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## Contributions from IFRO to report on fleet capacity

Andersen, Jesper Levring

*Publication date:*  
2013

*Document Version*  
Publisher's PDF, also known as Version of record

*Citation for published version (APA):*  
Andersen, J. L., (2013). Contributions from IFRO to report on fleet capacity, No. 030-0007/13-5480, 11 p., IFRO Commissioned Work, No. 2013/31

# IFRO Commissioned Work



Contributions from IFRO to report on  
fleet capacity

*Jesper Levring Andersen*

**IFRO Commissioned Work 2013/31**

**(IFRO Udredning 2013/31)**

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Author: Jesper Levring Andersen

Prepared as part of the agreement on public sector services between the Department of Food and Resource Economics and the Ministry of Food, Agriculture and Fisheries.

Department of Food and Resource Economics  
University of Copenhagen  
Rolighedsvej 25  
DK-1958 Frederiksberg  
[www.ifro.ku.dk/english/](http://www.ifro.ku.dk/english/)

# Contributions from IFRO to report on fleet capacity

## Section A

### *Description of fleets*

The statistics of table A.1 include all Danish vessels during the year and not only by the 31<sup>st</sup> of December as fleet statistics usually do. There was 2,844 vessels registered in the Danish vessel register, cf. Table A.1.

Out of these 2,844 vessels, 100 of these were not registered at the end of 2012, but had been that during the year. In total, 2,744 vessels were registered the 31<sup>st</sup> December 2012. Of these, 1,010 vessels had not been active during the year, i.e. didn't have any registered landings value. A total of 626 vessels are considered as commercial vessels, i.e. their total landings value was above the threshold level of €36,000 in 2012, while the remaining 1,108 vessels were non-commercial vessels with landing values below €36,000 in 2012.

**Table A.1. Number of registered Danish fishing vessels in 2012**

| Length  | Gear              | Commercial <sup>1)</sup> | Non-commercial <sup>2)</sup> | Inactive <sup>3)</sup> | Not registered 31 <sup>st</sup> December <sup>4)</sup> | Total |
|---------|-------------------|--------------------------|------------------------------|------------------------|--|-------|
| VL0012m | DRB               | 30                       | 24                           | 1                      | 1  | 56    |
|         | DTS               | 10                       | 11                           | 4                      | 3  | 28    |
|         | PGP               | 145                      | 929                          | 911                    | 59   | 2,044 |
|         | PMP               | 42                       | 118                          | 65                     | 11   | 236   |
|         | Total             | 227                      | 1,082                        | 981                    | 74   | 2,364 |
| VL1224m | DRB               | 27                       | 2                            | 3                      | 1  | 33    |
|         | DTS               | 199                      | 8                            | 8                      | 9  | 224   |
|         | PGP               | 37                       | 5                            | 9                      | 6  | 57    |
|         | PMP               | 46                       | 10                           | 7                      | 3  | 66    |
|         | TBB               | 28                       | 0                            |                        |  | 28    |
|         | Total             | 337                      | 25                           | 27                     | 19   | 408   |
| VL2440m | DTS <sup>5)</sup> | 34                       |                              | 2                      | 7  | 43    |
|         | Total             | 34                       |                              | 2                      | 7  | 43    |
| VL40XXm | DTS               | 28                       | 1                            |                        |  | 29    |
|         | Total             | 28                       | 1                            |                        |  | 29    |
| Total   |                   | 626                      | 1,108                        | 1,010                  | 100  | 2,844 |

See Annex 1 for explanation of Gear Codes

Source: The Danish vessel-register and sales-slip register, the Danish AgriFish Agency 17<sup>th</sup> April 2013.

Notes: <sup>1)</sup> Includes vessels with a yearly catch value above € 36,000.

<sup>2)</sup> Includes vessels with a yearly catch value below € 36,000 but above € 0.

<sup>3)</sup> Includes vessels not having any catch value within the year.

<sup>4)</sup> Includes vessels not being active by the end of the year.

<sup>5)</sup> For discretionary purposes, VL2440m TBB has been included in VL2440m DTS.

The distribution of tonnage and engine power is shown in Appendix A. For both capacity measures, the commercial vessels make up the majority of these with 85% of total GT and 69% of total kW.

## Section A

### *Link with fisheries*

The linkages between the different fleet segments and the kind of fisheries they conduct are shown in Table A.2. The fleet segments below 24 metres are primarily dependent on demersal species. The vessels in VL0012m DRB, VL1224m DRB and VL1224 TBB are in entry restricted fisheries for mussels and shrimps. The VL2440m DTS are to some extent dependent on industrial species, while the VL40XXm is dependent on the various demersal and pelagic consumption species (mackerel and herring) plus industrial species. The VL40XXm is also dependent on an entry restricted fishery, but this is attributable to one vessel catching shrimps in the waters around Greenland.

