BASKETSTOWN LANDFILL, COUNTY MEATH

BIOLOGICAL MONITORING OF SURFACE WATER QUALITY OF THE CLONEYMEATH/KNIGHTSBROOK RIVER AND THE 'DRUMARD' STREAM/DRAIN

October 2020

REPORT PREPARED FOR MEATH COUNTY COUNCIL

by

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Project	Biological monitoring of water quality in the vicinity of Basketstown Landfill, Co. Meath
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CONTENTS

1. INTRODUCTION

As part of the monitoring of water quality in the vicinity of Basketstown Landfill Site in County Meath, Conservation Services, Ecological & Environmental Consultants have been commissioned by Meath County Council to carry out biological sampling and water quality assessment in accordance with EPA Q-rating methodology at ten locations adjacent to the landfill site and on the 'Drumard' Stream/Drain and Cloneymeath/Knightsbrook Rivers. The sites were last assessed by Conservation Services in September 2019 (Conservation Services 2019).

Sampling was carried out on 11th October 2020.

2. METHODOLOGY

2.1. SITE LOCATIONS

Biological sampling and water quality assessment was carried out at the following sites. Grid references were recorded at all sites using GPS.

SITE	GRID REFERENCE (GPS)
Basketstown Site 1	N 85890 51274
Basketstown Site 2	N 85801 51237
Basketstown Site 3	N 84006 50188
Basketstown Site 4	N 84011 50182
Basketstown Site 5	N 83991 50189
EPA Site 07K02-0200	N 85992 49147
Cloneymeath Bridge South-West	N 85784 48973
EPA Site 07K02-0300	N 83311 50870
EPA Site 07K02-0360	N 80332 52181
EPA Site 07K02-0500	N 82998 56337

The location of the sites is shown on Map 1.

2.2. HABITAT ASSESSMENT

Habitat assessment was carried out at each of the ten sites selected for invertebrate/water quality assessment. These sites were assessed in terms of:

- Stream width and depth
- Substrate type, listing substrate fractions in order of dominance, i.e. large rocks, cobble, gravel, sand, mud etc.
- Flow type, listing percentage of riffle, glide and pool in the sampling area

- Instream vegetation, listing plant species occurring and their percentage coverage of the stream bottom at the sampling site

- Dominant bankside vegetation, listing the main species overhanging the stream

- Estimated summer cover by bankside vegetation, giving percentage shade of the sampling site

- Rating of the site as habitat for trout adult, nursery and spawning on a scale of Poor/Fair/Good/Very Good/Excellent. This rating assesses the physical suitability of the habitat; the presence/absence/density of salmonids at the site will also depend on present and historical water quality and accessibility of the site to fish.

2.3. INVERTEBRATE SAMPLING AND WATER QUALITY ASSESSMENT

A five-minute kick and stone wash sample was taken at each sampling site where conditions were suitable. Where substrates were muddy a sweep net sample was taken. Each sample was retained in a large plastic bag at the sampling site. Sample processing and preservation was carried out under laboratory conditions within 24 hours of sampling. Mud was removed from each sample by sieving under running water through a 500µ sieve. Sieved samples were then sorted for 30 minutes in a white plastic sorting tray under a bench lamp (ISO 5667-3:1994) and if necessary using a magnifying lens. Macroinvertebrates were stored in 70% alcohol. Preserved invertebrates were identified to the level required for the EPA Q-rating method (McGarrigle *et al*, 2002) using high-power and low-power binocular microscopes when necessary. The preserved samples were archived for future examination or verification. Based on the relative abundance of indicator species, a biotic index (Q-rating)

was determined for each site in accordance with the biological assessment procedure used by the Environmental Protection Agency (McGarrigle *et al*, 2002) and more detailed unpublished methodology (McGarrigle, Clabby and Lucey pers. comm.)

