

EVALUATION OF THE EFFECT ON  
CATCH PERFORMANCE OF THE NMFS  
FLOUNDER TURTLE EXCLUDER DEVICE  
(TED) WITH A LARGE OPENING IN THE  
SOUTHERN NEW ENGLAND LONG FIN  
SQUID AND WHITING TRAWL FISHERIES

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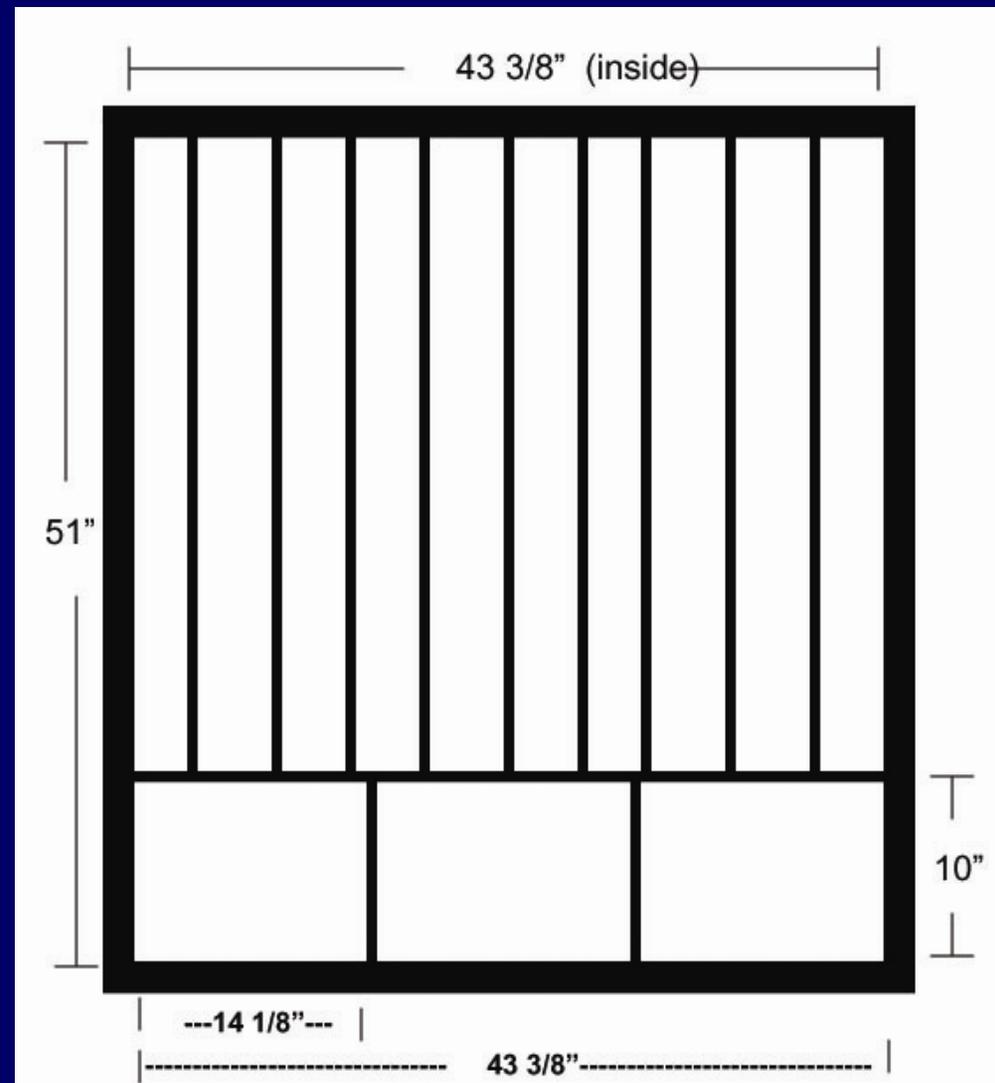
# Squid Trawl Fishery: Project Design

