

Gary Fern

From: Tom Frederick [tfrederick@rivanna.org]
Sent: Tuesday, March 25, 2008 9:48 AM
To: 'Hawes Spencer'
Subject: RE: maintenance dredging

We do not understand the basis of your calculations and our numbers do not correlate with yours.

1. Gannett Fleming has extrapolated from historical bathymetric survey data that sedimentation addition to South Fork is averaging 15.14 million gallons per year. In reality, sedimentation increases with higher stream flows and will be more volume in wet years and less in dry years.
2. Gannett Fleming estimated the safe yield of the then current water system as 12.8 million gallons per day in a July 2004 study. They have forecasted a future safe yield of 8.8 million gallons per day in 2055 if no action is taken to increase the supply and sedimentation of South Fork were to continue along the historical average addressed in comment 1 above.
3. Dredging the reservoir as close as possible to the original elevation ("complete dredging"), and then maintaining that condition through repeated dredging, while retaining the existing Ragged Mountain and Sugar Hollow Reservoirs, will provide a safe yield of 14.3 million gallons per day, according to Gannett Fleming. If dredging were done today it would add approximately 1.5 mgd to the 12.8 mgd safe yield for 2004. If complete dredging were not done until 2055, it would add a forecasted 5.5 mgd to a forecasted safe yield of 8.8 mgd, which also equals 14.3 mgd. With respect to stream flow releases from dams, our overall knowledge of the issue, to include the sciences on environmental impacts, the law and regulation, and the local support within this community, strongly suggests that the maintenance of stream flow releases should remain a part of any recommended water supply option, accordingly, our safe yield estimate for complete dredging and its perpetual maintenance is 14.3 mgd.
4. Based on a projected daily demand curve shown on Page 4 of the Permit Support Document dated June 30, 2006 (available on our website), the community should be prepared for an average daily demand that could exceed 14.3 mgd within the next 15 years. On the basis of this data, even if the community were to decide on complete dredging, an additional water supply alternative beyond dredging should be built within the next 15 years.

-----Original Message-----

From: Hawes Spencer [mailto:editor@readthehook.com]
Sent: Tuesday, March 25, 2008 7:47 AM
To: tfrederick@rivanna.org
Cc: editor@readthehook.com
Subject: maintenance dredging

Dear Mr. Frederick,

People keep asking me how long a 5 million cubic yard dredging will last. I think I've got it figured out, but I wonder if you would comment on my analysis:

~~

According to the Authority, the Reservoir fills with so much sediment that it each year it loses another .079 million gallons per day capacity, a pace that is steady but one which has allowed the Reservoir, combined with the other urban water sources-- 42 years after its construction-- to still provide 165% of the urban system's demand even in the worst drought on record.

That means that despite all the cumulative siltation, the Reservoir, filled for the first time in 1966, still won't need to be dredged for another 20 or more years, depending on community growth and conservation measures. (Currently, the system loses about 15% of its

treated water on leaky pipes and other "unmetered" use.)

Once it's been given its major dredging to bring the system up to 115% of the community's 50-year need, the Rivanna Reservoir could go for another 35.44 years, according to the Hook's calculations, before it slips below 100 percent of the area's 50-year safe yield in a worst-case drought.

By then, it may be time for another dredging.

~~

Fair?

Sincerely,
Hawes Spencer

--

~ ~ ~ ~ ~ Hawes C. Spencer, Editor &
Publisher The Hook 100 Second Street, NW Charlottesville, VA 22902 ~ ~ ~ ~ ~
~ ~ ~ ~ ~ 434-295-8700x230 -- office
434-960-9343 - mobile
<http://www.readthehook.com>

AWESOME NEW EVENT CALENDAR at <http://www.readthehook.com/music/>
About: <http://www.readthehook.com/music/?p=346>
Submissions: http://www.readthehook.com/music/?page_id=284
Podcasting: http://www.readthehook.com/music/?page_id=285

Gary Fern

From: Mike Gaffney [Mike@gaffneyhomes.com]
Sent: Tuesday, March 11, 2008 4:11 PM
To: O'Connell, Gary; tfrederick@rivanna.org; gfern@serviceauthority.org; Mueller, Judy; btucker@albemarle.org
Subject: RE: Dredging

If a study of maintenance dredging costs almost as much as a full blown dredging study, I agree with Gary. Let's leave dredging where we left it two years ago.

From: O'Connell, Gary [mailto:oconnell@charlottesville.org]
Sent: Tuesday, March 11, 2008 3:56 PM
To: tfrederick@rivanna.org; Mike Gaffney; gfern@serviceauthority.org; Mueller, Judy; btucker@albemarle.org
Subject: Re: Dredging

I spent some time on phone today discussing...now leaning to not studying at all. Just opens up a can of worms. What we probably should study is how we can protect So Fork from further siltation - in conjunction with Albemarle county to further protect the capacity of our water supply.

