Conservation Through Gastronomy: The “Silver” Lining

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Human Dimensions of Natural Resources
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Asian Carp: A Brief History

- Five species in the U.S. – all imported from Asia
  - Common (food); Grass (weed control); Silver & Bigheads (water quality); Black (snail / grub control)
- Silver Carp (Hypophthalmichthys molitrix)
Carp Status in China

- Propagated, delicious & highly-valued
Carp Status in U.S.

- Numerous, costly & harmful (trash fish)
Redneck Fishing Tournament
Potential Markets

- Export them to China!
- Domestic uses include:
  - Fish oil
  - Fertilizer
  - Fish bait
  - Animal feed (pets / hogs)
  - Human consumption? (grocery stores / restaurants)
    - Market-based study needed before implementation
Pros & Cons

- Plentiful & inexpensive (0.10 - 0.20 / lb.)
- Healthy
  - High in protein
  - High in Omega-3 fatty acids
  - Mild flavor & absorbs spices well
  - Locally-grown & sourced food
  - Low in contaminants (mercury)
- Image (perception & social status)
- Bony (specifically, y-bones)
- Water quality issues (mid-western rivers)
Methods

- Random sample of MO anglers (n=2,000)
- Mail-back survey, 3-page questionnaire
  - Knowledge, perception, WTP, WTC, neophobia
- Tailored Design Method (Dillman)
- Return rate: 465 (26.8%)
Results

Descriptive Statistics

- Gender (male 72.7% / female 27.3%)
- Age (M=46.09 / SD=13.5)
- Race (95% Caucasian)
- Education
  - HS graduate / less (28.7%)
  - Trade / vocational school (9.1%)
  - Some college (23.4%)
  - College graduate (23.4%)
  - Post-graduate (11.8%)
Results

- Knowledge: 3.2/8 (40% correct)
- Perception: (10-point scale; 1=low to 10=high)
  - Crappie, Bass & Catfish (highest tier / 8+)
  - Trout, Walleye & Bluegill (next / 7+)
  - Gar & Carp (lowest tier / 2+)
- Most commonly eaten domestic fish in MO
  - Catfish, crappie & bass
- Commonly reported concerns about AC consumption
  - Health (water / fish)
  - Bones
  - Taste
Results

• Previously eaten Asian Carp (88.0% no)
• Interest in eating Asian Carp...
  • As one of the first to consume (14.1%)
  • Consuming after a few others have tried it (17.2%)
  • Consuming after many others have tried it (21.4%)
  • Not willing to consume at all (47.2%)
• Nearly 53% of respondents are willing to try carp
• Neophobia (M=34.6) (10-70 higher=more neophobic)
• WTP $3.11 (fillet) or $2.09 (minced) in a restaurant
Results

- Nothing can be done to eradicate AC (D / M=1.43)
- Buying locally harvested/processed food (A / M=4.05)
- Consider myself to be eco-friendly (A / M=4.24)
- Eating fish from MO rivers is risky (D / M=1.36)
- Most common reasons / benefits of consuming AC
  - Health benefits (fish)
  - Environment (population control)
Conclusions

- Carp are an underutilized food source in the U.S.
- Efforts tend to focus on prevention, not removal
- Potential effect of education / outreach is large
- Most people have not eaten carp, but willing to try it
- Human consumption is a viable option if addressing...
  - Bones
  - Perception
  - Health (water / fish)
  - Taste
Outcomes

- **Taste test:** AC taste better than catfish!
- Our research team is marketing a minced product (100% boneless) to Mexican & Chinese restaurants in Columbia, MO (perception is unimportant)
- Food choices include: fish tacos, burritos, con queso, omelets, dumplings, patties, etc.
- Regionally-sourced products (USDA / FDA inspected)
  - IL supplier
  - Local distributor (independent grocer)
Questions