1 above).	2.4	(See 2.4.1 above).	(See 2.4.1 above).	(See 2.4.1 above).
	4.3.2 Provide training in the on-line data submission system for Ambassadors and Species Coordinators within SRSG branches.	2.4	Training to those agreeing to trial the new system in 2018.	Training for further roll-out to observers.	Continued support targeted as required.
	4.3.2 Training for <i>Raptor Patch</i> (See 4.2.2 above).	4.2	(See 4.2.2 above).	(See 4.2.2 above).	(See 4.2.2 above).
4.4 The SRMS website.	4.4.1 Update annually with new breeding season data to supplement that published in the Annual Report.	2.1	Update website with 2017 breeding season data.	Update website with 2018 breeding season data.	Update website with 2019 breeding season data.
	4.4.2 Add new trend information and suggestions for gap filling for each species as trends are developed, and for all species in Year 3.	1.2.1, 3.2.1	Update website with trends information for Raven, Peregrine, Hen Harrier and Merlin.	Update website with trends information for Golden Eagle, Red Kite and Buzzard.	Update website with trends information for the remaining SRMS species.
	4.4.3 Add any further guidance/support required for <i>Raptor Patch</i> (including consideration of on-line Forum for participants).	4.2		Add or update guidance if required.	Add or update guidance if required.
	4.4.4 Add guidance and training materials for the new on-line data submission system.	2.4.1	Update website with guidance materials for the online data entry system.	Review/enhance guidance as required.	Review/enhance guidance as required.

Tasks	Sub-tasks	Dependencies	2018/19	2019/20	2020-21
5. SRMS DEVELOPMENT, PROFILE & FUNDING					
5. 1 Liaison with, and servicing the needs of, SRMS and its Partners.	5.1.1 Provide efficient checking of data submission to support mileage claims and Schedule 1 licencing for SNH.	2.1.1, 2.1.2 & 2.1.3	Provide report to SNH Licensing & BTO Ringing Team team summarising return information from 2018 breeding season.	Provide report to SNH Licensing & BTO Ringing Team team summarising return information from 2019 breeding season.	Provide report to SNH Licensing & BTO Ringing Team team summarising return information from 2020 breeding season.
	5.1.2 Attend a programme of meetings and field visits with observers to build information on coverage and enhance working relationships.	Required to achieve 1.1.1	Identify and meet key raptor workers with studies of Raven, Peregrine, Hen Harrier & Merlin. Opportunistically collect information on their coverage of other SRMS species where they have a relevant study.	Identify and meet key raptor workers with studies of Golden Eagle, Red Kite & Buzzard. Opportunistically collect information on their coverage of other SRMS species where they have a relevant study.	Identify and meet key raptor workers with studies of the remaining SRMS species.
	5.1.3 Carry out range of other liaison activities (as explained in the Work Programme; including regular liaison with SRSB branches) and feedback issues raised to the SRMG.		Ongoing.	Ongoing.	Ongoing.
5.2 Raising the profile of the SRMS	5.2.1 Plan and attend a programme of events/talks to promote SRMS and its initiatives (<i>Raptor Patch</i>).		Ongoing.	Ongoing.	Ongoing.
	5.2.2 Continue to raise the profile of the SRMS with stakeholders/users of its information, by production of a promotional brochure in Year 3.				Produce brochure in Year 3.
	5.2.3 Continued enhancement of the SRMS website (see 4.4 above).		Ongoing.	Ongoing.	Ongoing.
5.3 SRMS Secretariat	5.3.1 Continue to provide efficient Secretariat for the SRMG.		Draft agendas, papers and minutes from SRMG meetings.	Draft agendas, papers and minutes from SRMG meetings.	Draft agendas, papers and minutes from SRMG meetings.
5.4 Securing resources for the continuation of SRMS funding and for any additional work required during the Work Programme duration.	5.4.1 Seek funding to support the core SRMS work beyond 31 March 2019 (assuming SNH funding will need to reduce after 2018_19).		Develop active proposals to seek funding from other sources.		
	5.4.2 Funding for work on spatial variation in breeding success/occupancy.	3.3.2	Seek funding as required.		
	5.4.3 Funding for additional query/reporting IS developments for the on-line data submission system.	2.4.7		Seek funding as required.	
	5.4.4 Funding beyond March 2021.		Make annual case for continued funding.	Make annual case for continued funding.	Make case for funding beyond 3-year programme.

Appendix 2 – SRMS data requests serviced 2017-18.

