NWIFCA Maritime Asset Replacement Strategy

1. Introduction

The scope of this report is to assist with the strategic renewal of the Authority's maritime assets to ensure operational efficiency, safety and cost effectiveness. The report will cover a review of our current assets, areas of operation and the future requirements for fisheries enforcement and survey work. Replacement of any assets can result in operational downtime and therefore a strategic approach to the procurement process[1] is crucial to a smooth transition and continuity of operations.

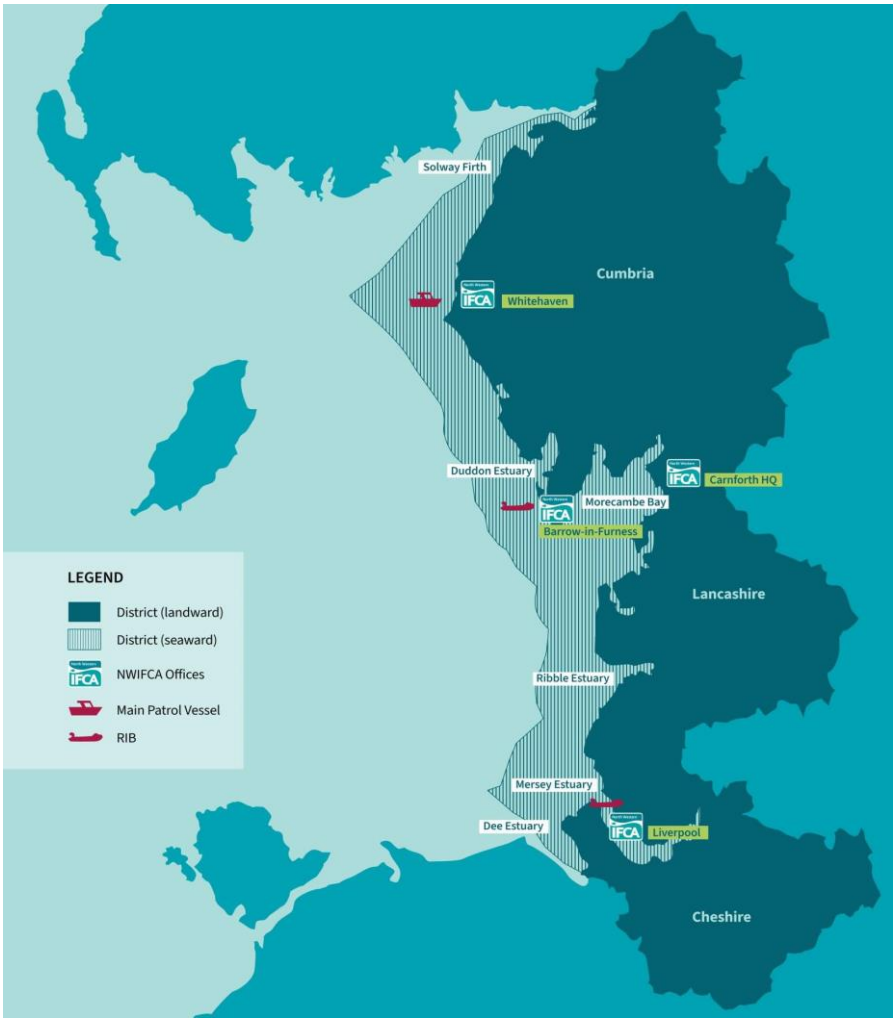
Having a program of renewal also fits within the wider replacement of Authority assets such as vehicles and ATVs under the Capital Asset Replacement Fund (CARF), whereby recent policies have been implemented to ensure replacements occur in a timely and appropriate manner to ensure financial and operational efficacies are balanced. Under the annual budget of the Authority, a variable amount of money (between £71,00 and £144,000 in recent years) is set aside each year to contribute towards the CARF balance, which is a strategic fund established by the Authority to finance the replacement of assets (vehicular and vessel), and reduce the financial burden of asset repairs, as well as the Authority's reliance on external sources of funding.

[1] IFCAs' procurement of maritime assets should give consideration to the UK Government's National Ship Building Strategy ((CP 605) – National Shipbuilding Strategy Refresh Web Accessible.cdr) and follow local government procurement guidelines.

