

# 2022 Annual Report



## FIG Commission 4 (Hydrography)

### FIG Congress - Commission 4 (Hydrography) delegate's report

#### Report to S+SNZ Board

#### Introduction

FIG's technical work is led by its ten commissions to which each member association appoints a delegate. The responsibilities and work plans of Commissions are approved by the General Assembly during the FIG Congress, which are held every four years. Annual Working Weeks, such as the 2016 Working Week held in Christchurch, are held in the intervening years. The 27<sup>th</sup> FIG Congress was held in Warsaw, Poland from 11-15 September 2022.

#### Commission 4 Hydrography

For the term 2019-2022 the FIG Commission 4 work programme was:

- **Standards and Guidelines for Hydrography** (WG 4.1)
- **Blue Growth & UN Sustainable Development Goal 14** (WG 4.2)
- **Mapping the Plastic** (WG 4.3)
- **Marine Development and Administration** (WG 4.4)

Although the new work programme is yet to be finalised, it is not likely to change radically from the previous plan, with all the working groups continuing their work.

The Commission 4 Chair-elect is Malavige Don Eranda Kanachana Gunathilaka (Eranda for short) from Sri Lanka (member association Surveyor's Institute of Sri Lanka) for the 2023-26 term.

#### Working Group 4.3

I am Chair of FIG Working Group 4.3 that has been set up in conjunction with the FIG Young Surveyors Network to offer our assistance to the global effort to combat the plastic pollution 'pandemic'. We are volunteers with specific GIS, remote sensing, hydrographic surveying, project management and overall measurement science skillsets, focussing on better understanding the quantity and type of plastic waste being transported in waterways before they reach our oceans.

WG members from our academic partners at the Universities of Banja Luka in Bosnia and Herzegovina and Novi Sad in Serbia have developed a remote sensing methodology to accurately map floating plastic in waterways and on river banks and coastal areas using UAVs equipped with multi spectral cameras and automated image analysis based on AI algorithms in near real time, which represents a breakthrough in the global plastics battle.

The data collected from these surveys can inform local decision making with respect to land use controls and onshore waste management practices with the ultimate goal of preventing the dumping of plastic waste in river systems, thereby reducing the impact of plastic pollution on our oceans. Our methodology augments, or can replace, traditional methods of beach surveys to quantify and classify plastic waste at specific sites.

A colleague and I gave a keynote presentation to the Congress on the work we are doing to map plastic waste.

### **Our work programme**

We are seeking World Bank funding to work with government agencies and NGOs in heavily polluted 'hot spot' areas to accurately map, classify and quantify the plastic waste in river systems and coastal areas. Unfortunately, a lot of the plastic 'hotspot areas' are in countries whose governments don't have the necessary budgets to fund this work, and neither do we. We have partnered with GreenHub, a Vietnamese NGO and CSIRO in Australia who are doing great work in the plastics area and would be happy to work with others.

### **The Pacific Region**

In terms of mapping the plastic in our region I would like to suggest that S+SNZ, through its Hydrography and Spatial Professional Streams, work with WG 4.3 to

- Seek funding from the New Zealand government to accurately map plastic pollution hotspots in those Pacific states, who, through no fault of theirs, are being overwhelmed by plastic waste
- Work with local volunteers, NGO's and government agencies in affected Pacific states to undertake the field work and ongoing monitoring
- Report the quantum and classification types of plastic pollution found to the relevant agencies to inform the development of policies and strategies to address this problem.

Ngā mihi

Simon Ironside

S+SNZ Commission 4 Delegate and Chair FIG Working Group 4.3

16/10/2022