xylem
Environmental Solutions

rQPOD

COST-EFFECTIVE, FLEXIBLE, AND INNOVATIVE SURVEYING TOOL

BROCHURE
XA00212

YSI
a xylem brand

rQPOD

modular remote survey boat

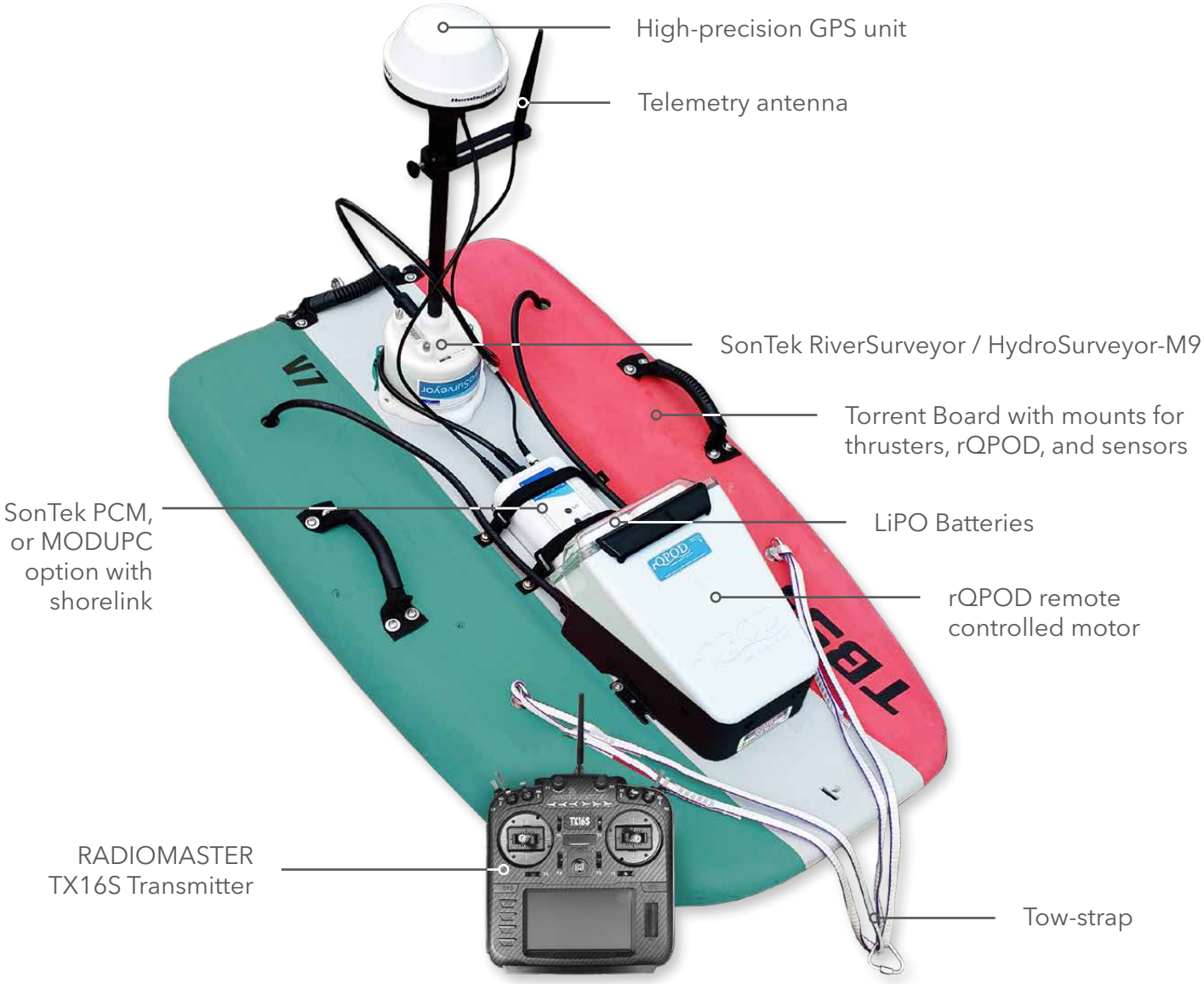
Collect water quality, discharge, hydrographic, and even side scan sonar data all from one vehicle! The **rQPOD platform** of remote surface vehicle systems offers water professionals the ability to run today's top sensors simultaneously for integrated, spatially, and temporally-aligned data sets.

