2011 to 2012, the parentage of vessel affiliations earning the top 75% of groundfish revenues also decreased, from 12.7% to 11.9% (Table 42).

Taken together, Table 41 and Table 42 imply that there are fewer ownership groups remaining in the fishery, and therefore fewer ownership groups dividing up all species and groundfish revenues earned from actively fishing under limited access groundfish permits. Groundfish revenues were distributed among vessel affiliations slightly less equally in 2012 than they were in 2011. The distributions of nominal revenues among vessel affiliations indicate that groundfish revenues are more concentrated among vessel affiliations than all species revenues, as was also the case for vessels.

Sections 6.2 – 6.6 provide different ways of looking at the issues of consolidation and the concentration of all species and groundfish nominal revenues among active vessels and vessel affiliations. In 2009, all species nominal revenues and groundfish nominal revenues were not equally distributed among active vessels or vessel affiliations. As well, groundfish nominal revenue distributions were more unequal than all species nominal revenue distributions for both active vessels and vessel affiliations. In 2010, these revenue distributions became further concentrated, or even more unequal, than in 2009. There were indications in 2011 that the level of concentration, or inequality, in the fishery, may have leveled off or possibly decreased. The analysis presented in Section 6 indicates the level of concentration did not continue to decrease in 2012; it has leveled off or possibly slightly increased, particularly for groundfish revenues.

Both the number of active vessels and vessel affiliations continued to decline in 2012, indicating that there were fewer vessels and fewer groups of owners than in the three previous years. Therefore, consolidation of revenues on fewer vessels and fewer vessel affiliations continued. Both all species and groundfish nominal revenues were no more equally distributed (or less concentrated) in 2012 than in 2011 among active participants in the fishery, and may be very slightly more concentrated.

7. EMPLOYMENT

Changes in employment levels can result from changes in fishery regulations. If new management approaches, such as catch shares, foster vessel consolidation or reductions in fishing effort, working conditions may be affected including pay, time spent at sea, and the number of jobs. Although NMFS does not track employment in the fishing industry in the Northeast, Vessel Trip Reports contain information about crew size on fishing trips and on the duration of trips. While these reports do not identify the actual number of individuals employed (e.g., crew often work for more than one vessel owner), the VTR data can be used to determine the number of crew positions available and the length of time that crew spend at sea. In general, trends in crew employment indicators were negative, suggesting that in 2012 there were fewer opportunities for crew work on most vessel sizes and in most home port states. The exceptions to this trend were in the home port states of Connecticut and Maine. However, even in those states, it appears that the time spent per crew earning opportunity, as measured by the ratio of crew days to crew trips, has increased.

7.1. Number of Crew Positions

The total number of crew positions, measured by summing the average crew size of all active vessels on all trips, declined annually between 2009 and 2012 from 2,416 to 2,136 (a 12%

decline) (Table 43). From 2011 to 2012, the number of crew positions for all vessel size categories fell by approximately 1%, with the exception of the less than 30' category which experienced a 5.1% reduction in crew positions (Table 43).

By home port state, the number of crew positions increased from 2011 to 2012 in Maine and New Jersey (in ME, by 21 positions or 9.5%; in NJ, by 3 positions or 2.1%). The number of crew positions in all other major home port states decreased in 2012 with New Hampshire seeing the largest percentage decrease (9%: 105 to 96 crew positions). Declines in the number of crew positions from 2011 to 2012 for other home port states ranged from 1.3% to 7.3% (Table 44).

7.2. Number of Crew Trips

Although the number of crew positions is an indicator of the availability of jobs, this measure is uninformative about the number of trips available for crew to work[37]. To account for this distinction, a crew-trip indicator was derived. Because most crew members are paid on a per trip basis, this crew-trip indicator provides a measure of the total opportunities for crew to earn a share of the landings revenues.

Total crew trips were calculated by summing the crew size of all trips taken in each fishing year across both vessel size category (Table 43) and home port state (Table 44). Total crew trips steadily declined from 148,153 in 2009 to 116,334 in 2012 (a 21% reduction overall). From 2011 to 2012, total crew trips declined by 4.6%. Crew trips declined annually between 2009 and 2012 for all vessel size categories as well. The largest percentage drop from 2011 to 2012 occurred in the less than 30' category (13%). The other vessel size categories saw decreases of 5% or less in the number of crew trips from 2011 to 2012 (Table 43).

