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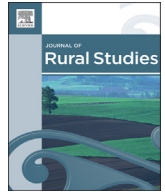
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Vulnerability of fishing communities undergoing gentrification



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ABSTRACT

Maine hosts numerous rural fishing villages that contribute greatly to the State's economy and culture. The cumulative effects of fisheries regulation, stock depletion, amenity migration and rural restructuring have impacted these communities in complex ways. Drawing on ethnographic research, interviews, and secondary data we have identified the patterns of change as symptomatic of gentrification, and we have investigated how these changes are affecting the communities' vulnerability and resilience. Gentrification of coastal property by amenity migrants is responsible for the displacement of community members, including fishermen. The loss-of-access to the waterfront has increased their sensitivity to future threats. Further changes in the demographics and economies of the communities have increased social and cultural conflicts. Nevertheless, this paper also demonstrates that gentrification can increase the resilience of the community. Amenity migrants have the capacity and desire to provide social and philanthropic support, and rural restructuring introduces new economic opportunities and sources of revenue. The underlying consequences of gentrification are difficult to discern from secondary data alone, and we argue that the ethnographic approach is crucial. Through interview responses we have identified an identity crisis in these communities undergoing gentrification, with many of the conflicts over the future importance of fishing to the community.

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1. Introduction

1.1. Vulnerability of fishing communities

In the United States, federal fisheries legislation, known as the Magnuson Stevens Act, requires fisheries managers to consider the socio-economic consequences of regulations on fishing dependent communities, and to minimize those impacts when possible (Clay, 2007). While the mandate is laudable, its implementation has been hampered by the amorphous definition of a fishing community and the cumulative impacts a community faces (Clay, 2007), including gentrification (Gale, 1991; Hall-Arber et al., 2001). In response, workers have turned to the interdisciplinary field of “vulnerability” research to evaluate communities impacted by fishing regulations while those communities undergo social, and ecological changes (Clay and Olson, 2008).

Broadly defined by Kasperson et al. (2001) vulnerability is the

“differential susceptibility to loss from a given insult”. The concept of vulnerability has multiple dimensions, which are often inter-related and inter-dependent, but for simplicity they can be separated into three key components to aid in analysis: the degree of exposure to a threat, sensitivity to that threat, and resilience to perturbations (Tuler et al., 2008). A hazard, or insult, which threatens to harm people or the things they value may originate from the natural environment or from interactions with people, and can also originate outside the community. Exposure refers to the degree that people or a place is likely to experience a threat from a given hazard, and involves an evaluation of the spatial or temporal scale of the hazard, and whether it is a singular, repeating, or chronic perturbation (Turner et al., 2003). Sensitivity refers to the diverse socio-economic and other characteristics of people and places that affect how they will be impacted if exposed to a threat. Finally, resilience refers to the ability of the subject to respond to the hazard. Although, resilience is usually regarded as being opposed to vulnerability, the concept is more concerned with the recovery from the stress and the adaptations made to better handle similar threats in the future (Johnson et al., 2014).

A number of studies have focused on assessing vulnerability or

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resilience in fishing communities (Johnson et al., 2014; Tuler et al., 2008; Marshall and Marshall, 2007; Henry and Johnson, 2015). Among the processes affecting the vulnerability of fishing dependent communities, gentrification has been recognized as a key element with the potential to displace fishermen and hinder access to the waterfront (Gale, 1991; Hall-Arber et al., 2001). Although, its impact on communities remains difficult to evaluate, gentrification has been incorporated into vulnerability assessments as part of efforts to meet federal mandates for social impact assessments (Jacob et al., 2010a, b; Colburn and Jepson, 2012). Hall-Arber et al. (2001) modeled gentrification using a scale that used sixteen principle components. Jacob et al. (2010a, b) assessed gentrification in fishing communities through quantitative social indicators and implied that it increases the sensitivity of communities. Similarly, Colburn and Jepson (2012) identified gentrification in fishing communities by creating indexes derived from U.S. census data, the strength of which signaled whether or not it was occurring.

In the research presented here, we adopted a qualitative, ethnographic research approach to investigate gentrification that emerged from a larger study focused on understanding vulnerability in fishing dependent communities. In that study, qualitative data gathered from the numerous interviews and oral histories facilitated an understanding of resilience that went beyond what could be captured by secondary data analysis (Johnson et al., 2014), and we found the same to be true for gentrification. In particular, our findings rely upon the ethnographic approach's ability to penetrate to the core of an issue. While the focus of the larger project focused on the fishing dependent communities, to understand gentrification, we found it necessary to extend our analysis beyond the fishing industry to the broader community and landscape. This wider perspective was necessary to organize the data on patterns of change into themes and identify how they were or were not related to the process of gentrification. Once the patterns of socioeconomic change and conflict were identified through the research, we then analyzed it using the vulnerability framework and through the lens of gentrification. Our findings indicate that with respect to vulnerability, gentrification is a complex process that can both contribute to and mitigate vulnerability in fishing communities. Before describing our methods and findings, we begin with an examination of gentrification literature, including the closely related subject of amenity migration.

1.2. Gentrification and amenity migration

Gentrification studies in the urban environment typically follow one of two theories that describe the process as either being driven by economic or social forces. The economic geographer, Neil Smith, observed how urban neighborhoods deteriorated over long periods of time due to neglect and disinvestment, and at a certain point attracted new buyers who gentrified the neighborhood. According to Smith's (1979) economic theory, the difference between the low cost of the property and the potential for its 'best use' is responsible for creating a rent gap, spurring capital investment. Neil Smith's rent gap was pivotal in explaining the necessary economic conditions for gentrification to occur, but it could not account for the individual preferences behind why gentrification occurred (Lees et al., 2008). Alternatively, the human geographer David Ley (1980) proposed that broad societal changes and the creation of a new middle class is responsible for gentrification, which results from the desire to consume a lifestyle of cultural amenities and aesthetics provided by the urban environment. As reviewed by Lees et al. (2008), the explanations for gentrification have broadened to include both theories and researchers have adapted the theory to many scenarios and landscapes including "rural gentrification".

