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Charting a Future Course for Development: Natural Resources, Conservation, and Community Character in Coastal Alaska

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Abstract

Dramatic social changes are occurring across rural America as traditional natural resource-based industries such as fishing and forestry decline, and amenity-driven development attracts new residents and visitors. These changes are altering not only the economies and cultural identities of rural communities, but also entire regions where seemingly similar towns respond to these social and economic shifts in distinct ways. Using survey data from 1,541 residents of Southeast Alaska, we examine individual views regarding the role of fishing, forestry, and tourism in this region's economic future. We also assess beliefs about the importance of conserving natural resources and the preservation of the area's cultural character within new development efforts. Findings show that social factors such as age, education, political party affiliation, and individuals' economic well-being, along with place of residence explain diverging views. Given the changing demographics and the shifting interconnections between different communities within rural regions, these results illustrate the importance of designing investigations that capture broad regional trends while also highlighting the key place-specific factors that shape beliefs about natural resource-related industries and the priorities for future rural development activities.

Keywords: Rural development, natural resource management, conservation, social change, coastal Alaska

1.0 Introduction

Natural resources have sustained livelihoods and a way-of-life for generations of rural Americans. Activities such as mining, forestry, and fishing are also intimately tied to the identity of rural places. However, these industries are in decline and they

now employ only a small percentage of the rural population. These economic realities have contributed to out-migration in many formerly natural resource-dependent communities (Brown & Schafft, 2011; Dwyer & Childs, 2004; Gosnell & Abrams, 2011; Hamilton et al., 2010; Ulrich-Schad et al., 2013). In others, the environmental and cultural features of rural areas have led to increases in tourism and attracted retirees, second home buyers, and young people who are more drawn to cultural and recreational amenities than opportunities for harvesting natural resources (Cadieux & Hurley, 2009; Krannich et al., 2011; Petrzelka et al., 2006; Stedman, 2006). These socioeconomic and demographic changes have brought to the fore concerns about the compatibility of economic activities focused on natural resource extraction and alternative enterprises that depend on preserving the environment. They also raise deeper questions about the transformation of the cultural identity of rural communities.

Changing population dynamics and shifting uses of natural resources not only affect rural areas, but also interlinked towns and cities. Historically, regional population centers processed minerals, timber, and fish and distributed them to broader markets. Increasingly, these towns and cities have become more diversified and serve as centers for tourism businesses and related service activities that focus on the consumption of amenities, rather than supporting the extraction of natural resources (Brown & Schafft, 2011; Gosnell & Abrams, 2011; Henly, 2012 Safford & Hamilton, 2012; Shumway & Davis, 1996). Numerous studies have demonstrated that interrelated demographic, economic, and cultural changes are re-defining rural America and blurring the socially-constructed boundaries between rural, urban, and suburban places (Brown & Swanson, 2003; Kandel & Brown, 2006; Krannich et al., 2011; Lichter & Brown, 2011). Comparing the views of long-term inhabitants and new arrivals, as well as synergies and divergences between residents from different types of rural communities, may offer clues about the trajectory of development and the future identities of rural communities across the United States and beyond.

We undertake such a project, investigating these trends in one of America's most natural resource-dependent rural regions, Southeast Alaska. Southeast Alaskans are confronting declines in the traditional natural resource-based economy that have led to out-migration and intra-regional population shifts between small villages and regional population centers. Similarly, the expansion of tourism has led to growth in service-related industries in the area. While focused on investigating the experiences of Southeast Alaskans, this study also presents a broader rationale for expanded research examining how social background factors and residence in different types of locales within a single rural region shape individual views about natural resource-related industries and development priorities.

2.0 Material and Methods

2.1 Natural Resource Use and Social Change

Recent sociological research shows that as traditional natural resource-based industries such as forestry and fishing wane, a ripple of social and institutional changes can follow (Brown & Schafft, 2011; Brown & Swanson, 2003; Krannich et al., 2011; Safford & Hamilton, 2012; Sepez et al., 2005). The nature of work and the social relationships within rural towns can shift as new service-related activities such as tourism become dominant (Lankford & Howard, 1994; Petrzelka et al., 2006; Rasker, 2005). Small communities whose economies are tied to the harvest of fish or timber often rely on nearby towns and cities for distributing and marketing their

products (Brown & Swanson, 2003; Gottfried, 1996). When communities diversify from extractive into service industries not only do economic relationships change, but also the social and cultural ties between different types of communities (Brown & Shafft, 2011; Dwyer & Childs, 2004).

Demographic and cultural changes are often interrelated with these economic trends, creating challenges for policy makers and planners who must understand the needs and interests of an increasingly diverse set of residents (Lowe et al., 1993; Safford & Hamilton, 2012; Ulrich-Schad et al. 2013). While conventional wisdom suggests newcomer–oldtimer divisions will lead to value conflicts and debates about natural resource–based development, recent scholarship has found both consensus and disagreement about natural resource-related concerns among rural residents based on their migration history (Brehm et al., 2006; Gosnell & Abrams, 2011; Cadieux & Hurley, 2009; Safford & Hamilton, 2012; Stedman, 2006).

Finally, shared experiences among locales with similar connections to natural resource–related activities often create communities of interest that seek to promote economic development consistent with their collective aspirations (Brown & Shafft, 2011; Fung & Wright, 2003; Kandel & Brown, 2006; Krannich et al., 2011; Safford & Norman, 2011). In some instances these can lead to constructive dialog and collaboration, while in others intra– and inter–community power struggles and conflict emerges (Prins, 2005; Jackson-Smith et al., 2006; Murray & Dunn, 1996). These findings illustrate the complexity of the inter–relationships between economic development, natural resource management, and social change in rural regions.

2.2. Society and Natural Resources in Southeast Alaska

One place that is emblematic of this shift in the natural resource economy is the southeastern panhandle of Alaska. Southeast Alaska is made up of seven boroughs and three unincorporated census areas[1] (see Figure 1). It is an extremely isolated rural locale comprised primarily of small coastal towns, but the location of the state capital city of Juneau in the region creates a population center that serves as an important commercial and social hub while also providing more stable public sector employment (Cerveny, 2005; Alexander et al., 2010; Juneau Economic Development Council, 2010; McDowell Group, 2008).

