

**APNEP Scientific and Technical Advisory Committee
Summer Meeting Notes
July 29, 2014**

University of North Carolina at Chapel Hill, Institute of Marine Sciences,
3431 Arendell Street, Morehead City, North Carolina 28557

STAC Members Present: Marcelo Ardon-Sayao (ECU), Lisa Campbell (Duke), Heather Deck (PTRF), Robin Dennis (USEPA), Scott Ensign (AquACo, Aquatic Analysis and Consulting), Don Field (NOAA), Erin Fleckenstein (NC Coastal Federation), Joel Fodrie (UNC-CH-IMS), Jud Kenworthy (NOAA, retired), David Kimmel (ECU), Wilson Laney (USFWS), Burrell Montz (ECU), Michelle Moorman (USGS), Rachel Noble (UNC-CH-IMS), Christine Pickens (TNC), Hans Paerl (UNC-CH-IMS), Michael Piehler (UNC-CH-IMS), Curt Richardson (Duke), Tim Spruill (USGS, retired), Randy Swilling (NPS-CHNS), Jessica Whitehead (NC Sea Grant)

APNEP Staff Present: Dean Carpenter, Bill Crowell, Marie English (Americorps Intern), Jim Hawhee, Jimmy Johnson, and Matthew Davis (REACH Intern)

State Agency Liaisons Present: None

Guests: Steven Kroeger (NC-DWR), Sarah Ludwig-Monty (PTRF/Duke), Carrie Ruhlman (NC-DWR)

Call to Order

Science and Technical Advisory Committee (STAC) Co-Chair Jud Kenworthy introduced STAC Executive Board member Mike Piehler for a welcome to the [UNC Institute of Marine Sciences \(IMS\)](#), and covered meeting logistics. Mike noted that IMS has been in existence since 1894 and the institute was originally on Pivers Island. Mike gave us a brief history of the institute, and also noted that STAC members need to take a group photograph during lunch. He noted that STAC members Hans Paerl and Rachel Noble are also based at IMS as well and thus are available to addressing any question about the facility.

Jud introduced STAC Co-Chair Burrell Montz then noted that this is a transitional meeting in that the committee is transitioning from partnership planning to implementation, and Dean will give us a presentation to explain some of the past STAC history. STAC members will have several roles in this new era, as members of Partnership workgroups but also as liaisons.

Jud reviewed the agenda (see bold headings below which correspond to agenda headings).

Hans Paerl asked if any new members have been introduced to the group. APNEP Program Scientist Dean Carpenter noted that there haven't been any new members since the last (April) meeting.

Dean noted that we will defer the approval of the April meeting notes until our next opportunity, since he didn't get them early enough to edit and send out for review.

APNEP Update, Dean Carpenter

Dean thanked Jimmy Johnson for arranging lunch, and thanked Jim Hawhee and Wilson Laney for driving the carpool vehicles from Raleigh.

APNEP project coordinator Lindsey Smart will be leaving the staff to enroll in a PhD program at NCSU, so she will still be nearby. Also STAC members had elected new STAC Executive Board members (STAC Co-Chairs Jud Kenworthy and Burrell Montz, Wilson Laney, Mike Piehler, Jess Whitehead), and also many STAC members agreed to sign up for new three-year terms, which he greatly appreciates.

APNEP Highlights for April 2014: EPA Region 4 monitoring proposal, staff and STAC member Wilson Laney met with EPA staff to consider possible sources of funding for APNEP monitoring. Dean noted that APNEP may be able to enhance sampling intensity for several EPA monitoring projects targets. [NC Sea Grant research symposium](#); APNEP staff decision support workshop; [Carolinas Integrated Sciences and Assessments \(CISA\) climate resilience conference](#) in Charlotte.

May 2014: APNEP economic assessment RFP planning; [South Atlantic Landscape Conservation Cooperative \(SALCC\)](#) landscape indicator revision, in which Dean is participating; SAV sentinel network survey planning.

June 2014: Great Dismal Swamp ecosystem services assessment stakeholder meeting in Chesapeake; more SALCC indicator revisions.

July 2014: Aquatic Nuisance Species Management Plan steering committee meeting; SAV composite image review for groundtruth guidance; STAC Executive Board strategic planning meeting; and SAV reconnaissance surveys in Albemarle Sound.

Dean asked if there were any questions.

Jud asked if APNEP will be able to fill Lindsey's position. Bill and Dean indicated that is the intent. Bill noted that they had also asked for a new staff position for engagement and outreach. Dean noted that any time they lose staff it impacts the ability of the program to continue forward at the same pace.

Dean noted that STAC members will begin to transition to their new roles. The next (winter) meeting will be Wednesday, February 11, 2015. Dean noted that because the STAC will only be meeting as a full committee twice annually, meeting attendance becomes even more critical. While attending these meetings is not be their only role, but will certainly be important.

