

## Memorandum

**To:** Lost Pines Groundwater Board of Directors  
**From:** Jim Totten, General Manager  
**Copy:** Natasha Martin  
**Date:** September 12<sup>th</sup>, 2018  
**Subject:** Proposed Modifications to DFC Monitoring Zones

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In response to comments received during the most recent round of joint groundwater planning and after consideration and consultation with the LPGCD Desired Future Conditions (DFC) committee, District staff would like to present to the Board a proposal for new DFC Monitoring Zones for consideration and evaluation during the current DFC planning cycle.

Currently, DFCs are stated as the average drawdown across the entire District for each aquifer being managed. The calculation of average drawdowns as part of the joint groundwater planning process is straightforward, because the drawdowns are calculated based on model results from the Central Queen City-Sparta Groundwater Availability Model (GAM). The GAM provides water levels/drawdowns in every cell in the model, thus enabling district-wide drawdowns to be easily calculated. For this reason, the approach of using average drawdowns across entire districts has been common across the state.

However, it is becoming increasingly clear that monitoring a district-wide average drawdowns is difficult. The aquifers within the Lost Pines GCD all dip towards the coast, resulting in the aquifers becoming much deeper, less productive, and containing poorer water quality further down dip. This results in large portions of many aquifers where no wells are present, meaning that monitoring groundwater levels to calculate drawdowns is not possible in these areas. Many districts around the state, including other districts within Groundwater Management Area 12 (GMA 12) are starting to revise their DFC approach to focus on areas where the majority of wells, and groundwater users, are located. In some areas the revised approach focuses solely on the outcrop area for each aquifer. In other areas this may be the aquifer outcrop and the shallower down dip portion of the aquifer.

District staff would like to propose that for the purpose of DFC planning and compliance monitoring that the District consider shrinking the monitoring zones to cover the unconfined and shallow down dip portions of each formation. The proposed new monitoring zones are attached to this memo along with a spreadsheet showing how the proposed changes in the monitoring zones would have impacted the current DFCs that were adopted in 2016. By reducing the size of the monitoring zones the District will be able to better focus on changes in water levels in areas where most exempt wells are located and where surface water/groundwater interactions occur, and will allow District staff to more effectively monitor the adopted DFCs.

