



Goole & Airmyn

Internal Drainage Board

The Courtyard
Goole
DN14 6AE

Meeting *Papers*

Wednesday 8 February 2017
5:00pm



Shire


Group of IDBs


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Meeting Papers

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Clerk to the Board

Purpose

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1. Governance

Recommendation:

- Note the information contained in this report

1.1 Apologies for Absence

1.2 Declaration of Interest

1.3 Minutes of the Meeting held 1 November 2016

Member	11.2.20 16	24.3.20 16	23.6.20 16	01.09.20 16	01.11.20 16
Mrs Rosemary J Webster (Chair)	✓	✓	✓	✓	✓
Mr John Richard Fawbert	✓	✓	A	A	✓
Mr G W Martinson	✓		-		
5 VACANCIES					
East Riding of Yorkshire					
Mrs Rita Brough	✓	✓	✓	✓	✓
Cllr Malcolm Boatman	✓	✓	✓	✓	✓
Cllr Keith Moore (V Chair)	✓	✓	✓	✓	✓
Cllr Brent Huntington	A	A	✓	✓	✓
Cllr Josie Head	A	✓	✓	✓	✓
Mick Head (ER)	✓	✓	-	✓	A
Stephen Harrison		✓	A		
Cllr Caroline Fox	✓	✓	✓	✓	A
1 VACANCY					

In attendance on behalf of JBA Consulting, Clerk, Engineer and Environmental Officer:

Ian Benn (Clerk)	Clerk
Craig Benson (Finance Officer)	FO
Roger Smith (Engineer)	Eng.
Alison Briggs (Environment & Administration)	EO

Apologies for Absence

2016.139 Apologies for absence were received from Caroline Fox and Mick Head

Declaration of Interest

2016.140 BH declared an interest in Heptonstalls.

Appointment of Chair

2016.141 KM proposed Rosemary Webster, seconded RB, all in agreement

Appointment Vice Chair

2016.142 BH proposed Keith Moore, seconded MB, all in favour

Minutes of the Meeting 23 June 2016

2016.143 KM noted election year however FO advised no election required. KM proposed Minutes as true record for signature by Chair, seconded JH, all in agreement

Matters Arising

2016.144 As reported in papers. KM proposed letter of thanks to Schofield Sweeney. Agreed

FOI request and complaints

2016.145 None.

Board Policies

2016.146 Reserves Policy

KM proposed adoption of Reserves Policy, seconded JH, all in agreement.

CLERKS REPORT

The Clerk's Report, copies of which had been circulated to members with the Meeting papers, was considered.

Amalgamation and reconstitution

2016.147 Clerk noted the Board short on landowner representation. Goole fields IDb is a landowner Board of 5 members. There may be opportunity to consider discussion/joint meetings enabling a rounded view to understand greater district and possibly a potential amalgamation. Members in agreement to initiate discussions with Goole Fields and Management would put options together for consideration. In meantime, potential agreement to some shared meetings between both Boards, to give a better understand Total Catchment Management.

Humber Flood Risk Management Strategy

2016.148 Noted MP business case for 1:200 year strategy protection was rejected, water would be funnelled to Goole. EA identified several flood cells in strategic districts. Noted current Medium Term Plan identified where monies proposed to be spent. Boundary extension includes wider Doncaster district and Selby, covering the tidal influence of the Aire, Ouse, Don and Trent. Members advised document could be viewed together with recent EFRA Committee report and ADA response on the website.

Website

2016.149 Being populated and hoped to be live for member comment within a few weeks

ADA

2016.150 Committee discussions noted

KPI

2016.151 Noted. Member queried what was required to be Very Good. EO advised she would be suspicious of any Board being at that level however Board made good headway and now BAP being implemented felt next year for Environment Board likely considered Good

FINANCIAL REPORT

The Financial Report, copies of which had been circulated to members with the Meeting papers, was considered.

Rating

2016.152 FO advised now £522 outstanding.

List of Payments

2016.153 Members considered List of Payments noting total of £86631.02 of which £4132.63 sanctioned by Clerk only. KM **proposed approval of list of payments from account, all in Agreement.**

Audit

2016.154 Internal Audit Review Meeting – Chair to attend representing Board

2016.155 External Audit- Members noted auditor comments and agreed Board in good position now as reflected by the report.

Budget Comparison

2016.156 Members noted budget where expected to be

5-year Budget Estimate

2016.157 Members pleased to note Reserves by 2021/22 will be 50% of expenditure compared with current position

ENGINEER'S REPORT

The Engineer's Report, copies of which had been circulated to members with the Meeting papers, was considered.

2016.158 Eng. Advised report for information only noting maps received from previous engineers do not all correspond regarding Board maintained watercourses. It was agreed the anomalies would be removed from the plan.

Consents

2016.159 Eng. Confirmed additional consent in process of being issued between papers being released and the meeting.

Telemetry

2016.160 Eng. confirmed the system used was Oriel.

ENVIRONMENTAL REPORT

The Environmental Report, copies of which had been circulated to members with the Meeting papers, was considered.

Eels (England and Wales) Regulation 2009

2016.161 Members noted information contained in the report. EO advised recent contact made by EA Fisheries regarding Board pump stations and regulation compliance. She was to meet with fisheries officers later this year

Biodiversity Action Plan

2016.162 Members noted information regarding barn owl and the new box.

Health & Safety Report

2016.163 Members noted information in report regarding pylon straining wire. Awareness of necessity to report near misses has been issued to Contractor

Representation

2016.164 Members noted the fora at which the Board had been represented

Date of next meeting

2016.165 8 February 2017, 14 June 2017 and 1 November 2017 commencing 17.00 at The Courtyard, Goole, DN14 6AE.

1.4 Matters arising not discussed elsewhere on Agenda

1.5 FOI/Complaints

None received

2. Clerks Report

Recommendation:

- Note information contained in the report

2.1 East Riding Yorkshire Council

The Clerk and Chair were requested to attend ERYC Overview & Scrutiny Committee on 23rd January 2017.

East Riding of Yorkshire Council is undertaking a review into the work of Internal Drainage Boards. The aim of the review is to examine the role and complexities of Internal Drainage Board operations, governance and clerking arrangements. The review will examine the role of the Boards; their efficiency in maintaining water courses/drains; how their work relates to flood risk management, the role of elected members on the Boards and funding. The council provided an outline scope of the review.

Invited to the meeting also were ADA and EA representatives. The Board was represented by the Clerk and Environment Officer.

