InvaSave

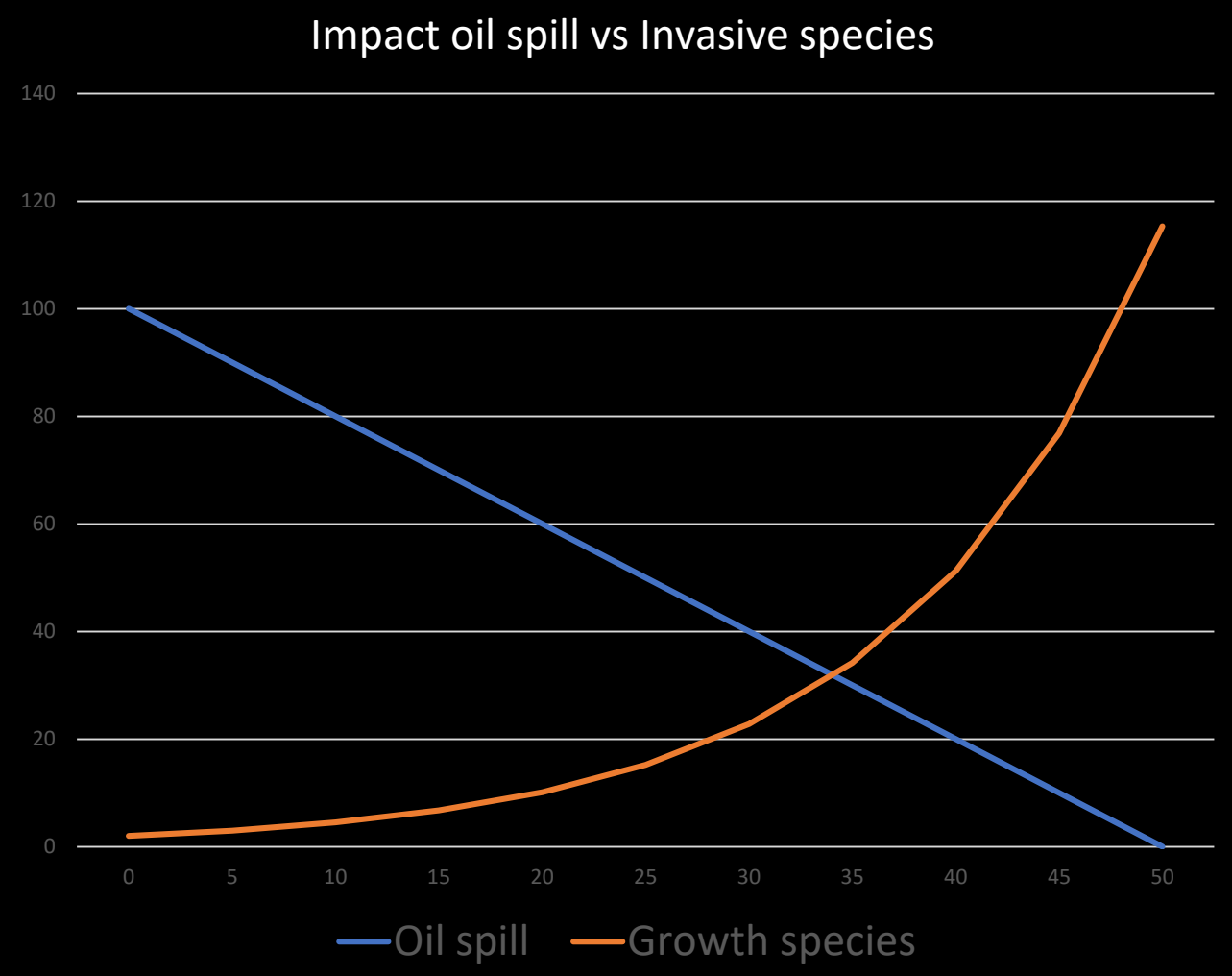
- What is the problem?
- IMO Regulation
- How to comply?
- InvaSave Possibilities
- Case Study – Port of Hamburg
- Call to action!

