

# **Mercury TMDL for the State of Florida**

Appendix J

Probability Distribution Functions

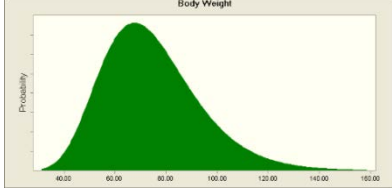
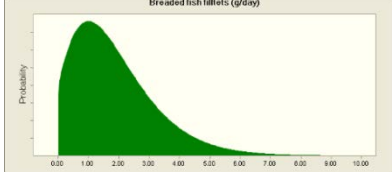
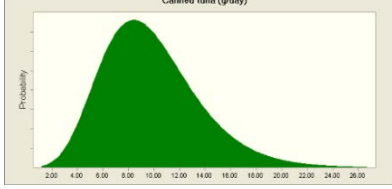
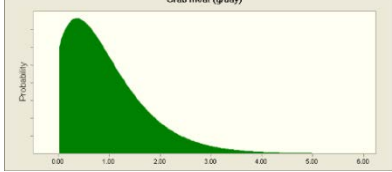
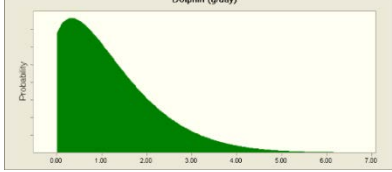
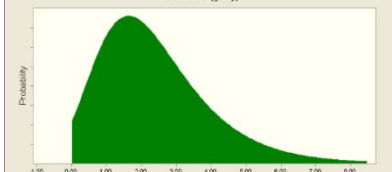
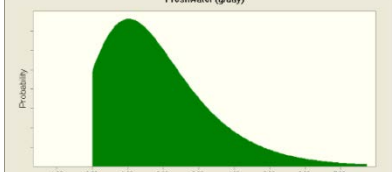
Watershed Evaluation and TMDL Section

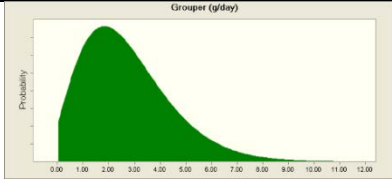
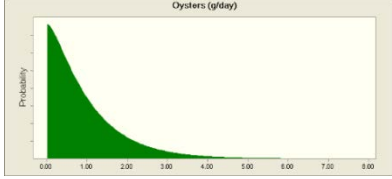
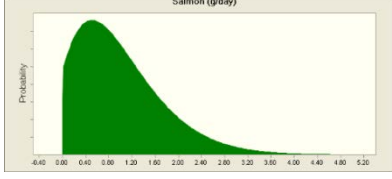
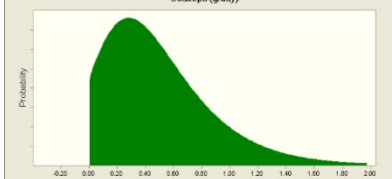
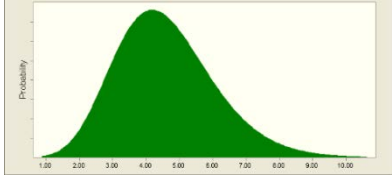
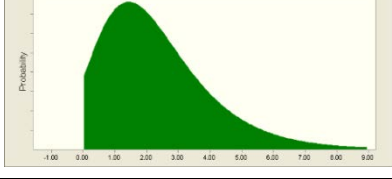
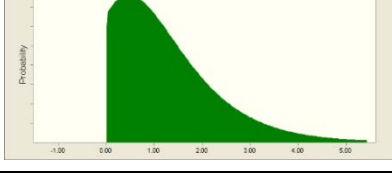


