

Published September 2010

North Highland Area Management Plan Catchment Summaries

There is a catchment summary for each catchment in the North Highland advisory group area. These give information on the current situation (classification and pressures) and action. A guide to these catchment summaries and a glossary of terms is available. Further information on individual water bodies within each catchment can be found on the river basin management planning interactive map – www.sepa.org.uk/water/river_basin_planning.aspx

The North Highland catchment summaries are contained with 5 documents:

- Caithness and Sutherland
- Moray Firth – Dornoch to Inverness
- Ness
- Moray Firth – Nairn to Lossiemouth
- Ground Water Bodies

This document includes catchment summaries for **Ness**:-

	Page
River Ness (summary)	2
Caledonian canal.....	4
Waters draining into Loch Ness.....	4
Water bodies supplying water for drinking and waste water disposal for Inverness	5
Ault na Skiah.....	6
Glen Doe hydro scheme	6
Foyers hydro scheme	7
Water bodies used by the River E hydro-power scheme.....	8
Ness hydro-scheme.....	8
Quioch power station	8
Invergarry powerstation	9
Ceannacroc powerstation	10
Livishie powerstation	11
Glenmoriston powerstation.....	12
Abhainn Chosaidh, Allt Coire nan Gall, River Quoich, River Loyne - Loch Loyne to source and River Cluanie.	12
Protected Areas.....	13

Catchment	Current situation	Actions for improvement
<p>River Ness (summary)</p>	<p>The River Ness is the largest catchment in North Highland including 73 water bodies. Thirty six of these are natural, 34 heavily modified and 3 are artificial water bodies. There is also one ground water body.</p> <p>Natural Water bodies</p> <p>Of the 36 natural water bodies, four are at high ecological status; Aberchalder Burn/Allt an Rathain Ruiadh, Calder Burn, Greenfield Burn and Invervigar Burn. However, the classification of Aberchalder Burn/Allt an Rathain Ruiadh needs to be checked.</p> <p>Eighteen natural water bodies are good ecological status; Allt Baile nan Cam, Allt Choire a Bhalachain, Allt Ladaidh, Allt Luaidhe, Allt Mharconaich, Allt Phocaichain, Allt na Cailliche, Loch Knockie, Loch Meiklie, Loch Ness, Loch Oich, Loch Tarff, River Coiltie, River Enrick - Loch Meiklie to Allt Seanabhaile confluence, River Enrick – headwaters, River Kingie, River Ness - Inverness Firth to Loch Ness and River Oich. However, additional assessment of morphological impacts on the River Ness – Inverness Firth to Loch Ness is needed.</p> <p>No natural water bodies are at moderate ecological status.</p> <p>Twelve natural water bodies are poor ecological status; Abhainn Chosaidh, Allt Cailidh, Allt Coire nan Gall, Big Burn - Loch Ashie to source, Big Burn - Ness confluence to Loch Ashie, Liath Burn Farigaig Forest, Loch Ruthven, River Cluanie, River Enrick - Loch Ness to Loch Meiklie, River Farigaig, River Loyne - Loch Loyne to source and River Quoich,</p> <p>Two natural water bodies are bad ecological status; Aldernaig Burn - River Garry to hatchery and Allt Lon Glas Bheinn. The Aldernaig Burn water body has recently merged with Aldernaig Burn – hatchery to source. This will be reflected in future classifications.</p>	

