Rivers to the Sea

Rotary
District 1070

Rivers to the Sea conceived by, driven by, and currently funded by UK Rotary District 1070 in the low-lying flood prone midlands demonstrates some promising ideas contributing to the November 10, 2022, at the COP 27 Side Event on localized finance for climate change adaptation.

COP 27 Side Event

Localised Financing for Climate Change Adaptation: Reducing Loss & Damage and Inequity Cycles

Date and time: 10th November, 11:30-13:00 (local time Egypt)
Venue: Amon (150), Sharm El-Sheikh International Convention Centre (SHICC)
Organisers: Fundación Avina, The UNDRR Stakeholder Engagement Mechanism (SEM), The Latin American Faculty of Social Sciences (FLACSO), Sea Trust Institute, Greener Impact International (GII), Major Group of Children and Youth (MGCY)
Thematic focus: Strengthening Resilience, Adaptation Planning; Climate Financing; Youth

Rivers to the Sea

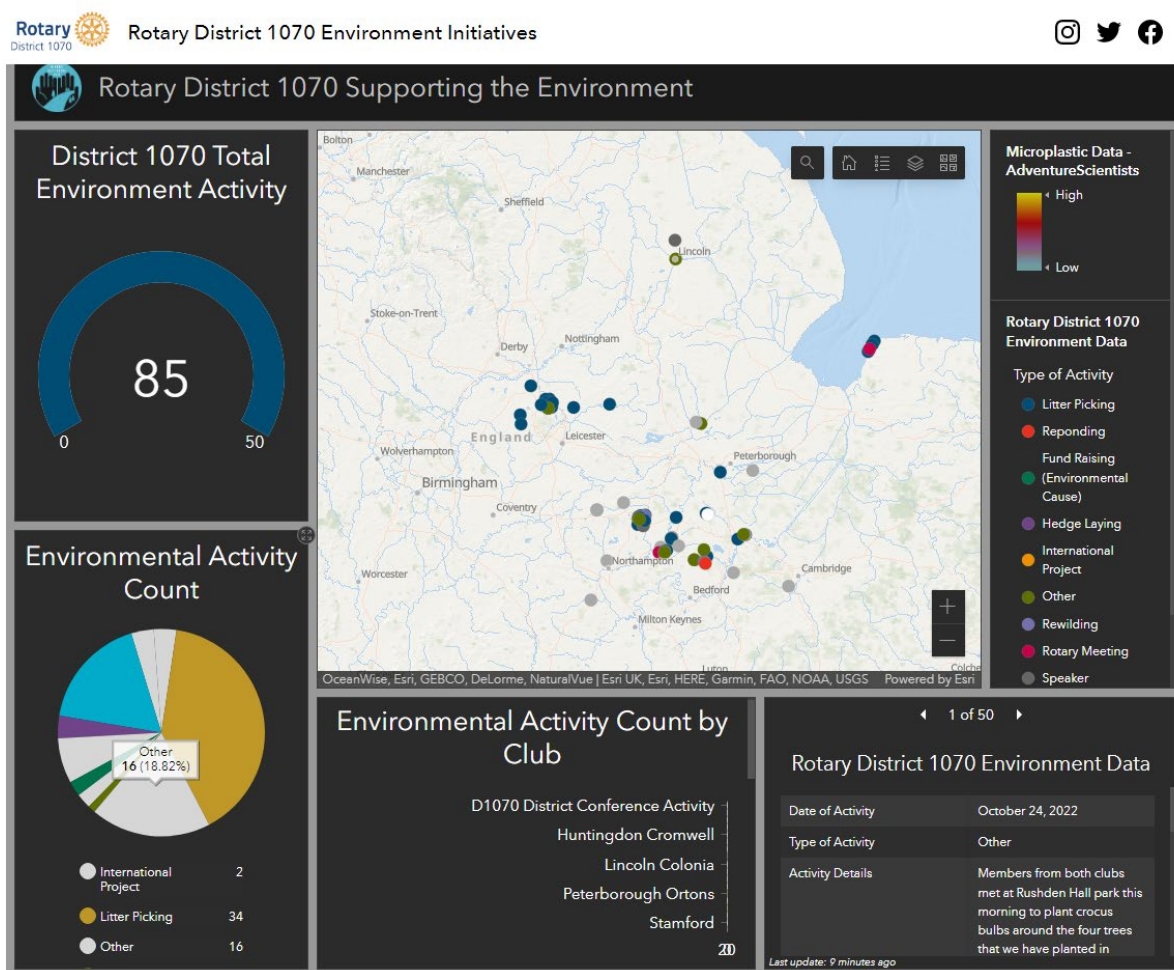## WATER QUALTY TESTING & ECOLOGICAL OBSERVATION

What began as a river and coastal cleanup project focusing on plastics, over two years Rivers to the Sea (R2S) sprouted into a citizen-driven community science, educational, awareness and engagement collaborative of youth and adults to:

