

Contracting Agency NEIWPC
 Project Name: CT State Water Plan, Phase I

Project Manager: Kirk Westphal, CDM Smith
 Task Manager: Elaine Sistare, CDM Smith

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

		Reviewer		Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
GENERAL COMMENTS (overall questions or comments)					
1	CT DEEP		It is the "Policy Subcommittee" and "Science & Technical Subcommittee", both Subcommittees of the Steering Committee - need to be consistent in terminology throughout document	Agree	We were asked during a WPC or SC meeting to refer to the subcommittees as "Groups" or "Working Groups," but for consistency, can refer to them as "Subcommittees."
2	CT DEEP		The summaries of the white papers don't really provide sufficient information to relegate them to the appendices. It seems the full text is needed within the body of the report.	Disagree	We agree that the information in the white papers is as important as any other information in the report. However, since they have been posted online as individual papers, we feel it is important for them to retain their identity as such, and avoid confusion from other readers in distinguishing between report chapters and white papers when they are the same thing.
3	CT DEEP		A list of acronyms and a definitions section would be helpful	Agree	We had prepared this but it was misplaced in the shuffle of preparing the report. It will be added.
4	John Hudak		The report calls for establishing an upper limit for future water demands. Multiple factors could be used as assumptions, including robust economic and population growth, "hot, dry" climate change, and a flattening out of the current extended water conservation trend and per capita consumption. Many states are now moving to scenario based water planning projections, that incorporate a range of plausible futures, rather than discrete forecasts that are guaranteed to be wrong. I recently saw a presentation by Jack Kiefer, who's done extensive modeling of water use patterns and forecasting work for the WRF. Nationwide, compared to <20 years ago, indoor domestic water use has dropped by 22% per household and evidence suggests that this can drop 35% more under existing technology and without change in consumer behaviors. I would highly recommend that a lower limit of future water demands (which may be in fact be more likely than the current forecast shown in the Phase 1 report) also be established, which would assume that continuation of current trends of declining consumption (1%/year would be a reasonable estimate), population decline, and economic stagnation, coupled with the "warm, wet" climate model result. Note that this latter scenario while having major benefits also poses challenges concerning utility revenue, maintaining and upgrading infrastructure, and customer rates.	Agree	The climate change analysis conducted in Phase I (for application and decision guidance in Phase II) is definitely based on the scenario approach. We will work with the S&T Committee to help identify effective case studies or scenarios for conservation as well - this is an explicit task in the Phase II Scope.
5	John Hudak		UCONN CLEAR has done extensive work in mapping state land use patterns and trends, including impervious cover. This can have significant implications for water quality and available quantities, and would be a valuable addition to the State Water Plan.	Agree	We do not disagree with this, but feel that there may be an inference that the report includes the causality between impervious land and hydrology. In the absense of modeling, we wouldn't have a way of truly relating the two concepts in a way that would support decision-making. (Phrased differently, it might be too much information).
6	John Hudak		Current ecological flow requirements are not quantified in the basin fact sheets. These include DEEP release requirements established in 1979 for dams upstream of stocked streams (RWA reservoirs in basins 51 and 53), and those with flow management plans, e.g., Shepaug Reservoir, and Lake Whitney (basin 53): http://www.ct.gov/deep/lib/deep/regulations/26/26-141a-1through8.pdf	Agree	There is inconsistent data statewide on the current ecological releases, and it is also unclear how they are enforced. We will work with S&T in Phase II to determine if a consistent accounting of current ecological flow requirements can be established.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
7	M. Westbrook	General Comment	Share concern voiced by others that there was simply not sufficient time to reasonably review this draft and provide substantive comments by the designated deadline. Appreciate the time constraints and the interest in keeping the process moving, but certainly reserve the right to provide additional comments on material in this draft at a later date. Also certain that the limited feedback from WPCAG members and other stakeholders is not an indication of concurrence but rather a function of time constraints.	Other	Understood. This report intentionally refrains from making policy recommendations or offering opinions. It is a factual document that can help aid decisions in phase II, and will remain in draft form until it is adopted by the legislature.
8	John Hudak		I have major concerns with some of the recommendations at the end of the report, which have not been fully discussed and vetted by the SWP committees.	Other	It is unclear which recommendations are referred to here. The report presents recommendations on data that would be good to have to help make future planning more comprehensive (based on discussions with various committees), but no other recommendations are made at this time.
9	John Hudak		Mitigation of July river basin stress by existing reservoir storage capacity needs to be more fully quantified, displayed, and discussed where applicable for individual regional basins, as presented in the maps and basin fact sheets. There is a high likelihood that the degree of summer basin stress will be highly misinterpreted and exaggerated without taking storage into account.	Agree	The revised report includes basin storage maps to supplement the basin stress maps. They indicate that storage can help alleviate seasonal stress in some basins, but not all.
10	Martha Smith	Section 4	This section discusses "stakeholder" and "public" participation as two separate groups. But isn't the public a stakeholder since water is a public trust resource? It makes "the public" seem a less important party in the process.	Other	For the functional purposes of the planning process, they are handled differently. Stakeholders (Steering Committee, including the subcommittee chairs) serve as representatives of entities or organizations that hold the public's trust, and participate through representation in making direct recommendations through the workshops. Public citizens, while represented by extension through the stakeholder group, also have opportunity to participate by offering suggestions, comments, and questions. But the standard of practice in statewide planning is to limit direct workshop participation to professionals who represent water interests on behalf of public constituencies.
11	R Moore	General	the format seems good but some of the explanations of the tables may be a bit complex for readers. The basin approach is ok but in basins where there are several utilities it is not possible to determine the impact on individual utilities or streams	Not Applicable	That is correct; at the scale of the basin analysis, it is not possible for the reader to assess individual utilities or streams. This is something that can be explored in Phase II if a few basins are selected for more detailed analysis.
12	L. Mathieu		Plan needs to be presented as a Plan for the Water Planning Council as the Council is responsible for development. Know that this has been a topic for discussion, however the WPC should discuss how the Plan is to be presented, need to assure this is presented as a State of Connecticut WPC document.	Needs Discussion	Yes, ultimately we understand that the Plan will be released as a WPC document, but CDM Smith has been asked to leave it in our name while it is in draft form. The language, therefore, cannot be attributed to any state organization until the full report is reviewed and accepted by all, but it can be disseminated to the public during the Planning Process with little risk to any state entity.
13	L. Mathieu		Plan should present a tracking mechanism to assure that each statutory requirement is adequately and appropriately addressed	Agree	Section 6.6 (Phase II) is reserved for this explicit purpose, and should include tracking against statutory requirements and also measuring the effectiveness of the Plan recommendations.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
14	L. Mathieu		Plan does not speak to water quality and public health protection for water consumption. There needs to discussion and linkage to water for consumption, public health, the requirements under the SDWA, and matching the quality of the water to the use. A primary focus should be human health protection and maintaining sanitary condition.	Disagree	2.1.5.1 is an assessment of water quality and its support of designated uses (with many figures). The report also identifies an option (from the workshops) for future water management of utilizing more Class B water for non-potable uses, providing a platform for Phase II discussions on appropriate quality vs. use. Also, White Paper 4 (App. J), states that human health and aquatic health rely upon the same resources, and a goal of the Plan is to balance these uses.
15	L. Mathieu		Stakeholder involvement need to be broadened with a communications/engagement plan developed	Agree	This will be a Phase II effort.
16	L. Mathieu		All Tables should be footnoted to include origin and date of data presented	Agree	Tables with data from sources outside of CDM Smith's analysis will be noted - otherwise, the data are developed by CDM Smith and explained in the text.
17	R. Tetreault	Private well approvals/construction practice, possible item for modification due to data gap/lack of consistency across LHD	Under RCSA Section 19-13-B101d, Local health departments are tasked with approval of water quality test results for a private well to be in compliance with MCLs before the water can be used for domestic purposes. There have been some questions and concerns raised by Local Health Departments on the approvals for the quantity of the yield of the well. LHD have questioned if their approval of the water quality to allow the water for domestic use also implies they are approving the quantity of the well. Both Section 19-13-B51a to 19-13-B51m, inclusive of the Public Health Code Regulations and the Well Drilling Code Regulations (RCSA Sections 25-128-1 through 25-128-64) outline the criteria for the process of constructing a well and testing the well for yield. Specifically, section 25-128-39 of the well drilling code regulations outline the minimum yield requirements for a newly constructed well; however it is not clear who is responsible for ensuring these criteria are met before the well is approved.	Not Applicable	While we do not disagree with these remarks, we are not sure how they would fit into the report, which attempts to provide an overarching view of water available, current and future demands, and policy options. The details of well permitting, while important, may be too nuanced for this report, which is intended to be accessible to the general public, and present information at a very high planning level.
18	S & T		In general I would like to see more attention directed to demand management which includes what most people think of when you mention "conservation", but which also should include water supply infrastructure, water use best practices and optimization of water sources and storages to minimize conflicts.	Agree	These are all "Options" for future water management that will be developed further in Phase II. Optimization of individual supply systems is beyond the scope of this study, though the recommendation that such efforts be undertaken may be a recommendation of the report if there is consensus behind it.
19	S & T		The environment seems to be missing in much of the report.	Disagree	Not sure if this comment is referring to something specific or general. Recall that this report does not include recommendations, but serves as an assessment of the current state of water in CT. It includes summary assessments of water quality, an emphasis on regulatory flows for ecological health, and the white papers (as appendices) address numerous programs that focus on environmental health and quality.
20	S & T		check to make sure all appreviations are defined at first use (I noticed mgd is not defined). Or, include a glossary.	Agree	We are adding a glossary of terms.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
21	S & T		Storage is a very important factor in any water analysis. I know there is a plan to add a map of possible storage in each basin (I would use stippling on the existing maps rather than a separate one), but the issue is much bigger than this. For example, there is aquifer storage. Mention of storage needs to be added to several sections of the report, many times in section 2.1: before discussion of each equation, in explanation of summary sheets, in headnotes to tables, etc., etc.	Agree	We have adjusted text in several locations, and added storage maps. However, we do not want to overstate the value of storage, especially when low reservoirs are fresh images in the minds of many. We will present factual information on available storage in terms of million gallons per sq. mile and days of storage, based on current demands. In Phase II we can potentially evaluate how storage could be used differently in the future.
22	S & T	Executive Summary	A solid improvement from the earlier draft with the additional detail that was added. However, the ES still functions more like an "introduction" directing readers to where information can be found than it does as a summary of content. This is less critical now with Phase I but becomes highly important at the time that the entire Plan is presented.	Agree	Not sure what "earlier draft" is - this is the first Executive Summary of the report that has been issued. There was a short executive summary of the white papers, but that only covered the papers, not the technical analysis, the planning process, etc. CDM Smith remains concerned that many participants seem to be equating the white papers with the entire study and report - they are simply elements of the process, aimed at helping understand where CT is today, and where there are opportunities for moving forward. At the end of Phase II, the executive summary will also include recommendations, which have not yet been developed.
SECTION COMMENTS					
EXECUTIVE SUMMARY COMMENTS					
23	CT DEEP	ES-2, figure of working committees	the picture of the Capitol might not be recognized as symbolizing the CT Legislature - need to identify	Agree	Text has replaced the image of the capitol.
24	CT DEEP	ES-5, list of future water management options	Not all of the options have verbs associated with them - need "evaluate", "develop", "consider" etc.	Disagree	See comment 17 below - verbs may be limiting in some cases. Worth discussing if the comment represents a strong opinion.
25	CT DEEP	ES-7	maps (or discussion in text) need to note that storage is not accounted for in the analysis	Agree	We have prepared storage maps for the appropriate section in the report, and will add a note in the Exec. Summary.
