ICON8002 SNA

ICON 2017 Cohort

2018-11-02

Social Network Analysis

This is a report generated from social network analysis of the actors within the shrimping industry on the Georgia Coast. The resulting output of the analysis demonstrates the relationships between shrimpers, dockers, and other agencies/organizations.

Network attributes

- Diameter

The network has a diameter of 16. This measure is the length of the longest geodesic (the largest distance between any two vertices in a connected graph).

- Reciprocity

The network has a reciprocity of 0.0322581. The measure of reciprocity defines the proportion of mutual connections, in a directed graph.

- Number of edges

The network has 558 total edges.

- Number of egos

The network has 241 total egos

- Edge density

The network has a density of 0.0096473. This measure is the ratio of the number of edges and the number of possible edges.

- Transitivity

The network has a transitivity of 0.0713. This measure is the probability that the adjacent vertices of a vertex are connected. This is sometimes also called the clustering coefficient.

Vertex attributes

- Closeness

The vertex with the greatest closeness is $Stapleton, Shayna$ (number: 97). This measures how many steps is required to access every other vertex from a given vertex.

The vertex with the least closeness is $Murphy, Chelsea$ (number: 1). This measures how many steps is required to access every other vertex from a given vertex.

- Degree

The vertex with the greatest degree is $Escobar - Morales, Savannah$ (number: 50). This measure is the number of its adjacent edges.

The vertex with the fewest degree is $Protho, Desiree$ (number: 28). This measure is the number of its adjacent edges.

Network plots

Keyplayer

Table 1: Network keyplayers based on individual centrality statistics

Statistic	1	2	3
Closeness	Stapleton, Shayna	Cooksey, Dustin	Colapinto, Keaton

| Statistic	1	2	3
Betweenness	Stripling, Giselle	Vargason, Michael Robert	Farah, Jaleel
Degree	Upshaw, Alexander	Vargason, Michael Robert	Farmer, Makenna
Eigenvector	Kirkpatrick, Alexia	Vargason, Michael Robert	Martinez, Elisabet

