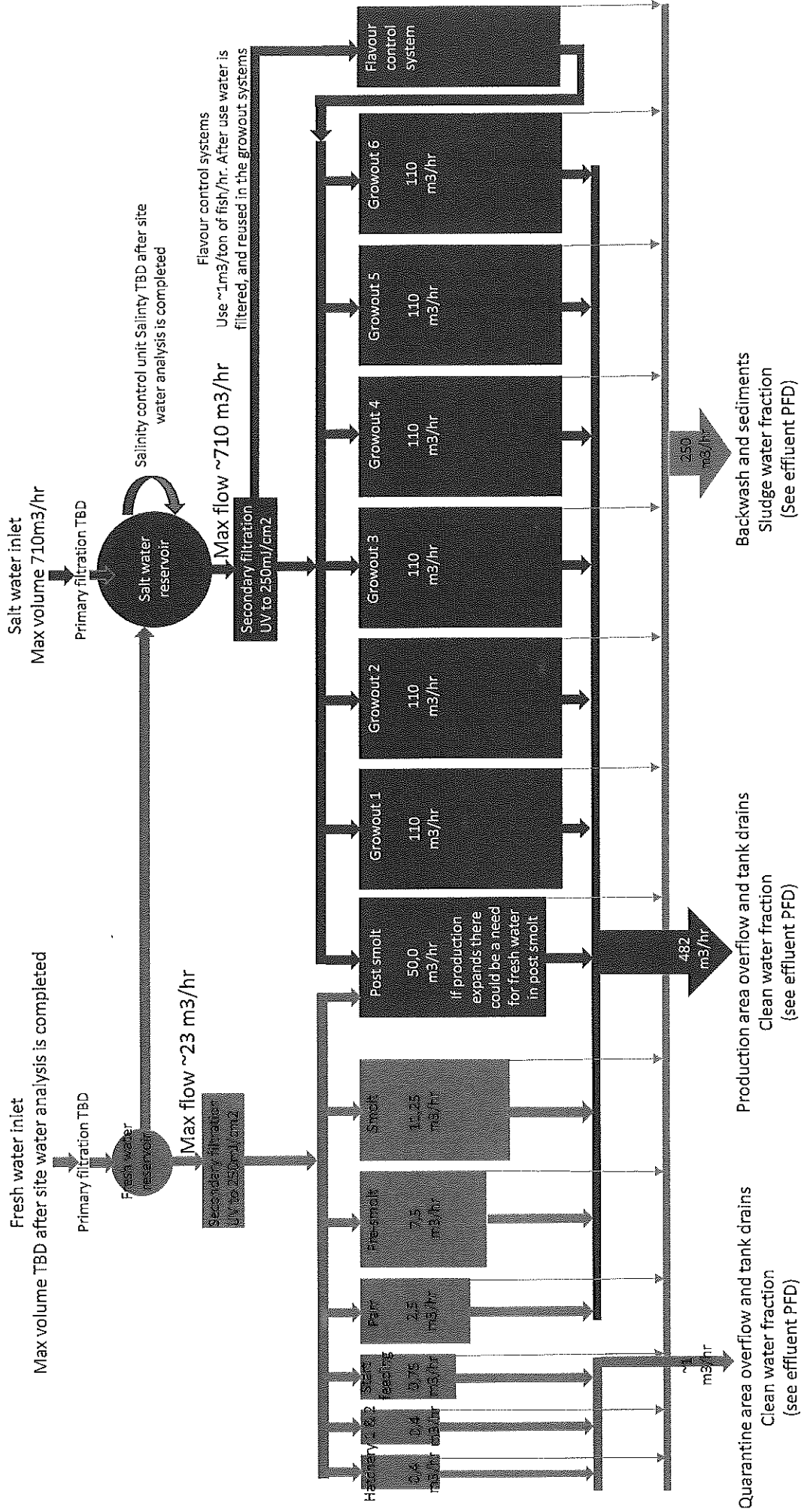