**Table A.2. Distribution landing value in 2012 on overall fisheries in %**

| Length                | Gear | Codfish | Flatfish | Lobster and shrimp | Mackerel and herring | Industrial <sup>1)</sup> | Other | Entry-restricted <sup>2)</sup> |
|-----------------------|------|---------|----------|--------------------|----------------------|--------------------------|-------|--------------------------------|
| VL0012m               | DRB  | 3       | 3        | 3                  | 0                    | 1                        | 1     | 89                             |
|                       | DTS  | 32      | 22       | 17                 | 11                   | 11                       | 1     | 6                              |
|                       | PGP  | 37      | 24       | 5                  | 3                    | 0                        | 31    | 0                              |
|                       | PMP  | 37      | 36       | 12                 | 2                    | 4                        | 8     | 0                              |
| VL1224m               | DRB  | 0       | 0        | 0                  | 0                    | 0                        | 0     | 100                            |
|                       | DTS  | 30      | 23       | 28                 | 4                    | 15                       | 0     | 0                              |
|                       | PGP  | 35      | 61       | 0                  | 1                    | 0                        | 2     | 0                              |
|                       | PMP  | 52      | 29       | 16                 | 0                    | 2                        | 1     | 0                              |
|                       | TBB  | 1       | 9        | 0                  | 0                    | 6                        | 0     | 84                             |
| VL2440m <sup>3)</sup> | DTS  | 44      | 21       | 20                 | 4                    | 10                       | 0     | 0                              |
| VL40XXm               | DTS  | 0       | 0        | 0                  | 67                   | 25                       | 0     | 8                              |

See Annex 1 for explanation of Gear Codes

Source: The Danish vessel-register and sales-slip register, the Danish AgriFish Agency 17<sup>th</sup> April 2013.

Notes: <sup>1)</sup> Species such as sand eel, blue whiting, sprat, horse mackerel and Norway pout.

<sup>2)</sup> Species that can only be caught with a license, i.e. mussels, oysters, brown shrimps and shrimps in the waters around Greenland.

<sup>3)</sup> For discretionary purposes, VL2440m TBB has been included in VL2440m DTS.

## Section A

### *Developments in fleets*

The structure of the Danish fishing fleet has changed considerably since 2003, where the first ITQ regulation was implemented in the herring fishery. Since then, ITQs has gradually been introduced in other pelagic fisheries, and from 2007 demersal fisheries were also managed with property/user rights. These management changes have resulted in significant changes in the Danish fishing fleet since 2003 as displayed in Table A.3.

The number of registered vessels has been reduced with 28% from 2003 to 2012. Furthermore, the capacity of the Danish fishing fleet decreased 37% in GT and 36% in kW. Relatively, the main reduction appeared in the segment of vessels between 12 and 24 metres, which has decreased 39% in GT, 45% in kW and 46% in number of vessels.

**Table A.3. Development in the capacity of registered Danish fishing vessels<sup>1)</sup>**

| Length  | Gear              | 2003        |         |         | 2006        |        |         | 2009        |        |         | 2012        |        |         |
|---------|-------------------|-------------|---------|---------|-------------|--------|---------|-------------|--------|---------|-------------|--------|---------|
|         |                   | No. vessels | GT      | kW      | No. vessels | GT     | kW      | No. vessels | GT     | kW      | No. vessels | GT     | kW      |
| VL0012m | DRB               | 40          | 343     | 3,502   | 54          | 491    | 4,259   | 86          | 683    | 6,183   | 56          | 589    | 4,866   |
|         | DTS               | 39          | 449     | 4,270   | 34          | 349    | 3,542   | 25          | 238    | 2,471   | 28          | 263    | 2,670   |
|         | PGP               | 2,768       | 6,981   | 71,444  | 2,291       | 5,677  | 60,383  | 2,089       | 5,007  | 54,104  | 2,044       | 4,795  | 54,666  |
|         | PMP               | 133         | 966     | 9,096   | 145         | 952    | 9,246   | 190         | 1,046  | 10,436  | 236         | 1,263  | 13,007  |
|         | Total             | 2,980       | 8,738   | 88,312  | 2,524       | 7,469  | 77,430  | 2,390       | 6,974  | 73,194  | 2,364       | 6,910  | 75,209  |
| VL1224m | DRB               | 36          | 989     | 5,089   | 37          | 1,148  | 5,417   | 36          | 1,115  | 5,357   | 33          | 1,081  | 4,793   |
|         | DTS               | 477         | 23,192  | 103,525 | 370         | 17,501 | 80,526  | 284         | 14,560 | 64,007  | 224         | 12,188 | 49,118  |
|         | PGP               | 151         | 5,785   | 24,234  | 118         | 4,104  | 17,740  | 89          | 3,313  | 14,205  | 57          | 2,487  | 9,697   |
|         | PMP               | 68          | 3,423   | 13,069  | 84          | 3,961  | 15,944  | 64          | 2,863  | 12,255  | 66          | 3,590  | 13,948  |
|         | TBB               | 26          | 1,279   | 4,872   | 28          | 1,417  | 5,306   | 24          | 1,375  | 4,519   | 28          | 1,685  | 5,213   |
|         | Total             | 758         | 34,668  | 150,789 | 637         | 28,131 | 124,933 | 497         | 23,227 | 100,343 | 408         | 21,030 | 82,769  |
| VL2440m | DTS <sup>2)</sup> | 140         | 35,114  | 85,829  | 110         | 27,570 | 67,022  | 78          | 19,170 | 48,369  | 43          | 11,853 | 25,632  |
|         | Total             | 140         | 35,114  | 85,829  | 110         | 27,570 | 67,022  | 78          | 19,170 | 48,369  | 43          | 11,853 | 25,632  |
| VL40Xm  | DTS               | 46          | 29,058  | 54,877  | 45          | 34,226 | 72,456  | 32          | 29,449 | 62,316  | 29          | 28,113 | 58,976  |
|         | Total             | 46          | 29,058  | 54,877  | 45          | 34,226 | 72,456  | 32          | 29,449 | 62,316  | 29          | 28,113 | 58,976  |
| Total   |                   | 3,924       | 107,578 | 379,807 | 3,316       | 97,396 | 341,841 | 2,997       | 78,820 | 284,222 | 2,844       | 67,906 | 242,586 |

