Sediment Removal Using Watermaster Dredger

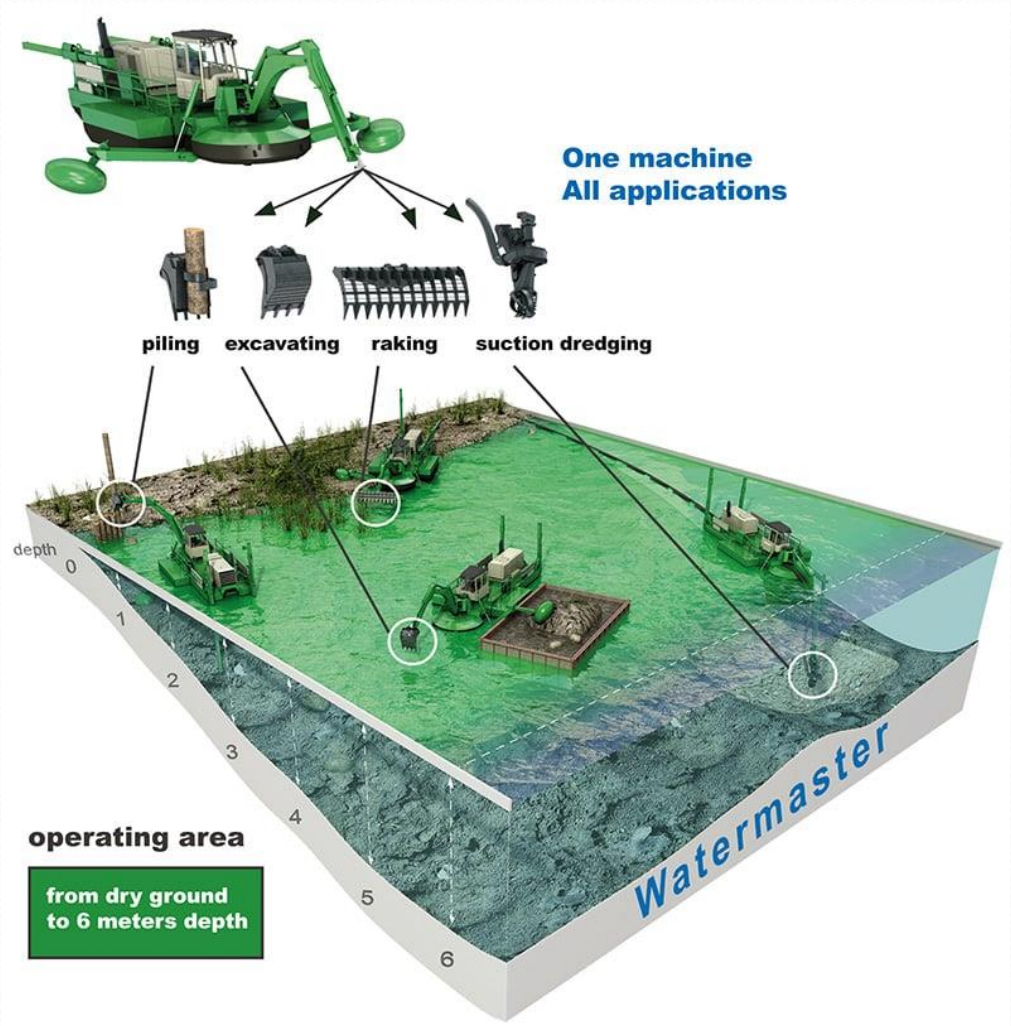
Presentation By

Bainridge Construction Co Ltd

CURRENT SITUATION

In Africa, everyone is talking about access to water and the purification of water, but not about the maintenance and the cleaning part of natural water resources. Today, it is more common to hear about the increased threat of water hyacinth and vegetated rivers, or silted dams and polluted fresh water sources due to the work of human and industrial waste and dump that have been left to deteriorate for years. We are losing our rivers and lakes, fish and other aquatic animals and flora as well as waterways.

Overview of Watermaster



The Finnish company Aquamec Ltd develops, manufactures and markets Watermaster dredgers. Aquamec' s

Watermaster Classic I was **the first** dredger in the **amphibious multipurpose dredger** category. It was launched 30 years ago (1986), followed by Classic II in 1996 and Classic III in 2003. Watermaster Classic IV was launched in 2011 and the 2017 version of the same model is manufactured alongside Classic V.

