

Economic Impact of Perth Harbour

PERTH *Harbour*

A report to David MacBrayne Ltd
27th April 2021





Contents

1. Executive Summary	1
2. Introduction	2
3. Study Aim and Approach	6
4. Economic Context	8
5. Economic Impact	12
6. NPF Contribution	18
7. Conclusions	24



1. Executive Summary

Perth Harbour is an economic asset for the City, supporting supply chain businesses for important industrial sectors and balancing commercial needs with safe community use.

The Harbour has a long history and is unique in Scotland as a small, tidal inland port. It is situated close to Scotland's main trunk road network, and offers good storage and connectivity. David MacBrayne Ltd (DML) was appointed in July 2018 to manage the asset on behalf of its owner, Perth and Kinross Council, for five years.

Currently, the main cargoes which are moved through the Harbour are Scandinavian timber which is destined for the construction industry, and fishmeal and soya protein concentrate which is destined for the aquaculture sector. In the recent past, baryte, a mineral which is mined in Perthshire and used in the North Sea oil and gas sector, was exported through the Harbour and this is expected to resume later in 2021.

The year 2020/21, represents the mid-point in DML's contract. Directly through its own operations and indirectly through its business users, the Harbour is estimated to support **£3.9 million Gross Value Added (GVA) and 54 jobs throughout Perth and Kinross** at present. Across **Scotland this impact grows to £5.5 million GVA and 74 jobs**. This is based on **24 shipments** carrying **33 thousand tonnes** of cargo, a 25% increase in both shipments and cargo since 2017/18. Over that time, the economic impact this supports in Perth and Kinross has increased by 10%.

Looking ahead to 2022/23, the number of shipments at the Harbour is expected to increase to 30, driven by the expected resumption in baryte exports, which will increase in the volume of tonnage handled by 22%. The economic impact this creates is expected to increase by 15%. Trade in other cargo is expected to continue at 2020/21 levels as Harbour users are cautious about future forecasts in light of business uncertainty caused by the COVID-19 pandemic. However, there is additional scope for Perth Harbour to be used in the near future to import road aggregate to construct the next section of the new Cross Tay Road Link. The contract for this project is currently out to tender and supply details will become known later in 2021.

Although Perth Harbour faces competition from nearby ports with fewer restrictions on access, the efficiency with which vessels are managed at the Harbour, combined with good communication, means that restrictions at the Harbour are well managed, easing the flow and efficiency of commercial trade. DML's role of enabling safe access and efficient management at Perth extends beyond commercial users to include the many businesses, clubs and organisations which also use the Harbour environment for leisure and recreation. Through active membership of the River Tay Community Sports Hub, Perth Harbour communicates important safety information on access, tides and shipping activity, allowing leisure users to safely and more confidently plan their use of the river.

The Scottish Government developed the National Performance Framework (NPF) to measure progress towards sustainable and inclusive economic growth, taking into account a slate of economic, social and environmental considerations. Perth Harbour supports eight of the 11 NPF outcomes making a strong contribution to improved outcomes for children and young people, communities, the economy, education, the environment, health, international connectivity and fair work.



2.

Introduction

This work was commissioned by David MacBrayne Ltd to estimate the economic impact associated with Perth Harbour.

2.1 Background

Perth Harbour sits on the River Tay, 22 miles up-river from Dundee and 29 miles from open sea. CalMac Harbours, a division of David MacBrayne Ltd (DML) is responsible for the day-to-day operation of 27 ports and harbours throughout Scotland. It was appointed by Perth and Kinross Council in July 2018 to manage Perth Harbour for an initial period of five years with a possible two-year extension¹.

Since DML took over the operation of Perth Harbour, the volume of traffic has increased from 15 ships in 2017/18² to an estimated 24 ships in 2020/21. During this time the Harbour has handled both its largest ever vessel (the 2,500 tonne Wilson Thames) and its largest single shipment, of over 4,000 cubic metres of timber.

This report was commissioned to:

- assess the current economic impact supported by Perth Harbour, based on activity levels in 2020/21 (July 2020 to June 2021);
- estimate how this has changed since pre-takeover levels (2017/18);
- project the impact in two years' time (2022/23) based on consultation with the businesses which trade through the Harbour; and
- consider the wider social and economic contribution supported by Perth Harbour within the context of the National Performance Framework (NPF). The NPF has been designed to measure economic well-being through a broad set of indicators such as benefits for communities, health and the environment alongside traditional economic impact considerations.

2.2 Description of Perth Harbour

Perth Harbour is a small inland port with a long history. Located within a business hub, and a short distance from the city centre, the Harbour has a community of commercial neighbours, including some of Perth's most long-established companies.

The Harbour was established in its current location in the late 1840s and managed over 300 vessels per year at its peak in 1990. It is owned by Perth and Kinross Council which also operated the facility for several decades prior to 2018. The Harbour is also the navigation authority for the River Tay between the City railway bridge and Balmerino in the outer Tay. Locally qualified pilots are available to assist vessels between Balmerino and Perth and ships are strongly advised to use this facility although it is not compulsory.

Perth Harbour is a NAABSA (Not always afloat but safely aground) designated harbour with soft mud on the bottom³. It is a Competent Harbour Authority under S.I. 2007 No. 482 "The Perth Harbour Revision Order 2007" and has 4 principal berths:

- Berth 1: 89 m;

¹ Perth and Kinross Council, 25 April 2018, Harbour Business Plan – Progress Update, para 2.8.

² Ibid, para 2.2.

³ Perth and Kinross Council, Perth Harbour Draft Business Plan 2021-26



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- Berth 2: 134 m;
 - Berth 3: 128 m;
 - Berth 4: 66 m.

As a tidal inland port, there are certain restrictions on the size of vessel it can accept. On either side of the high tide, it is capable of accepting vessels of up to 100m in length at the discretion of the Harbour Master and up to 4.2 meters draft⁴ and it is open to shipping around the clock during these times. PKC estimates that the Harbour is accessible to vessels of this size on 95 tides per year which represents 26% of all tides⁵. It can manage coastal and dry bulk ships, carrying up to 2,500 tonnes from Europe, the Baltic and Scandinavia. Due to its scale, vessels can be received on one high tide and depart on the next, ensuring maximum efficiency. Stevedoring services are provided by private operators to handle commercial cargo and various cranes and forklifts are also available to hire at the Harbour.

