

Ecological Flows Action Team Meeting

Albemarle-Pamlico National Estuary Partnership

10:00 am – 3:00 pm

March 23, 2016

Suite 100, Science & Technology Building

East Carolina University

Greenville, NC 27858

<http://www.apnep.org/web/apnep/flows>

Attendees: Dean Carpenter, APNEP, Coley Hughes, APNEP, Stacey Feken, APNEP, Eban Bean, East Carolina University (ECU), Mike O'Driscoll, ECU, Judy Ratcliffe, N.C. Natural Heritage Program, Fred Tarver, N.C. DEQ Division of Water Resources, Tom Cuffney, U.S. Geological Survey, South Atlantic Water Science Center, Rhonda Evans, U.S. Environmental Protection Agency, Region 4

Welcome and Roundtable Introductions

Dean Carpenter

Dean Carpenter called the meeting to order at 10:30 a.m. He explained that APNEP's role was to facilitate the process and would be facilitating the meeting, but stated a goal for the meeting was to identify one of APNEP's partner to be the team leader (or have co-chairs), and they will facilitate in the future. APNEP will continue to provide staff support—Dean will still serve as the primary APNEP staff contact, with a secondary to be identified in the near future, since there are new staff on board and assignments are still being made.

Review of role of Flows Action Team / CCMP Actions

Dean explained that most implementation workgroups (action teams) were in the planning and management stage. A goal for each team is to develop an action plan within two years that is tied to the Comprehensive Conservation and Management Plan (CCMP). APNEP wants this group to develop metrics for the teams—including management actions, targets, and regulatory guidelines. The action team CCMP objectives are based on a ten-year strategy, and the only guidelines/restrictions from APNEP are those outlined in the CCMP. The workgroup actions are as follows:

- 1) Action A3.3: Develop and refine ecological flow requirements for each major river. Many of the fish, aquatic plants, and other species that live within the estuarine system depend on flowing water to survive. Identifying these ecological flows will help ensure that these species and ecosystems are protected.
- 2) Action D3.2: Facilitate the development and implementation of basinwide water management plans to ensure no less than minimum in-stream flows are maintained. APNEP will work to provide scientific information and engage regional stakeholders to develop and implement water management plans that fully account for both human and ecological demands.

Dean stressed that APNEP's goal is to emphasize the Outcomes described in the CCMP. The supporting actions described above are tied to the outcomes.

The outcomes the Flows Team is responsible for include:

- 2a. The biodiversity, function, and population of species in **aquatic**, wetland, and upland communities are protected, restored, or enhanced.
- 2b. The extent and quality of upland, **freshwater, estuarine**, and near-shore marine habitats fully support biodiversity and ecosystem function.

For this team, it has been determined that we need a baseline assessment, it may be a few years before we are able to develop an action plan. Also, it is important to note that adaptive management is embedded within the CCMP—plan, manage, assess, monitor.

Dean then asked each attendee to introduce themselves and the agency they represent.

Following introductions, there was a discussion of the scope of the team's focus. Judy Ratcliffe, N.C. Natural Heritage Program, asked whether or not the group was evaluating major rivers vs. smaller rivers, and whether or not the tributaries were included. Dean replied that APNEP's program area included the length of all of the major rivers, with the exception of the Roanoke which is just below the 1st dam.

Judy mentioned that the smaller rivers might be easier to understand, and there could be a greater need off the main channel. Dean mentioned that there would be an update to the plan for 2016-2017, if the team feels there is a need to update or tweak the actions in the CCMP they could make a recommendation now. The current action states that ecological flow requirements will be developed and refined for each major river.

[*did not capture everything in notes*] There was a discussion of a potential action related to the question: How do we best monitor the coast? It was discussed that data was available in the freshwater coastal plain, there is better flow data as you get closer to the coast. Mike O'Driscoll, ECU, discussed work his group is ~~dealing~~ dealing with groundwater/surface water interactions, nutrient quality, septic tracers. There was discussion of other sources and work being done—Mike Peeler/Scott Inson/Mary Davis/Science Advisory Board. OASIS—is upstream covered? [Oasis models cover the Roanoke, Tar, and Pasquatank rivers.](#) Hydrodynamic models?

