

Appendix F

Summary of comments submitted for stakeholder review of DEEP's draft report to the CT General Assembly Environment Committee - Flow Management Plan of the Upper Farmington River in compliance with Section 2 of Public Act 24-13.

Compiled by Mike Beauchene, Fisheries Division
February 5, 2025

Introduction

Section two of [Public Act 24-13](#) required stakeholder engagement as part of DEEP's development of a plan to manage flows in the Farmington River. To that end, the DEEP held a [public informational session](#) via ZOOM on January 22, 2025 and solicited comments through messages on social media, the monthly e-newsletter [CT Fishin' Tips](#), as part of the public informational session, and via direct email to a diverse group of organizations, businesses, town leaders, and Non-Government Organizations likely to be interested in the river. Comments were accepted via an online form and/or email over a two-week period. The comment period closed at 11:59 pm on January 31, 2025.

Comments received

The DEEP received 30 unique comments from 21 individuals and 5 organizations (Appendix 1).

Summary of Comments by Themes

Overall, the comments were supportive of the plan with 17 out of 30 comments expressing sentiment along these lines "*Thank you for the thoughtful and comprehensive plan.*"

Thirteen (13) comments suggested changes or actions to help improve the plan, specific sections of the plan, or actions not mentioned in the plan. These comments will be grouped into the following categories:

1. DEEP has revised the draft plan to address the comment(s).
2. DEEP may support future work responsive to the comment(s) but will not revise the draft plan to address the comment(s).
3. DEEP will not be able to address the comment(s) because the request is beyond DEEP's direct control and requires action by other parties.

1. DEEP has revised the draft plan to address the comment(s):

- a. **Targeted release values:** The Targeted Release Volumes (Table 1 and 2 in the draft plan) are just that, a target goal for when conditions are "normal" and support such releases. As environmental conditions each year will vary, these target values will likely be higher or lower depending on conditions. That said, several comments

suggested modification of the Targeted Release Volumes (Table 1 and 2 in the draft plan). DEEP agrees with the suggestions to lower some of the spring/summer values and increase some of the fall values. DEEP's final target values will be:

Month	Targeted release in the draft plan (CFS)	Revised release value (CFS)	Change (CFS)
January	125	125	0
February	125	125	0
March	150	150	0
April	200	150	-50
May	200	200	0
June	250	250	0
July	300	250	-50
August	250	250	0
September	125	200	+75
October	125	150	+25
November	125	125	0
December	125	125	0

b. **Protect Brown Trout spawning and egg incubation:** Several comments called attention to the importance of fall trout spawning and egg incubation. Commentors would like DEEP to ensure adequate flow is available to support trout access to spawning habitat and to ensure there is enough water to ensure successful egg incubation and survival of newly hatched fry. The Fisheries Division, for decades, has monitored river temperature and flow to maximize habitat and growth for trout in the Farmington River. Prior to the passage of PA 24-13, any water required to augment flow to protect trout spawning and survival has come from the dedicated fall fisheries pool (elevations 701-708 feet). With passage of PA 24-13 DEEP will have additional waters to support fish and wildlife in the river. It should be noted that in very dry conditions, like fall of 2024, the DEEP may have to hold back flow prior to spawning to prevent trout from entering side braids and channels as there may not be adequate water remaining in Colebrook River Lake to keep these side channels submerged during spawning and throughout the egg incubation period. These comments were addressed by the slight increases in September and October target flow values detailed above.

2. DEEP may support future work responsive to the comments, but will not revise the draft plan to address the comment(s):
 - a. **Publish data on the website:** These comments suggest DEEP should increase transparency and aid interested parties in better understanding current flow conditions and decision making.
 - b. **Initiate a second instream flow study:** These comments indicate DEEP should undertake or fund a second instream flow study as a follow-up to the instream flow study conducted in 1992, as commentors indicated climate and environmental conditions have changed since 1992.
 - c. **Build a model to optimize releases:** Several comments indicate the DEEP should pursue the development of an empirical model that uses historic and contemporary data to inform optimization of future release decisions.
 - d. **Increase water temperature monitoring:** Several comments indicate DEEP should acquire equipment to obtain real-time water temperature data in key downstream locations. These data should be made publicly available on the website.
 - e. **Conduct a post plan implementation study of biological conditions:** Several comments suggest DEEP should implement or fund a study to evaluate biological condition in the river following several years of this new flow plan.
 - f. **Ramping Rates and Control of Large Fluctuations:** Multiple comments, from a single individual, referenced the need for inclusion of Ramping Rates (explicit stipulations concerning the rate at which river flows are increased/decreased when adjusting flows) in the report. Several other commenters requested mitigation against large/sudden releases. Fortunately, neither of the two dams (Colebrook River Lake and Goodwin aka Hogsback) of concern for this report operate as “pond and release”, meaning they do not typically release large amounts of water in a short period of time. DEEP understands the literature regarding flow releases and the importance of providing variable flow patterns in the resulting hydrograph (magnitude, duration, timing, rate of change) to maintain or restore processes that sustain natural riverine characteristics. The plan seeks to collaborate with the owners of each dam (USACE – Colebrook River Lake Dam and MDC – Goodwin (Hogsback) Dam to ensure their standard operating procedures and release plans meet the needs of the river. That said, there will be times of extreme precipitation and runoff in the watershed which cannot be contained by current infrastructure or where sudden large volume increases may be necessary to protect human life and property downstream. Information on USACE’s current outflow guidance and ramping rates for Colebrook Dam can be found [here](#). While we did not add explicit recommendations/stipulations in the report concerning ramping rates and

