



PUBLIC HEARING

Thursday, November 14, 2019

6:00 P.M.

Council Chambers

AGENDA

1. Call Meeting to Order
2. Draft Municipal Planning Strategy and Draft Land Use By-law – Laura Mosher
3. Comments from the Public
4. Correspondence
5. Adjournment

THE MUNICIPALITY OF THE COUNTY OF KINGS

REPORT TO MUNICIPAL COUNCIL

Subject: Public Hearing – Adoption of Planning Documents

From: Planning and Development Division

Date: November 14, 2019

Background

The Kings 2050 process began eight years ago in September 2011, when Council approved the Terms of Reference. The Kings 2050 process sought to answer the question, “What should Kings County look like in 2050?”. From this starting point, a visioning process began and a vision for the future of the Municipality was endorsed by Council in May 2013. As part of the deliverables of the Kings 2050 process, Council directed staff to draft new planning documents based on the vision that was developed in the first stage of the Kings 2050 process.

From this starting point, there have been three draft Municipal Planning Strategies (2014, 2016, 2019) released, two draft Land Use By-laws (2016, 2019) released. An extensive and comprehensive review was conducted with Planning Advisory Committee over the course of 2018. Significant public consultation has occurred throughout this process to inform the development of policies and regulations.

The draft Planning Documents were reviewed by the Planning Advisory Committee (PAC) on September 10, 2019. At this meeting, the Committee forwarded a positive recommendation to Council.

On October 1, 2019 and October 10, 2019, Municipal Council considered the Planning Documents and gave First Reading to the proposed Planning Documents and the repeal of the existing Planning Documents at its meeting on October 10, 2019 by passing the following motions:

That Municipal Council give First Reading to and hold a Public Hearing regarding the adoption of the 2019 draft Municipal Planning Strategy (save for minor differences in form) and the 2019 draft Land Use By-law (save for minor differences in form), as posted on the municipal website, including:

- a) an amendment to: Policy 3.4.11(d) of the MPS and Section 8.3.4.1 of the LUB from 300 feet to 500 feet;
- b) a map amendment to reflect a change in the Port Williams Growth Centre boundary to the 2016 depiction contained in Map 2 of the October 1, 2019 related Request for Decision; and

- c) an amendment to Map 13 – Rural Zoning Map and Schedule B – Rural Future Land Use for the three pockets of lands within the Agricultural (A1) Zone and Agricultural Designation on the North Mountain that the Agricultural (A1) Zone boundary and land use designation boundary be adjusted from 250 feet from the front lot line to 500 feet from the front lot line.

That Municipal Council approve First Reading to repeal By-law 56 - County of Kings Municipal Planning Strategy, By-law 75 - County of Kings Land Use By-law, By-law 42 - New Minas Sector Plan and By-law 57 - New Minas Land Use By-law.

and

That Municipal Council confirm that the Public Hearing regarding the draft Municipal Planning Strategy and Draft Land Use By-law be held on Thursday, November 14, 2019 at 6:00 pm with a Special Council meeting immediately following.

Following First Reading, there was a request for additional information related to subsection c) of the motion, regarding Agricultural (A1) lands on the North Mountain and information related to amendments to the motion following the Public Hearing. A briefing with the requested information can be found as Appendix A to this report.

Public Hearing

At this Public Hearing, members of the public have the opportunity to present opinions on the proposal directly to Municipal Council. Council is scheduled to consider approving the draft Planning Documents by giving them Second Reading at the Special Municipal Council meeting immediately following this public hearing.

Summary of Changes

This section provides a broad overview of the major changes in policy and regulatory direction that appear within the draft Planning Documents from the existing, in force Planning Documents.

General Changes

In reviewing the in force documents as part of this process, Staff have found that the basic framework of the documents has worked well. The basic framework that has been retained consists of the following:

- Direct development predominantly to urban areas
- Protect agricultural lands
- Protect the environment
- Manage land use conflict

Outside of the basic framework for the draft Planning Documents, the following general changes have been incorporated into the draft Planning Documents:

- New Vision generated in collaboration with the Towns
- 8 themes that guide the objectives of the draft Planning Documents
- One set of Planning Documents for the entirety of the Municipality
- Refined regulations that are easier to understand

- Elimination of Hamlet designation
- Increase in the number of uses permitted within most zones
- Overall reduction in the number of land use designations from 13 to 6
- Overall reduction in the number of zones from 67 to 29
- Coverage of new topics: infrastructure, economic development, recreation, energy
- Expanded options for home-based businesses
- Revised parking rates

Growth Centres

In general, development within Growth Centres is proposed to be far more flexible as compared to the in force Planning Documents. The intent is to promote the development of complete communities that can provide the requirements for daily living within communities at higher residential densities.

Regulations within the Land Use By-law intended to achieve this flexibility include the following:

- Smaller requirements for minimum lot frontage and lot area thereby enabling higher density development as-of-right
- Reduced setback requirements
- Mixed Use Zone enabling a mix of uses along main transportation corridors

With regard to policies within the Municipal Planning Strategy, the focus on flexibility is continued through more permissive options for rezoning within a designation and flexible development options that enable innovative development of uses not previously considered or for acceptable developments that may not meet the requirements of the Land Use By-law.

Rural Areas

Most of the significant changes in policy direction within the draft Planning Documents has been within rural land use designations and zones.

Agricultural Designation and Zones

Some of the most significant changes from the in force Planning Documents are within the Agricultural Designation and its zones.

Agricultural (A1) Zone

There has been many significant changes to the Agricultural (A1) Zone. The changes have been made in an effort to further protect agricultural lands.

The in force Planning Documents permit the construction of only farm dwellings within this zone unless one of 8 exemptions to the regulation is met. All but one exemption have been removed in the draft Planning Documents. The two most commonly-used exemptions known as the pre-94 lot and poor soils exemptions have been removed. These exemptions together accounted for 94% of all non-farm dwellings constructed in the Agricultural (A1) Zone between 2001 and 2016.

The infill exemption is the only remaining exemption and has been modified. The in force documents permit the construction of a non-farm dwelling if there are houses on either side of a lot that has existed since 1994 and the side lot lines are no more than 400 feet apart. The purpose of the infill exemption is to cluster residential uses to concentrate potential conflict for agricultural operations. If the regulation is based on the lot lines, the dwellings on either side of the subject property could be located a significant distance away if the lots on either side are large lots, which is common in agricultural areas. The exemption in the draft Planning

Documents has been modified and is now linked to the location of dwellings existing on the date of adoption to better concentrate non-farm uses and enable the retention of large agricultural parcels.

With regard to farm dwellings and tenements, the regulations related to these have also been modified. Under the existing documents, the determination of whether a dwelling is a farm dwelling is linked to the size of the lot, whether the lot has been farmed and tax assessment. Farm dwellings in the draft Planning Documents are proposed to be classified as accessory uses to a farming operation, meaning they are not able to be subdivided from the farm property. Prior to the construction of a farm dwelling, an agricultural building must be present and the applicant must demonstrate that their income derived from farming exceeds all other sources of income.

Finally, with regard to the Agricultural (A1) Zone, the Planning Documents clearly indicate that lands within the Agricultural (A1) Zone are not able to be rezoned to any zone other than the Environmental Constraints (O1) Zone.

The draft Planning Documents also propose a new zone enabled within the Agricultural Designation. The Rural Mixed-use (A2) Zone has been applied to areas that were predominantly within the Forestry (F1) Zone and the Country Residential (R6) Zone on the North and South Mountains in the in force Planning Documents. The Rural Mixed-use (A2) Zone within the draft Planning Documents provides an opportunity for agricultural related industries, which can be quite large, to locate in proximity to agricultural areas without being constructed on prime agricultural land. A measure of protection for agricultural lands at the time of potential rezoning has also been implemented wherein only lands that were not actively farmed in 2012 are eligible for rezoning. With regard to properties that were previously located in the Country Residential (R6), additional protection has been applied through the prohibition of the development of new roads within the Rural Mixed Use (A2) Zone where the Country Residential (R6) Zone permitted the development of new roads.

Changes to other zones within the Agricultural Designation have been minor in nature.

Shoreland Designation and Zones

This designation and zones have also undergone significant changes primarily to better protect lake water quality from negative impacts related to development.

Within all of the Shoreland Zones, including the Tidal Residential (T1) Zone and the Tidal Commercial (T2) Zone as well as the lakeshore zones referenced above, a recreational vehicle (i.e. Travel trailer, camper etc) may be used on a vacant property in place of a dwelling or recreational cabin.

Lakeshore Zones

The application of the Lakeshore Residential (S1) Zone and the Lakeshore Limited Development (S2) Zones has been modified so that the Lakeshore Residential (S1) Zone has been applied to areas that have mostly been developed. The Lakeshore Limited Residential (S2) Zone has been applied to areas that have not seen much development. Restrictions have also been placed on rezoning within the designation. Rezoning lands from the Lakeshore Limited Development (S2) Zone to the Lakeshore Residential (S1) Zone are not permitted. Additional restrictions have also been placed on the amount of vegetation that can be removed from the required shoreline setback.

Within the Lakeshore Residential (S1) Zone, there have been minimal changes to the permitted uses and regulations related to development. Within the Lakeshore Limited Development (S2) Zone, there have been more significant changes; primarily these would be related to the minimum lot area and frontage requirements which have been increased from 50,000 square feet of lot area and 200 feet of lot and shoreline frontage to 3 acres and 450 feet of road and lake frontage.

Resource Designation and Zones

With the exception of a change in the name of the primary zone within this designation from the Forestry (F1) Zone in the in force Planning Documents to the Resource (N1) Zone in the draft Planning Documents there have been no significant changes to this designation or zones.

Large Scale Wind Turbines

The in force Planning Documents do not permit large scale wind turbines within any zone in the Municipality. The draft Planning Documents propose a Large Scale Wind Turbine Overlay area in the southwest portion of the Municipality that enables the development of Large Scale Wind Turbines as-of-right. This area was selected based on the following characteristics:

- Made up primarily of Crown lands
- Minimum of 3 kilometres from any existing dwellings
- Minimum of 3 kilometres from the Cloud Lake Wilderness area

Next Steps

As previously mentioned, directly following this Public Hearing, Council will convene a Special Council Meeting where Council will give the draft Planning Documents consideration for Second Reading and, if advisable will adopt the draft Planning Documents. If adopted, the documents will be forwarded to the Department of Municipal Affairs and Housing for a 30-day Director's review and, if deemed advisable by the Provincial Director of Planning, a 60-day review by the Minister prior to provincial approval, refusal or amendment. This process is summarized in Chart 1 that accompanies the *Municipal Government Act*. This chart has been included as Appendix B to this report.

Appendix A – Briefing Note regarding Agricultural Lands on the North Mountain

TO Municipal Council

PREPARED BY Laura Mosher, Manager, Planning and Development Services

MEETING DATE November 14, 2019

SUBJECT North Mountain areas within the Agricultural (A1) Zone

ORIGIN

- October 10, 2019 motion of Council giving First Reading to draft planning documents, subject to certain changes
- October 11, 2019 email from Deputy Mayor Lutz

RECOMMENDATION

No recommendation, this briefing is for information purposes.

INTENT

To provide information to Council regarding three areas of land within the Agricultural (A1) Zone on the North Mountain, stemming from subsection c) of the following motion passed by Council:

That Municipal Council give First Reading to and hold a Public Hearing regarding the adoption of the 2019 draft Municipal Planning Strategy (save for minor differences in form) and the 2019 draft Land Use By-law (save for minor differences in form), as posted on the municipal website, including:

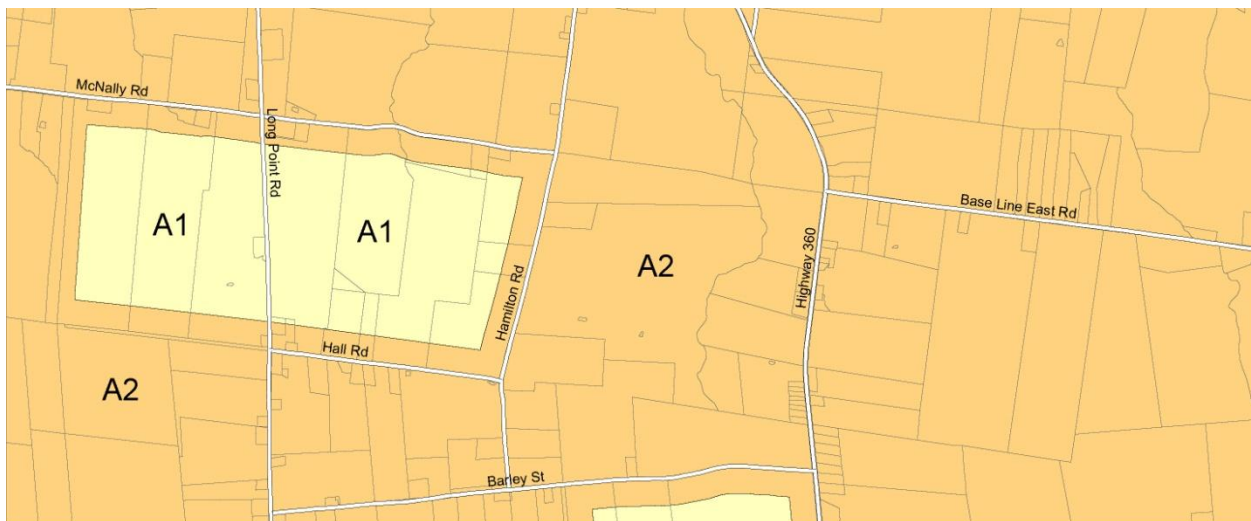
- a) an amendment to: Policy 3.4.11(d) of the MPS and Section 8.3.4.1 of the LUB from 300 feet to 500 feet;
- b) a map amendment to reflect a change in the Port Williams Growth Centre boundary to the 2016 depiction contained in Map 2 of the October 1, 2019 related Request for Decision; and
- c) an amendment to Map 13 – Rural Zoning Map and Schedule B – Rural Future Land Use for the three pockets of lands within the Agricultural (A1) Zone and Agricultural Designation on the North Mountain that the Agricultural (A1) Zone boundary and land use designation boundary be adjusted from 250 feet from the front lot line to 500 feet from the front lot line.

