

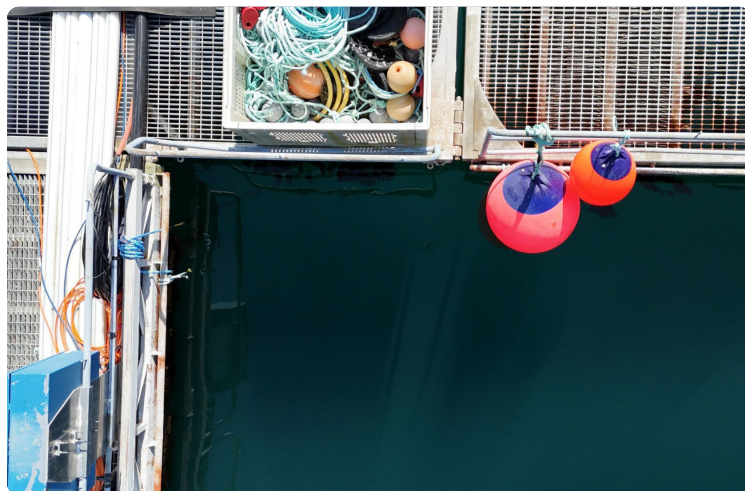


# Aerial UAV Surveys for Marine & Aquaculture Infrastructure

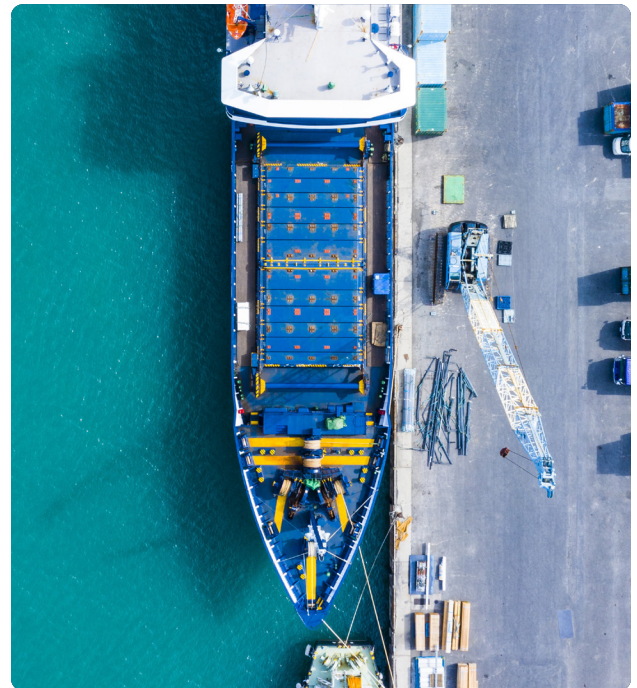
**When marine infrastructure ages or changes without being documented, informed decision-making becomes increasingly difficult. How do you plan maintenance or construction when you don't have up-to-date information?**

Infrastructure managers and engineering teams ideally make planning, maintenance, and risk-management decisions based on clear, objective evidence. In practice, those decisions often rely on infrequent site visits, legacy drawings, out-of-date condition assessments, or photos that lack the resolution and positional accuracy required for engineering review. High-resolution aerial UAV surveys provide a current, georeferenced picture of asset condition, enabling more confident and defensible decision-making.

DSA Ocean's aerial UAV service delivers centimetre-scale ( $\approx 1-3$  cm/pixel), repeatable datasets that integrate directly with GIS and engineering workflows. By turning imagery into accurate measurements and condition data, these surveys support long-term tracking of infrastructure health and help guide near-term planning, from construction decisions to maintenance prioritization and record updates.



High-resolution (1 cm/pixel) imagery acquisition for condition assessment.



UAV surveys provide a precise and efficient method for validating mooring layouts at marine terminals.

## What Does "1-3 cm/pixel" Accuracy Mean?

At 1-3 cm/pixel resolution, our imagery supports inspection-grade visibility:

- Individual bolts, bull rails, shackles, net attachments, and handrails are clearly visible
- Concrete cracks, corrosion zones, float damage, and chafe points can be identified

In practical terms, anything larger than a few centimetres—roughly the size of a toonie—is clearly detectable and measurable. Orthomosaics support system-level condition assessment and measurement. Detailed inspection of small-scale defects is supported through targeted low-altitude imagery and manual review.