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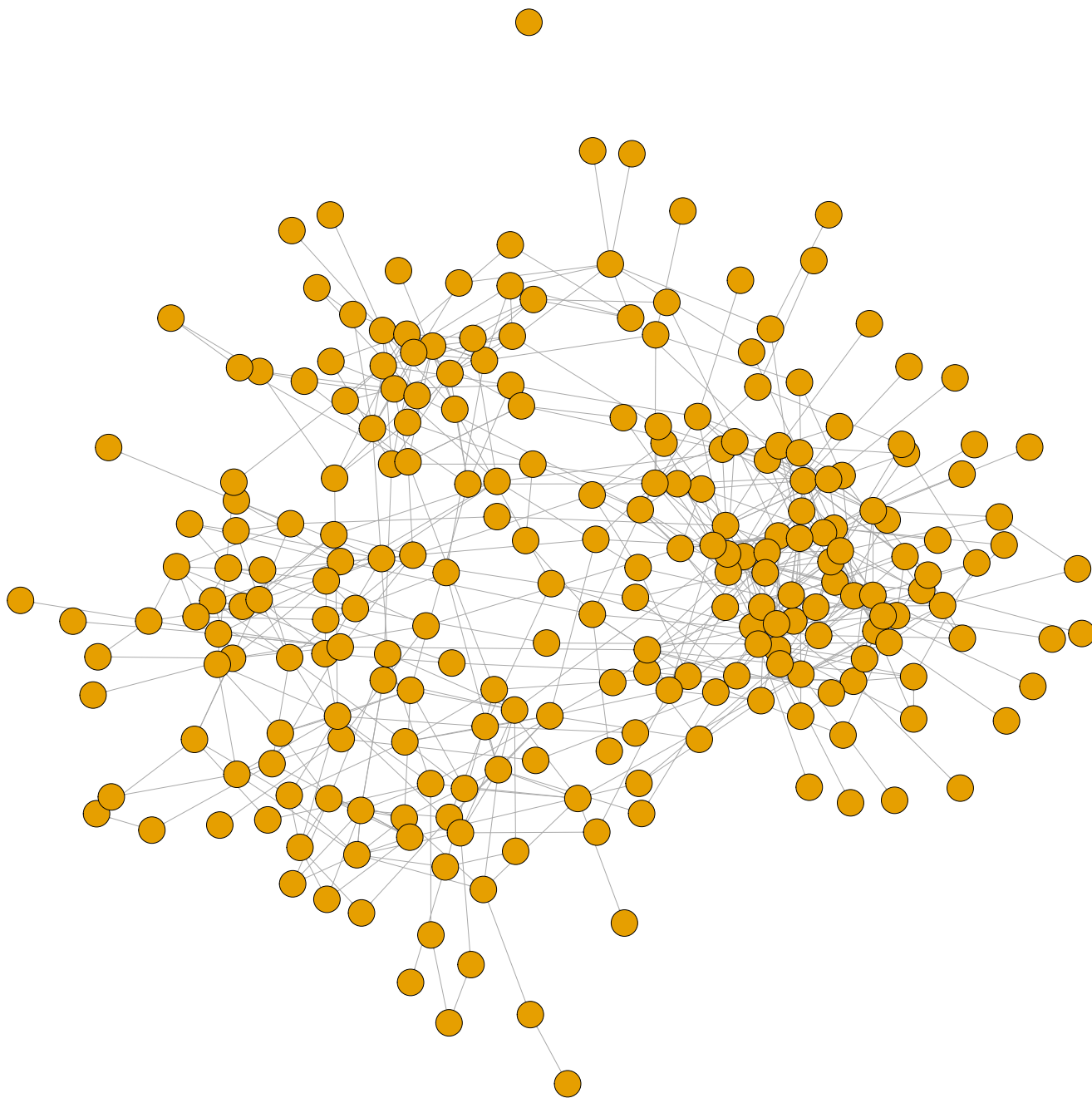
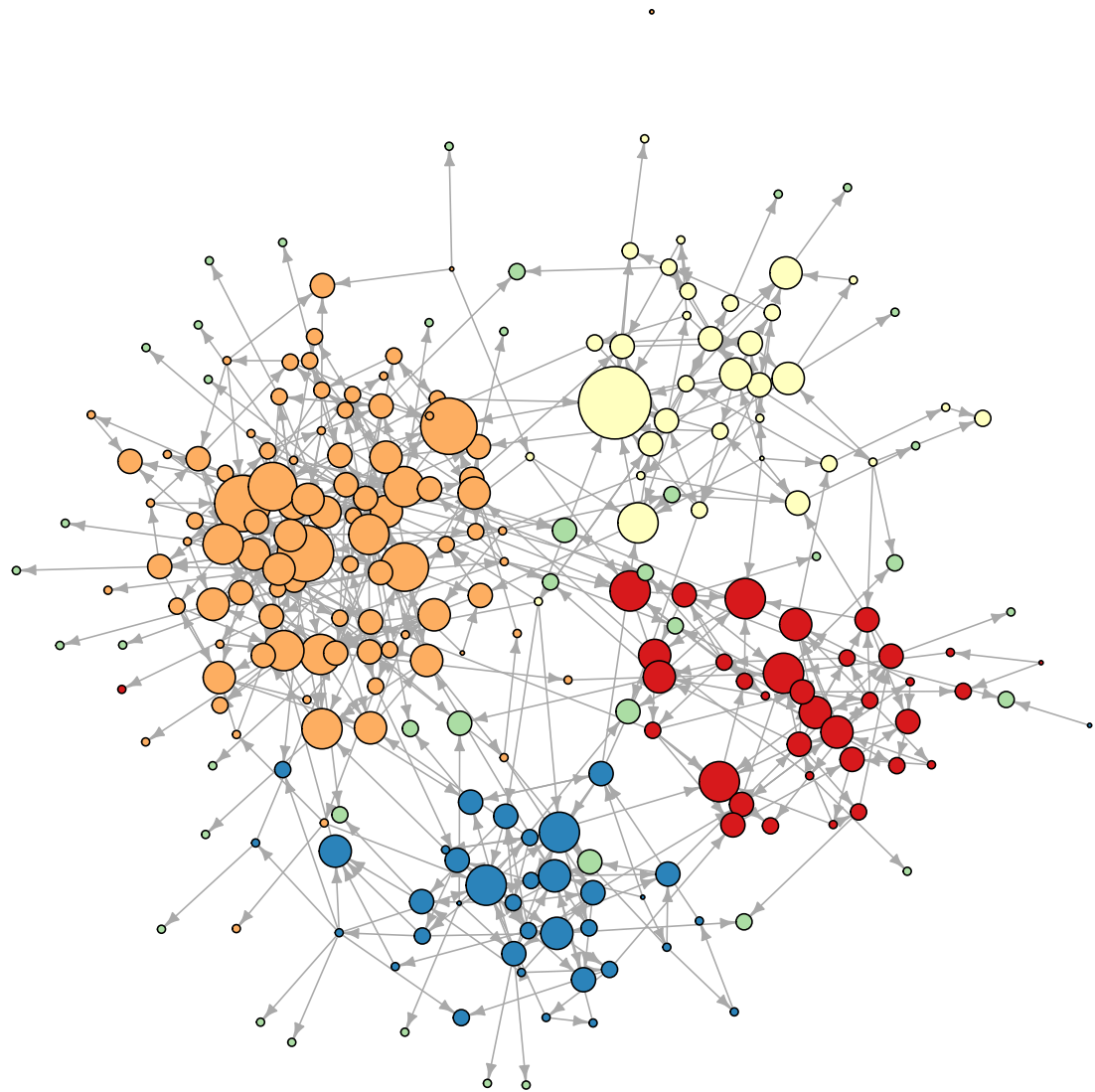Figure 1: Original social network