DISCUSSION

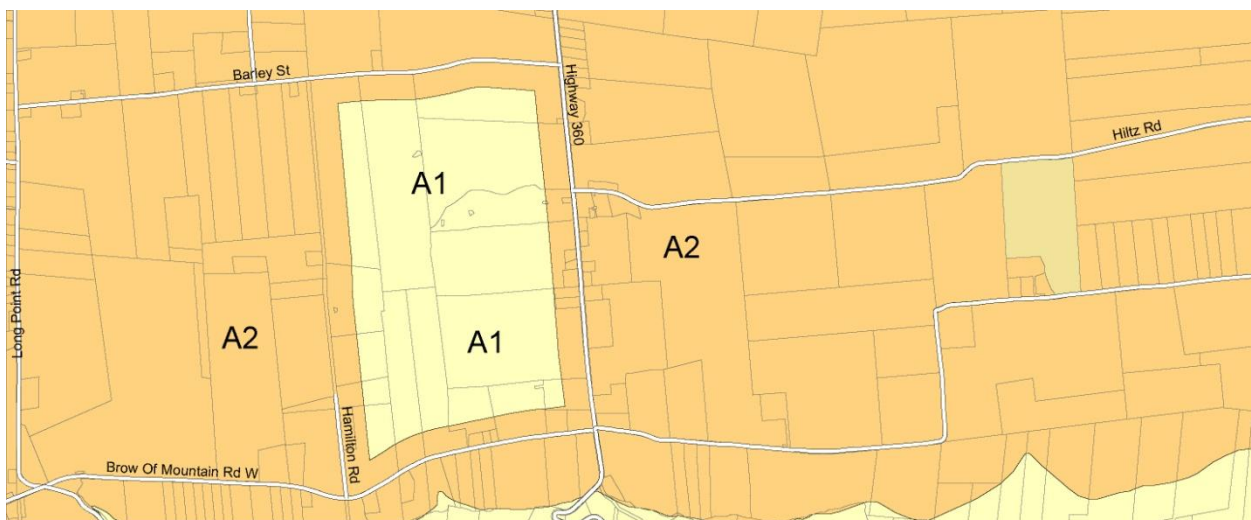
North Mountain A1 Lands

The three areas of land zoned Agricultural on the North Mountain are located as follows:

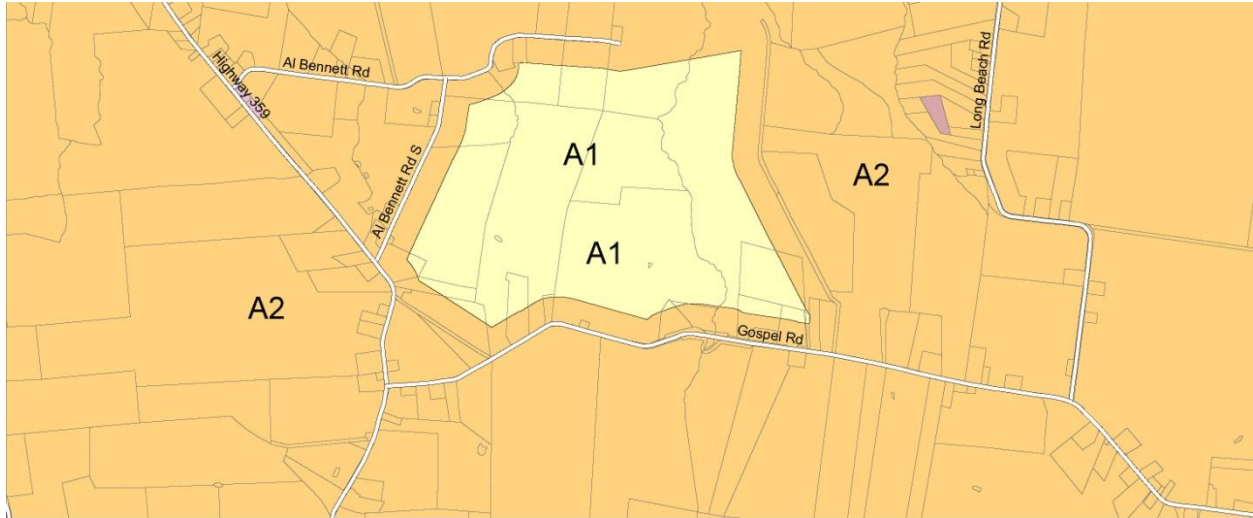
The most northwesterly portion of land in the Agricultural (A1) Zone is bounded by McNally road, Hamilton Road, Hall Road and is bisected by Long Point Road. The area within the Agricultural (A1) Zone is approximately 805 acres. Should the zone boundary be adjusted to begin 500 feet from the front lot line, rather than the PAC approved mapping of starting the A1 zone at 250 feet from the front property line, the area would be approximately 665 acres in area, resulting in a reduction of approximately 140 acres in the A1 zone, in this block.



The second area, located southeast of the first area, is approximately bounded by Barley Street, Highway 360, Brow Mountain Road West, and Hamilton Road. The area within the Agricultural (A1) Zone is approximately 709 acres. Should the zone boundary be adjusted to 500 feet from the front lot line, the area would be approximately 582 acres in area, resulting in a reduction of approximately 127 acres in this block.



The third area is in the eastern end of the Municipality and is approximately bounded by Al Bennett Road South, Al Bennett Road, Gospel Road and Highway 359. The area within the Agricultural (A1) Zone is approximately 806 acres. Should the zone boundary be adjusted to 500 feet from the front lot line, the area would be approximately 665 acres in area, resulting in a reduction of approximately 140 acres in the A1 zone in this block.



The total reduction in the lands removed from the Agricultural (A1) Zone is approximately 410 acres or a reduction of 0.4% across the entirety of the Agricultural (A1) Zone, with this clause to the motion.

Amendments at Second Reading

Staff have consulted with representatives from the Department of Municipal Affairs and Housing (DMAH) and the Municipality's Solicitor with regard to amendments to the documents, or to the First Reading motion following the Public Hearing.

DMAH indicated that, while not common, it is not unheard of that Councils make amendments to Planning Documents or motions following the Public Hearing. The representative indicated that, provided the amendments are not substantive, a new public hearing or a recommencement of the public participation program is not required.

This is consistent with the Municipality's Solicitor's legal opinion dated August 20, 2019 regarding substantive vs. non-substantive matters.

FINANCIAL IMPLICATIONS

- None

STRATEGIC PLAN ALIGNMENT

| Check Applicable | Strategic Priority | Description |
|-----------------------------|-------------------------------------|---------------------------------------|
| | Good Governance | |
| | Environmental Stewardship | |
| | Economic Development | |
| | Strong Communities | |
| | Financial Sustainability | |
| | Supports a Strategic Project | |
| | Supports a Core Program Enhancement | |
| ✓ | Not Applicable | Response to a request for information |

ALTERNATIVES

- None

IMPLEMENTATION

- N/A.

COMMUNITY ENGAGEMENT

- N/A

APPENDICES

Appendix A – Email from Deputy Mayor Lutz, October 11, 2019

APPROVALS

Patricia Javorek, Director, Planning & Inspections Date: October 22, 2019

Scott Conrod, Chief Administrative Officer Date: October 24, 2019

APPENDIX A

-----Original Message-----

From: Emily Lutz

Sent: October-11-19 9:39 AM

To: Scott Conrod; Peter Muttart; Trish Javorek; Laura Mosher

Subject: Question re:amendment last night

Hello all,

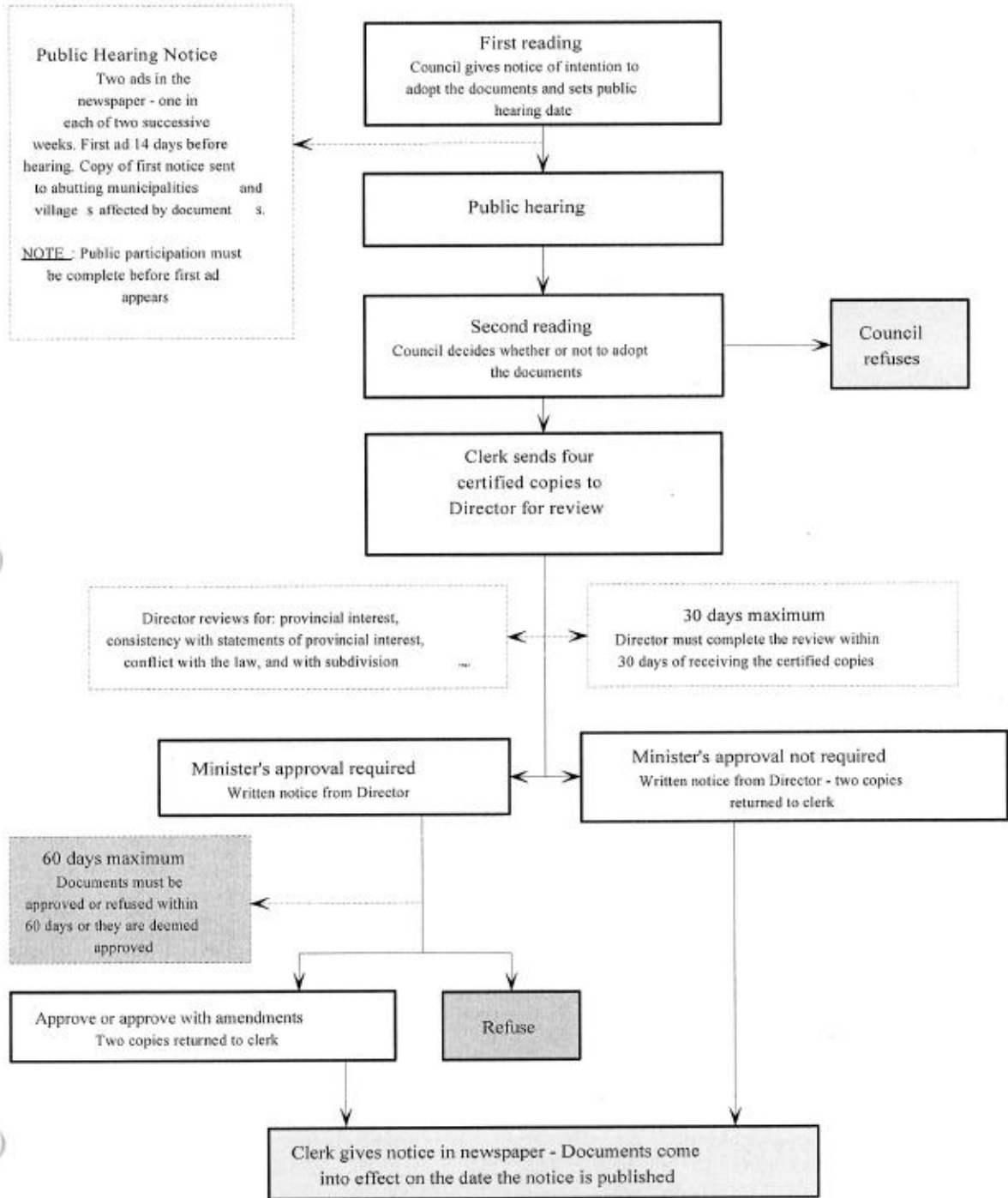
Just curious if it's possible to have a detailed report from staff on the amendment related to the A1 land on the North Mountain before the public hearing (i.e. where it is, maps, amount of acreage, etc), and also options related to process and any potential further amendments moving forward.

Thank you!

Emily

Appendix B – Municipal Government Act – Chart 1, Planning Documents Adoption

Chart 1 - Planning Documents Approval Process



Shaded boxes indicate that the process has come to an end.
Source: MGA sections 205, 206 and 208.

From: Claire Bishop
Sent: October-23-19 12:04 PM
To: Peter Muttart
Cc: Trish Javorek; Councillors
Subject: MPS/LUB Hearing

Mayor Muttart and Council

We have lived/grew up in the Valley for over 70 years and have witnessed the gradual loss of farmland throughout the region.

Farmland loss is a serious matter and even more critical with climate change impacting weather patterns which in turn have devastated crops. As council considers final approval of the MPS Draft, we hope that you will consider the long term implications of what is before you and commit to the best possible document to protect agricultural land for the future. The document that was passed by PAC and moved on to council, although not perfect, is a vast improvement over the existing MPS. It took years of public consultation starting with the Kings 2050 process to arrive at that point

At 1st Reading three amendments were made to PAC's motion which have negative implications for farmland protection:

extending the boundary between houses on infill lots; expanding the Growth Centre of Port Williams; and making a zone boundary adjustment for three parcels of agricultural land on the North Mountain which total about 3000 acres.

We would like to express our concerns about these amendments, two of which come from private requests. Decisions are being made without adequate information regarding the impact. For instance, staff can only estimate the number of infill lots from the North Mountain amendment. And this is the third attempt by Port Williams to have a Growth Centre expansion despite lacking a proper study of the wellfields to learn whether the water supply can handle more development, let alone the loss of yet another piece of prime farmland.

The purpose of the MPS is to provide a document that serves the common good and not private interests. We strongly urge to remove the three amendments and accept the document that was forwarded from PAC.

Sincerely,

Greg and Claire Bishop
9903 Hwy 1 Greenwich,
Nova Scotia B4P 2R2

clairebishop@eastlink.ca



Virus-free. www.avg.com

October 25, 2019

Municipality of the County of Kings
PO Box 100
87 Cornwallis Street
Kentville NS B4N 3W3

Sent by Email to: Mayor Muttart and Council
councillors@countyofkings.ca
cc. pjavorek@countyofkings.ca

MPS Draft/LUB Hearing

Dear Mayor Muttart and Councillors:

I have a long-standing commitment in Halifax on Tuesday, October 29, and thus will not be able to attend the Council Meeting. I do, however, wish to write to express my increasing agitation regarding the three amendments to the MPS Draft document which, I believe, have negative implications for farmland protection.