Source: The Danish vessel-register, the Danish AgriFish Agency 17<sup>th</sup> April 2013.

Notes: <sup>1)</sup> Covers vessels in the register within a year, but does not include virtual capacity.

<sup>2)</sup> For discretionary purposes, VL2440m TBB has been included in VL2440m DTS.

## Section F

### *Estimation and discussion of balance indicators*

The technical, biological and economic indicators are calculated in accordance with the guidelines issued by the Commission taking into account that data is available at fleet segment level. The results are presented for 11 fleet segments according to the Data Collection Regulation. The three segments VL12-24m TBB fishing for brown shrimp in the Wadden Sea, and VL0012m DRB and VL1224m DRB fishing mussels are included but not subject to quotas set at the EU level. These three segments are subject to specific entry restrictions. The segment VL2440m TBB has been excluded because it includes less than 3 vessels.

#### **i) Technical indicator(s)**

The ratio between days at sea and maximum days at sea for each length group and gear type are presented in Table F.1. By taking the ratio between average and maximum number of sea days, an expression for technical capacity utilisation is calculated. The maximum number of sea days within a fleet segment has been set equal to the most active vessel within each year.

**Table F.1. Ratios between average days at sea and maximum days at sea<sup>1) 2)</sup>**

| Length (VL) | Gear code     | Average days at sea/maximum days at sea |      |      |      |      |      |      |      | Average kW-days at sea/kW-days with maximum days at sea |      |      |      |      |      |      |      |
|-------------|---------------|---|------|------|------|------|------|------|------|---|------|------|------|------|------|------|------|
|             |               | 2005                                    | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2005  | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| 0012m       | DRB (mussels) | 0.31                                    | 0.39 | 0.32 | 0.33 | 0.24 | 0.38 | 0.47 | 0.43 | 0.42  | 0.50 | 0.44 | 0.42 | 0.31 | 0.41 | 0.50 | 0.48 |
|             | DTS           | 0.51                                    | 0.47 | 0.39 | 0.34 | 0.37 | 0.40 | 0.49 | 0.47 | 0.52  | 0.48 | 0.41 | 0.32 | 0.35 | 0.38 | 0.42 | 0.45 |
|             | PGP           | 0.14                                    | 0.14 | 0.12 | 0.15 | 0.14 | 0.13 | 0.13 | 0.13 | 0.18  | 0.17 | 0.15 | 0.18 | 0.17 | 0.15 | 0.14 | 0.14 |
|             | PMP           | 0.31                                    | 0.28 | 0.27 | 0.27 | 0.26 | 0.30 | 0.28 | 0.28 | 0.36  | 0.32 | 0.30 | 0.31 | 0.30 | 0.32 | 0.29 | 0.27 |
| 1224m       | DRB (mussels) | 0.53                                    | 0.48 | 0.53 | 0.37 | 0.50 | 0.33 | 0.47 | 0.44 | 0.43  | 0.41 | 0.45 | 0.34 | 0.44 | 0.29 | 0.41 | 0.41 |
|             | DTS           | 0.53                                    | 0.46 | 0.44 | 0.43 | 0.46 | 0.42 | 0.41 | 0.43 | 0.56  | 0.47 | 0.43 | 0.41 | 0.47 | 0.44 | 0.42 | 0.45 |
|             | PGP           | 0.48                                    | 0.48 | 0.47 | 0.48 | 0.49 | 0.57 | 0.46 | 0.55 | 0.50  | 0.49 | 0.37 | 0.34 | 0.44 | 0.50 | 0.40 | 0.46 |
|             | PMP           | 0.45                                    | 0.44 | 0.39 | 0.47 | 0.44 | 0.51 | 0.37 | 0.37 | 0.48  | 0.47 | 0.38 | 0.44 | 0.47 | 0.48 | 0.41 | 0.41 |

|       |                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|       | TBB<br>(shrimp) | 0.73 | 0.73 | 0.79 | 0.73 | 0.72 | 0.78 | 0.71 | 0.76 | 0.78 | 0.72 | 0.70 | 0.76 | 0.72 | 0.78 | 0.72 | 0.77 |
| 2440m | DTS             | 0.57 | 0.59 | 0.57 | 0.63 | 0.61 | 0.63 | 0.58 | 0.66 | 0.54 | 0.53 | 0.46 | 0.47 | 0.50 | 0.57 | 0.53 | 0.56 |
| 40XXm | DTS             | 0.70 | 0.78 | 0.62 | 0.70 | 0.62 | 0.73 | 0.64 | 0.64 | 0.70 | 0.71 | 0.64 | 0.61 | 0.60 | 0.74 | 0.69 | 0.70 |