Watermasters are solving shallow water projects in over 70 countries worldwide.
The amphibious multipurpose Watermaster dredgers are used worldwide in maintaining tailings ponds and process water ponds and in recovering valuable materials from drainage ponds and tailings ponds. With its large selection of heavy duty attachments, the versatile Watermaster can do all the work that conventionally requires separate machines, including dredging, excavating, raking, piling and hammering.

Watermaster **Classic V** has **50 % more suction dredging capacity** compared to the Classic IV -model. Aquamec' s continuous research and development work has also generated the innovative Watermaster Urban dredging concept and new features for hard soil dredging.

With a bigger Watermaster Cutter Pump together with a more powerful engine and other new features, the Classic V reaches **900 m^3/h pumping output**.

WHY WATERMASTER:

❑Watermaster covers the whole shallow water area — from 0 To 6 meters(19 feet) depths.

❑Watermaster can independently move, anchor and work in the whole shallow water area from dry ground to 6 meters depth(19 feet) . Traditionally same work area requires many machines and assisting units.

❑Watermaster is a versatile, multipurpose dredger.

❑Watermaster excels in suction dredging, excavating, pile-driving and raking.

❑Watermaster work efficiency and anchoring stability are in a class of its own thanks to the smart Watermaster operating system (IWOS).

❑Watermaster is specifically designed and certified for shallow water work safety.

❑Watermaster is fully capable and certified for working safely both in water and on land.

❑Watermaster is a vessel, approved by Bureau Veritas. Each Watermaster is inspected by a maritime authority.

❑Watermaster offers fully amphibious mobility.

❑Watermaster is a fully amphibious vessel that does not only float, but truly masters the water. It is self-propelled and can travel Considerable distances in water to reach the work site (max. speed 4 knots). On dry ground, Watermaster has the ability to walk.

❑Watermaster is stable, safe, and tested.

- Watermaster is a self-propelled, fully amphibious vessel which is safe and easy to use.
- Mobilizing Watermaster is simple: transport on a standard trailer as a complete unit, unload quickly, and walk independently into water without crane assistance. Watermaster is operated by one man — no tugboats, assisting vessels, extra labor, separate anchors, wire-cables, or winches are needed.
- Keep waterways in good condition, prevent floods, clean urban canals and remove invasive water vegetation — Watermaster helps you solve shallow water problems. The Watermaster was born out of necessity — there was simply no suitable equipment available for maintaining the inland waters of Finland, the land of almost 200,000 lakes.
- Excavators are land-based and conventional dredgers only operate in deeper waters. No machine could properly handle the work in the shallow waters. In 1986 the situation changed when we introduced a new innovation. The Amphibious Multipurpose Watermaster Dredger can safely, efficiently and in an environmentally friendly way handle work in the whole shallow water area from dry ground to a water depth of 6 meters.

WATERMASTER AT WORK

When suction dredging using the Cutter Pump, the materials can be discharged either using a spray pipe or by using a discharge pipeline.

The Watermaster dredging solution can also effectively be used with dewatering bags, supplied by several manufacturers worldwide. Dewatering bags provide an effective alternative to mechanical processing that enables the capture of precious metals and the efficient management of mine tailings and other mine waste streams. The Watermaster is able to pump the materials into the bags, which then dewater the materials.

The WaterMaster can also be used on dry land as an excavator since it has a bucket.

