POPULATION REPRIEVE

Births and Migration in the Pacific Northwest

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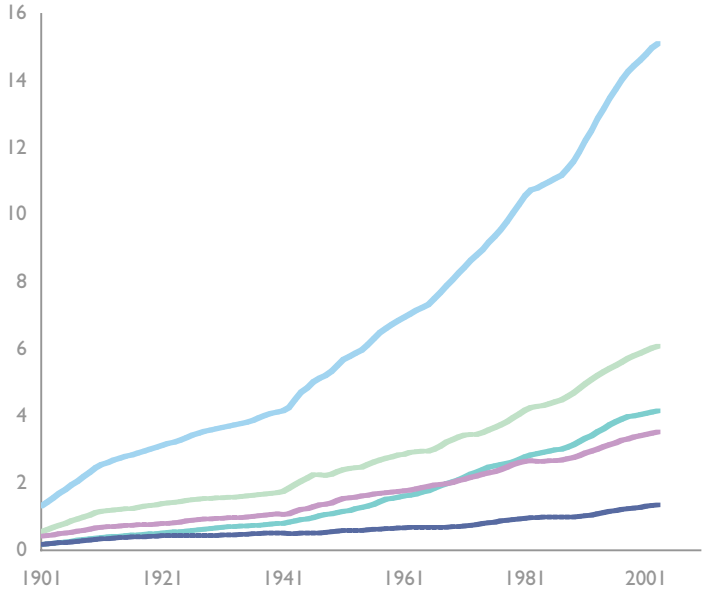

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EXECUTIVE SUMMARY

In 2002, the Northwest's population grew by the smallest amount in 16 years, the result of a three-way convergence: fewer people moving into the region because the regional economy was slow, a trend toward later parenting, and a temporary scarcity of people in the peak ages for having children.

Of these, the leading cause—reduced migration into the Northwest—has been much remarked upon, though it comes as no surprise. Hard times always slow migration. In fact, if there is a surprise about this drop, it's that the decline hasn't been steeper. In many Northwest recessions, migration has reversed course and drained people out of the region. Apparently, the pull of the region's environment and quality of life is now more powerful than the push of high unemployment—in Oregon and Washington, the highest unemployment in the nation.

The two lesser causes of slowed growth have not attracted much attention. Natural increase has dipped because of a long slide in the birthrate. In fact, birthrates have been setting record lows throughout the Northwest since the new century began. Births may rebound soon as the large generation currently entering their young adult years—the "baby boom echo"—begins to have families. But the resurgence will be moderate if women continue choosing to have small families, later in life. As elsewhere in North America, births to teens and 20-somethings are waning; births to women in their 30s and 40s are rising.

The teen birthrate is at its all-time low across the region, but in British Columbia teens have only one-third as many babies as teens in the Northwest states

The most remarkable change has been in British Columbia, where women typically now have just 1.4 children each, down from 4 at the peak of the baby boom. The teen birthrate is at its all-time low in the province, as across the region, but the rate in British Columbia is one-third that of the Northwest states. Birthrates among 20-somethings are also setting record lows in the province.

Even though the recession that is one of the causes of slowdown of population growth in the Northwest is lamentable, the slowdown is nonetheless a welcome reprieve for a region whose schools, roads, and natural heritage are straining under the impacts of record population influxes during the 1990s. And some of the causes of declining birthrates are beneficial: women have more control over their reproductive choices, and teen births are diminishing.

The rest of the Northwest will join British Columbia on its population path if it creates the conditions that have moved the province toward its current low-fertility norm. First, wider availability and somewhat lower prices for prescription contraceptives help BC couples prevent accidental pregnancies. Some 38 percent of births in the Northwest states result from unintended pregnancies. Second, lessening child poverty lowers birthrates, especially among teenagers. Low-income women typically have half again as many children as their middle-class counterparts.

WHY POPULATION MATTERS

Population growth from natural increase—the excess of births over deaths—is one among several critical indicators of regional livability. Birth trends reveal much about the degree of control women have over their lives, the status of teenage and younger girls, and whether every child is born wanted. They are also signs of the region's commitment to balancing its global impacts with its global responsibilities.

Some northwesterners equate rising numbers with a growing economy, because boom times attract migrants. But population growth and true prosperity diverge as often as they converge. Since 1990, for example, the population of the Northwest states grew far faster than that of the United States overall—yet so did the Northwest's numbers of unemployed and poor people. The region's growth in median income, meanwhile, substantially lagged the national average. If population growth is no economic elixir, it—along with consumption—is a clear ecological menace. Northwesterners consume their body weight in natural resources every day—an amount far in excess of what the planet can sustainably supply to all the world's people. Most of the environmental harm that comes from northwesterners' actions is a result of that consumption. But the *increase* in environmental harm caused by the Northwest comes largely from population growth, because the region has stabilized its per capita resource consumption, waste generation, and pollution. As population increases, therefore, so do energy use and waste generation, numbers of motor vehicles, and emissions of greenhouse gases. Just so, growth worsens the contamination of drinking water supplies, augments air pollution, and strains already damaged forests and rivers. And our growing numbers speed sprawl and overfill roads.[1]