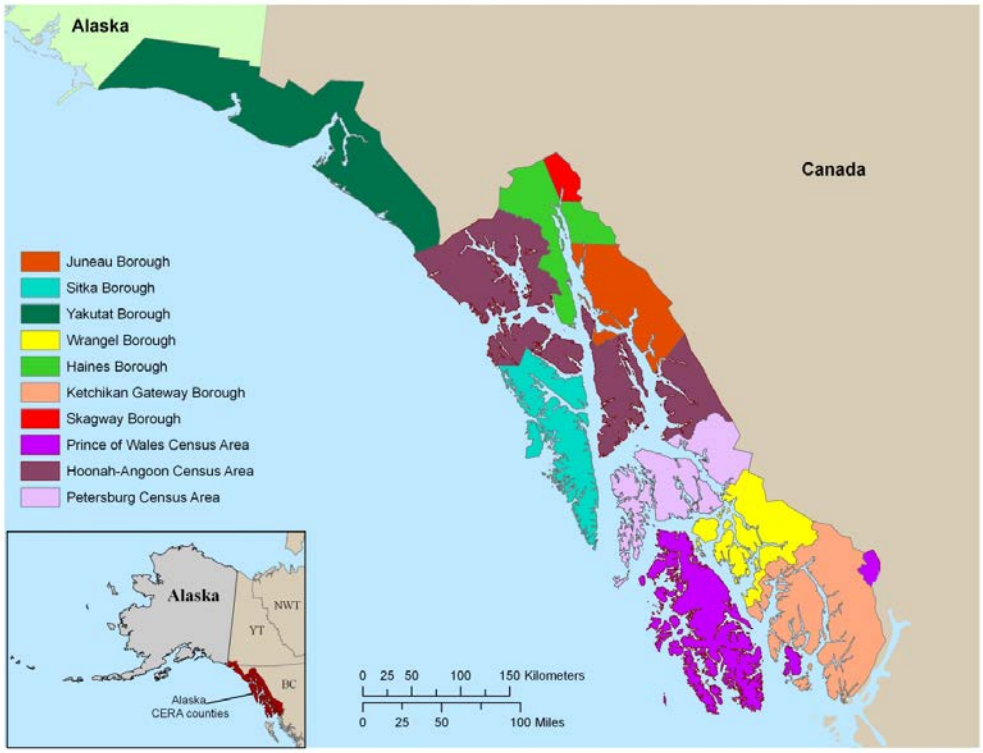
Haida, Tlingit, and Tsimshian peoples have inhabited this region for centuries with close relationships to the sea and land. As non–natives settled in the area, the identity of Southeast Alaska became defined by natural resource–related industries. Mining, fishing, and forestry spurred economic growth during the 1800s and 1900s (Durbin, 1999; Mitchell, 1997). While mining waned in the early twentieth century, the forest products industry has only recently fallen into decline in the wake of global competition and more restrictive forest management policies (Alexander et al., 2010; Beier et al., 2009; Colt et al., 2007; Headwaters Economics, 2007; Gilbertson, 2004; Mazza, 2004; Uloth et al., 2009).

Commercial fishing remains an important activity in the region and is often closely tied to the cultural character of Southeast Alaska communities. Nonetheless, the

[1] Boroughs and census areas located in Southeast Alaska include Haines Borough, Juneau Borough, Ketchikan Gateway Borough, Sitka Borough, Skagway Borough, Wrangell Borough, Yakutat Borough, Hoonah-Angoon Census Area, Petersburg Census Area, and Prince of Wales / Hyder Census Area.

value of economically–important species such as salmon has declined in recent years and the loss of fish processing jobs has hurt towns reliant on the fishing industry (Colt et al., 2007; Headwaters Economics, 2007; Sepez et al., 2005; Southeast Conference, 2009; Trout Unlimited, 2010). The natural beauty and cultural attributes of Southeast Alaska have made it a popular destination for visitors and helped drive growth in the tourism and recreation industries (Cerveny, 2005; JEDC, 2010; McDowell Group, 2008; Southeast Conference, 2006; 2009). Tourism-related activities in Alaska are diverse, ranging from large cruise ships and sightseeing tours to charter boat recreational fishing and wilderness adventure tours.

Figure 1: Map of Southeast Alaska Boroughs and Census Areas.



Source: Safford et al., 2011

Southeast Alaska's population grew steadily throughout most of the 20th century, but between 2000 and 2010 the population declined by 2% from 73,082 to 71,664 (U.S. Census Bureau, 2010). This decrease is attributed to an economic slowdown in the area that led to significant out–migration (Colt et al., 2007; Southeast Conference, 2009). However, there are important intra–regional differences in these demographic patterns. In the past ten years, Juneau Borough experienced a 2% population increase. This growth, in part, reflects the availability of government and service sector jobs and educational opportunities found in the capital (Colt et al., 2007; McDowell Group, 2008; JEDC, 2010; Southeast Conference, 2009; U.S. Census Bureau, 2012). Many migrants to Juneau come from outside of the region, but a significant number are also individuals from smaller rural Alaskan communities who see greater prospects in the capital (Alexander et al., 2010; Colt et al., 2007; JEDC, 2010).

Conversely, the remaining boroughs and census areas experienced a 5% population decline over the last decade, with young people in particular leaving these communities (U.S. Census Bureau, 2010). The two largest rural boroughs, Ketchikan–Gateway and Sitka experienced modest declines. However, the seven smallest boroughs and census areas, which we term "outlying communities," lost over 7% of their residents during this period[2]. The closure of saw mills and the limited opportunities for development in these remote areas contributed to economic stagnation and out-migration (Colt et al., 2007; Gilbertson, 2004; Mazza, 2004; Uloth et al., 2009; JEDC, 2010; Southeast Conference, 2009).