plot with no alterations (Nicely layout)
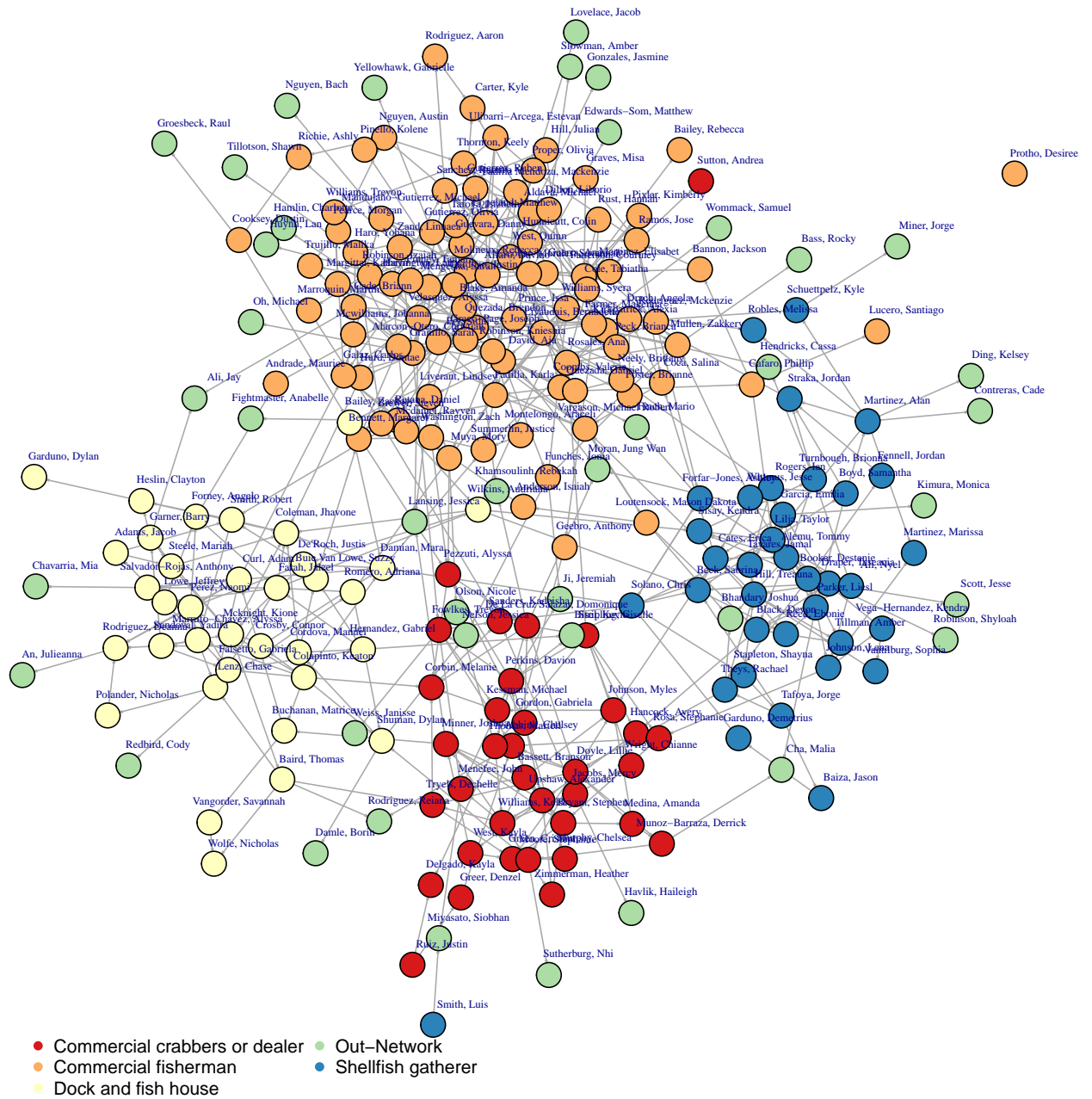
Figure 2: Social network plot with vertex colored based on profession (Nicely layout)