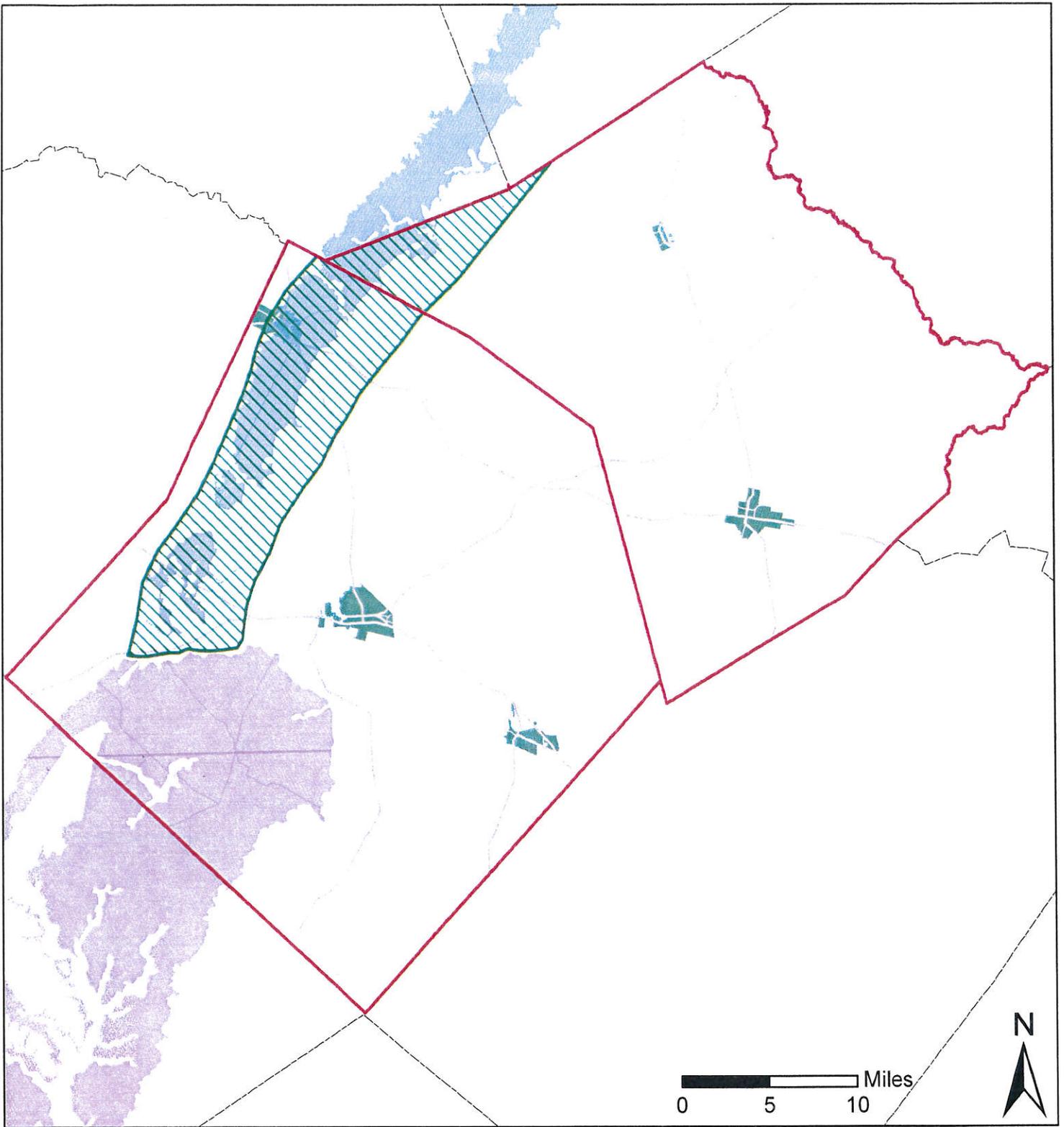
At this point the District staff and consultants would like to request that the Board consider giving the General Manager the authority to take these proposed changes to the Groundwater Management Area 12 for evaluation, comment, and review.