Catchment	Current situation	Actions for improvement
<p>River Ness continued</p>	<p>Heavily modified water bodies Of the 34 heavily modified water bodies one is at maximum ecological potential; River Tarff</p> <p>Twenty six heavily modified water bodies are at good ecological potential; Aldernaig Burn - hatchery to source, Allt Breineag, Allt Doe, Allt Larairidh, Allt Odhar, Allt Saigh, Allt na Muic, Loch Cluanie, Loch Garry, Loch Killin, Loch Loyne, Loch Mhor, Loch Quoich, Loch a Chràthaich, Loch ma Stac, River E, River Fechlin - Loch Mhor Transfer to Loch Killin, River Foyers - Loch Ness to Whitebridge, River Garry - Loch Garry to Loch Poulary, River Garry - Loch Oich to Loch Garry, River Garry - Loch Poulary to Loch Quoich, River Killin - Loch Killin to Stronelaig Lodge, River Killin – headwaters, River Moriston - Dundreggan Dam to Bun Loyne, River Moriston - Loch Ness to Dundreggan Dam, River Moriston - River Loyne confluence to Loch Cluanie.</p> <p>Two heavily modified water bodies are moderate ecological potential; Allt an Loin and Ault na Skiah.</p> <p>Two heavily modified water bodies are poor ecological potential; Allt Bhlaraidh and River Fechlin - Whitebridge to Loch Mhor Transfer.</p> <p>Three heavily modified water bodies are bad ecological potential; Loch Ashie, River Doe and River Loyne - River Moriston confluence to Loch Loyne.</p> <p>Artificial water bodies All three of the artificial water bodies in the Ness catchment are at good ecological potential; Caledonian Canal - Loch Oich to Loch Ness, Caledonian Canal - Loch Oich to catchment boundary and Caledonian Canal - Tomnahurich Bridge to Loch Ness.</p> <p>Ground water bodies The one ground water body, Loch Ness bedrock and localised sand and gravel aquifer, is at good status.</p>	

Catchment	Current situation	Actions for improvement
Caledonian canal	<p>The Caledonian canal forms part of the north eastern and south western end of the Ness catchment and includes three artificial water bodies; The Caledonian Canal - Loch Oich to Loch Ness, Caledonian Canal - Loch Oich to catchment boundary and Caledonian Canal - Tomnahurich Bridge to Loch Ness.</p> <p>These are all at good ecological potential because no significant alterations can be made to the structure of the canal in order to improve its habitat.</p>	

Catchment	Current situation	Actions for improvement
Waters draining into Loch Ness	<p>Natural water bodies A number of water bodies draining from the north and south side of Loch Ness are poor ecological status due to fish barriers from road culverts; River Enrick- Loch Ness to Loch Meiklie, River Farigaig, Liath Burn Farigaig Forest, Allt Caillidh and Loch Ruthven.</p> <p>Pollution from sewage disposal on River Enrick (Loch Ness to Loch Meiklie) is downgrading the river to poor ecological status. However, Balnain STW is now in operation and will be contributing to improvements. This classification should be reviewed.</p>	<p>Natural water bodies The River Farigaig, Liath Burn Farigaig Forest, Allt Caillidh and Loch Ruthven are predicted to be good ecological status by 2015 with the removal or mitigation of the barriers to fish passage. However, management options need to be discussed and funding found.</p> <p>The River Enrick- Loch Ness to Loch Meiklie is predicted to be good ecological status by 2026 with improvements to the culverts causing a barrier to fish migration. However, management options need to be discussed and funding found.</p>

Catchment	Current situation	Actions for improvement
<p>Water bodies supplying water for drinking and waste water disposal for Inverness</p>	<p>Natural water bodies At the north eastern end of the Ness catchment, The Big Burn - Ness confluence to Loch Ashie) is at poor ecological status due to water abstraction and regulation of flows for drinking water supply and barriers to fish passage (bridge and weir) , The Big Burn - Loch Ashie to source is also impacted by a pipe and box culverts affecting the passage of fish.</p> <p>Heavily modified water bodies Loch Ashie is a heavily modified water body as it provides the water supply for Inverness. It is currently at bad ecological potential due to impacts from water abstraction, flow regulation and several morphological alterations.</p>	<p>Natural water bodies The Big Burn - Loch Ashie to source is predicted to be good ecological status in 2020 with removal or mitigation of the fish barrier. Management options and funding for this need to be discussed.</p> <p>The Big Burn – Ness confluence to Loch Ashie is predicted to be good ecological status by 2024. Removal or mitigation of barriers to fish passage is scheduled for 2013 and 2014 although management options still need to be discussed and funding found.</p> <p>In addition, controlled abstraction and improved regulated flows at Inverness water treatment works by Scottish Water are scheduled by 2024; additional water resource is required to meet the projected deficit in the supply demand balance of Loch Ashie./ Inverness Supply Zone. Several solutions are currently being investigated.</p> <p>Heavily modified water bodies Loch Ashie is predicted to be good ecological potential by 2024 with improvements to fish passage in 2013 and 2014. However, options for improvement need to be explored and funding found. In addition, controlled abstraction, provision of appropriate baseline flow and improvement to condition of channel will be implemented by Scottish Water by 2024.</p> <p>Loch Ashie and Big Burn should be subject to the test of whether they are exempt from the objective of preventing deterioration in status and also whether they should be classified as a heavily modified water body.</p>

