
Knowing Home: The Basics of Bioregions

by Steve Johnson

In a city, the first tier of political involvement is the neighborhood; neighborhoods whose boundaries are sometimes created by natural features (Mt. Tabor), but more often by a combination of land development schemes (Laurelhurst, Ladds Addition), major arterial roadways and other industrial and commercial developments. It is most satisfying to respond to problems at the neighborhood level. We can see and feel the problem, and when we are successful in implementing change, we are gratified with immediate results. Our association with problems beyond this immediate reality are informed through mass media. We are mindful of and concerned with events hundreds and thousands of miles away on a daily (and often more frequent) level; we are not, however, equally empowered to take action that influences these events.

Oregon, 100 years ago, was officially a part of the United States, but its citizens were more oriented to the region they lived in. They were mostly energy and food self-sufficient and could not be as easily affected by political events in another part of the nation or world. This changed with the coming of the railway, and it changed again with the coming of the automobile and eventually the growth of modern mass communication systems. The nation today is bound together through an intricate fabric of interstate highways, telecommunications, and a centralized economic structure, which creates a franchised, or what some have called a "world-wide mono-culture."

As we literally blanket the earth with our enterprises, we create increasingly complicated jurisdictions and boundaries. In cities, neighborhoods become districts, and districts are often separated (as in Portland) by rivers. One citizen

may belong to dozens of political entities: In Portland we belong to a city and county and regional government and state. Within the state we may identify with distinct geographic areas. The maritime region of Oregon, west of the Cascades, has a radically different climate and ecology, and therefore a different culture than eastern or southern Oregon. Beyond the state we are considered a part of the Northwest region—Oregon, Washington and Idaho. In some federal government breakdowns we are part of Region X, which includes such unlikely neighbors as Alaska and Hawaii. From other points of view we are one of the Pacific Coast states (Oregon, Washington, California) or we are one of the eleven western states. Problems do not always pay heed to political boundaries. Countless special government units such as the newly formed Regional Energy Council are created to deal with the meandering problems of rivers and streams and the distribution of unequally available food or energy.

Portland is the big city for the state of Oregon. In a pattern that is repeated in many western states, there is one major city, and two or three other medium-sized ones, while the remainder of the state is rural or wild. The Greater Portland area has about one-half of the state's population and uses more than one-half of the energy and resources consumed in the state. It is obvious that Portland is not a self-sufficient community living within the limits of its own resources. The creeks and streams are dried up or encased in drainage pipes. Its farmable land is mostly covered by streets and buildings, and most all of its energy is imported. The city cannot sustain itself without help from neighboring communities, and by regional

development of energy, water and food resources.

In many ways, the degree of self-sufficiency of other communities in Oregon has an added direct impact on Portland. If, for example, an investment firm builds a retirement housing development near Bend, it will have some positive economic impact on Portland, as the goods necessary for development and maintenance of life are produced and/or shipped through Portland. The development will also likely have a negative impact on the environment, further taxing the physical capacity of the Portland area by creating additional industrial and transportation-related pollution.

As we expand the city's role as basic life support supplier for other communities, we stretch the limits of the city to maintain its own high quality of life. The detrimental impact on the city is accentuated by the development of cities and towns that have little or no economic viability of their own.

In order to understand how to continue to live in this region, or any region, we must look at how the region functions. We are, as poet Gary Snyder has said, extremely deficient in regional knowledge. There was a while, before Oregon became a part of the franchised and centralized economic structure, when citizens knew about the land, the seasons, and how to carve out a living. We cannot return to this past era, but we can change our direction and look at what kind of life our region is able to sustain.

When we think regionally we can learn, or re-learn, what is available to us within our region, in our community and in our backyard. The information provided may come to us in different forms. As energy costs rise we think

twice about accepting houses designed with another climate in mind. As food prices rise we suddenly realize that gardening need not be only a summer pastime but that food, with simple technological assistance (greenhouses, for example) may be produced year-round. As the prices of nuclear energy continue to rise, we look again at hydroelectric power, a renewable, bountiful and affordable energy supply.

The instructions for how to survive in a particular region are there, but they are obscured by the messages produced by our urban culture. We can listen more attentively, pay attention to the common sense of old-timers, and examine the particular ecological balances of our region, but in order to plan for the future, and to sustain the population even at the present level, we may need some sophisticated planning tools. Bio-regional planning perhaps offers some new conceptual tools for this.

