

Eliminating the by catch in the conventional crab pot

Final Report

2017

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Summary

This study was devised to research a possible solution to reduce the by-catch of fishes when using the conventional crab pots. A perp panel was constructed and installed into 30 crab pots, known as "treated" (T). An additional 30 pots without perp panels were also used in the study as a control, known as "untreated" (UT). These pots were placed randomly in the Nansemond River and in the James River and the study was conducted 3 times. The data included the area being fished, the depth of the water, the water temperature, type of bottom, type of bait used, the number of crabs caught (male and female), and the type of by-catch including species and length.

Description of Project

Purpose:

The purpose of this project was to employ a simple device that would reduce the number of fish trapped in the conventional crab pot without having an effect on the number of legal crabs caught.

Methodology employed:

Three investigations were performed over the last nine months to determine if the use of a perp panel would reduce the number of by catch in the conventional crab pot. A panel was constructed and placed in a vertical position in 30 crab pots (T) compared to 30 pots without a perp panel. (UT) It was anticipated that the vertical swimmers such as spot, croaker, and in particular, the spadefish, would escape through the perp panel. This device was designed in an effort to make the crab pot species specific and reduce the by catch. This study was conducted three times and data was collected and recorded to determine if the device was effective.

Summary of data collection and analysis:

The data clearly shows the perp panel have been effective. The by-catch of Spadefish, in particular, was remarkably higher in the pots without a perp panel.

Results, conclusions, and recommendations

Results:

Results revealed that the perp panels were effective with no significant impact on the number of crabs caught.

Conclusions:

1. The placement of the panel should be moved upward (3 in.) which would allow for a more accessible escape to the perp panel.
2. There were too many pots in the study (totaling 60) considering the time limit the VMRC mandates for commercial waterman.
3. The perp panels would be even more effective on the peeler pot.

The wire on a peeler pot is significantly smaller than that on a crab pot which allows the peeler pot to have an even greater number of by catch.

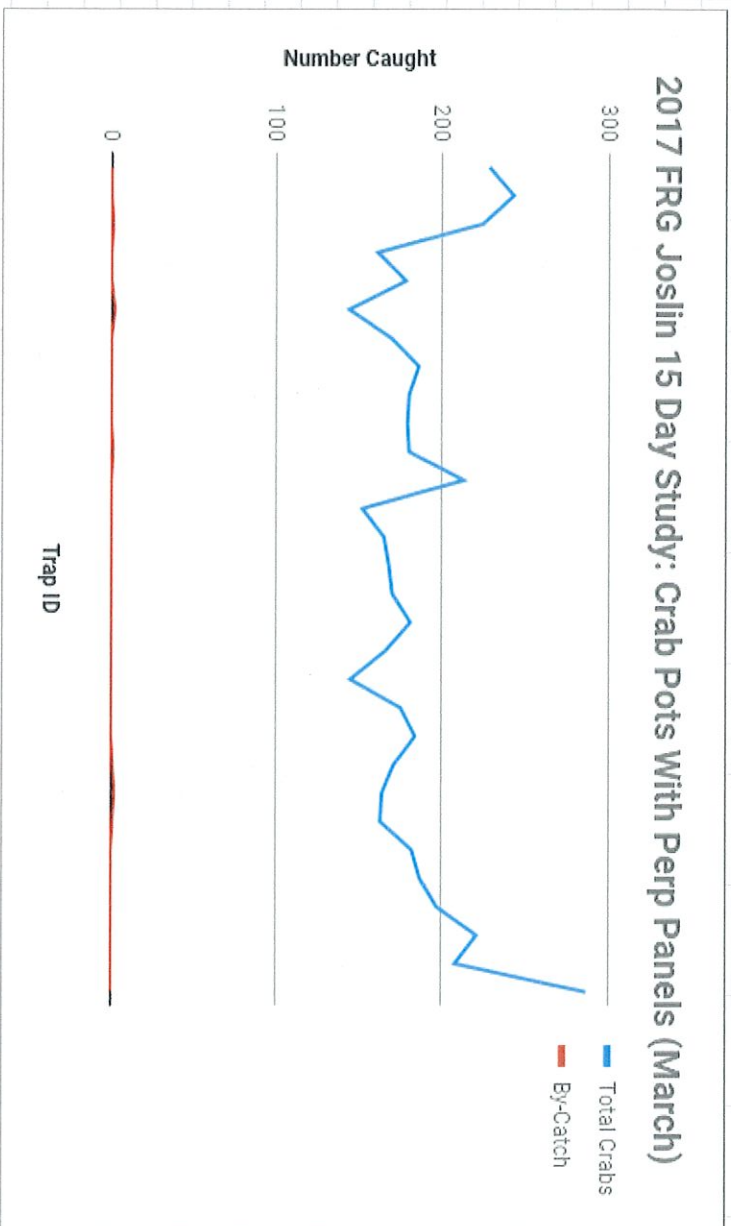
Recommendations:

1. This study should be continued with only 15 treated and 15 untreated considering the time constraint on commercial waterman.
2. The panels need to be moved upward at least 3 inches for a more accessible escape.
3. These devices need to be studied on peeler pots because of the difference in the size of the wire from that of a crab pot. It is anticipated

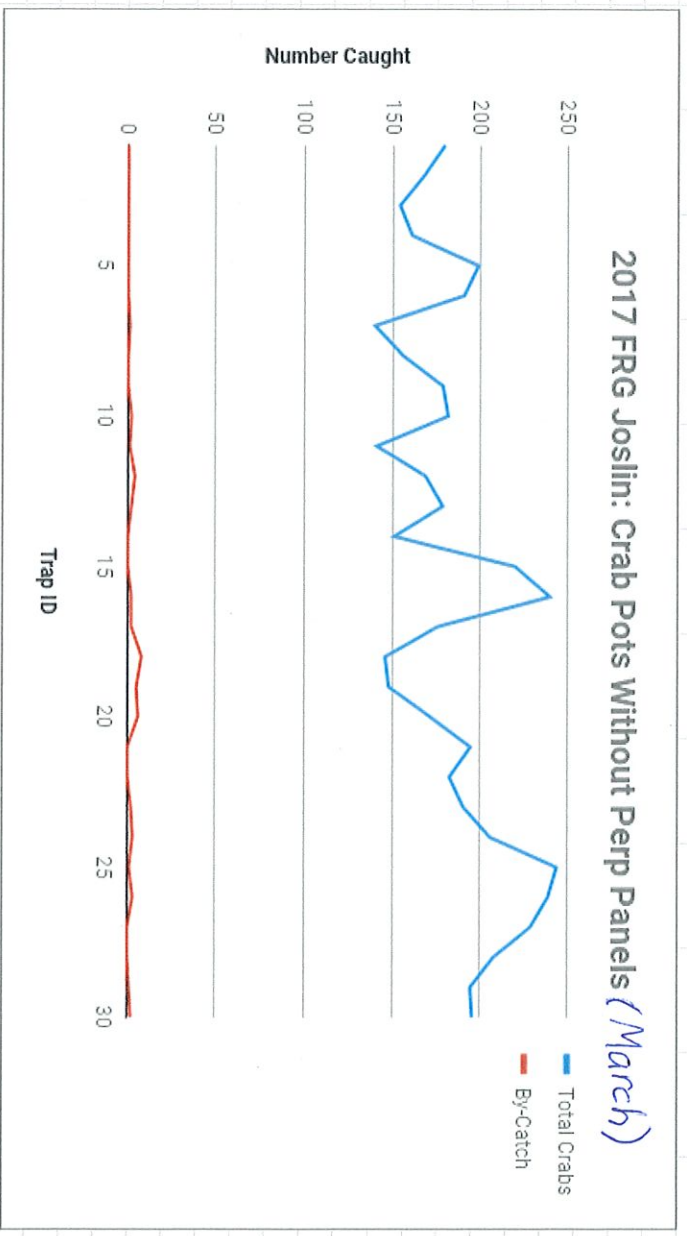
the smaller size of wire on the peeler pot, would greatly increase the bycatch.