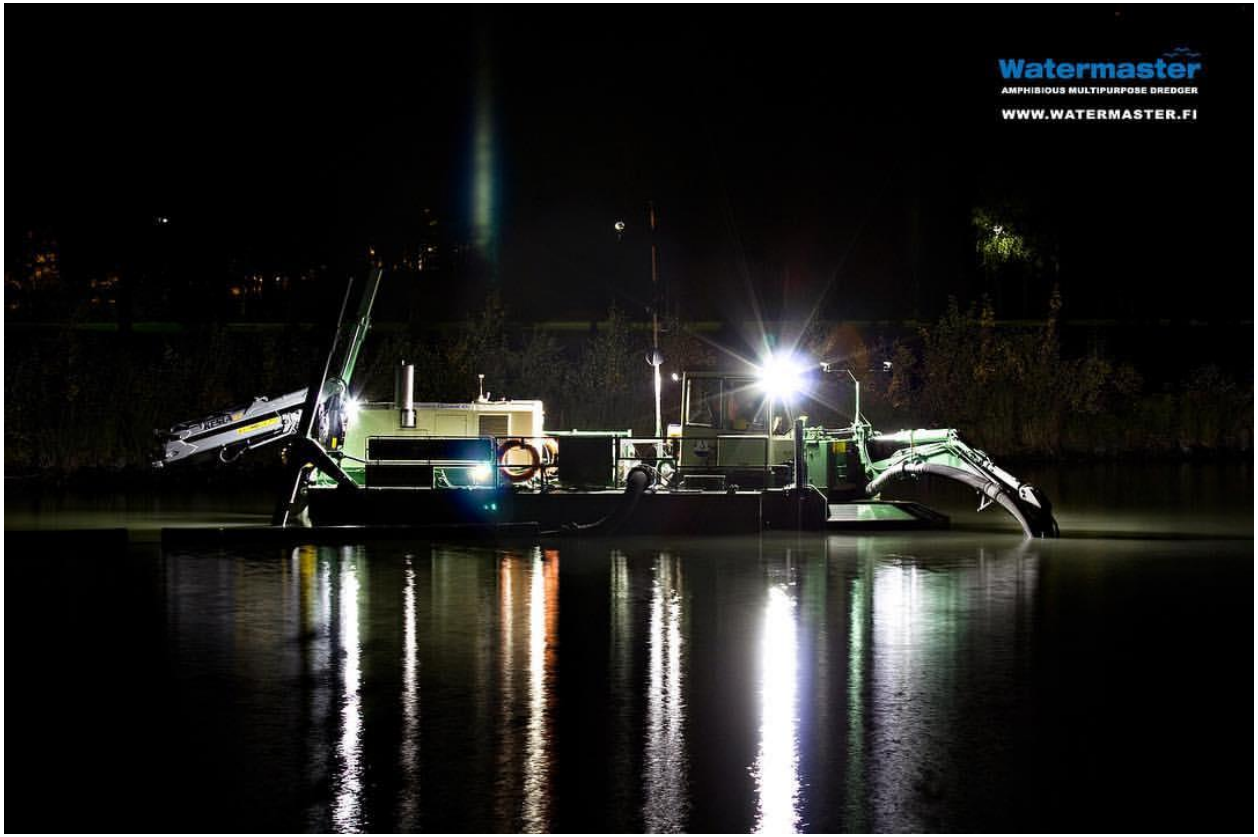
Multipurpose Watermaster Dredger Revitalizing a shallow river by Removing invasive water hyacinth and Dredging out silt, Mexico. The watermaster is using a rake.

Multipurpose Watermaster Cleaning drainage canals to prevent floods, keeping the waters Clean, Safe and Functional: Indonesia: https://watermaster.fi/site/attachments/watermaster_newsletter_2018.pdf


Watermaster
AMPHIBIOUS MULTIPURPOSE DREDGER
WWW.WATERMASTER.FI

Multipurpose Watermaster helps keeping waterways and shores in good condition (Sheet piling), Tanzania. More info: https://youtu.be/BnSd-50HaNM

Multipurpose Watermaster Reinforcing riverbanks by installing sheet pile walls, which help to prevent floods and erosion, Poland.