Peter Berg, a bioregional planning consultant and founder of the Planet Drum Foundation (San Francisco), defines a bioregion as:

A distinct area where the conditions that influence life are similar

and these in turn influence human occupancy. The extent of a bioregion can be determined by using climatology, physiography, animal and plant geography, natural history and other descriptive sciences. The idea of a bioregion, however, is cultural. It defines both a place and adaptive ideas about living in that place.

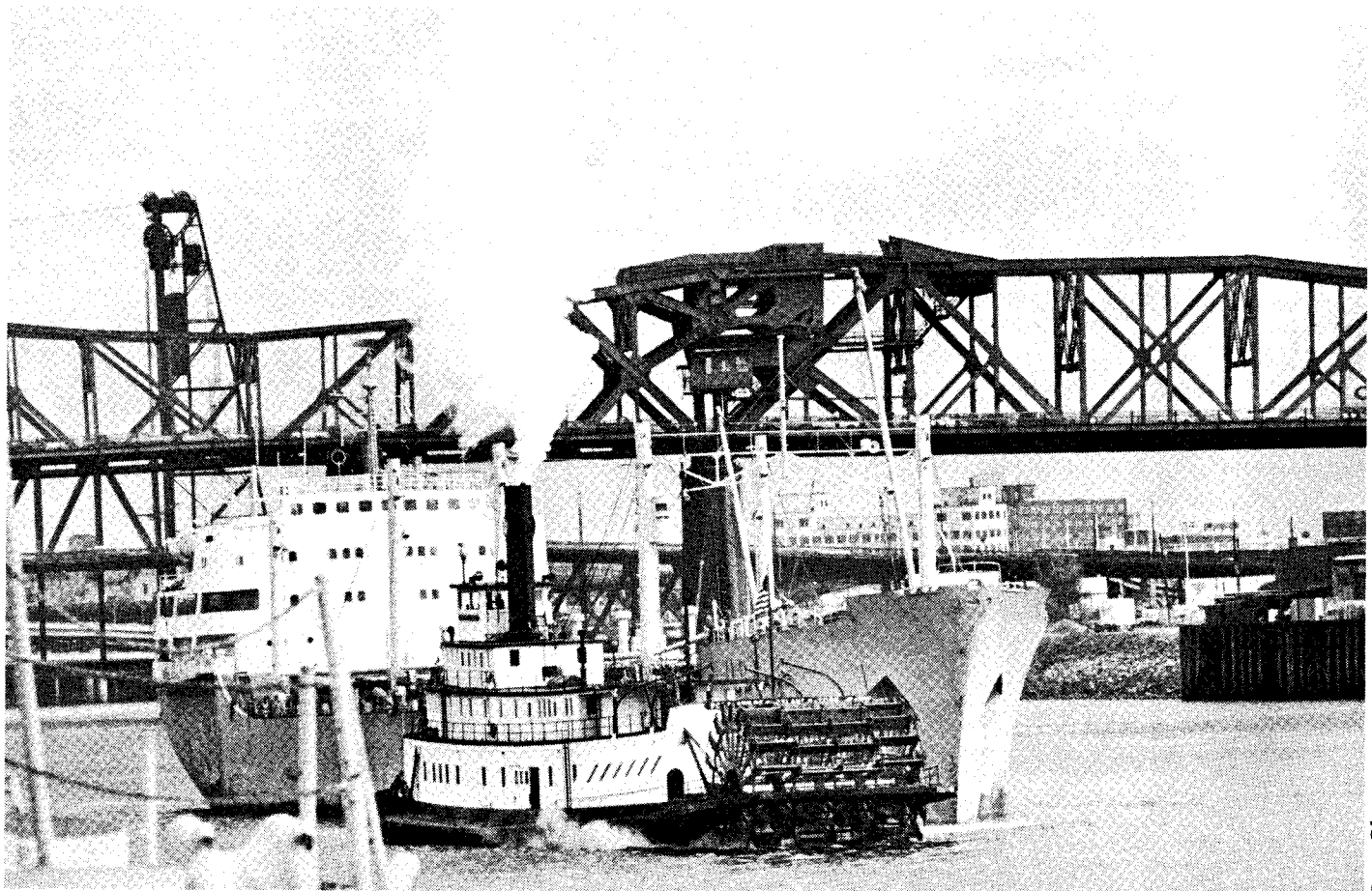
In *Renewable Energy and Bioregions: A New Context for Public Policy*, Peter Berg and George Tukul lay some groundwork for bioregional planning. The publication was prepared for the Solar Business Office of the State of California, headed by Jerry Yudelson. In the introduction, Yudelson describes what a bioregion is and why it might be important in planning:

The bioregion is a more suitable decision-making unit. A bioregion is a geographical province with a marked ecological and often cultural unity. It is often demarked by the watersheds of major river systems, but can be composed of smaller hydrogeologic or biological units. Since renewable energy resources rely heavily on localized

"solar" resources (sun, wind, vegetation and terrain), energy supply planning at the bioregional level makes good sense, for it allows more diversity and flexibility in planning and reduces the potential for conflict between political jurisdictions. The bioregional approach has also been adopted, with considerable success, for controlling both air and water pollution throughout the United States.

Key to bioregional planning is watershed consciousness. The roots to "watershed" start in old English with words related to "parting of hairs." The 19th century sense of watershed came from "parting" (of the flow) or "separation" (of the waters). It meant the boundary line that separated the flow of rainfall. In the United States we call this the "divide." Eventually the meaning of watershed was stretched to include an area of land which drains water, sediment and dissolved materials to a common outlet at some point along a stream or river.

Because waterflow does not obey human desires, it forces humans to



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join together to control and to use and to re-use beneficially. Because waterflow does not follow human desires or subdivision maps, it creates the need for cooperation. What happens upstream changes life downstream, and the demands of downstream alter upstream activity. From the forested headwaters to the agricultural midstream valleys to the commercial and industrial centers at the river's mouth, good and bad news travels by way of water. Did my drinking water take a farmer's supply, cause his farm to close down and vegetables to be imported to the city from longer distances and at higher prices? Did my toilet flush give a downstream swimmer gastro-intestinal upset?

—Peter Warshall, *The Next Whole Earth Catalog*

Another important concept in bioregional planning is carrying capacity. The concept was originally developed in the field of wildlife management to give definition to the number and types of animals that plant populations could support in a particular area. Used in the study of interactions between human and natural communities, carrying capacity is a method for developing a model of the relationship between the population of an area and the levels of service that can be supported by renewable energy sources, available food, water, air and essential raw materials.

In order to understand the carrying capacity of an area, bioregional resource inventories and energy and raw material consumption patterns must be developed. Such a listing should include descriptions of native plants and animals, climate, soils, geology, topography, water resources, land use patterns, population densities and air quality. Berg adds: "To fully portray bioregional life, a resources inventory also includes domestic plants and animals, and surveys low-energy sources such as solar radiation, wind, moving and standing water, and biomass which can become the basis for determining appropriate energy-generating technologies."

A final aspect of bioregional planning is the place of human culture, and the knowledge that can be gained by living closely with the earth. Using an anthropological concept, "figures of regulation," Berg & Tukul describe the importance of indigenous common sense:

Figures of regulation are cultural



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ways of expressing information which are necessary to maintain day-to-day stability and to respond to danger signals which indicate disruption of the balance between human activities and ecosystems.

Anthropologist Roy Rappaport has shown how some cultures develop myths and rituals that act as common sense methods for keeping a balanced relation between man and nature. In one tribe that Rappaport studied in New Guinea, there were distinct rituals for regulating relationships with other tribes and nonhuman species that at first glance appear to be nothing more than religious rituals; ways of communicating with the supernatural. Ritualistic conflicts with neighboring tribes are a function of the size of pig herds as Rappaport explains:

A local group signals that it is entering into a truce by sacrificing all but its juvenile pigs to its ancestors. . . . There is prestige to be gained in the eyes of members of other local populations by sacrificing large numbers of pigs. . . . Large pig herds are burdensome because they must be fed, and nuisances because they invade

gardens. When women's complaints concerning the labor they must expend in feeding pigs and the nuisance of garden invasions by pigs exceeds a certain point, the limits of tolerance of a sufficient number of people shape a consensus, a corrective program in the form of a pig festival is staged, during which the pig herd is drastically reduced. Garden invasions and women's complaints about pigs are reduced to zero or nearly so, and at the same time obligations to ancestors are fulfilled, permitting the celebrants to initiate hostilities once again.

To rephrase one of the most rephrased of phrases, "it's what you can do for your region and what your region can do for you." We are not taught in our schools about the place we live in terms of an interplay of natural and man-made systems. Such an education would allow us to answer questions like: Where does your water come from and where does it go as wastewater? What watershed do you live in? Where does your energy for heat come from? Where does the food you eat grow?