Cargoes currently imported through Perth Harbour are fishmeal and soya protein concentrate for the aquaculture sector and timber for the construction industry. Until 2018, baryte ore from the nearby Foss mine was shipped from Perth Harbour to Great Yarmouth for use in the North Sea oil and gas sector. It is expected that these shipments will resume later in 2021 with the opening of a new baryte mine at Duntanlich.

From its central location, Perth Harbour connects easily to Scotland's network of motorways, roads and railways, allowing fast access to all areas of Scotland and Northern England. It offers a lower cost alternative compared to larger coastal ports by cutting haulage miles, helping to generate both financial and environmental benefits for businesses using the facility.

⁴ Source: UK Ports

⁵ Perth and Kinross Council, Perth Harbour Draft Business Plan 2021-26



2.2.1 Perth Harbour Business Plan, 2021-2026

Overall vision: “To revitalise Perth Harbour as a vibrant and sustainable economic hub for the benefit of the local economy, environment and community.”

Perth Harbour Business Plan, 2021-2016, Perth and Kinross Council

The draft Business Plan for the Harbour for 2021-26 sets out two strategic objectives, to:

- operate Perth Harbour safely and effectively in compliance with the Port Marine Safety Code; and
- turn around the business at Perth Harbour to a self-sufficient business which is both profitable and which is promoting sustainable freight transport.

2.3 Key Operators at the Harbour

The following companies drive the majority of activity at the Harbour:

Glenalmond Timber Ltd: a 90 year old family-run business which imports timber from Sweden to make products for the construction industry in Scotland, the UK, Ireland and Europe. It has been based at Perth Harbour for 30 years where it employs 9 people and it has a saw mill at nearby Methven which employs a further 25. It specialises in strengthening and treating products to improve their performance and it owns several pieces of timber processing machinery that are unique in the UK.

Glenalmond shares a vessel along with **Scotframe** and **Stuart Milne Homes**, to bring around 12 shipments of Scandinavian timber to Scotland each year. All three businesses are in the construction sector.

Calport Ltd: has operated in Perth for over 40 years and was bought by the current owner in 2008. It offers a complete shipping service including stevedoring, ships agency (through Kinnes Shipping), storage and distribution. It owns around 75% of the current warehouse capacity at the Harbour and has plans to increase this further. The company handles bulk cargos for customers that import products from around the world, such as, fishmeal, soya protein concentrate, phosphates, fertilisers and salt. Currently they import fishmeal and soya protein concentrate which is used to make fishmeal pellets for the aquaculture sector in Scotland.

Calport generates around 12 shipments per year with 1,500-2,000 tonnes of either fishmeal or soya on each one.

Kinnes Shipping: a ships agency and freight forwarding company based in Dundee with offices in Perth, Montrose and Grangemouth. The company has over 100 years' experience in shipping and provides agency services for a variety of vessels including crew changing and immigration, supply of stores and provisions, customs clearance/ delivery of ships spares, cargo handling/ haulage, chartering and project management. Its freight forwarding services include sea, road and air freight and it regularly ships throughout the world.

Calport and Kinnes Shipping work together when importing cargos.



Duntanlich Mine (future potential re-user) near Aberfeldy which is operated by M-I SWACO, part of the Schlumberger oilfield services group. Until 2018 the company mined baryte at the nearby Foss Mine which was shipped for drilling use in the North Sea oil and gas sector through Aberdeen and Great Yarmouth. The Foss mine is being decommissioned and a new supply of baryte is expected to be shipped from the Duntanlich mine later in 2021. Once more, it is planned to use Perth Harbour to ship this output to Great Yarmouth

In addition to commercial activity, the following businesses and third sector organisations engage with Perth Harbour for other reasons:

Willowgate Activity Centre: an outdoor adventure company offering land and water based activities in and around Perth for people of all ages. It organises events for school groups, corporate groups, vulnerable people and those with special needs to encourage participation in outdoor activity. Its water-based activities include stand-up paddle boarding, canoeing and kayaking, guided river trips and open water swimming. It is a member of the River Tay Community Sports Hub along with DML and uses safety and tidal information from Perth Harbour to plan its activity programme.

Davie Anderson Marine: ships chandler and marine mechanic offering commercial marine boat hire and leisure tours. In 2019 it ran river cruises from Broughty Ferry and the V&A Museum in Dundee to the City of Perth between May and September. It hires out vessels to DML for maintenance and safety checks in the Harbour and navigation channel.

Taymara: was formed as a charity by volunteers with maritime experience to transfer their knowledge for the benefit of the community. Its aim is to help vulnerable groups and individuals to make positive changes in their lives through experience of life and training at sea and connected environments. It serves the communities of Tayside, providing river tours and therapeutic trips for vulnerable groups, such as children with serious illnesses and their families; those with disabilities and people leaving the justice system.

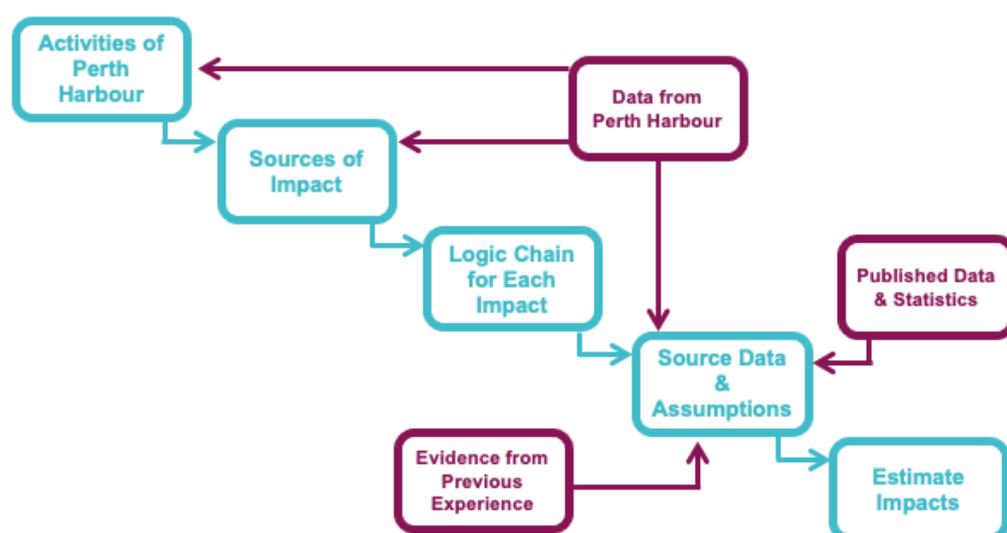


3. Study Aim and Approach

The aim of the study is to quantify the current economic contribution of Perth Harbour, compare this with the historic situation in 2017/18 and estimate its future potential impact in 2022/23.