The patterns of change resulting from gentrification are

reminiscent of those described in amenity migration literature, and their underlying theories are similar. Thus, we utilize amenity migration literature to guide our investigation of gentrification in an under studied location, coastal fishing communities. Amenity migration and the closely affiliated study of rural restructuring have been extensively researched and cover topics such as motives, social consequences, and economic implications (Gosnell and Abrams, 2011). Although there is no strict consensus, the description of amenity migration involves the movement of people due to the draw of natural or cultural amenities. McCarthy (2008) broadly defines amenity migration as "the purchasing of primary or secondary residences in rural area valued for their aesthetic, recreational, and other consumption-oriented use values". In rural gentrification literature, migration out of cities is explained by several counter-culture motivations and the desire to consume a broad swath of idealized rural life (Lees et al., 2008). The definitions are analogous and amenity migration research will occasionally cite rural gentrification literature when referencing 'pull factors' that motivate migrants (Gosnell and Abrams, 2011). While both rural gentrification and amenity migration literature note the importance of the 'Rural Idyll' in describing the pattern of migration and development, the natural aesthetics are emphasized in Amenity migration literature (McCarthy, 2008; Gosnell and Abrams, 2011). Scholars also recognize that these development patterns are driven by the globalization of the rural landscape, which occurs when urban professionals with capital relocate to high-amenity destinations (McCarthy, 2008; Gosnell and Abrams, 2011; Nelson, 2005; Nelson and Nelson, 2010). Exurban landscapes are created through the same process, but have closer ties to metropolitan labor markets and transportation systems (McCarthy, 2008). In their review, Gosnell and Abrams (2011) note that Amenity Migration research is dispersed throughout a diverse literature and the phenomena has long been recognized. Although a concise and comprehensive theory is elusive, amenity migration literature is useful for describing the social, economic, and political impacts on rural communities (Nelson and Nelson, 2010).

Often coinciding with amenity migration is the rural restructuring of the landscape through which traditional uses of property yield to a growing service sector. Amenity migration and rural restructuring have further implications for the local economy and communities, some of which may be desirable, but are nevertheless disruptive. Typically, migrants are wealthier than local residents who may still derive a livelihood from traditional occupations. This importation of wealth can support local economies through increased demand for services and may lead to job growth (Nelson, 2001). Thus, rural restructuring results in a new type of economy based on retail and services, but these new employment opportunities often pay relatively low wages. While economic wellbeing increases, social wellbeing decreases through greater income inequality (Ohman, 1999). The transition also features an increased cost of living due to amenity migrants purchasing homes and raising property values. Combined with the lack of economic opportunity for locals, this situation leads to the displacement of residents who can no longer afford to live there (Nelson, 2001). Furthermore, studies on amenity migration reveal an increased awareness of class divisions, the disintegration of community identity, a shift from productive to consumptive activities, and an alteration of traditional human–land interactions (Nelson, 2001; Bell, 1992, 2007). The resulting transition can increase conflicts and disrupt the communities in a number of ways (Gosnell and Abrams, 2011; Yung and Belsky, 2007).

2. Methods and study site

2.1. Ethnographic approach

This paper draws on ethnographic research conducted from

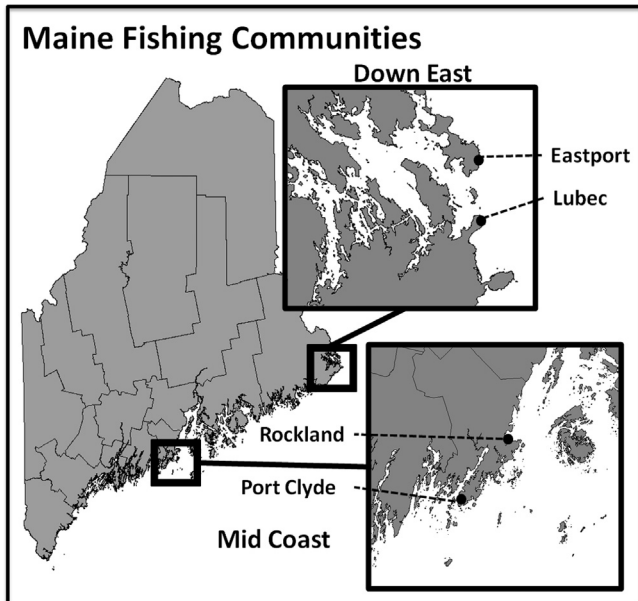


Fig. 1. Location of fishing communities in the study area. Source: K. Tenga-Gonzalez.

September 2010 to December 2011 in four rural fishing dependent communities in Maine, the most rural state in the United States (US Census 2010). Fishing dependent communities are defined as placed based communities substantially dependent on or engaged in fishing and/or processing (Clay and Olson, 2008). The four study sites are representative of the various fishing communities that can be found in Maine. Eastport and Lubec are found on the eastern border of the state adjacent to Canada, while Rockland and Port Clyde are in the Midcoast region (Fig. 1). We conducted 18 semi-structured (Bernard, 2005) and 26 oral history interviews (Ritchie, 2003) with fishermen and other community members. Local Maine Sea Grant Marine Extension associates and other community leaders assisted in the initial selection of key informants, and we identified additional informants through snowball sampling (Bernard, 2005). Interviews ranged from about 0.5 to 2 h in length, and were audio-recorded for preservation, sharing (with permission), and analysis. All oral history interviews were transcribed. For the majority of the other interviews, we took detailed notes following the interview guide. We also transcribed a few key semi-structured interviews verbatim. In order to capture the perspective of amenity migrants and non-fishing residents additional information on the communities was gathered through numerous site visits, 37 household surveys, and 39 business interviews. Informants for the household survey and business interviews were selected haphazardly from respective lists of representative neighborhood streets and from representative business categories (e.g. retail, lodging, etc.). We used QSR International's NVivo 9 qualitative data analysis software to code and analyze all data collected in this project. Following a modified grounded theory approach (Strauss and Corbin, 1990), data analysis occurred through the coding and re-coding of the data, followed by additional research necessary to better understand the themes that emerged in the analysis. Identified themes are further supported through supplementary analysis of available information including state and federal fisheries data, U.S. census data, government reports, and news articles. Finally, two focus groups were held in Eastport and one in Lubec, with a total of 13 fishermen and community members participating; these and follow up conversations with key informants served to further ground truth the findings.