Source: The Danish vessel-register and sales-slip register, the Danish AgriFish Agency 17<sup>th</sup> April 2013.

Notes: <sup>1)</sup> Covers only active vessels.

<sup>2)</sup> See Appendix B for the figures used to the calculations.

From Table F.1 it is observed that both ratios are generally increasing with the vessel length. The major part of the vessels in the fleet segments above 24 meters has been managed with Individual Transferable Quotas (ITQ) since 2003, and a high ratio is observed for these vessels. All other fleets (except VL0012m DRB, VL1224m DRB and VL1224m TBB) has since 2007 been managed with transferable Vessel Quota Shares (VQS), and an increasing ratio is expected in the coming years, which is partly already reflected in the figures.

Making strong conclusions about presence of technical overcapacity are difficult, because each fleet segment is not very homogeneous. A value below 0.7 is in Commission guidelines considered to indicate the presence of technical overcapacity, and if this is applied to the above figures, technical overcapacity is present in all fleet segments in 2011, no matter which measure is used except for VL1224m TBB.

Had the technical indicators been calculated using only the commercial vessels, cf. Table A.1, the ratios would have been higher, because the non-commercial vessels on average have a much lower level of activity.

## ii) Biological indicators

## iii) Economic indicators

The two indicators recommended in the EC guidelines: 1) Return on investment (ROI) per fleet segment and 2) the current revenue in proportion to the break-even revenue per fleet segment are presented in the following.

### Return on investment (ROI)

Return on investment (ROI) is defined as profit after capital stock depreciation and interest payment plus opportunity costs, and then divided by total investment. For opportunity costs, a risk-free long-term yield of 5% has been used in the Danish calculations, and the total investment is set equal to the capital value of the tangible assets. The ROI for the Danish fleet for the latest available years 2005 to 2011 is shown in Table F.2.

**Table F.2. Return on investments (ROI)**

| Length  | Gear code     | 2005 <sup>1)</sup> | 2006 <sup>1)</sup> | 2007 <sup>1)</sup> | 2008 <sup>2)</sup> | 2009 <sup>2)</sup> | 2010 <sup>2)</sup> | 2011 <sup>2)</sup> |
|---------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| VL0012m | DRB (mussels) | 0.22               | 0.25               | 0.25               | 0.02               | 0.05               | 0.01               | 0.04               |
|         | DTS           | -0.08              | -0.22              | -0.09              | -0.29              | -0.10              | -0.07              | -0.18              |
|         | PGP           | -0.17              | -0.14              | -0.09              | -0.21              | -0.26              | -0.18              | -0.13              |
|         | PMP           | -0.06              | -0.09              | 0.03               | -0.29              | -0.32              | -0.06              | -0.12              |
| VL1224m | DRB (mussels) | 0.15               | 0.25               | 0.28               | 0.01               | -0.09              | -0.04              | 0.00               |
|         | DTS           | -0.05              | 0.04               | 0.09               | 0.01               | -0.03              | 0.04               | 0.04               |
|         | PGP           | 0.01               | 0.03               | 0.04               | -0.08              | -0.05              | 0.03               | 0.02               |
|         | PMP           | -0.02              | 0.00               | 0.03               | -0.02              | -0.07              | 0.03               | 0.03               |
|         | TBB (shrimp)  | 0.15               | 0.14               | 0.13               | 0.13               | -0.06              | -0.04              | -0.05              |
| VL2440m | DTS           | -0.04              | 0.06               | 0.02               | 0.00               | 0.03               | 0.14               | 0.06               |
| VL40XXm | DTS           | 0.13               | 0.13               | 0.06               | 0.08               | 0.08               | 0.42               | 0.38               |

Source: The Danish Account Statistics for Fisheries, Statistics Denmark.

Notes: <sup>1)</sup> Collected under the Data Collection Regulation (Council Regulation (EC) No 1543/2000 and Commission Regulation (EC) No. 1639/2001).

<sup>2)</sup> Collected under the Data Collection Framework (Commission Regulation (EC) No. 665/2008).

