

Beyond The Boat

A Swamp Story: The Louisiana Alligator Industry's Evolution from Recovery to Added Value and Food Safety

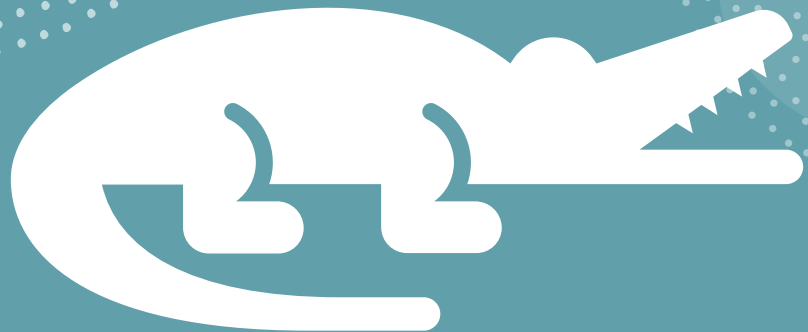
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LSU AgCenter & Louisiana Sea Grant
AFDOSS Annual Meeting, August 25, 2026



Louisiana Department of Wildlife and Fisheries (LDWF)
Louisiana Alligators – Wild Season

<https://www.youtube.com/watch?v=EVVcThxDYqU&t=1s>



Background of the Louisiana Alligator Industry

Conservation & Recovery

Science-based management restored Louisiana alligator populations and enabled sustainable use.

Economic Shift

Farm-raised skins reduced skin value, increasing reliance on meat revenue.

Meat Market Growth

Alligator meat demand is rising in Louisiana specialty and seafood markets.

Food Safety & Valuation Gap

Best Handling Practices
Meat values are based on outdated yield data and need updating.

Limitations of Existing Alligator Meat Yield Data

Outdated Source

- Current valuations rely on a 1981 wild-harvest study that no longer reflects industry practices.

Industry Change

- Farm-raised production and modern processing now dominate.

Economic Risk

- Dated yields misrepresent value and affect policy decisions.

Data Need

- Updated yields are essential for accurate valuation and management.



Research Goals and Expected Outcomes

- **Meat Yield Quantification** - Measures meat yield relative to chilled whole dead weight and carcass weights.
- **Size-Based Comparison** - Compares yields by size using belly size (farm-raised) and length (wild).
- **Production System Differences** - Accounts for biological and processing differences between farmed and wild alligators.
- **Practical Outcomes** - Supports regulation, economic reporting, and industry benchmarks.



Measurement Protocols and Data Collection

- **Size Standards** - Farm-raised alligators are measured by length, with belly size calculated from length; wild-caught alligators are measured by total length.
- **Weight Stages** - Weights recorded at whole-chilled, carcass (skin, head, viscera, feet removed), and meat stages.
- **Data Consistency** - The protocol minimizes variability, ensuring yield differences reflect biological factors rather than measurement errors.