2.2. Profile of the study communities

The study communities have experienced a transition away from production in the past century with much of the manufacturing industry and natural resource based economy declining in Maine (Colgan, 2006). Manufacturing employment has dropped from 37% of occupations in 1960 to 9.3% in 2013, and major industries such as pulp and paper, shipbuilding, and lumber are no longer as prominent (U.S. Census Bureau 2013; Colgan, 2006; Brookings Institute, 2006; Hall-Arber et al., 2001). The most prominent of these industries to have left coastal Maine are sardine canning and fish processing. The communities retained a diverse fisheries-based economy after these industries disappeared, but many of them targeted resources that have undergone patterns of boom and bust, with landings rapidly increasing and then collapsing (Fig. 2). Diverging from the overall pattern, lobster landings continue to increase and the fishery has emerged as the most dominant, comprising 78% of all State landings revenue in 2014 (Maine DMR, 2015). The dependence of the fishing industry on this single species has increased vulnerability and reduced resilience in these communities (Steneck et al., 2011; Henry and Johnson, 2015).

Demographic change accompanied fisheries declines (Fig. 3). Populations fell from 5311 (1900) to 1331 (2010) in Eastport and from 3363 (1910) to 1359 (2010) in Lubec (US Census Bureau, 2010). Rockland, which is the most populous study community, has also experienced steady population loss, but the difference from its peak in the 1950s is not as pronounced. The community of Port Clyde is a village within the St. George municipality, which had a population of 307 in 2010 (US Census Bureau, 2010). Although St. George has experienced a population increase, this statistic may not be representative of our study site. The average age of residents in our study communities is greater than the average age in Maine, which is greater than the nation's (Table 1). In 2010, there were fewer people less than 25 years of age and more people aged 65 and older in our study communities compared to the state and the nation (Table 1). Our study communities are also characterized by a greater percentage of households receiving income from social security or retirement sources, as well as food stamps (Table 1).

Across all the study communities the housing stock has changed dramatically, with far fewer houses being available for under \$100,000 in 2010 than in 2000 (Fig. 3). St. George has the least affordable housing and the greatest amount of housing stock dedicated to seasonal use. Rockland features the fewest number of seasonal households and, similar to St. George, these rates have risen marginally over the past 10 years. Eastport and Lubec on the other hand have experienced a significant increase. Maine has held

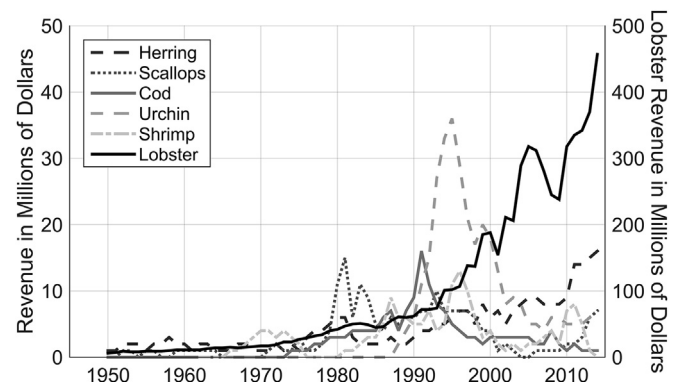


Fig. 2. Commercial Fisheries' Landings Revenue (Maine DMR, 2015). Right axis is for lobster industry revenue, left axis is for all other fisheries.

