PAPER F

Purpose : For Information

Committee: **SOUTHERN COASTAL GROUP**

Date: **OCTOBER 2020**

Title : **RESEARCH PROGRAMME**

REPORT OF THE CHAIRPERSON OF THE SCOPAC RESEARCH SUB-GROUP

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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 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. 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
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 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 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**
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.						**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?	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
Coastal Research & Monitoring										**£44,406**	**£11,701.76**	**£28,500**	
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	Sam Cope	RSG	Ongoing	Ongoing	**£8,500**	**£3,250.68**	**£8,500**	£5000 from SCOPAC subscriptions, £3,500 from Levy bid. RSG held 24th April 2020. Research leads presented on remaining live projects from 2015 – 2020 research programme. The group discussed new projects starting in 2020/21 from the new 2020 – 2025 research programme, focusing on any impacts from lock down measures. There will be a delay to the acoustic tag work starting as well as scanning old paper copies of the Bibliographic Database. The next RSG is scheduled for the 30th October 2020.
		Medium	On Target	Grants and bursaries	To award a Bradbury bursary every year to support a masters student	Sam Cope	Ivan Haigh	Ongoing	Ongoing	**£500**	**£500.00**	**£500**	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 will be 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 will be undertaken to see how they perform with the same input data and how XBeachG performs with bi-modal wave input data. It's also fitting that the proposal should win the award, as the SHINGLE-B model came out of the research Andy Bradbury was leading on.
		Low	On Target	SURGEWATCH contribution	To ensure website is maintained and members and officers are updated annually	Sam Cope to report	Ivan Haigh	Ongoing	Ongoing	**£500**	**£500.00**	**£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 will be presenting to SCG/SCOPAC on SURGEWATCH, latest sea level rise findings and storms as part of the SCOPAC Storm Research in early winter.

		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	Charlie Thompson and Alan Frampton	RSG	May-20	Mar-22	**£2,000**	**£0.00**	**£0**	Two projects awarded for 2020/21 and 2021/22 funds: 1. Sand Dune Study (Alan Frampton/Matt Wadey) - To undertake a review of development of the sand dunes at the Sandbanks Coastal Protection scheme since 1995 to quantify exactly how they have established and evolved since this period. Findings will inform coastal protection through sand bank management for other sites across the SCOPAC region. - Project almost complete. Final report undergoing review. Plan to present at October SCOPAC RSG meeting. 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. Project ongoing. Update to be presented to RSG at October meeting SCOPAC RSG meeting.
Major Projects		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.	Peter Ferguson	Sam Cope	Ongoing	Mar-21	**£1,500**	**£0.00**	**£0**	Final report is prepared and CIRIA webinar held to disseminate findings.
		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.	Matt Wadey	Sam Cope	Aug-18	Mar-21	**£9,935**	**£7,336.60**	**£0**	This project has moved with Matt Wadey to BCP and continues to be delivered by the original consortium of University of Southampton with support from ESCP. The project has made good progress with detailed analysis of wave and water levels across the SCOPAC region. An interim RSG meeting was held on the 23rd July where preliminary results from the SCOPAC Storm Analysis work was presented. The final report has been written and reviewed by the Research chair and an infographic and presentation are being prepared for dissemination early winter 2020. Disseminate on 6th November to SCOPAC? **Recommendation from RSG**: Surplus Research pot to be used for dissemination.

												If enough surplus funds, IOW and Milford to be added as an addendum.
		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.	Sam Cope to report	David Carter/Malcolm Bray	Aug-20	Mar-23	**£5,000**	**£0.00**	**£3,000**	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.
		High	On Target	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 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	Gavin Holder	TBC	Aug-21	Ongoing	**£0**	**£0.00**	**£12,000**	Will be applying for local levy funding.

					mechanism specific to protecting heritage assets or responding to the increased costs associated with works to / adjacent to them.								
Minor projects		Low	On Target	2018 - 2020 Minor Projects - x3	A contribution towards three wider research projects.	Sam Cope to report	Alex Hillawi, Ivan Haigh, Jo Brooksbank	Apr-18	Mar-21	**£4,471**	**£0.00**	**£0**	Three projects are ongoing: 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. 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. 3. Healthy Estuaries 2020 (Jo Brooksbank) – Review of historical and current evidence and data on habitat and estuary morphology for Chichester Harbour which is being used to help further refine and validate the Healthy Estuary Modelling Tool. The report has been submitted and conversations are ongoing between NE and the SCOPAC Research Chair.
		Medium	On Target	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	Sam Cope to report	Sacha Neill/Matt Wadey	Aug-20	Mar-21	**£4,000**	**£114.48**	**£0**	Project is in scoping phase, due to start.

					these locations given the diverse wave approach across ebb deltas and possible sediment drift divides on the adjacent beaches.								
		Low	On Target	Cathodic Protection	If steel sheet piles are to continue to be the preferred way of manging 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.	Alan Frampton	RSG	Sacha	Mar-21	**£4,000**	**£0.00**	**£0**	Project has started. On target to (be largely) complete by end of March 2021.
		Low	Early Warning	Acoustic tags	To better understand the interaction between the nearshore zone and adjacent beaches.	Sam Cope to report	Sacha Neill	Aug-20	Aug-21	**£4,000**	**£0.00**	**£0**	Progress now starting to be made on ESCP trial, having been delayed by 6 months due to COVID-19. SCOPAC trial to rollover to 2020/21.
		Mediu m	Early Warning	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	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.

				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.								

Figure 3: SCOPAC research update 2020/21

Contact: **Dr Samantha Cope** (Chairperson of the Research Sub-Group) sam.cope@havant.gov.uk, tel: 07775 910026