

NRA-Wales 17

WELSH REGION LIBRARY COPY

Taf Catchment
Management Plan
Consultation
Report Summary



NRA

*National Rivers Authority
Welsh Region*

**Guardians of
the Water Environment**

May 1994

INTRODUCTION

The rivers, lakes, estuaries and coastal waters of Wales are subject to large and rapidly increasing demands from the users of water. Many different uses interact, or compete for water or water space, and will inevitably come into conflict with one another. The National Rivers Authority (NRA) was created in 1989 as an independent environmental watchdog. Its prime purpose is to maintain and improve the water environment and regulate the use of water by industry, agriculture and the private water and sewerage companies. The NRA's general duties include:

- Maintenance and improvement of water quality by control of pollution in surface and groundwater.
- Protection of people and property from flooding.
- Provision of flood warnings.
- Management of water resources.
- Maintenance and improvement of fisheries.
- Conservation of the natural water environment.
- Promotion of water based recreation.
- Navigation (in some rivers).

In addition, the NRA has a responsibility to reconcile conflicts between water users and plays a key role in the strategic management of the interaction between users of the water and land environments.

We believe it is important that the interests of all water users are considered in the development and protection of the water environment and have consequently chosen to promote our vision and management proposals via published Catchment Management Plans (CMPs).

CATCHMENT STATISTICS

GENERAL

Area	526 km ²
Population (1991 Census)	14,300 (provisional)
Population Density	27/km ²

TOPOGRAPHY

Ground Levels	Max height	395m AOD
Sea Levels (Ferryside)	Mean High Water Springs	4.2m AOD
	Mean Low Water Springs	-2.4m AOD

WATER QUALITY

Length of River in 1990 River Quality Survey

Very Good	53.1 km
Good	42.1 km
Fair	4.5 km
Poor	none
Bad	none

Taf Estuary

Good	13.5 km
------	---------

WATER RESOURCES

Annual Average Rainfall	1415 mm
Primary Gauging Stations	Taf at Clog-y-Fran, Dewi Fawr at Glasfryn Ford

FLOOD PROTECTION

Length of Designated Main River	152.7 km
Length of River on which Flood Alleviation Schemes implemented	0.4 km
of which	Hard Defences none
	Soft Defences 0.4 km

Length of River covered by a Flood Warning Scheme	40 km
---	-------

FISHERIES

Declared Annual Migratory Fish Catches (10 year average)

	Salmon	Sea Trout
Coracle Nets	7	93
Wade Nets	1	3
Rods	92	330

THE NRA'S VISION FOR THE TAF CATCHMENT

The Taf catchment presents a rural, agricultural landscape, and is used largely for intensive dairy farming, especially in the middle and lower reaches. St.Clears and Whitland are the two main towns; however, the total population of the catchment is only 14,300. Industrial development is minor, apart from the Dairy Crest Creamery, in Whitland, which is one of Europe's largest processors of milk.

The catchment, in common with others in West Wales, has a high fisheries, recreation and conservation resource value. There is an established migratory salmonid fishery which is exploited by anglers and commercial netmen. The natural landscape is extremely picturesque in the middle reaches, which are accessible through some delightful woodland walks. The river's characteristics have been largely unchanged by human activity and the river corridor supports a diverse range of flora and fauna. There are five water related Sites of Special Scientific Interest, and several valuable wildlife areas of unimproved damp grasslands.



The extensive floodplains provide natural storage for floodwaters and some development, particularly at Whitland, St.Clears, Meidrim and Llanboidy, has suffered from flooding. Flood defences have been constructed at Whitland on the Taf, Cwm Waun Gron and Gronw. Further investigations are necessary to assess the possibility of providing protection to the groups of properties still at risk in the catchment.

There are no significant potable abstractions within the catchment and, although there are many agricultural abstractions, industrial use - for cooling and processing at the Dairy Crest Creamery - accounts for the largest quantity. Water resources can meet the current demand for abstraction; however, a network of monitoring boreholes should be developed in order that groundwater levels and quality can be managed.