Note that for both requests, the process to get approval from SRMS partners took longer than the target and hence data were supplied later than requested.

Organisation	Lead contact	Data requested	Date requested	SRMG approval requested by	Date data supplied
Haworth Conservation	Paul Haworth	Hen Harrier data from 2014-2016 for all Scotland Haworth Conservation is contracted to FCS to undertake Hen Harrier and forestry/woodland use interaction research on behalf of the Joint Raptors & Forestry Working Group. This Group comprises several partners of the SRMS along with private forestry interests. The research aims to better understand Hen Harrier use of forestry to allow best practice guidance for forest design and creation (broadleaf and conifer) to be developed to benefit both harriers and forestry/woodland management and expansion. As a result Haworth conservation would like access to the 2014, 2015 and 2016 hen harrier data for the whole of Scotland from the SRMS to assist with this research.	24/05/2017	Early June 2017	20/09/2017
GWCT	Sian Whitehead	Merlin & Hen Harrier data for Glen App-Galloway Moors SPA, Muirkirk and North Lowther Uplands SPA, and Langholm - Newcastleton Hills SPA This request is for Merlin & Hen Harrier data. GWCT aim to describe changes in numbers and assemblages of upland birds, and some mammals in south-west Scotland over the last 40 years. GWCT will perform a desk based study that will gather existing moorland bird and mammal data from both published and unpublished sources from within GWCT's own databases and those available from other organisations. The study will make specific reference to and draw any parallels with two more detailed case studies in the region. These are at Langholm (Joint Raptor Study, Langholm Moor Demonstration Project and intervening years), where data on grouse, raptors and moorland birds have been collected annually since 1992 and Muirkirk (Muirkirk & North Lowther Hills SPA) where broadly similar data were collected in the 1990s, intermittently in the 2000s and have been collected by GWCT in 2017.	16/08/2017	Mid-October 2017	21/12/2017

Appendix 3 – Summary of BTO expenditure against budget 2017-18.

COST TYPE	Budget 2017-18 (days)	Expenditure 2017-18 (days)	Final result at 31/03/18 (days remaining)	Notes
Staff costs (days)				
Project Management (Chris W)	8	8.58	-0.58	Overspend overall on staff costs of £1,688.
SRMS Coordinator (Amy Challis)	220	227	-7	
Research Ecologist support (Mark Wilson)	38.3	40	-1.7	
Data Support (Anne Cotton)	7.5	2.43	5.07	
Training Support (Sam Marston for IS system)	5	5	0	Overspend overall on IS staff costs of £2,287.
On-line developments (IS mostly Sam Marston)	12	12	0	
On-line developments management (IS mostly Dave Leech)	3	6	-3	
				Overall overspend on staff costs of £3,975.
	Budget 2017-18 (£)	Expenditure 2017-18 (£)	Budget remaining at 31/03/18 (£)	Notes
Non-staff costs (in £s)				
Travel & subsistence	£1,500.00	£1,518	-£18	
Expenses for training days	£600.00	£0	£600	
Report printing	£3,250.00	£1,058	£2,192	
	£5,350.00	£2,576	£2,774	Underspend of £2,774 on direct costs.
Overall funding outcome 2017-18	£98,695.00	£98,358	£337	Underspend of £337 overall.
	Budget 2017-18 (days)	Expenditure 2017-18 (days)	Final result at 31/03/18 (days remaining)	Notes
In-kind contributions (days)				
Chris Wernham	7	7.2	-0.2	(Overspend of £85)
Mark Wilson	7	7	0	
William Skellorn (website support)	2	0	2	(underspend of £784)
				No website support needed (equates to underspend of £699 on in-kind contributions at partnership rates).
Notes				
<i>Staff costs</i> (budgeted) - Include agreed allocation for 2017/18, agreed carry forward from 2016/17 & 8.3 extra days of Mark Wilson from SRSG carry-forward funding.				
<i>Non-staff costs</i> include agreed allocations for 2017/18 plus agreed carry forward from 2016/17 (£100 for training and £1,750 for report printing).				
<i>Report printing</i> - Budget includes £1,500 for 2017-18 and £1,750 carry forward from 2016-17 but not the £1,750 from the SOC (for the printing of the 2017 report still to be done).				
<i>Overall budget (funding)</i> = £86,865 funding for 2017-18 (SNH £71,865 RSPB £5,000 FCS £10,000); £8,572 carry forward from 2016-17; and £3,258 funding carry forward from SRSG.				