Jessica Whitehead asked if the location for the winter meeting has been determined. Dean indicated that meeting location has not been determined. Meeting themes usually will have some influence on the meeting location. The STAC meet regularly in Greenville, which is roughly the center of our geography. Other times STAC meetings our held on the coast, and sometimes in the Triangle area.

The next APNEP Policy Board meeting will be September 26. Kirk Havens and Wilson Laney will continue to be the STAC representatives on the Policy Board.

Tim Spruill asked what happened to the Citizens Advisory Committee and Management Advisory Committee. Dean replied that those two bodies were dissolved, and a new Implementation Committee is being created. The concept is that this advisory committee will be responsible for CCMP implementation. Leaders of the new implementation workgroups will populate the Implementation Committee and like the STAC two members from that group will also be on the Policy Board. They hope to have all of the workgroups up and running by the end of November, so the Implementation Committee could be fully formed in early 2015.

Tim asked how many members will be on each of the implementation workgroups. Dean indicated that a target starting size is ten members but the core membership can certainly reach out to other experts for assistance and participation.

An Interim Evaluation: A Decade of Science & Technology Coordination in APNEP, Dean Carpenter

Dean noted that this presentation is based on an earlier presentation he gave to [East Carolina University's Department of Geography, Planning, and Environment](#), at which a number of STAC members were present. Many current STAC members only became part of the STAC since 2011 so Bill Crowell recommended that Dean give this presentation to provide a lot of background for the newer members.

Dean joined APNEP in 2003. He reviewed the geography of the region: the A-P is the nation's second largest estuary, behind the Chesapeake to the north (not a NEP unit). The system provides many regional ecosystem services.

Dean shared some of the changes that have occurred in land cover dynamics from 1982-1997. APNEP is one of 28 NEPs and was the first one actually. The APNEP mission is to identify, restore, and protect the significant resources of the A-P region.

[North Carolina Department of Environment and Natural Resources \(NC-DENR\)](#) has been the host organization since its establishment. Its organizational location within NC-DENR has varied, and Dean reviewed those locations. Currently the program reports directly to the NC-DENR secretary's office.

“What APNEP doesn't measure, APNEP doesn't manage, 2004-2007”. The APNEP created a science and technology initiative to facilitate the effective use of science, technology, training and information in the planning, management and evaluation of ecosystems within the A-P region. Dean needed assistance to develop this initiative so a formal [Science and Technical Advisory Committee \(STAC\)](#) was formed, based on a similar model in the Chesapeake Bay Program. It has by-laws, public and private membership, 36 seats, staggered terms, an Executive Board, no state agency voting representation (with intent to discourage any host bias), and operational guidelines. The STAC historically has held two to four meetings annually, with a mix of presentations and discussion.

The STAC early years focused on developing indicators and metrics for monitoring the health of the system. Dean explained a table that showed the categories and the selected indicators, with desired ecological endpoints. Ecosystem stressors were also discussed and proposed as candidates.

During 2008-2012, STAC focused on what APNEP was managing and whether they have been effective. Staff made the decision that it was long past due to create a new [Comprehensive Conservation Management Plan \(CCMP\)](#). This was to be done concurrently as STAC members were assisting in the development of monitoring objectives. Unfortunately, staff resignations impacted CCMP development and resulted in a shift in near-term priorities that resulted in the monitoring work to be set aside.

The CCMP asked four questions, and is modeled after the Puget Sound NEP format. What is a healthy AP Estuarine System? What is its status? What are the biggest threats? What are the actions that need to be taken?

Dean addressed APNEP's transition to Ecosystem-Based Management (EBM). He heard Dr. Carl Hershner (VIMS) in 2007 advocate this for the National Estuary Program (NEP) system. Dr. Hershner's research was funded by the [Packard Foundation](#) and included the development of a list of essential elements for successful EBM implementation. The elements are: holistic vision and plan (Dean noted that APNEP from the beginning looked at the entire system and not just water quality); effective engagement; adaptive management; and a framework that includes appropriate authority, implementation area, management institutions, financial resources, and effective communications.

Dean noted that the comments he was making today were his alone, and not necessarily reflective of the APNEP staff, or NC-DENR.

Dean explained how APNEP had gained appropriate authority to undertake EBM in 2009. Dr. Hershner gave an EBM primer to the APNEP Policy Board in May. EBM was the theme of the STAC meeting in July. Staff formed an EBM proposal team in August, and a formal proposal was approved by the Policy Board in December. Progress reports on the EBM transition were submitted to the Policy Board in September 2010 and June 2011.

Dean showed us a map of the APNEP implementation area and management institutions. The upper Roanoke River Basin is NOT included within the APNEP program area. Staff speculates that was for political reasons because at the time the partnership was formed there was some serious interbasin water issues. If the upper Roanoke was included Virginia should be a more significant contributor. The boundary runs on the crest of the barrier islands and doesn't include the nearshore marine zone. APNEP has the largest program area of any of the NEPs.

An EBM Transition Team was formed in 2010, comprised of members from the Policy Board, STAC, Citizens Advisory Committee, a state planner, a federal planner and staff. The team met in person monthly for an extended period.

