

Hoveton Great Broad Status of the Fishery



Outline

• Fish PASE Surveys 2013/14 - 2016/17

• Spawning Habitat Assessment



Fish PASE Surveys 2013/14 - 2016/17

> 8,700 sample points

 >3,000 comparative sample points (other broads) vs >2,500 (HGB)

• ~ >43,000 fish HGB

Comparative broads and their respective habitat zones. 2016-2017

	wack
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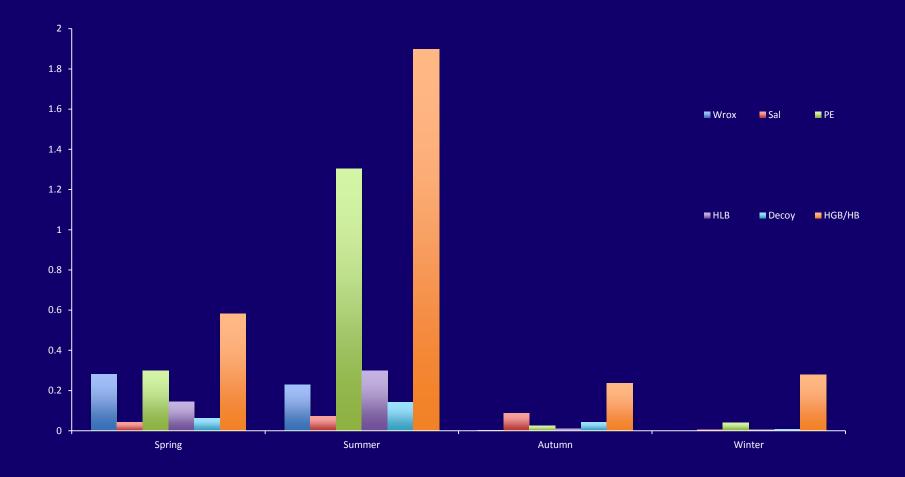
Broad	Habitat Zone I	Habitat Zone II	Habitat Zone III	Habitat Zone IV					
Hoveton Great Broad (HGB)	Littoral margin (HGBLM)	Limnetic zone open water (HGBOW)	Dam	Hoveton Marsh Dyke (HMD)					
Hudson's Bay (HB)	Littoral margin (HBLM)	Limnetic zone open water (HBOW)	Hudon's Bay Channel (HBC)						
Salhouse	Littoral margin (SLM)	Limnetic zone open water (SOW)	Salhouse Channel (SC)						
Decoy	Littoral margin (DLM)	Limnetic zone open water (DOW)	Decoy Channel (DC)						
Pound End (PE)	Littoral margin (PELM)	Limnetic zone open water (PEOW)							
Wroxham	Littoral margin (WLM)	Limnetic zone open water (WOW)							
Hoveton Little Broad (HLB)	Littoral margin (HLBLM)	Limnetic zone open water (HLBOW)	HLBC Channel (HLBC)						

