



W 1/3 Past two years  
all over the Europe:  
case studies 1

# Social network analysis and possibilities for transboundary MSP. Case of Adriatic Sea

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# **SOCIAL NETWORK ANALYSIS**

## **AND POSSIBILITIES FOR TRANSBOUNDARY MSP**

### **Case of the Adriatic Sea**



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# 1. Introduction



- **Who are stakeholders?**
- **Why we need stakeholders?**
- **What we get with their involvement?**
- **Stakeholder Analysis**

# 1. Introduction

## Social Network Analysis:

- Identify **central** and/or **peripheral** stakeholders

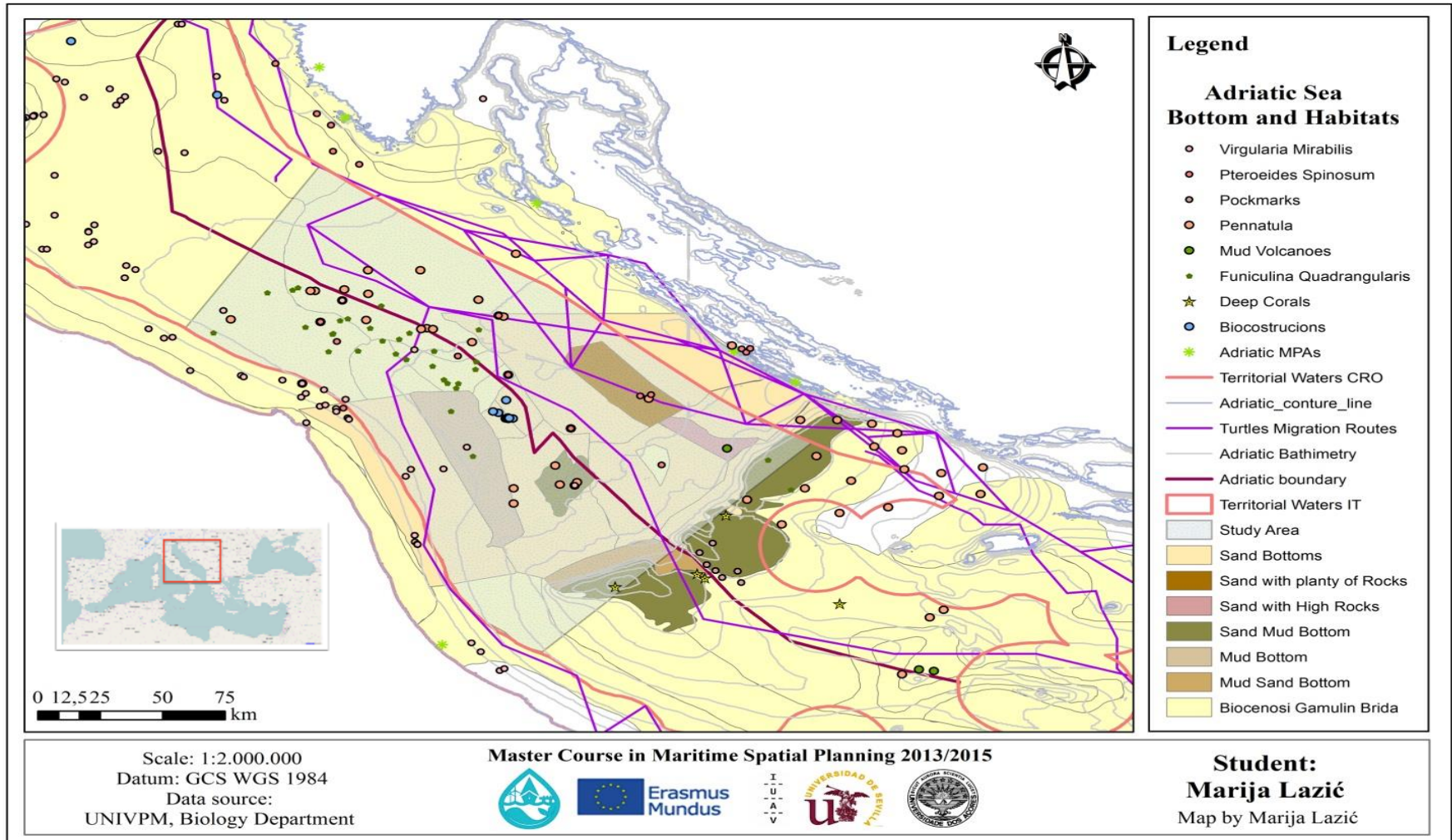
## Maritime Spatial Planning:

- Allocation and management of the human activities
- Clarify institutional roles, their responsibilities and interaction between actors

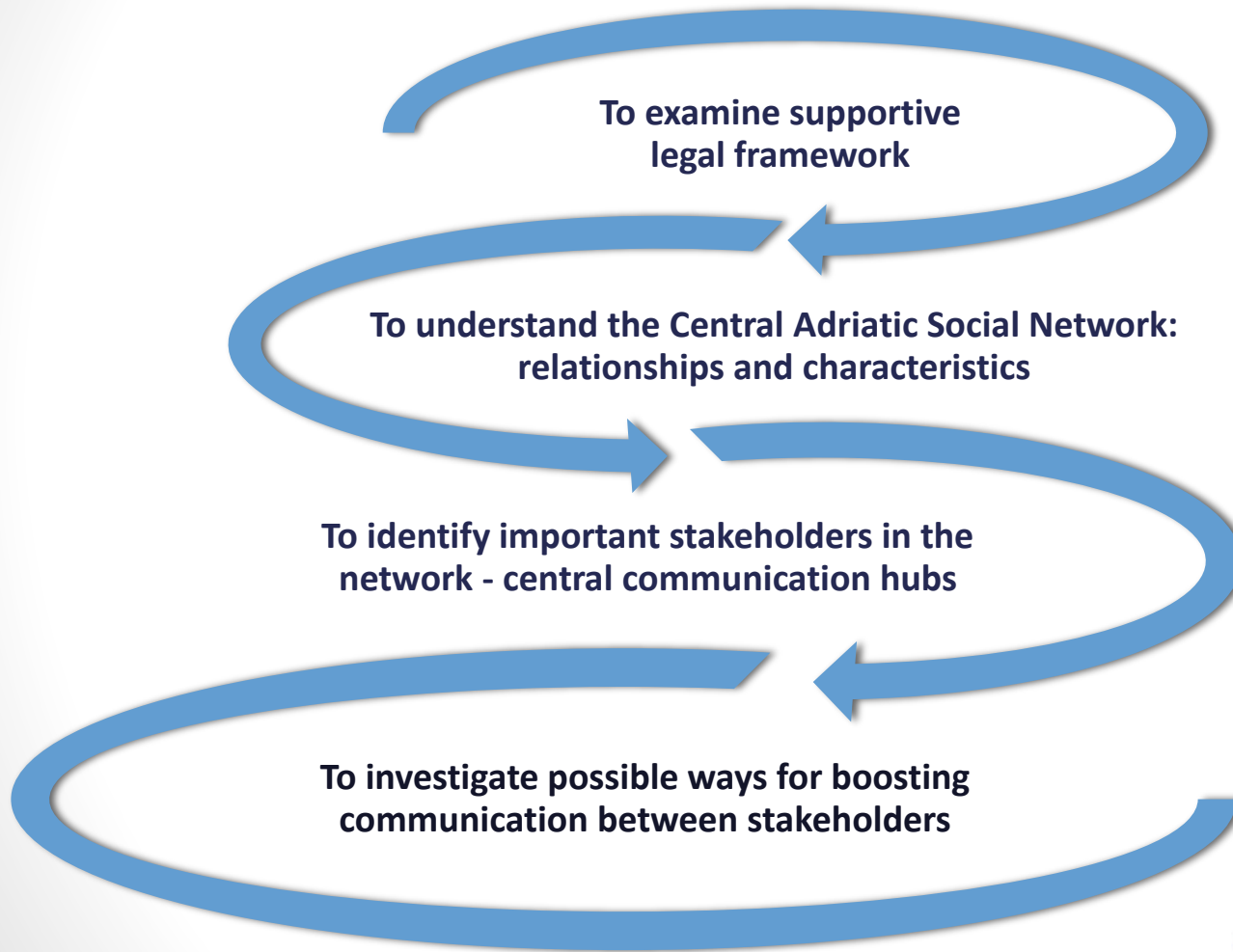


# 1. Introduction – Case study

## *AMER Pilot Project - Central Adriatic*



# 2. Objectives





# 3. Methodology

Step 1

## Policy analysis

(Supportive legislation for FR stakeholders)

Stakeholders were asked about their:

- **Frequency** of communication
- **Level** of communication

er list

Step 2

## Online survey & interviews

snowball  
sampling

## Nominated stakeholders

(3 stakeholders identified)

Step 3