Areas of discussion included:

- Challenges and obstacles experienced by IDBs undertaking duties and responsibilities – responses included outlining only duty and responsibility was to the environment and health & safety. Committee advised Board function and associated water level management is undertaken by permissive power. Some IDBs concerned over perceived levels of bureaucracy regarding environmental legislation.
- Areas of duplication of work between IDBs or IDBs and other organisations – IDBs permissive power is exercised within its District except where consenting and enforcement work is undertaken for a LLFA and where IDBs work under a PSCA.
- Communications with EA and other organisations/partnerships/networks – IDBs felt communication good, Boards are represented on several fora including Humberhead Levels partnership.
- How do IDBs communicate with local communities – through Board Members both elected and nominated, attendance at local flood for a, parish council meetings.
- Do IDBs think there are any benefits and scope for further amalgamations – mixed responses from IDBs but acknowledged large Boards can be somewhat ineffective in decision making.
- How does a Board identify/prioritise/plan and deliver works - discussed long term (60 year) plan identifying pump station refurbishment/replacement. Purpose of reserves and importance of having reserves policy; funding and borrowing or saving for the future.
- How do IDBs evidence they are doing a good job – advised IDBs required hard evidence work done in agricultural areas benefits urban areas, importance of KPIs. Advised this Board has KPIs.

2.2 Legislation

Amendments made to the Land Drainage Act 1991 by the Flood & Water Management Act 2010 are now incorporated into the text of the Act and available to view at <http://www.legislation.gov.uk/ukpga/1991/59/contents>.

Part II Provisions for Facilitating or Securing the Drainage of Land includes a the new clause, sub-section 14A **General Powers for Flood Risk Management Works**.

Two conditions must be satisfied before an IDB can undertake Flood Risk Management Works:

1. The Board considers the work desirable having regard to the Local Flood Risk Management Strategy for its area
2. The purpose of the work is to manage a flood risk from an ordinary watercourse in its area

Flood Risk Management works mean anything done:

- to maintain existing works (including buildings and structures) including cleansing, repairing or otherwise maintaining the efficiency of an existing watercourse or drainage work;
- to operate existing works (such as sluiceways or pumps);
- to improve existing works (including buildings or structures) including anything done to deepen, widen, straighten or otherwise improve an existing watercourse, to remove or alter mill dams, weirs or other obstructions to watercourses, or to raise, widen or otherwise improve a drainage work;
- to construct or repair new works (including buildings, structures, watercourses, drainage works and machinery);
- for the purpose of maintaining or restoring natural processes;
- to monitor, investigate or survey a location or a natural process;
- to reduce or increase the level of water in a place;
- to alter or remove works.

The general powers of an IDB are contained in ss14:

- to maintain, to improve or to construct new or existing works; to deepen, widen, straighten, or otherwise improve any existing watercourse or drainage work;

Sub-section 21 details power of enforcement of obligations to repair watercourses, bridges etc.

Sub-section 23 with consent requirement for obstructions in watercourses,

2.3 Defra

Nothing to report

2.4 Environment Agency

2.4.1 Pollution incident

A pollution incident was reported to the Board by a Member and ERYC in Hook Drain south of the school. ERYC confirmed Yorkshire Water had been advised, suggesting Board may wish to take up the matter with Yorkshire Water to ensure a satisfactory outcome.

Any pollution incident investigation is the responsibility of the Environment Agency. The Environment Agency is the body with power to prosecute polluters.

The matter was reported to the Environment Agency and Agency staff will investigate. ERYC will be advised of the correct procedure with regard to pollution incidents.

2.4.2 Humber Flood Risk Management Strategy

Consultants have been appointed to undertake the comprehensive review which includes the extended boundaries to tidal influence. The work is expected to take 3 years.

2.5 Association of Drainage Authorities (ADA) Conference

Notes on Conference.

Henry Cator stood in for President Lord Ramsey, unable to attend. Henry suggested the industry was taken for granted, noting IDB Members take seats on these small non-departmental public bodies as volunteers with immense local knowledge of their area.

Dr Therese Coffey, Minister for the Environment, spoke at length. Government appreciates the role and function of IDBs and the importance of ADA, speaking for the collective whole. She welcomed ADA's response to the flooding report suggesting the importance of integrating water, land management, development and the environment from source to sea. On de-maining and asset transfer, she advised the Agency was not attempting to palm off responsibility but looking for willing partners and how PSCA's help support this process. She is very supportive and seeks to promote natural flood management and understand what it could look like in lowland areas. She noted Defra's appreciation on the work some IDB Officers had done on land values in connection with proposed new IDBs in Cumbria. She also acknowledged the statutory duty of local authorities to raise income on behalf of IDBs for those developed areas within the IDB District and how Board function assisted delivery of environment, food and farming requirements.

Alison Baptiste spoke on behalf of the Environment Agency expending on the requirement to de-main and transfer assets, likely to be with willing partner IDBs and other Risk Management Authorities. The ideal scenario was to deliver a local solution for local people however the Agency continues to require an oversight role.

Emma Howard-Boyd, Chair of the Environment Agency spoke on the work of water level management having a positive impact on daily lives but the requirement to think long term about nature and the protection of people from flooding. It was believed delivery would be through collaboration between partners to deliver a resilient England, advising not everyone can be protected at all times. A catchment based approach would be required to deliver this; land management practices, soft engineering approaches, new measures with utility companies to strengthen infrastructure resilience. She advised of an Agreement with Stobart trucks to move goods required by the Environment Agency dealing with flood events around the country and the Woodland Trust and Forestry Commission were to plant trees. She noted how the PSCA were delivering efficient savings of between 5-10%. Mrs Howard-Boyd also advised the Agency was keen to work with willing partners. There requires a rebalancing of both National and Local Flood Risk Management; the 25-year Environment Framework was soon to be published – how to fund the work remained an ongoing issue.

Minette Batters spoke for the National Farmers Union. She identified Brexit as the biggest challenge for the future. Trading relationships was the number one priority and access to the single market. It would be a significant change for agriculture. The budget was secure until 2020 but a new deal would have to be agreed before the end of the 2-year exit from Europe. She advised the public pay £0.23 per day toward the Commons Agricultural Policy, providing food, clean water and a clean environment and the importance of using the next two years to influence change. Currently, under the Water Framework Directive, one indicator failure meant watercourse failure suggesting by the next River Basin Management Plan period of 2027, was time within which the directive could be scrapped. The NFU fully supported IDBs working on main river under PSCAs and commented on the role of farming in mitigation of Climate Change.

Question Time followed with questions raised by a LLFA Member on SuDS and the requirement for all drainage assets to be adopted and maintained in perpetuity where Management Companies set up for this purpose frequently failed to deliver suggesting the FWMA Schedule 3 required enactment allowing the LLFAs to adopt systems. It was opined the Government is storing up problems because SuDS are not being developed properly and to deliver the catchment approach requires SuDS being developed.

A Member advised the CAP monies are not for farmers but subsidise consumer shopping lists.

On Grant in Aid an IDB Officer suggested whilst outcome measures were appropriate for accessing GiA, they need to be more aspirational, offering a lower level of protection in villages and reporting on the percentage of properties protected, advising property should be protected to a standard with support for offering advice on resilience to flooding.

Innes Thompson advised on the importance of soil as the most valuable farm asset and the need to protect it from erosion and maintain soil biota.