The process for estimating the economic impact is illustrated in Figure 3-1.

Figure 3-1: Economic Impact of Perth Harbour: Study Approach



Source: BiGGAR Economics

The starting point for analysis was to consider the activity taking place at Perth Harbour and identify how this is likely to generate an economic contribution.

Logic chains were then developed to describe how each type of activity generates economic value and these were used to build an economic model to estimate the economic contribution.

The next step was to consider how the value generated by each type of activity might be measured and what data would be required to do this. For most activity, two types of information are required: source information about the scale and nature of the activity, and data that could be used as the basis for assumptions to measure the economic value it generates. Where possible, source data was obtained directly from Perth and Kinross Council, DML and the companies which use Perth Harbour for importing and exporting goods.

In addition, and where necessary, data for the impact calculations and for some assumptions was obtained either from published reports, official statistical sources or based on BiGGAR Economics' previous experience within the sector. The key statistical source used was the 2020 Input-Output Tables for Scotland published by the Scottish Government. The sources used are referenced throughout the report.



3.1.1 Measurement

The economic impacts are reported using two measures:

- Gross Value Added (GVA), which is a measure of economic output and is expressed in pounds (£); and
- Jobs (employment) which is expressed as headcount jobs.

GVA impacts are reported to nearest £10,000, or in £ millions to one decimal place, as appropriate, according to the scale. Job numbers are expressed as whole numbers.

3.1.2 Reference Year and Geography

The analysis measures the impact created by Perth Harbour during single years (July-June) for 2017/18, 2020/21 and 2022/23 and is based on data provided by DML, Perth and Kinross Council and the companies that rely on Perth Harbour for importing and exporting goods.

The study considers the contribution made by Perth Harbour at two geographic levels:

- Perth and Kinross Council Area; and
- Scotland.

3.1.3 National Performance Framework

As well as a quantifiable impact assessment, BiGGAR Economics was asked to consider the wider social and economic contribution supported by Perth Harbour within the context of the National Performance Framework (NPF).

The NPF sits at the top of the policy hierarchy in Scotland and has been designed by the Scottish Government to measure the country's progress towards creating an inclusive and sustainable economy, taking a wider range of desired outcomes into account beyond the traditional approach of measuring economic performance by jobs and income creation alone. While these are very important measures, the NPF builds in a range of 11 other outcomes that consider benefits in a wider sense, for example, through the positive contributions made to communities, the environment and international connectivity, alongside traditional economic measures.

Perth Harbour's contribution towards the 11 outcomes in the NPF is qualitatively assessed and reported against those outcomes where a clear link is evident. This analysis is based on consultations with the businesses and organisations that engage with the Harbour most frequently.



4.

Economic Context

This section gives a brief description of the local economy and describes current trends in sectors supported by trade through Perth Harbour.

4.1 Socio-Economic Context

4.1.1 Population Structure and Projections

In 2018, the population of Perth and Kinross was estimated at 151,000 people, 2.8% of the Scottish population. A greater proportion of the population of Perth and Kinross are 65+ compared to the Scottish average and the working age population and younger age groups account for a smaller than average proportion of the total population.

The population of Perth and Kinross is projected to fall by 0.4% over the 20 years to 2039, compared with a projected 2.5% growth in the total population of Scotland. By 2039, 33% of the area's population are expected to be aged 65+ compared to the 25% for Scotland as a whole. The working age population is projected to fall in Perth and Kinross and in Scotland as a whole, although the decline is projected to be significantly greater in the local area than at a national level.

Table 4-1: Estimated Population and Projections by Age Group, 2018 & 2029

	Perth and Kinross		Scotland	
	2018	2039	2018	2039
Total	151,300	150,700	5,438,100	5,574,100
Change	-	-0.4%	-	+2.5%
Aged 0-15	16%	13%	17%	15%
Aged 16-64	61%	54%	64%	60%
Aged 65+	23%	33%	19%	25%

Source: National Records of Scotland, Population Projections for Scottish Areas (2018-basd) 2018-2043

4.1.2 Economic Activity Rates and Earnings

At 81.8%, the economic activity rate among the working age population in Perth is significantly higher than the Scottish rate of 75.6%. The unemployment rate in Perth, at 2.3%, is lower than the Scottish rate of 3.5%. Median annual gross wages in Perth and Kinross in 2019 were £31,000, slightly higher than for Scotland as a whole.

Table 4-2: Economic Activity

	Perth and Kinross	Scotland
Economic Activity Rate, 2019	81.8%	75.6%
Unemployment Rate, 2019 (Jan-Dec)	2.3%	3.5 %
Median Annual Wages	£31,000	£30,000

Source: Annual Population Survey, ONS (2021)



4.1.3 Skills/ Qualification

The population of Perth and Kinross has higher qualification levels than to Scotland as a whole with 48.8% of the population holding a qualification at NVQ4 and above, (further and higher education qualifications). The proportion of the population with no qualifications in Perth Kinross is 6.6%, lower than 9.8% for Scotland.

Table 4-3: Education Levels of the Working Age Population, 2019

	Perth and Kinross	Scotland
NVQ4 and above (Further & Higher Education)	48.8%	45.3%
NVQ3+ (Highers, SVQ3, etc)	66.4%	60.8%
NVQ2+ (National 5, SVQ2, etc)	81.1%	75.6%
NVQ1+ (National 4, SVQ 1, etc)	86.7%	83.5%
Other Qualifications	6.7%	6.7%
No Qualifications	6.6%	9.8%

Source: ONS, Annual Population Survey (2019)

4.1.4 Deprivation

The Scottish Index of Multiple Deprivation assesses relative deprivation across Scotland on several different aspects including income, employment, education, health, access to services, crime and housing. For this purpose, Scotland is split into 6,976 small areas, called data zones, and each one is ranked from 1 (the most deprived) to 6,976 (the least deprived).

Across the Perth and Kinross local authority area there are 186 data zones, of which only 6% are among the 20% most deprived areas of Scotland and 24% are among the 20% least deprived areas of the country. In the City of Perth, proportionately more data zones fall within the most deprived groups.

