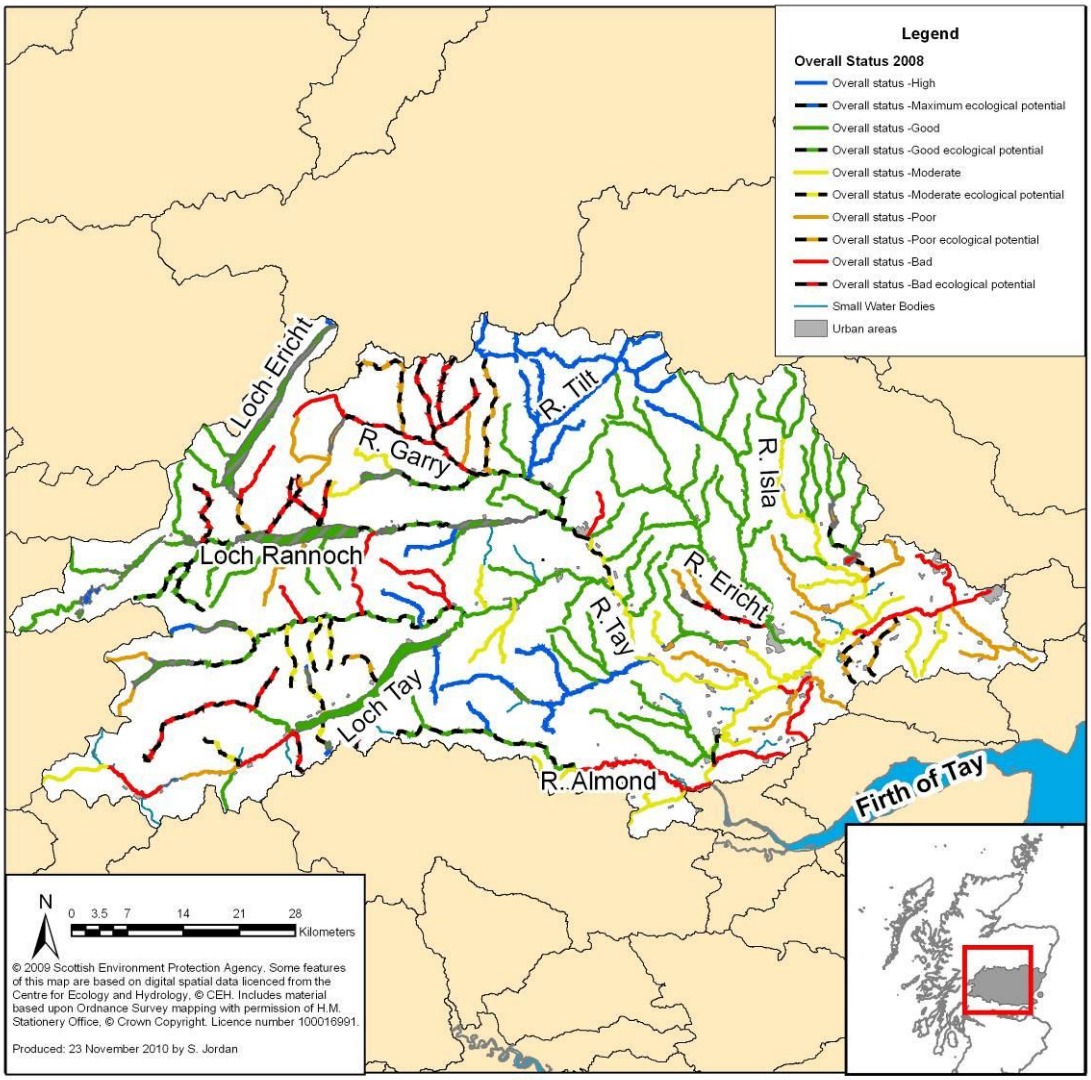
River Tay Catchment Summary

1. Introduction



The River Tay catchment is over 5000km^2, with the River Tay itself flowing 193Km from its source at Ben Lui into the Firth of Tay just beyond Perth. Within the catchment itself 5 lochs are present: - L. Ericht, L. Lyon, L. Rannoch, L. Tay, and L. Tummel, with the largest by way of volume being L.Tay. A mixed land use also helps to characterise the catchment with the upper reaches being predominately used for sheep grazing, grouse and deer game estates; the middle reaches for forestry; and lower lowland reaches for arable farming and built development.

The catchment contains 162 individual water bodies, of which 35 are classified as being heavily modified due to abstraction, diffuse source pollution, flow regulation, morphological alterations and point source pollutant pressures. There are also 48 Drinking Water Protection Areas, 12 Special Areas of Conservation, 2 Special Protection Areas and 5 Urban Waste Water Treatment Sensitive Areas. The River Tay is designated under the Freshwater Fish Directive.