Especially the fleets below 12 meters are seen to consistently have negative ROIs, thus indicating economic over-capitalisation. However, this is not the case for VL0012m DRB, which is an entry restricted fishery for many years. VL1224m DRB is also conducting an entry restricted fishery, but negative ROIs are observed in 2009 and 2010 due to bad fishing conditions. Also, VL1224m TBB is fishing after brown shrimp and is an entry restricted fishery, and positive ROIs are observed, except in 2009, 2010 and 2011. The remaining fleet segments between 12 and 24 meters has ROIs varying around zero, thus indicating a reasonable balance. The fleets above 24 meters, which for many years have been managed with ITQs, also have a ROI varying around zero, thus indicating neither economic over- nor under-capitalisation. The VL40XXm DTS have considerably improved their ROI in 2010 and 2011 due to improved fishing conditions and fish prices.

#### Ratio between current revenue and break-even revenue

While current revenue is equal to the total fleet income, the break-even revenue is defined as “total income times (vessel costs plus depreciation costs plus interest payments) divided by (total income minus (fuel costs plus other running costs plus crew share))”. The break-even revenue shows, in a simplified calculation, the level of revenue needed to cover all costs and net profit is zero. It is a good measure of economic sustainability, although not linked to investments cost. When the ratio is below 1, current cash flow is not sufficient to cover current costs, so the activity is not economic balance and sustainable. The ratio is showed in Table F.3.

**Table F.3. Ratio between current revenue and break-even revenue**

| Length  | Gear code     | 2005 <sup>1)</sup> | 2006 <sup>1)</sup> | 2007 <sup>1)</sup> | 2008 <sup>2)</sup> | 2009 <sup>2)</sup> | 2010 <sup>2)</sup> | 2011 <sup>2)</sup> |
|---------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| VL0012m | DRB (mussels) | 1.91               | 2.20               | 3.18               | 0.83               | 0.99               | 0.79               | 0.97               |
|         | DTS           | 0.56               | 0.35               | 0.56               | 0.05               | 0.20               | 0.66               | 0.63               |
|         | PGP           | 0.44               | 0.50               | 0.64               | 0.30               | 0.23               | 0.46               | 0.62               |
|         | PMP           | 0.65               | 0.49               | 0.92               | 0.35               | 0.12               | 0.65               | 0.62               |
| VL1224m | DRB (mussels) | 1.44               | 2.06               | 2.18               | 0.79               | 0.63               | 0.61               | 0.84               |
|         | DTS           | 0.68               | 0.97               | 1.12               | 0.96               | 0.80               | 1.08               | 1.12               |
|         | PGP           | 0.87               | 0.94               | 0.98               | 0.72               | 0.73               | 1.00               | 1.05               |
|         | PMP           | 0.68               | 0.82               | 0.93               | 0.86               | 0.73               | 1.09               | 1.10               |
|         | TBB (shrimp)  | 1.48               | 1.45               | 1.43               | 1.35               | 0.45               | 0.59               | 0.54               |
| VL2440m | DTS           | 0.65               | 1.04               | 0.90               | 0.94               | 1.04               | 1.33               | 1.12               |
| VL40XXm | DTS           | 1.39               | 1.50               | 1.07               | 1.09               | 1.08               | 2.05               | 1.86               |

Source: The Danish Account Statistics for Fisheries, Statistics Denmark.

Notes: <sup>1)</sup> Collected under the Data Collection Regulation (Council Regulation (EC) No 1543/2000 and Commission Regulation (EC) No. 1639/2001).

<sup>2)</sup> Collected under the Data Collection Framework (Commission Regulation (EC) No. 665/2008).

The only fishery which is viable through the entire period, and thus able to cover current costs, is the fleet segment VL40XXm DTS. A more unclear picture is seen for remaining fleet segments. In 2005, 2006 and 2007, there were five fleet segments with values above 1, but three of these were the licensed fisheries after mussels and brown shrimps. There were also five segments with values above 1 in 2011, but none of these were those licensed fisheries, but they were vessels above 12 meters managed with VQSs and ITQs.



#### iv) Social indicators

The two indicators recommended in the EC guidelines: 1) average crew share per Full-time equivalent and 2) Gross Value Added (GVA) are presented in the following.

##### Average crew share per Full-time equivalent

The average crew share per Full-time equivalent in a fleet segment is defined as “(Crew share (in %) times value of landings) divided by number of Full-time employees” and is shown in Table F.4. The indicator is significant for determining income developments for dependent fishermen. Possible reference points are minimum wages for establishing a precarious situation and average wages establishing a balanced situation.