26	CT DEEP	ES-8 and 2-48	Both mention that DEEP's internal responsibilities include dual roles of "water supply permits" and instream flows, which may compete for water. DEEP doesn't issue water supply permits. Is this referring to water diversion permits? In that case, these are part of the same process - the permitting process must account for and minimize impacts to aquatic and ecological systems (as well as other water users), it is part of the balancing that is part of our purview.	Agree	We are referring to water diversion permits, and have updated the text: "Another example involves the dual internal responsibilities of DEEP, which issues water diversion permits and is responsible for instream flow sustenance, two water uses that may not always be harmonious, but the balance of which are part of DEEP's overarching responsibility."
27	S & T	p. 10 (ES-2) 3rd bullet	Suggestion rewording "New requirements to leave water in rivers for ecological purposes" - to "New streamflow and other requirements that enhance ecological protection and river health." Related to comment 27 below.	Agree	Change made.
28	S & T	p. 12 (ES-4)	Not clear that many of the "stakeholders" represented in the highlighted box participated essentially as a member of the public in the Workshop. With the Workshop participants being the WPC and Steering Committee members, as written the ES suggests that workshop participation is at a higher level of engagement with all of the stakeholders. Not a big issue but to the reader unfamiliar with the process it may merit clarification.	Other	The WPC Steering Committee, through extension of its inclusion of the chairs of the subcommittees and work groups, effectively DOES include all of these stakeholders as active voices. May be too much to get into in the ES - The process is explained in more detail in Section 1.4.3, where we have added additional explanatory text.
29	S & T	p. 13; (ES-5) Policy/Planning	Add bullet: Standardize and make mandatory, electronic reporting for permit holders	Disagree	These lists are direct outputs of workshops and subsequent WPC meetings - we cannot modify the lists in the report, as additions would not be consensus-based.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
30	S & T	p. 14-15, (ES 6-7)	The summary of "Current Technical Assessment" (most specifically the basin water summaries and related mapping) is thought to be a key component of what is currently found in the Phase I report and will be a focus of many readers in the Final report. As such, I would recommend that it be highlighted in the text that this information requires further study and review and is only preliminary in nature.	Agree	The technical assessment will evolve, but at the same time, we have only a few months to actually make recommendations with it. We have been very careful to cast the analysis as "RELATIVE," and not ABSOLUTE, as we often do in planning processes like this. Its intent is NOT to be a precise hydrologic assessment, but to guide policy and decision in the right direction without over-or under-reaching. We have also added the following to the Exec Summary: "The maps and fact sheets provided in this report are intended to be used for statewide screening purposes, and not for making detailed decisions about how each individual basin should be managed. The hydrology is approximate, and does not rely on detailed modeling of stream networks and storage within each basin, but rather, portrays the relative amount of water in each basin that can be used, and the amount of that water that is currently used, or expected to be used in the future. In this way, the maps and fact sheets can help identify basins in which particular management measures might be effective. For more detailed decisions within individual basins, more detailed hydrologic analysis is required."
31	S & T	p. 14-15, (ES 6-7)	CDM Smith and S&T committee members should consider furthering their approach to answering concern related to the "Current Technical Assessment" (incorporated in other comments) before the basin summaries and maps are presented for priority basin purposes. Again, I would recommend that this information within the ES and the Phase I report text be issued only with a qualifier.	Disagree	While the process of basin evaluation will continue to some extent, we have neither the time nor the funding to take the basin summaries to the level of detail that we perceive is desired by some S&T members. The current level of detail, and assumptions made, represent the standard of practice for statewide water planning, and in fact this process was funded at much lower levels than in many states (an observation, not a criticism). At this point, we have 4 or 5 months to develop recommendations on effective policies, and we need to begin using the information for guidance. We stress that the basin summaries are NOT hydrologic models, that they are incomplete but representative, and that they represent a RELATIVE means of identifying areas where certain policies may be most effective. This is their fundamental purpose - to appropriately focus policy decisions. We feel that spending too much time on precision will have little to no payback.
32	S & T	p. 19 (ES-11) and p. 125	"This causes some rivers to be over allocated, even though the likelihood of withdrawing up to the allowable volume on a continuous basis is frequently low". - I believe this statement overly downplays the threats to ecology. The diversion issue is much broader than what is being represented in the ES.	Agree	While we do not disagree, the intent of this statement is not to address all issues at once, but to point out the difference between mathematical imbalance and actual potential imbalance.
33	S & T	p. 14-15, (ES 6-7) and section 2.1	There is no accounting for reservoir capacities and no consideration of <50,000 gpd withdrawals.	Disagree	We have added an accounting of reservoir capacity in each basin. However, for withdrawals, we can only rely on documented information, which does not exist for small withdrawals.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
34	S & T	p. 14-15, (ES 6-7)	Land use changes may not be considered in 2040 planning.	Agree	For this level of planning, we typically do not consider land use change, since the hydrology in the basin summaries is not driven by land use (models) in the first place. Generally, accounting for land use changes without a mechanism to relate land use to streamflow (models) can create a situation in which we purport to know more than we actually do. Land use changes are also not seen as a major risk factor with respect to water availability.
35	M Westbrook	ES-3	Not sure why the list of other statewide planning processes in the graphic is limited to WUCCs and Blue Plan. There are other planning efforts underway including streamflow, comprehensive energy strategy, etc.	Agree	These are just shown as examples.
36	M. Westbrook	ES-5	I think there was more specific language in the stakeholder goals about meeting public water supply needs?	Disagree	The list is what was developed and revised with stakeholders. The goals include meeting ALL water needs.
37	M Westbrook	ES-4	List of stakeholders in chart should include public health and COGs and other statutory participants on WPCAP	Agree	Added COGs and Public Health Officials
38	M. Westbrook	ES-5	I am not sure there was consensus on the term "Address" registered diversions; believe there was discussion of 'considering impacts of implementation of instream flow regulations	Disagree	The language was taken directly from the forms as edited collaboratively by the SC.
39	John Hudak	ES-5	Future Water Management Options: Add High water efficiency products and Advanced Metering Infrastructure to Technology Options. Also under Policy and Planning Options, add "regional" to "...existing local and state plans"	Other	Water efficiency products / advanced metering are embedded in the list (improved technology, real-time metering, etc.). We want to leave the wording exactly as it was defined by the SC. We feel it is understood that "regional" is included in "local and state," but if SC feels it should be added explicitly, we can update - however, this wording was a workshop output and we do not want to adjust it.
40	John Hudak	ES-5	Future Water Management Options: "Address registered diversions" should be in the Policy and Planning Options, with the understanding that any of the Policy/Planning Options could include post-evaluation regulatory options. I am also not sure why "implement instream flow regulations" is listed under regulatory options, as they are already established law, and to my knowledge no additional legislation or regulations are needed for implementation.	Other	These were direct outputs of the workshop, and we shouldn't change them until subsequent workshops, if at all. In Workshop #3, we will categorize these such that if no action is required or feasible (or if it's being handled elsewhere), we won't carry it forward.
41	John Hudak	ES-7	See comment 3b	Agree	See response to 3b
42	Westbrook	ES-8	not sure what the 'water supply permits' are that DEEP issues. Maybe need to indicate that programs at both DEEP and DPH are delegated authorities to implement federal laws (CWA and SDWA) so some things may not be able to be changed by state policies	Agree	Changed to "water diversion permits."
43	John Hudak	ES-11	"...whereby responsibilities for water supply for new developments reside with multiple municipal land use commissions and agencies." Only true for municipal water utilities. Although municipalities need to approve land uses, including those that are water intensive, the ultimate responsibility to determine whether water can be provided and providing that water lies with the water utility regardless of home rule.	Agree	Clarification made.
44	John Hudak	ES-11	Suggested modification: "...the registered withdrawal volumes were sized-REPORTED to match INSTANTANEOUS pump or pipe capacity and do not reflect actual available water or safe yield from the supply source ON A YEAR-ROUND DAILY BASIS.	Agree	Change made.
45	John Hudak	ES-11	Suggested modification: "This causes some rivers to be over-allocated ON PAPER ..."	Agree	Change made.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
46	Westbrook	ES-11	in discssion of challenges of diversions should also note lack of data on actual usage so difficult to know how the registered quantities compare to actual withdrawals	Agree	Change made.
47	R. Moore	ES-6	not sure about the definition of non-consumptive use. Hydro-power, cooling, run of river, pump storage... not clear if included	Not Applicable	There has been a lot of discussion about the terms consumptive vs. non-consumptive, and this can continue if needed. For the time being, we have agreed with the Sci/Tech committee that the distinction between consumptive and non-consumptive is the actual removal of water from its natural environment.
48	R Moore	ES-11	Home rule for water supply for new development is affected to a degree by local land use commissions but permits for wirhdrawals,diversion, water quality, discharge are state regulated. Not sure that the home rule discussion in section 4 is significant is as you state	Disagree	Decades of home rule have resulted in the historic and current pattern of development in Connecticut, which has significantly affected the wastewater and water needs of Connecticut communities. In many ways, the state permits and programs have merely allowed catch-up and after-the-fact regulation. If the plan needs to more clearly explain the nexus between home rule and water, this is something that can be explained in Phase II. Also, this is not intended to be a criticism - it's a reality with pros and cons, and a pillar of Connecticut's way of life. It simply has some consequences pertaining to water management decisions.
SECTION 1 COMMENTS					
49	Martha Smith	Sect 1 (~pg 1-5)	It is not clear how the WUCC process will be incorporated into the water plan.	Agree	Added clarifying text: "Part of the planning process will be to create awareness and take preventive steps if the objectives of the WUCC process and State Water Plan begin to diverge in any significant way."
50	S & T	p 31 (1-11) re:Future tech. assessment	Where's the environment? For example, Future ecological stress relief from change in flow and temperature.	Disagree	We don't quite understand the question. Environmental health is embedded in each of the three bullets under Future Technical Assessment (e.g., nonconsumptive demands, water quality impacts from climate change, etc.). We don't think it is practical to isolate "the environment" as its own topic because it is inextricably linked to everything else in the study.
51	John Hudak	1-7, last parag	Is it "three" water objectives or two?	Disagree	Three - Reliable supply, reasonable cost, streamflow protection.
52	R Moore	sec 1-7	The dinner analogy is weird and unnecessary	Disagree	Given that the report is intended for a much broader audience than just the WPC and its committees, we feel that an analogy is helpful, and we routinely include these in our workshops and reports. One of the hinderances in Phase I has been an overwhelming inclination to talk about issues in a vacuum, but in planning, it is very helpful to divide everything up into goals, options, and challenges to meeting the goals. It is here that we can find common ground and make informed decisions.
53	L. Mathieu	1.2, 1.4.2	Similar to comment #2 above, the Plan must track how each statutory requirement is being addressed, wish to see this in a concluding section that could be easily shared and discussed with legislators/stakeholders and the public	Agree	See response above. Also, in Section 1.2, the following text was added (in italics here): "Section 1.4.2 describes how the list of 17 goals and considerations was divided into Plan Objectives and Options for Achieving the Objectives. In this way, the list in the statute became the overarching framework for water planning. <i>It has been used to support the first two workshops, and ultimately the plan's recommendations will be assessed against this list.</i> "
54	Martha Smith	Page 1-2 and 1-3	The list of the 17 water plan goals has parenthetical phrases added, but it's not clear where the phrases came from.	Agree	They came from the online version of PA 14-163, and presumably are for clarification.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
55	CT DEEP	1-5, figure 1-1	The tasks listed are only the additional tasks that have developed, so that needs to be clarified, or since the additional tasks are listed in table 1-1, the role of each should be listed in the figure (e.g., looks like the citizens don't get to do anything).	Agree	The figure and table are redundant, so the figure text was updated with more general responsibilities of the work groups. Changed the caption of the figure to: "Figure 1-1: Water Planning Council Structure and Responsibilities of Working Groups."