2.5.1 Technical & Environment Committee

Discussed Committee workstream reports including Water Transfer licencing, total Catchment Management, Ecological improvement and Data & Evidence.

Work streams and groups for 2017 were agreed at: continuing water transfer & abstraction, preparation of a guide to de-maining for IDBs and using the IDB1 form information to provide an "information dashboard". Board Management supplied process flowcharts Shire Group Officers produced to assist Boards within the Shire Group in connection with EA Rationalisation including PSCA, Asset Transfer and De-maining. Reports were also given on the proposed amendment to the EIA (Land Drainage Improvement Works) Regulations Consultation which was the subject of a 2016 meeting attended by the Board's Environment Officer with Defra.

2.5.2 Policy & Finance Committee

Discussed 2016 and 2017 Committee work streams including Rating & valuation lists, Governance and Audit. The National Audit Officer review of IDB Governance has been undertaken as a desk top study and it is expected the report will be released by NAO later this year.

2.6 Board Key Performance Indicators

The table presents a reasonable assessment of Board status.

Goole & Airmyn IDB Key Performance Indicators		Inadequate	Work to be done	Adquate	Good	Very good
Management of the Board	Compliance with internal audit requirements					
	Governance					
	Health & safety					
	Partnership working					
	OVERALL					
Reduction of water logging and flood risk to assets	Asset management					
	Flood Risk management					
	Flooding - learning					
	OVERALL					
Environment	Biodiversity Action Plan					
	Water Framework Directive					
	Partnership working					
	OVERALL					
Financial	Financial statements					
	Drainage rate collection					
	OVERALL					

3. Financial Report

Recommendations:

- To note the information contained in this report
- To approve the schedules of payments
- To approve the Risk Register
- To agree rate of 4.8p (Item 3.4)

3.1 Rating Report

Details of the Rates and Special Levies issued and payments received up to and including 25th January 2017: -

	£	£
Balance Brought forward at 1 April 2016		NIL
2016/2017 Drainage Rates and Special Levies		
Drainage Rates – District 1	198.64	
Drainage Rates – District 2	5,341.48	5,540.12
Special Levies – East Riding of Yorkshire Council		
District 1	243,881.00	
District 2	3,565.00	247,446.00
Total Drainage Rates Due		<u>252,986.12</u>
Less Paid: -		
Drainage Rates – District 1	198.64	
Drainage Rates – District 2	5,105.45	5,304.09
Special Levies – East Riding of Yorkshire Council		
District 1	243,881.00	
District 2	3,565.00	247,446.00
Total Drainage Rates Paid		<u>252,750.09</u>
Balance Outstanding as at 25th January 2017		<u>236.03</u>

3.3 Audit

3.3.1 Internal Audit: Internal Audit Review Meeting

The minutes of the internal audit review meeting can be found at Appendix A.

3.3.2 Risk Register

Members are asked to review the attached risk register at Appendix B and formally approve to adopt at the meeting.

3.4 Rates, Estimates and Special Levies as at y/e 31.3.2018

2016/17				2017/18	
Approved Estimate		Estimated Out-Turn			Estimate
£	£	£	£	£	£
				INCOME	
				Drainage Rates on District 1:-	
199		199		4.8p in £ on Av of £4,004	192
				Drainage Rates on District 2:-	
4,991		5,257		4.8p in £ on Av of £107,915	5,180
				Special Levies	
				East Riding of Yorkshire - District 1	
243,881		243,881		4.8p in £ on Av of £4,981,575	239,116
				East Riding of Yorkshire - District 2	
3,565		3,565		4.8p in £ on Av of £183,404	8,803
				Other Income:-	
20,000		25,986		Department of Transport	20,000
0	272,636	700	279,588	Other Income/Interest etc	50
				EXPENDITURE	
70,237		68,860		Environment Agency Precept	70,926
7,374		7,374		Board Loans	7,374
				Capital:-	
0		0		Downs Ground PS Outfall	10,000
				Administration:-	
32,400		32,400		Management Fees	33,372
12,525		25,000		Other Administration Expenses	18,000
				Works Maintenance:-	
0		0		Asset Survey	3,000
12,620		6,500		Pump Attendant Costs	7,000
27,000		27,000		Drain Maintenance (Contract)	28,000
2,500		2,000		Ecology, Biodiversity etc	2,500
31,000	195,656	28,000	199,659	Pumping Stations	31,000
	76,980		79,929	Surplus - (Deficit)	62,169
	(50,009)		(59,393)	Balance Brought Forward	20,536
	26,971		20,536	Balance Carried Forward	82,705
Previous Years Rates in the £ - 2015/16 : 4.9p					
Penny Rate : £52,769					



3.5 Five Year Budget Estimate

Goole & Airmyn IDB	0	0	0	1	2	3	4	5
Revenue Account	2016/17	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
	App Budget	Estimated Out-turn						
Income	£	£	£	£	£	£	£	£
Drainage Rates	5,189	5,456	5,372	5,372	5,372	5,372	5,372	5,372
Special Levies	247,446	247,446	247,919	247,919	247,919	247,919	247,919	247,919
Highways England Contribution	20,000	25,986	20,000	20,000	20,000	20,000	20,000	20,000
Bank Interest, consents etc	-	700	50	50	50	50	100	100
Total Income	272,635	279,588	273,341	273,341	273,341	273,341	273,391	273,391
Expenditure								
Flood Defence Levy	70,237	68,860	70,926	73,054	75,245	77,503	79,828	82,222
New and Improvement Works	-	-	13,000	-	-	-	-	-
Drain Maintenance	29,500	33,500	35,000	36,050	37,132	38,245	39,393	40,575
Other Expenditure		4,525	2,500	2,575	2,652	2,732	2,814	2,898
Pumping Stations	43,620	28,000	31,000	31,930	32,888	33,875	34,891	35,937
Administration	44,925	57,400	51,372	52,913	54,501	56,136	57,820	59,554
PWLB Loan	7,374	7,374	7,374	7,374	7,374	7,374	7,374	7,374
Total Expenditure	195,656	199,659	211,172	203,896	209,791	215,864	222,119	228,561
Surplus/(Deficit)	76,979	79,929	62,169	69,445	63,550	57,477	51,272	44,830
Balance Brought Forward	(50,009)	(59,393)	20,536	82,705	102,150	115,700	123,177	124,450
Transfer to Capital Reserve Acc	-	-	-	50,000	50,000	50,000	50,000	40,000
Balance Carried Forward	26,970	20,536	82,705	102,150	115,700	123,177	124,450	129,280
Penny Rate in £	4.90p	4.90p	4.80p	4.80p	4.80p	4.80p	4.80p	4.80p
Penny Rate £52,769	4.90p	4.90p	4.80p	4.80p	4.80p	4.80p	4.80p	4.80p
Commuted Sum Balance	193,057	193,057	193,057	193,057	193,057	193,057	193,057	193,057
Capital Reserve Account	-	-	9,500	59,500	109,500	159,500	209,500	249,500
% of Expenditure	13.78%	10.29%	39.16%	50.10%	55.15%	57.06%	56.03%	56.56%