**Actual PS-12  
Drawdown**

**Approved DFC with Proposed DFC  
Zone**

**Aquifer**

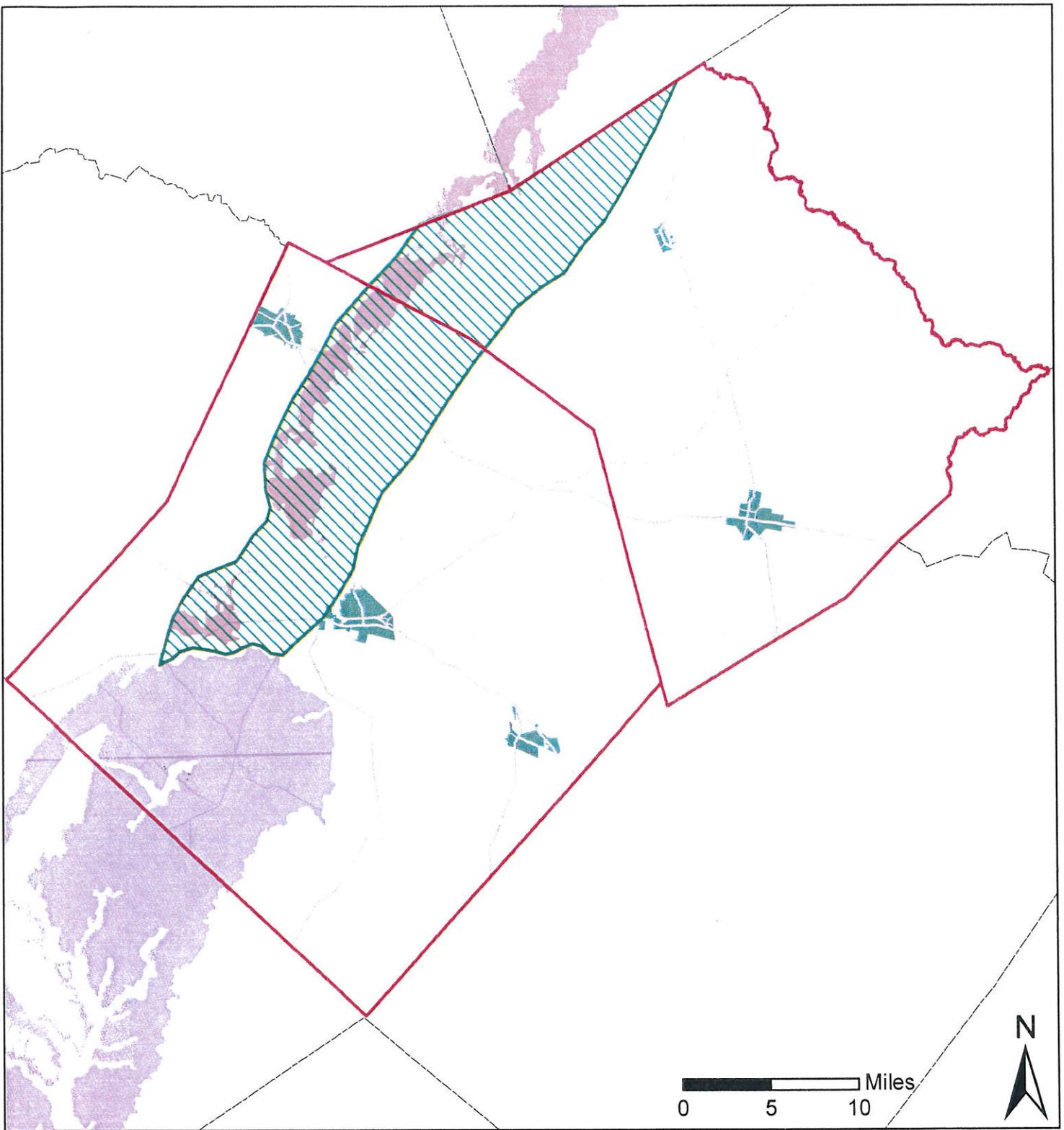
Sparta	5	1.4	4.4
Queen City	15	11	16
Carrizo	62	58	68
Calvert Bluff	100	49	109
Simsboro	240	125	250
Hooper	165	55	181