Full details of classification, pressures and measures for each water body in this catchment is available on the RBMP interactive map at http://213.120.228.231/rbmp/

The Tay area management plan and information about the Tay area advisory group is available at http://www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/tay.aspx

The River Tay catchment is a priority catchment for work in the first river basin planning cycle (2009 – 2015). Priority catchments, containing some of Scotland's most important waters (for drinking water, bathing, conservation and fishing), have been selected using a risk based approach for action. Whilst focusing on these catchments to address diffuse pollution pressures, the mitigation of other impacts on the water based environment will also be considered. This could include changes to beds and banks, abstractions, flooding and invasive non native species. Improvement measures will be coordinated with the work of the Tay area advisory group.

SEPA has appointed dedicated priority catchment officers to investigate the issues within each catchment and liaise with land managers. More information is available on SEPAs website:
http://www.sepa.org.uk/water/river_basin_planning/dp_priority_catchments.aspx
As part of the priority catchment implementation plan, targeted measures will be implemented for specific water bodies within this catchment.

2. Classification summary

SEPA has used 2008 data to classify the status of the River Tay catchment. In summary, the catchment contains:

Table 1: classification of water bodies in the Tay catchment

Non heavily modified water bodies		**Heavily modified water bodies**	
Ecological status	**Number of water bodies**	**Ecological Potential classification**	**Number of water bodies**
High	18	Good	13
Good	56	Moderate	12
Moderate	20	Poor	11
Poor	15	Bad	15
Bad	16		

Appendix 1 gives further details of these water bodies.

3. Protected areas

For the protected areas meeting their required standards the objective is no deterioration by 2015.

Table 2: Protected Areas

Protected Areas	Number of waterbodies	Class/ condition
Drinking Water Protected Zone	48	Pass
Freshwater Fish (Existing)	1	Mandatory = Pass Guideline = Fail
Special Area of Conservation (SAC)	1	Unfavourable
	11	Favourable
Special Area of Protection (SPA)	2	Favourable
UWWTD Sensitive Area (Existing)	5	-

Please see Appendix 3 gives for further details of the protected areas within the Tay catchment.

4. Pressures, measures and objectives summary of the catchment

No deterioration objectives

No pressures exist on 86 surface water bodies which are currently at high status, good status or at good ecological potential. Under the Water Framework Directive we have a requirement to ensure that there is no deterioration in status.

For those water bodies that are currently less than good ecological status the objective is to ensure that no further deterioration occurs, in addition to any improvement objectives.

In the case of the heavily modifies water bodies which are at good ecological potential (GEP), there is a need for SEPA to verify the assessment that the pressure is associated with the reason for the heavily modified designation are at GEP. The objective for these is to ensure that there is no deterioration.

Point source pollution

There are 13 water bodies in the Tay catchment currently under pressure from point source pollution associated with sewage disposal. The current Scottish Water quality and standards investment programme is expected to deliver improvement on 8 water bodies by 2015 and 5 by 2025.

Table 3: Point source pollution- water bodies fixed by 2015

Improvements to be done by 2015	
Scottish Water assets	**Water body impacted**
Perth sewage treatment works- emergency overflow	River Tay (R Isla to R Earn confluences)
Birnam & Dunkeld sewage treatment works	River Tay (R Tummel to R Isla confluences)
Wolfhill sewage treatment w orks	Burrelton Burn
Forfar sewage treatment Works	Dean Water/Treacle Burn (Forfar to Kerbet Water Confluence)
	Meigle Burn
Kirriemuir Sewage treatment works	Gairie Burn
Balbeggie sewage treatment works	St Martins Burn/Balgray Burn

Table 4: Point source pollution- water bodies with objective of good by 2025

Improvements to be done by 2025	
Scottish Water assets	**Water body impacted**
Newtyle sewage treatment works	Commerton Burn
Glamis & Charleston sewage treatment works	Glamis Burn
Inverarity Housing sewage treatment works Inverarity House site	Kerbet Water
Alyth sewage treatment works	Alyth Burn
Methven sewage treatment works	East Pow

Diffuse source pollution

30 individual diffuse source pollution pressures exist on 19 water bodies within the Tay catchment, with those water bodies shown below:

River Tay Priority Catchment Work

Diffuse pollution priority catchments have been identified by SEPA as catchments failing to meet environmental standards. Fourteen priority catchments, containing some of Scotland's most important waters (for conservation, drinking water, bathing and fishing), have been selected using a risk based approach for action in the first basin planning cycle. The River Tay is one such catchment. There are a wide range of potential sources of pollution across the Tay catchment including agriculture, forestry, recreation, septic tanks and urban run off. The effects of these sources vary depending upon geography, climate, land management and the nature of the receiving water and how it may respond to inputs of phosphorus, nitrate, sediment and pesticides. Ongoing work within the Tay priority catchment includes,

Water body (WB)	WB id	Water body (WB)	WB id
R Ericht	6535	Burrelton Burn	6526
Cononish	6505	Kerbet Water	6562
East Pow (d/s of Methven to R Almond Confluence)	6510	Backwater Reservoir	100218
Cononish	6505	Meigle Burn	6557
East Pow (d/s of Methven to R Almond Confluence)	6510	Commerton Burn	6559
Cononish	6505	Coupar Burn/Kinochtry	6525
Cambusmichael Burn	6906	Dean Water (Kerbet Water to R Isla Confluences)	6555
Loch of Drumellie	100234	Gairie Burn	6563
Loch of Lowes	100235	Loch of Lintrathen	100225
Loch of Clunie	100236		

Pressures result on these water bodies from arable farming, mining and quarrying of minerals, mixed farming, sewage disposal, and other refuse disposal activities. All but one of these pressures is expected to be remediated by 2015; with the pressure of diffuse source pollution from mixed farming on the Blackwater Reservoir having a target measure fix date by 2027.

