

A Detailed Look at North Dakota's Drilled but Uncompleted Wells



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Objective

Identify production potential and estimate price levels required to complete wells on NC & NCW status (Not Completed & Not Completed Waiver) in North Dakota.

Method

Analyze past Bakken-Three Forks well performance adjacent to non-confidential NC/NCW wells and estimate breakeven pricing for the various producing regions of North Dakota.

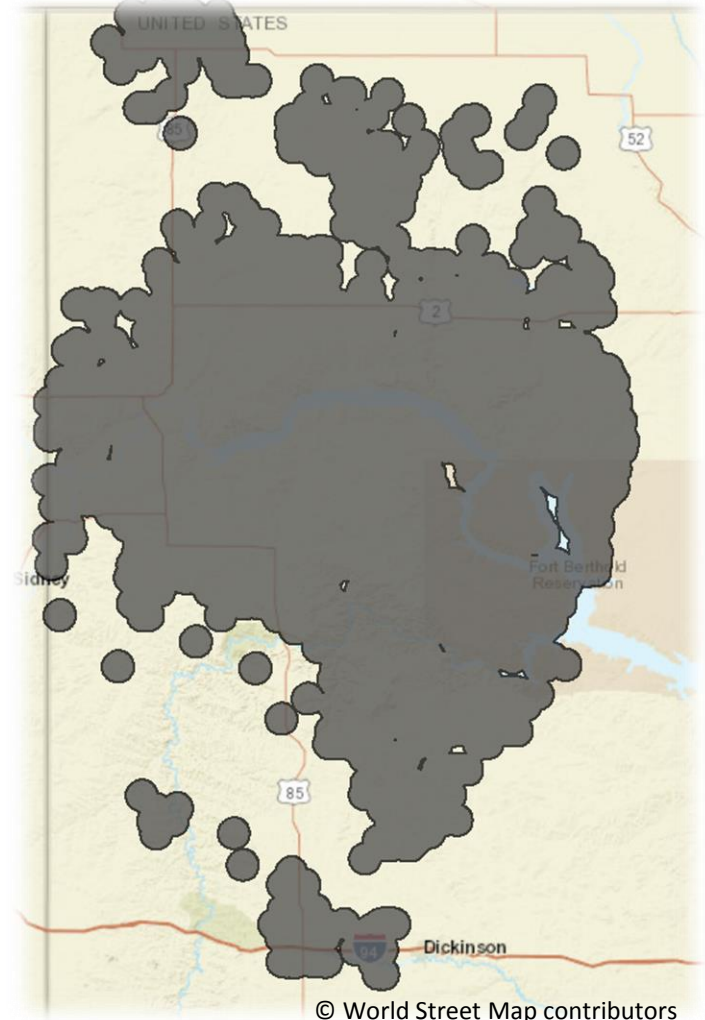
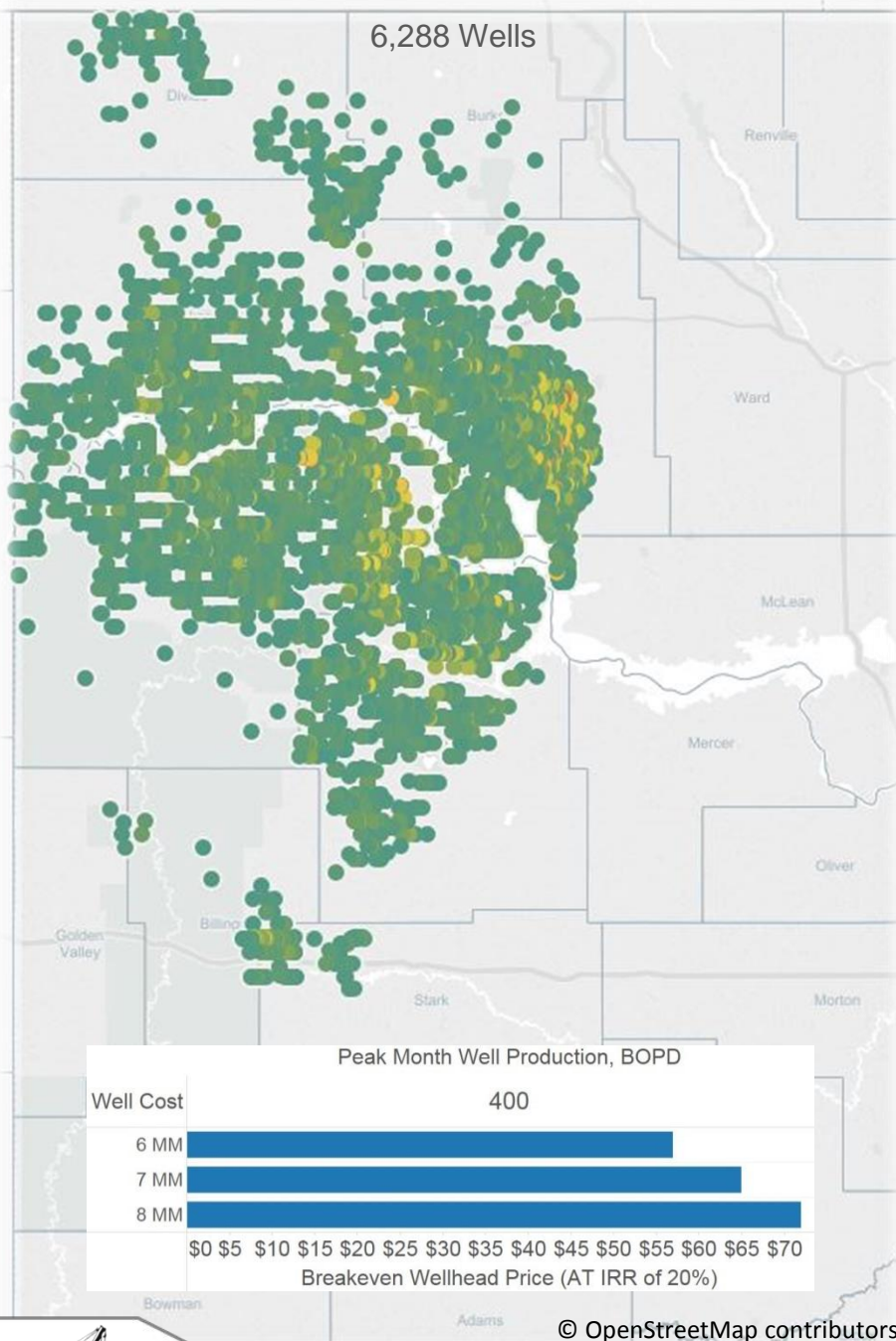
Disclaimer

The goal of this work is not to imply individual company actions or intentions. All view expressed are strictly that of Justin J. Kringstad.

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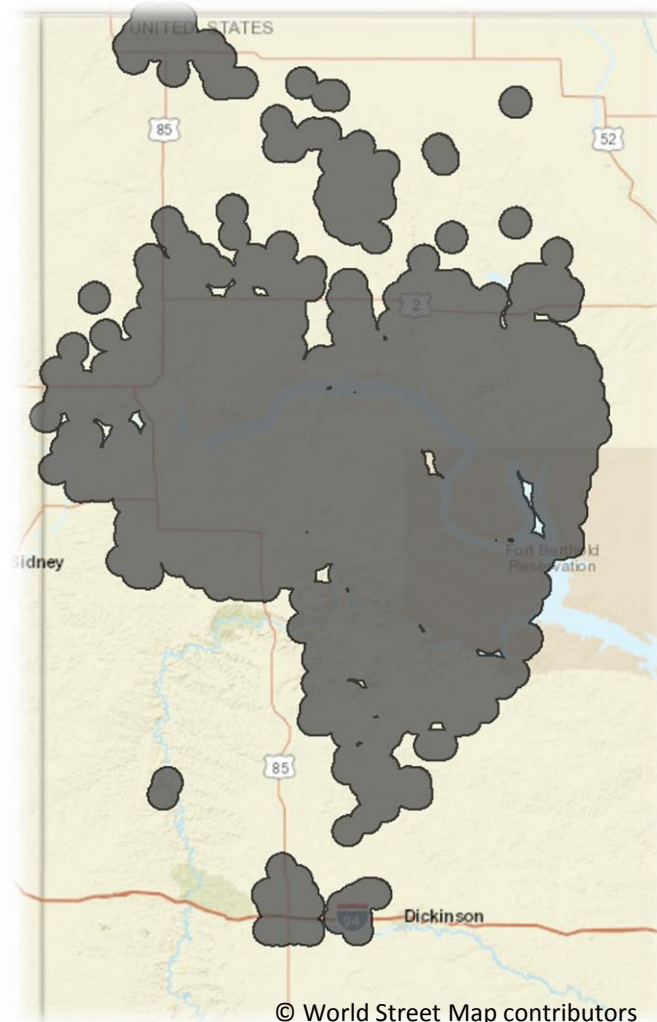
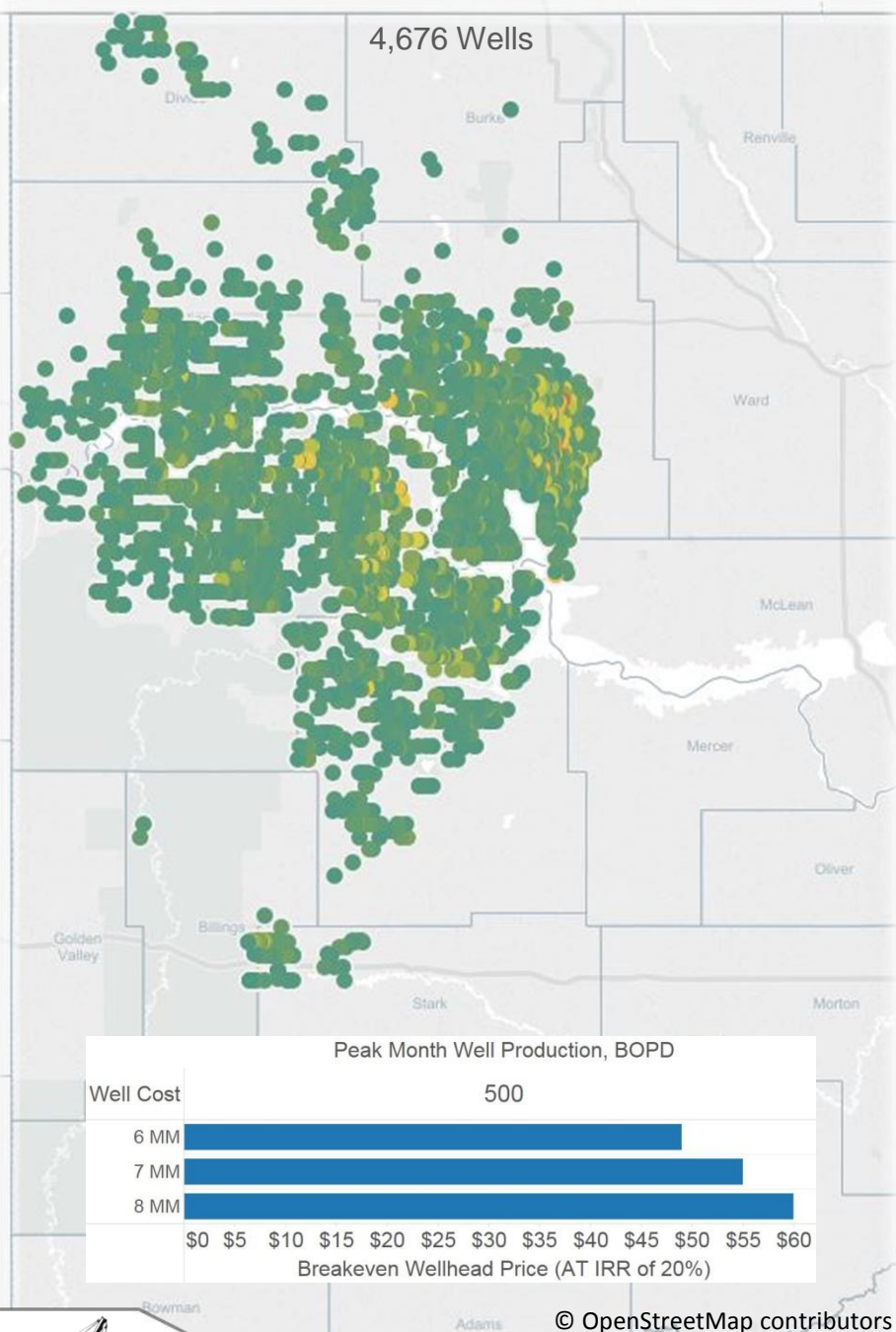
Peak Month Minimum 400 BOPD



2.5 Mile Buffer



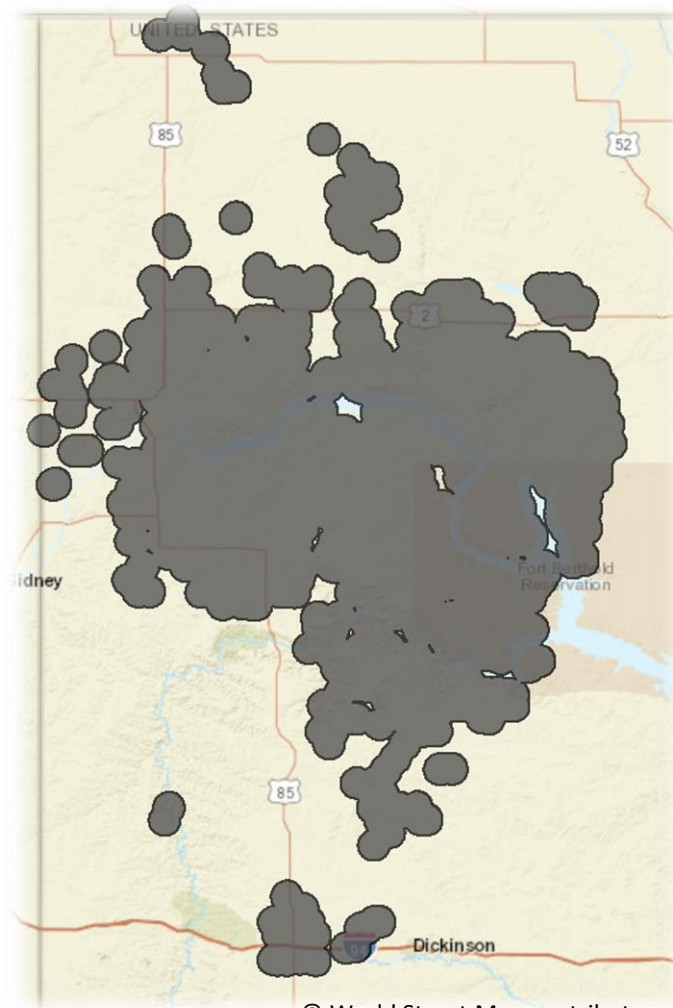
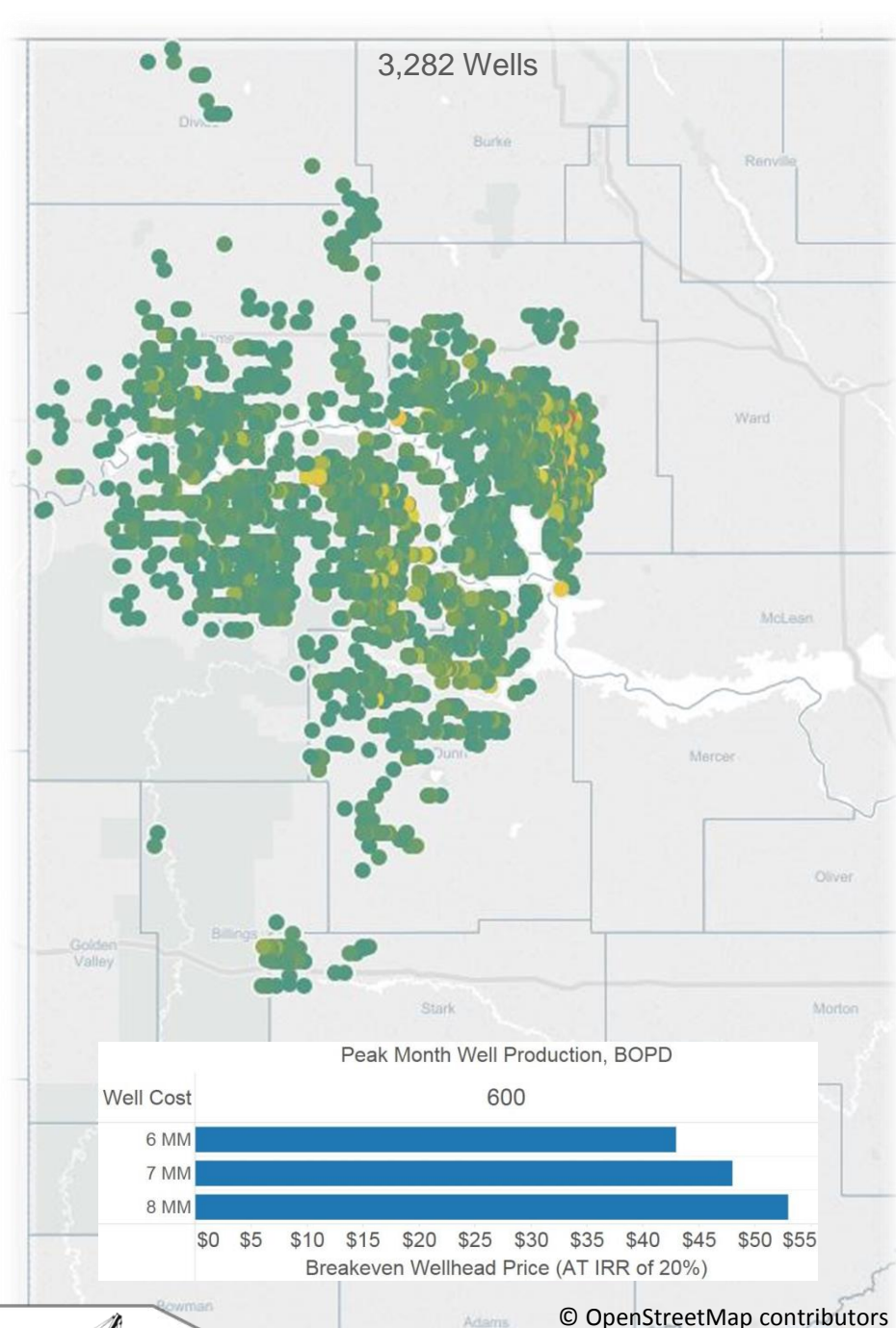
Peak Month Minimum 500 BOPD