Due in large part to the stability of government jobs and tourism-related development, Juneau, and to some degree Sitka, have relatively high median incomes and low poverty and unemployment rates (see Table 1) (Headwaters Economics, 2007; JEDC, 2010; Uloth et al., 2009; U.S. Census Bureau, 2010). In comparison, incomes are lower in the less diversified outlying communities and Ketchikan. High poverty and unemployment are especially problematic in remote villages where economies are more dependent on traditional natural resource-related industries (Headwaters Economics, 2007; Sepez et al., 2005; Uloth et al., 2009; U.S. Census Bureau, 2010).

Table 1. *Unemployment, Poverty, and Median Income, by borough / census area*

	Unemployment Rate	Poverty Rate	Median Income
Juneau Borough	6.5%	6.5%	$75,517
Sitka Borough	7.9%	7.0%	$62,024
Ketchikan Borough	9.6%	8.3%	$61,695
Outlying communities	16.7%	11.8%	$54,516
Southeast Alaska Overall	*9.4%*	*8.0%*	*$65,877*

Sources: Bureau of Labor Statistics (2011) for unemployment rate, December 2009-January 2011, not seasonally adjusted; U.S. Census Bureau (2012) for poverty rate, 2006-2010 and median household income, 2006-2010, inflation-adjusted to 2009.

Although economic challenges have impacted many communities, there are more encouraging trends as well. While total employment in the fishing industry has declined, commercial fishing remains profitable and the area's natural beauty and cultural attributes draw thousands of tourists each year (Cerveny, 2005; Commercial Fisheries Entry Commision, 2009; JEDC, 2010; Trout Unlimited, 2010; Uloth et al., 2009). The state government in Juneau also provides an economic anchor that stimulates broader commercial activity across the region (Colt et al., 2007; McDowell Group, 2008; JEDC, 2010). Coastal communities across Southeast Alaska are confronting the waning of traditional natural resource industries, while also grappling with the social, cultural, and environmental implications of the

[2] Outlying communities include Haines Borough, Skagway Borough, Wrangell Borough, Yakutat Borough, Hoonah-Angoon Census Area, Petersburg Census Area, and Prince of Wales / Hyder Census Area.

region's more diversified service-based economy. Our study seeks to provide a better understanding of how individuals with different social backgrounds and experiences in locales across the region view both current patterns of development and potential paths forward.

2.3 Research Design and Methodological Approach

Since 2007, researchers at the Carsey Institute have surveyed rural Americans about social and environmental concerns as a part of the Community and Environment in Rural America (CERA) project. In 2010, CERA researchers partnered with the U.S. Department of Agriculture (USDA) – Rural Development Program's regional office in Sitka, Alaska to survey residents of Southeast Alaska[3]. Between June and August, 509 surveys were completed in Ketchikan–Gateway Borough and Prince of Wales-Hyder Census Area. An additional 1,032 were administered in the remaining boroughs and census areas in November and December.

All surveys were conducted using randomly selected phone numbers, a random selection of individual adults within households, and call–backs as needed[4]. These two surveys achieved response rates of 40% and 32% respectively using the American Association for Public Opinion Research's RR4 standard (AAPOR, 2006). Probability weights were employed to allow for minor adjustments that compensate for known effects of sampling design (household size, borough population) and differential response (e.g., age, sex, race/ethnicity) (Lee & Forthofer, 2006).

The survey included a range of questions that assessed Southeast Alaskans' views about social, economic, and environmental changes in the region. We focus on five questions that gauged residents' beliefs about the future role different natural resource industries – commercial fishing, forestry, and tourism – will play in their local economy and the importance of conservation and the preservation of community character within development efforts (see Table 2).

To present and analyze these data we use simple cross tabulations as well as regression analysis. Multivariate logistic regression enables exploration of the relationships between different social variables and beliefs about natural resource industries and development priorities. As gender, age, education, and newcomer status have previously been correlated with beliefs about natural resource-related concerns (Freudenburg, 2007; Guagnano & Markee, 1995; Hamilton et al., 2010; Henly, 2010; Safford et al., 2014; Stedman, 2006; Van Liere & Dunlap, 1980) we included them as independent variables in our models (see Table 3).

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[3] Professionals from the USDA Rural Development Program in Washington, DC and Sitka, AK were key collaborators in the development and implementation of the CERA Southeast Alaska project.

[4] Because many remote Alaskan communities do not have land-line service, satellite phones were included in the pool of numbers which increased the representativeness of the sample. We considered adding cellular phones to our sample; however after using land-lines and satellite phones, we had sufficient samples from all boroughs and census areas.

Table 2. *CERA survey questions with probability–weighted summaries (n = 1541)*

Natural Resource Use and Development Questions
Future Fishing: "How important do you think commercial fishing and fish processing are for your community's future?" Not important (3%), somewhat important (15%) or very important (82%)
Future Tourism: "How important do you think tourism and recreation are for your community's future?" Not important (5%), somewhat important (21%) or very important (74%)
Future Forestry: "How important do you think forest-based industries such as logging, pulp and paper, and lumber production are for your community's future?" Not important (31%), somewhat important (31%) or very important (38%).
Conserve Resources: "For the future of your community, do you think it is more important to use natural resources to create jobs or to conserve natural resources for future generations?" Use to create jobs (37%), conserve for future generations (35%), both equally important (28%).
Preserve Character: "When your local government is considering future development in your town, which do you think is more important: 'Encouraging economic development that brings new jobs to my town, even it means a change in the character and types of businesses in my community' (55%) OR 'Preserving the traditional character of my town, such as protecting historic buildings, farms, or working waterfront, even if it means fewer new jobs' (45%)"