Dean reviewed the seven steps to EBM "enlightenment":

- 1) Articulate Program goals. This entailed development of an objective hierarchy structure, and objectives hierarchy content. Dean provided the specifics of these and compared them to the earlier CCMP goals and objectives. Ecosystem health goals were reviewed.
- 2) Develop system level model for goal attainments. Ecological management actions (stressor mitigation) can impact multiple ecosystem endpoints. Multiple stressors (including other endpoints) impact directly and indirectly ecosystem endpoints. Dean explained the model diagram. EPA's Office of Research and Development created a more detailed model, which Dean projected. This is labeled DPSER modeling: Drivers, Pressure, State, Ecosystem Services, and Responses. The EBM Team got together and developed a conceptual model. Dean reviewed one example for nutrients to show the outcomes on which we focused, as well as the factors and impacts. The desired outcome is that nutrients and pathogens do not harm the species that depend on the waters. Dean reviewed the factors that fed into the desired outcome.
- 3) Assess current management efforts, identify gaps. In this step, directed by the conceptual models, partners' strategic and action plans were reviewed. Specificity and publication date were noted, action items were extracted and aligned with APNEP outcomes and strategies. They still want to interview senior managers to determine what the current priorities are.
- 4) Develop management strategy. Building on the first three steps, staff produced a draft CCMP that was enhanced based on feedback from APNEP's management conference (advisory committees) followed by public feedback.
- 5) Develop a monitoring program. Dean noted that APNEP will try to fill monitoring gaps in the current monitoring effort.
- 6) Assess performance. An "interim" [regional ecosystem assessment](#) was produced and published concurrently with the CCMP. The assessment featured 24 provisional

indicators, and the format used was modeled after that of the national assessments by the former Heinz Center for Science, Economics, and the Environment. A Phase 2 assessment with diagnosis is planned, along with a Phase 3 one that will entail forecasting. The greatest challenge in developing such an assessment with ad-hoc data is synthesizing data collected at different scales for disparate objectives. Dean used *Phragmites australis* as an example of one indicator assessment. He noted that there are many important questions to guide a bioregional assessment.

- 7) Manage adaptively: Dean reminded members that APNEP had not completed the job of finishing our metrics and indicators. We need to establish management targets. If the system isn't responding the way we hoped/predicted then perhaps we need to change our approach. We have expectations as to how the system should behave. This is perhaps the most difficult of the seven steps. This is where we need to engage senior management.

Dean presented some core questions of science and technology for sustainability that were included in his 2004 presentation to the STAC:

- Can scientifically meaningful “limits” or “boundaries” be defined that would provide effective warning of conditions beyond which the nature-society systems incur a significantly increased risk of serious degradation?
- What systems of incentive structures – including markets, rules, norms and scientific information – can most effectively improve social capacity to guide interactions between nature and society toward more sustainable trajectories?
- How can today's operational systems for monitoring and reporting on environmental and social conditions be integrated or extended to provide more useful guidance for efforts to navigate a transition toward sustainability?
- How can today's relatively independent activities of research planning, observation, assessment, and decision support be better integrated into systems for adaptive management and societal learning?

Dean noted that the staff likes to aim high, although they recognize that we won't achieve all of our objectives. Not all partner goals will align, but we hope to come close.

Dean directed us to the [APNEP web site](#) and noted that he will be continuing to work on making it useful to us.

Dean ended with a question: are we on course? He noted that he had laid out the science and technology course from its inception and noted that he looks forward to working with STAC for the next decade.

Dean asked for questions.

Curt Richardson asked how far along Dean feels APNEP has progressed with regard to EBM implementation. Dean felt that the framework is good. Staff alone cannot do implementation. He was trying to relate that APNEP's primary job is to fill gaps. The current reality is that all of

our partner budgets have shrunk as well so a focus on prioritization is essential. APNEP will bring together the experts, and they will specify on what APNEP should focus for the next decade. The framework is solid and if we had more resources, we could make more strides. The EPA looks at APNEP as one of the leaders in EBM, and hopes that we can continue leading.

Bill Crowell stated that the core question is how to move into implementation. APNEP has made some good initial strides. The timing of plan approval, with an accompanying change in NC-DENR administration, threw some curves at staff. Prioritization will be key.

Jud asked, given that APNEP is modeled somewhat after the Chesapeake Bay Program (CBP), has there been any assessment of their success so we can read and see how far they have gotten with that approach. Dean wished Kirk Havens (STAC member) was here to answer that question. He noted that they are challenged as well. Bill Crowell and Lindsey Smart were invited up to talk to the CBP-STAC about APNEP's EBM approach, and they received feedback that APNEP was making great strides despite their lack of resources.

Bill indicated that the CBP-STAC was very interested in APNEP's process. APNEP has a lot of actions that if implemented without monitoring results we lose the ability to manage adaptively.