As population increases, so do energy use and waste generation, numbers of motor vehicles, and emissions of greenhouse gases

Likewise, population growth is in the front row of global problems: it is among the root causes of the degradation that is pushing many of the planet's life-support systems—from the climate to forests and fisheries—to the breaking point. Fortunately, thanks to the efforts of countless organizations around the world, human numbers, now at 6.2 billion, are rising more slowly than in years past. But they are still rising—by more than 70 million a year.[2]

The Northwest is a small contributor to these numbers: more than 95 percent of the growth is in developing countries. But every northwesterner consumes and pollutes much more than a developing-world resident. On average, we each emit 20 times more climate-changing carbon dioxide than Africans, for example, and our 15 million residents consume more energy than the 300 million people in Indonesia and the Philippines. Adjusted for our resource-intensive lifestyles, our growth counts for more in the global sustainability equation. We can help balance that equation by dramatically reducing our resource consumption and by slowing the pace of natural increase.[3]

Worldwide, average family size has dropped to 2.8 children per woman, far below its 1960s level of 5 but also far above the 2-child level that would ultimately stabilize human numbers on the planet. And the Earth is so full of young people

today that even if someone could wave a wand and lower average family size tomorrow to two, population would still rise by one-third—or 2.2 billion people—before leveling.[4]

By all appearances, if we are to stabilize population in a range the planet can comfortably support, we need to lower average family size below 2 children per woman for a generation or more, especially in places where affluence expands the ecological footprint of each person. Fortunately, even while women in most industrial nations state the intention to have 2 children, they are actually averaging 1.5 births each during their lives; Japan, Germany, and 15 other countries average 1.3 or fewer.[5]

Indeed, some of these nations now face fiscal challenges brought on by this slowdown in births. Top-heavy with aging populations, retirement and health care systems in Europe, Japan, and Canada may have to raise both retirement ages and taxes if their budgets are to balance. Even in the United States, where birthrates are higher, analysts at the Social Security and Medicare administrations worry as baby boomers—the swell of population born from 1946 to 1964—approach retirement age.[6]

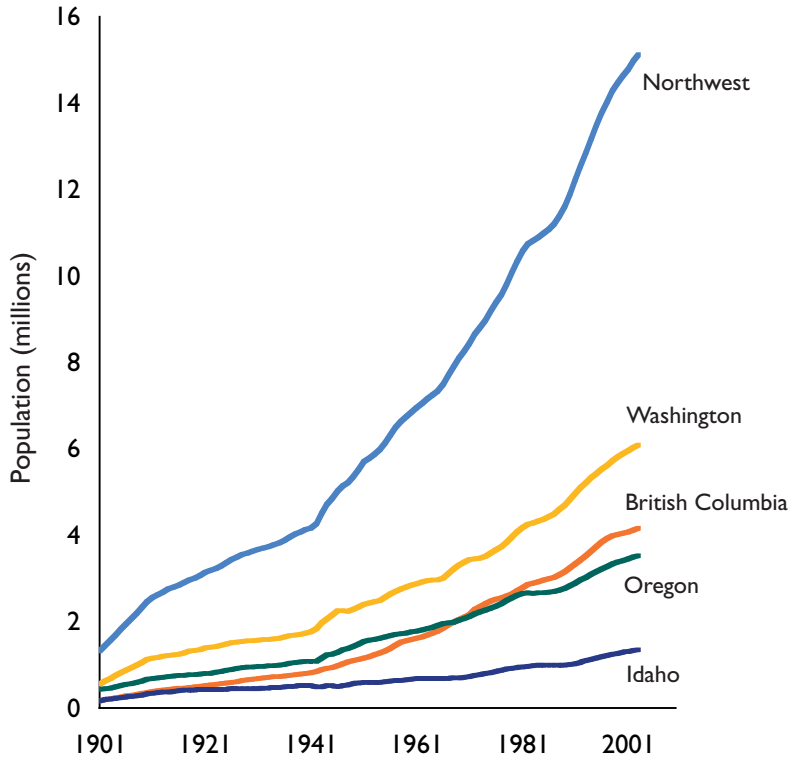
Yet serious as the problems of supporting aging populations are, they are better than the alternative: continued rapid population increases. In both the United States and Canada, a moderate stream of immigrants can and will help to fill out the workforce in coming decades, but to boost births just to shore up retirement programs would be to take as a role model the old lady who swallowed a fly. As the children's song goes, she swallowed a spider to catch the fly, a bird to catch the spider, and so on, eventually dying as she tries to swallow a horse. The equivalent demographic strategy—each generation larger than the previous one—is not only impossible to follow to its logical end; it's also worse than the original problem.