Table 3. *Independent variables, with probability-weighted summaries (n=1541)*

Individual Background and Political Variables:
Gender: 1 if female (49%); 0 if male (51%)
Alaska Native: 1 if Alaska Native (20%); 0 if not (80%)
Age: Age in years (range 18 to 93)
Education: 1 some high school or less (6%); 2 if high school graduate (25%); 3 if technical school (4%); 4 if some college (25%); 5 if college graduate (26%); 6 if post graduate (14%)
Newcomer: 1 if moved to this area within the past 5 years (18%); 0 if not (82%)
Better off: 1 if financially worse off than 5 years ago (22%); 2 if the same (42%); 3 if better off (36%)
Party: Self-ID Democrat (35%); self-ID Republican (31%); self-ID Independent (19%); no stated party affiliation (15%)
Place Variables:
Juneau Borough (34%): Ketchikan Borough (26%): Sitka Borough (14%): Outlying Communities (26%)

The extant literature also shows that development and environmental issues have become highly politicized in recent years (Cacciatore et al., 2012; Dunlap et al., 2001; Dunlap & McCright, 2008; Hamilton et al., 2014; Molnar, 2010; Safford & Hamilton, 2012). Many of these studies identified significant differences in the environmental beliefs of self–identified Republicans and those of other party affiliations. For this reason, we set the party variable in our models with Republicans as the referent in order to consider how their views vary from self-identified Democrats, Independents and those who indicated they had no party preference. Early versions of our models also used other party affiliations as referents, but we did not encounter significantly different patterns.

We also recognized the need to consider the distinct social characteristics of Southeast Alaska in our analyses. The predictor *better off* is a dummy variable derived from a survey question that asked respondents to assess their economic situation as compared to five years ago. Southeast Alaska has faced difficult economic times in recent years. Including this variable enables investigation of the importance of individual–level financial well–being in shaping beliefs about natural resource–related development. The final social background variable we include is *Alaska Native*. Alaska Natives are the region's largest minority group. They have distinct cultural connections to the natural world and native villages have struggled to forward economic development. Given this racial/ethnic group's key social role in Alaska we felt it was important to include this predictor in our models.

Finally, we also test how place affects residents' perceptions. For analytical purposes, we created dummy variables for four place–defined categories – Juneau Borough, Ketchikan–Gateway Borough, Sitka Borough, and outlying communities. Although the small boroughs and census areas each have distinct characteristics, we aggregate them in the "outlying communities" category in order to ensure sufficient statistical power in our analyses. As Juneau is the largest borough and serves as a regional hub, it is used as the referent in our models, against which responses of residents from each of the other three areas is compared. In preliminary iterations, we ran models with different boroughs as the referent. Since we found consistent patterns regardless of which borough was used as the base, we elected to include Juneau as the single place referent in our final analyses.

Our study uses the aforementioned survey data to provide regional–level analysis of views about natural resource industries and rural development priorities in Southeast Alaska. Nonetheless, by highlighting place–specific findings, while also establishing their relationship to national trends, we attempt to forward a methodological approach that can provide a bridge between in–depth community case studies and broader national quantitative investigations.

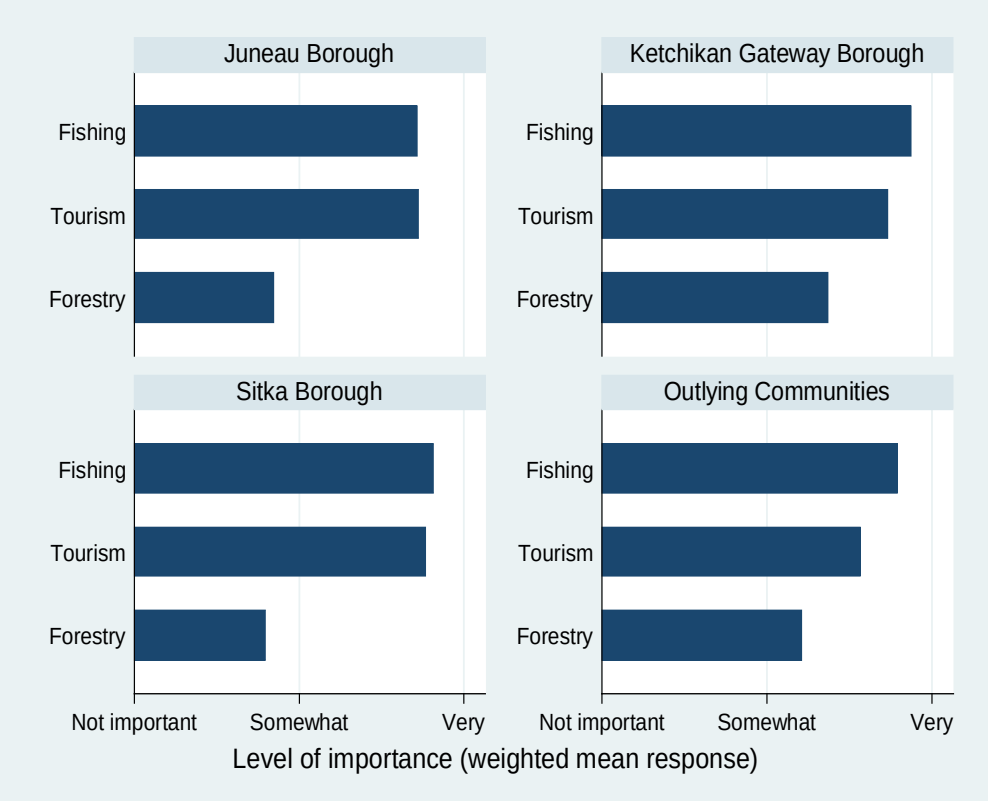
3.0 Results

3.1 Opinions about Natural Resource-based Development

Fishing and forestry have been the backbone of the Southeast Alaska economy, but the long–term prospects of each of these industries remains uncertain. It is also unclear how residents view the expansion of tourism that is now central to the region's economic well–being. Our survey results illustrate that Southeast Alaskans believe both extractive and tourism-related activities are critically important to their community's economic future (see Figure 2).