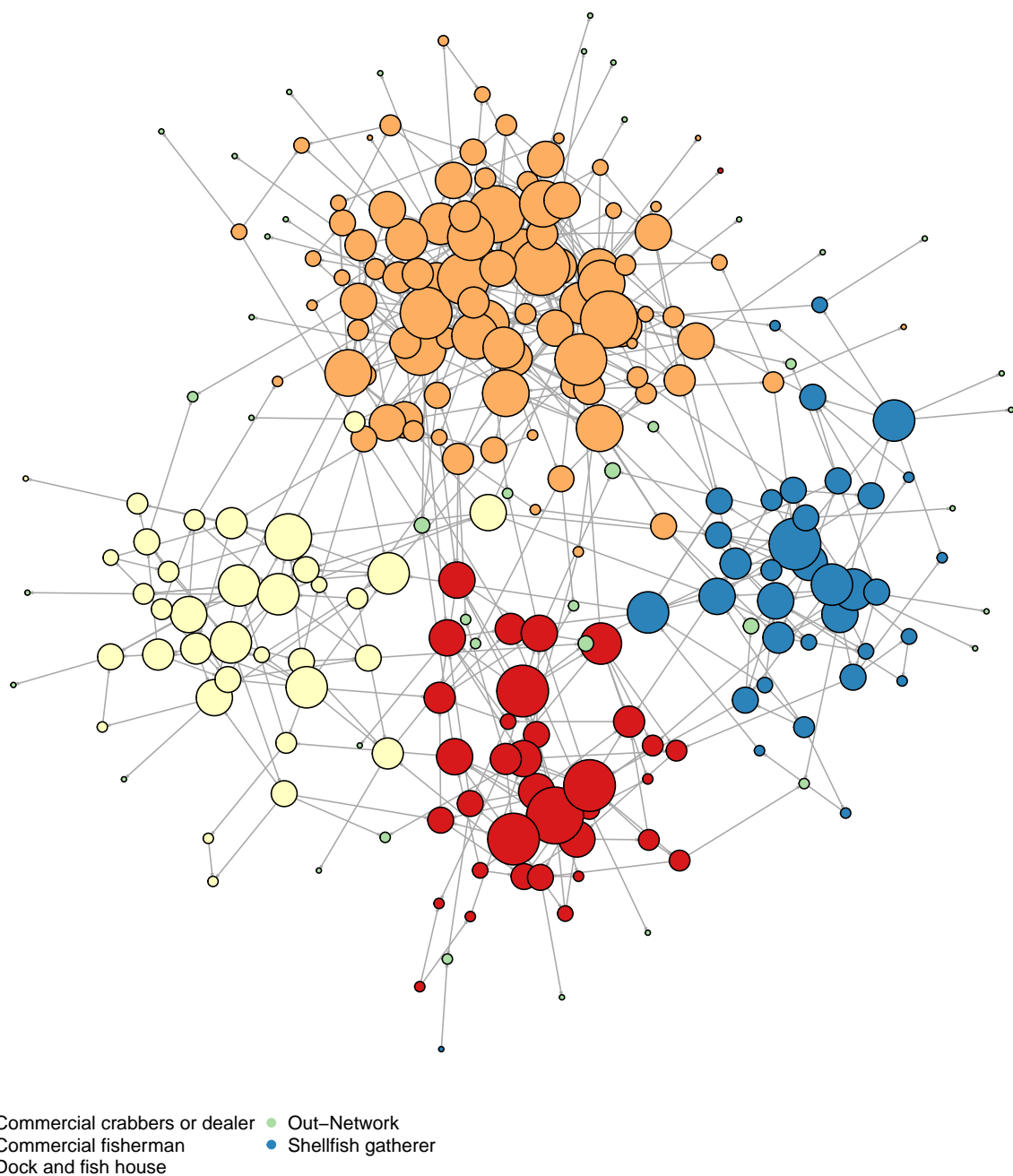Figure 3: Social network plot with vertex colored based on profession and vertices weighed by in-degree