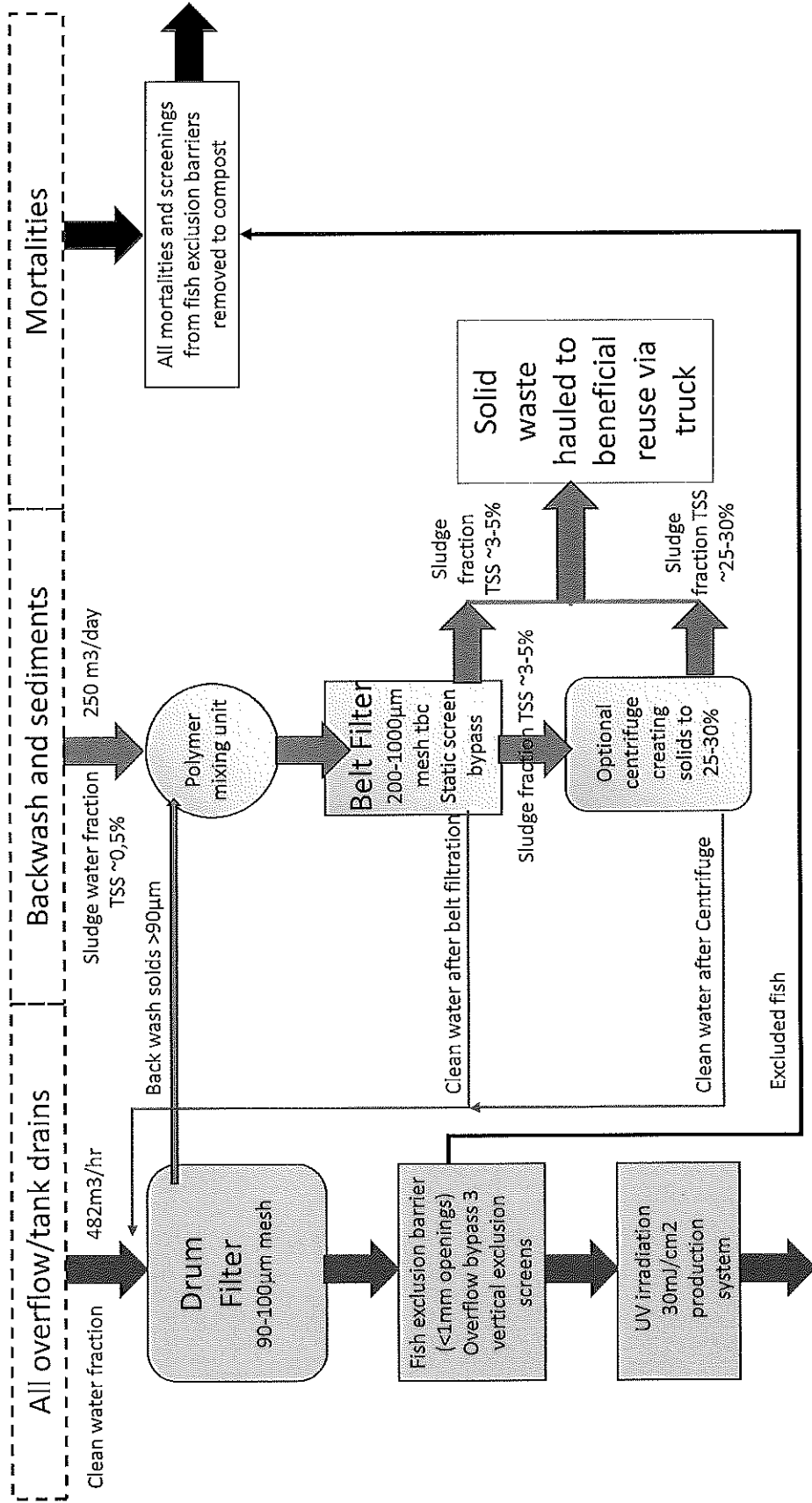


