RESILIENT DEVELOPMENT AND ENVIRONMENTAL JUSTICE IN DIVIDED TERRITORY: POLITICAL ECOLOGY IN THE SAN DIEGO-TIJUANA BIOREGION

KYLE HAINES
Department of political science
University of California, San Diego
kyhaines@ucsd.edu

Abstract: This paper explores issues in the expansion of environmental justice rhetoric to the developing world, and propose insights from resilience theory, political ecology, and bioregionalism as supplements. I do this from the frame of the San Diego-Tijuana region, where regional inequalities are stark and global processes have a heavy local footprint. Sharing a broadly-defined natural region, the growing evidence of ecological crisis increasingly calls for collaboration between two communities which often perceive themselves as relatively disconnected. Understanding challenges to social-ecological resilience and environmental justice in the San Diego-Tijuana region, however, also requires understanding it as an inflection point for global economic, military, and human migration flows occurring at many scales. It is in the context of building effective regional collaboration that environmental justice must engage the analyses of scale and political economy contained in political ecology as a challenge. I suggest, however, that any environmental justice discourse informed by political ecology cannot remain abstract from the local context. A "bioregional" community forged around shared ecological systems may serve as an important resource for creating social-ecological resilience in politically divided territory.

Keywords: environmental justice, political ecology, resilience, bioregionalism, US-Mexico border.

ENVIRONMENTAL JUSTICE AT THE EDGES OF NATIONAL SOVEREIGNTY

Drawing connections between race, class, and the distribution economic goods and environmental vulnerabilities, environmental justice has been a powerful resource for racial and class equality throughout the United States. Mobilized around the unequal distribution of toxic waste first made clear in reports by the General Accounting Office in 1983 and the influential United Church of Christ Commission on Racial Justice study (1987), environmental justice literature demonstrated in a comprehensive manner the distribution of environmental risk to peripheral and impoverished communities around the US (Bullard, 1990; Mohai and Bryant, 1992). The literature on

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environmental justice calls for fairness in industrial siting and waste disposal, increased government transparency, and fostering local community activism by demonstrating the uneven health consequences of economic development (Bullard, 1993, 2000; Brulle and Pellow, 2006). Many concluded that racial discrimination was at the heart of discriminatory siting practices (Chavis, 1993; Mohai and Bryant 1992).

Despite the influence of environmental justice rhetoric in the US, its practical uptake in many parts of the developing world has been limited, and its particularity to the US context has been the subject of criticism (Martínez-Alier, 1991, 2003). Addressing these problems, many have sought to address "developing" contexts by insisting on group recognition, strengthening non-hierarchical ties between powerful civil society actors, and translation of racial themes to indigenous struggles. This inclusion of community rights and indigenous movements is meant to combat perceptions that the analyses central to environmental justice apply only to "developed" contexts focused on individual, liberal agents as individual rights-holders in established, rich democracies. This is aimed at building an expanded common history as a reference for possible collaboration, and to define environmental justice as something more than an extension of US discourses.

It is clearly as a part of this expansionist effort that David Carruthers incorporates narratives about communities struggling against pollution, liberation theology, and indigenous movements as unconscious cases of environmental justice into his article on the San Diego-Tijuana border. He writes: "many of these activists might not identify themselves first as environmentalists, yet all are increasingly mobilized by interlinked social, economic, and environmental injustices" (Carruthers, 2008: 563). This is a common move in discourses which perceive themselves as young, and I don't think this is especially unfair. Robbins (2003) does much the same, reaching back to Kropotkin for the roots of another young discourse, political ecology. It is, however, interesting that it is in clear contrast to many traditional definitions of ecological politics like Andrew Dobson's "ecologism", which identify 1960s and 70s movements in the US and Europe as the first environmental movements in large part because *they were conscious of themselves as such* (Dobson, 1991).

As Shrader-Freschette notes (2005), the strength of environmental justice narratives is their potential for activating and informing attempts to create appropriate levels of ac-

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countable and democratic collective agency for confronting inequalities. This is potentially an important contribution to movements in border regions with the US, where being able to talk in traditionally powerful US rhetoric can gain media exposure and assistance for foreign actors on from sympathetic non-governmental organizations in the US. This is an added bonus, since environmental justice rhetoric is accomplished in analyzing and exposing environmental injustice. In areas as highly unequal and rife with environmental injustice as the Tijuana-San Diego region, however, this rhetoric needs to be adjusted to be persuasive and effective on the Tijuana side. I suggest, as part of this challenge, that environmental justice themes adopt insights from resilience theory, political ecology, and bioregionalism.

I follow work by Garry Peterson (2000) and others and suggest is that environmental justice be pursued through the interpretive lens of political ecology to gain important insights gained analyzing power and economics at multiple scales. Critics of political ecology often accuse its practitioners of forgetting the supposedly central role of ecology and focusing purely on economics, reduced to making indirect arguments about how political economy affects or represents ecological flows rather than engaging ecological research in any serious way (Vayda and Walters, 1999). I think this is an important critique, but not a fatal one. It is important because marginalization of ecological research obscures many potential connections between social and ecological systems and makes vital collaboration between natural scientists and social scientists more difficult.

There has yet to be a real fusion of the academic expertise recommended by many theorists of social-ecological systems such as the resilience research program, partly due to the division in the academy between natural and social sciences. Often, instead, one finds ecologists or climate scientists who are hobbyists in social theory, or trained social theorists attempting to interpret trusted scientific information and incorporate their findings as authority for their theory. This leads to confusion, as I think is evident in Garrett Hardin and Paul Ehrlich's dire exhortations against population growth starting in the late 1960s (Ehrlich, 1968; Hardin, 1968). I think this is equally apparent in social theory, where an industry has sprung up around adopting newer scientific understandings and critiquing older theories on their scientific credentials. This process is necessary and important, but translation is not the singular

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task of social scientists adopting ecology as a framework. If natural and social systems are linked, as suggested by most modern theories, then social problems need to be addressed with the same energy as ecological ones, which will require hard and creative work seeing connections and diagnosing social drivers of coupled problems. The need for active engagement with natural scientists by social scientists and humanities scholars reinforces the need to pay attention to their specialties and not inadvertently offend those who dedicate their lives to studying natural systems.

For many of the local community mobilizations envisioned by environmental justice theorists to function, communities will have to become knowledgeable regarding local natural processes and become capable of monitoring and enforcing existing laws. This need is especially pronounced in places like San Diego and Tijuana, where most residents have little if any historical memory tied to the land due to recent immigration, leaving few historical markers or scientific baselines as anchors for assessing rapidly changing landscapes. Focus on understanding natural processes can potentially supplement a lack of social memory in communities of immigrants and inform political identity and local democratic participation.

