

Tamar

Journal of the Friends of the Tamar Valley
Number 45 - 2023



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EDITORIAL

Many thanks to all those who have contributed to the 2023 edition of *Tamar* and my apologies for its late arrival - in 2024. There is a nice variety in the contents this year, although appropriately, with a common thread of water.

I am very grateful to Sharon Gedye for sharing her recent fascinating research into the lost fish weirs and fisheries on the river Tavy. Her thoroughly-researched and -referenced article offers intriguing fresh insights into the past of the Tamar's major tributary.

Thanks again to Maggie Watkinson for a return visit to the Tamar – this time with some splendid, if lurid reminders of the perils of our great river – a counter perhaps to its normal delightful imagery.

The recent (re)creation of the Calstock Wetlands is proving so fascinating that it warrants two articles in this edition. Adorned by some superb photos of birds, Jan Simpson provides an update on wildlife developments in the wetland's second year, while Peter Nicholson provides further insights and thoughts on the 'return of the tide' to the fringes of the Tamar.

Bruce Hunt has kindly supplied material on the first HMS Tamar, drawn from his substantial archive of research. I have added some additional material.

Finally, I have indulged myself by presenting some of the rich content in G.P.Hearder's 'Guide to the Tamar' of 1841, with particular emphasis on his observations of the Tamar 'at work'.

Note: I have retained the different approaches to referencing supplied by individual authors.

Finally, after 11 years at the wheel, I would like to hand over to a new editor for Tamar. Please get in touch if you might be a willing volunteer.

Clive Charlton, Editor, *Tamar*

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The disappeared fish-weirs of the Tavy

Sharon Gedye

Where it all started

This story starts with a plan of the manor of ‘Beer Ferris’, surveyed for the lord of the manor, Lord Hobart of Blickling, by James Corbridge, dating to 1737. Shown on the map, below Denham Bridge, after a bend in the river, is an annotation of ‘The Were’ (Fig.1). Also illustrated on the Tithe Map of c.1840, by the 1880s ‘The Were’ had gone, it not being recorded on the first edition OS six inch to the mile map, nor any map afterwards, and was not on the Historic Environment Record, a register of archaeology, built heritage, and history. This weir had been forgotten.

Even though I didn’t expect to find any sign of this old weir, I decided to take a walk along the river in Denham Woods, to see the spot where it once dammed the waters.



Fig. 1. ‘The Were’ on the Tavy, downstream of Denham Bridge. Extract from the Corbridge Map, 1737, Kresen Kernow ME/2424

I found myself on a cobble bar on the inside of a bend of the river, up-stream of which the channel narrowed and was constrained by a rocky outcrop on the western bank. If I hadn't been hunting for a weir, I wouldn't have noticed anything, but there, on the opposite bank, were remnants of a structure which I later discovered was known as 'Drake's Weir'.

Drake's Weir – The Field Evidence

(all photos by Sharon Gedye)



Fig.2a. Stones resting at c. 40-degree angle, Buckland bank.

Looking towards the Buckland bank I could see an inclined plane of stones (Fig. 2a) and what looked like a post slot incised from the rock (Fig.2b). Where I stood, on the Bere side, were two more chiselled-out chunks (Fig. 2c). Finally, I looked down, and there, protruding from the rock beneath my feet was an iron pin (Fig. 2d).



Fig. 2b. Possible stone post slot on the Buckland bank.



Fig. 2c. Possible worked slots on the Bere bank.



Fig. 2d. Iron pin in the rock, Bere bank.

Later, I returned to the Buckland side, enlisting the professional help of friends, to inspect for additional evidence. Here, remnants of the fabric of the weir were multiple, all-be-it tumbled, jumbled, and buried in river silts. Extant were: a former sluice channel (Fig.3a); cuts in rock, presumably part of a sluice mechanism (Fig.3b), one of a pair of opposite post slots at what would have been the sluice outlet (Fig.3c); a stone with metalwork protruding that lay recumbent in the sluice (Fig. 3d); and a wall in the location where a weir-house, shown on the tithe map, would have stood.

My initial findings were shared with the Tavy, Walkham and Plym Fishing Club, who were able to demonstrate their ‘memory’ of the weir, with it named as a location on their fishing beat map as the ‘Old Weir Pool’ and ‘Pool Below Old Weir’



Fig. 3a. Congested weir sluice



Fig. 3b. Cut slots – part of a sluice mechanism.



Figure 3c. One of the pair of post slots at what would have been the sluice outlet.



Fig.3d. Metalwork protruding from a recumbent post lying in the sluice

Francis Drake's Weir – The Documentary Evidence

With the field clues established, what could I find out about the history of this ghost weir? Once I started hunting, I was amazed to find out that Drake's Weir had been frequently painted and written about.

The Building of the Weir in the 16th Century

As a first clue I was helped by Crispin Gill's book on Buckland Abbey which mentions that:

"Drake leased the fishing rights on the Tavy from Denham Bridge to Lopwell, and built a weir that not only improved the fishing but worked a small mill to grind the corn of the estate."

Gill (1968, p55).

This reference appears to have come from a letter from Thomas Drake, brother of Sir Francis, to Charles Blount (Lord Mountjoy), 1st Earl of Devon, written in 1601 (DRO 346M/E/390). It is an appeal to Mountjoy to support Thomas who is having trouble with his neighbour from Buckland manor, William Crymes. Crymes, it seems, is threatening to tear down the fish weir that Francis had built, and to build his own weir up-stream. Given that Drake acquired Buckland Abbey in 1580 and died in 1596, this provides a time window for the building of the Drake Weir.

By the time we get to the eighteenth century, numerous records have survived attesting to its presence ...

The Letters of Sir Francis Henry Drake (1723-1794)

In letters between Francis Henry Drake and his Steward, Nicholas Rowe, the weir, and fishery are mentioned several times in relation to its state of repair, the economics of the weir and illegal activity in the fishery (Scott-Stokes and Lumb, 2019).

On the 19th of February 1743/44 Rowe raises the issue of maintenance and the fact that it currently ‘yields nothing’. He implies that the fishery/weir might be improved because he says that he ‘*doesn’t pretend to advise anything, Least it Shou’d be Thought an Expencive project*’ (p84). In 1752 he writes to Drake about the damages caused by ‘*the greatest & Highest Flood I ever saw*’, saying that despite waters reaching 8ft above the ground, the weir survived (p99). However, his relief is premature as hard rain continued and in the next letter, he refers to a significant breach in the weir and the damage this has caused to the fish stocks.

Observations by William Marshall

In July 1791, William Marshall, the well-known agricultural writer, visited the Buckland estate, and commented of the weir that it was strong and of considerable size; ten to twelve feet high. He describes it buttressed against the rocks and irregularly curved ‘*to resist the pressure and force of the waters, in times of flood*’ (Marshall, 1970/1796, p256).

On one side he describes a ‘weir house’ as a trap, with a large downstream entrance which narrows ‘*to elude or prevent the escape of the animal which has taken it*. On the higher side of the ‘trap’ he says there is a rock-cut sluice which possesses two floodgates, one which can occasionally shut off the water, and the other with a grate that allows water to flow, but which prevents ‘*fish of any considerable size from escaping*’.

Marshall saw the weir at low flow, when ‘*all of the water of the Tavy*’ passed through the weir house, and several days later when it was ‘*tenfold size*’, pouring over the weir in a ‘*dense, broad sheet, smooth and glass*’ producing white and foaming whirlpools below. So high was the water that it cascaded over the sluice on one side, and the native rock of the bank on the other. He thought the scene ‘*picturable*’, especially with the heightened effect of salmon animating proceedings with ‘*fetes of futile agility; — throwing themselves far out of the water, in endeavouring to surmount the cataract*’ (p259).

The Paintings of William Payne

Hunting for further references I discovered that Tavistock historian Gerry Woodcock had discussed a painting by William Payne in his Tavistock's Yesterdays series (2012). The painting is also found in an earlier book 'William Payne: A Plymouth Experience' (Japes, 1992) captioned as 'Sir Francis Drake's Weir at Tavistock c. 1887/8' (Figure 4). Payne painted the weir twice. A second picture, 'Sir Francis Drake's Weir, Tavey c. 1873' is reproduced in Hunt (1986). It is perhaps for the reason of the painting's labelling that Woodcock locates it at Parkwood in Tavistock rather than Buckland, justified on the basis that it was near meadows just east of the town, called 'Drake's Pool'.



Fig. 4. 'Sir Francis Drake's Weir at Tavistock' c 1787/8, owned by Plymouth City Museum and Art Gallery, in Japes (1992).

Initially I was puzzled. Had I got the location of Drake's Weir wrong? The short answer is no. The Buckland Abbey estate did not have land in Tavistock, and Drake's Pool is named after a different Drake. More conclusively, the topography in Payne's painting does not fit the Tavistock site. If looking up-river, the leat for the Parkwood weir was on the left bank whereas the weir house, and therefore the sluice in the Payne picture, is shown on the right.

The Travel Journal of Rev. Swete

Payne was not the only artist to visit the weir. In 1797 Rev. John Swete, a Devon clergyman, travel writer and artist, went to Buckland Abbey and painted the towering weir. He describes departing north from the abbey and finding himself at “*a romantic scene on the Tavy – a Wear for the sole purpose of taking salmon*” (Gray, 1997, p154). He recounts in his diary:

“Emerging from this gloom of Oaks – the foamy waters of the Wear, reflected the dazzling radiance on my eyes ... The river is seen cooped in between rocks and falling over a natural ledge to the height of about 15 feet. The Waters dashed down with impetuous fury, and their roar reverberated from the hills and the wood around – the old Alders (by the side of which trended the road) were in fine contrast with the woods behind – and every part harmonised, in a whole, of charming and romantic beauty”.

