



Comprehensive Regional Water Supply Plan

Duck River Development Agency Comprehensive Regional Water Supply Plan

Meeting Minutes **WORKSHOP NO. 1 / KICKOFF MEETING** Henry Horton State Park June 24, 2009 9 AM - 2 PM

Meeting Participants

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Attachments: Agenda, MS PowerPoint presentation

Introductions

OBG introduced the Consultant Team to meeting participants and discussed the format for the workshops.

Missions and Goals

OBG presented Duck River Agency's mission and the project goal. Meeting attendees were asked to introduce themselves and state their objectives or their agency's objectives for the study. A summary of the project objectives identified by meeting participants follows:

- Identify alternatives that provide adequate water supply
- Learn about the project
- Emphasize regional planning approaches
- Provide adequate water supply for wasteload assimilation
- Emphasize water conservation in the study
- Support a process that fully considers all the uses of the Duck River
- Identify alternatives that maintain instream flows
- Provide support and expertise for the study
- Assess impact of alternatives on Duck River
- Develop a reliable long-term water supply

Project Overview

Presented key project issues, approach graphic, schedule and communications plan. Identified that establishing the need for an alternative and clearly defining the evaluation criteria is critical. Communications will include posting the MS PowerPoint presentation on



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DRA website. The project website is under development. Participants identified the following URL for the website: "drawsp". Workshops will be open to the public and each phase of the study will include several "open houses" which will be extensively publicized.

Participant Input / Comments

Participant comment: The title for the study "Comprehensive Regional Water Supply Plan" may indicate a lack of emphasis on other factors such as the environment. Doug Murphy identified that water supply is the primary focus because that is how the project is being paid.

Participant comment: Establishing the need for water supply is critical because there is so much difference of opinion in what need is.

Several questions and points were presented regarding communication via the website:

- Comments sent in by email will be posted on website.
- Informal questions should be asked and answered by telephone.
- Should anonymous questions/comments be posted on website (e.g., blog)? Further discussion needed on this question.

Stakeholder Participation

Stakeholders were identified as those invited to Workshop No. 1. Stakeholder input increases with increasing level of involvement in decision-making. The roles of stakeholders were discussed.

Steering Committee

The roles and membership of the steering committee were presented for discussion. The steering committee will not be used for decision-making; rather the committee will be used as a sounding board for the consultant team.

Triple Bottom Line and Shared Vision Planning

OBG identified that the water supply study is one of many elements (i.e., storm water management, etc.) comprising a comprehensive integrated water resources plan. Through the course of the water supply study OBG will attempt to identify alternatives that integrate with those elements.



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Demand Projections and Water Supply Needs

Water demands

USGS described their demand forecast work for the Duck River watershed.

- 1989 Study: First forecast was driven by Saturn project and other industries. Data was compiled by visiting each utility; obtaining customer records; and consulting with community planning agencies, Mayors of counties, and cities.
- 1999-2000 Study: Second forecast of demand data was through 2030 and identified less demand than predicted in the first study. Demand data in first study had an industrial focus while the second study concluded that the region was trending toward a "bedroom community" with more residential demand than predicted. The study included the Upper Duck River region. The demands were limited to public water supplies (i.e., agricultural demand was not included in the study). USGS compiled data from projections done by others. USGS identified that the growth rate for TUB was 4 percent per year while the University of TN data identified a 1.5 percent growth rate per year over the entire county.
- Note that the eastern part of the Coffee County is in a different watershed.
- The growth rate has been in decline in recent years due to the downturn in the economy.
- TDEC's Division of Water Supply has records for 10 years of all water utilities.
- USDA identified that there are several water mains that extend beyond the Duck River watershed (e.g., Lewisburg to Cornersville which is in the Elk River watershed). Duck River and the Elk River are considered to be in the same watershed and are exempt from interbasin transfer law.
- DRUC identified the USGS report was accurate in predicting the 5-yr demand. Conservation typically amounts to about a 10 percent reduction in demand and water supply is a small portion of the flow allocation in the Duck River. Well water usage is declining (i.e., residents connecting to public supplies) due to contamination of groundwater consumption (e.g., problems in Wartrace).
- TNC identified that the Division of Economic and Community Development completed a study considering buildout of the current zoning and has completed demand projections based on those population projections.
- TVA conducted a new water demand study in cooperation with USGS using a new source of demand projections for the Duck River area. TVA conducts the water study every 5 years.

Participant comment: Objectives of the water demand studies completed by USGS and TVA should not cloud the results of the studies.