4. We are recommending that this device or idea be patented by Nansemond River Seafood.

| Trap ID | Total Crabs | By-Catch |
|---------|-------------|----------|
| 1 | 228 | 0 |
| 2 | 243 | 0 |
| 3 | 224 | 1 |
| 4 | 161 | 0 |
| 5 | 178 | 0 |
| 6 | 144 | 2 |
| 7 | 169 | 0 |
| 8 | 186 | 0 |
| 9 | 180 | 0 |
| 10 | 179 | 0 |
| 11 | 180 | 1 |
| 12 | 213 | 0 |
| 13 | 152 | 0 |
| 14 | 165 | 0 |
| 15 | 168 | 0 |
| 16 | 170 | 0 |
| 17 | 181 | 0 |
| 18 | 166 | 0 |
| 19 | 145 | 0 |
| 20 | 175 | 0 |
| 21 | 184 | 0 |
| 22 | 171 | 1 |
| 23 | 164 | 2 |
| 24 | 163 | 1 |
| 25 | 182 | 0 |
| 26 | 187 | 0 |
| 27 | 197 | 0 |
| 28 | 221 | 0 |
| 29 | 208 | 0 |
| 30 | 287 | 0 |



| Trap ID | Total Crabs | By-Catch |
|---------|-------------|----------|
| 1 | 180 | 0 |
| 2 | 168 | 0 |
| 3 | 154 | 0 |
| 4 | 161 | 0 |
| 5 | 199 | 0 |
| 6 | 191 | 0 |
| 7 | 140 | 1 |
| 8 | 156 | 0 |
| 9 | 179 | 0 |
| 10 | 182 | 2 |
| 11 | 141 | 1 |
| 12 | 169 | 4 |
| 13 | 179 | 2 |
| 14 | 151 | 0 |
| 15 | 220 | 0 |
| 16 | 240 | 2 |
| 17 | 176 | 2 |
| 18 | 146 | 8 |
| 19 | 148 | 5 |
| 20 | 172 | 6 |
| 21 | 195 | 0 |
| 22 | 183 | 0 |
| 23 | 191 | 2 |
| 24 | 206 | 3 |
| 25 | 244 | 1 |
| 26 | 239 | 3 |
| 27 | 229 | 0 |
| 28 | 208 | 0 |
| 29 | 195 | 1 |
| 30 | 196 | 2 |



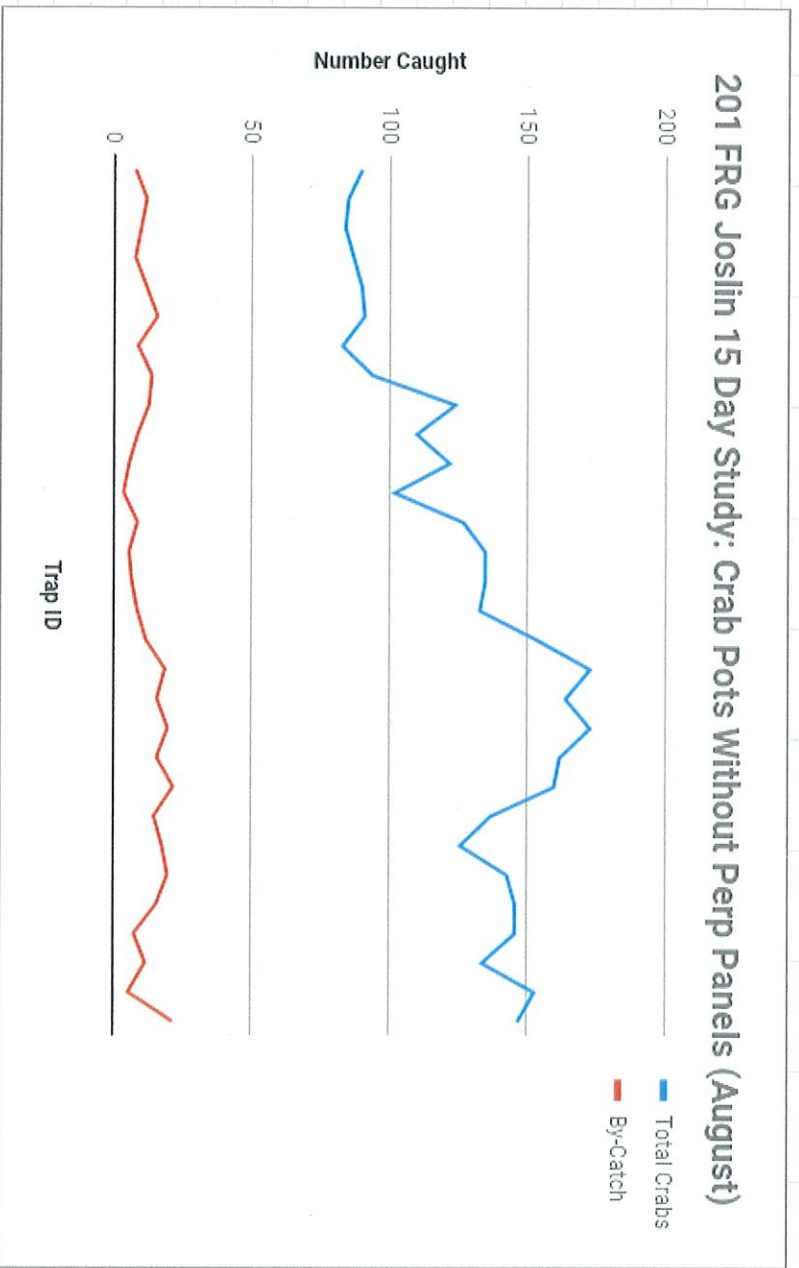
2017 FRG Joslin 15 Day Study: Crab Pots with Perp Panels (March)

