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History of *Illex illecebrosus* Cooperative Research for In-season Assessment and Management

by

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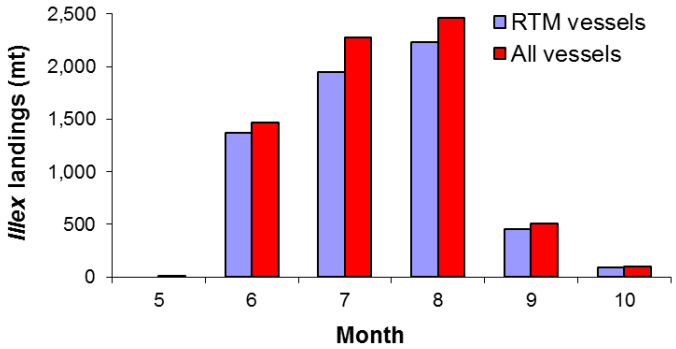
Year	Previous *Illex* RTM Research
1995 (SARC 21)	Stock assessment scientist (SAS) recommended RTM as an adaptive squid management method at SARC 21 (Hendrickson et al. 1996)
1996	SAS doubled # landed lengths sampled/trip and qrtly to monthly sampling; incr. # of observer trips
1997	1. SAS visited *Illex* processors in NJ, RI and VA 2. Industry implemented delayed fishery start date (June 21) so avg. body wt. ~100 g 3. SAS and Rutgers student collected tow-based data during an *Illex* fishing trip *Darana R*
1998	1. First fishery closure (industry requests RTM) 2. SAS held squid acoustics workshop with *Illex* industry and Canadian and Falklands experts

Year	Previous *Illex* RTM Research
1999 (SARC29)	1. SAS obtained grant to fund *Illex* RTM Feasibility Study - developed study fleet protocols and database (12 participants totaled 90% of landings)



2. SAS and P. Rago incorporated weekly CPUE and body weight data in SARC 29 assessment

3. Study Fleet RTM Workshop held: summarized results, pro/cons and next steps

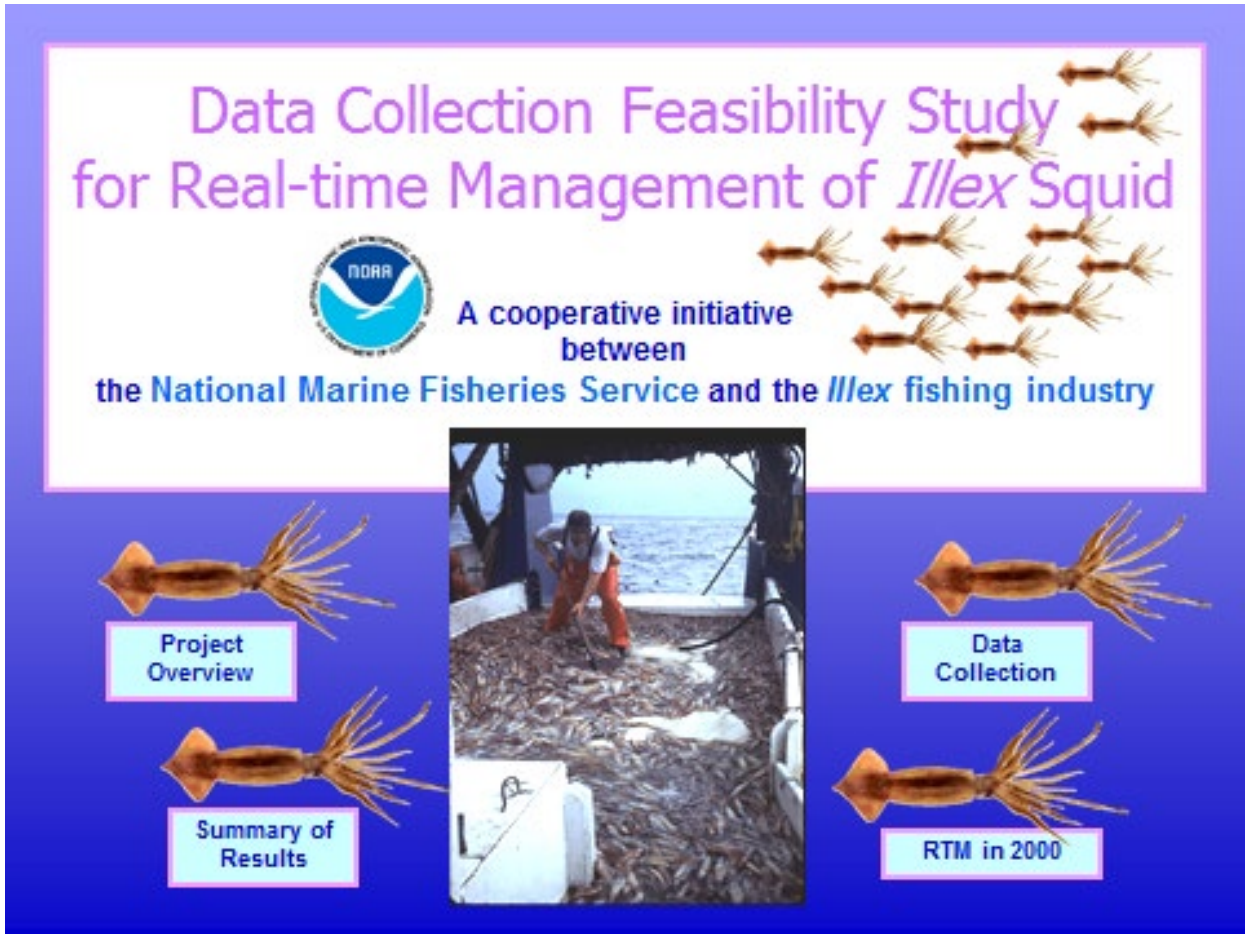
4. Environmental effects on survey catches of *Illex illecebrosus* (Brodziak and Hendrickson 1999)