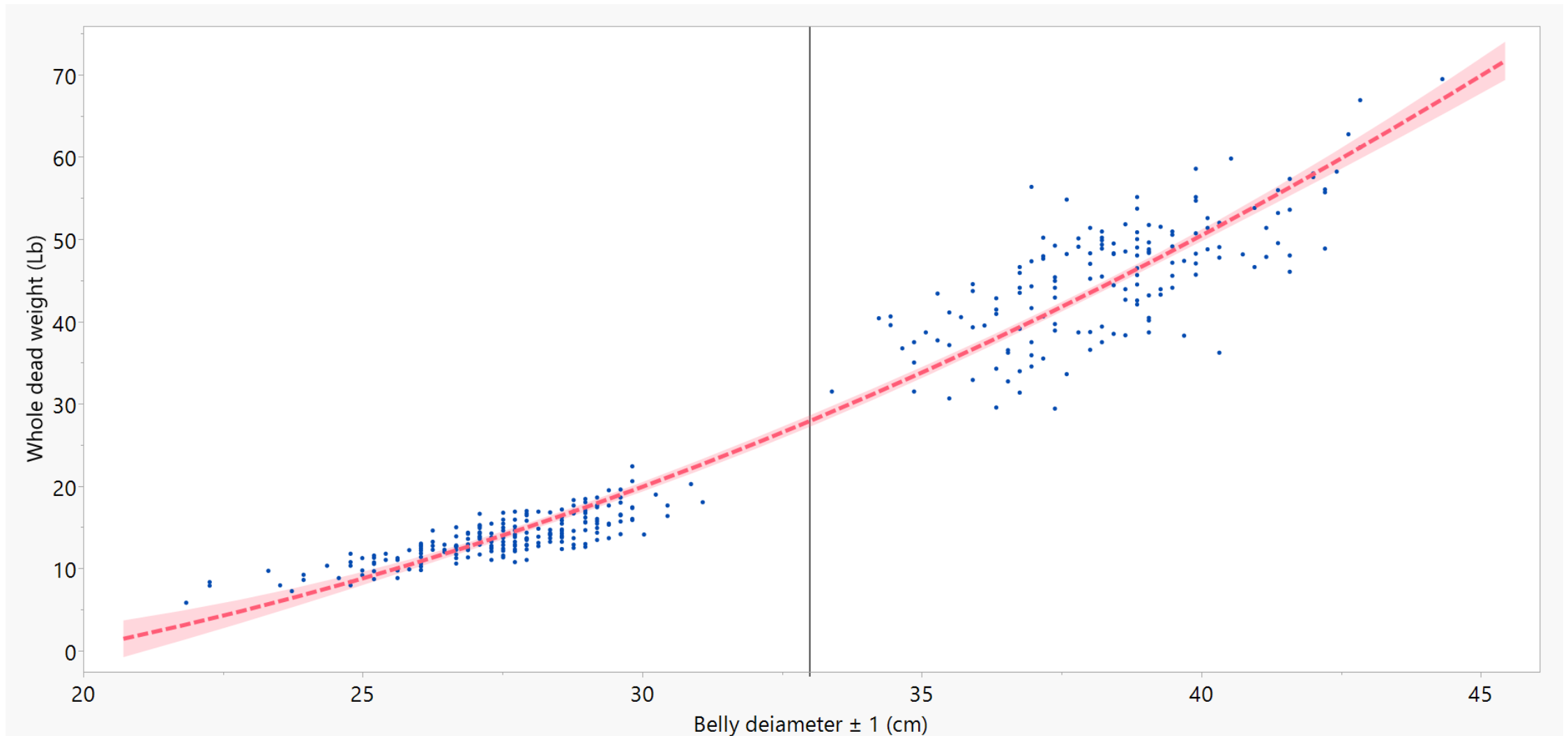
–Farm-raised Whole Size vs Whole Weight

CATEGORY	FARM-RAISED
Farms	5
Handbag	166 (≥ 33.0 cm)
Watch Strap	231 (≤ 32.99 cm)

Whole Dead Weight vs Length

Size	Whole dead weight (lb.)	Whole length (in)	Belly size (cm)
Handbag (n=166)	45.72 ± 7.44	72.04 ± 3.83	38.43 ± 2.04
Watch strap (n=232)	13.69 ± 2.63	51.51 ± 2.98	27.48 ± 1.59