- Collect more spatial and temporal data in a single mission than ever before
- Ultimate flexibility in sensor payload for water quality, bathymetry, discharge, and more
- Lightweight design for single-person transport and deployment
- Easy on-site setup that's ready to run in 15 minutes or less
- Marine-grade components for operation in tough environments

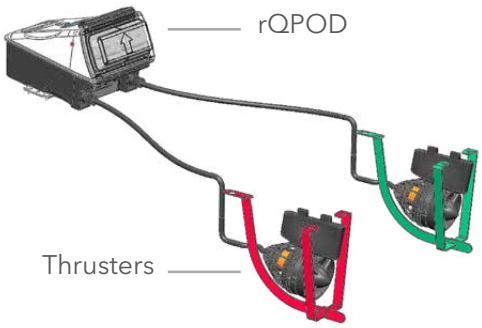
The rQPOD can be customized for your program–consult your YSI systems specialist to identify an rQPOD configuration that's right for you!

Learn More: **YSI.com/rQPOD**

Features and Specifications



rQPOD Module	
Top Speed	1.5 m/s (5 ft/s)
Weight	4.54 kg (10 lb)
Battery Duration	4 to 6 hours*
Temperature Range	-10°C to +40°C (14°F to 104°F)
Batteries	2x LiPO
Transmitter	RADIOMASTER TX16S
IP Rating	IP67



*Battery duration based on speed of 0.7 m/s (2.3 ft/s).

Configure a System

The Torrent Boards (TB) below have been optimized for the rQPOD module and Xylem's industry-leading sensors from SonTek and YSI. Choose the larger DUO to get multiple sensors, the standard TB to use one sensor, or the specialized TBX to carry the world's smallest ADCP, SonTek's RS5. The rQPOD module is directly compatible with any of the three boards below. It can also be adapted to SonTek's Hydroboard II, Trimaran, and many other floating platforms utilizing YSI's ModuMount kits that provide universal mounting options.

DUO Board		TB Board		TBX Board	
Compatible With: (Pick 2)	YSI EXO, SonTek M9, SonTek RS5, Side Scan Sonar	**Compatible With: (Pick 1)**	YSI EXO, SonTek M9, SonTek RS5	**Compatible With:**	SonTek RS5
Length	1.39 m (4.56 ft)	**Length**	1.14 m (3.74 ft)	**Length**	0.86 m (2.82 ft)
Width	0.78 m (2.56 ft)	**Width**	0.72 m (2.36 ft)	**Width**	0.54 m (1.77 ft)
Weight	6.80 kg (15 lb)	**Weight**	5.90 kg (13 lb)	**Weight**	4.54 kg (10 lb)
Volume	58.5 L	**Volume**	54 L	**Volume**	25 L

Integrate industry-leading sensors from SonTek and YSI

Compact design is easy to deploy with a single person (even the larger DUO board)

Collect More Data

With the rQPOD autonomous surface vehicle, you can gather up to 180 acres of data in a single mission! Data from integrated sensors is spatially and temporally aligned for straightforward comparison and analysis. The rQPOD is optimized for different environments and applications and can be used for many kinds of surveys including water quality, discharge, bathymetry, current profiling, and imaging.

Bathymetry, Discharge, & Current Profiling

Survey discharge, currents, and bathymetry with SonTek's **RiverSurveyor/HydroSurveyor-M9** and **RS5**.

- M9 offers: Bathymetry (0.2 - 80 m)
  Current profiling (0.06 - 40 m)
- RS5 offers: Bathymetry (0.1 - 6 m)
  Current profiling (0.1 - 6 m)
- M9 and RS5 can be added to the standard **TB Board**, or combined with other instruments on the **DUO Board**.
- RS5 can also be added to the specialized **TBX Board** for applications that require a smaller footprint.

Imaging

Get a look beneath the surface with **Side Scan Sonar**.

- Side Scan Sonar can be combined with other instruments on the **DUO Board**.