56	V. de Lima	p, 22 numbered list	the editing marks (e.g. []) are confusing. I'd just use the final language. If you must keep the editing, explain in a footnote.	Agree	edited to clarify
57	V. de Lima	p. 25 (1-5), 2nd ¶	The OSP group was not created by the SC; it predated it (and was a self-started group).	Agree	edited
58	V. de Lima	p. 26 (1-6) 1.4.2 1st ¶	section 3.2.4 doesn't exist	Agree	edited
SECTION 2 COMMENTS					
59	L. Mathieu	Table 2-1	Table 2-1 should footnote data's source and year	Other	These data are derived from a wide variety of sources as part of our internal analysis, and the sources are explained in the text. In other cases, where data originate from an identifiable outside source, we will add footnotes.
60	L. Mathieu	Table 2-1, page 2-11	Wastewater recharge to GW was not available for this study and therefore was not included. However, these systems are similar to small community public water systems or private wells and therefore should be addressed and accounted for. The location, size and condition of these systems should be documented and discussed. This needs to be mentioned as a data gap. These smaller wastewater systems are similar to small community public water systems and are therefore significant to those populations. Some of these systems are aging and therefore are in need of monitoring and repair. This is significant when making recommendations for technology upgrades/aging infrastructure investment.	Disagree	Wastewater recharge to groundwater, while not recorded, was estimated using available data on septic systems, as discussed in Section 2.1.4, and also in the explanation sheet for the water inventories in Appendix E.
61	L. Mathieu	Table 2-1, Figure 2-6 and 2-8, et al locations.....	Impact of water allocated to wastewater surface water discharges, how is this tracked locally, regionally, statewide. How do these allocations impact other water allocations? How are these created/processed/shared? Is there a public process for these allocations? Of the Total water demand in Figure 2-6 and 2-8, what percentage is waste load vs water supply?	Needs Discussion	It is unclear what is meant by "water allocated to wastewater." Figures 2-6 and 2-8 represent water demands in Class A and B waters that originate within the basin - it is not clear how waste load would factor into this unless reporting on the results of TMDLs which expect a given flow to be available for assimilation.
62	L. Mathieu	page 2-24, 2.1.5, last sentence, third paragraph, and all related Tables and Figures	statement is misleading given that figure 2-9 shows that percentages are only for about 50% of waters assessed. This statement should be clarified, with missing assessment data noted in the data gap section. Suggest deletion of Figure when data gaps are significant; maps should fully express data and not mislead the reader. These maps could be utilized in the future and used as a stand alone figure without understanding the lack of data/full assessment. Suggest deletion or modification to correctly display data with know data gaps, this data displayed on a statewide map is inappropriate given that over 50% of the assessment data is missing for rivers/streams & lakes/reservoirs & ponds.	Agree	Based on discussions with the S&T Committee, and the comment here, the figures will be noted, and references will be made to the tables that indicate how much of each basin was assessed. However, we want to show data that are available, and hopefully the qualifiers will help avoid misinterpretation.
63	L. Mathieu	Figure 2-16	Eric Mcphee (DPH) should be contacted to check against newly published PWS HQS list per 25-33q, want to assure the mapping is consistent for AA/A sources including future potential	Agree	We can confirm during Phase II, as DEEP is releasing new water quality data as of Dec 2016, but this was too late to make it into this version of the report. All data can be updated throughout 2017 as it becomes available.
64	L. Mathieu	Figure 2-16	Eric Mcphee (DPH) should be contacted to assure "areas of contribution to a public well" are consistent with DPH, further that term needs a definition in Table 2-4, also Table 2-4 should include "GA, GAA may be impaired" as are mapped per Figure 2-17 and included within Table 2-6	Needs Discussion	Refer to response to #12 above. Also, unclear what is meant by "GA, GAA may be impaired" - the table lists the allowable discharges to these classifications.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
65	L. Mathieu	page 2-46	Needs to be much more detail provided on wastewater infrastructure, if the data does not exist, it should be noted as a data gap. Since there is no regional wastewater plan similar to the WUCC that exists for public water systems, maybe that is a suggestion/recommendation for the SWP that a regional wastewater planning effort be developed to involve stakeholders etc.	Needs Discussion	This is something that we can perhaps address in Phase II. Because we are aggregating all information at the basin level, we cannot discuss locations of specific infrastructure, but could potentially compare total WW in each basin that is treated with centralized vs. decentralized systems.
66	L. Mathieu	page 2-48	A discussion of water company land law and its important to water quality protection should be included in this section, would also like to include a map of land owned by water companies statewide	Disagree	These are just very basic summaries of the white papers, which are referenced here and included as appendices. More detail is included there. Regarding the map of land owned by water companies, is this available in an aggregated form, and is it publicly available?
67	R Moore	sec 2-5	the in-stream flow study for the Wild and Scenic Study on the Farmington River included analysis of aquatic habitat, spawning, recreation and esthetic values	Agree	Added this example.
68	R Moore	sec2-8	is there better information on agriculture use.. i.e. number of farms, nurseries, acres in crops vs pasture, etc and GW vs SW	Not Applicable	We may be able to slightly increase the quantity and quality of this data in Phase II, but results of our efforts so far have been limited. We attempted to glean more detailed information from the Farm Bureau, but without success, and so we did what we do in many states, and estimate water needs by acreage and crop type as best we can.
69	R Moore	sec 2-9	the list of non-consumptive uses does not include industrial and power plant withdrawals for cooling, run of river hydro, Pump Storage on Housatonic	Agree	Agree with this terminology as it pertains to CT's use of the terms, but in discussions with committees, we've adopted a more universal definition for the purposes of the Plan (similar to many other states). As noted in report, the term "consumptive" water use refers to water that is removed from a stream or aquifer, some of which may be returned as wastewater or process water at another location. "Non-consumptive" water use refers to water that remains in its natural environment (generally streams or lakes) for ecological, recreational, or aesthetic purposes.
70	R Moore	sec 2-15	Map values don't seem to reflect chart figures for demand on the previous chart	Other	Maps and charts are undergoing QA concurrently with committee review - adjustments are being made.
71	R Moore	sec 2-22	should use the same units either cfs or mgd - hard for people to convert	Needs Discussion	Excellent point. We have tried, for consistency, to leave physical phenomena in the units most commonly used for easy recognition: Streamflow in CFS, demand in MGD. We can discuss if it would be helpful to deviate from this when showing the two on one graph (even though they are on two different scales anyway).
72	R Moore	sec 2-24	Water quality data goes much further back to the early 1900's and detailed information on all rivers was collected prior to CT's clean water Act in 1967 with a large monitoring network started in 1967	Not Applicable	This would have been excessive for the report but the committees may wish to evaluate whether this information is helpful. Generally, we tried to use water quality data to portray a "current condition" assessment of the state.
73	R Moore	sec 2-44	Should list utilities with Asset management programs that are being implemented and the anticipated costs	Not Applicable	A list of utilities with asset management programs could be developed in Phase II if it is helpful for the planning process, but utility-specific analysis is beyond the scope of our Phase I efforts.
74	R Moore	sec 2-46	Wastewater costs are available on DEEP needs surveys	Not Applicable	This may be helpful for Phase II when we consider costs and benefits of various strategies.
75	S & T	p. 33 (2.1.1)	Suggested better definition of "basin": A basin (or watershed) is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel.	Agree	Change made.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
76	S & T	P 33 (2-1) 2nd P, 2nd Sentence	"Demands... can be totaled" Do we need to add "if all withdrawals were reported"?	Agree	Added parenthetical "(with available information, which is not always complete)"
77	S & T	P 37 (2-3), add source bullet	State Data Center used for population projections	Agree	Added.
78	S & T	p. 38 (2-4) last bullet	I don't understand this. Any recycled water would not be counted in their withdrawal and would not be a loss from the environment.	Other	The statement refers to the possibility of recycled water being included in some withdrawal data that may appear to be fresh water.
79	S & T	P 39 (2-5) 2nd bullet	Add Saugatuck and Aspetuck Rivers to list of rivers with flow studies	Agree	Change made.
80	S & T	p 40 2-6) 2.1.3	Where is the environment? Could a fourth category be added, please?	Agree	We do not disagree, but highlight the lack of documentation here. We have added a note explaining that these are handled in Section 3 (Future Demands) because of the lack of consistent documentation of current environmental flow demands.
81	S & T	p. 41 (2-7) non comm	Estimates of non-community water use from sewage disposal data does not account for outdoor watering. This could be substantial for some commercial properties during the summer. Also, was the additional demand from seasonal summer use--campgrounds, etc.--considered in the basin summary sheets' July figures? I assume seasonal winter use--ski areas--are not a major issue.	Agree	We agree that for some small non-community water systems, there may be outdoor water use that is not accounted when using sewage disposal design criteria figures. On the other hand, the sewage disposal design criteria numbers tend to be conservatively high for most commercial and industrial uses, because the goal is to provide sufficient capacity and significant reserve in subsurface sewage disposal systems.
82	S & T	p 42 (2-8) 2.1.3.3	Should private pumps (for lawn irrigation, etc.) be included? They can have a major impact on flows on smaller streams yet there's no data.	Agree	Demands from private wells are estimated based on per capita used averages from public wells. Since residents on public wells may also be expected to use water for irrigation, this use is accounted for in the estimate derived for private wells. Granted, some residents may have installed private wells or placed small pumps in streams solely for irrigation purposes. There is no supporting data to be able to quantify their locations and amounts. We can at least acknowledge this as a data gap in the text, however.
83	S & T	p. 42 (2-8) 2,1,3,3, Agriculture	9,300 AF per year is 3,030 MG/YR, not MG/D	Agree	Changed to 8.3 mgd.
84	S & T	p. 44 (2-10) and basin summary sheets	Water in Basin is a misleading term. As they describe on Appendix E (page 264 of pdf) it is adjusted stream flow, i.e. average daily flow out of the basin. I think most people would take Water in Basin to represent a storage. Why not just call it "Adjusted Streamflow"?	Disagree	This has been discussed internally at CDM and with the S&T group - We feel that to a general reader, there will be very little necessary distinction between storage, streamflow, and groundwater - what is important is water that could, in some form, become available. We tried to keep this term unaffiliated with any part of the hydrologic cycle that could be considered to exclude others.
85	S & T	p. 44 (2-10) last ¶ of section 2.1.4.1	Inflows and outflows to/from the basin are critical components (as is storage). These should be indicated in the equations, which would make them balance. (If they don't balance for "real" reasons, don't use an equal sign.) Also, the text should state that these assumptions.	Other	The terms are not meant to balance precisely, because of how many of the terms are estimated. This is a water inventory which accounts for the movement of water, not a water budget. The goal is simply to catalogue all known flows. Storage is addressed separately. That said, the differences shown in the last column of Table 2-1 do indicate where there is a large import to or export of water from the basin. Accounting for the specific (utility by utility) imports to and exports from each basin was outside of the scope of this study.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
86	S & T	p. 44 (2-10); below bullet AND in reference to second equation.	It appears that some volumes of water are double counted. For example, if streamflow (the sum of SF and BF) is measured (as is indicated in the "water in basin" term in the summary sheets), then it would already include the WW/IND term. If the SF and BF terms represent only "natural" streamflow, then this might make sense but it would be very difficult to explain.		Streamflow was estimated using "reference" gages from the USGS "Gages-II" dataset. These gages were not downstream of significant withdrawals or discharges, and therefore generally reflect natural hydrologic conditions. This was noted in Section 2.1.4.2.
87	S & T	p. 44 (2-10) last ¶ of section 2.1.4.1	I would add a statement that says that if water withdrawal and discharge are contained within a basin, the terms on the left and the right sides of the equation will cancel each other out.		This statement has been added to the end of Section 2.1.4.1.