Whole Weight vs Belly size



Meat Yield Samples Collected vs. Target Samples

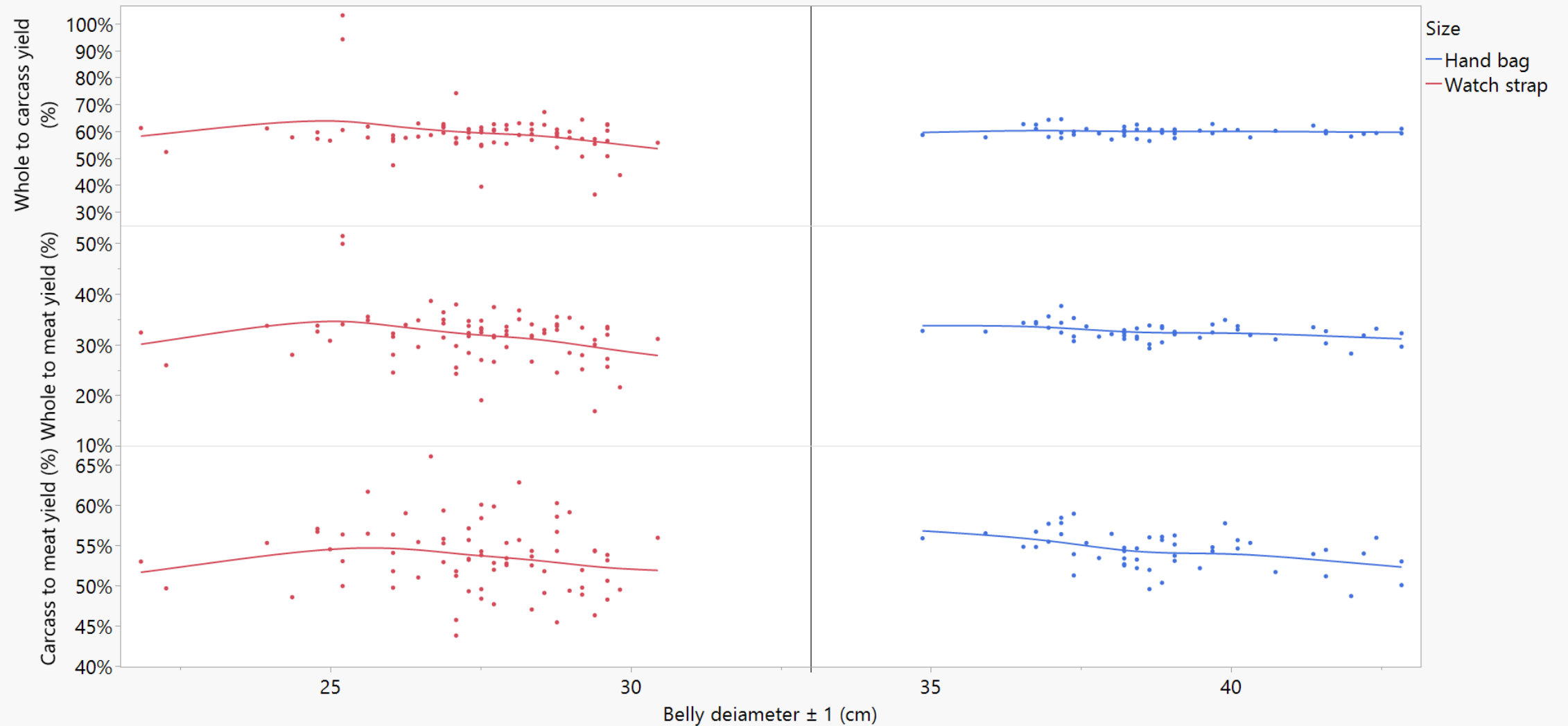
CATEGORY	FARM-RAISED	CATEGORY	WILD-CAUGHT
Farms	5/5		—
Processors	1/2	Processors	0/2
		Large	0/24 (>9 ft)
Handbag	50/60 (≥ 33.00 cm)	Medium	0/48 (6–9 ft)
Watch Strap	75/60 (≤ 32.99 cm)	Small	0/24 (<5 ft)