$\Sigma$  of results 1 and 2

## Final stakeholder list

(35 stakeholders identified)

Step 4

## Social Network Analysis

Stakeholder Social Network  
& Identification of central actors

Stakeholder Analysis

# Social Network Analysis

## Degree Centrality

Number of ties that stakeholder have

Degree shows

**WHO HAS Trust, Popularity, Power, Leadership**

(Prell, C. 2012)

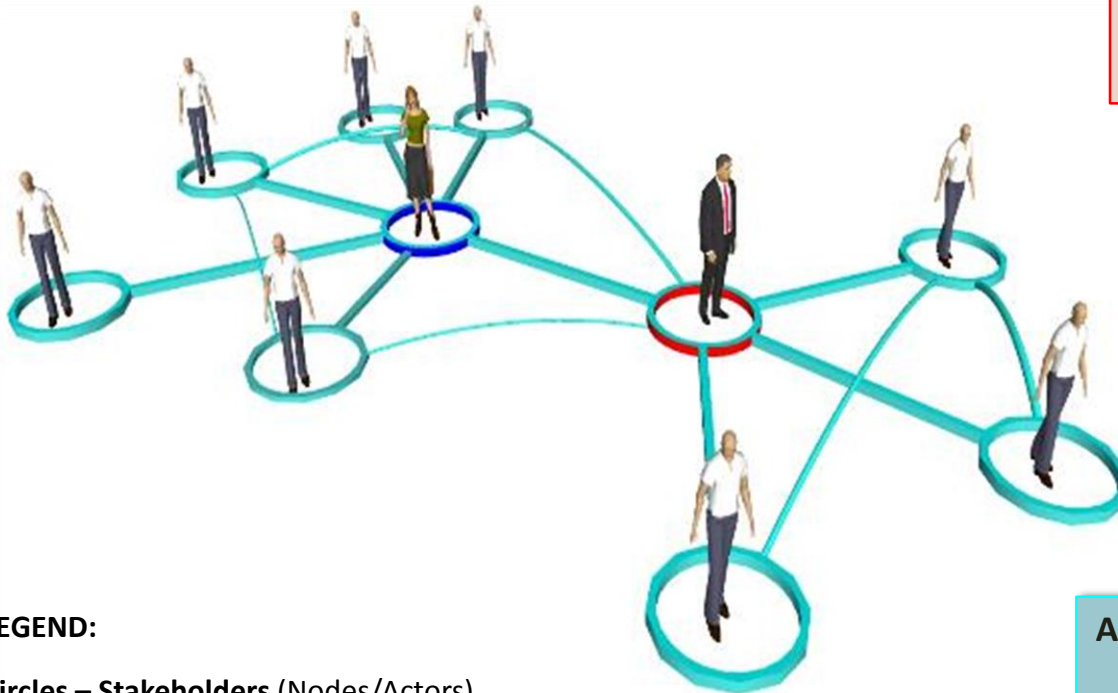
## Betweenness Centrality

How frequently an actor lies along a path between other actors

Betweenness shows

**WHO IS bridge (broker) between isolated parts of the network**

(Prell, C. 2012)