2.5 Mile Buffer



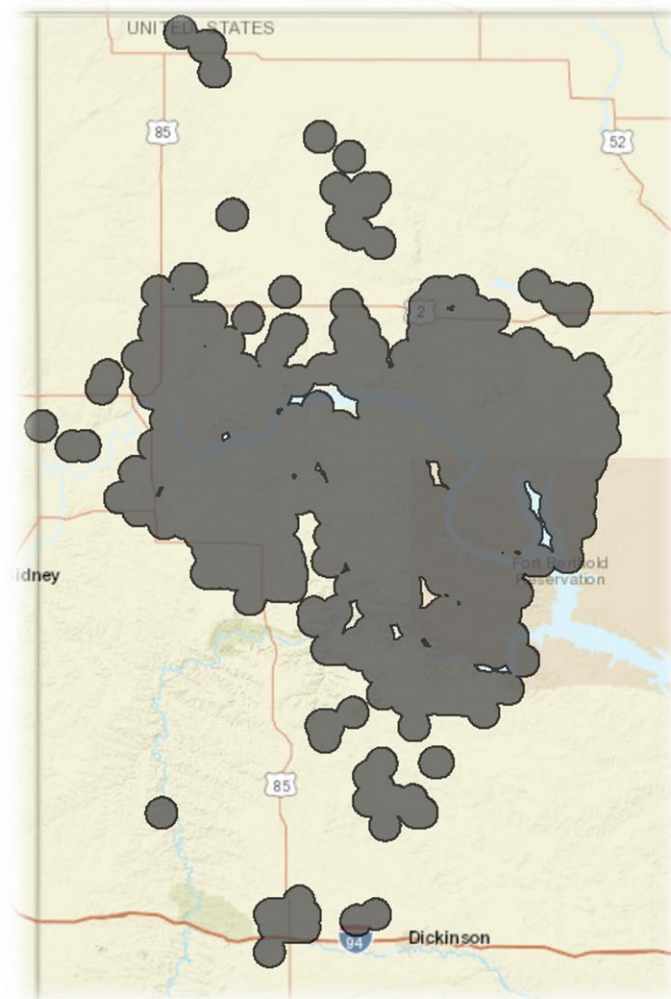
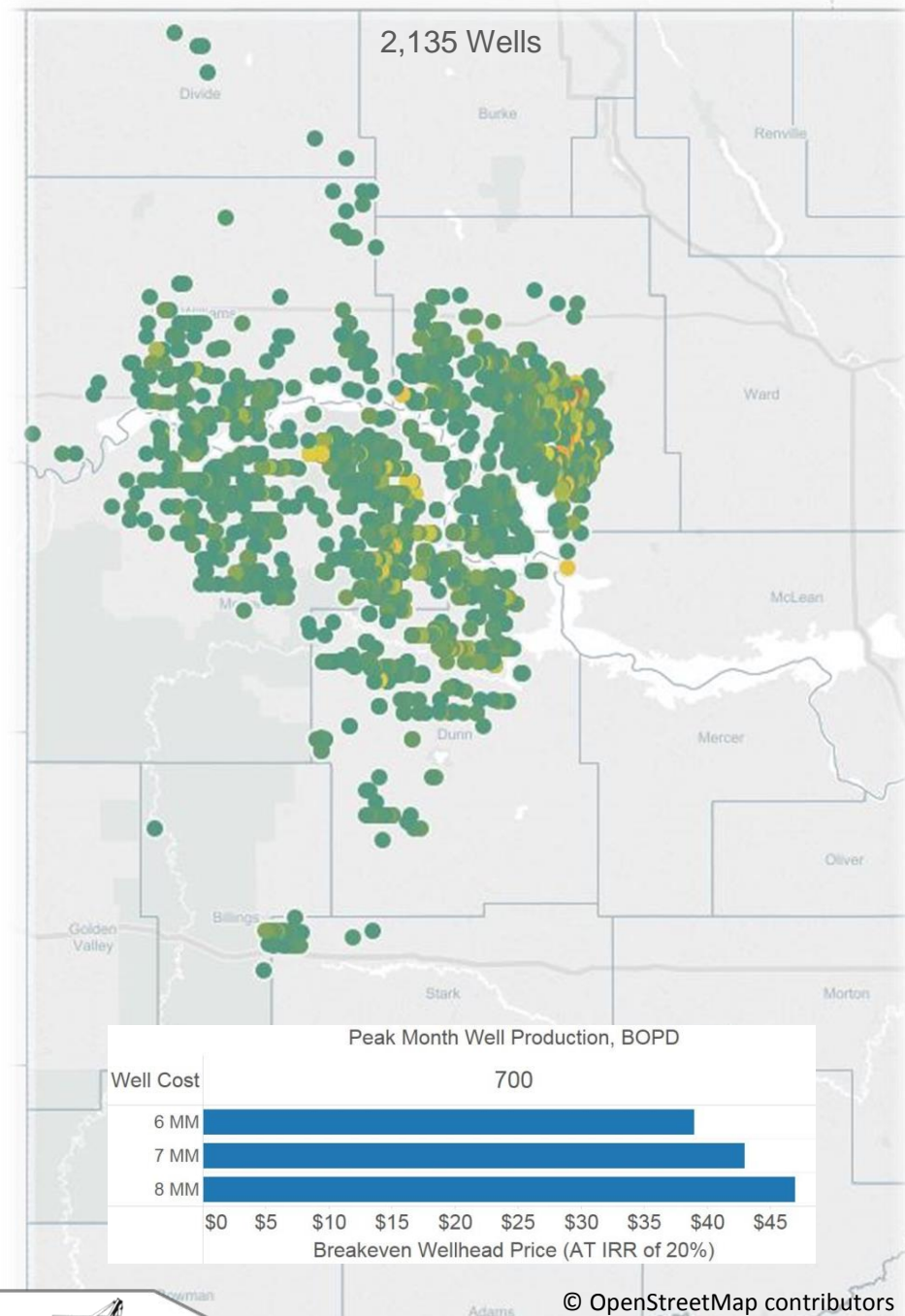
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2.5 Mile Buffer