Abstraction
Abstraction pressures exist on 18 water bodies within the catchment; most of them are associated with arable farming, two with mineral water production and one with water collection, purification and distribution.

Discussion with landowners/operators and a review of the abstraction authorisation will enable the Burrelton Burn (6526), the Cambusmichael Burn (6906) and the unnamed trib of Isla at Aberbothy (6553) to reach good status by 2015.

Table 6: Abstraction- water bodies to be fixed by 2015

Improvements to be done by 2015	
Landowner assets	**Water body impacted**
Control abstraction- Blackfaulds, St Martin, abstraction from Cairnbeddie Loch	Cambusmicheal Burn
Control abstraction- Newmill Farm, abstraction from Burrelton Burn	Burrleton Burn
Control abstraction- Grange Of Aberbothrie, from Lochbank Burn at Black Law	Triburatry of the Isla at Aberbothy

The abstraction associated with arable farming on the Dean Water/Treacle Burn (6556) will be fixed by 2015 and the abstraction associated with mineral water production will be assessed by 2020. This will enable the water body to reach good status by 2021.

The rest of the abstraction pressures in the catchment will be assessed in the future river basin management planning cycle as shown in the table below:

Table 7: water bodies to meet objectives in 2021 and 2027

Water bodies to reach good status by 2021	**Water bodies to reach good status by 2027**	
Kerbet Water	St Martins Burn/Balgray burn	River Almond
Meigle Burn	Millhole Burn	River Isla
Dean Water	Baikie Burn	River Isla
Lunan Burn	Gairie Burn	Coupar Burn
Coupar Burn/Kinochtry	Commerton Burn	

Flow Regulation
36 water bodies within the catchment are affected by flow regulation pressures associated with the production of renewable electricity or water collection, purification and distribution pressures.

Table 8: water bodies affected by flow regulation in the Tay catchment

Water body (WB)	WB Id	Water body (WB)	WB Id
Loch Ericht	100203	Errochty Water	6611
Loch Errochty	100216	Allt a Chreagain Odhair	6620
Backwater Reservoir	100218	Killichonan Burn	6623
Loch Tummel	100220	River Ericht (Loch Ericht to Loch Rannoch)	6624
Loch Eigheach	100224	Allt Chaldar	6630
Loch of Lintrathen	100225	Abhainn Duibhe	6631
Loch an Daimh	100232	River Lyon	6639
Loch Lyon	100239	Allt Conait	6648
Loch na Lairige	100240	Lawers Burn	6653
R Almond (Source to Fendoch Burn Confluence)	6508	Allt a'Mhoirneas	6655
Lornty Burn	6537	Allt Breaclaich (Breaclaich Res to Loch Tay)	6657
Melgam Water (Loch of Lintrathen to R Isla)	6567	Achmore Burn	6659
Melgam Water (Backwater Reservoir to Loch of Lintrathen)	6568	Auchlyne West Burn	6662
River Tummel (Loch Tummel to Loch Fascally)	6584	River Tummel (L Faskally to R Tay)	6828
River Tummel (Loch Rannoch to Dunalastair Water)	6586	Loch Faskally	6829
Kinnaird Burn	6593	River Garry (Errochty Water Confluence to L Faskally)	6836
River Bruar	6605	River Garry from Garry Intake to Errochty Water confluence	6911
Allt Anndeir	6608	River Garry from Loch Garry to Garry Intake	6912

Table 9: improvements to be done by 2015

Improvements to be done by 2015	
Operator Assets	**Water body impacted**
SSE- Tummel Hydro, Clunie Power Station, impact on Loch Tummel	River Tummel (Loch Tummel to Loch Fascally)
SSE- Tummel Hydro, Rannoch Power Station, impact on Loch Rannoch	River Tummel (Loch Rannoch to Dunalastair Water)
SSE- Tummel Hydro, Errochty Power Station, Imp on Loch Errochty	Errochty Water
SSE- Tummel Hydro, Gaur Power Station, Imp on Abhainn Duibhe	Abhainn Duibhe
SSE- Breadalbane Hydro, Lochay Station, abstraction from Stronuich Reservoir	River Lyon
SSE- Breadalbane Hydro, Lochay Station, Main Tunnel, Abs(119)from Stronuich	R Almond (Source to Fendoch Burn Confluence)