| Trap ID | Area | Air Temp. | Depth | Water Temp. | Bottom Type | Bait | Male Crabs | Female Crabs | Total Crabs | By-Catch | Species | Length (cm) |
|---------|-------|-----------|-------|-------------|-------------|----------|------------|--------------|-------------|----------|----------|-------------|
| 1T | James | 38 | 6 ft. | 53 | Mud | Menhaden | 50 | 178 | 228 | 0 | N/A | |
| 2T | James | 45 | 6 ft. | 53 | Mud | Menhaden | 58 | 185 | 243 | 0 | N/A | |
| 3T | James | 54 | 6 ft. | 53 | Mud | Menhaden | 62 | 162 | 224 | 1 | Bunker | 15 |
| 4T | James | 56 | 6 ft. | 53 | Mud | Menhaden | 35 | 126 | 161 | 0 | N/A | |
| 5T | James | 49 | 6 ft. | 53 | Mud | Menhaden | 38 | 140 | 178 | 0 | N/A | |
| 6T | James | 55 | 6 ft. | 53 | Mud | Menhaden | 34 | 110 | 144 | 2 | Bunker | 17, 22 |
| 7T | James | 65 | 7 ft. | 53 | Mud | Menhaden | 41 | 128 | 169 | 0 | N/A | |
| 8T | James | 55 | 7 ft. | 53 | Mud | Menhaden | 55 | 131 | 186 | 0 | N/A | |
| 9T | James | 43 | 7 ft. | 53 | Mud | Menhaden | 68 | 112 | 180 | 0 | N/A | |
| 10T | James | 69 | 7 ft. | 53 | Mud | Menhaden | 70 | 109 | 179 | 0 | N/A | |
| 11T | James | 76 | 7 ft. | 53 | Mud | Menhaden | 65 | 115 | 180 | 1 | Sea Bass | 13 |
| 12T | James | 63 | 8 ft. | 53 | Mud | Menhaden | 63 | 150 | 213 | 0 | N/A | |
| 13T | James | 76 | 8 ft. | 54 | Mud | Menhaden | 42 | 110 | 152 | 0 | N/A | |
| 14T | James | 76 | 8 ft. | 54 | Mud | Menhaden | 39 | 126 | 165 | 0 | N/A | |
| 15T | James | 60 | 8 ft. | 54 | Mud | Menhaden | 36 | 132 | 168 | 0 | N/A | |
| 16T | James | 54 | 7 ft. | 54 | Mud | Menhaden | 28 | 142 | 170 | 0 | N/A | |
| 17T | James | 66 | 7 ft. | 54 | Mud | Menhaden | 42 | 139 | 181 | 0 | N/A | |
| 18T | James | 62 | 7 ft. | 55 | Mud | Menhaden | 50 | 116 | 166 | 0 | N/A | |
| 19T | James | 58 | 6 ft. | 55 | Mud | Menhaden | 46 | 98 | 144 | 0 | N/A | |
| 20T | James | 69 | 6 ft. | 55 | Mud | Menhaden | 49 | 126 | 175 | 0 | N/A | |
| 21T | James | 81 | 6 ft. | 55 | Mud | Menhaden | 50 | 134 | 184 | 0 | N/A | |
| 22T | James | 72 | 4 ft. | 55 | Mud | Menhaden | 42 | 129 | 171 | 1 | Bunker | 17 |
| 23T | James | 76 | 4 ft. | 55 | Mud | Menhaden | 48 | 116 | 164 | 2 | Bunker | 19, 17 |
| 24T | James | 55 | 4 ft. | 55 | Mud | Menhaden | 55 | 108 | 163 | 1 | Croaker | 17 |
| 25T | James | 64 | 4 ft. | 55 | Mud | Menhaden | 62 | 120 | 182 | 0 | N/A | |
| 26T | James | 69 | 4 ft. | 55 | Mud | Menhaden | 78 | 109 | 187 | 0 | N/A | |
| 27T | James | 78 | 4 ft. | 55 | Mud | Menhaden | 85 | 112 | 197 | 0 | N/A | |
| 28T | James | 82 | 4 ft. | 55 | Mud | Menhaden | 91 | 130 | 221 | 0 | N/A | |
| 29T | James | 76 | 4 ft. | 55 | Mud | Menhaden | 98 | 110 | 208 | 0 | N/A | |
| 30T | James | 65 | 4 ft. | 55 | Mud | Menhaden | 102 | 185 | 287 | 0 | N/A | |

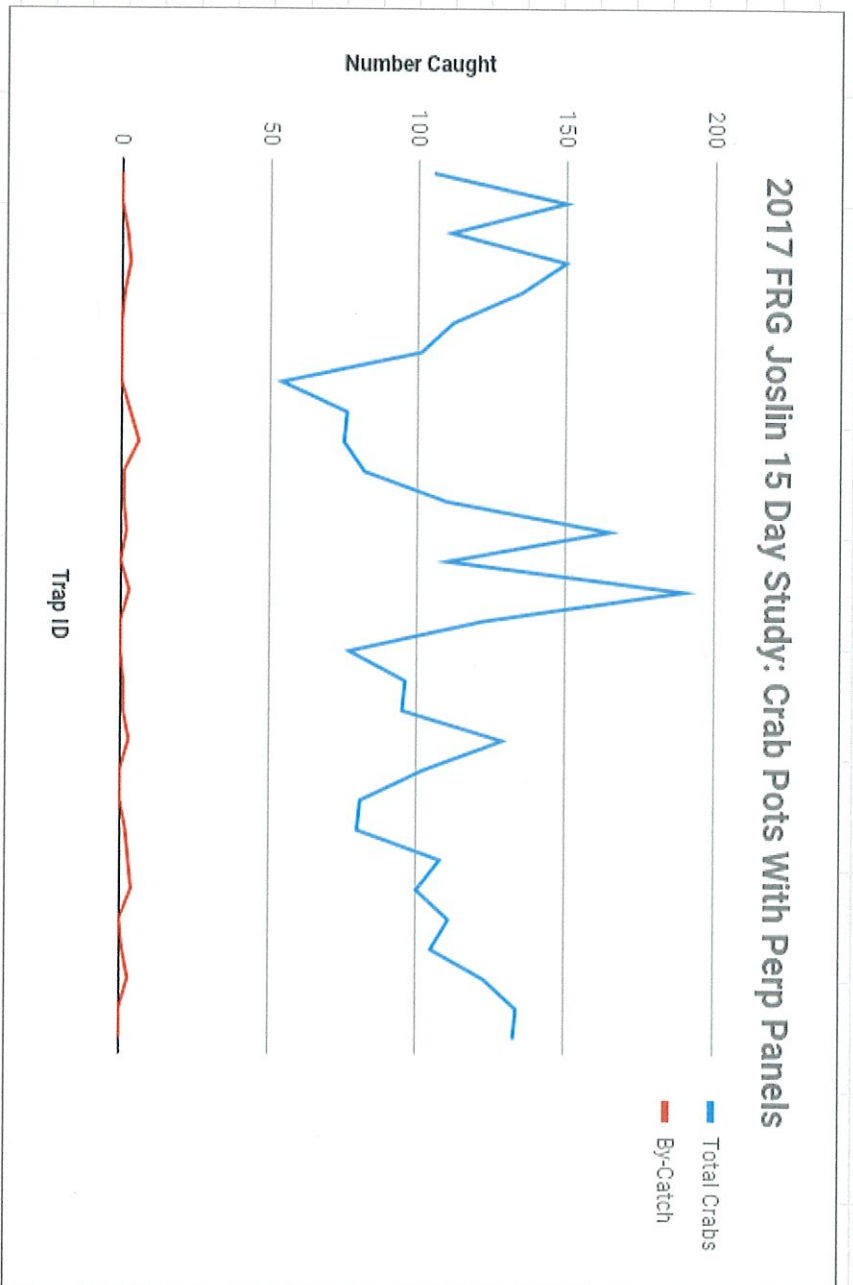
2017 FRG Joslin: Crab Pots Without Perp Panels (March Study)

