



November 22, 2010

The Honorable Sam Crawford, Council Chair
Whatcom County Council
311 Grand Avenue, Suite 105
Bellingham, Washington 98225

Dear Chair Crawford and Members of the County Council:

Subject: Comments for the County Council's consideration as it evaluates the Planning Commission recommendations for the Rural Element Update

Thank you for the opportunity to comment on the County Council's ongoing discussion of the Planning Commission's recommendations for the Rural Element Update and the revised ordinance prepared by staff. We appreciate that the county is conducting a careful review, but we are concerned that some of the changes to the Planning Commission recommendation will harm Puget Sound, are contrary to the preferences of county residents, will adversely affect the county's agricultural industry and the jobs it maintains, and will increase costs for the county's taxpayers.

Futurewise is a statewide citizens' group with a chapter in Whatcom County and members in Whatcom County and throughout Washington State. Our mission at Futurewise is to promote healthy communities while protecting working farms, working forests, and shorelines for this and future generations.

Rural development costs counties more to serve than it generates in taxes

Densities of one, two, and five dwelling units per acre increase costs to taxpayers by allowing land development that will require services that are expensive for the county and special districts to provide.¹ On average, rural residential development costs

¹ Robert W. Burchell, Naveed A. Shad, David Listokin, Hilary Phillips, Anthony Downs, Samuel Seskin, Judy S. Davis, Terry Moore, David Helton, and Michelle Gall. *The Costs of Sprawl—Revisited* pp. 50 – 52 (Transit Cooperative Research Program Report 39, Transportation Research Board, National Research Council 1998), hereinafter *The Costs of Sprawl—Revisited*. Available at:

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_39-a.pdf

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_39-b.pdf

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_39-c.pdf

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_39-d.pdf

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_39-e.pdf

http://gulliver.trb.org/publications/tcrp/tcrp_rpt_39-f.pdf and included on the data CD enclosed with the paper original of this letter in the "Costs of Sprawl Reports" directory with the following filenames: "tcrp_rpt_39-a.pdf," "tcrp_rpt_39-b.pdf," "tcrp_rpt_39-c.pdf," "tcrp_rpt_39-d.pdf," "tcrp_rpt_39-e.pdf," and "tcrp_rpt_39-f.pdf."

county's more than it generates in revenues.² In contrast, working farms and forests require county and special district services that cost less than the taxes these uses pay. "For every dollar of revenue from farm and open land, 51 cents was required to cover associated services."³ So Whatcom County can save its taxpayers money by reducing rural densities and maintaining working farms and working forests in the rural area. It will also reduce pressures on the county budget.

Whatcom County residents support the wise management of the growth and the protection of the county's rural character

The Whatcom County Values and Beliefs Survey, prepared for the Whatcom Legacy Project, found that 69 percent of county residents want to protect working farms and forested foothills and focus growth into our existing cities.⁴ Fifty-eight percent of the respondents to the Rural Element Update survey agreed that rural Whatcom County had grown "too much" in the last ten years.⁵ Sixty-five percent of the survey respondents agreed that more residential development threatened the rural values of Whatcom County that we all agree need to be protected, such as clean water, agriculture, and forest lands. Fifty-two percent agreed that more commercial development threatened these important rural values. In short, Whatcom County residents support the wise management of the county's rural areas.

Densities of one dwelling unit per acre, two acres, and five acres are characterized by urban growth and are inconsistent with rural character

Unfortunately, the county's current policies and regulations do not wisely manage the county's rural areas. We are concerned that the changes to the Planning Commission

² Roger Coupal, Donald M. McLeod, & David T. Taylor, *The Fiscal Impacts of Rural Residential Development: An Economic Analysis of the Cost of Community Services*, Planning & Markets, University of Southern California, Vol. 5, Number 1 (2002). Downloaded from <http://www-pam.usc.edu/volume5/v5i1a3s1.html> on June 9, 2006 and included on the data CD enclosed with the paper original of this letter in the "Costs of Sprawl Reports" directory with the filename: "Planning and Markets_ Coupal, McLeod, and Taylor.pdf."