	2016/17	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
	App Budget	Estimated Out-turn						
Capital Reserve Account	£	£	£	£	£	£	£	£
Income								
Total Income	-	-	-	-	-	-	-	-
Expenditure								
Telemetry - Total Catchment	-	30,500	-	-	-	-	-	-
Total Income	-	30,500	-	-	-	-	-	-
Surplus/(Deficit)	0	(30,500)	0	0	0	0	0	0
Balance Brought Forward	-	-	9,500	9,500	59,500	109,500	159,500	209,500
Transfer from Revenue	-	-	-	50,000	50,000	50,000	50,000	40,000
Transfer from Commuted Sum		40,000						
Balance Carried Forward	-	9,500	9,500	59,500	109,500	159,500	209,500	249,500

4. Engineer's Report

Recommendations:

- Note the information contained in this report

4.1 Asset Management

4.1.1 Asset Condition Survey

Nothing to Report

4.1.2 Pumping Stations

It has been observed recently that the outfall structure at Downes Ground PS, is starting to erode and that the steel sheets and flap valve are becoming exposed, this will be monitored. Quotes are currently being obtained to make good the situation.

Capitol Park / Goole 36. – HCA will hand over the responsibility and ownership of the attenuation ponds and any small parcels of land to the Land Trust. The Pumping Station will remain in Tritax's ownership.

4.1.3 Telemetry

The new telemetry apparatus has been installed, Danvm IDB (M and E Engineers) have received a tutorial on the new software.

4.2 Maintenance

4.2.1 Pumping Station attendant

The services of Danvm DC continue to be used.

4.2.2 Ordinary Watercourses

The boards maintenance programme for the season 2016/2017 has been completed.

Abstraction advice and information has been given for the 2017 season.

4.3 Planning, pre-application advice and consents

4.3.1 Planning Applications

The Board may only comment on surface water run-off in excess of the green field run-off rate of 1.4 litres per second per hectare. 7 planning applications upon which the Board is required to comment have been made between 19 October 2016 and 13 January 2017

4.3.2 Land Drainage Act 1991 Section 23 and 66 (Byelaws) Consents

2 consent issued between 19 October 2016 and 13 January 2017

4.3.3 Pre-application advice

Has been given to Kremer Properties and White Young Green on housing developments within the boards catchment.

5. Environmental Report

Recommendation:

- Note the information contained in this report
- Resolve to support ADA R&D by contribution to eel behaviour at pump stations

5.1 Legislation

5.1.1 Eels (England and Wales) Regulations 2009

Appendix C contains a report on work done by Dr Ros Wright (EA) and Hull International Fisheries Institute (HIFI) which has been funded by Defra.

ADA has made an appeal to all IDBs for Research & Development fund monies which can be used as match funding for further EA/HIFI work on eel behaviour and developing a protocol to assess upstream habitat suitability for eel. To date, the development fund has received support of £18,500 for 2016/17 financial year and £17,500 for 2017/18 financial year. The result of this work will inform the new EA policy position statement and guidance for use by IDBs.

This Board is requested to consider pledging £500 in support of this study. The Environment Agency has not yet decided on the status of Board pumping stations with respect to Eel Regulation compliance.

5.1.2 Biodiversity Action Plan 2015-2020

Work on Board targets and actions will recommence April or earlier weather permitting. A Barn owl has been seen by the Danvm MEICA staff using the box at Downes Ground PS. They will endeavour to record this by photograph.

6. Health and Safety Report

Recommendations:

- To note the information contained in the report

6.1 Contractor Management

6.1.1 Accidents and Incidents

None to report

6.1.2 Lone Worker Arrangements

Nothing to report

7. Representation

Officers represent the Board in several fora:

Environmental	Flood Risk Management	Other
Humberhead Levels Steering Group	Humber Flood Risk Management Steering Group	ADA Northern branch
	EA-CIRIA Partnership Funding Opportunities	ADA T&E
	Meeting with East Riding of Yorkshire Council FRM Officers	ADA P&F
	East Riding of Yorkshire Council Overview & Scrutiny Committee	

8. Date of next meeting

14 June 2017

9. Appendix A: Internal Audit Review Meeting

Held at JBA Consulting, Epsom House,
Monday, 28 November 2016

Present:	Mr Adrian Black	Scunthorpe & Gainsborough WMB
	Mr David Hinchcliffe	Black Drain Drainage Board
	Mr Peter Horne	Doncaster East IDB
	Mrs Veronica Chapman	Doncaster East IDB
	Mr Christopher Day	Ancholme IDB
	Mr Martin Oldknow	Black Drain DB/Doncaster East IDB
	Mrs Gillian Ivey	Danvm Drainage Commissioners
	Mr Andy Cane	Brodericks GBC

In Attendance on behalf of JBA Consulting:

Mr Craig Benson (Senior Financial Officer to the Shire Group of IDBs)
Mr Mark Joynes (Financial Officer to the Shire Group of IDBs)

1. Introductions and Apologies for Absence

The members of the panel briefly introduced themselves. Apologies for Absence were received from Cllr CA Harp and from Cllr R Sutherland.

2. Minutes of the Last Meeting/Matters Arising

The panel approved the minutes as a true and fair record with no matters arising.

3. Risk Register – New Format

The finance officer gave a brief update of the changes applied to the register since the last meeting. A section had been added specifically identifying what the undesirable events are and the risks associated with them. Also, the finance officers explained the proposal to maintain a separate register for every drainage authority, with each register tailored to the needs and circumstances of that client. The panel discussed the following items with regard to the format.

Individual Registers

Andy Cane suggested the current register is fairly general and it would be a good thing for each authority to have its own register. Gillian Ivey agreed and said each drainage authority has its own risks and circumstances. Craig Benson gave several examples of risks faced by individual clients that were particular to that client.

Live Document

The panel noted the document was now fairly unwieldy and discussed whether some of the older entries that have since been resolved be removed. The officers pointed out each Board needs to be aware of all the risks it faces and the control measures they have in place, to facilitate review.

Register of Members' Interests

Adrian Black enquired how often the register is updated. Craig Benson said members should advise Shire Group officers whenever there are any changes so the register may be updated. He further suggested a reminder could be included in the boards' meeting papers every year.



4. Risk Register – Items Discussed

In addition to the general format the panel discussed several specific items.

Declarations of Interest

GI suggested a sentence be added all Boards' meeting papers reminding them of the requirement to declare any interests. AB suggested correspondence should be sent to all members periodically requesting they check their details are up-to-date. AC asked how often members actually declared an interest during meetings and offered to leave the room. He was informed it did indeed happen although it is somewhat rare.