| Trap ID | Area | Air Temp. | Depth | Water Temp. | Bottom Type | Bait | Male Crabs | Female Crabs | Total Crabs | By-Catch | Species | Avg. Length (cm) |
|---------|-------|-----------|-------|-------------|-------------|----------|------------|--------------|-------------|----------|-------------------------------|--------------------------------|
| 1U | James | 38 | 6 ft. | 53 | Mud | Menhaden | 0 | 180 | 180 | 0 | N/A | |
| 2U | James | 45 | 6 ft. | 53 | Mud | Menhaden | 0 | 168 | 168 | 0 | N/A | |
| 3U | James | 54 | 6 ft. | 53 | Mud | Menhaden | 2 | 152 | 154 | 0 | N/A | |
| 4U | James | 56 | 6 ft. | 53 | Mud | Menhaden | 12 | 149 | 161 | 0 | N/A | |
| 5U | James | 49 | 6 ft. | 53 | Mud | Menhaden | 15 | 184 | 199 | 0 | N/A | |
| 6U | James | 55 | 6 ft. | 53 | Mud | Menhaden | 15 | 176 | 191 | 0 | N/A | |
| 7U | James | 65 | 7 ft. | 53 | Mud | Menhaden | 19 | 121 | 140 | 1 | Menhaden | 15 |
| 8U | James | 55 | 7 ft. | 53 | Mud | Menhaden | 16 | 140 | 156 | 0 | N/A | |
| 9U | James | 43 | 7 ft. | 53 | Mud | Menhaden | 21 | 158 | 179 | 0 | N/A | |
| 10U | James | 69 | 7 ft. | 53 | Mud | Menhaden | 20 | 162 | 182 | 2 | Menhaden | 15, 13 |
| 11U | James | 76 | 7 ft. | 53 | Mud | Menhaden | 15 | 126 | 141 | 1 | Menhaden | 15 |
| 12U | James | 63 | 8 ft. | 53 | Mud | Menhaden | 25 | 144 | 169 | 4 | 3 Menhaden, 1 Seabass | 15, 12, 10, 11 |
| 13U | James | 76 | 8 ft. | 54 | Mud | Menhaden | 29 | 150 | 179 | 2 | Menhaden | 15, 15 |
| 14U | James | 76 | 8 ft. | 54 | Mud | Menhaden | 32 | 119 | 151 | 0 | N/A | |
| 15U | James | 60 | 8 ft. | 54 | Mud | Menhaden | 38 | 182 | 220 | 0 | N/A | |
| 16U | James | 54 | 7 ft. | 54 | Mud | Menhaden | 65 | 175 | 240 | 2 | Menhaden | 14, 15 |
| 17U | James | 66 | 7 ft. | 54 | Mud | Menhaden | 60 | 116 | 176 | 2 | Menhaden | 15, 15 |
| 18U | James | 62 | 7 ft. | 55 | Mud | Menhaden | 51 | 95 | 146 | 8 | 4 Menhaden, 2 Spot, 2 Croaker | 13, 13, 12, 15, 12, 10, 15, 14 |
| 19U | James | 58 | 6 ft. | 55 | Mud | Menhaden | 46 | 102 | 148 | 5 | Menhaden | 13, 13, 15, 15, 14 |
| 20U | James | 69 | 6 ft. | 55 | Mud | Menhaden | 62 | 110 | 172 | 6 | Menhaden | 15, 15, 14, 15, 13, 15 |
| 21U | James | 81 | 6 ft. | 55 | Mud | Menhaden | 65 | 130 | 195 | 0 | N/A | |
| 22U | James | 72 | 8 ft. | 55 | Mud | Menhaden | 57 | 126 | 183 | 0 | N/A | |
| 23U | James | 76 | 8 ft. | 55 | Mud | Menhaden | 72 | 119 | 191 | 2 | Menhaden, Black Drum | 15, 12 |
| 24U | James | 55 | 8 ft. | 55 | Mud | Menhaden | 61 | 145 | 206 | 3 | 2 Menhaden, 1 Hogchoke | 15, 15, 10 |
| 25U | James | 64 | 8 ft. | 55 | Mud | Menhaden | 76 | 168 | 244 | 1 | Menhaden | 14 |
| 26U | James | 69 | 8 ft. | 55 | Mud | Menhaden | 85 | 154 | 239 | 3 | Croaker | 14, 15, 14 |
| 27U | James | 78 | 8 ft. | 55 | Mud | Menhaden | 71 | 158 | 229 | 0 | N/A | |
| 28U | James | 82 | 8 ft. | 55 | Mud | Menhaden | 89 | 119 | 208 | 0 | N/A | |
| 29U | James | 76 | 8 ft. | 55 | Mud | Menhaden | 65 | 130 | 195 | 1 | Croaker | 14 |
| 30U | James | 65 | 8 ft. | 55 | Mud | Menhaden | 78 | 118 | 196 | 2 | Croaker | 17, 15 |

| Trap ID | Total Crabs | By-Catch |
|---------|-------------|----------|
| 1 | 90 | 8 |
| 2 | 85 | 12 |
| 3 | 84 | 10 |
| 4 | 87 | 8 |
| 5 | 90 | 12 |
| 6 | 91 | 16 |
| 7 | 83 | 9 |
| 8 | 94 | 14 |
| 9 | 124 | 13 |
| 10 | 110 | 9 |
| 11 | 122 | 6 |
| 12 | 102 | 4 |
| 13 | 127 | 9 |
| 14 | 135 | 6 |
| 15 | 135 | 7 |
| 16 | 133 | 9 |
| 17 | 154 | 12 |
| 18 | 173 | 19 |
| 19 | 164 | 16 |
| 20 | 173 | 20 |
| 21 | 162 | 16 |
| 22 | 160 | 22 |
| 23 | 137 | 15 |
| 24 | 126 | 18 |
| 25 | 143 | 20 |
| 26 | 146 | 16 |
| 27 | 146 | 8 |
| 28 | 134 | 12 |
| 29 | 153 | 6 |
| 30 | 147 | 22 |