Water Quality

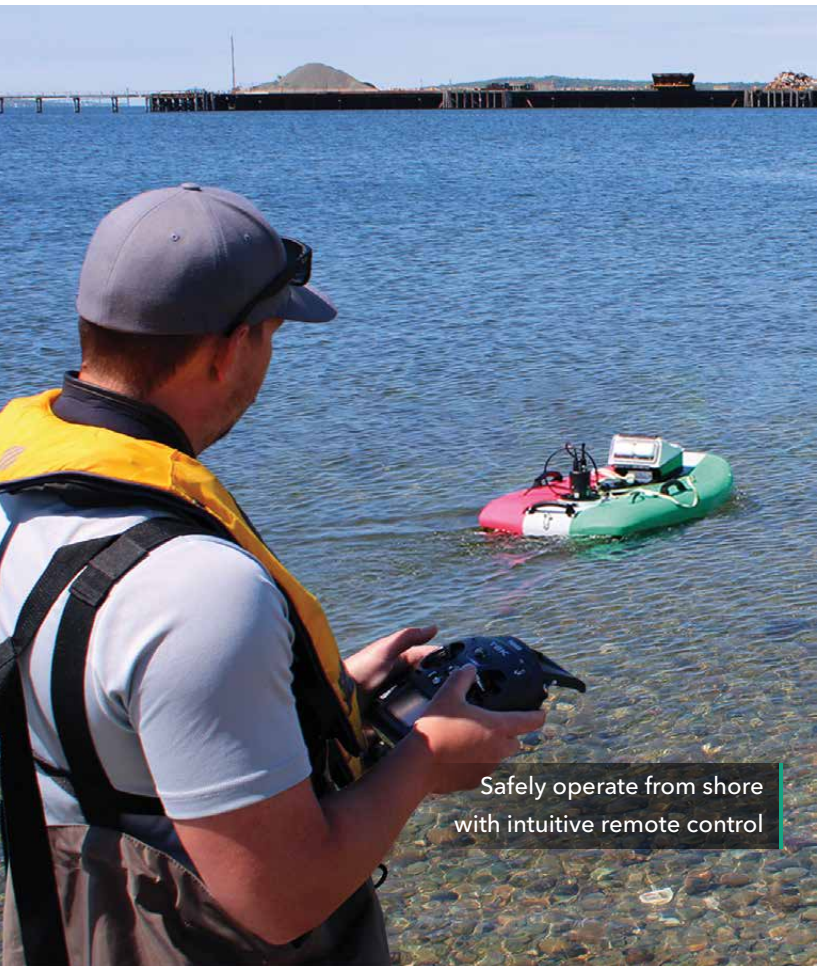
With YSI's **EXO Multiparameter Sondes** it's easy to collect comprehensive water quality data.

- Available sensors: Conductivity, Temperature, Depth, Dissolved Oxygen, fDOM, Ammonium, Chloride, Nitrate, pH, ORP, Rhodamine, Total Algae, Turbidity, and UV Nitrate.
- EXO sondes can be added to the standard **TB Board**, or combined with other instruments on the **DUO Board**.