Year

Previous *Illex* RTM Research

1999 (cont.)

5. **SAS created RTM website where study fleet data were summarized weekly**



Year	Previous *Illex* RTM Research
2000	**SAS obtained grant to conduct 1st industry-based survey: a pre-fishery BT survey (required for *Illex* RTM)**

1. **NEFSC chartered 2 *Illex* F/Vs: 4 scientists from NEFSC, 2 from Rutgers Shellfish Lab and 2 VIMS students participated**
2. **Discovered *Illex* spawning grounds**
3. **First US characterization of *Illex* cohorts, growth rates, L50 and A50 est., sex ratios, and swept-area, pre-fishery stock size**

2000 *Illex* RTM Pilot Bottom Trawl Survey

Year	Previous *Illex* RTM Research
2000-2001	Continued RTM Study Fleet Program
2002	SAS obtained grant to develop 1st e-VTR Study Fleet Program on US East Coast

Real-time, tow-based data via Boatracs:

1. Developed trip, catch and haul data entry macros and fishery data collection protocols
2. Most of fleet reported catch, effort and location data; processors submitted body weight data and SAS processed additional *Illex* biological data
3. Boatracs data sent directly to NEFSC, then loaded into Oracle tables and available to captains on an NEFSC e-VTR website

Year	Previous *Illex* RTM Research
2002 (cont.)	*Illex* e-VTR website created by SAS and NEFSC IT staffs: 1. Password-protected personal websites 2. Same data fields as current VTRs with add-ons 3. Gear-mounted depth-temperature data loggers 4. CPUE data maps with query capability 5. Customized catch report summaries 6. Capt. Jimmy Ruhle tested initial version of website