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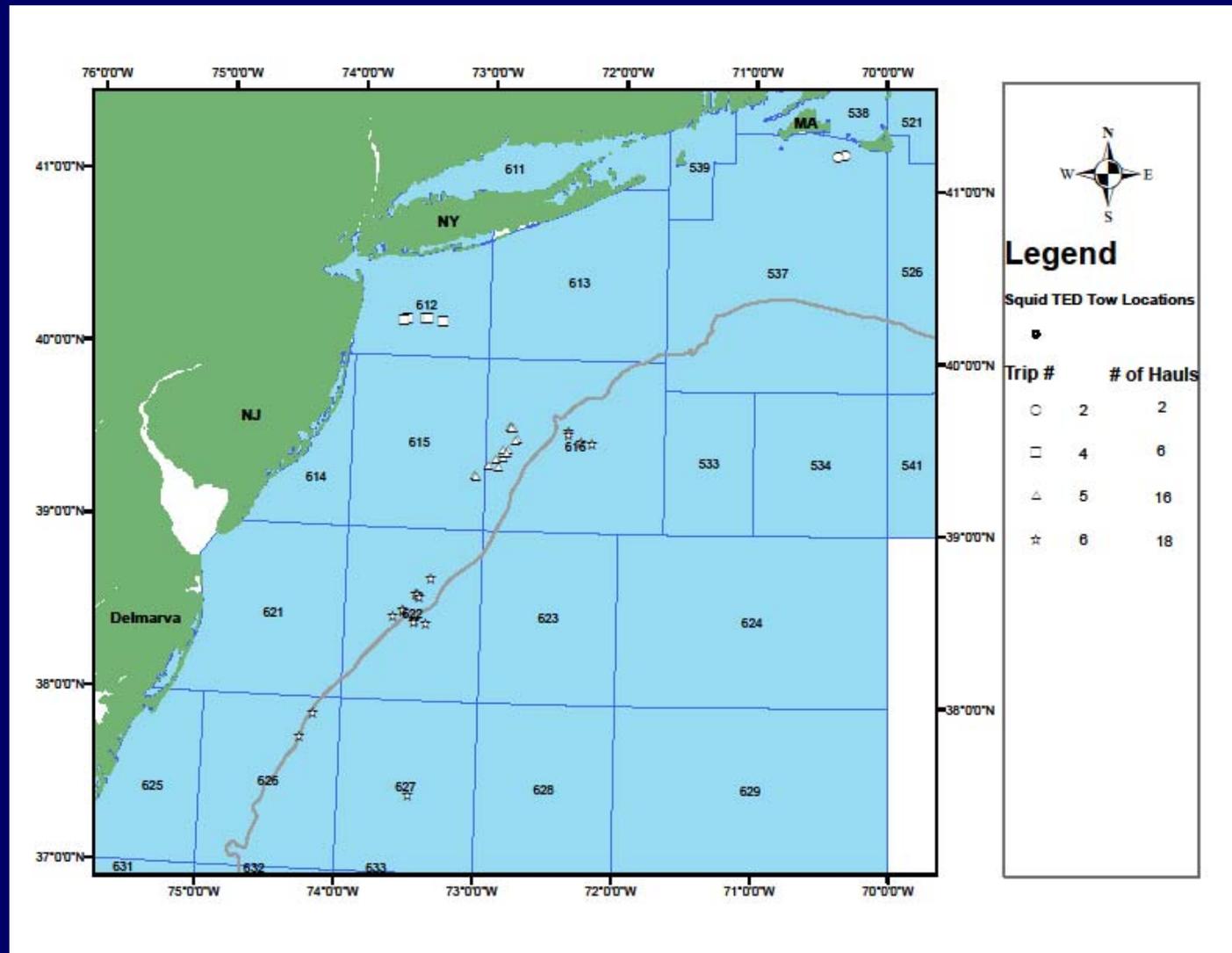
- Single vessel, FV Excalibur,  
Capt Joel Hovanesian
- ABBA sequence to tows, alternate daily start
- Study divided into two parts, Pre-modification and Post –modification.
- Modification was the addition of a small mesh skirt at the ring seam between the TED and the codend to prevent the loss of squid