ACTION – Consider Issuing emails to members

Policies on Public Awareness

GI said that Danvm Drainage Commissioners strongly felt that the website did not very much help the public become more aware of Drainage Boards. She pointed out the search engine Google pointed the Shire Group home page rather than individual drainage authorities. Furthermore, she said they could do more to put things into the public arena and raise public awareness of Drainage Boards and their activities. CB pointed several recent events included ADA shows, their regional branches, the Lincolnshire Show and the Danvm Drainage Commissioners recent display at Bentley Park. Peter Horne asked whether it was the management team's responsibility to raise awareness. After a brief discussion regarding contractual arrangements CB said the team should take the lead, mentioning possible visits to local schools, explaining the importance of flood protection, giving flume demonstrations and so on.

5. Internal Auditor's Report

The internal auditor reviewed the work undertaken on the 2015/16 accounts. In general, the internal auditor was satisfied with how things are running and said there were no major concerns. The panel discussed the following points:

Decision Making

AC said this issue is never an easy one but the attendance of members and the split between elected and nominated members should always be borne in mind. MO said some boards should consider reducing reconstituting to reduce the number of members. PH said Doncaster East IDB would look carefully at this option and also that local authorities tend to nominate council officers, who tend not to get involved. GI said Danvm DC generally did well in this regard with all 13 nominated members attending the meetings on some occasions. AC reaffirmed attendance should reflect the 'plus-one' make-up of the Board's constitution. CB suggested if a Board has a majority of one, they should consider reconstitution. DH said he preferred councillors as they are better aware they are representing the drainage board and not the local authority that appointed them, and that officers may have different agendas.

Reserves Policy

GI pointed out that Danvm DC have now in fact adopted a reserves policy. AC was agreeable to amend his report. CB pointed out all Shire Group members have a reserves policy, with Goole Fields District DB being the sole exception.

Assessment of Control Environment

PH drew attention the internal auditor's frequent use of the phrase 'fairly robust', and said if the auditor couldn't provide any concrete suggestions on how to improve matters, an unqualified 'robust' would be more appropriate. AC said this was a mere wording issue, and acknowledged risk could never be entirely eliminated. He agreed to use the phrase 'robust' in future.



6. External Auditor's Report

The Annual Returns were reviewed by the panel and more specifically the External Auditors' comments. The following matters were discussed.

Ongoing Audit of Danvm Drainage Commissioners

CD asked for confirmation that the external auditors had all their required materials by July. CB confirmed so, and the audit should be complete by 30 September 2016. CB further explained that the external auditor should've been in contact and advised the Board to advertise that the audit was still ongoing. CD strongly expressed the view that this was not acceptable. CB agreed and said the officers would send an email on behalf of the panel to this effect. CB also gave the panel a brief description of the details of the change of regime. AC said auditors need to work to deadlines, 30 June in his case and 30 September for the external audit.

ACTION –Contact BDO on behalf of the panel by email

7. Any Other Business

Budget Process & Scope of Internal Audit

Craig Benson informed the panel he had looked at the budget process with the internal auditor. CD enquired about the scope of the audit. CB said the process was set down in legislation and the initial discussions took place in March. AC said the scope had to be flexible to allow for any necessary investigation. CB reminded the panel any specific risks could now be added to the risk register.

8. Date of Next Meeting and Close of Meeting

The next meeting of the panel will be held on Monday, 27 November 2017 at 10.00am at JBA Consulting, Epsom House, Redhouse Interchange, Doncaster, DN6 7FE.

CD thanked the internal auditor for all the work done and the finance officers thanked the members for attending. The meeting closed at approximately 10:50am.



10. APPENDIX B: Risk Register

A copy of the updated Risk Register can be found over the following pages. The Board is requested to review and approve the document.

Item		Grade	Impact	Likelihood	Ref	Risks	Mitigation and Action Required	Last Reviewed
Governance - Members & Management								
Question 1 - Does the Board Lack Direction?								
1. a)	Is there a Strategic Plan setting out the key aims, objectives and policies?	B	High	Low	1.1	Disunity in Board with conflicting aims & objectives. External bodies and the wider public lack understanding of the Board's aims & objectives. Internal/external disputes cannot be resolved through lack of adopted policies.	Each board has a policy statement on Flood Protection and Water Level Management. These fall short of full Strategic Plan. All Boards have Biodiversity Action Plans. ADA standard model policies utilized to adopt an application. By default the constitution follows the provisions laid down in the Land Drainage Acts.	16/11/2016
1. b)	Are there financial plans and budgets?	B	High	Low	1.2	Board lacks sufficient funds to meet its obligations.	Budgets follow sound logical principles. Approved by each IDB.	16/11/2016
1. c)	Is there monitoring of financial and operational performance?	B	High	Low	1.3	Officer's unaware they have exceeded, budget, become overdrawn or that there are other, material errors in the accounting records. Inefficient, dangerous operational practises occur and continue unaddressed.	Daily, weekly, Monthly and Quarterly totals considered by Financial Officers on an ongoing basis that these are in accordance in general terms with budget. Evidence of budget monitoring approved by IDBs. Budget review document signed each month with comments.	16/11/2016
1. d)	Is there feedback from beneficiaries?	B	High	Low	1.4	Board members and other funding partners unaware of problems set out above. Said problems continue unaddressed.	Operational performance considered and updated at Board meetings as appropriate. Ratepayers know Board members. (Names of all Board members are available on the Shire Group website) Feedback to board of praise /criticism via member. Complaints procedure documented and available on website.	16/11/2016
Members/Officials								
Question 2 - Do officials/members lack relevant skills or commitments?								
2. a)	Is there a recruitment / appointments process?	D	Low	Low	2.1	Board members/officials lack suitable knowledge and experience. Members/officials lack ability to make objective decisions and act in the Board's long-term interest. Recruitment process is not transparent to all.	Land Drainage Act provides for election of members every 3rd Year. Generally recruitment is via word of mouth from existing members and landowners who have been affected by the boards' policies in order to represent their interests. Format of the nomination papers is prescribed by the LDA 1991 and copies are available on the website.	16/11/2016
2. b)	Is there a competence framework including job description?	D C	Low Low	Low High	2.2	Unsuitable members (see above) appointed to the Board Local Authority appoints unsuitable members to the Board.	Qualifications for membership laid down by LDA 1991. See reverse side of nomination paper. Council to nominate people as they consider appropriate	16/11/2016