Predicated on local awareness building as a method for reattaching individuals to ecological systems and the establishing a sense of community based around biogeophysical commonalities, 'bioregional" principles can potentially reattach social and economic critiques to the ecological processes they approach, and, I argue, serve as a structuring narrative for theories of environmental justice and political ecology seeking broad regional resilience in those natural ecosystems divided by human boundaries, economic inequality, and cultural remoteness.

THE SAN DIEGO-TIJUANA CONTEXT

The city of Tijuana and its relationship with its sister city San Diego is an object study in such themes, a place where natural systems are bisected by barriers imagined by humans. These barriers are no longer simply symbols, as the stone obelisks first installed along the border from the Rio Grande to the Pacific may have once been, and their consequences are far from imaginary - today, the barriers are physical, linguistic, cultural, and distributional, bisecting two communities grown

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to millions of inhabitants, with different development patterns, densities, infrastructures, populations, incomes, and access to natural resources.

Introducing Tijuana through a description of the border region as a whole, Carruthers notes:

> The border offers a microcosm of north-south relations, revealing the forms, consequences and tensions of global economic and cultural integration. It is simultaneously prosperous and poor, urban and rural, Anglo American and Latin American, First World and Third World. Its residents feel these contradictions with great intensity. They have also demonstrated myriad efforts to confront them, including local, national, and cross-border movements for environmental justice (2008: 557).

As both a microcosm of greater themes and a particular local context, the San Diego-Tijuana region is an intriguing testing ground for the translation of environmental justice to developing contexts. Besides sharing many important ecological processes, Tijuana and San Diego also share a special location at a major global choke point of economic and human mobility. The restructuring of the Mexican economy in response to economic crisis in the 1980s and the ratification of the North American Free Trade Act (NAFTA) in 1994 have resulted in a massive out-migration from rural areas all over Mexico abandoning traditional farming livelihoods now unprofitable with the influx of cheap American corn, to enter the urban, industrial economy (and, indeed, shadier economies operating in clandestine silence). Tijuana, with its concentration of business parks and privileged location near the lucrative markets of the US, has been a powerful attractor for this out-migration, and many of the ecological problems in the region as a whole are complicated and intensified by the exponential and unplanned nature of population growth and informal development on the Mexican side of the border. Exclusive focus on these issues, however, is misleading.

Global flows of goods and services, both legal and illegal, matched with rapid urban growth in radically unequal economic conditions have led to a problematic disconnect between communities sharing both social vulnerabilities and ecological services. Attempts like Carruthers' to apply environmental justice frameworks over this divided context have been limited, although similar critiques have been fruitfully performed in places like El Paso and Ciudad Juarez (Grineski and Collins, 2008, 2010; Collins 2009; Grineski and Júarez-

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Carrillo, 2012). These analyses are in a traditional environmental justice formula - they are usually focused on the unequal distribution of vulnerability in poor communities, and are elaborated by highlighting specific cases of injustice and the efforts to confront them. Although describing environmental threats, these attempts are normally, and pragmatically, set in terms of human welfare. Natural systems or nonhuman entities rarely appear as subjects of justice unless as an indirect indicator for conditions of human life.

In a well-cited critique, David Schlosberg, echoing the work of Axel Honneth and Iris Marion Young, suggests that theorists of environmental justice pay greater attention to the idea of group and community forms of recognition, including a philosophical argument about recognizing natural systems and nonhuman entities as worthy of fair treatment (Schlosberg, 2007). Seeking to expand the frame of justice claims, and abandoning the centrality of racial analysis, his analysis relies on the retrospective classification of popular struggles as unconscious representatives of environmental justice. As in many similar approaches, this focus on popular struggles not explicitly self-identifying as "environmental" is often centered around connections to indigenous struggles.

This is in part because of the centrality of place and territory in many global indigenous movements, and also because the importance of race to environmental justice discourse in the US. This focus is counter-intuitive in some ways, since US environmental justice movements were conscious of themselves as environmental discourses and, in large part, were urban in focus. It also, however, makes sense, since indigenous movements establish a common identity, as racial movements also did, around spatial inequalities as a framework for pursuing larger goals. In the largely American-based environmental justice literature, race has often served as a shortcut for a self-identified community, a condition which indigenous politics, with its stress on recovering pre-colonial memory and practices, is well-suited to fulfill.

In Tijuana, despite in many ways being more like cities in the US than most other places in Mexico, this racial cognate is not as clear as in Southern Mexico and other places in Latin America where indigenous struggles, tied by history to territory, are actively renegotiating their identities. In Tijuana, the community which Schlosberg seeks to recognize, and which he and Carruthers pursue through indigenous politics in other

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places (Schlosberg and Carruthers, 2010), is not always as apparent or forthcoming.

Environmental justice insists that educating local people and empowering them to make changes will spur active engagement to confront shared challenges. Tijuana is a challenge to the specificity of this claim, a call to recognize that in places like the border between the US and Mexico calls for expanded community rights may seem premature in a way they are not where existing social identities are stable and longstanding. In Tijuana, many informal and underserved communities have little sense of themselves as communities, and remain effectively unincorporated politically, without mechanisms for collective agency. The most vulnerable settlements, often appearing suddenly from former ejidos and ranches, and sprawling along the city's periphery below business parks owned by foreign companies, are largely composed of newcomers from other parts of Mexico and Central America. Many have come originally to make money in the low-paying maquiladoras or arrange to cross to the US, and their temporary and at times illegal status makes political incorporation and appeals to shared cultural norms exceedingly difficult.

Considering the natural environment in such a region without understanding the kinds of regional, national, and global flows concentrated in the area is confusing and in the worst case can lead to a naïve fatalism when the local effects observed are tied in with processes occurring at much higher scales of agency. This fatalistic attitude is often used as justification for continuing inaction on many regional issues by relatively comfortable residents of San Diego, and underlines a general lack of appreciation for conditions of life in Tijuana. The American lifestyle, in contrast, is tantalizingly visible in Tijuana, through media permeation, transmigration, and sheer physical proximity. It is in part this image, if not its reality, which drives the hopeful migration from all over the world to the border region.

Applying environmental justice to Tijuana and San Diego, which Kevin Lynch and Donald Appleyard once labeled a "temporary paradise" (1974), is thus, of necessity, more than simply establishing connections or testing an abstract theory. It is a challenge to many of the assumptions underlying US policies in the developing world about the independence of natural and social systems, and to the assumed scale of effective analysis and action. In the face of accelerating change and increasing social risks, environmental justice discourses seek-

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ing relevance in the border region must preserve the strength of their local engagement, but also begin to think with a broader focus capable of identifying complicated problems and addressing them flexibly at appropriate scale.