**Legend**

-  Proposed Hooper DFC Zone
-  Hooper Outcrop
-  Undifferentiated Wilcox Outcrop

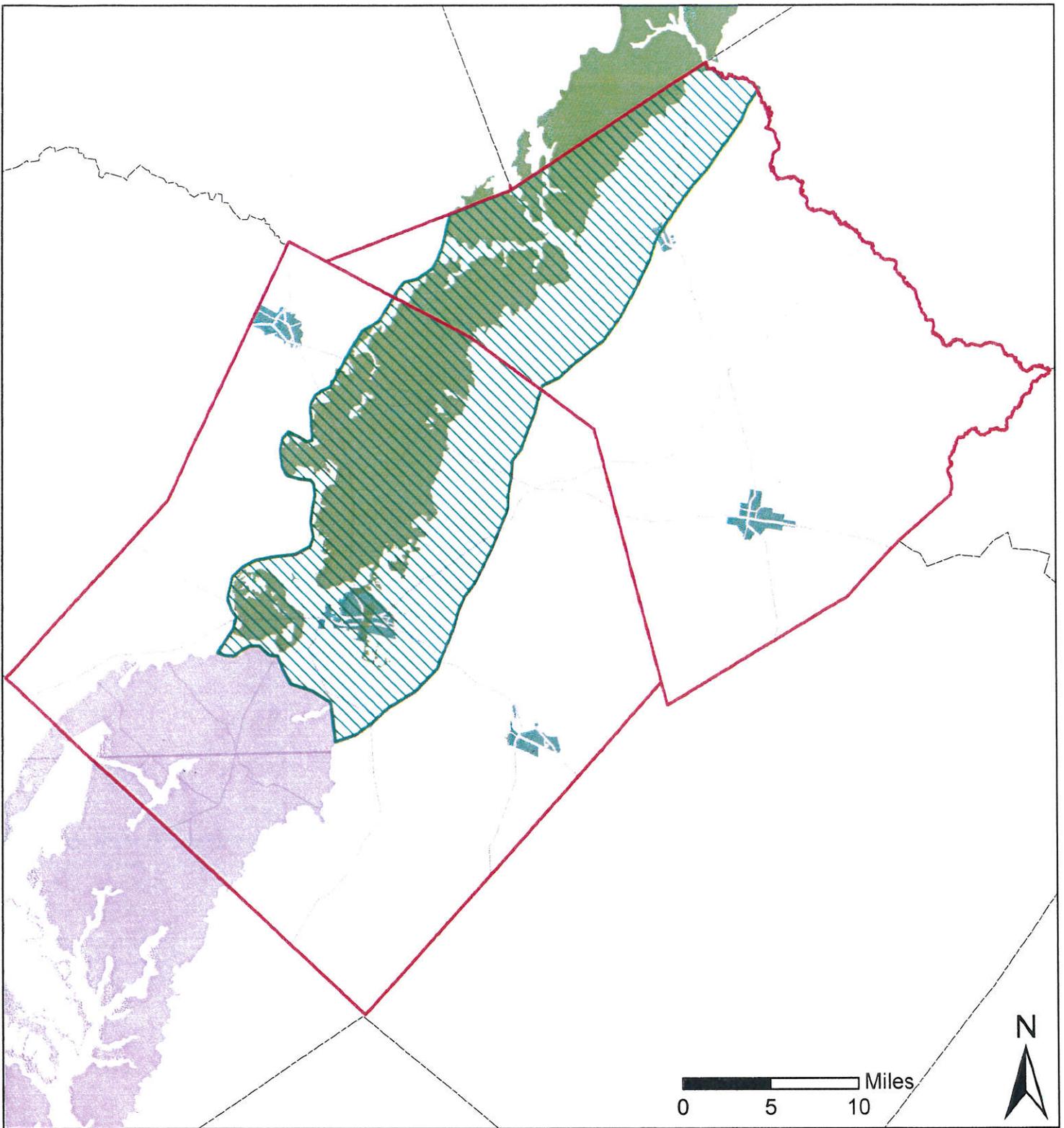
**Proposed Hooper  
DFC Monitoring Zone**



**Legend**

-  Proposed Simsboro DFC Zone
-  Simsboro Outcrop
-  Undifferentiated Wilcox Outcrop