Dr J. Roscoe Miller, president of Northwestern University, once said: "I have two kinds of problems: the urgent and the important. The **urgent** are not important, and the **important** are never urgent." Important activities are defined as being those whose outcomes lead to what we want our eventual outcomes to be and how those outcomes can be supported. Such a irreversible change as proposed by the three amendments to the MPS draft should not be rushed. There is no urgency to this - it is most prudent to take time to consult broadly, research extensively, consider comprehensively and discuss deeply before making a decision.

There was a time when open fields and farms were interrupted here and there by homes and businesses. Now the reverse is true and the open fields and farms are more the exception than the rule. We are spending our precious land as if it is in endless supply and farm land is being subsumed at unprecedented rates. It was Council's mandate through the LUB to protect farmland from urban sprawl. That has clearly not happened. Here we have yet another exception to the LUB requested. This is not in the best interests of Kings County.

The current proposal extends the boundary between houses on infill lots; expands the Growth Centre of Port Williams; and makes a zone boundary adjustment for three parcels of agricultural land on the North Mountain. Sounds reasonable enough – until one realizes that we are taking 3000 acres out of production. Three Thousand Acres! Climate change is real. We cannot imagine how climate change will affect food production. How foolish it is we would be to build over rich, arable farmland while simultaneously putting further demands on the water table without due consideration of how we will replace the lost potential to sustain ourselves and whether or not it can be supported.

I am not opposed to progress. I am opposed to throwing good, rich, life-sustaining land and water and with it our future quality of life under the bus in the name of progress.

A decade or so ago I took Minutes for Council meetings when the Port Williams Plan was developed and discussed. Fifty acres were "swapped" – land along Tiny Parrish Road for land

along Collins Road – to allow for housing development. Well, that certainly happened! The problem is, the push to expand boundaries inevitably creates the desire to further expand those boundaries. Residential development is the primary threat to agriculture. Moreover, land left in its “natural” state as well as agricultural lands are vital for our water quality and supply, our wildlife, and our tourism. These lands support us; they provide for and clean our water, provide flood control, storm protection, food, recreation, clean air, etc. Land conservation isn't simply an obstructionist to progress view, it is vital our future.

I strongly urge Council to remove the three amendments from the MPS Draft and accept the document that was forwarded from PAC.

Sincerely,

Gladys Long
107 Miner Meadow Road
Sunken Lake NS B4P 2R2
gladys.zanelong@xplornet.com

From: Suzanne Cogswell
Sent: November-03-19 3:05 PM
To: Councillors
Cc: Trish Javorek
Subject: MPS/LUB HEARING NOVEMBER 14, 2019

councillors@countyofkings.ca
cc. pjavorek@countyofkings.ca

To: Mayor Muttart and Council

Subject: MPS/LUB Hearing NOVEMBER 14, 2019

Although I presently reside in Ottawa I grew up in the valley and in 2010 built a home in Harbourville where I presently spend my summers. Since 2005 I have also owned 32 acres of farmland in Morristown and have every intention of keeping it preserved. This farmland has been in my family since 1863. I have a deep appreciation for our beautiful county and its rich farmland.

I have been made aware of the changes to the Municipal Planning Strategy which are now before council. I am concerned about the three amendments which have been added to the draft coming from the Planning Advisory Committee. Any changes that create a negative impact on farmland protection are critical since agricultural land is a limited resource that continues to get depleted. And this is not just a local issue but worldwide with the added problems of population increase and climate change resulting in extreme weather patterns affecting the ability to grow food. At some point we will need to be sustainable in our food production.

I am asking that council look to the future as you decide on the final

reading of the draft and consider the strongest possible document to protect farmland. Removal of the three amendments and acceptance of the draft approved by PAC will be a positive step forward.

Thank you for your anticipated consideration of my comments.

Sincerely,

Suzanne Cogswell
Ottawa/Harbourville



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From: Pierre Clouthier
Sent: November-04-19 12:24 PM
To: Councillors
Cc: Trish Javorek
Subject: MPS/LUB Hearing

To: Mayor Muttart and Council

I have lived in the valley for thirty years and have witnessed the gradual loss of farmland throughout the region. Farmland loss is a serious matter and even more critical with climate change impacting weather patterns which in turn have devastated crops. As council considers final approval of the MPS draft I hope that you will consider the long term implications of what is before you and commit to the best possible document to protect agricultural land for future food security. The document that was passed by Planning Advisory Committee and moved on to council, although not perfect, is a vast improvement over the existing MPS. It took years of public consultation starting with the Kings 2050 process to arrive at that point. At 1st Reading three amendments were made to PAC's motion which have negative implications for farmland protect: extending the boundary between houses on infill lots; expanding the Growth Centre of Port Williams; and making a zone boundary adjustment for three parcels of agricultural land on the North Mountain which total about 3000 acres.

I would like to express my concerns about these amendments, two of which come from private requests. Decisions are being made without adequate information regarding the impact. For instance, staff can only estimate the number of infill lots that will be added for development, approximately 500. There is no information regarding the amount of farmland that could be lost from the north mountain amendment. And this is the third attempt by Port Williams to have a Growth Centre expansion despite lacking a proper study of the wellfields to learn whether the water supply can handle more development, let alone the loss of yet another piece of prime farmland.

The purpose of the MPS is to provide a document that serves the common good and not private interests. I strongly urge council to remove the three amendments and accept the document that was forwarded from PAC.

Sincerely,

Pierre Clouthier



November 5, 2019

Mayor Muttart and Council
Municipality of the County of Kings
181 Coldbrook Village Park Dr.
Coldbrook, NS B4R 1B9

Dear Mayor Muttart and Council,

RE: COUNTY OF KINGS PLANNING DOCUMENTS - TOWN OF WOLFVILLE PUBLIC HEARING SUBMISSION

Congratulations on nearing the end of your planning document review.

The Town of Wolfville is in general support of the proposed documents; however, we must acknowledge that all municipal units in the region can do better in cooperating on issues of regional significance, including:

- A focused effort on supporting the success of the Town's in the region;
- Working together - with the urgency it deserves - on Climate Change mitigation and adaptation action;
- Making progress on Regional Land Use Planning, Servicing and Economic Development;
- Becoming a leader in Environmental Protection (including source water); and
- Creating world class waste management, transit and recreational infrastructure.

Our region can be a leader in regional cooperation. We must move beyond the general 'statements of interest' into more concrete actions that can move us toward better outcomes for future generations.

Sincerely,

Jeff Cantwell
Mayor

November 1, 2019



Mayor Muttart and Council
Municipality of the County of Kings
181 Coldbrook Village Park Dr.,
Coldbrook, NS B4R 1B9

Dear Mayor Muttart and Council;

Please find enclosed a submission for the Public Hearing on the MPS/LUB November 14, 2019.

Thank you for your anticipated consideration of my concerns.

Sincerely,

Helin Peterson
Port Williams

RECEIVED

NOV 06 2019

Public Hearing November 14/19
Re: Expansion of Port Williams Growth Centre

As a resident who lives on Collins Road I am deeply concerned about the motion before council to consider the expansion of the Growth Centre boundary. I feel that the residents of Port Williams are hearing only one side of the issue and from information gathered from numerous reports presented to the Secondary Planning Strategy and Council I am reading that there is reason to be concerned about this matter. I have summarized all the arguments for expansion as follows:

The Arguments for expansion:

We need to protect the water.

Protecting the wellfields had unanimous support throughout the community during the Secondary Planning Process. However, the problem lay in how to do that. What was really needed and recommended by a Minority group on the Strategic Planning Committee (comprised of three citizens who were outvoted by 5 members of the Village Commission and area councillor who were pro expansion) as well as scientist and expert on such matters, Dr. Mary Lou Harley, Port Williams resident, was a *thorough baseline study* to identify where the water source is most vulnerable to contamination or loss of water recharge to the wells, to determine which areas needed the highest protection. As soon as this study was pushed for the Village Commission stated that it was too expensive, and the focus then became the need for more housing. Too, in the push for expansion the provincial guidelines for municipal water protection were ignored despite the guidelines clearly stating that medium density housing poses a greater risk than agriculture. (See: Developing a Municipal Source Water Protection Plan: Identify Potential Contaminants and Assess Risk)

Mary Lou Harley talked in detail about the nitrate problem in her seven page report to the county May 25, 2010 which she said could be dealt with. She described the real concern as the *permeability* issue. The PW wellfields are quite dependent on how much surface water is free for water to pass through into the groundwater. Housing will block permeability in the area it is most needed. There is also the risk of contamination from oil, lawn fertilizers, pesticide use, etc. Her recommendation was that ***only low risk activities such as organic farming and parkland should be considered for area B where housing is being considered.*** There could be a liability issue for the village should the water volume be diminished to the point of affecting neighbouring wells. Too, the lower wells are at risk for salt water intrusion with climate change, another potential threat to the wells not considered.

We need room to expand and the farmland on Collins Rd. is the only option.

When it was mentioned during the Strategic Planning Committee review in 2009 that 10 acres in a former gravel pit was available at the west end of Port Williams near the school the Village Commission dismissed that option as being too expensive since a pumping station would be required. However, it has been said that a new pumping station was built near Collins Road which makes one question if water pressure problems from the the new housing in that area were becoming an issue.

There is plenty of room to grow throughout the various growth centres in the valley for years to come. With the limited availability of prime farmland these other centres need to fill up before any expansion is allowed in a particular growth centre particularly when it is surrounded by the highest class soils as seen on Collins Rd.

We need the taxes to run the village.

Studies have shown that expansion onto farmland is more costly with added infrastructure costs compared to keeping the land in agriculture. Note the following two studies:

- American Farmland Trust 1994: "As a rule residential development does not pay for itself. Commercial and industrial properties and farmland (or open space) generate significantly more revenue than they demand in services on an annual basis."
- Government Finance Group Sept. 1993 Public Finance Digest: "Residential land is the most expensive for local government to support. Residential development costs the public more than it pays in taxes and charges."

I have also heard the argument that this is a Port Williams issue and outsiders should not have a say. Protecting farmland is a regional issue since it is a limited resource that is constantly being depleted not just locally but world wide. With global warming and population increases there will be a greater need for self sufficiency in our food production. Just watching the news gives an idea of the challenges faced in food production with farmland under water in the mid western states this spring as well as drought in western Canada.

Helen Retson
28 Collins Rd.
Port Williams

Soren Bondrup-Nielsen
P.O. Pox 5, Canning, NS
BOP 1H0

November 6, 2019

Mayor Muttart and Councilors:
Municipality of the County of Kings, N.S.

Dear Mayor Muttart and Councilors,

I am writing to express my concern over the potential loss of agricultural land. The first time was when the housing development along Collins Road was initially proposed, and the second time was when the airport and proposed housing development was proposed for Saxon street. I think it is sad that we have to fight development on agricultural land continually.

We lack food security in Nova Scotia – there is not enough agricultural land to support the nearly one million people in the province. Housing development on farmland is NOT just the concern for local citizens, such as those in Port Williams – it is a provincial concern.

We have declared a climate emergency – if this is a serious concern, then we do NOT convert farmland to housing development, even if it is a seniors development. There are non-farmland areas where such development can take place. Building a seniors complex on farmland is strictly a financial decision on the part of the owner of the land, not a decision based on a social concern.

Water table recharge concerns must also be considered – urban areas diminished the recharge, and this also has to be a concern.

We cannot nickel and dime our farmland into oblivion if we are serious about climate change and concern for our grandchildren's future. Farmland, once converted to housing or industrial development, cannot be converted back to agriculture.

I strongly urge you to NOT to approve the Port Williams Collins Road housing expansion.

Sincerely

Soren Bondrup-Nielsen
Professor Emeritus
Dept. of Biology
Acadia University

To: Mayor Peter Muttart and Council Members

Kings County Municipal Council

councillors@countyofkings.ca

cc: pjavorek@countyofkings.ca

From: Carol E. Hatris, 3 Prince Street, Wolfville, B4P 1P7

Date: November 6, 2019

Re: Amendments to original MPS draft

As a citizen of Kings County, and former director of two Valley land and food-related organizations (the Annapolis Valley Farmland Trust, and FoodWorks), I wish to express disappointment and dismay regarding the three amendments to the Municipal Planning Strategy (MPS) draft passed by your Planning Advisory Committee. As we all know, any change to allowable land use bears significantly on the longtime outcome of food security and, ultimately, of ecological integrity. Many of us in Kings County -- a recognized major 'food basket' of Canada -- therefore, guard what we perceive to be undo exploitation of prime farmland in the service of further residential and corporate development.

The amendments in question -- hastily added to the recommendations of your own Planning Committee -- concern further development of the Collins Road area of Port Williams, as well as zone boundary adjustments to agricultural land on the North Mountain. I will address only the first of these. Two particular problems surround the expansion of the Port Williams site. One is simply the decision to turn a sizeable parcel of land, suitable for cultivation, over to further housing. The other, even more serious problem, is that of water availability and quality (a consideration of the provincial government when limiting the extent of growth adjacent to Collins Road). The Village Commission has ignored feedback from the Department of the Environment, as well as from their own area resident expert who has warned them about the risk to the water supply with further development. Both problems are exacerbated by the current realization that we Canadians -- and world citizens -- must rein in our expansionist ambitions if we are to realize the minimal goals of the International Panel for Climate Change (IPCC). This is a time to consolidate our resources, primarily in the case of Kings County, of water and arable land.

Just last night, the CBC National News reported on extraordinary measures undertaken by the town of Berwick to realize Canadian commitments to mitigate climate crises. That town will be remembered in years to come as a trail blazer in responsible governance whereas, I fear, Port Williams -- if it continues to overturn the recommendations of its own planning committee and of hydro scientists -- will be remembered as violating common sense in favour of monetary gain for some people, and environmental deprivation for the many.