**Table F.4. Average crew share per Full-time equivalent in €**

| Length                            | Gear code     | 2005 <sup>1)</sup> | 2006 <sup>1)</sup> | 2007 <sup>1)</sup> | 2008 <sup>2)</sup> | 2009 <sup>2)</sup> | 2010 <sup>2)</sup> | 2011 <sup>2)</sup> |
|-----------------------------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| VL0012m                           | DRB (mussels) | 56,243             | 72,205             | 88,332             | 86,360             | 70,702             | 60,518             | 65,380             |
|                                   | DTS           | 57,455             | 55,294             | 68,469             | 59,818             | 61,776             | 61,767             | 65,408             |
|                                   | PGP           | 49,352             | 51,838             | 56,354             | 60,113             | 59,322             | 62,356             | 61,700             |
|                                   | PMP           | 44,309             | 50,482             | 61,650             | 59,505             | 64,044             | 62,292             | 61,631             |
| VL1224m                           | DRB (mussels) | 67,147             | 73,013             | 80,590             | 84,984             | 66,685             | 72,926             | 65,620             |
|                                   | DTS           | 47,006             | 53,938             | 62,639             | 65,266             | 64,312             | 69,396             | 72,037             |
|                                   | PGP           | 47,429             | 52,348             | 57,477             | 58,894             | 62,689             | 65,858             | 65,483             |
|                                   | PMP           | 49,838             | 53,836             | 62,402             | 68,514             | 64,250             | 69,166             | 68,291             |
|                                   | TBB (shrimp)  | 66,030             | 75,262             | 68,819             | 74,573             | 59,882             | 62,120             | 71,144             |
| VL2440m                           | DTS           | 46,601             | 56,805             | 60,747             | 67,562             | 64,242             | 79,392             | 78,029             |
| VL40XXm                           | DTS           | 84,438             | 92,857             | 96,326             | 107,913            | 109,309            | 129,842            | 165,215            |
| Average yearly wage <sup>3)</sup> |               | 43,831             | 45,408             | 47,925             | 49,316             | 51,628             | 51,841             | 52,746             |

Source: The Danish Account Statistics for Fisheries, Statistics Denmark.

Notes: <sup>1)</sup> Collected under the Data Collection Regulation (Council Regulation (EC) No 1543/2000 and Commission Regulation (EC) No. 1639/2001).

<sup>2)</sup> Collected under the Data Collection Framework (Commission Regulation (EC) No. 665/2008).

<sup>3)</sup> The average yearly wage is equal to the wage a person employed in the industry can earn on a yearly basis. This type of work is considered to be the alternative work for a fisherman.

Within the entire period, the highest average wage per FTE is earned in the fleet segment VL40XXm DTS, and this fleet segment improved its average crew share level considerably from 2010 to 2011. It is more difficult to establish where the lowest average wage per FTE is observed, because this varies between years. A general trend of increasing average wages per FTE is observed, and this is especially pronounced since 2007, where the VQS management was implemented for most of the fleet segments below 24 meters. The highest level was generally observed in 2010 compared to the previous five years, driven by several factors including a good industrial fishery, while it generally fell a bit from 2010 to 2011.

Comparing with the wage obtained from the alternative employment in the industry, the fishermen generally obtain yearly wages above this level.

##### Gross Value Added (GVA)

Gross Value Added (GVA) is defined as “depreciation costs plus interest costs plus crew share plus net profit”. GVA expresses the added value that the activity contributes to the national economy. The indicator may provide information on the socio-economic importance of the fishery, as economically important stocks are represented by high revenues, while the associated costs are a measure of the level of effort applied in the fishery. Setting target values for this indicator is very complicated. A value above zero means the fishery has a value for society, and as shown in Table F.5, the gross value added for the eleven fleet segments are all positive over the included years.

**Table F.5. Gross value added (GVA) in €1,000**

| Length    | Gear code     | 2005 <sup>1)</sup> | 2006 <sup>1)</sup> | 2007 <sup>1)</sup> | 2008 <sup>2)</sup> | 2009 <sup>2)</sup> | 2010 <sup>2)</sup> | 2011 <sup>2)</sup> |
|-----------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| VL0012m   | DRB (mussels) | 9,155              | 8,452              | 10,419             | 6,084              | 5,538              | 2,985              | 3,655              |
|           | DTS           | 2,752              | 2,386              | 2,285              | 1,361              | 820                | 1,485              | 1,359              |
|           | PGP           | 42,132             | 44,981             | 34,422             | 32,518             | 27,145             | 28,314             | 28,602             |
|           | PMP           | 5,695              | 7,287              | 8,484              | 8,021              | 5,467              | 3,875              | 3,645              |
| VL1224m   | DRB (mussels) | 5,963              | 6,507              | 7,174              | 5,086              | 3,901              | 4,346              | 5,684              |
|           | DTS           | 70,748             | 76,860             | 66,564             | 104,904            | 91,874             | 106,384            | 101,634            |
|           | PGP           | 39,018             | 38,701             | 24,819             | 18,002             | 14,734             | 14,868             | 17,671             |
|           | PMP           | 20,171             | 22,762             | 22,439             | 23,175             | 18,492             | 27,938             | 26,160             |
|           | TBB (shrimp)  | 14,298             | 13,627             | 17,951             | 18,275             | 10,138             | 10,639             | 8,901              |
| VL2440m   | DTS           | 73,072             | 86,030             | 64,187             | 55,654             | 58,493             | 65,270             | 58,929             |
| VL40XXm   | DTS           | 124,275            | 128,142            | 118,983            | 137,854            | 126,011            | 206,035            | 204,335            |
| Total GVA |               | 415,728            | 444,427            | 385,166            | 410,934            | 362,607            | 362,614            | 472,139            |

Source: The Danish Account Statistics for Fisheries, Statistics Denmark.