Catchment	Current situation	Actions for improvement
Ault na Skiah	Ault na Skiah, on the outskirts of Inverness, is a heavily modified waterbody because it is used for urban landuse. It is at moderate ecological potential due to morphological alterations as a result of urban development and diffuse pollution.	<p>Through the planning process Highland Council will discourage further culverting of the Ault na Skiah.</p> <p>This water body is predicted to reach good ecological potential in 2026 with improvement to the channel by 2015 by The Highland Council and reduced diffuse pollution by 2026. However, management options need to be discussed and funding found.</p>

Catchment	Current situation	Actions for improvement
Glen Doe hydro scheme	The Glen Doe hydro-scheme, operated by Scottish and Southern Energy, is expected to start production in 2011. In order for a license to be granted, a number of mitigation measures have been put in place to ensure that the balance is struck between electricity generation and protection of the water environment. These include the provision of appropriate flows downstream of the Tarff dam and control in the pattern and timing of abstraction. Because there are natural fish barriers downstream of the main dam, there is no need for a fish pass. This means that those rivers and lochs which are used in the hydro-scheme will be at good ecological potential; Allt Breineag, Loch Killen, River Killin – headwaters, River Killen – Loch Killen to Stronelaig Lodge and Allt Odhar.	

Catchment	Current situation	Actions for improvement
<p>Foyers hydro scheme</p>	<p>The Foyers power station, operated by Scottish and Southern Energy, produces hydro-electricity via a combined pumped storage and conventional hydro scheme on the shores of Loch Ness, using water from the River Fechlin, River E, and Aberchalder Burn. The River E and Aberchalder Burn feed into this scheme. The River E is also used by run a river hydro-power scheme (see below).</p> <p>The River Fechlin (Whitebridge to Loch Mhor Transfer) is poor ecological potential because it needs appropriate baseline flows, the improvement of flows and controlled abstraction</p> <p>Two of the water bodies currently affected by this power station, the River Foyers (Loch Ness to Whitebridge) – and Loch Mhor are at good ecological potential due to mitigation measures already in place; control pattern/timing of abstraction. The operation of Foyers power station is dependant on using Loch Mhor as a large reservoir of water. Mitigation is not required for issues with loch levels, temperature, dissolved oxygen, compensation flows and sediment management as these would have a significant impact on the use of the reservoir.</p> <p>The Allt an Loin is at moderate ecological potential because it needs appropriate baseline flow downstream and control/timing pattern of abstraction.</p> <p>The River Fechlin - Loch Mhor Transfer to Loch Killin is a heavily modified water body because RWE npower operate the Garrogie run-of-river¹ hydro-power scheme on it. It is at good ecological potential because appropriate mitigation is in place; provision of appropriate flows and control of the pattern and timing of abstraction.</p>	<p>River Fechlin (Whitebridge to Loch Mhor Transfer) is predicted to be good ecological potential by 2021 by the provision of appropriate baseline flow regime downstream of impoundment, the improvement of regulated flows and controlled abstraction.</p> <p>The Allt an Loin is predicted to be good ecological potential by 2027 with the provision of appropriate baseline flow downstream and control/timing pattern of abstraction.</p>