The Taf catchment has not been seriously impacted by development, whether residential, industrial or infrastructure, and as a result the river has not had major demands placed upon it. However, farming has intensified in the catchment in the past two decades and has caused impacts on water quality, and the river's biology and fisheries. This must be addressed by a programme of targeted farm inspections. Routine fisheries surveys in 1993 found poor densities of juvenile salmon; this needs to be investigated and appropriate action taken. In addition to addressing existing issues, it is also most important that the catchment and its users are safeguarded in the future by the adoption of policies to control development and manage river maintenance works so that existing flood protection standards, and the quality of the water environment, are not compromised.

The realisation of the NRA's vision will be achieved through a balanced management approach to all activities. We will encourage imaginative proposals to allow sustainable economic and community development to proceed whilst ensuring protection and improvement of the water environment. We will collaborate actively with all users of the catchment and all those statutory bodies that can assist us in striving to achieve this vision.

GENERAL

The Taf catchment typifies the largely rural nature of West Wales, having a relatively small population of 14,300 (27 people per km²), 28% of whom live in the two largest towns in the catchment, St.Clears and Whitland. Industry is relatively light and is dominated by the Dairy Crest Creamery in Whitland, one of the largest such operations in Europe, employing many local people processing milk from West Wales.

The industrial use of the catchment reflects the fact that the Taf and surrounding river catchments are utilised intensively for dairy farming.

DEVELOPMENT & LAND USE

The low population within the catchment is reflected by the relatively modest infrastructure. The A40 London to Fishguard road, which serves the car ferry terminal for the Irish Republic, is a major road artery which crosses the catchment. Its strategic significance has led to its designation as a "Euroroute" and it will therefore be the subject of improvement works in coming years.

Farming dominates the landscape of the catchment, with sheep and cattle rearing predominating in the uplands, giving way largely to dairy farming in the middle to lower reaches. Crops are grown in small isolated areas around the catchment; one of the more important is potatoes, grown principally around Laugharne.

Industry within the catchment is very light, operating generally in small units, many of which are based upon agriculture. The only significant industrial development is the Dairy Crest Creamery in Whitland. Silver and lead were once mined at a site near Tegryn. Limestone is processed at Cloygen Quarries near Laugharne.

WATER QUALITY

Water quality in the Taf catchment is generally very good. The most recent survey, undertaken in 1990, showed that 96.5% of classified reaches fell within 'very good' or 'good' classes. All of the estuary surveyed as part of the same scheme came within the highest class, 'good'.



The catchment is served by a number of small private and Dwr Cymru operated sewage treatment works (STWs). Only three STWs serve population equivalents of more than 1,000; Whitland, St.Clears and Laugharne. Whitland discharges to freshwater, Laugharne receives only preliminary treatment and tidal storage before discharging to the estuary, and St.Clears provides full treatment before discharging to the estuary.

The increased intensity of farming in the catchment over the past few decades has led to a number of water quality problems. In particular, releases of slurry and silage liquor into watercourses have caused some acute problems and chronic long term effects on river life. Intensive catchment surveys have and will continue to be undertaken in order to improve farm effluent handling and storage and promote long-term water quality and fisheries improvements.

The only major industrial development, Dairy Crest Creamery in Whitland, has expanded in recent years, following the closures of several other local creameries. In 1992, Dairy Crest made a substantial investment to reduce the load on the existing effluent treatment plant which previously had been unable to cope and produced a substandard effluent.

WATER RESOURCES

There are relatively few abstractions from surface water within the catchment. Potable water is supplied largely from sources outside of the catchment, whilst use by Dairy Crest dominates the relatively small number of industrial abstractions.

There are 89 licensed abstractions for agriculture within the catchment, of which five are for the purpose of spray irrigation. There are also an unknown number of similar abstractions exempted from licensing, under the South West Wales River Authority (Exceptions from Control) Order 1965. Water is abstracted for amenity use at four locations. Geology is important in respect of the large amounts of groundwater that the rocks contain.



