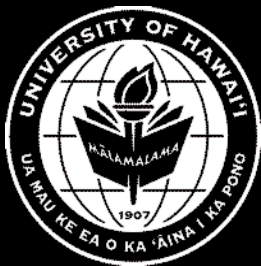
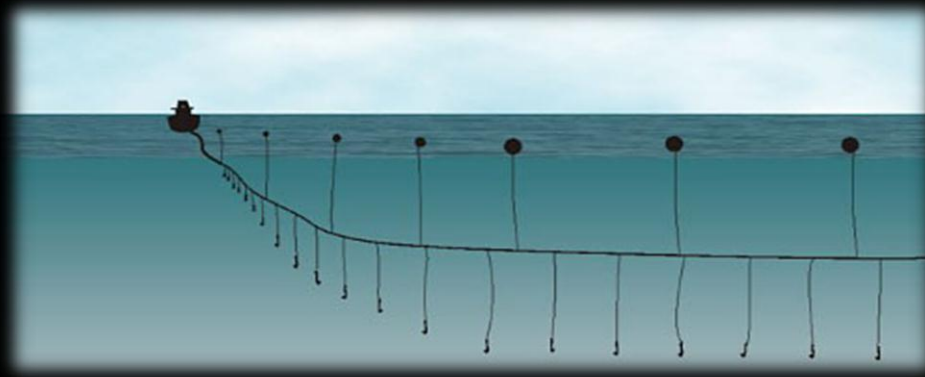


Ethnic diversity, social capital, and the potential for co- management: a case study of Hawaii's longline fishery



Michele Barnes-Mauthe*, Shawn Arita,
Stewart Allen, Steven Gray and PingSun Leung

Introduction

Social Capital

Introduction

Social Capital

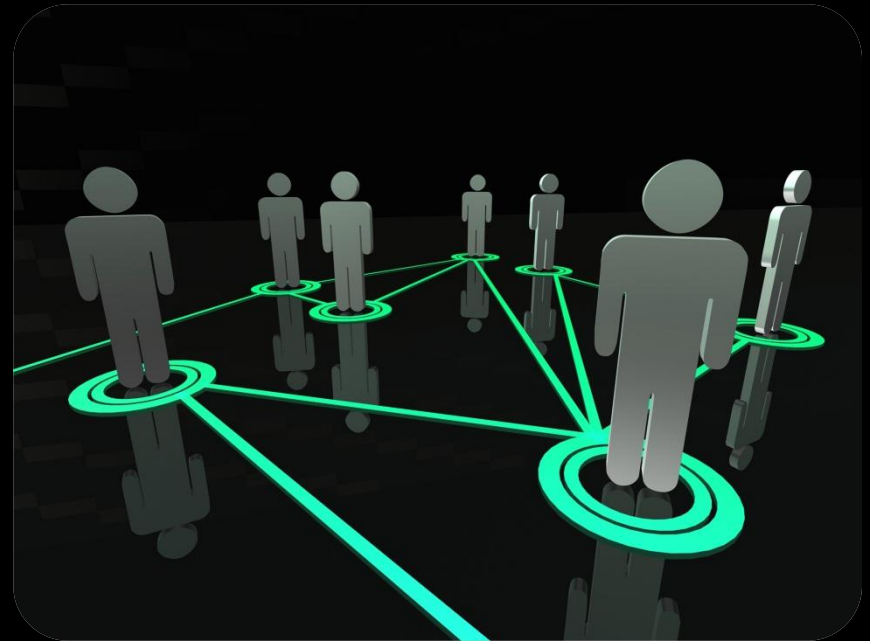
“...connections among individuals – social networks, and the norms of reciprocity and trustworthiness that arise from them.” – (Putnam 2001)

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Social Capital

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Social Networks



(Grafton 2005, Bodin and Prell 2011)

Social Capital

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Bonding

Close reciprocal ties

- trust & reciprocity
- joint-action & cooperation
- norms, rules & sanctions
- conflict resolution & cooperation

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Bridging

Weaker ties; similar actors

- diverse knowledge & resources
- trust across groups
- connect & mobilize stakeholders

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Linking

Ties across disparate groups

- Diffusion of innovation & scientific information

Introduction

How might ethnic diversity among resource users be impacting the level and distribution of social capital?



source: panoramio.com

Introduction

HLF Vessel Ownership:

Korean-American (24)

Euro-American (41)

Vietnamese-American (57)



source: panoramio.com

Introduction

Project Goal → Examine the role of ethnic diversity on the level and distribution of social capital in Hawaii's longline fishery (HLF) by analyzing fisher's social networks

HLF Vessel Ownership:

Korean-American (24)

Euro-American (41)

Vietnamese-American (57)



Methodology

Social Network Analysis



Methodology

Social Network Analysis

- Structured survey to capture relational data



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- **Population:** all active vessel owners and operators



Response Rate: 91.2% (145 of 159 fishers)