Table 4-4: Relative Deprivation in Perth and Kinross, 2019

	Perth and Kinross	Perth City
0-20% (Most Deprived data zones)	6%	15%
20-40%	15%	35%
40-60%	20%	15%
60-80%	35%	10%
80-100% (Least Deprived data zones)	24%	26%

Source: Scottish Index of Multiple Deprivation v2 (2020)

4.1.5 Industrial Structure

In 2019 there were 65,000 employee jobs in Perth and Kinross which represented 2.6% of total employment in Scotland.

The structure of employment in the area reflects its rurality and the quality of the natural landscape with tourism-related sectors and agriculture accounting for a larger share of employment than is average for Scotland as a whole. For example:

- the accommodation and food service sector accounts for 12.3% of employment in Perth and Kinross compared to an average of 8.2% across Scotland;



- agriculture, forestry and fishing accounts for 6.2% of employment locally compared to a Scottish average of 1.7%; and
- mining and quarrying account for 3.8% of employment compared to 2.6% across Scotland.

Other than Perth and Kinross Council and the NHS, the largest employers in the area are Scottish Southern Electricity which employs 2,500 people at its head office in Perth, and Aviva which employs 1,400 people at Pitheavlis.

4.1.6 Summary

Perth and Kinross is home to 2.8% of the Scottish population and has an economy where tourism and agriculture make a greater contribution than is the case for the national economy. The economic activity rate in the area is higher than for Scotland as whole average and the working age population is relatively well qualified. There are lower levels of deprivation in Perth and Kinross compared with Scotland as a whole.

4.2 Sectors Supported by Perth Harbour

The cargoes which move through Perth Harbour benefit several sectors which are important to the Scottish and wider UK economy. All of Scotland's major cities are within a two hour drive of Perth Harbour, bringing a strategic advantage to those who use it most frequently. The sectors described below currently benefit from the supply chain infrastructure provided by the Harbour.

4.2.1 Construction Industry

Structural timber is imported from Scandinavia on a vessel shared by three Scottish companies for use in the construction industry. After treatment and further value adding, this is used by timber-framed housing manufacturers and sold on to timber merchants throughout the UK and Ireland.

Off-site timber-framed construction means that build times and waste are reduced while also improving safety and causing less disruption at build sites. By 2018, the offsite timber-framed construction industry had grown to have a market value of £250 million and, at this time, an estimated 85% of all new homes in Scotland were built using wood. Around two-thirds of the wood used is imported into the country⁶.

4.2.2 Scottish Aquaculture

Soya protein concentrate and fishmeal are imported from the Baltic states, Europe and Ireland and are used to produce fish food for the Scottish aquaculture sector.

BiGGAR Economics recently undertook a national study for Marine Scotland to estimate the wider economic impacts of the Scottish aquaculture sector. It found that, in 2018, the sector supported 11,700 jobs and £885 million in Gross Value Added (GVA)⁷ in the Scottish economy. The aquaculture sector is predicted to grow and could support 18,000 jobs by 2030⁸. The Scottish aquaculture sector, and its subsectors which include salmon production, other finfish production, shellfish and aquaculture processing, represents the UK's largest food export by value and is an important provider of employment in rural Scotland.

The scale and expected growth in the aquaculture industry will create a continued demand throughout the supply chain for fishmeal. In 2018 alone, finfish production companies Mowi, Loch Duart, Scottish Sea Farms and the Scottish Salmon

⁶ Wood for Good. (2018). *Scotland Sows the Seed for Homegrown Timber housing*.

⁷ Scottish Government. (2020). *Wider economic impacts of aquaculture*.

⁸ The Fish Site. (2020). *Scottish aquaculture sector looks to land new talent*.



Company, who together represented 73% of finfish production in Scotland, spent around £205 million on manufacturing fish feed.

4.2.3 Perth and Kinross Mining

Baryte is used in the drilling process in the North Sea oil and gas industry. Historically, this has been mined at Foss near Aberfeldy and transported either by road to Aberdeen, or by ship through Perth Harbour to Great Yarmouth for use in the North Sea oil and gas sector.

The original mine which had supplied baryte since 1985 is being decommissioned and a new source has been opened up nearby at Duntanlich which will begin exporting later in 2020. The baryte deposit at Duntanlich can meet the full demand for the UK's oil and gas sector, addressing self-sufficiency and sustainability concerns in energy and strategic minerals⁹.

The North Sea oil and gas sector itself is very significant for the Scottish economy. It was worth £8.8 billion GVA to the national economy in 2019, which represents 5% of Scottish GDP, and it also supports over 100,000 jobs through direct, indirect and induced impacts¹⁰.

4.2.4 Water Sports

The navigation channel for Perth Harbour is popular with water sports organisations and is regularly used by a wide variety of interest groups such as sailing clubs, kayakers, paddle boarders, canoe clubs, open water swimmers, and jet skiers.

Across the UK, watersports activities have grown in popularity in recent years with the latest annual Watersports Participation Survey for 2019 indicating that participation in any water sport increased from 25% in 2015 to 32% in 2018¹¹. Its growth in popularity with young people and women was also in evidence. Although participation in swimming has decreased over time, outdoor swimming participation has gradually increased from 4.2 million people in 2015 to 6.1 million people in 2018. Anecdotal evidence suggest this will have risen further during the COVID-19 pandemic.

Around 700,000 households in the UK own a boat, of which roughly half are either a canoe or a kayak and about a fifth are sailboats, followed by motor boats and windsurfers. Boating participation in the UK is relatively stable with approximately 7.3% of people in the UK going boating in 2018.

The River Tay is a popular area for water-based sports and recreation and it is reported locally, through the River Tay Community Sports Hub, that recreational river use has grown in recent times.

⁹ Duntanlich Mine (Schlumberger) *Baryte, barite or barium sulphate*

¹⁰ Scottish Government (2020). *Oil and Gas*.

¹¹ RYA, Arkenford and British Marine, April 2019 Watersports Participation Survey 2018 Summary Report



5.

Economic Impact

Perth Harbour generates an impact through its own operations, through other harbour users and through supporting industry to import and export.

5.1 Approach

Economic impacts are reported using two measures GVA and employment in Perth and Kinross and Scotland as a whole. The main economic assumptions used in the analysis were:

- turnover/GVA, and GVA/employee ratios – these were used to estimate direct GVA and employment impacts in each study area, and were obtained from the Annual Business Survey¹²; and
- GVA and employment multipliers – these were used to estimate effects further down the supply chain (indirect effects) and the effects of staff spending (induced effects), and were obtained from the Scottish Government's Input-Output Tables¹³.