Reservoir	
Scottish Water - Dunkeld WTW, Loch Benachally Impoundment, Forest of Clunie	Lornty Burn
SSE- Tummel Hydro, Rannoch Power Station, Imp on River Ericht @ Loch Ericht	Loch Ericht
SSE- not site specific	Loch Errochty
SSE- not site specific	Loch Tummel
SSE- not site specific	Loch an Daimh
SSE- Breadalbane Hydro, Lubreoch Power Station, Impoundment at Loch Lyon at power station	Loch Lyon
SSE- not site specific	Loch na Lairige
SSE- Tummel Hydro, Pitlochry Power Station, Impoundment on River Tummel at Loch Faskally	River Tummel (L Faskally to R Tay)
SSE- Tummel Hydro, Pitlochry Power Station, Imp on River Tummel @ Loch Faskally	Loch Faskally
SSE- Tummel Hydro, Errochty Power Station, Imp on Loch Errochty	River Garry (Errochty Water Confluence to L Faskally)
SSE- Tummel Hydro, Errochty Power Station, Imp on Allt a Chireachain	Allt Anndeir
SSE- Tummel Hydro, Errochty Power Station, Imp on River Garry	River Garry from Garry Intake to Errochty Water confluence
SSE_ Tummel Hydro, Ericht Power Station, Imp on Allt Dubhaig @ Dam	River Garry from Loch Garry to Garry Intake

Morphological pressures

There are 65 morphological pressures acting upon 56 water bodies in the River Tay catchment. The pressures themselves result from various drivers, including arable farming, forestry, mixed farming, production of renewable electricity and water collection, purification and delivery. It must be noted however that not all of the pressures have identified drivers, and 29 of the aforementioned pressures relate to 24 heavily modified water bodies. Such pressures may not be currently being addressed as a result.

Table 10: water bodies affected by morphological pressures

Water body (WB)	**WB id**	**Heavily Modified WB**	**Water body (WB)**	**WB id**	**Heavily Modified WB**
Loch Ericht	100203	Yes	Dean Water/Treacle Burn (Forfar to Kerbet Water Confluence)	6556	No
Loch Errochty	100216	Yes	Meigle Burn	6557	Yes
Backwater Reservoir	100218	Yes	Commerton Burn	6559	Yes
Loch Tummel	100220	Yes	Kerbet Water	6562	No
Loch Rannoch	100221	Yes	Gairie Burn	6563	No
Dunalastair Water	100222	Yes	Baikie Burn	6564	No
Loch of Lintrathen	100225	Yes	Alyth Burn	6565	No
Loch Benachally	100230	Yes	Incheoch Burn	6566	No
Loch an Daimh	100232	Yes	Cromie Burn	6570	No

Loch Lyon	100239	Yes	Millhole Burn	6575	No
Loch na Lairige	100240	Yes	Allt na Glaise	6596	No
Lochan Breaclaich	100243	Yes	Alt a Chrombaidh	6607	No
Loch Garry	100349	Yes	Allt Anndeir	6608	Yes
River Tay (R Isla to R Earn Confluences)	6498	No	Edendon Water	6609	Yes
River Tay (R Tummel to R Isla Confluences)	6499	No	Allt Coire Dhomhain	6610	No
East Pow (d/s of Methven to R Almond Confluence)	6510	No	Errochty Water	6611	Yes
Trib of East Pow	6512	No	Allt Con	6612	No
River Isla (R Ericht to R Tay Confluences)	6521	No	Allt Ruighe nan Saorach	6613	No
Coupar Burn/Kinochtry	6525	No	Dall Burn	6621	No
Burrelton Burn	6526	No	Allt Chaldar	6630	Yes
Coupar Burn	6527	No	Abhainn Duibhe	6631	No
Lunan Burn (Loch of Drumellie to R Isla Confluence)	6528	No	River Lyon	6639	Yes
Leddown Burn/Lunan Burn (to Loch of Craiglush)	6533	No	Abhainn Glas	6640	No
Lornty Burn	6537	Yes	Allt Cailliche	6650	No
Craigsheal Burn	6538	No	River Tummel (L Faskally to R Tay)	6828	No
Baden Burn	6539	No	Stormontfield Lade	6905	Yes
Unnamed trib of Isla at Aberbothy	6553	No	River Garry from Garry Intake to Errochty Water confluence	6911	Yes
Dean Water (Kerbet Water to R Isla Confluences)	6555	No	River Garry from Loch Garry to Garry Intake	6912	Yes

22 of the morphology pressures are not related to heavily modified water bodies of these 12 water bodies should reach good status by 2015.

Table 11: Water bodies to be at good status by 2015

Improvements to be done by 2015	
Owner	**Water body impacted**
Tay District Salmon Fisheries Board/ Landowner- not site specific	Coupar Burn/Kinochtry
Tay District Salmon Fisheries Board/ Landowner- not site specific	Burrelton Burn
Tay District Salmon Fisheries Board	Coupar Burn
Landowner- not site specific	Dean Water (Kerbet Water to R Isla Confluences
Landowner- not site specific	Gairie Burn
Landowner- not site specific	Alyth Burn
Landowner- not site specific	Cromie Burn
Landowner- not site specific	Allt na Glaise
SSE- not site specific	Allt Con
SSE- not site specific	Alt a Chrombaidh
SSE- not site specific	Allt Coire Dhomhain
-	Allt Ruighe nan Saorach