Jud asked about the Puget Sound NEP approach. Bill indicated that he would be going soon to participate in a NEP review for Puget Sound. Bill will be the invited NEP Director who will serve as their advocate. So we will know a lot more about that program when Bill finishes.

Tim asked if the Implementation Committee will advise the Policy Board or who will they advise to make sure that things happen. The Implementation Committee will be advised by the workgroups, who develop the action plans. The Implementation Committee will in turn give their list of priorities to the Policy Board.

Bill stated that the Policy Board makes the overall funding decisions. They will decide on how much funding will be available for implementation. The Implementation Committee will decide how to spend those funds.

Tim noted that monitoring is key. People will have to be willing to fund these things. The entire state has to be on board. That is the only way that resources can be allocated appropriately to make any meaningful assessment. The question about a healthy ecosystem sounds easy, but it is not easy to specify the desired endpoint. Tim noted that he likes to see algae-covered lakes, but others may wish to see clear ones. We have to first decide what healthy is. He is interested in who is actually going to do the implementation.

Bill stated it will be through partners. APNEP will assist in providing funding for some specifics. It doesn't matter who does an action as long as it gets implemented, and we see the change in the ecosystem as a response.

Tim stated it is a matter of scale as well. It can be implemented in one place and not another, and a change may not occur in the entire system. Tim stated it all gets back to having adequate data to detect the changes.

Dean noted that Tim's position is not at odds with what staff hopes to achieve. Dean noted that this is not a politically partisan thing, either. We should be able to track what we are doing and be efficient about it. Having some fiscal conservatives involved may be advantageous. Tim agreed but noted that you need the funding as well in order to achieve the management objectives.

Dean invited Steve Kroger up to give his presentation. Dean noted that the APNEP Contaminants Workgroup will meet next week. Steve has been heavily involved in leading the NC Nutrient Criteria Development effort, and this will be key.

APNEP's Role in Implementing the North Carolina Nutrient Criteria Development Plan, Steven Kroeger

Steven Kroeger, [Ecosystems Branch](#) Supervisor in the [NC Division of Water Resources](#), provided a little background about himself. The North Carolina Nutrient Criteria Development Plan (NCDP) is required by EPA. He hasn't been leading this effort for very long.

Steve reviewed his outline for his presentation then shared North Carolina's history with the EPA on nutrient criteria development planning. The EPA in 1998 developed a "National Strategy for the Development of Regional Nutrient Criteria". There was a Federal Register Notice in 2001. The EPA vision was that each state would adopt standards within a relatively short time, which didn't happen. From 2005 until present there was state legislation and NC-DENR budget reductions. In 2011 EPA rescinded their agreement with the NCDP. From 2012-2014 the NC-DWR developed a new NCDP, held four stakeholder meetings, and solicited public comment on draft plans. In June 2014 EPA agreed with the NC draft NCDP.

EPA Region 4 noted that North Carolina's approach currently focuses mostly on one criterion, chlorophyll-a, and is a response-only approach. EPA wants North Carolina to develop criteria based on nutrients and clarity as well.

A Nutrient Criteria Development Plan (NCDP) was explained. The NCDP has seven projects, with associated projects, tasks, timelines, milestones and deadlines. Steve defined numeric nutrient criteria.

Steve covered the site-specific (High Rock Lake, Albemarle Sound, and central Cape Fear River Basin) and general waterbody types (estuaries, rivers, lakes and reservoirs).

Steve addressed Albemarle Sound specifically. An APNEP workgroup will be established to define the boundaries of Albemarle Sound. There will be a Phase 1 report. Steve noted how the CCMP goals relate to the state's plan.

Regarding the overall NCDP process, NC-DWR staff hopes to begin recruiting this week for seven to nine members to serve on the NCDP Scientific Advisory Council. NC-DWR division director Tom Reeder will select those who serve on the panel. The nominees are undergoing legal review within NC-DENR. The council will deal with the ecological role of nutrients in water bodies.

Steve stressed that the NCDP is a plan, not a contract, and it can be amended.

The NCDP website is: www.ncwater.org. Look under “Water Sciences” and the information is at the end of the list. Interested members can send an email to him with questions or comments.

The next steps: convene a workgroup; define the geographic boundaries of the study area; etc.

Steve noted that there are some things he can influence. He has already begun a literature review and is open to suggestions for how to implement the process.

Steve noted that he would like to set policy based on data and science. North Carolina had gotten off track, and he would like to get the state back on track.

Curt asked upon what the criteria would be based, what metrics, etc. Steve indicated that he didn't yet know and explained how the current criterion works. There are other ways of using the metrics rather than using ten percent of the standard.

Jim Hawhee provided a brief addendum to Steve's presentation. Steve's charge is larger than APNEP's. APNEP has invited many of the STAC members to participate in the Albemarle Sound working group, next week, to begin discussing these issues in depth. This APNEP workgroup is also working through the APNEP process as well, at the same time. Jim stated that STAC members could contact either him or Steve with regard to answering questions. While the STAC has a lot of expertise on many things, they may expand the workgroup to include additional expertise.

