



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
1645 SOUTH 101ST EAST AVENUE
TULSA, OKLAHOMA 74128-4609

FEB 15 2011

Regulatory Office

Mr. James M. Parks
Executive Director
North Texas Municipal Water District
Post Office Box 2408
Wylie, TX 75098-2408

Dear Mr. Parks:

This is in reference to our meeting on January 19, 2011, in Dallas regarding North Texas Municipal Water District's (NTMWD's) and Greater Texoma Utility Authority's Department of the Army (DA) Permit No. SWT-0-1311 for the construction and operation of a raw water intake structure on Lake Texoma for water diversion from Lake Texoma to Lake Lavon and my concerns related to the risks of zebra mussel infestation. Thank you for traveling to Dallas on short notice and for your letter of January 20.

We appreciate your commitment to not resume pumping at this time. Non-diversion is the best way to preclude the spread of the zebra mussel through the pathway of the Texoma to Lavon pipeline. This delay in the resumption of pumping will facilitate more time for your team to assess and develop an effective and acceptable strategy to manage zebra mussel risks related to the pipeline. Allowing NTMWD to pump Texoma water at this point without any operational modifications would likely transport viable zebra mussels, eventually colonizing Lake Lavon and potentially spreading to all downstream and downpipe waters.

Condition "e" of your DA permit states, "That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize adverse impact on fish, wildlife, and natural environmental values". The U.S. Army Corps of Engineers (Corps) has the authority (33 CFR 325.7) to reevaluate the circumstances or conditions of any permit and modify, suspend, or revoke DA permits as necessary in consideration of matters of the public interest, based upon matters of non-compliance or upon changes in the circumstances related to the authorized activity. Furthermore, Executive Order 13112 requires that Federal agencies, to the extent practical and permitted by law, prevent, detect, and monitor for introduction and spread of invasive species. Federal agencies shall not authorize actions that are likely to cause or promote the introduction or spread of invasive species unless the benefits outweigh the potential harm and all

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feasible and prudent measures to minimize risk have been taken. The Corps National Invasive Species Policy states that DA permits may include special conditions to require the permittee to control the introduction or spread of invasive species. We are poised to enact specific restrictions which would govern NTMWD's use of the diversion system.

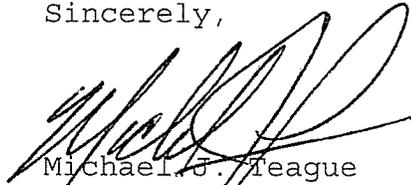
A change in the distribution status of the zebra mussel at Lake Lavon or elsewhere within the Trinity River system will not necessarily eliminate the need for control of zebra mussels as part of operation of this pipeline. Operational modifications and treatments may still be necessary to slow the spread of this invasive mussel. Your team's continued research into effective alternatives for control rather than adopting a "wait and see" posture with regard to the zebra mussel colonization of Lake Lavon acknowledges our responsibility for enacting regulatory permit decisions which slow the spread of invasive species.

Consequently, when you submit your written request to resume pumping and diversion of water from Texoma to Lavon, you should reserve 90 days in your schedule before desired commencement of pumping so that we may assess the environmental conditions prevailing at that time with regard to the status of the zebra mussel or other invasive species. Your written request should also include operational modifications that you intend to implement to ensure compliance with Condition "e" of the permit.

Because this issue affects water resources throughout a large geographic area, we will be in consultation at that time with our fellow District in Fort Worth who continues to monitor this situation.

We welcome the opportunity to continue working together to solve this matter for the good of the environment and for vital water resources in this region.

Sincerely,



Michael S. Teague
Colonel, U.S. Army
District Commander

Copies Furnished:

Mr. Jerry Chapman, General Manager
Greater Texoma Utility

Mr. Mike Rickman
North Texas Municipal Water District

Mr. Alan Plummer
Alan Plummer Associates

Mr. Charles Maguire
Director, Water Quality Division
Texas Commission on Environmental Quality

Mr. Martin C. Rochelle
Lloyd, Gosselink, Rochelle & Townsend, P.C.