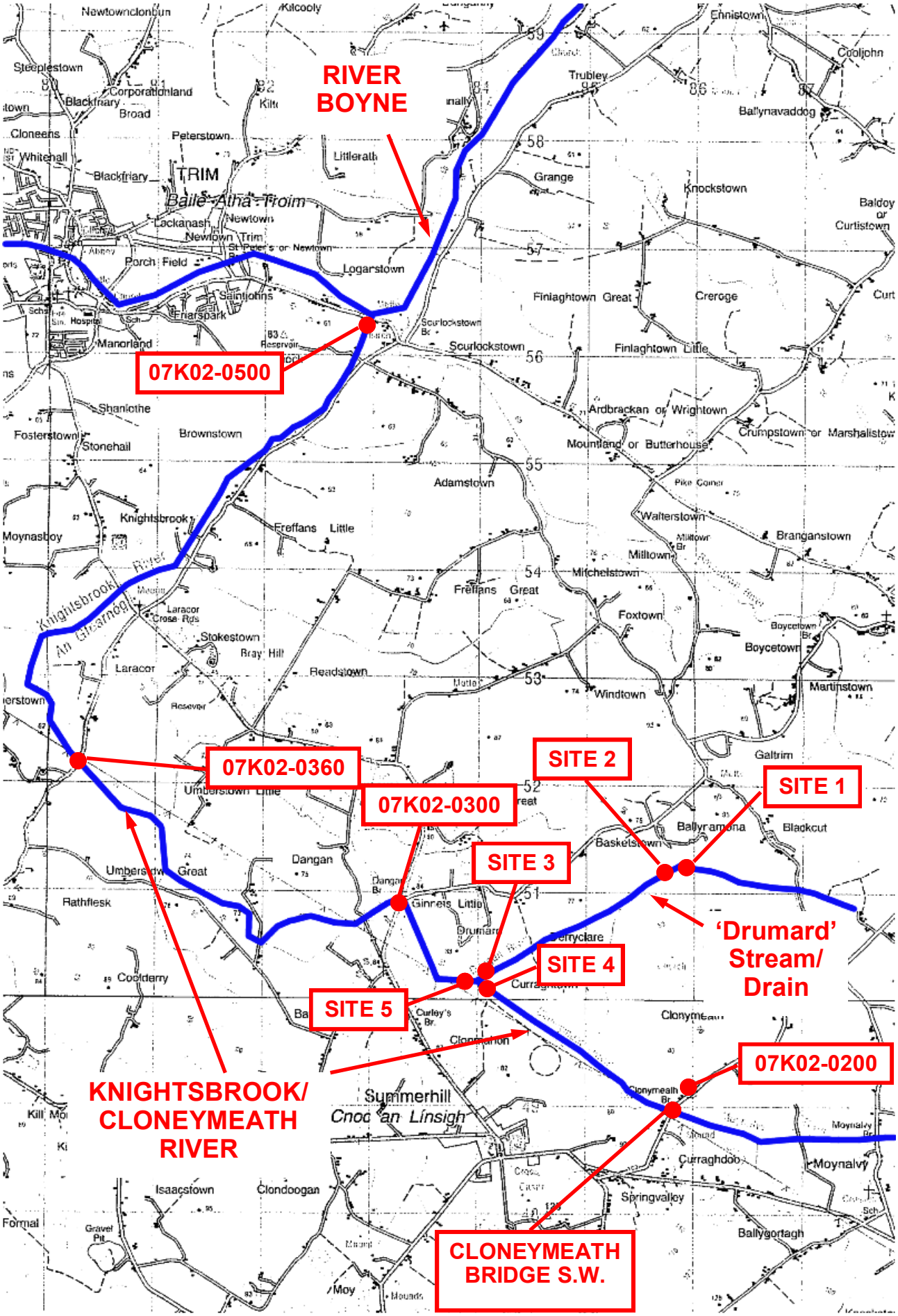
Biotic Index	**Water Framework Directive Ecological Quality**	**Quality Status**
Q5	High	Unpolluted Waters
Q4-5	High	
Q4	Good	
Q3-4	Moderate	Slightly Polluted Waters
Q3	Poor	Moderately Polluted Waters
Q2-3	Poor	
Q2	Bad	Seriously Polluted Waters
Q1-2	Bad	
Q1	Bad	

The EPA method appends “/0” to any Q-rating where a toxic effect is suspected and “/*” to any Q-rating where impact of siltation is suspected.

All samples were preserved and archived for future examination or verification if required.