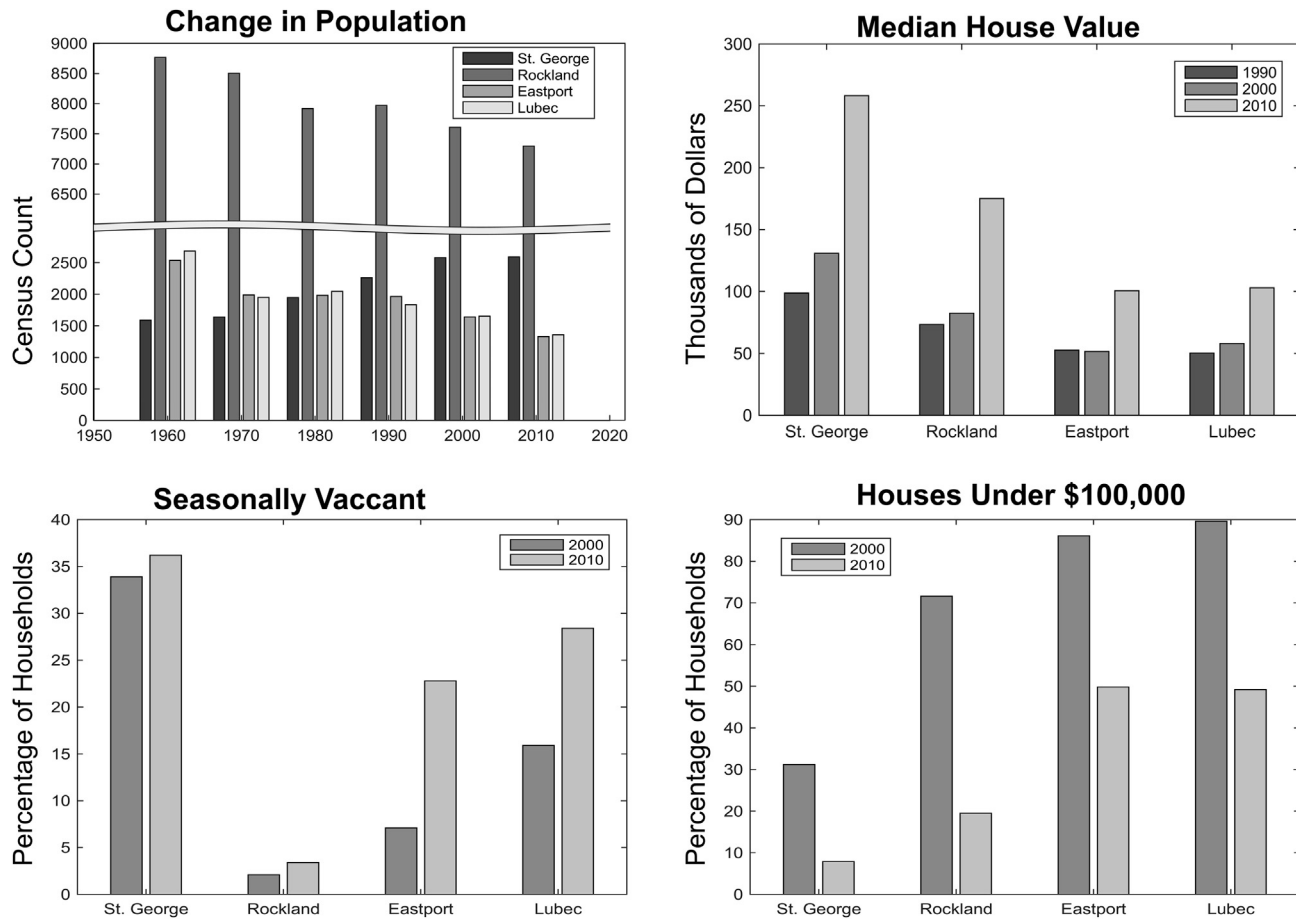


Fig. 3. Population and selected housing statistics. Data source: US Census Bureau, 2010.

Table 1

Age structure and income data for the study communities and Maine, and the United States.

	Port Clyde	Rockland	Eastport	Lubec	Maine	United States
Median age	51.5	43.5	54.5	54	42	37.2
% 65 years & older	34.2	19.6	26.7	25.9	15.9	13
% Under 25 years old	21.8	27	19.5	19.5	29.3	33.9
% Earnings from social security	50	37.6	49.4	50.9	31.6	27.5
% Earnings from retirement	25.3	18.7	27.3	19.7	18.8	17.5
% Earnings from SNAP (food stamps)	6.1	26.4	10.5	23.6	13.6	9.3

Source: US Census Bureau.

the position of state with highest percentage of seasonal housing in the US for 6 of the past 8 censuses. During the first housing census in 1940 Maine had a seasonal rate of 10.1%, compared to the 2% nationwide. Since then the national rates have increased slightly, matching an all-time high of 3.5% in 2010. The overall highest percentage of seasonal housing seen in Maine was in 1970, at 19.2%. The categorization of seasonal housing has varied over the decades and the numbers here reflect the most inclusive grouping (US Census Bureau 2010).

3. Gentrification themes and the vulnerability framework

Here we report on the themes that emerged from our analysis of the qualitative data. We first confirm gentrification is occurring in our communities and then assess how it has affected vulnerability. Our analysis reveals that gentrification can increase exposure (or sensitivity) and resilience (or adaptive capacity), and that there are

a variety of complex factors influencing gentrification in these communities.

3.1. Communities undergoing transition

Despite the differences amongst the study communities, all experienced outmigration with amenity migrants replacing the local population. Respondents often discussed population change, mentioning how they no longer recognized other community members, while referring to incomers as “people from away.” The changing makeup of the community was frequently cited among fishermen and lifelong residents, particularly in the Down East communities. As one Lubec fisherman said when asked about changes in his community, “People from away – more and more people from away are moving in here now ... When I grew up here, we knew everybody.” The fishermen above implies that these new people are in some ways different or not as integrated into the

community as those that have lived there longer. Some of the respondents expressed dismay that the character of their community was changing. A Lubec fisherman captured this sentiment: “I look now where I grew up and I don’t know the people that live in those houses where my grandparents lived, where I lived. It’s terrible, sad to see your town being sold off and people out of work.” Following the pattern of amenity migration (Hines, 2010; Gosnell and Abrams, 2011), most of the population change is attributed to people choosing the area for its amenities and purchasing property. In addition, many people from away are described as summer people who occupy their homes for a few months of the year.

Interviewees revealed that people from away who were buying homes were frequently older and retired or close to retirement. The topic of becoming a retirement community was linked to comments about the lack of youth due to significant outmigration of young adults. Many respondents were concerned by this trend, with one Eastport amenity migrant expressing, “I’m afraid it’s going to become a retirement community, where the schools have all but collapsed.” Especially Down East, people would like to see these communities grow, but the only demographic that is increasing is the retirees. The amenity migration of retirees has been commonly documented elsewhere and is likely to increase with more baby-boomers reaching retirement age (Yagley et al., 2005). A realtor interviewed summarizes this population shift:

People that are coming here are semi-retirees. They’re coming here and buying homes because they are inexpensive ... [They are] buying their homes with equity loans from their homes that they live in all the time [and] when they decide to retire, they’ll sell that home, [and] they’ll have their home paid off here.

The qualitative data gathered during our research often reflected the secondary data gathered from the US Census and other sources (Table 1, Fig. 3). However, the respondents’ descriptions have the added value of providing context to these patterns of change. One of the goals of this research was to affirm whether these “people from away” fit the definition of amenity migrants or gentrifiers. We found that both labels apply. Referring to people from away as relatively wealthy often coincided with referring to local property values as being relatively affordable. It was acknowledged that compared to elsewhere the price of coastal property in Maine was inexpensive, which is also reflected in census data (Fig. 3). Affordability combined with the greater incomes of people from away was viewed as a reason for them to be attracted to the area and buy property. In addition, local respondents were aware of the quality of place that their communities had to offer, simultaneously valuing these amenities and recognizing them as attractors of tourists and people from away.

Along with the noticeable influx of amenity migrants is the observed restructuring of the local economies. A common pattern expressed in these fishing communities was the long decline of industry, the subsequent loss of access to the fisheries, and shift towards a tourism and service-based economy. When discussing the loss of fishing jobs and industry, respondents indicated a shift in the economy by citing the influx of people from away and tourism. As one respondent put it, “I’ve seen Port Clyde change a lot. It was all fishermen when I was a young fella. Very little tourism.” Often respondents were specific with their description of the change experienced and would recount the loss of resource-extraction businesses and the subsequent establishment of a service-sector related company. These anecdotes often focused on the downtown or waterfront, and did not distinguish whether this new economy was based on tourism or the service sector generally. Across the four study communities there were noticeable differences in the descriptions of the transition occurring, which reflects

their unique attributes and histories. Nevertheless, we found that each community is experiencing major changes related to gentrification, and we now turn to show how gentrification influences their vulnerability.