Table 12: water bodies to meet objectives by 2021 and 2027

Water bodies to reach good status by 2021	**Water bodies to reach good status by 2027**		
East Pow (d/s of Methven to R Almond Confluence)	River Tay (R Isla to R Earn Confluences)	Incheoch Burn	Leddown Burn/Lunan Burn (to Loch of Craiglush)
Dean Water/Treacle Burn (Forfar to Kerbet Water Confluence)	River Tay (R Tummel to R Isla Confluences)	Unnamed trib of Isla at Aberbothrie	Craigsheal Burn
Kerbet Water	Trib of East Pow	Baikie Burn	Baden Burn
	River Isla (R Ericht to R Tay Confluences)	Lunan Burn (Loch of Drumellie to R Isla Confluence	Millhole Burn
	River Tummel (L Faskally to R Tay)		

Invasive species

Invasive species are present within 16 water bodies in the River Tay catchment in regards to Australian swamp stonecrop, Canadian Pondweed (*Elodea canadensis*), Common cordgrass (*Spartina anglica*) and North American signal crayfish (and the risk of their spreading into a particular water body). This is shown in the table below:

Table 13: Water bodies affected by INNS in the Tay catchment

Water body ID	**Water body name**	**Pressures**	**Fixed by**	**Comments/ Assessment Parameters**
River South Esk (White Burn Confluence to Estuary)	5799	Invasive non-native species	Moderate by 2027	North American signal crayfish
River South Esk (White Water to White Burn Confluences)	5800	Invasive non-native species	Moderate by 2027	North American signal crayfish
River South Esk (Source to White Water Confluence)	5801	Invasive non-native species	Moderate by 2027	North American signal crayfish
River Earn	6800	Invasive non-native species	Moderate by 2027	North American signal crayfish
River Earn (Loch Earn to Water of Ruchill confluence)	6839	Invasive non-native species	Moderate by 2027	North American signal crayfish
Water bodies adjacent to River South Esk (White Burn to Estuary; White Water to White		Invasive non-native species		Risk of introduction of NASC.

Burn; source to White Water), River Earn, River Earn (Loch Earn to Water of Ruchill)				
River Tay (R Tummel to R Isla Confluences)	6499	Invasive non-native species	-	Australian swamp stonecrop
Loch of Lintrathen	100225	Invasive non-native species	-	*Canadian Pondweed*
Loch Tay	100233	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis)*
Loch of Drumellie	100234	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis)*
Loch of Lowes	100235	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis*
Loch of Clunie	100236	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis*
Loch Freuchie	100242	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis)*
Dunkeld–Blairgowrie Lochs SAC	UK0012638	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis*
Eden Estuary	200057	Invasive non-native species	-	Canadian Pondweed *(Elodea canadensis*

Groundwater bodies

Twenty five groundwater bodies are associated with the catchment (appendix 1), of which twenty three are expected to attain and then maintain a good status by 2015. Of the two which do not, the Newburgh bedrock and localised sand and gravel aquifer (150251) is expected to attain good status by 2021, with an arable farm diffuse pollution pressure preventing it achieving this earlier. The Carse of Gowrie bedrock and localised sand and gravel aquifer (150255) is not however expected to revise from its current poor classification throughout any of the first three planning cycles, with the pressure itself resulting from arable farming diffuse source pollution. This is due to the natural recovery time required for its improvement. Measures are however in place on both these water bodies (amongst others) to remediate this and maintain a good status.

Areas of action

Action	Suggested owner	Date
Ensure Scottish Water objectives are on track to deliver	SEPA quality and standards team	Ongoing - 2027

CAR irrigation licence review to address agricultural abstraction pressures	SEPA/ Tay AAG	2027
Work with landowners and link with restoration strategy to address morphological pressures	SEPA/ Tay AAG	Ongoing - 2021
Determine measures to alleviate diffuse source pollution pressures	SEPA/ Tay AAG	Ongoing - 2015
Investigate presence of invasive species and their locations to prevent downgrading of the water body	RBMP coordinator	Ongoing
Identify measures to tackle the presence of non native species and determine a fix by date	RBMP coordinator/ Tay AAG	Ongoing - 2027
Determine the measures being put in place to tackle the pressures on groundwater	RBMP	Ongoing
Continue to raise profile of RBMP and requirement to protect and improve the water environment	SEPA/ All AAG members	Ongoing

Appendix 3 has further details of groundwater classification in the Tay catchment

Appendix

Appendix 1: Classification and objectives summary

Ecological status/ecological potential classification	**Number of water bodies**	**Names of water bodies (water body ID)**	**Good by**
High	18	Glenshervie Burn (6514) Glen Lochsie Burn (6546) River Braan (6576) Cochill Burn (6577) River Quaich (6578) River Tilt (6598) Fender Burn (6599) Feith an Lochain (6600) Tarf Water (6602) Caochan Lu (6606) Allt Kynachan (6617) River Ericht (Source to Loch Ericht near Dalwhinnie) (6625) Allt Odhar (6642) Eas Daimh (6649)	- - - - - - - - - - - - - -

