**BMP Hard Upper Bounds (HUBs) - “Candidate Space”**

A hard upper bound (HUB) is a threshold for each (Geo, Agency, Load Source, BMP) coordinate that the “amount” value would never exceed and that does not change as a result of any BMP interactions. Specifically, HUBs depend on base condition, year, and wastewater metadata, but do not depend on any BMP selections. Therefore, HUBs will never, by design, change between one optimization algorithm iteration and another.

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| --- | --- | --- | --- |
| BMP Type | HUB Unit | Scale | Table Location |
| Land BMPs | Total Acres | LRseg | BaseCondition |
| Road BMPs | Total Miles | LRseg | PreBMPLoadSourceDeveloped |
| Stream BMPs | Total Miles | LRseg | PreBMPLoadSourceNatural |
| Septic BMPs | Septic Units | LRseg | PreBMPLoadSourceSeptic |
| Animal BMPs | Animal Counts per type | County | BaseCondition |
| Manure BMPs | Manure Tons per type | County | PreBMPManureTonsProduced |

What about these?

* Riparian Pasture Deposition
* Stream bed and bank
* Shoreline erosion control
* Septic Connection
* Stormwater Performance standard
* Oysters

**Start with a County-LRseg-Agency / BMP coordinate**

1. Get the *HUB* for each BMP type