3.2. Gentrification as increasing exposure and sensitivity

3.2.1. Conflict and identity

The rural restructuring literature demonstrates that the influx of amenity migrants and concurrent economic transition is correlated with conflict over socio-economic inequality (Nelson, 2001; Bell, 1992). The study communities here follow this pattern with many respondents remarking on the wealth of amenity migrants. The division of wealth in these communities can be a source of resentment, as observed by one Eastport resident: “I think there is a pettiness and jealousy thing that goes on in the community, for people who haven’t got the resources that the people who come in with have ... and I think there is a little resentment there.” Some respondents view the transition in these communities as a travesty, and the animosity they feel is often directed at “people from away.” For those who focus on the negative aspects of the transition, people from away are believed to be taking over the town. The quote below by a prominent community member in Lubec summarizes the cultural conflict that is occurring:

It’s challenging ... I think Lubec and many places on the coast of Maine are at the tipping point where now in the town meetings half or more than half the votes could come from people who were born away and moved here, so their opinions are very different from the people who were born here and their education is different and their vision for the future of Lubec is different.

Some residents welcome the amenity migrants and see them as the future of the community. Many respondents believe that tourism and the service sector are becoming more important to the economy and that the heyday of the fishing industry is gone. Yet there remains a strong belief among fishermen in the cyclical nature of fishing or the hope or expectation that once the stocks rebound the industry will return and the town will prosper.

The conflicting views over the future of the community and the apprehension among respondents to amenity migrants indicate an emerging identity crisis in these communities. When asked to characterizing the changes to the community of Lubec one respondent had this to say: “Desperation, people are – we’ve lost our identity. We were the sardine capital of the world. What are we the capital of now?” This crisis of identity was found across the communities to various degrees. The issue often came up when interviewees were asked whether they thought their town was a fishing community. People responded in surprising ways. Among lifelong residents and fishermen the response usually included a reference to the past character of the community saying: “not like it was,” and they would then describe the decline of the industry. Nevertheless, many still believed they were a part of a fishing community. Respondents, including amenity migrants, argued that it was a fishing community for a variety of reasons not related to the current dependence. Although many residents point to the visibility and level of fishing activity in the community, more prominent reasons for considering the place a fishing community include the fishing history and culture.

A frequent complaint by residents who feel marginalized by the influx of amenity migrants is that they are changing the town into the place they came from. This is expected; during rural restructuring there is greater demand for services otherwise not provided and supply often increases to match it (Robbins et al., 2009). Apart

from the market forces at work, respondents are also referring to the political power and civil engagement of amenity migrants. It has been observed elsewhere that gentrifiers are readily able to acquire social capital and use it to reach their own goals (Butler and Robson, 2001; Hines, 2010). In the case of rural Washington state, second home owners support the use of regulations to protect their image of the 'rural idyll' (Kondo et al., 2012). Arguably, amenity migrants create social capital, defined broadly as "the sum of actual and potential resources that can be mobilized through membership in social networks of actors and organizations" (Butler and Robson, 2001, 2146). As described by Portes (1998); social capital, in the form he refers to as "bounded solidarity," allows individuals to find common identification with each other's background and preferred aesthetics for the community. This solidarity provides their motivation for organization as demonstrated in the Down East communities of Lubec and Eastport during a recent conflict over a proposed Liquid Natural Gas facility. The proposal for the facility has been repeatedly defeated partly due to the efforts of community members who value the region for its amenities. The debate pitted environmentalist and those who valued the natural aesthetics against the desire for economic development and new employment opportunities. These conflicts represent an increase in vulnerability, resulting from gentrification exposing the community to new members who seek to impose social control on the community. Furthermore, these divergent viewpoints and reduced social cohesion indicate an increase in the communities' sensitivity to future threats. However, the social capital of gentrifiers can also be applied to causes supporting the fishing community, as discussed later.

3.2.2. Rising property costs and closing schools

The conflict over identity extends beyond fishing; the lack of youth and loss of schools has led respondents to question whether the smaller towns can survive as viable communities. Declining enrollment is compounded by Maine State policy. Recognizing the varying ability of towns to pay for education the State has a policy of school subsidies. They determine operating costs and assess the value of property from which local tax revenue can be extracted at a standard rate. If a municipality falls short in its calculated revenue, state funds will provide a subsidy (Maine Municipal Association, 2004). However, in the case of a gentrifying coastal community like Lubec where there are over 95 miles of high value coastal property, the town should be considered as property rich, but income poor. In recent decades housing prices have increased greatly (Fig. 3), and as a result state aid has diminished according to the subsidy calculation. In response to the funding shortfall, local municipalities have been pressured to increase property taxes, but individual incomes have not increased, rather many residents' finances are fixed, particularly the elderly. Facing the challenge of dwindling state aid and an impoverished tax base, the town of Lubec sought solutions to the problem. After much emotional deliberations the town voted to close the high school in the fall of 2010 (Hewitt, 2010). While some respondents blamed amenity migrants for increasing the taxes, others were grateful to have the new source of tax revenue. Eastport is facing similar pressure (Whalen, 2012).

The increasing interest in coastal property amongst amenity migrants results in its rising value as a consumable (McCarthy, 2008; Robbins et al., 2009). Respondents described the rising cost of housing, particularly on the water, citing examples of how properties once purchased with a few thousand dollars are now being sold for hundreds of thousands, if not millions, of dollars. The overall situation is thought to be of increasing property costs due to the amenity value of Maine's coast. As explained by one Port Clyde resident, "... the properties are basically a commodity" and there

are "only so many shorefront properties." Along with the influx of wealthy amenity migrants buying property above its productive value, there has come another hallmark of gentrification: the revitalization of degraded structures.

