Nutrient Scientific Advisory Board Meeting #23 Minutes

Friday, November 2, 2012
TJCOG - 4307 Emperor Blvd, Durham NC, 27703
9:30 am -12:00 pm

Attendees

Members: Larry Band, Matt Flynn, John Cox (& Michelle Woolfolk, alt), Trish D'Arconte, Bill Hunt, Andy McDaniel (Matt Lauffer's alt), Josh Johnson, Maggie Monast (Grady McCallie's alt), Michael Layne

Non-Members: Andy Sachs (facilitator), Jason Robinson (DWQ), Rich Gannon (DWQ), Adugna Kebede (DWQ), Heather Saunders (TJCOG), Mike Schlegel (TJCOG), Haywood Phthisic (LNBA), Brian Jacobson (URS), Forrest Westall (UNRBA), Sally Hoyt (UNC), Brian Jacobson (URS), Alix Matos (CardnoEntrix), Dan McLawhorn (Raleigh), Melinda Clark (Wake Co)Cy Stober (PTRC), Trevor Clements (TetraTech), Wesley Poole (Orange Co.)

Agenda

- **Jordan Watershed Modeling**
  - Update on model process, data request, and outreach meeting
  - Subcommittee update on Tetra Tech's Quality Assurance Project Plan
  - Q&A/Discussion
- **Input from Non-Board Members on Watershed Model and other NSAB issue**
  - DWQ & TJCOG's current thinking
  - Q&A/Discussion
- **Benchmarks for Interim Loading Increases**
  - DWQ's current thinking

Material

- November Meeting Plan
- Project Schedule for the Jordan Watershed Modeling Services Project (8-30-12 Final) (attached)
- Inventory of Available Local Data (attached)
- Chart that illustrates Accounting for the conversion of Agricultural Land to Development (attached)

Convene

- September's Meeting Plan was approved
- November's Meeting Minutes were approved

Jordan Watershed Modeling

- Heather Benson (TJCOG) and Board and John Cox (Board and Model Subcommittee member) gave a brief update on the modeling process, including the model subcommittee meeting with the contractor, the local data request by the contractor and preparation for the upcoming outreach meeting for affected parties.

- TetraTech is currently making revisions to the Quality Assurance Project Plan (QAPP) in accordance with comments received during a meeting with the Board's Model Subcommittee. The final QAPP will be posted on TJCOG's and DWQ's NSAB website.
- Dr. Band asked Trevor Clements of TetraTech to talk about TT's onsite wastewater expertise gained from their involvement in the Chesapeake Stormwater Network, and noted that the issue of lag time will require consideration. Trevor reaffirmed that they will be using approaches developed there in this model.
- Trish asked if failure rates of septic systems will be accounted for in the model, since Chapel Hill has information of failure rates in their neighborhoods. Trevor said that these will be accounted for in the model.
- An outreach meeting for parties affected by the Jordan watershed modeling is planned for November 20th. A Board member suggested that more time be allowed for questions and answers during the meeting.

Input from Non-Board Members on Watershed Model and & Other NSAB issues

In introducing this item, Andy Sachs shared DWQ's proposal, considering the subject matter, to allow for any parties present to participate in the discussion along with SAB members following DWQ's initial framing. The members consented to this approach. Jason Robinson explained DWQ's and TJCOG's current thinking on how affected parties that are not on the Board could present/submit comments and input. This pertains not only to the Jordan Watershed Model, but to other NSAB issues as well, particularly e.g. the development of alternate BMPs given that these measures will be used by all parties affected by Existing Development rules, which currently includes Falls in addition to Jordan, and potentially the High Rock watershed in the future.

Current options for non-members to provide direct, interactive input to the Board are limited to seeking through DWQ to present an agenda item, and participating in a subcommittee presentation. Staff at points has gotten requests from UNC-CH staff and from upper Neuse representatives to participate in meetings. Another possibility for hearing non-Board members' input is to set aside a short amount of time at the end of NSAB meetings for interested parties to speak, similar to a public hearing. This may be done quarterly. For the watershed model, it's preferable if comments and input was submitted to DWQ or TJCOG. DWQ will consider the information and decide if it should be passed onto the Model Subcommittee, the full Board, and/or the contractor. Comments and input may also be submitted to Board members, who should pass it on to DWQ. Comments/input should not be submitted directly to the contractor. Whatever is decided, a good outreach effort will need to be made to the affected parties to notify them of the avenues they have to comment and offer input on NSAB issues.