## LEGEND:

**Circles – Stakeholders** (Nodes/Actors)

**Lines (Ties) – Relationships of communication** (links) between stakeholders

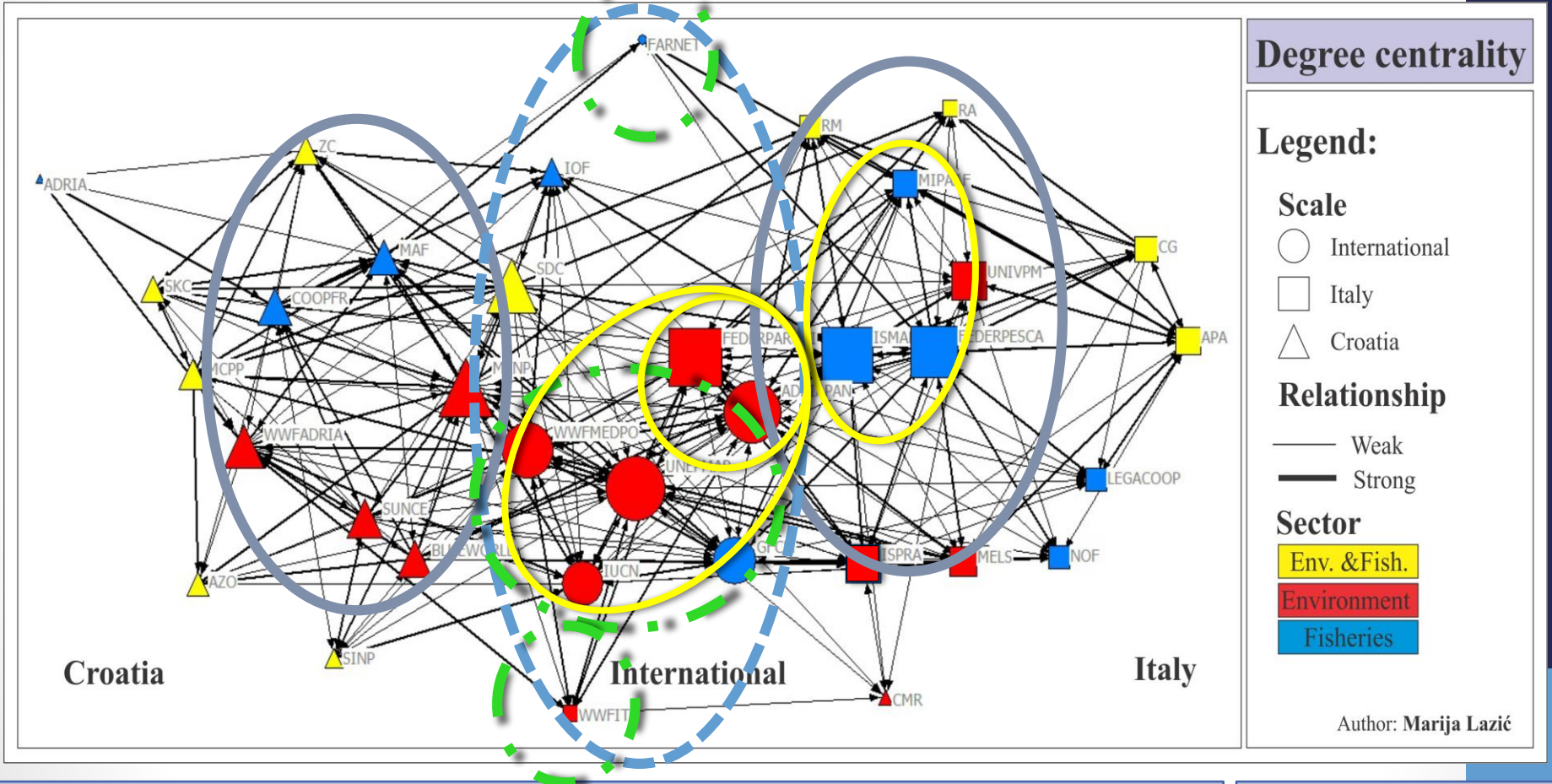
## Analysis

- Social Network Analysis – **UCINET**
- Visualization of the network - **Netdraw**