There are two river gauging stations within the catchment, one on the Dewi Fawr at Glasfryn Ford, with a more established site on the Taf itself, at Clog-y-fran, where monitoring of river flows has been carried out since 1965. There are also several raingauges providing daily rainfall information. This data is used by the NRA to manage the water resources of the catchment and to control and regulate abstraction.

FLOOD DEFENCE

Flood defence interest in the catchment relates primarily to the provision and maintenance of flood alleviation schemes. A history of flooding in Whitland has necessitated recent improvements to flood defences on the Taf, Gronw and Cwm Waun Gron. Other schemes provide protection to other centres of population including St.Clears, Meidrim and Llanboidy.

The catchment possesses an extensive flood plain. During flood events this flood plain provides natural storage for flood waters. It is therefore important that development is not allowed to encroach onto the flood plain and reduce protection standards. The Taf and larger tributaries generate a significant sediment load which can reduce the capacity of the river channel to carry water. When this occurs at locations where property is at risk, sediment is removed from the river channel, taking care to minimise disruption to the river environment and other users.

Flood levels on the estuary and lower reaches of the Taf are dominated by the tide, and there is a history of tidal flooding at Laugharne. A detailed study of the problem is currently being undertaken by the NRA and Carmarthen District Council.





FISHERIES

The Taf catchment is an important high class salmonid fishery; at least 99% of the catchment is accessible to migrating salmon and trout. Only four potential barriers to fish passage exist in the catchment, all close to the source of the Taf and its tributaries. A fish pass eases passage at the Dairy Crest Creamery abstraction weir on the Gronw in Whitland.

The status of juvenile salmonid stocks have been monitored annually since 1986, with the exception of 1992. The results of the 1993 survey indicated that 50% of the 37 sites surveyed were 'excellent' or 'good' for trout. However, approximately 90% of these sites did not record any salmon or they were classified 'poor'. The cause for the poor juvenile salmon densities needs to be investigated.

Non-salmonid fish are represented by 15 species. Carp, tench and roach have been introduced into two stillwater lakes within the catchment.

The Taf is tidal 15km upstream of the estuary mouth, and contains many marine species including shad, mullet, sea lamprey and bass. The Taf estuary is part of a designated Bass Nursery Area.

The commercial Taf fisheries are essentially salmonid in nature. One coracle and one wade net licence are issued annually by the NRA to operate within a defined timescale and tidal area. There is a small commercial cockle fishery in the Taf estuary, permitted on both shores. Landings of cockles have declined slightly in recent years, but this trend has been reversed with very good years in 1992/3.

CONSERVATION



The Taf catchment's river corridor supports a diverse flora and fauna. There are sixteen designated Sites of Special Scientific Interest (SSSIs), occurring predominantly along the tributaries and coastal areas. Five of the sites are water related. Of particular importance is Pendine Burrows SSSI, the largest spit and sand dune complex in West Wales. Cors Goch Llanllwch SSSI is one of the most south-westerly raised bogs in Britain. Several valuable wildlife areas of unimproved damp grasslands and extensive broadleaved woodlands are adjacent to the river in the upper reaches. Bird life is represented by kingfishers, dippers, grey herons and

grey wagtails in many parts of the catchment. Otters are also widespread, with 62% of monitored sites showing positive signs of otters when surveyed during the 1991 Otter Survey of Wales. Suitable otter habitat, in particular mature bankside ash and sycamore and scrub (blackthorn and bramble) are generally well represented in the catchment. Unlike many other catchments in Wales, the invasive Japanese Knotweed is not believed to be widely distributed, being recorded from only 2% of survey sites in 1993. The Taf catchment is of national importance in terms of numbers, types and condition of ancient monuments. There are 85 Scheduled Sites and many more of significant heritage value, including remains of Roman fortifications, derelict mills, bridges, standing stones and medieval castles. A more recent building of heritage value (and a popular tourist attraction), is a boat house owned by Dylan Thomas during his residence in Laugharne.

