## NS 2 FRESHWATER PEARL MUSSEL SUB-BASIN MANAGEMENT PLANS

# REPORT ON MORPHOLOGICAL MONITORING AND CATCHMENT WALKOVER RISK ASSESSMENTS IN THE OWENMORE CATCHMENT

September 2009

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#### **1.0 INTRODUCTION**

In order to assess the hydromorphological alterations within the Owenmore catchment the EPA WFD classification tool called the River Hydromorphology Assessment Technique (RHAT) was utilised by RPS. This tool was developed through the North South Share project, to classify rivers in terms of their morphology. It is a field technique which assigns a channel typology. This influences the rivers physical attributes assessed in the field. The technique assigns a morphological classification directly related to that of the WFD – high, good, moderate, poor and bad.

RHAT surveys were carried out at high risk areas located within pearl mussel populations. The methodology classifies river hydromorphology based on a departure from naturalness, and assigns a morphological classification, based on semi-quantitative criteria. It is designed to be a rapid visual assessment based on information from desktop studies, using GIS data, aerial photography, historical data and data obtained from previous field surveys as well as observations in the field.

A catchment walkover risk assessment survey sheet was also designed by the project team in conjunction with NPWS in order to focus the collation of the pressure data in the field with respect to the Freshwater Pearl Mussel. The risk sheet was divided into eight categories designed to highlight the main pressures within the catchment. The eight categories are as follows:

- Source of erosion
- Diffuse Nutrient
- Diffuse Silt
- Current Riparian Zone
- Field Drainage
- Outfalls
- Abstractions
- Barriers to Migration

Each sub-pressure within the eight categories is analysed and an overall risk assessment of High, Medium or Low is assigned to that category. The "one out all out principle" is then used to assign the river stretch or point an overall risk category. A detailed description, together with a series of photographs outlining the pressures is also taken. The risk assessment sheets will assist the project team in focussing the specific freshwater pearl mussel measures within the catchment.

Location of survey stretches and points are shown in Figure 3.1

#### 2.0 METHODOLOGY

Sampling was carried out on the 19<sup>th</sup> May 2009.

#### 2.1 RIVER HYDROMORPHOLOGY ASSESSMENT TECHNIQUE (RHAT)

Classification of hydromorphology can be used to contribute to the status classification of water bodies at high ecological status only. However, RHAT plays a vital role in identifying why a water body might be failing to achieve Good Ecological Status as it is based on the observed impact in the field. It can assist in deciding what indirect and direct efforts are needed to improve status and in helping to prevent further deterioration.

The eight criteria that are scored are:

- 1. Channel morphology and flow types
- 2. Channel vegetation
- 3. Substrate diversity and embeddedness
- 4. Channel flow status
- 5. Bank and bank top stability
- 6. Bank and bank top vegetation
- 7. Riparian land use
- 8. Floodplain connectivity

Sheet 1 of the RHAT form contains the Field Health and Safety sheet which is filled on arrival at the site. Before the field survey, a desk study is required this element of the survey was completed as part of the development of the draft sub-basin management plans. The reach identification and physical characterisation sections for each field site are recorded on Sheet 2 (see Appendix 1) with all information available from GIS and aerial photographs, including:

- a. expected stream type and the description of various stream types
- b. catchment and reach-scale pressures (these may help to identify, confirm or explain field observations);
- c. expected riparian vegetation types (for high quality status);
- d. the weather conditions on the day of the survey, and those immediately preceding the day of the survey. This information is important to interpret the effects of storm events on the survey results;
- e. the estimated stream width and the reach length to be assessed (~ 40 x width).
- f. any other notable issues (e.g. from previous surveys).

A score is allocated to each relevant attribute (the number of attributes to be assessed will depend on the stream type). Where the condition departs from the reference condition, note should be made if this condition results from a particular identifiable pressure. Where possible and where relevant, all attributes should be included in the assessment, using the assessment sheet (Sheet 3, see Appendix 1). If an attribute is not assessed, the score-summary table should be amended (cells shaded) and a note made as to why the assessment was not carried out. The WFD status can still be calculated on the basis of other attributes, but with a note that a particular attribute was omitted.

Transfer scores for individual attributes to the summary table on the survey Sheet 2. Finally the overall WFD category can be calculated using the following values:

> 0.8	= high
0.6 - 0.8	= good
0.4 - 0.6	= moderate
0.2 - 0.4	= poor
< 0.2	= bad

For the purposes of the assessment as part of the NS2 project, a high status for morphology is desirable for pearl mussel habitats. Through work carried out by the Shannon IRBD project on the Freshwater Morphology Programme of Measures Study, it was found that an observed relationship exists between biological data and a RHAT score. The study confirmed that morphological pressure can impact biology and therefore ecological status. In general, sites with RHAT scores less than 0.6 also have less than good Q scores. Similarly high levels of siltation affecting macrophyte populations are reflected by less than good RHAT scores.

Grid references were recorded at all sites using a GPS together with site photographs which were taken using a digital camera.

#### 2.2 CATCHMENT WALKOVER RISK ASSESSMENT

During the development of the draft sub-basin management plans throughout 2008 a complete desk study was conducted of all relevant biological, water quality and pressure source data within the Owenmore catchment. Best use was made of all available datasets such as the pressure source data collated by the River Basin District Projects for the Article V Characterisation and Programme of Measures Studies. This work allowed the NS 2 project team to assess the catchment through the combined availability of aerial imagery and digitised pressure information. Where gaps in this data existed together with areas that required ground truthing such as physical barriers to migration, catchment walkover risk assessments were focussed throughout the 2009 field survey season.

The catchment walkover risk assessment sheet (See Appendix 3) covers eight main categories or pressures which are subsequently sub-divided into the various sources. Each source is ticked if present and an overall risk assessment for each pressure assigned from High to Medium to Low over the survey length or point. All eight pressures are combined to give an overall risk assessment to the catchment based on the "one out all out principle".

#### 3.0 **RESULTS**

Figure 3.1 indicates where the Owenmore RHAT assessments were carried out throughout the catchment.