MAP 1 LOCATION OF BIOLOGICAL ASSESSMENT SITES

Locations shown are approximate; for exact locations, see Grid References in text



3. RESULTS

Habitat description for all sites, including site photographs, is given in Appendix 1.

3.1. BASKETSTOWN SITE 1

This site is situated on the 'Drumard' Stream/Drain c.50m upstream of its confluence with the drain flowing from the landfill site. The 'Drumard' Stream/Drain here constitutes a very slow flowing drain. The Q-rating method is not strictly applicable at such a slow flowing site, but the invertebrate community tabulated below is indicative of seriously polluted conditions and Bad ecological quality, and is given a tentative Q-rating of Q2(t).

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None recorded	
Group B - Moderately Pollution Sensitive	None recorded	
Group C - Moderately Pollution Tolerant	*Valvata sp.*	1
	Dytiscidae	2
	Chironomidae (ex. *Chironomus*)	c.450
Group D - Very Pollution Tolerant	*Helobdella stagnalis*	14
	Sphaeriidae	c.600
	Asellus aquaticus	5
	Sialis sp.	3
Group E - Most Pollution Tolerant	Tubificidae	115
	Chironomus sp.	c.75
Not assigned to an indicator group	Lumbricidae	1

3.2. BASKETSTOWN SITE 2

This site is situated on the 'Drumard' Stream/Drain c.50m downstream of its confluence with the drain flowing from the landfill site. The Q-rating method is not strictly applicable at such a slow flowing site, but the invertebrate community tabulated below is indicative of seriously polluted conditions and Bad ecological quality, and is given a tentative Q-rating of Q2(t). which is slightly improved since 2019.

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	None Recorded	
Group C - Moderately Pollution Tolerant	Dytiscidae	1
	Chironomidae (excl. *Chironomus* sp.)	c.80
Group D - Very Pollution Tolerant	Sphaeriidae	c.3000
	Asellus aquaticus	5
Group E - Most Pollution Tolerant	Tubificidae	75
	Chironomus sp.	c.220

3.3. BASKETSTOWN SITE 3

This site is situated on the 'Drumard' Stream/Drain River c.2km downstream of its confluence with the drain flowing from the landfill site and just upstream of the confluence with the Knightsbrook River. Taking the habitat into account, the invertebrate community tabulated below is given a tentative Q-rating of Q2-3(t), indicating moderately polluted conditions and Poor ecological quality, a deterioration compared with Q3 in 2019.

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None recorded	
Group B - Moderately Pollution Sensitive	None recorded	
Group C - Moderately Pollution Tolerant	*Polycelis sp.*	1
	Hydracarina	2
	Chironomidae (excl. *Chironomus* sp.)	c.190
Group D - Very Pollution Tolerant	*Erpobdella sp.*	3
	Glossiphonia complanata	2
	Helobdella stagnalis	3
	Sphaeriidae	6
	Asellus aquaticus	2
Group E - Most Pollution Tolerant	Tubificidae	32
	Chironomus sp.	22

3.4. BASKETSTOWN SITE 4

This site is situated on the Knightsbrook/Cloneymeath River upstream of its confluence with the 'Drumard' Stream/Drain. Taking into account the nature of the habitat, the invertebrate community tabulated below merits a Q-rating of Q2-3 indicating moderately polluted conditions and Poor ecological quality.

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	Limnephilidae	6
Group C - Moderately Pollution Tolerant	*Dendrocoelum lacteum*	1
	Acroloxus lacustris	1
	Hydropsyche sp.	3
	Chironomidae (ex. *Chironomus*)	2
	Simuliidae	8
Group D - Very Pollution Tolerant	Erpobdellidae	10
	Glossiphonia sp.	14
	Helobdella stagnalis	2
	Sphaeriidae	19
	Asellus aquaticus	5
	Sialis sp.	6
Group E - Most Pollution Tolerant	Tubificidae	1
Not assigned to an indicator group	Lumbricidae	1

3.5. BASKETSTOWN SITE 5

This site is situated on the Knightsbrook/Cloneymeath River downstream of its confluence with the 'Drumard' Stream/Drain. Taking into account the nature of the habitat, the invertebrate community tabulated below merits a Q-rating of Q2-3 indicating moderately polluted conditions and Poor ecological quality.