88	S & T	p. 44 (2-10) and basin summary sheets	I'm not comfortable with the analysis of future conditions including just the regulatory stream releases. I realize only a few basins have a good estimate of "appropriate" streamflow for each basin. I suggest using the USFWS aquatic baseflow figure of .5 cfs. This would be simple to determine and would be a better indicator of "ecological flows." Then the higher of the regulatory number of the ABF could be used in the future bar. Further discussion in the text would be needed explaining this estimate. Also, the regulatory flow and the ABF could be compared to "real" numbers in a basin such as the Pomperaug.	Needs Discussion	We want to be sure that there is consistency throughout the state. Will the ABF numbers be enforced in the same way that the suggested accounting method implies - that is, would the higher of the two be the required instream flow level? Or will the ABF numbers be enforced at all? Again, we want to avoid casting regulatory requirements and "ideal conditions" in the same category if they will not be enforced the same way.
89	S & T	p 44 (2-10), final para, first line	Typo "watering" should be "water"	Agree	Change made.
90	S & T	p. 45 (2-11) EDR, 2nd ¶	What was the per capita number?	Agree	Text has been updated to note the per capita number was either 61.2, 63.3 or 67.8 gallons per day, depending on location.
91	S & T	p 47 (2-13) 2.1.4.3 and pg 48 (2-14) Table 2.1	The measurements may be confusing to lay readers. Suggest explaining that cfs is unit commonly used for measuring streamflow and mgd is unit commonly used for quantities of water. In/yr is already explained.	Other	Table 2-1 is entirely in in/yr - not sure to which sections the reference to cfs and mgd are referring, but we have added these terms to the list of acronyms.
92	S & T	p 48 (2-14)	If basins appear to have low demands (is that just within the basin?) How will residents be encouraged to undertake conservation measures if there seems to be sufficient water?	Agree	Dedmands and water availability represent ONLY water that originates in the basin, and demands that occur within the basin. The purpose of the analysis is relative and not absolute- not to specifically encourage or discourage conservation, but to indicate where conservation measures might be most important throughout the state.
93	S & T	p 53 (2-17) first p	Providing ecol. Flows should not read as a negative, perhaps rewording sentence to something like, "For example, in order to sustain healthy rivers and the aquatic resources they support, sufficient water must be left in a stream. Therefore, the water available for withdrawal (other uses) may be limited."	Agree	Change made. However, we caution that the report tries to emphasize the equivalent importance of ALL demands (consumptive and non-consumptive), and an honest interpretation of this means that we have to be careful to balance our portrayal of all demands, even the ecological demands, because everything has positive and negative consequences.
94	S & T	p 53 (2-17) first P, last sentence	Mention the sensitivity of headwater systems. Support cold water species, important to life cycle of many aquatic organisms, etc, represent the fragile fringe of the stream system.	Agree	Text added.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
95	S & T	p. 53 (2-17) 4th & 5th ¶	I still think it's confusing to compare sw withdrawals to total streamflow and gw withdrawals to base flow only. Is this analysis/map even needed? Are you making the point that at a regional basin scale there is a whole lot of unused gw available? If so, this is risky because our aquifers are small and isolated and the effects of large wells near streams is very localized.	Disagree	We want to stress again that this analysis is RELATIVE, and not absolute. Neither the surface nor groundwater estimates have been developed through models, but by commonly employed planning estimation techniques. The groundwater figures compare documented usage to POTENTIAL RECHARGE, not to aquifer storage or to actual groundwater availability - the figures give a relative portrayal of where groundwater may be overstressed, so that policy can be effectively guided (with more detailed GW studies). We want to stress the importance that most information at the resolution of statewide planning must be considered as INDICATORS, not as ANSWERS.
96	S & T	p. 61, fig. 2-8	Ranking for the "basins" that are downstream of others could be confusing. Most people will assume the analysis included all the flow in the river, not just the flows originating in the basin. An additional note should be added to the figure explaining this, as well as an additional note on each of basins 30, 40, and 60 (Thames, Connecticut, and Housatonic)	Other	We agree that notes should be included on any basin that receives water from upstream. This will indicate that water can be available in excess of water that originates within the basin. However, much of that water, if not all of it, is likely to be unavailable for drinking purposes (Class B), and so it cannot be viewed with equivalence to water that originates in the basin and can be put to ANY use.
97	S & T	p 63 (2-24) 3rd sentence	Reference to ecological needs sounds negative, suggest adding, "such as those needed to maintain stream health..."	Disagree	The sentence states that ecological needs must be considered - not sure how that is perceived as negative.
98	S & T	Pg 63 (2-24) 4th sentence	Poor water quality won't limit the amount of water available, it limits the quality and the amount available for drinking supply - Confusion caused by using "available water" to mean drinking water supply	Disagree	Poor water quality also limits ecological use of water, not just drinking. "Availability," as defined in the new TERMS AND ACRONYMS page, refers to any consumptive or non-consumptive use, not just drinking.
99	S & T	p 63 (2-24), 2.1.5	add that not all basins are assessed each year, nor are all streams within a basin. Because of this, I think this analysis should be done on a compilation of the last 3 assessments. This would include many more stream miles in the analysis, making the percentages more meaningful. If a section was in more than one assessment, the most recent one could be used.	Other	Will need to discuss with DEEP, but our basic understanding is that many of the same streams are assessed during each 2-year cycle. Based on the data provided in the Integrated Water Quality Reports, there is no easy way to cumulatively total results for streams, rivers, lakes and ponds from the last 3 assessments. A sentence has been added to note that not all waterbodies are assessed.
100	S & T	p 64 (2-25) Recreation, First para - last sent	Final sentence is unclear - Perhaps add assessed? "Although 16 of 44.....had 100% percent of <u>assessed</u> rivers..."	Agree	"assessed" has been added for clarity.
101	S & T	p. 64 (2-25) fig. 2-12	Are drinking water reservoirs included in this analysis? Perhaps mention.	Other	Upon quick scan, it appears that at least a few reservoirs used for drinking water supply are included in the assessments. This has been noted in the text.
102	S & T	p 65, Fig. 2-10	Recommend adding town or county lines	Disagree	Without labels, this may not add much clarity, and with labels, the map would be too crowded.
103	S & T	p. 65 and 71; figs. 2-10 and 2-13	I'm surprised that more river mile are fully supporting to the aquatic life standard than of recreational use. Please explain.	Other	This is based on previously developed information from DEEP - no additional assessment was made here.
104	S & T	p 69 Table 2.2	Need to point out that even when a small amount of basin was surveyed and does not water q goals, entire basin, i.e. Thames Mainstem, is colored in as "not-supporting" Is 13% of a mainstem assessed a portion of the river within the subbasin?	Agree	This point is made in the text, and has been strengthened for clarity. Yes, the 13% refers to the portion assessed within the regional basin.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
105	S & T	p. 86 (2-40), second to last complete sentence.	Need to mention redox chemistry, which is much more important to solubility than pH. Suggest the following rewording: <i>"Elevated iron and manganese levels are commonly cited as a concern. The source of these two metals is mostly attributed to the weathering of minerals in parts of the soil or aquifer where concentrations of dissolved oxygen are low, although mobilization can be enhanced by low pH or by bonding with organic compounds."</i>	Agree	Text added.
106	S & T	p 88 (2-42) wastewater infr. Bullet	There are more than a handful of ATS in CT	Agree	Text modified
107	S & T	P 91 (2-45) final parag	could add, including the many private pumps (<50 gpd) residents use to irrigate lawns and gardens and landscaping trucks that withdraw water from rivers for spraying operations (pesticides, tick treatment, etc.)	Agree	Modified text, but focused on business activities, which is the theme of the section.
108	V. de Lima	p. 29 (1-9) tables	* and ** unclear; they may be reversed in one place.	Agree	edited
109	V. de Lima	p. 35 (2-2) map	identify regional basin number	Agree	Map was edited to identify that the regional basin numbers are shown
110	V. de Lima	p. 38 (2-4) 4th bullet	bold sentence. Should "are therefore" be "and therefore"?	Agree	edited
111	V. de Lima	p. 42 (2-8) Ag.	Acre feet is not a term typically used in CT. Should it be defined (perhaps in a footnote)?	Agree	added to terms and acronyms
112	V. de Lima	p. 43 (2-9) 2.1.4.1, 5th line	there ARE a number...	Agree	edited
113	V. de Lima	p. 46 (2-13) 2.1.4.3 1st ¶	I would mention here that July demand vs. streamflow is discussed in a later section.	Agree	edited
114	V. de Lima	p. 46 (2-13) last ¶	I'd include all basins >4. Similar comment in all other stress maps. Rather than listing just the 3 basins that are the extreme, I'd list all basins in the most extreme category.	Agree	Change was made to list all basins > 4 in/yr in Figure 2-2; however, listing all basins in the extreme category would, in some cases, require listing many basins in the text, and in other cases, just one basin.
115	V. de Lima	p. 64 (2-25) 2nd ¶	CSO	Agree	edited
116	V. de Lima	p. 76	classifications (AA, B, SA, etc.) are mentioned in paragraph at top of page but aren't defined until table on next page (tho introduced in paragraph at bottom of this page).	Agree	edited
117	V. de Lima	p. 83, fig. 2-17	what is GAAs? (not in text description)	Agree	above edit covers this (groundwater AA)
118	V. de Lima	p. 87, bullets	awkward presentation referring to "State's largest public water systems" What does this mean?	Agree	clarified per 3.1 large PWS serve >1000
119	V. de Lima	p. 89, (2-43) 2nd ¶	RCSA?	Agree	edited
120	V. de Lima	p. 93 (2-47) 2.2	awkward. "four entities" ARE the WPC; also in 3.2	Agree	edited both
121	V. de Lima	p. 93 (2-47) 2.2.1	mention executive summary	Agree	edited
122	Suzanne Blancaflor-EHS	pages 2-7, Section 2	DPH's Technical Standards were used to estimate water usage by non-community public water systems. The use of the DPH Technical Standards for such purpose greatly inflates and overestimates water usage. The design flows and the flows utilized for septic system sizing in the Technical Standards have safety factors ranging from 1.5 to 2.5 applied to actual water usage to provide sufficient safety factors so that septic systems are conservatively sized. The design of septic systems are not based on average flows because half of systems would be undersized, and systems would not be able to handle peak flows. To estimate water usage, a more accurate approach is to reduce the designs flows by the applied safety factors used in the DPH Technical Standards. Other water flow data based on EPA guidance may be a more appropriate method to estimate water usage numbers.	Needs Discussion	In the absense of direct data, any deviation from a published guideline would need documented evidence supporting the claim. We could consider the estimates developed by the standards as an upper limit on water demand for non-community public water systems. Also, the method could be considered conservatively appropriate, since non-indoor uses must also be estimated (lawn-watering, car washing, etc.), and these would not be captured without the safety factor on septic capacities.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

		Reviewer		Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
123	Suzanne Blancaflor-EHS	pages 2-15, Section 2	The information on Estimated Domestic Recharge (EDR) which is the amount of water that is returned to the groundwater through the septic system estimated in the draft report to be 20 to 50 % (page 2-11) appears to be too low for septic systems in Connecticut. A quick web search shows that some western states could expect EDR's in the 50% or below range, but based on the DPH Environmental Engineering Program's experience with CT septic systems, the estimated EDR should be higher than what is cited in the draft report. However, the language on page 2-11 says the EDR was estimated using several simplifying assumptions, and it is subject to numerous assumptions and estimates. The DPH Environmental Engineering Program would like to get additional information on how the EDRs were calculated.	Disagree	The 20 to 50% value refers to the expected <u>accuracy</u> of the EDR term, not the actual amount returned. The actual amount assumed to be returned (which was not provided in the text) is 68% of estimated water use. This percentage has been used in other similar studies conducted on the East Coast; however, it's recognized that it may vary significantly. Overall, this is a very minor component of the water inventory and therefore, we typically do not focus on fine-tuning the estimate.