Methodology

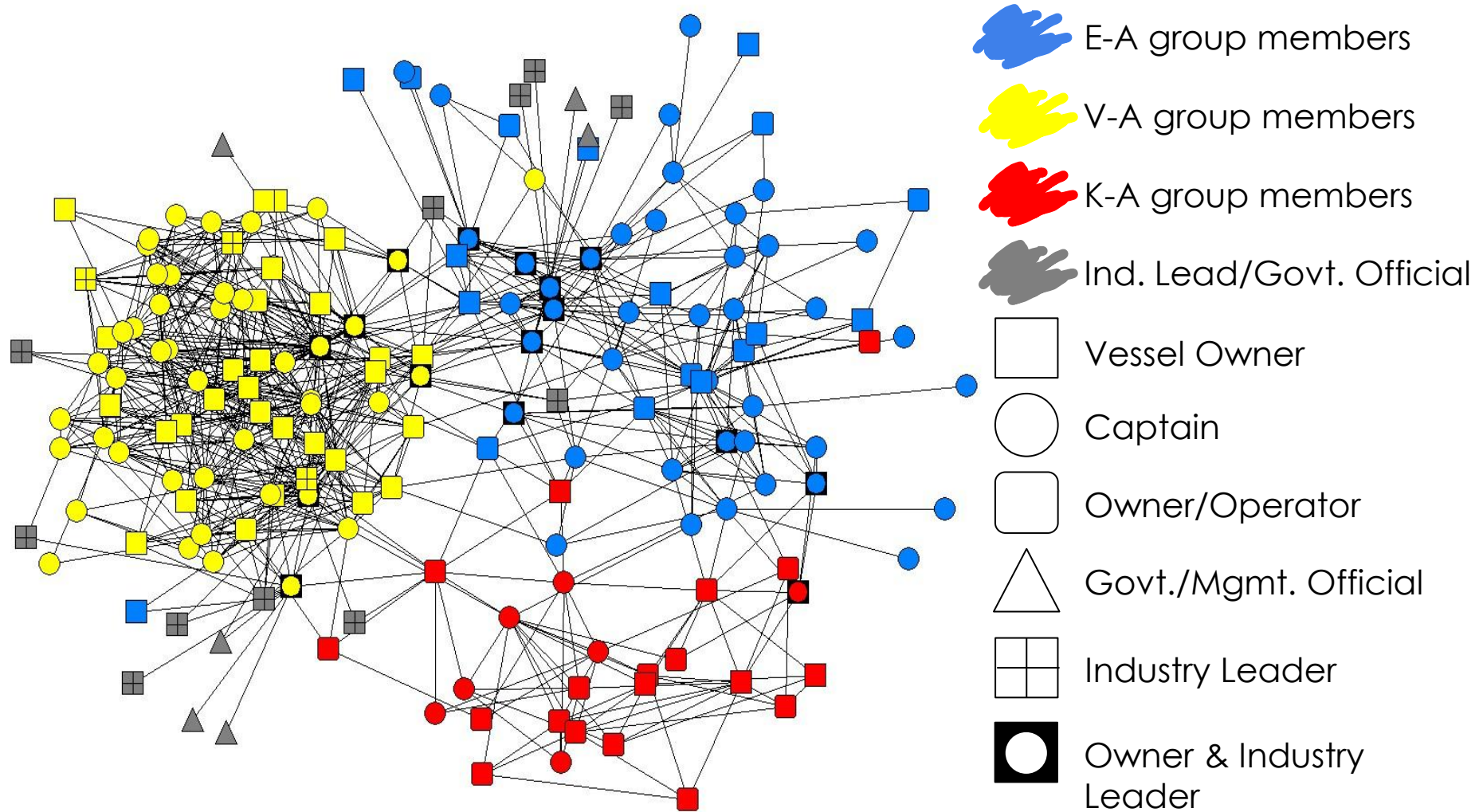
Social Network Analysis

- Structured survey to capture relational data
- **Population:** all active vessel owners and operators
- Analyzed with UCINET and visualized with NetDraw



Response Rate: 91.2% (145 of 159 fishers)