TOWARD A RESILIENT BI-NATIONAL REGION

Resilience is the ability to adapt and respond effectively to system disturbance, and presumes a complex amalgamation of social and ecological systems interacting across multiple temporal and geographic scales (Holling, 1973; 1986). This metaphor has been pushed by CS Holling, Carl Folke, Lance Gunderson, and others into studies of governance. The result is an ideal of adaptive governance, which incorporates experiential learning and creates a structure for assessment and adaptation in the context of surprise and nonlinear change occurring at multiple temporal and geographic scales (Gunderson and Holling, 2002; Folke, 2006).

Any theorist seeking environmental justice, if even for purely social reasons, must see past theoretical disconnection between human and natural systems in order to properly diagnose the problem confronted and assess strategies for amelioration. The concept of adaptive governance is designed to address these needs by paying greater attention to the response to external shock and by creating a framework for learning from it. Folke, Holling, and coauthors claim that 'adaptive governance is primarily concerned with understanding ecosystem dynamics, utilizing diverse epistemological sources to develop management in a learning process, building capacities for response to crises, and supporting multi-level governance systems composed of flexible, local, and overlapping institutions' (Folke et al., 2005: 261).

"Flexible" institutions, in this sense, are those institutions which can identify change and initiate a self-correcting process to learn, not unlike the popular concept of "reflexive modernization" (Beck et al., 1994). This expands the original models of resilience based on observations of natural systems to include knowledge and community capacity as forms of "social resilience". Holling claims that if resilience is the key strategy for understanding and responding to ecological crisis, "then useful and usable knowledge and the social trust to apply that knowledge represent the sustaining foundations for social development" (Holling, 1996: 735). Each of these presents com-

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plications in San Diego and Tijuana, where the kinds of information necessary may not be available, and the trust essential to effective implementation, may be low or effectively isolated on respective sides.

Applying adaptive governance in the context of a natural region divided into heterogeneous political communities is difficult, and particularly hard where these divisions are national. Progress towards adaptive governance, in this setting, requires active cooperation of both national partners and local actors. These kinds of efforts have been accelerated in recent history as states, cities, and non-governmental actors move to address the evidence of increasing social-ecological challenges, and have culminated in a historic series of plans for climate adaptation, military contingency, and hazard mitigation in both the US and Mexico. The City of San Diego has created a Climate Action Plan, as mandated by the state of California, and Baja California has also recently completed a similar document. Ongoing bi-national coordination through the Commission on Environmental Cooperation (CEC) side agreement to NAFTA, the Good Neighbor Environmental Board (GNEB), and the Border 2012 and Border 2020 initiatives ties institutions from the US and Mexico to each other and, in a more limited but still important sense, to local organizations. Built on the back of the La Paz agreements in 1983 allowing federal cooperation between the US and Mexico, the Border 2020 initiative currently underway uses the agreed need for resilience-style planning at a regional level to create an integrated planning infrastructure for the challenges of environmental protection and sustainable development in the border region.

Environmental justice can be a powerful factor in the construction of such collaborative institutions, but to be effective in San Diego and Tijuana it must pay attention to differences in culture, history, and political institutions. Although border areas blur cultural barriers more than more distant areas of their respective countries, the potential for misunderstanding and ignorance of unequal distributions of environmental vulnerabilities is heightened by the physical and cultural ramifications of the border wall. Part of the remoteness produced is due to the inability or unwillingness of San Diegans to reflect on the consequences of their lifestyle, an infirmity reinforced by a general lack of familiarity with Mexico and the obscuring force of the border fence on global commodity chains moving through the border region.

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In the conclusion of his paper detailing struggles of the Chilpancingo community in Tijuana affected by abandoned toxic waste, Carruthers notes "local victories and cross-border collaborations have fueled a sense of community power" (2008: 565). This optimism, however, is tempered by his analysis in the article itself, where a disappointing campaign to the courts set up in the NAFTA Commission on Environmental Cooperation side agreement results finally in the state of Baja California taking control of the site and seeking funding for its rehabilitation. Today, the hill above Chilpancingo is capped with concrete and often eerily empty. This is a victory, but while the strengthening of social connections between Mexican and American civil society groups detailed is encouraging, it also appears vastly out of scale with the sources of the problems confronted. One page earlier, Carruthers" claims appear more dour:

> Globalized production parcels out costs and benefits unfairly, accruing special benefits to international capital, domestic subsidiaries, and local elites. Consuming classes enjoy a profusion of inexpensive manufactures and foods while the "poor neighborhoods" of the global south pay disproportionate human and environmental costs in the form of low-wage labor and environmental exploitation (2008: 564).

It is not clear how the narrative he told about local struggle, regardless of self-identification as environmental justice movements, addressed the more complicated, multi-level causes of the social-ecological effects they document.

In this sense, complementing analysis of ecological and social factors with political economy seems imperative for environmental justice if it is to be fruitfully translated into developing contexts. The vast inequalities exposed by economic and political analysis, performed at a more aggregate level than typical environmental justice narratives about local groups in struggle has the potential to display in clear terms the conditions of gross injustice across the San Diego-Tijuana region by linking consumption choices to the health and environmental vulnerabilities of the people producing those goods.

The physical proximity of Tijuana and San Diego is a constant reminder of the stark economic inequality in the region; maquiladora workers making 700 pesos (~$55) a week, living in the margins of Tijuana's fragile canyons, look down the canyon at a wall of sewage and trash, a towering fence, and a

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distant city which does not seem to know they exist. The televisions and biomedical gadgets pass quickly through the border. Foreign products are assembled by poor immigrant women, helping pass global commodities through a border they cannot themselves freely cross. Imagining resilient outcomes for the region as a whole, in this context, requires more than the application of traditional American social movement rhetoric, it requires a willingness to question the big and understand the small, while acting at and cultivating the kind of flexible governance identified as the target of adaptive management and resilience analysis.

ENVIRONMENTAL JUSTICE AND POLITICAL ECOLOGY

To address this apparent lack of appreciation for the scale of processes confronted, critics and proponents alike have stressed the relation of environmental justice to political economy. This need can potentially drive a fruitful hybridity with the growing tradition of political ecology. This kind of theory does not require a universal theory of class, race, or even ecology to anchor it, as Foucault insisted and people like Elinor Ostrom have shown in great detail, because local systems are adapted to their context and path-dependent in important ways. The need to become "specific" in this context, founds the literature on political ecology, at least in its less Marxist forms.

Garry Peterson describes political ecology as "a transdisciplinary attempt to integrate natural and social sciences approaches to understanding the relationship between human and ecological systems" (Peterson, 2000: 323). He sees it as "an approach that combines the concerns of and political economy to represent an ever-changing dynamic tension between ecological and human change, and between diverse groups within society at scales from the local individual to the Earth as a whole" (Peterson, 2000: 324). Predicated on seeing development from the eyes of the developing world, political ecology does not require the cognate of racism which environmental justice often uses to translate its insights to developing contexts. This allows political ecology the possibility of a critical, reflexive circumspection on urban and border areas which can be highly useful for expanding the appeal and effectiveness of environmental justice rhetoric. This is because it

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reconsiders many of the unconscious assumptions about nature and preservation, which are often seen as particular to the American experience and therefore unsuited for other contexts. This lack of fit has been the subject of widespread critique of parks programs, scientific forestry, the Green Revolution reliance on chemical fertilizers and monoculture, and the connection to historical power relationships, especially in former colonies.