124	Suzanne Blancaflor-EHS	page 35, Section 2.1.4.2	The methodology explained in the 3rd and 4th paragraphs of this section to estimate groundwater withdrawals for "for public water systems, non-public water systems, agriculture and other uses were estimated from various databases provided by DEEP" and for "estimated domestic withdrawals" do not appear to account for groundwater withdrawals from irrigation wells.	Disagree	Because most irrigation withdrawals (especially groundwater) are not measured or reported, an overarching approach was used to estimate agricultural surface water and groundwater use in each basin based on the proliferation of various crop types (using Census of Ag data).
125	David Sutherland - Policy Committee	Section 2.1.3, page 2-6	Section 2.1.3 – Current Water Demands, provides a comprehensive and informative compendium of information about the state's various human uses of water, including large public systems, golf courses, agriculture and others. There is no mention in this section, however, of ecological demands or needs. Either this section should be re-titled as "Current Human Consumptive Demands", or preferably, this section or another section should include some discussion of the nature of "non-consumptive" uses. Section 3.1.1.2 – Future Non-Consumptive Demands, provides a description of the State's requirements under the streamflow regulations, but there is no narrative about the factors and variables that should be considered regarding ecological needs – are we just considering fish? What major categories of fish? Other aquatic organisms, vegetation? What is the interaction between stream water quantity, temperatures, and landscape or forest conditions? There is also no mention of recreational factors. Are we just considering fishing? What factors affect fishing? Boating? There obviously is not space for extensive discussion of these considerations, but at least some mention of them should be included, similar to the informative mentions of why use estimates for retreat centers or schools may be high, or assumptions about crop irrigation requirements.	Agree	While we agree with this comment, our discussions with the Sci/Tech Committee on this matter have resulted in a current decision to only include ecological flows as a future requirement, because data on current requirements is lacking, and actual regulatory requirements and authorities for ecological flow currently are ambiguous. During the meeting with the Sci/Tech group on Jan 9, 2017, we will review this decision to determine if there may be a way to illustrate current non-consumptive needs that is based on consistent data throughout the state.
126	CT DEEP	section 2	Seems that a brief "Water 101" or Hydro cycle figure or something needs to be included to get the general public up to speed.	Agree	Divided Figure 2-1 into 2-1a (existing map of the CT basins) and 2-1b (3D conceptual water cycle diagram). Added text explaining this. [Note: use designations "a" and "b" because the two are related, and also to avoid re-numbering the many subsequent figures.
127	CT DEEP	2-1, last para	Full StreamStats reference should be included in footnote or something	Agree	Footnote added
128	CT DEEP	2-3, first para	Some of the data here should be attributed to DPH, including "safe yield and ...large community water systems" and data from water supply plans and WUCCs	Agree	Change made.
129	CT DEEP	2-12, 4th para	The Science & Tech group discussed that baseflow doesn't really equate to the groundwater discharge?	Disagree	The discussion was about the equivalence of baseflow and groundwater RECHARGE, not DISCHARGE. The paragraph is correct in that baseflow represents groundwater discharge to a stream. The other issue is whether baseflow can be used to represent an upper bound on potential annual recharge, but that is not addressed in this paragraph.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
130	John Hudak and Westbrook	2-3, first bullet	Although understood that its probably the best readily available data on water use by registrations, the age of the data submitted to DEEP covering 1997-2001 should be noted as a serious data gap, given that public supply water demands since that time have notably declined, in some cases documented to be approaching 20%.	Agree	This has been noted in the data gaps section (3rd bullet in 2.1.2.2).
131	John Hudak	2-4, first bullet	Maps of distribution systems could contain very detailed information on facilities and underground infrastructure that could pose security risks. It would seem that maps of service areas would suffice, similar to sewer service areas.	Agree	Ultimately, the maps of the service area was used, and served the purpose.
132	Westbrook	2-4 3rd bullet	would delete dsicusion of DEEP IWRD having drafted a framework for data collection as that has not been shared with anyone or implemented as required by PA 04-185	Agree	Reference to the draft framework has been removed.
133	John Hudak and Westbrook	2-4, second & third bullets	There is no mention of Public Act 04-185, which requires registrants to report water usage to DEEP upon development of a form by DEEP in consultation with a work group of registrants and agencies.	Agree	Change "This data gap that has already been recognized by DEEP and the Inland Water Resources Division (IWRD) has drafted a framework for how diversion permit data should be collected and organized by DEEP staff." to "This data gap has already been recognized by DEEP. Per PA 04-185, registrants (users) are to report water usage to DEEP upon development of a form by DEEP in consultation with a work group of registrants and agencies."
134	John Hudak	2-5, last bullet	The CSDC is in the process of updating these projections, although from our communications with them, this is not likely to be completed until summer 2017. The current projections were done in Nov 2012 Our comparisons of the projections with actual population estimates to date in RWA service area towns show that the forecasts are significantly over-estimating population growth. If this holds true statewide, it may be that both the existing and future water demands in the basin fact sheets are already on the high side. The age of the forecasts should thus be noted as a data gap.	Agree	This has been noted as a data gap.
135	Westbrook	2-6 first bullet	In discussion of stream gages should mention the recurring funding challenges for these and emphasize the importance of maintaining the existing ones and getting additional data points for more accurate data and planning	Agree	This point has been added to the streamflow data gap.
136	John Hudak	2-6 to 2-7	In discussion of public water supply demands, no where did I find what the actual per capita gpd numbers were. Would be helpful to know.	Other	The decision was made to not include tables of per capita demands by system, as that data is presented in the WUCC reports.
137	John Hudak	2-8, under Agriculture	Indicates 384 registrations were found, although not all our currently active. How many registrations were used to estimate demands?	Other	There were 60 groundwater and 265 surface water registrations (325 total) that were active. The locations of these by County, were used to estimate demand by County, and then regional basin. Irrigated acres from the Census of Agriculture was used and an application rate of 1.0 acre-feet/acre was applied to estimate demands.
138	John Hudak	2-11.	Suggest representing WW/IND without the backslash. Was first looking at this as a fraction	Agree	This change has been made.
139	John Hudak	2-12, last sentence of SF and BF section	Should the last "not" (before "by upstream reservoirs") be deleted?	Other	The "not" is needed there because it refers to basins which do not have gages that are influenced by upstream impairments. That said, we've re-written the sentence to make it less confusing.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
140	Martha Smith	page 2-12	Evapotranspiration: how is ET factored in seasonally? It's not a big factor in the winter, but once trees leaf out you can see ground-water levels drop. Using mean ET values underestimates the effect in the summer--when water supplies are the most stressed.	Agree	Agree that ET could be refined when presenting the monthly estimates, but we are seeing enough variation in availability already even when using a consistent ET value - changing it would not shed much additional light on July water availability. We feel that the streamflow estimates are fairly conservative, and this perhaps helps balance that a bit.
141	John Hudak	2-13, last parag	Curious what the state-wide withdrawal is in in/year	Other	This has not yet been totalled (but could be if we add up all of the estimates developed for each regional basin)
142	John Hudak	2-17.	Found typos on South Central Eastern Complex in two places	Agree	They have been corrected
143	John Hudak	Fig 2-10	Darken the regional basin boundaries	Other	For the final report, we will experiment with darker basin boundaries
144	John Hudak	2-40.	Seems "phosphorus" should get more specific mention in the discussion. Drives a lot of freshwater and water supply quality parameters including algae, cyanotoxins, anoxia, TOC, manganese, DBPs, etc.	Agree	A brief discussion of phosphorus (and nitrogen) has been added to Section 2.1.5.3 to emphasize that nutrients are one of the leading causes of impairments to lakes, reservoirs and bays.
145	Westbrook	p 2 - 44	the mention of the expansion of CWCs Rockville WTP should mention, consistent with their approved water supply plan; similarly note in Table 2-12 others that are likewise approved in WSP	Agree	Change "For example, the Connecticut Water Company Western System's Rockville Treatment Plant is in the process of expanding, which helps to accommodate the increasing demand over the near term." to "For example, the Connecticut Water Company Western System's Rockville Treatment Plant is in the process of expanding, consistent with its approved Water Supply Plan, which helps to accommodate the increasing demand over the near term." Also, add a note to Table 2-12 that many of the listed improvements are consistent with individual water supply plans.
146	Westbrook	p. 2-45	Does the report capture elsewhere other registered and permitted diversions for comm'l or industrial uses (not served by public water?)	Agree	The report describes these here in this section, and they are included in the data analysis and data summary sheets.
147	John Hudak	2-48, 1st paragraph	Don't know of any DEEP permits called "water supply permits"	Agree	Changed "water supply permits" to "water diversion permits"
SECTION 3 COMMENTS					
148	CT DEEP	3-19, last para	need a little more explanation of the effect of not including storage in the basin summaries	Agree	We have added storage maps as a supplement to the maps in this section. Text added: "Maps of storage capacity within each basin have also been prepared as a supplement to the supply/demand maps presented in this section, to help understand the potential value of storage as a buffer against high rates of seasonal water use."
149	CT DEEP	3-24, first para	Need to explicitly state that ecological and other non-consumptive demands such as recreation, are not accounted for in the basin summaries.	Agree	Added the following: "In this analysis, only documented future non-consumptive uses are included, and these are the required regulatory releases from designated reservoirs to help provide ecological flows downstream. These figures do not include recreational flows or other ecological flow needs due to a lack of documentation for such."
150	V. de Lima	p. 103 (3-7) 1st sentence	2080 is not in line with long-term planning horizon. Already explained.	Agree	edited
151	V. de Lima	p. 105 (3-9) last ¶ of section	This would be more clear if the example from Ap. F is included.	Agree	No edit, App F is referenced
152	V. de Lima	Fig. 3-14	why isn't Southeast Eastern Complex colored?	Agree	This has been corrected
153	V. de Lima	p. 121 (3-24) top	"non-consumptive demand" called "ecological release" on summary sheet	Agree	edited

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
154	V. de Lima	p. 124 (3-27) 2nd ¶	"This white paper on future water management challenges an objective examination of the factors..." Is "challenges" the verb of this sentence, or is the verb missing?	Agree	edited
155	V. de Lima	p. 124 (3-27) last sentence	suggest "presents" rather than "addresses."	Agree	edited
156	CT DEEP	3-2 and following	The stream flow standards do not equate to non-consumptive use, only to regulatory requirements for minimum releases to support the ecological systems. These releases are calculated for a point on the stream, and assume flow variation with precipitation, and that ground water and tributary flows also contribute. These also don't account for other needs like recreation and wildlife.	Agree	Text updated: "Non-consumptive demands refer to water that must remain in place to serve ecological, recreational or aesthetic purposes. The state's Minimum Stream Flow Standards and Regulations were updated in 2011 to include required releases to help provide flows for ecological purposes while still providing for consumptive demands, flood control, and other lawful uses of water. However, it is acknowledged that these flows alone do not constitute the full ecological water needs of a given basin, and also do not provide flows for recreational or aesthetic needs."
157	John Hudak	3-2. 2nd paragraph	See recommendation in comment 1 above.	Agree	Evaluating the sensitivity of the demand estimates, including a 1% annual decline in demand due to continued water conservation is certainly something worth considering as part of Phase II. We can discuss further with the S&T Committee.
158	Westbrook	p. 3-2	should it be noted that the streamflow classifications were based on a # of criteria and data was not available for all of those criteria?	Other	Possibly, but defer to DEEP for more detail here, if we are to add this note.
159	John Hudak	3-9, 3.1.2.3	Connect (-) sign to 5% so it stays on the same line	Agree	This has been corrected.
160	John Hudak	Figures 3-3 to 3-10	Audience will relate better to units of Fahrenheit and inches	Agree	Agree. However, due to time constraints, we may leave this as is. These are standard units for the climate science field.
161	John Hudak	3-19, top	State year corresponding to "future water demand"	Agree	"(year 2040" has been added to clarify.
162	John Hudak	3-19, parag 4	See comment 3b; also need to sub "is" for "in" in one instance.	Agree	See response to comment 3b. The typo has been corrected.