Mr. Carter Smith
Executive Director
Texas Parks and Wildlife Department

Mr. Tom Cloud
Field Supervisor, Arlington Ecological Services Office
U.S. Fish and Wildlife Service

Ms. Jane B. Watson, PhD.
Chief, Ecosystems Protection Branch
Environmental Protection Agency

Mayor Bill Magers
City of Sherman

Mr. Edward G. Vaughan, Chairman
Texas Water Development Board



September 21, 2011

Life's better outside.®

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Carter P. Smith
Executive Director

Mr. Andrew Commer
Supervisory Regulatory Project Manager
Assistant Chief, Regulatory Office
U.S. Army Corps of Engineers, Tulsa
1645 S. 101 East Avenue
Tulsa, OK 74128

Re: NTMWD and GTUA 90-day Request to Resume Pumping from Texoma to Lavon

Dear Mr. Commer:

Thank you for the opportunity to review the North Texas Municipal Water District's (NTMWD) and Greater Texoma Utility Authority's (GTUA) letter requesting authority to resume pumping from Lake Texoma. The unwelcome spread of zebra mussels into Lake Texoma has created significant issues and challenges for all of us as we try to protect aquatic resources while at the same time meet municipal water needs. This time of extensive drought across the state has only reinforced our many water related challenges.

The NTMWD is to be commended for their efforts in dealing with zebra mussels and for making the tough decision to not pump water from Lake Texoma since July 2009. That was the right decision at the time, and we are appreciative of their awareness and of their actions regarding this important natural resources issue. With respect to trying to arrest the spread of zebra mussels, it is important to note that no treatment option is likely to be 100% effective. The NTMWD and GTUA plan appears thorough in its scope, and the recommendations proposed will help minimize or slow the spread of zebra mussels from the Red River basin to the Trinity River basin. We do, however, respectfully provide the following suggestions for consideration during the USACE permit review process:

1. The letter mentions four stages to the NTMWD's Water Conservation and Drought Contingency Plan, and that they are currently in Stage 2. However, the letter does not clearly explain the mandatory actions that are required of member cities and customers for each of the four stages. Stage 2 is intended to raise public awareness and establishes a goal of 5% reduction in water use. We would suggest that prior to resuming pumping from Lake Texoma that the NTMWD consider going to Stage 3 and implementing even tighter restrictions or conservation measures. Doing so could potentially provide additional time increasing the chances for the rainfall needed to alleviate the need to pump. We acknowledge this may be a temporary solution and may pose other challenges.

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2. In the "Proposed Operational Modifications" section of the letter, they discuss and focus on pumping during the winter when water temperatures are not conducive to zebra mussels spawning. The minimum spawning threshold for zebra mussels is listed as 54° F and is supported by the scientific literature. NTWMD/GTUA suggest that plankton tow sampling for unattached veligers be conducted when water temperature at the pump intake level drops to 63° F and that pumping to Sister Grove Creek would not commence until no more than 0.5 planktonic zebra mussel life forms (i.e., veligers) per liter of water are captured in two consecutive samples taken from the depth of the intakes. They then suggest that pumping would continue into spring until water temperature at the pump intake level again reaches the temperature at which pumping began in the fall. We would recommend not pumping in the fall until water temperatures reach or are below 54° F, and plankton sampling has indicated zero veligers per liter of water for two consecutive surveys. Millions of gallons of water being pumped at a rate of 0.5 veligers/liter of water still equates to a significant number of veligers being moved to Sister Grove Creek. Also, we would recommend that they discontinue pumping in the spring when water temperatures near the intake reach the minimum spawning threshold of 54° F or when veligers are once again detected in plankton tow samples, whichever comes first. We recommend that they monitor Sister Grove Creek for the presence of veligers throughout the entire pumping period and that they discontinue pumping if any are detected.
3. The letter also discusses the option of lowering the intake pumps from 30 feet to 50 feet below the water surface. While this operational modification was considered, they did not recommend it due to the need for significant pump modifications and limited expected benefits. Should the NTMWD and GTUA eventually decide to also try seasonal pumping during the summer when zebra mussels will likely be spawning, we would recommend they re-evaluate and consider the operational modification of lowering the intake pumps. Doing so would help ensure that the intakes are well below the thermocline and that dissolved oxygen (D.O.) levels are not suitable (< 3 mg/l) for zebra mussel or veliger survival. We would also recommend that they conduct plankton tow samples at the intake level (50 feet below the surface) as well as 10 feet above and below that level during this period as a means of documenting the presence or absence of zebra mussel veligers. If veligers are detected, pumping should cease until further sampling shows the absence of veligers in two consecutive surveys. We would also recommend that they closely monitor the temperature and D.O. near the intake structure and only pump when a stable thermocline is present and water quality conditions are not conducive to zebra mussel survival.
4. No mention is made of monitoring during pumping for the presence or absence of zebra mussel adults or veligers in the water of Sister Grove Creek or the water from the NTMWD outfall. This monitoring could indicate the level of risk that seasonal pumping may or may not pose for Lake Lavon and the Trinity River basin.