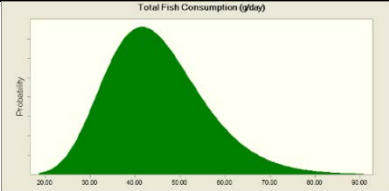
**May 22, 2012**

## **Appendix J: Probability Distribution Functions.**

**Table J-1. Probability Distribution Functions**

| Statistical Assumption                                                                                                                                                                                                                                                            | Distribution                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <p>Assumption: Body Weight</p> <p>Lognormal distribution with parameters:</p> <p>Location            0.00</p> <p>Mean                74.55</p> <p>Std. Dev.           19.32</p>                                                                                                   |    |
| <p>Assumption: Breaded fish fillets (g/day)</p> <p>Beta distribution with parameters:</p> <p>Minimum:           -0.60</p> <p>Maximum           61.63</p> <p>Alpha                2.84668</p> <p>Beta                  70.65138</p> <p>Selected range is from 0.00 to infinity</p> |    |
| <p>Assumption: Canned tuna (g/day)</p> <p>Lognormal distribution with parameters:</p> <p>Location            -4.90</p> <p>Mean                9.81</p> <p>Std. Dev.           3.86</p> <p>Selected range is from 0.00 to infinity</p>                                             |    |
| <p>Assumption: Crab meat (g/day)</p> <p>Beta distribution with parameters:</p> <p>Minimum:           -0.35</p> <p>Maximum           54.97</p> <p>Alpha                2.29038</p> <p>Beta                  100</p> <p>Selected range is from 0.00 to infinity</p>                 |   |
| <p>Assumption: Dolphin (g/day)</p> <p>Beta distribution with parameters:</p> <p>Minimum:           -0.34</p> <p>Maximum           11.89</p> <p>Alpha                1.63465</p> <p>Beta                  11.88145</p> <p>Selected range is from 0.00 to infinity</p>              |  |
| <p>Assumption: Flounder (g/day)</p> <p>Maximum Extreme distribution with parameters:</p> <p>Likeliest            1.63</p> <p>Scale                1.29</p> <p>Selected range is from 0.00 to infinity</p>                                                                         |  |
| <p>Assumption: Freshwater (g/day)</p> <p>Maximum Extreme distribution with parameters:</p> <p>Likeliest            1.02</p> <p>Scale                1.27</p> <p>Selected range is from 0.00 to infinity</p>                                                                       |  |

| Statistical Assumption                                                                                                                                                                                          | Distribution                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Assumption: Grouper (g/day)<br>Beta distribution with parameters:<br>Minimum:       -0.77<br>Maximum       34.52<br>Alpha          3.4284<br>Beta           31.61398<br>Selected range is from 0.00 to infinity |    |
| Assumption: Oysters (g/day)<br>Beta distribution with parameters:<br>Minimum:       -0.13<br>Maximum       87.81<br>Alpha          1.15783<br>Beta           100<br>Selected range is from 0.00 to infinity     |    |
| Assumption: Salmon (g/day)<br>Beta distribution with parameters:<br>Minimum:       -0.39<br>Maximum       14.33<br>Alpha          2.66386<br>Beta           26.55724<br>Selected range is from 0.00 to infinity |    |
| Assumption: Scallops (g/day)<br>Maximum Extreme distribution with parameters:<br>Likeliest       0.28<br>Scale           0.32<br>Selected range is from 0.00 to infinity                                        |  |
| Assumption: Shrimp (g/day)<br>Lognormal distribution with parameters:<br>Location       -3.30<br>Mean           4.60<br>Std. Dev.       1.51                                                                    |  |
| Assumption: Snapper (g/day)<br>Maximum Extreme distribution with parameters:<br>Likeliest       1.43<br>Scale           1.42<br>Selected range is from 0.00 to infinity                                         |  |
| Assumption: Stone crab claws (g/day)<br>Maximum Extreme distribution with parameters:<br>Likeliest       0.46<br>Scale           0.94<br>Selected range is from 0.00 to infinity                                |  |

| Statistical Assumption                                                                                                                                                                              | Distribution                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <p>Assumption: Total Fish Consumption (g/day)</p> <p>Lognormal distribution with parameters:</p> <p>Location            -5.91</p> <p>Mean                44.93</p> <p>Std. Dev.           11.10</p> |  |



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