163	John Hudak	3-19, parag 5, last sentence	See recommendation in comment 1 above; also correct "are in" typo	Agree	See response to comments 1 and 24. The typo has been corrected.
164	John Hudak	3-24, last parag, first sentence	Is this claiming that even permitted diversions did not have environmental review? For registrations, it would be more accurate to state that they were not subjected to environmental reviews associated with the diversion permitting process. There are registrations that have undergone environmental reviews through other means, e.g., legal or voluntary actions, or perhaps other local or state permit programs.	Agree	Changed to "...and many of the registrations were authorized without full environmental review ..."
165	John Hudak	3-28, first parag, 3rd sentence	See comment 7 above	Agree	Clarified
166	Westbrook	Table 3-4	expand last bullet in first column (or add new one) that expands Understanding Economic Impacts to explicitly refer to 'and impacts on ratepayers'	Agree	The white paper itself has been modified to mention impacts to ratepayers - suggest we leave the table very general, as detailed ratepayer analysis may be subsequent to this phase of Plan development.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
167	Martha Smith	Section 3	Not sure if the climate model of monthly averages incorporates future precipitation predictions of more intense storms? Predicted precipitation increases are for bursts of rainfall, which have different hydrologic characteristic from increased rainy days, e.g. less ground-water storage and greater runoff. http://www.amwa.net/galleries/climate-change/2010_NortheastExtremePrecip.pdf and http://precip.eas.cornell.edu/	Other	We agree that the methodology does not explicitly predict more intense storms because of the timestep, but the implicit interpretation (coupled with knowledge of general climate trending) is that higher monthly precip could be caused either by more rain distributed over days, or more intense storms. There is not enough resolution at the statewide planning level to discern the two, but rather, we'll use climate trends to examine how sensitive the basin stress is to possible future climate conditions.
168	Martha Smith	Sect 3.1.1.1 (pg 3-1acn 3-2	Shouldn't there be consideration of future supply needs along the coast, when salt water intrusion due to rising sea levels will contaminate private wells?	Other	The supply needs along the coast have been accounted for in their specific basins and localized drainage areas. We are not predicting impacts of salt water intrusion, but could certainly examine the criticality of alternative future sources for basins with significant supply needs along the coast, as tabulated.
169	David Sutherland - Policy Committee	page 3-2, Section 3.1.1.2	This comment repeated below regarding two appendices: The three descriptions of Connecticut Streamflow regulations that begin on page 3-2, on page 1B1-22 in Appendix G, and on page 1B4-11 in Appendix J contain significant omissions in that they do not mention the the exceptions provided by the drought or margin of safety triggers under which releases required by the regulations may be reduced. The description on page 1B1-22 in Appendix G states: "Implementation of the Stream Flow Standards and Regulations may reduce safe yield of some public water supply sources if significant releases are required. Safe yield reductions will reduce margins of safety and will need to be considered by water utilities in meeting DPH requirements for public water suppliers." The description that begins on page 1B4-11 of Appendix J expresses concern that "One impact of implementation may be reductions in safe yield of public water supplies that leads to a need for supply augmentation." All three descriptions list exemptions to the release requirements, but none mention the drought and margin of safety contained further down in the regulations in paragraphs (b) and (c) of Section 26-141b-6 of the regulations. The sentences quoted above from the appendices should be changed to reflect these triggers and reference to the triggers should also be included in conjunction with the list of exemptions in all three descriptions.	Agree	Text modified with "Additional exceptions apply due to drought triggers or factor of safety triggers that can help avoid impacts to safe yield of a water supply during times of hydrologic stress."
170	R Moore	sec 3-2	Pratt and Electric Boat are talking about job increases of 8000 and 14000 jobs over the next ten years which might have impact on consumption	Not Applicable	This may be too specific for the regional summaries, and if it isn't accounted for officially it would be out of step with the other demand assessments. However, it may be very helpful in Phase II. For now, at a statewide level, it is very important to keep the analysis at a high level. This type of information may be best used if we zoom in on a particular basin and did some scenario (What if?) testing.
171	R Moore	sec 3-5	table 3-2 shows releases at Barkhamsted and Nepaug which don't occur, all releases are from West Branch reservoir??	Agree	Added a note that some flows are exempted - the table is designed to show relative flows based on the methodology of the regulations.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
172	R Moore	sec 3-24	Hard to get good picture of the Farmington basin from figure 3-15 because it does not separate the pequabuck river from the basin and the separate demands of the various uses and utilities. A more detailed analysis will be needed before conclusions on changes can be made	Not Applicable	At this statewide planning level, and with the available funding, detailed assessments of all basins is not possible. The purpose of the maps is to show which basins could potentially benefit from (a) more detailed analysis as a recommendation of the plan, or (b) which basins may be ripe for particular types of management. To some extent, we have a small technical budget in Phase II that may allow us to zoom into certain basins to test future management policies at a more local level, where we feel that results would be transferrable to other basins in the state. This may be a good basin on which to focus some of that attention.
173	L. Mathieu	Section wide	Would like to see this section focused on the statutory requirements so that the connections can be made and linkages presented. Believe there is too much focus on climate change, too much detail provided, most of the detail is not needed. Would like the impact of each demand better explained, such as impact of wasteload, MSF, etc impact Total Water Demand and Future July demand.	Disagree	Not sure which section is being referred to, probably Section 3. We feel strongly that climate change requires special emphasis because it appears multiple times in the statutory requirements (list of 17). Much of the methodology is included as an appendix, but these results, which bracket the potential future climate conditions, are important to present and explain. Also, the impacts of the individual demands are explained in Appendix E.
174	L. Mathieu	Section wide	Would like to see more on wasteload, stormwater, water reuse, water conservation, water quality and public health protection, land protection and acquisition, and finally protection of existing and potential public drinking water supply. When preparing for change and review of opportunities, these items as tied back to the statute need to be part of this section and part of the conversation	Needs Discussion	Unclear which section is being referred to by "Section wide." If Section 3, we don't necessarily agree with this comment, which focuses on water management alternatives. The text in this section is focused on future conditions in each basin, and future options are explained in White Paper #3 (Appendix I), which is referenced in this section.
175	L. Mathieu	Table 3-4	A challenge should be added that included data gaps for wasteload data and planning as well as impact of MSF to existing and future SDY of PWS. Further, an overarching challenge should be WPC coordination and future implementation given staffing and other considerations, as well as coordination/education with/of all stakeholders as plan implementation begins	Disagree	This table is a direct product of workshops and the white paper process, so difficult to modify without consensus. However, we did add "Management of decentralized sewer systems" to White Paper #3 (as an option) based on the prevalence of this concern in review comments. We will update table 3-3 with this as well. It might be appropriate to include wasteload data in our data gaps section of the report.
176	S & T	p 98 (3-2), 3.1.1.2 final para	Environmental need. Could we include why this is important? ...natural flow variation to support river processes, species needs and habitat protection	Agree	Text added.
177	S & T	p 101 (3-5) 3.1.2	Environmental impacts of climate change are not discussed - timing of flows and water available in streams for sustaining habitats and species.	Agree	The focus in Phase I was only the potential effects of climate change on Precip and Temp. This information will be used in Phase II to assess potential impacts to streamflow.
178	S & T	p. 102-105 (3-6--3-9), 3.1.2.2	Defining the projected change for only one 1/8 th degree grid cell in the state severely limits the application of the results to other areas of the state, including the highlands and coastal regions. There is ample weather data for the state such that relations between precipitation and temperature between stations could be derived, and used to extrapolate the results for the single grid to other areas based on elevation, latitude, and longitude. This should be done at least as an exercise to evaluate whether the differences could be significant.	Disagree	Earlier consultation and review of other reports suggested that at the level of resolution in which we are working for this planning study, spatial variability of climate change would (a) be beyond our scope and funding, and (b) purport to know the future with more precision that we can actually claim to know (that is, it could be misleading to get too precise with something as highly uncertain as climate change). Rather, we focus on generalized statewide trends and try to understand the severity of potential risks.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
179	S & T	p. 102-105 (3-6--3-9), 3.1.2.2	Using monthly precipitation only does not allow an evaluation of the timing of snowmelt and recharge, which are very important in determining the seasonal distribution of streamflow. There needs to be some provision for addressing snowmelt in the analysis, so that the implications of changing snow can be evaluated.	Disagree	Snowmelt is inherently embedded in the USGS streamflow records used to develop the monthly flows. There is not enough budget to conduct hydrologic modeling for snowmelt, especially at a resolution finer than monthly, and because it is included already in the streamflow records, any further estimates would not add additional value to the study unless they were used directly with hydrologic models to test future variances. We recommend that any hydrologic modeling be undertaken outside the scope of the State Water Plan itself, as a recommended future activity if/where needed.
180	S & T	p. 102-105 (3-6--3-9), 3.1.2.2	Relying on adjusting the past climate record (1950 – 1999) to derive future climate projections has severe limitations, in that it does not allow for the possibility that there may different weather patterns that create (potentially) longer drought periods, or longer periods of heavy rain etc. This may be beyond the scope of this project, but a literature review may indicate whether there are expectations for changing weather patterns, and if so how these might affect the seasonality of and duration of floods and droughts, which then could be factored your analysis.	Agree	We certainly agree with this, but for the scope of this project (and many others like it), this technique is appropriate because (a) we are not trying to predict the future, and (b) we have limited funding. This technique, while not predictive, does produce a credible bound of monthly and annual ranges of expected precip and temperature, which can be useful in determining the relative severity of climate risks compared to other types of risks (population trends, regulatory initiatives, etc.). This is a well-documented technique endorsed by the US Bureau of Reclamation for water planning. As we proceed, we will add observations about climate trends from other studies. We have also added a summary of some literature review work that was conducted during Phase I to Section, which both supports and expands on the findings presented in our analysis.
181	S & T	p. 103 (3-7) 2nd ¶	I found this paragraph very difficult to understand. A proposed rewrite is attached.	Agree	We did not receive the suggested rewrite, but have made efforts to simplify the language in the paragraph. Naturally, some information in this report must address specific scientific terms, though we are making efforts to create a document that is broadly accessible to many readers.
182	S & T	p. 104 (3-8) 2nd ¶ after plot.	Refers to 5 future data sets and sends you to Ap. F. A brief description of how these 5 relate to the 4 ensembles would be helpful.	Agree	This was a misprint. Text corrected to "4" future data sets. In other venues, we have included a 5th, which represents the central tendency of the models, but did not feel that was necessary for establishing a range of future possibilities in this case.
183	S & T	p. 105 (3-9)	1950-1999 Be prepared to explain why the precip information on the summary sheets does not use this same time period. There was some concern that the 30 year period did not include the drought of the 60s.		The data are being used for very different purposes. In the summary sheets, we used the last 30 years because all of the basins in the state had records (or nearby records) of this length, and can therefore be compared directly because of the consistent time period. Because we are not doing firm yield analysis (which would require the drought of hte 1960s), but instead producing RELATIVE measures of water availability for documented uses during typical and dry conditions, it was not necessary to examine the drought of record. For the climate change analysis, we typically use as long a record as possible, with as broad a range of conditions as possible because much of the methodology depends on the percentiles of monthly precipitation and temperature values.
184	S & T	p. 105 (3-9) bottom of page	It's not clear where on the graphs you see the mean changes in temp and precip.	Other	The bar charts show changes in temp and precip compared to historical values, and the line graphs show this information in terms of percentiles of time.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
185	S & T	p. 115 (3-19) 3.1.3	I'm surprised how little these percentages change. If I'm reading it right, future gw demands are LESS stress than current. Why would this be so?	Other	Very little population change is expected in CT over the next 25 years, so demand is not expected to change much. In some cases, population projections show declines.