³ American Farmland Trust, *Cost of Community Services: Skagit County, Washington* p. 17 (1999). Available at http://www.skagitonians.org/upload_pubs/aft=spf_.pdf and included on the data CD enclosed with the paper original of this letter in the "Costs of Sprawl Reports" directory with the filename: "Skagit_County_COCS.pdf."

⁴ Davis, Hibbitts, & Midghall Inc., *Memorandum to Whatcom Legacy Project Steering Committee Re: Whatcom County Values and Beliefs Survey* p. 9 (February 3, 2009). Accessed on November 12, 2010 at: <http://www.co.whatcom.wa.us/executive/news/2009/03/introduction.pdf> and enclosed with data CD enclosed with the paper original of this letter with the filename "introduction.pdf."

⁵ Makers, *Whatcom County Rural Element Update: First Phase Public Participation Summary Questionnaire Results - December 2008* p. 3 (Draft February 17, 2009). Accessed on November 12, 2010 at: <http://www.co.whatcom.wa.us/pds/pdf/whatcomruralelement-publicparticipation-02-17-09.pdf> and enclosed with data CD enclosed with the paper original of this letter with the filename "whatcomruralelement-publicparticipation-02-17-09.pdf"

recommendation to allow more rural development, which the above surveys show are not favored by Whatcom County residents, will not wisely manage the rural areas in the future and will violate the Growth Management Act.

The Washington State Supreme Court has held that a Growth Management Act (GMA) complaint “rural density is ‘not characterized by urban growth’ and is ‘consistent with rural character.’”⁶ We will consider each element of the definition in turn, but as this part of the letter will show, densities one dwelling unit per one, two, and five acres violate both elements of the definition.

Densities of one dwelling unit per acre, two acres, and five acres allow urban growth in the rural area

The GMA, in RCW 36.70A.030(17), defines urban growth as “... growth that makes intensive use of land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of land for the production of food, other agricultural products, or fiber, or the extraction of mineral resources, rural uses, rural development, and natural resource lands designated pursuant to RCW 36.70A.170.... When allowed to spread over wide areas, urban growth typically requires urban governmental services.”

Almost five acres is the minimum amount of land that can support even a small farm in Whatcom County. The Census of Agriculture shows that the average Whatcom County farm in 2007 totaled 69 acres.⁷ The smallest category of farm reported by the Census of Agriculture is farms from one to nine acres in size. In Whatcom County in 2007 there were 393 farms in that category and they totaled 1,906 acres.⁸ So the average size of these, the county’s smallest, farms was 4.85 acres.

To effectively manage forest land requires larger minimum lot sizes. Parcels smaller than 40 acres have much lower timber harvest rates and are more likely to be converted to residential land uses.⁹ Parcels smaller than 50 acres have higher than average costs for preparing timber sales, harvesting trees, and reforesting the site.¹⁰

⁶ *Thurston County v. Western Washington Growth Management Hearings Bd.*, 164 Wn.2d 329, 359, 190 P.3d 38, 52 – 53 (2008) (footnoted omitted).

⁷ United States Department of Agriculture National Agricultural Statistics Service, *2007 Census of Agriculture, Washington State and County Data Volume 1 Geographic Area Series • Part 47* Volume 1, Chapter 2: County Level Data Table 8. Farms, Land in Farms, Value of Land and Buildings, and Land Use: 2007 and 2002 p. 294 (February 2009). Accessed on November 12, 2010 at: http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1_Chapter_2_County_Level/Washington/st53_2_008_008.pdf and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “st53_2_008_008.pdf.”

⁸ *Id.*

⁹ Eric J. Gustafson & Craig Loehle, *Effects of Parcelization and Land Divestiture on Forest Sustainability in Simulated Forest Landscapes*, 236 FOREST ECOLOGY and MANAGEMENT 305, 313 (2006). Downloaded on November 26, 2008 from: http://nrs.fs.fed.us/pubs/jrnl/2006/nrs_2006_gustafson_001.pdf. Included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “nrs_2006_gustafson_001.pdf.” Forest Ecology and Management is a refereed

So a farm of just under five acres is the smallest size that supports agriculture and 40 to 50 acres is the smallest lot size that supports fiber production. Lots that are too small to support agriculture and fiber production are defined as urban growth. Therefore, rural densities greater than one house per five to 40 acres violate the Growth Management Act.