Item	Grade	Impact	Likelihood	Ref	Risks	Mitigation and Action Required	Last Reviewed
2. c)	C	Low	High	2.3	Members/officials lack understanding of the Board's objectives, latest legislative requirement and latest developments in the industry.	Ian Benn is a member of the ADA Technical & Environmental Committee. He attends a forum of local Clerks approx. 3 times per year together with The Association of Drainage Authorities annual conference. Regular updates from Association of Drainage Authorities. All updates reported to members in their meeting papers. Training seminars on legislation, responsibilities, ethics, etc. are being delivered. Comprehensive modular training scheme to be added to the website (target date 31.3.2017)	16/11/2016
Question 3 - Does the Board lack appropriate composition?							
3. a)	B	High	Low	3.1	No clear framework of the operations in the organisation. Members/officials do not understand their own roles & responsibilities.	Composition of the Board set out in DLA. Standing Orders and Financial Regulations renewed are reviewed and renewed. To be approved by DEFRA.	16/11/2016
3. b)	D	Low	Low	3.2	A member's interest are in conflict with those of the Board. Board are unaware of any such potential conflicts.	Minutes and agenda thereto states Board Members are advised to declare a pecuniary or non pecuniary interest on any item in the agenda. Register of Members' Interest compiled and kept up-to-date.	16/11/2016
3. c)	D	Low	Low	3.3	Members / officials meetings have taken place. Decisions of the Board go unrecorded.	LDA and Clerk to arrange programme of meetings. Agenda for meeting set by Clerk and Chairman. Minutes of meetings scrutinised & approved by Board.	16/11/2016
3. d)	B	High	Low		As 3 b) above.	As 3 b) above.	16/11/2016
3. e)	D	Low	Low		Reviewers not certain of legality of expense payments made to members.	Not for Board meetings, conferences only, as per LDA.	16/11/2016
3. f)	D	Low	Low		Board exposed to risk of fraud.	No remuneration policy in place. Boards may pay a chairman's honorarium at their discretion, subject to ministerial approval.	16/11/2016
Management							
Question 4 - Is There an Adequate & Informed Organisational Structure?							
4. a)	D	Low	Low		See 2. c) above.	See 2. c) above. Management are involved in the preparation of training modules and attend the seminars, or indeed deliver them.	16/11/2016
4. b)	D	Low	Low		Lack of a clear chain of command. Officers uncertain of the responsibilities and level of authority. Organisational structure difficult to review.	In general on website. Further, more detailed documents setting out team structure, individual roles, etc. on JBA records. To be added to the website (target date 31.3.2017)	16/11/2016
4. c)	D	Low	Low		Staff problems and organisational anomalies not addressed.	JBA procedures. IDB Division established in line with DEFRA requirements.	16/11/2016
4. d)	D	Low	Low		Conflicts of interest not detected and not addressed.	JBA procedures. IDB Division established in line with DEFRA requirements.	16/11/2016

Item	Grade	Impact	Likelihood	Ref	Risks	Mitigation and Action Required	Last Reviewed
4. e) Is there a competence framework?	B	High	Low		Assessment of staff members ability to fulfil their roles is difficult, and the results harder to justify.	Prescriptive Job Descriptions written for each team member. These are in progress. (reviewed annually). Detailed descriptions setting out roles & requirements included in tender documentation.	16/11/2016
Question 5 - Is there a lack of succession planning? Can experience and skills be lost, and corporate contract/operational impact be lost?							
5. a) Is there succession planning?	B	High	Low	13.1	Orderly transitions not adequately planned for and disruptions/delays occur as a result.	Good balance of knowledge and skills appropriately segregated. Procedures being documented.	16/11/2016
5. b) Are there appropriate notice periods for changeover?	B	High	Low	13.1	Insufficient time to plan for transitions causes disruption.	All IDB Division Staff have a permanent contract with JBA Consulting. Employees with over two years' service are required to give three months' notice in writing.	16/11/2016
5. c) Are there training programs in place?	B	High	Low		Staff lack the knowledge and appropriate training to fulfil their roles.	Ongoing on the job training of key staff occurring.	16/11/2016
Question 6 - Is the reporting process adequate?							
6. a) Is there timely and accurate project reporting?	D	Low	Low		Management, stakeholders and other interested parties not aware potentially problematic issues.	Progress on capital schemes is reported regularly at Board meetings.	16/11/2016
6. b) Is there timely and accurate financial reporting?	D	Low	Low		Members and management not made aware on problematic or otherwise important issues in a timely manner.	Estimates Jan/Feb, Accounts May/June.	16/11/2016
6. c) Is there a budget setting process?	D	Low	Low		Board lacks sufficient funds to meets its obligations.	Yes. Laid down by LDA. Budgets set every Jan/Feb	16/11/2016
6. d) Is there proper project assessment?	D	Low	Low		Lack of due project assessment may allow problems to arise again in future schemes.	Grant-aided scheme - PAB Approval. Non grant-aided - reported to the board.	16/11/2016
6. e) Is there regular contact between board and management?	D	Low	Low		Board members unaware of relevant issues, whether operational, financial, administrative or environmental. Board members unable to set policy as required.	Regular Board meetings.	16/11/2016
	D						
Operational Risk							
Question 7 - Are there any risks associated with the provision of services?							
7. a) Is there a quality control procedure?	D	Low	Low		Services rendered do not adhere to relevant professional standards.	No quality control procedure but officers are ISO 9001 accredited.	16/11/2016
7. b) Is there a complaints procedure?	B	High	Low		No opportunity for dissatisfied parties to air grievances, nor any opportunity for the Board address them and correct any problems where necessary.	Website provides clear instructions on how to make complaints. All complaints reported to the Board in the meeting papers.	16/11/2016
7. c) Is there a policy to raise public awareness and profile?	D	Low	Low		General public unaware of the roles & responsibilities of drainage authorities, or even of their existence.	Website - Shire Group of Internal Drainage Boards.	16/11/2016
Question 8 - Is there a risk of supplier dependency?							
8. a) Are there procedures for obtaining quotations/periodic review of suppliers' charges?	B	High	Low	8.1	Unsuitable goods/services ordered by persons lacking suitable knowledge & experience, resulting in financial burden.	Levels of authority for ordering goods & services clearly set out in Board's financial regulations. Requirement for suitable number of quotations set out in same.	16/11/2016