Swete, 1797 in Gray (1997), p154

The Reports of the Salmon Fishery Commission

Nearly one hundred years after Marshall, Payne and Swete visited, the weir at Buckland gets, perhaps, its final mention. In evidence taken for the Commissioners Appointed to Inquire into Salmon Fisheries in 1860 (cited in Solomon, 1999), the Duke of Bedford’s steward, Mr Benson, reports that he has knowledge of the historic fishery on the Tavy ‘*at a weir, a little above the tideway at Buckland Abbey*’. He states that it ‘*has been washed down during floods of this present year*’ (p11). The weir does not appear on any ordnance survey maps from the late 19th century onwards and so it is likely it was not repaired, this date marking the end of the Drake Weir’s 300-year history.

The Buckland Abbot's Medieval Fish Weir on the Tavy

Drake's Weir is not the only notable lost fish weir on the Tavy. There was another – known as the Abbot's Weir. This was gifted by Baldwin de Redvers, future Earl of Devon, to Tavistock Abbey in the early 12th century, remaining with Tavistock Abbey until the Cistercian Buckland Abbey was founded in AD 1278 (Finberg, 1969, p159). The new religious house was granted the fishing rights, and so management of the fish weir changed hands. Additionally, the Buckland monks were given entitlement to take timber from the Tavistock bank to repair their weir. Predictably, this led, at an early stage, to a conflict, documented in the Assize Rolls in AD 1280. Here a fight took place between Thomas Gyrebrand, Forester to the Abbot of Tavistock, and Abbot Robert of Buckland and his men at Blackmoorham Wood (p160). The Buckland men had been found cutting down oak for the weir from the Tavistock woodland. Gyrebrand forcibly tried to stop them, but the Buckland men retaliated. Gyrebrand fled, leaving behind his bow, hatchet and tabard, and with an arrow lodged in his right arm. Thanks to this kerfuffle we are blessed with one of the earliest and most vivid appearances of the weir in its documented history.

Confusion on the Whereabouts of the Weir?

Notable local historians Finberg and Gill have both noted the Abbot's Weir but have been unclear on its location. Gill, author of 'Buckland Abbey' (1968) decided, since there being a modern weir at the site, that it must have been near Hatch Mill. This is a reasonable suggestion given the 'Hatch' name, which relates to the salmon hatches used in facilitating salmon spawning. Finberg thought differently. He says:

*'Remains of the Abbot's Weir can still be seen at
a highly picturesque spot a few hundred yards
below the confluence of the Tavy and the
Walkham.'*

Finberg (1969, p160)

This is along the right lines but still vague. Finberg doesn't tell us exactly where, nor what remains he is able to see that allow him to draw this conclusion. Finberg goes on to explain that this weir was '*in full working order at the close of the eighteenth century*', based on the detailed description of the weir by William Marshall. As we have seen, Marshall's description was of the later Drake Weir, so Finberg appears to be conflating the two. However, Finberg was close in identifying the correct location.

Locating the Weir

A records search identified a document naming the 'Abbot's' Weir in a grant dated 1847 (The Box 874/49/22) giving the rights of water, for a period of seven years, to a group of men, to take water '*from the river Tavy, near Abbot's Weir, Buckland Monachorum for working Tavy Consols Mine*'. On the opposite bank to Tavy Cottage, below double waters, is the leat off-take. Now congested with sediment it is dry, but once it carried water to power the mine. This is confirmed by a letter of 10 Sept 1854 from John Benson, Steward to the Duke of Bedford, to George Giles, agent to Sir Massey Lopes. It regards:

'the weir opposite Virtuous Lady Mine, Buckland Monachorum, and the cutting of a leat through the Duke of Bedford's land to feed Tavy Consols Mine, but permission was not given to erect a weir'. The Box, 1854, Ref 874/48/120

The Abbot's Weir – Field Evidence

If Tavy Cottage is the right location, can anything of the ancient structure still be seen? With weeks of dry and hot weather in the early summer of 2023 the waters of the Tavy trickled low. I was therefore able to access the channel below Tavy Cottage where the river constricts at a cliff face. Here I observed three features that I think are relics of the monastic fish weir. None on its own, without the documentary evidence, would be conclusive, but in association they make a strong case.

River Boulders

Unlike other sections of the Tavy below Double Waters, at this spot the channel is dominated by larger boulders which traverse the river in a fairly regimented line. These may or may not be natural, but even if the latter, they might have been used to form the strong core of an early weir. Importantly, on the far bank are stones more diagnostically engineered in place, stacked in a neat row. Perhaps these also relate to the medieval weir or maybe to later engineering to do with the Tavy Consuls works (Figure 6).



Fig. 6 Boulders across the river at the Abbot's Weir site including a line of placed stones. Also labelled is the intake for the Tavy Consuls leat.

The 'Sluice' Stone

With water levels so low, rocks on the riverbed were exposed, revealing a huge stone. This slab measured a prodigious 1.84 m wide and 4.38 m long and roughly 25 cm thick (Figure 7). In terms of position, it lay all but horizontal, and was almost perfectly rectangular. It appears to have

come from the cliff face and there are several reasons for suspecting it did not naturally fall.



Fig.7 Large flat stone in the Tavy riverbed at Tavy Cottage.

The bedding of the rock in the cliff leans back at an angle so that a large slab could not fall forward without help. River erosion at its base would cause the rock to slip, but not pivot and rotate outward. Even if such a fall could occur naturally, a large stone this thin would crack under its own weight on impact. If it had survived a fall without breaking it would come to rest on an uneven surface of river cobbles meaning it would not lie flat. Any cobbles it was resting on would create pressure points which would eventually cause the slab to crack. None of these things has happened. It seems the only way for this monumental rock to be lying so perfectly flat in the river is for it to have been purposefully levered and lowered into place.

Why would such a rock be placed into the river? It is my suggestion that it formed part of the sluice of the former weir. A sluice is an artificial channel designed to transmit water efficiently, typically with a mechanism, like a gate (hatch), that allows the water through it to be controlled. Within a fish weir, as well as controlling water flow, it is also

the part of the weir where salmon and other fish could be trapped, as we have seen described by Marshall in relation to Drake's Weir above. The purpose of the stone, I am hypothesising, was to create a stable and flat base that allowed the efficient passage of water, and on top of which a timber sluice channel, sluice gate and fish 'hatch' could be fitted.

The Road to Nowhere

The final evidence is an old track which leads to the cliff face below Tavy Cottage, i.e., it leads to a dead end by the river. The valley here is full of tracks, most of which are linked to mining. Could this track be mining related? I looked for an adit or other mining works but there was no association.

If this was the site of a fish weir, then it would need to be accessible. Fish weirs required maintenance, fish to be harvested from its traps, and it probably needed guarding against poachers and damage (see Hoffman, 2023). Being able to get to the weir was a necessity and therefore a well-made track makes sense.

'Major early medieval fisheries relied greatly on passive techniques using large fixed installations. More or less permanent structures which blocked and held fishes should be recognized in many of the "fisheries" conveyed as appurtenant to landed property. Barrier fishing called for knowledgeable siting and timing plus sophisticated but simple engineering ... Work and wealth spent on construction, upkeep, and annual operation produced large seasonal yields.'

Hoffman (2023, p123)

Discussion

What is a Fish Weir?

After introducing these historic fish weirs, it would seem useful to consider in more detail what exactly a fish weir is. We are familiar with seeing weirs on our rivers, built with fish-passes to enable fish to migrate up-stream. However, when we call to mind these weirs, the chances are we are thinking of a head weir, not a fish weir. So, what is the difference?

Head weirs are used to dam water, causing it to back up and create a pool, i.e., a ‘head’ of water. This head of water creates pressure, released above a weir via a ‘leat’ or ‘sluice’, to create a flow of water, typically to power a mill. Fish weirs are different. In estuaries fish weirs take a different form and are wood and wicker basket structures, placed to trap fish on the ebb tide (Kilpatrick, 2017). However, in rivers, fish weirs have a different design and operation. They are purposefully built to be very tall to create a barrier which prevents fish swimming upstream, thus controlling where fish can spawn (Hoffman, 2023, p123).

As we have seen from Marshall’s observations of Drake’s Weir, there is lot more to their construction than just being a large barrier to impede fish. Marshall shows us that, certainly by the late 18th C, but possibly a long time before, they had a complex design with sluice mechanisms used to allow some fish to pass, but also in which fish could be captured. In the 18th century, and before, there was concern about the impact weirs were having on fish migration, with requirements, by act of parliament, for owners to *‘keep open one scuttle, or small hatch, of a foot square in the waterway or channel, allowing free passage of salmon from the 11 November to the 31 May every year* (Jackson, 2021, see also Hoffman 2023, p249).

Understanding the Locations of the Tavy Fish Weirs

The locations of these two fish weirs are significant for understanding changing land ownership in the Tavy valley. Before the dissolution of the monasteries, the Buckland Abbot's Weir was sited below Double Waters, where the Walkham and Tavy meet. The weir needed to be below this point to prevent fish swimming up the Tavy into Tavistock Abbey lands. The same was also true when the weir belonged to Tavistock Abbey – it needed to be below Double Waters to stop the fish swimming away up the Walkham. It is no coincidence that in the landscape below the weir are the place names Hatch Mill and Great Hatch Wood – the 'hatch' referring to the hatcheries of the salmon that spawned below the towering monastic weir.

Fish weirs, long an historic source of nuisance and conflict, were almost totally destroyed in the reign of Henry VIII, overseen by Cromwell, and inextricably linked to the dismantling of the monasteries (Moore-Scott, 2009). It is possible that in the 1530s/40s, the Abbot's Weir could have been destroyed, be this permanently or temporarily. After the fall of the monasteries, in the 16th century, with the subdivision of land into private hands, and the buying and trading of newly available fishing rights, this period in the mid-16th C was a time of great flux for riverine fisheries nationally.