avoiding large/sudden releases, text was added to page 11 of the report to define and briefly discuss ramping rates.

3. DEEP will not be able to address the comment(s) as request is beyond DEEP's direct control and requires action by other parties.
 - a. Require dam owners to change their policies and standard operating procedures:
 - I. Increase storage above elevation 708 behind Colebrook River Dam beyond July 1 of each year.
 - II. Increase the flow-through requirement to be greater than the current 150 CFS. Meaning all water must be passed at a flow that would support at least 1000 CFS at Unionville USGS gage.
 - III. Change the current mandate that MDC pass all flows originating from Otis Reservoir.
 - IV. Automate gate changes based on computer generated evaluation of river conditions.
 - b. **Changing references in the report from the “Still River” to “Sandy Brook”:** Currently there is some ambiguity regarding the official name of the stretch of river from the confluence of Sandy Brook and the Still River to the confluence with the West Branch Farmington River. The USGS currently lists their stream gage in this river section as “Still River, Robertsville”, so DEEP has used that name to reference this river section in the report to avoid confusion about which stream gage is being used as a data source. If/when USGS changes the name of their gage station to “Sandy Brook”, DEEP will update references accordingly in this document.

Conclusion

The DEEP appreciates the thoughtful comments submitted regarding *DEEP's draft report to the CT General Assembly Environment Committee - Flow Management Plan of the Upper Farmington River in compliance with Section 2 of Public Act 24-13*. DEEP is looking forward to managing flows to meet the seven categories contained within Public Act 24-13.

Appendix 1. Comments as submitted by various individuals and organizations. Note some of these comments were received via email and some were submitted using the online form.

1. Good plan to help protect a good resource. **Anonymous**
2. Please allow this to go through! **Anonymous**
3. I fully support this proposed Flow Plan for the Farmington River. I trust the DEEP involvement will be an asset both environmentally and economically for our state. I thank you for listening to the concerns of all that use the Farmington River to maintain their mental health. **Gary Steinmiller**
4. Good evening, The reason why the Farmington Flow discussion started was based on Rapid intra-day Fluctuations. Major changes on flow in very short period of time. (Ramping Rates). After reviewing the reports Ramping Rates are missing which is a best management practice by many and incorporated in several ferc licenses.
The minimum flows are defined but the intra day Ramping Rates are missing. These sudden changes has destructive consequences to the environment and safety concerns.
The question is how do they determine the rate the flows change in any given
We can give you ramping rate documentation that shows the damages it causes if not correctly managed.
Under section 3
River Health Ramping Rates should have been discussed Max rate water changes within an hour.

Why didn't DEEP look at this portion of flow Optimization Management. Rate of change is missing which qualifies this report incomplete and doesn't address important parts of the issue.

This was a oversight which has impact and doesn't address a key part of the data and plan going forward.

Thank you for all you do
Good morning Mark,

The plan covers a lot of ground and that's commendable but is missing a key piece
Ramping Rates.

Ramping Rates is a core piece is just as impactful as the whole report plus address the rate of flow per hour which is not even in the report.

Informational for you because it's missing the rate of Intra day Flow changes which is a major component (Ramping Rate). It should be part of the operational rules that the Army Core should be party to the rules of releases.

We will reach out to DEEP Fisheries about how , when and where to comment since it didn't specify. On Facebook it said don't comment on the FB page but didn't specify next steps.

Sudden Flow changes cause environmental and safety issues which is not in the report and plan.

Gradual changes of flow is a best practice by many and mandated by many countries ahead of us because they have the data to show impact and why ramping are incorporated.

A ramping rules document is attached ,

See table 1 as an understanding.