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	Goeridae	1
Group C - Moderately Pollution Tolerant	*Polycelis sp.*	1
	Baetis rhodani	6
	Hydropsyche sp.	5
	Elmidae	3
	Gyrinidae	2
	Simuliidae	c.600
Group D - Very Pollution Tolerant	*Glossiphonia sp.*	3
	Helobdella stagnalis	1
	Physa sp.	1
	Sphaeriidae	7
	Asellus aquaticus	52
Group E - Most Pollution Tolerant	Tubificidae	4
Not assigned to an indicator group	Lumbricidae	3

3.6. SITE 07K02-0200

Cloneymeath Bridge North East Channel. Location shown on Map 1 (N.B. This channel is not shown on the 1:50,000 Discovery series map). The invertebrate community tabulated below merits a Q-rating of Q2-3 and is indicative of moderately polluted conditions and Poor ecological quality, a slight deterioration compared with 2019.

INDICATOR GROUP	TAXON	2020
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	Limnephilidae	7
Group C - Moderately Pollution Tolerant	*Valvata sp.*	1
	Gammarus duebeni	16
	Chironomidae (excl. *Chironomus* sp.)	287
	Simuliidae	1
Group D - Very Pollution Tolerant	*Glossiphonia sp.*	2
	Helobdella stagnalis	3
	Lymnaea peregra	8
	Physa sp.	2
	Sphaeriidae	1
	Asellus aquaticus	3
Group E - Most Pollution Tolerant	Tubificidae	15
	Chironomus sp.	22
Not assigned to an indicator group	Nematoda	1

3.7. CLONEYMEATH BRIDGE SOUTH-WEST

This site is located at Cloneymeath Bridge as shown on Discovery Series Map. This site appears to be on what is now the main channel of the Cloneymeath River. The invertebrate community tabulated below merits a Q-rating of Q3 indicating moderately polluted conditions and Poor ecological quality.

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	*Agapetus sp.*	41
	Sericostoma personatum	10
Group C - Moderately Pollution Tolerant	*Polycelis sp.*	1
	Gammarus duebeni	135
	Baetis rhodani	25
	Elmidae	76
	Gyrinidae	1
	Chironomidae	16
	Simuliidae	4
Group D - Very Pollution Tolerant	Erpobdellidae	1
	Sphaeriidae	2
	Asellus aquaticus	56
Group E - Most Pollution Tolerant	Tubificidae	3
Not assigned to an indicator group	Lumbriculidae	11

3.8. SITE 07K02-0300

This site is located just upstream of Dangan Bridge and c.1km downstream of the confluence of the Cloneymeath River with the 'Drumard' Stream/Drain. The invertebrate community tabulated below merits a Q-rating of Q3 indicating moderately polluted conditions and Poor ecological quality.

INDICATOR GROUP	TAXON	2020
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	Limnephilidae	1
	Sericostoma personatum	8
Group C - Moderately Pollution Tolerant	*Gammarus duebeni*	16
	Baetis rhodani	8
	Hydropsyche sp.	31
	Rhyacophila sp.	6
	Elmidae	10
	Gyrinidae	3
	Chironomidae	1
	Simuliidae	c.310
	Tipulidae	1
Group D - Very Pollution Tolerant	Erpobdellidae	5
	Glossiphonia complanata	1
	Asellus aquaticus	31
Group E - Most Pollution Tolerant	Tubificidae	6
Not assigned to an indicator group	Lumbriculidae	6

3.9. SITE 07K02-0360

This site is situated c.5 km downstream of the confluence of the 'Drumard' Stream/Drain with the Cloneymeath River. The invertebrate community tabulated below merits a Q-rating of Q3 indicating moderately polluted conditions and Poor ecological quality.

