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| **ECOLOGY GROUP ACTION PLAN 2022** |
| **Working Group Objectives**  | **Inputs/Activities** | **Indicator of Completion** | **Progress** |
| **Develop and grow Riverfly monitoring scheme**   | 1. Agree governance/leadership of RF programme for the Wensum - coordination, data uploading, lead contact for volunteers.
2. Identify gaps and decide which sites to allocate to new Riverfly monitors along the Wensum, including 2-3 on the headwaters (Tat and Raynham)
3. 2023 Train xx no. new RF monitors for 2023
4. Update the existing map with locations of active Riverfly monitors
5. 2023 Train 3-4 accredited trainers for the Broads catchments
6. Explore potential to combine riverfly and water quality volunteering at certain sites
7. Map all locations and assign volunteers to locations
 | 1. Group coordinator and data manager recruited. Wensum results uploaded into River Fly system2. Wensum RF coverage plan completed3. Funding secured and new volunteers trained in 8-group standard Riverfly protocol with regular monitoring reports4. Existing and new RFV locations updated on Wensum map 5. Funding secured and training dates set for accredited trainers and RF monitors6. Training offered to RF monitors in water quality testing and for WQ testers to join RF by May 20237. JH and DW have taken on the task of assigning volunteers to locations. May 23 | 1 Riverfly coordinator Jeremy Haddaway has kindly agreed to take on RF coordination, with Dennis Willis as technical data co-ordinator. Wensum results uploaded to RF site.2. Some RF volunteers have left. Jeremy will start to pinpoint active volunteers, identify gaps and potential new locations to get coverage along the Wensum.4. To complete after training3 & 5. NE have approached Ecology Group with request for a proposal to fund training of trainers and possibly also training of new RF monitors in 2023. David Harper to draft proposal for submission for funding6. Five WQ monitoring sites match Sculthorpe reserve RF internship sites on Upper Wensum. Need to recruit permanent RF monitors to sustain data collection.7 |
| **State of the Wensum spreadsheet** | 1. Adopt the use of a river health monitoring spreadsheet to identify existing survey data.
2. Discuss when macrophyte surveys will take place, identify which non-native species will be monitored
3. Update SAC species for the Wensum
4. Identify which ecological surveys by which agencies will be carried out on the Wensum 2022-2023
 | Updated spreadsheets (ecological data)  | Initial spreadsheets developed by Kelvin. Spreadsheet will be presented to WCPSG in December for discussion and commitment to providing data from agenciesEA September fish surveys completed and shared by end 2022Additional tributes’ added May 23Aligned with Richard Coopers dataset, which is confirmed as only up to 2016. |
| **Fishery Recovery** | **Restocking (lakes to river)**Action planning for three stretches of the Wensum (All Dereham Angling club): Carrick’s land (grid reference?)Swanton Morley to Elham Mill (mostly devoid of fish) Hellesdon (roach health)Post project refuge maintenance : Agree with members how previously completed off-channel refuges will be maintained | Surveys of fish population densities complete (2023)Walkover completed by small working group on SM stretchFisheries plan with maps prepared and shared with EA, landowners and other relevant stakeholdersHeavily silted fry refugia cleared and restored | Working with Billingford landowner to reach agreement/Working up a larger plan with EA fisheries on both habitat and bank repairs. |
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| **Research** | Identify research being run by WCP member agencies (UEA Bio, Env, Ecology Depts, BASG etc). Develop a central spreadsheet/site to keep records of research and avoid duplication.**Specific Research projects:-**1. Nott Uni:-PhD in progress looking at whole riverine ecology and 91 elements (DNA analysis of Roach and crayfish).
2. EA/FishtekRiver Wensum Restoration Fish Monitoring Report (5/4/2022)
3. UCL : Wensum Study using latest techniques for up to 1000 compounds on-going.
4. Earlham Institute: Barcoding the Broads Scheme (DNA and gut samples from Wensum species)
5. Invite Himalayan Balsam project onto EWG membership
6. Support U.of N otter scat research proposal
7. Wider NERC funded study on England’s Rivers and impact on Inverts and Fish to be peer reviewed Autumn 2023
8. Previous study on the impact of Signal Crayfish causing fine sediments
 | List of research topics and dates on SharePoint1. Completed paper and data shared with WCP Ecology Group once published. Results fed into WCPSG.
2. EA/FishtekRiver Wensum Restoration Fish Monitoring Report received and reviewed. Designated species added to River Ecology spreadsheet.

c&d) Final reports and data shared with WCP memberse)Updated progress reports of areas surveyed/cleared h) <https://onlinelibrary.wiley.com/doi/10.1002/rra.3995?af=R> | Request to all working groups in meetings for updates (SG)1. EWG to secure additional funding from BCP to complete work- **Achieved June 2022.**

Obtain copy of first report- **Achieved.** Confirm that EA will do a second survey at Hellesdon and analysis at Brampton. **Achieved** 1. Obtain copy of fish monitoring report for EWG – **Achieved**