A SLOWDOWN

Population growth has slowed but not stopped in recent years in the Pacific Northwest. British Columbia, Idaho, Oregon, and Washington together held 15.1 million people on January 1, 2003 (see Figure 1). In 2002 the region's roster grew by an estimated 144,000 people, or 16 per hour. That's a surprisingly fast clip for a region plagued with some of the highest unemployment rates in North America. But at 1 percent per year, it is a slower pace of growth than the Northwest has experienced since 1986. In only four years since 1950 has the rate been lower. In 1992, in its peak year of population growth, the region added 37 people per hour, more than twice as many (see Figure 2).[7]

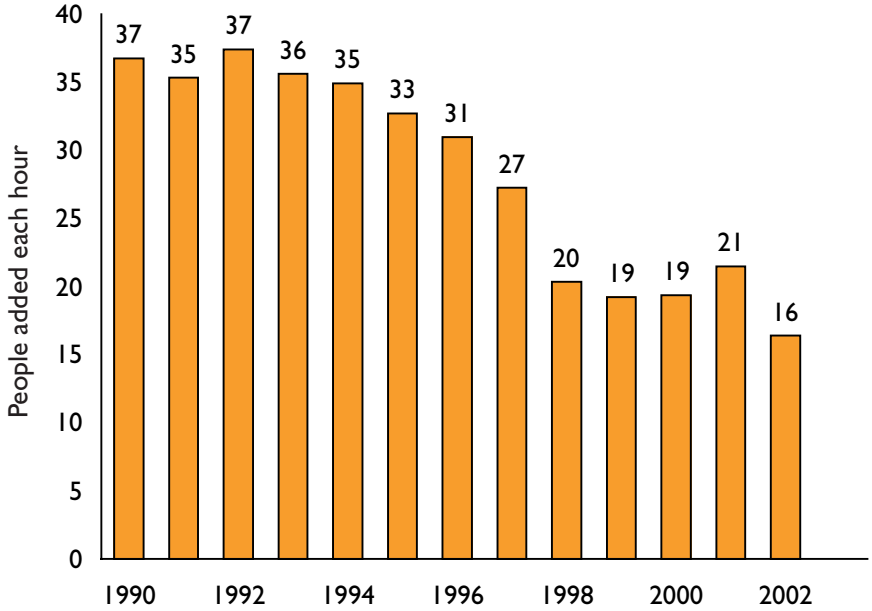
Many northwesterners think of burgeoning population in the region as resulting largely from inflowing migration, with newcomers arriving both from abroad and from other parts of the United States (or, in the case of British Columbia, from other parts of Canada). And last year's population growth was small mostly because