While descriptions of fixing up the property were often positive, the building of "mansions" was viewed as distasteful. The increasing value of the shorefront, the improvement in the housing stock, and the dwindling supply of available property all serve to increase property costs in these communities. The higher property valuation forces these municipalities to raise taxes because they receive fewer subsidies from the state. Thus, a resident who already owned a home or inherited a home may still be displaced due to higher costs of living. Through these mechanisms, the gentrification of the Maine coast exposes the population to the threat of displacement. Indeed, many residents have started moving outside the community and to back roads away from the water where housing and taxes are significantly cheaper. Thus, along with the direct exposure to displacement, gentrification increases the sensitivity of these communities by disrupting the place-based ties to the community.

3.2.3. Loss of access and displacement from coastal property

Displacement is a clear indication of gentrification in these communities, and its impact on fishermen is compounded because coastal properties are necessary for their livelihood (Hall-Arber et al., 2001; Jacob et al., 2010a, b). As fisheries declined, so too did the demand for associated services, leading to the eventual shuttering of those businesses and the degradation and loss of infrastructure (Hall-Arber et al., 2001). Respondents discussed both this decline in services and the consolidation of the working waterfront to a few wharfs; little more than 20 miles of the Maine coast is considered a working waterfront (Colgan, 2004). No longer do fishermen typically have shore property and their own docks, more often they rely on municipal wharfs, buyers' docks, or co-ops. In Rockland much of the shorefront has been redeveloped as marinas to service pleasure boats, while in Port Clyde property owners keep yachts on their repurposed docks. The displacement is well recognized by fishermen, with one from Port Clyde commenting: "They bought the land and the properties that the fishermen once owned and you know he's never gonna get it back because we all know what the properties cost." This direct altering of formerly productive structures for consumptive purposes has long been an issue with rural restructuring and gentrification (Lees et al., 2008; Gosnell and Abrams, 2011; Travis, 2007). Recognizing the growing access problem the State of Maine initiated the Working Waterfront Access Protection Program. The program creates a legal covenant that permanently protects and preserves the property, ensuring its availability and affordability for commercial fisheries operations. However, the selection criteria for these working waterfronts strongly favor established wharfs currently in use by commercial fishermen.

Fishermen in the study communities rely upon traditional access points that are now under threat due to the purchase of coastal property. These right-of-ways give access to tidal flats and rocky shores where people harvest resources like clams and periwinkles. Respondents often reported that after a property was purchased the access point continued to be used until someone disrespected it, after which the owners would prohibit public use. One Lubec fisherman succinctly described the situation: "[T]hey bought the property up and they decided that the fishermen weren't going down through there no more and it became a big conflict." Nevertheless, many fishermen were sympathetic to the property owners' decisions and revealed that individuals may later gain access by seeking personal permission. Although fishermen no longer could use these right-of-ways, laws governing riparian

rights in Maine declare that use of the intertidal lands is protected for activities pertaining to fishing, fouling, and navigation. Similar to cases of fragmented ranch land in the West (Yung and Belsky, 2007), the difficulty for fishermen is in how to reach these isolated locations. Transportation cost, time, and effort increase and fishermen are exposed to increased hazards associated with accessing beachheads from the ocean, such as currents, fog, and weather.

For those that work on the water during the summer, pleasure boats and tourism may be a further source of conflict, an issue found elsewhere along gentrified coasts (Hall-Arber et al., 2001). In this study the theme is almost exclusively restricted to Rockland; while pleasure boats may share the water with fishermen in other communities, it was not reported as an issue. Rockland Harbor is a multiuse port featuring a diverse range of amenity and commercial activities, with lobster fishing representing only a segment (Hall-Arber et al., 2001). The large volume of traffic results in the loss of fixed gear for lobstermen when buoys and attached lines are caught in props of passing vessels. Furthermore, the numerous moorings have effectively eliminated access to fishing grounds. One fisherman summarized the situation saying: “The more traffic there is, the worse the fishing is because you’re going to lose gear.”

Gentrification of these coastal communities threatens to displace fishing in a number of ways. Since the threat of displacement and the resulting conflicts fall under the exposure dimension of vulnerability we can conclude that the degree of exposure increases with gentrification. However, the further loss of access also increases the sensitivity of the fishermen by making them reliant on fewer resources. The relationship between fishermen and other users in Rockland presents an interesting case in which many factors came together to present a conflict. Otherwise, for fishing dependent communities, loss-of-access to the waterfront and right-of-ways may be the greatest concern relating to gentrification.

3.3. Gentrification as increasing resilience

3.3.1. Revenue and employment from tourism and the service sector

Although many respondents shared negative opinions on changes in their communities, they also recognized benefits. For example, one fisherman from Port Clyde summarized this view this way, “They’ll rent a mooring. They’ll go to the store and they go to the restaurants. It’s part of tourism. I have an expression, ‘Help keep Maine green. Bring your money and spend it.’” Interviewees understood that with the influx of amenity migrants and tourists comes an increase in activity and new sources of revenue, leading to growth and new employment opportunities. Whether the community is the destination or a beneficiary of tourists visiting the area, many jobs are associated with businesses that cater to this clientele, including accommodations, restaurants, and retail stores (Hall-Arber et al., 2001). Apart from tourists, there are also seasonal residents and amenity migrants who are in further need of services the community can provide, creating more business opportunities (Rasker and Hansen, 2000; Travis, 2007). Respondents also expressed a generalized belief that the service sector was increasing revenue and tax dollars for the community. Although they were glad to have these sources of revenue, some interviewees were ambivalent about the importance of tourism. Many suggested that the community was increasingly dependent upon the service sector, but respondents expressed a range of views on the relative importance of tourism and fishing. Some considered tourism to be the future of the community, others disregarded it as a passing fad, and many thought both were important for a diversified economy. It is widely recognized that diverse opportunities increase community resilience (Johnson et al., 2014).

The opportunities provided by amenity migrants and tourists were readily acknowledged, as were the limitations and downsides of the service sector economy. Similar findings can be found in the amenity migration and rural restructuring literature: new service-sector jobs are low wage (Yagley et al., 2005); economic inequality increases with wealthy amenity migrants (Ohman, 1999); displacement of traditional work distresses the local population (Nelson, 2001). These complexities were revealed in interviews with statements such as this one by a Rockland resident:

I understand it’s bringing money into the restaurants and stuff. I don’t like it so much because I believe that every town should be a working town because I think it’s better for the people, I think the people are healthier by working.