Records suggest that in the Tavy, initially the fishing rights were bought by the Earl of Bedford, because, by 1567, these were sold by him to Elys Crymes, who had bought the manor of Buckland (DRO, 1567). This deed included permission to build a weir across the Tavy. However, only one year later, Sir Richard Grenville of Buckland Abbey leased the Tavy fishing to John Fytz, for twenty-one years, '*all his fishing rights in the rivers Tavy and Walkham, appertaining to his estate of Buckland Monachorum*' (The Box, 1568). Perhaps, then, during these years, the original Abbot's Weir was reinstated?

As we have seen above, sometime after Drake took Buckland Abbey in 1580, he built a new fish weir and this is the weir that seems to have been located at a new site, down river from Denham Bridge. Given that Drake accused Crymes of threatening to tear down this weir and build his own further upstream, it is fair to conclude that this new site was chosen out of the necessity of Drake needing his weir down-stream of Crymes' land.

In this small case study of fishery leases on the Tavy, we can therefore see the significant land owners of the 16th Century bargaining and positioning for riparian control. This is therefore an example of what fisheries historian Hoffman (2023, p244) describes as fishing leases becoming a 'market commodity'.

Fishing, and Fishing by 'Unlawful Means'

William Marshall, as well as forensically describing the operation of Drake's Weir, spent time in July 1791, understanding how the estate fishery worked and who fished for trout, salmon, and salmon peel (p259). The fishing season, he described, started towards the end of February, finishing in October to November. In accordance with 18th C law, during the winter, the weir was opened so that the fish may '*go up to spawn*'.

Fishing principally took place using nets for a mile below the weir where the river was broken into rapids and pools, with '*seven or eight*' of these being adapted to the 'seine' or 'draw net'. This, Marshall recounts, was done once or twice a day by four men, aided by horses to carry the net and '*with dogs to convey the end of the rope across the water, where it is too deep or inconvenient to be forded*'. Apparently, it was typical, preferably after a flood, to net up to a dozen salmon, but '*it was said*', in the past, upwards of one hundred were known.

Marshall goes on to discuss the ‘*depredations*’ of poachers and the vulnerability of the fishery because of its proximity to a mining district, ‘*notorious for its pilferers*’. Gangs of men – ten to a dozen – might come to the river at night and take fish using a net. In the day, when the water is ‘*dead and clear*’, they have a different method ‘*using a spear, which they throw with dexterity*’. Marshall even had first-hand experience of poaching. He recalls passing through the meadows which margin the river with the Hine (a farm labourer), when ‘*a party of three or four net poachers were discovered*’ (p261). The poachers fled into the undergrowth, abandoning their valuable net in their hurry to get away.

Conclusions

The main thing I have learnt from this weir research has been an understanding of the differences between fish and head weirs. Whilst we still have many examples of the latter, our landscapes contain few examples of the former. Irrespective of a weir’s purpose, in recent decades there has been growing awareness of their impact on perilously low fish populations. Most weirs have fish passes but also, in recent years, action has been taken to remove and lower existing redundant weirs from our nation’s rivers.

One of the reasons why river fisheries moved from being commercial assets supporting fish weirs, to the territory of angling clubs, it seems to me, was as much to do with the decimation of fish stocks in rivers to commercially unviable levels, as it was to do with the rise of ‘game’ angling as a middle-class leisure pursuit (Locker, 2014). Large fish weirs, always prone to damage and being washed away by raging flood waters, would have become financially pointless to maintain. The end point of the fish weir history is therefore linked to environmental history – a story, not just of over-fishing, but also of pollution from agriculture, urbanisation, population growth and, in the case of the Tavy, in no small part by mine waste.

I found it remarkable, in researching the Drake Weir, just how much attention this ‘picturable’ place received by writers and painters of the past. They have provided an invaluable record of this formidable structure, bringing alive its physical and audible presence, with its roaring reverberation through the valley. Also astonishing for me was how the ancient Abbot’s Weir site is partially preserved given how disfiguring and devastating flooding and mining will have been to the archaeology. This monastic weir was made redundant as a fish weir because of the erection of the Drake Weir downstream, yet over 400 years after it was superseded, traces still exist. Furthermore, at a place where every hump and bump are interpreted as exclusively mining related, it demonstrates that there are ‘other histories’ here to be discovered.

Although this research has helped shed light on the management and operation of fish weirs and their associated fisheries, how these functioned in the valley is still opaque. For example, the ‘hatch’ place names of the Tavy (also found on other rivers such as the nearby Tamar), tell us that these were key to the wider working of the fishery. What did these ‘hatches’ look like? Were they passive hatcheries; merely pools in the river where the fish were forced to spawn? Alternatively, were they actively managed, perhaps with spawning habitats such as artificial pools engineered? Did the hatcheries involve the building of hatchery structures such as cages? We don’t know the answer to any of these questions.

Finally, record offices searches, undertaken because of this weir-quest, have demonstrated that there is a rich documented fishery history of the Tavy to explore, involving stories of landowner power and poaching, and fish related economics and enmity. A start has been made in examining these and I am looking forward to the further tales they will tell

Acknowledgements

I would like to sincerely thank the following people for their help in unearthing this fishy tale: Clive Charlton initially showed me the Corbridge map that started this odyssey, and, as the discovery unfolded, put me on to the Letters of Sir Francis Henry Drake (1723-1794); Dr Chris Smart, an archaeologist with the University of Exeter, came on several field visits to both weirs, helping to validate my initial field observations. As an amateur, I have been extremely grateful for his time and expertise in discussing and challenging my field and desk-based research; Prof David Dance, shared my fishery story with the local angling community and assisted with exploration and access to the Drake's Weir site; and to Andrew Thompson, a heritage expert, visited the Abbot's Weir site with me, helping me to develop my interpretation, spending time listening and questioning my ideas. Inspired by the resources of the Tavy valley, we weir-dos are collectively continuing to research the documents and stories of this fascinating stretch of river.

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Death (or near death) on the Tamar

Maggie Watkinson

There have been many deaths and near misses, involving riverine incidents on the River Tamar; this article briefly describes some of those which occurred between 1800 and 1950 in the location of Cargreen. Newspaper reports are the original sources but almost undoubtedly there were others which never ‘made the news’.

The first reported incident found occurred on 24th October 1805. Three men and six women, presumably passengers, drowned when a large market boat sailed down the river, with her sheets belayed; the sails reportedly gibbed (*sic*) and the boat was ‘upset’¹. Another paper reported the vessel’s three boatmen were saved by a passing boat and that one of the young women was to be married the morning after the incident happened².

There must have been accidents in the nearly three decades after that, but the next report found occurred in 1833, when there were two fatal incidents on the same day. Two farmers’ apprentices were sailing a boat near Hole’s Hole when it overturned and one lad drowned. The other, with difficulty, made it to shore. Within the same hour an unnamed bargeman, who had a wife and four children, in the employ of Messrs Gill and Rundle of Morwellham fell between two barges at Cargreen and was killed when they swung together, just as his colleagues were trying to lift him out of the water³. A couple of months later a pilot, called Blatchford, returning to Cargreen from Devonport drowned after the boat he was in was upset by a sudden gust of wind; another man was saved although at the time of the report was still dangerously ill from having been immersed in the water for a very long time⁴.



Fig.1 *Cargreen from the Tamar* (Maggie Watkinson)

The next incident reported occurred in October 1850⁵; a barge had her sails shredded by a sudden gust of wind when she was just off Cargreen. Half an hour later another barge, also heading upriver, experienced the same phenomenon in the same place, but the wind also carried her mast and rigging overboard. There were no reported injuries or fatalities, however. A decade later Thomas Sheldrick from Saltash fell from his barge above Cargreen and, although rescued, died shortly thereafter⁶.

In 1871 a seaman from HMS *Cambridge*, the gunnery training ship at Devonport, was drowned despite being a good swimmer, on a return trip from Cargreen. He had been with a pleasure party, consisting of four men, four women and two children, all of whom were thrown into the water after the boat's sail was struck by a sudden squall and she was upset. All apart from the seaman were rescued alive⁷. Another paper reported the party had landed at

Cargreen and having refreshed themselves left at about 8 pm. The boat capsized about half a mile downriver following the easterly squall, but a person who had been observing the party because he deemed them to not be sober immediately summoned help. Despite the quick rescue, one of the children sadly died the following day. The seaman's body had not been found by then but he was named as George Davey⁸.

The fog was so bad near Cargreen in March 1880 that two steamers, *Empress* and *Eleanor*, were close to colliding. Some of the excursionists threw themselves overboard, apparently hoping to wade to land; it wasn't reported whether they succeeded! The steamers eventually arrived safely at North Corner at 3 o'clock in the morning⁹. On 17th April 1882 a licenced waterman who lived in Cargreen, reportedly called Matthew Spry (actually Matthias) was drowned whilst on a journey from Saltash to 'Butt's Head' to collect a passenger. He was found drowned and it was supposed he had been taking down his sail due to a severe squall but failed to do this in time to prevent the boat from capsizing. When found, the sail was tightly wrapped around Matthias' neck^{10,11}. He was buried in Landulph.



Fig.2 Gravestone of Matthias Spry, Landulph churchyard (Maggie Watkinson)

A couple of years later, in the spring of 1884 there was another steamer incident when *Empress* collided with a barge just after she'd left the quay at Cargreen. The bowsprit of the barge damaged railings on the steamer, which was heading to market at Devonport, and swept a 'large amount' of produce off the deck including three pigs, which unfortunately were lost (pigs swim quite well, so it isn't clear whether they drowned or made it to shore and were 'lost' in the countryside). A woman was knocked overboard but rescued, despite being between the steamer and the barge, and safely made it home later in the day¹².