| Trap ID | Total Crabs | By-Catch |
|---------|-------------|----------|
| 1 | 105 | 0 |
| 2 | 150 | 0 |
| 3 | 111 | 2 |
| 4 | 150 | 3 |
| 5 | 135 | 1 |
| 6 | 112 | 0 |
| 7 | 101 | 0 |
| 8 | 54 | 0 |
| 9 | 76 | 3 |
| 10 | 75 | 6 |
| 11 | 82 | 1 |
| 12 | 110 | 1 |
| 13 | 165 | 2 |
| 14 | 110 | 0 |
| 15 | 190 | 3 |
| 16 | 122 | 0 |
| 17 | 77 | 0 |
| 18 | 96 | 1 |
| 19 | 95 | 1 |
| 20 | 129 | 3 |
| 21 | 102 | 0 |
| 22 | 81 | 0 |
| 23 | 80 | 2 |
| 24 | 108 | 3 |
| 25 | 100 | 4 |
| 26 | 111 | 0 |
| 27 | 105 | 1 |
| 28 | 123 | 3 |
| 29 | 134 | 0 |
| 30 | 133 | 0 |



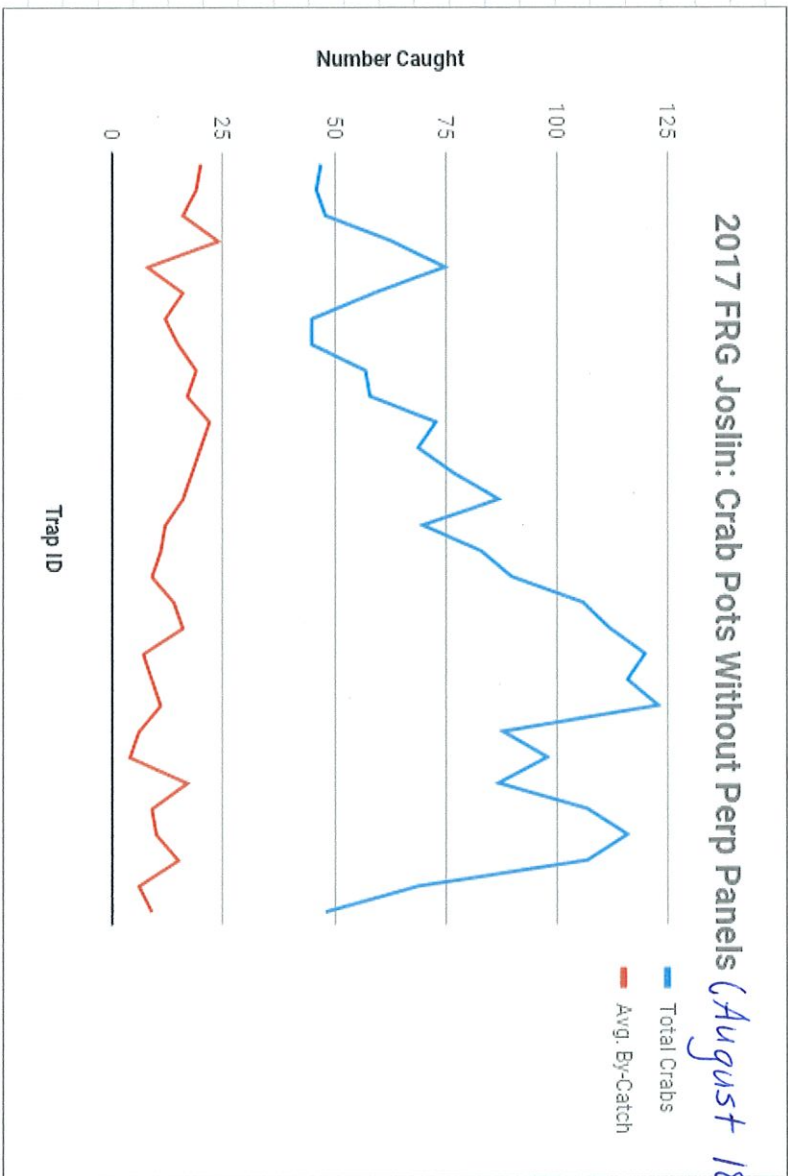
2017 FRG Joslin 15 Day Study: Crab Pots Without Perp Panels (August)