The analysis considers the economic impact associated with Perth Harbour in 2020/21, the most recent year, as well in 2017/18, the year before DML were appointed, and in 2022/23 which is the final year of the current contract to manage the Harbour.

5.2 Current Impact

The impact associated with Perth Harbour in 2020/21 includes projections for the year up to the end of June 2021.

5.2.1 Core impact

The core impact of Perth Harbour is the impact associated with its operations, including its direct impact, spending in the supply chain, and staff spending their wages and salaries in the local economy.

Direct Impact

The direct GVA contribution of the Harbour was estimated by adding together its operating profit/loss as well as the operating profit and employment costs of DML, and the employment costs of employees at Perth and Kinross Council who are involved in its operation.

There are 3 people who work directly at the Harbour, and a further 2 who are involved with managing the Harbour within Perth and Kinross Council, giving a direct employment impact of 5 people.

Supplier Impact

Around £120,000 in supplier expenditure is associated with Perth Harbour, of which an estimated 30% is spent in Perth and Kinross, and 90% is spent in Scotland.

¹² ONS (2020), UK Annual Business Survey Revised 2018

¹³ Scottish Government (2020), Scottish Input-Output Tables



Expenditure was analysed and assigned to relevant sectors and the GVA and employment impact in each sector was estimated using figures from the Annual Business Survey. Further impacts throughout their supply chain (indirect effects) and from staff spending their wages (induced effect) were captured by applying multipliers from the Scottish Government's Input-Output Tables.

Staff Spending Impact

Staff who are directly associated with managing the Harbour also create an impact by spending around £140,000 in wages and salaries each year.

Based on analysis of typical household expenditure, it was assumed that staff would spend 40% of their salaries in Perth and Kinross, and 71% in Scotland. The GVA and employment impacts were estimated based on the typical sectors for household expenditure, as were the indirect and induced effects.

Core Impact

The current core impact associated with Perth Harbour is, therefore estimated at £53,000 GVA and 6 jobs in Perth and Kinross, and £134,000 GVA and 7 jobs in Scotland.

Table 5-1: Core Economic Impact of Perth Harbour, 2020/21

	Perth and Kinross	Scotland
GVA (£000s)		
Direct	15	15
Supplier	20	77
Staff Spending	18	41
Total	53	134
Employment		
Direct	5	5
Supplier	<1	1
Staff Spending	<1	1
Total	6	7

Source: BiGGAR Economics Calculations (Note: Figures may not sum due to rounding.)

5.2.2 Other Users

In addition, there are a number of other operators who use Perth Harbour to import cargo. Currently, the main users are Glenalmond Timber and Calport Ltd and more details on what they do are provided earlier in this report.

As well as those who directly import cargo for their own business use, Kinnes Shipping and Scotbroker work with companies at the Harbour to provide ship's agency services. Both companies are based outside Perth and Kinross and work more intensively at other ports, such as Dundee, Montrose and Grangemouth, where the majority of their work takes place. The number of employees in each company was determined through consultations and, in some cases, analysis of company accounts. A small share of their employment was attributed to Perth Harbour, reflecting the amount of their business it accounts for.

To estimate the direct GVA associated with all other operators at the Harbour, the GVA/employee ratio in the relevant sectors was applied. Indirect and induced effects



were then estimated by applying economic multipliers. Therefore, it was estimated that other operators currently support £3.8 million GVA and 48 jobs in Perth and Kinross, and £5.3 million GVA and 67 jobs in Scotland.

Table 5-2: Economic Impact of Other Users at Perth Harbour, 2020/21

	Perth and Kinross	Scotland
GVA (£000s)	3,804	5,340
Employment	48	67

Source: BiGGAR Economics Calculations

5.2.3 Supporting Industry

Perth Harbour also supports industry, by providing a port through which supplies, such as timber, fishmeal, and soya, can be imported, which can then be refined to create further value added products. It also facilitates exports and, in the recent past, has supported oil and gas production through exports of baryte which is used for drilling¹⁴.

For each type of import/export, the volume in tonnes was multiplied by the value per tonne, which was either based on consultations with industry, or analysis of trade data on similar imports/exports¹⁵. In 2020/21, on the basis of 24 shipments, with 33,000 tonnes going through Perth Harbour, it was estimated that the value of the trade supported would be £15.2 million.

Table 5-3: Imports and Exports, 2020/21

Number of shipments	24
Volume of Cargo (tonnes)	33,000
Value of Cargo (£000s)	15,179

Source: DML/BiGGAR Economics Calculations

5.2.4 Summary Economic Impact

On this basis, the current economic impact associated with Perth Harbour is estimated to be £3.9 million GVA and 54 jobs in Perth and Kinross, and £5.5 million GVA and 74 jobs in Scotland.

¹⁴ As discussed previously, no baryte was exported in 2020, but it is expected that baryte exports will increase in future years

¹⁵ HMRC (2021), Overseas trade data table



Table 5-4: Economic Impact of Perth Harbour, 2020/21

	Perth and Kinross	Scotland
GVA (£000s)		
Core	53	134
Other Harbour Users	3,804	5,340
Total	3,857	5,474
Employment		
Core	6	7
Other Harbour Users	48	67
Total	54	74

Source: BiGGAR Economics Calculations

5.3 Impact in 2017/18

The approach explained above was applied to the activities of Perth Harbour for 2017/18¹⁶, the year before DML took over the contract, when 19 shipments moved in and out of the Harbour¹⁷.

In that year, the impact of activity at the Harbour is estimated to be £3.5 million GVA and 50 jobs in Perth and Kinross, and £5.0 million GVA and 69 jobs in Scotland. The main differences, compared to the current impact, are that the direct economic impact was smaller due to the higher losses associated with the Harbour, and employment at the other Harbour users was slightly lower, though it includes employment at the Foss Mine.

Table 5-5: Economic Impact of Perth Harbour, 2017/18

	Perth and Kinross	Scotland
GVA (£000s)		
Core	-73	6
Other Harbour Users	3,570	4,989
Total	3,496	4,996
Employment		
Core	6	7
Other Harbour Users	45	62
Total	50	69

Source: BiGGAR Economics Calculations. Note, totals may not sum due to rounding.