Steve noted that he was grateful to be here today to speak to the STAC, and grateful to tap the collective expertise. Steve confirmed that he is the point of contact with EPA, and also is the project manager.

Hans noted that we have TMDL issues, and chlorophyll-a standards, and the numbers are very high for some systems. Is the idea to develop specific criteria for specific water bodies, or what is the scale of the approach? Albemarle Sound would be more susceptible to nutrients than other waterbodies due to the residence time. EPA's approach has been problematic in that they have wanted a “one size fits all” criterion.

Steve noted that isn't the approach here.

Hans stated if you look at the North Carolina estuarine systems, what will be acceptable for chlorophyll-a is likely to be different in each system.

Steve noted that EPA has made some recommendations for Piedmont areas, and that is 4.93 ug/L.

Tim noted that it will be almost economically impossible to administer separate standards for each waterbody. Such an approach is likely to lead to problems. The research has been done for 40 years and much of it was done in Wisconsin. If you look at the response of chlorophyll-a, to nitrogen and somewhat to phosphorus, the scientific basis is there. We have confidence intervals. No state including North Carolina has invested in determining what are the nutrient concentrations and loads that cause problems in lakes. EPA dropped a lot of the research by the mid-1980's. Tim thought that the research was good and precise enough, although the confidence intervals are wide, but because we are discussing standards you can use the upper 2%. Wisconsin has adopted phosphorus standards, and New Jersey has as well. This potentially will cost a lot of money. Tim was baffled as to why no one will at least try some of these standards in at least small areas. In the end he thinks citizens will realize that it costs money to manage these areas. He believes that the effort should not be dropped. A lot of research has been done and he perceives that people keep challenging the findings.

Steve noted that in the late 1980s and 1990s, laws were passed and more people became interested. The legislation changes make it harder to implement.

Tim noted that political problems have arisen, lawyers get involved, and that complicates things. There are questions as to what levels should be, and people's tolerances differ.

Hans asked if Tim was talking about lakes exclusively. Tim indicated that he was talking about estuaries and lakes.

Hans stated that the estuaries are very different from lakes. Some estuaries will tolerate phosphorus very well. Hans repeated that the standards will be very different within the different North Carolina estuaries.

Tim stated that in many cases responses to chlorophyll-a are what is measured, and because estuaries are very turbid you can't really measure it. Everything eventually goes downstream and there are varying areas in between, but it all winds up downstream. Within the state's shallow estuarine systems some of them will be very sensitive. Protecting the most sensitive areas within each watershed would be a solid approach. By selecting specific areas things will get complicated and it will be easy to bypass. You won't be able to regulate it easily. A general standard, within reason, would be easier to regulate than specifics for each system. He noted that both Virginia and North Carolina want to take a specific approach.

Heather asked a process question. Any change in standards, Steve advised, would go through the state's Triennial Review.

Steve noted that North Carolina is placing great value into the Scientific Advisory Council they are establishing. He sought ideas from STAC members about how to make this work very well.

Bill thanked Steve for taking up APNEP's offer of assistance for helping with developing estuarine criteria.

Jud noted it sounds like the new committee will have their hands full.

Jud noted that a sea-level-rise update is scheduled but Dean has suggested that a break for luncheon discussions transpire beforehand. STAC members will convene at 1:00 pm for their group photo.

North Carolina Coastal Resources Commission's Science Panel on Sea-Level Rise Update, Dean Carpenter

Dean noted that the Coastal Resource Commission's Science Panel on sea-level-rise had their first meeting a week or so ago. As a reminder, STAC had addressed sea-level-rise in fall 2012, and Tancred Miller (North Carolina Division of Coastal Management) had provided an update. Dean had invited DCM staff from the Morehead City office to provide this briefing, but unfortunately the CRC is meeting this week. Staff sent Dean some material, which is similar to a press briefing. Dean reviewed that document for us. The Panel discussed the four coastal regions on which they need to focus (which are in the statutes). They will also review the most recent IPCC report, and consult with outside experts as needed. Dean wanted STAC to be aware that the process has begun. The new time frame for coastal impacts is 30 rather than 100 years.

Dean asked for questions.

Wilson asked if any STAC members on the Science Panel. Dean doesn't believe there are any current STAC members on that panel, but there is a former STAC member: Stan Riggs.

With no further questions and before the discussion session, Dean reminded members that similar to the NCDP, the CCMP is also a flexible plan. As the APNEP workgroups collectively visit the 58 CCMP actions, the workgroup decisions will contribute to the next version of the CCMP, which will probably come along in 2015. Bill stated it could be 2016.

Committee Discussion and Action, Michael Piehler

Mike noted that with each two-year term the STAC Executive Board (hereafter "Board") has a discussion regarding priorities and how to address them in STAC meetings. He has been through this exercise four times now. Two years ago, the Board decided to have thematic meetings. So during the last term the Board decided to try meetings where there would be a group of actions with an identified theme, leading to some product. Those have been

somewhat successful, but sometimes not. The products are only as good as STAC members' willingness to step up and do things, within the scope of their jobs.