Carcass and Meat Weights

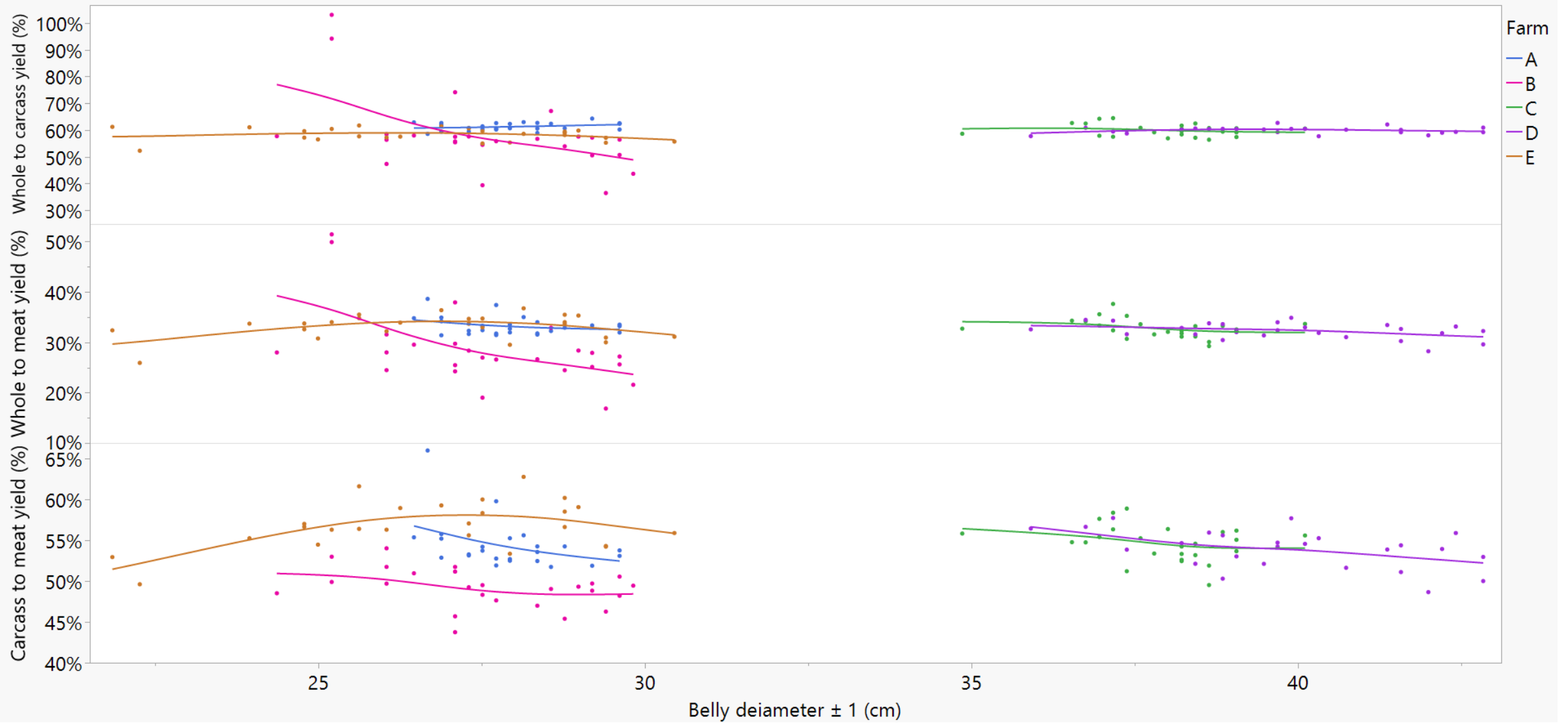
Size	Whole weight (lb.)	Chilled carcass weight (lb.) (guts, head and feet removed)	Meat weight (lb.)
Handbag (n=50)	47.07± 6.98	28.19± 4.12	15.27± 2.12
Watch strap (n=75)	13.44± 2.85	7.88± 1.63	4.19± 0.80

Carcass and Meat Yields

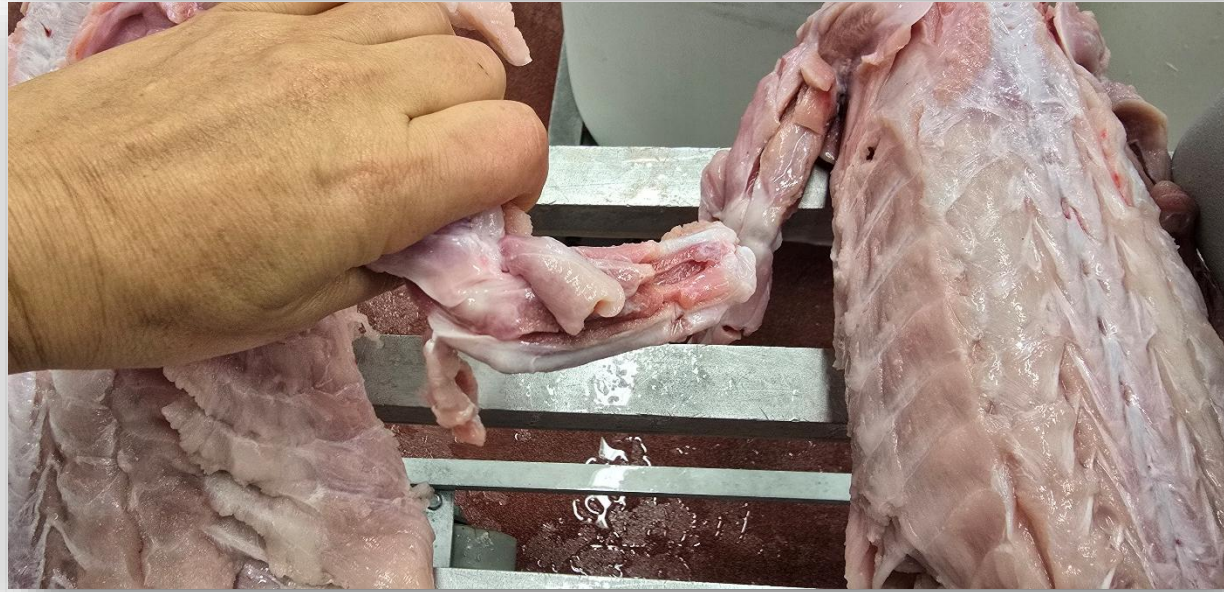
Size	Whole to carcass yield (%)	Whole to meat yield (%)	Carcass to meat yield (%)
Handbag (n=50)	59.91 ± 1.76	32.52 ± 1.69	54.28 ± 2.29
Watch strap (n=75)	59.25 ± 8.48	31.72 ± 5.23	53.44 ± 4.22