The Board, as well as non-Board members were then asked if they had any ideas on this subject. The following were ideas:

- For the immediate future, given the Falls and Jordan Rule BMP timeframes, more Falls Lake representatives should be represented on Sub-Committees (and more BMP subcommittes should be created, and BMPs prioritized). These representatives should update other Falls parties, including the UNRBA.
- Open a portion of every other meeting for the public to speak. The Board must be noticed in advance for this to have any value.

- Side point: The NSAB needs to understand the Falls Rule timeline and in addition to Jordan's, as well as the timeline for the two strategies' State and Federal existing development stormwater requirements.
- For Falls, Raleigh has contracted Hazen and Sawyer for an on-site septic study. Results from this study can be used by the NSAB.
- See which governments are doing voluntary nutrient management strategies across the state, and include them in the NSAB discussions. For example, the Urban Stormwater Consortium needs to be brought along.
- The agricultural community should be involved in the watershed model, particularly the Jordan and Falls Watershed Oversight Committees, and DSWC representatives Tom Hill and Julie Henshaw. This prompted a question about Agriculture compliance accounting. DWQ explained that NLEW was a spreadsheet tool that is used to check the agriculture community's compliance. It was pointed out that NLEW is empirical and is not calibrated for loads delivered to streams.
- Dr. Band pointed out that that there's a separate SWAT agriculture model being developed by NCSU. If the two watershed models give different results, this sets up a potential collision and possible lawsuits. [Editor's note: DWQ staff is seeking for the two modeling efforts to share information.]
- The review and approval of proprietary devices is too slow; the Board needs DWQ staff to participate in the NSAB. DWQ members Robert Patterson and Annette Lucas need to be involved in the alternate BMP discussions.
- Several Board members agreed that "outside" parties should be given a chance to offer input and comments, but were leery about subcommittee meetings getting out of control with too many voices. They suggested that subcommittee participation should be based on expertise.
- Several Board members and other meeting attendees suggested that the Board needs a Falls Lake representative. The Board unanimously voted to appoint a Falls representative who would not be an official member and would not have a vote, since the Session Law is explicit on the membership of the Board. Forrest Westall, the UNRBA's Executive Director was informally nominated, and other affected parties should be solicited for nominations. Forrest will look into receiving authorization from the UNRBA to let him represent them on the Board. A Board member suggested that the Falls representative should eventually have a vote on the Board, which would mean that Session Law would need to be revised.
- It would be valuable to give all the affected parties the opportunity to discuss issues before the NSAB votes. This includes providing input to subcommittees.
- Non-urban communities are underrepresented on the Board.
- The Board's long-term function process needs to be considered.

Benchmarks for Interim Loading Increases

This item stemmed from a question from a Board member at the September meeting about offsetting development that has occurred since the baseline but prior to implementation of local new development programs (interim development). The Board member's local government has been requiring all development to meet Neuse New Development requirements, and wanted to know if this would alleviate any additional reduction requirements from their existing development

beyond the reductions they need from their baseline loading (up to 2001). DWQ addressed this issue:

- It should be noted that the Neuse New Development nitrogen target rate (3.6 lb/ac/yr) is not as stringent as the Jordan Upper New Hope rate (2.2 lbs/ac/yr). It should also be noted that the 2.2 lbs/ac/yr is based on a 35% nitrogen reduction in the Upper New Hope arm. However, all three subwatersheds initally only have an 8% Nitrogen reduction under the existing development requirements.
- After some review, DWQ determined that the explanation on this issue as laid out in their February 2012 document "*Interpretive Guidance on Assigning Existing Development Nutrient Loads*" is the correct implementation interpretation: For Greenfield interim development, local governments will be required to offset any loading that exceeds the greenfield developable lands' average loading rate, with the existing development percent reduction goals applied. This interpretation is explained in the aforementioned document and contained in Table 2 of the document.
- DWQ passed out and explained a chart that illustrates this interim development issue (updated version attached). It uses three scenarios that evaluate accounting impacts on both the agriculture and development sides together:
    - Scenario A (see attached) is how accounting is currently done. This shows that if New Development achieves the strategy's percent reductions from the pre-development conditions, but Ag does not readjust it's baseline for land that leaves agriculture, the overall strategy goals are not achieved. Scenario B illustrates that the only way the strategy goal could be achieved with the current agriculture accounting method would be to require New Development to offset ALL development that has occurred since the baseline. Scenario C shows that if new development achieved its percent reduction goals from the pre-developed conditions, and agriculture achieved the percent reduction goals from a baseline that is adjusted for land that leaves agriculture, the goals would be met.
        - The agriculture community has made efforts to come up with a method to account for agricultural land that goes out of production to development, but there are lots of road blocks, each county tracks it differently, etc.
        - There was some further discussion about agriculture requirements