## 4. Results and Discussion

## Social Network of the Central Adriatic Sea



## Lines – communication

## Shapes - stakeholders

### Thickness of line – frequency of communication

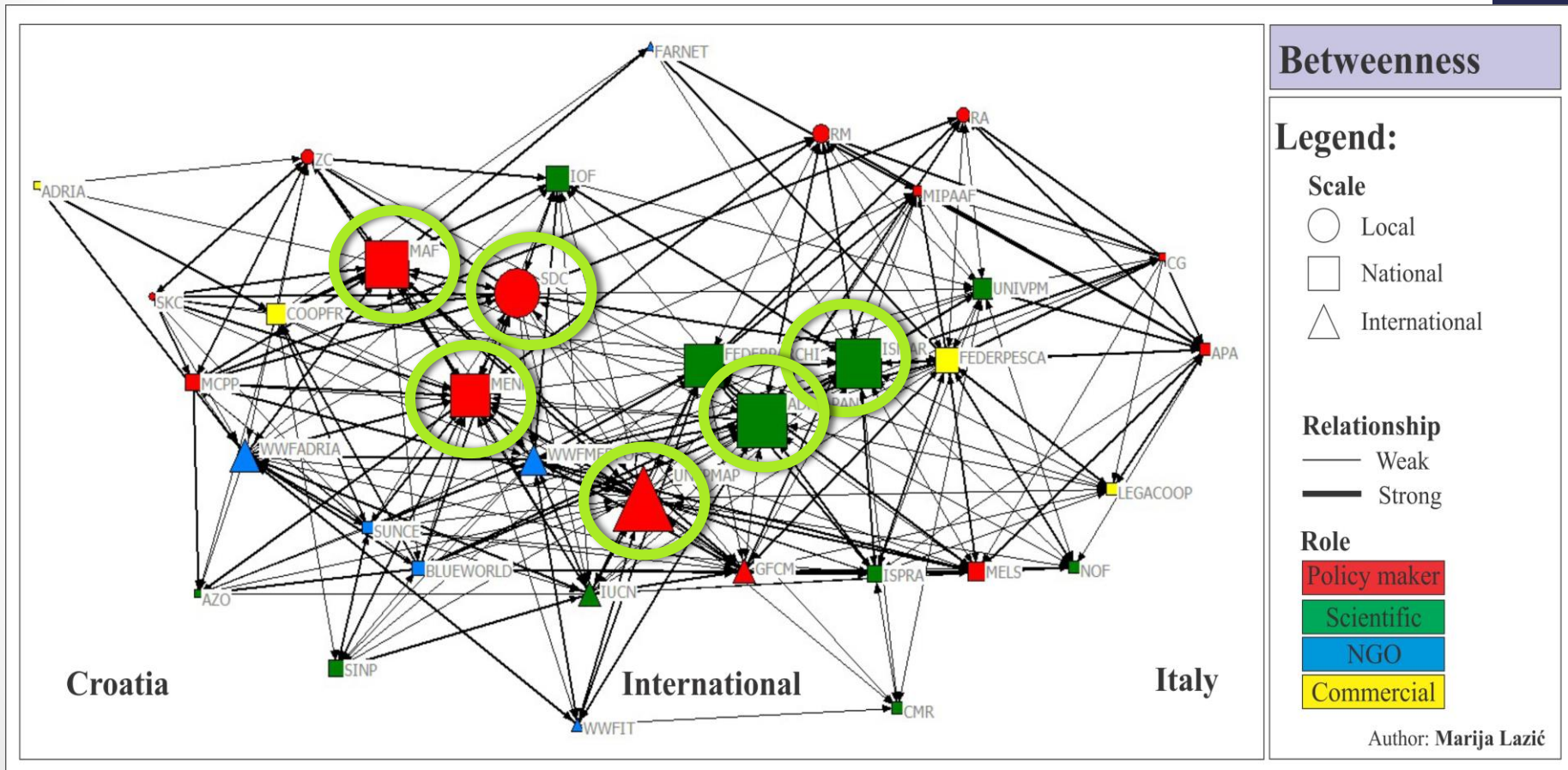
## Size of shape – power, leadership, trust