		Acharn Burn (6651) Lairig an Lochain (6656) Allt Breaclaich (Source to Breaclaich Res) (6658) Canty Burn (6845)	- - - -
Good	56	River Tay (R Lyon to R Tummel confluences) (6500) River Tay (Loch Tay to R Tummel confluences) (6501) East Pow (Source to d/s of Methven) (6511) Shochie Burn (Source to Ordie Burn confluence) (6520) River Isla/Canness Burn (6524) Lunan Burn (Loch of Clunie to Loch of Drumellie) (6529) Buckny Burn (6534) River Ericht (6535) Allt Fearnach (6536) Black Water (Allt Mor to R Ericht confluences) (6540) Black Water (Source to Allt Mor confluence) (6541) Drumturn Burn (6542) Ennoch Burn (6543) Allt an Daimh/Allt Mor (6544) Allt a Ghlinne Bhig (6545) Pitcarmick Burn (6547) Allt Menach (6548) Balnald Burn (6549) Allt Doire nan Eun (6550) Brerachan Water (6551) Allt Glen Loch (6552) Glendmff Burn (6569) Inzion Burn/Quharity Burn (6571) Hole Burn (6572) Burn of Kilry (6573) Newton Burn/Finlet Burn (6574) Ballinloan Burn (6579) Tombane Burn (6580) Dowally Burn/Pitrannoch Burn (6581) Tulliemet Burn (6582) Garbh Ghaoir (6588) Abhainn ba (6589) River Ba (6590) Lochbroom Burn (6591) Edradour Burn (6592) Allt Girnaig (6597) An Lochain (6601) Banvie Burn (6603) Allt Bhaic (6604) Glen Fincastle Burn (6614) Allt Kinardochy (6616) Carie Burn (6619) Allt Camghouran (6622) Allt Eigheach (6632) Allt Lochain Ghaineamhaich (6633) Balnaguard Burn (6634) Allt a Phruneich (6636) Allt a Chilleine (6652) River Lochay (Allt Dhuin Croisg confluence to Loch Tay) (6660) Luib Burn (6663) Lunan Burn (Loch of Lowes to Loch of Clunie) (6846)	- - - - - - - - - - -

			- - -
Good ecological potential	12	River Almond (Source to Fendoch Burn confluence) (6508) Melgam Water (Backwater Reservoir to Loch of Lintrathen) (6568) River Tummell (Loch Tummell to Loch Fascally) (6584) River Tummell (Dunalastair Water to Loch Tummell) (6585) River Tummell (Loch Rannoch to Dunalastair Water) (6586) River Gaur (6587) Errochty Water (6611) Abhainn Duibhe (6631) River Lyon (6639) Loch Faskally (6829) River Garry (Errochty Water confluence to Loch Faskally) (6836) Stormontfield Lade (6905)	- - - - - - - - - - - -
Moderate	20	River Tay (R Isla to R Earn confluences) (6498) River Tay (R Tummel to R Isla confluences) (6499) Cononish (6505) East Pow (d/s of Methven to R Almond confluence) (6510) Trib of East Pow (6512) Fendoch Burn (6513) River Isla (R Ericht to R Tay confluences) (6521) River Isla (Dean Water to R Ericht confluences) (6522) River Isla (Glencally Burn to Dean Water confluences) (6523) Lunan Burn (Loch of Drumellie to R Isla confluence) (6528) Leddown Burn/Lunan Burn (to Loch of Craiglush) (6533) Eassie Burn (6560) Glamis Burn (6561) Baikie Burn (6564) Inchoech Burn (6566) Allt Con (6612) Allt Ruighe nan Saorach (6613) Urlar Burn (6637) Camserney Burn (6638) Cambusmichael Burn (6906)	2027 2027 2015 2021 2027 2027 2027 2027 2027 2027 2027 2015 2015 2027 2015 Poor in 2027 2027 2015
Moderate ecological potential	8	Allt a Chobhair (6644) Allt Gleann Da-Eig (6645) Allt Bail a Mhuilinn (6647) Allt Conait (6648) Allt a'Mhoirneas (6655) Allt Breaclaich (Breaclaich Res to Loch Tay) (6657) Auchlyne West Burn (6662) River Tummel (L Faskally to R Tay) (6828)	2027 2027 2027 2027 2027 2027 2027 2027
Poor	15	River Dochart (Loch Lubhair to Auchlyne West Burn confluence) (6503) Burrelton Burn (6526)	2027 2015