Bottom line without ramping Rates

Environmental damage and public safety is at risk.

Thank You, **John Brewery**

5. Yes I strongly urge that this act be passed. **Anonymous**

6. Yes I strongly agree to this plan. **Anonymous**

7. The Farmington River Flow should be kept at a rate that best protects the ecosystems above all others reasons. **Anonymous**

8. Thank you! Finally, common sense has prevailed, and government organizations have found a way to talk with each other. Good job Mark, on this legislation. **David Longfritz**

9. I think the plan is a good idea especially in view of the lack of rainfall we have had in the past years in order to protect the fish and flood control to protect residents along the river. **Maryann Beauchene**

10. Colebrook River reservoir has released so much water that you can no longer boat there. The boat ramp is no longer in the water. They need to store more water so the lake fills up and makes the boat ramp usable again. **Tom Boyle**

11. Good morning, Mike, A great job on the Flow plan author by yourself and the DEEP team. A lot of work. A couple of thoughts, Thank you for referring to and including Hogback Dam when noting the Goodwin Dam. In Hartland, it is preferred. I swan as a boy in the now vanished pool by the hogback ridge.

On page three, I believe the USGS changed the confluence of the Farmington and Still Rivers to the confluence of the Farmington River and Sandy Brook. They determined that the Sandy had a larger flow than the Still thus the change.

Again, a very excellent effort, **Dan Bowler**,

12. I support the DEEP plan to manage water flow on the Farmington river. **Charles McCaughtry**

13. Good morning CT DEEP Commissioner Dykes, Since this is your responsibility
Just wanted to give you a heads up on the Farmington Flow Bill Report / Plan.
Saw you signed this and wanted to provide insight.

We reviewed the plan and it needs Ramping Rate Operational Best Practices included to ensure a

complete broad based, Environmentally safe and Public safe comprehensive operational support plan. There is a need to include Ramping Rates within the report / plan which would be the changes of flow within an hourly basis. It is an Operational Best Practice used to prevent damage Environmentally and Upward changes that create public safety issues. Gradual rate changes should be implemented , the rate of change needs to be part of the plan and operations. It really needs to be implemented and included into the report and plan going forward.

As the report / plan stands now , Ramping Rates were not mentioned or included . Ramping Rates are needed to ensure the integrity of Flow Rates on the Farmington River. Grammatic changes in flow cause damage which needs attention to detail.

Some of the repercussions of not implementing Ramp Rates. Stranded Fish in channels , reduced insect life and stranded Anglers due to upward flows with dramatic change vs gradual natural change.

Environmental damage would occur including erosion which is appearant in the upper stretch of the river.

Thank you for all you do. **John Brewery**

14 . Thank you for the thoughtful and comprehensive plan. I am an avid fly fisherman and greatly appreciate your efforts.

After reviewing the data and doing some calculations, I am pleased to verify that your math regarding inflows versus outflows seems correct. The outflows planned versus the historical averages of inflow do indeed equate to about 10 billion gallons of managed flows per year. I am wondering however whether the flow changes must occur on monthly boundaries, as river conditions can certainly change rapidly even in the course of a day. I think it would be a simple matter of measuring flow below the confluences (say in Satan's Kingdom) and feeding back that data to the dam operators daily or even continuously. I am not sure whether you have automated dam control, but I suspect humans are in the loop. It would be easy for a computer to calculate optimal flows continuously and adjust them every 15 minutes or so. I know these are long shot goals you are already aware of.

Finally, perhaps it would be better to "smooth" the proposed monthly regime to avoid the abrupt flow changes (to better simulate how nature raises and lowers the flow). If you replaced your proposed values with 3-month mean-filtered values, you would get: [83 133 158 183 217 250 267 225 167 125 125 83] cfs per month, and this would avoid the big changes on the 1st of each month.

Thank you for your consideration. **Alain C. Barthelemy, PhD**

15. I agree with the proposal because it increases the health of river and provides boating, fishing and recreation for state parks along the river. If in the future conditions change requiring more reserves in the reservoir changes can be made. **Jim English**

16. Please maintain the flow of cold water from the dam to ensure proper and consistent levels and temperatures necessary to promote a healthy and sustainable reproductive population of all trout and salmon in the west branch of the Farmington River throughout its length. **George D Morton III**

17. The rainbow damn needs to be removed, regardless of ownership issue. There is no reason the farmington river should be on the list of most endangered rivers in the nation. Removal of the damn

would go a very long way in restoring the watershed to something resembling a healthier ecosystem.

Anonymous

18. Hi Mike, I love the Farmington and was involved in getting a few friends together last year to provide testimony on legislation to regulate the flows in the Farmington at levels that are conducive to fishermen, and the invertebrates that live there.