Most residents agreed that commercial fishing is vital for their local economy, with 82% seeing fishing as very important. Similarly, tourism was widely viewed as a key activity with seventy–four percent of residents identifying this industry as very important. In comparison, opinions about forestry were more divided; 38% of Southeast Alaskans saw the timber industry as very important for their community's economy, 31% indicated it was somewhat important, and 31% percent stated that developing forest–based industries was not important for their community's economic future. While views about fishing and tourism are nearly uniform across Southeast Alaska, greater numbers of residents in Ketchikan and outlying communities see forestry as important for their community's economic future as in Juneau or Sitka.

Figure 2: Importance of the Development of Fishing, Tourism, and Forestry Industries for the Economic Future of Community.



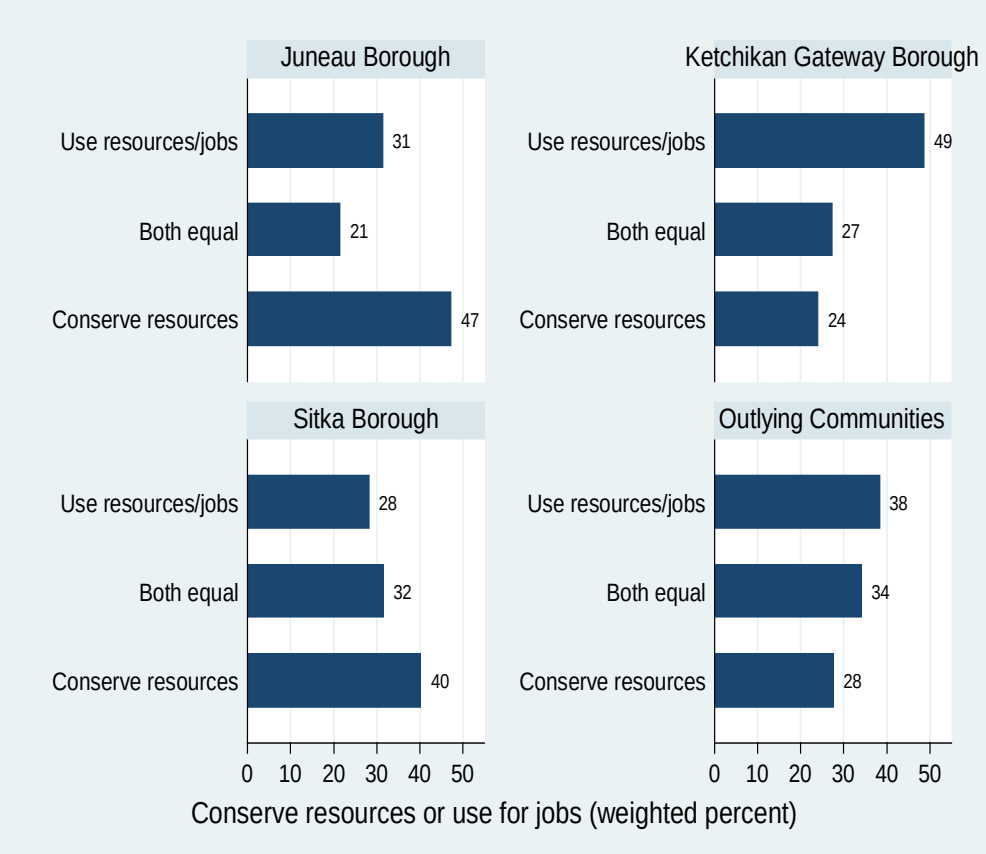
Source: Safford et al., 2011.

Natural resource–based development inherently involves trade-offs that require consideration of the short versus longer term benefits. Thus, examining how individuals assess the relative importance of conservation and socio–cultural factors within development approaches is a key area for analysis. To better understand these patterns in Southeast Alaska, we examined the two survey questions that presented tradeoffs often associated with natural resource–based development. Respondents were asked whether they felt it was more important to use natural resources now to create jobs or to conserve them for future generations. Residents were split on this question, with 37% indicating that natural resources should be used now to create jobs, 35% saying they should be

conserved for future generations, and 28% indicating both were equally important. Looking at intra–regional differences, we see greater percentages of residents from Juneau and Sitka prioritizing conservation in comparison to Ketchikan and the outlying communities (see Figure 3).

An additional question asked residents to consider whether their local government should focus on preserving community character or creating jobs when evaluating new types of development activities. Southeast Alaskans were similarly divided on this question, with 45% stating that preserving the traditional character was most important and 55% indicating that creating new jobs should take precedent. Breaking these findings out by borough once again shows marked differences. In contrast to Juneau and Sitka, significant majorities in Ketchikan and outlying communities prioritize economic development that brings jobs over preserving community character (see Figure 4).

Figure 3: Importance of Natural Resource Conservation.