In 2017/18, the Harbour imported and exported 26,500 tonnes of cargo with an estimated value of £11.4 million. This is lower than for 2020/21, due to fewer ships, and a higher proportion carrying road aggregate from Denmark and exports of baryte, which has a lower value than soya, fishmeal and timber.

¹⁶ From July 2017 to June 2018.

¹⁷ Perth and Kinross Council data shows that this accounted for 17 ships as two outgoing vessels were reloaded with baryte for onward transport.



Table 5-6: Imports and Exports, 2017/18

Number of shipments	19
Volume of Cargo (tonnes)	26,500
Value of Cargo (£000s)	11,352

Source: PKC/BiGGAR Economics Calculations

5.4 Impact in 2022/23

A similar approach was applied to estimate the activity which could be supported in 2022/23.

This was modelled on the basis of consultations with Harbour users which suggested a potential increase in shipping traffic to 30 vessels per year, based on a cautious outlook for existing shipping volumes and the resumption of baryte exporting through the Harbour. However, in the current economic climate it is difficult for businesses to predict with any certainty how trade will be affected by 2022/23, therefore the estimates should be interpreted with that in mind.

The negative impact of the COVID-19 pandemic on global trade has also affected the majority of ports in the UK. To shed light on the impact this has had, the British Port Association carried out a survey of 400 ports in the UK late in 2020¹⁸. For 87% of those who responded, the pandemic had negatively impacted their customer activity and over three-quarters stated that their revenues had fallen since 2019.

The key message from their study for the year ahead (2021) is that two-thirds of the ports who responded were “somewhat confident” and showed “tentative optimism” that activity levels would improve. However, they most commonly described the outlook for 2021 as “challenging” and “uncertain”. Their top concerns for the year ahead were reported to be; customer activity, the overall status of the economy, operational challenges posed by the pandemic, Brexit, and decreased revenue. By 2022/23 it is hoped that further recovery will have taken place and a number of these challenges will have been addressed.

Taking all assumptions into consideration and applying a similar approach to estimating the impacts described earlier, the economic impact of the Harbour in 2022/23 could support £4.4 million GVA and 60 jobs in Perth and Kinross, and £6.3 million GVA and 83 jobs in Scotland, an increase from 2020/21. The core impact is expected to increase slightly as the Harbour’s income increases, though costs are also expected to be higher. There would also be an increase in the impact of other Harbour users, mainly related to the impact of the Duntanlich Mine exporting baryte.

¹⁸ British Ports Association, January 2021, Survey of UK Ports, [Press Release](#)



Table 5-7: Estimated Economic Impact of Perth Harbour, 2022/23

	Perth and Kinross	Scotland
GVA (£000s)		
Core	107	209
Other Harbour Users	4,340	6,048
Total	4,447	6,256
Employment		
Core	6	8
Other Harbour Users	54	75
Total	60	83

Source: BiGGAR Economics Calculations

By 2022/23, it is estimated that the volume of goods imported and exported could increase to 40,500 tonnes, with an estimated value of £17.3 million.

Table 5-8: Estimated Imports and Exports, 2022/23

Number of shipments	30
Volume of Cargo (tonnes)	40,500
Value of Cargo (£000s)	17,295

Source: BiGGAR Economics Calculations



6.

NPF Contribution

The impact of Perth Harbour goes beyond GVA and employment measures, contributing to economic, environmental and community well-being in meaningful ways.

Ports and harbours enhance opportunities for economic growth, offering infrastructure which facilitates commerce and globalisation and enables communities to remain connected. Most of the world's major cities are port cities, even if port activity now plays a smaller role in the wider economic framework of their regions¹⁹.

They are associated with a wide variety of economic and social benefits for the surrounding area, with commercial ports supporting economic activity and trade. Although they provide a modest level of direct employment, indirectly they allow the growth of businesses and maintain an important link between a location and the wider global economy.

The benefits of Perth Harbour extend beyond economic considerations, and it is important to reflect the wider value it contributes to the economy. The NPF provides a context which allows this to be done.

6.1 National Performance Framework (NPF)

Governments around the world are increasingly focusing on creating a wellbeing economy which values social progress alongside economic growth. Scotland is particularly well-advanced in its approach to measuring wider economic benefit and well-being through the NPF. It was launched by the Scottish Government in 2007, embedded in legislation in 2015 and updated in 2018. It is designed to give a more rounded view of economic performance and progress towards achieving sustainable and inclusive economic growth and well-being across Scotland.

As well as economic indicators, the NPF's outcomes reflect the desired fabric of communities and culture, education, the environment, health and well-being and measures to help tackle poverty.

The NPF encapsulates the Scottish Government's aims to:

¹⁹ Dr Jean-Paul Rodrigue and Dr Theo Nottenboom, *Port Economics, Management and Policy*, Ch 7.2 Ports and Economic Change



- create a more successful country;
- give opportunities to all people living in Scotland;
- increase the well-being of people living in Scotland;
- create sustainable and inclusive growth; and
- reduce inequalities and give equal importance to economic, environmental and social progress.

The Framework sets out 11 outcomes which combine to give a better picture of how the country is progressing towards these goals and the Scottish Government focuses its activities and spending to help meet the National Outcomes. A set of 81 indicators are used to monitor progress towards these goals at a national level.

The 11 outcomes of the NPF are summarised in Table 6-1.

Table 6-1: NPF Outcomes

Title	Outcome
Children and Young People	We grow up loved, safe and respected so that we realise our full potential
Communities	We live in communities that are inclusive, empowered, resilient and safe
Culture	We are creative and our vibrant and diverse cultures are expressed and enjoyed widely
Economy	We have a globally competitive, entrepreneurial, inclusive and sustainable economy
Education	We are well educated, skilled and able to contribute to society
Environment	We value, enjoy, protect and enhance our environment
Fair Work and Business	We have thriving and innovative businesses with quality jobs and fair work for everyone
Health	We are healthy and active
Human Rights	We respect, protect and fulfil human rights and live free from discrimination
International	We are open, connected and make a positive contribution internationally
Poverty	We tackle poverty by sharing opportunities, wealth and power more equally

Source: Scottish Government, 2018, National Performance Framework

Following the coronavirus pandemic in early 2020 and the economic crisis that has followed, the Scottish Government published its Economic Recovery Implementation Plan²⁰, which reinforces its intention to build a fair, inclusive and well-being economy during the recovery phase. In this, it highlights the critical importance of the **four capitals** which are essential to protect and grow for current and future generations. These are related to the economic, human, social and environmental assets of the country and provide a useful and relevant framework for assessing the contribution made by any and all economic actors towards economic well-being.