Meat yield by size



Meat yield by farm

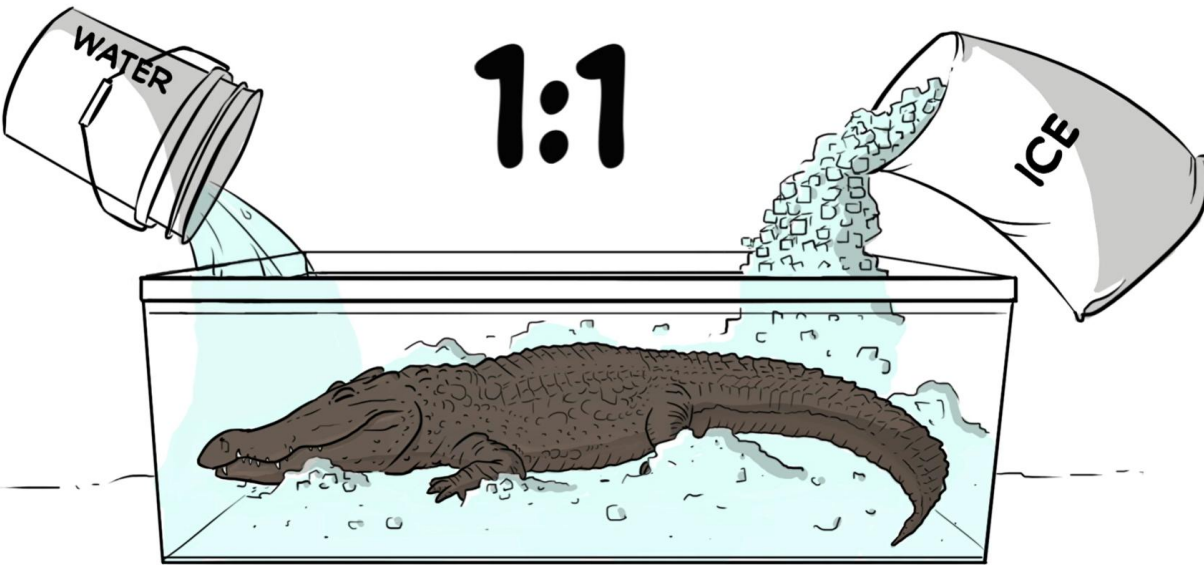




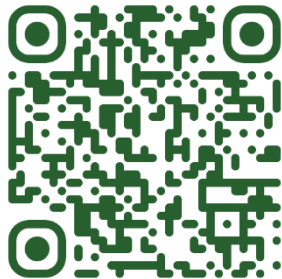
What's Next | Key Action Items

- **Wild Alligators** - Coordinate with processors to collect samples throughout the 2026 season.
- **2026 Focus** -Collect most yield and size data across farmed and wild systems.
- **2027 Gap-Fill** -Target remaining size classes and data gaps to complete the dataset.