Figure 3.1 Morphology RHAT Assessment Locations

(The RHAT numbering system corresponds to the site code which may mean they are not sequential where a RHAT was not carried out at a particular site)

#### 3.1 RHAT Survey Results

Two RHAT surveys were carried out throughout the Owenmore catchment. The results of these surveys can be found in the electronic appendix. One was deemed to be at high status in the lower reaches of the catchment at Boherboy where as the survey stretch at the upper end of the catchment was at good status. RHAT number 1 scored well on all attributes except for barriers to continuity which scored two out of four. Filmenteous algae were recorded on some of the cobbles and boulders within the survey stretch. A number of stone weirs and deflectors were also found along the survey stretch. The Owenmore fishery is operated along this stretch, an embankment runs along a considerable length of the survey stretch on the left bank. Overall this stretch was classified as being at good status. Dead mussels were also found along the banks of this survey stretch. Gunnera was recorded on the left bank which may be a sign of previous disturbance along the bank. The inflowing tributary on the right bank upstream of the bridge had some fine silts contained in it also.

RHAT number 3 was carried out on the Cloghan River. This is a lowland meandering channel which is surrounding by areas of peat. This is largely a remote channel with no physical modifications to the river stretch. Two attributes were downgraded – channel vegetation and substrate condition. This is due to the presence of macrophytes in greater than expected quantities for a channel of this type indicating the presence of silt and perhaps nutrients in channel to allow the macrophytes to flourish.

#### Plate 3.1 Representative photographs from reach:



Details in relation to photographs are tabulated in Appendix 2.

#### 3.2 Catchment Walkover Risk Assessment Results

A total of seven sites were surveyed in the Owenmore sub-basin catchment, with a risk assessment carried out at five of these sites (two stopping points). **Figure 3.2** outlines the locations of the High to Low Risk Assessments from the Catchment Walkover Risk Assessments in addition to the stopping points. Four high risk sites were recorded out of the five that were assessed; only one medium risk site was recorded with no low risk sites being recorded within this catchment. **Figure 3.3** outlines the percentage of sites classified at high and medium risk throughout the catchment along with the stopping points.

The most common high risk categories identified were:

- Diffuse Silt at 50% of high risk sites.
- Diffuse Nutrient at 50% of high risk sites,
- Current Riparian Zone at 50% of high risk sites,

The Current Riparian Zone category of the Catchment Walkover Risk Assessment slightly varies from the seven other categories or pressures. The Current Riparian Zone is not a pressure in itself; however the aspects listed in this category are the interceptors to the pressure and convey the extent or lack of buffer provided by the riparian zone. A high risk riparian zone indicates that the pressures acting on the river are more likely to have significant impact. For example the lack of fencing along a river stretch can lead to excessive trampling and/or poaching which in turn may lead to siltation within a pearl mussel habitat. The various categories and pressures listed in the Catchment Walkover Risk Assessment sheet were designed to assist the project in focusing the measures which will be needed to combat the pressure along its pathway, rather than removing a source which may not always be possible such as intensive agriculture. Recording the Riparian Zone in terms of its current performance as a buffer is important in this regard.

Current Riparian Zone has ten aspects as follows:

• Fencing

- Buffer
- Tree line at bank
- Tree line buffer
- Plantation with no buffer
- Urbanisation
- Flood Protection
- Marshy Land
- Landuse at bank
- Other Sources

Where one or any of these aspects is found to be the cause of significant impact to the riparian zone, or the channel along the stretch then this category may be assigned a high risk score.



Figure 3.2 Location of Stopping points and Catchment Walkover Risk Assessment

#### Figure 3.3 Risk Assessment Overview



The break-down of pressure categories identified as high risk are outlined in Figure 3.4



Figure 3.4 Breakdown of High Risk Categories

The most common sources of diffuse nutrient at high risk sites were grazing, improved grassland and housing. The additional high risk diffuse nutrient categories can be seen below in **Figure 3.5**.



Figure 3.5 Sources of Diffuse Nutrient at High Risk Sites

The most common source of diffuse silt was housing which was evident at both sites high risk for diffuse silt. Other sources of diffuse silt evident at high risk sites are outlined below in **Figure 3.6**.



Figure 3.6 Sources of Diffuse Silt at High Risk Sites

The current riparian zone is another pressure evident within this catchment, however generally this pressure relates to how a poor riparian buffer can intensify other pressures e.g. animal trampling caused by a lack of fencing or increased pressure from diffuse nutrient as a result of a poor buffer zone. Within the Owenmore catchment the main cause of a high risk from riparian zone is:

• A poor riparian buffer zone in areas where the grassland banks are improved significantly increasing the impact from diffuse nutrient and diffuse silt.

#### 4.0 CONCLUSIONS

Freshwater Pearl Mussel populations are recorded in two specific locations along the Owenmore River, risk assessments were carried out in close proximity to these two points. Of the two risk assessments one was considered high risk; recorded at the most downstream end of the catchment at Boherboy, and one medium risk recorded further upstream in the catchment near Lough Atlea. This catchment appears to be in a poor condition from a morphological perspective with a high percentage of high risk sites identified. Pressures are arising from diffuse silt and diffuse nutrient; with problems exacerbated through a poor riparian buffer zone, particularly in areas of improved grassland.

APPENDIX A

**RHAT Field Sheet** 

River Name	Site Code		Da	te	
1 = Low risk 5 = High risk					
Please circle applicable number					
PARKING	1	2	3	4	5
FENCES/BARRIERS	1	2	3	4	5
GROUND STABILITY	1	2	3	4	5
DENSE VEGETATION	1	2	3	4	5
BANK STEEPNESS OR STABILITY	1	2	3	4	5
RISK FROM ANIMALS	1	2	3	4	5
PHONE COVERAGE	1	2	3	4	5
Previous RHS/RAT/RHAT surveys - yea	ar and code				
Details of access					

## RHAT (VERSION 2)

TRIBUTARY / MAIN CHANNEL*	
Site Identification	
River Name	Site Code
Nearest WFD site FF10	
Water Body ID	Start U / S or D / S*
First IGR	Last IGR
Bank surveyed from L / R / Both / in-Cha	nnel <sup>s</sup>
Desk-study notes	Field Notes
ACTION TO TAKE PRIOR TO FIELDWORK	River type
General overall shape of river Check weirs, impoundments etc. on catchment	Date
Floodplain connectivity and land use	Time
Expected river type	Surveyors
Rain last week	Weather conditions now
Estimated river width	Estimated river width (m) (average 3 readings)
Estimated survey length	
Riparian land cover(s)	Estimated survey length (m) (40 X wetted width)
River Agency designated?	Estimated river depth (m)
Other comments including geology - limestone / siliceous / peat*	Channel characteristics (e.g. different stream types on the reach)
RESULTS	Pressures
Hydromorph score	
WFD class	
	*Circle as appropriate
Photograph details include IGR or approximate	location
N.B. The survey length should be 40x the wetted width	with a minimal stretch of 160m but not exceeding 1km.

