

Supplementary Table S2. Results of the mixed effects model estimating annual lease use and productivity per systems including two new dummy variables to represent harvest in the first three years of a lease. Base level of system for interaction terms is miscellaneous tributaries. Significance is denoted by: $p < 0.001 = \text{'***'}$, $p < 0.01 = \text{'**'}$, $p < 0.05 = \text{'*'}$, $p < 0.1 = \text{'.'}$.

| Fixed effects | Y= use (1 0) | | | | Y=ln(productivity) | | | |
|--------------------------------------|--------------|------------|---------|---------|--------------------|------------|---------|---------|
| | Estimate | Std. Error | p-value | Signif. | Estimate | Std. Error | p-value | Signif. |
| Year | 0.242 | 0.017 | < 2E-16 | *** | 0.056 | 0.020 | 0.005 | ** |
| Lease age | -6.3E-4 | 0.005 | 0.902 | | -0.004 | 0.005 | 0.428 | |
| lease_with_harvest_less3yr | 3.402 | 0.340 | <2E-16 | *** | -0.535 | 0.239 | 0.025 | * |
| lease_with_Extensive_harvest_less3yr | -1.269 | 0.389 | 0.001 | ** | 0.573 | 0.275 | 0.0368 | * |
| Year x Potomac | 0.069 | 0.032 | 0.028 | * | 0.091 | 0.036 | 0.012 | * |
| Year x Rappahannock | -0.014 | 0.033 | 0.680 | | -0.030 | 0.039 | 0.450 | |
| Year x York | 0.038 | 0.048 | 0.429 | | -0.092 | 0.061 | 0.131 | |
| Year x James | -0.143 | 0.031 | 4.03E-6 | *** | 0.103 | 0.032 | 0.001 | ** |
| Year x Ches. Bay | -0.059 | 0.031 | 0.059 | . | 0.076 | 0.035 | 0.029 | * |
| Aquaculture type | | | | | 0.057 | 0.096 | 0.552 | |