		Coupar Burn (6527)	2027
		Craigsheal Burn (6538)	2027
		Baden Burn (6539)	2027
		Unnamed trib of Isla at Aberbothy (6553)	2027
		Kerbet Water (6562)	2021
		Alyth Burn (6565)	2027
		Cromie Burn (6570)	2015
		Millhole Burn (6575)	2027
		Allt na Glaise (6596)	2015
		Allt a Chrombaidh (6607)	2015
		Dall Burn (6621)	2015
		Abhainn Glas (6640)	Poor at 2027
		Allt Cailliche (6650)	Poor at 2027
Poor ecological potential	7	Meigle Burn (6557)	2027
		Commerton Burn (6559)	2027
		Melgam Water (Loch of Lintrathen to R Isla) 6567River Bruar (6605)	2027
		Edendon Water (6609)	2015
		River Ericht (Loch Ericht to Loch Rannoch) (6624)	2027
		Lawers Burn (6653)	2027
Bad	16	River Dochart (confluence Auchlyne West Burn to Loch Tay) (6502)	2027
		R Fillan (6504)	2027
		River Almond (R East Pow to R Tay confluences) (6506)	2027
		River Almond (Freedoch Burn to R East Pow confluences) (6507)	2027
		Coupar Burn/Kinochtry (6525)	2021
		Dean Water (Kerbet Waetr to R Isla confluences) (6555)	2021
		Gairie Burn (6563)	2027
		Kinnaird Burn (6593)	Bad at 2027
		Allt Coire Dhomhain (6610)	2027
		Innerhadden Burn (6618)	Bad at 2027
		Allt Ghlas (6626)	2027
		Keltney Burn (6641)	Bad at 2027
		Invervar Burn (6643)	Bad at 2027
		Allt a Mhuic (6646)	Bad at 2027
		St Martins Burn/Balgray Burn (6904)	2027
Bad ecological potential	10	Lornty Burn (6537)	2027
		Allt Anndeir (6608)	2015
		Allt a Chreagain Odhair (6620)	2015
		Killichonan Burn (6623)	2027
		Allt Chaldar (6630)	2027
		Ardeonaig Burn (6654)	2027
		Achmore Burn (6659)	2027
		River Lochay (source to Allt Dhuin Croisg confluence) (6661)	2027
		River Garry from Garry intake to Errochty Water confluence (6911)	2027
		River Garry from Loch Garry to Garry intake (6912)	2015

Appendix 2: Protected Areas

Protected area (PA) designation	No. WBs	Condition/ Classification	PA ID	Name
Drinking Water Protection Zone	48	Pass	6498	River Tay (R Isla to R Earn Confluences)
		Pass	6506	River Almond (R East Pow to R Tay Confluences)
		Pass	6513	Fendoch Burn
		Pass	6549	Balnald Burn
		Pass	6581	Dowally Burn/Pitrannoch Burn
		Pass	6597	Allt Girnaig
		Pass	6659	Achmore Burn
		Pass	6849	Crom Allt (lower to R Cononish)
		Pass	6851	Allt Glas (lower section to R Dochart Confluence)
		Pass	6887	Crom Allt (upper)
		Pass	6889	Finglen Burn
		Pass	6895	Allt Coire Ardrain
		Pass	6897	Allt Glas (upper section)
		Pass	150256	Dundee bedrock and localised sand and gravel aquifers
		Pass	150260	Perth bedrock and localised sand and gravel aquifers
		Pass	150262	Alyth bedrock and localised sand and gravel aquifers
		Pass	150264	East Pow Valley Sand and Gravel
		Pass	150277	Crieff bedrock and localised sand and gravel aquifers
		Pass	150279	Pow Valley Sand and Gravel
		Pass	150285	Strathardle bedrock and localised sand and gravel aquifers
		Pass	150286	Black Water Valley Sand and Gravel
		Pass	150287	Ericht Valley Sand and Gravel
		Pass	150290	Upper Tay bedrock and localised sand and gravel aquifers
		Pass	150291	Upper Tay Valley Sand and Gravel
		Pass	150292	Tummel Valley Sand and Gravel
		Pass	150293	Glen Lyon Sand and Gravel
		Pass	150294	Garry and Loch Rannoch bedrock and localised sand and gravel aquifers
		Pass	150295	Glen Garry Sand and Gravel
Freshwater Fish (Existing)	1	Mandatory = Pass Guideline = Fail	UKS78659102	River Tay
Special Area of Conservation (SAC)	11	Unfavourable	UK0012638	Dunkeld - Blairgowrie Lochs
		Favourable	UK0012821	Caenlochan
		Favourable	UK0012891	Tulach Hill and Glen Fender Meadows
		Favourable	UK0012895	Ben Lawers
		Favourable	UK0012901	Ben Heasgarnich
		Favourable	UK0012952	Meall na Samhna
		Favourable	UK0030123	Craighall Gorge
		Favourable	UK0030152	Dun Moss and Forest of Alyth Mires
		Favourable	UK0030174	Keltneyburn
		Favourable	UK0030274	Shingle Islands
		Favourable	UK0030312	River Tay
Special Protection Area (SPA)	2	Favourable	UK9004061	Loch of Lintrathen
		Favourable	UK9004381	Forest of Clunie
UWWTD Sensitive	5	-	UKS912713	Forfar Loch

Area (Existing)		-	UKS9127120	Annaty Burn
		-	UKS9127127	Burrelton Burn
		-	UKS9127181	Dean Water (including Meigle Burn, Glamis Burn, Gairie Burn)
		-	UKS9127191	Dean Water