| Trap ID | Area | Air Temp. | Depth | Water Temp. | Bottom Type | Bar | Male Crabs | Female Crabs | Total Crabs | By-Catch | Species | Avg. Length (cm) |
|---------|--------|-----------|-------|-------------|-------------|----------|------------|--------------|-------------|----------|----------------------|------------------|
| 1U | Nanse. | 80 | 6 ft. | 80 | Mud | Menhaden | 60 | 30 | 90 | 8 | Spade | 7 |
| 2U | Nanse. | 80 | 6 ft. | 80 | Mud | Menhaden | 58 | 27 | 85 | 12 | Spade | 8 |
| 3U | Nanse. | 83 | 6 ft. | 80 | Mud | Menhaden | 65 | 19 | 84 | 10 | Spade | 8 |
| 4U | Nanse. | 84 | 6 ft. | 80 | Mud | Menhaden | 75 | 12 | 87 | 8 | Spade | 9 |
| 5U | Nanse. | 81 | 6 ft. | 80 | Mud | Menhaden | 71 | 19 | 90 | 12 | Spade | 11 |
| 6U | Nanse. | 82 | 6 ft. | 80 | Mud | Menhaden | 70 | 21 | 91 | 16 | Spade | 7 |
| 7U | Nanse. | 90 | 7 ft. | 80 | Mud | Menhaden | 65 | 18 | 83 | 9 | Spade | 7 |
| 8U | Nanse. | 85 | 7 ft. | 80 | Mud | Menhaden | 78 | 16 | 94 | 14 | Spade | 8 |
| 9U | Nanse. | 89 | 7 ft. | 80 | Mud | Menhaden | 89 | 35 | 124 | 13 | Spade | 8 |
| 10U | Nanse. | 94 | 7 ft. | 80 | Mud | Menhaden | 65 | 45 | 110 | 9 | Spade | 8 |
| 11U | Nanse. | 87 | 7 ft. | 80 | Mud | Menhaden | 72 | 50 | 122 | 6 | Spade | 7 |
| 12U | Nanse. | 89 | 8 ft. | 80 | Mud | Menhaden | 78 | 24 | 102 | 4 | 3 Spade, 1 Toad | 9 |
| 13U | Nanse. | 90 | 8 ft. | 80 | Mud | Menhaden | 85 | 42 | 127 | 9 | Spade | 9 |
| 14U | Nanse. | 87 | 8 ft. | 80 | Mud | Menhaden | 90 | 45 | 135 | 6 | Spade | 6 |
| 15U | Nanse. | 82 | 8 ft. | 80 | Mud | Menhaden | 102 | 33 | 135 | 7 | Spade | 7 |
| 16U | Nanse. | 82 | 7 ft. | 79 | Mud | Menhaden | 105 | 28 | 133 | 9 | Spade | 8 |
| 17U | Nanse. | 82 | 7 ft. | 79 | Mud | Menhaden | 115 | 39 | 154 | 12 | Spade | 8 |
| 18U | Nanse. | 79 | 7 ft. | 79 | Mud | Menhaden | 121 | 52 | 173 | 19 | Spade | 9 |
| 19U | Nanse. | 79 | 6 ft. | 79 | Mud | Menhaden | 116 | 48 | 164 | 16 | Spade | 9 |
| 20U | Nanse. | 72 | 6 ft. | 78 | Mud | Menhaden | 122 | 51 | 173 | 20 | Spade | 10 |
| 21U | Nanse. | 77 | 6 ft. | 78 | Mud | Menhaden | 130 | 32 | 162 | 16 | Spade | 10 |
| 22U | Nanse. | 86 | 4 ft. | 78 | Mud | Menhaden | 118 | 42 | 160 | 22 | Spade | 10 |
| 23U | Nanse. | 76 | 4 ft. | 78 | Mud | Menhaden | 102 | 35 | 137 | 15 | Spade | 10 |
| 24U | Nanse. | 80 | 4 ft. | 78 | Mud | Menhaden | 100 | 26 | 126 | 18 | Spade | 10 |
| 25U | Nanse. | 78 | 4 ft. | 78 | Mud | Menhaden | 98 | 45 | 143 | 20 | Spade | 9 |
| 26U | Nanse. | 83 | 4 ft. | 78 | Mud | Menhaden | 92 | 54 | 146 | 16 | Spade | 9 |
| 27U | Nanse. | 87 | 4 ft. | 78 | Mud | Menhaden | 85 | 61 | 146 | 8 | Spade | 6 |
| 28U | Nanse. | 83 | 4 ft. | 78 | Mud | Menhaden | 71 | 63 | 134 | 12 | Spade | 9 |
| 29U | Nanse. | 85 | 4 ft. | 80 | Mud | Menhaden | 78 | 75 | 153 | 6 | 5 Spade, 1 Hogchoker | 10 |
| 30U | Nanse. | 85 | 4 ft. | 80 | Mud | Menhaden | 62 | 85 | 147 | 22 | Spade | 10 |

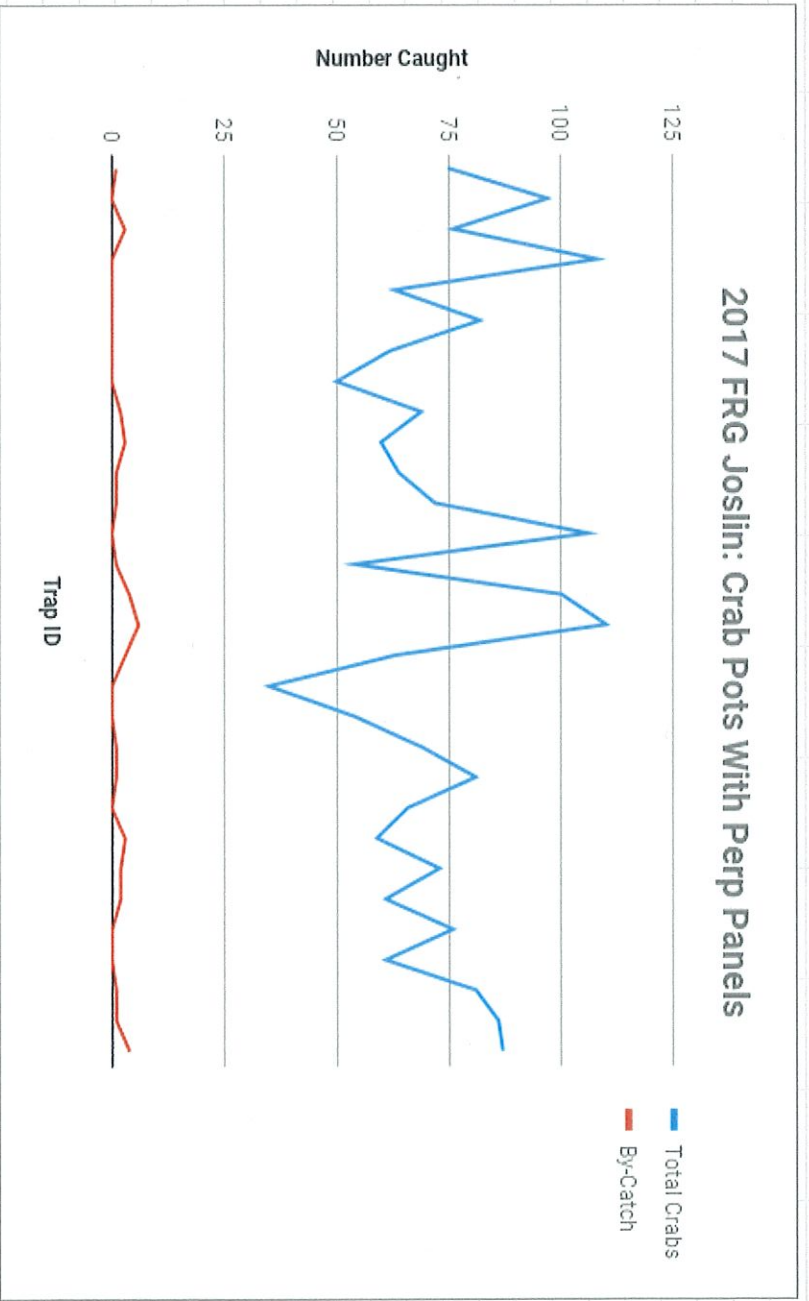
2017 FRG Joslin 15 Day Study: Crab Pots with Perp Panels (August)