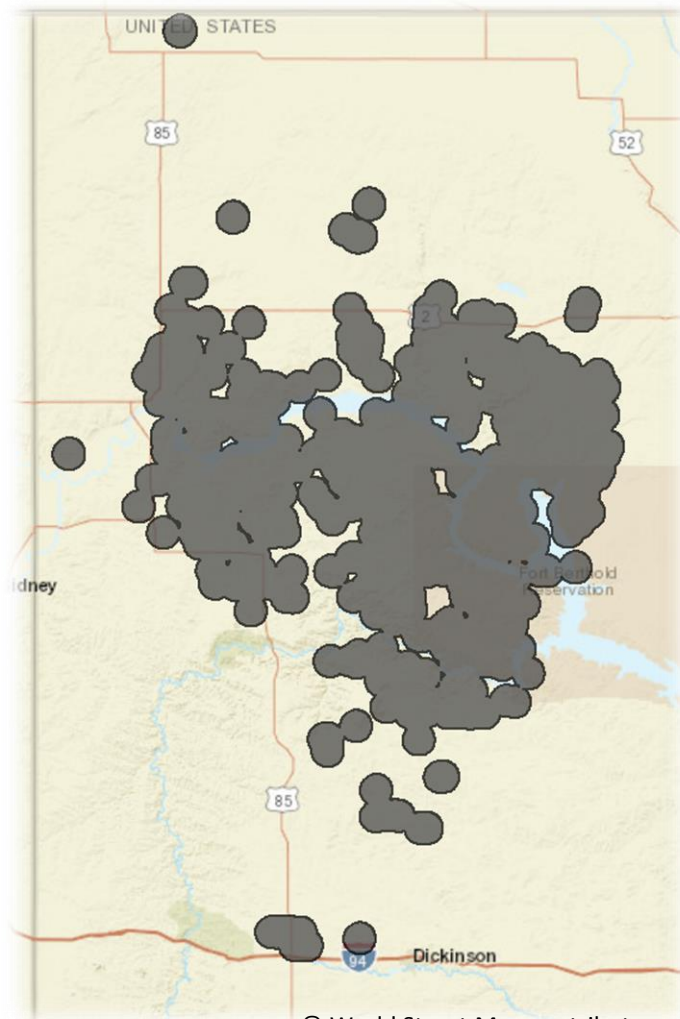
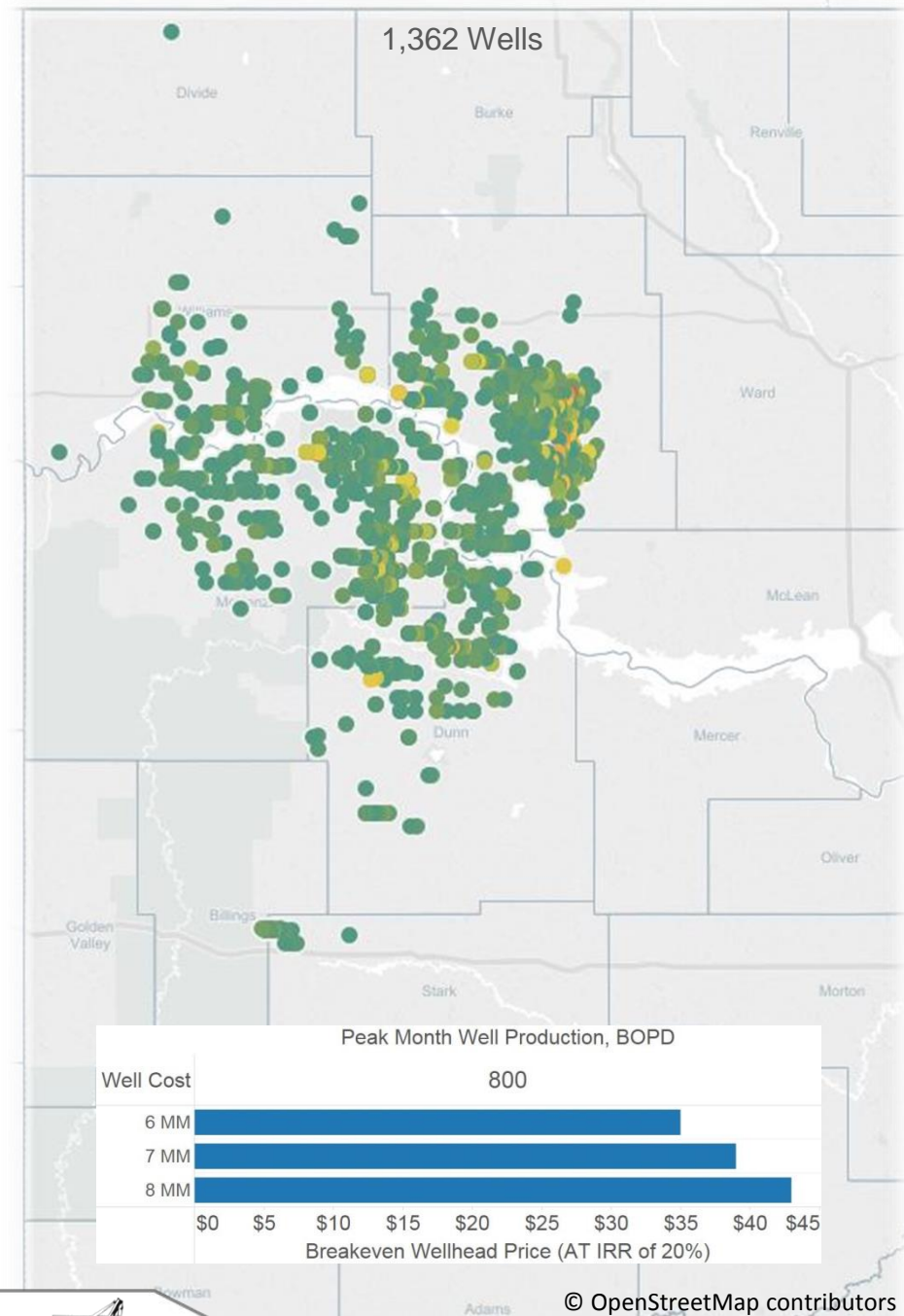
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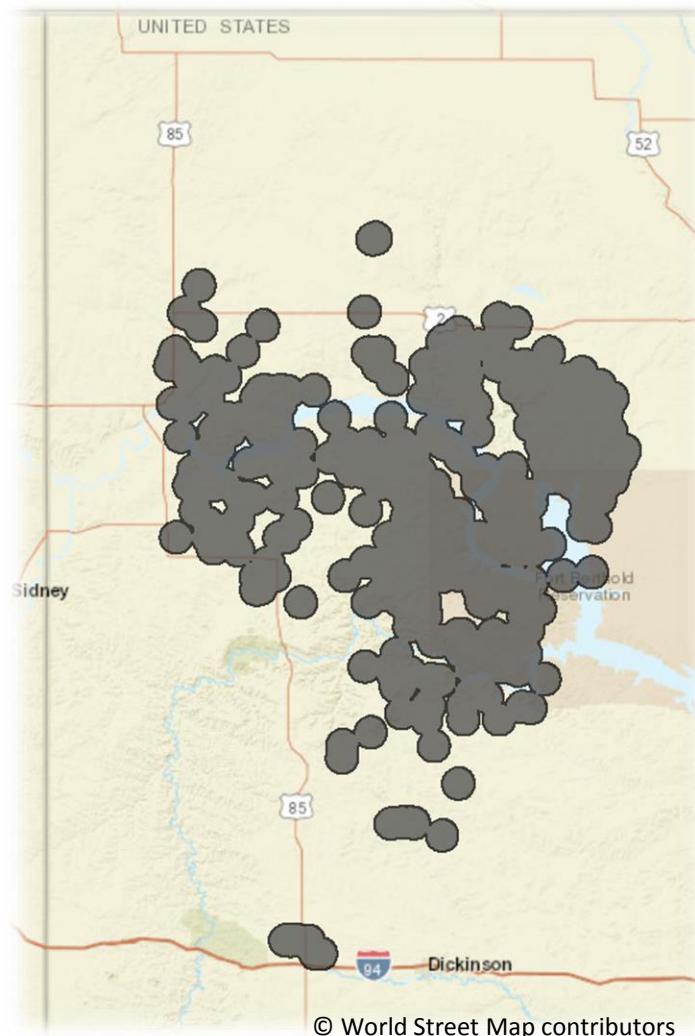
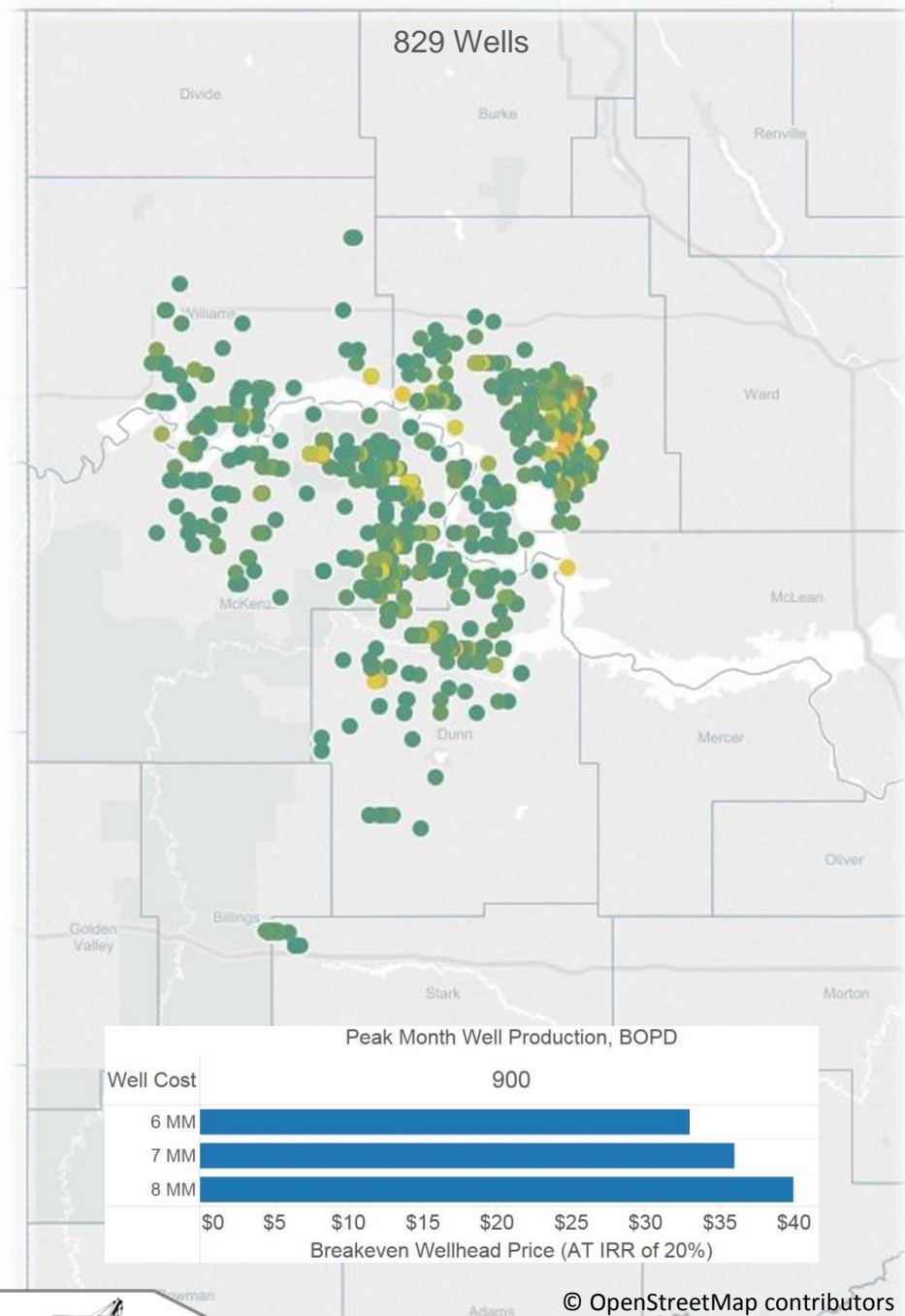
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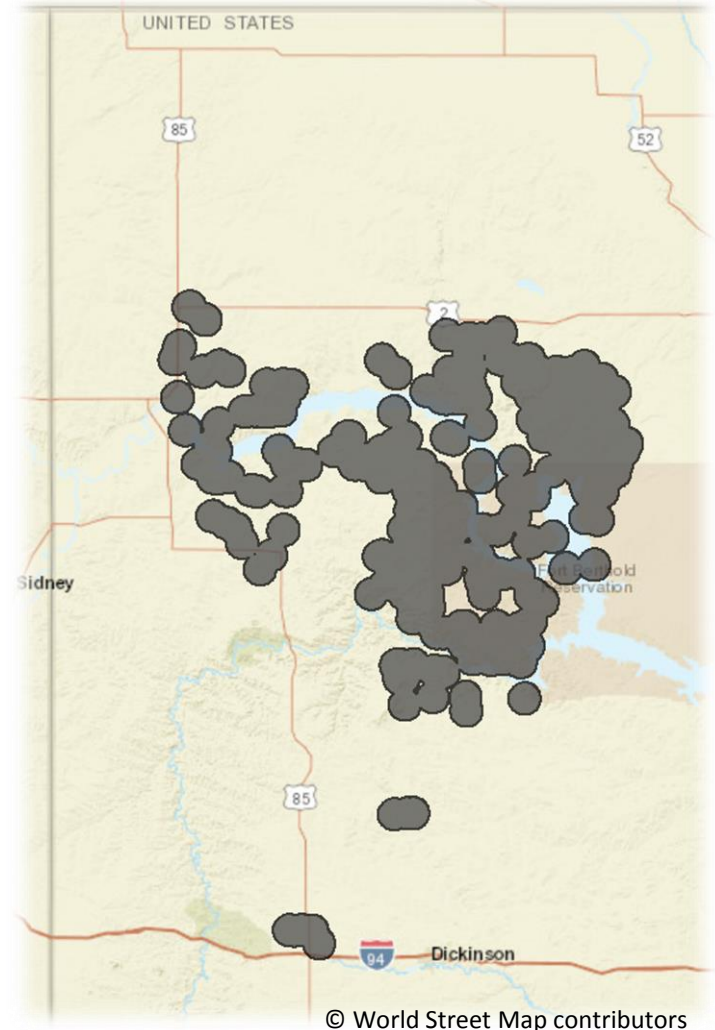
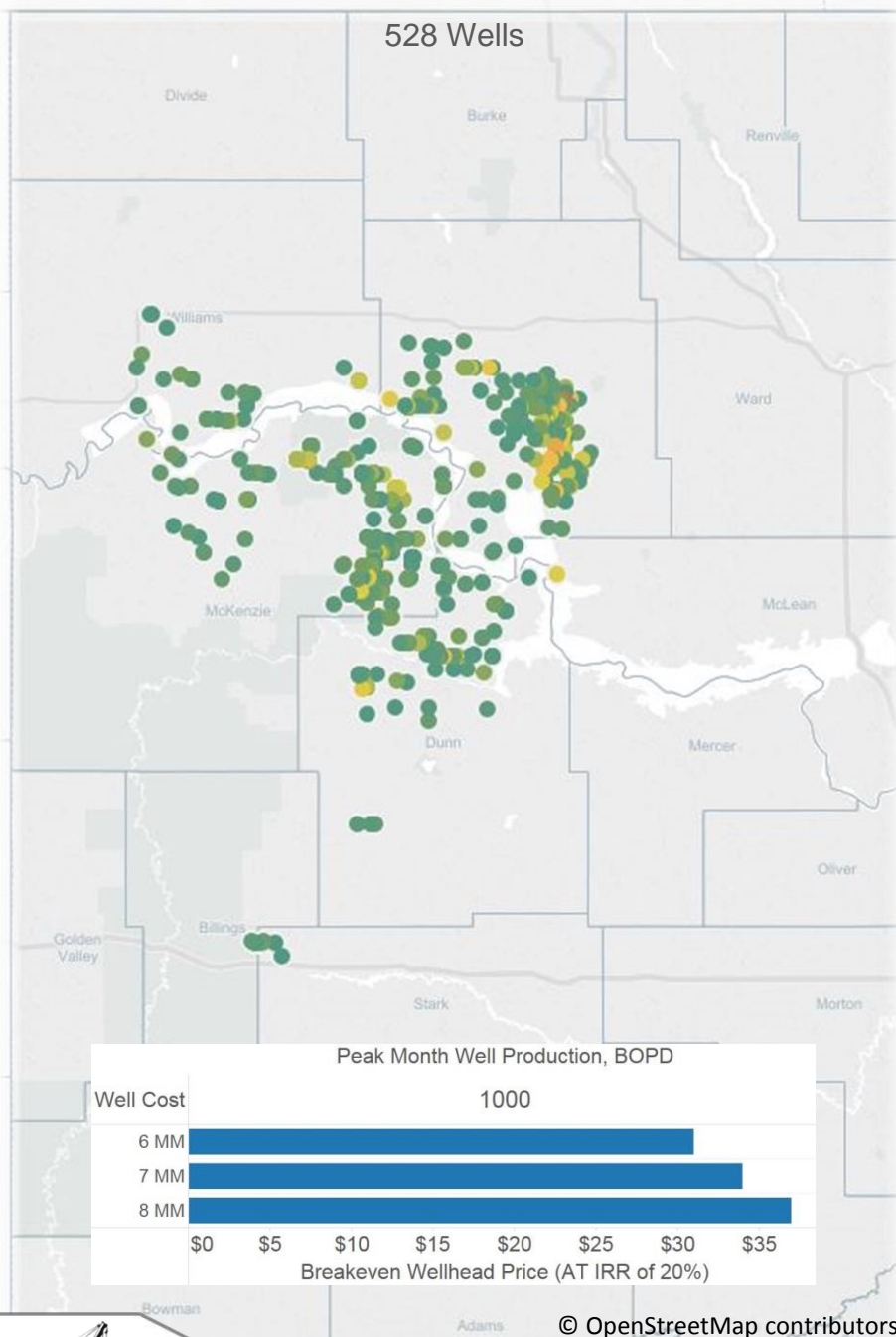
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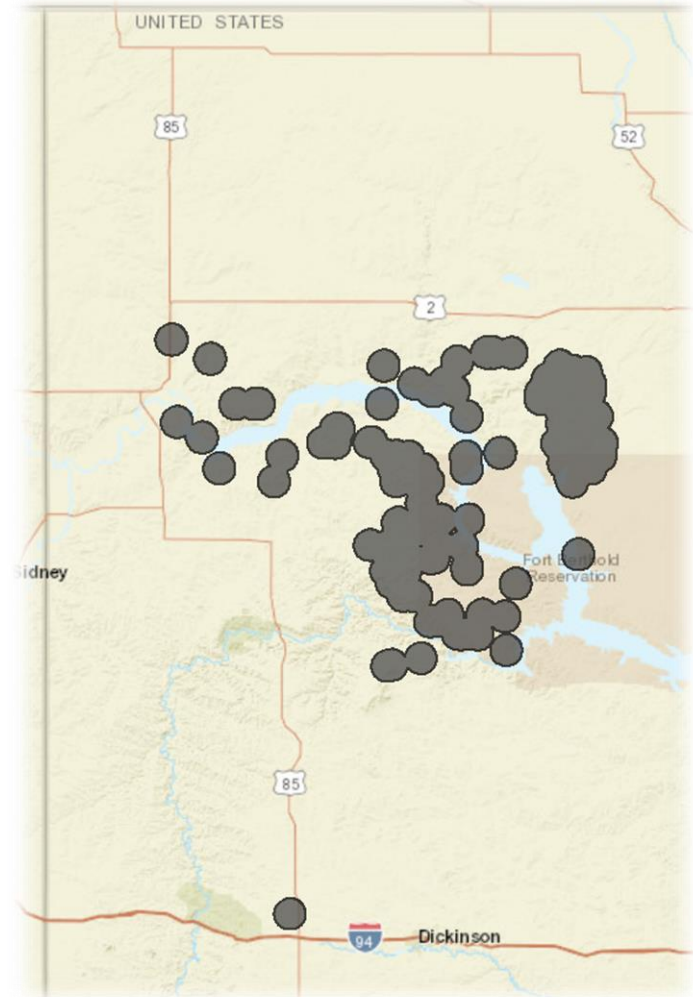
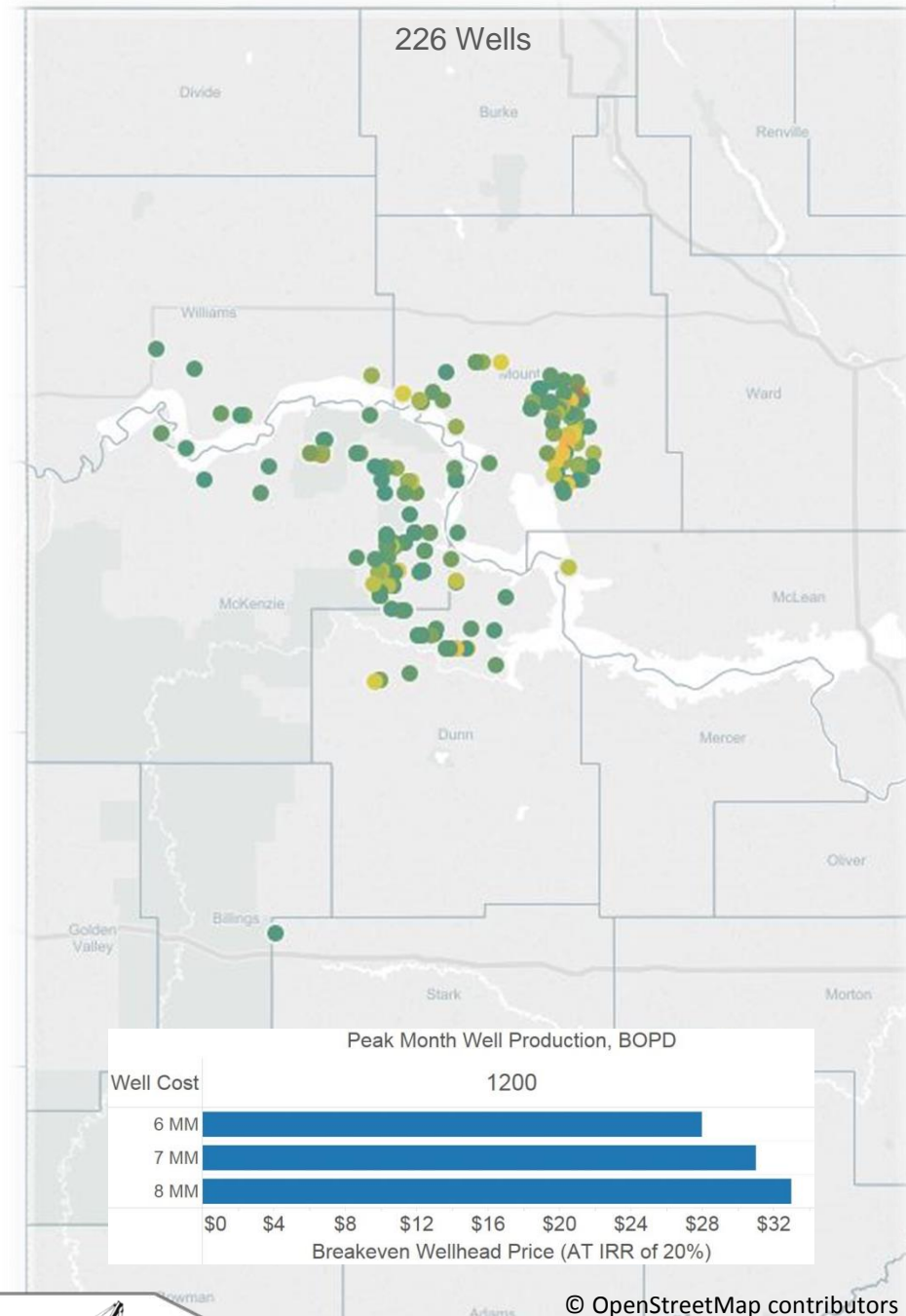
Peak Month Minimum 1,000 BOPD



