

Committee: **SOUTHERN COASTAL GROUP and SCOPAC**

Date: **February 2021**

Title : **RESEARCH PROGRAMME**

**REPORT OF THE CHAIRPERSON OF THE SCOPAC RESEARCH SUB-GROUP**

**1 CURRENT RESEARCH**

**1.1 RESEARCH PROGRAMME 2015 - 2020**

The 5-year SCOPAC Research Programme was prioritised by the Southern Coastal Group at the meeting on the 4<sup>th</sup> September 2015 and approved by SCOPAC at the meeting on the 18<sup>th</sup> September 2015. It was amended to reflect changing priorities and was endorsed by SCOPAC on the 27<sup>th</sup> January 2017. The programme is presented below with live projects being finalised in black text. The ‘actual’ annual expenditure up to 2019/20 is presented, along with ‘forecast’ annual expenditure for 2020/21 to complete all projects (Figure 1).

Annual expenditure	Carried over	£24,200	£8,100	£32,700	£15,741	£17,459	TOTAL project allocation
Research/project	Financial Yr						
	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	
Dismantling Timber Groynes							£10,000
Scour project (minor fund 2015-2017)							£4,000
Pagham tracer minor project (minor fund 2015-2017)							£2,000
Historical photography scanning							£13,000
Landfill study							Levy funded
Vegetated shingle project							£5,000
Preston tracer study							£7,000
CIRIA Groynes in Coastal Management							£5,000
SURGEWATCH							£2,000
Tracer study co-ordination							£2,700
Storm analysis							£25,000
Minor fund projects (2018 - 2020)							£17,000
Bradbury's bursary							£1,500
Improved utilisation of data							£4,000

Figure 1: SCOPAC 5-year research programme 2015 - 2020

**1.2 RESEARCH PROGRAMME 2020 - 2025**

The new 5-year SCOPAC Research Programme was prioritised by the SCOPAC Research sub-group at the meeting on the 18<sup>th</sup> October 2019 and endorsed by the SCG and SCOPAC at the meeting on the 2<sup>nd</sup> June 2020. The programme is presented in Figure 2 with forecast annual expenditure additional to that shown in Figure 1.

Annual expenditure	£20,000	£20,000	£20,000	£20,000	£20,000	Project cost	SCOPAC contribution	Other potential contributions/funding sources
Research/project	Financial Year							
	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025			
Bradbury's bursary	£500	£500	£500	£500	£500	£2,500	£2,500	N/A
Improved utilisation of data	Sand dunes	Remote sensing	Dependent on released funds			£5,000	See below	N/A
SURGEWATCH contribution	£500	£500	£500	Dependent on released funds		£1,500	£1,500	N/A
<b>Minor projects</b>								
Ebb deltas Phase I - scoping	£4,000					£5,000	£4,000	BMP
Cathodic Protection Performance	£4,000					£7,500	£4,000	ICE or CIRIA
Acoustic tag trial	£4,000					£12,000	£4,000	BMP
Remote Sensing	£1,000					£4,500	£1,000	CCO
Sand Dune Development	£1,000					£5,000	£1,000	BMP
West Bay Sediment Transport		£4,000				£20,000	£4,000	BMP
Removing Assets			£4,000			£5,000	£4,000	ICE or FCERM R+D
Medmerry Managed Re-alignment				£4,000		£25,000	£4,000	FCERM GiA/FCERM R+D
Vegetated Shingle study Phase II	Dependent on released funds from Protecting Heritage, Ebb delta II or Storm Analysis II					£7,000	TBC	BMP
SCOPAC Landfill champion	Dependent on released funds from Protecting Heritage, Ebb delta II or Storm Analysis II					£5,000	TBC	N/A
<b>Major projects</b>								
Bibliographic database - scanning and update	£5,000	£3,000	£2,000			£10,000	£10,000	N/A
Protecting heritage		£12,000	£3,000			£75,000	£15,000	Local Levy
Ebb deltas Phase II - analysis			£10,000	£5,000		£30,000	£15,000	N/A
Potential impacts of dredging in the SCOPAC region				£10,500	£4,500	£30,000	£15,000	Crown Estate/Local Levy
Storm analysis Phase II - Impacts					£15,000	£30,000	£15,000	Local Levy or FCERM R+D
SE Regional Monitoring Programme - where are we now ~20 years on?				Dependent on released funds from Protecting Heritage, Ebb delta II or Storm Analysis II		£50,000	TBC	Combination of SCOPAC and CCO?
<b>Major major!</b>								
SCOPAC wide numerical model				FCERM GiA?		200000?		FCERM GiA?
SCOPAC STS update (2012 - 2022)				FCERM GiA?		150000?		FCERM GiA?
<b>Other ideas</b>								
Testing alternative timber species for sustainable groyne construction in the UK	Dependent on released funds from Protecting Heritage, Ebb delta II or Storm Analysis II					£50,000	TBC	ICE fund, FCERM R+D or GiA
Are 'catch up' rates in RACE method appropriate given we have ~15 years SE monitoring data plus SCAPE research.	Dependent on released funds from Protecting Heritage, Ebb delta II or Storm Analysis II					TBC		FCERM R+D?
Use of USV for collection of nearshore bathymetry	Additional information required.							
SCOPAC Historical photography geo-rectification	Additional information required.							
<b>TOTAL COST PER YEAR</b>	<b>£20,000</b>	<b>£20,000</b>	<b>£20,000</b>	<b>£20,000</b>	<b>£20,000</b>		<b>£100,000</b>	

Figure 2: SCOPAC 5-year research programme 2020 - 2025

Recommendation: For information

### **1.3 RESEARCH UPDATE**

Figure 3 presents an overview of progress for each live project from the 2015-2020 and 2020 – 2025 research programmes.

