

MEMORANDUM



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TO: East Texas Regional Water Planning Group
CC: Rex Hunt
FROM: Jeremy Rice, Simone Kiel
SUBJECT: Project Prioritization Assumptions
DATE: March 21, 2014, Updated April 30, 2014
PROJECT: PLU12102

The TWDB as required by HB4 has developed a standardized spreadsheet for prioritizing projects in the 2012 State Water Plan. The following memo documents the assumptions that Freese and Nichols used in prioritizing the water management strategies in the East Texas Regional Water Planning Area. This methodology is to be confirmed by the RWPG. Some questions require additional information from the project sponsors. These criteria will be completed with the RWPG input.

Uniform Standard 1A - What is the decade the RWP shows the project comes online? [2060 = 0 points; 2050 = 2; 2040 = 4; 2030 = 6; 2020 = 8; 2010 = 10]

- Assumed the first decade the supply is available is the online decade.

Uniform Standard 1B – In what decade is initial funding needed? [2060 = 0 points; 2050 = 2; 2040 = 4; 2030 = 6; 2020 = 8; 2010 = 10]

- Used the data responses from the IFR survey if available. In cases when the IFR survey indicated the strategy and funding is needed after the online date, the online date was used. This was for consistency with the RWP.
- If there was no IFR response, it was assumed the funding is needed the decade before the supply is online (supply online in 2050, funding is needed in 2040). If the project capital cost is greater than \$100 million then the funding is needed two decades before the supply is online (supply online in 2050, funding is needed in 2030).

Uniform Standard 2A - What supporting data is available to show that the quantity of water needed is available? [Models suggest insufficient quantities of water or no modeling performed = 0 points; models suggest sufficient quantity of water = 3; Field tests and measurements confirm sufficient quantities of water = 5]

- This criterion is evaluated based on the level of knowledge for a strategy in 2011 (time it was developed for the 2011 RWP).
- Assumed surface water supplies and groundwater supplies evaluated with the WAMs and GAMs are ranked as a "3".
- Assumed conservation had no studies/modeling, therefore, it is ranked as a "0".

- If the RWPG consultants received information that additional field studies (during the 2011 plan) have been conducted, it received a ranking of “5”.
- Assumed entities that are proposing to expand existing well fields have field tests to demonstrate sufficient quantities of water.
- Infrastructure projects that used water that was evaluated with models (WAMs, GAMs) also received a ranking of “3”.

Uniform Standard 2B - If necessary, does the sponsor hold necessary legal rights, water rights and/or contracts to use the water that this project would require? [Legal rights, water rights and/or contract application not submitted = 0 points; application submitted = 2; application is administratively complete = 3; legal rights, water rights and/or contracts obtained or not needed = 5]

- This criterion is evaluated based on the status of a strategy in 2011 (time it was developed for the 2011 RWP).
- Assumed all conservation projects do not need a contract/water right.
- While no groundwater permits are needed in counties with no GCD, water rights will still be needed. Therefore, the scoring is based on whether the entity holds the water rights or not. For county-other, it is assumed that rural customers own the property and thus the water rights. For other WUGs, this criterion is evaluated individually based on consultant’s knowledge and timing of the strategy. If no information is available and the strategy is several decades in the future, it is assumed that the WUG does not own the water rights.
- Assumed if the groundwater project was an expansion of existing well field, the sponsor held the water rights.
- If infrastructure or water treatment strategies used existing supplies, it was assumed the sponsor already holds water rights.
- Assumed if a WWP has a contract with an entity, a contract exists and a ranking of “5” was given.
- Project also considered based on consultant’s knowledge of surface water permit applications.

Uniform Standard 2C - What level of engineering and/or planning has been accomplished for this project? [Project idea is outlined in RWP = 1 point; feasibility studies initiated = 2; feasibility studies completed = 3; conceptual design initiated = 4; conceptual design completed = 5; preliminary engineering report initiated = 6; preliminary engineering report completed = 7; preliminary design initiated = 8; preliminary design completed = 9; final design complete = 10]

- This criterion is evaluated based on the level of knowledge for a strategy in 2011 (time it was developed for the 2011 RWP).
- The default value was a “1” unless consultant was aware of level of planning.

Uniform Standard 2D - Has the project sponsor requested (in writing for the 2016 Plan) that the project be included in the Regional Water Plan? [No = 0 points; yes = 5]

- This criterion is evaluated based on the level of knowledge for a strategy in 2011 (time it was developed for the 2011 RWP).
- If the project sponsor requested the strategy verbally or in writing, or the sponsor replied to a survey and either confirmed the 2011 strategy or did not indicate a change in the 2011 strategy, then the project is given a ranking of “5”.

