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Gulf of America Shrimp Effort Estimation

Presentation to: GMFMC Shrimp AP

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Methodology

Dettloff, K. 2024. Estimation of Commercial Shrimp Effort in the Gulf of Mexico. SEDAR87DW-01. SEDAR, North Charleston, SC. 31 pp.

$$\text{total effort} = \sum \text{ELB effort}_{\text{area/time}} \times (\text{total landings}_{\text{area/time}} / \text{ELB landings}_{\text{area/time}})$$

<https://sedarweb.org/documents/sedar-87-dw-01-estimation-of-commercial-shrimp-effort-in-the-gulf-of-mexico/>

Observer CPUE adjustment and historical effort:

Atkinson, Sarina, Kyle Dettloff, Cheston Peterson, Steve Smith. 2025. Estimation of Commercial Shrimp Effort in the Gulf of Mexico from 1984-2023. SEDAR98-DW-23. SEDAR, North Charleston, SC. 22 pp.

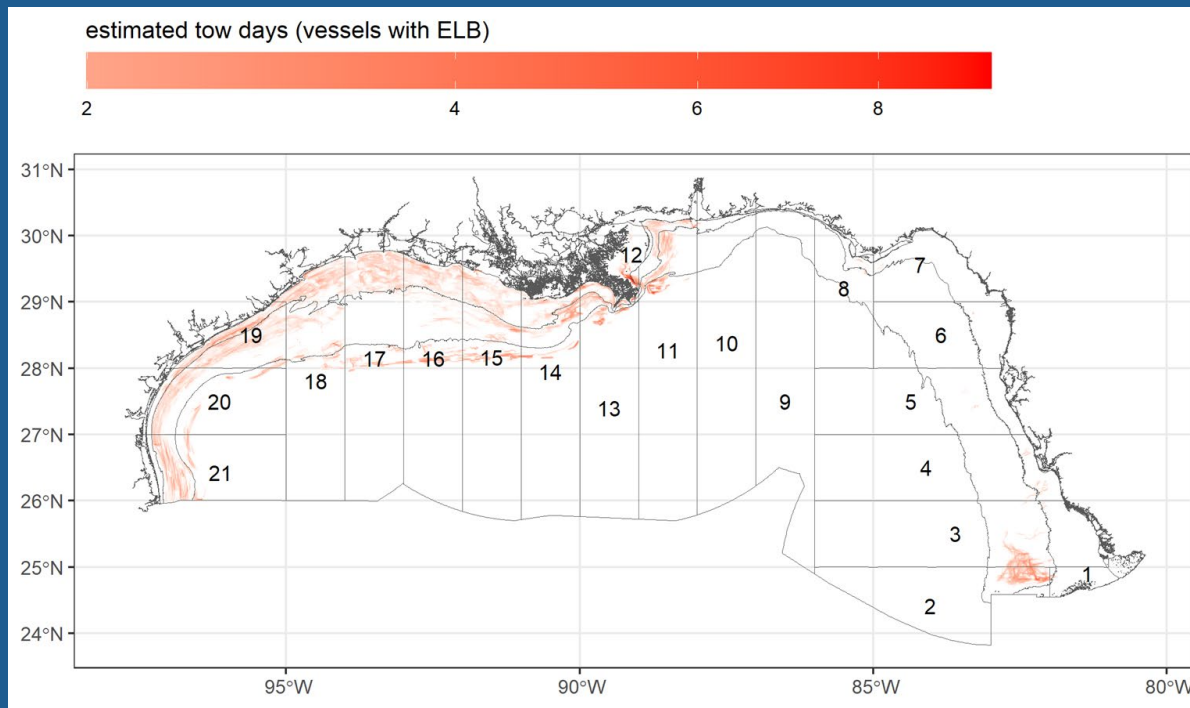
<https://sedarweb.org/documents/sedar-98-dw-23-estimation-of-commercial-shrimp-effort-in-the-gulf-of-mexico-from-1984-2023/>

Assumptions

1. ELB devices are capturing all fishing activity
2. There is no systematic bias in classification of effort from ELB devices
3. CPUE of vessels with ELBs on board is representative of the total fleet
4. Spatial distribution of ELB vessels is representative of the total fleet within strata
5. Reporting of landings is similar between ELB and non-ELB vessels