OK, the fishermen don't live there. Grammar.

I've been out of the picture since the end of April of last year when I started encountering medical issues that I'm still recovering from, but I've been tying a lot of flies to pass the time and look forward to getting back on the water this spring.

I've begun reading the executive summary, but sadly I'm still fairly well medicated so its not all registering. I will print it out, hole punch it, hilight it and get back with any feedback.

But, from what I can tell, you are doing a great job managing this fishery. If we can keep the water below 600 cfs below the Still it would be great, although I realize that this can't always be accomplished. Thanks for your work! **Bob Swanson**

19. Good morning ,

After reviewing it really comes down to
Who controls the final gate at the Hogback Dam?
It was the MDC , where does that stand now ?
Is it the USACE or CT DEEP ?

Without ramping rates , erratic and abrupt changes are not addressed which needs to be part of the conversation with the USACE.

There are support documents and contacts that the ACOE can modify the playbook for those who control the dams at the Army Core.

Different departments /divisions in Army Core can make Ramping Rates part of the Daily Operations to avoid erratic flows and abrupt changes to avoid Environmental Damage and Public Safety.

The State of CT DEEP does have input that can be amended into the day to day of the Army Core based on the documentation and contacts found.

Control list of central offices for nationally programs- they should be able to put you in contact with regional office for each section. Note sections that are not remote operations centers. (button pushers / controllers.

The Question is who is controlling the gates at Goodwin Dam and adjusting the flows into the river? That entity should be the one implementing the ramping rules.

Below is a link to how the ACOE is supposed to work and how. Since CT DEEP holds rights to a lot of the water, they should be able to negotiate rules of operations (algorithms) that could be for setting rates of flow changes, example:

In none flood emergency periods, Instantaneous flow will not change by more than

a) 25% of the previous hours flows up or down.

b) Surface elevation will not change by more than 1 -2 inches from previous elevation depending on bio period (lower rates during spawning and incubations)

During Flood emergency periods, instantaneous flows of 6-12 inches per hour change or complete closure of the dam - depending on the situation.

References and links, papers and abstracts about impacts of not using ramping rates, effects of ramping

rates and example of who and where they have been used.

<https://www.law.cornell.edu/cfr/text/33/part-384>

<https://www.law.cornell.edu/cfr/text/33/384.7>

Thank you for all you do More to come this week J , ***John Brewery***

20. Good morning Mike

Did some more review .

See below

The Cornell Review of Laws says the USACOE will work with the Water Owners. The USACOE will develop with the water rules with the water owners if you have that conversation with them

Its not the guys in the control room. CT DEEP needs to figure out who in the USACOE is responsible for who is the appropriate contact to modify the play book.

The Cornell report says in Statutes that USACOE will work with the Water Owners to create the rules. If the MDC operates the last gates then All parties need to be involved and avoiding a ping pong affect.

Most likely they push back that it takes to much time which is not acceptable to the public.

Are there other Divisions within DEEP collaborating on this? I would hope Water Resources is part of this because of regulatory authority and monitoring (Somebody has watch the Hen house).

Set and forget is not good Management

Resetting the gate may be needed several times a day.

Whoever is managing the gates between Godwin Dam and the Farmington River has the responsibility of doing the best possible management and take a little time to do it right.

More to come Thank you, ***John Brewery***

21. I am writing in support of Public Act 24-13. It seems like a thoughtful way to balance environmental needs as will and human needs. I appreciate the compromise. ***Amanda Thompson***

22. FVTU appreciates the dedication, research and attention to detail D.E.E.P. has done in developing this plan. We also appreciate past efforts by D.E.E.P. for their short-term flow management on the Farmington and hope the plan will be approved and implemented soon.

The Farmington Valley Chapter of Trout Unlimited has reviewed the draft Flow Management Plan submitted by D.E.E.P and has the following comments:

CUBIC FEET PER MINUTE TABLES:

The projected flow releases appear to be generally appropriate to ensure the overall health of the trout population. There are a few situations where slight adjustments may be appropriate:

- April/May/June-Reduce target flow to 150 with the anticipation that Spring rains would augment the stated release
- July-Slight reduction to 250 in order to “bank’ some water for later in the summer
- September-Slight increase to 200 offset extended summer heat conditions
- October through March-Perhaps an increase in flow to 150 to create more potential redd habitat but flow must be maintained or slightly increased to protect eggs on redds from freezing