## Core Use Cases

### AQUACULTURE:

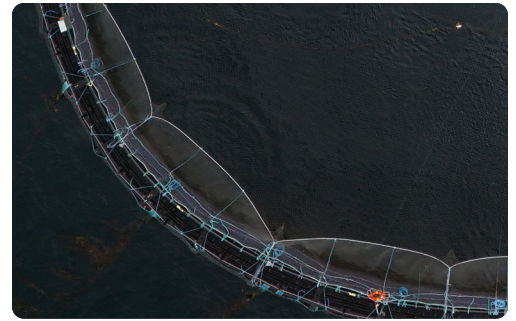
- **Pen, Grid and Barges:** Verify moored location and condition, detect misalignment and ovalization.
- **Infrastructure Condition:** Walkways, handrails, feed lines, floats, attachments.
- **Operational Safety:** Inspect hard-to-reach areas without crew transfer.
- **Compliance & Assurance:** Time-stamped, geo-referenced visual records.

### SMALL CRAFT HARBOURS, PORT AUTHORITIES, FERRY TERMINALS:

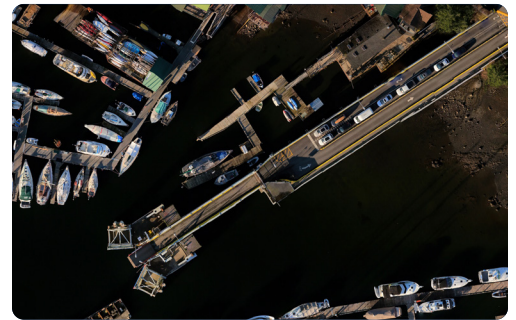
- **As-built Verification:** Confirm infrastructure location and geometry.
- **Condition Assessment:** Document deck surfaces, fenders, floats, and accessways.
- **Change Detection:** Track movement, settlement, or damage between surveys.

## Why use DSA Ocean for your UAV survey?

We integrate UAV surveys directly into engineering workflows—delivering outputs that support design, review, and asset management, not just visualization. This approach is particularly suited to mid-sized marine and civil contractors who require accurate site data but do not maintain in-house survey or engineering analysis teams, while also supporting aquaculture operators and asset owners seeking clear, defensible information for planning, compliance, and ongoing operations.



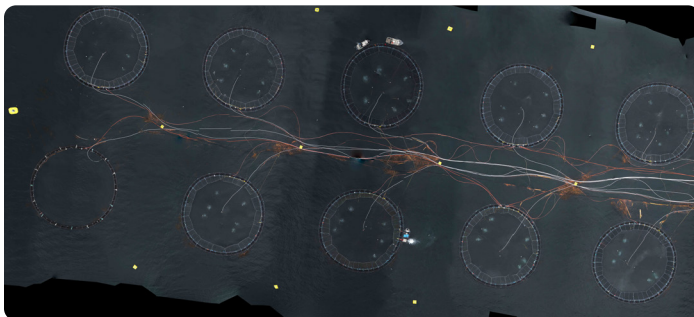
Safe inspection and condition assessment of aquaculture floating collars.



Marine terminal, ferry terminal, and small craft harbour inspections and condition assessment

## Deliverables

- Geo-Referenced Orthomosaics (GeoTIFF)
- Google-Earth Ready Files (KMZ/KML)
- CAD- and GIS-ready Datasets and Files (DWGs, PDFs, SHP)
- Clear documentation suitable for asset managers, regulators, insurers, and engineers.
- 3D Models and Point-Clouds
- Annotated Inspection Imagery
- All deliverables integrate cleanly with GIS workflows and engineering analyses.



Georeferenced photogrammetric mapping of floating marine assets.

## Contact Us

For more information, to submit project information, or to receive a quotation please contact Colin Wilson.

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Aerial survey imagery of aquaculture operations captured by precision UAV systems for engineering verification.