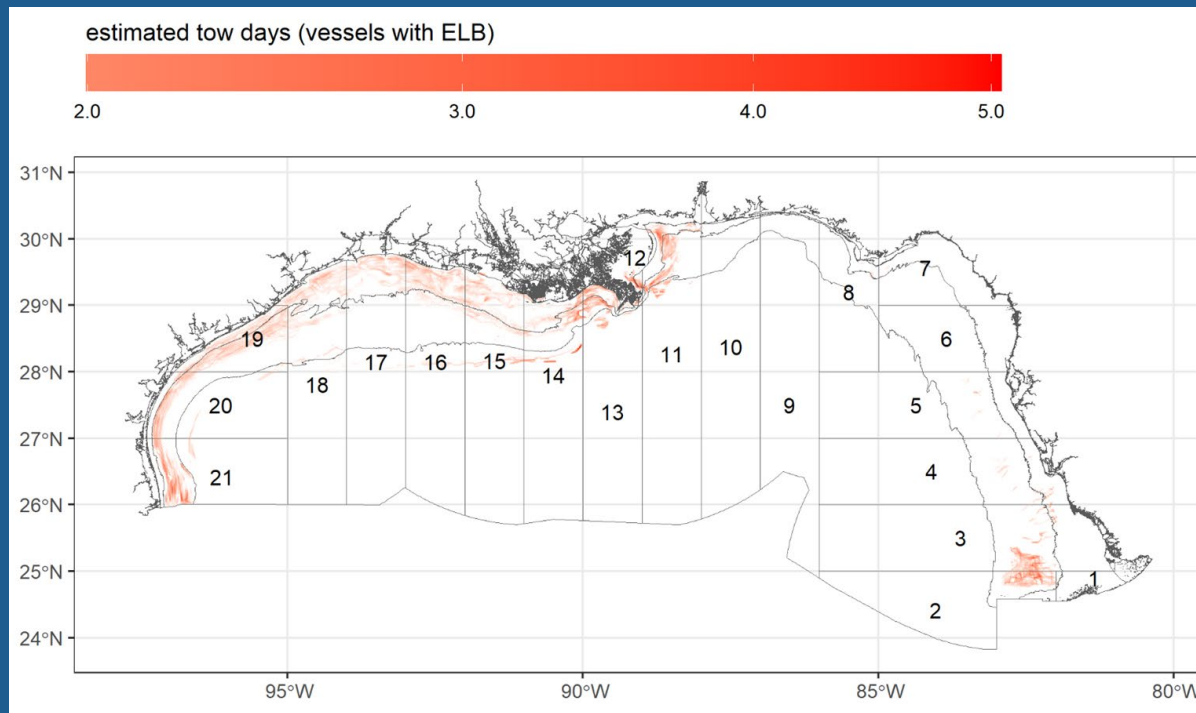
2022 SEFSC Offshore Estimates

Region	Depth	Landings (tail lbs.)	Effort (24 hr. days)	Baseline (2001-2003)	Pct. Decrease from Baseline
Western Gulf (Zones 10-21)	10-30 fm	18,107,411	13,459	82,811	83.7%
Total Gulf	All	59,876,305	45,187	—	—



2023 SEFSC Offshore Estimates

Region	Depth	Landings (tail lbs.)	Effort (24 hr. days)	Baseline (2001-2003)	Pct. Decrease from Baseline
Western Gulf (Zones 10-21)	10-30 fm	23,332,785	14,022	82,811	83.1%
Total Gulf	All	58,892,391	35,945	—	—