| Trap ID | Area | Air Temp. | Depth | Water Temp. | Bottom Type | Bait | Male Crabs | Female Crabs | Total Crabs | By-Catch | Species | Length (cm) |
|---------|--------|-----------|-------|-------------|-------------|----------|------------|--------------|-------------|----------|-----------------|------------------|
| 1T | Nanse. | 80 | 6 ft. | 80 | Mud | Menhaden | 75 | 30 | 105 | 0 | N/A | |
| 2T | Nanse. | 80 | 6 ft. | 80 | Mud | Menhaden | 120 | 30 | 150 | 0 | N/A | |
| 3T | Nanse. | 83 | 6 ft. | 80 | Mud | Menhaden | 105 | 6 | 111 | 2 | 2 Spade | 7, 10 |
| 4T | Nanse. | 84 | 6 ft. | 80 | Mud | Menhaden | 135 | 15 | 150 | 3 | 3 Spade | 6, 8, 11 |
| 5T | Nanse. | 81 | 6 ft. | 80 | Mud | Menhaden | 75 | 60 | 135 | 1 | Toad | 13 |
| 6T | Nanse. | 82 | 6 ft. | 80 | Mud | Menhaden | 90 | 22 | 112 | 0 | N/A | |
| 7T | Nanse. | 90 | 7 ft. | 80 | Mud | Menhaden | 86 | 15 | 101 | 0 | N/A | |
| 8T | Nanse. | 85 | 7 ft. | 80 | Mud | Menhaden | 45 | 9 | 54 | 0 | N/A | |
| 9T | Nanse. | 89 | 7 ft. | 80 | Mud | Menhaden | 64 | 12 | 76 | 3 | 2 Spade, 1 Toad | 7, 6, 13 |
| 10T | Nanse. | 94 | 7 ft. | 80 | Mud | Menhaden | 30 | 45 | 75 | 6 | 6 Spade | 7, 7, 6, 8, 9, 9 |
| 11T | Nanse. | 87 | 7 ft. | 80 | Mud | Menhaden | 42 | 40 | 82 | 1 | 1 Spade | 9 |
| 12T | Nanse. | 89 | 8 ft. | 80 | Mud | Menhaden | 45 | 65 | 110 | 1 | 1 Spade | 10 |
| 13T | Nanse. | 90 | 8 ft. | 80 | Mud | Menhaden | 75 | 90 | 165 | 2 | 2 Spade | 7, 8 |
| 14T | Nanse. | 87 | 8 ft. | 80 | Mud | Menhaden | 60 | 50 | 110 | 0 | N/A | |
| 15T | Nanse. | 82 | 8 ft. | 80 | Mud | Menhaden | 120 | 70 | 190 | 3 | 3 Spade | 10, 12, 10 |
| 16T | Nanse. | 82 | 7 ft. | 79 | Mud | Menhaden | 113 | 9 | 122 | 0 | N/A | |
| 17T | Nanse. | 82 | 7 ft. | 79 | Mud | Menhaden | 65 | 12 | 77 | 0 | N/A | |
| 18T | Nanse. | 79 | 7 ft. | 79 | Mud | Menhaden | 90 | 6 | 96 | 1 | Spade | 11 |
| 19T | Nanse. | 79 | 6 ft. | 79 | Mud | Menhaden | 75 | 20 | 95 | 1 | Spade | 13 |
| 20T | Nanse. | 72 | 6 ft. | 78 | Mud | Menhaden | 109 | 20 | 129 | 3 | 3 Spade | 6, 9, 10 |
| 21T | Nanse. | 77 | 6 ft. | 78 | Mud | Menhaden | 78 | 24 | 102 | 0 | N/A | |
| 22T | Nanse. | 86 | 4 ft. | 78 | Mud | Menhaden | 69 | 12 | 81 | 0 | N/A | |
| 23T | Nanse. | 76 | 4 ft. | 78 | Mud | Menhaden | 70 | 10 | 80 | 2 | 2 Spade | 9, 9 |
| 24T | Nanse. | 80 | 4 ft. | 78 | Mud | Menhaden | 90 | 18 | 108 | 3 | 3 Spade | 6, 7, 5 |
| 25T | Nanse. | 78 | 4 ft. | 78 | Mud | Menhaden | 85 | 15 | 100 | 4 | 4 Spade | 7, 7, 6, 9 |
| 26T | Nanse. | 83 | 4 ft. | 78 | Mud | Menhaden | 96 | 15 | 111 | 0 | N/A | |
| 27T | Nanse. | 87 | 4 ft. | 78 | Mud | Menhaden | 75 | 30 | 105 | 1 | Toad | 20 |
| 28T | Nanse. | 83 | 4 ft. | 78 | Mud | Menhaden | 102 | 21 | 123 | 3 | 3 Spade | 8, 9, 7, 9 |
| 29T | Nanse. | 85 | 4 ft. | 80 | Mud | Menhaden | 115 | 19 | 134 | 0 | N/A | |
| 30T | Nanse. | 85 | 4 ft. | 80 | Mud | Menhaden | 108 | 25 | 133 | 0 | N/A | |

| Trap ID | Total Crabs | Avg. By-Catch |
|---------|-------------|---------------|
| 1 | 47 | 20 |
| 2 | 46 | 19 |
| 3 | 48 | 16 |
| 4 | 63 | 24 |
| 5 | 75 | 8 |
| 6 | 59 | 16 |
| 7 | 45 | 12 |
| 8 | 45 | 15 |
| 9 | 57 | 19 |
| 10 | 58 | 17 |
| 11 | 73 | 22 |
| 12 | 69 | 20 |
| 13 | 77 | 18 |
| 14 | 87 | 16 |
| 15 | 70 | 12 |
| 16 | 83 | 11 |
| 17 | 90 | 9 |
| 18 | 106 | 14 |
| 19 | 112 | 16 |
| 20 | 120 | 7 |
| 21 | 116 | 9 |
| 22 | 123 | 11 |
| 23 | 88 | 6 |
| 24 | 98 | 4 |
| 25 | 87 | 17 |
| 26 | 107 | 9 |
| 27 | 116 | 10 |
| 28 | 107 | 15 |
| 29 | 69 | 6 |
| 30 | 48 | 9 |



| Trap ID | Total Crabs | By-Catch |
|---------|-------------|----------|
| 1 | 75 | 1 |
| 2 | 97 | 0 |
| 3 | 76 | 3 |
| 4 | 108 | 0 |
| 5 | 63 | 0 |
| 6 | 82 | 0 |
| 7 | 62 | 0 |
| 8 | 50 | 0 |
| 9 | 69 | 2 |
| 10 | 60 | 3 |
| 11 | 64 | 1 |
| 12 | 72 | 1 |
| 13 | 106 | 0 |
| 14 | 54 | 1 |
| 15 | 100 | 4 |
| 16 | 110 | 6 |
| 17 | 63 | 3 |
| 18 | 35 | 0 |
| 19 | 54 | 0 |
| 20 | 69 | 1 |
| 21 | 81 | 1 |
| 22 | 66 | 0 |
| 23 | 59 | 3 |
| 24 | 73 | 2 |
| 25 | 61 | 2 |
| 26 | 76 | 0 |
| 27 | 61 | 0 |
| 28 | 81 | 1 |
| 29 | 86 | 1 |
| 30 | 87 | 4 |