Gary O'Connell
City Manager
City of Charlottesville , Virginia
434-970-3101
www.charlottesville.org
A World Class City

-----Original Message-----

From: Tom Frederick <tfrederick@rivanna.org>
To: O'Connell, Gary; mike@gaffneyhomes.com <mike@gaffneyhomes.com>; gfern@serviceauthority.org <gfern@serviceauthority.org>; Mueller, Judy; btucker@albemarle.org <btucker@albemarle.org>
Sent: Tue Mar 11 15:22:38 2008
Subject: RE: Dredging

I do want to offer a comment about the decision tree. It's an excellent approach when trying to screen alternatives cost-effectively; in fact I agree with the approach so much that that approach is exactly how we developed the technical memos on the "short list", including the memo on dredging. As an example, we avoided the expense of sediment sampling in 2004 and the range of cost estimates is based on assumptions. We are now being criticized by "concerned citizens", and one of the big arguments I keep hearing is that in their opinion we did not "investigate dredging thoroughly enough".

If this were a private business answering to stockholders, we already have more than enough information to say "no" to further study. But of course we are not. My hunch is that if we decide on another study, with public input, there is going to be a lot of pressure to answer questions that will require the type of study I outlined below. Just food for thought – it could be easier to just say no to the study up front than to say yes and then limit the scope in a way that doesn't answer many of the their questions.

Also, I understand clearly the difference between studying "maintenance dredging" and "water supply dredging" from the statement it makes about staying committed to the water supply plan. But in terms of the cost of a new dredging study, I believe they are very similar in scope and cost.

From: O'Connell, Gary [mailto:ococonnell@charlottesville.org]
Sent: Tuesday, March 11, 2008 2:39 PM
To: mike@gaffneyhomes.com; tfr frederick@rivanna.org; gfern@serviceauthority.org; Mueller, Judy; btucker@albemarle.org
Cc: bhutchinson@gocho.com
Subject: Re: Dredging

I agree.

Can the maintenance dredging study be done in phases like a decision tree that we only go forward further in a study if certain positive study report conclusions were reached.
Seems like a huge amount of money for something that might not ever get done.

I would add to the airport issue - new regional jets do not need longer runways - so "technology" may alleviate the long term need for the airport to extend the runway - and consequently not need any fill dirt / soils.

Gary O'Connell
City Manager
City of Charlottesville , Virginia
434-970-3101
www.charlottesville.org
A World Class City

-----Original Message-----

From: Mike Gaffney <Mike@gaffneyhomes.com>
To: tfr frederick@rivanna.org <tfr frederick@rivanna.org>; O'Connell, Gary; Gary Fern <gfern@serviceauthority.org>; Mueller, Judy; Michael Gaffney <mike@gaffneyhomes.com>; Robert W. Tucker Jr. <btucker@albemarle.org>
Sent: Tue Mar 11 09:58:30 2008
Subject: RE: Dredging

I would be in favor of a study on maintenance dredging though.

-----Original Message-----

From: "Tom Frederick" <tfr frederick@rivanna.org>
To: "Gary B. O'Connell" <ococonnell@charlottesville.org>; "Gary Fern" <gfern@serviceauthority.org>; "Judith M. Mueller" <mueller@charlottesville.org>; "Michael Gaffney " <mike@gaffneyhomes.com>; "Robert W. Tucker Jr." <btucker@albemarle.org>
Sent: 3/11/08 8:26 AM
Subject: Dredging

In light of the current public discussion, I have been asked by some of you to identify some options or alternatives that would help bring the issues raised by the "Citizens for Sustainable Water Supply" toward some constructive resolution. Here is an early draft of a couple of options:

- (1) Confirm the direction of the current water supply plan and dismiss the reconsideration of dredging as a water supply alternative.
- (2) Confirm the decision to continue moving forward with the design of the new Ragged Mountain dam, but also direct that an RFP be prepared to retain a consulting firm to further investigate dredging. RWSA would select the consultant but could receive public input on the desired qualifications of the consultant. The study would likely include an updated bathymetric survey and additional sampling of the composition of sediment in order to

prepare a more detailed assessment of dredging's feasibility than was offered in Gannett Fleming's preliminary study. An updated estimate of probable costs could be prepared. It may also be possible to develop a vehicle where an RFP could be prepared for solicitation from dredging contractors to perform dredging of South Fork for a specified volume and term. As with any proposal, RWSA would have the option to reject all proposals. There are various directions in which this proposal could go, which would need to be developed through the consultant, and may include "turn-key" (contractor owns the sediment as soon as it leaves the reservoir and is responsible for any land required, sediment testing, marketing contracts, etc. while indemnifying Authority). With a firm proposal in hand, questions about the cost of dredging during an initial term could be clarified, but beyond the initial term would remain uncertain. If the Board wanted to award a contract for the best firm proposal, it would be at the Board's discretion at that time whether or not the assurances of the proposal warranted any reconsideration of the initial height of RMR. We could also identify some type of public input process for reporting the progress of the study. I haven't contacted any consultants yet on this idea so don't hold me to more than a ballpark estimate, but to include bathymetric and sediment sampling, this study could cost in the range of say \$500k to \$600k. We have \$300k in reserves for "watershed protection" that could be used; beyond that the cost of the study would need to further impact urban water rate, either for FY 09 or future years.

(3) Any other ideas or suggestions?

Note that I was at one time considering the idea of a study for Airport structural fill in these options, but after talking to Barbara Hutchinson yesterday, I understand the Airport has significant uncertainty as to whether or not FAA would ever provide the funds or approve a runway extension, and if they ever did get the funds, FAA would require them to treat RWSA as a contractor bidding against other contractors to supply fill, meaning any study we did of this option would be "at risk".