#### **NS RHAT**

					223	
River Name		Site Code			Date.	
Feature		Tick if pre	sent, rec	ord as E i	f > 309	%
Resectioning		None	Left	bank [	] <sup>Ri</sup>	ight bank
Reinforcement		None	Left	bank E	Ri	ight bank
Embankments	NO*	LB 🗖	RB 🗆	Set back	<sup>(LB</sup> [	SBRB
Culverts**		Y	1	N /	U	nknown*
Over deepening		Y	/	N /	U	nknown*
Wver widened		Y	/	N /	U	nknown*
Narrowing		Y	./	N /	U	nknown*
Fords**			Y	/	N*	
		Major	/ 1	ntermedi	ate	/ Minor
		· · · · · · · · · · · · · · · · · · ·			1.1.1.1.1	F
Bridges**	NO*				are	
Bridges** Weirs**	NO* NO*					
Bridges** Weirs** Fish Pass** Physical features	NO* NO* NO* or resource use if applie	cable. *				
Bridges** Weirs** Fish Pass** Physical features of Deflectors / Jetties Navigation / Fishir Trashline present (h Other observations	NO* NO* NO* or resource use if applie / Arterial drainage / Side ng / Recreation / Forest neight m) above wat s - Invasives - Trees - Bi	cable. * e channels / Mid c ry/ Urban / Indust ær / Buffer zone (Li irds - Pollution ind	hannel b ry / HEP Bm / RBn licators -	ar / Field I n back fro Inverteb	Drains m wate rates*	/ Mill Race er edge)
Bridges** Weirs** Fish Pass** Physical features of Deflectors / Jetties / Navigation / Fishir Trashline present (h Other observation Rhododendron / Hi Laurel/ Gunnera	NO* NO* NO* or resource use if applie / Arterial drainage / Side ng / Recreation / Forest neight m) above wat s - Invasives - Trees - Bi malayan Balsam / Japar	cable. * e channels / Mid c ry/ Urban / Indust er / Buffer zone (Li irds - Pollution ind nese Knotweed / G	hannel b ry / HEP Bm / RBn <b>licators</b> -	ar / Field I n back fro Inverteb weed / Sr	Drains m wate rates*	/ Mill Race er edge) rry / Cherry-
Bridges** Weirs** Fish Pass** Physical features of Deflectors / Jetties / Navigation / Fishin Trashline present (h Other observation: Rhododendron / Hi Laurel/ Gunnera Sycamore / Beech / Holly	NO* NO* NO* or resource use if applie / Arterial drainage / Side ng / Recreation / Forest neight m) above wat s - Invasives - Trees - Bi malayan Balsam / Japar Conifers / Oak / Ash / A	cable. * e channels / Mid c ry/ Urban / Indust er / Buffer zone (Li irds - Pollution ind nese Knotweed / G .lder / Willow / Birc	hannel b ry / HEP Bm / RBn dicators - iiant hog h / Hazel	ar / Field I n back fro linverteb weed / Sr / Hawtho	Drains m wate rates* nowbei prn / Bl	/ Mill Race er edge) rrry / Cherry- ackthorn /
Bridges** Weirs** Fish Pass** Physical features of Deflectors / Jetties / Navigation / Fishin Trashline present (h Other observations Rhododendron / Hi Laurel/ Gunnera Sycamore / Beech / Holly Heron / Sand martin	NO* NO* NO* or resource use if applie / Arterial drainage / Side ng / Recreation / Foreste neight m) above wat s - Invasives - Trees - Bi malayan Balsam / Japar Conifers / Oak / Ash / A n / Grey wagtail / Dippe	cable. * e channels / Mid c ry/ Urban / Indust er / Buffer zone (Li irds - Pollution inc nese Knotweed / C ilder / Willow / Birc	hannel b ry / HEP Bm / RBn <b>Jicators</b> - šiant hog h / Hazel	ar / Field I n back fro Need / Sr / Hawthc	Drains m wate rates* nowber	/ Mill Race er edge) rry / Cherry- ackthorn /
Bridges** Weirs** Fish Pass** Physical features of Deflectors / Jetties / Navigation / Fishin Trashline present (h Other observation: Rhododendron / Hi Laurel/ Gunnera Sycamore / Beech / Holly Heron / Sand martin Sewage fungus / Di	NO* NO* NO* or resource use if applie / Arterial drainage / Side og / Recreation / Foreste neight m) above wat s - Invasives - Trees - Bi malayan Balsam / Japar Conifers / Oak / Ash / A n / Grey wagtail / Dippe atomaceous algae / Oil	cable. * e channels / Mid c ry/ Urban / Indust er / Buffer zone (Li irds - Pollution ind nese Knotweed / C lder / Willow / Birc rs / Kingfishers / / Cladophora / Var	hannel b ry / HEP Bm / RBm dicators - iiant hog h / Hazel ucheria /	ar / Field l n back fro Nweed / Sr / Hawtho Dumping	Drains m wate rates* nowbei prn / Bl.	/ Mill Race er edge) rry / Cherry- ackthorn /

# RHAT RIVER HYDROMORPHOLOGY ASSESSMENT TECHNIQUE

River Name		Site Code	D	ate
f river in spate ignore 3 and not visible. Greyed boxes m	d 4 but deduct ind aay be scored but i	lividual scores fron note why in Comm	n overall if either fe nents/Notes.	ature
	Bedrock	Cascade / Step-pool	Pool-riffle-glide	Lowland Meandering
1. Channel form and flow types	4	4	4	
2. Channel vegetation	4	4	4	
3. Substrate condition	4	4	4	
4. Barriers to continuity	4	4	4	
5. Bank structure & stability L+R	4	4	4	
6. Bank vegetation L+R	4	4	4	
7. Riparian land cover L+R	4	4	4	
8. Floodplain connectivity L+R	4	4	4	
TOTAL	32	32	32	37
Hydromorph Score *				
WFD class **				

\* Hydromorph score - Assessment score = Maximum Possible score

\*\* WFD Class > 0.8 = high >0.6 - 0.8 = good >0.4 - 0.6 = moderate >0.2 - 0.4 = poor < 0.2 = bad.

#### SHEET 5



## **APPENDIX 2**

## **PHOTOGRAPHS**

Photographs of site locations and catchment pressures on the Owenmore River and tributaries 2009. All field work photographs can be found in the accompanying electronic appendix.