RECREATION

The picturesque and rural nature of the catchment draws many locals and tourists into the countryside to take part in a variety of recreational activities that include horseriding, birdwatching and walking. The catchment provides excellent amenities via the many small footpaths that criss-cross the river corridor, passing through picturesque valleys and scenic woodlands. The old Cardigan railway line, which runs adjacent to the Taf, from Crymych to



Llanfalteg Junction, is especially popular with ramblers. Angling is a popular and widespread activity in the Taf catchment. Six angling clubs own or control most of the game fishing, the remainder controlled by local landowners. Over the past 20 years, declared rod catches of salmon have fluctuated considerably, but have shown the declining trend common to most other Welsh rivers. Declared catches of sea trout have also declined in recent years. Water-skiing, jet-skiing and occasionally windsurfing are practised in the Taf estuary between St.Clears and Ginst Point. Canocists utilise the Taf from Login to the tidal reaches although the Welsh Canoeing Association has made no formal access agreement with freshwater riparian owners. There are two small sailing clubs operating in the Taf estuary. Access for sailing boats is limited because of the presence of overhead electricity pylons below St.Clears. In addition, channel depth limits most sailings to a period two hours either side of high tide. Public rights of navigation exist only in the tidal reaches.

ISSUES AND OPTIONS

The following tables list the issues which the NRA has identified in the Taf catchment. We would like to hear from you if:

- You think that there are other issues which we have missed.
- You think that we have not considered all the options.
- You have any views on the options suggested.
- You have any other information about the catchment or comment about its future management.

ISSUE No: 1			
Elevated levels of BOD in many of the larger tributaries and along large stretches of the Taf			
OPTIONS	Responsibility	Advantages	Disadvantages
Examine agricultural practices within the sub-catchments concerned by a programme of targeted farm inspections.	NRA/Farmers	Limit polluting agricultural inputs and improve water quality.	Inspection programme costs: £25 - 50k over 5 years.
Any remedial measures identified by survey to be implemented.	Farmers	Reduce future risks to water quality.	Cost to farmers not quantifiable but 25% grant available.

ISSUE No: 2			
Elevated levels of ammonia and BOD in the Felin Cwrt			
OPTIONS	Responsibility	Advantages	Disadvantages
Follow-up visits to catchment survey undertaken in 1991/1992 required to ascertain if improvement works have been undertaken.	NRA/Farmers	Limit polluting agricultural inputs and improve water quality.	Inspection costs: c. £1k
		Reduce future risks of serious incidents.	Cost to farmers not quantifiable but 25% grant available.

ISSUE No: 3			
Failure to achieve water quality standards in the Marlais and the Fenni			
OPTIONS	Responsibility	Advantages	Disadvantages
Catchment survey of agricultural premises and practices required to identify high risk situations and polluting inputs.	NRA	Problems identified and risks of serious incidents prevented.	Inspection costs: c. £6k
Any remedial measures identified by survey to be implemented.	Farmers.	Reduce risks to water quality.	Cost to farmers not quantifiable but 25% grant available.

ISSUE No : 4			
Elevated concentrations of zinc for a large stretch of the Taf and also the lower Cynnen			
OPTIONS	Responsibility	Advantages	Disadvantages
Investigation of abandoned mines at Llanfyrnach and cause of high levels of zinc in the Cynnen	NRA	Potential improvement to other Uses if these are shown to be affected and 'point' sources can be identified.	Investigation costs: c. £5k Likely that any responsibility for dealing with historical discharges will be difficult to identify.

ISSUE No : 5			
Elevated BOD and suspended solids concentrations in the Gronw upstream of the Dairy Crest Creamery			
OPTIONS	Responsibility	Advantages	Disadvantages
Investigation into the high sediment load carried by the river during storm conditions with associated elevated BOD levels.	NRA	Quantification of problem Improved water quality.	Investigation costs: £3k (as part of Issue 6).

ISSUE NO: 6			
Poor water and biological quality in the Gronw downstream of the Dairy Crest Creamery in Whitland			
OPTIONS	Responsibility	Advantages	Disadvantages
Investigation as per Issue 5	NRA	Quantification of problem Improved water quality	Investigation costs: 3k (as part of Issue 5)
Assessment of the Dairy Crest Creamery discharge at Whitland.	NRA/Dairy Crest	Identify any problems Possible improvement in water quality.	Investigation costs: £1k.