Political ecology is focused on examining the interrelated roles of power and economics in ecological crises (Blaikie, 1995, 2008; Bryant, 1992, 1998). Drawing on Foucault, many recent political ecologists have sought to problematize one-sided ecological visions of the developing world, answering a call for specific intellectuals able to inform their abstract theory with dedication to expert analysis of empirical cases (Peet and Watts, 1993; Rochelau, 1995; Escobar, 1996; Bryant, 1998; Swyngedouwe and Heynen, 2003). Without such an attention to the relationship between economic, political, and ecological change, it hard to understand the kinds of issues encountered at the border between Tijuana and San Diego, and, likely, impossible to confront them at an effective scale.

What adding political ecology to environmental justice reveals is that achieving regional resilience is necessarily linked to development decisions on each side. In Tijuana, many argue that the stark discrepancy in income ratios which attracts US and Asian companies to invest in assembly plants along the US-Mexico border is the primary cause in the rapid growth of the region. By 1999, only five years after the NAFTA agreement was signed, San Diegans earned roughly six and a half times as much per capita as their counterparts on the Tijuana side of the border (Gerber and Rey, 1999). This was one of many tradeoffs Baja California, Tijuana, and Mexican federal politicians willingly made to increase employment rates, which remain high relative to the rest of Mexico, and this availability of employment, even at low wages and in vulnerable social conditions, has drawn people from all over Mexico and Central America.

This story of migration is common throughout the border region as a whole, where total population of US and Mexican sides increased from just 2.4 million people in 1950 to over 12 million in 2000. While the US side of the border grew 8.3% per year in this period, Mexican municipios along the border have grown a startling average of 13.5% per year, summing to an increase of 677% over the period (Anderson ,2003). Fol-

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lowing relocation of military bases after WWII San Diego County doubled in population in the 1950s. Today, population growth has leveled off, but San Diego County still represents close to 3 million people county-wide. This means that just under half of all border residents on the US side live in San Diego County.

Growth in Tijuana has been more recent and even more exponential in nature. In 1900 there were less than 250 people living in Tijuana. By 1980, this number was still around 450,000, less than half that of San Diego County. By 2010, 1.3 million people officially lived in Tijuana in highly dense conditions. The dramatic rise over the last 30 years is in large part due the restructuring of the Mexican economy, crises in many parts of Mexico and Central America, and the intensification of maquiladora investment. Maquiladoras, large assembly plants located in tax-exempt business parks, in 2000 employed close to 1/3 the workforce of Tijuana, and their expansion throughout the 1990s resulted in an employment increase of over 250% in Baja California (Bae, 2005).

The concentration of industry in Tijuana has also left a legacy of toxic waste unmatched even in other industrial cities along the US-Mexico border like Matamoros and Ciudad Juarez. Research by Kathryn Kopinak and others has highlighted the fact that the riskiest maquiladoras are actually located in more dense areas with higher concentrations of children. This is due to the preference of workers to live nearby their places of work, poor public transportation, lack of enforcement of existing environmental laws, and the informal nature of many of these settlements. Kopinak stresses that:

> The fact that more hazardous waste has been generated in Tijuana maquiladoras than in any other border city is consistent with the fact that in 1998, Tijuana was home to two thirds or more of the plants, employees, and value added produced by maquiladoras in the state of Baja California. In 2000, Tijuana was home to approximately 22% of the country's maquiladoras (Kopinak and Rocio Barajas, 2002: 217).

This vast toxic legacy of industrialization of the border region is reinforced by the consistent lack of enforcement from various levels of government.

The case study explored in Carruthers' 2008 piece applying environmental justice to Tijuana is just such a case of economic opportunity turned into toxic legacy. Carruthers follows the efforts of local communities to clean up massive lead

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smelting operation abandoned by a California company, which left 24.000 tons of mixed hazardous waste behind, including 7.000 tons of lead slag. This toxic legacy was found to be leaching cadmium, arsenic, and antimony into the Chilpancingo community of Tijuana. For Carruthers, clear cases of injustice such as this indicate that the scope of analysis must be expanded to include understanding the kinds of political economic flows concentrated on the region as a whole. He says "the economic imperatives of economic globalization establish a critical context for understanding much of the contemporary EJ mobilization in Latin America" (Carruthers, 2008: 564).

What cross-fertilization with political ecology gains environmental justice discourses is a focus on processes occurring at multiple scales, a condition of successful adaptive governance. This focus on scale embedded in political ecology is important because "scale research is principally epistemological, not ontological. That is, the focus for research on scale should be the "scalar practices of social actors", not scale itself as an analytical category", and second, because "attention to power asymmetries is critical for understanding networked relations within and between scales" (Neumann, 2009: 2). Political ecology displays economic and political inequality, but also focuses on the different scales at which relevant actors act. This focus on scale is useful for applying environmental justice frames to the developing world because it abstracts up from the traditional case-study narratives of environmental justice to more aggregate systems.

Political ecology is thus a potential response to criticism within environmental justice discourses debating the centrality of race or class. The particularity of the spatial organization of racial segregation in the US makes disentangling class and race highly problematic. Many groundbreaking works in environmental justice performed in the US context found that race was the central organizing force around siting decisions (Chavis, 1993; UCC 1987), and while this racial cognate may work well in areas with indigenous peoples who experienced much of the same spatial segregation, it is unclear how well it works in the urban contexts of rapidly developing modern cities along the US-Mexico border. Lacking race as an organizing force is meaningful, because it was a non-ideological mobilizing force for identifying affected communities. Where a sense of communal identity is less strong or nonexistent this mobilizing force is lost, and the intention of bettering conditions through the research becomes less clear in implementation.

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Political ecology, by focusing on global economic flows and power at multiple levels, is a powerful supplement for environmental justice. The translation of scientific frameworks like ecology to social analysis, however, has encountered firm criticism, and this is important to note in connection to both political ecology and to adaptive governance frameworks based on resilience. Many critics have questioned the "political" or "ecological" nature of the discourse (Zimmerer and Bassett, 2003; Peterson, 2000; Walker, 2005, 2006), even caricaturing it as a jargon-filled version of resource economics or an ill-fitting ecological metaphor laid over complex and particular social and economic issues (Vayda and Walters, 1999). This second objection is important in the history of political ecology, as crude biological metaphors were the source of many distasteful Survivalist works of the 1970s which firmly blamed the developing world for ecological crises. These studies are not claimed in the retrospective genealogies created by environmental justice or political ecology, even though they were some of the first to insist on the radically interconnected nature of social and ecological systems.