Densities of one dwelling unit per acre, two acres, and five acres are inconsistent with Whatcom County's rural character

As we have seen, legal rural densities must both not be characterized by urban growth and must also be consistent with rural character. We have just seen that densities of one dwelling unit per acre, two acres, and five acres are characterized by urban growth. We will now see that these densities are inconsistent with the Growth Management Act's definition of rural character.

"Rural character" includes lands:

(a) In which open space, the natural landscape, and vegetation predominate over the built environment;

(b) That foster traditional rural lifestyles, rural-based economies, and opportunities to both live and work in rural areas;

(c) That provide visual landscapes that are traditionally found in rural areas and communities;

(d) That are compatible with the use of the land by wildlife and for fish and wildlife habitat;

(e) That reduce the inappropriate conversion of undeveloped land into sprawling, low-density development;

scientific journal, see the Forest Ecology and Management webpage included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "Forest Ecology and Management Peer Review Webpage.pdf" and available at:

http://www.elsevier.com/wps/find/journaldescription.cws_home/503310/description#description

¹⁰ R. Neil Sampson, *Implication for Forest Production in Responses to "America's Family Forest Owners"* 102 JOURNAL OF FORESTRY 4, 12 (October/November 2004). Included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "America's Family Forest Owners.pdf." The Journal of Forestry is a peer reviewed scientific journal. See the Journal of Forestry Guide for Authors webpage available at:

<http://www.safnet.org/periodicals/jof/guideforauthors.cfm> and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "Journal of Forestry Guide for Authors.pdf."

(f) That generally do not require the extension of urban governmental services; and

(g) That are consistent with the protection of natural surface water flows and ground water and surface water recharge and discharge areas.¹¹

Let's consider each element of the definition of rural character. We will see densities of one, two, and five acres do not conform to any of the elements of rural character.

(a) In which open space, the natural landscape, and vegetation predominate over the built environment;

Enclosed with this letter are color 2009 aerial images from Google Earth showing one, two, five, and nine acre lots in Whatcom County north of Bellingham and east of Ferndale.¹² As you can see in the aerial images, the one, two, and in some cases almost five acre lots are dominated by buildings, driveways, and lawns.¹³ These small lots along roads and driveways have a tendency to create walls of buildings, typically houses and garages; blocking off the natural landscape.¹⁴ So open space and the natural landscape and natural vegetation do not predominate over the built environment as is typical of Whatcom County's rural area.¹⁵ The built environment predominates, in violation of this element of the Growth Management Act's definition of rural character.

(b) That foster traditional rural lifestyles, rural-based economies, and opportunities to both live and work in rural areas;

In Whatcom County, traditional rural lifestyles include farming, forestry, animal keeping, and low intensity rural businesses. As we documented above, one, two, and three acre lots are too small to farm unless part of a larger operation that has several

¹¹ RCW 36.70A.030(15); *Thurston County v. Western Washington Growth Management Hearings Bd.*, 164 Wn.2d 329, 360, 190 P.3d 38, 53 (2008) fn. 23.

¹² The aerial images are included on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory.

¹³ See the aerial images on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory with the filenames "1 acre lot off Northwest Drive.png," "1 acre lot off of Kale Ln.png," "1.1 acres north of Bellingham.png," "1.69 acre lot off Northwest Drive.png," "2.1 acre lot off Whisper Way.png," and "4.83 acres north of Bellingham.png." All of the images referred to in this discussion are in the rural area as is documented by the Whatcom County - Title 20 Zoning Designations for Township 39 North, Range 2 East on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory with the filename "t20zon11.pdf."

¹⁴ See the aerial images on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory with the filenames "1.1 acres north of Bellingham.png" and "833 Whisper Way Close Up.png."

¹⁵ See the aerial images on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory with the filename "953 West Axton Road Picture.pdf."

lots in a common ownership. As we documented above, one, two, three, and five acre lots are too small to grow trees on unless part of a larger operation that has several lots in a common ownership. So dividing some or all of this area into one, two, three, and five acre lots will not foster traditional rural lifestyles or provide for rural based economies. Again, this violates the Growth Management Act definition of rural character.