INDICATOR GROUP	TAXON	2020
Group A - Very Pollution Sensitive	None Recorded	
Group B -Moderately Pollution Sensitive	*Baetis muticus*	1
	Goeridae	2
	Sericostoma personatum	2
Group C -Moderately Pollution Tolerant	*Polycelis sp.*	1
	Potamopyrgus antipodarum	2
	Gammarus duebeni	66
	Baetis rhodani	4
	Hydropsyche sp.	8
	Polycentropus sp.	2
	Elmidae	6
	Chironomidae	1
	Pediciidae	6
Group D - Very Pollution Tolerant	*Glossiphonia sp.*	1
	Sphaeriidae	2
	Asellus aquaticus	1
Group E -Most Pollution Tolerant	Tubificidae	1
Not assigned to an indicator group	Lumbriculidae	1

3.10. SITE 07K02-0500

This site is located just upstream of the Boyne confluence and c.12 km downstream of the confluence of the 'Drumard' Stream/Drain with the Cloneymeath River. The sample area was limited due to high flow conditions. The invertebrate community tabulated below merits a Q-rating of Q3 indicating moderately polluted conditions and Poor ecological quality.

INDICATOR GROUP	**TAXON**	**2020**
Group A - Very Pollution Sensitive	None recorded	
Group B - Moderately Pollution Sensitive	*Leuctra sp.*	1
	Sericostoma personatum	2
Group C - Moderately Pollution Tolerant	*Gammarus duebeni*	129
	Baetis rhodani	11
	Hydropsyche sp.	14
	Rhyacophila sp.	3
	Elmidae	20
	Chironomidae	1
	Pediciidae	4
Group D -Very Pollution Tolerant	*Asellus aquaticus*	1
Group E - Most Pollution Tolerant	None recorded	
Not assigned to an indicator group	Lumbricidae	1
	Lumbriculidae	2

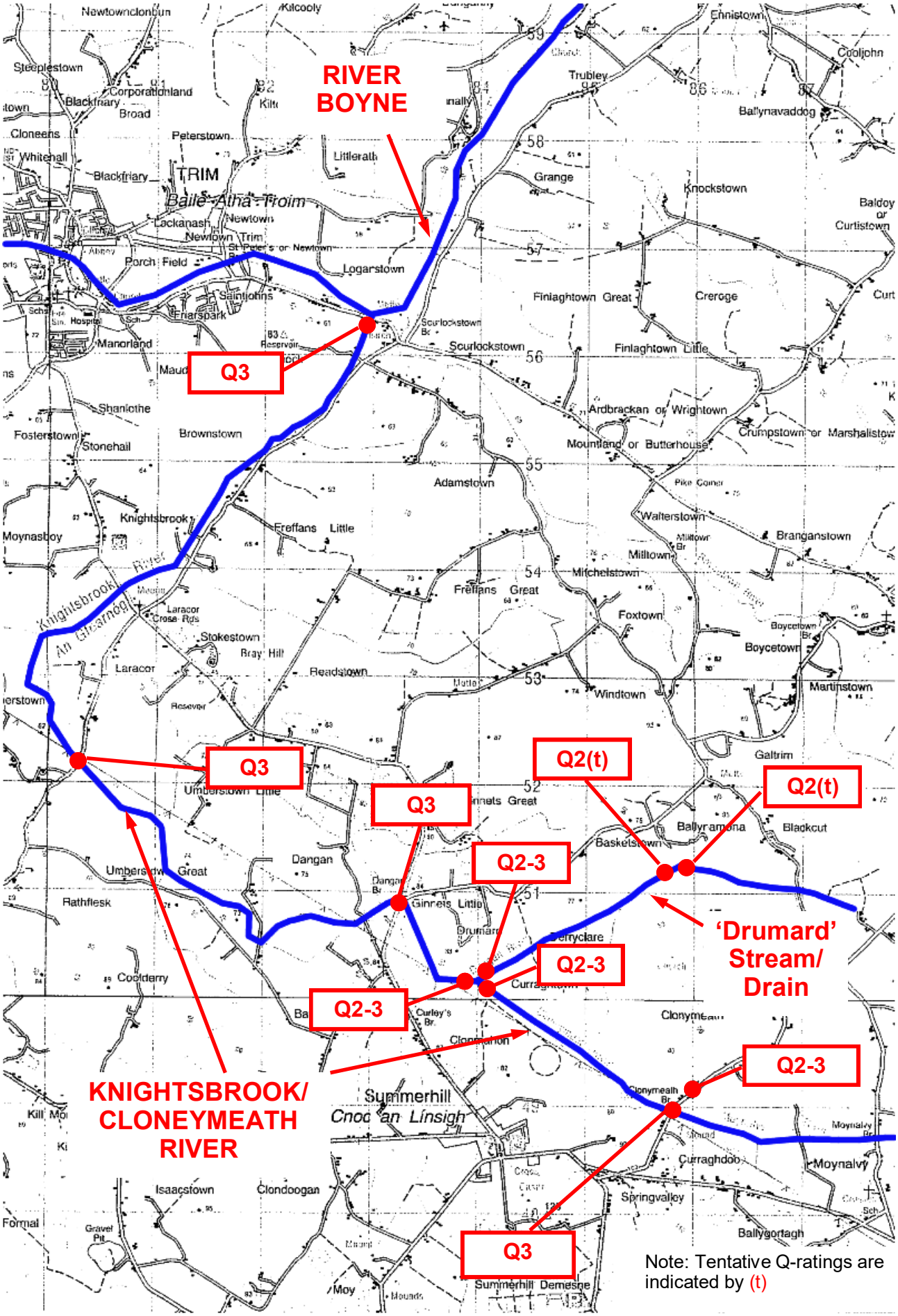
4. SUMMARY OF MONITORING RESULTS 2000-2020