- Monitor the water quality of the river system from source to Sea using a multiparameter probe under expert guidance and collaboratively developed protocols
- Record observations of physical, biological, social, and environmental changes in the monitoring areas through narratives, mapping, and media
- Develop common language and protocols for communicating findings
- Pose the new questions that emerge to local citizens, interested parties and governmental entities to suggest and support changes to increase resilience to the effects of a fast changing climate both physically and socially.

Goals of the Rivers to the Sea (R2S) Initiative

- To build a collaborative network of Rotary-led volunteer and non-traditional monitoring groups that shares their water quality data with local communities, the public, formal monitoring efforts, and the Rotary Rivers Initiative.

- Provide technical assistance and support to monitoring groups and individuals to collect, analyze, and communicate about water quality data.

- Build intergenerational relationships between the Rotary Rivers Initiative and the non-traditional, traditional, and volunteer water quality and ecological monitoring community.

- Contribute to the infrastructure and support to make all water quality data of known quality available to the Rotary Rivers Initiative community and integrate data into the R2S monitoring GIS database.

- Develop consistent monitoring and training protocols, technical guidance, data gathering tools, quality assurance mechanisms, and data analysis and communication tools.

- Provide training and technical support to participating monitoring groups in order to ensure provision of consistent, high quality data

What actually happens in R2S? Teams of Rotarians and youth go out on the rivers to monitor, upload data to a public facing GIS database and map, DEGIS, at https://rotary-district-1070-plastics-initiative-rotarydist1070.hub.arcgis.com/ , then work together on a collaborative platform to refine the process and engage young people, experts and other interested stakeholders in the planning and process. While participants in this pilot project is using a multiparameter probe and secchi dish to collect water quality data, the river quality monitoring **process and protocols can be followed with or without the technology**. These processes are modeled on a compilation of top global river monitoring processes for both science and safety including those used in Chesapeake Bay and Plymouth Marine Laboratory. Data also includes community information and histories, photos, videos, and other observations by teams to demonstrate changes along the waterways and coasts. That data can also be demonstrated on DEGIS wherever it is collected across the world.
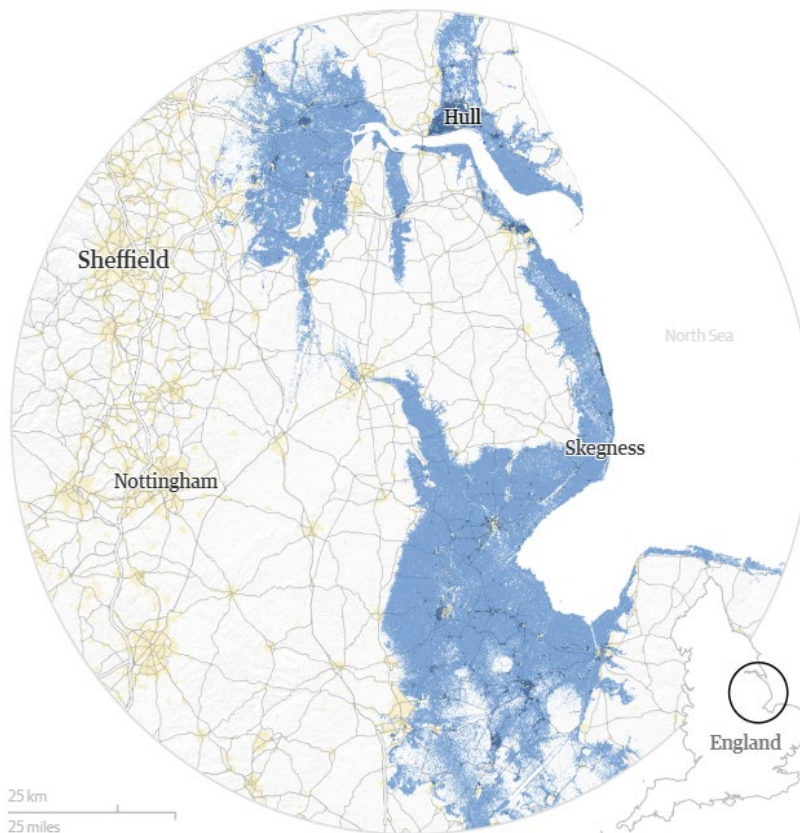