Whole Oceans water flow PFD

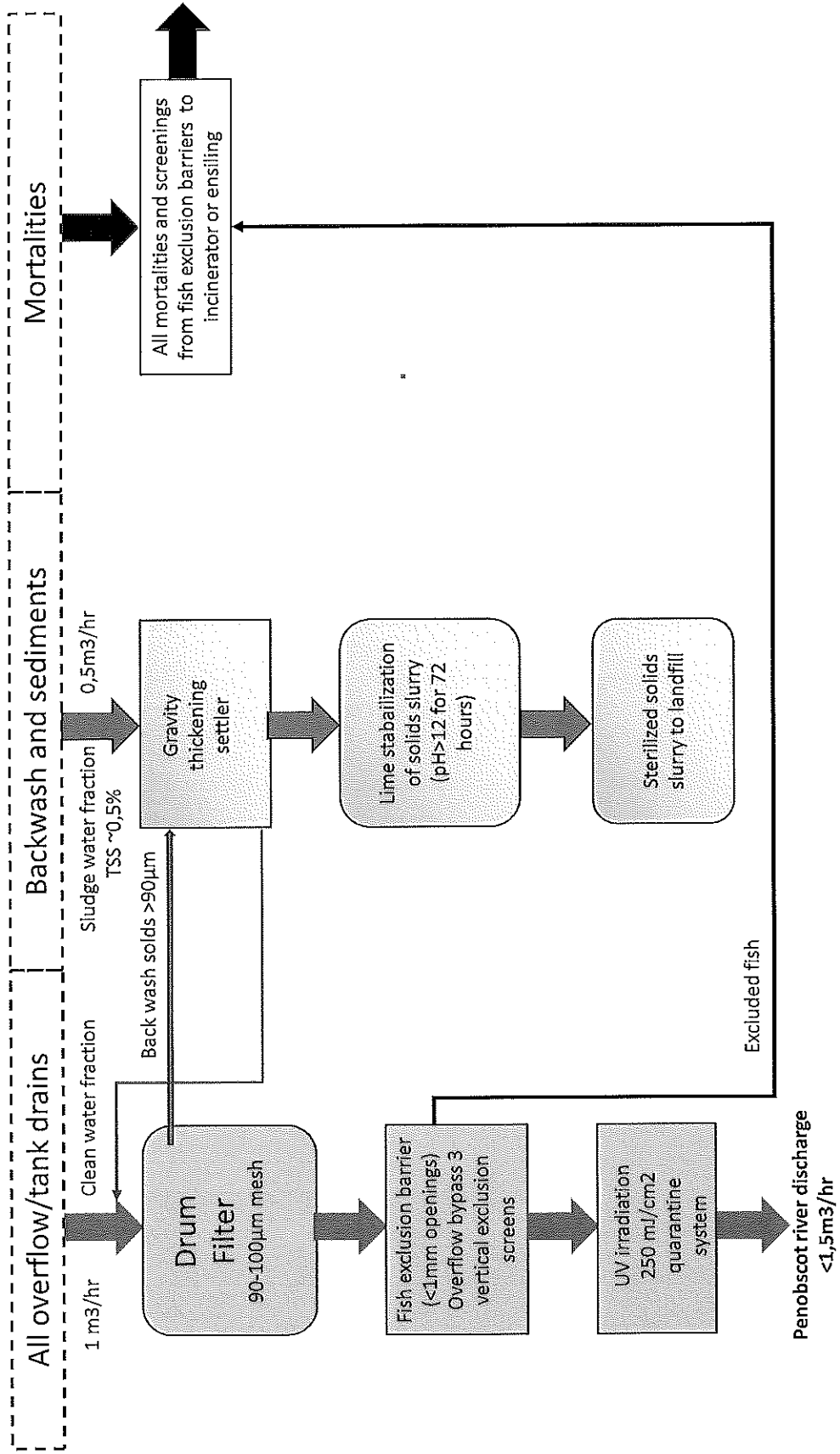


Whole Oceans Production Area Effluent PFD



Penobscot river discharge
Volume dependant on level of sludge concentration

Whole Oceans Quarantine Area Effluent PFD



Discharge from fish farm

Waterconsumption

Water consumption per kg fish feed
 Maximum feeding per day
 Total water consumption per day

500
 29,280
 17,568
 732.0

Current limits MED002160 W000598-5N-J-R

Type of discharge water

"Clean" water from fish tanks
 Sludge water from mechanical filters
 Sludge water from biological filters

395 liter/kg feed
 200 liter/kg feed
 5 liter/kg feed

11,566 m3/day
 6,002 m3/day
 146 m3/day

Clean water

COD 52.5 mg/l
 BOD5 20 mg/l
 N 66 mg/l
 P 0.9 mg/l
 TSS 10 mg/l

607.2 kg/day
 231.3 kg/day
 763.3 kg/day
 10.4 kg/day
 115.7 kg/day

221,626 kg/year
 84,429 kg/year
 278,615 kg/year
 3,799 kg/year
 42,214 kg/year

Sludgewater

COD 650 mg/l
 BOD5 390 mg/l
 N 45 mg/l
 P 22 mg/l
 TSS 500 mg/l

3,901.6 kg/day
 2,340.9 kg/day
 270.1 kg/day
 132.1 kg/day
 3,001.2 kg/day

1,424,069 kg/year
 854,442 kg/year
 98,589 kg/year
 48,199 kg/year
 1,095,438 kg/year

GRAND TOTAL

COD 256.6 mg/l
 BOD 146.4 mg/l
 N 58.8 mg/l
 P 8.1 mg/l
 TSS 177.4 mg/l

4508.8 kg/day
 2572.2 kg/day
 1033.4 kg/day
 142.5 kg/day
 3116.9 kg/day

1,645,695 kg/year
 938,871 kg/year
 377,205 kg/year
 51,999 kg/year
 1,137,652 kg/year

Removal by sludge concentration on bandfilters

COD 572 mg/l
 BOD5 287.07 mg/l
 N 31.5 mg/l
 P 21.12 mg/l
 TSS 470 mg/l

3,433.4 kg/day
 1,723.1 kg/day
 189.1 kg/day
 126.8 kg/day
 2,821.1 kg/day

1,253,181 kg/year
 628,942 kg/year
 68,013 kg/year
 46,271 kg/year
 1,029,712 kg/year

Total discharge from farm water fraction

COD 61.2 mg/l
 BOD5 48.3 mg/l
 N 48.1 mg/l
 P 0.9 mg/l
 TSS 16.8 mg/l

1,075.4 kg/day
 849.1 kg/day
 844.4 kg/day
 15.7 kg/day
 295.7 kg/day

392,514 kg/year
 309,929 kg/year
 308,192 kg/year
 5,727 kg/year
 107,941 kg/year

June 1 - Oct 31 Nov 1 - May 31 June 1 - Oct 31 Nov 1 - May 31
 3100 lbs/day 6160 lbs/day 1406 kg/day 2794 kg/day

9300 lbs/day 9300 lbs/day 4218 kg/day 4218 kg/day