Mike had once again, during this present planning period, tried to be pushing the STAC to action. Mike referenced the APNEP regional ecosystem assessment, noting that the document isn't perfect but it is a GOOD accomplishment, good for both big APNEP (the entire partnership), and little APNEP (the staff). We also have the CCMP, which is good. All STAC members also received letters with assignments to particular APNEP implementation workgroups. There is at least one STAC member per workgroup, with the idea that we will provide technical support for these workgroups and help get them started.

This afternoon, Mike wanted member to get all on the same page with regard to how to assist these workgroups and what members can do over the course of the next two years. There simply isn't the people power to get the work done otherwise. Mike solicited comments and ideas on how best to make this work, and on what members can gain from their participation.

Mike stated for starters wanted to decode the letters associated with an action. Before that, however, some discussion on how APNEP can get a jumpstart by incorporating activities already in progress. For example, there is an existing oyster workgroup that will serve as the core of the APNEP Oyster Workgroup. There is also a coastal ecological flows workgroup which is going to become the APNEP Hydrological Regimes group. A third case is the Submerged Aquatic Vegetation Workgroup.

Rachel Noble noted that the APNEP Policy and Economics Workgroup is rather cross-cutting, and wondered how that group could best support the others, or whether within each group, Decision Support Tools could be a discussion component. She wanted to know how those two could promote cross-connections, or either fold the Decision Support Tools into each workgroup.

Bill stated that the answer to her question is yes. It all really comes down to the primary CCMP actions assigned to a particular workgroup. The workgroups have evolved a lot already, expanding and contracting. The Monitoring Networks workgroup is all-encompassing as well.

Mike explained that the primary actions assigned to a particular workgroup are coded to CCMP actions.

Mike noted that EBM is really complicated and hasn't to his knowledge been done anywhere, to this scale. It is a bit of Shangri-La. Dean's plan is big, but we need to have discernable, attainable objectives, or we will lose everyone's attention.

Of the primary actions under Hydrological Regime, Mike read A.3.3 as an example. Each workgroup should be able to derive a focus for each primary action under their responsibility. As another example, for Contaminant Management nutrients are going to be the focus in the short-term. Mike noted that in the Board's recent meeting, they had discussed the fact that all

members need to understand what these codes mean. He would like some discussion of how to focus and share ideas.

Lisa Campbell noted that she still isn't sure who is on the workgroups. Mike explained that at least one STAC member is on each workgroup and will be advising, as well as participating. He noted, Dean concurring, that the Board had discussed this last December.

Mike noted that there are lists of about ten proposed members for each workgroup. Many postal letters of invitation have been distributed. Bill noted that not all workgroups are beginning at the same time, so the postal invitations are being sent accordingly. The Contaminants Management Workgroup is the first to get started.

Dean noted that there has been designated a convener for each workgroups. Curt asked if we will be notified who the convener is. Yes, that should come in another letter, Mike advised. There is also designated APNEP staff support.

Bill stated if anyone wanted to volunteer to be a convener, they should let him know. Mike noted that some STAC members are conveners, and others not. Mike noted that the groups will only function well to the extent enthusiasm is there.

Hans asked about distinctions between Water Quality Improvements and Contaminant Management. Those appear to overlap, but when you look at the actions there isn't a lot of overlap.

Mike noted that at one time, the two groups might have been one.

Bill stated that Contaminant Management was mostly actions on the ground whereas the Protection Actions are mostly in Water Quality Improvements.

Dean noted that while there is seeming overlap in the titles, there is little overlap among groups in the primary actions. There is only one workgroup that has a chairperson. Wilson explained in partial response to Rachel's question that once each workgroup has elected a chair, those will comprise the Implementation Committee and that is where much of the cross-cutting discussions will occur.

Rachel agreed that should be the case but the Decision Support Tools workgroup would need to consider those needs.

Mike noted that it isn't clear yet what sort of products will be produced by each workgroup.

Dean noted that is one charge that will be posed to each of the workgroups. There are no preordained concepts as to what each group will follow: they are to decide their own approach.

Lisa asked if there is a particular timeframe.

Bill noted that some timelines will be obvious, such as the nutrient issue with which the Contaminant Management Workgroup will address. Different actions will be at different points, and all may have different outcomes. Dean agreed and noted that the EBM cycle has four elements (assess-plan-manage-monitor), and all elements should be considered relative to each action.

Mike stated that each of the workgroups will convene, see what APNEP hopes to see as an outcome, and then decide what their priorities are. It is a good opportunity for each member to see what they can generate from the group. This is the only way to proceed, because members all have other jobs.

Erin asked if this will influence how APNEP funding decisions are going to be made.

Mike indicated that could come into play. For example, he and Scott in the Hydrologic Regime Workgroup will consider some tasks that they believe need to be addressed early on. As a reminder, each workgroup will have a representative on the Implementation Committee.

