Improving Market Access for Small-Scale Seafood Producers
Richard Bryant, Siddhartha Dasgupta, Angela Caporelli, Laura Tiu
Kentucky State University
College of Agriculture, Food Science and Sustainable Systems
Cooperative Extension Program
• The USDA Agricultural Marketing Service provides funds for improvement in aquaculture marketing

• Project goals:
  – Feasibility of a small-scale seafood marketing system
  – Using low to moderate investment
  – Selling to fresh/live seafood markets in Kentucky and Ohio
Questionnaire Participants

• Kentucky and Ohio Restaurants
• 289 restaurants emailed (165 in Kentucky and 124 in Ohio)
• 50 questionnaires hand delivered in Cincinnati, Ohio
• Ohio Restaurant Association's "News Bites" e-publication
• 52 responses (39 from Kentucky, 13 from Ohio)
Questionnaire

• Restaurants were asked:
  – the types of freshwater fish they currently served
  – preferences for seafood characteristics:
    • Freshness
    • Taste
    • Form (whole on ice, live, fillets, etc.)
    • Size of fish
    • Locally grown product
  – price (willingness to pay)
  – preferred delivery schedule
Questionnaire

• The questionnaire focused on fish cultured in Kentucky and/or Ohio:
  – Catfish
  – Largemouth Bass
  – Bluegill
  – Hybrid Striped Bass
  – Paddlefish
  – Yellow Perch
  – Rainbow Trout
Preferred Attributes of Local Seafood

• Restaurants were asked to indicate preferred:
  – Fish species
  – Product form (whole on ice, live, fillets, etc.)
  – Product size
  – Price (willingness to pay)
  – Delivery schedule
Preferred Species

• The restaurants chose Rainbow Trout (44%) as the fish they were most interested in trying at their restaurant

• The second was Hybrid Striped Bass (27%) and the third was Channel Catfish (12%)
Proportion of Restaurants Offering Freshwater Fish

- YES: 52%
- NO: 48%
Types of Fish Currently Served in Restaurants

- Catfish: 27%
- Tilapia: 37%
- Hybrid striped bass: 15%
- Paddlefish: 12%
- Yellow perch: 6%
- Largemouth bass: 3%
Importance of Seafood Attributes

• Restaurants rated the importance of attributes on this scale:
  – Not Important
  – Little
  – Moderate
  – Great
  – Extremely Important

• Attributes included:
  – Price
  – Supply
  – Availability year round
  – Quality
  – Form
  – Size
  – Locally grown
  – Fresh, not frozen
Importance of Seafood Attributes

- Price
- Supply
- Availability year round
- Quality
- Form (whole vs. Fillet)
- Size of Fish
- Locally grown
- Fresh, never frozen

- Little or no importance
- Somewhat important
- Great or extreme importance
Delivery Preferences

- Weekly: 51%
- Monthly: 4%
- Seasonally: 11%
- Twice: 9%
- I would not buy this product: 9%
- Other: 23%
- Monthly: 2%
Attributes of Locally-Grown Fish

• Restaurants ranked four attributes of locally-sourced fish.

• Attributes included:
  – Freshness
  – Taste
  – Size
  – Locally-grown product
Attributes of Locally Grown Fish

- Freshness: 72% 1st, 50% 2nd, 9% 3rd, 4% 4th
- Taste: 45% 2nd, 17% 1st, 9% 3rd, 2% 4th
- Size of fish: 30% 3rd, 19% 4th, 6% 1st, 2% 2nd
- Locally grown product: 28% 4th, 22% 2nd, 13% 3rd, 37% 1st
Socio-economic Status of Restaurant Customers

- Upper Middle Class: 38%
- Middle Class: 27%
- Mixed: 21%
- Blue Collar: 2%
- Other: 6%
- Wealthy: 6%
Number of Seats

• Average: 132 seats
• Range: 20 – 600 seats
Trout Size (40% skin on fillet dress out)

- SMALL: 0-4.9 oz Fillet; 0-1.5 lbs Whole

- MEDIUM: 5-8.9 oz Fillet; 1.6-2.8 lbs Whole

- LARGE: 9 oz & up Fillet; 2.9 lbs & up Whole
Preferred Form of Trout

- Fresh: 38% (For #1 Choice), 12% (For #2 Choice)
- Frozen: 21% (For #1 Choice), 5% (For #2 Choice)
- Fillets: 29% (For #1 Choice), 10% (For #2 Choice)
- Whole gutted: 17% (For #1 Choice), 5% (For #2 Choice)
- Whole on ice: 12% (For #1 Choice), 2% (For #2 Choice)
- Live: 2% (For #1 Choice), 0% (For #2 Choice)
Preferred Size for Whole Trout