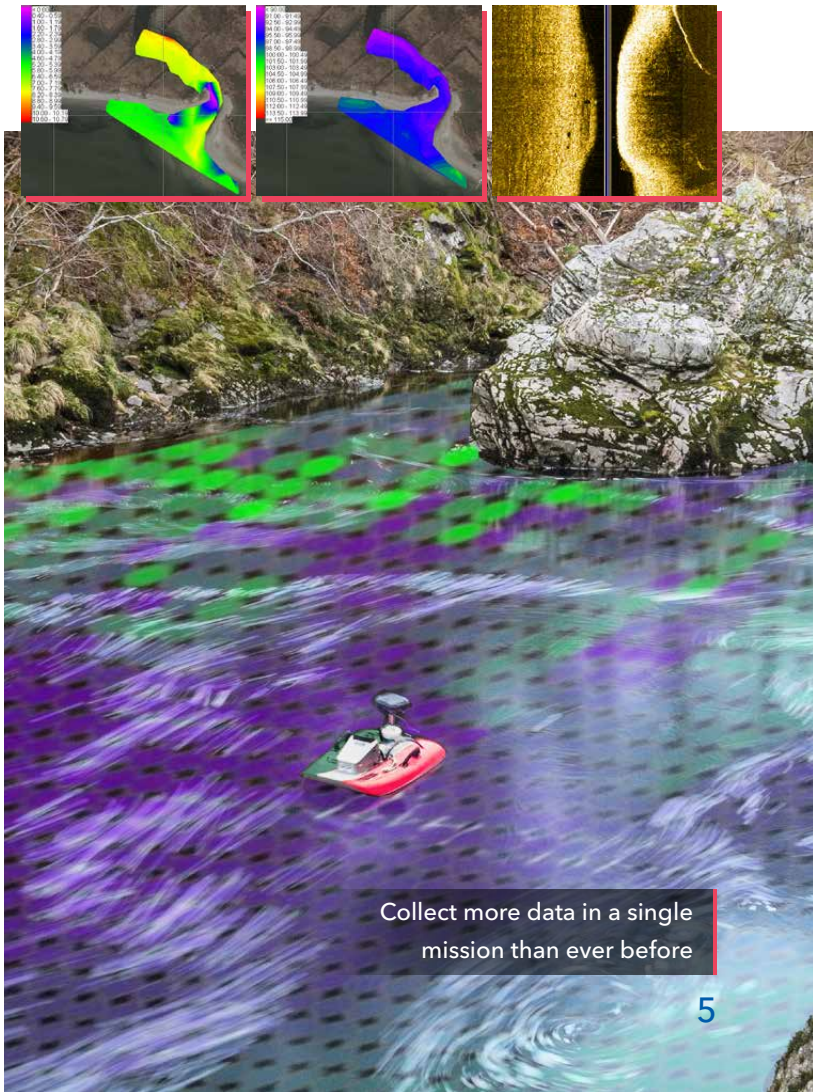
Real-Time Positioning

Georeference all of your rQPOD data with **GPS**.

- Options for standard GPS and GNSS are available on **all Boards**.



Safely operate from shore with intuitive remote control



Collect more data in a single mission than ever before

CASE STUDY

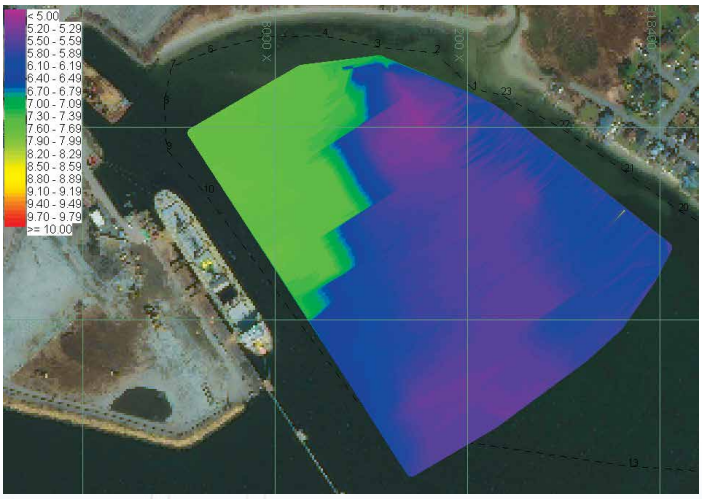
Mapping an Oil Leak with Autonomous Vehicles

OVERVIEW

A fuel leak from a cargo ship spread into a deep-water port used for scrap metal operations. After containment booms were removed, it was decided to dissipate the remaining fuel into the bay.

CHALLENGE

As the fuel mixes into the surrounding bay, water quality professionals wanted to gather as much data in the area as possible to see where they could still detect the leak.



SOLUTION

To cover the large area quickly and efficiently, they ran a survey with the rQPOD and YSI's EXO2 multiparameter sonde. They were able to use a pre-programmed mission to survey the bay so data would be gathered at precisely spaced intervals. A manual mission was also done via remote control to drive the boat through adjacent estuary.

The EXO2 included sensors for Conductivity, Temperature, Total Algae PE (chlorophyll and phycoerythrin), pH, ORP, and fDOM which were able to track crude oil by detecting fluorescence.