Figure 1. The Northwest's population keeps expanding



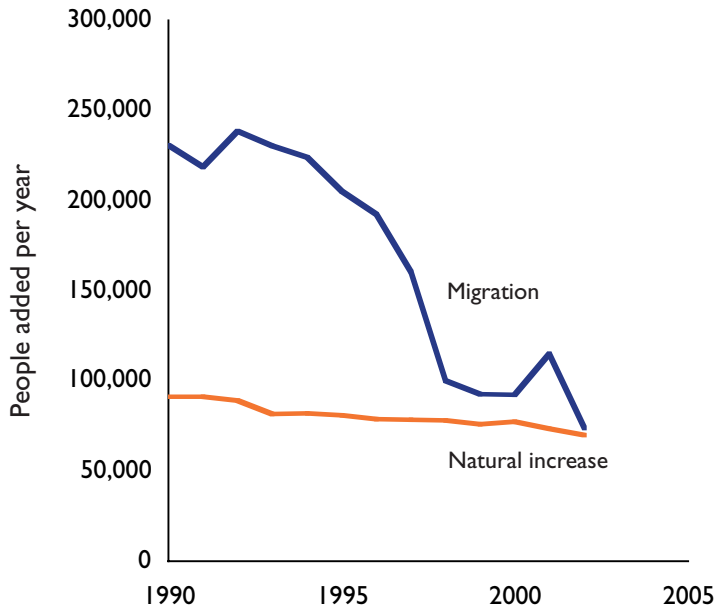
Source: see endnote 7

Figure 2. Despite recession, the Northwest added 16 people per hour in 2002



Source: see endnote 7

Figure 3. Migration to the Northwest is dropping toward natural increase



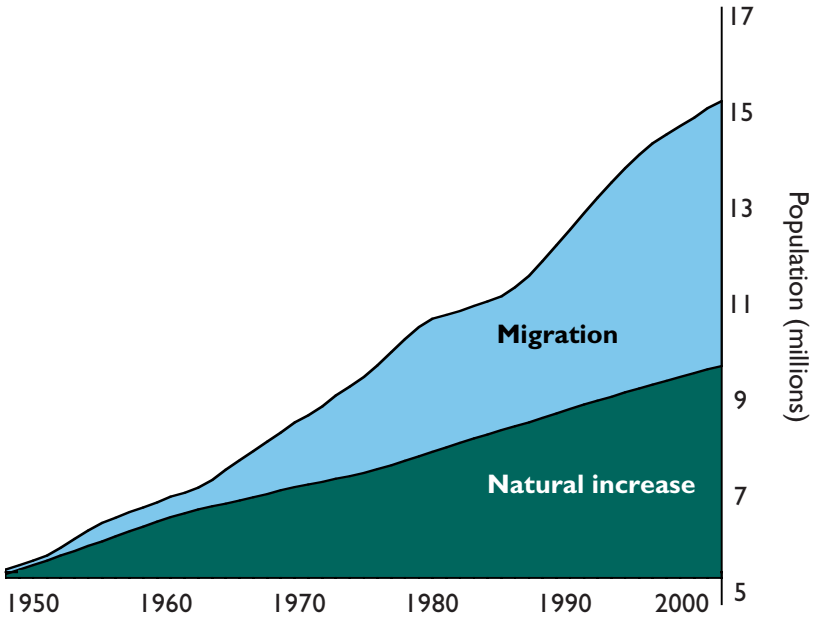
Source: see endnote 8

of plummeting migration influxes. An estimated 74,000 more people moved to the region in 2002 than left it, scarcely above the region's natural increase (see Figure 3). The near equivalence of these two figures is unusual in recent history but commonplace over the past half century. Migration starts and stops sporadically as the regional economy fluctuates. It brings newcomers to the region in great rushes when the Northwest appears more flush than nearby regions such as California; it stalls suddenly when the opposite is true.[8]

If migration is the hare in the folkloric race, natural increase is the tortoise. It moves along quietly, steadily, drawing little notice. Yet it keeps pace with migration, or nearly does. Since 1950, natural increase has contributed 44 percent of the Northwest's additional population (see Figure 4); excluding British Columbia from the tally, it has contributed 49 percent of growth. And in Idaho, natural increase has contributed fully 69 percent of growth since 1950.[9]

From a global perspective, the Northwest's natural increase is of greater concern than migration, since migration simply shuffles people around. And fortuitously, northwesterners have greater control over births than migration. Though they may be able to influence migration's rate through changes in local policies, such as development impact fees, and reforms in national policies such as immigration law, migration into the Northwest is likely to continue anyway. That fact is supported by the example of the past two years: despite the region's worst-in-the-nation unemployment rates, migrants keep coming, drawn at least in part by the Northwest's environment and quality of life. Keeping the birthrate down may dampen the effects of the migration the Northwest will inevitably receive.[10]

Figure 4. Since 1950, natural increase has almost matched migration in its contribution to Northwest population



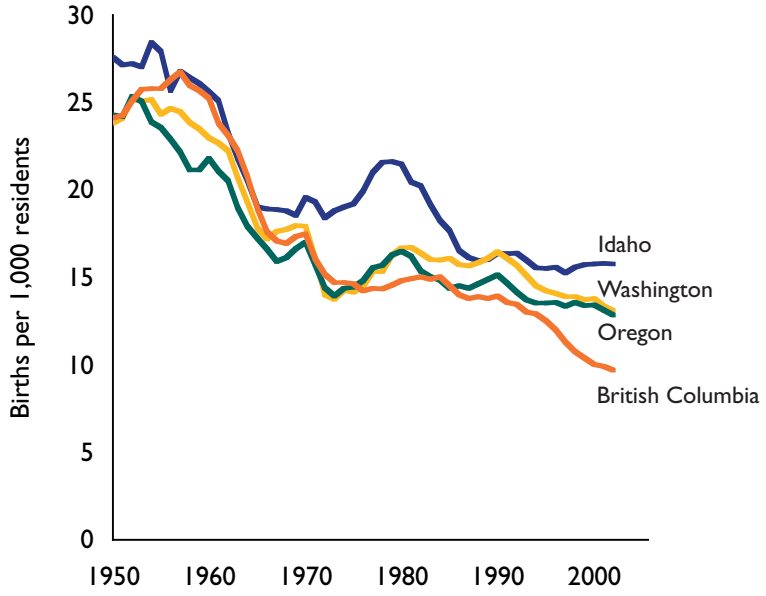
Source: see endnote 9

DIPS IN NATURAL INCREASE, RECORD BIRTHRATE LOWS

The tortoise moves steadily but not without wavering. Natural increase rises and falls with both the death rate and the birthrate, though in the Northwest—where people's health is relatively good, lives are long, and death rates are low—most change in natural increase is a consequence of shifting birthrates. In 2002, natural increase dropped to a lower absolute amount than the region has had since 1976. In British Columbia, natural increase has slowed to levels not seen since World War II; in percentage terms, natural increase is at the lowest level on record. Natural increase added an estimated 70,000 to the tally of northwesterners in 2002, down from the 1957 peak of the baby boom at 100,000 and from the 1981 peak of the "baby boom echo" (when the most baby boomers were having their children) at 94,000. Expressed as a rate, the region's natural increase was 0.5 percent in 2002, the lowest mark since the 1930s (and British Columbia, with the fewest births, was at 0.3 percent, the lowest on record for the province). The Northwest's natural increase rate is low for the Western Hemisphere, but it's still high compared with the stable populations of Europe and industrialized Asia.[11]