Potential Future Agenda Items

- Update on Watershed odel
- Alternative BMPs
- Affected communities outreach and input
- Jordan and Falls timeline for local governments and state and federal entities

Future Meeting Dates

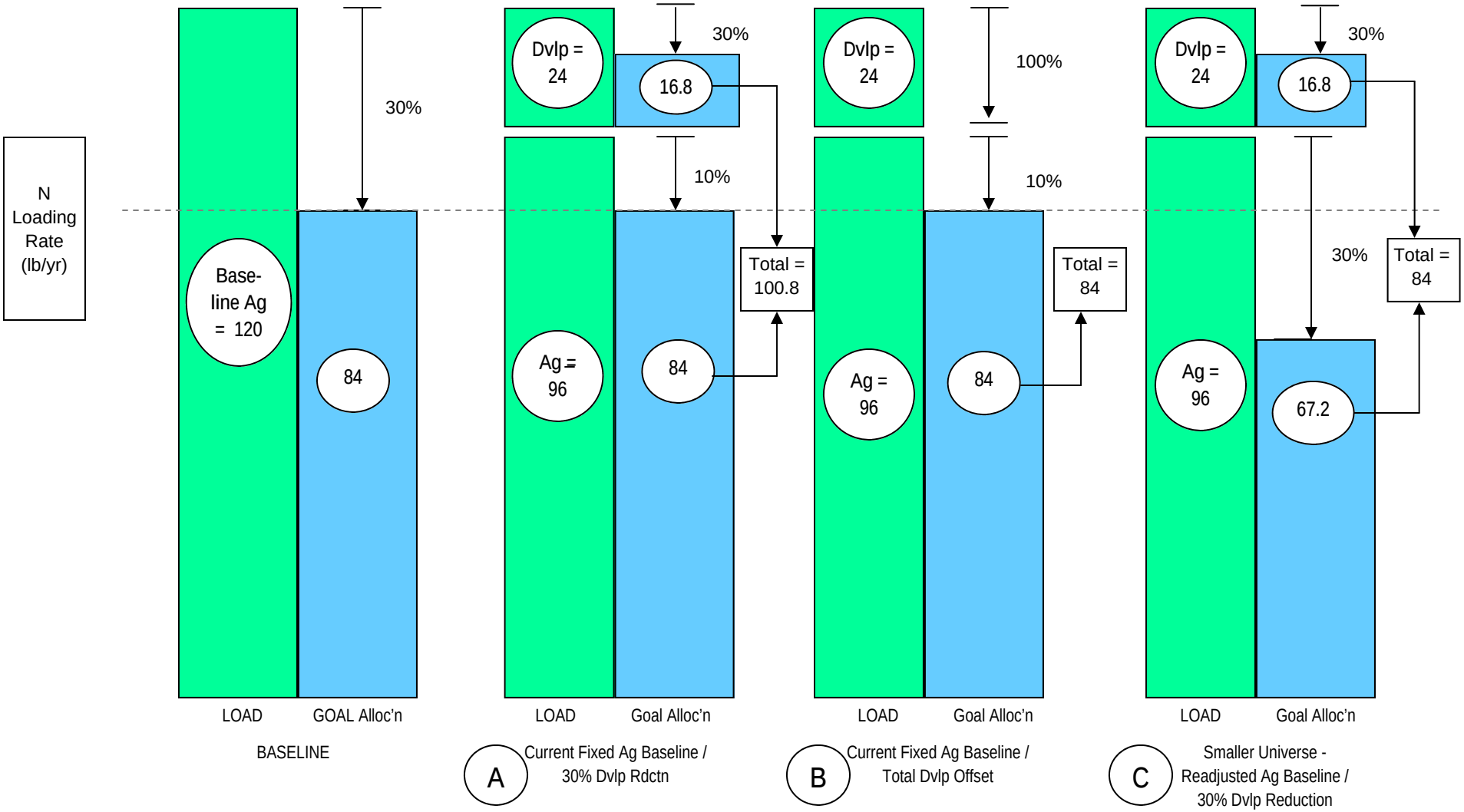
- Unless specifically rescheduled, the first Friday of each month, 9:30 – 12:00 at TJCOG.
- December 7, 2012

EXHIBIT B. Budget for Jordan Watershed Modeling
Prepared By: Tetra Tech
Date: 8-30-12 Final