CASE STUDY

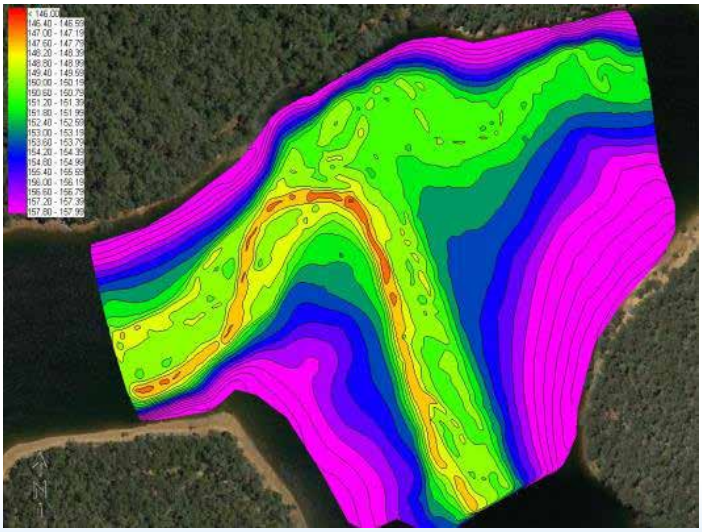
Optimizing Performance of a Submersible Pump in the Upstream Section of a Dam

OVERVIEW

To optimize installation of a submersible pump, intake, and piping works for water abstraction from rivers and dams, researchers needed a detailed understanding of the surrounding bathymetry.

CHALLENGE

Since the survey area lies within a national park and water catchment, strict requirements limit what vessels are allowed in the waterway and that there are no developed access points for large vessels.



SOLUTION

The rQPOD, equipped with the SonTek M9, was used to safely conduct the bathymetric survey with minimal impact on the ecosystem. Using the small, portable ASV made it easy to launch from shore and minimized the risk of colliding with any submerged stumps.

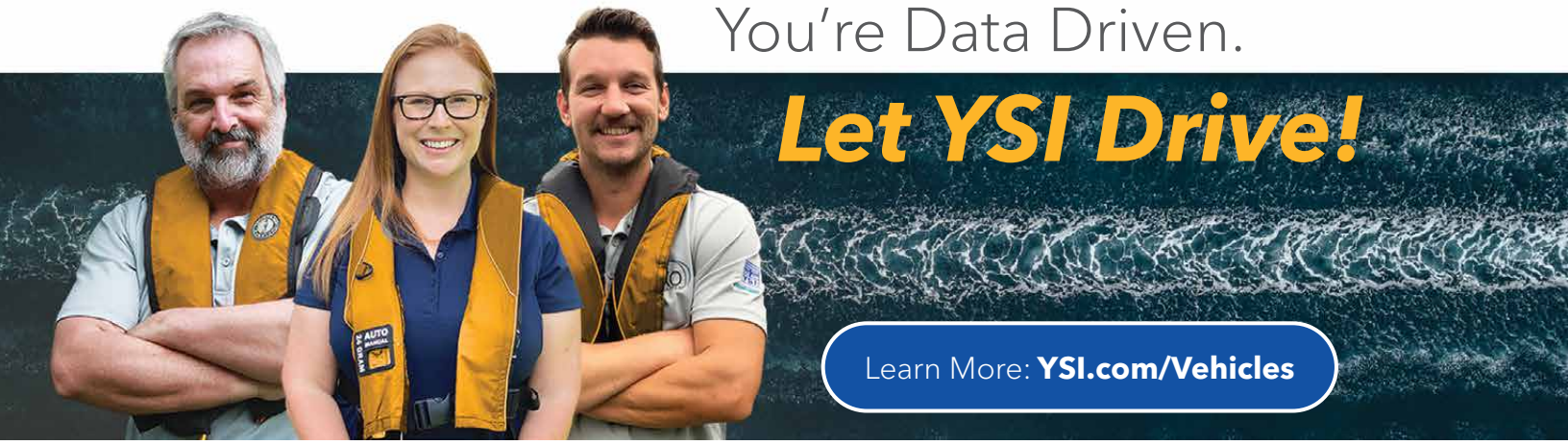
The M9 is an ADCP that can also be used as a 5-beam echosounder to provide a 5-sounding swath, maximizing coverage in the water. This high-resolution bathymetric data was used to optimize the pump location.

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com



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Who's Minding the Planet?®

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