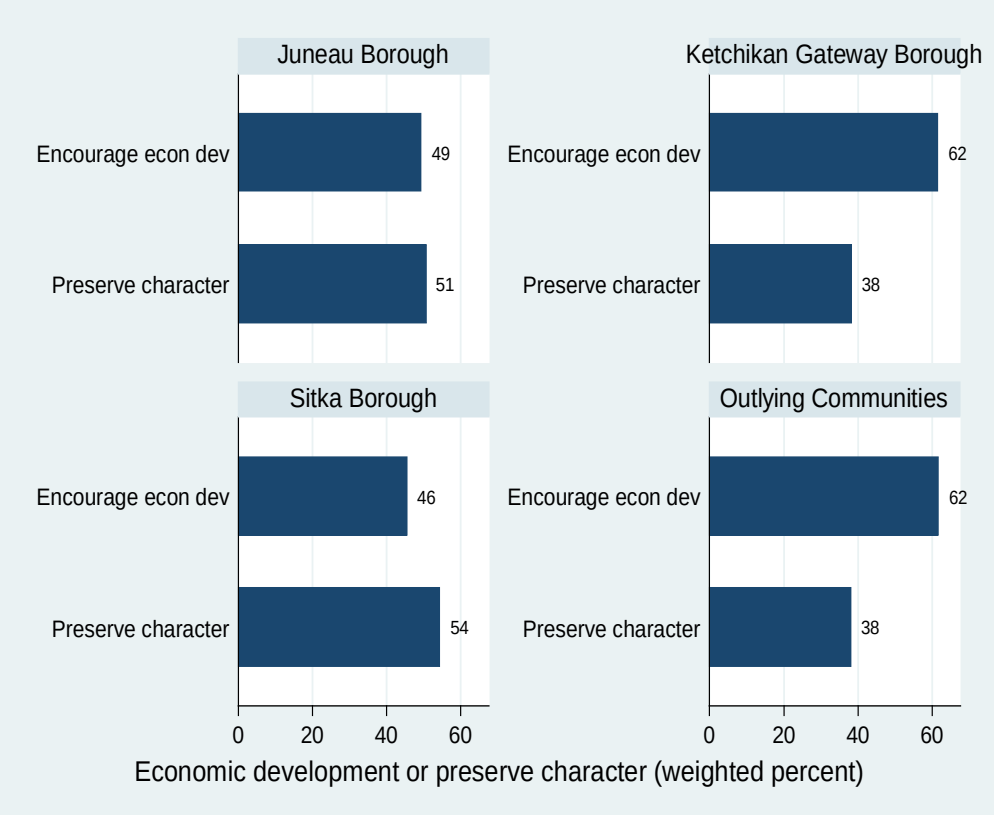


Source: Safford et al, 2011.

Comparing patterns in responses to these tradeoff questions and those regarding the economic importance of fishing, forestry, and tourism, suggest that our aggregate findings may mask divisions among Southeast Alaskans regarding the appropriate path forward for natural resource-related development. To better understand what social forces may influence residents' views, we use multivariate analysis to explore how individual background, political, and place-

related factors relate to beliefs about natural resource industries and the relative importance of conservation and preserving community character within future development efforts.

Figure 4: Importance of Conserving Community Character versus Encouraging Economic Development.



Source: Safford et al., 2011

3.2 Predicting Views about Natural Resources and Development

The five survey questions gauging residents' views about natural resource–related industries (fishing, forestry, and tourism) and development tradeoffs form the dependent variables used in our multivariate models. We then analyze whether the independent variables outlined in Table 3 – gender, Alaska Native identity, age, education, newcomer status, economic well-being, political affiliation, and place of residence – predict Southeast Alaskans' views about natural resource industries and development priorities.

Table 4 provides results from regressing the dependent variables *Future Fishing*, *Future Forestry*, *Future Tourism*, *Conserve Resources* and *Preserve Character* on the aforementioned social background, political party and place–related variables. Weighted ordered logistic regression was used with the ordinal variables *Future Fishing*, *Future Forestry*, *Future Tourism*, and *Conserve Resources*. Weighted binomial logistic regression was employed with the dichotomous dependent variable *Preserve Character*.

Table 4: Perceptions of Development and Conservation (Significant Coefficients (with standard errors and *t* tests) from Weighted Logistic Regressions).

	Dependent Variables				
Predictors	Future Fishing	Future Forestry	Future Tourism	Conserve Resources	Preserve Character
Background					
Gender (female)	-0.051 (.172)	0.133 (.138)	-0.095 (.126)	0.215 (.134)	-0.532 (.143)***
Alaska Native	-0.292 (.266)	-0.449 (.222) *	-0.409 (.211)	0.050 (.195)	0.035 (.224)
Age (young to old)	0.018 (.007) **	0.012 (.005) **	-0.001 (.004)	-0.018 (.005) ***	0.011 (.006)*
Educ. (low to high)	-0.209 (.067) **	-0.104 (.040) *	0.014 (.051)	0.056 (.050)*	0.014 (.051)
Newcomer (<5yrs)	0.364 (.209)	0.222 (.177)	0.190 (.209)	-0.268 (.223)	0.323 (.212)
Better off	0.094 (.110)	-0.361 (.086) ***	0.248 (.104) *	0.202 (.097)*	-0.148 (.101)
Political Party *(*Ref: Self-ID Repub*)*					
Self-ID Dem	0.181 (.235)	-1.130 (.161) ***	0.134 (.183)	1.670 (.185) ***	-0.916 (.189) ***
Self-ID Ind	-0.192 (.286)	-0.191 (.184)	-0.201 (.234)	0.671 (.207) ***	-0.832 (.218) ***
No party affiliation	-0.295 (.258)	-0.328 (.256)	-0.278 (.264)	0.780 (.264) **	-1.068 (.235) ***
Place					
(Ref: Juneau)					
Ketchikan	1.083 (.253) ***	1.011 (.213) ***	0.286 (.198)	-0.561 (.187) **	0.348 (.200)
Sitka	0.544 (.268) *	-0.279 (.190)	0.166 (.211)	0.053 (.236)	-0.339 (.264)
Outlying Communities	0.445 (.236)	0.668 (.172) ***	-0.509 (.145) ***	-0.277 (.193)	0.456 (.177) **
Number of respondents	1480	1464	1486	1360	1344

Significance: *$p < .05$; **$p < .01$; ***$p < .001$

Our regression analysis illustrates intriguing differences in Southeast Alaskan's beliefs about commercial fishing. Older individuals are more likely than young people to see fishing as critical to their community's economic future. In contrast, those with higher educational achievement are less apt to perceive fishing as important. We do not find significant differences based on other background predictors, nor do we find party affiliation to either increase or decrease the odds that individuals will see commercial fishing as an important component of their local economy. Finally, we also see place effects with residents of Ketchikan and Sitka being more likely than those from Juneau to see fishing as a critical for their community's economic future.

