

Paper E

Purpose : For Information

Committee: **SOUTHERN COASTAL GROUP and SCOPAC**

Date: **OCTOBER 2021**

Title : **RESEARCH PROGRAMME**

REPORT OF THE CHAIRPERSON OF THE SCOPAC RESEARCH SUB-GROUP

1 CURRENT RESEARCH

1.1 RESEARCH PROGRAMME 2015 - 2020

The 2015 – 2020 SCOPAC Research Programme was prioritised by the Southern Coastal Group at the meeting on the 4th September 2015 and approved by SCOPAC at the meeting on the 18th September 2015. It was amended to reflect changing priorities and was endorsed by SCOPAC on the 27th January 2017. The programme is presented below with live projects being finalised in black text. These will be completed and outputs uploaded onto the www.southerncoastalgroup-scopac.org.uk website this financial year.

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 current 5-year SCOPAC Research Programme was prioritised by the SCOPAC Research sub-group at the meeting on the 18th October 2019 and endorsed by the SCG and SCOPAC at the meeting on the 2nd June 2020. The programme is presented in Figure 2 with some projects showing a carry over to 2021/22.

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
Minor projects								
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
Major projects								
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?
Major major!								
SCOPAC wide numerical model				FCERM GiA?		200000?		FCERM GiA?
SCOPAC STS update (2012 - 2022)				FCERM GiA?		150000?		FCERM GiA?
Other ideas								
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.							
TOTAL COST PER YEAR	£20,000	£20,000	£20,000	£20,000	£20,000		£100,000	

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.

Ref.	Priority	Progress	Action	Why is this needed?	What will success look like?	Lead Officer/s	Critical Support	Start Date	Target Completion Date	2021/22 Resource £	Comments + Outcomes Actually Delivered? Notes	
Coastal Research & Monitoring										£38,706		
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	£8,500	£5000 from SCOPAC subscriptions, £3,500 from Levy bid. RSG held 23rd April 2021 where research leads gave an update on live research. There was also a discussion around the future update of the SCOPAC STS (~2023) and the importance of ensuring the update is in the SMP2 action plan refresh. This has now been added. The next RSG meeting will take place on the 1st October 2021.
		Medium	On Target	Grants and bursaries	To award a Bradbury bursary every year to support a master's student	Research findings of benefit to SCOPAC in terms of enhancing coastal processes, engineering or environmental understanding.	Sam Cope	Ivan Haigh	Ongoing	Ongoing	£500	The Bradbury's Bursary will be awarded end of October 2021.
		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	£500	Dr Ivan Haigh provided a presentation to SCOPAC in January 2019 which has been uploaded onto the SCOPAC website https://scopac.org.uk/research/surgewatch/ . Dr Haigh presented his latest findings on sea level rise as part of the SCOPAC Storm Analysis project (https://southerncoastalgroup-scopac.org.uk/scopac-research/scopac-storm-analysis-study/).

		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	£0	<p>Two projects awarded for 2020/21 and 2021/22 funds.</p> <p>1. Sand Dune Study (Lia Bennett/Alan Frampton/Matt Wadey)</p> <p>Comment from AF 25th Jan 2021 - Sand dune study is complete. Report added to coastal group website (https://southerncoastalgroup-scopac.org.uk/scopac-research/utilising-rcmp-data/) . 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)</p> <p>- 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.</p> <p>The wider project is ongoing.</p>
Major projects		High	Early Warning	Bibliographic database scanning	To scan valuable papers and documents held at the University of Portsmouth from previous updates of the SCOPAC BD and STS.	To 'scan' as many of the valuable paper copies of historical coastal management papers and documents before they are discarded.	Sam Cope to report	David Carter/Malcolm Bray	Aug-20	Mar-23	£3,000	<p>Delay starting due to COVID-19. The scope has been developed and the original authors are on guard to start the project once they can access the box files at the University of Portsmouth. We still can't access the university, although are hoping this will change soon. Surplus funds carried over to 2021/22.</p>
		High	Early Warning	Protecting Heritage	There are a significant number of designated heritage assets within the SCOPAC region that have historically benefitted from flood and erosion protection or themselves directly perform a coastal defence function. Many of these nationally	The project primarily aims to raise the profile of this issue, particularly the apparent lack of funding and/or strategy to deal with the problem. The scope of the project is to identify heritage assets at risk of flooding/erosion in the region, as well as the possible funding sources. The project is	Gavin Holder/Sacha Neil	Sacha	Aug-21	Aug-23	£12,000	<p>Up to £4k/£12k of SCOPAC funds being used to develop a scope, seek contributions and submit a joint Southern and Wessex RFCC levy bid Jan 2022. This is currently being developed by Sacha Neill at Coastal Partners and will be passed to Alan Frampton at BCP Council for comment.</p>