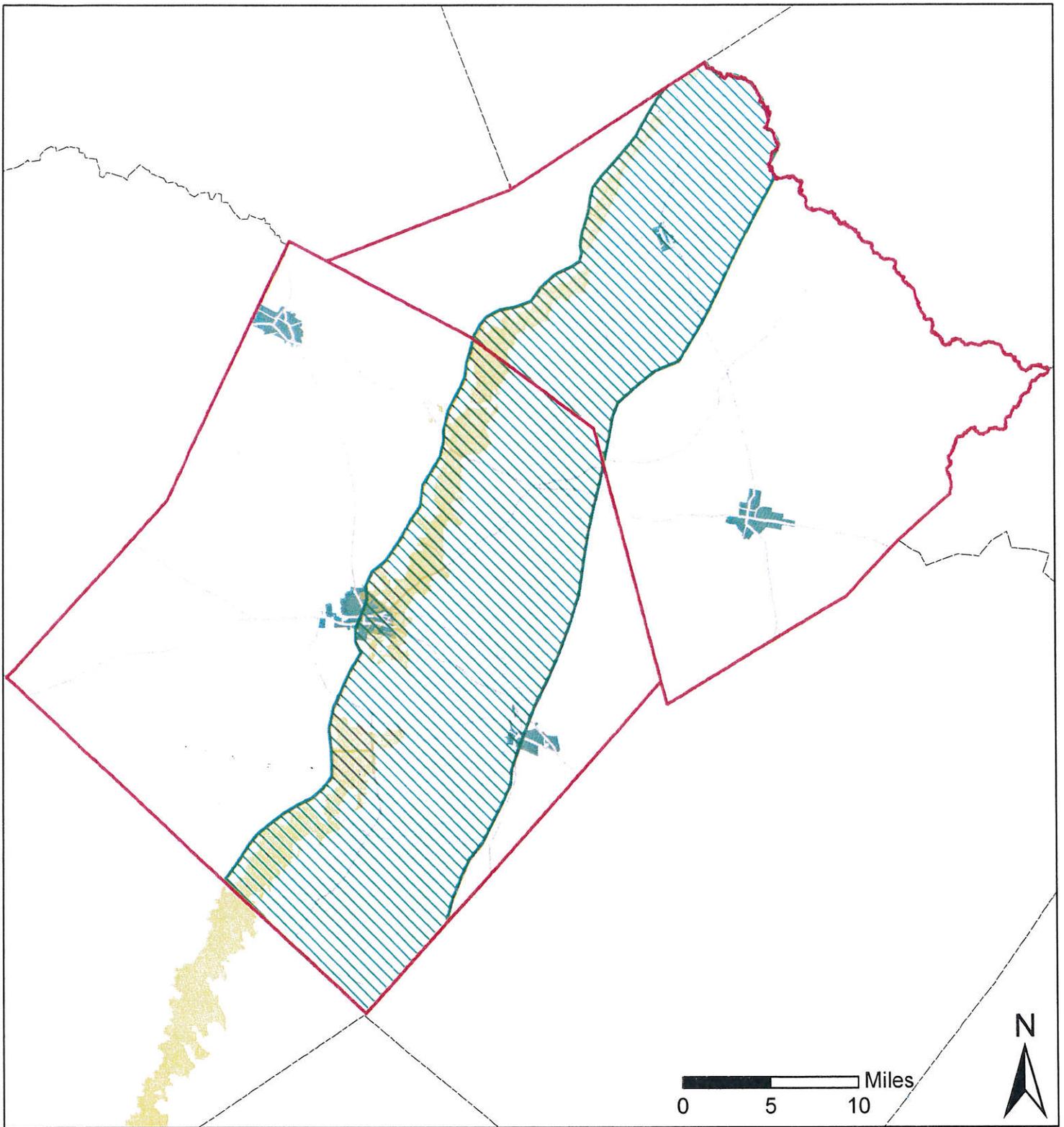
**Proposed Simsboro  
DFC Monitoring Zone**



**Legend**

-  Proposed Calvert Bluff DFC Zone
-  Calvert Bluff Outcrop
-  Undifferentiated Wilcox Outcrop