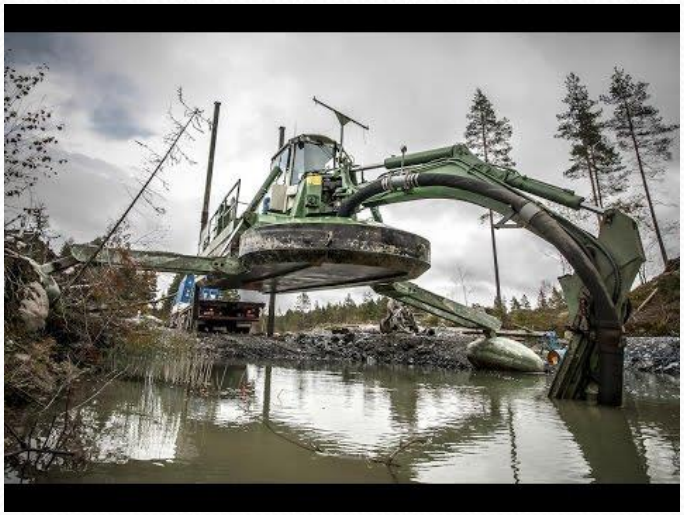


Watermaster Removing contaminated sediment from a river, Finland. More info: www.sito.fi/en/works/restoring-of-the-old-sawmill-site-at-penttila-in-joensuu-finland/

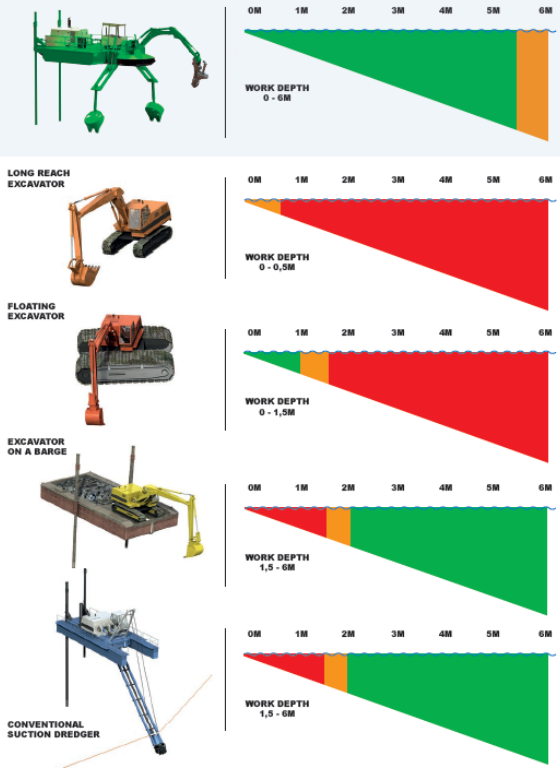
Watermaster Removing siltation from a passenger ferry route to ensure safe passage for vessels, Australia. More info: www.dredgingsystems.com.au • • .

Amphibious Multipurpose Watermaster Dredger Desilting a hydroelectric dam reservoir, South Africa.

Transporting the Watermaster



Watermaster concept Vs Other Choices



	VERSATILITY	WATER SAFETY	MOBILITY	ROAD TRANSPORT AND SETUP	PRIMARY USE
WATERMASTER	SUCTION DREDGING EXCAVATING PILE-DRIVING RAKING + other	FULLY CERTIFIED DREDGING VESSEL	FULLY AMPHIBIOUS self-propelled	AS A COMPLETE UNIT self-launching, no crane required	DREDGING IN SHALLOW WATERS, FROM DRY GROUND TO 6M DEPTH
LONG REACH EXCAVATOR	EXCAVATING + other	NOT A CERTIFIED DREDGING VESSEL	MOBILE ONLY ON LAND	AS A COMPLETE UNIT	EXCAVATING ON DRY GROUND
FLOATING EXCAVATOR	EXCAVATING + other	NOT A CERTIFIED DREDGING VESSEL	LIMITED MOBILITY AND SAFETY IN WATER not stable in water deeper than 1,5M	DEPENDS ON THE MODEL assembly on site and crane assistance often required	EXCAVATING IN WETLAND AREAS, WATER DEPTHS 0M - 1M
EXCAVATOR ON A BARGE	EXCAVATING + other	NOT A CERTIFIED DREDGING VESSEL	MOBILE ONLY IN OPEN WATER not suitable for depth 0 - 1,5M	IN PIECES assembly on site and crane assistance required	EXCAVATING IN WATER DEPTHS 2M AND DEEPER
CONVENTIONAL SUCTION DREDGER	SUCTION DREDGING	FULLY CERTIFIED DREDGING VESSEL	MOBILE ONLY IN OPEN WATER not suitable for depth 0 - 1,5M	IN PIECES assembly on site and crane assistance required	SUCTION DREDGING IN WATER DEPTHS 2M AND DEEPER

Questions?

For more information:

Paul, +254709333333