Illex e-VTR Website

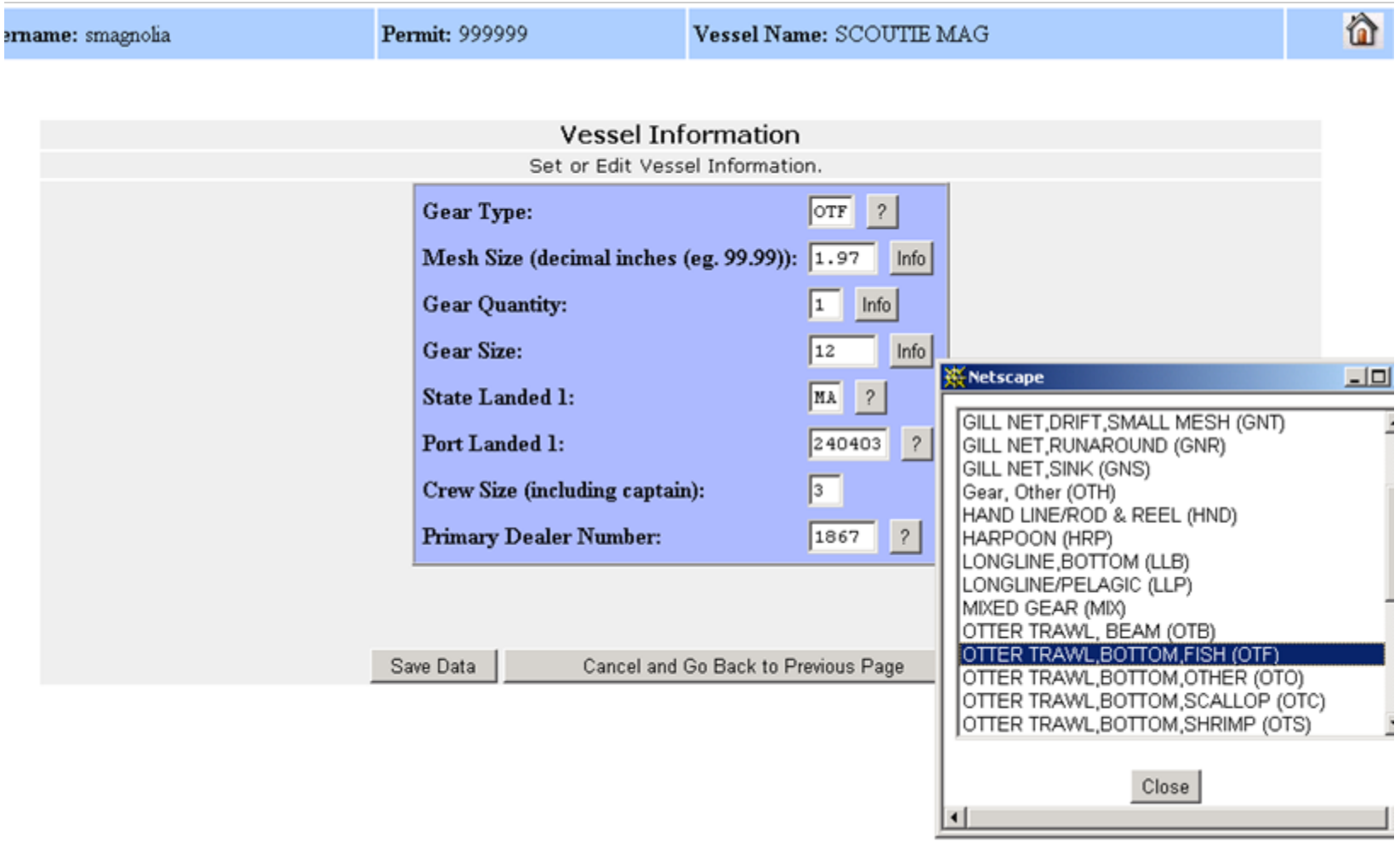
ername: smagnolia	Permit: 999999	Vessel Name: SCOUTIE MAG	

Welcome to the Commerical Study Fleet Web Site

Menu Options

Verify and Enter Fishery Data
View Interactive Maps
Get a Summary Report
Set or Edit Vessel Information
Help

Illex e-VTR Website



Illex RTM Feasibility Study Conclusions

E-VTR Study Fleet Program and pilot bottom trawl survey were considered successful and would have improved the dataset available for future *Illex* assessments if implemented

However, *Illex* RTM was not continued because:

1. **A move from hardcopy VTR to e-VTR reporting was not supported by regional fishery managers at the time**
2. **Staffs and infrastructure necessary for implementing and monitoring a successful RTM program was not supported either**

Year	Assessment Advances
2003 (SARC37)	1. Developed weekly mat./nat. mortality cohort model that accounts for semelparity with new age and maturity data from the 2000 *Illex* pilot survey 2. Output from mat./nat. mort model fed into weekly EPR model to estimate F50% as a BRP for winter cohort 3. Incorporated 1999 RTM CPUE data and pilot BT survey data in weekly Leslie-DeLury model (model considered preliminary by SARC reviewers due to need for more data and testing)

Year	Assessment Advances
2004	1. Published *Illex* pilot BT survey results (Hendrickson 2004)
	2. Submitted proposal to ACCSP to collect high-frequency length, weight and age data from the *Illex* landings for RTM (not funded; not important species for states)
2006	1. Published mat./nat. mortality model and weekly per-recruit model results (Hendrickson and Hart 2006)
	2. Resubmitted ACCSP proposal with additional justification (not funded)

Year	Assessments Advances
2006 (SARC 42)	Improved assessment models from SARC37 (reviewers commended the improvements, but still considered the models preliminary due to additional data needs)