				<p>significant assets are at direct risk of flooding and erosion, with potential for loss or damage to irreplaceable Scheduled Ancient Monuments, listed buildings / structures and conservation areas. As far as protection of heritage assets is concerned, SMPs are 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.</p>	<p>engaged in communicating this issue to the coastal engineering and flood management community, as well as politicians and other decision-makers. A series of case studies will be investigated to draw out site specific issues and lessons learned.</p>							
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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	£0	<p>Two projects are being finalised from the previous programme:</p> <ol style="list-style-type: none"> 1. Poole Harbour tide gauge digitising (Ivan Haigh) - Final report is with Research Chair for review. 2. Langstone Harbour tracer study (Alex Hillawi) - Tracers pebbles were deployed in April 2019 and were monitored in the field for a full year. Analysis shows the tracers generally following the SCOPAC STS suggested direction of transport, although the location of the drift divide at Eastney has moved further to the east. This is significant as there is currently no evidence of material moving from Eastney Beach around Fort Cumberland towards the Spit or onshore to feed the spit. Final report is with Research Chair for review. 3. Healthy Estuaries 2020 (Jo Brooksbank) – Research changed direction from original plan to apply the Healthy Estuaries Tool to Chichester Harbour. 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 the October 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. The extra £2,000 is being 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.
	Medium	Early Warning	Ebb delta scoping study - Phase 1	One of the biggest unknowns resulting from the Update of the SCOPAC STS is the sediment budget at harbour and estuary mouths. There are often difficulties quantifying the sediment budget at these locations given the diverse wave approach across ebb deltas and	Phase 1 will collate all existing bathy, lidar and aerial photography for the ebb deltas across the SCOPAC region into a GIS and produce a scoping study outlining any data gaps for undertaking a sediment budget. Findings will inform bathy data collection for the next phase of the Regional	Sam Cope to report	Sacha Neill/Matt Wadey	Aug-20	Mar-22	£3,886	<p>The project is currently looking into whether numerical modelling could be used to understand better the feedback mechanisms between ebb deltas and offshore stores and sinks. Surplus funds carried over to 2021/22.</p>

				possible sediment drift divides on the adjacent beaches.	Monitoring Programme. The scoping study will also collate any existing analysis (i.e. BCP numerical model) to identify best methods for undertaking analysis in Phase 2.							
		Low	On Target	Cathodic Protection	If steel sheet piles are to continue to be the preferred way of managing coastal flood risk in these areas into the longer-term, then there is a need to understand how the scheme design life of these assets can be extended beyond current day levels using cathodic protection so as to maximise investments.	The output of this research will be a technical report that shares the findings and lessons learnt from achieving the research aim and objectives in a way that can be used to inform future decisions by RMAs when considering future wall replacement options and ongoing maintenance levels. It will also identify current gaps in knowledge where further research would be helpful.	Alan Frampton	RSG	Apr-20	Mar-22	£2,320	Project underway and draft report being prepared. Surplus funds were carried over to 2021/22.
		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	Sam Cope to report	Sacha Neill	Aug-20	Aug-23	£4,000	The Coastal Partners in-house trial took place down at Eastney beach this August. The data collected has been sent off for analysis. Following a successful trial, the SCOPAC work will take place in 2022/23. Surplus funds carried over to 2021/22.

					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.						
		Medium	On Target	West Bay sediment transport study	<p>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 activities are guided by beach management plans for each site, both of which are in the process of being updated to reflect changes to the coastal defences as a result of the 2019 West Bay Coastal Improvements Scheme.</p> <p>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.</p>	Alan Frampton	Sacha Neill	Jul-21	Jul-23	£4,000	<p>Dorset Council and BCP have been awarded a levy bid to undertake a study to better understand sediment transport at West Bay. Coastal Partners will undertake a tracer study, which in conjunction with analysis of regional monitoring data will examine patterns of littoral drift over the course of a year. The tracer pebbles are currently being prepared, ready for deployment in Spring 2022.</p>

Figure 3: SCOPAC research update 2021/22