Ref.	Priority	Progress	Action	Why is this needed?	What will success look like?	Lead Officer/s	Critical Support	Start Date	Target Completion Date	2020/21 Resource £	2020/21 Spend to date	2021/22 Resource £	Comments + Outcomes Actually Delivered? Notes
<b>Coastal Research &amp; Monitoring</b>										<b>£48,006</b>	<b>£26,147.15</b>	<b>£28,500</b>	
Research Chair	High	On Target	To oversee and co-ordinate SCOPAC research	To co-ordinate the SCOPAC 5 year research programme and ensure SCOPAC have the ability to assess and investigate research issues of relevance to the region	Research delivered to time and cost. Best value for money realised (i.e. contributions to national research).	Sam Cope	RSG	Ongoing	Ongoing	<b>£8,500</b>	<b>£5,177.06</b>	<b>£8,500</b>	£5000 from SCOPAC subscriptions, £3,500 from Levy bid. <b>Year end spend likely to be ~£8,500.</b> RSG held 30th October 2020. Research leads presented on completed research as follows: Eastney tracer study, Kirk Arrow Spit project, Sandbanks sand dune project. We also had an update on the Remote Sensing project and SCOPAC Storm Analysis dissemination. Many of the research projects from the 2015-2020 programme are now being finalised and uploaded to the website, along with a dissemination plan through future webinars.
	Medium	On Target	Grants and bursaries	To award a Bradbury bursary every year to support a masters student	Good research findings of benefit to SCOPAC	Sam Cope	Ivan Haigh	Ongoing	Ongoing	<b>£500</b>	<b>£500.00</b>	<b>£500</b>	2010/21 bursary awarded to Jake Carley, ECE Master's thesis title: 'Modelling Gravel Beach Profile Evolution Using Parametric and Process-Based Models'. The scoping study was well put together and the research is of interest to the SCOPAC Research sub-group as we currently have consultants using both SHINGLE-B and XBeachG on the south coast to predict the response of our gravel beaches to storm events. A comparison between the two models was undertaken to see how they perform with the same input data and how XBeachG performs with bi-modal wave input data. Jake will provide a presentation to the group on his findings and his thesis will be uploaded onto the coastal group website ( <a href="https://southerncoastalgroup-scopac.org.uk/bradburys-bursary/">https://southerncoastalgroup-scopac.org.uk/bradburys-bursary/</a> ).
	Low	On Target	SURGEWATCH contribution	To ensure website is maintained and members and officers are updated annually	Fully functional, up to date website with an update to the group from Dr Ivan Haigh	Sam Cope to report	Ivan Haigh	Ongoing	Ongoing	<b>£500</b>	<b>£500.00</b>	<b>£500</b>	Dr Ivan Haigh provided a presentation to SCOPAC in January 2019 which has been uploaded onto the SCOPAC website <a href="https://scopac.org.uk/research/surgewatch/">https://scopac.org.uk/research/surgewatch/</a> . Dr Haigh presented his latest findings on sea level rise as part of the SCOPAC Storm Analysis project.