Bill explained that the Implementation Committee should have 13 members, and those representatives will convey what their needs are, and will also be able to evaluate the proposals from the other workgroups. Small requests (under \$5,000) may be funded more readily. Not all of the funding must come from APNEP. Furthermore, APNEP funding will no longer be distributed via the RFP, because it will be used to support the workgroups. If a workgroup wants an RFP, however, they can request this mechanism.

Jud stated that he had been asked as to the role of STAC liaisons. Jud noted that the liaisons are likely to be minorities on the workgroups, so he felt that we should spend some time discussing what the roles of the liaisons should be.

Dean noted even though many of the workgroup members may not be STAC members, they are part of big APNEP and should have a vested interest in seeing the actions happen. He has yet to weigh the merits of liaisons being workgroup members. Bill sees them as workgroup members. If it causes heartburn, Dean is good with that not being the case.

Bill noted the membership of the Freshwater Habitats and Fish Passage Workgroup being people who have worked with APNEP in the past.

Mike stated that the liaisons should keep the CCMP high in everyone's mind. They should maintain enthusiasm.

Jud noted that he wanted to get folks to weigh in and say what they thought. For the workgroups already running, they may have some experience to share. For the SAV workgroup, Dean keeps them on track.

Dean noted that there are two actions assigned to the SAV workgroup. One is restoration and the other is protection. That part of the partnership has dealt with restoration more in the past, and not so much for protection. They will need science guidance as to how the system will respond to propose restoration and protection actions, and with what metrics will be used are to track ecological response.

Mike asked if everyone had a good feel, from their letters and this discussion, of how we are going to proceed.

Robin stated that the Implementation Committee will be very important, and asked about meeting frequency. Mike stated that will depend on the workgroup. APNEP will send out the invitations for the first meeting, and thereafter the convener and group must decide. In many cases the activities will be very intense and unless STAC members all want to do it, it isn't going to happen. Members do have to continue meeting as an entire STAC, or else the work will not be done. He suggested that our STAC meetings could focus on the cross-cutting workgroups, at least initially. Perhaps Decision Support Tools coupled with Policy & Economics could be the first two STAC meeting themes.

Jud noted that Robin had asked about the Implementation Committee, but Mike had responded about the workgroups.

Dean suggested that the Implementation Committee's initial tasks would be to prepare bylaws and decide on meeting frequency and so forth.

Robin noted that there is APNEP staff involvement with the Implementation Committee, but what about the workgroups? Dean indicated staff will be involved, noting that it would be great to have enough capacity to assign staff to single actions, but as of now, there are two APNEP staff members assigned to each workgroup.

Mike confirmed that each STAC member has a basic understanding of how this is supposed to operate. Hopefully each STAC member is assigned to a workgroup that will promote their enthusiastic participation.

Dean stated that one agenda item at the next STAC meeting will be member reports back to the entire STAC on how the workgroups are doing. Mike suggested that the upcoming meeting also include a theme in association with one of the cross-cutting workgroups.

Mike asked for more questions. He asked if everyone was comfortable with the process as described.

Marcelo asked if the groups would have the capability to meet electronically. Jim Hawhee indicated that APNEP does have a license for WebEx and the groups will NOT have to meet face-to-face for each meeting. The Contaminants Management workgroup will hold a face-to-face for their first meeting, just so everyone can get acquainted.

Jud asked that Jim and the first workgroup distribute some summary of experience to the staff, with advice for how to improve the process for the rest.

Robin noted that if WebEx is to be used, some participants will have organizations whose IT divisions have restrictive policies so that webinar software cannot be installed. So there should be a preliminary webinar test first. Robin requested that members have the ability to contact Jim and do such testing.

Hans stated that members may have particular expertise but also other members may want to participate. Jim noted that audio participation will be via telephone, and those who want can participate via computer via WebEx as well. All workgroup meetings will be on the APNEP calendar on the web site.

Dean strongly encouraged everyone who is a member to participate in the first meeting of each workgroup.

Mike hoped that each kickoff meeting could be face-to-face. He noted that in some cases they could possibly combine meetings with some event that could count as a product.

Bill noted that each of the invitation letters do define the “alphabet soup” of the actions, so members will have that in print. The workgroup determines what their priority steps within an action will be. Also, workgroup memberships may evolve in time as actions are completed and new ones are tackled. New members can be recruited. Workgroup membership is not intended to be static.

Robin asked if the list of memberships and STAC liaisons will be shared with the entire STAC. Dean advised that would be provided on the web site. Bill indicated that other information would be shared as well.

Curt asked who is the major audience for this information. Mike stated that was a good question. People making decisions about resource management and the public will be targets.

Robin asked who the audience is for the CCMP. Bill stated that CCMP implementation is supposed to benefit humans and the entire ecosystem. Each action has some sort of output, with an intended audience. One decision support tool may have one audience, and another decision support tool may have another.