# TED Design

- Enlarged TED  
51 x 43 inches



# Squid Trawl Fishery: Tow Locations



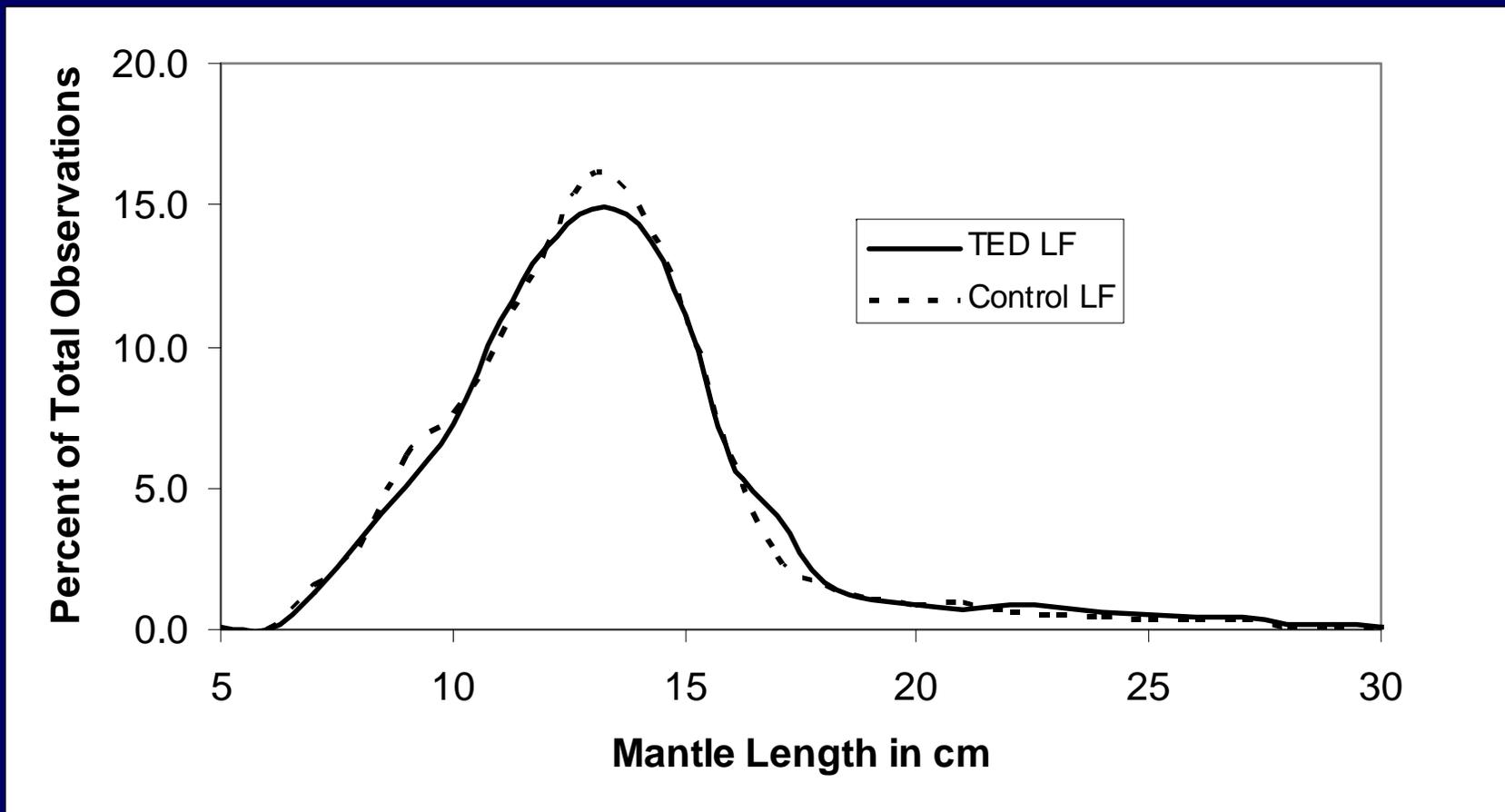
# Squid Trawl Fishery: Results

Species / Category	Pre or Post Mod	TED (kg)	Cont (kg)	N	Ratio T/C	P-value
Squid	Pre	270	600	9	0.45	0.009
Squid	Post	521	521	12	0.90	0.331
Total	Pre	381	685	9	0.56	0.037
Total	Post	774	832	12	0.93	0.317
Non-target	Pre	121	160	9	0.75	0.186
Non-target	Post	302	313	12	0.94	0.444

# Squid Trawl Fishery: Results

Species / Category	Pre or Post Mod	TED (kg)	Cont (kg)	N	Ratio T/C	P-value
Sea scallop	Pre	93	57	9	1.64	0.088
Sea scallop	Post	27	30	12	0.89	0.39
Butterfish	Pre	22	21	9	1.04	0.476
Butterfish	Post	113	60	12	1.88	0.169
Spotted hake	Pre	-	-	9	-	no data
Spotted hake	Post	164	60	12	1.74	0.214