Details of Berwick action remind me that I have seen very few signs of renewable energy sourcing in Port Williams. One option for the Collins Road tract that still remains open to farming, would be to establish there a field of solar panels. These panels would face south and provide considerable supplementary power for the Village. As well, and pertinent to the concerns of those who prize arable land, should an urgent need for land be forthcoming -- as it will be --

solar panels can be dismantled, leaving the land intact. This, of course, would not be the case should homes and paved drives be allowed.

I urge the Municipal Council to place the environmental wellbeing of all citizens first in the preservation of the small tracks of agricultural land still available for food production, or energy generation. The preservation of arable land is but one of many environmental actions that we, as citizens, will be called upon to ensure over the coming decade. The time for action is 'now.'

Sincerely yours,

Carl E. Harris

harrisce@uvic.ca

The Chute family has been farming on Church Street, Port Williams since 1971 when Harley and Myrtle Chute purchased their first poultry farm. From those beginnings, the family established thriving poultry production and farm market businesses. What remains is a single 20-acre land holding along Church Street (See figure 1, area marked with an X).

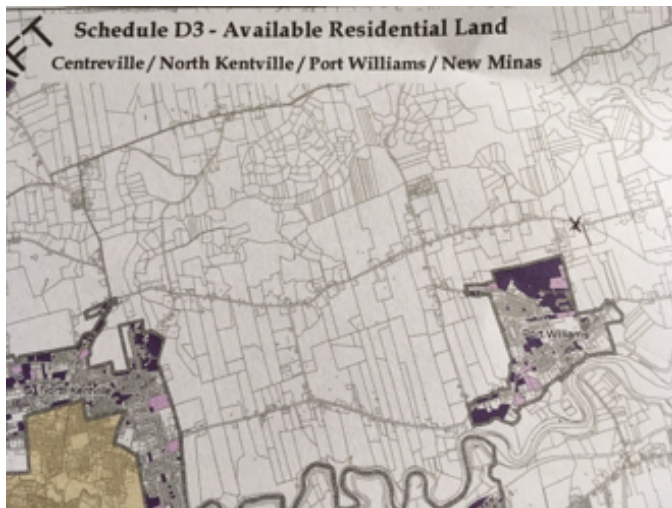


Figure 1: Location of Chute Farm on Church Street.

After a lengthy career as a farmer and business manager, Myrtle retired in 2009. She currently resides at 1556 Church Street (see figure 2).



Figure 2: Current two-level residence

Unfortunately this residence has the majority of the living accommodation on the second level. Currently with declining health, she is unable to manage to the two flights of stairs needed to access the living areas of the home.

Very recently she has experienced a serious, life-threatening illness. Therefore her need for a senior friendly home with close access to her family is more emergent at this time.

The Chute family supports the immediate approval and adoption of Part 3, section 3.4.12 of the Municipal Planning Strategy Land Use By-laws as this would allow Myrtle to build a senior-friendly dwelling on the Chute farm property (see figure 3).



Figure 3

The new dwelling would be located between the two residences on the property. The distance between the two residences is approximately 472 feet. Her daughter, Cheri Cosby will reside in Myrtle's original home and her son,

Michael Chute resides immediately west of 1556 Church Street.



Figure 4: Survey of Chute acreage on Church Street.

This new dwelling with its location proximal to her family members will allow her to remain in her home for an extended period and she would not require placement in a care facility. The home would be built to meet all requirements established by the county zoning bylaws.

Thanks you
The Chute family

----- Original message -----

From: Irmgard Lipp

Date: 2019-11-07 11:19 PM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: Submission for the Public Hearing Nov. 14

To: Mayor Muttart and Council

councillors@countyofkings.ca

cc. pjavorek@countyofkings.ca

Subject: MPS/LUB Hearing

as a longtime resident of Kings County and strong supporter of farmland preservation I was very encouraged by the latest MPS draft, but rather disappointed by the unexpected quick turnaround. I have strong concerns about the three amendments made to PAC's motion at 1st Reading which will have negative implications for farmland protection.

It simply invites more and more conflict. The more residential (non-farming) households there are along farming routes the more pressure is building against regular farm practices: odour, noise, dirt, tractors slowing down traffic, etc; especially when the new arrivals come from urban, non-farming areas and come with their – now so common – attitude of entitlement. Soon farmers will have to deal with the additional stress of satisfying the whims of city dwellers.

This will not support our farming community, but rather create more obstacles for them. Studies from other jurisdictions (e.g. Ontario, as well as Europe) have shown how problematic this becomes when more and more residential units split up the agricultural land base.

We also know of 1000 + available lots in Kings County. Why create more lots on land that can serve a more important purpose: producing food!!!

It took years of public consultation to arrive at the document as forwarded by PAC. The amendments require decisions without adequate information regarding the impact. I hope you will commit to the best possible document to protect agricultural land for future food security.

I also hope, we are all on board (on the same ship!) with the facts of the pending climate crises and that it will be hitting us at a much faster and more ferocious pace than we ever thought possible. European nations threatened by rising seawater have been fortifying their dyke systems and taken other measures for decades . What has been done here? Not much!

Rising sea levels will reduce farmland in Nova Scotia. Kings County will most certainly be affected by this. Yet, the Kings County farming community is one of the strongest and most productive in Atlantic Canada.

Kings County planners and leaders should pay attention to this threat and do everything possible to strengthen the vital farming community and conserve the land that can produce food.

The purpose of the MPS is to provide a document that serves the common good and not private interests. I strongly urge council to remove the three amendments and accept the document that was forwarded from PAC.

Sincerely,

Irmgard Lipp

Grafton, NS

----- Original message -----

From: kj.vincent

Date: 2019-11-07 6:57 AM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: MPS/LUB Hearing

To: Mayor Muttart and Council

I am writing to express concerns about the changes to the Municipal Planning Strategy which is presently at 1st Reading. In particular I am concerned about the three amendments added to the draft coming from the Planning Advisory Committee. I grew up in the Annapolis Valley and feel very fortunate to have lived in many parts of the world including Africa. In 2004 me and my family returned to Nova Scotia and bought a home in the valley in 2004. This experience with other countries has allowed me to value even more where I live. Observing what is happening elsewhere in the world with extreme weather ruining crops makes me realize the importance of being independent in our food production. We need to preserve this land for our future since there will be a time when we will no longer be able to import our food and we need to protect our countryside from encroachment of development.

I am asking that council reject the motion which includes the three amendments added to the draft and approve the document which was passed by PAC.

Sincerely

Jane VINCENT

----- Original message -----

From: J Mercer

Date: 2019-11-07 10:59 AM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>, Trish Javorek
<tjavorek@countyofkings.ca>

Subject: MPS/LUB Hearing

Dear Mayor and Council,

I attended Acadia in my salad days and returned to live in the valley for several years ago with my family. I founded the Booker School and feel a deep connection to this community.

I've been speaking with Leslie Wade about her concerns regarding the loss of farmland throughout this region. I agree that farmland loss is a serious matter and even more critical with climate change impacting weather patterns which in turn have devastated crops. This year I grieved for my farm neighbours with the late, wet spring and then with Dorian cutting it short in September.

As council considers final approval of the MPS draft I hope that you will consider the long-term implications of what is before you and commit to the best possible document to protect agricultural land for the future – because it belongs to our children.

I have been reading and speaking with other community members and the sense is that the document that was passed by PAC and moved on to council, although not perfect, is a vast improvement over the existing MPS. It took years of public consultation starting with the Kings 2050 process to arrive at that point. At 1st Reading three amendments were made to PAC's motion, which have negative implications for farmland protect: extending the boundary between houses on infill lots; expanding the Growth Centre of Port Williams; and making a zone boundary adjustment for three parcels of agricultural land on the North Mountain which total about 3000 acres.

I would like to add my voice to those expressing concerns about these amendments. And I hope that decisions are being made with adequate information regarding the impact.

The purpose of the MPS is to provide a document that serves the common good. I do request council to accept the document that was forwarded from PAC.

Sincerely,
Johanna Mercer

910 Church Street
Port Williams, NS
B0P 1T0

From: [Nancy Saul-Demers](#)
To: [Peter Muttart](#); [Jim Winsor](#); [Pauline Raven](#); [Emily Lutz](#); [Peter Allen](#); [Paul Spicer](#); [Martha Armstrong](#); [Meg Hodges](#); [Brian Hirtle](#); [Bob Best](#); [Councillors](#); [Trish Javorek](#); [Laura Mosher](#)
Cc: [Starratt Kirk](#); [Valley Editor Herald](#); [Emily Leeson, TheGrapevine](#); [News Tip CBC](#); [news@globaltv.com](#); [Ashley Thompson](#); [Axe Radio](#); [Chronicle Herald](#); [CTV News Atlantic](#); [Hoegg, Jennifer](#); [Information Morning CBC](#); [K-Rock \(CIJK FM New Minas\)](#); [Kevin Ward](#); [Mainstreet Nova Scotia CBC radio](#); [Maritime Noon CBC radio](#); [Tim Bousquet](#); [Halifax Examiner](#); [Weekend Mornings CBC radio Halifax](#); [Zachary Markan](#); [Andrew T. Bryski, President, Aylesford & Loon Lake Property Owners Association](#); [Carl W. Kent, Chairman, Armstrong Lake Road Owners Association](#); [Charlene Morton](#); [Gloria Armstrong, President, Lake George](#); [Michael White, Chair, Tupper Lake Property Owners Association](#); [Lorne Saul-Demers](#)
Subject: Comments on the Kings 2050 documents & the process to date and call for the CAO's immediate resignation
Date: Thursday, November 07, 2019 2:33:05 PM
Attachments: [November 7 letter to County re MPS LUB content and process and call for CAO resignation.pdf](#)

Please find attached (as a PDF document) my comments on the draft Kings County Municipal Planning Strategy and Land Use Bylaw, which are scheduled for review at a Public Hearing on Thursday, November 14th at 6 p.m. and for possible second and final reading at a special meeting of council later that evening. My letter details:

- my concerns about how grey water will be handled when outhouses are allowed with construction of new recreational cabins on lakeside lots throughout the County
- my belief in the primacy of protecting prime agricultural land in the Valley and on the North and South Mountains
- my concern about the off-side attempts to amend the document recommended by our Planning Advisory Committee both at their June 11th meeting and since then, and
- with regret for the necessity, my call for the CAO's immediate resignation.

Despite what has gone on behind the scenes lately, I still believe in the value of democracy, including public engagement in planning, and appreciate this opportunity for input.

Patricia - please forward this e-mail to the public members of the Planning Advisory Committee who have worked so long and hard on the Kings 2050 process. Thank you.

Nancy Saul-Demers
nancyandlorne@gmail.com
BlkRiverMayreau on Twitter
nancyandlorne on Skype

home (902) 542-1922
875 Black River Road
Black River Lake, NS
Canada
B4P 2R1

"You have to act as if it were possible to radically transform the world. And you have to do it all the time." —Angela Davis

November 7, 2019

To: Mayor Peter Muttart
Councillors
Citizen Members of the Planning Advisory Committee
Patricia Javorek, Director, Planning & Inspections
Laura Mosher, Manager of Planning & Development Division
Scott Conrod, Chief Administrative Officer

Cc: Media
Kings County Lake Associations

As the eight-year-long process of updating our county's Municipal Planning Strategy and Land Use Bylaws is reaching an end, I am writing to urge our elected officials to revert to the documents recommended by our Planning Advisory Committee on September 10th thereby rejecting the three last-minute adjustments that were proposed without adequate notice or foundation at the October 10th Special Council meeting.

I'm not entirely comfortable with the version of the documents recommended by our Planning Advisory Council. In particular, I remain concerned that the County is planning to allow privies or outhouses to be built with new recreational cabins on lake front lots. I've still not been provided with any rationale for this except that some people would like to be able to build on their lake front lots without having to incur the expense of installing an appropriate septic system. I wonder what will happen to the grey water produced in and around these new recreational cabins. I can only hope that our elected officials will see their way clear to, at the very least, require an annual licensing process for these privies that includes an acceptable grey water disposal plan and an annual licensing fee to help defray the cost of monitoring to ensure that the outhouses and grey water systems are designed, installed and maintained appropriately. That way at least we'll have some information on how many of them are being built and where they are and some assurance that negative impacts on the quality of water in our lakes is being minimized. After all, protecting the environment is one of the four basic pillars in the framework for these documents.

In many other ways, the documents our Planning Advisory Committee recommended represent an improvement over what's in force now. I am very grateful to the elected officials who sit on that committee and especially to the citizen members of that group. I am convinced they did the very best they could, given the almost impossible task at hand. I am also tremendously grateful to the many taxpayers, who not only funded this Kings 2050 process, but also invested tremendous amounts of time, talent and energy in participating wholeheartedly in the process over and over again. My faith in human nature was renewed every time I saw Dr. Marilyn Cameron, Lesley Wade, David Daniels, Audrey Haig-Stewart and so many more turn up at yet another public meeting, well-prepared with research, science and facts to make compelling presentations. I was reminded many times that these people work voluntarily and diligently for the public good. I give more weight to what they contributed than to those who simply expressed their personal opinions, which reflected their own financial interests.

Some of my thoughts about the amendments introduced at the October 10th Special Council meeting are related to our family's respect of and support for farmers in our County. We moved here in part because we value the availability of superb quality fruit, veggies, meat, dairy and other products grown

right here in the Valley. We believe in the primacy of protecting our agricultural land that is entrenched in Nova Scotia's statement of Provincial Interest Regarding Agricultural Land and in our very own county's planning documents. I most certainly would not call the loss of 40 acres of agricultural land near Port Williams or the loss of 410 acres on the North Mountain "non-substantive."