Item	Grade	Impact	Likelihood	Ref	Risks	Mitigation and Action Required	Last Reviewed
8. b)	D	Low	Low		Contractors appointed lacking suitable training, knowledge, competence and experience.	JBA carry out all quality assurance on all contractors. Approved contractor list circulated as appropriate and approved by the board. List of the Board's approved contractors on Health & Safety website.	16/11/2016
8. c)	B	High	Low	8.1	Inadequate level of service rendered and/or unnecessary delays.	JBA administers all tendering processes and timing.	16/11/2016
Question 9 - Is there a risk that capital resources are under utilised?							
9. a)	B	High	Low	8.2	Problems not detected and corrected in a timely manner.	Asset Management program in place.	16/11/2016
9. b)	D	Low	Low	8.2	As above.	Repairs undertaken as required and approved at board meeting and general review to consider replacement option.	16/11/2016
9. c)	B	High	Low	8.2	Board unable implement necessary replacement of capital items.	JBA prepare and update for each meeting a 5 year capital programme for IDBs.	16/11/2016
9. d)	B	High	Low	8.2	Security issues not detected and corrected in a timely manner.	Boards with plant have secure depots. Site staff bring any potential security issues to the officers' attentions immediately. Intruder alerts detected automatically and reported immediately through the telemetry system.	16/11/2016
9. e)	B	High	Low	8.2	Board has inadequately level of cover. Board is paying for unnecessary insurance cover.	Towergate Insurance annually review all eight Board policies. IDB supplied with details.	16/11/2016
Question - 10 Is there a risk of employment disputes due to injury, unfair dismissal, equal opportunities, in appropriate training etc., or a high staff turnover?							
10. a)	D	Low	Low	10.1	New staff appointed who lack relevant training, competence, etc.	Interview questionnaires used.	16/11/2016
10. b)	B	High	Low	10.2	Employee dishonesty with regard to qualifications and previous experience may go undetected.	Written references and copies of relevant certificates obtained when new employees are engaged.	16/11/2016
10. c)	B	High	Low	10.3	Discrimination (e.g. by age, gender, race, religion or belief, sexual orientation, disability) may occur in the recruitment process and go undetected. Favouritism and nepotism may likewise occur.	No formal policy in place. Abide by current statute.	16/11/2016
10. d)	D	Low	Low		Opportunities to strengthen links with workforce misses. Also, to avert future disputes & generally improve workplace satisfaction missed.	6-monthly review for new starters. Annual appraisal process for workforce.	16/11/2016
10. d)	D	Low	Low	10.4	Training needs and career development goals of individuals not determined.	Schedule of training needs via the asset manager.	16/11/2016
10. f)	D	Low	Low	10.4	Health and safety needs of individuals not assessed. Accidents and illnesses that should be easily preventable occur.	As above.	16/11/2016
10. g)	D	Low	Low	10.5	No clarity as to each employees roles and responsibilities.	Job specifications in place for recent appointments.	16/11/2016
10. h)	B	High	Low		Employees' remuneration is not appropriate for their level of experience and their current roles and responsibilities. Workplace dissatisfaction through inadequate pay.	Rates increased in accordance with Association of Drainage Authority guidelines. Training and working conditions as 10 e) above.	16/11/2016

Item	Grade	Impact	Likelihood	Ref	Risks	Mitigation and Action Required	Last Reviewed
10. i) Are there contracts of employment?	B	High	Low	10.6	Employees uncertain of the details of their roles and what is expected of them.	Contracts of employment in place.	16/11/2016
Question 11 - Are there risks of loss of information and continuity?							
11. a) Is there a disaster recovery plan	B	High	Low	11.1	Business IT infrastructure destroyed by fire, vandalism, etc. Severe disruptions to operational effectiveness.	Backup tapes <u>kept off site</u> .	16/11/2016
11. b) Is there a policy of taking and sharing data off site?	B	High	Low	11.1	Major disruption to operational effectiveness as a result of significant loss of data.	As 11. a) above.	16/11/2016
11. c) Is there Insurance cover? Is it regularly reviewed?	B	High	Low		As 9. e) above.	see 9. e) above.	16/11/2016
Question 12 - Is there a risk of lack of awareness of procedures and policies?							
12. a) Is there a proper documentation of procedures and policies?	B	High	Low	12.1	Confusion or disagreements not quickly resolved. Uncertainty over requirements and expected standards.	Recommend that policies be documented at the earliest opportunity. All adopted policy documents available on website. Procedures are in progress <u>(target date 31.3.2017)</u>	16/11/2016
D							
Financial Risks							
Question 13 - Is there a risk of loss of control through an inadequate budget process?							
13. a) Is there a budget linked to planning and objectives?	B	High	Low		As 1. b) above.	See 1. b) above. 5-year or 25-year budget forecasts presented at Board meetings.	16/11/2016
13. b) Is the budget regularly reviewed and monitored?	B	High	Low		As 1. c) above.	See 1. c) above.	16/11/2016
13. c) Is there a monitored and adequate skill base to interpret the information?	B	High	Low		Staff, members or other reviewers do not understand the implications of the forecasts they are presented with.	Team members both experienced and suitably qualified.	16/11/2016
13. d) Is there an indication of major dependencies on income sources?	B	High	Low		Board left in financial disarray should such an income stream suddenly cease for any reason.	Highlights requirements of DEFRA Grants and/or Public Works Loans (Capital works).	16/11/2016
Question 14 - Is there a risk of lack of liquidity due to inadequate reserves?							
14. a) Is there a reserves policy linked to business plans and identified risks?	B	High	Low		Board lacks adequate funds to fulfil its statutory obligations. Board unable to remain solvent following a major undesirable event.	The Board have a reserve policy in place, and take it into consideration when setting the budget every year.	16/11/2016
14. b) Is there a regular review of the reserves policy?	B	High	Low		Reserve policy fall out-of-date and are no longer adequate to meet the requirements of the Board.	Policies reviewed periodically, typically 3 or 5 years.	16/11/2016
14. c) Is there a fair reflection of the financial integrity of the Boards reserves?	B	High	Low		Actuality of the Board's financial perform leaves them in a position in breach of their reserves policy.	Presentation of balances within accounts is consistent with associated effects on stated reserves. Recommend review of presentation of Balance Sheet in conjunction with Reserves Policy. <u>This is ongoing.</u>	16/11/2016
External Risks / Compliance with the Law							
Question 15 - Is there a risk associated with non-compliance with the law or other external factors?							
15. a) Is there a policy of review of the legal requirements extending to the organisation/professional opinion sought re:							
• Employment Law?	B	High	Low		Board in breach of its statutory obligations.	Equal Opportunities policies in existence.	16/11/2016
• Human Rights Legislation?					Same	All applicable law complied with.	

Item	Grade	Impact	Likelihood	Ref	Risks	Mitigation and Action Required	Last Reviewed
<ul style="list-style-type: none"> • Health & Safety? • Criminal Acts? 					Same Same	Ian Benn/Craig Benson Health & Safety Advisors. Disciplinary Procedures.	
15. b) Is there a policy for monitoring and reporting grant funders' conditions?	B	High	Low		Actual costs may exceed budgeted, opportunities to take corrective action missed.	Depends on the scheme. Monitored generally by the project manager.	16/11/2016
Speciifc Board Risks							
Question 16 - Are there any specific Board Risks?							
16. a) Is there a major ratepayer whose none payment would significantly impact on the Board activities?	B	High	Low		Board left with shortfall in reserves Board unable to pay Creditors Cashflow problems	Reserve Policy and long term planning	19/12/2016
16. b) Can the Board raise monies to fund capital replacement?	B	High	Low		Options to borrow monies at present from PWLB. However Board would be unable to fund repayments without a huge uplift in penny rate. Restrictions placed on the level of annual loan repayments as a percentage of Rates and Special Levies Instigate a council referendum if rate increase is more than 2%.	Consider mergers with neighbouring IDBs to increase funding sources. Depreciate asset and set aside funds annual to replace at end of life. Source other funding possibilities such as Grants, Local Enterprise Partnerships	16/12/2016
16.c) Major Development in Board's District	B	Low	High		Increase in Special Levy on Council Change in % split of membership of Board.	Council made aware of impact of development on Special Levy. Board made aware of changes to Board membership	19/12/2016
16.d) Failure of Board Asset	B	Low	High		Failure of asset adversely affects the conveyance of water through the Board's District	Board to instigate a proactive inspection regime to mitigate against unplanned failures.	19/12/2016

11. APPENDIX C: Eel behaviour report

EELS REGULATIONS AND RESEARCH INTO FINDING SOLUTIONS FOR EELS AND PUMPING STATIONS

Ros Wright (Environment Agency) and Jon Bolland (University of Hull)

The status of eel remains critical.

