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La Pine North: Two Futures

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The future scenarios presented in this report reflect the analysis and judgment of the authors. Except for the 1990 U.S. Census of Population data, all scores and estimates are derived from data provided by Deschutes County.

INTRODUCTION

Deschutes County has experienced notable population growth during this last decade. The Portland State University Center for Population Research and Census estimates the increase at thirty-five percent (35.0%) between 1990 and 1997. At this rate of growth the population in 1997 computes to 101,193 people, up from 74,958 in 1990. The *Deschutes County Coordinated Population Forecast* projects 182,353 residents by 2020.

Unprecedented demands for public services and infrastructure necessary to accommodate this growth and maintain the quality of life in Deschutes County can be expected. All elements of the natural and built environment will be stressed. All people will feel these effects, whether they live in the county year around, seasonally, or come as tourists. Those with higher incomes will not be able to preserve valued amenities for themselves by individual initiative, and those with low incomes will struggle just to hold on to what they have.

These problems will be most acute in the rural areas. On one hand, the forests, rivers, and streams in these places identify these locations among the most attractive for residents and recreationists alike. On the other hand, these places are characterized by unimproved roads, well water for home supply, effluent treatment by septic systems, and multiple interfaces with natural habitats and hazards. The balance between development and environmental quality is most precariously maintained in these situations.

This paper provides a vision of how accommodating such high growth may affect one rural residential area of the county, La Pine North. It will first draw a profile of La Pine North as it exists currently. Then, two possible futures for that space and its residents will be depicted. These futures represent the minimal and the most radical responses to the present and intensifying problem of nitrate/nitrogen pollution of ground water in the area. The "Restricted Growth" scenario assumes that the only response to the pollution problem will be the requirement of sand filter septic systems for replacement and new development. The "Buildout" scenario assumes sanitary sewers and piped water.

THE LA PINE NORTH STUDY AREA

The La Pine North Study Area includes rural subdivisions and other lands west of US Route 97 between Sunriver and La Pine. The Little Deschutes River runs within its boundaries and the Deschutes River is on its western limit (see Map 1). The United States Census puts the population of the study area at 5,636 in 1990; these 5,636 people lived in 2,261 housing units with 2.49 persons per unit. This does not include seasonal residents.

The study area also shows 1,482 vacant units in 1990, most of which are seasonal homes. Against the base of 3,743 units this resulted in a vacancy rate of forty percent (40.0%). Many of these "vacant" houses are, in fact, occupied during high tourism seasons. Thus the actual number of people in La Pine North may increase by thousands in those periods.

The total number of platted lots in La Pine North is 10,878. With a buildout, single family houses in place on all lots of record, there would be 6,407 occupied units, the remaining 4,271 being seasonal or vacant, assuming the same ratio of occupied to vacant housing as in 1990.

No new lots can be platted in the Study Area under current Oregon land use law. All of these were in place as lots of record before the current statewide land conservation and development goals and regulations were established. No changes in boundaries can be made and no new subdivisions can be placed.

Environmental Conditions in La Pine North

The La Pine North Study Area is zoned rural residential and popularly noted for its natural amenities. Much of the quality of life in the region and its attractiveness as a tourism destination depends on this perception being accurate. Hence issues of wildlife habitat, forest management, air quality, and water quality take on particular significance.

Water Quality: Of these environmental considerations, ground water quality and the effluent treatment systems associated with that quality, are most critical. The unusual geology of the La Pine North area results in high ground water tables, in some places within inches of the surface, and relatively shallow water wells.

With this condition, the aquifer is quickly and broadly penetrated by surface pollutants and effluent from septic tanks. Consequently the quality of home water supplies, particularly with regard to nitrate/nitrogen concentrations, is at a relatively high risk of compromise.

There are already some parts of La Pine North where the concentrations are between 5 and 7 mg/l (milligrams per liter). There are substantial parts of the aquifer where the concentrations are between 2 and 5 mg/l. The natural, background levels of nitrate/nitrogen are between 0.5 and 1 mg/l. Thus, effluent coming from the septic systems currently in place already exceeds the amount that can be dispersed by natural processes. Nitrate pollution is concentrating in the ground water.

Air Quality: Suspended particulates (dust) are the main threat to air quality in La Pine North. Traffic on highways and roads are the source of most particulate pollution in Deschutes County. Over 80 percent of the roads in the study area are unimproved or gravel. Smoke from fireplaces and woodstoves is the second major source of particulate pollution.

Road dust impacts some properties, but there are no serious general problems with particulate pollution currently. The large size and dynamics of the air-shed mitigate against photochemical pollution.

Wildlife Habitat: Most of La Pine North is identified as a mule deer migration area. Development is scattered, with single or small clusters of homes interspersed by considerable swaths of seemingly open land. Any implied barrier is quite permeable. However, moving any land from an undeveloped to a developed state necessarily means replacing natural environments and their ecosystems with built, fenced, and landscaped environments. There does not have to be a wall of development to effectively close many paths to mule deer and other wildlife.