2. North Western IFCA District

The NWIFCA district covers approximately 500 miles of coastline from the Welsh border to the Scottish border and extends to a maritime limit of six nautical miles, although where this limit meets the devolved borders it extends significantly past this, stretching almost 16nm off the coast of Whitehaven and similarly in the Dee Estuary.

Due to the geography of the Eastern Irish Sea, with numerous large bays and estuaries, there are limited ports and harbours for berthing maritime assets of the type the Authority requires. This issue is amplified where commercial interests are given priority over other maritime asset users such as NWIFCA. This essentially means permanent moorings are limited to Whitehaven, Maryport and Liverpool. Where ports or marinas are within estuaries such as Liverpool and Fleetwood, access can be severely limited due to tidal constraints. Not only does this limit mooring and storage, it also has implications for essential repairs and maintenance. There are current issues with finding suitable locations to dry dock North Western Protector to efficiently carry out repairs and maintenance.



The Eastern Irish Sea has a variety of fisheries, with many of the high value and resource intensive ones being intertidal and therefore non-vessel based (*e.g.* cockle and mussel). However, there is still an ecologically diverse make up of vessel based / sub-tidal marine fisheries for species such as bass, cod, plaice, sole, whelks, crab, lobster, *Nephrops*, shrimp and, occasionally, seed mussel. Commercial vessels target these fisheries using pots, trawls and gill nets and, where permitted by the Authority, seed mussel is dredged. As well as a diverse range of commercial fishers, there is a thriving recreational sector of fishers using rod and line, pots and nets from boats all along the North West coast.

Furthermore, the majority of the NWIFCA district is covered by some level of environmental protection through the designation of marine protected areas (MPAs[2]). NWIFCA has the first inshore HPMA designated in England at Allonby Bay and has committed to the enforcement of an impending Marine Management Organisation byelaw which will prohibit all fishing activity inside the HPMA.

[2] MPAs include the international designations of Special Areas of Conservation (SACs), protecting habitats, and Special Protection Areas (SPAs), protecting birds, known collectively as European Marine Sites (EMSs), along with national designations known as Marine Conservation Zones (MCZs) and Highly Protected Marine Areas (HPMAs).

3. Current Maritime Assets

North Western Protector

North Western Protector is the Authority's flagship patrol vessel based in Whitehaven in the north of the district. It was procured in 2018 to replace the previous main patrol vessel, Solway Protector. The vessel was bought second-hand as a former wind farm turbine transfer vessel and refurbished and converted to be a fisheries patrol and survey vessel. It is a 20.5m aluminium catamaran with twin Man 1,100hp 12-cylinder 1,200rpm engines that power its Ultra-Dynamics UJ575 waterjets, giving it a maximum speed of 23kn. However, the vessel usually cruises at around 17kn, as speeds above this affect fuel efficiency and engine performance. The vessel is large enough to facilitate scientific surveys using drop down cameras, benthic grabs and side scan sonar, a large deck space can accommodate ATVs for an offshore cockle survey, and the small lab and wet area allow for survey results to be analysed during transit. The vessel has six berths, shower and toilet facilities, and a comfortable galley. The large deck area is useful for stowing seized fishing equipment using the pot / net hauler or carrying our own for fisheries survey work.

When not carrying out scientific surveys, North Western Protector carries a 'daughter' craft, Protector Charlie, which is a small, stern-launched rigid inflatable boat (RIB) used to transport officers across to nearby fishing vessels for boarding operations at sea. Five crew are required for such boardings due to operational and coding requirements, with three transiting to fishing vessels onboard Protector Charlie whilst two stay onboard North Western Protector. Fewer crew,

to a minimum of three, can be used for basic deterrence patrols or relocation voyages that do not involve boardings.

The vessel is reasonably operationally capable and provides a platform for staff to work from in the district. Its main operational functions are monitoring the local and visiting *Nephrops* fleet in the Eastern Irish Sea and potting activities. Crew have raised concerns that some lighter static fishing gear is difficult to lift because of the vessel's high freeboard (the distance from the water level to the top of the gunnel) and because it cannot reach gear set close into rocky shorelines due to its draught.