Results: As of November 2022, Rivers to the Sea is actively surveying 20 locations on two main rivers, the Nene and Great Ouse Rivers, with tributaries leading into them and the

North Sea. An addition to the DEGIS for Rotary in Great Britain and Ireland live for environmental surveys and the existing district 1070 DEGIS now has nearly 90 events captured.

These pilot experiences are continuously being reviewed and improved upon through a virtual community network launched in October 2022, **SeaTrust Lighthouse for Rivers to the Sea**, run by the R2S community itself to solve issues, bringing together Rotarian project participants, technical experts, youth, financial and other partners, and to engage people anywhere in the world who might want to bring this program into their own communities.

Individuals participate because they care about their local areas and communities, what they are today and what they will be tomorrow.

Hundreds of thousands of people live in the urban areas of Lincolnshire. Sea-level rise will reshape densely and sparsely populated areas.
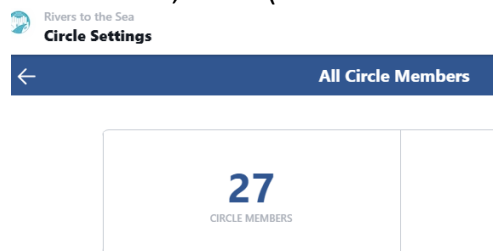
Global warming of 3C would lock in changes that would ultimately - several decades down the line - swamp most of the farm fields and much of the coastline in this eastern county.

An early R2S participant rationale and notes from their monitoring experience:

"Is the River Great Ouse safe for water sports and recreation?
Establish a base line of data
Develop a factual history
Plan remedial action if data suggests it's required
Locations for testing
As river enters St Neots and exits
Ease and safety of access
Brooks that feed in
Leave some areas for St Neots Club to test
I'm conscious that we needed to pay more attention to the surrounding area, wildlife etc. I am adding comments to photos as I send them to you"

November 2, 2022 (From the network, SeaTrust Lighthouse for Rivers to the Sea)

Rivers to the Sea
Circle Settings

← **All Circle Members**

27
CIRCLE MEMBERS

Network members from Rotary, youth and other interested stakeholders are contributing to helping one another and expand the possibilities and projects. In December working groups in a variety of areas to support the design, improvement, and implementation of Rivers to the Sea will specifically address local issues and ideas, inviting experts where needed to support data collection and results delivery through live events as well as resources and online collaboration on process and documentation.

The initial areas of collaborative intergenerational project design underway begin with a question**: what do you want to monitor, and why**? Then protocols and process are suggested by the R2S group to include the following areas for anyone designing their own project with results to be provided to new project members as questions to consider before commencing a project. Additional forms, guides, and the directions/ability to upload data to the GIS database for inclusion in DEGIS are also provided to members.

PROGRAM
Rivers to the Sea Challenge #2

Challenge Outline

Activity Feed

Invite

Members

About

Topics

Events

CHAT

Rivers to the Sea Challenge...

ONLINE NOW

Questions Answered Through Rivers to the Sea

List of Questions to be Answered in R2S

Matching Questions to be Addressed in R2S to Different Audiences

Considering Different Narratives for Different Audiences

Add Action

Monitoring the River: Content and Considerations

Deciding WHAT to Monitor

Background: Describing the Location where you are Monitoring

River Resource Uses and Identifying Available Data for Baselines

Monitoring Timeframes

Communicating Monitoring Decisions and Processes to Ask and Begin to Answer Questions

Add Action

Collecting Data

Collecting Water Quality Data

Collecting Observational Data

Review Monitoring Intake Sheets

Data Quality Assurance

Communicating Data Collection Decisions

Add Action

Data Management & Analysis

DEGIS - the GIS Review of Data Collected in R2S

Add Action

Communicating Findings and Next Steps

New Action

Supporting replication efforts will be access to SeaTrust Institute's 60 educational pathways through our flagship education initiative **AWARE** (Action within a resilient environment), through which individuals, clubs or teams including youth and adults together can design and execute projects to reflect their own environmental resilience objectives.