- **For #1 Choice**
  - SMALL: 50%
  - MEDIUM: 33%
  - LARGE: 17%

- **For #2 Choice**
  - SMALL: 67%
  - MEDIUM: 33%
  - LARGE: 0%

- **For #3 Choice**
  - SMALL: 0%
  - MEDIUM: 0%
  - LARGE: 50%
Preferred Size for Trout Fillets

- For #1 Choice
- For #2 Choice
- For #3 Choice

<table>
<thead>
<tr>
<th>Size</th>
<th>For #1</th>
<th>For #2</th>
<th>For #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>12%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>76%</td>
<td>67%</td>
<td>83%</td>
</tr>
<tr>
<td>LARGE</td>
<td>12%</td>
<td>0%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Willingness to Pay for Whole Trout

- **For #1 Choice**
- **For #2 Choice**
- **For #3 Choice**

<table>
<thead>
<tr>
<th>Category</th>
<th>$1-$3/lb</th>
<th>$4-$6/lb</th>
<th>$7-$9/lb</th>
<th>$10+/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will not buy whole fish</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
<td>9%</td>
</tr>
<tr>
<td>$1-$3/lb</td>
<td>14%</td>
<td>13%</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>$4-$6/lb</td>
<td>13%</td>
<td>14%</td>
<td>25%</td>
<td>14%</td>
</tr>
<tr>
<td>$7-$9/lb</td>
<td>26%</td>
<td>13%</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>$10+/lb</td>
<td>9%</td>
<td>13%</td>
<td>14%</td>
<td>14%</td>
</tr>
</tbody>
</table>
Willingness to Pay for Trout Fillets

- **For #1 Choice**
  - Less than $5/lb: 0%
  - $5-$7/lb: 35%
  - $8-$10/lb: 40%
  - $11-$13/lb: 15%
  - $14+/lb: 17%

- **For #2 Choice**
  - Less than $5/lb: 17%
  - $5-$7/lb: 17%
  - $8-$10/lb: 33%
  - $11-$13/lb: 17%
  - $14+/lb: 17%

- **For #3 Choice**
  - Less than $5/lb: 14%
  - $5-$7/lb: 14%
  - $8-$10/lb: 29%
  - $11-$13/lb: 14%
  - $14+/lb: 14%
HYBRID STRIPED BASS
Hybrid Striped Bass Size (35% fillet dress out)

- SMALL: 0-4.9 oz Fillet; 0-1.8 lbs Whole
- MEDIUM: 5-8.9 oz Fillet; 1.9-3.2 lbs Whole
- LARGE: 9 oz & up Fillet; 3.3 lbs & up Whole
Preferred Form for Hybrid Striped Bass

<table>
<thead>
<tr>
<th>Form</th>
<th>For #1 Choice</th>
<th>For #2 Choice</th>
<th>For #3 Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh</td>
<td>39%</td>
<td>14%</td>
<td>0%</td>
</tr>
<tr>
<td>Frozen</td>
<td>25%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Fillets</td>
<td>32%</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Whole gutted</td>
<td>14%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Whole on ice</td>
<td>11%</td>
<td>11%</td>
<td>4%</td>
</tr>
<tr>
<td>Live</td>
<td>11%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Preferred Size for Whole Hybrid Striped Bass

For #1 Choice  For #2 Choice  For #3 Choice

<table>
<thead>
<tr>
<th>Size</th>
<th>#1 Choice</th>
<th>#2 Choice</th>
<th>#3 Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>25%</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>LARGE</td>
<td>75%</td>
<td>60%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Preferred Size for Hybrid Striped Bass Fillets

- **SMALL**: 0% for #1 Choice, 0% for #2 Choice, 0% for #3 Choice
- **MEDIUM**: 100% for #1 Choice, 50% for #2 Choice, 22% for #3 Choice
- **LARGE**: 50% for #1 Choice, 50% for #2 Choice, 0% for #3 Choice
Willingness to Pay for Whole Hybrid Striped Bass

For #1 Choice     For #2 Choice     For #3 Choice

Will not buy whole fish: 7% 8% 20%
$1-$3/lb: 0% 8% 0%
$4-$6/lb: 50% 42% 50%
$7-$9/lb: 21% 17% 20%
$10+ /lb: 21% 25% 10%
Willingness to Pay for Hybrid Striped Bass Fillets