- (c) That provide visual landscapes that are traditionally found in rural areas and communities;

A comparison of the one, two, and in some cases almost five acre lots dominated by buildings, driveways, and lawns with the fields and treed areas that can be seen on the aerial images shows the dramatic change to the visual landscapes traditionally found in Whatcom County caused by these lots small lots.¹⁶ The larger almost ten acres and much larger lots have retained most of the trees and fields characteristic of Whatcom county.¹⁷ When the lots are divided into one, two, and five acre lots they are dominated by homes, driveways, lawns, and outbuildings. The one, two, and five acre lots also show that a pattern of these small lots will not provide a visual landscape that is traditionally found in rural areas. Again, this violates the Growth Management Act definition of rural character.

- (d) That are compatible with the use of the land by wildlife and for fish and wildlife habitat;

Rural residential development has significant adverse impacts on fish and wildlife habitat and those impacts increase with density.¹⁸ Even at densities of one dwelling unit per five acres, wildlife habitat within a quarter section of the house can be disturbed.¹⁹ These impacts can be reduced with lower densities, clustering, and the

¹⁶ See the aerial images on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory with the filenames "1 acre lot off Northwest Drive.png," "1 acre lot off of Kale Ln.png," "1.1 acres north of Bellingham.png," "1.69 acre lot off Northwest Drive.png," "2.1 acre lot off Whisper Way.png," and "4.83 acres north of Bellingham.png."

¹⁷ See the aerial images on the data CD enclosed with the paper original of this letter in the "Whatcom County Aerial Images" directory with the filenames "9 plus acres north of Bellingham east of Ferndale.png," "953 West Axton Road Picture.pdf," taken in front of the file "36 acre field.png," and "28.9 acre field adjacent to Whisper Way Whatcom Co.png."

¹⁸ Andrew J. Hansen, Richard L. Knight, John M. Marzluff, Scott Powell, Kathryn Brown, Patricia H. Gude, and Kingsford Jones, *Effects of Exurban Development on Biodiversity: Patterns, Mechanisms, and Research Needs* 15(6) ECOLOGICAL APPLICATIONS 1893, 1899 (2005). Included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "hansenetal2005_2.pdf." Ecological Applications is a peer reviewed scientific journal. See the Ecological Applications webpage at: <http://esapubs.org/esapubs/journals/applications.htm> and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "Ecological Applications webpage.pdf."

¹⁹ David M. Theobald, James R. Miller, and N. Thompson Hobbs, *Estimating the Cumulative Effects of Development on Wildlife Habitats*, 39 LANDSCAPE AND URBAN PLANNING 25, 34 (1997). Included on the

careful location of residential subdivisions can reduce these adverse effects.²⁰ A Washington State Department of Fish and Wildlife Report shows that maintaining the state's native wildlife species requires densities no greater than one dwelling unit per 20 acres and wildlife conservation planning measures.²¹ Without wildlife conservation planning measures, approximately a quarter of Washington's native bird, mammal, amphibian, and reptile species will be lost at densities of one dwelling unit per 20 acres. At densities of one dwelling unit per ten acres, about half of the species will be lost. At densities of one dwelling unit per five acres over 60 percent of the species will be lost. At densities of one dwelling unit per 2.5 acres over 70 percent of the species will be lost. Even with conservation planning implemented, just over half of the state's wildlife species will survive at densities of one dwelling unit per 2.5 acres. Wiping out a quarter to over 70 percent of the state's wildlife is certainly not compatible with the use of the land by wildlife which the Growth Management Act requires as part of its definition of rural character.

Research by the University of Washington in the Puget Sound lowlands has shown that when total impervious surfaces exceed five to 10 percent and forest cover declines below 65 percent of the basin, then salmon habitat in streams and rivers is adversely affected.²² Impervious surfaces also affect wetlands. "Hicks found a well-

data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "theobald_etal1997.pdf." Landscape and Urban Planning is a peer reviewed scientific journal. See the Landscape and Urban Planning Guide for Authors webpage accessed on October 29, 2010 at: http://www.elsevier.com/wps/find/journaldescription.cws_home/503347/authorinstructions and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "Landscape and Urban Planning Guide for Authors.pdf."

²⁰ David M. Theobald, James R. Miller, and N. Thompson Hobbs, *Estimating the Cumulative Effects if Development on Wildlife Habitats*, 39 LANDSCAPE AND URBAN PLANNING 25, 35 (1997).