Figure 4: Social network plot with vertex colored based on profession and vertices weighed by total degree
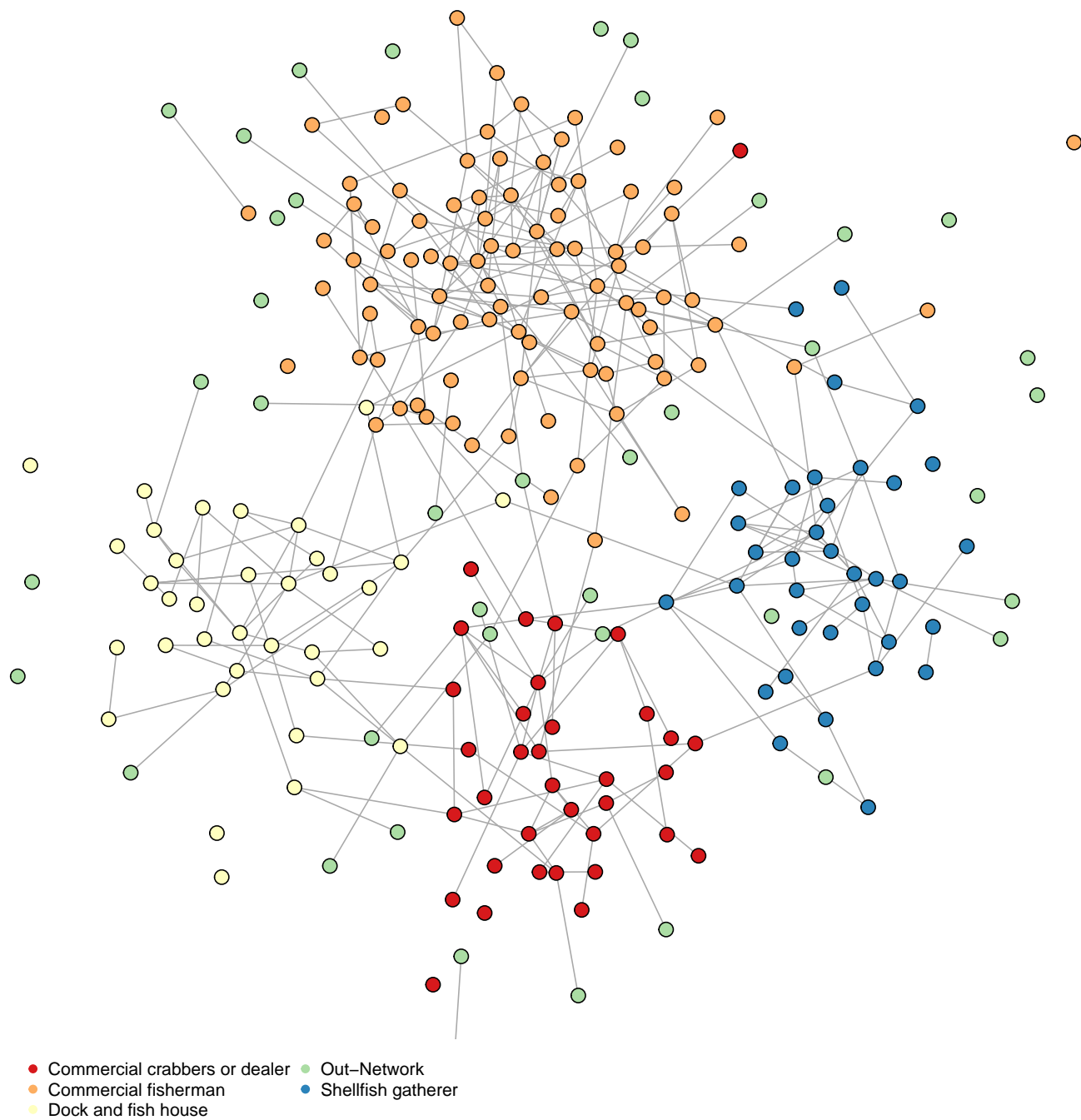