186	S & T	p. 121 (3-24) explanation	need to discuss inventory. Explain EPR is to gw and potentially available to streams. Explain how "water in basin" is determined or explain that it's streamflow. Explicitly mention the July flow and demand and the "extreme" flow and demand. Explain why the percentages in "Indicators of ..." don't add up. (Actually, the math doesn't check out: for MMADD gw, $13.87/188 = 7\%$) Mention which of these numbers are the ones that show up on the maps of basin stress. I notice more explanation is given in the example at the beginning of the appendix. Suggest mentioning that here.	Other	For readability, we feel it's better to leave the additional explanation within the "User's Guide" included in Appendix E. Regarding the comment example for MMADD, the 188 MGD reflects July avg. total streamflow (which includes baseflow/EPR and stormflow). Although not shown, the July baseflow/EPR is 99 MGD. The math is: $13.87/99 = 14\%$
187	S & T	p. 122 (3-25)	I notice the numbers on many summary sheets have changed from the sheets we had at the S&T meeting. Was there a change in approach?	Agree	There have been no major changes in approach. Some small adjustments have been made as we check calculations supporting each fact sheet..
188	S & T	p. 122 (3-25)	looking at the gage record for Farm at Tarrifville, there isn't a single DAY with flow less than 100 cfs (65 MGD), so why is the extreme bar appear to be 0?		The Farmington River at Tariffville gage was noted by the USGS as a "non-reference" gage, meaning it was subject to upstream regulation and/or impairments - thus was not used. Instead other gages in the basin were used which were indicative of natural flow. These gages, which cover a smaller portion of the basin than the Tariffville gage, had very low flow in the lowest month during the period of record. In the process of reviewing our calculations, we've made a minor change to how streamflow was adjusted to account for possible influence due to net groundwater withdrawals (we eliminated the adjustment). This minor change results in an "extreme" low flow estimate of 0.79 in/yr (or 17 MGD).
SECTION 4 COMMENTS					
189	L. Mathieu	Section 4	The SWP should clearly be identified as the responsibility of the WPC to develop and implement, this needs to be a consistent theme throughout the plan as well as this section.	Agree	Added the following to the intro paragraph: "Once approved, the plan will become a Water Planning Council document." (Also see response to #1 above).
190	L. Mathieu	Section 4, page 4-2	DPH suggests that we broaden the stakeholder base to include City Councils, state legislators, CCM and plan to hold engagement workshops in at least two cities. City Council members, legislators, CEOs should be specifically invited and possibly coordinated with CCM and/or COGs/LHD. Page 4-2 mentions that a "locally focused engagement process should be defined as the plan is developed." This needs discussion by the WPC in January with a plan defined, agreed to and implemented in the Spring.	Other	This requires WPC discussion. We should be careful to distinguish between stakeholders as direct participants in the facilitated workshops (currently represented by the WPC Steering Committee) and stakeholders with a vested interest to whom more outreach is warranted.
191	CT DEEP	table 4-2	need a verb on these options	Disagree	Not sure that verbs are appropriate for each option, or concerned that they may be limiting. For example, "Flood Management" includes a wide array of options: Zoning, channelization, storage, education, and any verb might artificially limit this range. Worth discussing if the comment is a strong opinion.
192	V. de Lima	p. 127 (4-1),	I think the principles from the OSP report should be <i>summarized</i> here because the full report is presented in the appendix.	Other	Left as-is, may consider future edit
193	V. de Lima	p. 129 (4-3), 4.2	I don't think all these "stakes" are represented. Are you figuring that Joe McGee represents golf courses and power? (those users are represented on S&T and AG, so one step removed). Also, the word we used in developing the SC was folks would represent "prespectives" rather than interests; hence, legal, business, academic, etc.	Agree	edited

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
194	V. de Lima	p. 129 (4-3), 4.2	MDC: Commission	Agree	edited
195	John Hudak	4-7, Table 4-2	See comments 4 & 5 above	Other	See responses to 4&5 above.
SECTION 5 COMMENTS					
196	V. de Lima	p. 136 (5-2)	gaging stations	Agree	edited
197	Suzanne Blancaflor-EHS	pages 123-124, Section 5	Decentralized sewage treatment systems serve almost 40 percent of the state's population, and they are the primary means of wastewater treatment and disposal in rural and low-density suburban areas. In addition to residential buildings, decentralized sewage systems also serve non-residential buildings such as restaurants, schools, and commercial, retail, and office buildings. The majority of decentralized sewage systems in CT are conventional septic systems regulated by the DPH and Local Directors of Health.	Not Applicable	Section 5 is currently only a list of recommendations for improving data collection. It is unclear what the intent of these comments are, but perhaps they may be more relevant in Phase II as we develop recommendations about water and wastewater management alternatives.
198	Suzanne Blancaflor-EHS	pages 123-124, Section 5	Historically, decentralized sewage systems have caused a disproportionately smaller percent of pollution/water quality impairments than their public sewer counterparts; however they still represent a significant threat to groundwater and environmentally sensitive areas. It is well established that CT has made great strides in upgrades of public sewer facilities that have resulted in significant pollution load reductions. On the hand, very little has been done to address decentralized sewage system management.	Not Applicable	
199	Suzanne Blancaflor-EHS	pages 123-124, Section 5	EPA prepared a Response to Congress on Use of Decentralized Wastewater Treatment Systems that stated, "Adequately managed decentralized wastewater systems are a cost-effective and long-term option for meeting public health and water quality goals." In 2003, EPA published voluntary guidelines on decentralized sewage system management that details 13 management components. The DPH supports improved decentralized sewage system management modeled after EPA's national guidelines. EPA promotes use of Clean Water State Revolving Fund (CWSRF) as a means for states to implement comprehensive wastewater system management programs, and EPA has been encouraging states to re-evaluate their CWSRF programs to ensure that decentralized sewage needs are accurately determined and sufficiently funded.	Not Applicable	
200	Suzanne Blancaflor-EHS	pages 123-124, Section 5	In CT, historically there have been an inequitable percentage of funds provided to centralized sewer infrastructure compared to decentralized wastewater systems. According to EPA's CWSRF reports, CT's cumulative state revolving fund distributions for the period from 1990 to 2012 exceeded 1.85 billion dollars and essentially all of the distributions were for public sewer facilities. To date, CT has not supported proactive, pollution prevention initiatives through the CWSRF that would improve decentralized sewage system management, and help the state meets its public health and environmental protection goals.	Not Applicable	

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer		Consultant Team			
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
201	Suzanne Blancaflor-EHS	pages 123-124, Section 5	Decentralized sewage system management is an integral part of numerous environmental and public health protection programs including aquifer and source water protection programs that ensure protection of CT's potable water resources. Comprehensive decentralized sewage system management helps reduce pollution, and assists in protecting CT's water resources and it will help improve the quality of impaired waters. Proper decentralized sewage system management is essential for successful non-point source pollution prevention programs. Comprehensive decentralized sewage system management is also a component of the 2015 Long Island Sound Study Comprehensive Conservation & Management Plan, and EPA's 2015 Nitrogen Reduction Strategy for Long Island Sound. Decentralized sewage system management needs to be better integrated into source water protection, aquifer protection, and watershed and non-point source pollution management programs.	Not Applicable	
202	Suzanne Blancaflor-EHS	pages 123-124, Section 5	Phase II of the plan should evaluate the challenges facing health officials in providing appropriate management of decentralized sewage systems in line with EPA's voluntary guidance. Opportunities that are tied to EPA's guidance about comprehensive decentralized sewage system management through use of the CWSRF should be highlighted. Phase II of the plan also cite the limitations of the Decentralized Wastewater Management District (DWMD) legislation that has only resulted in the establishment of one municipal DWMD in CT that has been dealing with community pollution problems with the DEEP for close to 40 years. Limitations in the DWMD legislation have restricted communities from taking proactive steps preventing degradation of groundwater, reducing pollution loads, and addressing public health hazards. Phase II of the plan also needs to support climate change/resiliency planning for areas utilizing decentralized sewage disposal systems.	Agree	This is something that can/should be addressed in Phase II, but doesn't belong in Section 5 as it currently stands.
203	Rachel Nowek-DWS	Section 5-1, page 5-2. Last 3 bullets under Medium Priority.	Metering and reporting of all medium priority items, as noted, comes with a cost to each public water system and may not be practical to implement. Opportunities to incentivize meters/ installation should be explored should a program such as this be required in the future.	Agree	Understood. Most data collection activities will require some form of expenditure (and therefore decisions by agencies or the legislature), but the Plan is attempting to at least help them understand the relative priorities of information to help make those decisions easier. We have added a note that reporting should be accomplished electronically.
204	Rachel Nowek-DWS	Section 5-1, page 5-2. Last 3 bullets under Medium Priority.	This Section states DPH will be in receipt of the reports per the stated frequency, however, it must be realized that this will have a fiscal impact on DPH. Additionally, should reports be required, they should be received electronically as is requested for reporting for permitted diversion withdrawals .	Agree	

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
205	Suzanne Blancaflor-EHS	page 123, Section 5.1	It is recommended that the State Water Plan acknowledge the need to establish a database for all groundwater wells in the State as a medium to high priority. The database on groundwater wells would include information already included on the paper copy well completion reports for all water supply wells (public, private residential, irrigation, or commercial uses). Having the ability to determine where existing and future water supply wells are located would provide valuable information to local health departments, municipalities, public water utilities and DPH when there are water supply emergencies or drought stage declarations in areas of the state impacted by drought. In areas where there are public water supplies, many commercial and residential premises with irrigation systems could be using on-site irrigation wells or a connection to the public water system as the water source for the irrigation system. Public Act 02-102 made changes to Connecticut General Statute Section 19a-36, subsection (d) which allows a premises served by a public water system to "utilize or replace an existing well or install a new well solely for irrigation purposes or other outdoor water uses provided such well is permanently and physically separated from the internal plumbing system of the premises and a reduced pressure device is installed to protect against a cross connection with the public water supply."	Agree	Added as a medium priority, but left fairly open to further definition in Phase II.
206	Suzanne Blancaflor-EHS	page 124, Section 5.1, 5th bullet	There is currently a process in place, as required by law, for testing and automatic reporting of private well results to state and local health departments. Connecticut General Statutes Section 19a-37, subsection (b) requires submittal of water quality test results to DPH and the local health department when testing is done for a real estate transaction. "Any laboratory or firm which conducts a water quality test on a private well serving a residential property shall, not later than thirty days after the completion of such test, report the results of such test to (1) the public health authority of the municipality where the property is located, and (2) the Department of Public Health in a format specified by the department, provided such report shall not be required if the party for whom the laboratory or firm conducted such test informs the laboratory or firm that the test was not conducted within six months of the sale of such property." It would take a policy recommendation to change the law to require test results to be submitted to state and local health departments when samples are collected during a period of time other than when a real estate transaction occurs; however such a change in law would likely face opposition with the concern of property devaluation from a water quality test result showing a problem.	Agree	It has been noted in the text that this process exists only for real estate transactions: "Connecticut General Statutes Section 19a-37, subsection (b) requires submittal of water quality test results to DPH and the local health department when testing is done for a real estate transaction, but it may be valuable to consider more frequent/periodic testing."
207	Suzanne Blancaflor-EHS	page 124, Section 5.1, 6th bullet	Implementing a water volume metering program for private wells is not practical. The best way to approach this would be to establish laws or regulations that require information on the capacity of the pump installed in the water supply well be reported and maintained in the statewide database for all water supply wells (both existing and future). The database would have all of the same information about a water supply well that is currently provided on the paper well completion reports filed by a well drilling contractor.	Agree	The text has been modified with this suggestion.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
208	Westbrook	Section 5	The intro here should be softened or clarified that these are 'concepts' for further discussion and not necessarily recommendations at this point as I don't think there has been sufficient discussion on the practical aspects or consensus on a number of these and they have not been vetted by the Steering Comm or WPC	Agree	Text adjusted to: "These suggestions are offered so that decisions can be more informed, future planning can be simpler and more complete, and uncertainty around water needs and availability can be reduced. These suggestions are offered for discussion and consideration, and should not be construed as mandates since there may be costs associated with some forms of data collection and organization."