FARMINGTON VALLEY CHAPTER TROUT UNLIMITED CFS SUGGESTIONS

MONTH	DEEP TARGETED RELEASE	FVTU RECOMMENDED
JANUARY	125	125
FEBRUARY	125	125
MARCH	150	150
APRIL	200	150
MAY	200	200
JUNE	250	250
JULY	300	250
AUGUST	250	250
SEPTEMBER	125	200
OCTOBER	125	150
NOVEMBER	125	150
DECEMBER	125	125

DETAILS OF ACTUAL FLOW MANAGEMENT DECISIONS:

The draft plan references various metrics used to determine actual flow releases. What is unclear is how the actual CFS volume is determined. Mention is made of USGS gaging stations, USAOCE Reservoir Control Center, and the CT. Interagency Drought Workgroup but exactly how they all interact is not described. Our thoughts are that an engineered computer modelling program should be developed using the following dynamic inputs to achieve the one ultimate output...FLOW

Inflow from measured USGS stations at Riverton & Still River stations using not just CFS but also looking at the rate of rise or rate of fall.

Long range weather forecast modelling. While sudden torrential rainfalls cannot be predicted in time, hurricane forecasting is longer term and can be accounted for in level control at CRL.

Rate of rise or rate of fall of actual elevations in CRL. In the past there were many instances where flows were greatly increased over short periods of time with no major storm events being predicted. There did not appear to be any active monitoring of the rate of rise (or fall) as the levels began to approach the 708-foot flood control level and no rationed and controlled proactive releases entered into play. There were also instances where excess water was flowing over spillways thus increasing downstream water temperatures, which can prove lethal to the cold-water fisheries. Avoiding spillway overflows is not only beneficial to the cold-water fishery but also aid in hydropower output. Cold water is denser resulting in more mass passing through the turbine which results in higher energy productions.

Dynamic input using computer or AI based algorithms could prove extremely beneficial in actual flow management decisions.

FUTURE CONSIDERATIONS

Spring Shad Pool-While probably outside the realm of the draft D.E.E.P flow management plan, perhaps there should be some future discussions about utilizing the water from elevation 708-714.5 feet year-

round to create an additional buffer during low flows enabling more flexibility in future water management decisions. While this would require some level of federal intervention, it is something to consider.

In-stream flow study- The original in-stream flow study was performed and completed in 1992 in conjunction with the development and subsequent passing of the original Wild & Scenic and congressionally approved legislation. Since then, climate change over recent years has resulted in far more severe and drastic weather events that affect water levels in the Colebrook and Hogback reservoirs. In addition, and since the Wild & Scenic act has been in effect, the recreational uses of the river and economic impacts on businesses and surrounding towns have changed considerably. We feel that an updated in-stream flow study is in order. **Tom Carpenter**

23. I read the draft document and attended the Jan 22 public presentation; I fully support the DEEP plan with confidence. I will also add that there is a measurable positive impact on area business revenue (from both instate and out of state) owing to the world class fishery. Any long time fly-fisherman of the Farmy will tell you how many more fisherman and out of state auto license plates are out there now.

Chris Barba

24. On behalf of Resource Protection sub committee of the Lower Farmington River and Salmon Brook Wild and Scenic, we are excited for this Plan that ensures water flow to the Farmington River. We fully support it! **Bill Salazar**

25. Do what's ever best for the trout on the Farmington River everything else I don't think really counts.
Jerry Wade

26. The Connecticut Fly Fisherman's Association

Philip Apruzzese, CFFA Vice President Environment

The CFFA has reviewed the DEEP's draft report to the CT General Assembly Environment Committee - Flow Management Plan of the Upper Farmington River in compliance with Section 2 of Public Act 24-13.

The DEEP has done an excellent job outlining the course of action it will take to manage the waters of Colebrook River Lake, Colebrook dam and Hogback dam. It has successfully delineated how its requested releases will impact the seven areas outlined in the Public Act. We commend all the authors of the DEEP plan and encourage continual reflection of the data to make adjustments to the plan as necessary. Connecticut is fortunate to have such a renowned fishery, one that draws anglers from all over the United States. The DEEP plan is based on 30 years data management of the Farmington. CFFA understands that there are varying factors, mostly weather conditions related that affect such a plan. The dedication, research and detail shown in this plan gives confidence that Connecticut will have this fishery far into the future.

Thank you for the opportunity to respond to this report.

Recommendations:

1. The CFFA strongly supports developing plans that preserve lands of the Farmington River Watershed

and protect appropriate flow levels to maintain fish habitats and recreational functions that meet the seven components established in public act 24-13. Meeting these components will provide economic opportunities for municipalities bordering the river.

2. For DEEP to oversee an updated in-stream flow study that would assist with long term management of the river which is not stated in public act 24-13 but would be beneficial since the last study was completed in 1992.