1

Catchment	Current situation	Actions for improvement
Water bodies used by the River E hydro-power scheme	The River E is a heavily modified water body as it is used for a run-of-river hydro power scheme operated by RWE npower. It is at good ecological potential. Exemptions from the objective of preventing deterioration in status have been allowed on the River E. Deterioration to bad ecological status for the hydrology part of the classification has been allowed in order to enable abstraction and impoundment of water for hydropower to benefit sustainable development.	

Catchment	Current situation	Actions for improvement
Ness hydro-scheme	<p>The Ness hydro-scheme, operated by Scottish and Southern Energy, lies along the shore of Loch Ness and the area to the west of Fort Augustus, incorporating Glenmoriston up to Loch Cluanie, and from Loch Loch Garry, west to Loch Quoich.</p> <p>The Ness scheme includes 5 power stations – Ceannacroc, Livishie, Glenmoriston, Quioch and Invergarry – and the information that follows for the water bodies used by the Ness scheme is grouped as per these power stations.</p>	

Catchment	Current situation	Actions for improvement
Quioch power station	<p>Quioch power station uses water from River Garry -Loch Poulary to Loch Quioch and River Garry - Loch Garry to Loch Poulary and stores water in Loch Quioch. All three water bodies are at good ecological potential because the appropriate mitigation is in place; there is control of the pattern and timing of flow and provision of baseline flow downstream of the dam on Loch Quioch.</p> <p>The operation of the Quioch power station is dependant on using Loch Quioch as a large reservoir of water. Mitigation is therefore not required for issues with loch levels, temperature, dissolved oxygen, compensation flows and sediment management as these would have a significant impact on the use of the reservoir. There is no need for a fish pass because there is insufficient habitat upstream.</p>	

Catchment	Current situation	Actions for improvement
<p>Invergarry powerstation</p>	<p>Loch Garry and River Garry – Loch Garry to Loch Poulary and River Garry – Loch Oich to Loch Garry are used by the Invergarry powerstation. These water bodies are at good ecological potential because the pattern and timing of abstraction is controlled and an appropriate baseline flow is provided. A fish pass is not required because this would have a significant adverse impact on the operator which would be out of proportion to the positive impacts and hence unacceptable.</p> <p>The operation of Invergarry power station is dependant on using Loch Garry as a large reservoir of water. Mitigation is therefore not required for issues with loch levels, temperature, dissolved oxygen, compensation flows and sediment management as these would have a significant impact on the use of the reservoir.</p> <p>The Aldernaig Burn - hatchery to source is already at good ecological potential for hydrology because mitigation is in place; an appropriate baseline flow is provided and the pattern and timing of abstraction is controlled. The Water Framework Directive classification in 2008 showed a barrier to fish passage. However, this is a mistake as there is a natural barrier just upstream and the classification will be revised accordingly.</p> <p>Downstream, the Aldernaig Burn - River Garry to hatchery is at bad ecological status due to flow regulation and abstraction pressures from Invergarry hydro-power station. There is no longer a hatchery on the Aldernaig Burn - River Garry to hatchery. Therefore, this water body is therefore going to be merged with Aldernaig Burn - hatchery to source. This will make it a heavily modified water body and good ecological potential.</p> <p>Allt Lon Glaas Bheinn is at bad ecological status as it has abstraction and flow regulation pressures from the Garrgualach hydro power station operated by RWE npower.</p>	<p>Allt Lon Glaas Bheinn is predicted to be good ecological status by 2026 with controlled abstraction and improved regulated flows. However these measures need to be discussed and agreed.</p>