²¹ Washington State Department of Fish and Wildlife, *Landscape Planning for Washington's Wildlife: Managing for Wildlife in Developing Areas* p. 1-1 (Olympia, Washington: December 2009). Accessed on October 29, 2010 at: http://wdfw.wa.gov/conservation/phs/mgmt_recommendations/ and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "wdfw00023.pdf." Supporting data is included in the files

"app_b_species_development_database.xls," "app_c_stressor_tables.xls," and "app_d_metric_tables.xls" in the "Supporting Documents" directory of the data CD enclosed with the paper original of this letter.

²² Christopher W. May, Richard R. Horner, James R. Karr, Brian W. Mar, Eugene B. Welch, *The Cumulative Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion* p. 17 (University of Washington, Seattle Washington). Included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "chrisrdp.pdf." This report was identified as best available science in Washington State Office of Community Development. *Citations of Best Available Science for Designating and Protecting Critical Areas* p. 17 (March 2002).

Accessed on Nov. 17, 2010 at http://www.commerce.wa.gov/uploads/bas_citations_final.pdf and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "bas_citations_final.pdf." A published version of the May paper was cited in the *Draft Environmental Impact Statement • 10-Year Urban Growth Area Review • May 2009*

Whatcom 2031 p. 5-7. Accessed on Nov. 17, 2010 at

http://www.co.whatcom.wa.us/pds/2031/pdf/DEIS_Combined_050509.pdf and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "DEIS_Combined_050509.pdf"

defined inverse relationship between freshwater wetland habitat quality and impervious surface area, with wetlands suffering impairment once the imperviousness of their local drainage basin exceeded 10%.”²³ Whatcom County’s own critical areas report acknowledges that when impervious surfaces cover less than ten percent of the area that contributes water to a wetland, adverse impacts occur.²⁴

Conventionally designed five-acre lot single-family developments exceed the five percent threshold with impervious surfaces covering 5.4 percent of the lot.²⁵ Three to five acre lots have impervious surfaces of 8.3 percent and one acre lots 13 percent.²⁶ Rural densities of one dwelling unit per one, two, or five acres adversely affect water quality and fish habitat.

This is especially true given that many subbasins will include urban growth areas with much higher percentages of impervious surfaces. Indeed, the Final Environmental Impact Statement for the Ten-Year Urban Growth Area Review discloses that five watersheds that currently have impervious surfaces below five percent

could potentially exceed 10% under full buildout in five discrete watersheds, including: Birch Bay; Campbell River; Lummi Bay; Point Roberts; Silver-Nooksack. In general, when impervious surface area exceeds 10% of the subbasin area the potential for impacts from flooding, reduced groundwater recharge and contamination from urban run-off is increased. However, this is a general rule of thumb. The effects of impervious surfaces typically manifest themselves before the 10% threshold is reached; impacts become more acute and difficult to mitigate when the 10% threshold is exceeded.”²⁷

²³ Chester L. Arnold, Jr. & C. James Gibbons, *Impervious Surface Coverage: The Emergence of a Key Environmental Indicator*, 62 *Journal of the American Planning Association* 243, p. 248 (1996). Included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “9373702.pdf.” The *Journal of the American Planning Association* is a peer reviewed journal, see the file “JAPA Peer Review Process.pdf” in the Supporting Documents directory of the data CD enclosed with the paper original of this letter.

²⁴ Parametrix, Adolfson Associates, Earth Systems, Coastal Geologic Services, & Jennifer Thomas & Associates, *Whatcom County Critical Areas Ordinance Best Available Science Review and Recommendations for Code Update Final Report* p. 5-18 (May 2005). Accessed on Nov. 19, 2010 at: http://www.co.whatcom.wa.us/pds/naturalresources/criticalareas/pdf/bas_final_20050520.pdf and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “bas_final_20050520.pdf.”

²⁵ United States Environmental Protection Agency, *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* p. I-9 (Publication Number EPA 841-B-05-004, November 2005). Downloaded on January 3, 2006: <http://www.epa.gov/owow/nps/urbanmm/> and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “urban_guidance[1].pdf.”