INVASAVE AGENDA

What is the problem?

Invasive species are being spread worldwide through Ballast Water

What is the problem?



Spreading Invasive Species has more impact than oil pollution

Presently all shipowners must comply to the following:

- All newbuild ships with a keel laying date after 8-9-17; need to comply with the D2 standard
- All ships not required to hold an IOPP certificate; need to comply with the D2 standard
- All vessels with a valid IOPP certificate; should comply to D1, however the BW has to be changed during the voyage
- All vessels which are due to renew the IOPP certificate; should comply to D2

IMO BALLAST WATER CONVENTION (=LAW)

Date postponed by IMO

Allowed postponed date if IOPP certificate is renewed before 8-9-2019

Date enforcement 8-9-2017

New Date enforcement 8-9-2019

Date enforcement 8-9-2024

The **D1** standard concerns **ballast water** exchange, which must be undertaken within open ocean areas, >200nm from land and in seas >200m deep.

The **D2** standard covers approved **ballast water treatment** systems.

IMO, MEPC (MARPOL-IOPP certificate)

WHEN & WHAT

How to comply?

INTERNATIONAL MARITIME ORGANIZATION

Ballast Water Management Convention 2004

- Ratification 8-9-2016
- Enforced 1 year after ratification

IMO REGULATED ENFORCED 8 SEPTEMBER 2017

Alternative Certified Solution

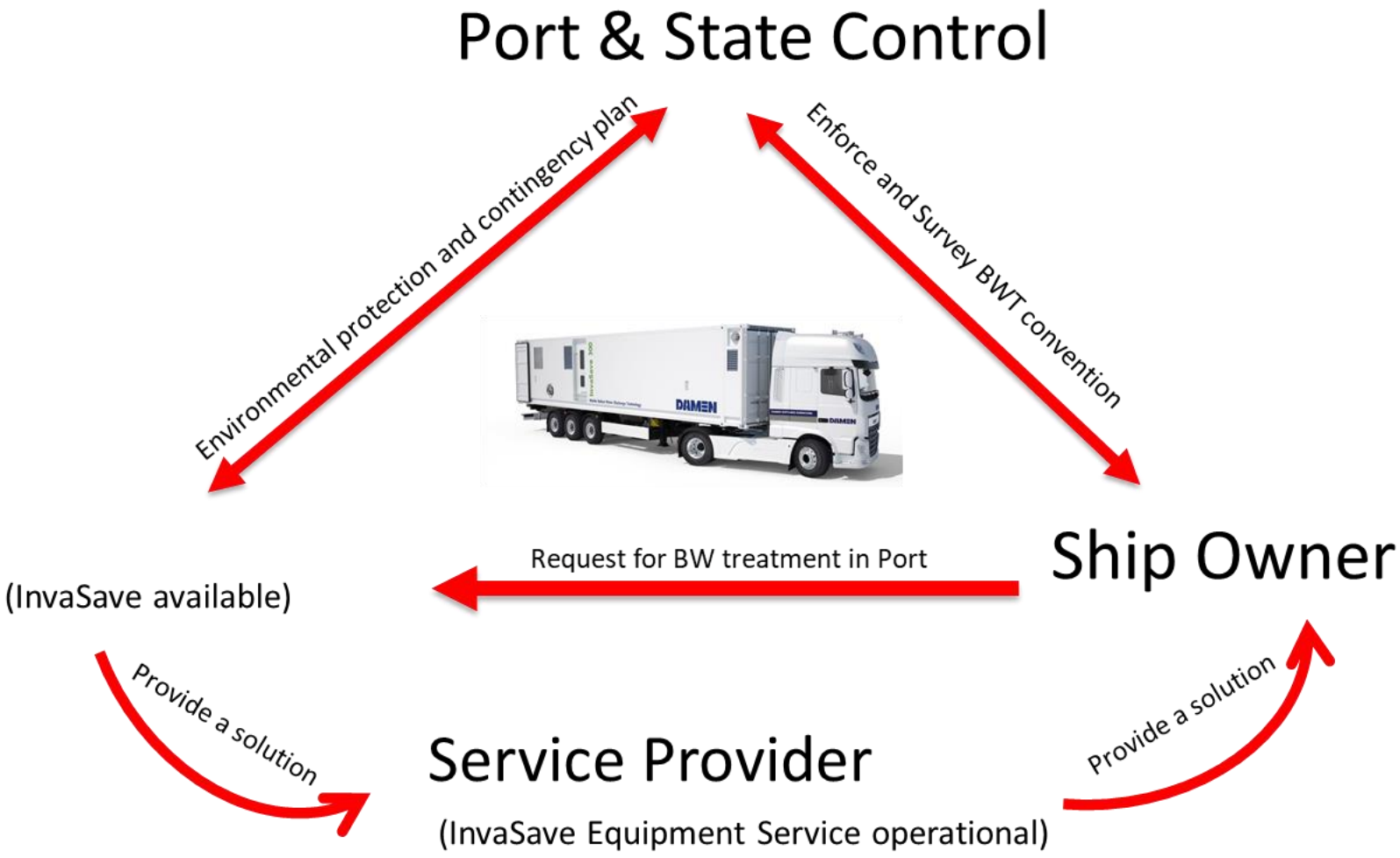
Single Phase Treatment

PORT SOLUTION

- Back up for failing BWTS's
- Service Pontoons
- Helping vessels without a BWTS

If ships are stopped, the port must be able to offer this service

WHY INVASAVES IN PORTS?



STAKEHOLDER INTERACTION

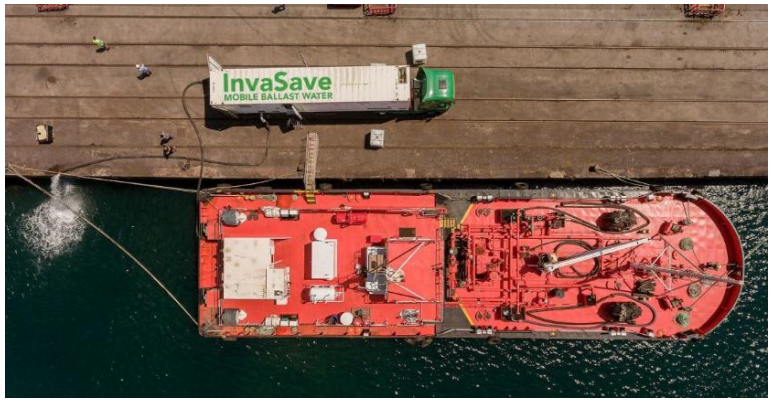
PORT SOLUTION – Damen InvaSave 300

Case Study – InvaSave 300 in the Port of Hamburg

Behörde für Umwelt und Energie – environmental authority to keep clear Elbe River and Port of Hamburg waters.

Test the technical feasibility and determine the need for Invasave in the Port of Hamburg