**Graph Centralization**  
**0.3298**

\* Index range 0 -1

# 4. Results and Discussion

## Social Network of Central Adriatic Sea



Lines – communication

Thickness of line – frequency of communication

Shapes - stakeholders

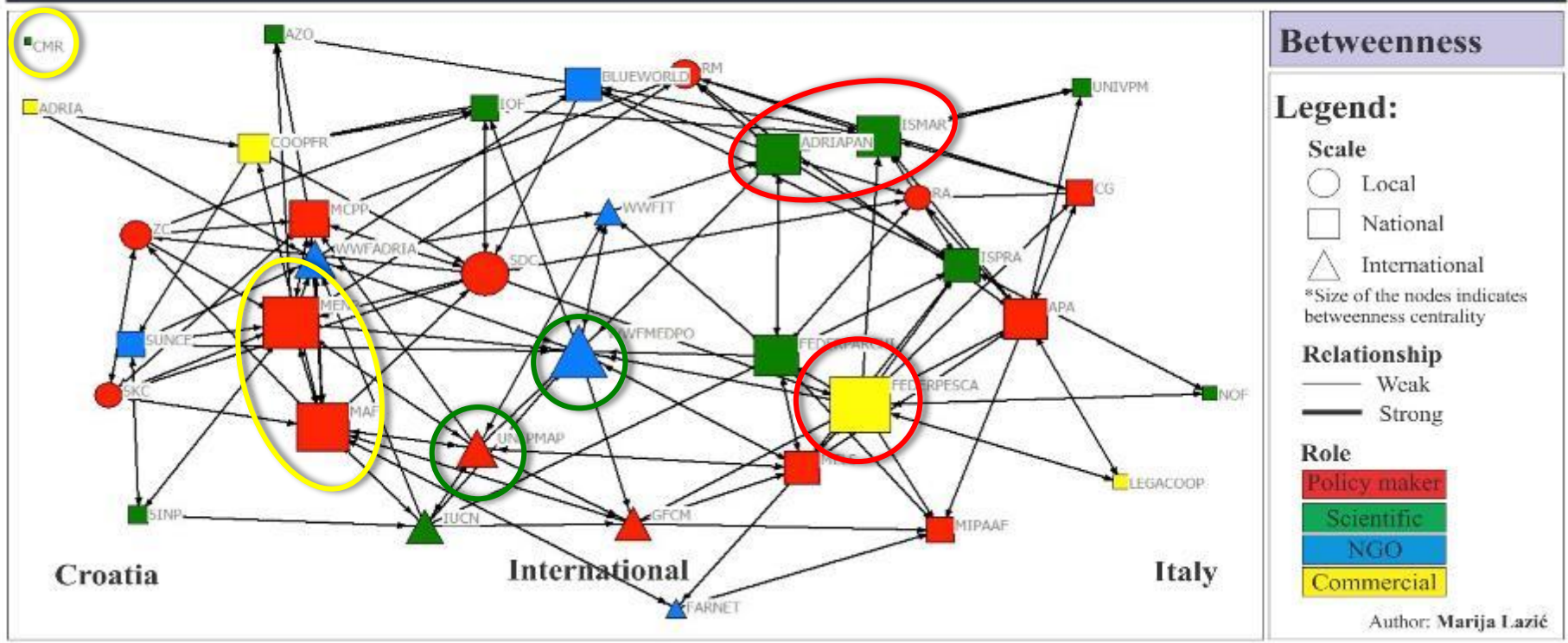
Size of shape – brokers/ bridges

**Network Centralization**  
**Index 6,54%**

# 4. Results and Discussion

## Social Network of Central Adriatic Sea – STRONG TIES

### Social Network of Stakeholders in Central Adriatic Sea for establishment of Fishery Restricted Area



Lines – communication

Thickness of line – frequency of communication

Shapes - stakeholders

Size of shape – brokers/ bridges

**Graph Centralization**

**0.210**

\* Index range 0 -1



# 5. Discussion and Conclusion

## ① Communication at the sub-regional scale (Central Adriatic)

- **Communication** between Italy and Croatia is **LOW**;
- Accomplished mainly through **international organizations** (well linked with both countries).

## ② Communication at the national scale (Italy, Croatia)

- **Italy**: **fisheries associations** (e.g. FEDERPESCA) and **research institutions** (e.g. ISMAR) are central stakeholders with power to influence decisions and bridge the Italian social network;
- **Croatia**: social network towards Ministries (e.g. MENP - Ministry of the Environment, MAF – Ministry of Agriculture and Fisheries) - more **central based governance** system;
- **Importance of embedding ‘weak’ actors in the engagement process**, to augment plurality, collaborative management and equal opportunities on resources for all actors.

## ③ Suggestions for enhancing communication between countries

- **More studies** should be done to identify the boundaries of the Central Adriatic social network;
- Frequent interaction between local stakeholders => **deepen knowledge on stakeholder engagement in the Region**;
- Use advantage of existing **Agreements between countries**;
- **International stakeholders to promote initiatives** for incensement of communication, to empower national stakeholders and bring marginalized stakeholders to the process.

# SNA assistance for the MSP planners

- ✓ Encourage **effectiveness** and **efficiency** of the planning process;