²⁶ *Id.*

²⁷ *Final Environmental Impact Statement • 10-Year Urban Growth Area Review • October 2009* Whatcom 2031 p. 4-6. Accessed on Nov. 19, 2010 at:

In addition, some rural uses, such as agricultural product processing plants, may also have higher impervious surfaces. Higher densities, such as one housing unit per two acres, mean that impervious surfaces will exceed this percentage in Whatcom County, resulting in significant adverse environmental impacts and adverse impacts on surface water quality and fish habitat. This violates the GMA element of the definition of rural character that provision that rural character requires compatibility with fish and wildlife habitat.

That lower residential densities are needed to protect fish habitats is supported by the National Marine Fisheries Service's requirements for development within flood plains to comply with the federal Endangered Species Act. These measures direct local governments to "[r]equire zoning to maintain a low density (e.g., 5-acre lots or greater) of floodplain development to reduce the damage potential within the floodplain to both property and habitat, and help maintain flood storage and conveyance capacity."²⁸

(e) That reduce the inappropriate conversion of undeveloped land into sprawling, low-density development;

As the aerial photographs of one, two, and some of the five acre lots enclosed with the paper original of this letter show, these densities does not reduce the inappropriate conversion of land into low-density development, it causes low-density development. This again violates the Growth Management Act definition of rural character.

(f) That generally do not require the extension of urban governmental services;

Professor Daniels reports that

Rural residential sprawl usually occurs away from existing central sewer and water. Homeowners rely on on-site septic systems and on wells for water. Often, these systems are not properly sited or not properly maintained. For example, a 1998 study in the Indiana reported that

http://www.co.whatcom.wa.us/pds/2031/pdf/20091023_ch4.pdf and included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "20091023_ch4.pdf."

²⁸ National Marine Fisheries Service, *Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the on-going National Flood Insurance Program carried out in the Puget Sound area in Washington State, HUC 17110020 Puget Sound* p. 224 (Sept. 22, 2008). Accessed on Nov. 16, 2010 at: [https://pcts.nmfs.noaa.gov/pls/pcts-pub/biop_results_detail?reg_inclause_in=\('NWR'\)&tidin=29082](https://pcts.nmfs.noaa.gov/pls/pcts-pub/biop_results_detail?reg_inclause_in=('NWR')&tidin=29082) Included on the data CD enclosed with the paper original of this letter in the "Supporting Documents" directory with the filename "https___pcts.nmfs.noaa.gov_pls_pcts-pub_sxn7.pcts_upload.download_p_file=F3181_200600472_fema_nfip_09-22-2008.pdsf"

between 25 and 70 percent of the on-site septic systems in the state were failing.

When septic systems fail in large numbers, sewer and water lines must be extended into the countryside, often a mile or more. Public sewer is priced according to average cost pricing. This means that when sewer lines are extended, there is a strong incentive to encourage additional hook-ups along the line. So when a sewer line is extended a mile or more, development pressure increases along the line. This usually results in a sprawling pattern, like a hub and spoke from a village to the countryside.²⁹

Currently the owners of conventional septic systems are required to submit a report every three years. There are an estimated 30,000 septic systems in Whatcom County, but only 8,351 private septic systems have submitted the required inspection reports required.³⁰ Of those systems that had been professionally inspected, “just 62 percent of the systems they checked were in satisfactory condition. Thirty-four percent needed maintenance, while four percent had failed.”³¹

So failing septic tanks on one, two, or five acre lots could require the extension of water, which is both an urban and rural public facility. If extended at an urban level of service, this would be inconsistent with this element of rural character. Also, these densities may require extending sewer lines, an urban governmental service, which would violate this element of the Growth Management Act definition of rural character.

²⁹ Professor Tom Daniels, *What to Do About Rural Sprawl?* p. 1 Paper presented at the American Planning Association Conference, Seattle, Washington (April 28, 1999). Accessed on October 29, 2010 at: <http://www.mrsc.org/subjects/planning/rural/daniels.aspx> and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “Daniels What to Do About Rural Sprawl.pdf.”

³⁰ John Stark, *Septic system inspections turn up problems in Whatcom County* The Bellingham Herald (Nov. 08, 2010). Accessed on Nov. 17, 2010 at <http://www.bellinghamherald.com/2010/11/08/1706369/whatcom-county-septic-system-inspections.html> and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “Septic system inspections turn up problems in Whatcom County.pdf.”