In September 2022, serious issues with the engines were detected and a full refit was commissioned on the engines, gearboxes, jet drives and systems across the vessel. This has cost over £400,000 and whilst it was anticipated to extend the life of the vessel for another ten years, experience in the year or so since work has carried out have brought this assertion strongly into question. Since the refit, which was completed in the autumn of 2023, North Western Protector has experienced a variety of associated problems with the engines, jet drives, impellor *etc.*, which have resulted in a further £80,000 being spent on repairs in 2024/25.

North Western Protector				
Year	**Patrol Days**	**Patrol Time (hours)**	**Patrol Distance (nm)**	**Inspections**[3]
2024-2025	51	390	3,196	1,417
2023-2024	5	26	258	227
2022-2023	37	201	1,578	428
2021-2022	55	366	3,620	690

Protector Gamma – Barrow / Whitehaven

Protector Gamma is a traditional RIB stored on a trailer and can thus be moved around the district where required, although it is routinely stored in our Barrow Office. The vessel was built in 2011 by Humber Ribs and has been used for fisheries patrols, transiting to cockle and mussel beds for surveys and estuarine netting surveys. This vessel has been used readily by staff for several years, although there has been a recent skills gap and staff will be given appropriate time to reacquaint with the vessel.

The RIB has non-counter rotating propellers which causes cavitation where air enters the water surrounding the propellers leading to ineffective propulsion where a vacuum forms.

[3] Includes boardings, closings and sightings of vessels, as well as lifting of static gear.

Protector Gamma				
Year	**Patrol Days**	**Patrol Time (hours)**	**Patrol Distance (nm)**	**Inspections**
2024-2025	3	12.5	78	0
2023-2024	3	7	54	0
2022-2023	5	23.5	93	0
2021-2022	0	0	0	0

Bay Protector – Liverpool Marina

The largest RIB in the NWIFCA fleet, Bay Protector was purchased from, and built by, Humber Ribs in 2013. The vessel does not have a trailer and is moored in Liverpool Marina. The vessel is limited to patrols from the marina two hours either side of high water unless staff "lock out", creating a long period at sea without access to amenities such as toilets and refreshments or shelter. The vessel covers predominantly between the Dee and Ribble Estuaries.

The vessel has required remediation works and the aftercare from Humber Ribs was seen to be poor as well as the internal build quality.

Bay Protector				
Year	**Patrol Days**	**Patrol Time (hours)**	**Patrol Distance (nm)**	**Inspections**
2024-2025	3	16	91	0
2023-2024	3	10	132	15
2022-2023	3	10.5	136	27
2021-2022	1	3	34	2

Analysis of Current Assets' Capabilities

Protector Gamma and Bay Protector are similar assets in their capabilities as RIB patrol vessels, procured as they were for the purposes of conducting boardings and closings in their current areas of operation. Protector Gamma, despite its age, has provided good use in being trailer launched and therefore utilised across the district and is small enough to be stored in different lock-ups or marinas. At the size it is, it is safe to dry out without risk of damage and is a good asset for staff to learn RIB helming onboard, as well as utilised by staff with Powerboat Level 2 and Advanced Powerboat further offshore. However, it does not have counter rotating propellers and thus suffers from issues with cavitation. This is where air bubbles form in water between the two propellers and create a vacuum, slowing the vessel down and reducing handling capabilities.

Bay Protector is berthed in Liverpool Marina, which is limited for locking in and out to two hours either side of high water, limiting patrol times to around four hours unless the vessel locks out on one high tide and comes back in on the next one. This extends the patrol duration to upwards of eight hours, which is problematic due to no access to rest facilities (there are no facilities onboard nor any available points to tie up in the south of the district for a patrol break).

Neither Protector Gamma nor Bay Protector has specific equipment which can be utilised on modern enforcement vessels such as night vision, thermal imaging or recording cameras and neither are suitable for hauling static fishing gear. This is evidenced by the low number of inspections delivered by Bay Protector and none by Protector Gamma, which also operates in the middle of the district where there is little fishing activity. Other IFCA patrol vessels have equipment capable of targeting an offending vessel in closed areas and plotting the track from radar for evidential purposes. This would be a great tool for enforcement of the Allonby Bay HPMA and other spatial closures we have throughout the district at different times of the year.