Recent declines in natural increase are driven by a decades-long tapering of birthrates; they are now roughly half of their levels at the peak of the baby boom in the late 1950s (see Figure 5). The region's birthrate has declined to a record low of 12.3 births per 1,000 residents in 2002; British Columbia, Oregon, and Washington also set their own records that year. BC's birthrate, at 9.7, is remarkably low; it's below the Canadian level of 11 and in the range of such stable-population countries such as Japan, Germany, Italy, and Russia. Birth rates in the Northwest states are higher, but Washington and Oregon, at 13, are below the US average of 14.[12]

Figure 5. Northwest birthrates have dropped to historic lows



Source: see endnote 12

This bottoming out of births was somewhat predictable. As the baby boomers age beyond their childbearing years, they swell the denominator of the birthrate equation without contributing to the numerator. In addition, there are fewer new mothers right now, because only the members of the small generation born during the "baby bust" of the 1970s are currently in their late 20s, the peak childbearing age. The birthrate will likely rise again soon in the Northwest states as the children of the baby boom echo work their way up the age structure of the region's population and reach peak childbearing ages; in British Columbia, which had a smaller baby boom echo, the birthrate may not rebound.[13]

FAMILY SIZE AND TEEN BIRTHRATES

A better measure of long-term birth and family-size trends—the total fertility rate—shows more-stable birth patterns in Washington, Oregon, and Idaho and declining births in British Columbia (see Table 1). A year's total fertility rate is the number of babies a woman would give birth to during her entire life if that year's birthrates for each age of mother were frozen in place and didn't change. In 2001, Idaho's total fertility rate of 2.3 children per woman was slightly greater than other northwesterners' and exceeded the US average. Other northwesterners' total fertility rates were slightly lower than their respective national averages, with British Columbia again dramatically lower than Washington and Oregon. British Columbia's total fertility rate is like that of Japan and European nations.[14]

These modest family sizes are linked to a welcome shift: throughout the Northwest, women are postponing childbearing until later in life. Teen births have

Table 1. Average lifetime births per woman, or total fertility rate, is highest in Idaho, lowest in British Columbia

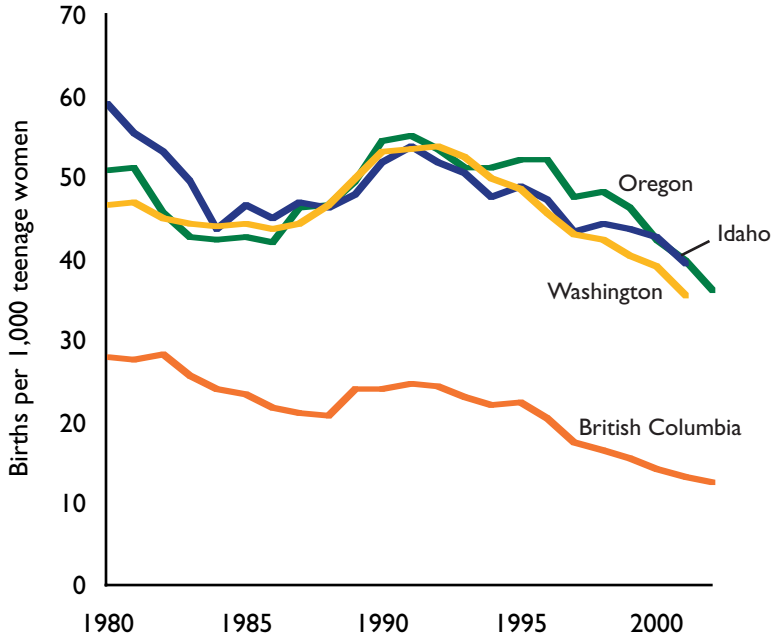
British Columbia	1.4
Canada	1.5
Washington	1.9
Oregon	1.9
United States	2.0
Idaho	2.3

Source: see endnote 14

declined to what are probably all-time lows in every state and province of the region. The teen birthrate in British Columbia is the lowest in the region by far, at 12 births per 1,000 women in their teenage years in 2002; Oregon and Washington's are tied at 36; Idaho is at 40 (see Figure 6).[15]