209	Westbrook	p. 5-1	Reference the requirement under PA 04-185 in the discussion of the high priority for annual reporting of diversion	Agree	Added
210	Westbrook	p 5-1	Don't know as there has been sufficient discussion of the practical aspects of the metering of each source of registered water users - should either omit that or identify that there may be practical challenges for impelmentation that need to be considered	Agree	Text adjusted to: "These suggestions are offered so that decisions can be more informed, future planning can be simpler and more complete, and uncertainty around water needs and availability can be reduced. These suggestions are offered for discussion and consideration, and should not be construed as mandates since there may be costs associated with some forms of data collection and organization."
211	Westbrook	p. 5-2	While it may be laudible to have record of daily withdrawals from small systems, there is a broader question/discussion about the viability of some of the small systems and whether they can continue to operate separately or are better addressed by interconnecting	Other	While we do not disagree, it would be too early to make such a recommendation. Such issues are on the table for discussion in Phase II.
212	John Hudak	Section 5	Many of these recommendations are surprisingly detailed and for the most part have not been subject to full discussion with the SWP Committees. For example, there are significant questions about feasibility and costs that would be associated with metering and daily recording of water transfers between reservoirs and reservoir systems. These diversions are typically in remote locations and involve underground aqueducts that would be highly difficult and costly to meter both from a capital improvement and operational perspective. Again, there is no mention of PA 04-185 that was negotiated with the water industry and allowed for estimates of monthly withdrawals in these situations, as well as reporting of metered withdrawals by registrations. There are also recommendations targeting private well owners that would certainly raise questions on costs and privacy that have not been addressed with appropriate stakeholders, e.g., metering of private well withdrawals and water quality monitoring. Even the concept of legislating changes to make parts of Water Supply Plans available to the public has largely taken place outside the framework of the SWP committees. Any recommendations at this stage should be limited to where consensus has been already been established to date.		Text changed to: "These suggestions are offered so that decisions can be more informed, future planning can be simpler and more complete, and uncertainty around water needs and availability can be reduced. These suggestions are offered for discussion and consideration, and should not be construed as mandates since there may be costs associated with some forms of data collection and organization." Also, the impracticality of monitoring private wells has been noted. PA 04-185 is now mentioned in the high priority reporting suggestion for registered diversions.
213	L. Mathieu	Section 5 page 5-1	A high priority should be to collect wasteload and MSF impact information, with annual reports prepared that express impact. This information can then be used to develop future plan recommendations given that impact of MSF is unknown however can be significant to public drinking water and future use of Class B sources for human consumption	Agree	This may need discussion with other stakeholders (as do all of the recommendations in this section). We've lightened the language to say that the lists represent "suggestions" for future data collection that can lead to more comprehensive and informed planning. We will add wasteload and MS4 data to the list, but to be commensurate with others, it may be a medium priority for now.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
214	L. Mathieu	Section 5 page 5-1	Under medium priority, it is noted that legislation should be pursued that allows certain parts of WSPPlan to be made available. This needs clarification as today's law per 1-210 allows for most of the WSPPlans to be released however under a security risk review per DAS. This language should be clarified to state that legislation should be pursued that would streamline the FOI process for all public agencies as it concerns WSPPlans making shareable information directly available to the public.	Agree	Changes made.
215	L. Mathieu	Section 5 page 5-1	Data gaps should also mention the need to collect small wastewater information, and assessment data for all streams/rivers/lakes etc statewide.	Agree	Changes made in Section 2 (Data Gaps). Holding off on adding too much to Section 5, as many reviewers pushed back on making too many recommendations here.
SECTION 6 COMMENTS					
216	L. Mathieu	Section 5 and 6	WPC should have a discussion with consultants as to direction fro these sections.	Agree	These will largely follow the course of the workshops and subsequent development of recommendations.
217	L. Mathieu	Section 5 and 6	look forward to additional review and use of this wonderful spreadsheet format as the Plan continues to grow!	Agree	Happiness is a good spreadsheet.
218	L. Mathieu	Section 6	Section to be added should include future policy considerations, future planning considerations, Implementation & Milestones/Timeline. Might have a need for a Vision/Mission statement for the SWP.	Agree	The whole of Section 6 will largely follow the workshop results and formulation of recommendations, as well as direct guidance from the WPC. For now, it's a placeholder, subject to adaptation as needed in accordance with the scope of work.
APPENDIX COMMENTS					
219	John Hudak	Basin 51 Water Summary	Shows zero ecological release for future conditions. RWA's reservoir yield in this basin will be in fact be significantly impacted by stream flow releases to be required in 2026. Also three major RWA reservoirs in this basin are presently making releases as required by the 1979 DEEP stream flow regulations for stocked streams. This is not reflected in the current conditions assessment.	Other	We are not reporting ANY current streamflow releases due to lack of consistency in requirements, documentation, and enforcement, and in recognition that the new instream flow rules will supercede. Will work with S&T group in Phase II to refine ways in which to report ecological uses in the final report.
220	Westbrook	p. 1B1-2	Connecticut's Water PLANNING Council not Management	Agree	Changed.
221	Westbrook	p. 1B1-4	Call out box -- not sure basis for item regarding the basis for public water supply planning process (and subsequent reference in 3.2 in describing basis for WUCC) - legislative history? As I recall, proliferation of small water systems was another major consideration	Agree	Changed
222	Westbrook	p. 1B1-10	Far too much detail here on the specific prohibitions in watersheds	Needs Discussion	Unclear where this is referring to - we do not see this on page 10.
223	Westbrook	p. 1B1-21	Don't believe there is agreement on the concept of 'waters of the state' - multiple comments submitted in prior review of drafat of this section	Needs Discussion	No mention of "waters of the state" on page 21 (was the reader reviewing an earlier version)? Where we do see it (pages 22, 23) it's unclear what the reader's concern or suggestion is.
224	Westbrook	1B4 White Paper	This is new and has not been reviewed in detail yet -- expect to have further comments on this at later date	Other	This has been available to the Subcommittees in revised form since October (after one round of substantial revisions). It has not yet been released for public comment, however.
225	Westbrook	p. 1B4-4	Need further discussion of the item regarding WPC roles and authorities and the 'challenges of being limited only to give advice to the legislature' -- it was intentional and important that any initiatives fit within the statutory authority of the agencies -- if they don't have it they should seek it and those decisions made with the full force of law	Agree	This is a discussion for Phase II. One of our tasks as a team is to recommend an effective management structure moving forward, and also to consider changes in existing legislation if deemed necessary by consensus.
226	Westbrook	p 1B4-4	The discussion of Class B should recognize the relationship between water company land ownership and source protection -- if limitations on Class A waters removed, would question the need to continue to maintain such stringent requierements on water company owned lands	Agree	While we don't disagree with this, it may be too nuanced for the general public, and the prohibition in general is a very important concept for readers to understand. In the context of this section, the CHALLENGE is that less water is avaiable for drinking than it would be in other states. That's the central point that we hope people will understand.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
227	Westbrook	p. 1B4-7	the discussion of economic impacts should also explore how costs associated with policy changes - and any additional required investments in sources or facilities - will be born and how ratepayers will be protected from the costs of 'stranded assets' that may no longer be able to be used to their full design capacity with policy changes	Agree	Langage added.
228	Westbrook	p. 1B4-9	This is the first chance to review the section on large users -- suggest that needs further discussion and changes. If the use is within the legally quantity authorized for the water utility, it is not necessary to impose additional restrictions based on the type of user. If bottled water is a real issue in CT, the more appropriate approach is to legislate that and not try to manage it through access to available public water supply	Disagree	The suggestion here is actually a recommendation, and the white papers are not making recommendations. They are simply provided to educate the public and decision makers. Recommendations will come through the workshops in Phase II. We believe that the reviewer's point is already made in Section 2.1.2, which states, "Going forward, public water systems are obligated to serve the new customers that arise in their service area regardless of the intended use of the water supplied, and municipalities are obligated to review land use applications in their boundaries. But in any venue, new large water uses can pose challenges in river basins, especially if primary sources have historically been Class A or AA for both potable and non-potable uses. "
229	SC	Appendix I, Page 1B3-1, Table 1	Under Supply Management Options you list groundwater use only in the context of a conjunctive use concept. Was ground water/ aquifer withdrawals not listed as an option because of the current stream flow regulations.	Agree	We didn't explicitly include aquifer withdrawals for the same reason we don't highlight reservoir withdrawals - these are already common practices. The paper focuses on alternative options for future water management, on the assumption that many current practices will remain in place.
230	V. de Lima	p. 204, C, 4.1, 2nd round bullet	"DHP" should this be DPH or is it another entity?	Agree	will correct PDF
231	V. de Lima	p. 225-227, Ap. D, table 2-8	missing footnotes and explanation of codes	Agree	edited
232	V. de Lima	p. 264, lower left box	increase OR decrease of baseflow	Agree	edited
233	V. de Lima	p. 264, lower middle box	and water THAT comes	Agree	edited
234	V. de Lima	p. 265, upper middle box	add comma after unused amounts	Agree	edited
235	V. de Lima	p. 265, upper right box	suggest water availability is at OR NEAR it's lowest. August or September are typically the lowest streamflow.	Agree	edited
236	V. de Lima	p. 265,	Add explanation of "Water in Basin - Extreme"	Agree	edited
237	CT DEEP	App E	Need to explicitly state that ecological and other non-consumptive demands such as recreation, are not accounted for in the basin summaries.	Agree	A note has been added to the "Users Guide" at the beginning of the Appendix to explain this.
238	CT DEEP	App E	Need to change title "Ecological release" to "Regulatory release"	Disagree	We are concerned that "regulatory release" will not mean anything to the general reader. Though we agree that the instream flows do not necessarily constitute the ENTIRE ecological need of any basin, it is important to indicate to a general reader the INTENT of the flows, which is ecological (based on bioperiods for aquatic species). Where appropriate, we have explained this in the text and figures.

Draft Phase I Interim Report Connecticut State Water Plan (December 2016)

Reviewer				Consultant Team	
No.	Reviewer Name	Page, Section No., Paragraph	Comment	Response	Resolution Detail, as applicable
239	David Sutherland - Policy Committee	page 1B1-22 in Appendix G, and page 1B4-11 in Appendix J	This comment repeated from above reference to Section 3.1.1.2: The three descriptions of Connecticut Streamflow regulations that begin on page 3-2, on page 1B1-22 in Appendix G, and on page 1B4-11 in Appendix J contain significant omissions in that they do not mention the the exceptions provided by the drought or margin of safety triggers under which releases required by the regulations may be reduced. The description on page 1B1-22 in Appendix G states: "Implementation of the Stream Flow Standards and Regulations may reduce safe yield of some public water supply sources if significant releases are required. Safe yield reductions will reduce margins of safety and will need to be considered by water utilities in meeting DPH requirements for public water suppliers." The description that begins on page 1B4-11 of Appendix J expresses concern that "One impact of implementation may be reductions in safe yield of public water supplies that leads to a need for supply augmentation." All three descriptions list exemptions to the release requirements, but none mention the drought and margin of safety contained further down in the regulations in paragraphs (b) and (c) of Section 26-141b-6 of the regulations. The sentences quoted above from the appendices should be changed to reflect these triggers and reference to the triggers should also be included in conjunction with the list of exemptions in all three descriptions.	Agree	Text in White Papers 1 and 4 modified with: "...although certain exceptions provided by drought triggers and margin of safety triggers (contained in the regulations in paragraphs (b) and (c) of Section 26-141b-6) could help mitigate this risk." The other sections will also be updated in a similar way.