Streambanks, the streams themselves, and other riparian environments on the Deschutes and Little Deschutes Rivers are protected under current State and Federal laws. Higher recreational use may degrade not only the banks and riparian zone but also the aquatic environments as well. Populations of trout and mountain whitefish, an important recreational resource in themselves, dwindle as their shade, food sources, and spawning spots disappear.

Social and Economic Conditions in La Pine North

La Pine North is one of the poorest areas in Deschutes County. Whereas the county had a 1989 per capita income of \$13,401, La Pine North shows a figure of \$9,490 (as derived from the 1990 U.S. Census of Population). The percent of people below the poverty level at that time was 15.5 compared to 10.8 for the county. The La Pine School District has 63.0 percent of its students receiving full or partial Federal Lunch subsidies. A great portion of the La Pine North residents clearly live in very low-income households.

Retirees are a very important component of La Pine North residents. In 1990, the county had 13.9 percent of its residents 65 or more years of age; the comparable number for La Pine North is 24.5 percent, nearly double the proportion for the county. Conversely, also in 1990, the study area had less than the county's percentage of people less than 18 years of age, 24.2 compared to 25.8 percent.

These numbers do not, of course, reflect the income and age of seasonal residents. While exact numbers are not available, it can be safely assumed that these people who own second homes are primarily in middle years, most likely baby boomers, with incomes three or four times that of the year around residents.

La Pine North is residential in character. Those who live there derive their income by traveling and/or telecommuting to work away from their homes. The many resident seniors comprise part of Deschutes County's economic base by bringing income in through their investments, pensions, and social security. The seasonal residents contribute to the economic base as tourists.

TWO FUTURES

Because of nitrate/nitrogen pollution and other ground water problems related to the high water table, development in La Pine North cannot continue down the path it is currently following. The U.S. Environmental Protection Agency maximum contaminant level (MCL) for nitrate/nitrogen in drinking water is 10 milligrams per liter (mg/l). Under Oregon's *Ground Water and Protection Act of 1989*, the state's Department of Environmental Quality is required to designate a Ground Water Management Area if nitrate/nitrogen reaches 7 milligrams per

liter. With a management area declared, a local management plan that will almost certainly call for sewerage all of La Pine North will be required before further development is allowed.

Each new home with standard septic systems will add to the accumulating nitrates and hasten the point in time at which the ground water is polluted for everyone with wells on the aquifer. High levels of nitrate in drinking water have been linked to "blue babies disease," a reduction in the ability of the bloodstream to supply adequate oxygen in infants under six months of age. Nitrates are considered by some to be related to stomach and esophageal cancer.

The Restricted Growth Future

The minimal response to this problem has two elements. First, only those lots with excellent soil structure and ample dispersion fields will be allowed construction permits. Second, triple sand filter septic systems will be required for new development, and replacement of old septic tanks if they break down. With these policies, many lots will be denied permits. When permits are granted, the expense of site improvements will be substantial. Table 1 illustrates the "up front" costs just to build a house. These, plus continued maintenance expenses, would effectively cost new homeowners thousands of dollars a year. Clearly families with the income profile of La Pine North's current residents will likely not be able to afford such expenditures.

Table 1: Costs per lot for Development with Restricted Growth

<u>Service</u>	<u>Costs</u>
Triple Sand Filter Septic Well (80 foot)	\$12,250.00 2,875.00 (low) <u>3,175.00 (high)</u>
TOTAL	\$15,125.00 (low) 15,425.00 (high)

Also following current trends, low income families who manage to remain can expect little public money expended for the services that touch them, including

schools, family services, and job training. These families will most likely be in areas of early, denser developments with aging standard septic systems. They will be most at risk for nitrate/nitrogen linked health problems. Some cases of "blue babies disease" can be expected.

Low income seniors will fare little better. Those who arrived in their sixties and have aged into their eighties will be most affected. Their retirement incomes will buy less by then, and they will be starting to need public transportation and specialized medical services, particularly emergency and longer term care. These will not be available or will be poorly supported by government funds.

Given the basic development costs, retirees with comfortable pensions and investment incomes will constitute a greater and greater proportion of the year-around residents, eventually supplanting the current lower-income seniors, and swelling the proportion of people over sixty-five in the La Pine North population.

To outward appearances, the environment will seem as it is now. There will be relatively dispersed housing; most of what is standing now will remain essentially as it is. Some new stick-built or quality manufactured homes will be scattered throughout the area. Some old trailers, simple cabins, and smaller homes will be replaced by newer, costly homes.

Building and placing manufactured homes in La Pine North will slow and eventually stabilize at a substantially lower number of units than the current level of activity. Construction jobs, and the local spending of construction workers will be lost. Retirees who might have located in La Pine North will go elsewhere, taking with them the money they might have put into the Deschutes County economy.

There will also be some very angry land owners. Building permits will often be denied because of septic problems. Some who need to replace their old septic tanks won't be able to afford the new sand filter systems required. Lawsuits against the Oregon Department of Environmental Quality and Deschutes County that seek to develop regardless of the environmental regulations or seek compensation for holding land on which building is prohibited will start to seem routine.