North Western Protector is a large patrol vessel fundamentally capable of spending significant periods of time at sea if required. However, this is not practical with the staffing levels which NWIFCA manage under the annual budget, nor required for the levels of fishing activity seen within the district. The vessel can lift large volumes of fishing gear where it can be reached in deeper waters, but there is an enforcement capability gap created by the vessel's inability to

reach gear set close into shore such as around St. Bees Head and Workington, where shallow water prevents it from getting that close into shore due to its draught. In addition, the high freeboard increases the risk of damaging smaller sets of pots or lighter gear when lifting, due to straining of the ropes.

A large vessel does have benefits for surveys with space to store equipment, work up samples and provide enough comfort for a full crew without being cramped. The configuration of the deck however does not give space for the analysis of samples on deck tables. As the Authority has experienced in recent years, there are significant costs to a larger vessel in fuel, maintenance and repairs.

In summary none of the current NWIFCA assets are wholly suitable for the enforcement or survey tasks which they are currently required for and subsequently cannot do certain functions or must have continual modifications. Not only is this a restriction on the Authority in carrying out some of its statutory functions, it is also demoralising for staff and leads to criticism from stakeholders and members when they see the Authority unable to deal with certain enforcement or survey actions. With the change to the Government's new mandatory Workboat Code Edition 3 over the coming years, there will be a requirement for further modifications, enhanced training and certification for staff, or even further reduced capabilities due to coding restrictions.

4. Required Assets' Specifications

Any procurement of maritime assets by the Authority must result in having the right number, type and location of vessels affording us the capabilities to monitor and regulate current and likely future fisheries, through the undertaking of effective and efficient fisheries enforcement patrols alongside scientific surveys.

There is a key requirement for the Authority to have a vessel that is able to carry out closings of small recreational and commercial fishing vessels which officers may not necessarily need to board as they are small open boats, as well as boardings of larger fishing vessels by at least two officers. This category of patrol vessel needs to be able to cover ground quickly in order to transit between harbour and fishing grounds and move effectively between any targets for inspection sighted visually or on satellite monitoring.

The other primary requirement is for a vessel that can lift static fishing gear for inspection, such as pots or nets, and act as a stable platform for carrying out scientific surveys using a variety of equipment we already own, such as grabs and side scan sonar. The other difficult task is having a vessel available that can 'dry out' easily on mussel and cockle beds for inspections; this is possible with a smaller RIB or a catamaran.

Any future vessels should be designed so that they can be comfortable and safe for the crew to use, which includes having the required amenities onboard such as heads (toilet) and small galley, or that they can be launched and recovered quickly to reduce the time they are at sea.

5. Future Opportunities

It is important to consider the prospects for the Authority's current maritime assets and their ongoing capabilities as ageing vessels. They have the potential to become increasingly financially cumbersome as they age, and as general wear and tear takes hold. Indeed, we are already seeing this, in particular with North Western Protector, for which the Authority has spent £80,000 on repairs in 2024/25. In addition, the process of procurement of assets can be lengthy with extended lead times on builds, recent procurement processes have taken several years to complete from start to finish.

The specification which managers see as appropriate for the NWIFCA district is for a roster of three vessels which give the Authority the ability to respond to enforcement issues reactively and conduct effective boardings, lift and inspect gear, conduct surveys and dry out if necessary. Additionally, given the size of our district, we require a vessel which can be moved efficiently around the district where required. This specification for the district is further developed below.

Officers propose a cabin RIB as the vessel for carrying out fast response enforcement and boardings. This specification of vessel would be able to operate with fewer crew and be helmed by officers with Advanced Powerboat qualifications rather than the much higher qualifications needed for a large vessel which require years to accumulate the sea time to progress to, particularly limiting when staff have other duties. Such a vessel is capable of being at sea for longer than an open RIB due to having a galley and heads, the latter of which also reduces gender bias by not limiting female crew from being comfortable onboard vessels for a longer patrol or voyage.

A smaller catamaran would fulfil the role of lifting gear across the district but predominantly in the Cumbrian area. This vessel, as with the cabin RIB, would have a smaller galley and heads and possibly emergency bunks. With a smaller draught than North Western Protector, such a vessel would be capable of accessing gear closer in shore, but still built to the size required for scientific surveys with the design of equipment needed to be used. There would be a compensation in deck size but the full deck of North Western Protector is rarely used effectively.

All vessels moving forwards would be purchased as new, purpose-built assets with the specification of a modern enforcement vessel and not an "off the shelf" pleasure or workboat. Vessels would be built in compliance with the new Workboat Code 3, which stipulates various design requirements as well as policies and procedures.