# Squid Trawl Fishery: Results



# Squid Trawl Fishery: Conclusions

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- The addition of a small mesh skirt is required for all squid and potentially all small species
- Significant loss of squid in the TED equipped trawl before the addition of the small mesh skirt
- No significant loss of squid in the TED equipped trawl after the addition of the small mesh skirt, and no difference in L-F distribution
- Squid trawl fishery as sampled has a 30-40% bycatch rate of other species
- Results restricted to 12 pairs of tows on a vessel in a single season, and may not reflect the fishery as a whole

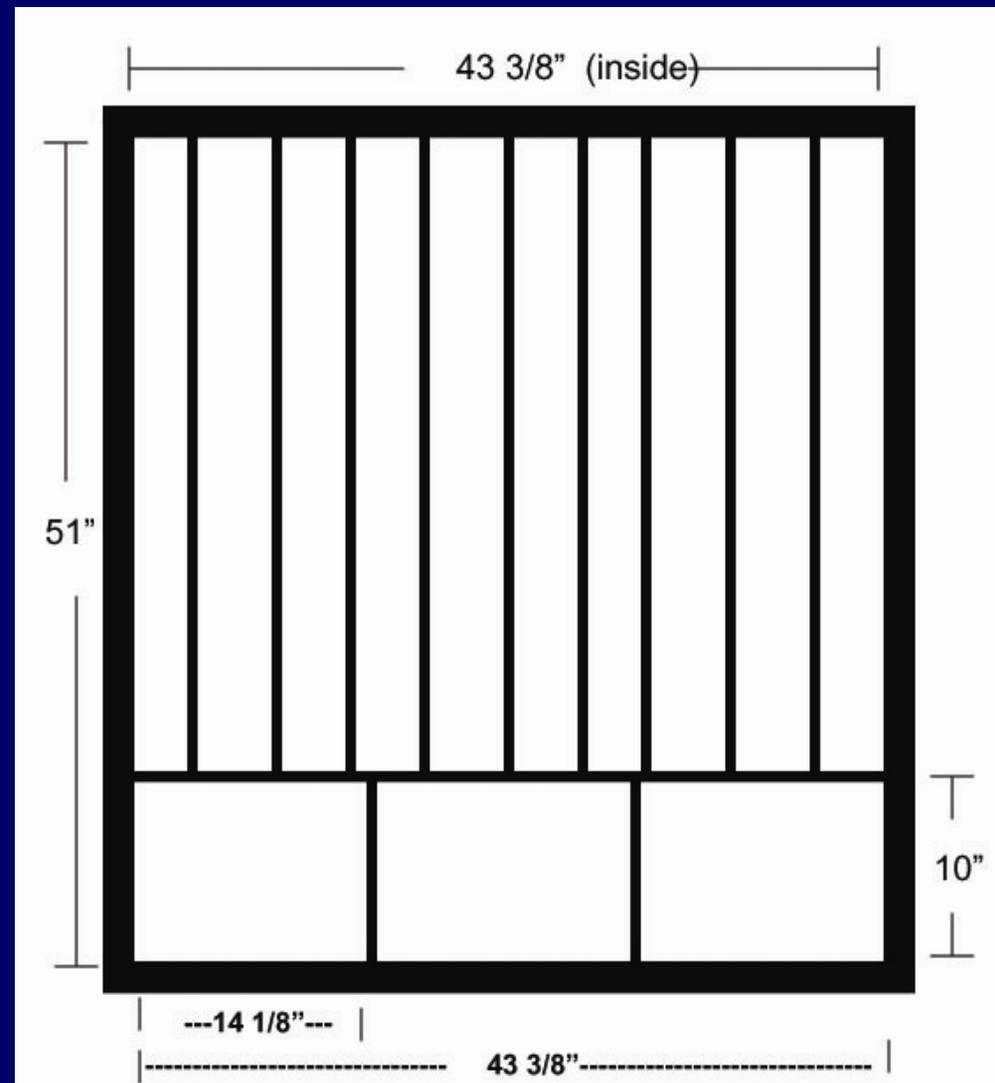
# Whiting Trawl Fishery Project Design

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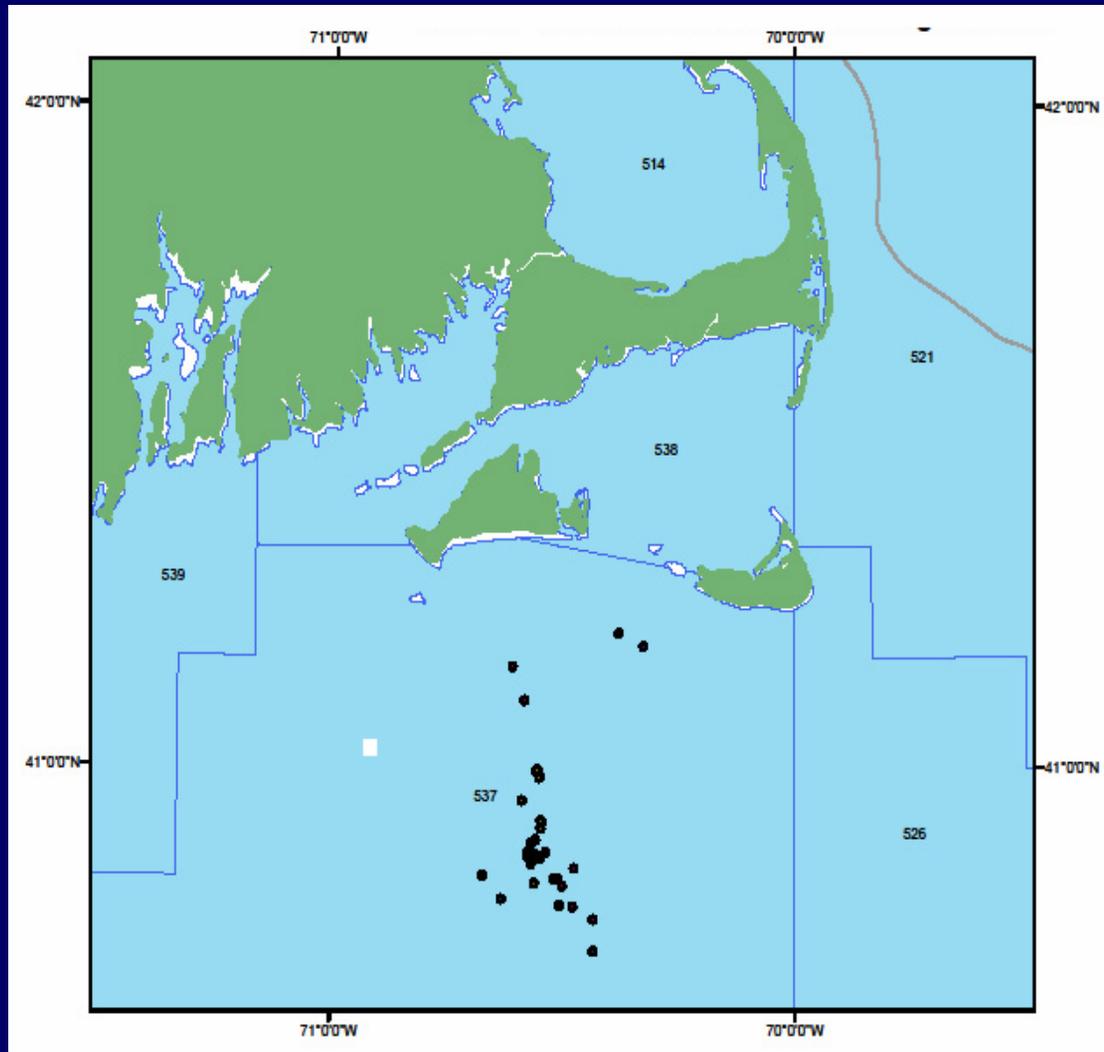
- Single vessel, FV Excalibur,  
Capt Joel Hovanesian
- ABBA sequence to tows, alternate daily start
- Operate in areas of traditional inshore southern New England whiting trawl fishery
- Limited number of tows available to be able to accomplish