In our family, we put our money where our mouths are, quite literally. Each Wednesday afternoon, one or both of us does our weekly food route. That means driving from farm, to farm market to farm to farmers market to farm for our weekly groceries. We put a lot of time, energy – and money frankly - into buying 95% of our food from producers in the Annapolis Valley or Fundy Shore. We really value the relationships we've developed and the quality food we've eaten as longstanding members of the TapRoot Farms CSA program and as customers of Noggins Corner Farm, Dabro Farms, Reid's Meats, Emily Tebogt's Produce and Meat, the Fox Hill Cheese House and Port Williams own Noodle Guy. Food security is important to our family as it should be important to all of us. If we won't protect our own farm land to feed ourselves, how can we possibly expect others to protect their farm land to feed us as well as themselves?

My final but perhaps most serious concern about the three amendments relate to the process. I'm not talking about the publicly advertised process but rather what has gone on behind the scenes and in back rooms. I firmly believe if we all engage in a reasonable process in good faith, with the openness and transparency that we deserve from our public servants and our elected officials, we can trust the process to give us outcomes that serve us well. On the other hand, from extensive experience as a senior civil servant and nationally accredited public relations consultant who advised governments for many years, I know without doubt that if and when there are shenanigans around or within a process like this, public trust is broken and once broken it can be almost impossible to repair. Trust among and between elected officials and public servants is also bound to be eroded if not entirely shattered.

When elected officials or staff attempt end runs around a public engagement process like Kings 2050, they make a mockery of the process and demonstrate their lack of respect for the public. All elected officials and senior public servants know that propriety is vital, as is the appearance of propriety. Optics are important. Especially when engaging with the public, what you do and how you do it absolutely must pass what we call "the smell test." If not, toxic environments are created.

When any of us feels they are seeing something untoward they must speak up, or they become part of the problem. So, I'm speaking up. I am particularly concerned about the CAO's involvement in this process, some of which is on the public record related to his presentation of a potential change to the Port Williams Growth Centre boundary at the June 11 Planning Advisory Committee meeting. I really appreciate that members of our Planning Advisory Committee were able to calmly resist the pressure he brought to bear at that time, which in my view was out of bounds – completely offside. More detail and some of the CAO's subsequent actions came to light when internal documents were released in compliance with a Freedom of Information request on the Port Williams matter. As a result, with very deep regret for the necessity, I'm calling for the CAO's immediate resignation.

In hopes of contributing to a better tomorrow in Kings County,

Nancy Saul-Demers
875 Black River Road, Black River Lake, NS B4P2R1

----- Original message -----

From: ann anderson

Date: 2019-11-08 8:43 AM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: MPS/LUB Hearing

Mayor Muttart and Council

I moved to the valley in 2005 and became aware of the gradual loss of farmland throughout the region. Farmland loss is a serious matter and even more critical with climate change impacting weather patterns which in turn have devastated crops. As council considers final approval of the MPS draft I hope that you will consider the long term implications of what is before you and commit to the best possible document to protect agricultural land for future food security. The document that was passed by Planning Advisory Committee and moved on to council, although not perfect, is a vast improvement over the existing MPS. It took years of public consultation starting with the Kings 2050 process to arrive at that point. At 1st Reading three amendments were made to PAC's motion which have negative implications for farmland protect: extending the boundary between houses on infill lots; expanding the Growth Centre of Port Williams; and making a zone boundary adjustment for three parcels of agricultural land on the North Mountain which total about 3000 acres.

I would like to express my concerns about these amendments, two of which come from private requests. Decisions are being made without adequate information regarding the impact. For instance, staff can only estimate the number of infill lots that will be added for development. approximately 500. There is no information regarding the amount of farmland that could be lost from the north mountain amendment. And this is the third attempt by Port Williams to have a Growth Centre expansion despite lacking a proper study of the well fields to learn whether the water supply can handle more development, let alone the loss of yet another piece of prime farmland.

The purpose of the MPS is to provide a document that serves the common good and not private interests. I strongly urge council to remove the three amendments and accept the document that was forwarded from PAC.

All Nova Scotians are food insecure since we grow and provide only about 15% of the food we eat here. We are thus reliant on more than 90% of our food being imported, when supply managed production is excluded.

This means that for a sustainable future we need to conserve all of the land that is suitable for farming.

You owe it to the citizens of Kings County and Nova Scotia to make the correct decision.

Yours Sincerely,

Ann Anderson
27 Pleasant St.
Wolfville, N.S.
B4p 1M6

----- Original message -----

From: Mark Tipperman

Date: 2019-11-07 8:09 PM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>, Peter Muttart <mayor.muttart@countyofkings.ca>, Peter Allen <councillor.allen@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: Municipal Planning Strategy/LUB Hearing November 14

Dear Mayor and Councilors:

I have lived in the Gaspereau Valley for almost ten years. Over the years I have owned and operated 1,000s of acres of agricultural land. I have lived in other agricultural areas and repeatedly seen local governments make the same mistakes in agricultural land use planning over and over again. Loss of land which is presently in agriculture or which is suitable for agriculture can never be mitigated or undone. Land zoned for residential and other non-farm uses in this County, will invariably be converted to non-farm uses which will continue to erode the land base on which farmers and our food supply and environment depend. And make it even more difficult for anyone to go into farming on a commercial scale.

Land suitable for agriculture is being lost at an alarming rate. A recent study by the American Farmland Trust on the loss of farmland is attached. Some key findings:

The U.S. converted almost 31 million acres of agricultural land between 1992 and 2012. By including woodlands associated with farms and low density residential development, this analysis found nearly twice the conversion previously reported. **The loss is equivalent to developing most of Iowa or the entire state of New York.**

Overall, development disproportionately occurred on agricultural lands. More than 70 percent of urban development and 62 percent of all development took place on agricultural land. Expanding urban areas accounted for 59 percent of the loss, including the commercial, industrial, transportation, and high-density residential development which reflect the expanding footprint of U.S. cities and towns. **Low-density residential development accounted for 41 percent of the loss and included residential areas with houses built on one- to 20-acre parcels and exurban homes on even larger lots that effectively removed these properties from agricultural uses.** [emphasis supplied]

Agriculture on a commercial scale, requires that agricultural land be available at prices that can be

paid for from agricultural operations. Residential lots and hobby farm parcels, typically sell on a per acre basis that exceeds their value for agricultural use. Further, as land is zoned to permit residential development, larger tracts are divided into smaller lots which command even higher per acre market values. Strict agricultural zoning helps keep the price of agricultural land down to levels that farmers may be able to afford.

Agriculture on a commercial scale requires roads that are readily traveled by tractors, combines and other agricultural equipment. Traffic generated by additional residential zoning makes it more difficult and dangerous to move agricultural equipment.

Agriculture on a commercial scale requires the support of agricultural equipment dealers, wholesale distributors and processors and cooperative marketing. The fewer farms and farmers there are, the less likely any of them can continue to operate as the availability of all of these product and service providers shrinks and disappears. This County has already seen the loss of multiple wholesale producers.

Agriculture on a commercial scale creates odors, and often involves application of sprays that drift and movement of stormwater across property lines. The presence of residential uses and residents leads to conflicts with agricultural operations.

The best example of what happens when local government opens up areas suitable for agriculture to rural residential development: Los Angeles County, California was the largest agricultural county in the U.S. from about 1910 until 1949. By 1992 Los Angeles County was the 92nd largest agricultural county and its declined further since then. But there are many other examples of bad agricultural land planning. Long Island, New York (Nassau and Suffolk Counties) was famous for its potatoes and was consistently the number one or two potato growing area in the U.S. with up to 70,000 acres in potatoes. But it was also the home of two counties with little or no zoning protection for agricultural land and now has maybe 2,500 acres of land in potatoes.

It is not only the best soils that need protection but all land that is suitable for agriculture. This certainly includes all class 2 and 3 soils. Many agricultural operations do not require class 1 soils and there is insufficient class 1 soils to satisfy all existing let alone future agricultural needs.

Sometimes good planning saves us. When I was in Oregon, there was an effort made to rezone areas in Western Oregon with lower quality soils on hillsides much like North Mountain with so-called poorer quality soils, to permit residential development. After that effort was defeated, those lands became some of the most valuable vineyards in the U.S.

Kings County needs to do a much better job of confining residential development to tight urban growth areas. Authorizing rural residences not required for agricultural uses is bad for our food supply, bad for the environment, bad for the taxpayers and simply bad planning. Expansions of any municipality or urban growth area needs to be based on actual need. We don't need more detached single family residences eating up rural or urban growth land. Development needs to be more concentrated. Duplexes, attached townhouses and multi-family structures should be the focus and not the exception. Public services cost much more to provide to rural residential areas than urban residential areas. Rural residential areas are a drain on the public coffers; not a net benefit.

No land that is presently in agriculture or suitable for agriculture should be left without

agricultural zoning, unless a compelling need is shown which cannot reasonably be addressed in any other manner. Aggressive lobbying by individuals with a direct pecuniary interest and a village with a predilection for inappropriate expansions, are not good reasons for altering plans to protect agricultural land from conversion to residential or other uses less desirable than agriculture.

The loss of existing and potential agricultural land is a disaster by itself. But with a population of over 8 billion people on a planet in the midst of a rapidly worsening climate crisis, and 1,000 of acres of low lying agricultural land (much of it dykeland), the loss of farmland is even more egregious.

At the first Reading three inappropriate amendments were proposed: extending the boundary between houses on infill lots; expanding the Growth Centre of Port Williams; and making a zone boundary adjustment for three parcels of agricultural land on the North Mountain which would remove over 400 acres from agricultural zoning. .

The amendments are significant and untimely and should be rejected out of hand. If the Council were to adopt these amendments, the Council would be doing so without an adequate factual record and analyses of the adverse impacts. For instance, staff can only estimate the number of infill lots that will be added for development. approximately 500. Evaluation of such a significant changes as is contemplated by the infill and North Mountain amendments is necessary and this may only occur at the level of the Planning Advisory Committee. The Port Williams amendment represents the third attempt by Port Williams to expand its Growth Centre without a factual demonstration of the need to urbanize additional farmland rather that increase the density of housing within its existing Growth Centre. and without a proper study of the Village wellfield to determine whether the water supply can handle more development now and for decades to come.

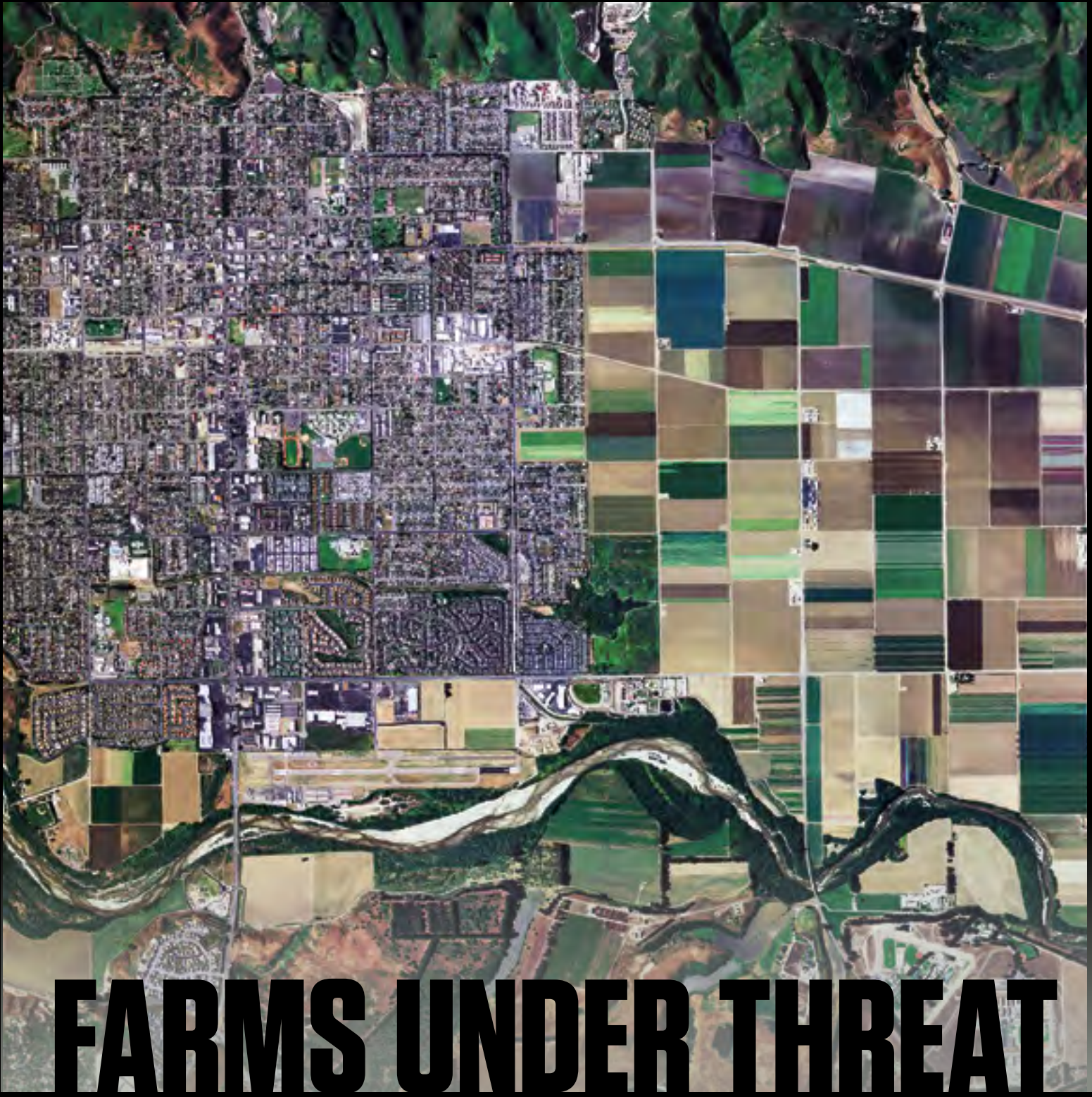
As the municipality's Council considers final approval of the MPS draft, it would behoove Council members to look hard at the facts, and consider the long term implications. It makes no sense at all to disregard the results of a protracted fact based effort by the Planning Advisory Committee, in favor of last minute substantive modifications proposed by special interests. The draft adopted by the Planning Advisory Committee and now before Council is not ideal. However, it is a significant improvement over the existing MPS.