Uniform Standard 3A - In the decade the project supply comes online, what is the % of the WUG's (or WUGs') needs satisfied by this project? [0-100%]

- Calculated the % need for the first decade by dividing the supply in the first decade online by the need in the first decade the supply is online. In instances where the need was zero in the first decade online it was assumed that the strategy met 100% of the need.
- For Wholesale Providers, used the need for the WWP for all strategies except municipal conservation. The % need for municipal conservation was based on the WUG need.

Uniform Standard 3B - In the final decade of the planning period, what is the % of the WUG's (or WUGs') needs satisfied by this project? [0-100%]

- Calculated the % need for the final decade by dividing the supply in the final decade by the need in the final decade. In instances where the need was zero it was assumed that the strategy met 100% of the need.
- For Wholesale Providers, used the need for the WWP for all strategies except municipal conservation. The % need for municipal conservation was based on the WUG need.

Uniform Standard 3C - Is this project the only economically feasible source of new supply for the WUG, other than conservation? [No = 0 points; Yes = 5]

- Assumed if multiple strategies were evaluated, then there is more than one economically feasible source.
- All conservation strategies received a score of "5".

Uniform Standard 3D - Does this project serve multiple WUGs? [No = 0 points; Yes = 5]

- Assumed that if the strategy supplies multiple WUGs then yes, if not then no.
- A "Yes" was assumed for all WWPs.

Uniform Standard 4A – Over what period of time is this project expected to provide water (regardless of the planning period)? [Less than or equal to 20 yrs = 5 points; greater than 20 yrs = 10]

- Assumed that each decade there is a supply amount the supply was available for 10 years. If the number of decades was greater than 2 the supply was online for greater than 20 years.

Uniform Standard 4B - Does the volume of water supplied by the project change over the regional water planning period? [Decreases = 0 points; no change = 3; increases = 5]

- Assumed that if the supply in the first decade the project is online is the same as last decade online, then the supply remains the same and is assigned 3 points.
- If the supply in the first decade online is greater than the last decade supply, then the supply decreases and is assigned 0 points.
- If the supply in the first decade online is less than last decade supply, then the supply increases and is assigned 5 points.

Uniform Standard 5A - What is the expected unit cost of water supplied by this project compared to the median unit cost of all other recommended strategies in the region's current RWP? [200% or greater than median = 0 points; 150% to 199% = 1; 101% to 149% = 2; 100% = 3; 51% to 99% = 4; 0% to 50% = 5]

- Calculated the unit cost in the first decade online in \$/acre-foot. Then calculated the median unit first decade cost of all of the strategies. The unit cost of each individual strategy was divided by the median unit cost of all strategies for the region to assess the relative cost.
- For conservation strategies that had high unit costs for the first decade because the water savings have not been realized at the expected level, the unit costs for the first two decades were averaged. This provides a more accurate assessment of cost effectiveness of the strategy.

Strategy Grouping (Rollup)

Project rollups are based on funding relationships. Projects that have supply relationships but would be funded individually are not rolled up. The project rollup allows the scoring to be the same. All projects that are rolled up are still listed individually in the spreadsheet; they would be just scored the same. Presently, the projects are still prioritized separately. The scores for the rolled up projects are listed at the bottom of the Project Scoring sheet.

Most of the supply strategies will remain as separate entries and be scored individually. The recommended rollups are shown below:

- Lake Naconiche Project. The project sponsor would be Nacogdoches County. This includes Projects I-3, I-31, I-60 and I-124.
- ANRA Treatment and Distribution Project and its recipients. The project sponsor would be ANRA. This includes Projects I-1, I-56, I-113 and I-128.

Strategy Observations

During the course of evaluating the data to prioritize the projects, some inconsistencies in the representation of the strategies in the database and the project list were identified. To make any changes to the database would require the issuance of an errata and plan amendment. Since these inconsistencies are minor, do not pose a risk to funding and will be corrected in the 2016 plan, no changes are recommended. The inconsistencies noted include:

- Project I-85, Purchase water from Provider, Manufacturing, Angelina County. This strategy is listed as a single strategy, but represents two strategies: 1) purchase from the City of Lufkin and 2) Purchase from ANRA. The consultants are discussing this with the TWDB. These strategies are currently prioritized as one strategy.
- Projects I-89 and I-90, Purchase water from provider, Manufacturing, Orange County. These are the same project (purchase water from SRA) but are listed as two projects because of a data entry error. Both data entries should list "Purchase water from provider (1)": no infrastructure.
- Project I-110, Purchase water from Provider, City of Nacogdoches. This strategy is recommended as an alternate strategy in the Regional Water Plan and is correctly listed that way in the database for the City of Nacogdoches as a wholesale water provider. However, it is also listed as a recommended strategy for Nacogdoches as a water user group. This strategy is prioritized, as required by the TWDB.
- Strategy I-4, Municipal Conservation, Appleby WSC. Appears to be missing cost data for this strategy in the database. Assumed annual costs for evaluating Standard 5A.