		Medium	On Target	Improved utilisation of data x2 projects 2020-2022: Sand dune project (BCP); Remote sensing project (CCO)	To make best use of regional monitoring data and other data available to SCOPAC officers	Increased understanding of coastal processes demonstrating importance of regional monitoring programme data	Charlie Thompson and Alan Frampton	RSG	May-20	Mar-22	£2,000	£2,000.00	£0	<p>Two projects awarded for 2020/21 and 2021/22 funds. <b>Year end spend will be £2,000.</b></p> <p>1. Sand Dune Study (Lia Bennett/Alan Frampton/Matt Wadey)</p> <p><b>Comment from AF 25th Jan 2021</b> - Sand dune study is complete. Report added to coastal group website (<a href="https://southerncoastalgroup-scopac.org.uk/scopac-research/utilising-rcmp-data/">https://southerncoastalgroup-scopac.org.uk/scopac-research/utilising-rcmp-data/</a>) . Findings presented to SERCMP AGM and SCOPAC RSG meetings in Autumn 2020. This work was invoiced at end of last FY 2019/20; BCP has already received payment</p> <p>2. Remote Sensing study (Charlie Thompson) - To assess whether remote sensing data are of sufficient resolution to allow calculation of beach volume or morphology to sufficient certainty that they be used in conjunction with CCO monitoring data to allow higher temporal resolution beach volume calculations. The wider project is ongoing. An update was presented at the RSG at October SCOPAC RSG meeting.</p>
		Medium	On Target	CIRIA Groynes in Coastal Management Manual	To share best practice on Groyne Design, Construction and Management. Peter Ferguson representing SCOPAC on board.	A comprehensive update incorporating Andy Bradbury's SCOPAC work	Peter Ferguson	Sam Cope	Ongoing	Mar-21	£1,500	£1,500.00	£0	<p>Final report is prepared and CIRIA webinar held to disseminate findings. The report has been uploaded onto the new website (<a href="https://southerncoastalgroup-scopac.org.uk/scopac-research/timber-groynes-maintenance/">https://southerncoastalgroup-scopac.org.uk/scopac-research/timber-groynes-maintenance/</a>). <b>Awaiting confirmation of amount to be invoiced at end of financial year.</b></p>
Major Projects		High	On Target	SCOPAC Storm Analysis	To investigate the recent stormy winters and put into context with longer datasets - analyse tide gauge and wave buoy data.	Analysis, report and infographics to be delivered.	Matt Wadey	Sam Cope	Aug-18	Mar-21	£13,535	£13,535.00	£0	<p>This project moved with Matt Wadey to BCP and was delivered by the original consortium of University of Southampton with support from Coastal Partners. The project was launched to SCOPAC, the Southern RFCC and Wessex RFCC on the 15th Jan 2021 and presented to the Royal Geographical Society on the 27th Jan where over 150 delegates dialled in. The report, infographic and presentation are on the new website here - <a href="https://southerncoastalgroup-scopac.org.uk/scopac-research/scopac-storm-analysis-study/">https://southerncoastalgroup-scopac.org.uk/scopac-research/scopac-storm-analysis-study/</a></p> <p>This has proven to be an excellent piece of research for which we hope future monitoring can be incorporated into the</p>



				aspirational as there is no appropriate funding mechanism specific to protecting heritage assets or responding to the increased costs associated with works to / adjacent to them.									
Minor projects	Low	Early Warning	2018 - 2020 Minor Projects - x3	A contribution towards three wider research projects.	Three individual projects delivered by March 2021, meeting project scope.	Sam Cope to report	Alex Hillawi, Ivan Haigh, Jo Brooksbank	Apr-18	Mar-20	£4,471	£424.09	£0	<p>Three projects are ongoing:</p> <ol style="list-style-type: none"> <li>1. Poole Harbour tide gauge digitising (Ivan Haigh) - Good progress made. Assessing outputs for any recording error. Draft report has been submitted with final report being finalised.</li> <li>2. Langstone Harbour tracer study (Alex Hillawi) - Tracers pebbles were deployed in April 2019 and still have a 20% retrieval rate for larger pebbles. The tracers are generally following the SCOPAC STS suggested direction of transport, although the location of the drift divide at Eastney looks to have moved to the east. There is currently no evidence of material moving from Eastney Beach around Fort Cumberland towards the Spit. Final write up of results to follow.</li> <li>3. Healthy Estuaries 2020 (Jo Brooksbank) – Research has changed direction from original plan to apply the Healthy Estuaries Tool to Chichester Harbour, given this wasn't possible. A detailed condition assessment was produced instead, which may have significant implications for the Solent PSA target and PSA targets across the coastal group. Angela Marlow from Natural England will be providing an update on this at a future coastal group meeting. SCOPAC will contribute £2,000 out of the original £4,000 in support of the data collection and analysis for the condition assessment.</li> </ol> <p><b>£2,471 will be spent by year end with the remaining £2,000 going back into the 'Research pot'. Recommendation: This £2,000 be used to co-supervise a Master's student from Exeter University who is producing an inventory of latest cliff and landslide movements across the SCOPAC region.</b></p>



				investments.	current gaps in knowledge where further research would be helpful.									
		Low	Early Warning	Acoustic tags	To better understand the interaction between the nearshore zone and adjacent beaches.	The aim of this proposal is to create a novel acoustic tagging method to allow for direct measurement of the movement of subsea sediment within the nearshore zone. If successful, this technique could be applied to provide certainty on movement between the nearshore zone and adjacent beaches for Beach Management Plans. There will be an ESCP trial, followed by a SCOPAC contribution towards a pilot study.	Sam Cope to report	Sacha Neill	Aug-20	Aug-21	£4,000	£0.00	£0	Delayed due to COVID-19 lockdown restrictions preventing fieldwork. SCOPAC trial to rollover to 2021/22. <b>Surplus funds to be carried over to 2021/22.</b>
		Medium	On Target	West Bay sediment transport study	Maintenance activities at West Bay, Dorset, currently involve periodic beach recycling at both West Beach and East Beach, as well as annual dredging of sediment from the outer West Bay Harbour (which is deposited on West Beach). These	The output from this study will be an improved understanding of sediment transport pathways along the West Bay shoreline to inform future sediment recycling operations using tracer pebble techniques.	Alan Frampton	Sacha Neill	Jul-21	Jul-22	£0	£0.00	£4,000	Due to start 2021/22. Could be a knock on impact from COVID-19. Currently developing detailed plan of what this study wants to achieve with aim of seeking additional Local Levy funding from Wessex RFCC to allow study to commence in 2021/22.