3. That the State provide temperature monitoring apparatus at the dams and on the river as well and report it on their website.

4. That DEEP determines appropriate flow levels during the brown trout spawning season and does everything in its power to maintain those levels.

5. That DEEP provide flow levels on its website. ***Philip Apruzzese, CFFA Vice President Environment***

27. Dear Mr Beauchene, Dear DEEP Team,

Thank you for the opportunity to provide feedback on the proposed water release plan for the Colebrook Lake Reservoir. As operators of the Upper Collinsville Hydroelectric Project, we appreciate the effort to balance ecological, recreational, and hydropower priorities. However, we would like to highlight several critical considerations regarding the plan's impact on our operations:

1. ***Optimum Operating Discharge for Hydropower:*** The optimal discharge for our hydropower facility is between *800 and 1,000 cfs*, measured at the *USGS Unionville gage*. Flows below *250 cfs at the Unionville gage* contribute only minimally to power production and are typically insufficient for effective operation. Please note that all referenced flow values pertain to measurements at the *Unionville gage*, rather than release values directly from the Colebrook Reservoir.

2. ***Reservoir Refill Conditions:***

We strongly recommend that *reservoir recharging only occurs when flows in the Farmington river exceed 1,000 cfs*. (*Unionville gage*) Recharging at lower flows would negatively impact power generation capacity. Maintaining this threshold is therefore critical for ensuring that both ecological and hydropower priorities are met. Without knowing the exact discharge figures at Colbrook Reservoir, we expect the threshold for refill there to be at 300 cfs.

3. ***Monthly Flow Allocations and Seasonal Adjustments:***

While the proposed monthly flow allocations (table 2 .. e.g., January 125 cfs, February 125 cfs, March 150 cfs, April 200 cfs, etc.) represent a well-considered strategy, we recommend *shifting some of the higher allocations from spring (e.g., May or June) to late summer and early fall (e.g., August, September, and October)*. Historically, the driest months have been *August,

September, and October*, and additional flows during this period would provide greater operational benefits and better support overall river health during these critical low-flow months.

Request for Further Collaboration and Support

We kindly request that the DEEP incorporate these considerations into the final plan to ensure that both ecological and hydropower objectives are met. Additionally, we propose that by *observing and comparing the discharge volumes at the respective gauges in the coming months and years*, we work together with the DEEP to optimize the discharges and find a solution that benefits both sides. Such collaboration would enable us to address potential challenges proactively while refining strategies over time.

Thank you for your attention to these concerns. We remain available for further dialogue and cooperation.

Kind regards,

Claus Maier

Cantonhydro LLC

Upper Collinsville Hydroelectric Project , Claus Maier

28. Excellent job on the plan. I agree with all of the recommended monthly "target" release values, with the caveat that day-to-day decisions re the 300 cfs listed for July should be made very conservatively. There have been many years when warm and dry conditions have persisted throughout August, September, and October. I suspect that late summer and early fall hot/dry periods are going to become more frequent in the future.

One recommended change: I believe that the 250 cfs "minimum" value listed for canoeing and kayaking should be changed to 150 cfs. I have canoed the entire West Branch and mainstem Farmington River many times at almost every possible flow level. Have canoed the West Branch a number of times when releases were ~100 and very little flow was entering via the Still River. It gets challenging to negotiate a course at levels under 150, but it isn't impossible. At releases of 150 and higher it is easily done. I admit that the experience is more pleasant, particularly for a novice canoeist, at 250 or higher. But 250 is too high to be considered a minimum value. I recommend changing the listed minimum release for canoeing and kayaking to 150 cfs. Bill Hyatt

29. The Farmington River Watershed Association is in support of the Farmington River Flow Plan which was drafted in response to Public Act 24-13. We understand that this plan is to release water from the 10BG pool stored between 644-701 feet in Colebrook River Lake to achieve targeted releases. We believe that this will help the Farmington River maintain sufficient flows to balance the needs of fish, wildlife, and the health of the Farmington River while considering flood mitigation, recreation, and safety. FRWA is appreciative of the collaborative efforts between MDC, USACE and CT DEEP resulting in this plan's submittal to the Connecticut General Assembly's Environment Committee. *Aimee Petras*

30. Trout Unlimited Response and Recommendations to: A Report of the Environmental Committee of the Connecticut General Assembly Pursuant to the Section 2 of Public Act 24-13 – An Act Concerning the Water Resources of the Upper Farmington River Valley Recommended Courses of action for the

Department of Energy and Environmental Protection to manage the waters contained in Colebrook River Lake between the levels of seven hundred one feet and six hundred forty-one feet