Another event involving a sudden squall at Cargreen occurred in September 1893¹³. A boat from Saltash, with five men in it, capsized and foundered. 30-year-old William Pean was drowned; the survivors clung to the mast. Apparently, none of the young men knew anything about boat management. The *Royal Cornwall Gazette* also reported the incident on 14th September 1893, giving the names of the men involved, all of whom lived at Saltash.



Fig.3 *The Tamar, looking north from Cargreen – prone to sudden squalls* (Maggie Watkinson)

On 4th July 1903 two men from the Royal Marine Light Infantry, Private W Field and Private D Heron, both of HMS *Forth*, were rowing from Cargreen, where they had spent the afternoon, back to Saltash (they were reportedly sober). At Neal Point the man in the stern of the skiff, Private Field, stood up, apparently with the intention of changing places with Private Heron, who was rowing, and fell overboard. Private Heron tried to find his friend without success and returned to Saltash. The witness at the inquest into the tragedy, a bargeman from Saltash who had observed the incident, thought the man overboard had gone for a swim. Had he realised otherwise he too would have gone to the spot to search for the man. Private Field's body was found in the River Tavy days later. At the inquest the Coroner stated it was a foolish practice to change places in the type of boat the marines were using¹⁴!

In August 1908 a boating party had what the newspaper report describes as a “very exciting adventure”! Five members of the Johnson family were in the middle of the river just off Cargreen when a sudden squall capsized the boat. All could swim but one of the women was putting on her macintosh at the time and got tangled in it when in the water. She was saved by her siblings, but they realised they could not swim to either shore because of the distance and the outgoing tide, so built a ‘raft’ of oars and a wooden board and thereby kept afloat. Rescue came about an hour later in the form of the Plymouth barge *Majestic*¹⁵.

The next report of a Tamar-related incident near Cargreen occurred in 1946. Five young naval men took a dinghy out at 10 pm. The boat capsized while changing oarsmen and they were all tipped into the river. A young lad called Malcolm Searle spotted them in the water and informed his mother they were having a

bathe. She, correctly suspecting otherwise, contacted the landlord of the Royal Oak Hotel (which later became the Crooked Spaniards Inn) who contacted Messrs R and H Hoskin; they got their boat out and rescued the men, two of whom were weak swimmers and had been in danger of drowning. The boat had not sunk and was also retrieved later¹⁶. In the following year, 1947, airman Arthur George Ealden, aged 19 and a member of the Air Force personnel based on vessels lying off Cargreen, disappeared after having gone for swim at 11.30 in the morning. He was not seen again and at the time of the report dredging had not resulted in his body being found¹⁷.

The last report found involves more naval men. In the spring of 1950 two petty officers, who never gave their names, were in a naval sailing craft which capsized near Neal Point, close to Cargreen. The strong spring tide was moving them upriver and they were spotted by a resident of Cargreen, who called for help. Three local men got on a salmon fishing boat and pursued the craft, eventually managing to pull it ashore near Salter Mill. One seaman was exhausted and had to be put ashore to rest but the other helped to retrieve the naval vessel. Both naval men were apparently more afraid of the prospective wrath of their superior officers due to their poor seamanship than the risk of drowning; they were given tea at Cargreen but refused dry clothes and were last seen rowing the boat back down to Torpoint, where they said they were stationed¹⁸.

These newspaper reports raise a possibly interesting issue. The number of incidents involving sudden squalls or gusts of wind in the vicinity of Cargreen is striking. Perhaps there was and is something in the surrounding topography which caused an

increased likelihood of this occurring, and it may be fascinating to compare the causes of riverine accidents near Cargreen with other locales on the Tamar. However, perhaps those who sail in the area regularly are already aware of this phenomenon!

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Calstock Wetland Birds - the Second Year

Jan Simpson

November 2023 saw the second anniversary of the opening of the wooden footbridge that crosses the breached flood defense wall that runs alongside the River Tamar at Calstock, under which the water flows to fill and empty the wetlands twice daily, helping to protect the village from flooding caused by rising sea levels.

During the first year of the intertidal wetlands, as the freshwater habitat was adapting to the repeated influx of brackish water, numerous bird species were recorded, and by Spring 2023, the inevitable changes in both fauna and flora were being noticed.

The tall reeds were now colonising the once grassy ditches along the side of the path, where wrens, bluetits, reed and sedge warblers, stonechats and reed buntings hunt for small invertebrates. Further along towards the sewage works, the Cetti's warblers were frequently heard but rarely seen as they hopped through the dense reed-beds.



Fig.1 Reed warbler singing in the reeds

The ground that last year was carpeted in buttercups, had succumbed to the changing conditions and lay bare for much of the summer, becoming an algae covered mudflat, enjoyed by the surface feeders. Tall plants that once hid the stealthy grey herons and little egrets were no longer there, and the ponds had become shallower as they began to silt up.



Fig.2 Areas covered in buttercups last year became large bare expanses of mud, before more salt tolerant plants re-colonise.

Diving birds, such as the little grebes, seen every month bar July last year, were noticeable by their absence, despite the channels still holding a large number of fish and invertebrates. There was a brief sighting of a little grebe in September.

Visiting cormorant numbers are well down on last year, and the number of herons and little egrets visiting in the summer months also declined, only to rise again in December 2023 when eleven birds were seen roosting in the trees on the Devon bank.



Fig.3 *Little egret fishing in the wetland*

In August, three cattle egrets, two adults and a juvenile bird, dropped into the wetlands for a couple of hours. These birds are more usually, although not exclusively, seen in fields, walking amongst cattle and large livestock, where they feed on a wide range of prey, particularly insects, such as grasshoppers, crickets and flies that are disturbed by the animal's hooves, and removing ticks and flies, benefiting both the egret and the cattle, as well as consuming small vertebrate prey such as frogs. The number of cattle egrets reported locally is rapidly increasing year on year.

A young avocet visited the wetland in January 2023. They can be seen in larger numbers on the estuaries nearer the mouth of the river, but this was a first for Calstock. It remained for a few days before moving on.



Fig.4 *A young avocet visited the wetland*

A not-so-common, ‘common gull’ was also identified on the mudflats, resting amongst the herring gulls and the black-backed gulls.

The resident pair of mute swans bred successfully in May 2022, and managed to get five of their six cygnets almost to adulthood, when, in October 2022 the dreaded avian flu struck. Sadly, four of the young swans died within a few days of each other. The health of the remaining cygnet and its parents caused some concern for a few days, but they survived, and the young swan successfully fledged in February 2023, undoubtedly evicted when the adult pair were ready to mate again. The young swan set off into the world to fend for itself, where it will hopefully find a mate and a new territory and start its own family within the next two or three years. The parents held on to their territory on and around the wetland, defending it from intruders, and went on to rear another brood in June of this year; two of the four young cygnets survived to near adulthood and are doing very well.

Summer 2023 saw a record number of both green and common sandpipers, with common sandpipers reaching well into double figures, with numbers peaking in September.

In spring, a little ringed plover paid a brief visit, and towards the end of summer, as the small waders were beginning to move about the country, a few dunlin began to arrive. A small number of ringed plovers were seen in July and August, totalling eight in September. They were often seen foraging on the mudflats, along with common sandpipers and some of the other small early autumn visitors. Four or five redshank would occasionally visit the wetlands, but rarely stayed for long.

In September, strong winds from the west brought in the pectoral sandpiper, a migratory wader that had possibly been blown off-course on its migration to its wintering grounds in South America. Last year too, a pectoral sandpiper spent a few days here on the wetlands before moving on. A little stint and an adult and a juvenile curlew sandpiper arrived, spotted by a sharp eye and a powerful 'scope. A small number of elegant black-tailed godwits made several brief forays to Calstock in May and again in August.

Snipe counts reached 50+ in winter 2022/3 (their excellent crypto-coloured camouflage makes them difficult to count more accurately), only to drop off as the birds returned to their southern lowland breeding grounds during the summer months. A lone jack snipe made cameo appearances in February and again in October. Sightings of the snipe rose rapidly again to 60+ in August as the skulking little long-billed waders returned to the mudflats.

Mallard and teal numbers remained high this year, and in December, the 450+ common (European) teal were joined by a vagrant (American) green winged teal, which stayed around for a while.

A small flock of wigeon arrived in October and visited regularly over the next few months. The mallards bred well and several processions of mallard ducklings were seen throughout the spring and summer months. Unfortunately, they have a high mortality rate, living cheek by jowl with their carnivorous predators, who themselves would have had young mouths to feed at that time of year.



Fig.5 *Female mallard with her large brood of ducklings*

The strong tidal river resulted in many young ducklings being separated from their mothers, or often an over-attentive bachelor mallard would drive the females away from their young, or worse still, kill the young, or along with other frenzied males, would drown the female in an attempt to mate with her, leaving the vulnerable ducklings to fend for themselves. Nature is cruel, but it compensates well for this high mortality by producing large duckling broods. Without the predators and natural dangers facing the young chicks, we would be overrun with ducks!

The more secretive teal bred away from the wetlands, and only returned towards the end of the breeding season, in August. They

were joined in September by a female garganey (a small dabbling duck, slightly larger than a teal), on her winter migration to central Africa. She stayed for a while whilst her new feathers were growing, following the annual moult.



Fig.6 *Male teal in his breeding plumage*

During the summer and autumn months the air was filled with 100+ breeding pied- and white wagtails, and ten grey wagtails, flitting here and there. They were often seen roosting together in the small trees or in the dense reed beds, with safety in numbers.