The MPS is a planning document that is supposed to serve the common good and not money gubbing private interests. Government needs to take a very long view of the needs of the general public instead of focusing on the short term goals of special interests. I strongly urge Council to eliminate the three amendments and accept the version of the MPS that was sent on by the Planning Advisory Committee.

Sincerely,

--

Mark Tipperman
mark@crelawyer.net
(541) 963-5214
Canada (902) 542-0555
760 Gaspereau River Road
Wolfville NS B4P 2R3



FARMS UNDER THREAT

The State of America's Farmland



ROB BYRON/SHUTTERSTOCK

COVER IMAGE:

Farmland and urban sprawl collide in Lompoc, California.

AERIAL ARCHIVES/ALAMY STOCK PHOTO

ABOVE:

A new housing development encroaches on farmland. Anywhere, USA.

About the Quotes in this Report

Farms Under Threat: The State of America's Farmland honors two former chiefs of the USDA's Soil Conservation Service (now NRCS): Hugh Hammond Bennett, who led the soil conservation movement in the United States and was the first head of the agency; and Norm Berg, who worked with Bennett and rose through the ranks to serve as chief between 1979 to 1982. After he retired, Berg served as a senior policy advisor to American Farmland Trust and the Soil and Water Conservation Society. To learn more about these influential voices, see www.nrcs.usda.gov (Bennett) and www.farmlandinfo.org/norm-berg-collection (Berg).



FARMS UNDER THREAT

THE STATE OF AMERICA'S FARMLAND

MAY 9, 2018

*“Take care of the land and
the land will take care of you....”*

—Soil conservation pioneer
Hugh Hammond Bennett, 1947

Acknowledgments

Critical support from USDA's Natural Resources Conservation Service (NRCS), the Sarah K. deCoizart TENTH Perpetual Trust, and American Farmland Trust's members, supporters, and Board of Directors made possible this analysis of the past losses of, and future threats to, America's farmland and rangeland. NRCS shared data and guidance, reviewed reports, and provided financial assistance through an AFT-NRCS Contribution Agreement 68-3A75-14-214. We also appreciate the guidance offered by our Advisory Committee and other external reviewers. Additional investments will help us continue these analyses, broadly distribute the results, and act to conserve our agricultural land for future generations.

Lead authors: A. Ann Sorensen, Julia Freedgood, Jennifer Dempsey and David M. Theobald

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About American Farmland Trust and Conservation Science Partners

American Farmland Trust (AFT) is a nonprofit conservation organization founded in 1980 to protect farmland, promote sound farming practices, and keep farmers on the land. For more information, visit www.farmland.org/FarmsUnderThreat or our technical information center at www.farmlandinfo.org.

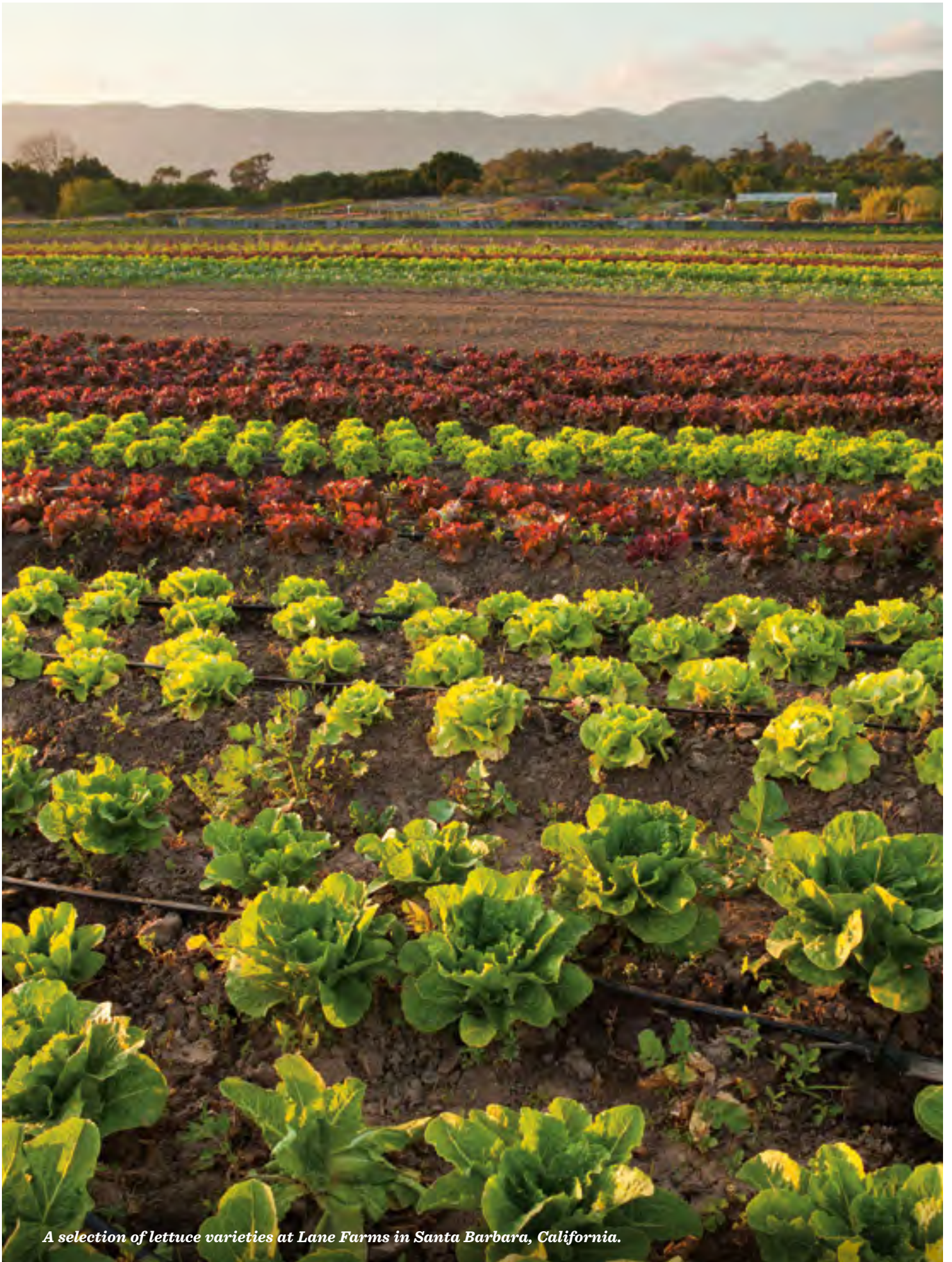
Conservation Science Partners (CSP) is a nonprofit scientific collective established to meet the analytical and research needs of diverse stakeholders in conservation projects. More information is available online at www.csp-inc.org.

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A crop of onion grown for seed in Payette County, Idaho.



CHUCK PLACE/LAMY STOCK PHOTO

A selection of lettuce varieties at Lane Farms in Santa Barbara, California.

Executive Summary

WITH KEY FINDINGS AND RECOMMENDATIONS

The United States is blessed with a remarkably productive agricultural landscape. Cropland, pastureland, rangeland, and woodland support a regionally diverse food and farming system capable of ensuring domestic food security. Agricultural land contributes to state and local economies, supplies lucrative export markets, and bolsters the nation's balance of trade. These exceptional natural resources sustain valuable wildlife habitat, provide flood control and fire suppression, scenic views, and resources for hunting and fishing. This land also acts as an enormous carbon sink, drawing down carbon from the atmosphere, which helps combat climate change. By 2050, the demands on agriculture to provide sufficient food, fiber, and energy are expected to be 50 to 70 percent higher than they are now. Given a limited land area in the United States and the need to feed and house an increasing number of people, it is more important than ever to protect the agricultural land and natural resources needed for long-term sustainability.

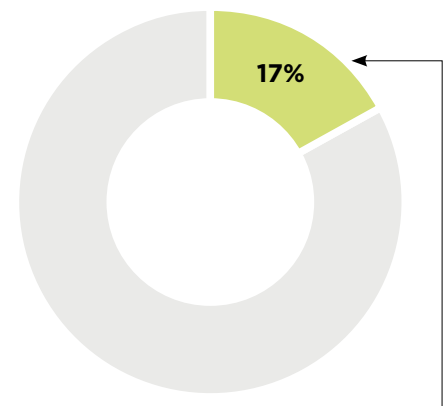
This call for action is documented and reinforced by the findings of *Farms Under Threat: The State of America's Farmland* by American Farmland Trust (AFT). The report's research shows that between 1992 and 2012, almost 31 million acres of agricultural land were irreversibly lost to development. That is nearly double the amount of conversion previously documented and is equivalent to losing most of Iowa or New York. As alarming, this loss included almost 11 million acres of the best land for intensive food and crop production. This is land where the soils, micro-climates, growing seasons, and water availability combine to allow intensive production with the fewest environmental impacts. These precious and irreplaceable resources comprise less than 17 percent of the total land area in the continental United States. Their conversion was equivalent to losing most of California's Central Valley, an agricultural powerhouse.

Over 20 years ago, AFT released the groundbreaking report, *Farming on the Edge*. This compelling study and extensive mapping gained global media attention by showing how sprawling development consumed America's highest quality farmland in critical regions across the country. Now, new threats to the nation's agricultural lands create a pressing need to update the old analyses and assess threats to America's agricultural land in the 21st century. Improvements in the availability of national data and models now enable AFT to more accurately track the scale and spatial location of the threat of development to the nation's agricultural



Beets in Inyo County, California.

U.S. AGRICULTURE RELIES ON HIGH-QUALITY FARMLAND



Only 17 percent of the land in the continental U.S. is agricultural land with the productivity, versatility, and resiliency (PVR) to produce a wide variety of crops with minimal environmental limitations.

AFT's goal is to document the threats and offer policy solutions to ensure the long-term protection and conservation of agricultural land in the United States to sustain an expanding population and maximize biodiversity.

land.¹ They also make it possible to assign values to measure the land's productivity, versatility, and resilience. These advances make it possible for AFT not only to examine past conversion patterns but also to forecast future development patterns likely to occur without better land use planning and policy intervention.

These analyses underpin *Farms Under Threat*, AFT's multi-year initiative to complete the most comprehensive assessment of the loss of U.S. farmland and rangeland ever undertaken, both past and future. AFT's goal is to document the threats and offer policy solutions to ensure the long-term protection and conservation of agricultural land in the United States to sustain an expanding population and protect biodiversity. This first report, *Farms Under Threat: The State of America's Farmland*, examines the nation's irreversible loss of agricultural land to development between 1992 and 2012. A subsequent report will analyze state-level data on past farmland conversion and the effectiveness of state-level farmland protection policies. In a third report, *Farms Under Threat* will assess a range of future threats, forecast potential impacts to 2040 and recommend effective policies that help conserve agricultural land.

AFT is working with Conservation Science Partners (CSP), a non-profit conservation organization, to ensure these assessments are grounded in reliable data and strong science. This partnership is supported by the USDA's Natural Resources Conservation Service (NRCS). A national Advisory Committee provided additional guidance, and NRCS shared data and reviewed findings. *Farms Under Threat* significantly advances our understanding of the patterns of past farmland conversion and provides information about the location, quantity, type, and quality of the agricultural land lost to development in the continental United States between 1992 and 2012. These maps and data can serve to improve agricultural land conservation and permanent protection across the nation.

***Farms Under Threat: The State of America's Farmland* significantly improves the national inventory of agricultural land in multiple ways:**

1) It maps and analyzes the extent of low-density residential development on agricultural land; 2) It identifies agricultural land based on its productivity, versatility, and resiliency to support intensive food and crop production (PVR values); 3) It includes a new class of agricultural land that estimates woodland associated with farm enterprises; 4) It maps grazing on federal land; and 5) It shows the spatial patterns of agricultural land

¹ *Farms Under Threat* defines *agricultural land* as cropland, pastureland, rangeland, and woodland associated with farms in the continental United States (48 states), excluding federally owned grazing land. This non-federal agricultural land is called farmland and rangeland by the public. The analysis uses the USDA National Resources Inventory (NRI) definitions for cropland, pastureland, rangeland, and forestland.



DESIGN PICS INC./ALAMY

An Iowa soybean field.

uses and conversion to development in a consistent way over time so that people can see the patterns of change.

Assigning PVR values to agricultural land helps quantify the quality of the agricultural land converted by development. Land with lower PVR values has progressively greater limitations that restrict how it can be used and whether it can be cultivated. The land best suited for intensive food and crop production has much higher PVR values and is geographically limited to areas where the nation's soils, micro-climates, growing seasons, and water access combine to allow production with the fewest environmental impacts.

KEY FINDINGS²

BOB NICHOLS/USDA NRCS

New homes replace farmland in Dane County, Wisconsin.