Wild Alligator Harvest: Best Handling



<https://www.lafisheriesforward.org/alligator/>



Rapid Chilling & Temperature Control

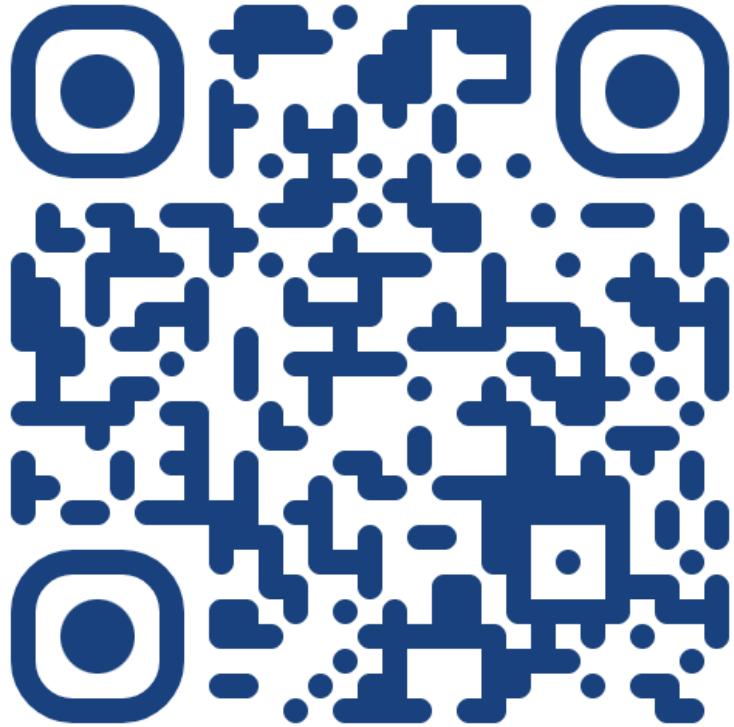
- Chill as soon as possible after harvest
- **Ice slush (1:1 ice:water)** is most effective for rapid cooling
- Ensure carcass is **fully submerged or well surrounded by ice**
- Alligators held >6 hours out of water must be **placed on ice or in a cooler**

Timing & Handling Benchmarks

- Alligators typically **received within 5–6 hours** and chilled in ice slush **≥12 hours**
- If not skinned within **48 hours**, transfer to freezer

Managing Quality & Contamination Risks

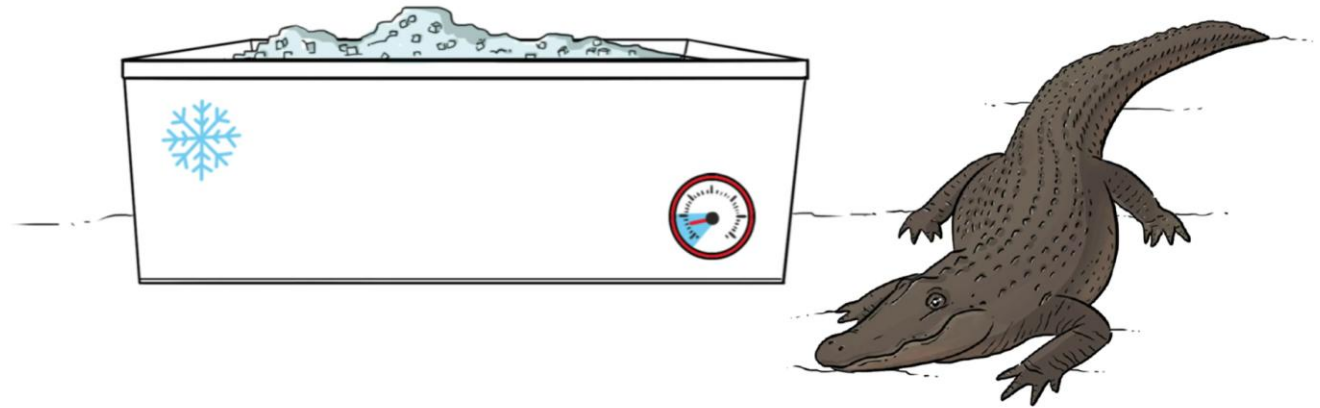
- Avoid **prolonged storage (>48 h)** in ice slush → potential *Salmonella* risk
- Move from slush → cooler for short-term holding or freezer for longer storage
- Optional: **1% citric acid dip after chilling** can reduce *Salmonella*



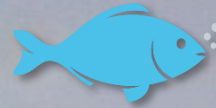
Louisiana Direct Seafood

Best Handling Practices for Wild Alligators

<https://vimeo.com/698220157>



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SEAFOOD PROCESSING DEMONSTRATION LAB



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