Following this insight, in a recent paper Muriel Cote and Andrea Nightingale insist that resilience theories need to pay more attention to social and economic factors. They claim that while resilience is useful for understanding human and natural systems as coupled, "its applications as a stand-alone formal theoretical framework are more problematic" (Cote and Nightingale, 2012: 478), asserting that a resilience framework is inadequate because it overemphasizes the role of external shock and because it "undertheorizes" political and economic factors. In a passage broadly applicable to the other discourses discussed, they explain:

> The treatment of ecological and social dynamics with a single epistemology is an important challenge. More specifically, the reliance on ecological principles to analyze social dynamics has led to a kind of social analysis that hides the possibility to ask important questions about the role of power and culture in adaptive capacity, or to unpack normative questions such as "resilience of what?" and "for whom" when applied to the social realm (Cote and Nightingale 2012: 479).

I think that many recent revaluations of environmental justice echo this need to ask bigger questions and link local effects to larger processes. For Cote and Nightingale, amongst others, adding the analysis of power, knowledge, and political

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economy contained in discourses like political ecology to ecological metaphors like resilience "opens up issues around values, but also about equity and justice, which allows us to formulate questions about which resilience outcomes are desirable, and whether and how they are privileged over others" (2012: 480). This is also a common critique of political ecologists informed by post-structuralist philosophy, who assert the need to "put politics first" (Bryant, 1991).

One way of evaluating this debate is through the lens of urgent need for collaboration between natural and social scientists. Peter Walker, defending political ecology as adequately focused on the natural world, admits that if "those who practice biophysical ecology perceive that their contributions are not highly valued in political ecology, this may represent a serious threat to the long-term success of the field, *especially* for recruiting younger scholars with training and interests in the natural sciences (it should be a cause for considerable concern that few of the young scholars entering political ecology today have extensive scientific or ecological training)" (Walker, 2005: 79). Utilizing the connections made between social and ecological issues to reassert the centrality of traditional subjects of social science, thus, is unlikely to be convincing to natural scientists and leaves ambiguity about what exactly is meant by ecological analysis.

Treating ecology as a kind of empirical measurement of social and economic actions is a potentially valuable critical frame for social scientists, but limiting the role of ecology to generating scientific proof of these social analyses misses the potential for things like local education aimed at understanding natural systems to potentially serve as the foundation for regional collaboration. It also limits the perceived role of natural scientists in this process, and has the potential, through increasing the ambiguity of the scientific concepts they study, of appearing dismissive towards the complexities of the natural systems which scientists devote their lives to uncovering. Welding environmental justice to political ecology as simply a synthesis of social and economic analyses could continue to relegate ecology to this simplified role as "scientific" proof or an abstract binding logic of interconnection. This is a real threat, not only to the extension of environmental justice to developing contexts and the continuing development of political ecology, but also to the kinds of collaboration across disciplinary boundaries on which each discourse depends for generating social resilience.

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Confronting the problematic tug of war of social and ecological experts for the master frame of interpretation in political ecology is illuminating and also frustrating in many ways. Paul Robbins avers in both directions, acknowledging the divide but challenging each to attempt to work towards a middle ground:

> It is clear that environmental researchers with an interest in politics and political geographers with an interest in the environment are on parallel, but distinctly separate tracks. The possibilities for cross-fertilization of concepts, theoretical tools, and methods remain strong, but under-realized therefore… [P]olitical geographers might benefit from the development of better accounts of the role of non-human agents in producing political outcomes and from a richer engagement with the political ecologies of everyday life, while political ecologists must work to better understand state institutions that are too often treated as "black boxes" in their accounts (Robbins, 2003: 641).

Tim Forsyth, advocating for a more reflective "critical political ecology", acknowledges this debate in much the same manner as Robbins does, and insists that critics not ask whether political ecology is "sufficiently political or not, but rather seek ways to apply this form of politics more successfully", which would require critiquing many of the foundational assumptions in uncritical environmentalism (Forsyth, 2008: 762). It also points out a possible set of lessons to be learned from environmental justice movements.

Forsyth, fearing the distraction and potential for summary dismissal of political ecology presented by critics focused on one term or the other, claims: "Political ecology should not adopt separate understandings of politics or ecology, or see one as a guide to the other. The challenge for political ecology lies in understanding both environmental and political change in ways that *enhance social justice*, but which do not impose *a priori* notions about each" (Forsyth, 2008: 763; my emphasis). I think this is an important insight for the profusion of green theories endlessly critiquing each others' theories of non-response to social-ecological problems. Although it remains abstract, Forsyth's return to justice as an organizing theme reactivates many who might have been turned off by the abstract or ideological nature of analyses of political economy or highly technical ecological research.

Environmental justice applied to the developing world and divided regions can benefit from the multi-scale analysis

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and cross-disciplinary collaboration advanced by resilience thinking, and the expansion of the content analyzed made possible through the incorporation of themes from political ecology. Each, however, at times subsumes analysis about natural systems in favor of political, social, or economic analyses. To address the problems identified by critics of each discourse I think environmental justice and political ecology could both profit from interacting in a serious way with a third tradition of thought known as "bioregionalism".

SEATING JUSTICE AND RESILIENCE IN THE BIOREGION

Like resilience thinking and political ecology, bioregionalism also focuses on the natural and human systems as intimately connected. Rather than relying on more abstract economic processes or symbolic uses of ecology as a generic logic of interconnection, bioregional theorists apply the insight of this interconnection through a dedicated emphasis on shared membership in linked natural and social communities. Bioregionalism insists that human political and cultural boundaries are best arranged around ecosystems, and that the shared commitment of those inhabiting the region can be a powerful source of collective identity (Dodge, 1981; Berg and Dasmann, 1977).

In places like San Diego and Tijuana which lack easy reference to clear binding identities, the bioregional commitment to subsidiary power and identification with local landscapes may serve as a powerful glue in necessary collaboration and social learning between two national sides which often view each other as distant, and potentially between academic disciplines studying the same phenomena from different disciplinary silos. It could be seen as a form of the expansion which Schlosberg and others saw as necessary to extending environmental justice rhetoric—one which is grounded in the organizing frame of the local environment and which requires widespread social learning about local conditions and ecosystems.