The discussion turned to the draft action team document "Tasks to Assess Availability of Existing Data for Ecological Flows." Dean edited the document as the team walked through the proposed tasks and sent out the refined final draft scope for review and comment subsequent to the meeting. It was determined that Eban Bean and Mike O'Driscoll's research teams now have enough capacity to conduct Phase I. Members voted at the meeting (ECU members abstained) to approve APNEP staff to work with ECU in establishing a contract with the intention to support ECU research to commence in May and end before the end of 2016.

There was a question of funding available to the team to complete tasks, Dean explained that roughly \$20,000 had been allocated to each action team. Rhonda Evans, EPA Region 4, mentioned they were working on an MOA with NOAA, and there may be funding available. She stated that flows were a huge priority for Region 4.

There was a discussion of data availability/common databases. The following were mentioned:

- a. Water Resources Information, Storage, Analysis, and Retrieval System (WRISARS) <http://www.ncwater.org/wrisars/>
- b. NC Coastal Atlas <https://www.nccoastalatlantlas.org/>
- c. Development of an APNEP common database—could meet multiple action team needs.

It was discussed that at the end of the analysis, possible recommendations could include filling data gaps, with ideas being:

- d. Adding stream gauges
- e. Citizen Science monitoring
- f. Engaging estuarine science team

The discussion turned to selection of a group leader—the members present elected Eban Bean as team leader, Mike O'Driscoll agreed to serve as a co-chair as needed. Dean requested that all feedback regarding team activities, direction, candidate organizations/members, etc. be directed to Eban, cc'ing Dean as he will continue to provide primary staff support. Another APNEP staff member will be identified as secondary staff support [Coley

Hughes was identified subsequent to the meeting]. Eban will serve as the lead, keep the team moving, and pull in other team members as needed to assist.

Eban Bean asked about the status of the other action teams. Dean provided a general overview of the teams that had convened so far, but explained that some had been on hold due to staffing issues. There was a question regarding the overlap between flows team and the freshwater habitats and fish passage team, it was noted that the goals were closely aligned and the potential for overlapping issues (e.g., isolated wetlands) did exist.

1. Ecological flows—kickoff meeting held 2015
2. Freshwater habitats and fish—met in 2015
3. Contaminants—several meetings held, kickoff 2014
4. Nutrients—split off from contaminants workgroup in 2015
5. Submerged Aquatic Vegetation (SAV)—long history with monitoring and assessment group/ action team kickoff 2014
6. Education and Engagement—meetings held 2014/2015
7. Oyster—active / externally facilitated by the N.C. Coastal Federation
8. Other teams coming soon: Invasives, Restoration Strategies, Policy & Economics, Decision Support Tools, Water Quality Improvements

Eban asked about communication with the team and data sharing and management was discussed. Dean has been using google drive to share documents. Dean has been communicating directly with team members since it is a small group. A listserv has been established and is available through the website <http://portal.ncdenr.org/web/apnep/flows> You can sign up through the website. To post a message to all the list members, send email to apnepflows@lists.ncmail.net. Note that anyone can sign up to join the list since it is available to the public through the website. A screenshot of current members is included below.

Action Items [some of these may have ultimately been folded into the scope / or identified more as wish list / future phases]

- 1) **Dean sent the revised scope and requested feedback to him and Eban by Tuesday, March 29.**
- 2) Eban/Mike: Compile list of investigators conducting relevant research in the region. E.g., Sweet & Gerrets paper
- 3) Seek additional sources of funding if needed to implement scope
- 4) Set up common site for data sharing
- 5) Add Phase II as an item in the APNEP workplan
1. Create list of active action teams / table send out to group
2. Pull out indicators or metrics / share with staff ??

11 members total

unsub	member address member name	mod	hide	nomail [reason]	ack	not metoo	nodupes	digest	plain	language
<input type="checkbox"/>	BEANEB@ecu.edu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	bill.crowell@ncdenr.gov	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	CHRISTIANR@ecu.edu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	dean.carpenter@ncdenr.gov	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	Evans.Rhonda@epa.gov	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	fred.tarver@ncdenr.gov	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	jim.hawhee@ncdenr.gov	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	judith.ratliffe@ncdenr.gov	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	ODRISCOLLM@ecu.edu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	scott@aquaco.us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼
<input type="checkbox"/>	stacey.feken@ncdenr.gov Stacey Feken	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	English (USA) ▼

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