The annual recruitment of glass eel to European waters in 2016 remained low at 2.7% of the 1960–1979 level in the “North Sea” series. In September 2008, and again in 2014, eel was listed in the IUCN Red List as a critically endangered species. This now means eels are more critically endangered than the giant panda! Does it matter? The rate of extinction of species is alarming and it is inconceivable that the ‘resilient’ eel is threatened. Even those who cannot stand eels are astounded by their extraordinary life cycle – much of which remains a mystery even with all the new technology and research.

The European Union established measures for the protection and recovery of the stock of European eel (EC Council Regulation No. 1100/2007) and this was transposed into UK law by the Eels (England & Wales) Regulations 2009. Although enacted to support an EU Regulation the requirements for passage and screening to protect eel stocks are enshrined in UK Law and will continue post BREXIT.

The International Council for the Exploration of the Seas (ICES) advises that when the precautionary approach is applied for European eel, all anthropogenic impacts (e.g. recreational and commercial fishing on all stages, hydropower, pumping stations, and pollution) mortality of silver eels should be reduced to – or kept as close to – zero as possible. Eels living in our rivers must perform a 6000km migration to their spawning grounds in the Sargasso Sea – they cannot spawn in freshwater. Pumping stations are a particular concern as they are a barrier to migration and an intake with the potential for causing severe damage to entrained eels. Further, in unregulated rivers, their downstream migration typically occurs during periods of elevated river level, and this may coincide with periods of increased pump operation where water levels are regulated by pumping stations.

Can we reduce the impact of pumping stations?

The current guidance on screening of intakes, cost benefit analysis and alternative measures following the Environment Agency **Guidance on Exemptions** raised concerns that the best practice and engineered solutions proposed, such as fine-mesh screening, were too costly and the technology unproven on pumping stations. Intakes including Environment Agency and Internal Drainage Board (IDB) pumping stations are prioritised as high, medium, low or no risk to eels according to their distance from the tidal limit and Fisheries Classification System (FCS2) prediction for the presence of eels (see Solomon and Wright 2012 report on ADA website for more information). At present 325 pumping stations (124 in Anglian RBD) have been identified as high priority and given time limited exemptions by the Environment Agency until 2021 to allow time for research to be undertaken. There has since been a ‘Defra steer’ that eel protection measures should be implemented when pumping stations are being replaced or refurbished, which will make the solutions more cost effective, but there are still many questions to answer.

Research is underway with Hull International Fisheries Institute (HIFI) and Zoological Society of London (ZSL) into finding cost effective and feasible solutions for pumping stations to achieve compliance with the Eel Regulations and minimize fish kills.

The field-based research is focused on silver eels including the fate of eels entrained in pumps, how pumping station operation influences their downstream migration through the catchment, their behaviour immediately upstream of a structure (e.g. delay to migration, searching and route choice including those with gravity bypass channels), and whether eels that passed through pumps continue their migration. The logistics of undertaking this work has been extremely difficult and limited to the time of silver eel migration (October – December), and would not be possible without funding from the Environment Agency, the help of commercial eel fishermen, local EA fisheries officers and IDB staff, IDB engineers at pumping stations and the commitment and dedication of the researchers.

Results to date have been very worthwhile in finding a way forward to address the problem of eel protection at pumping stations, but further work will be necessary to produce practical guidance.

Five pumps of varying size, design and specification were investigated during the silver eel migration in 2015. Results have shown that damage and mortality to eels depends on the size, type and speed of pumps. The smaller (0.8 m diameter), higher speed (400 rpm) axial flow pump with four blades caused severe damage and mortality to eels. Larger (> 2.2 m) mixed flow pumps that rotate relatively slowly (<130 rpm) with three blades in volute chambers and a 'fish friendly' pump, despite its small size (0.6m) and high rotation speed (872rpm), caused little mortality, but there were some abnormal behavioural effects. Crucially, the entire pumping station not just the pump, was assessed. A range of pumps will continue to be tested - this will allow an assessment to be made on the potential impact of specific pumping stations.

This project is also employing a combination of catchment-wide and fine-scale acoustic telemetry and sonar imaging techniques to understand behaviour of eels in pumped systems to help identify and develop novel solutions and operational changes to maximise silver eel escapement. While still ongoing, the study has already yielded some surprising and meaningful results.

Catchment-wide acoustic telemetry has identified:

Tagged eels quickly moved through unobstructed reaches but the average delay between arriving at a pumping station and passage was 10 days, one eel was delayed for 33 days before passage and another spent four months in the river upstream of a pumping station before the acoustic tag battery expired.

A large proportion (93%) of eels implanted with an acoustic tag retreated back upstream after arriving at a pumping station, with 13.5 km the largest distance moved back upstream. Such delays and searching behaviour may deplete energy reserves because silver eels cease feeding during their migration Sargasso Sea.

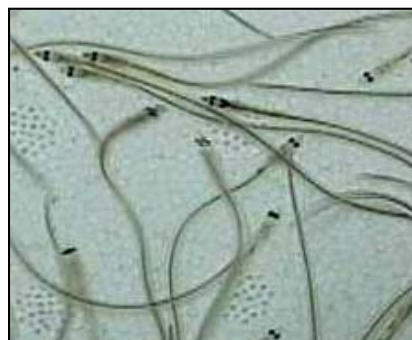
Further, six of the 14 eels that retreated upstream were last detected on receivers upstream of the pumping station, possibly because they were predated upon.

None of the nine eels with an acoustic transmitter implanted that exited the river through a pumping station were detected in The Wash whereas 91% (10/11) of a control batch released downstream were.

The behaviour of eels approaching and passing through the trash rack (55mm gaps and 10mm bars) were monitored using ARIS sonar cameras that enable eels to be imaged during hours of darkness and in turbid water. It was found that eels typically approach the pumping station around the new moon almost exclusively during hours of darkness. Of the eels imaged 77% retreated upstream.

The findings gathered so far have provided the basis for the next phase of work and has led to trials with bypass channels upstream of a pumping station and operational changes that could reduce eel mortality.

It is not possible to complete all the research needed this year and funding is being sought to continue this work to mitigate the impact of pumping stations and ensure cost effective, technically feasible solutions are developed.







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Saltaire
Skipton (Belle Vue Mills)
Skipton (Head Office)
Tadcaster
Thirsk
Wallingford
Warrington**