- **The U.S. converted almost 31 million acres of agricultural land between 1992 and 2012.** By including woodlands associated with farms and low density residential development, this analysis found nearly twice the conversion previously reported. The loss is equivalent to developing most of Iowa or the entire state of New York.
- **Overall, development disproportionately occurred on agricultural lands.** More than 70 percent of urban development and 62 percent of all development took place on agricultural land. Expanding urban areas accounted for 59 percent of the loss, including the commercial, industrial, transportation, and high-density residential development which reflect the expanding footprint of U.S. cities and towns. Low-density residential development accounted for 41 percent of the loss and included residential areas with houses built on one- to 20-acre parcels and exurban homes on even larger lots that effectively removed these properties from agricultural uses.
- **Urban development favored cropland while low-density residential development posed an equal threat to cropland and pastureland.** Urban development most frequently converted cropland (41 percent) and lower percentages of pastureland (25.9 percent), rangeland (23.8 percent), and woodland (9.3 percent). In contrast, low-density residential development posed an equal threat to cropland and pastureland (34.5 percent each) and favored woodland (19.9 percent) over rangeland (11.1 percent). For forestland, low-density residential development presented a greater threat than urban development.
- **The impact of these development patterns puts high quality agricultural land at risk.** The analysis assigned values to reflect the productivity, versatility, and resiliency (PVR value) of agricultural land for cultivation. As the PVR value increased, fewer acres of land qualified. The analysis found that the median PVR value of agricultural land lost to development was 1.3 times higher than the median PVR value of land that stayed in production. These cumulative and irreversible losses of most productive, versatile, and resilient lands have serious implications for agricultural productivity and domestic food security.

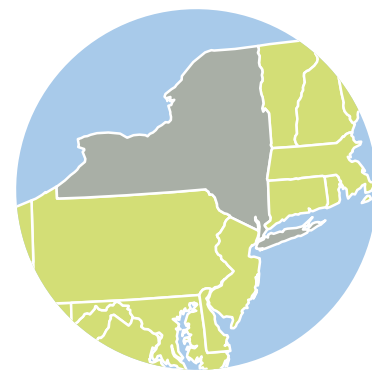
² AFT is solely responsible for the conclusions and recommendations in this report. Although information from NRCS data comprises a major component of this analysis, the conclusions and recommendations are AFT's alone.

- **By 2012, the best land to support intensive food and crop production had dropped to less than 17 percent of the total land area in the continental United States.** Only 324.1 million acres of agricultural land had PVR values with the optimal soil characteristics and growing conditions to support intensive food and crop production with minimal environmental limitations. This is slightly more than one third of agricultural land.
- **In less than one generation,³ the United States irrevocably developed nearly 11 million acres of its best land for intensive food and crop production.** While a 3.2 percent loss does not sound devastating, it is roughly equivalent to losing one of the most productive growing regions in the United States, California's Central Valley.

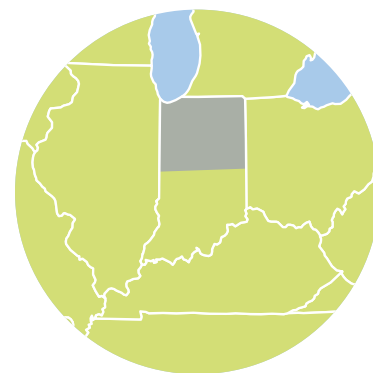
Beyond food security and economic prosperity, well-managed agricultural land provides open space, recreational resources for activities like hunting and fishing, and critical ecological services such as wildlife habitat, carbon sequestration, groundwater recharge, and flood control. This incredible diversity provides the United States with invaluable options to help the nation optimize the use of agricultural resources to sustain future generations.

It is time for the United States to recognize the strategic value of our agricultural land and step up our efforts to protect it. It is critical to balance the growing demands for energy, housing, transportation, and water to ensure our best agricultural land remains available for food and other crop production. Through thoughtful and carefully implemented land use and agricultural policies, the nation can protect farmland and strategically direct development away from critical agricultural resources while nourishing the land with conservation practices and helping the farmers and ranchers who manage this landscape to thrive.

FARMLAND LOST TO DEVELOPMENT, 1992–2012



All farmland lost: almost 31 million acres (nearly equivalent to the land mass of New York State)



Some of our best farmland was irreversibly lost: almost 11 million acres (equivalent to 47% of the land mass of Indiana)

³ A generation is considered to be about 25.5 years in length.

KEY RECOMMENDATIONS

DESIGN PICS INC./ALAMY STOCK PHOTO



Ripe cranberries in Valley Junction, Wisconsin.

Based on these national findings, AFT believes a bold and comprehensive national strategy is needed to save the land that sustains us, including:

- A dramatic increase in federal investments in agricultural land protection through the USDA Agricultural Conservation Easement Program—Agricultural Land Easements (ACEP-ALE);
- Supporting and fully funding the USDA agencies and their programs that provide unbiased information to help monitor changes to U.S. agricultural resources, including the NRCS' National Resources Inventory (NRI), the National Agricultural Statistics Service's (NASS) Tenure, Ownership and Transfer of Agricultural Land (TOTAL) survey, and the Economic Research Service's (ERS) Major Land Uses reports; and,
- Enacting a 21st century federal agricultural land protection platform to more effectively address the interconnected threats to farmland from development, climate change, agricultural viability, and farm succession.

Introduction

The precious arable land that sustains life on Earth is a finite and irreplaceable resource that is under heavy stress. Less than six percent of the Earth's surface is suitable for agriculture and growing food. When climate, soils, and topography are factored into the equation, just over half of this land can be farmed without any physical constraints (FAO 2011). Over 10 percent of the world's arable acres are in the United States.⁴

The United States is blessed with a varied and extensive agricultural landscape comprised of cropland, pastureland, rangeland and woodland associated with farms, making agriculture a significant contributor to rural and urban economies. However, agricultural land, both domestically and globally, faces unprecedented challenges as the world's population continues to expand. By 2050, the demands on agriculture to provide the necessary food, fiber, and energy are expected to be 50 to 70 percent higher than they are now. To meet these demands, all countries must sustainably improve their agricultural productivity, protect their natural resources, and deal with changing weather patterns and the intensification of natural hazards (FAO 2011; FAO 2017).

Because the United States is home to such a significant amount of the world's arable land, the protection of this resource is a national and global concern.

Since our founding in 1980, AFT has been concerned about the loss of agricultural land. Over 20 years ago, AFT released the groundbreaking report *Farming on the Edge* to call attention to the sprawling development that consumes America's highest quality farmland in every state in the nation (Sorensen et al. 1997). *Farming on the Edge* was a wake-up call about the impacts of farmland loss and the need to act to protect our agricultural land base from poorly planned development. The report led to policy action at the federal, state, and local levels. While development slowed significantly during the recession from 2007 to 2012, it has rebounded with the strengthened economy. Recognizing the need to update AFT's old analyses and assess the threats to America's agricultural land in the 21st century, AFT launched its *Farms Under*



BLEND IMAGES/ALAMY STOCK PHOTO

By 2050, the demands on agriculture to provide the necessary food, fiber, and energy are expected to be 50 to 70 percent higher than they are now.

⁴ Arable land is land capable of being farmed productively (i.e. being plowed or cultivated and used to grow crops).



California pastureland.

Threat initiative, the most comprehensive and ambitious assessment ever undertaken of the status and threats to U.S. farmland and ranchland.

***Farms Under Threat* is a multi-year initiative to complete the most comprehensive assessment ever undertaken of the status and threats to U.S. farmland and ranchland.** Its analyses underpin AFT's goal to document the threats to the nation's agricultural resources and offer policy solutions. The goal is to ensure the long-term protection and conservation of America's diverse agricultural landscape to support farmers and ranchers, sustain an expanding population, and maximize biodiversity.

This report, *Farms Under Threat: The State of America's Farmland*, is the first in a series of analyses of past and future threats to America's agricultural land. AFT defines agricultural land as the non-federal cropland, pastureland, rangeland, and woodland associated with farms that is managed to support agricultural production. For the first time, data and models are available to spatially portray the extent, diversity, and quality of America's agricultural land and the threat of development. These tools make it possible to examine past conversion rates and map the scale and location of that development. Future *Farms Under Threat* assessments will analyze farmland conversion at the state level and the effectiveness of state policies to address it; study demographic shifts and the impending transition of agricultural land ownership; and use housing density and climate projections to forecast what could happen to the nation's agricultural land by 2040 if no actions are taken.

AFT is working with Conservation Science Partners (CSP) to ensure these assessments are grounded in reliable data and strong science. This partnership is supported by the USDA's Natural Resources Conservation Service (NRCS). Additional guidance was provided by a national Advisory Committee, and NRCS shared data and reviewed findings and drafts of maps and reports.

What Is at Risk

U.S. agricultural land supports state and local economies, significant export markets, and the nation's balance of trade. Locally, this agricultural land contributes to fiscal balance: as with other commercial land uses, the property taxes generated by agricultural land typically exceeds the expense of providing it with public services.⁵ Collectively, this land supports a regionally diverse food and farming system and contributes to a secure food supply. Fifteen percent of U.S. counties are classified as farming-dependent (in terms of jobs), and nearly 60 percent of the market value of U.S. farm production comes from metropolitan counties and adjacent areas.⁶ These counties supply 91 percent of domestically sourced fruits, tree nuts, and berries; 77 percent of vegetables and melons; 68 percent of dairy; and 55 percent of eggs and poultry. Farms in metropolitan counties often supply local and regional markets, making up 81 percent of food sold directly to consumers; 76 percent of community-supported-agriculture (CSA) farms; and 74 percent of farms selling directly to retail outlets.⁷ Fruits and vegetables often require unique soils and microclimates, access to water and labor, an existing infrastructure that has built up over time (e.g. farm equipment, storage, processing, and packing facilities, etc.), and markets to support production and sales (Plattner et al. 2014). The difficulty in moving production of these high-value crops elsewhere has likely kept producers from expanding production, even though domestic demand for fruit and vegetables now exceeds supply by 203 percent and 164 percent, respectively (White and Hall 2017).

Agriculture, food and related industries contribute \$992 billion (5.5 percent) to the U.S. GDP (USDA ERS 2015). Agriculture and its related industries provide 11 percent of U.S. employment. Many economic sectors rely on agricultural inputs, including forestry, fishing and related activities; food, beverages, and tobacco products; textiles, apparel, and leather products; food and beverage stores; and food service, eating, and drinking establishments. U.S. agricultural exports support

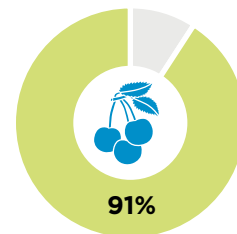
5 The median cost to provide public services for each dollar of revenue raised is \$0.30 for business, \$0.37 for agriculture, and \$1.16 for residential (www.farmlandinfo.org/cost-community-services-studies).

6 Analysis by AFT's Farmland Information Center (FIC) combines information from the 2012 Census of Agriculture with 2013 USDA Economic Research Service (ERS) Urban Influence Codes (UIC). ERS classifies counties into 12 groups. The FIC uses UICs 1-5 to identify the "most urban" counties. These 1,652 counties comprise 54 percent of U.S. counties.

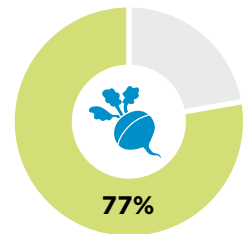
7 See AFT's "Food in the Path of Development" fact sheet: www.farmlandinfo.org/food-path-development-talking-points.

FOOD IN THE PATH OF DEVELOPMENT

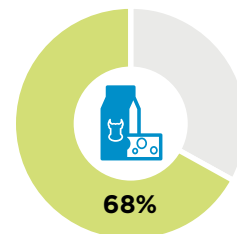
Metropolitan counties and adjacent areas supply the majority of domestically produced:



fruits, tree nuts and berries



vegetables and melons

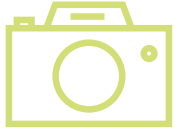


dairy



poultry and eggs

AGRICULTURAL LAND PROVIDES BENEFITS BEYOND FOOD



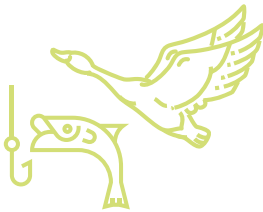
open space and scenic views



biodiversity and wildlife habitat



fire suppression, floodplain management, and carbon sequestration



recreation

output, employment, income, and purchasing power in both the farm and nonfarm sectors, and each dollar of agricultural exports stimulates another \$1.27 in business activity.

Agricultural land also plays a significant role in the nation's landscape and psyche.

Along with food, fiber, and energy, Americans highly value the contributions that agricultural land makes to the environment and quality of life. Well-managed agricultural land provides open space and scenic views; biodiversity and wildlife habitat; and critical ecological services like fire suppression, floodplain management, and carbon sequestration (Heimlich and Krupa 1994; Northeast Regional Center for Rural Development 2003; Hellerstein et al. 2002; Farm Foundation 2004; Swinton et al. 2007; Duke 2008; Freedgood and Fydenkez 2017). Agricultural land also supports rural lifestyles and recreational opportunities like hunting, fishing, and horseback riding. Many of the nation's agricultural regions are deeply important to U.S. heritage, such as the glacially borne wild blueberry barrens of Down East Maine; the wild rice region of the upper Great Lakes; New Mexico's Hatch Valley, known as the "chili pepper capital of the world"; and Michigan's Grand Traverse cherry region, which produces most of the nation's tart cherries (Hilchy 2008).

As an added benefit, agricultural land can help stabilize and reduce future greenhouse gas emissions. Keeping land in agriculture and limiting low-density residential development can curb one of the largest sources of carbon emissions: transportation. Emerging studies show that the average greenhouse gas (GHG) emissions from urban land uses are orders of magnitude higher than those from cropland (approximately 66–70 times higher per unit area) (Culman et al. 2014; Shaffer and Thompson 2015; Arjomand and Haight 2017). In addition, GHG emissions from lower density, suburban-style developments account for roughly half of the GHG emissions in the United States (Jones and Kammen 2013). Although a full accounting of emissions benefits from protecting farmland will take more time, intact agricultural landscapes provide communities with future opportunities to further reduce emissions and sequester carbon in agricultural soils and vegetation (Culman et al. 2014). Farmers and ranchers manage more than one billion acres of U.S. land, and agricultural practices that sequester carbon and improve soil health—increasing soil productivity, resiliency, and versatility—are the next frontier of agricultural innovation.