Some respondents questioned the benefits of the service sector by discounting the perceived level of economic activity. Here, tourist and migrants were not believed to spend much money in the area, and their major expenditures were on products from outside the state, such as recreational boats. Furthermore, respondents argued that many of the new businesses and the rental properties are not locally owned, but by amenity migrants who are catering to their own cohort’s demands. These observations often noted the inherent economic inequality, with one Port Clyde resident noting “[M]ost of the rental properties are owned by out of state people; wealthy people who bought the houses to rent and had the money to buy them.” Despite the undesirable effects of the rural restructuring many residents remained grateful for the economic development. The animosity respondents feel towards the economic changes mirror the feelings towards the demographic changes, and both may be important aspects of the identity crisis facing these communities. While the economic opportunities provide greater resilience to the community, they also represent a transition away from the traditional fishing dependent community.

3.3.2. Adaptive capacity of fishermen

The increase in service sector work has led to many fishermen taking on a second job. One Lubec fisherman explained how “tourists are better than nothing,” and further suggested that tourism might be “the only game in town.” Fishermen have worked as employees in retail stores and others have started their own business. In Lubec, Port Clyde, and Rockland interviews were conducted with fishermen who all had started businesses serving food products, with only one selling fish. However, a general benefit to the fresh seafood market was recognized with many respondents frequently expressing that tourists and amenity migrants were interested in consuming local seafood products, particularly lobster, and believed this would increase prices. Lubec and Port Clyde each feature businesses that create value added local fish products directed at an exurban clientele. Inherent in this business plan is that fishermen receive the patronage of the “people from away” that have a wealth of social and economic capital.

Perhaps the most striking example of an alternative opportunity was the discovery of fishermen giving “lobster tours” and similar wildlife and sightseeing excursions. They were the most often cited example of how fishermen were benefiting from the influx of people from away. However, the rhetoric used when describing these businesses suggests fishermen are not willing to replace fishing as their primary occupation. As one Lubec fisherman explained: “I play around being a captain in the summertime cause it’s a piece of cake [to take] people out in the boat, show them whales.” Fishermen and community members are aware that many visitors seek out the fishing heritage and enjoy watching the activity on the water. Respondents express how tourists see fishermen as linked to a historic and authentic way of life that no longer

exists elsewhere. Thus, the fishing narrative of the idyllic fishermen's way of life is being consumed by tourists, much like the consumption of ranch life in the West (Travis, 2007).

Although fishermen consider guided tours to be an easy means of generating income they cite several barriers to entry and limits on its expansion. First, anyone who wishes to legally take paying passengers out on a boat needs a captain's license and a vessel inspection. This requires substantial investment, which likely discourages some from pursuing the opportunity. Furthermore, respondents often expressed a belief that only a limited number of tours could operate effectively, and an increase would quickly saturate demand. For some fishermen it was simply not an option as they were far too dedicated to fishing during the tourist season and did not have the time for other activities. Not surprisingly some respondents expressed disdain and unwillingness to participate in this aspect of the service sector, with one Lubec fisherman explaining: "You get people that come up to you, 'What's that? How do you get them?' And you just want to be left [] alone ... You don't want to be a tourist attraction." As has been shown elsewhere, diversification through second jobs can be considered an adaptation that can enhance fishermen's resilience, but those opportunities need to be attuned to the fishermen's lifestyle (Johnson et al., 2014).

3.3.3. Gentrified community support

Interviews with amenity migrants revealed an attachment to their new communities, indicating bounded solidarity with the community as a whole (Portes, 1998). They appreciate the fishermen in the community, but generally desire to support the community in ways that follow their own ideals. Respondents frequently mentioned participation in organized activities that follow a gentrifier's aesthetic (Lees et al., 2008) many of which focused on the arts. Recent and semi-retired amenity migrants have the skills, time, and energy to devote towards volunteer work in these communities and they are happy to do so (Lees et al., 2008). The view of one Eastport resident exemplifies this view: "I've put quite a bit of energy into working around and trying to get things fixed up, and that is attachment; I'm proud of the work I did." These activities and responses demonstrate that amenity migrants are creating social capital, through activities that benefit the community as a whole (Portes, 1998). Many fishermen in the community also recognize the support that people from away provide as indicated in the quote below:

I find the majority of these people are very supportive of our community affairs, our ambulances, our fire departments, our social organizations, the churches. They contribute to all these things, far more than a lot of people realize.

In addition to the general support for the community by individuals there are a number of non-government organizations (NGOs) with the stated goal of assisting the fishing industry. For example, the Cobscook Bay Resource Center (2012) serves the towns of Eastport and Lubec and its mission is "To encourage and strengthen community-based approaches to resource management and sustainable economic development in the Cobscook Bay region, the Bay of Fundy, and the Gulf of Maine." The Island Institute is another non-profit in Rockland and is responsible for helping to establish the community supported fishery known as Port Clyde Fresh Catch (Steeves, 2010). An NGO director in Rockland summarized this pattern of community support:

This place ... survives because it has dedicated summer folk that have the money to invest in donations here and think it's an important thing. I mean there's no mistake that there's 5 or 6

really big non-profits right around here ... Most of those are supported by people from away, and the local community ends up benefitting from it.

The community attachment and support demonstrated by amenity migrants could reduce the sensitivity of these communities and provide alternative means of coping with perturbations in the fishing industry. It also may reduce conflicts within the community, but at the cost of some social control by amenity migrants. Fishermen and long term residents appreciate the benefits provided by amenity migrants and that social capital may grant gentrifiers greater acceptance for themselves and their aesthetics in the community.

3.4. Geographical and historical influence on gentrification

Although the forces of gentrification, amenity migration and rural restructuring were affecting all the communities, their unique histories and geographies influence their current state. The extent to which the communities are transformed by rural restructuring's economic forces may be limited by geographic constraints (Jackson, 2006; Rasker and Hansen, 2000). While it was a common belief that potential development was limited, respondents listed various reasons that corresponded to their location. In the Down East region, the isolation of the community was mentioned as a barrier to growth, while in the Midcoast respondents believed the necessary space for development was already saturated. These are factors that Hall-Arber et al. (2001) also identified as barriers to gentrification.