	SITE 1	SITE 2	SITE 3	SITE 07K02-0200	CL'MEATH BRIDGE S-W	SITE 4	SITE 5	SITE 07K02-0300	SITE 07K02-0360	SITE 07K02-0500
June 2000	2(t)	2(t)	-	3(t)	3	-	-	3	3	4
EPA Aug-Sept 2000	-	-	-	-	-	-	-	2-3	3	3
Oct. 2000	2(t)	2(t)	-	3	3	-	-	2-3	3	3-4
April 2001	2-3(t)	2-3(t)	2-3	3-4	3	3	3	2-3	3-4	4
Nov. 2001	2(t)	2(t)	2-3	3	3	2	2-3	2-3	3-4	3-4
June 2002	2(t)	2(t)	2-3(t)	3	3	3	3	3	3	4
Oct. 2002	1-2(t)	2(t)	3	3	3	2	2	2-3	3	3-4
June 2003	2(t)	2(t)	3	3	3	2-3	3	3	3	4
Sep. 2003	2(t)	1-2(t)	3	2-3	3	2-3	2-3	2-3	3	3
Sep. 2004	1(t)	1(t)	2-3	1-2	3	1	1-2	2-3	3	3
Sep. 2005	2/0(t)	1-2/0(t)	2-3	3	2-3	2	2	2-3	3	3
Sep. 2006	1-2(t)	1-2(t)	2-3	2(t)	3	1-2	1-2	2-3	3	3
Sep. 2007	1-2(t)	1-2(t)	2-3	3	3	2-3	2-3	2-3	3	3
Sep. 2008	1-2(t)	1-2(t)	2	2-3	3	2	2	2-3	3	3

	SITE 1	SITE 2	SITE 3	SITE 07K02-0200	CL'MEATH BRIDGE S-W	SITE 4	SITE 5	SITE 07K02-0300	SITE 07K02-0360	SITE 07K02-0500
Sep. 2009	1-2(t)	1-2(t)	2	3	3	2	2	2-3	3	3
Oct. 2010	2(t)	2(t)	2-3	2-3	3	2	2	2-3	3	3-4
Sep. 2011	2(t)	1-2(t)	2-3	1-2(t)	3	2	2	2-3	3	3
Sep. 2012	1-2(t)	1-2(t)	2-3	2-3	3	2-3	2-3	3	3	3
Sep. 2013	2(t)	2(t)	3	2-3	3	2-3	2-3	3	3	3
Sep. 2014	2(t)	2(t)	2-3	3	3	2-3	2-3	3	3	3*
Sep. 2015	2(t)	2(t)	2-3	3	3	2-3	2-3	3	3	3
Sep. 2016	2(t)	1-2(t)	2	3	3	2-3	2-3	3	3	3
Sep. 2017	2(t)	1-2(t)	2-3	3	3	2-3	2-3	3	3	3
Oct. 2018	2(t)	1-2(t)	3(t)	2-3	3	2-3	2-3	3	3	3-4
Sep. 2019	2(t)	1-2(t)	3(t)	3	3	2-3	2-3	3	3	3
Oct. 2020	2(t)	2(t)	2-3(t)	2-3	3	2-3	2-3	3	3	3
Current Pollution Status	Seriously Polluted	Seriously Polluted	Moderately Polluted	Moderately Polluted	Moderately Polluted	Moderately Polluted	Moderately Polluted	Moderately Polluted	Moderately Polluted	Moderately Polluted