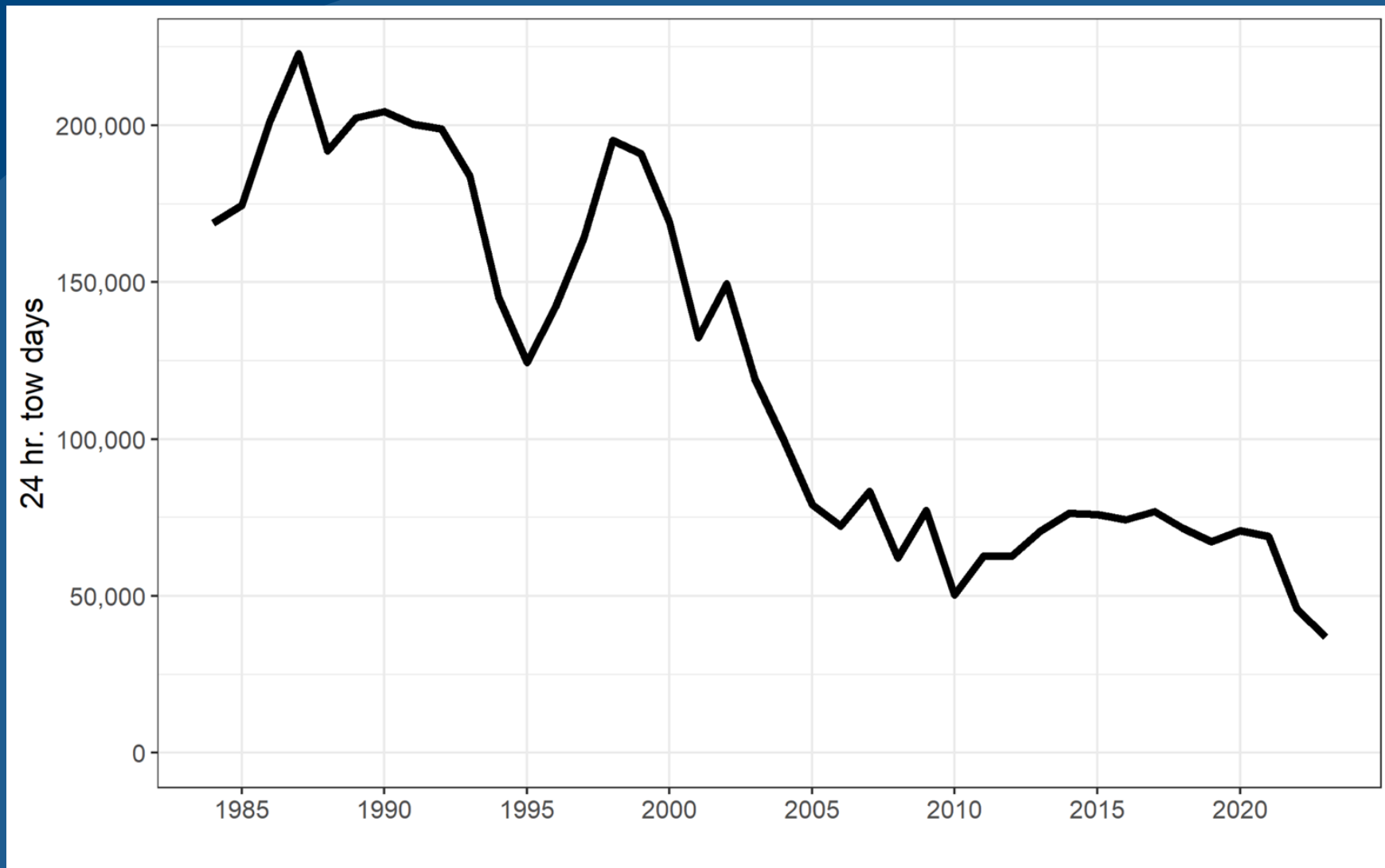


2023 Stratified Offshore Estimates

region	depth zone	species	tow days	lower	upper	landings	CPUE
East	0-10 fm	BROWN	11	3	19	12,529	1,125
East	10-30 fm	BROWN	9	3	16	10,475	1,143
East	0-10 fm	PINK	454	346	562	624,429	1,377
East	10-30 fm	PINK	3,166	2,821	3,511	5,520,407	1,744
East	30-100 fm	PINK	1	0	3	2,053	1,795
East	0-10 fm	WHITE	31	0	63	38,136	1,242
East	100+ fm	ROYAL RED	16	0	40	36,589	2,272
West	0-10 fm	BROWN	4,670	4,122	5,219	7,169,977	1,535
West	10-30 fm	BROWN	11,793	10,764	12,823	19,733,379	1,673
West	30-100 fm	BROWN	3,650	2,818	4,483	5,946,370	1,629
West	0-10 fm	PINK	407	336	478	633,021	1,554
West	10-30 fm	PINK	784	667	900	1,314,781	1,677
West	0-10 fm	WHITE	10,483	9,257	11,709	15,534,146	1,482
West	10-30 fm	WHITE	1,445	1,236	1,655	2,284,625	1,581
West	100+ fm	ROYAL RED	23	0	51	31,472	1,369



Gulf Total Offshore Effort, 1984-2023



Species Specific Offshore Effort, 1984-2023



Acknowledgements

- Gulf of Mexico Fishery Management Council, SSC and Shrimp AP
- Gulf commercial shrimp fishermen and ELB device holders
- SEFSC shrimp bycatch and effort working group