ISSUE No: 7			
Elevated levels of phosphate in the Taf from Whitland to the upper tidal limit			
OPTIONS	Responsibility	Advantages	Disadvantages
Investigate source of elevated phosphate and assess impact on Uses.	NRA/Discharger	Identification of source and improved water quality.	Investigation costs: £2k Cost of any identified improvements.

ISSUE No: 8			
Occasional low dissolved oxygen and aesthetic problems within the estuary			
OPTIONS	Responsibility	Advantages	Disadvantages
Further research required to improve understanding of the problem and the role of marine algae.	NRA	Better understanding of problem May lead to solutions being identified.	Costs : Unknown

ISSUE No: 9			
Potential low flows in the Taf caused primarily by the cumulative effects of many small agricultural/domestic abstractions from wells and springs			
OPTIONS	Responsibility	Advantages	Disadvantages
Desk study to identify if certain conditions lead to low flow problems and if so undertake data collection and/or feasibility study of possible solutions.	NRA	Identification of any low flow problem Increased knowledge of catchment Protection of environment.	Cost of desk study: £2k Cost effective or practical solution may not be identified.

ISSUE No : 10		Lack of groundwater level and quality data	
OPTIONS	Responsibility	Advantages	Disadvantages
To develop a network of groundwater monitoring boreholes for the better management of groundwater levels and quality.	NRA	<p>Effective monitoring of groundwater resources and quality</p> <p>Reduced risk of environmental damage from groundwater abstraction/ pollution.</p>	<p>Cost : c. £25k</p> <p>Increased monitoring costs.</p>

ISSUE No : 11		Impact on migration and stocks of salmonid fish by abstractions causing low flows over short distances	
OPTIONS	Responsibility	Advantages	Disadvantages
Desk study to identify if existing abstractions do cause impacts and, if so, investigate possible solutions.	NRA	Increased knowledge of flow characteristics of catchment and protection of salmonid stocks/ migration.	Cost of desk study: £2k.

ISSUE No : 12		Flood protection standards below the NRA's target for urban areas	
OPTIONS	Responsibility	Advantages	Disadvantages
To investigate the problem and possibility of improving flood protection.	NRA	Increased flood protection and reduced flood damage.	<p>Costs: £10k for feasibility study, unknown for improvement schemes</p> <p>Future costs of maintenance unknown.</p>

ISSUE No : 13 Flood Protection standards below the NRA's target for urban areas			
OPTIONS	Responsibility	Advantages	Disadvantages
Study underway to investigate problem and identify possible solution.	NRA/Carmarthen District Council	Increased flood protection Reduced flood damage.	Costs: 15k for feasibility study, unknown for improvement scheme and any future maintenance.

ISSUE No : 14 Requirement to undertake S105 Surveys to identify the extent of lands liable to flood			
OPTIONS	Responsibility	Advantages	Disadvantages
Undertake surveys. National timetable is under consideration. Priorities to be set in consultation with Local Authorities.	NRA	Flood plain and flood defence problems identified to enable NRA to advise Local Authorities for Local Plans.	Cost: Unknown.

ISSUE No : 15 Protection of threatened species and local genetic strains of fish			
OPTIONS	Responsibility	Advantages	Disadvantages
Establish status of populations and take appropriate protective action where feasible.	NRA/SWSFC/ Fishery Owners/ Angling Clubs	Continued survival of threatened populations.	Cost: Unknown

ISSUE No : 16 "Standards of Service" for SSSIs have yet to be formally agreed with CCW			
OPTIONS	Responsibility	Advantages	Disadvantages
Agree "standards of service" and implement	NRA/CCW	SSSIs safeguard	Cost: c. £1k to review "standards of service".