(t) = Tentative Q-rating * = suspected siltation/calcification effect

MAP 2 Q-RATINGS AT BIOLOGICAL ASSESSMENT SITES



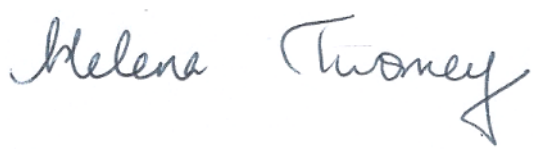
5. CONCLUSIONS

The Q-ratings for October 2020 are illustrated on Map 2. The Knightsbrook River is moderately polluted at all sites monitored. The biological monitoring data from sites on the Knightsbrook immediately upstream (Q2-3) and downstream (Q2-3) of its confluence with the 'Drumard' Stream/Drain contain no evidence that the 'Drumard' Stream/Drain (which flows from the vicinity of the Basketstown Landfill) causes any deterioration in the condition of the Knightsbrook River.

The biological data indicate that the 'Drumard' Stream/Drain continues to be seriously polluted immediately upstream and downstream of the drain which enters at grid reference N 858 512 from the vicinity of Basketstown Landfill. As the Q-rating on the Drumard Stream/Drain is Q2 both upstream and downstream of the landfill drain, no impact on the 'Drumard' Stream/Drain at this location is indicated.

Unless there is some means by which landfill leachate can enter the Knightsbrook River other than via the 'Drumard' Stream/Drain, the results of biological monitoring continue to contain no evidence that the landfill is responsible for, or contributes to, the unsatisfactory condition of the Knightsbrook River.

Signed on behalf of Conservation Services



Helena Twomey BA (Mod.) PhD

10 November 2020

6. REFERENCES

McGarrigle et al (2002) Water Quality in Ireland 1998-2000. Environmental Protection Agency.

Conservation Services (2019) Biological monitoring of surface water quality of the Cloneymeath/Knightsbrook River and the 'Drumard' Stream/Drain in the vicinity of Basketstown Landfill, County Meath. September 2019. Unpublished report to Meath County Council.

APPENDIX 1

HABITAT ASSESSMENT AT SAMPLING SITES

Site Code	Basketstown 1
Site Location	Grid reference N 85890 51274
Site Photograph	
Width	3 m
Depth	5-10 cm
Substrate	Mud
Flow Type	Slow glide
Instream Vegetation	None recorded
Dominant Bankside Vegetation	Hawthorn, Elder
Estimated % summer Cover of Stream by Bankside Vegetation	80%
Trout Adult Habitat	None
Trout Nursery Habitat	None
Trout Spawning Habitat	None

Site Code	Basketstown 2
Site Location	Grid Reference N 85801 51237
Site Photograph	
Width	3-4 m
Depth	15 cm
Substrate	Mud
Flow Type	Very Slow Glide 100%
Instream Vegetation	None
Dominant Bankside Vegetation	Hawthorn, Bramble, Ivy
Estimated % summer Cover of Stream by Bankside Vegetation	60%
Trout Adult Habitat	None
Trout Nursery Habitat	None
Trout Spawning Habitat	None

Site Code	Basketstown 3
Site Location	N 84006 50188
Site Photograph	
Width	3 m
Depth	50 cm
Substrate	Mud, Sand
Flow Type	Glide 100%
Instream Vegetation	*Phalaris arundinacea* <1%
Dominant Bankside Vegetation	Hawthorn, Bramble
Estimated % summer Cover of Stream by Bankside Vegetation	60%
Trout Adult Habitat	None
Trout Nursery Habitat	None
Trout Spawning Habitat	None