Catchment	Current situation	Actions for improvement
<p>Ceannacroc powerstation</p>	<p>Water from the River Moriston and associated catchment areas supply the Ceannacroc powerstation. There are two main upper reservoirs both held back by dams; Loch Loyne held back by Loyne dam and Loch Cluanie, held back by Cluanie Dam. Water is diverted from Loch Loyne into Loch Cluanie via a tunnel. Water from the upper reaches of the River Doe is delivered via a branch tunnel either directly to Ceannacroc Power Station or to Loch Cluanie for storage. Water is discharged from the power station back into the River Moriston.</p> <p>The River Moriston - River Loyne confluence to Loch Cluanie and the Allt na Muic are already at good ecological potential as mitigation measures are already in place; provision of appropriate baseline flow regime downstream of impoundment, controlled pattern/timing of abstraction.</p> <p>Loch Loyne is at good ecological potential. Mitigation for abstraction or morphology is not required because this would have a significant adverse impact on the use of the Loch for hydro-power.</p> <p>Loch Cluanie is at good ecological potential because the following mitigation is in place; provision of appropriate baseline flow and control of the pattern and timing of abstraction. A fish pass is not required as there is insufficient habitat upstream.</p> <p>The operation of the Ceannacroc Power Station is dependant on using Loch Cluanie as a large reservoir of water. Mitigation is therefore not required for issues with loch levels, temperature, dissolved oxygen and sediment management as these would have a significant impact on the use of the reservoir.</p> <p>Two water bodies, the River Doe and the River Loyne - River Moriston confluence to Loch Loyne are not yet at good ecological potential because they do not yet have appropriate baseline flow regime downstream of impoundment, or controlled pattern/timing of abstraction.</p>	<p>The River Doe is predicted to be good ecological potential by 2014 with the provision of appropriate flow and the control of the pattern and timing of flows.</p> <p>The River Loyne - River Moriston confluence to Loch Loyne is predicted to be good ecological potential by 2015 with the provision of an appropriate flow downstream of Loyne dam and the control of the pattern and timing of flows, plus controlled abstraction.</p>

Catchment	Current situation	Actions for improvement
<p>Livishie powerstation</p>	<p>North of Glenmoriston Power Station a system of aquaducts collects water from burns which would otherwise flow into the River Moriston, downstream from Dundreggan. This is delivered to Livishie Power Station, an underground facility which discharges into Loch Dundreggan and subsequently feeds into the Glenmoriston Power Station</p> <p>The Allt Saigh and Allt Larairidh are at good ecological potential because mitigation measures are in place; improved regulated flows, and controlled abstraction are in place on the Allt Saigh and control of the pattern and timing of abstraction on the Allt Larairidh.</p> <p>Loch ma Stac and Loch a Chràthaich are at good ecological potential. The operation of the Livishie Power Station is dependant on using Loch ma Stac and Loch a Chràthaich as a large reservoirs of water. Mitigation is therefore not required for issues with loch levels, temperature, dissolved oxygen and sediment management as these would have a significant impact on the use of these reservoirs. Morphological improvements are not required because these would have a significant impact on the use of the lochs for hydro-power. Any further mitigation would have a significant impact on use of the loch to reduce hydropower..</p> <p>The Allt Bhlaraidh, is at poor ecological potential because of abstraction pressures.</p>	<p>The Allt Bhlaraidh is predicted to be at good ecological potential by 2027 with the control of the pattern and timing of abstraction.</p>

Catchment	Current situation	Actions for improvement
<p>Glenmoriston powerstation</p>	<p>Three stretches of the River Moriston are heavily modified as they are used to supply to Glenmoriston power station; All three are at good ecological potential because adequate mitigation is in place:</p> <p>River Moriston - Dundreggan Dam to Bun Loyne is at good ecological potential because the control pattern/timing of abstraction, appropriate management of rate and range of artificial drawdown</p> <p>The River Moriston - Loch Ness to Dundreggan Dam – is at good ecological potential because abstraction and pattern of flow are adequately controlled.</p> <p>River Moriston - River Loyne confluence to Loch Cluanie is at good ecological potential because the abstraction and pattern of flow are adequately controlled and there is provision of appropriate baseline flow.</p>	