ISSUE No : 17 Prevent the spread of Japanese Knotweed within the catchment			
OPTIONS	Responsibility	Advantages	Disadvantages
Implement appropriate and co-ordinated control and planning procedures.	NRA/DCC/Local Authorities/ Landowners/CCW	Reduce risk of invasive growth.	Long term commitment to invasive weed control Cost: Unknown

ISSUE No : 18 Poor densities of juvenile salmon populations in the 1993 survey			
OPTIONS	Responsibility	Advantages	Disadvantages
Investigate the cause of the apparent low numbers of juvenile salmon and take appropriate remedial action if necessary.	NRA/Angling Clubs /Fishery Owners	Understanding of problem and realisation of catchment potential.	Investigation costs: c. £25k.

ISSUE No : 19 Risk to fish populations from pollution arising from agricultural activity			
OPTIONS	Responsibility	Advantages	Disadvantages
Continuation of present farm inspections/ liaison in sensitive sub- catchments already identified by the NRA	NRA	Maintenance and improvement of environmental quality and pre-empting of pollution incidents.	Costs: depends on number of visits - number of sites to be identified and prioritised.
Any remedial measures identified by surveys to be implemented.	Farmers	Reduce risks to environmental quality.	Cost to farmers not quantifiable but 25% grant available.

ISSUE No : 20 Lack of access agreement between canoeing bodies and riparian/fisheries owners			
OPTIONS	Responsibility	Advantages	Disadvantages
Continue discussions with the aim of agreeing access for canoeists when and where appropriate.	Welsh Canoeing Association /NRA/ Angling Associations/ Fishery Owners	Increase in and diversification of resource use and control of canoeing activity.	Possible impact on conservation interests.

ISSUE No : 21			
Reduction in fish stocks available for spawning and bona fide fishermen caused by illegal netting of migratory fish			
OPTIONS	Responsibility	Advantages	Disadvantages
Continue enforcement of legislation in conjunction with other enforcement agencies.	NRA/SWSFC	Protect stocks for legitimate harvesting and spawning.	Cost of enforcement activity : c. £3k per annum.

ISSUE No : 22			
Potential impact upon wintering waterfowl caused by increase in motorised water sports			
OPTIONS	Responsibility	Advantages	Disadvantages
Monitor situation closely to assess any disturbance to wildfowl and any other potential problems.	RSPB/CCW/ NRA/Local Authority	Pre-empting of potential problems.	Potential reduction in motorised water sports.

ISSUE No : 23			
Impact upon spawning gravels, riverine habitat and angling amenity by mechanical in-river flood defence and maintenance work			
OPTIONS	Responsibility	Advantages	Disadvantages
River works continue to be timed and carried out so that the least possible impact on spawning gravels, riverine habitat and angling amenity is achieved.	NRA/Angling Associations/ Highways Authority/Riparian Owners/ Dyfed County Council/ British Rail	Reduction in conflict between resource use and essential maintenance work.	Difficult to programme works to utilise optimum flow conditions for wash through of suspended solids but causing minimum impact.
Carry out habitat improvement measures in areas impacted by past schemes, where feasible.	NRA/ Fishery Owners	Improved fishery and ecological productivity.	Cost: depends upon identified improvements.

ISSUE No : 24		Whitland Bypass proposal conflicts with NRA interests	
OPTIONS	Responsibility	Advantages	Disadvantages
Close liaison between the NRA and Welsh Office to ensure NRA interests are protected.	NRA/Welsh Office	NRA interests are taken into account as scheme developed and implemented. Environment and property protected.	Cost of mitigation works dependent on scheme.

ISSUE No : 25		Conflict between flood defence requirements and development on flood plain	
OPTIONS	Responsibility	Advantages	Disadvantages
Close liaison between NRA and Local Authorities to ensure protection standards are not compromised.	NRA/Local Authorities	No reduction in existing flood protection.	Cost to developer.
Keep river banks free from development.	Local Authorities/ NRA	Maintain existing standards with possibility for new defences in the future.	Reduction in land available for development.

ISSUE No : 26		Potential environmental impact caused by development in some sewered areas	
OPTIONS	Responsibility	Advantages	Disadvantages
Oppose developments in areas where inadequate sewerage systems and/or STWs cause unacceptable environmental impact and for which no remedial schemes are committed.	NRA/Local Authorities/Dŵr Cymru	No further environmental impacts. Interim arrangements may be promoted.	Constraints on development in affected areas.