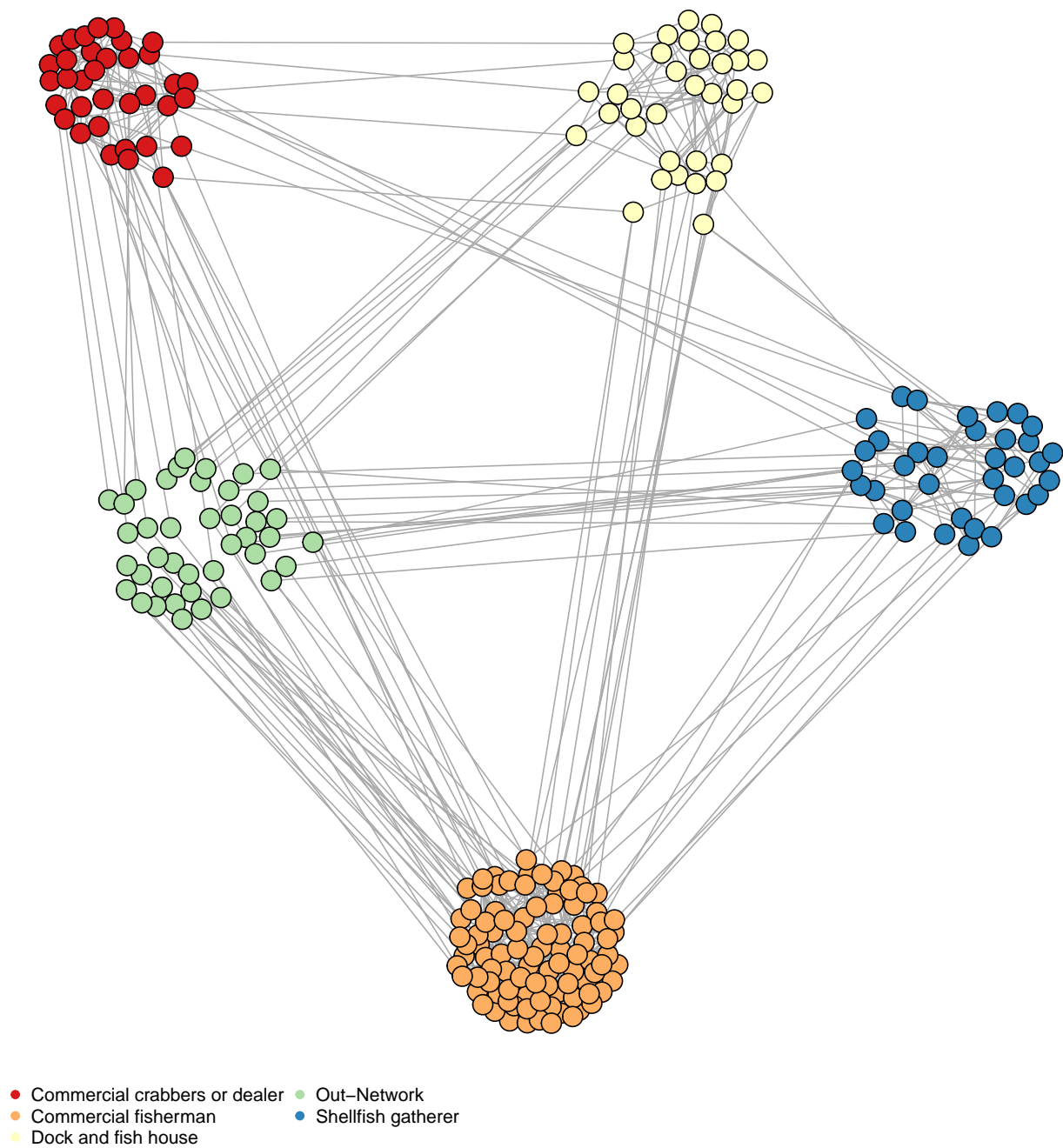Figure 5: Social network plot demonstrating how long vertices have worked with each other