2.5 Mile Buffer



Peak Month Minimum 1,200 BOPD

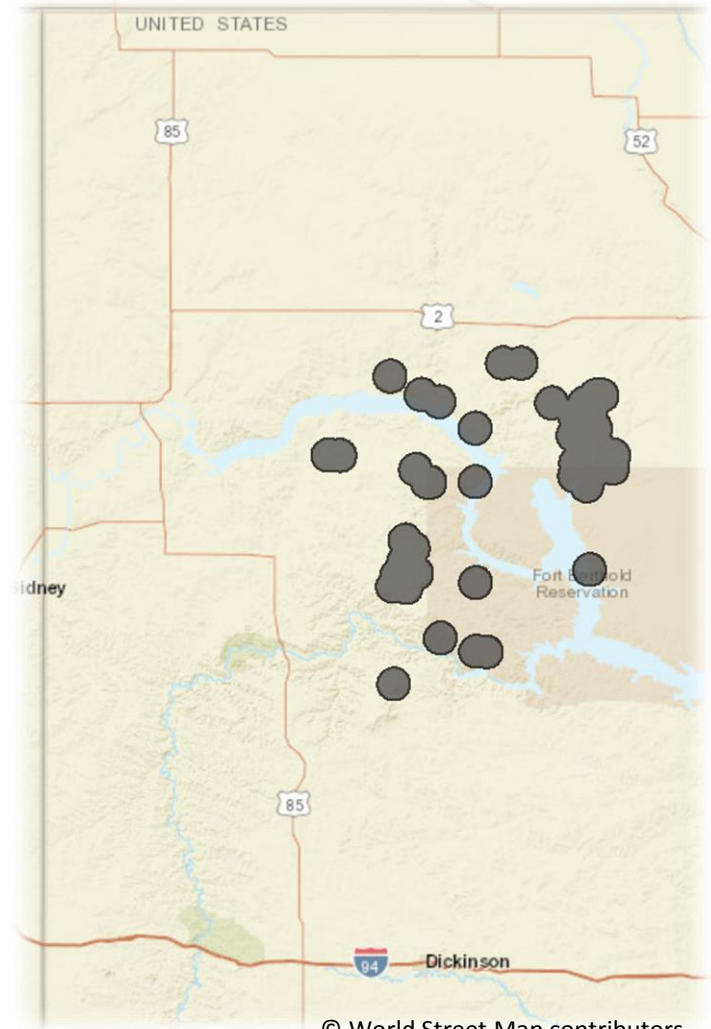
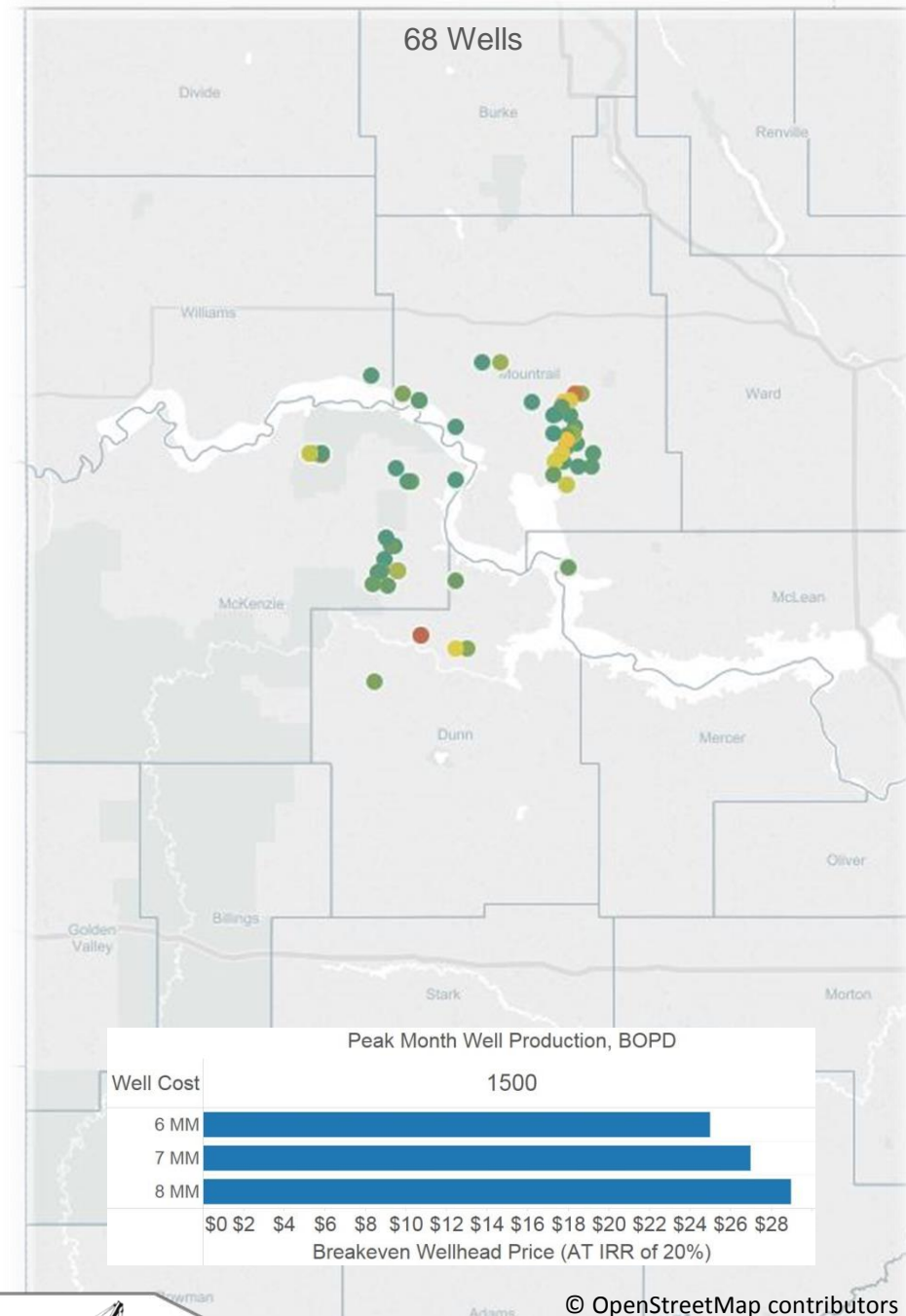


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2.5 Mile Buffer



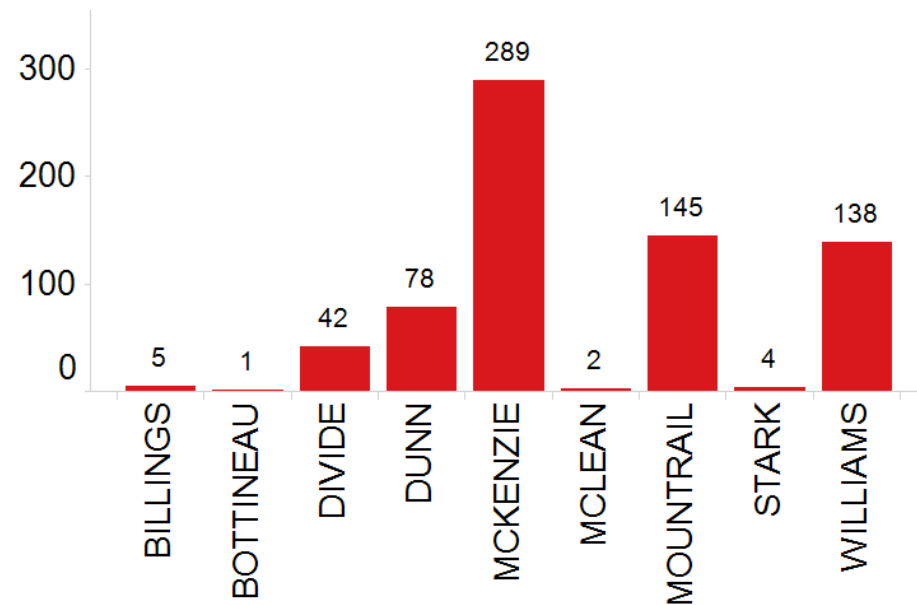
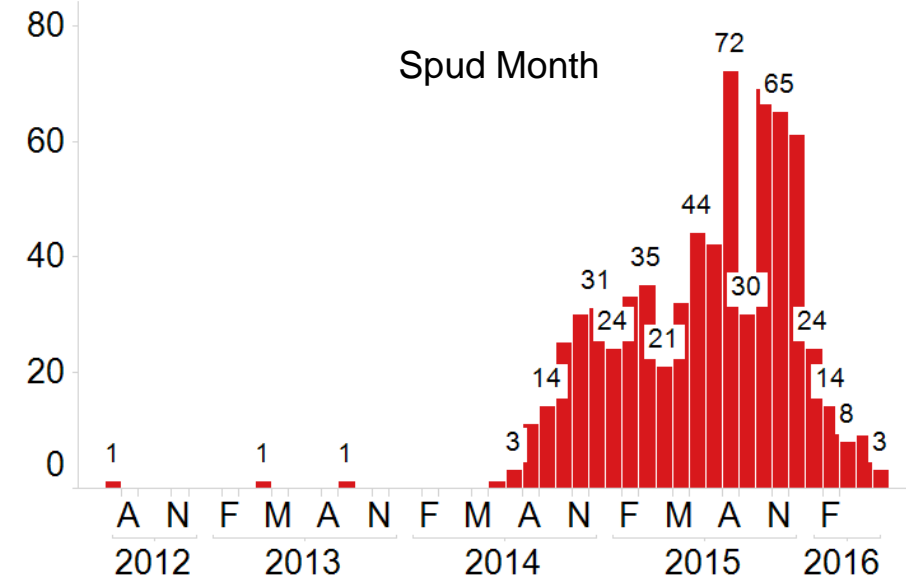
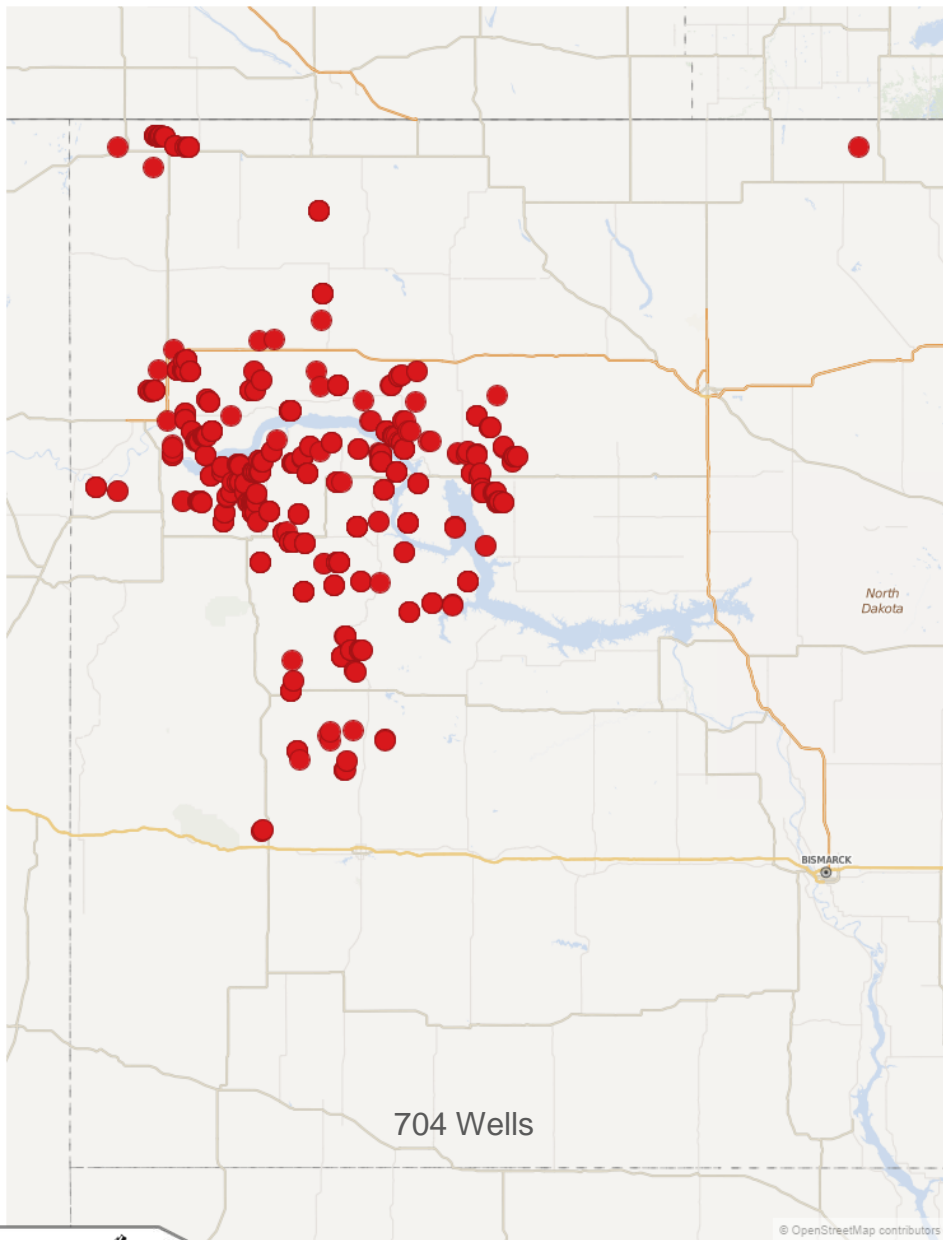
Peak Month Minimum 1,500 BOPD



2.5 Mile Buffer



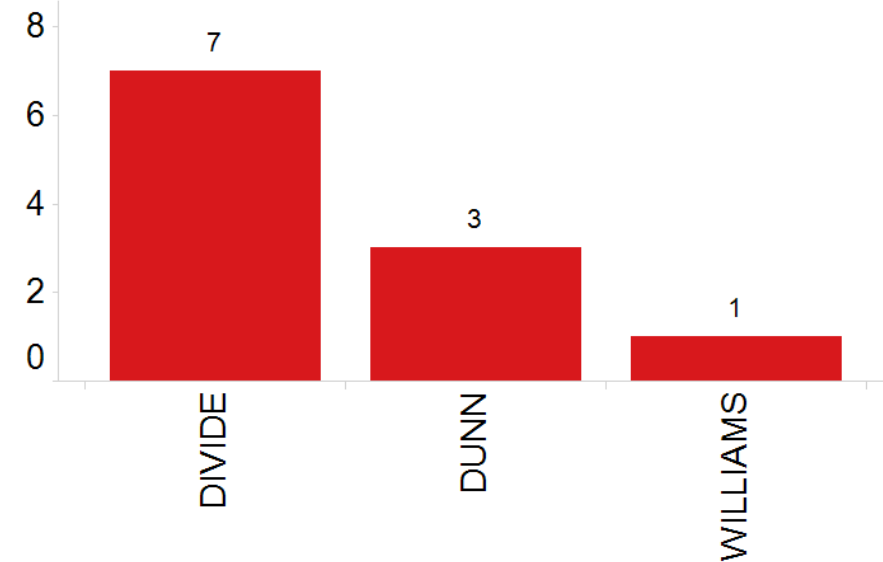
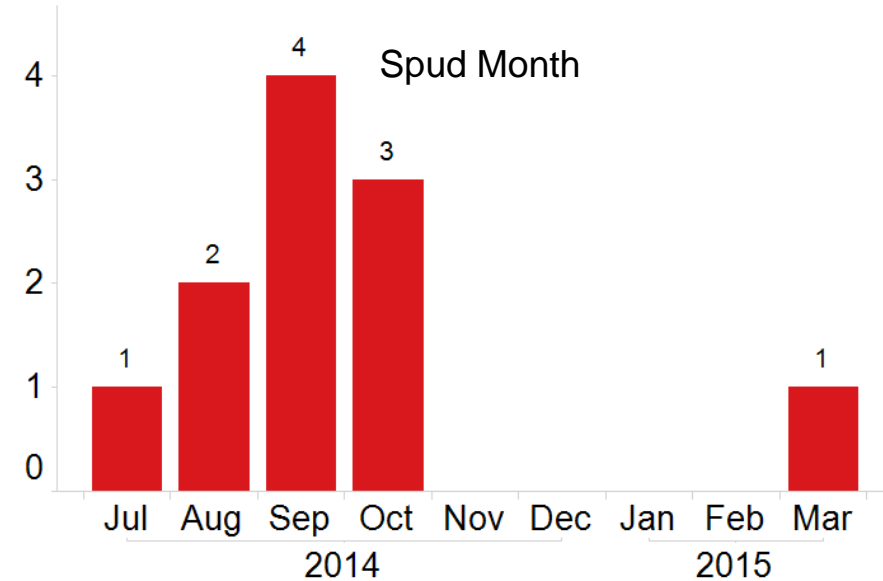
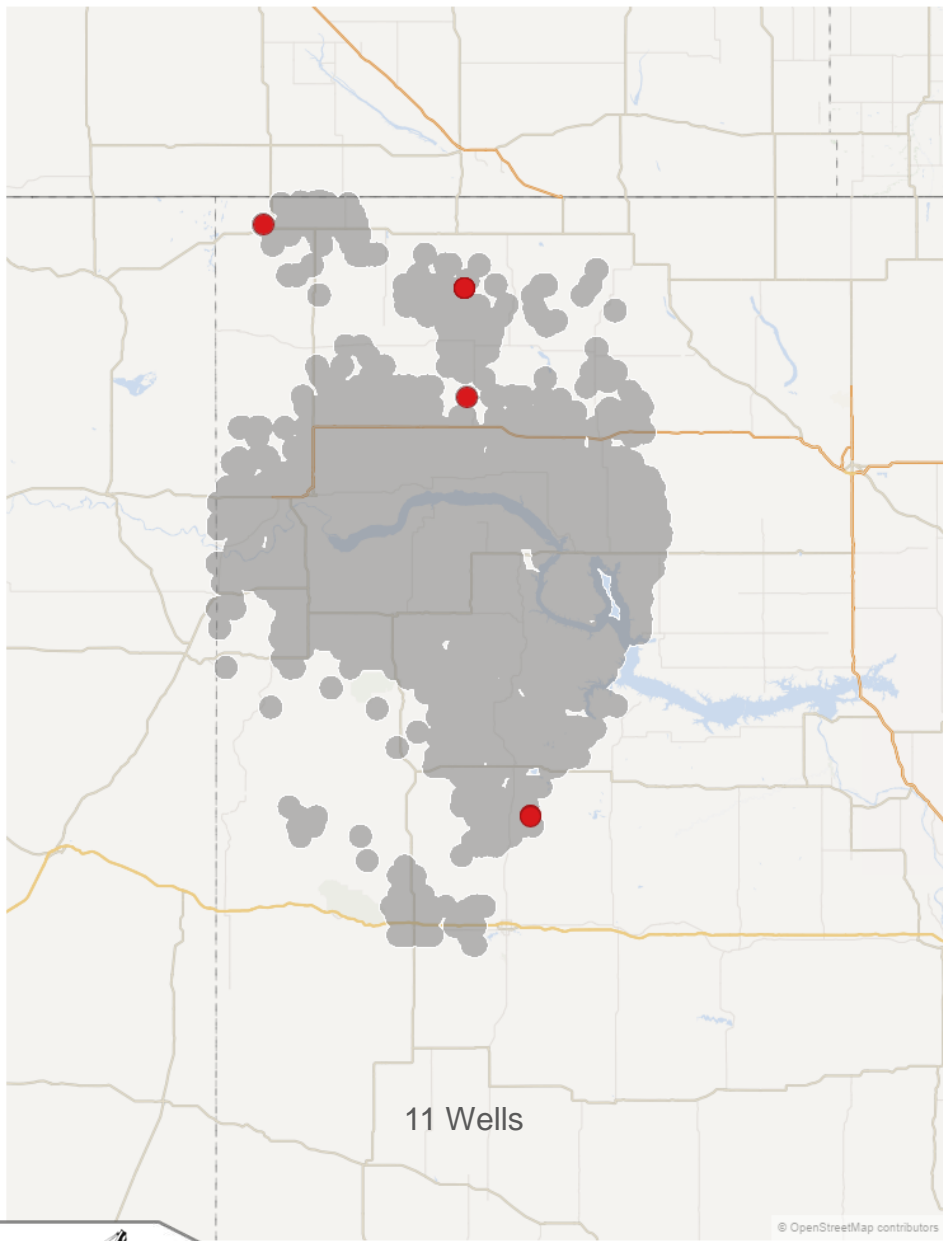
All "NC" & "NCW" Wells June 23, 2016