Mr. Andrew Commer
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September 21, 2011

Again, we appreciate the effort and cooperation of the NTWMD/GTUA in trying to keep zebra mussels confined to Lake Texoma. We encourage the NTMWD and GTUA to continue researching treatment options that may help avoid the spread of zebra mussels from the Red River basin to the Trinity River basin. Texas Parks and Wildlife Department continues to stand ready to assist any and all partners in our collection efforts to combat the future proliferation of this harmful exotic and invasive species.

If you have any questions or would like to discuss this issue further, please feel free to contact me. Thank you for the opportunity to share these comments.

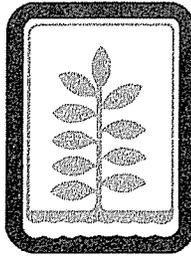
Sincerely,



Carter Smith
Executive Director

CS:GS:dh

cc: ~~Mr. Jim Parks, North Texas Municipal Water District~~
Mr. Jerry Chapman, Greater Texoma Utility Authority



NORTH TEXAS MUNICIPAL WATER DISTRICT

Regional Service Through Unity

September 29, 2011

To: NTMWD Member Cities and Customers
(list attached)

Re: NTMWD Water Conservation and Drought Contingency and Water Emergency
Response Plan – Stage 3

The North Texas Municipal Water District (NTMWD) is initiating Stage 3 of the *NTMWD Water Conservation and Drought Contingency and Water Emergency Response Plan (March 2008)* effective November 1, 2011.

Stage 3 of the *NTMWD Water Conservation and Drought Contingency and Water Emergency Response Plan (March 2008)* is being implemented effective November 1, 2011, with concurrence of the NTMWD Board of Directors, as a result of several conditions that warrant the reduction of treated water use. These conditions are:

- As of Monday, September 26, 2011, Lake Lavon's elevation was down over 11 feet, and is at 52% of usable capacity
- Loss of the Lake Texoma raw water supply by NTMWD due to presence of invasive zebra mussels
- NTMWD's remaining share of the Jim Chapman Lake raw water supply being reduced to 35 percent of capacity due to drought conditions

The goal for water use reduction under Stage 3 is a minimum 10 percent reduction in the use that would have occurred in the absence of drought contingency and water emergency response measures.

The NTMWD Executive Director is requesting that Member Cities and Customers (including indirect customers) implement the following water conservation strategies no later than November 1, 2011. Measures described as "requires notification to TCEQ" impose mandatory requirements on customers. The supplier must notify TCEQ and NTMWD within five business days if these measures are implemented.

- Continue or initiate any actions available under Stages 1 and 2.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.

- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – Initiate mandatory water use restrictions as follows:
 - Prohibit hosing of paved areas, buildings, or windows. (Pressure washing of impervious surfaces is allowed.)
 - Prohibit operation of all ornamental fountains or other amenity impoundments if they use treated water.
 - Prohibit washing or rinsing of vehicles by hose except with a hose end cutoff nozzle.
 - Prohibit using water in such a manner as to allow runoff or other waste.
- **Requires Notification to TCEQ** – Limit landscape watering with sprinklers or irrigation systems at each service address to once every two weeks between November 1 – March 31 and then once every week thereafter. Exceptions are as follows:
 - Foundations, new landscaping, new plantings (first year) of shrubs, and trees may be watered for up to two hours on any day by a handheld hose, a soaker hose, or a dedicated zone using a drip irrigation system.
 - Golf courses are prohibited from watering using treated water, except as needed to keep greens and tee boxes alive during November 1 – March 31. Golf courses may water greens and tee boxes without restrictions after March 31.
 - Public athletic fields used for competition may be watered twice per week.
 - Locations using other sources of water supply for irrigation may irrigate without restrictions.
 - Registered and properly functioning ET/Smart irrigation systems and drip irrigation systems may irrigate without restrictions.
 - Landscape associated with new construction that may be watered as necessary for 30 days from the date of the certificate of occupancy, temporary certificate of occupancy, or certificate of completion.
- **Requires Notification to TCEQ** – Prohibit hydroseeding, hydromulching, and sprigging.
- **Requires Notification to TCEQ** – Existing swimming pools may not be drained and refilled (except to replace normal water loss).