- For #1 Choice
- For #2 Choice
- For #3 Choice

<table>
<thead>
<tr>
<th>Price Range</th>
<th>For #1 Choice</th>
<th>For #2 Choice</th>
<th>For #3 Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $5/lb</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>$5-$7/lb</td>
<td>14%</td>
<td>25%</td>
<td>0%</td>
</tr>
<tr>
<td>$8-$10/lb</td>
<td>29%</td>
<td>33%</td>
<td>30%</td>
</tr>
<tr>
<td>$11-$13/lb</td>
<td>21%</td>
<td>17%</td>
<td>0%</td>
</tr>
<tr>
<td>$14+/lb</td>
<td>36%</td>
<td>25%</td>
<td>30%</td>
</tr>
</tbody>
</table>

0% 0% 0% 0% 0% 0% 0% 0%
CATFISH
Catfish Size (45% fillet dress out)

• SMALL: 0-4.9 oz Fillet; 0-1.4 lbs Whole

• MEDIUM: 5-8.9 oz Fillet; 1.5-2.5 lbs Whole

• LARGE: 9 oz & up Fillet; 2.6 lbs & up Whole
Preferred Form of Catfish

- **Fresh**:
  - For #1 Choice: 31%
  - For #2 Choice: 19%
  - For #3 Choice: 19%

- **Frozen**:
  - For #1 Choice: 25%
  - For #2 Choice: 13%
  - For #3 Choice: 13%

- **Fillets**:
  - For #1 Choice: 31%
  - For #2 Choice: 25%
  - For #3 Choice: 19%

- **Whole gutted**:
  - For #1 Choice: 6%
  - For #2 Choice: 0%
  - For #3 Choice: 0%

- **Whole on ice**:
  - For #1 Choice: 6%
  - For #2 Choice: 0%
  - For #3 Choice: 0%

- **Live**:
  - For #1 Choice: 0%
  - For #2 Choice: 0%
  - For #3 Choice: 0%

**For #1 Choice**: 31%
**For #2 Choice**: 25%
**For #3 Choice**: 19%
Preferred Size for Whole Catfish

- For #1 Choice
- For #2 Choice
- For #3 Choice

<table>
<thead>
<tr>
<th>Size</th>
<th>#1 Choice</th>
<th>#2 Choice</th>
<th>#3 Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>LARGE</td>
<td>0%</td>
<td>0%</td>
<td>50%</td>
</tr>
</tbody>
</table>
Preferred Size for Catfish Fillets

- **Small**
  - For #1 Choice: 0%
  - For #2 Choice: 33%
  - For #3 Choice: 0%

- **Medium**
  - For #1 Choice: 0%
  - For #2 Choice: 100%
  - For #3 Choice: 75%

- **Large**
  - For #1 Choice: 0%
  - For #2 Choice: 0%
  - For #3 Choice: 25%
Willingness to Pay for Whole Catfish

For #1 Choice  For #2 Choice  For #3 Choice

Will not buy whole fish: 50% 40% 40%
$1-$3/lb: 40% 20% 25%
$4-$6/lb: 0% 20% 25%
$7-$9/lb: 0% 20% 20%
$10+/lb: 0% 0% 0% 0%
Willingness to Pay for Catfish Fillets

For #1 Choice  For #2 Choice  For #3 Choice

- Less than $5/lb: 67% 60% 20%
- $5-$7/lb: 50% 33% 25%
- $8-$10/lb: 0% 0% 25%
- $11-$13/lb: 0% 0% 0%
- $14+/lb: 0% 0% 20%
CONCLUSIONS

• Quality and taste are the two most important attributes that restaurants are concerned about with seafood
CONCLUSIONS: TROUT

• Fresh and Filleted Trout are the most preferred form
• Small whole trout at $4-$6/lb preferred
• Medium fillets at $8-$10/lb preferred
CONCLUSIONS: HYBRID STRIPED BASS

• Fresh and Filleted Hybrid Striped Bass are the most preferred form
• Large whole Hybrid Striped Bass at $4-$6/lb are preferred
• Medium fillets at $5-$7/lb are preferred
CONCLUSIONS: CATFISH

• Fresh and Filleted Catfish are the most preferred form.

• Although medium and large whole fish are preferred, the majority said they would not buy whole catfish.

• Medium fillets were preferred at less than $5.
THANKS TO:
USDA-AMS: FSMIP Program
Alex Philipchik, Graduate Student, KSU