**Proposed Calvert Bluff  
DFC Monitoring Zone**



**Legend**

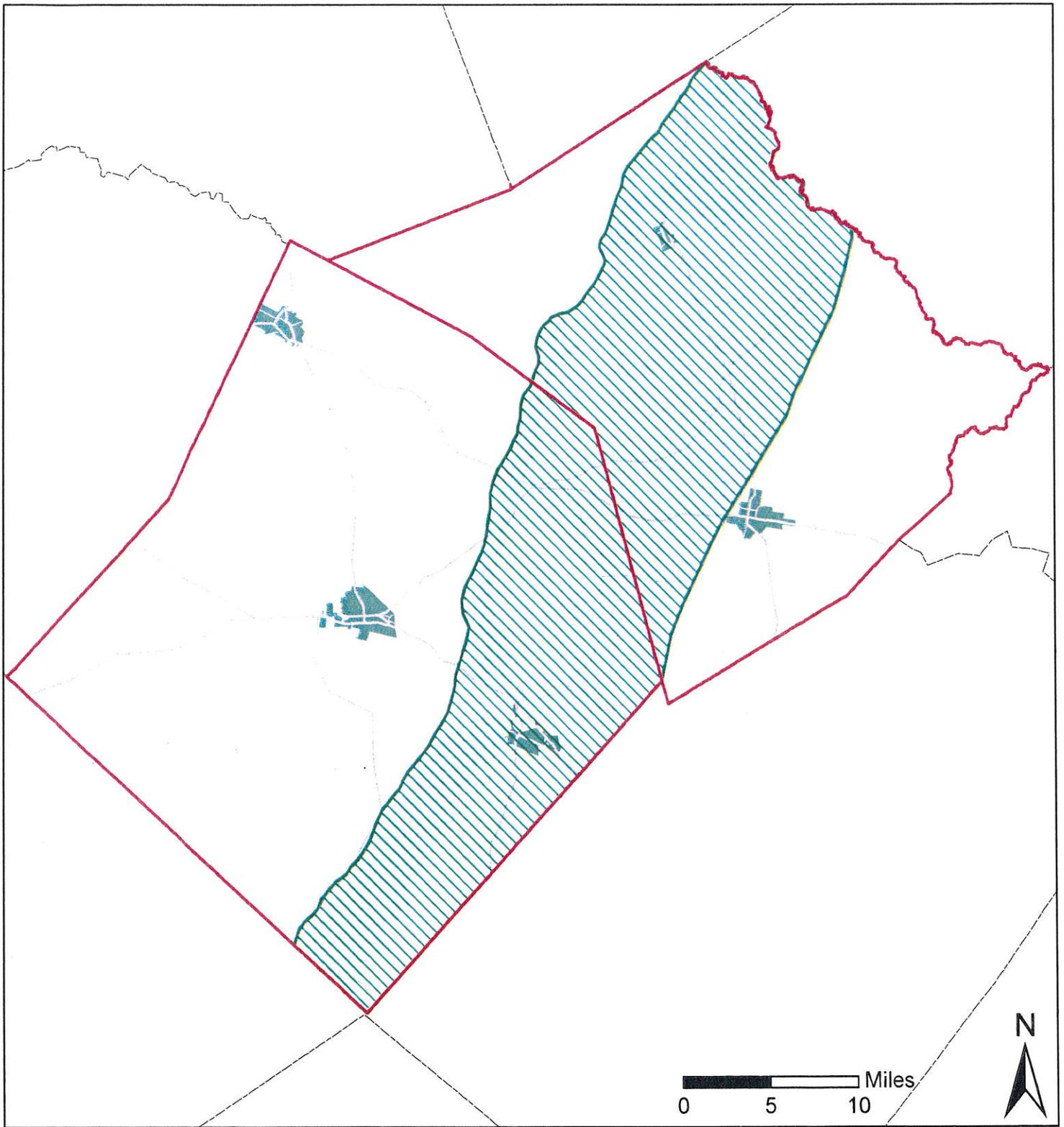


Proposed Carrizo DFC Zone



Carrizo Outcrop

**Proposed Carrizo  
DFC Monitoring Zone**



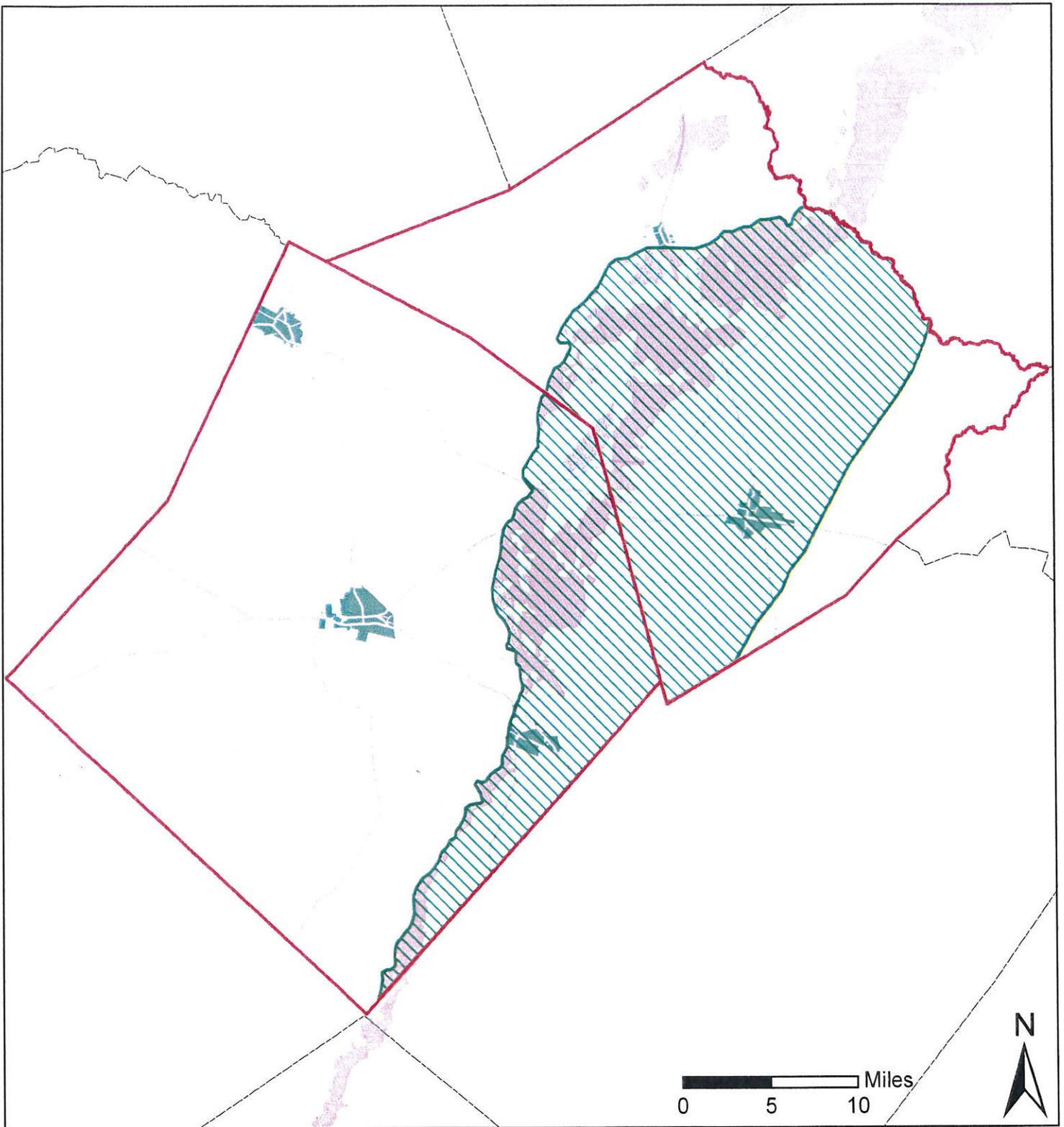
**Legend**



Proposed Queen City DFC Zone

Queen City Outcrop

**Proposed Queen City  
DFC Monitoring Zone**



**Legend**

-  Proposed Sparta DFC Zone
-  Sparta Outcrop

**Proposed Sparta  
DFC Monitoring Zone**