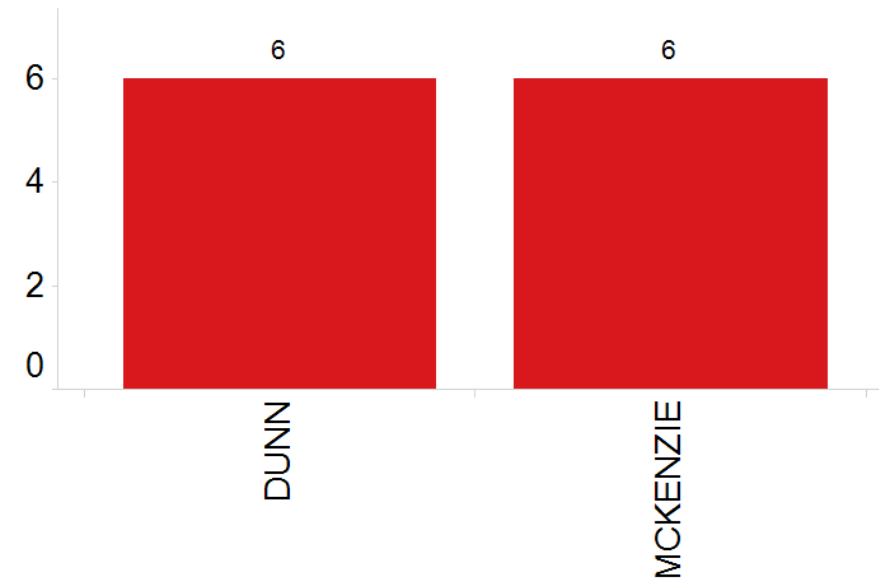
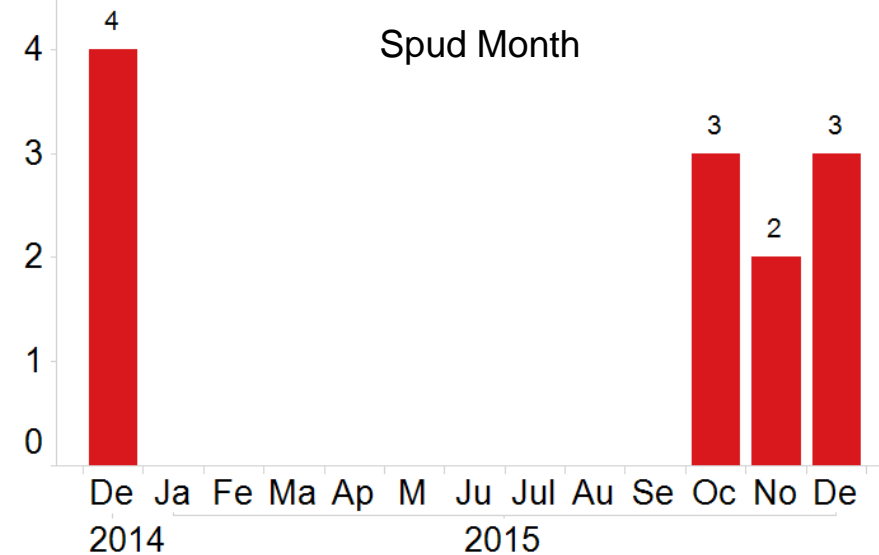
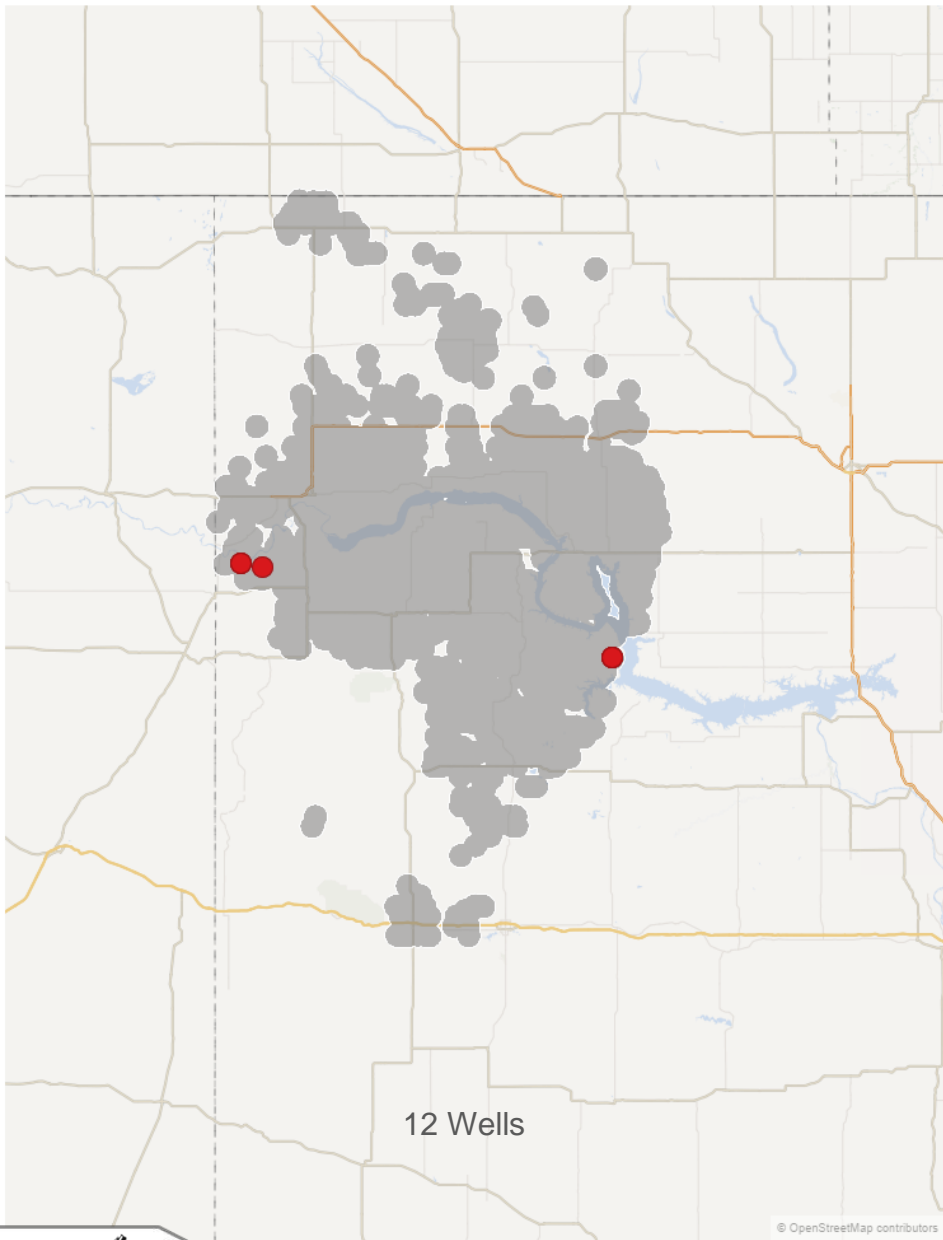
Breakdown of NC/NCW Wells by Maximum 2.5mi Production Buffer Zone



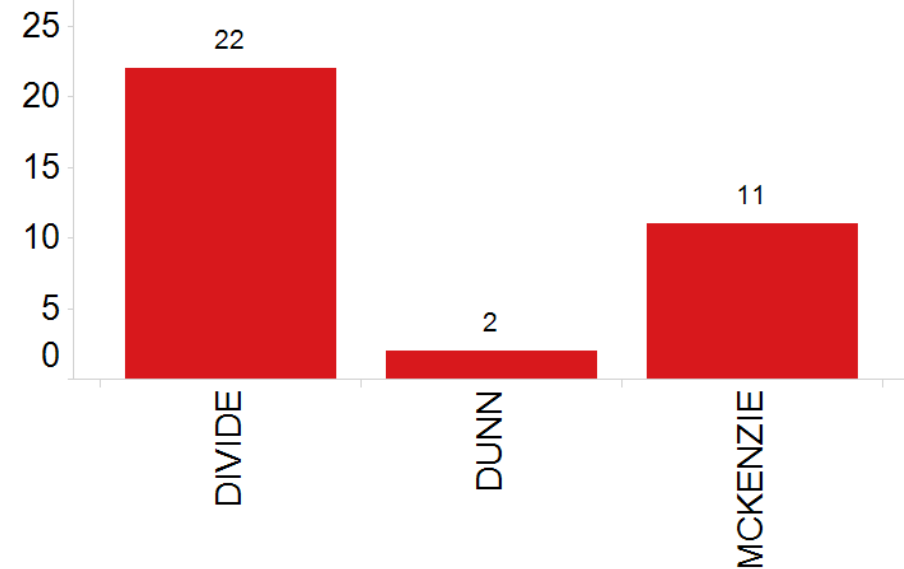
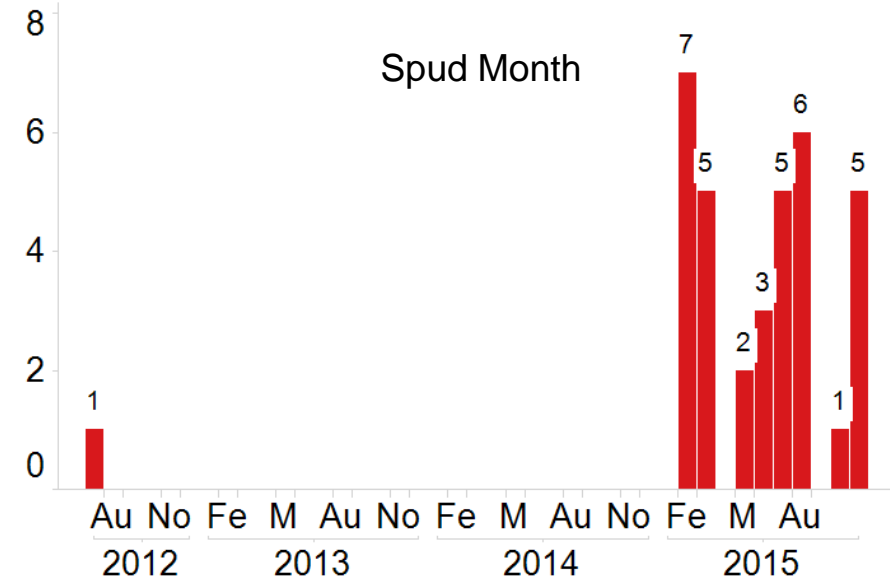
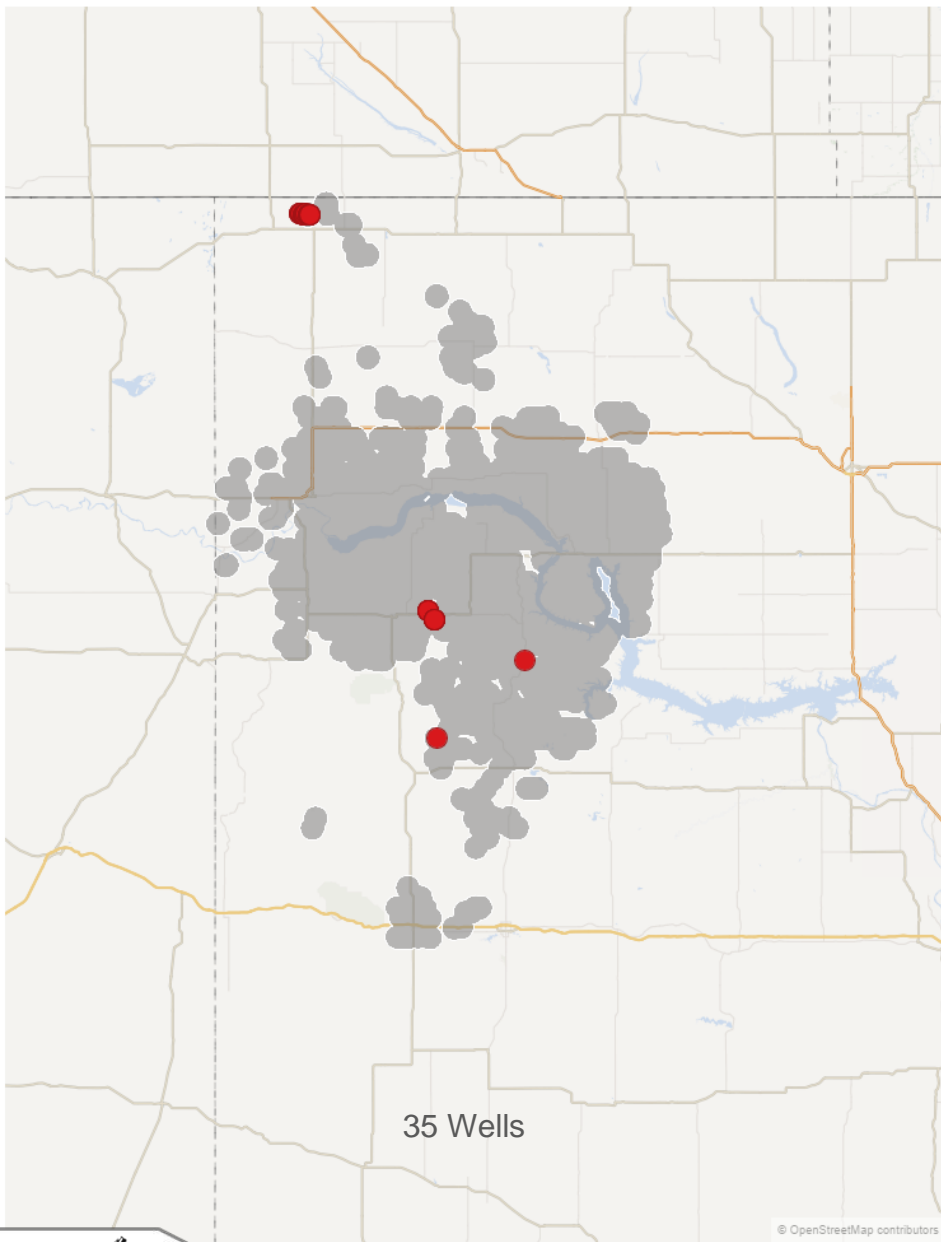
NC/NCW Wells Inside 2.5mi 400 BOPD Buffer