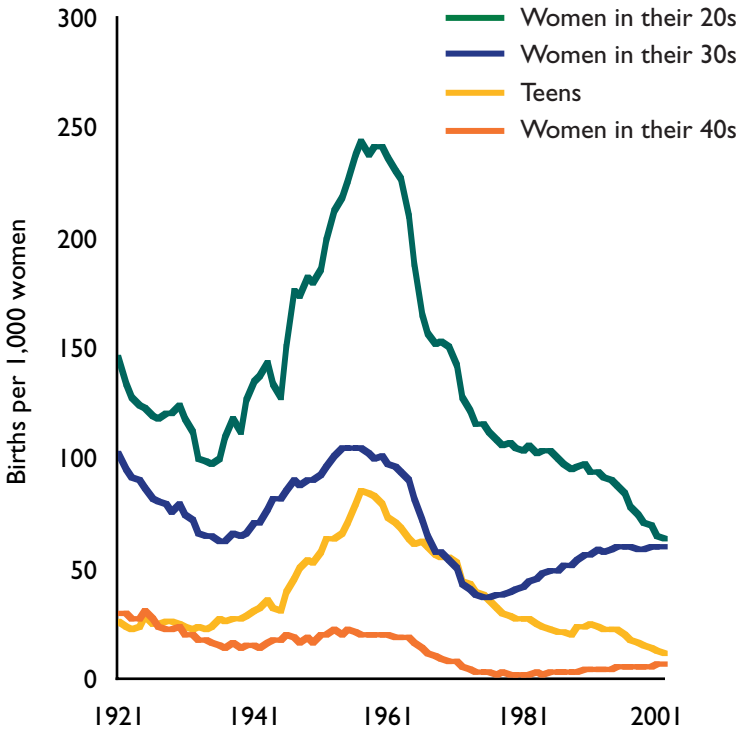
This trend is part of a larger shift across all ages of Northwest women: births to teens and 20-somethings are declining; births to 30- and 40-somethings are rising. The most pronounced case is again British Columbia, where births to women in their 30s are likely soon to exceed births to women in their 20s, and where births to women in their 40s may soon overtake births to teens (see Figure 7). Trends in the Northwest states are similar, though less dramatic.[16]

Figure 6. BC teens have one-third as many babies as teens in the Northwest states



Source: see endnote 15

Figure 7. BC women are having children later in life



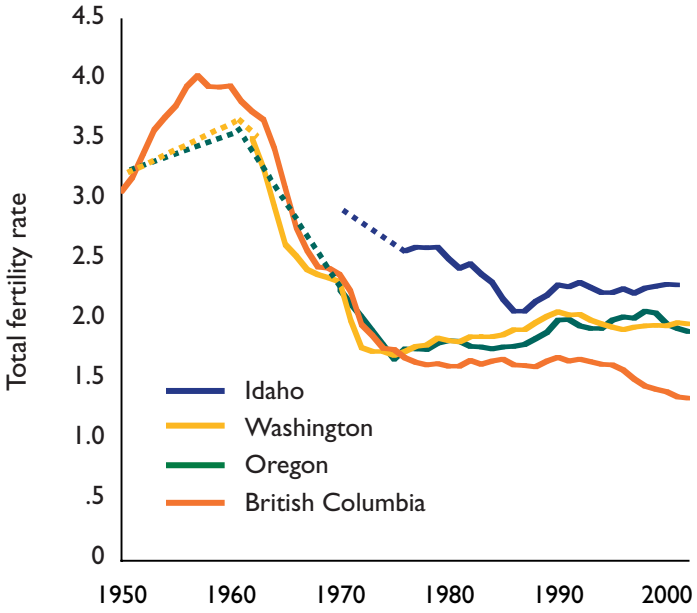
Source: see endnote 16

THE BC DIFFERENCE

What explains British Columbia's low birthrates and small family size? Not longstanding cultural differences between Canada and the United States. Both countries have followed the same fertility trends over the past half century (see Figure 8). In fact, during the baby boom British Columbia's fertility rate, which peaked at 4 births per woman—was higher than that of the Northwest states. It has diverged downward only more recently, and especially after 1985. Neither are the differences across the 49th parallel explained by any contrast in aspirations between Americans and Canadians. In both countries, women state that they desire families of roughly two children—a figure that has remained constant since the baby boom ended.[17]

Rather, four factors contribute to BC's low birthrates, though specialists disagree over how much responsibility to assign to each. First, Canadian women are more likely than American women to use birth control pills and other forms of contraception that have low failure rates, partly because insurance rules and non-profit family planning clinics in Canada make them affordable. For example, 86 percent of teens who use contraceptives in Canada use the pill and other highly effective pharmaceutical methods; in the United States only 58 percent do, because many US private insurers do not cover prescription contraceptives and subsidized family planning clinics are scarcer. As a result, far more accidental pregnancies happen in the United States than in Canada.[18]

Figure 8. Births per woman have plunged, then stabilized, in the Northwest states; they are still falling in BC



Source: see endnote 17

Second, BC's child poverty rate, while high by European standards, is about one-third lower than the Northwest states', and growing up in poverty tends to boost women's fertility later in life. Teen births are overwhelmingly concentrated among low-income women: 83 percent of American teenage mothers are from low-income families. This fact alone largely explains BC's dramatically lower teen birthrate. A life in poverty appears to rob poor young women of hope for the future; this fatalism plays itself out as carelessness about contraception. Poverty boosts birthrates by about 50 percent among adult women as well, largely because it dramatically increases the frequency of unplanned and unwanted pregnancies.[19]