Similar to our findings related to commercial fishing, both age and education are significant predictors of beliefs about the future importance of the forest products industry. Older individuals are more apt to see forestry as important while those with higher educational attainment are less likely to see this industry as vital for their community. However, with respect to forestry, we also observed connections to race/ethnicity, economic well–being, party affiliation, as well as place. Alaska Natives are less likely than other residents to see forestry as important for their community's economy. In addition, individuals who feel they are financially better off than five years ago and self-identified Democrats are less likely to see the forest products industry as critical for their community. Place is also a significant predictor, with residents of both Ketchikan and outlying communities being more apt to believe forestry is important for their community's economy than those from Juneau.

In comparison with fishing and forestry, there is more uniformity in residents' beliefs about the future importance of the tourism industry. The only significant background predictor is *better off*. Respondents who feel they are better off financially are more likely to view tourism as vital for their community's economic future. In addition, residents of outlying communities are significantly less likely than residents of Juneau to believe tourism is a key economic activity. None of the other social background, political party, or place-related predictors either increase or decrease the likelihood that respondents see tourism as important.

Turning to the two tradeoff questions, we see interesting differences from the three natural resource industry questions. The strongest predictors of Southeast Alaskans' responses to the conservation tradeoff question were age and political affiliation. Older residents and self–identified Republicans are more likely to favor immediate use of natural resources for development as opposed to conserving for future generations. Residents of Ketchikan are also more likely to favor using natural resources now to spur development. Conversely, more educated individuals and those who feel they are better off economically have increased likelihood of favoring conserving resources for future generations.

Development objectives not only reflect perceptions about how and when natural resources should be used, but they can also highlight residents' assessments of the relative importance of economic goals versus maintaining their community's cultural character. Results from the second tradeoff question show significant place effects, with residents from outlying communities having increased odds of believing new development that generates jobs, irrespective of its impact on community character, should take precedence. Among the remaining predictors, political party affiliation has the clearest relationship with this variable. Republicans are more likely than those of other party affiliations to believe new development should be incentivized by their local government, irrespective of its impact on community character.

Finally, we also find gender to be a strong predictor of views about the relative importance of maintaining community character. Women are significantly more likely than men to prioritize preserving community character over incentivizing job creation through new development activities. Following a similar pattern to the natural resource industry questions, older individuals are also more likely to believe new development should be promoted by their local government, even if it impacts their community's character. The remaining variables – education, Alaska Native, newcomer status, and better off – are not significant predictors of beliefs about the importance of prioritizing community character versus job creation.

4.0 Discussion and Conclusion

Like many rural places, the future trajectory of development in Southeast Alaska remains uncertain. Out-migration and the decline of natural resource-related industries have created challenges for residents and policy-makers alike (Colt et al., 2007; Headwaters Economics, 2007; Mazza, 2004; Uloth et al., 2009; U.S. Census Bureau, 2010). Results from the CERA project provide insights into how Alaskans view the importance of both traditional and emerging economic enterprises as well as development priorities. The setting and the particular issues found in Southeast Alaska are distinct to that locale. Nonetheless, the struggles of these rural residents as they attempt to respond to social change are evident across rural locales. This study illustrates a need for expanded social research focused on understanding how the social characteristics of individuals and communities shape perceptions of current patterns of development as well as priorities for the future.

In–depth qualitative case studies can provide detailed information about people's social connections to the natural world and particular industries, and their direct experiences with different forms of development. However, quantitative analyses are also important in rural studies, as they can begin to scale–up emergent qualitative findings and connect them to broader regional and national level trends. Our study provides new meso–level analysis that attempts to fill a gap between intensive community case studies and broader national–level studies. We outline important intra–regional patterns while also establishing links to trends affecting rural residents and communities more broadly. While bridging research such as this can be methodologically and conceptually challenging, results from the CERA project illustrate the important contributions this type of research can make (Hamilton et al., 2014; Henly, 2012; Safford et al., 2011; Safford & Hamilton, 2012; Ulrich-Schad et al., 2013).

Two of the most prominent findings from our study in Alaska are the importance of age and education in shaping beliefs about development. Older individuals are more likely to see the traditional industries of commercial fishing and forestry as important for their community's economic future. When presented with trade–offs, they are also more apt to prioritize near–term use of natural resources and the promotion of new economic activities that create jobs irrespective of their impact on community character. Conversely, the more educated are less likely to view fishing and forestry as critical for their community's economy and they tend to prioritize conservation for the future over immediate use of natural resources.

These trends are not necessarily surprising, but they do highlight a generational and educational divide in perceptions about the appropriate economic emphases for the region. Like many rural places, demographic patterns show that the young and more educated are leaving Southeast Alaska in significant numbers (U.S. Census Bureau, 2010; 2012). Linking our results with these population trends suggests that policy makers may need to promote alternative types of enterprises and development approaches if they want to encourage young people and the more educated to remain in the region. In order to create a more stable and diversified regional economy it will be critical to keep these types of individuals in Alaska. The uniformity of beliefs across age and educational groups about the importance of tourism, shows that consensus on development concerns can be achieved. As the tourism and recreation industries are complex, additional research will be needed to understand how different segments of rural populations can benefit from expanding the tourism economy in Alaska.

While other studies of rural communities have found the beliefs of newcomers and old–timers to differ (Brown & Schafft, 2011; Fortman & Kusel, 1990; Krannich et al., 2011; Stedman, 2006), we discovered that age and education were stronger predictors of views about development concerns in Southeast Alaska. The sociology literature also highlights strong gender influences on environment-related beliefs (Dunlap et al., 2001; Freudenburg, 2007; Hamilton et al., 2010; Safford & Hamilton, 2012). Gendered views do not appear in the results from our survey questions about natural resource industries. Where we do see a gender divide is in beliefs about development priorities, with women being significantly more likely than men to favor preserving community character over job creation. This is a cautionary finding for policy makers. Singularly promoting economic rationale for development initiatives may run the risk of marginalizing women and who appear to have a heightened interest preserving the existing cultural character of Alaskan communities.