Seasonal species richness within broads of the comparative surveys. 2016-2017

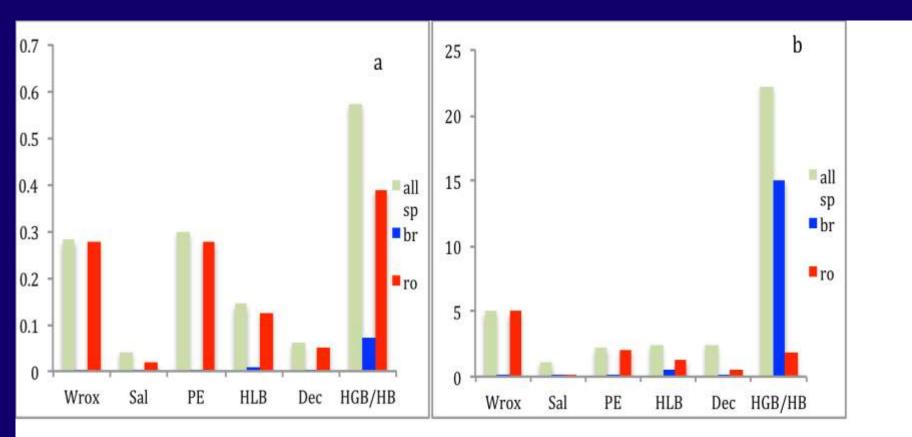
Species and season (spring, summer, autumn & winter (s,s,a,w))		Salhouse Broad				Pound End Broad			Wroxham Broad			Hoveton Little Broad				Hoveton Great Broad/H B				Decoy Broad				
	S	S	a	N	S	S	a	w	S	S	a	w	S	S	a	N	S	S	а	w	S	S	a	w
Dace (Leuciscus leuciscus)																								
Sea trout (Salmo trutta)																								
Atlantic Flounder (Platichthys flesus)																								
3-spined stickleback (Gasterosteus aculeatus)																								
Common Bream (Abramis brama)					F																			
Gudgeon (Gobio gobio)																								
Perch (Perca fluviatilis)																								
Northern Pike (Esox lucius)																								
Ruff (Gymnocephalus cernus)					Ī																			
Roach (Rutilus rutilus)																								
Rudd (Scardinius erythrophthalmus																								
Roach /Bream hybrid																								
Tench (Tinca tinca)																							-	
Eel (Anguilla anguilla)																								



Overall, whole broad density (ind. m⁻²)