Third, BC's international immigrants come from places where small families are the norm. In both British Columbia and the Northwest states, international immigrants tend to bring their family-size desires with them from their country of origin. The province's largest minority population—at 9 percent of population—has its origins in China, which has become a low-fertility nation. Hong Kong, the source of many BC immigrants, has one of the lowest total fertility rates in the world at just 0.9 child per woman. In contrast, Latin American immigrants, especially from Mexico, have formed the largest minority in the Northwest states: 8 percent of Idaho, Oregon, and Washington's population is of Hispanic origin. Hispanic Americans have a total fertility rate of 2.8, compared with 1.8 among non-Hispanic whites. One Canadian government comparison of the two nations' total fertility rates attributes about 40 percent of the difference to the birth patterns of the nations' respective minorities, and the figure could be higher in BC, which holds more foreign-born Canadians than any other province except Ontario. Of course,

much of this apparent impact of cultural differences may actually reflect differing rates of poverty. The higher fertility of Latino families diminishes substantially in statistical analyses that correct for high poverty.[20]

Fourth, young British Columbians may be having fewer children than they would like. The BC economy has been particularly hard on young adults in recent years. Many young British Columbians may have been postponing their families grudgingly. Paradoxically, although long-term poverty increases family size, short-term hard times may have the opposite effect across an entire generation. For the large majority of young people, who are generally optimistic about the future, a tough job market induces delays in childbearing. A job market that improves for young British Columbians might increase family size slightly. On the other hand, and likely counterbalancing that effect, BC still has plenty of room for reducing child poverty and preventing more unintended pregnancies. Canadian poverty rates, for example, are far higher than those in most industrial democracies, as are Canadian rates of unintended pregnancies.[21]

WHAT TO DO

Family-size decisions are rightly left to individual couples, but public institutions and elected leaders have a role in further increasing northwesterners' own control over their childbearing. If the replicable conditions that led to BC's small families are safeguarded there and extended elsewhere, the whole Northwest can become a leader in slowing natural increase—an effort that would have other social benefits as well.

Unintended pregnancies are one place to start. Some 38 percent of births in the Northwest states result from accidental pregnancies. Some 8 percent of babies born in the states are not wanted at the time of conception. Preventing these pregnancies would trim natural increase by 15 percent. Another 31 percent of births come earlier in women's lives than they intend. Delaying these pregnancies would further slow population, because delaying births lengthens the spacing between generations, which leads to less intergenerational overlap. Preventing unintended pregnancies also dramatically reduces the number of abortions.[22]

For preventing unplanned pregnancies, four priorities stand out:

1. Reduce child poverty. Hope is the best contraceptive, and child poverty breeds hopelessness. That's a big reason that the Northwest states, where poverty is more prevalent than in British Columbia, have teen birthrates three times higher. Again, teen births are primarily a function of child poverty, and they add up. If BC had the same child poverty rate and, consequently, teen birthrate as Oregon, its rate of natural increase would be one-third higher. The United States cut poverty among seniors by two-thirds after 1960. The Northwest could aim to do the same for child poverty in the decade ahead, guaranteeing young people a fair start. Children are now the poorest age group, in both Canada and the United States.[23]

A remedy for child poverty would weave the Northwest a social safety net of a new variety. The region's welfare reforms of the mid-1990s cleared away some ossified social service schemes, but, especially after the government budget cuts of recent years, little remains as a ladder of opportunity. Possible rungs for that ladder abound, rungs that emphasize personal responsibility, such as government matching funds for low-income families who save for college or put money away for a down payment on a home. Many such rungs seek to give working families ways to develop assets that appreciate, not just income.[24]

2. Prevent sexual abuse. Second only to poverty, sexual abuse of children is a precursor to many births to teens, as well as to older women. Two-thirds of school-age mothers—three times as many as among all teenage girls—have survived rape or molestation in childhood. To help prevent abuse, the Northwest can provide more, and more-consistent, funding and guidelines to child protection agencies, which are often whipsawed by competing demands to balance child welfare with parental rights.[25]

3. Expand insurance coverage for family planning. The Northwest can strive to make contraceptive services universally available and affordable. British Columbia can add prescription contraceptives to its public health insurance coverage for all women. Following Washington's lead, Oregon and Idaho can require private health plans that cover prescription drugs to also include birth control pills and other prescription contraceptives. (Without such a mandate, many insurers will continue to cover Viagra for men but not the pill for women.) They can maintain state funding for clinic-based services that provide family planning to low-income women. And they can protect, participate in, and expand on, the federal grant program called Take Charge, which is currently making contraceptives available free to all Washington women with incomes up to twice the federal poverty line.[26]

4. Broaden access to emergency contraceptives. Some 40,000 times a day, Northwest couples have unprotected intercourse; condoms slip or tear another 2,000 times a day. Emergency contraceptives, so-called morning-after pills, help to limit the number of pregnancies that result. Safe and highly effective, they must be taken within 120 hours—a short time for getting a medical appointment and filling a prescription. In the late 1990s, a Washington program made emergency contraceptives available from pharmacies without a prior prescription, and BC adopted the innovation quickly. Idaho and Oregon can follow their neighbors' lead. In the United States, a national campaign is seeking approval from the Food and Drug Administration to make emergency contraceptives available over the counter.[27]

Such initiatives would not excuse the Northwest from responsibility for its high per capita rates of resource consumption and pollution generation. But they can complement the innovative strategies that we also need to put in place to wring waste and inefficiency from the region's economy and way of life. And they can move the region toward a future in which all children are planned and wanted, in which there are far fewer tragedies of child abuse and abandonment, and in which this year's population growth—at 16 people per hour—seems not slow but fast.