Within the network, co-developed strategies provide peer to peer and expert support with a goal of global replication of R2S through the Rotary International network of established clubs and local partnerships that has for over 40 years delivered local services like polio vaccines, clean water and more to communities that need them. By leveraging the established network and funding model for R2S as supported through the Rotary Environment focus areas (its first new focus area for Rotary in 40 years), Rivers to the Sea projects have access to expertise from local perspectives to create community designed and driven processes derived from the UK model but that adapt to local physical and social conditions with direct access to scientific, financial and other advisors for oversight from design to post-implementation review for project deliverables and finance through its process of linking the local club level work with Rotary International guidance and support.

Rotary International has a new partnership with UNEP to clean up rivers called "Adopt a River." River clean-up is exactly where R2S began, and it complements the international partnership effort with additional pathways for engagement with an intergenerational and scalable resources – including finance. Rotary youth clubs can now apply for global grants, for example, when partnering with an adult club on the other end and leverage other partner financing in scaling up projects. The process will undoubtedly morph into other types of projects as well as rivers, and we hope that it does!

The Rivers to the Sea work has all been accomplished by volunteers – real people, in real places, who care about our places present and future, and care about preserving ways of living as well as environmental services and the ability to weather disasters. That profile offers a framework for project durability and continuing engagement across generations to build and preserve what is most important locally with access to the best global resources. The only costs to date have been the shared multiparameter probe and its calibration liquid, both of which were funded by local Rotary clubs.

WHAT IF: <u>YOU</u> joined us in the network and in community driven environmental resilience projects? We especially invite youth voices in structuring programs and in leadership, (which is modeled in the very design of the Lighthouse Network for Rivers to the Sea – see below) and by those who would advise on technical aspects from finance to water quality monitoring and guided observation - or have other new innovations on offer. We are so excited to learn what those might be!

Serag Heiba
Host

On engaging youth in climate activism and closing the knowledge-action gap.

This paper (link) was published by a team of high school teachers and students here in Hong Kong in the School Science Review journal. For our R2S community, this paper identifies some critical**...continue**

| Article | | Rivers to the Sea | | Challenges | Posted 2w ago

♡   💬 2

Nelson Chege 3d
Host

Interesting article Serag! Clearly, the perception of climate inaction by the youth is not due to a lack of interest but rather the presence of systemic and almost intentional barriers against their inclusion. Safaya and her team speak of surface-level exposure for young people on matters of climate action. In my experience, an absurd amount of climate action gatekeeping exists **...more**

♡

Lynn Wilson 1d
Community Leader

Rivers to the Sea "more seasoned" folks, let's make this engagement for youth more than a token gesture; how can we address Serag's poignant questions to really bring youth to the center of our work while providing the guidance, resources and support for success?

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Designing a River and Ecological Observational Monitoring Program (excerpt from detailed R2S Manual)

Rotary Rivers to the Sea Initiative (R2S)

Before implementing a successful river and ecological monitoring program, it is essential to think through the scientific process and the steps necessary to participate in a program where the data collected match the monitoring objectives. The choices you make about your monitoring program in conjunction with Rotary Rivers to the Sea Initiative (R2S) will be documented in a written monitoring plan. Preparing a monitoring plan is the most important step in organizing your monitoring efforts because:

- It helps you to focus on what you are trying to achieve with your monitoring program,
- It allows you to examine and decide upon important components of river and ecological monitoring before collecting information,
- It clearly documents your sampling and analysis methods along with your quality assurance procedures, making your efforts useful and your data reliable
- It helps you to select the most appropriate monitoring strategies to address the issues that are important to you, your group, and your community, and
- It minimizes the impact of changing members on the continuity of your monitoring activities.

The decisions made during the study process include choosing:

- What to monitor –water quality parameters, macroinvertebrates and/or animals, plants
- How to monitor – methodology and equipment used
- Where to monitor – identify and prioritize monitoring sites
- When to monitor – timeframe and frequency
- How to use and communicate the results

Once you begin monitoring, you should revisit your monitoring plan at least annually to determine if the data you are collecting are answering the initial questions that prompted monitoring and to determine if your methods are still appropriate.