Dear Mr. Beauchene, Trout Unlimited (TU) welcomes and commends the Connecticut Department of Energy and Environmental Protection's (CTDEEP) "Recommended Courses" of action to manage waters contained in Colebrook River Lake (CRL) as a new approach to manage flows through Colebrook River Lake Dam (CRLD). We believe that the plan is appropriate and reflects the thoughtfulness and scientific rigor of CTDEEP staff. The mission of TU is to conserve, protect, and restore North America's coldwater fisheries and their watersheds. We bring together diverse interests to care for and recover rivers and streams so our children can experience the joy of wild and native trout and salmon. The long-term goal implicit in our mission is achieving self-sustainability of salmonid populations¹.

TU fully supports the guiding principles of the plan to strive for optimizing flow management on the Farmington River to balance the needs for fish, wildlife, recreation, river health, flood mitigation, tourism, hydropower, and safety while utilizing established water storage zones or "pools" in CRL and adhering to seasonal flow targets.

Analysis Flow Management

TU supports CTDEEP's strategy and approach that is designed to promote and maintain abundant wild trout, while also providing opportunities for wildlife, recreation, river health, flood mitigation, tourism, hydropower, and safety while utilizing established water storage zones or "pools". Keeping in mind the existing legal and statutory rules of the river and the concerns of all interested parties, the targeted release values from CRLD for each month and the factors they consider are all encompassing and backed by scientific vigor. One of TU's significant concerns is the ecological interactions between trout and their watershed during low flow summer and early fall months. Trout depend on connectivity in the river system to ensure bidirectional movement. This movement allows the fish to locate and utilize cold water thermal refuge during hot summer months, when water temperatures are warmest. Limited movement of fish, increase populations' vulnerability to water temperatures above their thermal tolerance (Wehrly et al., 2007), can cause extirpation of populations from entire reaches of rivers (Baird and Krueger, 2003). Connected streams from mainstem to the headwaters are necessary to support self-sustaining trout populations; to ensure that trout can find new habitat, gain access to suitable spawning grounds (Gowan et al. 1994, Fausch and Young 1995), recolonize habitats following catastrophic events (such as flooding or drought) and seek access to summer thermal refuge (Kaeding 1995). While TU supports the proposed targeted release values for spring and summer, we recommend a similar strategy of incremental fall releases from August to September. The proposed cubic feet per second (CFS) released from CRLD would be cut in half from 250 CFS in August to 125 CFS in September. The reduction in flow has the potential to drastically alter connectivity in low flow periods of the year leaving trout vulnerable to being stranded in suboptimal habitat with limited access to spawning grounds. Ensuring more flow during September increases the odds of trout accessing spawning grounds in October when flows are historically lowest in the system. This flow adjustment will protect and help to ensure a resilient self-sustaining trout population in the Farmington River.

Recommendations

Recommendation #1 – Increase target release values for low flow periods in September and October to create an incremental reduction in flow. The additional CFS in the fall will create a more well- rounded hydrograph by decreasing the flow gradually. It will match the incremental increase of CFS in the spring. A more subtle decline of flow releases during fall low flow periods will be better for river health and resilience, allowing more time for fish to migrate to preferable habitat.

Recommendation #2 - Additional fall time flows can be derived from a reduction in spring release during seasonal high water. The proposed reduction in targeted release in the spring will help reduce potential downstream high-water damage during seasonal high flows. The additional water, which will be stored in CRL, can be used strategically during low water years or released when needed during high water years.

Recommendation #3 – Post implementation monitoring. A study should be designed to show the success and failure of the new proposed flow regime. Potential study topics can include flow and other hydrologic studies, yearly / seasonal water temperature profiles, habitat indicator / utilization studies, biodiversity assessment of fish, biodiversity of macroinvertebrates, sediment embeddedness / pebble counts, and spawning / redd surveys.

Recommendation #4 – Additional water storage should also be negotiated with Army Corps of Engineers to protect the river from changing climate patterns to ensure enough water for releases during the summer and fall.

TU recognizes that any policy or plan based on the best scientific knowledge available will contain some uncertainty. We would like to stress the need to establish ecological monitoring to facilitate adaptive management strategies. TU advocates for the best science to maximize protection of trout, habitats, and ecosystems and will continue to be a strong supporter of CTDEEP's work and dedication to improving Connecticut's trout streams. We have staff and members that are willing to assist CTDEEP on a variety of tasks from monitoring and habitat improvements. TU is already working closely with CTDEEP staff in the watershed, and we look forward to additional opportunities for us to partner together to achieve our mutual goals.