The NTMWD Executive Director **is not** requesting implementation of the following water conservation strategies at this time. The NTMWD Executive Director reserves the right to request implementation of these strategies at a later date should conditions warrant. The strategies are:

- **Requires Notification to TCEQ** – Institute a mandated reduction in deliveries to all Member Cities and Customers. Such a reduction will be distributed as required by Texas Water Code §11.039 (Appendix G).
- **Requires Notification to TCEQ** – Require Member Cities and Customers to initiate a rate surcharge for all water use over a certain level.

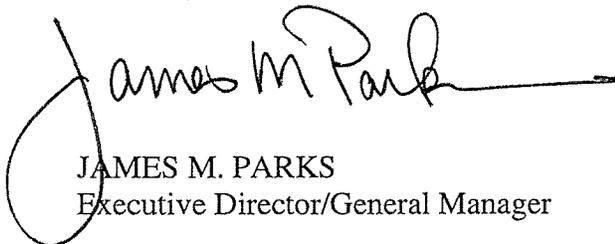
Extending the water supply during this water emergency period through the efficient use of our existing water resources is crucial to meeting the long-term water needs of the Member Cities and Customers.

September 29, 2011

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Should you need additional information or have questions, please do not hesitate to contact Mike Rickman or my office directly at 972.442.5405 or by e-mail at mrickman@ntmwd.com or jparks@ntmwd.com.

Sincerely,

A handwritten signature in black ink that reads "James M. Parks". The signature is written in a cursive style with a long horizontal line extending to the right from the end of the name.

JAMES M. PARKS
Executive Director/General Manager

cc: NTMWD Board of Directors



North Texas
Municipal Water District

NEWS RELEASE

For Immediate Release
Contact:
Rick Ericson
214.706.6000 (office)
214.679.6362 (cell)
rick@lemastergroup.com

NTMWD Initiates Stage 3 Water Restrictions November 1 ***Consumers allowed to water lawns only once every two weeks November through March***

(Wylie, Texas- September 28, 2011) Officials with the North Texas Municipal Water District (NTMWD) have initiated Stage 3 of the *NTMWD Water Conservation and Drought Contingency and Water Emergency Response Plan, March 2008, (Plan)*, which goes into effect November 1. The goal of Stage 3 is a 10% reduction in water use and increased awareness in ongoing water conservation efforts.

“The U.S. Drought Monitor anticipates the drought will persist or intensify through December 2011, so we are concerned about the declining water levels of our reservoirs,” said Jim Parks, executive director of NTMWD. “Conservation is a must, especially when it comes to watering your lawns. Stage 3 means consumers are allowed to water their lawns only once every two weeks.”

In addition to the extreme temperatures and continuing drought conditions, NTMWD currently can't pump water from Lake Texoma due to the presence of invasive zebra mussels. Lake Texoma normally provides almost a quarter of NTMWD's raw water supply.

As of Monday, September 26, 2011, Lake Lavon's elevation was down over 11 feet, and is at 52% of useable capacity. In addition, as of the most recent measurement, NTMWD's Lake Chapman water supply is at 35% due to the continued drought.

The NTMWD Board action requests that Member Cities and Customers (including indirect customers) implement the following water conservation strategies:

- Initiate Stage 3 of the Member Cities and Customers drought contingency and water emergency response plans no later than November 1.
- Limit landscape watering with sprinklers or irrigation systems to once every two weeks between November 1 and March 31 and eliminate watering from 10 AM to 6 PM. Residents should check with their city water department for specific city restrictions.

- Foundations, new landscaping, new plantings (first year) of shrubs, and trees may be watered for up to two hours on any day by a hand-held hose, a soaker hose, or a dedicated zone using a drip irrigation system.
- Wait until the current drought has passed before establishing new landscaping and no hydroseeding, hydromulching or sprigging allowed.
- Do not drain and refill swimming pools except to replace normal water loss.
- Halt non-essential city government water use including street cleaning, vehicle washing, operation of ornamental fountains, etc.
- Accelerate public education efforts on ways to reduce water usage by 10%.
- Initiate engineering studies to evaluate alternatives should conditions worsen.
- Watering of golf courses using treated water is prohibited except as needed to keep greens and tee boxes alive.

NTMWD is encouraging residents to check control units, rain and freeze sensors on sprinkler systems to prevent unnecessary usage and to repair any water leaks.

Extending the NTMWD's water supply during Stage 3 through the efficient use of existing water resources is crucial to meeting the long-term water needs of the NTMWD's Member Cities and Customers.

More information and tips on water conservation can be found at www.wateriq.org and www.ntmwd.com.

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