The challenge to expand environmental justice is important for generating authenticity on the Mexican side of the border. Consider for a moment the perspective of the Colorado Delta tribes. What counts as fairness to these people may be much different than to the perceptions of San Diego County. Water from the Colorado River travels through the desert

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in long aqueducts to make Imperial Valley and Ensenada fertile, but also to sate the fetish with green lawns and tropical gardens in San Diego County. Balboa Park, the jewel of green space and culture in the center of San Diego, uses massive amounts of water each day maintaining expansive lawns and beautiful fountains and pools. Mission Bay, a recreational paradise literally built from the ground up out of what was a wetland with critical ecological functions, maintains the same expansive lawns, privileging the image of the city as a tourist and recreational destination over the other uses for such long-traveled water.

How would one explain such a persistence of wasteful lawn-watering habits to the indigenous Cucapá of the Colorado Delta, their territory split by an arbitrary line drawn by dueling orders of monks, who have only seen the Colorado reach the Sea of Cortez *once in a lifetime* (and that once a spectacular experiment and monumental achievement)? The opacity of the border allows for a kind of freedom from other perspectives on just ecological conditions in San Diego which would be hard to achieve between communities within the US. Now, through exposure gained in large part by an intrepid kayaker, the Colorado is allowed to pulse more frequently. Yet the Imperial Valley is also still the main supplier of water intensive, low nutrition lettuce to the US during the winter.

One need not be as far away as the Colorado River Delta to see the usefulness of this analysis. Where I do my field work, the piles of scrap tires and illegal dumping adorning the hillsides of the informal housing of maquiladora workers in the edges of Tijuana are a foreground to a clear view across the fences and roads, across the estuary, all the way to the harbor and shining towers of San Diego. The predicament of the Tijuana River Estuary, and its interconnection with the struggles in these largely informal communities, is a case study in the need to expand perspectives and increase the scale of analysis. A bioregional framework incorporates these diverse perspectives and embeds them in a local community built around shared ecological context.

One of the chief problems in bi-national collaboration in this region is widespread ignorance of the conditions of life in Tijuana in San Diego County. Commonly held public perceptions of Mexican environmental laws as comparatively weak in relation to US laws are technically false. Article 4 of the Mexican federal constitution guarantees the right to an equal environment, a right not present in the foundational documents of

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the US. This abstract right, however, often seems lost in practice of the rights of mobility for economic goods, both legal and illegal. Mexican framework environmental laws, passed more recently than their US counterparts (on which they are largely modeled), are quite specific and even potentially more powerful laws, as the Mexican federal government controls much of the national economy, and thus more impact assessments across wider swathes of economic sectors are possible.

Their enforcement, however, is not good for a series of reasons which are apparent in Tijuana, including the need for passage of specific local codes, chronic underfunding and understaffing of enforcement agencies, and a lack of scientific baselines and reliable ecological knowledge (Diéz, 2006). Without adequate scientific baselines impacts become impossible to assess and compliance is very difficult to monitor and enforce. These baselines, however, are costly to construct and potentially threaten lucrative development decisions. Underfunded and subject to corruption, well-written framework laws have yet to be enforced in earnest.

In Tijuana, this lack of effective enforcement is coupled by the relative lack of historical memory of a largely immigrant community, making monitoring and participation more difficult, and expensive legal challenges extremely costly to mount or sustain in a meaningful way. Ongoing decentralization of responsibilities from the highly centralized Mexican federal government has yet to be matched with resources for effective local governance in much of Mexico, and this trend is attenuated in the periphery. Persistent low-funding for environmental enforcement and low fines for illegal development encourage deleterious behavior by large offenders, which is often tolerated in return for anonymity by vulnerable communities burdened with the waste produced. Relative lack of services and weak incorporation into political decision-making make many recently established informal communities especially vulnerable to uneven health and pollution externalities from industrial parks and toxic waste disposal. This is a very clear opening for environmental justice research, and is being actively pursued by recent initiatives between global health, urban studies, and other disciplines at UC San Diego (Pezzoli et al., 2014).

The region's problems, however, are not confined to the challenges in rapidly-developing Tijuana. San Diego faces severe challenges as well, although for apparently different reasons. While enforcement and baselines are better funded and

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more effective, many key issues remain undiscussed because they violate assumptions about what it means to lead a modern flourishing life. Water is a particularly illustrative example, as it has to travel at great cost from the Colorado River and other distant sources, and natural drought cycles and population growth combine to make increasing demands on limited supplies. The persistent lack of action in San Diego, until very recently, to recycle water or decrease the immense amounts of water wasted on ornamental lawns emphasizes the continued need for higher scales of analysis - in this case understanding the extended geography of water consumption in an area which averages less than ten inches of rain per year, and where long cycles of ocean currents related to the Southern Oscillation in the Pacific Ocean, commonly referred to as El Niño, bring much of the decadal totals in concentrated storm events (Cavazos and Rivas, 2004).

Tijuana uses far less water per capita than San Diego and has storage in local mountains. Infrastructure, however, remains limited for things like erosion control and treating waste water, especially on the periphery. The ever-expanding canalization of the Tijuana River provides an efficient conduit for that waste to reach the Tijuana Estuary and eventually the Pacific Ocean. The estuary, on the US side of the border, receives high concentrations of toxic solids during heavy rain events, delivering sewage to the beaches of Imperial Beach and Playas de Tijuana immediately down current (Gersberg et al, 2004). At the same time, the natural filtering services performed by the wetland are inhibited by the growing influx of eroded sediment from the canyons between Tijuana and Playas, where informal colonies denude the coastal sage beneath paved industrial business parks encouraged by flows of capital and commodities spanning continents in scale (Farley et al, 2012). Environmental justice literature focused on local struggles here can at times appear dishearteningly out of scale with the kinds of sources of unequal development patterns and the interaction of larger-scale systems with local environmental and social effects.

In the context of widespread destruction of wetlands throughout the US and Mexico, the Tijuana Estuary serves as a vital stopping point for global migrations of birds, performs essential filtering services for water entering the Pacific Ocean, and houses some of the last remaining habitat for several local endangered species. The particular strangeness of the Tijuana estuary is that a watershed proportionately larger on the Mex-

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ican side of the border delivers water and sediment to a protected wetland directly on the US side of the border. This requires connections between science and policy, but also between the different authorities tasked with keeping the watershed and the people living in it healthy.

The estuary is fed by the Tijuana River, the watershed of which is quite large, straddling the border. The Tijuana River ends its run in Mexico as a massive concrete channel feeding into a treatment plant and eventually freed into the dirt of the estuary. Storm events overwhelm the water treatment plant and deliver heavy doses of sewage and toxic run-off from the Tijuana River into the estuary to be ejected into the Pacific Ocean (Gersberg, 2004). The beaches of Imperial Beach, just north of the estuary outlet, are consistently closed for pollution throughout the year. Many residents and surfers use the beach anyway, raising health concerns.