The importance of accounting for place–specific social factors in a broad quantitative study also appears in our findings related to race/ethnicity. Alaska Natives are significantly less likely than others to see forestry as important to their community's economic future. This result, along with the negative directionality of our findings for Alaska Natives' opinions regarding the future importance of fishing and tourism, suggests that this group may have broader reservations about the prospects for natural resource–related development bringing benefits to their communities. Native villages are some of the poorest areas in Alaska and appear to have benefited the least, in economic terms, from traditional natural resource industries as well as tourism. Nonetheless, it is interesting that Alaska Natives opinions regarding development tradeoffs are similar to the broader population. These two sets of results suggest that while views about priorities may transcend race and ethnicity, the long-standing economic difficulties that native communities have faced may make individual Alaska Natives more skeptical about the likelihood that any of the existing natural resource-related industries will bring benefits to their communities in the future.

Given the government's central role in natural resource management, it is logical that these concerns have become politicized. However, we find asymmetries in the influence of political ideology on individual views about development in Alaska. Beliefs about the future importance of fishing and tourism transcend political divisions, but party affiliation significantly predicts opinions about forestry and development tradeoffs. One explanation for these diverging trends may be related to the nature of government engagement. Forestry is highly regulated in Southeast Alaska and there have been contentious debates about increased logging and forest conservation, particularly related to Tongass National Forest (Cerveny, 2005; Colt et al., 2007; Gilbertson, 2004; Mazza, 2004; Uloth et al., 2009). It is logical that self–identified Republicans, whose party emphasizes limiting government restrictions in favor of industry self–regulation, might be more apt than Democrats, whose party emphasizes environmental protection, to see forestry as important for their community's economic future.

Self-identified Republicans are also much more likely than those of other political affiliations to favor near term use of natural resources and to prioritize new development that creates jobs over preserving community character. The strength of the relationships between party affiliation and responses to our tradeoff questions suggest that residents may view development priorities through a political lens.

Given that beliefs about the future of fishing and tourism are not significantly different based on party affiliation there is a need for further research that helps identify attributes of natural resource–related issues that trigger ideological concerns beyond debates about regulated industries and development priorities. Such data could provide critical insights to practitioners seeking to mediate conflicts and promote more consensual approaches to natural resource management and planning.

One of the principle objectives of this study was to use broad survey data to help uncover important intra–regional differences in perceptions about natural resource industries and development priorities. In particular, we wanted to see how residents of the regional hub, Juneau, compared with those from other parts of Southeast Alaska. Aggregate results from our survey show that residents of the region are divided in their assessments of the future importance of forestry. These patterns become more complex when our regression analysis is included. Individuals from Ketchikan and outlying communities were significantly more likely than those from Juneau to see an important future role for forestry, while those from Sitka appear to share similar views to individuals from Juneau. In this instance, the overall findings reflect important place–related differences in beliefs.

In contrast with forestry, there is seeming consensus among Southeast Alaskans that both fishing and tourism are critical for the region's economic future. Nonetheless, these results also mask key intra–regional differences. We find that, in comparison to residents of Juneau, those from Ketchikan and Sitka tend to view fishing more favorably, while individuals from outlying communities are less apt to see tourism as important. It is logical that residents of Ketchikan and Sitka, who's economies are more dependent on fishing, would see a greater role for this industry than those from Juneau where the economy is more diversified and closely tied to the state government. Similarly, the remoteness of communities in our outlying category makes them less accessible to visitors. Thus, it is not surprising that residents of these areas are less apt than those from Juneau, the regional hub for tourism, to view tourism as important.

It is interesting though that we find that beliefs about fishing are not significantly different among residents of Juneau and outlying communities, nor are there significant differences in the beliefs of residents of Ketchikan and Juneau about the future importance of tourism. When results from the two tradeoff questions are added to the industry–specific findings, these place–related trends are all the more intriguing. Residents of Ketchikan are significantly more likely to favor using resources now to create jobs rather than conserving them for future generations. Given this result, the immediacy of economic needs could explain in part why respondents from Ketchikan are more supportive of the fishing and forestry industries that have a history of sustaining the economic needs of this borough.

Another place–related nuance appears in the effects of residence in the outlying communities. In comparison to Juneauites, individuals from outlying areas tend to favor development that spurs jobs even if it changes their community's character. This is interesting, given that they are less likely to believe that tourism, an industry often associated with cultural changes, is critical to their community's economic future. If we pair these results with outlying residents' higher odds of viewing forestry as important, residents of these areas appear to both embrace traditional uses, while recognizing that their remote locations are unlikely to benefit from tourism expansion and will require some alternative type of development. These findings illustrate that simple categorizations of people and places along some

continuum of "in favor or against" natural resource–based development does not match the complexity of individual perceptions reflected in the findings from our study. In this instance, patterns in our quantitative analysis illustrate a need for more in–depth qualitative investigation to better understand the underlying social forces shaping these nuanced trends.

Finally, results from the CERA project in Southeast Alaska provide insights that may help inform broader questions about appropriate policy responses to changing social and environmental conditions in rural America and beyond. While Alaska is unique in its physical and social characteristics, the structural changes in its natural resource economy and intra–regional relationships, along with the underlying demographic shifts, are ones found in many rural areas. Recent scholarship demonstrates that social change occurs in myriad ways and that the seeming homogeneity in rural locales masks marked differences in the way individuals and entire communities experience and respond to shared concerns and issues (Brown & Schafft, 2011; Brown & Swanson, 2003; Hamilton et al., 2010; Kandel & Brown, 2006; Krannich et al., 2011; Lichter & Brown, 2011).

The dynamic nature of economic and demographic transitions across rural America means that what defines a "community" or "region" may be as much about shared beliefs, values, and norms as the presence of particular industries, population size, or natural features. A key task for community leaders and policy makers is validating residents' connections to individual places and enterprises, while also fostering the development of broader communities of interest across regions like Southeast Alaska whose future well–being depends on these interconnections. Sociologists can play a key role in these efforts by investigating the social forces behind locally–situated views about development while also illuminating the links to broader regional and national trends. These types of insights may help practitioners overcome overly parochial local or ideological tinged interests and highlight areas of commonality that could be the foundation for consensus-driven rural development.

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