Overall Risk \* uses the "one out all out" principle

	Catchment				Photo	Bank	Diffuse	Diffuse	Field			Barriers	Current Rinarian	Overall	Pressure/Photo
Site No.	Name	Location	x	Y	No.	Erosion	Nutrient	Silt	Drainage	Outfalls	Abstraction	Migration	Zone	Risk*	Details
		Main Channel													<b>_</b>
1	Owenmore	at Boherboy	51292	110709	1	Low	Low	Medium	High	Low	Low	Medium	Medium	High	Fisheries permit
		Main Channel													LOOKING
1	Owenmore	at Boherboy	51292	110709	2	Low	Low	Medium	High	Low	Low	Medium	Medium	High	starting point
	C Wollinoito	at Bollonboy	01202	110100		2011	2011	moulan	- ngn	2011	2011	Wouldin	moulain	1 light	Looking
															downstream
		Main Channel													from starting
1	Owenmore	at Boherboy	51292	110709	3	Low	Low	Medium	High	Low	Low	Medium	Medium	High	point
	0	Main Channel	54005	440000		1	1	Marthum	1.12.5.1	1	1	Mar diama		1.121.	<b>F</b> isher to solution
1	Owenmore	at Bonerboy	51295	110690	4	LOW	LOW	Medium	High	LOW	LOW	Iviedium	Iviedium	Hign	Fisheries weir
1	Owenmore	at Boherboy	51293	110688	5	Low	Low	Medium	High	Low	Low	Medium	Medium	High	land drain
	Oweninoic	ar boliciboy	51200	110000	5	LOW	LOW	Wicdiam	riigii	LOW	LOW	Weardin	weaturn	riigii	Unmanaged
															land drainage
															ditch with land
		Main Channel													cleared behind it
1	Owenmore	at Boherboy	51298	110677	6	Low	Low	Medium	High	Low	Low	Medium	Medium	High	for development
															Managed land
															site clearance &
		Main Channel													housing
1	Owenmore	at Boherboy	51313	110665	7	Low	Low	Medium	High	Low	Low	Medium	Medium	High	development
															Unmanaged
															land drain
															opened for site
		Main Channel													clearance &
1	Owenmore	at Boherboy	51313	110665	8	Low	Low	Medium	High	Low	Low	Medium	Medium	High	development
	C Wollinoito	at Bolloiboy	01010	110000	U	2011	2011	moulan	- ngn	2011	2011	Wouldin	moulain	1 light	Second weir.
															local stones
															placed in
															channel,
1	Owonmoro	Main Channel	51222	110645	0	Low	Low	Modium	High	Low	Low	Modium	Modium	High	possibly by
	Oweninore	Main Channel	51525	110045	9	LOW	LOW	wealum	nigri	LOW	LOW	wealum	wealum	піўп	lishenes
1	Owenmore	at Boherboy	51321	110640	10	Low	Low	Medium	High	Low	Low	Medium	Medium	High	Mid channel bar
														- ingri	Land drain
															possibly trib,
		Main Channel													sewage fungus
1	Owenmore	at Boherboy	51321	110640	11	Low	Low	Medium	High	Low	Low	Medium	Medium	High	on entry point
	Owonmarc	Main Channel	51000	110600	40	Low	Low	Modium	Lliab	Low	Low	Madium	Madium	Lliah	Third weir
1	Owenmore		51329	110628	12	LOW	LOW	wealum	rign	LOW	LOW	wealum	wealum	nign	Mid channel
1	Owenmore	at Boherboy	51360	110600	13	Low	Low	Medium	High	Low	Low	Medium	Medium	High	island
1	Owenmore	Main Channel	51364	110603	14	Low	Low	Medium	High	Low	Low	Medium	Medium	High	Dead mussels
1 1 1 1 1 1 1 1 1 1	Owenmore Owenmore Owenmore Owenmore Owenmore Owenmore Owenmore Owenmore	Main Channel at Boherboy Main Channel at Boherboy	51298 51313 51313 51313 51323 51321 51321 51329 51360 51364	110677 110665 110665 110645 110640 110640 110628 110600 110603	6 7 8 9 10 11 11 12 13 14	Low Low Low Low Low Low Low Low	Low Low Low Low Low Low Low Low	Medium Medium Medium Medium Medium Medium Medium	High High High High High High High High	Low Low Low Low Low Low Low Low	Low Low Low Low Low Low Low Low Low	Medium Medium Medium Medium Medium Medium Medium	Medium Medium Medium Medium Medium Medium Medium	High High High High High High High High	land drainage ditch with land cleared behind for developmer Managed land drain opened for site clearance a housing development Unmanaged land drain opened for site clearance & housing development Second weir, local stones placed in channel, possibly by fisheries <u>Mid channel ba</u> Land drain possibly trib, sewage fungur on entry point <u>Third weir</u> Mid channel island Dead mussels