Key stakeholders: Hamburg JONGEN member of DETTMER GROUP

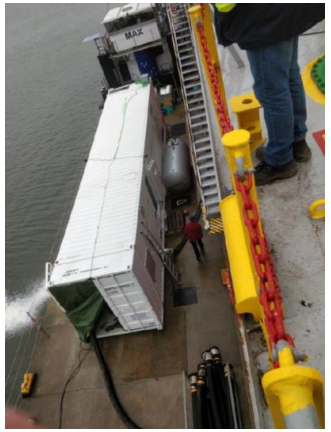


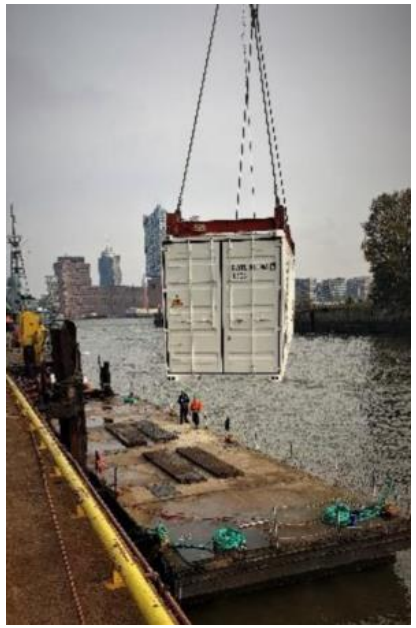
PORT SOLUTION – Damen InvaSave 300

Project - Facts

- Duration: 3 months → November 2019 to January 2020
- Pump capacity during test, trials & execution: 200-270m^3/h
- Total operations: 3 callouts + 3 training/demonstration missions.

- Execution infested ballast water pumped 4900m^3
- Test and Training amount pumped: 4900m^3
- **Total: 9800m^3**

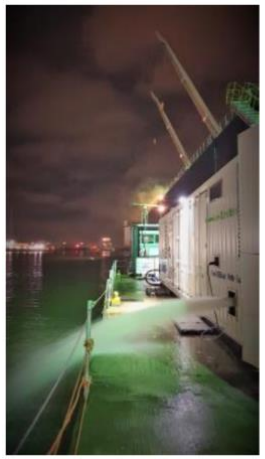


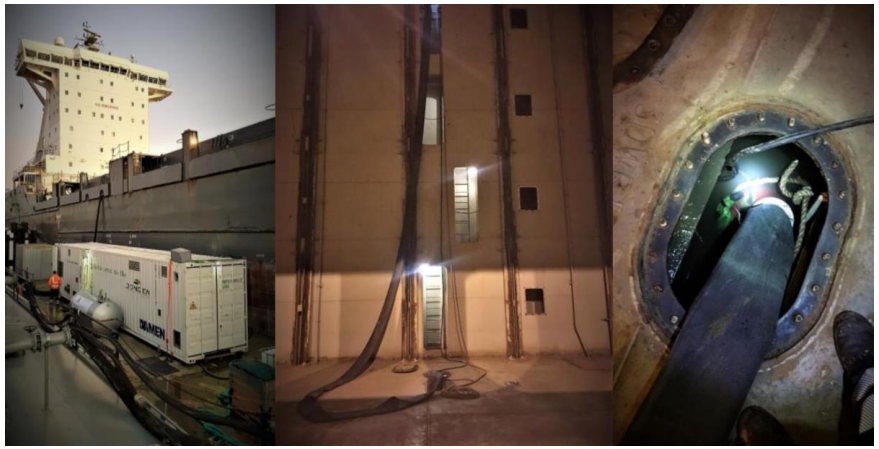


PORT SOLUTION – Damen InvaSave 300

Relevant Aspects

- Successful operations: All vessels were able to create a connection with InvaSave and offload ballast water.
- Submersible drainage pumps proved to be a good option for smaller quantities.
- Quality of residual water has once again been confirmed by certified laboratory





PORT SOLUTION – Damen InvaSave 300

Project Findings and development

- Business Case,
- Inspection Regime and Procedure,
- Awareness & Acceptance amongst Vessel Owners
- Costs of treatment to the individual vessel
- Logistics solution in case of high amounts of ballast water

For further questions about the Hamburg project, please contact:

Dr Fabian Jung
Freie und Hansestadt Hamburg
Behörde für Umwelt und Energie
Fabian.jung@bue.hamburg.de

- ❑ Get attention from Port Authorities
  (finance the InvaSave and make it available in the Port)
- ❑ Find a Service Provider

  (Provide the Ballast Water Treatment service on a commercial basis)

SUCCESS CAN BE ACHIEVED