Compared to the Midcoast communities of Port Clyde and Rockland, the Down East communities of Eastport and Lubec are more isolated and less developed. Isolation, while stifling the development of industry, has also provided some protection for these communities. The distance to markets and infrastructure makes it an unlikely location for businesses to become established; their costs will be high, and capital (labor and physical) may be unreliable. Furthermore, without air travel immediately available, the high-end service industry will avoid these communities, since they cannot easily reach clients (Rasker and Hansen, 2000). The potential benefit expressed in interviews, and exemplified in the quote below, is that due to their isolation the communities may be protected from commercialization experienced by similar coastal communities.

I don't think we will ever be trampled to death ... [W]e're tiny and it's not easily accessible ... and due to where we are located on the map we won't be flooded with people, I just don't see that happening. I think it will always remain small, it'll be quality, good caring people.

Except for basic services, regular trips to nearby cities are required for obtaining necessities in the Down East communities. Individuals must travel an hour to a regional hub or three hours to the city of Bangor. Many amenity migrants and locals have expressed appreciation for this isolation, desiring to be as far removed as possible. Despite the remoteness, the availability of high speed Internet to rural residents enables access to social networks and information. Isolation is an aspect of these communities that could be considered as adding to or subtracting from their sensitivity, but either way it is central to their character and a key factor in their vulnerability.

Indeed, each community we examined has experienced gentrification in a unique way. Port Clyde experienced one of the early waves of gentrification giving it a longer time to cope with change. Although rising costs have forced many fishermen away

from the coast, adaptations by them and the community have enabled fishing to continue. Rockland is distinctive in that many amenity migrants live in the surrounding area, but few reside in the city itself. Nevertheless, the demand on this service center for amenities has resulted in the gentrification of the downtown and harbor districts. The fishing industry remains important, but space for expansion is unavailable, inhibiting the possible return of a larger fleet.

Eastport and Lubec have seen an escalation in cost of living as amenity migrants purchase property, which is encouraging some fishermen to move outside of town. Although the recent trends are symptomatic of gentrification, these communities have long experienced a decline of extractive, natural resource-based economy which is responsible for many changes. The formerly industrial town of Eastport has undergone a restructuring and what is emerging is a far more diversified community. Fishing remains an important part of its character, but a new creative economy has taken hold due to amenity migrants establishing an arts community. Similarly, albeit to a lesser extent, Lubec has also begun to diversify its local economy through tourism that capitalizes on its natural assets. Regardless of the landings volume and economic importance of fishing, the port character remains an important draw for all these communities, and they have benefited from the attraction.

At a regional scale, Maine communities also face a climate with short summers and notoriously harsh winters. Both interview responses and census data support the conclusion that tourism, and the amenity migrant character of these communities, is seasonal. The majority of gentrifiers occupy their homes seasonally, and much of the service sector closes down for the winter. Respondents recognize the limitations to the economy and for earning wages. However, an argument could also be made that the seasonality limits the social and political influence of gentrifiers; reducing the potential for conflicts. Drawing definitive conclusions on how intrinsic geographic constraints affect the vulnerability of these communities is difficult, as these and their individual histories make them each unique. Rather, it is important to be cognizant of how these factors may influence or explain patterns of change in the community, such as gentrification. The greater understanding that comes with recognizing the unique character of each community is critical for understanding their vulnerability.

4. Conclusion

Gentrification is occurring across Maine's fishing communities. Although there are similarities, gentrification in coastal Maine does not equate to the amenity migration that occurred in the New West (Gosnell and Abrams, 2011). Despite the quality of place endemic to the Midcoast and Down East, there are limits to growth and its service sector economy remains primarily seasonal. Fishing continues to be important in these places, but faces displacement as conflicting sectors grow in prominence. Recognizing the threat, measures have been taken to maintain space for productive use of the waterfront. However, the future of these communities, and their status as fishing dependent remains uncertain.

Our research underscores the important contribution of ethnographic research in discerning the complexities of gentrification as it transforms each unique community. Previous studies that considered gentrification in their vulnerability assessment of fishing communities have implied that it will increase their sensitivity (e.g. Jacob et al., 2010a, b). However, we argue that gentrification is a more complex process. Our analysis revealed that gentrification affects all components of vulnerability, especially when amenity migration is considered in the evaluation. The fishing communities we studied have demonstrated that although

gentrification can add to their sensitivity, and thus increase their vulnerability, it can also provide new opportunities for adaptive capacity, or resilience. For example, the transition to a service sector economy provides new opportunities for employment and incoming amenity migrants often help support the community through philanthropic activities.

Counter to the assumption that gentrification will always increase vulnerability, many communities and fishermen have taken advantage of the opportunities it has brought. We have identified positive aspects related to gentrification, especially the alternative and needed employment it creates, as well as the community support brought by wealthier amenity migrants. At the same time, we found that conflicts within the community undergoing a transition are common; certainly the loss of access is a significant and real outcome of gentrification. However, the path by which the community changes is shaped by its unique history and landscape, and that context must be considered when evaluating how gentrification affects a community's vulnerability.

Gentrification is recognized by its symptoms, which include a pattern of changes that alter the community landscape. The consequences of some of these changes are obvious, as in the case of displacement. However, as illustrated by the identity crisis seen in our study communities, the ultimate consequence of these changes can be a fundamental altering of a community's character. What constitutes a "fishing dependent community" is left vague in the Magnuson Stevens act, which perhaps prudently leaves the definition of a community amorphous (Clay, 2007). The most visible aspects of a community, such as its physical location, will be unaltered as gentrification progresses. Instead, gentrification alters the demographics of a community, and in doing so changes social networks, culture, and peoples' relationship to the landscape. Fishing remains prominent in all of our study communities, but its importance has been diminished, what remains is a cultural dependence. So long as these communities continue to identify as fishing communities, they will be dependent on the fishing industry. Nevertheless, the identity crisis highlights a realization by some respondents that the fishing dependent community they grew up in no longer exists. The community that now exists in its place has the same history and geography, but different people and a different connection to fishing. According to the vulnerability framework, these communities are less sensitive and more resilient, and that trend is likely to continue with the progression of gentrification until the day they are no longer fishing dependent.

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