Summer visiting swallows and house martins flew high and low over the water, feasting on the thick clouds of small black flies, frequently joined by the high-flying swifts. Likewise, the sand martins fed here on their migratory passage to and from their breeding grounds. When most hirundines (swallows, swifts and martins) had long gone to overwinter in Africa, a single swallow was seen regularly until early November, flying close to the sewage works.

Moorhen numbers were up on last year, and several, normally elusive water rails were seen daily in March, out in the open, feeding in the mud in the ditches by the footpath. A rare spotted crake proved even more elusive. It was seen, just once in September 2023, as the water rails began to return.



Fig.7 *One of several water rails seen regularly on the wetland*

In contrast to the two or three pairs of shelducks we saw last year, their numbers rose very sharply during the breeding season, peaking at 30 individuals in May 2023, then suddenly dropping off very soon afterwards. Many of the birds arriving were males, leaving the females to rear their young on the larger tidal estuarine mudflats further down river.

The electric blue flash of the kingfisher was frequently seen as it moved between the wetlands and the river, often perching on a post near to the bridge, providing a good vantage point, from where it could feed on the large swirling shoals of grey mullet fry that remained in pools as the tidal water receded. A breeding pair

briefly shared the territory, which is now held by a very territorial young female.



Fig.8 *Male and female shelduck*

The mallard ducklings were seen chasing the small fish, causing the water to ‘boil’ as the frenzied fry would leap clear of the water as they made their escape. Much larger fish would wait at the breach under the bridge, until the incoming water lapped over the stony sill, and they could enter the deep-water channels within the wetlands. Fish species identified within the River Tamar and the wetlands include salmon, sea trout, bass, mullet, carp and flounder, as well as goby, smelt and further up river, the allis shad, to name but a few. Eels and lamprey also provide food for the larger carnivorous birds and mammals that make our waters their home. Molluscs and crustaceans also make up a lot of the diet of the local wildlife.

Black-headed gulls, and herring gulls arrived in their hundreds, along with smaller numbers of lesser and greater black-backed gulls. Canada geese continued to use the wetlands, with numbers exceeding 300 on one count, small groups often choosing to spend

the night on the wetlands, but more frequently arriving in the morning and leaving again later to spend the night in relative safety, on a large body of water further down river.

The kestrels from last year disappeared after the female was seen with an injured eye, rendering her unable to hunt. A sparrowhawk was seen regularly, flying low over the water, and sending all the birds up as it looked for a meal. Towards the beginning of the year, a peregrine falcon was often seen hunting over the wetland. It would fly to the viaduct or to the top of the chimney stack at Rumleigh, where it would disembowel and devour its unfortunate prey.

Calstock wetland is still transitioning from fresh water to an intertidal habitat, and its physical environment and hence its ecology, will continue to evolve and adapt, and new fauna and flora will become established. Now that much of the non-salt-tolerant plants have died back, the reeds are becoming more prolific within the wetland, and are now occupying more of the ditches by the footpath. It is not inconceivable that the mudflats could become dense reed-beds within the next decade, providing the much-needed cover for the wildlife, and the species count will continue to rise.



Fig.9
*The reeds by
the footpath
have become
more dense.*

Calstock wetland, along with the small intertidal wetland habitat created at Cotehele, and the marsh created by the breaching of the 150-year-old levee at South Hooe in September 2023 (just a few miles downriver on the Bere Peninsula), have created a magnificent wildlife corridor, and we are already seeing a vast number of new species moving about the river as these sites develop.

Great white egrets have yet to be recorded at Calstock, but perhaps it is just a matter of time, after these elegant heron-sized egrets were very recently seen at South Hooe. There have been marsh harrier sightings at South Hooe, both last year and earlier this year, prior to the breaching of the levy, and having bred in North Cornwall for the first time this year, it is only a matter of time before these magnificent birds of prey become a regular sighting in this part of the Tamar Valley.

Ospreys have now successfully reared their young in southern England, in Poole in Dorset. Birds from further north pass over the wetlands on their long migratory journeys, and with the Tamar being well stocked with large fish, including their favourite, grey mullet, we could well see more of these birds in the coming years.

The white-tailed eagle is another bird to keep a look out for, as they too bred in the south of England this year, for the first time in over 240 years, and it is known that young birds make frequent long journeys around the country. Recently reintroduced birds have been tagged and shown to have passed close by. Red kites have also been doing well and their numbers are continuing to rise in the South West.

These are exciting times for the wildlife in the Valley, although it is important to note that the arrival of new species is not always a good sign. In some instances, the movement of a species could be an indicator that things are not well in their existing habitats,

whether that is due to habitat destruction, pollution, climate change such as global warming, or other factors.

Healthy wetlands can themselves be part of a solution to climate change, acting as vast ‘carbon sinks’, drawing down carbon and sequestering it, preventing it from escaping into the atmosphere. Invasive non-native species can reduce native biodiversity by spreading disease or outcompeting our native species for food or space. It is all about getting the balance right.

Calstock wetland is benefiting the environment, helping to improve our mental and physical health, creating new homes for wildlife and acting as resting and refueling stations for migrating birds, as well as serving the purpose for which it was originally intended, helping to protect the village from the future rising sea levels. As these dynamic habitats continue to evolve, we watch and wait with bated breath to see what will turn up next.



Fig.10 *Calstock wetlands: dense reeds growing both sides of the ditch*

Return of the Tide

Peter Nicholson

The River Tamar forms the boundary between Cornwall and Devon, rising on Woolley Moor, only 4 miles from Bude and the Atlantic Ocean. From here it starts its downhill journey south, flowing for 61 miles to the English Channel. Its major tributaries include the Deer, Claw, Carey, Ottery, Kensey, Wolf, Lyd, Thrushel and Tavy - draining a catchment of some 700 square miles. The Tamar is one of the biggest rivers in the South West with an average annual runoff of 22.5 m³/sec freshwater discharged annually, as measured at Gunnislake gauging station. It reaches its artificial tidal limit at Gunnislake Weir, a structure built by the Abbots of Tavistock as a fish weir.

For the last 14.5 miles of its route to the Sound the Tamar becomes a tidal estuary, its meandering course flowing within a mixture of steep valley sides and lowland grazing marshes. Most of these grazing marshes, where spring tides and fluvial floods would naturally spread high water from the main channel to cover the whole valley floor, became protected from flooding by the building of artificial flood banks during the period between the mid-18th and 19th centuries. These largely earth banks restricted waters to the main channel and mudflats exposed at low tide, enabling more intensive agricultural or mining activities to replace the marshes and wet woodland that covered these former ephemeral wetland habitats.

However, the world is always changing and now our increasing awareness of the deterioration of the quality of our natural world and the recognition of the consequences of global warming requires a reconsideration of the future management of many coastal habitats and social communities. Climate change is reflected in a long-term shift in temperatures and weather patterns. Since the 1800s, the earth is about 1.1°C warmer. Human activities

have been the main driver of recent climate change, primarily due to the burning of fossil fuels. 'Greenhouse gas' concentrations are at their highest levels in 2 million years and they continue to rise. Globally, this has implications through the melting of ice sheets and the warming of seas both combining to cause an increase in total volume of our oceans and the frequency of severe weather events.

Locally in the Tamar this is also important. The Newlyn Tidal Gauge indicates a steady relative rise in sea level in the South-West. This was circa 1.3mm/yr from 1901-1971 and has increased to 1.9mm/yr 1971-2006 with a further increase of 3.7mm/yr 2006-2018. Climate change projections all indicate a non-linear increase in sea-level rise, so it is simply a matter of time before our current man-made landscape in the Tamar Valley will be influenced by these changes. Inundation of the historic flood defences will at some point in the near future occur; the question is whether this should be managed in order to create a habitat that compensates for the loss of tidal estuary ecosystems, or whether public money should continue to be used in the maintenance or reinforcement of defences to protect marginally productive or derelict agricultural land.

The Tamar Estuary is a Special Area of Conservation (SAC) designated under the EU Habitats Directive and part of the estuary is also a Special Protection Area (SPA), designated under the European Union (EU) Birds Directive. Maintaining and improving existing flood defences would result in the loss of inter-tidal habitats as a result of rising sea levels drowning out those present on the seaward side of the defences. It is therefore a statutory requirement for the Environment Agency to create new habitat to compensate for any loss.

Over the last decade or so a number of projects have developed along the upper estuary between Weir Quay and Gunnislake Weir

where historically defences to the tidal washlands have taken place. Here, a managed retreat and habitat creation approach was considered to provide a responsible method of managing the land for future generations. These initiatives, sponsored by Natural England and the Environment Agency, have encouraged or supported landowners in enabling the return of tidal flooding and/or the restricting the outfalls of natural land drainage to re-create wetlands along the banks of the Tamar.

Initially, a scheme at Hayemmarsh on the Cornish side below Cotehele, on land owned by the National Trust, was met with local concerns fearing the loss of the traditional valley landscape. In this case, a compromise scheme creating a seasonal freshwater wet pasture was finally supported and has shown to have major benefits for local wildlife and is now generally appreciated by both local residents and visitors.



Fig.1 *Hayemmarsh* (Peter Nicholson)

Similar schemes were developed at Higher Ferry Farm and Whimble. In more recent years grander schemes of major breaching of the tidal banks at Cotehele Wood, Calstock and most recently South Hooe have produced significant changes to the local landscape creating new areas of intertidal habitat.



Fig.2 *Cotehele Wood - tidal retreat* (Peter Nicholson)

In addition to the managed breaches and wetland creation, recent failures of the old, now often unmanaged, tidal barriers at Horsham on the Tavy and Harewood on the Tamar have also added to the extension of tidal habitats on the Tamar Complex. Over the last decade some 50 hectares of land have reverted to tidal washlands.