A third smaller RIB of approximately 6.5m in length, which can be responsive across the district on a trailer, would be appropriate to replace the larger RIBs Bay Protector and Protector Gamma in the middle and southern parts of the district. Due to the limited use of both current RIBs, managers do not see it as cost effective to have two assets between Barrow and Liverpool which do such few patrols; a single asset could be moved strategically from a central location as required.

All vessels would likely be constructed from glass reinforced plastic (GRP) hulls to save weight and therefore improve fuel economy. With the vessels being smaller than our current ones, there would be reduced costs of berthing, storage and maintenance.

6. Conclusion

Officers propose the following three options for the Authority's maritime assets in the future.

Option 1: Do Nothing

This would leave the Authority with ageing assets which are not fit to deliver our strategic priorities. There would be continued costs of storage, maintenance and repairs of assets which cannot be used effectively in the district. Annual maintenance and repair costs would likely only increase, from around £90,000 currently, to well beyond £100,000 with increased problems and inflation.

Total Net Capital Costs: £0

Total Net 10-Year Revenue Costs: £1,200,000 in repairs, maintenance and Workboat Code 3 modifications

OPTION 1 TOTAL COST: £1,200,000

Option 2: Procure a 16m Catamaran, 10m Cabin RIB and 7m Trailer RIB

Officers propose to procure a small open RIB on a trailer to replace Bay Protector and Protector Gamma based on officer availability and the lower presence of vessel-based fisheries in the southern and middle parts of the district. This vessel would be stored inside an existing lock-up or securely within a marina and could be moved anywhere throughout the district, towed by one of our pick-up trucks. This vessel would cost approximately £100,000.

In addition, to replace North Western Protector with a 10m cabin RIB and a 16m catamaran each being a tool required for the strategic output of the patrols planned, boardings of various fishing vessel types, as well as able to respond quickly to vessel incursions of the HPMA. The catamaran could be seasonally tasked to deliver science surveys and enforcement of potting / netting regulations. Being smaller vessels they will have reduced crew numbers and lesser qualification requirements, as well as incurring lower mooring fees and being easier to lift out at multiple locations for cleaning, maintenance and repair[4].

Potentially all could be procured with outboard engines for maintenance. The larger catamaran may need diesel inboards.

This would condense the Authority's vessels from four to three having already reduced from six in recent years, but with three assets capable of ensuring the continuity of statutory functions

[4] Potentially all three could be procured with outboard engines for maintenance, although the catamaran may need diesel inboards.

expected of an IFCA. A recent cabin RIB procured by Southern IFCA of the specification which would be required has cost £350,000; a catamaran as proposed would be around £1,200,000.

Total Net Costs: £1,200,000[5]

Total Net 10-Year Revenue Costs: £300,000 in repairs and maintenance

OPTION 2 TOTAL COST: £1,000,000

Option 3: Procure Like-For-Like

If the current make-up of assets is seen as viable, all four vessels will still require replacement in the near future due to their ages. There have already been significant financial resources expended on North Western Protector and each year there is an ever-increasing maintenance and repair bill. A similar sized vessel has been procured and is currently being built by North Eastern IFCA for £6,400,000.

Additionally, like-for-like replacement of the two RIBs would likely result in a net cost of around £250,000 to the Authority.

Officers do not see this as a viable or necessary option for the Authority based on the strategic priorities and fisheries we have.

Total Net Capital Costs: £2,900,000

Total Net 10-Year Revenue Costs: £400,000 in repairs and maintenance

OPTION 3 TOTAL COST: £2,800,000

Preferred Option

The preferred option which is recommended is Option 2. This would be cost effective following the sale of North Western Protector (valuation 6th March at £890,000), Bay Protector and Protector Gamma which have already been factored into the Capital Asset Replacement Fund. This would provide the correct structure of assets required to fulfil the Authority's statutory duties across the district.

Potential financing arrangements to pursue Option 2 would need to be further explored and presented to members at future meetings, perhaps via the Finance & Personnel Sub-Committee.

North Western IFCA CEO and Head of Enforcement, February 2025

[5] £1,450,000 gross for three vessels; £850,000 recovered in existing vessels' resale. We are currently awaiting a valuation from marine surveyor on North Western Protector; value is estimated at £890,000 here but may be greater.