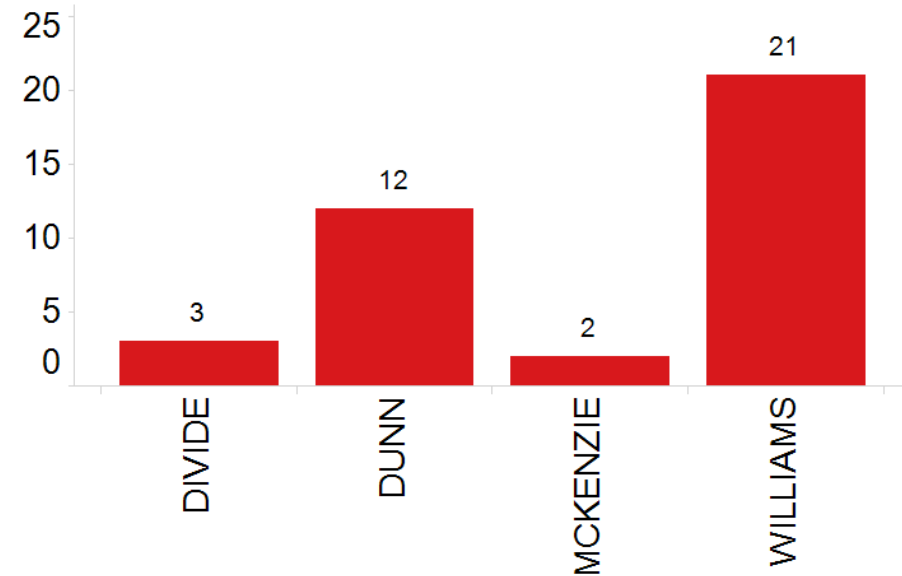
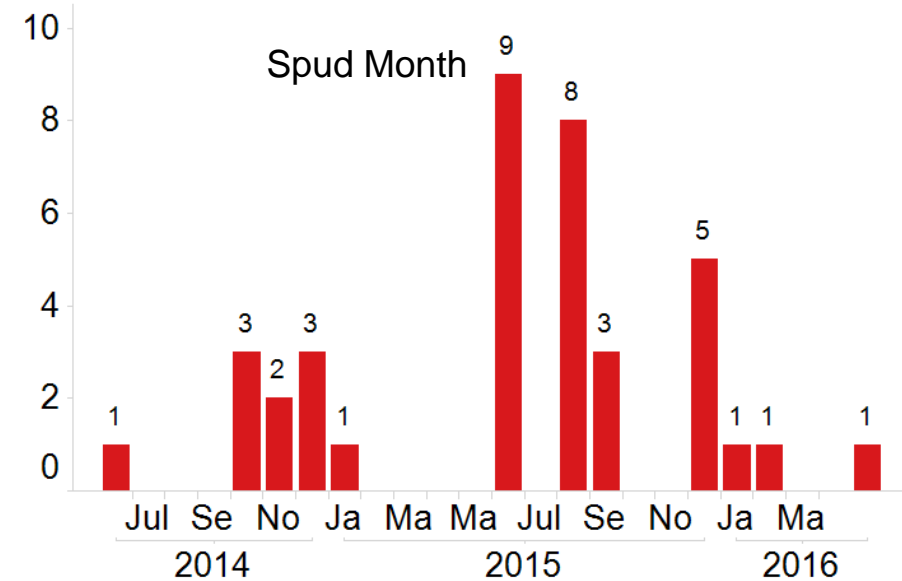
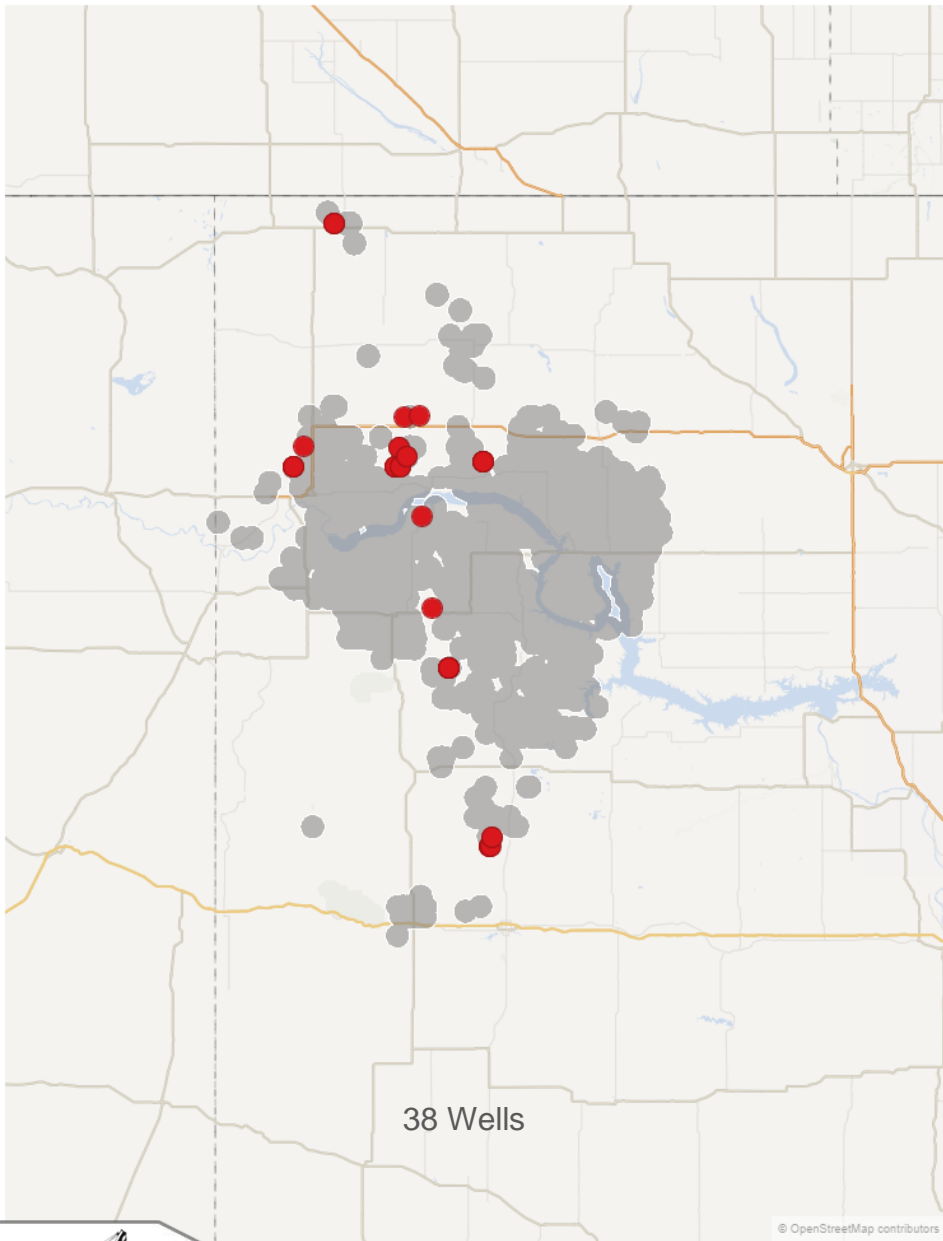
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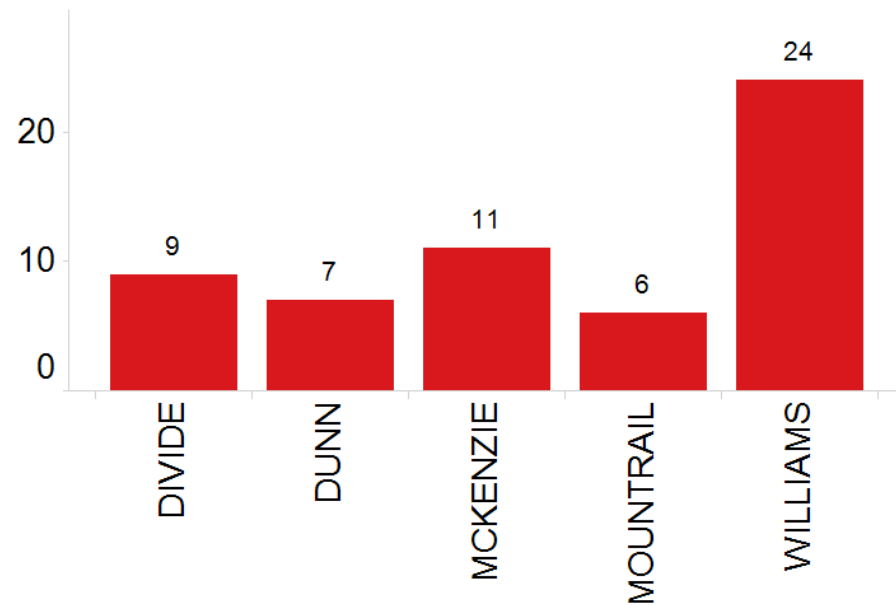
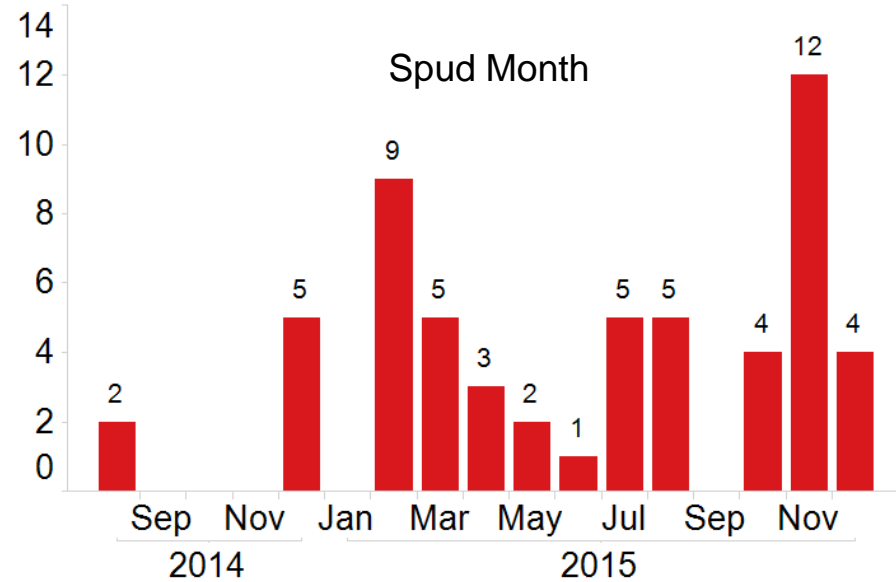
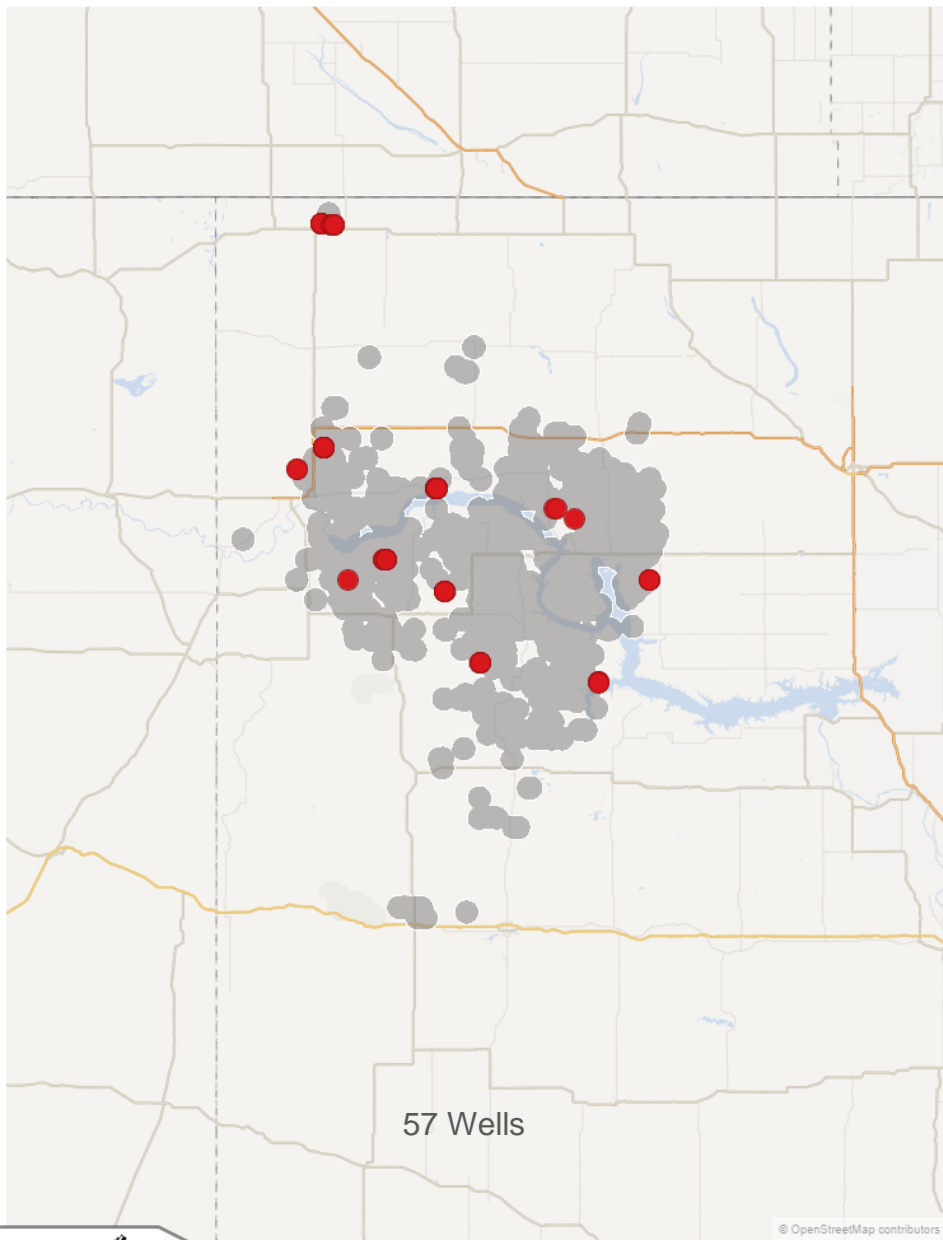
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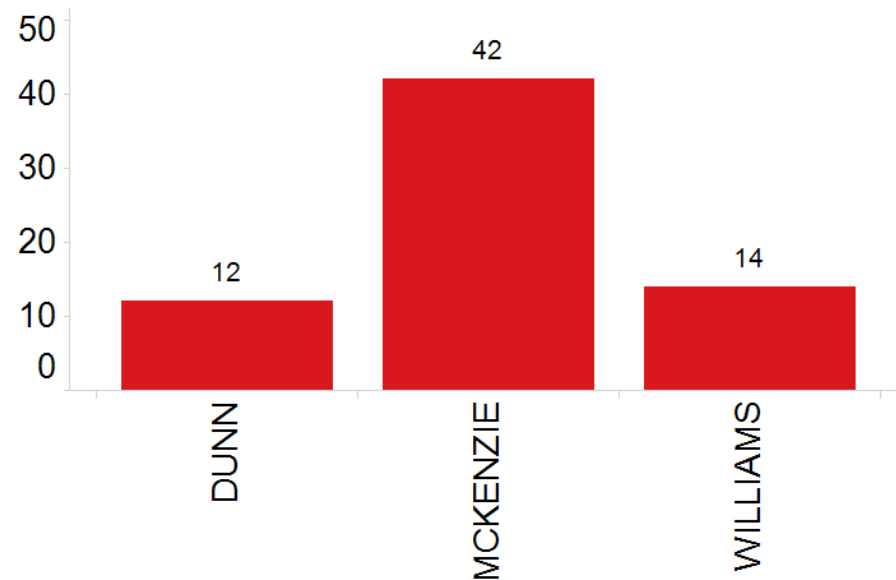
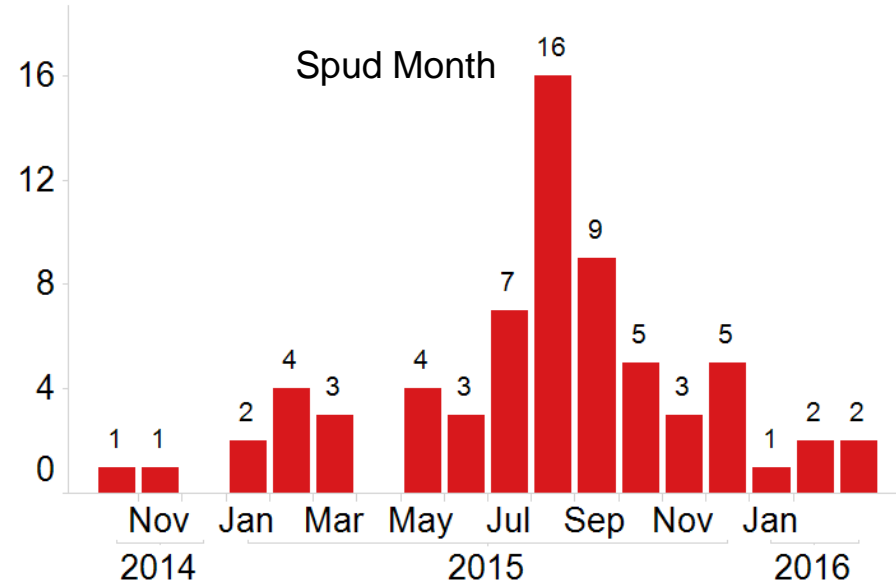
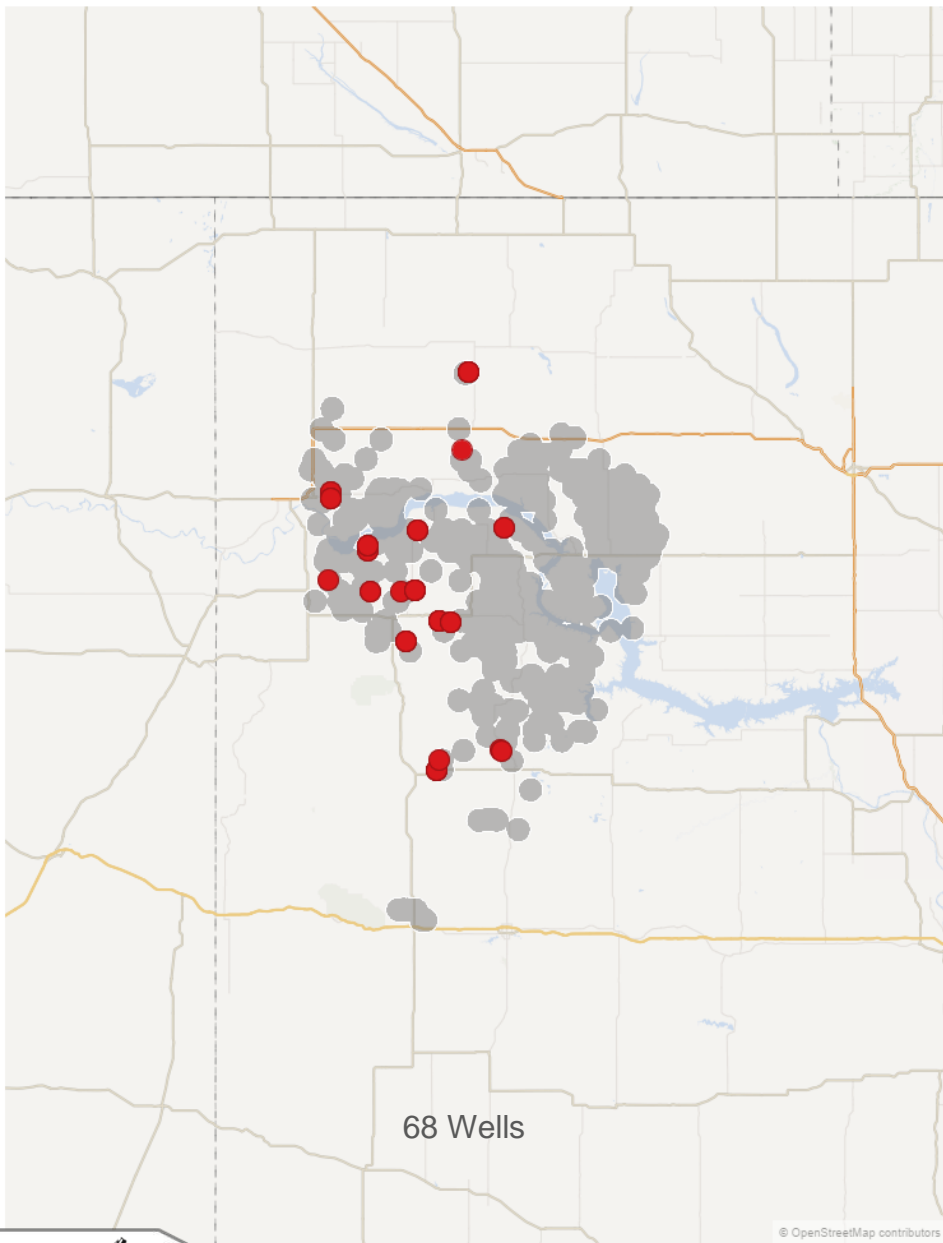
NC/NCW Wells Inside 2.5mi 700 BOPD Buffer