REVIEWERS

Northwest Environment Watch would like to thank:

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ABOUT NORTHWEST ENVIRONMENT WATCH

Northwest Environment Watch (NEW) is a Seattle-based independent nonprofit research and communication center that promotes an environmentally sound economy and way of life in the Pacific Northwest. The Pacific Northwest is a bioregion that includes Washington, Oregon, Idaho, British Columbia, and adjoining parts of Alaska, Montana, and California. NEW's research program focuses on two critical efforts: to monitor the Northwest's progress toward sustainability and to identify the most important reforms for the region to implement.

As part of these efforts, NEW is developing an index of social and environmental well-being for the Northwest. The index, to be launched in early 2004, monitors key trends affecting people, place, and the future of both. It will serve as an annual report on regional progress and—by identifying and highlighting communities that have taken innovative approaches to solving problems—provide a practical vision for a better Northwest.

Authors of this report include Alan Durning, executive director, and Jenny Frankel-Reed, research intern; with assistance from Eric de Place, research associate; Clark Williams-Derry, research director; and Rebecca McMullen, research intern. For more information about NEW and NEW's publications, please see *www.northwestwatch.org*.

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ENDNOTES

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9. Migration and natural increase, and Figure 4, from sources cited in note 8.

10. Durning and Crowther, op. cit. note 1, and *This Place on Earth 2001: Guide to a Sustainable Northwest* (Seattle: NEW, 2001).

11. Northwest trends from sources in note 8; natural increase rates calculated from regional population figures in note 7. International comparisons from PRB, op. cit. note 3.

12. Birthrates and Figure 5 calculated from birth data in note 8 and population data in note 7. US birthrates from Hamilton et al., op. cit. note 8. Canadian and international birthrates from PRB, op. cit. note 3. International population growth rates from World Resources Institute, "Table HD1: Demographic Indicators," EarthTrends, at *earthtrends.wri.org/pdf_library/data_tables/hd1n_2000.pdf.*

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14. The total fertility rate (TFR) is a "synthetic measure": it calculates how many children a hypothetical woman between the ages of 15 and 45 would give birth to, if at each year of age she had as many births as was average among Northwest women of that age during the period in question. When the average age of mothers is rising (as in the Northwest), the TFR understates how many children women are typically having. See John Bongaarts, "The End of the Fertility Transition in the Developed World," *Population and Development Review,* Sept. 2002. NEW also calculated completed fertility

rates—how many children 45-year-old women have had, on average—for the Northwest. Women in the region are having families larger by about 0.1 to 0.2 children than suggested by the total fertility rate. Total fertility rates and Table 1 calculated from, for British Columbia, 1921 to 2002, David O'Neil, Population Section, BC Stats, Victoria, private communication, July 2, 2003; for Idaho, 1970–2001, Teneale Chapton, Health Statistics, Idaho Bureau of Health Policy and Vital Statistics, Boise, private communication, July 15, 2003; for Oregon, Karen Hampton, Oregon Center for Health Statistics, Portland, private communication, July 15, 2003; and "Table 2-2: Age-Specific Birth Rates, Fertility Rates, and Total Fertility Rates, Oregon, 1940, 1950 to 2001," *Oregon Vital Statistics Report 2001* (Portland: Ore. Dept. of Human Services, 2002), at *www.dhs.state.or.us/publichealth/chs/arpt/01v1/2-02.pdf;* for Washington, 1960–75 and 1980–2001, Phyllis Reed, Vital Statistics, Washington Center for Health Statistics, Olympia, private communication, June 2003; for Canada from Alain Belanger and Genevieve Ouellet, "A Comparative Study of Recent Trends in Canadian and American Fertility, 1980–1999," *Report on the Demographic Situation in Canada 2002* (Ottawa: StatCan, 2002); Marie Drolet, "Motherhood and Paycheques," *Canadian Social Trends,* spring 2003; Kent and Mather, op. cit. note 6; and StatCan, "Age-Specific Fertility Rate," cat. no. 82F0075XCB, *www.statcan.ca/english/Pgdb/health08.htm,* June 19, 2003; for United States, Joyce A. Martin et al., "Births: Final Data for 2001," *National Vital Statistics Reports* 51(2), Dec. 18, 2002, at *www.cdc.gov/nchs/data/nvsr/nvsr51/nvsr51_02.pdf*.

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17. Figure 8 and total fertility rates from sources in note 14. Family size expectations for Canada and the United States from Belanger and Ouellet, op. cit. note 14. BC-Canada and Northwest-US comparisons of women's family size expectations based on StatCan, "Canadian General Social Survey, Cycle 15: Family History, 2001," *data.library.ubc.ca/java/jsp/database/production/detail.jsp?id=378,* July 2003; and Current Population Survey, "Supplements: Fertility and Birth Expectations," 1998, *www.bls.census.gov/cps/ferbirth/ferbirth.htm,* July 2003.

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