- ✓ Identifies who is important and **how to promote plan** and **improve governance**;
- ✓ Helps to **understand** and **overpass** multi-level and multi-sector **challenges**;
- ✓ **Disseminate** different voices to be heard and included in the planning process;
- ✓ Knowledge on network structure helps planners **to place themselves** within a network and combine with ability to affect problem framing and decision-making.



KEEP UP  
WITH YOUR NETWORK  
AND  
THANK YOU  
FOR  
YOUR  
ATTENTION!



# 6. References

- **Stakeholder analysis & Social Network Analysis**

1. Prell, C., (2011). *Social Network Analysis: History, Theory and Methodology*
2. Bodin, O., Crona, B.I., Ernstson, H., (2006). *Social networks in natural resource management: what is there to learn from a structural perspective?*
3. Markantonatou, V., Meidinger, M., Sano, M., Oikonomou, E., Di Carlo, G., Palma M., Ponti, M., Cerrano, C., (2013). *Stakeholder participation and the use of web technology for MPA management*
4. Prell, C., Hubacek, K., & Reed, M. (2009). *Stakeholder Analysis and Social Network Analysis in Natural Resource Management*
5. Prell, C. (2012). *Social Network Analysis: History, Theory and Methodology*.
6. Prell, C., Hubacek, K., Quinn, C.H., Reed, M.S., (2008). "Who's in the network?" *When stakeholders influence data analysis.*

- **Governance and co-management**

7. Hogg, K., Noguera-Mendez, P., Semitiel-García, M., Gime nez-Casalduero, M., (2013). *Marine protected area governance: prospects for co-management in the Eu- ropean Mediterranean.*

- **Maritime Spatial Planning**

8. Ehler, C., Douver, F. (2009). *Marine Spatial Planning: a step-by-step approach toward ecosystem-based management.* intergovernmental Oceanographic Commission and Man and the Biosphere Programme. Paris: UNESCO.
9. Pomeroy, R., Douver, F. (2008). *The engagement of stakeholders in the marine spatial planning process.*

- **Social Network Analysis Software**

10. Borgatti, S.P., Everett, M.G., Freeman, L.C., 2002. *Ucinet 6 for Windows: software for social network analysis.* Analytic Technologies, Harvard.
11. Borgatti S.P., (2002). *Netdraw Network Visualization/Analytic Technologies*