The home port states of Connecticut and Maine both experienced increases in the number of crew trips in 2012 (8.3% in CT; 1.9% in ME). All other home port states saw a decrease in the number of crew trips from 2011 to 2012, with New Jersey seeing the largest percentage decrease (15.2%). Decreases in 2012 crew trips for other home port states ranged from 3.8% to 6.7%. Crew trips were at a four year low in the home port states of Massachusetts, New Hampshire, New Jersey, New York and Rhode Island. (Table 44).

7.3. Number of Crew Days

Crew days, calculated by multiplying a trip's crew size by the days absent from port, were summed across vessel size categories and home port states to provide additional information about the time crew spend at sea to earn a share of the revenues. Because the number of trips affects the crew-days indicator, this indicator is also a measure of work opportunity. Conversely, crew days can be viewed as an indicator of time invested in the pursuit of "crew share" (the share of trip revenues received at the end of a trip). The time spent at sea has an opportunity cost. For example, if crew trips and crew earnings remain constant, a decline in crew days would reveal a benefit to crew in that less time was forgone for the same amount of earnings. The ratio of crew days to crew trips accounts for these factors. The absolute value of this ratio does not, in itself, provide information about opportunities for crew. However, annual

[37] For example, a vessel with three crew members that makes 10 trips a year is considered equivalent (with respect to crew positions) to a vessel with three crew members that makes 60 trips per year.

changes in the ratio are informative. For example, a declining trend in the ratio would imply a reduction in time spent per "earning opportunity" (a crew trip).

Total crew days for all vessel sizes combined decreased slightly (1.1%) from 2011 to 2012 for all vessels. Since total crew trips declined during the same time period at a higher rate (4.6%), the ratio of crew days to crew trips has increased. This suggests that, overall, the time spent per earning opportunity has increased, while at the same time earning opportunities have decreased. Total crew days decreased for all vessel size categories in 2012 with the exception of the 50' to <75' category, which saw a 1% rise (Table 43).

Total crew days declined in 2012 for the home port states of Massachusetts, New York, and Rhode Island, with New York experiencing the largest percent drop (7%). Connecticut, Maine, New Hampshire, and New Jersey all experienced increases in crew days in 2012 with Connecticut seeing the biggest percent increase (44%). Of all the home port states, only New York and Rhode Island had decreases in the ratio of crew days to crew trips in 2012. Connecticut had the largest increase in the ratio of crew days to crew trips in 2012 (33%) (Table 44). However, crew-based changes do not indicate, by themselves, whether crew incomes have changed. Crew income is influenced by many factors including a vessel's revenue/cost sharing formula, the amount of revenue a vessel receives from fish sales, the costs of fishing, the number of vessels actively fishing, and the intensity of fishing.

8. NET REVENUES AND QUOTA TRADING

This section describes the actual trades of quota, both between and within sectors, as reported by sectors in their year-end reports to NERO. Data limitations, as well as the nature of trading in the market (trades are between sector members and not between vessels, per se), make it difficult to adjust individual vessel net revenues by additional income/cost from ACE trading, which is critical for understanding the full distribution of benefits from quota leasing. To accommodate for this, net revenues are summed to the sector member level (some sector members own multiple vessels) and observed ACE trades are used to estimate the additional economic implications attributable to participating in the quota market. That is, net revenues were estimated at the fishing trip level and then aggregated and reported at the vessel, sector member, and fleet levels. Since quota leasing costs/revenue cannot be calculated at the trip or vessel levels, only the sector member level net revenue estimates are adjusted for quota trading in this analysis.

8.1. Nominal Net Revenues

Nominal net revenues were estimated using trip costs[38] collected by Northeast Observers and At-Sea-Monitors, as well as other data sources. Net revenue is defined as gross revenue less trip costs. Typically, net revenue is then split between the vessel owner and the crew. Two types of net revenue analysis are provided: (1) yearly changes in average nominal net revenue per day; and (2) yearly changes in aggregate nominal net revenues for various vessel categories (vessel size and home port state categories).

[38] Trip costs are typically costs that vary with the amount of fishing effort such as fuel, bait, fishing hooks, etc.