³¹ *Id.*

- (g) That are consistent with the protection of natural surface water flows and ground water and surface water recharge and discharge areas.

As was documented above, densities of one dwelling unit per one, two and five acres will adversely affect surface water flows. Septic systems serving rural development are polluting surface waters, including Puget Sound.³²

There is also evidence that the high densities that Whatcom County has allowed in the rural area have harmed ground water recharge and discharge areas. Salt water intrusion has already led to the closure of several of the public water-supply wells on the Lummi Peninsula.³³ Existing water resources on the Lummi Peninsula can only serve an additional 110 homes.³⁴ Some of the water associations lack the water to serve all of the existing lots.³⁵ So allowing any new lots on the peninsula will adversely affect ground water.

More broadly, “groundwater in Whatcom County is very vulnerable to contamination because much of the County’s groundwater lies within a shallow unconfined aquifer. Activities that occur on the surface of the ground directly affect groundwater quality.”³⁶ “Nitrate contamination is the major concern for groundwater in the County.”³⁷ For example, the “Blaine Sumas Aquifer has been impacted by agricultural and other activities causing both nitrate and pesticide contamination problems in drinking water supplies. Though there is some variation in study results, approximately 20% of wells have levels of nitrate above the [Maximum Contaminant Level] MCL of 10 ppm, with 40 – 50% of wells with levels that exceed half the MCL.”³⁸ “The main sources for excess nitrate in drinking water have been determined to include improper application of commercial fertilizers, improper animal manure

³² *Whatcom County Comprehensive Water Resource Plan* p. 34 (February 9, 1999). Accessed on Nov. 17, 2009 at: <http://www.co.whatcom.wa.us/publicworks/pdf/water/watrplan.pdf> and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “watrplan.pdf.”

³³ Water Resources Division, Lummi Natural Resources Department, Lummi Nation Nonpoint-Source Management Program p. 7 (January 2002). Accessed on June 4, 2010 at: http://www.lummi-nsn.org/NR/Water/WaterResourcesWeb/documents/NonPointSource/4_NPSMP.pdf and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “4_NPSMP.pdf”

³⁴ Hon. Judge Thomas Zilly *United States & Lummi Indian Nation v. State of Washington, Department of Ecology, et al.* No. C01-0047Z Order Conditionally Approving Settlement Agreement p. 6 (Nov. 2, 2007). Accessed on June 4, 2010 at: <http://www.lummi-nsn.org/NR/Water/PDF/WaterLitigation/Order%20Approving%20Settlement.pdf> and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “Order Approving Settlement.pdf.”

³⁵ *Id.* at 14.

³⁶ *Whatcom County Comprehensive Water Resource Plan* p. 51 (February 9, 1999).

³⁷ *Id.*

³⁸ *Id.*

applications, and improperly designed, installed or maintained septic systems.”³⁹ So allowing more small lots is likely to lead to more contamination by “improperly designed, installed or maintained septic systems.” So again, these lots violate this element of the Growth Management Act definition of rural character.

In short, the one, two, or five acre zoning is not consistent with any of the elements in the Growth Management Act definition of rural character. Since all elements must be met, these densities violate the Growth Management Act.

Only water systems constructed to serve higher density developments can be used to justify limited areas of more intense rural developments under RCW 36.70A.070(5)(d)(i)

In determining the location of a Type 1 LAMIRD proposed for designation under RCW 36.70A.070(5)(d)(i), the county must identify the *logical outer boundary* (sometimes called an LOB) of the area. The logical outer boundary is delineated predominately by the “built environment” that existed on July 1, 1990.⁴⁰

The “built environment” includes man-made structures located above and below the ground, such as existing buildings, sewer lines, and other urban level utilities or infrastructure.⁴¹ The extent of the infrastructure or the service area that existed in 1990 or the date when the county was first required or chose to fully plan under the GMA may be used to set the logical outer boundary.⁴²

In *1000 Friends of Washington v. Thurston County*, the Western Growth Management Hearings Board agreed with us that because water is both an urban and rural governmental service under the Growth Management Act, “it is apparent that the critical factor in determining whether the water system is a rural or urban system is the intensity at which water service is provided. A ‘more intensive’ rural use that characterizes a (d)(i) LAMIRD in Thurston County would be of a capacity to serve rural residences at a density of one or two dwelling units per acre, or of one dwelling unit per two acres [which was the density allowed in the Type 1 LAMIRD at issue in the

³⁹ *Id.*

⁴⁰ RCW 36.70A.070(5)(d)(iv).