Although it is still early days for assessing the positive and negative benefits to wider landscape and ecology of the Tamar Valley, there are some initial indications. The scheme at Hayemmarsh has recently been assessed against its aims to increase its attractiveness to wading birds and wildfowl. This discovered a

three-fold increase in the number of species now recorded for the site. Birds of note included Little and Cattle Egrets, Egyptian and Canada Geese, Water Rail, Moorhen and Teal. The overall bird species presence is regularly higher than prior to the raising of water levels at the site. Otters have also been watched hunting the wetland areas for eels and other food; whilst extensive cattle grazing of the marsh still persists.



Fig 3. *Calstock wetlands at low tide* (Peter Nicholson)

The tidal retreat at Calstock is more publicly accessible and also has in place a more extensive monitoring programme that is being developed by the Tamar Community Trust, who now lease the site from the Environment Agency. Earlier local concerns have changed to general appreciation of the value of the developing wetland and it is drawing people from elsewhere, as the wetland becomes the focal point for visiting bird watching parties. Over the last two years the area has been transformed from close grazed sheep pasture to a changeable landscape of glistening mud or open water as the tides ebb and flow. Reeds and rushes are beginning to colonise from the relic stands within the old ditches and new

aquatic plants are appearing within the now unmanaged ditches and tidal pools, The former pasture land is now lost under a deep coating of glutinous mud. The overall land level rises as more sediment is deposited, filling the channels and depressions to create inter-tidal pools and provide material for the set-back flood defences.



Fig.4 *Calstock wetlands at high tide* (Peter Nicholson)

Wildlife monitoring since the breach has shown the site to be now well used by a wide variety of gulls, waders and ducks and geese. Otter tracks are to be seen in the muddy margins, while cucumber smelt, flounder and mullet are recorded during high water periods.

Botanical surveys have recorded over a hundred species of higher plants within the banks and ditches and wetland margins. But it is early days in the project's development and the stated intention is a non-interventionist approach allowing the system to develop without interference. It is therefore probable that reeds will entirely enclose the wetter areas as sediment builds up, clothing

the build-up of mud into a solid stand of common reed, with willow scrub colonising the boundary banks and steadily encroaching on to the reedbed as the sediment and leaf litter accumulate.

It will be fascinating to watch the changes over time and its impact on the wildlife as these historic washlands revert to a more natural habitat within the upper Tamar estuary catchment.

Given the changing climate with higher sea levels, increasing and more extreme weather events, landscape change will inevitably come to the valley. The measures currently being taken appear a sensible way of managing such change, by providing adequate flood defences whilst also generating new wetland habitats for creatures excluded in recent history. There are lessons to be learnt in the design approach in order to minimise negative impacts during construction and the establishment phase, while maximising nature conservation gain, enhancing fish nursery areas, and also sensitively supporting the local economy. I suspect also that a completely hands-off approach to site management will be difficult to justify in the long-term, but we will see.

From Saltash to Scilly – via the Falklands: the first HMS *Tamar*

Bruce Hunt and Clive Charlton

There have been five Royal Navy vessels and a shore base (at Hong Kong) named ‘HMS *Tamar*’. The most recent to bear the name is a modern ‘River’ class Offshore Patrol Vessel, which is on long-term deployment to Australia and the Pacific region at the time of writing. However, this article outlines the career of just the first Royal Navy vessel to bear the name ‘Tamar’. This ship was launched on January 23rd, 1758, most appropriately into her namesake river, from the shipyard of John Snook at Saltash. She had been ordered on March 8th, 1757, by Sir Frederick Rogers, Commissioner of Plymouth Dockyard¹. Although the majority of Plymouth-built naval vessels of the sailing era were constructed in the Dockyard itself, the order with the Snook yard was one of the contracts devolved to local private suppliers – a practice that helped spread the economic benefits of the naval presence at Plymouth, which had become so significant during the 18th century.

HMS *Tamar* was a 16-gun ‘sloop of war’ of the *Favourite* class, of 313 tons, and 96 feet 4 inches long at the level of her gun deck, with a beam of 27 feet 4 inches. The ship was in fact the second of two orders for sloops placed with John Snook for the Admiralty².

¹ Burns, K.V. 1972. *Plymouth’s Ships of War*. National Maritime Museum, Maritime Monographs and Reports No.4, London.

² Hunt, B. n.d. *Warships called Tamar*. Saltash History and Heritage, <https://saltash.org/saltash-history/warships-called-tamar.html>, accessed December 2, 2023.

The first was HMS *Alderney* (spelt ‘Aldernay’ on drawings), of 235 tons and 88ft 4ins in length. This vessel had been ordered in late 1755, but was not launched until February 5th, 1757, at least six months later than intended. Although *Tamar* was completed close to the intended date, Snook evidently proved an unreliable contractor and was paid off by the Admiralty³. The job was handed over to a Mr. Chitty, although after her launch, the ship was fitted out at the nearby naval dockyard.

HMS *Tamar*’s early career included the capture of three French privateers and a voyage to Newfoundland. Then, six years after coming into service, *Tamar* embarked on a pioneering lengthy expedition in support of British imperial ambitions. Commanded by Patrick Mouat, she accompanied Captain John Byron, in HMS *Dolphin*, on a circumnavigation of the globe, sailing from Deptford on 21 June 1764. A highlight of the voyage was Capt. Byron’s taking possession of (and naming) the uninhabited Falkland Islands in the name of George III, in January 1765. The two ships then navigated the Straits of Magellan and crossed the Pacific for a ‘rest stop’ in the Mariana Islands. They then called at Batavia in the Dutch East Indies before setting off for home via the Cape of Good Hope. HMS *Dolphin* arrived in The Downs in early May 1766, having completed a relatively fast circumnavigation, given the numerous stops made by the expedition. However, *Tamar* had to divert to the naval dockyard at Antigua to fit a replacement rudder.⁴

³ *ibid*

⁴ Phillips, M. 2007. *Tamar*. Michael Phillips’ Ships of the Royal Navy, <http://www.ageofnelson.org/MichaelPhillips/info.php?ref=2181> accessed December 4, 2023

HMS *Tamar* had evidently been well-suited to undertaking long-distance expeditions, for having been refitted at Deptford Dockyard, she was sent out again the next year to confirm Britain's claim to sovereignty over the Falkland Islands, under the command of Capt. Anthony Hunt, accompanied by HMS *Favourite* and HMS *Swift*.

A document held in the National Library of Australia offers a curious and fascinating glimpse of a minor issue that arose at the time of HMS *Tamar*'s departure – and also provides evidence that Hunt's expedition called in at Plymouth before setting off on its long voyage south. The item is a letter sent to Sir Philip Stephens, Secretary of the Admiralty,⁵ asking him to pass a message to 'the Lords Commissioners of the Admiralty' in London, concerning an order for "His Majesty's Frigate the *Tamar* to be furnished with an extraordinary supply of Portable Soup to be issued to the well men of the company as occasions required"⁶. To ensure there would be enough of this dietary supplement for the voyage, additional stock had been requested from Haslar (at Portsmouth), "there not being sufficient in store at Plymouth". Unfortunately, the extra 'portable soup' had not arrived in time ("owing we imagine to the late bad

⁵ National Library of Australia. *Portable Soup for HMS Tamar*, letter dated November 25th, 1767, in Trove – Australia's free online research portal. <https://nla.gov.au/nla.obj-732115243/view> Accessed December 4, 2023.

⁶ Portable soup was an "...early form of stock tablet made from bones and scraps of meat from cattle killed for making salt beef for the eighteenth-century navy. These were boiled down to a glue-like substance that could be dried and packed in the form shown, then dissolved in hot water when required." See Royal Museums Greenwich www.rmg.co.uk/collections/objects/rmgc-object-6061 Accessed December 4, 2023.

weather”), so “our Officers at Plymouth were unable to supply the full proportion ordered”, despite using up “the whole that was in stock”.

Despite this shortfall in portable soup, *Tamar* and her companions spent over two years around the Falkland Islands. During this time, Capt. Hunt engaged in some tense correspondence with Spanish naval officers who were also present around the islands and who also claimed sovereignty. There was something of a ‘stand-off’ in February 1770, when two Spanish Navy frigates with troops on board arrived at the newly founded British settlement called ‘Port Egmont’. Capt. Hunt sent a stern message to the Spanish commander:

*“I am to acquaint you that these islands belong to his Britannic Majesty, by right of discovery, and that it is with his most gracious pleasure that I am here to protect them to the utmost of my power, I do exhort you, and all under your command, to evacuate them.”*⁷

In the event, both the Spanish and British forces departed; HMS *Tamar* arrived home in June 1770.

Between 1774 and 1777, *Tamar* operated on the ‘North America station’, from South Carolina. On return to Britain, she was converted into a fire-ship⁸ at Deptford in 1777, and renamed HMS *Pluto*. Commanded by James Bradbury, she saw action against the

⁷ *ibid*

⁸ In this case, “a fire ship was a ship with a crew that were trained and armed to use their guns with the specific intention of killing and maiming the crew of an enemy ship, as opposed to the usual aim of disabling a ship”, Hunt, B. n.d. *Warships called Tamar*. Saltash History and Heritage, <https://saltash.org/saltash-history/warships-called-tamar.html>, accessed December 2, 2023

French off Ushant on 27 July 1778 as part of the British fleet under Admiral Keppel. However, her career came to an ignominious end, when she was captured off the Isles of Scilly by the French ship *Le Duc de Chartres* on November 30, 1780. Her final fate is unknown.

Office 8th the 25th Novem^r 1780

Sir,
Hon^{ble} Mr. Stephens
Esq.