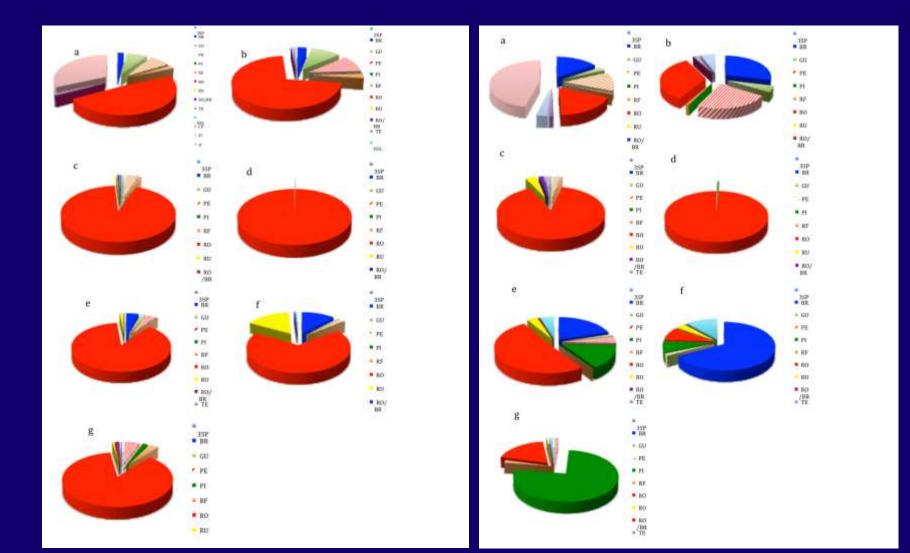


Overall mean density (ind. m⁻²) (a) & biomass (b)(gm⁻²) all broads. Spring 2016



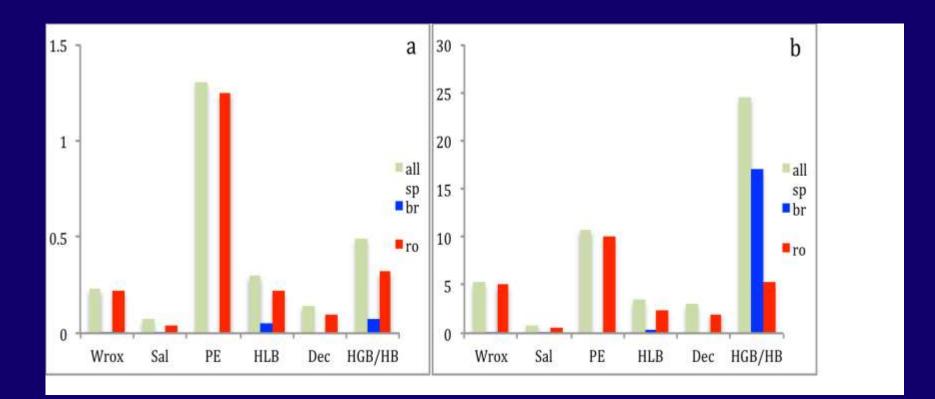


Relative composition of the fish assemblage density and biomass. Spring 2016

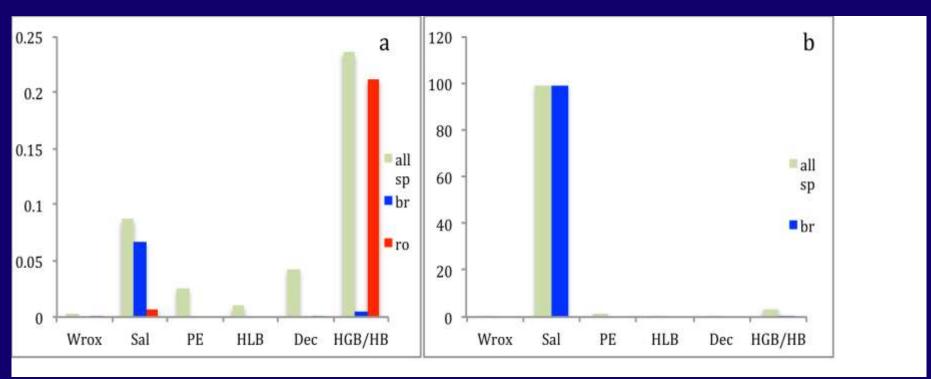




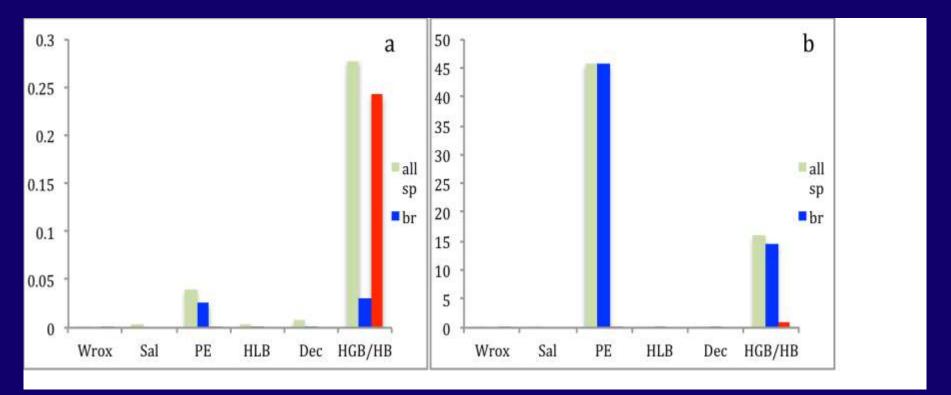
Overall mean density (ind. m⁻²) (a) & biomass (b)(gm⁻²) all broads. Summer 2016



Overall mean density (ind. m⁻²) (a) & biomass (b)(gm⁻²) all broads. Autumn 2016



Overall mean density (ind. m⁻²) (a) & biomass (b)(gm⁻²) all broads. Winter 2016





Conclusions

- Principal species are roach and bream
- HGB/HB complex dominates for whole broad all species density estimates
- Bream density and biomass are higher in HGB/HB than all others during spring
- During spring bream comprise 25-75% of fish biomass in HGB/HB
- Spring and summer whole broad density estimates are dominated by the HGB/HB complex over all the other comparative broads in the survey. Thus, the HGB/HB complex is a key spawning site for the immediate area and potentially important to the River Bure system. The picture is less clear during autumn and winter, suggesting that larger fish that can skew limnetic estimates are free to travel and frequent several broads during winter
- persistent presence of roach on HGB/HB during autumn and winter suggest these fish do not leave the broad.