⁴¹ *City of Anacortes v. Skagit County*, WWGMHB Case No. 00-2-0049c, Final Decision and Order (C/I Development Issues) (February 6, 2001), at 13; *Panesko, et al. v. Lewis County, et al.*, WWGMHB Case No. 98-2-0011c, Final Decision and Order & Compliance Order (March 5, 2001), at 2001 WL 246707 p. *15; and *People For A Liveable Community, Jim Lindsay, et al. v. Jefferson County*, WWGMHB Case No. 03-2-0009c, Final Decision and Order (August 22, 2003), at *21.

⁴² *Burrow v. Kitsap County*, CPSGMHB Case No. Case No. 99-3-0018, *coordinated with Alpine, et al. v. Kitsap County*, Case No. 98-3-0032c, [Portion dealing with Compliance with Remand Items 3.d and 3.f] Order on Compliance in a Portion of Alpine and Final Decision and Order in Burrow (March 29, 2000), at *14.

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Thurston County case].”⁴³ We understand that Whatcom County is using water lines to justify Type 1 LAMIRDs, but the county can only base logical outer boundaries on water systems that provide water at a level of service that can serve more intense rural developments, not water system that provide a rural level of service.

Whatcom County’s level of service standards for water systems do not include a standard for LAMIRDs.⁴⁴ So, consistent with standard water design principles, systems used to justify LAMIRDs should have grid and loop patterns with branch mains large enough to serve the LAMIRD density and in no case less than eight inches in diameter.⁴⁵

Thank you for considering our comments. If you require additional information please contact Cathy Lehman, Whatcom County Chapter Director, at telephone (360) 224-8877 and e-mail Cathy@futurewise.org or Tim Trohimovich at telephone 206-343-0681 and tim@futurewise.org

Sincerely,

Cathy Lehman
Whatcom County Chapter Director

Tim Trohimovich, AICP
Co-Director of Planning & Law

cc: Planning and Development Services w/data CD

Enclosures

⁴³ *1000 Friends of Washington v. Thurston County*, WWGMHB Case No. 05-2-0002 Compliance Order – LAMIRDS and Lot Aggregation (Nov. 30, 2007), at 14 of 31.

⁴⁴ *Whatcom County 20-Year Capital Facilities Plan Whatcom County Comprehensive Plan – Appendix E* p. 81 (November 2009). Accessed on Nov. 17, 2010 at: http://www.co.whatcom.wa.us/pds/planning/comp_plan/pdf/20100101.appendix.e.pdf and included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “20100101.appendix.e.pdf.”

⁴⁵ Larz T. Anderson, *Planning the Built Environment* p. 39 (American Planning Association, Chicago Ill.: 2000) included on the data CD enclosed with the paper original of this letter in the “Supporting Documents” directory with the filename “Water Supply.pdf”

Appendix A: Tim Trohimovich's Qualifications

Tim is a graduate of Willamette University with an undergraduate planning degree. He is also a graduate of the Lewis & Clark College, Northwestern School of Law, *cum laude*. At Lewis and Clark I earned a certificate in environmental law. He has been a professional planner in Washington State for over 25 years. As part of that work he has reviewed limited areas of more intense rural development in many counties. He is currently the Co-Director of Planning & Law for Futurewise, a public interest group that works to effectively implement the Growth Management Act. He is a member of the American Institute of Certified Planners (AICP), which means that he has combination of experience and education that qualifies him as an AICP member and has passed a test of showing my proficiency with planning knowledge and techniques. He is experienced interpreting aerial photographs and remote sensing images. At Futurewise for the last nine years Tim has focused on land use and environmental policy studies, technical assistance, policy advocacy, and land use and environmental law.

He is also a frequent writer and speaker on land use and planning issues. For example, earlier this month he was an invited panelist discussing the designation of agricultural, forest, and mineral resource lands for a statewide continuing legal education conference.