Task	Task Description	Principal - PM	Principal - QAQC	Principal - Modeler	Senior Modeler	Senior Engineer - WW	Senior Engineer - SW	Senior Hydrologist	Graphics Design Mgr	Technical Editor	Publication Mgr	Senior Scientist	Staff Engineer	GIS Analyst	Staff Modeler	Staff Modeler	Staff Scientist	Contract Admin.	Imaging Team	HRS	LABOR $	EXPENSES *	COST	% of Budget
		Trevor	Andrew	Jon B.	John R.	Vic	Jonathan	Peter VL	Regina	Jeff	Krista	Scott	Bobby	Peter	Sam	Jeremy	Catherine	Allison	Geomatic					
1.0	**Compile & Pre-Process Data & Information to Support Model Development**	**16**	**12**	**48**	**0**	**22**	**0**	**38**	**8**	**8**	**0**	**52**	**0**	**64**	**8**	**25**	**124**	**0**	**162**	**587**	**$ 63,792**	**$ 2,587**	**$ 66,379**	**30%**
1.1.a	Prepare Model QAPP	2	8	16				8	8	4							4			50	$ 7,824		$ 7,824	4%
1.2.a	Assemble and process basic information (soils, topography, hydrology, WQ, ...)			4				8						16		25	80			133	$ 10,872		$ 10,872	5%
1.2.b	Develop assumptions for sources and bmps	8		8		20		20				20								76	$ 10,224		$ 10,224	5%
1.2.c	Refine NLCD LULC	2		2								16		24					162	206	$ 21,690		$ 21,690	10%
1.2.d	Project GIS and database for assembled and refined data (including QAQC)	2	4	6								8		16	8		32			76	$ 7,444		$ 7,444	3%
1.2.e	Prepare and submit memo summarizing input datasets and assumptions	2		12		2		2		4		8		8			8			46	$ 5,738		$ 5,738	3%
2.0	**Perform Model Set-Up, Calibration, and Validation**	**14**	**26**	**108**	**24**	**0**	**8**	**0**	**0**	**0**	**0**	**60**	**8**	**32**	**72**	**292**	**48**	**0**	**0**	**692**	**$ 75,680**	**$ 1,560**	**$ 77,240**	**35%**
2.1.a	Model set-up, calibration and validation	4	16	80	24		8					60	8	24	40	200	40			504	$ 55,012		$ 55,012	25%
2.1.b	Prepare and submit model configuration memo	4		8										8		32	8			60	$ 6,184		$ 6,184	3%
2.2.a	Eliminate formal sensitivity and uncertainty analysis																			0	$ -		$ -	0%
2.3.a	Evaluation of model performance	2	8	4											16	20				50	$ 5,680		$ 5,680	3%
2.4.a	Interpretation of model results	4	2	16											16	40				78	$ 8,804		$ 8,804	4%
3.0	**Apply Model to Establish Load Estimates**	**6**	**4**	**12**	**0**	**0**	**0**	**32**	**0**	**0**	**0**	**84**	**0**	**0**	**0**	**104**	**0**	**0**	**0**	**242**	**$ 24,564**	**$ 533**	**$ 25,097**	**11%**
3.0.a	Develop estimated juridictional loads	2		2				24				60				40				128	$ 12,624		$ 12,624	6%
3.0.b	Develop delivery factors	2		2								24				40				68	$ 6,276		$ 6,276	3%
3.0.c	Eliminate flow-load analysis																			0	$ -		$ -	0%
3.0.d	Prepare and submit summary table of delivered mass loads	2	4	8				8								24				46	$ 5,664		$ 5,664	3%
4.0	**Deliver Model & Documentation for Peer Review**	**12**	**8**	**40**	**4**	**0**	**0**	**8**	**12**	**12**	**0**	**20**	**0**	**24**	**0**	**24**	**0**	**0**	**0**	**164**	**$ 22,156**	**$ 403**	**$ 22,559**	**10%**
4.0.a	Prepare and deliver model report and modeling files	12	8	40	4			8	12	12		20		24		24				164	$ 22,156		$ 22,156	10%
5.0	**Meetings, Briefings, and Project Coordination**	**86**	**22**	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**148**	**$ 28,772**	**$ 502**	**$ 29,274**	**13%**
a.	DWQ-NSAB Committee Meetings and Full NSAB Briefings	46	22	32																100	$ 20,036		$ 20,036	9%
b.	Budget and Schedule Tracking, Invoicing, Proj/Contract Mgmt Correspondence	40																8		48	$ 8,736		$ 8,736	4%
	TOTAL	**134**	**72**	**240**	**28**	**22**	**8**	**78**	**20**	**20**	**0**	**216**	**8**	**120**	**80**	**445**	**172**	**8**	**162**	**1833**	**$ 214,964**	**$ 5,586**	**$ 220,550**	**100%**

* Direct expenses itemized on attached sheet

Accounting for Agriculture → Development

(10 Acres of Ag Land → 8 Acres of Ag and 2 Acres of Dvlp.)

(Loading Rate of 12 lbs/ac/yr)