Add designated species to spreadsheetc&d) Request update from UCL and Earlham Institute. Action to doe) Report on Himalayan Balsam project given in August meeting. Map of wensum HB shared |
| **Explore wider biodiversity monitoring opportunities** | Run Aquatic Ecology Course (David Harper) Upper Wensum 'Bioblitz' in April 2022 | xx local people trained in aquatic ecology (not RF training) | 10 people trained in April 2022Bioblitz completed in May 2022 (report attached) |
| **ACTION PLAN 2023** |
| **Biodiversity Monitoring Inventory** | 1. WCP members (i.e. NE, conservation orgs) to create/share biodiversity monitoring methods and plans for the Wensum (2023)2. Identify gaps in our understanding of biodiversity on the Wensum- ensure survey schedule includes areas not yet covered3.Biodiversit reports shared with WCP members once completed.4. Work out if/how citizen science volunteers can contribute to biodiversity surveys5. Identify all ecology surveys and lead organisation to assess if data can be shared on the Wensum sharepoint | 1. Inventory of survey methods and schedule for biodiversity/habitat monitoring (i.e. River Corridor Surveys, Phase 1, etc)2. Gaps in biodiversity monitoring identified and new sites selected with elements to be monitored3. Regular updates from biodiversity monitoring surveys sent to Ecology WG | 1. Ask members to explain where and what type of biodiversity monitoring is in use on the Wensum and where results can be found.2. xx River stretches identified for biodiversity/habitat surveys3. Agree how data can be shared with members -where will data be centrally stored? 4. xx no. Surveyors trained by xx (date)xx no. Surveyors deployed to monitoring sites/river stretchesxx no. Surveys implemented by xx (date) |
| **Post project refuge maintenance** | Agree with members how previously completed off-channel refuges will be maintained | Agreement on on-going maintenance  |  |
| **Shovel ready Projects** | Use existing spreadsheet data to develop shovel-ready ecology projectsDevelop projects to achieve 300m2 improved habitat/year (up and down stream)Work with Morphology and WQ groups to define best fit projects moving forward.  | List of potential shovel ready projects Map previous river small restoration projects (outside main river) and potential new sites Projects outputs from WCP steering comminute May-23 compiled. Need to discuss how to collate this into manageable themes. | 2021Project mapped in monitoring sheet2022 Projects mapped in monitoring sheet2023 Projects mapped in monitoring sheetIDB plans to be collated and mapped |
| **Monitoring and review of ecology projects** | Develop monitoring plan for pre, during and post project monitoring | On-going 2023 task |  |
| **Fishery Recovery Plan** | 1. Define the area of focus
2. Define current Density
3. Understand the current health concerns
4. PhD Analysis
5. EA Labs findings
6. Understand pathology variances
7. WACA Roach Spawning report from 2023
8. Define the cause of these concerns
9. Continued statutory bodies policy on stocking
10. What needs to be done to enable this
11. Define and improve the habitat
12. Reach agreement with Landowners
13. Define monitoring plan
14. Reach agreement on stocking protocol
 | We agreed that we should continue to develop the plans for improving the fry refuges in the Swanton Morley area and Arnie is looking at the wider scheme to develop this. In parallel with this WCP via Elle is liaising with Billingford Lakes and will hopefully build relationships to enable access on their land to re-establish the previous fly refuges.Need to build a timeline of surveys and fish samples to assess the variance in reports.  | 1. Area of focuss agreed at Feb-23 meeting2.Sep-22 survey data received from EA. Densities defined.3. Policy discussed and agreed at both Feb and May ecology meetings with stakeholders.4. Awaiting formal outcome and report from PhD. Calum agreed to present back to WCP.1. 5. EA pathology survey completed in Fen-23. Verbal report presented May-23. Report provided Jun-23.
2. 6. Need to define timeline of event and assess the variance in findings, this will require some assistance. Prehaps from the IFM. Kelvin to investigate with IFM.
3. 7. Report produced by Tim Ellis. Need to map locations for future annual trends.
4. 8. Once we come completed items 4-7 we need a summary report of ongoing concerns and gaps analysis.
5. 9. Discussed Feb-23 meeting and May-23 meeting.
6. 10. Awaiting on outcomes item 8 before approaching statutory bodies.
7. Outcome from item 9.
8. 11. Areas defined Feb-23. FIP submission stalled as landowner agreements outstanding.
9. 12. Dereham and District agreed.
10. Billingford Lakes proving more difficult.
11. Update on Billingford, following an incident in Billingford and a call for assistance from Debbie Bales. Elle has agreed to build some bridges and re approach the subject.
12. 13. TBA
13. 14. TBA
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| **Riverfly**  | Plan and implement a catchment wide Riverfly monitoring scheme.Map all locations and assign volunteers to locationsAgree consensus on monitoring strategy set against the raft of protocols used by different organisations.  | Locations identified and mappedVolunteers assigned to locationsPolicy for WCP to be drafted. | May 90% complete on assigning volunteers to locations. Some confusion with the H&OT on the status of DH and use of the Sculthorpe as a base. Discussions continueDraft strategy and policy defined for review to wider WCP Steering Group. |