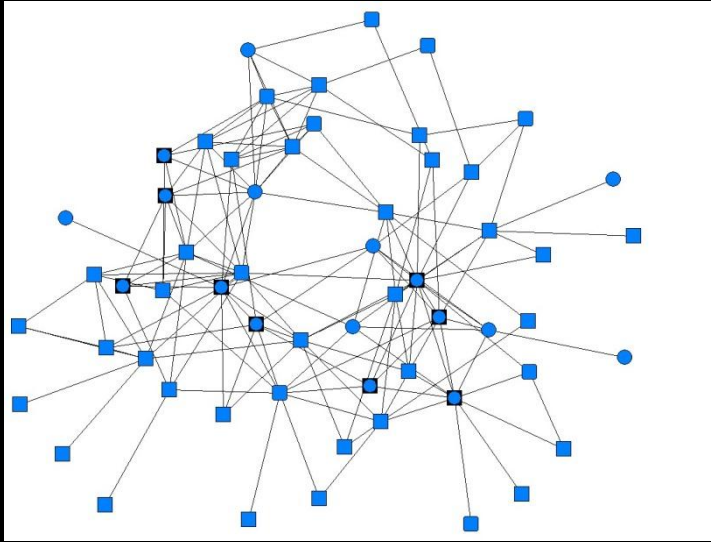
HLF – all fishermen networks



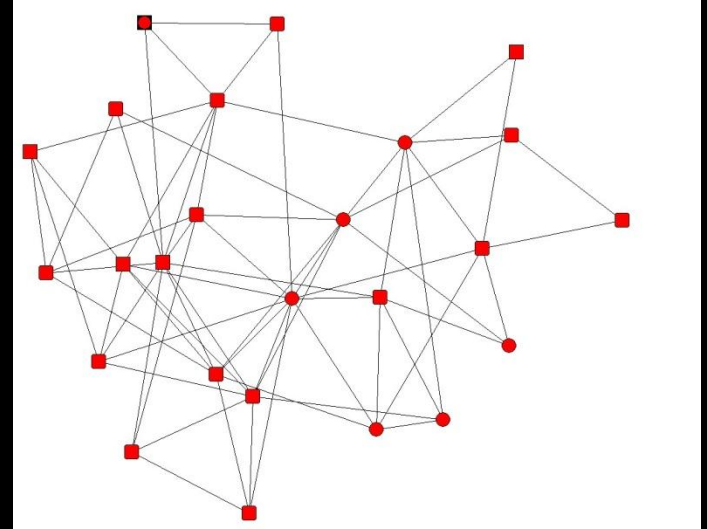
	Entire HLF	E-A	K-A	V-A
Total actors	179	59	25	77
No. of ties	895	189	73	542
Avg. outdegree	5.00	3.26	2.92	7.04
No. of components	1	2	1	1
Indicators of network cohesion				
Largest k-core	8	4	4	8
No. of actors in largest k-core	48	34	16	48
Proportion in 4-core and higher	0.75	0.58	0.64	0.99
Indicators of structural holes				
No. of cut-points	10	7	0	1
No. of blocks	20	11	1	2
Proportion of cut-points to total points	0.06	0.09	0.00	0.01
Estimated network configuration	Coalitional/ Bridging	Bridging	Complete/ Bonding	Complete/ Bonding

Results – network comparisons

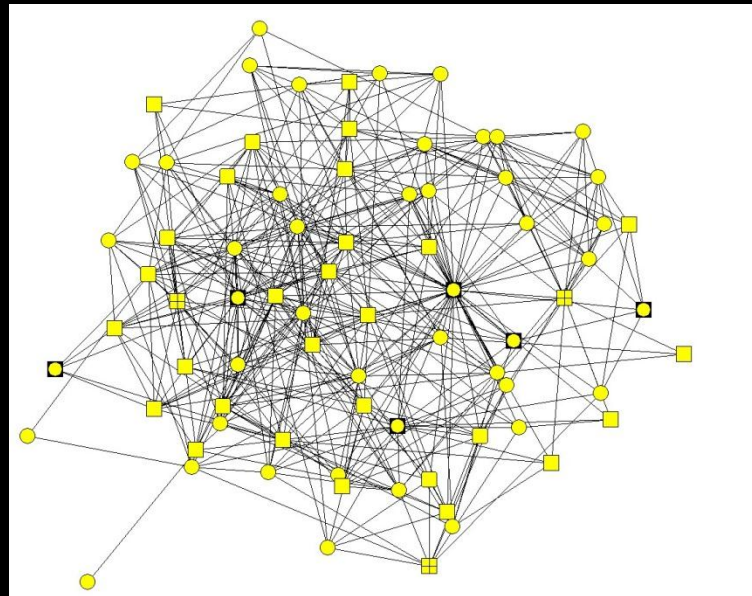
E-A



K-A



V-A



Results – Observed vs. Expected Relations

	E-A	K-A	V-A	Ind. Leaders/Govt. Officials
E-A	1.91	0.37	0.13	0.35
K-A	0.07	4.00	0.11	0.08
V-A	0.09	0.00	3.25	0.98

Within Ethnic Groups = Bonding Social Capital

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Within Ethnic Groups = Bonding Social Capital

Between Ethnic Groups = Bridging Social Capital

Between Fishers & Mgmt/Govt. Officials
= Linking Social Capital

Conclusions

- Ethnic diversity results in a homophily effect – negative impact on collaboration

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Conclusions

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- The K-A group appears fragmented in terms of linking social capital & from the V-A community
- Ties do exist across groups
- Each ethnic group has a diverse network structure – different outcomes related to co-management

Acknowledgements

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- We also thank our translators Sunny Bak and Jennifer Tran for their hard work and dedication in helping to complete the fieldwork for this project
- We are also very grateful to all the HLF fishers for their participation in this study

Questions?

Mahalo

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