Catchment	Current situation	Actions for improvement
<p>Abhainn Chosaidh, Allt Coire nan Gall, River Quoich, River Loyne - Loch Loyne to source and River Cluanie.</p>	<p>There are five rivers in the River Ness catchment, all draining into Lochs Cluanie, Loyne and Quoich that are used for hydropower and have been classified as poor ecological status because the dams on the lochs in question have no provision for fish passage; Abhainn Chosaidh, Allt Coire nan Gall, River Quoich, River Loyne - Loch Loyne to source and River Cluanie.</p> <p>These five rivers are upstream of heavily modified lochs (Cluanie, Loyne and Quoich) which are at GEP and are used for hydropower. The five rivers are natural water bodies which are classified as being at poor ecological status due to fish barriers which are on the downstream lochs. It is recognised that the fish barriers will not be removed as they are intrinsic to the operation of the hydropower stations. Therefore, the rivers upstream have been set a less stringent objective. This means that although all other aspects of the river classification must meet good status, the fish classification will not and as such the water bodies will remain at poor ecological status.</p>	

Catchment	Current situation	Actions for improvement
<p>Protected Areas</p>	<p>The River Ness catchment includes the following protected areas, which are all meeting their required standards:</p> <ul style="list-style-type: none"> • Special Areas of Conservation <ul style="list-style-type: none"> • Loch Ruthven (for clear-water lochs with aquatic vegetation and poor to moderate nutrient levels and otters) • Ness Woods (for otters) • Special Protection Areas <ul style="list-style-type: none"> • Loch Ruthven (for breeding Slavonian grebes) • Loch Knockie and Nearby Lochs (for breeding Slavonian grebe) • North Inverness Lochs (for breeding Slavonian grebe) • Loch Ashie (breeding and non-breeding Slavonian grebe) • West Inverness-shire lochs (breeding Common scoter and Black-throated diver) • Drinking water protection zones; Loch Ness, Loch Ashie, Loch Tarff, Loch nam Bàt, Loch Ness bedrock and localised sand and gravel aquifers, Lower Ness Valley bedrock and localised sand and gravel aquifers, River Coiltie, Aberchalder Burn / Allt an Rathain Ruiadh, Aldernaig Burn - hatchery to source, Allt A Bhaile Uachdaraich, Allt Bail an Tuim Bhuidhe. • River Ness and Caledonian canal Freshwater Fish designated areas • Dores Bathing Waters 	<p>The River Moriston Special Area of Conservation is predicted to reach favourable/unfavourable recovering condition by 2015. SNH are investigating the extent of habitat degradation and will recommend several actions that can be taken. This may include amending regulated flows to benefit freshwater pearl mussels.</p> <p>Urquhart Bay Wood Special Area of Conservation is predicted to be favourable/unfavourable recovering by 2015. SNH have already removed some of the non-native species and plan to remove more during the first planning cycle. The gravel extraction activities should now be controlled under the CAR regulations, allowing natural recovery to take place.</p>

Catchment	Current situation	Actions for improvement
<p>Protected Areas continued</p>	<p>Two of the protected areas in the Ness catchment are not yet reaching the required standards:</p> <ul style="list-style-type: none"> The River Moriston Special Area of Conservation (for Freshwater Pearl Mussels) is currently in unfavourable condition. SNH report that dams at Loch Cluanie and Loch Loyne are interrupting sediment transport downstream and that there is some evidence that the bed is compacting in the upper Moriston and reducing habitat quality for fresh water pearl mussels. This issue along with others is currently being reviewed. <p>Urquhart Bay Wood Special Area of Conservation is a designated site for alder woodland on floodplains. It is currently in unfavourable condition due to the effects of gravel extraction in the River Enrick and the presence of various invasive non-native species. Combination of effects of alien species and morphological alterations.</p>	

Comment [k1]: May have revise following receipt of representation.