Notes: <sup>1)</sup> Collected under the Data Collection Regulation (Council Regulation (EC) No 1543/2000 and Commission Regulation (EC) No. 1639/2001).

<sup>2)</sup> Collected under the Data Collection Framework (Commission Regulation (EC) No. 665/2008).

## **Annex 1 Gear Codes**

DRB = Dredgers

DTS = Demersal trawlers and/or demersal seiners

PGP = Vessels using polyvalent passive gears only

PMP = Vessels using active and passive gears

TBB = Beam trawlers

## Annex 2 Capacity of registered Danish fishing vessels, 2012

### Tonnage in GT

| Length  | Gear   | Commercial | Non-commercial | Inactive | Not registered 31 <sup>st</sup> December 2012 | Total  |
|---------|--------|------------|----------------|----------|---|--------|
| VL0012m | DRB    | 418        | 149            | 2        | 18  | 589    |
|         | DTS    | 148        | 79             | 16       |   | 263    |
|         | PGP    | 1,066      | 2,209          | 1,362    | 144   | 4,795  |
|         | PMP    | 432        | 562            | 225      | 35  | 1,263  |
|         | Total  | 2,064      | 3,000          | 1,604    | 196   | 6,910  |
| VL1224m | DRB    | 911        | 42             | 114      | 196   | 1,081  |
|         | DTS    | 11,256     | 234            | 408      | 692   | 12,188 |
|         | PGP    | 1,862      | 100            | 256      | 85  | 2,487  |
|         | PMP    | 2,923      | 225            | 189      | 20  | 3,590  |
|         | TBB    | 1,685      | 0              |          |   | 1,685  |
| Total   | 18,637 | 601        | 968            | 993      | 21,030  |        |
| VL2440m | DTS    | 9,694      | 0              | 494      | 1,003   | 11,853 |
|         | Total  | 9,694      | 0              | 494      | 1,003   | 11,853 |
| VL40XXm | DTS    | 27,459     | 654            |          | 1,789   | 28,113 |
|         | Total  | 27,459     | 654            |          | 1,789   | 28,113 |
| Total   |        | 57,855     | 4,255          | 3,066    | 3,981   | 67,906 |

Source: The Danish vessel-register and sales-slip register, The Danish AgriFish Agency 17<sup>th</sup> April 2013.

## Engine power in kW

| Length  | Gear   | Commercial | Non-commercial | Inactive | Not registered 31 <sup>st</sup> December 2012 | Total   |
|---------|--------|------------|----------------|----------|---|---------|
| VL0012m | DRB    | 3,096      | 1,608          | 34       | 128   | 4,866   |
|         | DTS    | 1,269      | 923            | 237      | 241   | 2,670   |
|         | PGP    | 10,610     | 26,258         | 15,889   | 1,909   | 54,666  |
|         | PMP    | 4,183      | 5,868          | 2,489    | 467   | 13,007  |
|         | Total  | 19,158     | 34,657         | 18,649   | 2,745   | 75,209  |
| VL1224m | DRB    | 3,995      | 255            | 371      | 172   | 4,793   |
|         | DTS    | 44,538     | 1,190          | 1,457    | 1,933   | 49,118  |
|         | PGP    | 6,614      | 579            | 1,513    | 991   | 9,697   |
|         | PMP    | 10,197     | 1,660          | 1,270    | 821   | 13,948  |
|         | TBB    | 5,213      | 0              |          |   | 5,213   |
| Total   | 70,557 | 3,684      | 4,611          | 3,917    | 82,769  |         |
| VL2440m | DTS    | 20,472     |                | 1,084    | 4,076   | 25,632  |
|         | Total  | 20,472     |                | 1,084    | 4,076   | 25,632  |
| VL40XXm | DTS    | 57,775     | 1,201          |          |   | 58,976  |
|         | Total  | 57,775     | 1,201          |          |   | 58,976  |
| Total   |        | 167,962    | 39,542         | 24,344   | 10,738  | 242,586 |

Source: The Danish vessel-register and sales-slip register, The Danish AgriFish Agency 17<sup>th</sup> April 2013.