2017 FRG Joslin: Crab Pots Without Perp Panels (August 18 - September 4)

| Trap ID | Area | Air Temp. | Depth | Water Temp. | Bottom Type | Bait | Male Crabs | Female Crabs | Total Crabs | Wgt. By-Catch | Species | Avg. Length (cm) |
|---------|----------|-----------|-------|-------------|-------------|----------|------------|--------------|-------------|---------------|---------|------------------|
| 1U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 35 | 12 | 47 | 20 | Spade | 8 |
| 2U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 30 | 16 | 46 | 19 | Spade | 7 |
| 3U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 40 | 8 | 48 | 16 | Spade | 8 |
| 4U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 51 | 12 | 63 | 24 | Spade | 5 |
| 5U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 60 | 15 | 75 | 8 | Spade | 7 |
| 6U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 50 | 9 | 59 | 16 | Spade | 9 |
| 7U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 37 | 8 | 45 | 12 | Spade | 9 |
| 8U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 39 | 6 | 45 | 15 | Spade | 6 |
| 9U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 42 | 15 | 57 | 19 | Spade | 6 |
| 10U | Nansmond | 90 | 6 ft. | 80 | Mud | Menhaden | 38 | 20 | 58 | 17 | Spade | 9 |
| 11U | Nansmond | 90 | 7 ft. | 80 | Mud | Menhaden | 51 | 22 | 73 | 22 | Spade | 8 |
| 12U | Nansmond | 90 | 7 ft. | 80 | Mud | Menhaden | 65 | 4 | 69 | 20 | Spade | 8 |
| 13U | Nansmond | 90 | 7 ft. | 80 | Mud | Menhaden | 68 | 9 | 77 | 18 | Spade | 8 |
| 14U | Nansmond | 90 | 7 ft. | 80 | Mud | Menhaden | 80 | 7 | 87 | 18 | Spade | 7 |
| 15U | Nansmond | 90 | 7 ft. | 80 | Mud | Menhaden | 58 | 12 | 70 | 12 | Spade | 7 |
| 16U | Nansmond | 88 | 7 ft. | 80 | Mud | Menhaden | 75 | 8 | 83 | 17 | Spade | 7 |
| 17U | Nansmond | 88 | 7 ft. | 80 | Mud | Menhaden | 85 | 5 | 90 | 9 | Spade | 8 |
| 18U | Nansmond | 88 | 7 ft. | 80 | Mud | Menhaden | 87 | 19 | 106 | 14 | Spade | 8 |
| 19U | Nansmond | 88 | 7 ft. | 80 | Mud | Menhaden | 90 | 22 | 112 | 16 | Spade | 9 |
| 20U | Nansmond | 88 | 7 ft. | 80 | Mud | Menhaden | 90 | 30 | 120 | 16 | Spade | 9 |
| 21U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 100 | 16 | 116 | 9 | Spade | 10 |
| 22U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 106 | 17 | 123 | 14 | Spade | 9 |
| 23U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 68 | 20 | 88 | 8 | Spade | 9 |
| 24U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 77 | 21 | 98 | 4 | Spade | 7 |
| 25U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 69 | 18 | 87 | 17 | Spade | 7 |
| 26U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 76 | 31 | 107 | 9 | Spade | 6 |
| 27U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 80 | 36 | 116 | 19 | Spade | 6 |
| 28U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 68 | 39 | 107 | 15 | Spade | 7 |
| 29U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 54 | 15 | 69 | 8 | Spade | 6 |
| 30U | Nansmond | 88 | 8 ft. | 80 | Mud | Menhaden | 39 | 9 | 48 | 9 | Spade | 7 |

2017 FRG Joslin 15 Day Study: Crab Pots with Perp Panels (August-18 - September 4)

| Trap ID | Area | Avg. Air Temp. | Depth | Water Temp. | Bottom Type | Bait | Male Crabs | Female Crabs | Total Crabs | By-catch | Species | Length (cm) |
|---------|-----------|----------------|-------|-------------|-------------|----------|------------|--------------|-------------|----------|---------|------------------|
| 1T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 60 | 15 | 75 | 1 | Spade | 6 |
| 2T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 85 | 12 | 97 | 0 | N/A | |
| 3T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 70 | 6 | 76 | 3 | Spade | 6, 6, 7 |
| 4T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 100 | 8 | 108 | 0 | N/A | |
| 5T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 48 | 15 | 63 | 0 | N/A | |
| 6T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 65 | 17 | 82 | 0 | N/A | |
| 7T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 52 | 10 | 62 | 0 | N/A | |
| 8T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 40 | 10 | 50 | 0 | N/A | |
| 9T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 60 | 9 | 69 | 2 | Spade | 7/8 |
| 10T | Nansemond | 90 | 6 ft. | 80 | Mud | Menhaden | 32 | 28 | 60 | 3 | Spade | 7, 6, 6 |
| 11T | Nansemond | 90 | 7 ft. | 80 | Mud | Menhaden | 38 | 26 | 64 | 1 | Spade | 6 |
| 12T | Nansemond | 90 | 7 ft. | 80 | Mud | Menhaden | 41 | 31 | 72 | 1 | Spade | 5 |
| 13T | Nansemond | 90 | 7 ft. | 80 | Mud | Menhaden | 56 | 50 | 106 | 0 | N/A | |
| 14T | Nansemond | 90 | 7 ft. | 80 | Mud | Menhaden | 42 | 12 | 54 | 1 | Spade | 5 |
| 15T | Nansemond | 90 | 7 ft. | 80 | Mud | Menhaden | 69 | 31 | 100 | 4 | Spade | 6, 5, 7, 8 |
| 16T | Nansemond | 88 | 7 ft. | 80 | Mud | Menhaden | 90 | 20 | 110 | 6 | Spade | 7, 7, 6, 5, 8, 7 |
| 17T | Nansemond | 88 | 7 ft. | 80 | Mud | Menhaden | 54 | 9 | 63 | 3 | Spade | 6, 6, 5 |
| 18T | Nansemond | 88 | 7 ft. | 80 | Mud | Menhaden | 30 | 5 | 35 | 0 | N/A | |
| 19T | Nansemond | 88 | 7 ft. | 80 | Mud | Menhaden | 42 | 12 | 54 | 0 | N/A | |
| 20T | Nansemond | 88 | 7 ft. | 80 | Mud | Menhaden | 58 | 11 | 69 | 1 | Spade | 6 |
| 21T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 65 | 16 | 81 | 1 | Spade | 7 |
| 22T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 50 | 8 | 58 | 0 | N/A | |
| 23T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 58 | 9 | 67 | 3 | Spade | 7, 6, 7 |
| 24T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 66 | 7 | 73 | 2 | Spade | 6, 5 |
| 25T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 51 | 10 | 61 | 2 | Spade | 5, 7 |
| 26T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 68 | 8 | 76 | 0 | N/A | |
| 27T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 49 | 12 | 61 | 0 | N/A | |
| 28T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 62 | 19 | 81 | 1 | Spade | 7 |
| 29T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 70 | 16 | 86 | 1 | Spade | 8 |
| 30T | Nansemond | 88 | 8 ft. | 80 | Mud | Menhaden | 77 | 10 | 87 | 4 | Spade | 4, 7, 6, 7 |

Handwritten mark