2         Owenmore         Inflowing Trib of Lough Geal         47035         106866         1         Medium         Medium         Medium         Medium         Medium         Medium         Low         High         High         Lowing upstream from starting point           2         Owenmore         of Lough Geal         47035         106866         2         Medium         Med
2       Owenmore       of Lough Geal       47035       106866       1       Medium
2       Owenmore       of Lough Geal       47035       106866       1       Medium       Medium       Medium       Medium       Medium       Medium       Medium       Medium       Low       High       High       High       Starting point         2       Owenmore       Inflowing Trib       of Lough Geal       47035       106866       2       Medium
2       Owenmore       Inflowing Trib of Lough Geal       47035       106866       2       Medium
2       Owenmore       of Lough Geal       47035       106866       2       Medium       Medium       Medium       Medium       Medium       Low       High       High       point         2       Owenmore       of Lough Geal       47035       106866       3       Medium
2       Owenmore       of Lough Geal       47035       106866       2       Medium
2       Owenmore       of Lough Geal       47035       106866       2       Medium       Medium       Medium       Medium       Medium       Low       High       High       Pinit         2       Owenmore       of Lough Geal       47035       106866       3       Medium
2       Owenmore       Inflowing Trib of Lough Geal       47035       106866       3       Medium
2       Owenmore       of Lough Geal       47035       106866       3       Medium
2       Owenmore       of Lough Geal       47/035       106866       3       Medium       Medium       Medium       Medium       Low       High       High       High       Grassiand approx 4m, re- development of house in         2       Owenmore       of Lough Geal       47035       106866       4       Medium       Medium </td
2Owenmoreof Lough Geal470351068664MediumMediumMediumMediumMediumMediumMediumLowHighHighbackground2Owenmoreof Lough Geal470351068664MediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMed
2       Owenmore       Inflowing Trib of Lough Geal       47035       106866       4       Medium
2OwenmoreInflowing Trib of Lough Geal470351068664MediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMediumMed
2Owenmoreof Lough Geal470351068664MediumMediumMediumMediumMediumMediumLowHighHighbackground11111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111
2       Owenmore       Or Lough Geal       47050       100000       4       Medium
A best of the constraint of the
2       Owenmore       Inflowing Trib of Lough Geal       47035       106866       5       Medium
2       Owenmore       of Lough Geal       47035       106866       5       Medium
2       Owenmore       Inflowing Trib of Lough Geal       47035       106866       5       Medium
2       Owenmore       of Lough Geal       47035       106866       5       Medium       Medium       Medium       Medium       Medium       Low       High       High       bank         2       Owenmore       Inflowing Trib       Inflowing Trib       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A       A
2       Owenmore       Inflowing Trib of Lough Geal       47044       106832       6       Medium       Medium       Medium       Medium       Medium       Medium       Low       High       High       Land drainage/ outfall pipe on right bank         2       Owenmore       Inflowing Trib of Lough Geal       47044       106832       7       Medium
2       Owenmore       Inflowing Trib of Lough Geal       47044       106832       6       Medium
2       Owenmore       of Lough Geal       47044       106832       6       Medium       Medium       Medium       Medium       Medium       Low       High       High       right bank         2       Owenmore       Inflowing Trib of Lough Geal       47044       106832       7       Medium       Medium </td
2       Owenmore       Inflowing Trib of Lough Geal       47044       106832       7       Medium
2       Owenmore       of Lough Geal       47044       106832       7       Medium       Medium       Medium       Medium       Low       High       High       both banks         Image: Second state
Black abstraction
abstraction abstraction
pipes in stream
plus second
Inflowing Trib
2 Owenmore of Lough Geal 47044 106832 8 Medium Medi
3 Owenmore Clophane river 48660 107405 1 Low Medium Low Medium Low Low Low Medium Point
Trib of Main
Channel Lupstream from
3 Owenmore :Cloadane river 48660 107405 2 Low Medium Low Medium Low Low Low Low Medium starting point
Channel Poached left
3 Owenmore :Cloghane river 48815 107384 3 Low Medium Low Medium Low Low Low Low Medium bank
Excessive Excessive
macrophyte
Trib of Main growth in
Channel Channel Channel Channel
3 Owenmore :Cloghane river 48815 107384 4 Low Medium Low Medium Low Low Low Low Medium potamogeton
Confluence of
4 Owenmore Inflowing 48800 108520 1 Medium Medium High Low Low Medium Medium High Ford

		Tributaries to Main Channel													
4	Owenmore	Confluence of Inflowing Tributaries to Main Channel	48840	108510	2	Medium	Medium	High	Low	Low	Low	Medium	Medium	High	Looking upstream from starting point
4	Owenmore	Confluence of Inflowing Tributaries to Main Channel	48840	108510	3	Medium	Medium	Hiah	Low	Low	Low	Medium	Medium	High	Looking downstream from starting point
4	Owenmore	Confluence of Inflowing Tributaries to Main Channel	48840	108510	4	Medium	Medium	High	Low	Low	Low	Medium	Medium	High	Landuse: Sheep
4	Owenmore	Confluence of Inflowing Tributaries to Main Channel	48800	108520	5	Medium	Medium	High	Low	Low	Low	Medium	Medium	High	Silty plume at ford
5	Owenmore	Inflowing Trib: E of Glanchanacurip	49391	109041	1	Low	High	High	Low	Low	Low	Low	High	High	Looking upstream from road no buffer / fence
5	Owenmore	Inflowing Trib: E of Glanchanacurip	49391	109041	2	Low	High	High	Low	Low	Low	Low	High	High	Tributary running along by the road
5	Owenmore	Inflowing Trib: E of Glanchanacurip	49391	109041	3	Low	High	High	Low	Low	Low	Low	High	High	Peat cutting adjacent to main channel
5	Owenmore	E of Glanchanacurip	49391	109041	4	Low	High	High	Low	Low	Low	Low	High	High	Forestry along main channel
5	Owenmore	E of Glanchanacurip	49391	109041	5	Low	High	High	Low	Low	Low	Low	High	High	cutting along Owenmore
Stopping point 1	Owenmore	Inflowing Trib: E of Glanchanacurip	49760	109676											cutting vertical to main channel of Owenmore, current cutting in place
Stopping	Owenmore	Inflowing Trib: E of Glanchanacurin	49760	109676											Extensive peat cutting vertical to main channel of Owenmore, current cutting in place
Stopping point 1	Owenmore	Inflowing Trib: E of Glanchanacurip	49760	109676											Extensive peat cutting vertical to main channel of Owenmore,

										current cutting in place
Stopping point 2	Owenmore	Inflowing Trib: Crossing Connor Hill Road	50222	106461						Lake substrate
Stopping point 2	Owenmore	Inflowing Trib: Crossing Connor Hill Road	50222	106461						Overview of lakes and trampling
Stopping point 2	Owenmore	Inflowing Trib: Crossing Connor Hill Road	50222	106461						Overview of lakes and Connor Hill road

Appendix 3 – Catchment Walkover Risk Assessment Survey Sheet

Sheet 1: Catchment Walkovers	Version 1. 07/04/2009
Tributary/Main	Channel*
Site Identification	
River Name	Site Code
Water Body ID	Start U/S or D/S*
First site IGR	Last site IGR
Bank surveyed from L/R/In-channel*	
	· · · · · · · · · · · · · · · · · · ·
Photograph details include IGR or approximate loc	cation.
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Select as appropriate