We desire You will please to acquaint the
R^{ts} Hon^{ble} the Lords Commissioners of the Admiralty,
that in obedience to their Order signified to us by Your
Letter of the 8th last Month^{ly}, for this Majesty's Brigate
the Tamar to be furnished on her arrival at Plymouth
with an extraordinary supply of Portable Soup to be
issued to the well Men of Her Company on occasion
required, and for that purpose caused a quantity to be
sent from Bristol, there not being sufficient in store
at Plymouth, but have learnt by this Day's Post,
that it did not arrive there till the 26th Instant,
owing to imagine to the late bad Weather, by which,
Our Officers at Plymouth, were unable to supply
Her with the full proportion we had ordered, but
she was supplied with 372^{to}, being the whole which
was in Store there. We are

Sir,
Yours most humble Servant
J. M.

‘Portable Soup for HMS Tamar’. Source: Trove, National Library of Australia <https://nla.gov.au/nla.obj-732115243/view>

**Three men in a boat on the Tamar: the picturesque,
the sublime and the world of work in Hearder's
‘Guide to the River Tamar’**

Clive Charlton

The end of the Napoleonic Wars ushered in a rapid expansion of British travel and exploration, both abroad and at home. Influences apparent in the 18th century accelerated, including rising incomes, easier road travel, and the wider availability of accommodation for travellers. Cheaper publishing and printing accelerated the fashion for travellers to record and publish their adventures. Such literature was intended to enthuse and educate the expanding literate middle classes, as well as elites (although most of the population were still excluded).

With the industrial revolution in full flow, descriptions of travel and exploration often offered a counter to the rational world of the modern economy, through emphasis on the ‘picturesque’, the ‘sublime’ and the ‘antiquarian’. In conjunction with painting, landscapes were described in vivid and often florid prose to celebrate the delights of ‘Nature’ and pastoral scenes. In their pursuit of the ‘sublime’, many writers also depicted the drama, majesty and even terror found in natural landscapes. The popularity of antiquarianism made tales of the past, real and imagined, another essential ingredient in travel writing. However, many travel accounts did *not* reject the contemporary working scene and included its wonders alongside the ‘romantic gaze’ on the landscape.

While less exotic than lengthy journeys through the Continent or the mountainous zones of Britain, the Tamar stimulated some

fascinating travel writing⁹. This article is concerned with only one of these – and very selectively at that. ‘*Header’s Guide to the river Tamar: containing a historical and descriptive account of every object of interest on the banks of that river, as far as it is navigable*’ was printed and self-published in 1841 by ‘G.P. Header¹⁰. He was the son of Jonathan Header, an umbrella maker in Plymouth, and brother of the eminent pioneer electrical engineer Jonathan Nash Header.¹¹ The ‘Parry’ in George’s name reflects his mother’s maiden name, Mary Hannah Parry.

Although the full ‘Guide’ contains plenty that is picturesque, antiquarian and even mildly sublime, the extracts presented here highlight aspects of the ‘working’ Tamar scene noted by Header,

⁹ Notably, John Swete, *Travels in Georgian Devon: the Illustrated Journals of the Reverend John Swete (1789-1800)*, edited Todd Grey, 1997, Devon Books, and N.T. Carrington, *The Banks of the Tamar: a Poem*, published Plymouth Dock, 1821 (accessed via Google Books <https://books.google.co.uk/>). At the opening of his book, Header includes several quotes from this delightfully flowery narrative poem and recommends it thus: ‘To him who would... seek a studied and poetical description of a succession of scenes in every way deserving of such mention, we would most strenuously recommend for perusal the beautiful work from which we have extracted so copiously, viz. Carrington’s “Banks of the Tamar.”

<https://sublimewales.wordpress.com/practicalities/travel/travel-by-boat-down-the-wye/>

¹⁰ G.P.Header, *Header’s Guide to the river Tamar: containing a historical and descriptive account of every object of interest on the banks of that river, as far as it is navigable*, printed and published by G.P. Header, Union St., Plymouth, 1841 (accessed via Google Books <https://books.google.co.uk/>). Some of the extracts here have been lightly edited for clarity and brevity.

¹¹ See ‘Jonathan Nash Header’, Wikipedia https://en.wikipedia.org/wiki/Jonathan_Nash_Header

whose account embraces the contemporary economy as well as the more romantic elements in the landscape – with varying degrees of approval.

The voyage starts from Stonehouse Pool: “A May morning, as bright as springtime could produce, discovered us (three in number) busily occupied in launching our skiff on the unruffled waters of Stonehouse Pool, preparatory to a two-days' excursion on the River Tamar. A few seconds sufficed to place each in his required position, the oars bent to the yielding waters, and we were off.”

This starting point was firmly contemporary – some way from the more romantic scenes admired further up the Tamar. Besides slipways and quays cluttered with shipyard work around Stonehouse Pool, our travellers were impressed by the recently completed ‘Victualling Office’, the enormous complex now known as the Royal William Victualling Yard. To do it justice, Header drew on “Fisher's Devonshire Illustrated”,¹² “an elaborate and accurate description of the above erection, from the pen of our eminent townsman, George Wightwick, Esq.”.¹³ Only a sample is included here:

“The premises comprise...about thirteen acres, of which a considerable portion ...was recovered from the sea; the material...being obtained from the excavations made in levelling and preparing the remainder of the site. Of the immense labour

¹² J.Britton, *Devonshire Illustrated*, with illustrations by Thomas Allom, published by Fisher, Fon & Co. Header was probably drawing on an edition produced around 1832.

¹³ For the full ‘elaborate’ description, see Header’s Guide, pp.2-5, as per footnote 2.

required in this work, some idea may be conceived, when it is stated that the mass of rock removed was estimated at the enormous quantity of 300,000 tons. On the west and north sides, the quays or wharfs are bounded by a stupendous sea wall, 1500 feet in length, which has its face curved inwards at a radius of 71' 6", to resist the internal pressure of the ground, the foundations of which were excavated and laid by means of diving bells... The Mill and Baking Establishment forms a perfect square, the waterfront and flanks of which answer to those of the Brewhouse. The Melville Storehouse forms also a perfect square: its principal front, which overlooks the basin, has a rusticated granite archway, of magnificent proportions, as a centre piece to its elevation. The Cooperage, behind the Brewery, and the Slaughter-house buildings, are of correspondent magnitude and character. From the Brew-house and Bakehouse rise two granite chimneys of great altitude, representing Doric columns”.

In contrast to the coverage of the Victualling Yard, there is surprisingly little detail in the Guide about the Dockyard itself. Might this reticence imply ‘security concerns’? It advises simply that: “...the spectator has ample matter afforded him for examination. Objects, stupendous in design, and wonderful in execution, present themselves in such rapid succession... the mind is lost in contemplating the mountains of machinery piled up by the combined ingenuity and labours of man. We deem it foreign to our present purpose to enter into any details of this magnificent arsenal. “

However, one object attracted a nod to the terrors of the ‘sublime’, albeit of the criminal variety. Having noted that the ‘Camber or

canal'¹⁴, “crossed by two bridges, indistinctly seen through the bright sunlight, together with lofty buildings on either side, reminded us forcibly of the celebrated Rialto at Venice”, Hearder declares that: “... no sooner has the expression of delight caused by such a beautiful prospect been uttered, than an object from which our kinder feelings turn away with repugnance, salutes our scrutinizing gaze; the Convict Ship, strongly moored to the Dockyard, with its iron fences, the receptacle of the most depraved of the kingdom. The murderer, the highwayman, the house-breaker, the forger - all are here, wearing out a most miserable and degraded existence.”.

Hearder soon consoles the reader by noting the presence of modern technology – altogether more admirable, if scarcely picturesque: “The Steam Bridge, between Morice Town and Torpoint, next attracts our notice. This is a double boat, open at both ends; a chain, strongly secured across the river, passes over a wheel in the boat, the revolution of which, propelled by the steam-engine, draws the bridge or vessel across the stream, without subjecting the passengers to the unpleasant casualties attendant upon wind and tide in a sailing or rowing boat. Neither the driver, guard, nor passengers, in the mail or other coaches have the least occasion to dismount in crossing by this means; the motion of the bridge is at no time unpleasant; and the passage is invariably performed with the most unerring precision.”

Unfortunately, such progress had evidently stalled at Saltash, where a “steam ferry-bridge was established between this and the opposite shore a few years since, on the completion of the new

¹⁴ The ‘Camber’ was a short canal leading to a boat basin, sited close to the earliest part of the Dockyard at Froward Point.

road; but, from the limited traffic, the receipts were inadequate to the maintenance of the bridge, and it was consequently removed; the old ferry boats have since been called into use.”

Two reminders follow of the Tamar’s varied contributions to local livelihoods, some probably with ancient roots. Near Saltash, “huge banks of mud skirt the stream. These are entirely covered at high water, and at low tide, present an interesting scene, there being frequently from a dozen to twenty men and women engaged in gathering cockles, which lie slightly imbedded in the mud; this they do by means of rakes, and from the absence of clothing on their nether limbs, present a grotesque appearance. Their skiffs are drawn up on the bank, to which they betake themselves as the rising waters again cover the banks.”

Then, in the vicinity of Cargreen, “...we saw a couple of strongly-built boats, each containing two men, in the act of dredging for oysters. A kedger or small anchor is dropped over the bow of the boat, which is then allowed to drift with the tide to some considerable distance from it. When it has proceeded to the extent of the mooring rope, a kind of rake, about three feet in length, containing broad, sharp teeth, slightly curved inwards, attached to which is purse of net-work, is dropped over the stern, strongly secured by another rope which is fixed to the boat. The rope over the bows is now attached to a small windlass, which being made to revolve draws the boat towards the kedger; the rake meanwhile separates the oysters from their gravelly bed; and, as they are disunited from the bottom, they drop into the purse, and are ultimately drawn up into the boat.”