The canyons west of the city center of Tijuana slope down from south to north from several hundred feet and empty into the estuary near its terminus at the ocean. These canyons are now blocked by the freeway, multiple fences, a separate raised road for border patrol, and, most recently, two large basins constructed to catch trash and slow sediment. Recent studies have found increased sediment and trash flows from these coastal canyons to threaten the health of the estuary. The area near the base of the coastal canyons is raised and dusty with extra sediment, pushing the salt marsh north, killing native vegetation, and eliminating vital habitat for many species, including several on the Endangered Species list. Experiments have shown that volunteer creeks are unlikely in this raised environment, requiring active excavation to prevent the build-up of fresh water and the transformation of the salt marsh (Wallace et al., 2005).

This problematic sediment starts, however, in the recently denuded canyons of Tijuana, where large industrial parks run by multinational companies have encouraged the haphazard development of sprawling informal settlements. To intervene in these kinds of settlements to prevent sediment and trash from reaching the estuary means understanding the patterns of regional development. Raising public concern is hampered by the lack of community cohesion and political representation of impoverished immigrants seeking a better life, but also seeking anonymity for a series of reasons (Kopinak and Soriano Miras, 2013). Since close to three quarters of the Tijuana Watershed

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is in Mexico, addressing concerns in the estuary without a cross-border vision is confusing and ultimately unproductive.

The risk of extreme sewage or sedimentation events to the estuary is mirrored in the canyons, where roads wash out, channeled creeks full of trash and sewage overflow, and large sections of former sage and chaparral denuded by ranching and development of colonies break off and threaten housing in major rain events. The vulnerability to an extreme event in the canyons is accentuated by the lack of police, medical, and fire services in the area to respond in case of a situation like in 2008 where they become effectively cut off by road damage. While extreme precipitation events are infrequent, they are regular. The climate of both San Diego and Tijuana is in large part affected by the Southern Oscillation cycles in the Pacific. This means that years can pass between "El Niño" events in the rapid development of many areas of Tijuana where critical infrastructure is not tested. It also means higher susceptibility to extreme sewage events when the canalized Tijuana River runs too high for the international water treatment plant immediately at the border. A similar problem exists in the canyons, where the pace of conversion of former ranches into settlements has left many areas yet untested by El Niño, in an area of already low ecological resilience due to land use patterns which encourage fragmentation and loss of native flora (Farley et al, 2012).

All these natural and social factors add up to a general decline in species in the estuary and increasing vulnerability of human settlements in the canyons. The estuary is considered the region's least disturbed (a designation which is sobering rather than encouraging). Recognized in 2005 by Ramsar as a "Wetland of International Importance", protected as a US Fish and Wildlife Service Wildlife Refuge, a California State Park, a county protected area, and a National Estuarine Research Reserve, and overseen by many concerned civil society groups on both sides of the border, multiple scales of governance overlap in the estuary. However, conditions are still precarious. In a 30 year study published in *Restoration Ecology* Zedler and West observed the loss of several native plants, intrusion of hardy succulents, and continued degradation due to sedimentation (Zedler and West, 2008). The insight produced through engaging ecological research here is that the many overlapping scales of governance recommended by adaptive governance theories are not enough by themselves to solve

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ecological problems if they do not focus equally on social, political, and ecological issues.

If making a shift toward more resilient local governance requires, as many analysts have posited, a renewed focus on adaptive social learning and long-sighted active intervention, a sense of common identity at the regional scale will be imperative for learning from the experiences of other localities as well as addressing larger scale issues in effective collaboration. In areas such as the San Diego-Tijuana border, such a process will be infinitely more complicated due to the cultural and political differences between communities inhabiting common territory, where many of the most vexing social-ecological problems may require careful multi-level analysis and urgent collaboration. San Diego and Tijuana are linked inexorably, despite the national border scarring the space between them. Creating awareness of this connection is a predicate for environmental justice and other well-intentioned efforts in the border area. Approaching the issues of water quality in Imperial Beach or ecological health in the estuary requires a vision which sees beyond political boundaries, and in this sense can profit from focusing on the shared environment as a binding force for related analyses of economics and health disparities (see Pezzoli et al., 2014 for one such research program, the "One Health, One Bioregion" initiative).

For bioregionalists, creating greater ecological resilience requires reattaching individuals and groups to their relationship with the land. Where the land is disturbed, this requires an ethic of care, or what Berg and Dasmann call "reinhabitation". San Diego and Tijuana are a potentially provocative case in this respect, divided as they are by the border fence. As they explain "*reinhabitation* means learning to live-in-place in an area that has been disrupted and injured through past exploitation. It involves becoming native to a place through becoming aware of the particular ecological relationships that operate within and around it" (quoted in Aberley, 1999: 23).

The danger in practice of political ecology has been an overfocus on political economy at the expense of the kinds of greater understanding of social-ecological systems needed to create resilience at a regional level. The danger is outlined by Foucault. Critiquing the "universal" intellectual Foucault calls for a kind of dedicated specificity. Later in the same lecture, he notes that one of the principal dangers for specific (rather than universal) intellectuals was staying at too low a scale of analysis (Foucault, 1980: 126). Others, more strictly focused

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on social concerns, have attempted to create parallel environmental justice narratives regarding local struggles over waste and health differentials, but as Foucault warns, these efforts can suffer from remaining at too low a scale to engage the kinds of global processes involved, and many make category mistakes transposing important (and in the US context very powerful) rhetoric about racism and social movements onto different cultural and developmental contexts.

If academics, as specific intellectuals, are interested in justice to fellow humans, groups, *and* nature, they must reprivilege ecological analyses alongside social and economic ones. Bioregionalism suggests that, without losing sight of larger-scale processes and systems, residents of common territory must draw down governance to an effective local level. Bioregionalism makes the search for awareness of connection between human communities and individuals with the land, "by foregrounding natural factors as a way to envision place, bioregionalism proposes that human identity may be constituted by our residence in a larger community of natural beings - our local bioregion - rather than, or at least supplementary to, national, state, ethnic, or other more common bases of identity". Creating this kind of parallel identity means accepting the responsibility to care for the place one lives and those one shares it with, both human and nonhuman, "such shifts in perspective, bioregionalists propose, can have a major and ecologically positive influence on how we choose to relate to the world around us and, indeed, for who we imagine ourselves to be" (Lynch et al, 2012: 4).

RESILIENT DEVELOPMENT AND ENVIRONMENTAL JUSTICE IN CONTEXT

With the express goal of regional resilience, I argue that both environmental justice and political ecology can benefit from taking social-ecological systems as *equally ecological*, rather than focusing on social and economic factors as ultimately generative of ecological outcomes. The tendency to privilege one kind of analysis over the other has been criticized in political ecology from both sides, both by critics seeking greater engagement with ecology and others broadly seeking more complicated social analysis than allowed by strict translation of ecological concepts. Each of these perspectives is right, and finding a balance between them is difficult, especially when

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negotiating the kinds of collaboration necessary between social and natural scientists. This discussion is instructive for pursuing a similar revaluation of environmental justice, which I suggest can be addressed through local education and bioregional identity.