²⁰ Scottish Government, July 2020, [Towards a robust, resilient, well-being economy for Scotland: Report on submissions to the Advisory Group on Economic Recovery](#)



6.2 Perth Harbour's Contribution to the NPF

To better understand its wider contribution, the businesses which engage with Perth Harbour most frequently were consulted by phone in January 2021 to discuss how the engagement benefits each of them. The evidence gathered through this process suggests that Perth Harbour contributes towards eight of the 11 NPF outcomes, with the strongest impacts for children and young people, communities, the economy, and the environment.

6.2.1 Children and Young People

Outdoor adventure improves well-being and happiness in children and young people and the River Tay is used by many businesses, clubs, groups and organisations to promote water-based activities. DML actively engages with this community through the River Tay Community Sports Hub, and several of its 15 members were specifically set up to benefit children and young people.

Perth Harbour is the key provider of advice and guidance on safety information relating to the Harbour area including tide times, currents, shipping movements and other features of the river. It communicates this in an accessible and useful way to the Hub's members and the wider community and has recently invested in safety signage and leaflets to promote the safe use of the River. In 2019 DML donated marine radios to the Hub to improve communication and safety between river users. Its involvement in the Hub has allowed several charity-based organisations to grow in recent years, and two in particular stand out as having strong benefits for children and young people.

- **Willowgate Activity Centre** in Perth is a charity-based organisation running outdoor activities for people of all ages and many are enjoyed by children and young people including vulnerable groups, those with special needs, young people from a care background and people with a history of addictions. Willowgate engages with Perth Harbour for safety advice about the river environment and for tide information which allows them to plan their activities with more confidence and certainty. In turn this has supported a significant growth of the business in recent years. Both Willowgate and Perth Harbour are active, leading members of the River Tay Community Sports Hub.
- **Taymara** is a voluntary organisation which exists to serve local communities in Tayside including Fife, Dundee, Angus and Perth & Kinross. Their vessels and crew provide safe access to the Tay marine environment for all, but especially those who are disadvantaged or vulnerable. They have two projects offering river trips for children with severe chronic illnesses, those with disabilities and their families. They hope to restore trips from May 2021. Their contact with Perth Harbour has enabled them to engage proactively in a network with other river users to improve safety and access for all interest groups.

6.2.2 Communities

The river environment managed by Perth Harbour is a significant community resource for people of all ages in the Perth area, particularly those involved in water-based clubs and associations.

As well as Willowgate Activity Centre, within a 6k loop around Moncreiffe (Friarton) Island, there are 10 further clubs within the Hub which use the river for canoeing, rowing, sub-aqua diving, sea cadets, jet skiing, water skiing, sailing and open water swimming. Through active and valuable engagement with the Hub, the Harbour supports these groups to use the river safely and train their members accordingly. This encourages safe access to a locally important and well used blue space while



catering for the needs of all user groups including commercial, leisure and recreation users.

From its central location on the trunk road network, all of Scotland's cities can be accessed within a two hour drive of Perth, which makes the City an ideal base for trade and distribution. However, over time there has been an increase in congestion and related air quality issues in and around Perth City Centre. There is a long-term plan to address this by building a new road link to the north of the City which will eventually connect the A85 to the northwest with the A94 near Scone and Perth Airport to the northeast²¹. It will also open and connect a new area of land to facilitate the planned expansion of the City.

The resulting road link has been planned in four phases, the first of which was completed in 2019 and was built using aggregate from Denmark which was imported through Perth Harbour in 2017 and 2018. This reduced the need for road haulage, and reduced the disruption created during the road's construction. Phase one also created several community and environmental benefits for people and communities in Perth such as easing congestion around the Inveralmond roundabout on the A9. The environmental benefits are described in more detail in section 6.2.5.

The second phase of the development, to construct a 6km stretch of road and create a new river crossing, is currently out to tender and is scheduled to begin later in 2021 with completion expected in 2024/25. Although plans have not yet been decided, there is scope for light aggregate to be imported, once again, through Perth Harbour during phase two.

6.2.3 Economy

The Harbour is an important infrastructure asset for the City which has allowed supply-chain businesses to grow in sectors that are important to the national economy, such as:

- **aquaculture** – a significant sector for Scotland which is supported by imports of fishmeal and soya protein concentrate which is used to make fishmeal pellets for Scottish fish farmers;
- **construction** – which is supported through quality timber imports from Scandinavia and has encouraged the growth of timber framed housing in Scotland, in particular; and
- **oil and gas** – a highly significant sector for Scotland and the UK more widely. Baryte is mined in Perthshire and exported through Perth Harbour and Aberdeen for use in extracting North Sea oil and gas.

Therefore, the Harbour has expanded market opportunities for particular firms, giving them access to cost-effective, high-quality imports and allowing exports of baryte, a commodity which is an important part of the supply-chain in the offshore oil and gas sector.

The access restrictions at Perth Harbour are well managed by turning around vessels efficiently, making best use of high tides and the navigation channel to let commercial users co-ordinate and plan delivery of their individual supplies.

Having storage and warehouse facilities at the Harbour helps businesses to save on haulage costs for imports which would be considerable given the nature of the cargos brought in. It also allows export cargo to be stored until a shipment is ready for onward distribution.

²¹ Perth Transport Futures, Perth and Kinross Council, CIHT Presentation, 25 February 2020



The Harbour's central location in Perth and the City's excellent links to the country's trunk road network bring advantages to businesses operating at the Harbour, allowing easy access to and from the area for cargo coming in and going out of the Harbour for distribution to end users.

6.2.4 Education

Extra-curricular activities can play an important, positive role in youth development, often leading to better mental and physical health outcomes for those who take part. Along with other clubs and associations belonging to the River Tay Community Sports Hub, the Willowgate Activity Centre uses information from Perth Harbour to allow extra-curricular activities to be planned and take place safely for the enjoyment of children and young people.

Before the COVID-19 pandemic DML planned to operate an RYA accredited training centre at Perth Harbour to train people how to use the water safely for recreation. This would offer training and water-based education to local groups such as students at the local college, the sea cadets and other boating users. It is hoped that this will be progressed when the COVID-19 restrictions begin to ease.

