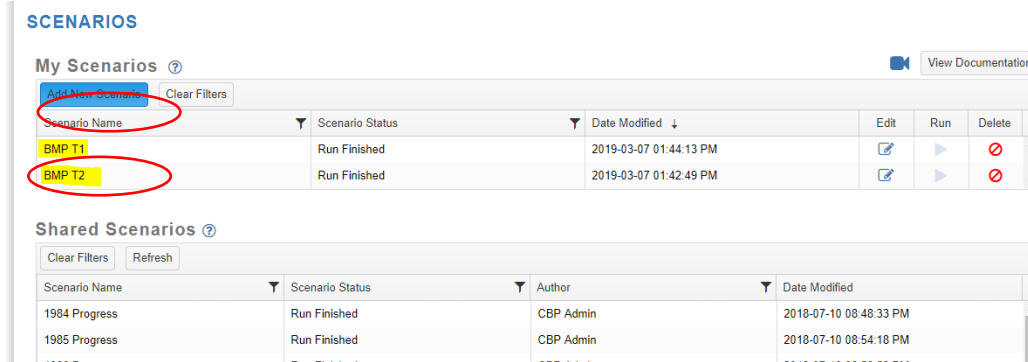# Method to Model Wet Pond Retrofits in CAST

1) Create Profile in [CAST](#).

2) Create a scenario for the existing conditions of the wet pond. Give this scenario a name that reflects that it is pre-restoration (e.g. BMP T1).

3) Enter pre-restoration scenario parameters. These should include, a) 2017 as a base year, b) Historic Trends as the Base Condition, c) 2017 Wastewater Data Set, d) Official BMPs, and e) Cost Profile of Maryland.

Lastly, enter 'Land River Segment indicating if in or out of CBWS' as the geographic area. First, find the phase 5.3.2 model land river segment your pond is located in at this URL if you don't know it (https://goo.gl/csCbrp). Then, use the crosswalk table at this URL (https://goo.gl/MwBUC8) to get the corresponding segment ID for the phase 6 model. This phase 6 ID will be the geographic area for your CAST model run. Press Save when finished.

4) Press edit under the scenario you just created and navigate to the developed BMPs tab. Under developed BMPs, pick Stormwater performance Standard- Stormwater Treatment, filling out the parameters and acre feet storage of EXISTING water quality treatment. Click save when finished.

5) Going back to the home page, click "Add a new scenario", then click "Copy Scenario without BMPs", picking the scenario you just created.

6) Change the Scenario Name to something that reflects it is the Post Restoration Scenario, and click save.

7) Under this second scenario, add in the exact same BMP information as before, except for the 'acre feet', which should be adjusted to account for increased treatment volume attained after the retrofit.

8) Navigate back to the scenarios tab and run both pre and post restoration scenarios.

9) Under the "Results Tab" click "Compare Scenarios" and select the same geographic scale as the scenarios were run in. Then, select the two scenarios you just created in the drop down menus.

10) In the result of this, click on the loads tab to compare the difference in loads between the two scenarios. Use the difference in Edge of Stream values (highlighted values below) as the load reduction achieved via adding treatment volume to your wet pond. For example, there is a difference of 222 lbs of Nitrogen between scenario 1 and 2 in the below example.

Nitrogen Loads (lbs/yr) ⑦

View Documentation

			Load Source	BMP Time 1 (Edge of Stream)	BMP Time 2 (Edge of Stream)	BMP Time 1 (Edge of Tide)	BMP Time 2 (Edge of Tide)
▶ Sector: Agriculture							
				23,336.24	23,336.24	15,145.38	15,145.38
▶ Sector: Developed							
				7,393.21	7,192.61	4,816.94	4,686.24
▶ Sector: Natural							
				16,128.77	16,107.92	10,523.68	10,510.09
▶ Sector: Septic							
				6,705.93	6,705.93	4,369.15	4,369.15
▶ Sector: Wastewater							
				0.00	0.00	0.00	0.00
				53,564.16	53,342.71	34,855.16	34,710.87

11) Save screen shots of the compare scenarios pages showing differences in loads as a pdf. Upload this pdf with your Trust Fund Application in Grants Gateway under the "FieldDoc Documents" file upload.