Spawning Habitat Assessment

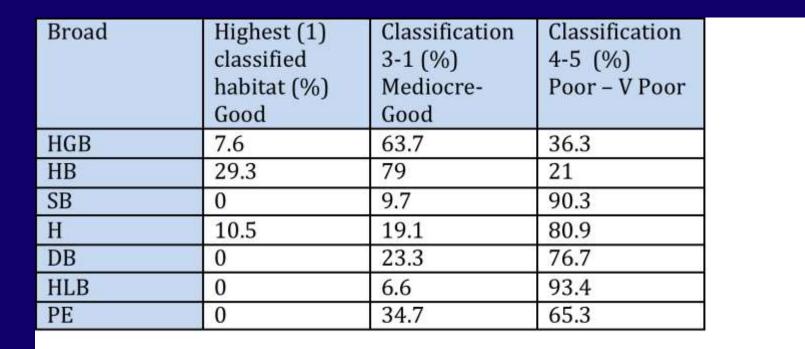


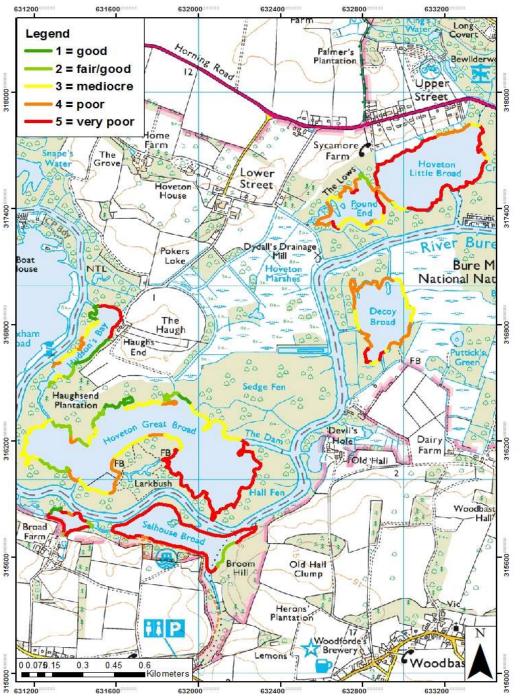


The seven broads targeted for habitat assessment:

i. Hoveton Great Broad (HGB)
ii. Hudson's Bay (HB)
iii. Salhouse Broad (SB)
iv. Decoy Broad (DB)
v. Hoveton Little Broad (HLB)
vi. Pound End (PE)
vii.Henry's (H)

Classification of relative habitat scores by broad, May 2018







Bream spawning habitat quality assessment and distribution



Conclusions



- HGB/HB dominate the top scoring bream habitat classifications
- HGB and HB are unique in terms of bream spawning habitat quality and its representation in comparison to the other broads
- HB highest proportion of top quality (1) and middle (3-1) quality bream spawning habitat
- Overall, HGB/HB represents a significantly better habitat for bream than all other broads and explains elevated densities and biomass during spring and spawning time. Furthermore, the habitat also provides for suitable nursery areas particular HBC and other shallow off broad areas necessary for recruitment
- 5 of the 7 broads surveyed are dominated by 'Poor' to 'Very Poor' quality spawning habitat. Of the 5 generally poor performing broads, only DB and PE are not dominated by the 'Very Poor' category of spawning habitat but that of 'Poor' category instead
- Density dependent effects are evident by competition for suboptimal habitat, supported by fish survey estimates