Not of the interval of a conditionation in the interval of a conditionationationation in the interval of a conditionationationationationationationation	Note         No         No         Oto I dedeente of specific prostate         No of flote         Contract           Street of Texation         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H	Net         No         Oct Photographs         Mod         Out Photographs         Control           Street of Teolor         H         H         H         H         H         H         H           Teolor         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H         H			Present?				
Bit Accession         I         I         I         I           Bit Accession         I         I         I         I         I           Bit Accession         I         I         I         I         I           Bit Accession         I         I         I         I         I           Interactions         I         I         I         I         I           Interactions         I         I         I         I         I           Constant menologion         I         I         I         I         I           Constant menologion         I         I         I         I         I         I           Constant menologion         I         I         I         I         I         I           Constant menologion         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I <tdi< th=""><th>Strates of lensing         In         In         In         In           Strates of lensing         In         In         In         In         In           Strates of lensing         In         In         In         In         In         In           Strates of lensing         High         Modun         Lu         In         In</th><th>Statue of Elemin         I         I         I         I         I           Exercise of Elemin         I         I         I         I         I         I           Exercise of Elemin         I         I         I         I         I         I         I           Exercise of Elemin         I         I         I         I         I         I         I           Event Stateword         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I<th></th><th>Yes</th><th>No</th><th></th><th>Grid Reference of specific pressure</th><th>No.of Photographs</th><th>Comments</th></th></tdi<>	Strates of lensing         In         In         In         In           Strates of lensing         In         In         In         In         In           Strates of lensing         In         In         In         In         In         In           Strates of lensing         High         Modun         Lu         In	Statue of Elemin         I         I         I         I         I           Exercise of Elemin         I         I         I         I         I         I           Exercise of Elemin         I         I         I         I         I         I         I           Exercise of Elemin         I         I         I         I         I         I         I           Event Stateword         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I <th></th> <th>Yes</th> <th>No</th> <th></th> <th>Grid Reference of specific pressure</th> <th>No.of Photographs</th> <th>Comments</th>		Yes	No		Grid Reference of specific pressure	No.of Photographs	Comments
Interface         Interface <thinterface< th="">         Interface         <thinterface< th="">         Interface         <thinterface< th=""> <thinterface< th=""> <thint< td=""><td>Bit vectories         I         I         I         I           Entit vectories         I         I         I         I           Intervectories         I         I         I         I           Entit intervectories         I         I         I         I           Intervectories         I         I         I         I         I           Intervectories         I         I         I         I         I         I           Intervectories         I         I         I         I         I         I         I           Intervectories         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I</td><td>Birth effective         I         I         I         I         I           Enth effective         I         I         I         I         I         I           Enth effective         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I</td><td>Source of Erosion</td><td></td><td></td><td></td><td></td><td></td><td></td></thint<></thinterface<></thinterface<></thinterface<></thinterface<>	Bit vectories         I         I         I         I           Entit vectories         I         I         I         I           Intervectories         I         I         I         I           Entit intervectories         I         I         I         I           Intervectories         I         I         I         I         I           Intervectories         I         I         I         I         I         I           Intervectories         I         I         I         I         I         I         I           Intervectories         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	Birth effective         I         I         I         I         I           Enth effective         I         I         I         I         I         I           Enth effective         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I         I         I           Entre effective         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	Source of Erosion						
Interdetation         Interdetation         Interdetation           Interdetation         Interdetation         Interdetation           Interdetation         Interdetation         Interdetation           Atterdetation         Interdetation         Interdetation           Atterdetation         Help         Help           Atterdetation         Help         Help <td>Interdestine         Interdestine         Interdestine           Interdestine         Interdestine         Interdestine           Antile         Interdestine         Interdestine           Antile         Interdestine         Interdestine           Antile         Hope         Interdestine           Antile         Hope         Interdestine           Antile         Hope         Hope           Antile</td> <td>Interdetation         Interdetation         Interdetation           Interdetation         Interdetation         Interdetation           Interdetation         Interdetation         Interdetation           Reset         Hop         Hop           Reset<!--</td--><td>Bank erosion</td><td></td><td></td><td></td><td></td><td></td><td></td></td>	Interdestine         Interdestine         Interdestine           Interdestine         Interdestine         Interdestine           Antile         Interdestine         Interdestine           Antile         Interdestine         Interdestine           Antile         Hope         Interdestine           Antile         Hope         Interdestine           Antile         Hope         Hope           Antile	Interdetation         Interdetation         Interdetation           Interdetation         Interdetation         Interdetation           Interdetation         Interdetation         Interdetation           Reset         Hop         Hop           Reset </td <td>Bank erosion</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Bank erosion						
In reflectioned         In offection         In offection         In offection           Antiol Exerction         In offection         In offection         In offection           Antion         In offection         In offection         In offection         In offection           Antion         In offection         In offection         In offection         In offection         In offection           Antion         In offection         In offection         In offection         In offection         In offection           Antion         In offection         In offection         In offection         In offection         In offection           Antion         In offection         In offection         In offection         In offection         In offection           Antion         In offection         In offection         In offection         In offection         In offection           Antion         In offection </td <td>Interference         Interference         Interference         Interference         Interference           Anterference         Le         Le         Le         Le         Le           Anterference         Le         Le         Le         Le         Le         Le           Anterference         Le         Le         Le         Le         Le         Le         Le           Anterference         Le         Le         Le         Le         Le         Le         Le<td>Inversion         Inversion         Inversion         Inversion           Antenderation         Inversion         Inversion         Inversion           Antenderatin         Inversin         Invers</td><td>Land clearance</td><td></td><td></td><td></td><td></td><td></td><td></td></td>	Interference         Interference         Interference         Interference         Interference           Anterference         Le         Le         Le         Le         Le           Anterference         Le         Le         Le         Le         Le         Le           Anterference         Le         Le         Le         Le         Le         Le         Le           Anterference         Le         Le         Le         Le         Le         Le         Le <td>Inversion         Inversion         Inversion         Inversion           Antenderation         Inversion         Inversion         Inversion           Antenderatin         Inversin         Invers</td> <td>Land clearance</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Inversion         Inversion         Inversion         Inversion           Antenderation         Inversion         Inversion         Inversion           Antenderatin         Inversin         Invers	Land clearance						
Matter foregring         I         I         I         I           Matter foregring         I         I         I         I           Ford         Matter foregring         I         I         I         I           Matter foregring         I         I         I         I         I	Ameter bookpring         Image         Ima         Image         Image	Anno list for cholong         I         I         I         I           Anno list for cholong         I         I         I         I         I           Anno list for cholong         I         I         I         I         I         I           Chart manufactority         I         I         I         I         I         I         I           Chart manufactority         I         I         I         I         I         I         I           Chart manufactority         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	In river clearance						
Attentification         I         I         I         I         I           Attentification         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I           Channel interploidien         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	Antilitation         In         In         In         In           Antilitation         In         In         In         In         In           Chantilitation         In         In         In         In         In         In           Chantilitation         In         In         In         In         In         In         In           Chantilitation         In         In         In         In         In         In         In           Chantilitation         In         In <tdi< td=""><td>Antiolitation         I         I         I         I         I           Antiolitation         I         I         I         I         I         I           Constant antiolitation         I         I         I         I         I         I         I           Constant antiolitation         I         I         I         I         I         I         I           Constant         Hip         Kip         Kip         Kip         Kip         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I&lt;</td><td>Arable ploughing</td><td></td><td></td><td></td><td></td><td></td><td></td></tdi<>	Antiolitation         I         I         I         I         I           Antiolitation         I         I         I         I         I         I           Constant antiolitation         I         I         I         I         I         I         I           Constant antiolitation         I         I         I         I         I         I         I           Constant         Hip         Kip         Kip         Kip         Kip         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I<	Arable ploughing						
Encode         I         I         I         I         I         I           Find Universitie         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	Fredit         I         I         I         I         I           Fredit         I         I         I         I         I         I           Fredit         Interprete         I         I         I         I         I           Fredit         Interprete         Interprete         Interprete         Interprete         Interprete           Meth         Interprete         Interp         Interp         Interp	Front         Front         Front         Front           Front         Hold         Hold         Hold         Hold           Hold Nath         Hold         Hold         Hold         Hold           Hold Nath         Hold         Hold         Hold         Hold           Hold Nath         Hold         Hold         Hold         Hold           Hold         Hold         Hold         Hold         Hold           Math         Hold         Hold         Hold         Ho	Animal trampling						