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River Constraints

- The original requirement for the Normandy Reservoir was to meet 165 cfs at Shelbyville (155 cfs waste assimilation; 5 cfs for current drinking water supply; and 5 cfs for future drinking water supply). In 1981, TVA and TDEC agreed (after an assimilative capacity study of the river) on a summer/winter flow release scheme and lowered the winter flow requirement to 80 cfs in response to the drought of 1980-1981 (summer flow rate was not changed). In addition, during the early years of reservoir operation, the winter pool was increased from 859 ft to 864 ft to assist with filling the reservoir during dry years. In 1994, the flow requirement at Shelbyville was increased from 80 cfs to 120 cfs.
- Centerville has discharge into Duck River.
- TNC identified that there are 6 native endangered mussel species in the Duck River.
- A constraint of 100 cfs has been used as the minimum for wasteload assimilation at Columbia.
- The DRA adopted a "Drought Plan" that addresses restricted and unrestricted water demands.
- TDEC identified that agriculture withdrawals are exempt from allocation restrictions (i.e., we don't know where, how many, or how much).
- NRCS identified that livestock users are asked to voluntarily report withdrawals. NRCS can provide information for the watershed area, but will not provide withdrawals for specific locations.
- USGS published water use projections by "sector." This information is included in TVA study.
- A study was completed on the stretch of river between Normandy and Columbia and it was concluded that the river does actually lose water in certain reaches.
- The USGS had studies that seemed good until the drought of 2007. USGS contends that Normandy Reservoir was managed properly during the drought because it was the way the reservoir had been operated for 40 years. The drought of 2007 was the worst in 115 years and the reservoir had water for water supply and downstream flow for wasteload assimilation and the environment.
- It will be important to establish how much flow is returned to Duck River in drought/non-drought conditions.
- OBG asked stakeholders what flow regimes should be considered solely for maintenance of aquatic habitat and what limits on wastewater discharges are associated with desired flow regimes. The parameters and limits in wastewater permits (and the corresponding flows) that affect aquatic habitat will need to be defined. TVA is experimenting with pulsed flow releases from Tims Ford to promote desired aquatic life downstream. A key question is what improvements are



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needed at the WWTPs in order to allow for reducing the flow released from Normandy Reservoir for wasteload assimilation. TDEC identified that the minimum flow releases are for waste assimilation. TWRA, US Fish & Wildlife, and TVA can assist with determining the flow and wetted perimeter needed to maintain aquatic habitat. The questions about flows for maintenance of aquatic habitat and wasteload assimilation have never been delinked.

- City of Columbia identified that wastewater treatment plants seem to always be the culprits, but the NPDES permits need to be modified. It was noted that the permits combine worst case conditions for flow/BOD/temperature, which would not actually all occur at the same time. Releases from Normandy Reservoir are set to assimilate the permitted WWTP discharge (maximum) which does not occur during drought conditions (i.e., low flows).

Cost Methodology

- Doug Murphy explained that funding for DRAWSP is paid by 5¢/1,000 gallons sold by member water systems. Alternatives should not be screened out due to cost because other forms of financing may be available.
- OBG will generate capital and operation and maintenance costs for alternatives.

Evaluation Criteria and Decision Making

Decision making

- The Board of DRA will be the "ultimate decision maker". They will consult with DRATAC, Water Resources Council (WRC), and the Consultant Team.

Evaluation criteria

- Evaluation criteria proposed for this study include: reliable capacity, raw water quality, cost, implementability/risk of delays, flexibility, environmental or recreational benefit.
- Risk of not meeting needs is incorporated into reliable capacity criteria.
- There does not appear to be a point at which water quality in Normandy Reservoir cannot be treated to meet drinking water regulations. The additional cost for treatment due to lower water levels in Normandy Reservoir will be included. Retain water quality criteria to reflect taste and odor issues that occur at low water levels in Normandy Reservoir. Water quality can also be used to address wastewater improvements.
- TEC identified that various recreational needs should be considered for the alternatives (e.g., type of fishing that may be done under one alternative vs. other



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should be listed). May want to differentiate between reservoir and riverine recreation.

- May want to consider "Economic Development" as a criterion. This criterion is separate from recreation. What is the cost to the community if you don't provide water supply? What is the whole region going to look like in the future? Need to balance growth and recreation. Recreational use may be suitable for justification of a lake in the region if that is what the DRA Board decides (i.e., do not have to construct a reservoir for water supply if there are better options).
- TNC identified that if endangered species drop off the endangered species list as a result of an alternative, it is a positive benefit.

Draft List of Available Studies and Initial Alternatives

The list of alternatives in the TVA Draft E.I.S. (2000) report will be used as the starting point for identifying new alternatives. OBG requested that participants reconfigure alternatives included in the list or provide new alternatives not included in the list.

Participant Input / Comments

Meeting projected needs is a risk analysis and the stakeholders will need to make some decisions regarding the magnitude of the "insurance policy" that is appropriate to meet future droughts.

Participant Comment: 50-year planning period is not a long time for planning. A 100-year planning period should be considered. DRA noted that the study has a 100 year vision.

Workshop No. 2

Workshop No. 2 scheduled for August 26, 2009 at HHSP.

Key Action Items

- OBG will finalize website and post meeting materials.
- OBG will obtain most recent TVA / USGS water demand projections study and study conducted by Division of Community and Economic Development.
- Contact TDEC to define constraints along the Duck River, wasteload assimilation requirements under alternate flow conditions, NPDES permit limits, define improvements at wastewater facilities, etc.
- Obtain NRCS estimates for water withdrawals for agriculture.
- OBG will draft a definition for environmental and recreational criteria.