Those who see benefits in continuing development will find little opportunity in this future. Those who are for "no growth," or who consider environmental

preservation a predominant goal, may be happier, but even they may choose to use bottled water for drinking if they live in La Pine North.

Ironically, the least happy people may be those who simply wish to be left alone by government. This restricted growth scenario can only occur if all current environmental codes are rigorously enforced and there is immediate action to require triple sand filter septic systems. Both enforcement and a sand septic rule imply a higher regulatory profile.

Finally, even if the regulations supposed here are implemented, there is no guarantee that the nitrate/nitrogen level at the ground water table will not slip over the 7 mg/l trigger and force a management plan. If this happens all the costs and more complex government associated sewer and water systems may not be avoided (these costs are noted in Table 2 of the Buildout Scenario). Even triple sand filter septic systems only remove about sixty percent of the nitrates/nitrogen from effluent. It is not clear if they will be enough to turn the trend of pollution.

Also this possible future implies the gradual replacement of seasonal homes, currently as much as forty percent of the built properties, with year-around retirees. Assuming a recreational use of three months a year, when a seasonal home becomes a twelve month home it can be expected to add four times more nitrates to the ground water than it previously did. Every recreational owner who retires to his/her "country home" pushes La Pine North in the direction of a Ground Water Management Area declaration.

The Buildout

The second possible future is one where continuing nitrate/nitrogen pollution leads to the declaration of a Ground Water Management Area. With no action to slow the current pollution, this could occur as early as 2003. Subsequently, sewers will be installed as well as a water system. When these pipes are put in, the rural roads of La Pine North will need to be paved to county standards to accommodate the expected population and traffic increases and to reduce dust pollution.

Local Improvement Districts (LIDS) will likely be formed under the management area mandate to provide and administer the water, sewer, and roads for La Pine North. The costs to each current landowner, whether there is a house on the lot or not, are illustrated in Table 2. In addition, there will be monthly bills of at

least 100 dollars for these services. Each house will be metered for its water and sewer use to determine the exact bill and to encourage conservation.

Table 2: Costs per Lot for Development in a Buildout Scenario

<u>Service</u>	<u>Costs</u>
Sewer	\$19,000.00 (low) 28,000.00 (high)
Water	10,129.00
Roads	<u>2,250.00</u>
TOTAL	\$31,379.00 (low) 40,379.00 (high)

Under these conditions, all lots are buildable. Assuming that households are the same size as reported in the 1990 Census, the study area's population will triple, at a minimum. The conversion of seasonal residences to year-round homes will add to these numbers. The high costs of water, sewers and roads will be an impetus to further subdivisions and increased density. The number of cars on the road will also triple, at a minimum. Household trips routinely increase at a greater rate than the number of cars.

The people buying in will be quite well-to-do. They have to be to pay the development fees on lots they already own or buy a lot with those fees added to its price. Many will be baby-boomers setting up for their retirements. A small residual of low income families might hang on in La Pine North, but most will be pushed out when the services go in, with initial and continuing high price tags.

For those remaining, work will be easier to get. There will be jobs in the many shops and eateries catering to tourists and residents. Many of these will carry low wages and be part-time; teens and women will predominate in them. Forest industries will continue to decline, and the full-time, higher wage jobs that go with them. The construction industry will be healthy, but as the full buildout comes closer, will decline.

Finding a place to fish and catching a fish once you find a place will be harder. All of the natural recreational amenities will be stretched thin. The dense residential development will disrupt deer migrations. More animals will be hit on the paved roads by cars moving at higher speeds. Those who used to remark about, "that cute doe and her fawns," will curse, "Those animals chewed up my garden again." Foraging environment will necessarily be degraded, eliminated, or made inaccessible. Wildlife may be cut-off from critical nesting, fawning, and wintering areas. Encounters with predators, e.g. cougar, bear, and coyote, will become more common.

Even the wealthy newcomers will have their worries. There will be strict regulations governing structure placement and vegetation management on their properties because of fire danger. More and more older adults will age enough to need a van service to shop and see their doctors in Bend. Even driving to Bend will be a hassle with four or five times as much traffic on US 97 than the current level. It's likely that funds for fire stations, a transit district, and even a professional paramedic service will be voted down. At the same time, local funding for schools and working family services will languish.

The economy will look good on paper, but many low wage jobs will hide behind that paper. It will be harder and harder to tell the difference between living in La Pine North and Bend or even Beaverton.

CLOSING COMMENTS

If neither of these futures seems desirable, action will have to be taken to plan a better alternative. It is not the purpose of this report to suggest what that alternative should or can be. But any future between these Restricted Growth and Buildout Scenarios must be conceived in the very near future.

The water quality problems will not get better with benign neglect. They will not even stabilize. They will get worse. Some way of directing development away from rural La Pine North into areas that can environmentally and institutionally deal with the effects of that development must be put in place. If not, those currently living in this area of Deschutes County may spend the rest of their lives walking through one of the futures pictured here.