Thank you for your consideration. Sincerely, **Richard R Mette Richard Mette Connecticut TU Council Chair** **Jon Vander Werff TU Project Manager** **Tracy Brown TU Restoration Manager**

1 TU's North American Salmonid Policy provides general guidance for our actions as an organization. The policy is based on fundamental scientific principles that focus on the importance of biological diversity and ecosystem processes in a watershed context, the connections between salmonids and watershed ecology, and the changes in populations and habitats over time and how understanding these changes can lead to effective trout management. These general principles highlight the need for thriving, diverse stream ecosystems that support and promote self-sustaining wild and native trout populations. Trout Unlimited 1997. Trout Unlimited's North America Salmonid Policy: science-based guidance for 21st century coldwater conservation. Trout Unlimited, Arlington, VA 22209 (USA).

Literature Cited Baird, O.E., & Krueger, C.C. (2003). Behavioral Thermoregulation of Brook and Rainbow Trout: Comparison of Summer Habitat Use in an Adirondack River, New York. *Transactions of the*

American Fisheries Society, 132,1194-1206. Fausch, K.D., and M.K. Young. 1995. Evolutionary significant units and movement of resident stream fishes: A cautionary tale. American Fisheries Society Symposium 17:360-370. Gowan, C., M.K. Young, K.D. Fausch, and S.C. Riley. 1994. Restricted movement in resident stream salmonids: A paradigm lost? Canadian Journal of Fisheries and Aquatic Sciences 51:2626-2637. Kaeding, L.R. 1995. Summer use of cool water tributaries of a geothermally heated stream by rainbow and brown trout, *Oncorhynchus mykiss* and *Salmo trutta*. American Midland Naturalist. 135: 283-292. Wehrly, K.E., Wang, L., & Mitro, M. (2007). Field-Bases Estimates of Thermal Tolerance Limits for Trout: Incorporating Exposure Time and Temperature Fluctuations. Transactions of the American Fisheries Society, 136,365-374. Jon Vander Werff

31. Dear Mike, While I am a member of the Farmington Valley Chapter of Trout Unlimited, I have fished the Farmington River for close to 30 years. My comments regarding the CT D.E.E.P Flow Management Plan relate to observations that may provide some context for the final plan.

First, DEEP and its predecessor(s) have built the West Branch of the Farmington River into a magnificent fishery over the past 25 years. Unfortunately, periods of low water flows as well as extended droughts have adversely impacted the fishery. The same could be said for those few times when massive precipitation has required the Corps to release much more water from the Colebrook Reservoir than normal, sometimes scouring the river bottoms.

While it seems that drought conditions have occurred more often in recent years, and because climate change may be a factor, I am thrilled that DEEP will control and establish sustainable flow levels that are helpful for (and mitigate harm to) the fishery. It also seems that some flexibility may be prudent given the seasonal nature of low water conditions.

Normally the April through June period is not an issue as rainfall and cooler water releases from Goodwin Dam and Colebrook sustain a robust fishery. The period of July through October is always the time when daytime air temperatures are higher, sunshine is more prevalent and Stanley Black and Decker might like to produce and sell more electricity to the grid by calling for greater flows. This is the most critical period for trout as river water temperatures rise and, depending on rainfall, flow levels often decline. While the focus is on flow rates, water temperature is a critical issue for anglers, trout and the macro-invertebrates they feed on in the summer and fall. Greater flows during this time can help mitigate the temperature threat as higher flows carry away more of the heat created by sunshine on rocky bottoms. More flow provides more oxygen also.

There is always the issue of how much water to store in Colebrook, how much to release and when. The Corps might like this reservoir empty for flood control reasons while recreational users prefer the exact opposite. It is obviously difficult to determine how to hold enough water back in the spring and early summer months to provide the flows in the fall for spawning while ensuring that hurricane or major storm precipitation will not require massive releases to avoid spillway or emergency dumping from the Colebrook dam with the resultant river scouring downstream. Conversely, releasing too much water too

early in the summer reduces the amount of cold water remaining in the reservoirs, so releases require a deft touch.

As a result, my specific concerns would be:

Unless there has been/will be substantial rainfall, I am uncomfortable with the June targeted release

I'm definitely uncomfortable with the July and August targets which seem a bit high

Conversely, September and October targets appear lower than I would recommend

One additional consideration could be the availability of water at Colebrook between the elevations of 708 and 714.5 feet. As we look at historical data, have better tools for weather forecasting, have an interested party coordinating flows with the Corps and consider drier periods due to climate change, perhaps usage of this water can supplement what would normally be available.

Respectfully submitted, ***William F. Case***