Pezzack et al 2009 – LFA Jonah crab assessment

Fishery began in 1995 with a 720t TAC. TAC has been constant at 720t. Catches from 1996 – 2001 were usually at or around the 720t TAC. Landings declining since then, with 14t landed in 2007. At present there is no directed fishery.

Offshore crab stocks been exploited as trap by-catch since the 1960s. Fishing effort increased in 1995 with the establishment of the LFA 41 fishery.

Very little biological information exists for Jonah crab in waters off Nova Scotia. Some studies of life history from New England and Chesapeake Bay.

Fishermen are continually experimenting with trap designs and bait to optimize their catch and, over time, the effectiveness of traps will increase.

Management:

- 720t TAC

- male only with a 130mm CW size limit

- limited entry, 8 licenses, no limit on number of traps

Current State:

After only a few years of directed fishing landings, CPUE and catch/tow in the RV survey  
declined indicating that the TAC of 720t set in 1995 does not appear to have been sustainable.

Major Sources of Uncertainty:

- implementation error of size and sex restrictions – robustness tests

Growth rates, reproductive biology, stock structure and migration of Jonah crab are poorly  
understood. The linkages between Jonah crab in LFA 41 and adjacent areas are uncertain,  
including sources of recruitment.  
The logbooks do not identify if the string of traps is targeting lobster or crab; therefore, any  
strings with crab landings reported are used in determining the number of trap hauls. This may  
over estimate effort levels.  
The short time series for the Jonah crab fishery and the lack of information on some aspects of  
its biology on the Scotian Shelf limit the ability to assess the stock. The waters of outer shelf and  
basins of the Gulf of Maine are influenced by water mass movements caused by larger scale  
oceanographic events. Fishery-based indicators of abundance in LFA 41 may be influenced by  
these oceanographic events that could mask short term changes in population size. Long term  
trends in these indices may be more reliable.  
In a small fishery with only four vessels fishing, a migratory stock and subjected to changing  
oceanographic events, fluctuations in catch and CPUE are expected, and concern would arise  
with longer term trends that cannot be explained by environment or fishery related issues.