Contrame         I         I         I         I           Contramentes         I         I         I         I         I           Other storteest         I         I         I         I         I           Other storteest         I         I         I         I         I           Other storteest         Hpin         Medin         Low         I         I           Other storteest         I         I         I         I         I         I           Other storteest         I         I         I         I         I         I         I           Other storteest         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	Channel methologie         I         I         I         I         I           Channel methologie         I         I         I         I         I         I           Other sources         I         I         I         I         I         I         I           Other sources         I         I         I         I         I         I         I           Other sources         I         I         I         I         I         I         I           Other sources         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I </td <td>Channel Internetion Internetinternetion Internetion Internetion Internetion Int</td> <td>Fords</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Channel Internetion Internetinternetion Internetion Internetion Internetion Int	Fords						
United bank protectorm meatures         I         I         I         I           United bank protectorm meatures         Hend bank         Hend bank         Hend bank         Hend bank           United bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Orbital bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank         Hend bank         Hend bank         Hend bank         Hend bank           Officer bank         Hend bank	Hird balk protection measures         I         I         I         I           Under sources         I         I         I         I         I           Under sources         I         I         I         I         I         I           Under sources         I         I         I         I         I         I         I           Orber sources         I         I         I         I         I         I         I           Orber sources         I         I         I         I         I         I         I           Orber sources         I         I         I         I         I         I         I           Office Nutrient         I         I         I         I         I         I         I           Office Nutrient         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I	Hird balk protectores         I         I         I         I           Unter sources         I         I         I         I         I           Unter sources         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I         I         I           Unter sources         I         I         I         I         I	Channel manipulation						
Other sources         I         I         I         I           More sources         Hojn         Kodin         Low         Moritim           More sources         Hojn         Kodin         Low         Moritim           Define Nutrent         Hojn         Kodin         Low         Hojn           Define Nutrent         Hojn         Kodin         Low         Hojn           Define Nutrent         Hojn         Hojn         Hojn         Hojn           Define Nutrent         Hojn         Hojn         Hojn         Hojn           Define Station         Hojn         Hojn         Hojn         Hojn           Define Station         Hojn         Hojn         Hojn         Hojn           Define Station         Hojn         Low         Hojn	Other sources         Implementation         Implementation         Implementation           Oreal Rusk         Hgh         Medium         Low         Medium           Media         Hgh         Hgh         Hgh         Hgh           Media         Hgh         Hgh         Hgh<	Other sources         I         I         I         I           Other sources         Hgh         Medium         Low         Medium           Other statistic         Hgh         Medium         Low         Medium           Other statistic         Hgh         Medium         Low         Medium           Other statistic         Hgh         He I         Hgh         Medium           Other statistic         Hgh         Hgh         Hgh         Hgh           Medium         Hgh         Hgh	Hard bank protection measures						
Media Tixti         High         Media         Low           Differe Nutrient         High         Media         Low           Differe Nutrient         High         Media         Low           Differe Nutrient         High         High         Media           Differe Nutrient         High         High         High           Differe Nutrient         High         High         High           Differe Nutrient         High         High         High           Differe Nutrient         High         Hohi         High           Differe Nutrient         High         Media         High           Differe Stat         High         Media         High           Differe Stat         High         Media         High           Differe Stat         High         Hohi         High           Differe Stat         Hig	Media Nutrikut         High         Median         Low         Median         Low           Diffuse Nutrikut         High         Median         Low         High         Median         Low           Diffuse Nutrikut         High         High         Median         Low         High         High           Diffuse Nutrikut         High         High         High         High         High         High           Diffuse Nutrikut         High         High         High         High         High         High           Diffuse Nutrikut         High         Median         Low         High         High         High           Diffuse Nutrikut         High         Low         High         High         High         High           Diffuse Nutrikut         High         Low         High         High         High         High           Diffuse Nutrikut         High         Low         High         High         High         High           Diffuse Nutrikut         Low         Low         Low         Low         High           Diffuse Nutrikut         Low         Low         Low         Low         High           Diffuse Nutrikut         Low         Low <td>Notes         Hay         Medium         Low         Medium           Diffuer Nutrient         Ho         Ho         Ho         Ho           Diffuer Nutrient</td> <td>Other sources</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Notes         Hay         Medium         Low         Medium           Diffuer Nutrient         Ho         Ho         Ho         Ho           Diffuer Nutrient	Other sources						
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Oberall Risk         High         Kedium         Low         Norm         High         Kedium         Low         Norm           Mitble Sitt         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I <tdi< td=""><td>Oberall Risk         High         Medium         Low         High         Medium         Low           Mabliee Sitt         I         I         I         I         I         I         I           Atabliee Sitt         I         I         I         I         I         I         I           Atabliee Sitt         I         I         I         I         I         I         I           Atablie         I         I         I         I         I         I         I           Over-grazing         I         I         I         I         I         I         I           Forest         I         I         I         I         I         I         I           Forest         I         I         I         I         I         I         I           Forest         I</td><td>Oberali Risk         High         Medium         Low         Medium         Low         Medium           Diffuse Sitt         I         I         I         I         I         I         I           Diffuse Sitt         I         I         I         I         I         I         I           Diffuse Sitt         I         I         I         I         I         I         I           Arable Sitt         I         I         I         I         I         I         I           Arable Sitt         I         I         I         I         I         I         I           Orazing         I         I         I         I         I         I         I           Disposit         I         I         I         I         I         I         I           Disposit         Industry         I         I         I         I         I         I           Disposit         Industry         I         I         I         I         I           Disposit         Industry         I         I         I         I         I           Disposit         Industry         I</td><td>Other sources</td><td></td><td></td><td></td><td></td><td></td><td></td></tdi<>	Oberall Risk         High         Medium         Low         High         Medium         Low           Mabliee Sitt         I         I         I         I         I         I         I           Atabliee Sitt         I         I         I         I         I         I         I           Atabliee Sitt         I         I         I         I         I         I         I           Atablie         I         I         I         I         I         I         I           Over-grazing         I         I         I         I         I         I         I           Forest         I         I         I         I         I         I         I           Forest         I         I         I         I         I         I         I           Forest         I	Oberali Risk         High         Medium         Low         Medium         Low         Medium           Diffuse Sitt         I         I         I         I         I         I         I           Diffuse Sitt         I         I         I         I         I         I         I           Diffuse Sitt         I         I         I         I         I         I         I           Arable Sitt         I         I         I         I         I         I         I           Arable Sitt         I         I         I         I         I         I         I           Orazing         I         I         I         I         I         I         I           Disposit         I         I         I         I         I         I         I           Disposit         Industry         I         I         I         I         I         I           Disposit         Industry         I         I         I         I         I           Disposit         Industry         I         I         I         I         I           Disposit         Industry         I	Other sources						
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Arable         Arable         Matable	Mable         Mable <th< td=""><td>Matable         Matable         <t< td=""><td>Diffuse Silt</td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></th<>	Matable         Matable <t< td=""><td>Diffuse Silt</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Diffuse Silt						
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Housing         Housing         Housing           Infilling         Infilling         Infilling           Peat cutting         Inclusion         Inclusion           Peat cutting         Inclusion         Inclusion           Outarries         Inclusion         Inclusion           Other sources         Inclusion         Inclusion           Migh         Medium         Low	Housing         Housing           Infilling         Infilling           Infilling         Infilling           Peat cutting         Including           Peat cutting         Including           Outarries         Including           Other sources         Including           Migh         Medium           Low         Including	Housing         Housing           Infilling         Infilling           Peat cutting         Into the sources           Peat cutting         Include           Outarries         Include           Other sources         Include           Migh         Medium           Lowerall Risk         High	Construction stages						
Infiling     Infiling       Peat cutting     Indication       Deat cutting     Indication       Outer sources     Indication       Infiling     Indication       Overall Risk     High       Medium     Low	Infiling         Infiling           Peat cutting         Infiling           Deat cutting         Infiling           Outrries         Infiling           Other sources         Infiling           Infiling         Infiling           Outrries         Infiling           Other sources         Infiling           Infiling         Infiling           Overall Risk         High           Medium         Low	Infiling         Infiling           Peat cutting         Image: Seat cutting           Other sources         Image: Seat cutting           Other sources         Image: Seat cutting           Image: Seat cutting         Image: Seat cutting           Other sources         Image: Seat cutting           Image: Seat cutting         Image: Seat cutting           Overall Risk         High           Medium         Low	Housing						
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Treat cump       Quarries       Other sources       High       Medium	Transmission     Image: Section of the s	Transmung       Medium       Medium       Low       Medium         Overall Risk       High       Medium       Low       Image: Comparison of the logic of the logi	Builting to C						
Other sources Definition Low High Medium Low Noted Risk High Medium Low	Other sources     Medium     Low       Overall Risk     High     Medium	Other sources     Medium     Low       Overall Risk     High     Medium							
Other sources     Differ sources       Analysis     High       Medium     Low	Other sources     Differ sources       Overall Risk     High       Medium     Low	Other sources     High     Medium     Low	Quarries						
Overall Risk High Medium Low	Overall Risk High Medium Low I I I I I I I I I I I I I I I I I I I	Overall Risk High Medium Low I I I I I I I I I I I I I I I I I I I	Other sources						
Overall Risk High Medium Low	Overall Risk High Medium Low	Overall Risk High Medium Low							
			Overall Risk	High	Medium	Low			,