### Annex 3. Figures used to calculate the technical indicator

| Length  | Gear type     | Average days at sea |      |      |      |      |      |      |      | Maximum days at sea |      |      |      |      |      |      |      |
|---------|---------------|---------------------|------|------|------|------|------|------|------|---------------------|------|------|------|------|------|------|------|
|         |               | 2005                | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2005                | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| VL0012m | DRB (mussels) | 56                  | 45   | 40   | 36   | 35   | 39   | 49   | 45   | 182                 | 114  | 125  | 107  | 144  | 102  | 105  | 104  |
|         | DTS           | 95                  | 68   | 63   | 68   | 66   | 67   | 73   | 70   | 187                 | 144  | 161  | 198  | 176  | 167  | 149  | 147  |
|         | PGP           | 40                  | 40   | 35   | 38   | 38   | 36   | 36   | 35   | 282                 | 289  | 287  | 257  | 276  | 269  | 275  | 273  |
|         | PMP           | 66                  | 65   | 59   | 58   | 52   | 54   | 51   | 52   | 210                 | 237  | 217  | 215  | 204  | 180  | 183  | 189  |
| VL1224m | DRB (mussels) | 91                  | 71   | 86   | 52   | 57   | 51   | 70   | 84   | 172                 | 146  | 161  | 140  | 114  | 155  | 149  | 193  |
|         | DTS           | 158                 | 144  | 127  | 137  | 141  | 145  | 138  | 150  | 297                 | 316  | 290  | 320  | 306  | 345  | 340  | 345  |
|         | PGP           | 133                 | 116  | 105  | 117  | 119  | 134  | 123  | 143  | 276                 | 241  | 224  | 242  | 241  | 235  | 270  | 261  |
|         | PMP           | 141                 | 128  | 115  | 124  | 130  | 115  | 113  | 118  | 314                 | 294  | 296  | 263  | 296  | 226  | 307  | 318  |
|         | TBB (shrimp)  | 129                 | 115  | 161  | 153  | 182  | 157  | 117  | 166  | 176                 | 159  | 203  | 210  | 253  | 200  | 164  | 217  |
| VL2440m | DTS           | 201                 | 207  | 195  | 208  | 220  | 221  | 207  | 225  | 352                 | 350  | 343  | 333  | 363  | 353  | 356  | 340  |
| VL40XXm | DTS           | 199                 | 184  | 154  | 188  | 184  | 200  | 172  | 139  | 284                 | 235  | 247  | 269  | 295  | 275  | 268  | 219  |

Source: The Danish vessel-register, the Danish AgriFish Agency 17<sup>th</sup> April 2013.

Note: Covers all active vessels

| Length  | Gear type     | kW-days at sea (1,000) |        |       |       |       |        |        |       | kW-days with maximum days at sea (1,000) |        |        |        |        |        |        |        |
|---------|---------------|------------------------|--------|-------|-------|-------|--------|--------|-------|--|--------|--------|--------|--------|--------|--------|--------|
|         |               | 2005                   | 2006   | 2007  | 2008  | 2009  | 2010   | 2011   | 2012  | 2005                                     | 2006   | 2007   | 2008   | 2009   | 2010   | 2011   | 2012   |
| VL0012m | DRB (mussels) | 319                    | 241    | 286   | 264   | 280   | 217    | 277    | 245   | 763                                      | 486    | 643    | 623    | 890    | 529    | 558    | 506    |
|         | DTS           | 345                    | 208    | 184   | 155   | 143   | 143    | 145    | 176   | 661                                      | 434    | 446    | 487    | 413    | 375    | 346    | 392    |
|         | PGP           | 3,007                  | 2,890  | 2,403 | 2,430 | 2,432 | 2,216  | 2,117  | 2,042 | 16,995                                   | 16,661 | 15,579 | 13,478 | 14,481 | 14,534 | 14,993 | 14,924 |
|         | PMP           | 607                    | 667    | 549   | 605   | 616   | 631    | 640    | 660   | 1,686                                    | 2,088  | 1,849  | 1,984  | 2,062  | 1,979  | 2,201  | 2,458  |
| VL1224m | DRB (mussels) | 369                    | 310    | 382   | 257   | 268   | 246    | 354    | 380   | 857                                      | 763    | 842    | 750    | 611    | 850    | 866    | 925    |
|         | DTS           | 13,463                 | 10,567 | 7,794 | 7,989 | 8,057 | 8,119  | 7,465  | 7,550 | 24,118                                   | 22,394 | 18,164 | 19,425 | 17,083 | 18,516 | 17,606 | 16,946 |
|         | PGP           | 2,503                  | 2,045  | 1,159 | 1,090 | 1,214 | 1,254  | 1,176  | 1,158 | 5,044                                    | 4,201  | 3,141  | 3,226  | 2,738  | 2,487  | 2,927  | 2,531  |
|         | PMP           | 2,212                  | 2,075  | 1,351 | 1,415 | 1,481 | 985    | 1,620  | 1,812 | 4,595                                    | 4,407  | 3,571  | 3,250  | 3,140  | 2,033  | 3,933  | 4,435  |
|         | TBB (shrimp)  | 686                    | 586    | 818   | 869   | 821   | 795    | 567    | 867   | 880                                      | 809    | 1,170  | 1,139  | 1,143  | 1,017  | 786    | 1,131  |
| VL2440m | DTS           | 12,705                 | 10,618 | 7,439 | 6,712 | 6,061 | 6,420  | 5,367  | 4,899 | 23,649                                   | 20,101 | 16,313 | 14,281 | 12,055 | 11,249 | 10,099 | 8,715  |
| VL40XXm | DTS           | 11,035                 | 9,921  | 9,013 | 8,440 | 9,284 | 10,636 | 10,094 | 8,400 | 15,696                                   | 14,023 | 14,101 | 13,864 | 15,447 | 14,396 | 14,563 | 12,048 |

Source: The Danish vessel-register, the Danish AgriFish Agency 17<sup>th</sup> April 2013.

Note: Covers all active vessels