The mining activity that is so central to the Tamar Valley’s heritage had presumably not yet polluted the oyster or cockle

colonies, although industry was certainly well-established: "...we notice in the distance a huge chimney, on a hill of considerable altitude, pouring forth volumes of smoke." Beyond Cargreen, the boating party reaches Hall's Hole on the Bere Peninsula. Here they view, probably with a mix of interest and disdain: "...the seat of considerable mining operations. Smelting ores to some extent is also carried on here; the furnaces having underground flues conveyed up over the side of a high and steep hill, communicating with the afore-mentioned lofty chimney. Some of the entrances to the mines here are almost on a level with the waters of the Tamar. A large number of persons is employed on the works; and the ears of the voyager are saluted by the rush of the water wheels and creaking of the engines employed in draining the mines; vast piles of rubbish are here and there accumulated; the men, women, and children are descried all busy in their several occupations; and the scene is enhanced by the presence of two or three brigs and barges, bringing up limestone, culm, coal, and other commodities, for the adjacent country and receiving in return, freights of the metal and metallic ores."

Header and companions then turn away from industry, as Pentillie Castle (sic) "rears its head, in grandeur and almost unmatched beauty, above the smiling groves and wood-crowned bills which encompass it." The antiquarian and romantic delights of their visit ashore are described in approving detail. But they resume their journey, noting disapprovingly how "farther off is seen the village of Beer Alstone, which, for a long period previous to the passing of the Reform Bill, sent two members to parliament. It has some lead and silver mines in its vicinity, some of which are still being worked; others have long since been neglected, disfiguring the

face of the country by huge heaps of rubbish, and by their desolate and decayed buildings.”

Fortunately, “the rapid current of the rising tide carries our bark on with much speed: our oars dip into the water but no manual exertion is requisite to carry us onward.” The busy scene at Halton Quay is noted: “marketable commodities are shipped for the towns of Devonport and Plymouth; and limestone, manure, coal, &c, are received in return. A large building stands on the bank of the river on the quay, erected as a granary. Lime kilns, a few cottages, and a small ale-house, with a few market boats complete the scene.” But “there is no occasion to disembark”, as more suitably romantic scenes lie ahead. Having admired “banks clothed with the most luxuriant verdure, beautifully diversified by a profusion of orchards”, Hearder offers a somewhat comical, if snooty cameo of the picturesque lives of the locals:

“We arrive at a ferry across the stream, called Chapel Ferry¹⁵; and, judging from the appearance of the boat, ...the ferryman’s situation must be pretty nearly a sinecure; the boat... contained a solitary passenger, who was sitting with his legs extended in a horizontal position across the seats, the bottom of the boat containing a black-looking pool of stagnant water. The rower was a thick-set country lad, who seemed as much at ease in this queer amalgamation of decayed wood and rusty nails as though he had been enjoying a comfortable lounge on a pillow of down.”

Predictably, the highlight of Hearder’s excursion was Cotehele. He gives an extended, admiring account of the party’s visit, with its

¹⁵ The ferry operated from North Hooe on the Bere Peninsula to Halton Quay / Chapel Farm. It continued to operate well into the 20th century.

surfeit of antiquarian and picturesque wonders¹⁶. But the focus of this article is principally the Guide's coverage of the 'working Tamar'. Cotehele Quay appeared busy enough, being "environed by lime kilns; it has also a large building used as a granary, or as the worthy hostess of the "Edgcumbe Arms" informed us, 'a place where they conceal the grain.' The quays are covered with heaps of limestone, brought hither in barges, from the quarries in the vicinity of Plymouth, in order to be converted into lime, for manure."

Header next confirms Calstock's commercial status, noting "several vessels by the quays and grounded, together with a very small steamboat which runs between this place and Devonport, for the conveyance of agriculturists and agricultural produce. The quays are piled with limestone and coal, culm, &c." With admirable energy, the travellers disembark and take the steep climb up to Calstock church for the panoramic views over the Tamar Valley. Here, "... a scene presents itself to the astonished gaze which all surpasses description. Words but ill afford the slightest outline of the view; hill and vale; rich plains and overhanging piles of rocks; groves of orchards, which were then teeming with blossom; slopes covered from the foot to the summit with every variety of forest tree; detached cottages, smiling villages; machinery and mining operations on an extensive scale."

Back on the river, the industrial hamlet at New Quay is passed, with its "quays, stores, and dwellings, with the accompaniments of one or two ships", although "there being nothing in its appearance warranting a further delay we continue our course." In contrast, the

¹⁶ Fourteen pages of the original volume are devoted to the Cotehele visit.

larger port and industrial complex at Morwellham has more appeal: "... we notice capacious buildings, extensive machinery, and well occupied quays... the continued action of ponderous machinery betokening this to be a place of some considerable business. The machinery alluded to is contained in a large building, and is employed in the pulverization of manganese, conveyed hither from various mines in the neighbourhood; and afterwards packed in large casks. The inhabitants ...seem of a very happy disposition, and are remarkably civil and communicative."

Header and companions leave their boat "in a convenient creek and disembark". They then summon the energy to "...examine the inclined plane, over which the cargoes of the different vessels are drawn up with great facility, from the quay to the canal, at a very great altitude. Here, by means of powerful machinery, carts are drawn up over the side of a very steep hill. Having arrived at the summit, we view the iron boats used in navigating the canal."¹⁷

The Guide's enthusiastic description of Morwellham and the heights above foreshadows Frank Booker's term 'the strange dichotomy',¹⁸ by which he highlighted how great landscape beauty co-existed with vigorous mining and industrial activity in the Tamar Valley in the 19th century. Header reflects on this contrast: "Here all is smiling and luxuriant, the hills being clothed with the richest verdure. Here a group of cottages seems to nestle under the shelter of a rich plantation; there heaps of rubbish indicate the

¹⁷ As described in such wonderful detail by Robert Waterhouse in his magnificent *The Tavistock Canal: its History and Archaeology*, 2017, The Trevithick Society.

¹⁸ See Chapter 1 of Frank Booker, *Industrial Archaeology of the Tamar Valley*, 2nd edition, 1971, David & Charles, Newton Abbot

presence of men and machinery, tearing from the bowels of the earth its mineral store, while, in every direction, are seen cottages, gardens, fields, cattle, groves, and everything which can impart a charm to a rural scene.

The adventurers overnight in the Ship Inn. The next morning, “the sun peering in at our chamber window in long, horizontal streaks warns us that it is time to be up and doing”. Off they set, rowing up to the Weir Head, “at one end of which is a salmon hutch”. Here they land “and entrust our boat to a stout lad to take back to Morwellham”. Setting off on foot, they pass the “mining district called Gunnislake, which, having no peculiar attractions, we leave, and arrive at a... fine stone bridge called New Bridge [which] consists of six arches; the river here is broad and deep and is exceedingly picturesque. Immediately adjoining is a lofty building, erected for the purpose of a granary, subsequently used as a brewhouse, but now unoccupied.”¹⁹

Trekking south down the dramatic Devon bank of the Tamar, Header’s observations combine the darkly romantic and the workings of contemporary life. “Alternate feelings of wonder and rapture take hold of the mind. The path winds along a few feet above the stream, close to its margin on the one hand; on the other the base of the stupendous rocks so far obtrudes as to allow but a very narrow path between it and the stream.” Soon, human activity adds to the drama: “While gazing with intense admiration on this sublime scene, our attention was called to the highest and most

¹⁹ This must refer to the building known as ‘Caledonia’, which stood at the west end of New Bridge and is depicted in the distance in Turner’s painting ‘Crossing the Brook’. It later served to accommodate miners employed locally, including at Devon Great Consols mine.

protruding pyramid of rocks; on which we descried a group of three persons, apparently of pigmy stature, standing on the utmost verge of a tremendous precipice. To our unspeakable dismay we saw one of them sliding down the outer face of the rock; let down by means of a rope by his companions. On reaching a projecting crag, he nimbly bounded on it, and followed a seam in the rock for some distance, till a loud scream from a raven, and an impetuous dart from her hiding place, informed us that he had invaded the sanctity of her dwelling; and was no doubt in pursuit of her offspring. The daring madness of the attempt almost sickened us with horror; nor did we remain to watch the progress of his retreat.”

The industrial Tamar Valley then offers alternative excitement: “At about two thirds of the distance up the cliff, we observe the effects of human ingenuity and perseverance manifested in a water course, which has here been constructed. Fearful as these heights are, they have not only been traversed by man, but in a part at which the head would totter at the elevation, a channel has been excavated in the solid rock, for the purpose of conducting a stream to a mine in the vicinity, to work its ponderous machinery. At one part of this channel the rock rises perpendicularly and seemed to defy all attempts to pass it. Here however the channel has been continued, in massive timber work, on the outside of the rock; supported on poles of great length and substance; contributing in no small degree to the sublimity of the scene, rendered here more remarkable by the contrast of nature and art.”²⁰

²⁰ See Robert Waterhouse, *Tavistock Canal*, Ch.7 ‘The Provision of Water Power’.

With a few more admiring flourishes, the expedition returns to Morwellham. Here, “At about high water we resume our stations in our boat; and with the receding current, wend our way down the waters of this “Queen of the Western Rivers.” The journey downstream is not described. However, Hearder gives ‘a few hints to the tourist’, notably that the steamer ‘Sir Francis Drake’ “affords by far the more economical, more expeditious, and less fatiguing means of transit, than any other; and as such we strongly recommend it. Ample time will be afforded to view every object of interest.” Is this a rueful admission that Hearder’s Tamar expedition really had been too ‘fatiguing? However, whether such rapid travel would actually ‘afford’ such detailed celebration of the Tamar’s romance and its working life is open to question!