Appendix 3: Flow Regulation

100203	Loch Ericht	Flow Regulation	Production of renewable electricity
100216	Loch Errochty	Flow Regulation	Production of renewable electricity
100220	Loch Tummel	Flow Regulation	Production of renewable electricity
100225	Loch of Lintrathen	Flow Regulation	Water collection, purification and distribution
100232	Loch an Daimh	Flow Regulation	Production of renewable electricity
100239	Loch Lyon	Flow Regulation	Production of renewable electricity
100240	Loch na Lairige	Flow Regulation	Production of renewable electricity
6508	R Almond (Source to Fendoch Burn Confluence)	Flow Regulation	Production of renewable electricity
6537	Lornty Burn	Flow Regulation	Water collection, purification and distribution
6567	Melgam Water (Loch of Lintrathen to R Isla)	Flow Regulation	Water collection, purification and distribution
6568	Melgam Water (Backwater Reservoir to Loch of Lintrathen)	Flow Regulation	Water collection, purification and distribution
6568	Melgam Water (Backwater Reservoir to Loch of Lintrathen)	Flow Regulation	Water collection, purification and distribution
6584	River Tummel (Loch Tummel to Loch Fascally)	Flow Regulation	Production of renewable electricity
6586	River Tummel (Loch Rannoch to Dunalastair Water)	Flow Regulation	Production of renewable electricity
6593	Kinnaird Burn	Flow Regulation	Production of renewable electricity
6605	River Bruar	Flow Regulation	Production of renewable electricity
6608	Allt Anndeir	Flow Regulation	Production of renewable electricity
6611	Errochty Water	Flow Regulation	Production of renewable electricity
6620	Allt a Chreagain Odhair	Flow Regulation	Production of renewable electricity
6623	Killichonan Burn	Flow Regulation	Production of renewable electricity
6624	River Ericht (Loch Ericht to Loch Rannoch)	Flow Regulation	Production of renewable electricity
6630	Allt Chaldar	Flow Regulation	Production of renewable electricity
6631	Abhainn Duibhe	Flow Regulation	Production of renewable electricity
6639	River Lyon	Flow Regulation	Production of renewable electricity
6648	Allt Conait	Flow Regulation	Production of renewable electricity
6653	Lawers Burn	Flow Regulation	Production of renewable electricity
6655	Allt a'Mhoirneas	Flow Regulation	Production of renewable electricity
6657	Allt Breaclaich (Breaclaich Res to Loch Tay)	Flow Regulation	Production of renewable electricity
6659	Achmore Burn	Flow Regulation	Production of renewable electricity
6662	Auchlyne West Burn	Flow Regulation	Production of renewable electricity
6828	River Tummel (L Faskally to R Tay)	Flow Regulation	Production of renewable electricity
6829	Loch Faskally	Flow Regulation	Production of renewable electricity
6836	River Garry (Errochty Water Confluence to L	Flow Regulation	Production of renewable electricity

	Faskally)		
6911	River Garry from Garry Intake to Errochty Water confluence	Flow Regulation	Production of renewable electricity
6912	River Garry from Loch Garry to Garry Intake	Flow regulation	Production of renewable electricity

Appendix 3: Groundwater bodies chemistry classifications

WB ID	Water body	Chemistry Classification				Associated PDF location
		2008	2015	2021	2027	
150251	Newburgh bedrock and localised sand and gravel aquifers	Poor	Poor	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150251.pdf
150253	Ordie Burn Valley Sand and Gravel	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150253.pdf
150254	Forfar Sand and Gravel	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150254.pdf
150255	Carse of Gowrie bedrock and localised sand and gravel aquifers	Poor	Poor	Poor	Poor	http://apps.sepa.org.uk/rbmp/pdf/150255.pdf
150256	Dundee bedrock and localised sand and gravel aquifers	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150256.pdf
150258	Forfar bedrock and localised sand and gravel aquifers	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150258.pdf
150259	Sidlaw Hills bedrock and localised sand and gravel aquifers	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150259.pdf
150260	Perth bedrock and localised sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150260.pdf
150261	Vale of Strathmore bedrock and extensive sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150261.pdf
150262	Alyth bedrock and localised sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150262.pdf
150263	Almond Valley Sand and Gravel	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150263.pdf
150264	East Pow Valley Sand and Gravel	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150264.pdf
150277	Crieff bedrock and localised sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150277.pdf
150278	Earn Valley Sand and Gravel	Poor	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150278.pdf
150285	Strathardle bedrock and localised sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150285.pdf
150286	Black Water Valley Sand and Gravel	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150286.pdf
150287	Ericht Valley Sand and Gravel	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150287.pdf
150290	Upper Tay bedrock and localised sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150290.pdf
150291	Upper Tay Valley Sand and Gravel	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150291.pdf
150292	Tummel Valley Sand and Gravel	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150291.pdf
150293	Glen Lyon Sand and Gravel	Good	Good	Good	Good	http://apps.sepa.org.uk/rbmp/pdf/150293.pdf

150294	Garry and Loch Rannoch bedrock and localised sand a nd gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/ rbmp/pdf/150294.pdf
150295	Glen Garry Sand and Gravel	Good	Good	Good	Good	http://apps.sepa.org.uk/ rbmp/pdf/150295.pdf
150327	Upper Spey bedrock and localised sand and gravel aqui fers	Good	Good	Good	Good	http://apps.sepa.org.uk/ rbmp/pdf/150327.pdf
150377	Spean and Loch Lochy bedrock and localised sand and gravel aquifers	Good	Good	Good	Good	http://apps.sepa.org.uk/ rbmp/pdf/150377.pdf