Curt asked if we wanted the workgroups to decide who the audience will be. Burrell stated that to some extent it may depend on scale, and that may fall to the workgroup to define. Curt stated that wasn't presently in the charge to the workgroups. Burrell agreed.

Bill noted that one task would be to decide how effective buffers are for water quality purposes. He named some of the likely audiences for that study: US Army Corps of Engineers,

Fish and Wildlife Service, EPA and others. Burrell noted that both scale and sector would come into play, and we should decide to whom the actions will be directed.

Hans asked if there are agency staff on the workgroups, people like Steve Kroeger. Mike confirmed that would be the case. Bill stated that it is much easier for APNEP to recruit agency participants than to recruit participants from local governments or private citizens.

Mike encouraged members to fully participate in our assigned workgroups.

Committee Discussion and Action, Burrell Montz

Burrell noted that Mike has given her plenty of time to assign homework. Members need to become very familiar with our assigned actions and need to work with staff to make sure that each workgroup is up and running by year's end. We need to come with some ideas of how to prioritize and get them moving. A big responsibility is to bring information back to the STAC, about how the workgroup discussions are going.

While workgroups are separate, they do overlap. They will have various audiences, and we have to be flexible and learn as we go. Her excitement stems from the fact that now APNEP is really going to work on CCMP implementation. This is a plan and plans evolve and change. While admitting that she is sounding like a cheerleader Burrell feels her position is one of making things sound like members are really poised for making a difference.

Michelle noted that she is aware that the APNEP web site will have a lot of information. Could workgroups also utilize some sort of SharePoint site where they can have working documents not yet ready for public consumption? Jud noted that topic had been discussed. Jim Hawhee will work on making certain areas within websites accessible to workgroup participants but not totally public.

Hans asked whether it is envisioned that what is being produced will be shared. Burrell suggested each workgroup would need an implementation plan, because they will be dealing with different target audiences and even different governments. Workgroups need to consider who will be affected by their activities and who will need to implement things.

Hans noted that currently there are a lot of moving philosophies out there. We could wind up with an activist administration that actually wants to implement actions. Burrell noted that any plan can become a political document. Hans noted that workgroups need to be flexible and consider the fact that change will happen. Workgroup plans need to be flexible enough to adapt. Burrell agreed and noted that there can be alternate routes to achieve the same ends. We might to recommend one, but realize that another is possible as well. Hans suggested that workgroups use consensus.

Jim noted that he hoped that actions would be carried all the way through to the environmental interface and not just produce documents for decision-makers. There could be interim products along the way.

Burrell hoped a workgroup would say: here is where we are, here is where we were in the past, and here is where we hope to go. We need to define the appropriate steps.

Jud stated that in referencing Hans' and Curt's question about target audiences, the workgroups need to consider who to target for CCMP implementation.

Burrell noted that a primary role of the STAC liaisons is to keep the CCMP up front and implement the plan. Keep the focus on the primary actions.

Curt suggested that having a flow model might be helpful. Some of the actions will feed back into the Policy group. You have to identify a problem. Solutions have to be identified in the policy arena. All this has to be tied together.

Burrell agreed. The Implementation Committee, STAC and workgroups all will be involved in establishing a process.

Bill provided an example for one action, which is to construct new oyster habitats. He shared how they might approach that task. It will depend on the workgroup as to how they want to proceed. There is a benefit to crafting a long-term plan, as well as a benefit to doing something in the water next week.

Burrell noted that this isn't a short-term process. We have put things in discrete groups, and give them titles, to get the ball rolling. She was glad she didn't have to do that work. Once we meet in February and discuss how things went then we will know more about how to move forward.

Michelle asked if we envisioned the February meeting to be kind of a round-robin of how each of the groups went. Burrell envisioned that at least part of the meeting would entail the sharing of information by each of the workgroups. We need to share and learn from others.

Burrell confirmed that there are homework assignments for members, and the due date will be the winter meeting (February 11, 2015). Members should become familiar with their primary actions, help staff get the workgroups constituted by year's end, and get the workgroups moving forward. If members want to be a workgroup convener then talk to staff.

Curt stated that it would be good to end up with some sort of dichotomous key to actual actions. It would be good to be able to look at questions and see how things work. He noted that the EBM documents can become very complex, so much so that people don't want to read them.

Michelle stated that it would be good to have some sort of public information document come from this.

Jessica noted that she is the Education and Engagement workgroup liaison. Many of this workgroup's actions are finding opportunities for engagement in ways that tie back to the other workgroups. She asked that members look for ways their workgroups can tie in to education and policy.

Mike suggested that Education and Engagement be STAC's first cross-cutting theme and that it be the focus of the next STAC meeting. Identifying what the cross-cutting issues are in each workgroup will be good. Members should all think about education for each workgroup's primary actions.

Burrell noted that could assist us in education of politicians and policymakers as well.

Jessica seconded that suggestion.

Burrell asked for any other items for the good of the order.

The meeting adjourned.