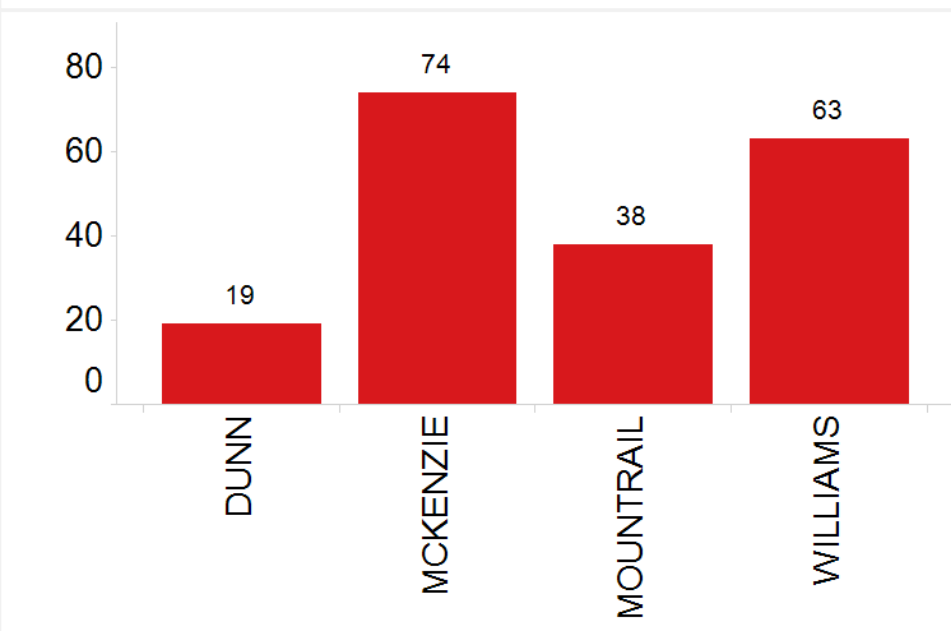
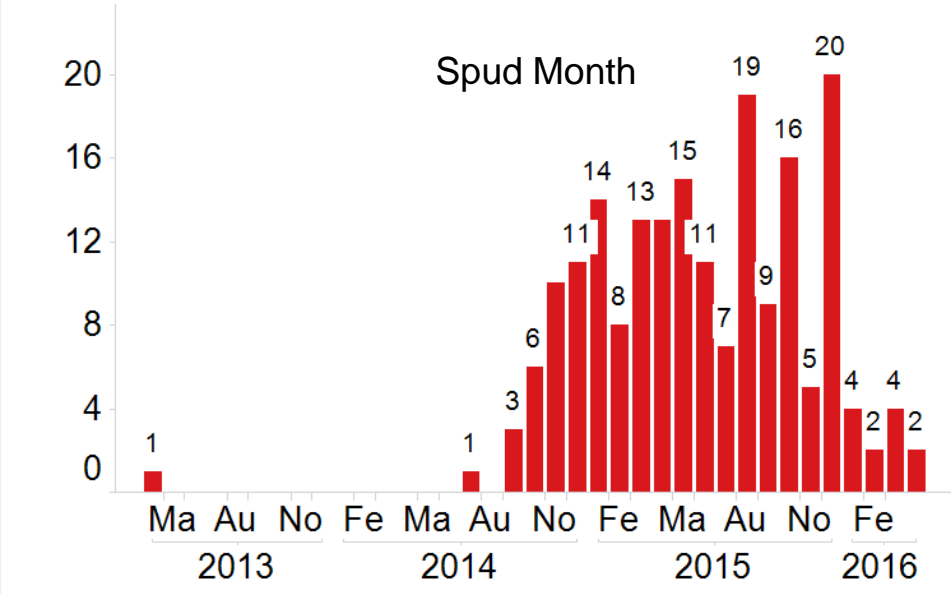
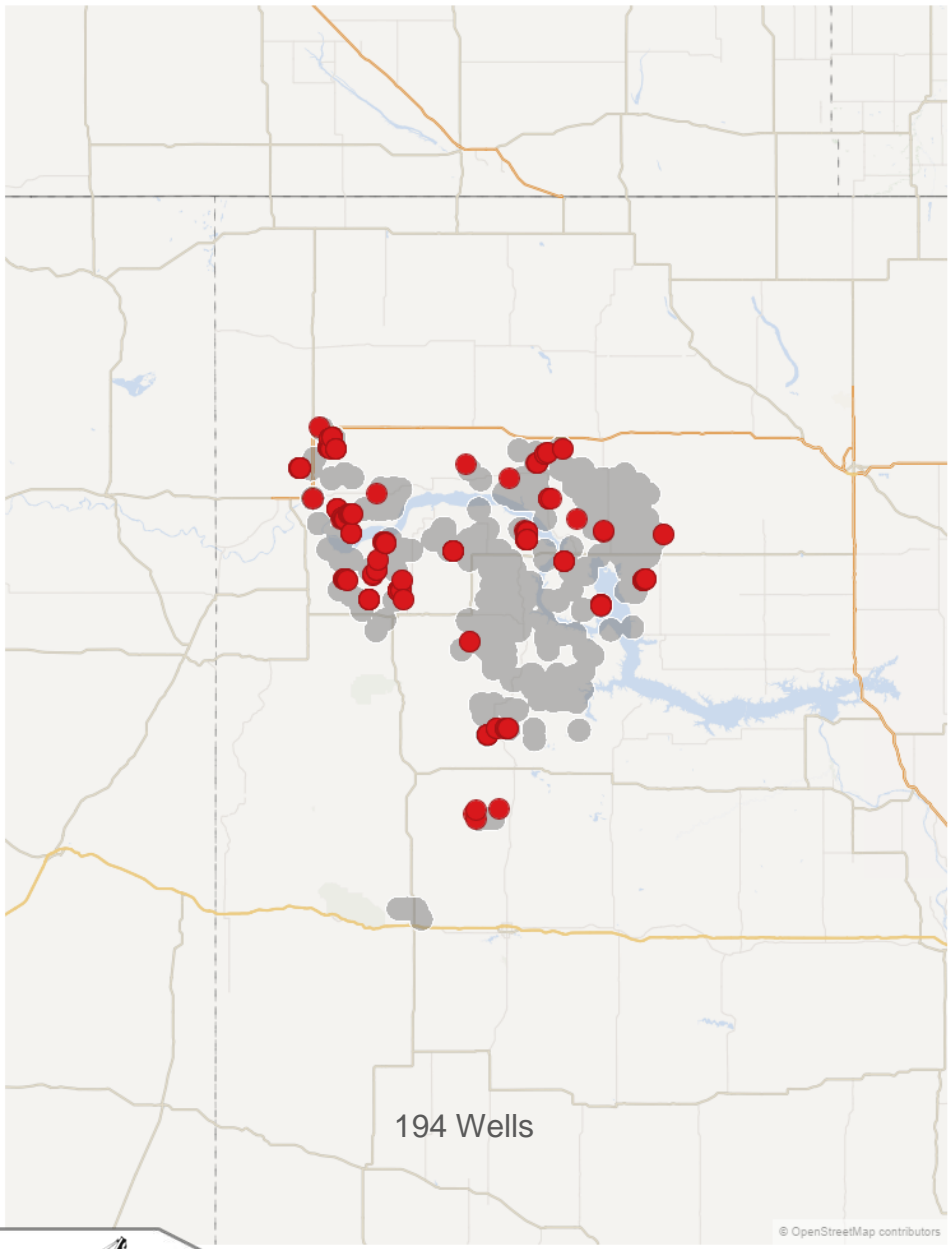
NC/NCW Wells Inside 2.5mi 800 BOPD Buffer



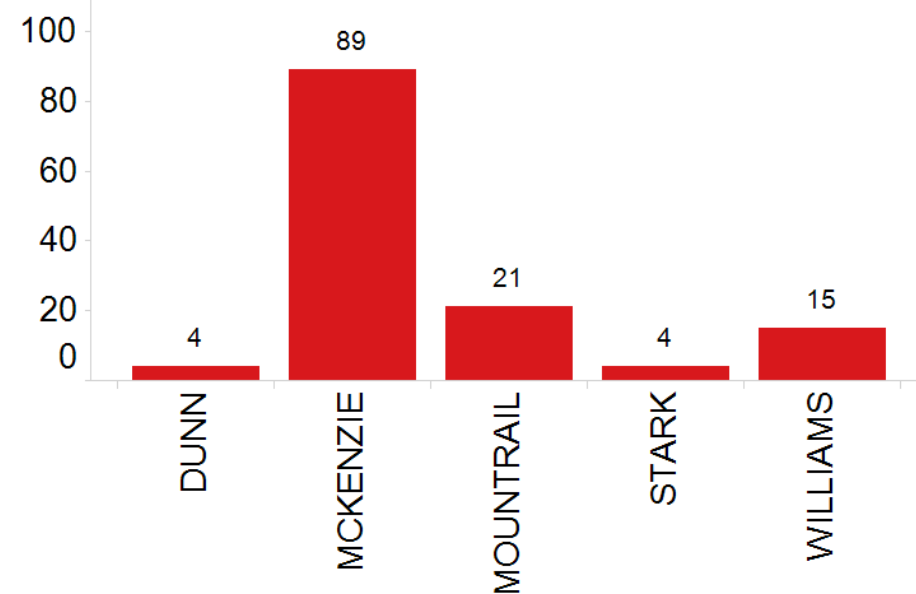
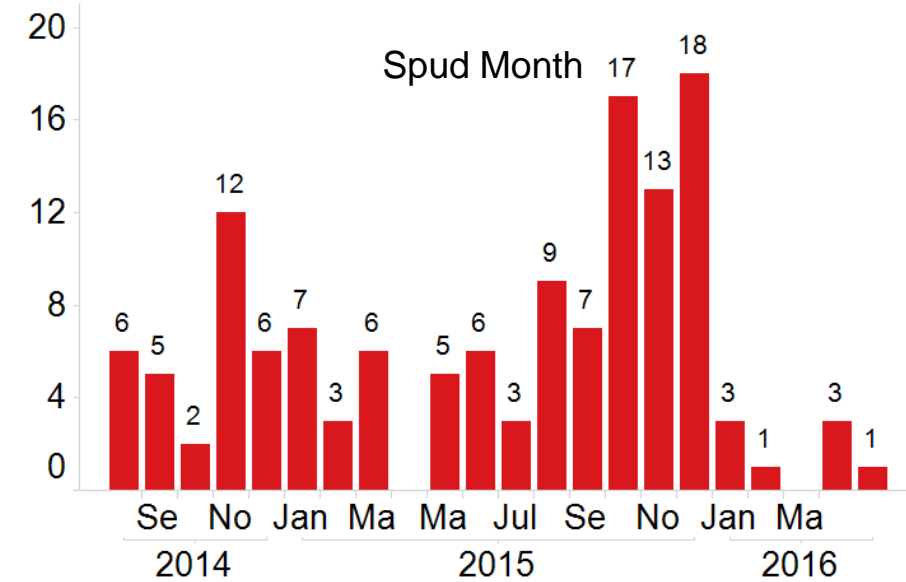
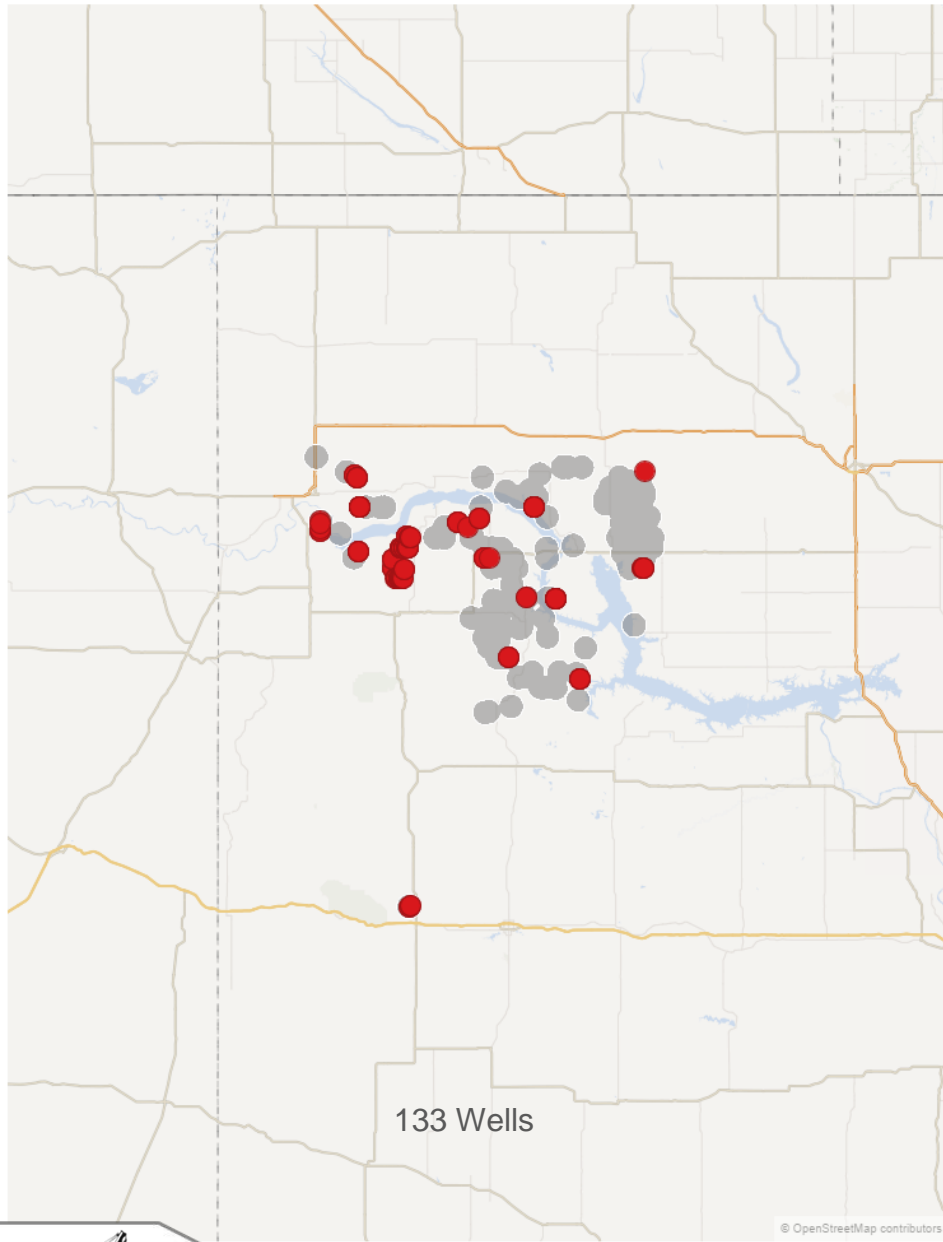
NC/NCW Wells Inside 2.5mi 900 BOPD Buffer