Figure 6: Social network plot with vertices grouped by professions

Legend:
- Commercial crabbers or dealer
- Commercial fisherman
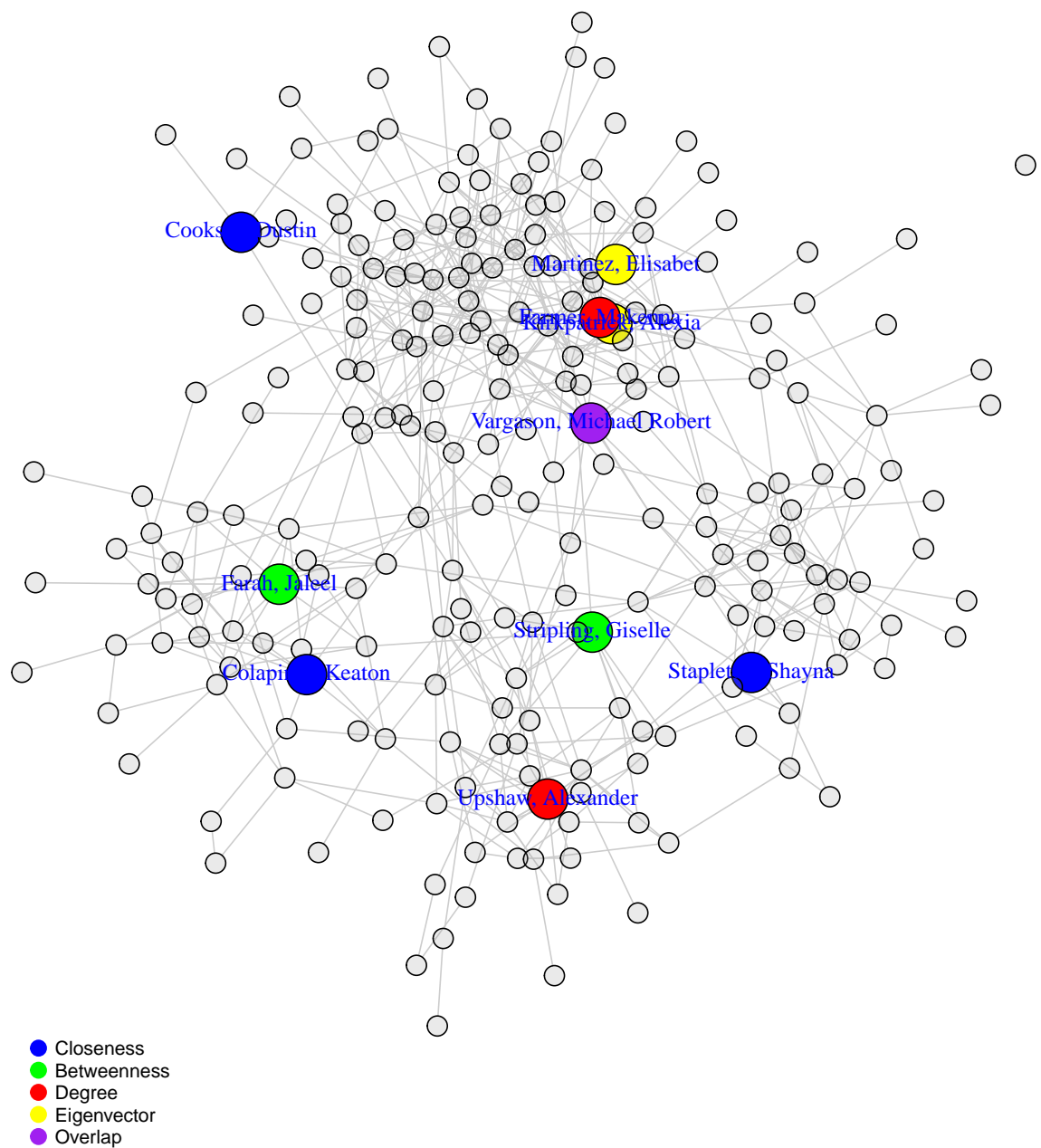- Dock and fish house
- Out-Network
- Shellfish gatherer

Figure 7: Social network plot with keyplayers highlighted based on network statistics