Political ecology, like environmental justice, has been utilized as an explicit method in Tijuana by very few, often local scholars (Dedina, 1995; Herzog, 2000; Sundberg, 2011). Unlike environmental justice literature, however, political ecology has a strong base in developing contexts. Its emphasis on livelihood avoids some of the pitfalls of unreflective US environmentalism, which is often accused of neglecting the role of livelihood and local expertise in ecological management. Political ecologists emerged to challenge pervasive environmental critiques which had placed the blame for poor ecological outcomes in the "developing" world, such as arguments about population popular in the 1970s or the "post-material hypothesis" popular in the late 1980s and early 1990s.

Influential and overwhelmingly dire theories of ecological politics from the 1970s had pinpointed the developing world as the chief perpetrator exponential population rise. Seeing the political world through the eyes of population biologists, many of these theories supported regressive aid policies and abandonment of the developing world to its own disaster, retiring to rich enclaves where "rational" population rates prevailed. The increase in population, for these theorists, meant that important limits to the carrying capacity of the earth had been passed by the human species, and ruthless checks of disease, war, and even forced sterilization were inevitable (and necessary) negative feedbacks. Blind to lifestyles and historical responsibility, Survivalist narratives like these saw the human species as a kind of generalized problem, which meant that anywhere that population increase was high, was proportionately more responsible for ecological crises and resultant social upheaval. It is this simple translation of ecological themes to politics, which people like Cote and Nightingale (2012) strive to avoid.

The post-material hypothesis claimed that environmentalism was a middle-class phenomenon, only possible with the shift from material focus made possible by being secure enough in the economics of day to day life to reflect on the cost of that livelihood to the environment. Despite its blindness to historical responsibility and the role of first world consumption in the conditions of the developing world, the "post-

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material" hypothesis carried a similar insight to those pursued in political ecology and resilience theory, and which became the basis for the concept of sustainable development. This was that solving environmental problems would require attention to economic and social factors. Seeking diverse evidence of "environmentalism" in the developing world through the lens of US social movements and parks programs, many assumed that increased per capita income was necessary to activate a sense of stewardship by lengthening the economic time horizons of those freed from the constant search for subsistence.

This theory continues to be a source of contention for political ecologists, and drives an effort to expand the accepted histories and examples of environmental activism to include movements which did not explicitly phrase their rhetoric in the terms of the US social movements or catch-all terms like sustainable development. It continues to serve as a kind of severing force between stakeholders who have an interest in collaboration because it is effectively blind to the interconnection between "post-material" developed societies and the "material" societies which provide their goods and absorb the environmental consequences of their appetites. Few people think about the sediment flowing from Los Laureles Canyon into the Tijuana Estuary when they buy a plasma TV in San Diego, but the two are intimately connected in a way which the post-material hypothesis obscures. The perceived distance created between communities by the physical border dulls the sense of responsibility of consumers in the developed world for the social and ecological outcomes of their developing partners.

The real testing points for the kind of revaluation of environmental justice performed above will be around the edges of borders between cities, regions, states, and countries where sovereignty is divided but ecosystems are not - the particularly hard cases. The canyons in Tijuana are a perfect example of this kind of challenge, operating across a series of institutional, linguistic, and physical barriers, as well as very real differences in identity, nationality, wealth, health, education, and opportunity, all while sharing a watershed which dumps into an ocean which crosses the border freely. In San Diego and Tijuana, despite sharing a physical location, this nascent bioregional collective lacks a reliable collective agent - communities continue to perceive themselves as remote from each other. Without the cultural substrate of shared identity, attempts to manage or govern effectively will be prey to actors at higher levels.

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What seeking this shared sense of destiny, trust, and community capacity exposes above all is a very real need to address the terms of development itself in a meaningful and genuine way. US policies which seek to stem environmental degradation within US borders while paradoxically encouraging the deleterious policies in the industrialized border region will continue to generate fragile conditions for both human welfare and ecological systems where they are seen as unconnected. Perceiving these effects as unintentional or unlinked defends existing, ecologically-problematic habits, while enshrining these same habits as aspirational goals for developing areas. These destructive habits, unchecked, create the conditions for ecological decline so well-documented by reflexive efforts in rich countries, and are serious dangers to social resilience in areas without adequate scientific baselines, political participation, or government enforcement of existing protections.

The challenge for environmental justice in this context is to create understanding of the linkages between communities sharing the natural landscape. It must consider economic and political processes (a la political ecology drawing on Foucault) in this effort, but the overreliance on economic analysis can reintroduce the dichotomy opposing livelihood to environmental protection, still keenly felt in both conservative San Diego and by many recent immigrants to Tijuana who came to their "temporary paradise" seeking employment. In order to generate the kind of holistic environmental justice discourse sought by Schlosberg and others a renewed focus on shared environments should be sought and collaborations across national and disciplinary boundaries encouraged. At this point, the border serves as an effective tool of displacement, keeping enough cultural distance between San Diego and Tijuana to prevent both the stewardship of natural areas by growing impoverished communities at the margins of Tijuana, and a sense of responsibility for social outcomes related to US consumption chains and development policies on the San Diego side.

This is, effectively, a microcosm of many of the most problematic issues in global ecological and development debates, brought to a fine-grained point at the edges of national sovereignty. The developed side appears blind to the deleterious effects of their lifestyle on the lives of those in the developing world, yet continues to call for environmental preservation, often based on prejudices which do not see livelihood or social issues as linked to ecological ones. Instead, linking envi-

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ronmental justice to developing contexts must be done in a more reflexive and hybrid way, at the risk of continued irrelevance or profound gaps in credibility. I think this process can be hastened in places like Tijuana and San Diego by renewed focus on shared ecological systems and their interrelationship with social and economic factors. A bioregional perspective demands that this be done with the express intent of creating stewardship and a sense of shared community, beginning at local levels and ascending to higher scales when necessary to meet the scale of the challenges represented.

This is not a simple diagnosis, and, as Elinor Ostrom warned, no simple panacea will solve complicated and global problems in every location (Ostrom et al, 2007). San Diego and Tijuana, however, share a common natural inheritance and deep history of human residence preceding recent migration, despite being arbitrarily separated by human barriers, and this particularity is both a cause of many problems and also an opportunity to profit from cross-border visions which see ecological commonalities as central binding forces rather than focusing on cultural, linguistic, and economic disparities. I have argued here that is only from the base of a regional community with an adequate understanding of their shared environmental context, awareness of the multiple-scales of flows involved, and focus on the effective scale of collective agency that pleas for environmental justice or con-urban resilience will be more than simply aspirational rhetoric.

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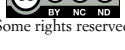

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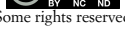

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