6.2.5 Environment

Sea transport reduces the volume of road miles which would otherwise be required to bring bulk cargos to Perth. Alternative routes from suppliers in the Baltic, Scandinavia, Europe and Ireland would incur a significant environmental impact as well as additional, and potentially prohibitive, haulage costs for the businesses involved. If goods were shipped to another east coast port, it would generate a substantial volume of local road traffic to move cargo to stores in Perth. For example, it is estimated that one cargo of timber would require the equivalent of 80 lorries to move the same volume by road.

Between 2017 and 2018, Perth Harbour was used to import aggregate from Denmark to build Phase 1 of the Perth Transport Futures Project (see section 6.2.2 above for a further description) which created the first section of a new road to connect the A85 Crieff Road, to the northwest of Perth, with the A9 dual carriageway to Inverness. In addition, it opened up access into a new area - Bertha Park – for further development. The road opened in 2019 and has delivered several environmental benefits for the wider area by relieving congestion and improving road safety for pedestrians and cyclists.

The second phase of the development, to construct a 6km stretch of road and create a new river crossing, is currently out to tender and is scheduled to begin later in 2021 with completion expected in 2024/25. Although plans have not yet been decided, there is scope for light aggregate to be imported, once again, through Perth Harbour which could reduce the environmental impact of the project.

6.2.6 Fair Work and Business

The Harbour has facilitated a number of supply-chain businesses to grow and develop and these are companies which offer contractually secure, full-time work to their employees.

6.2.7 Health

Taking part in watersports encourages physical activity and boosts mental health which is important for the health and well-being of individual participants. As described above, Perth Harbour has taken an active role in balancing the needs of different groups of users to promote safety within the river environment.



6.2.8 International

The Harbour allows the City of Perth, and the wider region, to maintain a direct connection with Europe, enhancing the area's ability to secure and develop its international networks and access suppliers across a large geography.

6.3 Conclusion on Perth Harbour's NPF Contribution

The NPF has been designed to measure national progress towards sustainable and inclusive economic and social well-being. Overall, the activities supported by Perth Harbour make a tangible contribution to eight of the 11 outcomes set out in the NPF with particularly strong contributions towards the economy, community, children and young people and environmental outcomes. By safely managing the needs of community and commercial users it fulfils an important role as an infrastructure asset for the City.



7. Conclusions

Perth Harbour is an infrastructure asset, supporting part of the supply chain for key economic sectors. It balances the commercial role of the Harbour with safety for leisure and recreation users in the wider community.

As a small, tidal inland port, Perth Harbour faces competition from other ports on the east coast of Scotland that have fewer restrictions. However, it is efficiently managed and vessels are turned around quickly with the effect that the Harbour has a small, regular base of business users who value the location and connectivity which the Harbour affords. These businesses are important elements in the supply chain for the construction and the aquaculture sector in and beyond Scotland.

The current level of activity at Perth Harbour supports a quantifiable economic impact throughout Scotland of £5.5 million GVA and 74 jobs, of which £3.9 million GVA and 54 jobs are contained within Perth and Kinross, representing 70% of the total GVA impact. The GVA impact is estimated to have increased by 10% since 2017/18 due to more ships and high value cargoes moving through the Harbour.

A further expected increase in the number of ships up to 2022/23 is expected to increase the economic impact by 15%, with a modest increase in the Harbour's core economic impact and increased activity at existing users. It should also, result in additional income for the Harbour which will help its overall financial viability and performance.

Table 7-1: Estimated Economic Impact of Perth Harbour

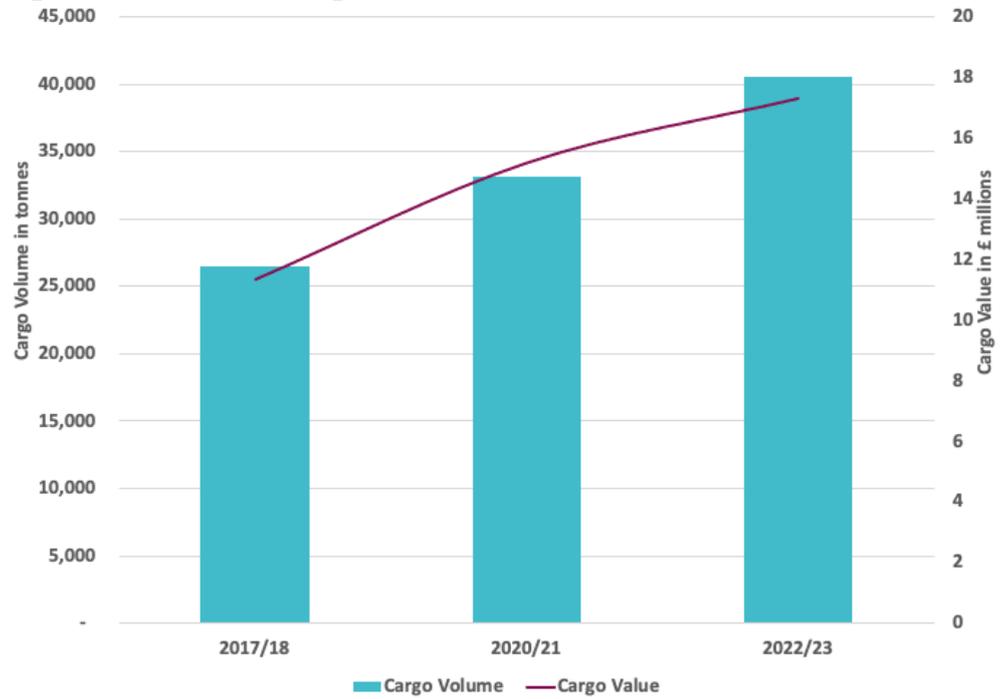
	Perth and Kinross	Scotland
GVA (£000s)		
2017/18	3,496	4,996
2020/21	3,857	5,474
2022/23	4,447	6,256
Employment		
2017/18	50	69
2020/21	54	74
2022/23	60	83

Source: BiGGAR Economics Calculations

The level of activity at the Harbour has increased since 2017/18 and is forecast to increase further over the next two years. The estimated volume and value of cargoes moved through Perth Harbour in 2017/18, 2020/21 and 2022/23 are illustrated in Figure 7-1.



Figure 7-1: Estimated Cargo at Perth Harbour



Source: BiGGAR Economics Estimates based on data from DML, Perth & Kinross Council and Harbour users

In addition, DML play a leading role in the River Tay Community Sports Hub, which has resulted in better communication between river users and safer use of the river environment. This has allowed more people to use the river safely for leisure and recreation alongside its use for commercial trade.

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