Site Code	Basketstown 4
Site Location	N 84011 50182
Site Photograph	
Width	3.5 m
Depth	1 m
Substrate	Mud, Sand, Gravel
Flow Type	Glide 100%
Instream Vegetation	*Phalaris arundinacea* 60%
Dominant Bankside Vegetation	Hawthorn, Bramble
Estimated % summer Cover of Stream by Bankside Vegetation	20%
Trout Adult Habitat	None
Trout Nursery Habitat	None
Trout Spawning Habitat	None

Site Code	Basketstown 5
Site Location	N 83991 50189
Site Photograph	
Width	4-5 m
Depth	50-60 cm
Substrate	Mud, Sand, Gravel, Cobble (Heavy siltation)
Flow Type	Glide 100%
Instream Vegetation	*Sparganium erectum* 40% *Phalaris arundinacea* 20%
Dominant Bankside Vegetation	Hawthorn, Ash, Briar
Estimated % summer Cover of Stream by Bankside Vegetation	15%
Trout Adult Habitat	Poor-Fair
Trout Nursery Habitat	Poor
Trout Spawning Habitat	None

Site Code	07K02-0200
Site Location	Grid Reference N 85992 49147
Site Photograph	
Width	4 m
Depth	10 cm
Substrate	Mud, Gravel, Sand, Cobble (Heavy siltation)
Flow Type	Glide 100%
Instream Vegetation	*Apium nodiflorum* <5% *Lemna minor* <5%
Dominant Bankside Vegetation	Ash, Oak, Hawthorn
Estimated % summer Cover of Stream by Bankside Vegetation	40%
Trout Adult Habitat	None
Trout Nursery Habitat	None
Trout Spawning Habitat	None

Site Code	Cloneymeath Bridge South-West
Site Location	Grid reference N 85784 4873
Site Photograph	
Width	4-5 m
Depth	10-15 cm
Substrate	Cobble, Gravel, Mud (Heavy siltation)
Flow Type	Glide 70% Riffle 30%
Instream Vegetation	None
Dominant Bankside Vegetation	Hawthorn, Bramble, Sycamore
Estimated % summer Cover of Stream by Bankside Vegetation	30%
Trout Adult Habitat	Poor
Trout Nursery Habitat	Fair-Good
Trout Spawning Habitat	Poor-Fair

Site Code	07K02-0300
Site Location	Grid reference N 83311 50870
Site Photograph	
Width	3-4 m
Depth	15-20 cm
Substrate	Cobble, Gravel, Sand, Mud (Heavy Siltation)
Flow Type	Riffle 80% Glide 20%
Instream Vegetation	Filamentous algae 50% Bryophyta 5% *Phalaris arundinacea* 5%
Dominant Bankside Vegetation	Grass, Blackthorn, *Phalaris arundinacea,* Bramble, Nettle
Estimated % summer Cover of Stream by Bankside Vegetation	5%
Trout Adult Habitat	Poor-Fair
Trout Nursery Habitat	Good
Trout Spawning Habitat	Poor-Fair

Site Code	07K02-0360
Site Location	Grid reference N 80332 52181
Site Photograph	
Width	7-8 m
Depth	25-35 cm
Substrate	Cobble, Gravel, Sand, Mud
Flow Type	Riffle 40% Glide 60%
Instream Vegetation	Algae 10% *Ranunculus sp*. 10%
Dominant Bankside Vegetation	Hawthorn, Bramble
Estimated % summer Cover of Stream by Bankside Vegetation	10%
Trout Adult Habitat	Fair
Trout Nursery Habitat	Fair-Good
Trout Spawning Habitat	Fair

Site Code	07K02-0500
Site Location	Grid reference N 82998 56337
Site Photograph	
Width	8 m
Depth	15-30 cm
Substrate	Cobble, Gravel, Sand (Moderate siltation, Calcified)
Flow Type	Glide 30% Riffle 70%
Instream Vegetation	Filamentous algae 10% Bryophyta 10% *Phalaris arundinacea* 10%
Dominant Bankside Vegetation	*Phalaris arundinacea,* Alder
Estimated % summer Cover of Stream by Bankside Vegetation	5%
Trout Adult Habitat	Fair-Good
Trout Nursery Habitat	Fair-Good
Trout Spawning Habitat	Poor-Fair
Comment	Limited sample area due to high flow conditions