Yes     No       Current Riparian Zone     Yes     No       Fencing     Buffer     Image: Some stank     Image: Some stank       Tree line at bank     Tree line buffer     Image: Some stank       Tree line buffer     Image: Some stank     Image: Some stank       Flood protection     Image: Some stank     Image: Some stank       Marshy land     Image: Some stank     Image: Some stank       Overall Risk     High     Medium       Field Drainage     Itel Drainage     Image: Some stank       Ditch unmanaged     Itel buffer     Image: Some stank		Grid Reference of specific pressure	No.of Photographs	Comments
Current Riparian Zone Fencing Turbuffer Tree line at bank Tree line at bank Tree line buffer Plantation with no buffer Plantation with no buffer Flood pranisation Marshy land Landuse at bank Other sources Other sources Dicto humanaged Dicto humanaged Dicto humanaged Diatage on high slope				
Fencing     Fencing       Buffer     Tree line abank       Tree line buffer     Inter line abank       Fleantation with no buffer     Inter line abank       Plantation with no buffer     Inter line abank       Intransition     Inter line abank       Marshy land     Inter line abank       Landuse at bank     Inter line abank       Other sources     Inter line abank       Other sources     Inter line abank       Ditch managed     Inter line abank       Ditch unmanaged     Inter line line				
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Tree line buffer     Tree line buffer       Plantation with no buffer     Plantation       Flood protection     Landuse at bank       Marshy land     Landuse at bank       Uther sources     High       Medium     Fligh       Ditch managed     Ditch managed       Ditch unmanaged     Ditch unmanaged				
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Overall Risk High Medium Field Drainage Ditch managed Ditch unmanaged Drainage on high slope				
Field Drainage Ditch managed Ditch unmanaged Drainage on high stope	- mon			
Field Drainage Ditch managed Ditch unmanaged Drainage on high stope				
Ditch managed Ditch unmanaged Drainage on high slope				
Ditch unmanaged Drainage on high slope				
Drainage on high slope				
Drainage on low slope				
Land drainage (perforated pipes)				
Other sources				
Overall Risk  High  Medium	Low			
Outfalls				
Industrial discharges				
Storm drains				17
Culvert outfalls				
Other sources				
Overall Risk Medium	Low			
Abstractions		26.1		
Small				
Large				
Contraction of the second				
Overall Kisk High Medium	LOW			
Devices in minutes				
Datriets to migration				
Culverts				
Bridge aprons				
Weirs				
Stone weirs				
Other sources				
	LOW			