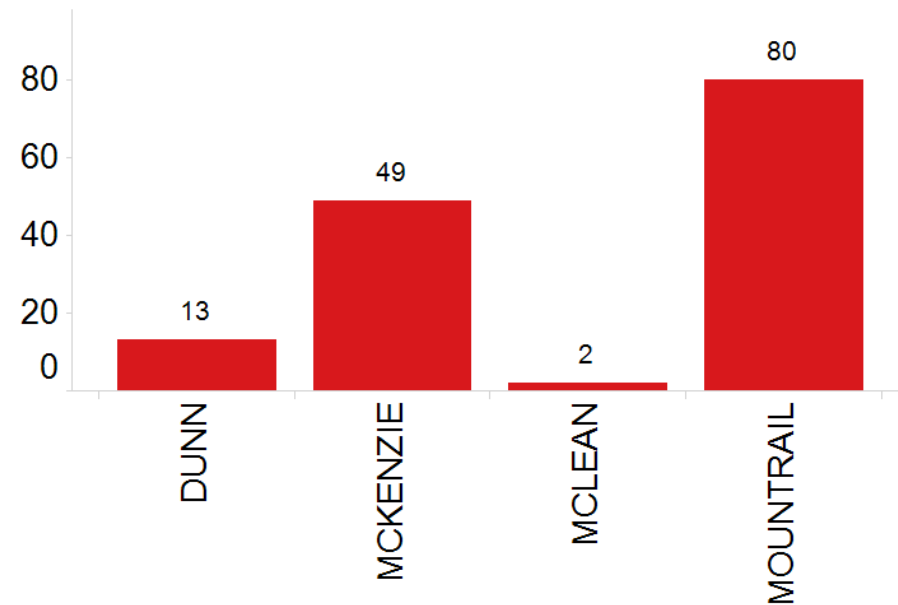
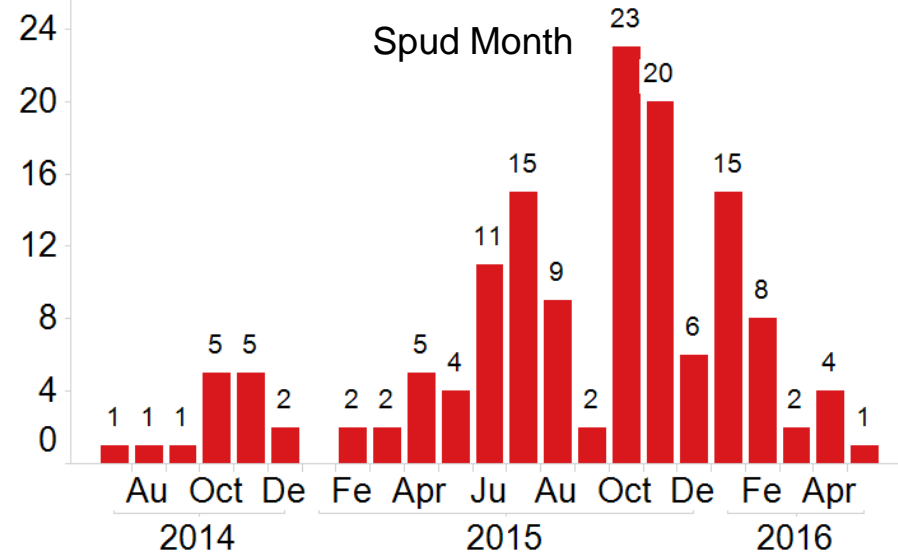
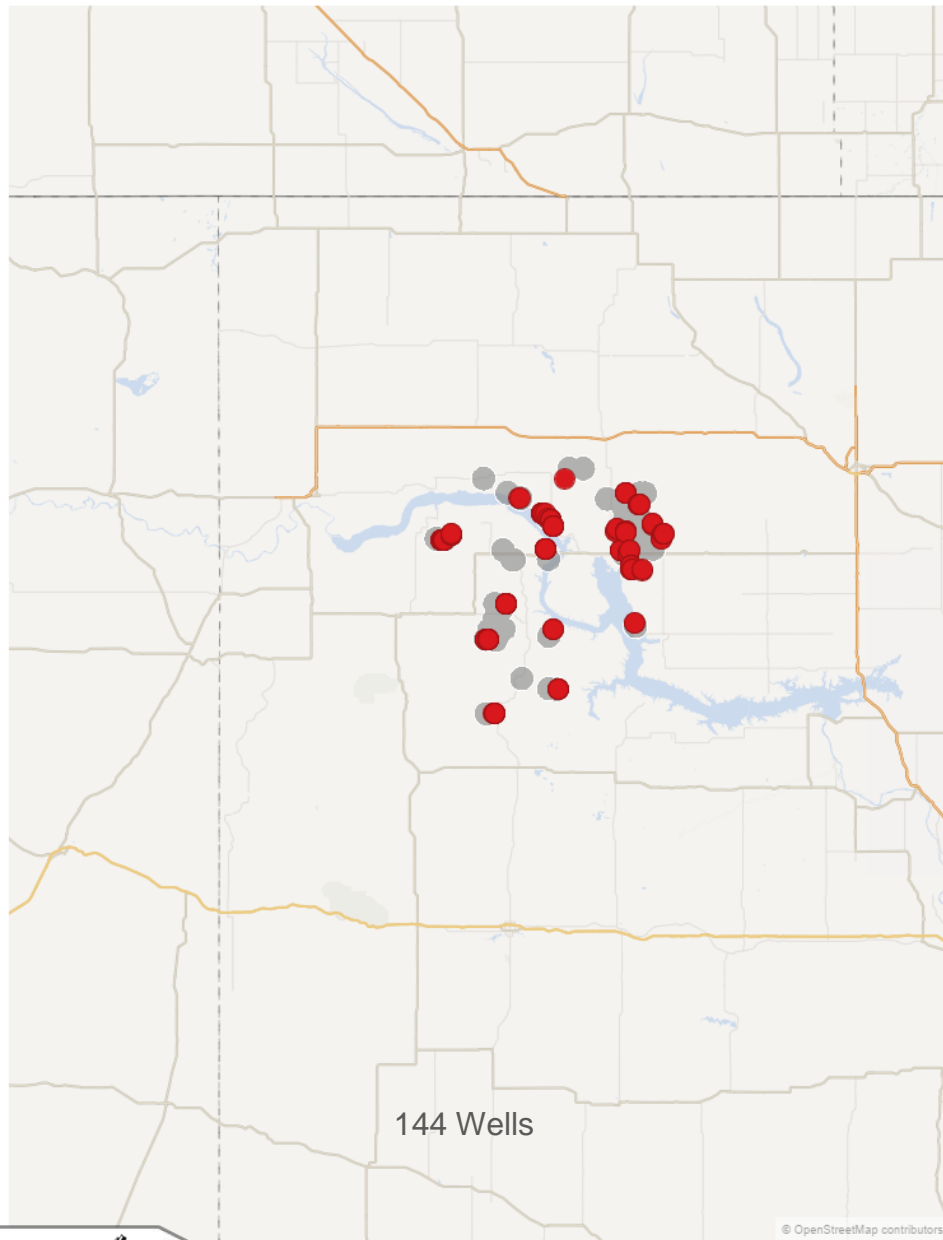
NC/NCW Wells Inside 2.5mi 1,000 BOPD Buffer



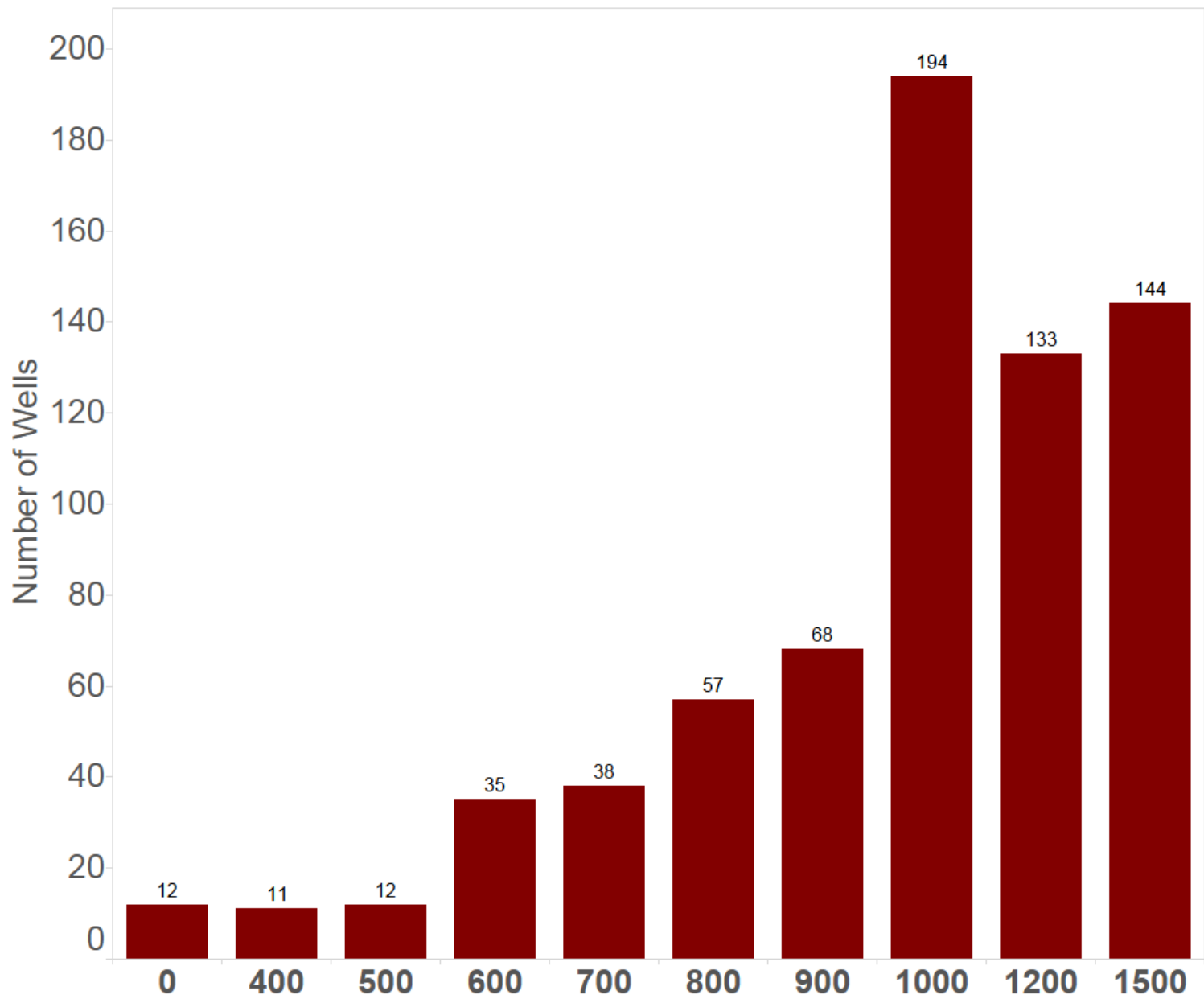
NC/NCW Wells Inside 2.5mi 1,200 BOPD Buffer



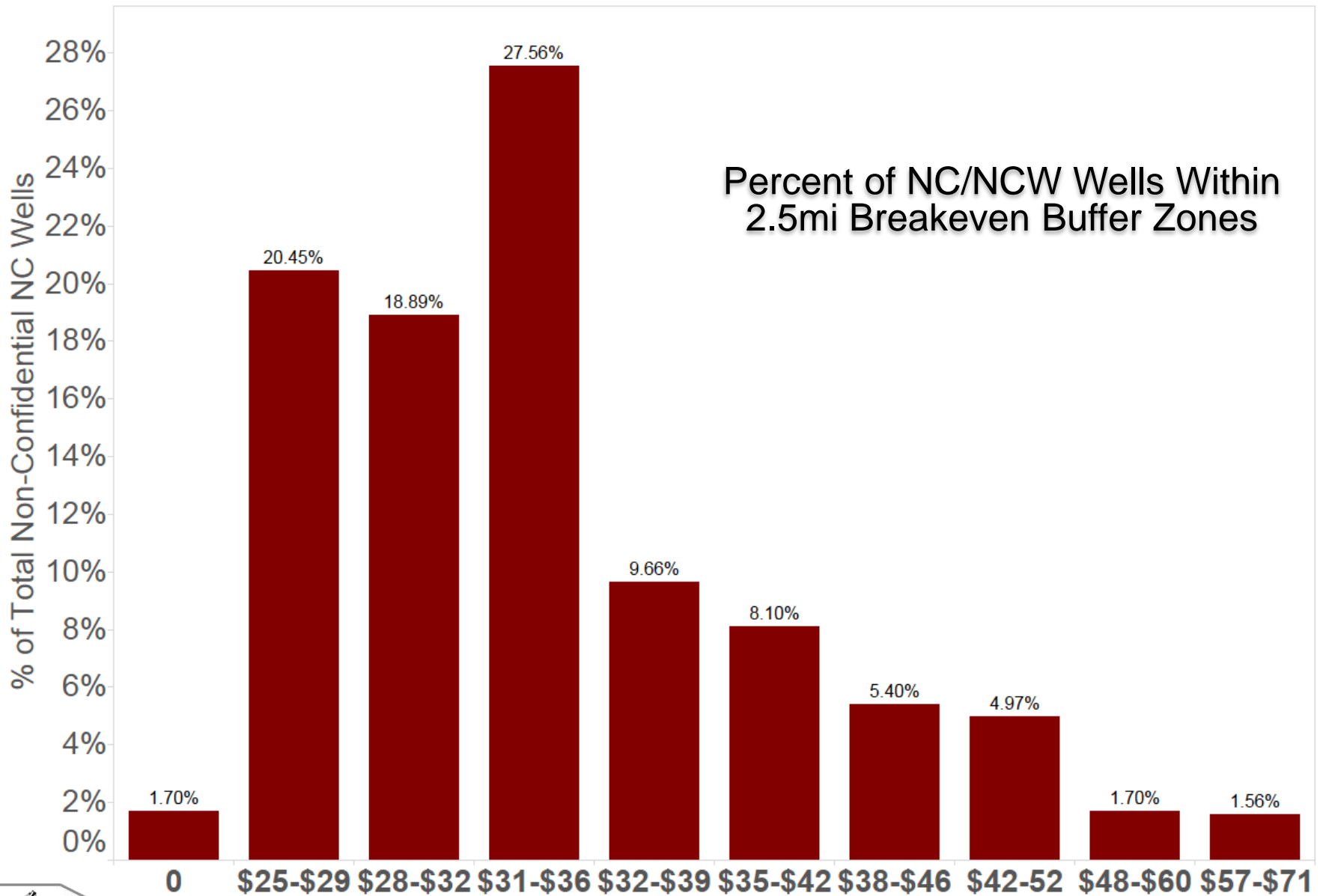
NC/NCW Wells Inside 2.5mi 1,500 BOPD Buffer



NC/NCW Well Count by Maximum 2.5mi Buffer Zone



Converting Well Performance to Estimated Breakeven Wellhead Pricing



Conclusions

- A vast majority of the current NC/NCW wells in North Dakota are well positioned relative to adjacent well performance.
- Completion decisions will vary by operator, but a reasonable assumption is that many of these NC/NCW wells may be the first wells completed when adequate and stable pricing is achieved.
- It must be noted that regardless of neighboring well performance, geologic risk is ever present and will be a major consideration in scheduling completions.



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