# TED Design

- Enlarged TED  
51 x 43 inches



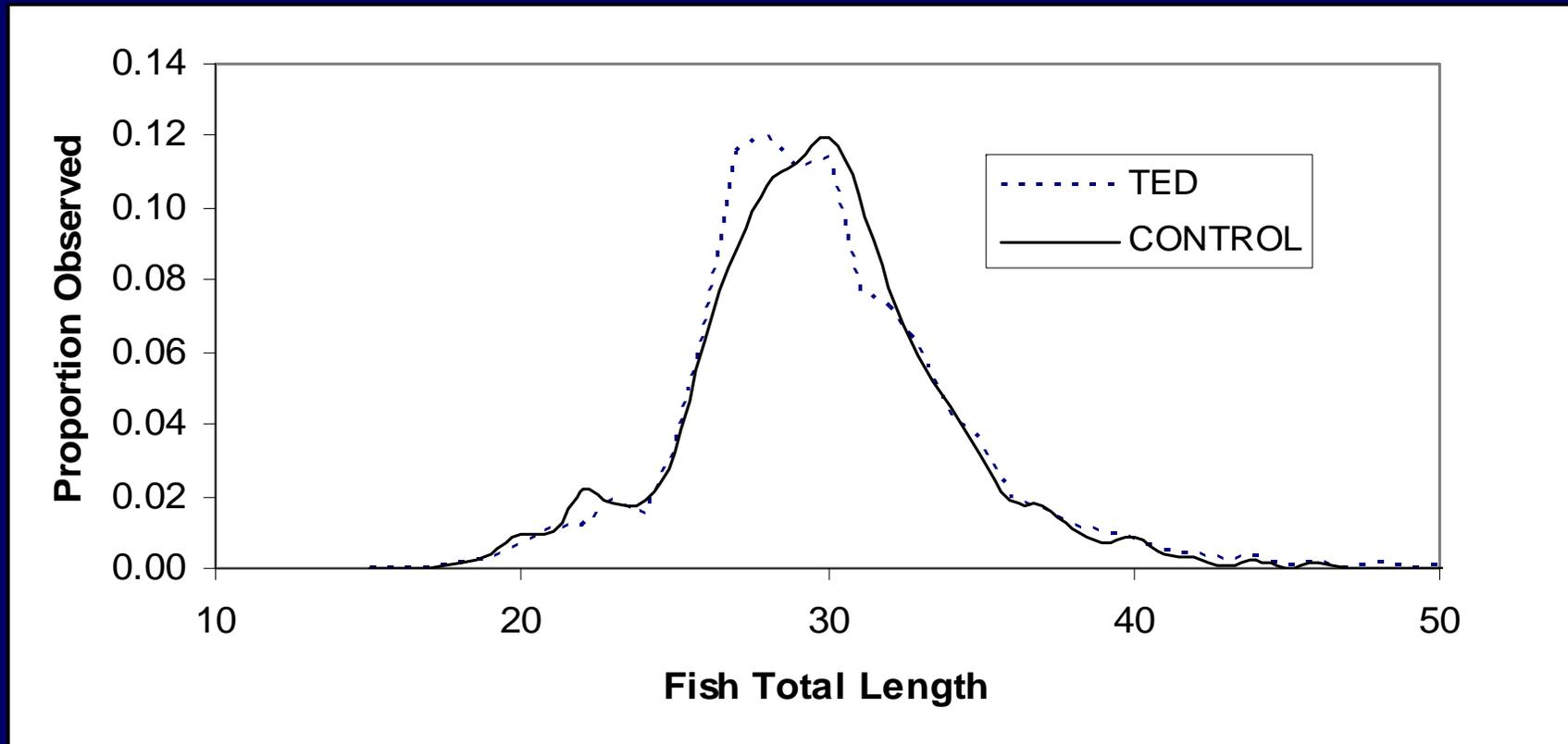
# Whiting Trawl Fishery: Tow Locations



# Whiting Trawl Fishery: Results

Species	TED (kg)	Cont (kg)	N	Ratio T/C	p-value
whiting	484	683	15	0.78	0.001
total (all)	753	957	15	0.78	0.0005
skate	50	51	15	0.97	0.457
flounder	71	98	15	0.73	0.225
dogfish	15	14	15	1.05	0.296
butterfish	40	34	15	1.17	0.534

# Whiting Trawl Fishery: Results



# Whiting Trawl Fishery: Results



Clean catches and  
catches with high  
bycatch of other  
species



# Whiting Trawl Fishery: Conclusions

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- Significant loss of whiting in the TED equipped trawl, on average about 22%, but no difference in length frequency distribution
- Whiting trawl fishery as sampled has a 30-35% bycatch rate of other species
- Significant loss of flounder complex, on average about 27%
- Non-significant losses of bycatch species including skate, dogfish and butterfish
- Results restricted to 15 pairs of tows on a vessel in a single season, and may not reflect the fishery as a whole