

# Silt Removal & Prevention

A build up of silt or sand can seriously disrupt the daily workings of many marine or river installations. This can be a particular problem in areas that are used infrequently, such as sluice gates or around certain locks. A build up in these areas can interfere with the operating of these items or prevent them from working at all.

Traditional methods of dredging can only offer a temporary solution to the problem, but can have the added and sometimes costly problem of what to do with the waste. By installing a Delavan jetting system you can push the silt back into suspension and allow the tides or river to simply remove the silt away from the problem area.

We can design a bespoke system for each application. The system can either be fixed or mobile, offering the ability to move it to more than one location, or remove it from an un-manned location for safety.

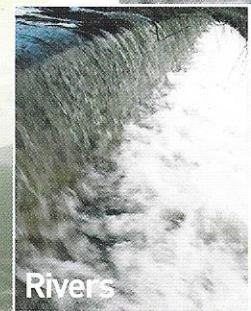
**Problem:** A ferry landing stage was designed to raise and lower with the high and low tides. A large amount of sand/silt was being deposited under and around the area the landing stage should take up during low tide. At one point the problem became so bad one section of the landing stage collapsed.

**Solution:** We installed a series of adjustable lances around the perimeter of the landing stage, on the end of these were Delavan BB eductors. The frame work allowed for height adjustment of the lances, so as the silt level lowered so could the lance. A large diesel powered pump was positioned on the landing stage to feed the nozzles. The system was only switched on as the tide went out, this has two effects

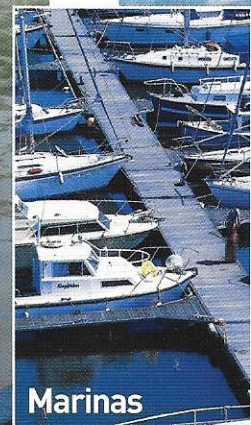
- a. the nozzles are at the closest to the silt,
- b. the silt is agitated and is taken away from the area with the outgoing tide.



Canals



Rivers



Marinas

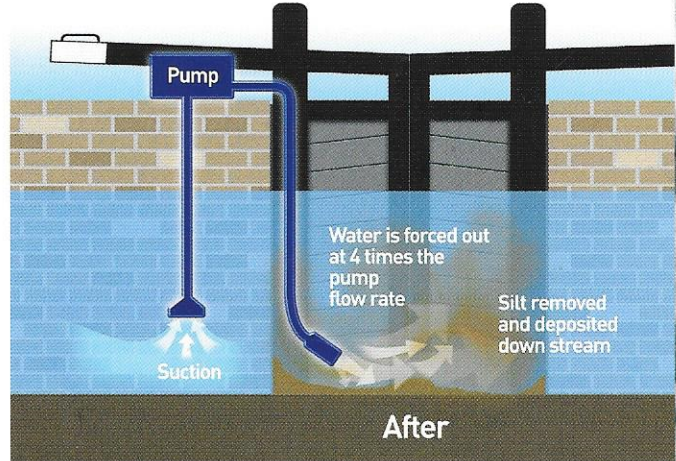
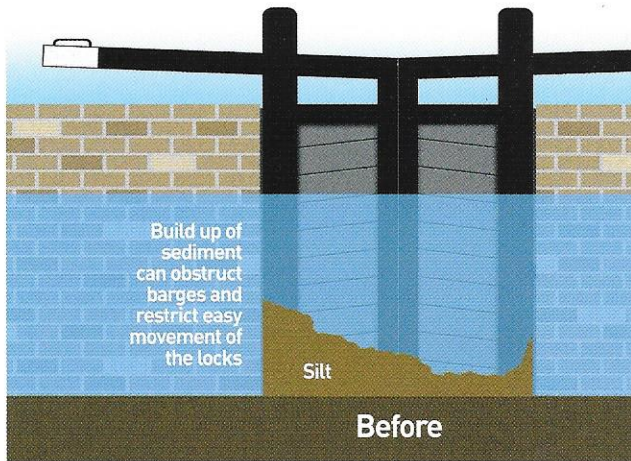
## Locations – Applications

- **Canals**, removing silt around lock-gates and infrequently used areas.
- **Rivers**, around sluice gates.
- **Marinas**, general removal of sand and silt.



# Silt Removal & Prevention

Traditional methods of clearing lock-gates or sluice gates involved mechanical removal by diggers or dredgers. This gives the added problem of what to do with the removed silt, most times it would be classed as industrial waste and creates an additional cost to the client. By simply putting the silt back into the tidal flows we remove the problem without adding expense.



## Case Study

**Problem:** A landing stage for a large barge was built into an existing river bank. Large volumes of sand and silt were deposited around and on the landing stage during the tide changes. This sediment built up to such a stage that the barge could not berth.

**Solution:** Delavan installed a large scale pipe-work system in ABS under the framework of the landing stage. This pipe-work feeds approximately 500 Delavan BB Eductors, covering an area of nearly a 1000m<sup>2</sup>. This system pulls water from the river and is pumped under the landing stage, lifting the silt back into suspension and allowing the tides to remove it.



Delavan EDUCTOR has a 3:1 turn over ratio. i.e. the nozzle pulls in clean water from behind and results in a flow rate of 4 times the pump flow rate

These images are typical test result on sluice gates and riverbeds

Our system can either be fixed in place as a long term solution, offering both a clearing application and on-going protection. Or the system can be mobile and used when and where necessary.

Please call our technical department to discuss your applications.

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