“We have been too wasteful too long in this country—indeed, over most of the world. We had so much good land in the beginning we thought the supply was limitless and inexhaustible.” —**Hugh Hammond Bennett, 1943**

Tracking the Status of Agricultural Land

Since the 1930s, the USDA has closely monitored the conditions and threats to the nation's natural resources. The Dust Bowl of the 1930s in the Great Plains dramatically called attention to the dangers of severe drought and poor land management, leading to the establishment of the USDA Soil Conservation Service (SCS) in 1935, now NRCS (USDA 1992). Since its founding, SCS/NRCS has periodically inventoried the nation's land and natural resources and, in 1975, released the *Potential Cropland Study* to examine the loss of the nation's best agricultural land to urban development (Schnepf and Flanagan 2016).

The advent of NRCS' National Resources Inventory (NRI) in 1977 made it possible to track the conditions and trends of soil, water, and related resources. NRCS conducts this statistical survey of natural resource conditions and trends on nonfederal land in cooperation with Iowa State University's Center for Survey Statistics and Methodology. Among other attributes, the NRI tracks changes in land cover/use, which provides critical data on how much farmland is converted and other trends affecting the nation's strategic land and natural resources (Schnepf and Flanagan 2016). The precision of NRI statistical estimates vary with the number of samples involved in a particular inventory activity. Based on statistical area sampling, as opposed to full areal coverage, it is most applicable for monitoring state and national levels of gross land conversion (Lark et al. 2017). The NRI currently releases state-level estimates to the public and is exploring ways to achieve statistical reliability for county-level sub-state estimates (Schnepf and Flanagan 2016). These periodic inventories remain the primary source of information about changes in land use in the United States. However, leveraging the NRI by mapping the patterns of land cover/use and trends over time provides powerful information to inform planning and decision-making at state, county, and municipal levels. The planners queried by AFT at the start of *Farms Under Threat* agreed that having access to spatial maps was important for planning purposes.

The 1977 NRI data also became the primary data source for the National Agricultural Lands Study (NALS) undertaken by USDA in 1979 (USDA and the President's Environmental Council 1981). When the NALS opted to use the 1977 NRI data on urban and built-up uses of land, it not only focused more national attention on the inventory work by SCS, but it also generated considerable controversy in academic circles over how much



A Colorado ranch during the Dust Bowl.

USDA NRCS ARCHIVES

Federal Farmland Protection: The Farmland Protection Policy Act (FPPA)

Congress enacted the FPPA as a subtitle of the 1981 Farm Bill to minimize the impact that federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. The FPPA stipulates that federal programs be compatible with state, local,

and private efforts to protect farmland. (For the purposes of the law, federal programs include construction projects—such as highways, airports, dams, and federal buildings—sponsored or financed in whole or part by the federal government, and the management of federal land.)

Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. NRCS is charged with oversight of the FPPA (www.farmlandinfo.org/sites/default/files/FPPA_8-06_1.pdf).

agricultural land was actually being converted to nonagricultural uses. This controversy led USDA to establish new procedures for identifying and recording urban and built-up areas that were incorporated into the 1982 NRI and subsequent sampling (Schnepf and Flanagan 2016). The findings in the NALS, along with a Congressional report that concluded federal infrastructure grants and mortgage subsidies had led to wasteful farmland conversion (U.S. Congress 1980), prompted the passage of the Farmland Protection Policy Act (FPPA) as a subtitle in the 1981 Farm Bill.

In addition to the NRI, USDA monitors other trends that impact the nation's agricultural resources. The USDA Economic Research Service's (ERS) major land use estimates and related cropland series provide a comprehensive accounting of all major uses of public and private land in the United States (www.ers.usda.gov/data-products/major-land-uses). Every five years, the USDA National Agricultural Statistics Service's (NASS) Census of Agriculture does a complete count of U.S. farms and ranches, providing information about land use and ownership, ownership characteristics, production practices, income, and expenditures (www.agcensus.usda.gov). In 2014, ERS and NASS completed the Tenure, Ownership and Transfer of Agricultural Land (TOTAL) survey, the first survey since 1999 to focus solely on the ownership and transfer of agricultural land (Bigelow et al. 2016). TOTAL provided invaluable information about agricultural land ownership and otherwise unavailable data on agricultural landlords. All of this critical information helps USDA evaluate the status of the nation's soil, water, and related resources on non-federal land every 10 years as required by the 1977 Soil and Water Resources Conservation Act (RCA). RCA appraisals assess the capacity of the nation's resources to meet present and future demands and play a key role in shaping conservation strategies, but they are scheduled to

terminate on December 31, 2018 (www.nrcs.usda.gov/wps/portal/nrcs/rca/national/technical/nra/rca/ida).

Both NRI and RCA appraisals indicate the United States is developing its more productive agricultural land at a disproportionate rate. AFT identified the same trend when it documented the relationship between highly productive farmland, land development trends, and farmland loss over 20 years ago (Sorensen et al. 1997). The need to improve the nation’s understanding of the scale and spatial location of this threat provided the impetus for AFT’s *Farms Under Threat* initiative.

Mapping the quality of agricultural land and tracking its loss is a critical step to better understanding the impacts of conversion that has already occurred. However, this is not easy to do because the various databases and maps available at the national level differ in purpose, scope, and how various land categories and uses are defined (Nickerson et al. 2015). The collected data also differs in scale, including their extent and spatial resolution, as well as in duration, accuracy, update frequency, and timing. As a result, estimates from different federal agencies do not agree on how much agricultural land the United States has—let alone how much the nation is losing.

To meet the need for more accuracy, AFT and CSP applied advanced geospatial and remote sensing analysis to fill in the data gaps and create the most comprehensive and most accurate national analysis ever undertaken of agricultural land and conversion patterns from urban and low-density residential development. ***Farms Under Threat: The State of America’s Farmland adds value to the national inventory of agricultural land in multiple ways:*** 1) It includes a new class of agricultural land that estimates woodlands associated with farm enterprise; 2) It maps grazing on federal land; 3) It identifies agricultural land based on its productivity, versatility and resiliency to support intensive food and crop production (PVR values); 4) It maps



The Sneffels Range in Ridgeway, Colorado.

PAT & CHUCK BLACKLEY/ALAMY STOCK PHOTO

“Each day, each year—individually and on a national scale—the conversions of cropland to non-agricultural uses may not have been large in proportion to the total national landscape. However, collectively and cumulatively, these land use shifts are seriously reducing the world’s supply of important farmlands. Moreover, while these continued losses are ‘significant’ or ‘rather serious’ on a global scale, they may already be critical for individual, local, or regional areas.” —Norm Berg, 1979

and analyzes the extent of low-density residential development on agricultural land; 5) It shows the spatial patterns of agricultural land uses and conversion to development in a consistent way over time so that people can see the patterns of change.

“Productive land is neither limitless nor inexhaustible.” —**Hugh Hammond Bennett, 1959**

Federal Farmland Protection: Agricultural Conservation Easement Program (ACEP)

USDA’s NRCS is a key partner for state and local governments, private land trusts, and recognized tribes working to protect farmland and rangeland from development. The agency’s Agricultural Conservation Easement Program (ACEP), authorized in the farm bill, protects agricultural land and conserves wetlands. The Agricultural Land Easements (ALE) enrollment option provides matching funds to buy conservation easements on farmland and rangeland.

An agricultural conservation easement is a deed restriction that landowners voluntarily place on their property to restrict

development and keep the land available for farming. The funds from selling agricultural conservation easements allow farmers to free up capital without having to sell their land outright and are most often used to improve or expand the farm operation (Esseks and Schilling 2013). Since 1996, NRCS has invested about \$1.5 billion in agricultural conservation easements through ACEP-ALE and its forerunners, leveraging state, local, and private funds to contribute to the long-term protection of more than 1.2 million acres of agricultural land nationwide. The program has

protected agricultural land for agriculture, improved agricultural viability, encouraged on-farm conservation, and helped farmers gain access to land (Esseks and Schilling 2013). Although the demands for the federal, state, and local programs remains very high, the limitations in funding at all levels constrains each partner’s ability to protect this critical land. For more information about the impact of the federal farmland protection program, see www.farmlandinfo.org/impacts-federal-farm-and-ranch-lands-protection-program-assessment-based-interviews-participating-1.

Methods

CSP analyzed the location, quantity, type, and quality of the agricultural land converted to development in the continental United States to a 30-meter resolution with mapping units of about five to 10 acres. To achieve this level of precision and inform future forecasting, CSP focused on the 20-year time period⁸ between 1992 and 2012 when there were sufficient databases with the national coverage necessary to complete the more detailed spatial mapping. The most recent releases of databases with the coverage needed for a national assessment are 2011 and 2012.

To show the extent of land in agricultural uses, the analysis identifies and maps woodland, a new class of agricultural land, and also maps grazing on federal land. To provide greater clarity on the extent of agricultural land conversion, it improves on previous efforts to spatially map low-density residential development, which extends beyond the suburbs into rural parts of counties. The conversion of working land to very large lot developments not only diminishes the agricultural land base, it also threatens the vitality of rural economies. Finally, to more fully understand the quality of the agricultural land being converted, it identifies and spatially maps agricultural land based on values that denote their productivity, versatility, and resiliency (PVR) for cultivation. This complex approach significantly advances the understanding of farmland conversion.

Developing the base map.

CSP started the assessment with the 2011 U.S. Geological Survey (USGS) National Land Cover Dataset (NLCD)—a 30-meter-resolution national database that provides spatial reference and descriptive data of land surface characteristics. It adds in critical data from the NRI and Soil Survey Geographic Database SSURGO datasets (soil suitability and capability classes), the NASS Cropland Data Layer (CDL) and Census of Agriculture data (median farm size), the USGS NLCD accuracy assessments, National Elevation Dataset (at 10 m) and Protected Areas Dataset (PAD-US), and housing data from the U.S. Census Bureau at census block level. It directly incorporates NRI data to generate a



Dickie Brothers Orchard in Roseland, Virginia.

PAT & CHUCK BLACKLEY/ALAMY STOCK PHOTO

⁸ CSP initially applied this approach to map conversion over a 30-year period based on 1982 data from the NRI. However, because many of the datasets used to model land cover/use represented conditions in the early 1990s, the results were too inconsistent and had too much variability.



Farmland in the Mohawk Valley, New York.

suitability model that produces maps of land cover/use at 1992 and 2012 and then applies additional geospatial analyses to quantify change.

Farms Under Threat adds a new class of agricultural land: woodland associated with farms. This is a subset of forestland that CSP mapped by approximating the area of woodland reported by operators in the 2012 Census of Agriculture. To show the total extent of land in agricultural uses, it includes federal land that is grazed based on grazing permits issued by the U.S. Forest Service and the U.S. Bureau of Land Management in 2014 and 2015, respectively. It also identifies low-density residential development as another land cover/use class.⁹ Depending on location, once this intensity of residential development occurs on agricultural land, the analysis assumes it is no longer primarily used for agricultural purposes.

The assessment focuses on the continental United States (the contiguous 48 states) because of data availability and spatial data processing efficiencies. A number of datasets used in the analyses were either not available or had limited (less than 25 percent) spatial coverage in Alaska and/or Hawaii. For Alaska, the NRCS NRI and SSURGO soils databases were very limited; for both Alaska and Hawaii, data are not available for the CDL or grazing allotments, and the earliest availability of the NLCD is 2001 (not 1992).

Mapping and assessing irreversible losses due to both urbanization and low-density residential development.

Previous work by the technical mapping team, access to unique national data, and a geospatial model enabled CSP to map urbanization and the low-density residential development that extends beyond the suburbs. CSP started with the NLCD urban land cover/use class. The satellite imagery used to create the NLCD dataset detects the high-density urbanized or built-up areas but misses urban development hidden under forested canopies, as well as low-density residential areas. This shortcoming became apparent when CSP compared the detailed land use observations from the NRI to the NLCD 2011. Roughly 30 percent of the area represented by the NRI as urbanized did not fall on urban/built-up classes in the NLCD.

The next step was to figure out how to spatially map low-density residential development, especially large-lot development occurring in exurban areas. AFT interviewed farmland protection practitioners, county planners, and other key stakeholders at the start of the *Farms*

⁹ *Farms Under Threat* uses the NLCD definition for urbanization: areas occupied by urban development or “built-up” areas of commercial, industrial, transportation, and high-density residential (NLCD categories 21–24). Low-density residential includes residential areas with more than one housing unit per one to two acres up to homes on 10–20 acres as well as exurban homes on even larger lots that effectively remove these properties’ agricultural uses.

Under Threat initiative. In some parts of the country, these stakeholders identified exurban development as the principal threat, and they urged AFT to investigate the lower-density residential development missed by the NRI.

The NRI urban classification captures residential land areas with more than one housing unit per one to two acres up to homes on 10–20 acres. This resulted in another gap between what the NLCD captures and the NRI samples. To bridge the gap between NLCD and NRI, CSP sought to map both the NRI residential land areas and the nonagricultural development on larger lots.

To do this, CSP created an additional land cover/use category of low-density residential. The low-density residential model filled in the NRI urban projections up to one house per 10–20 acres. It also captured exurban homes on even larger lots that effectively removed even more land from agricultural uses. To identify these larger lot residences, AFT asked NASS to generate the quartiles of farm size from the 2012 Census of Agriculture for each county. The size of a viable farm or ranch varies considerably from region to region and from county to county. To distinguish between a viable agricultural operation and a rural estate (also called a “farmette” or “ranchette”), CSP identified the low-end tail (approximately the 10th percentile) of the entire distribution of farm sizes in each county by using 50 percent of the lowest (25 percent) quartile. Based on feedback from scientists involved with the NRI, CDL,



BLEND IMAGES/ALAMY STOCK PHOTO

A crop farmer in Oyster, Virginia.

Limitations of the Data from *Farms Under Threat: State of America's Farmland*

The *Farms Under Threat: State of America's Farmland* datasets are produced at a resolution of 30 meters (about 1/4 acre), though the minimum mapping unit is five to 10 acres, which is useful to inform and support sub-county decisions regarding mapped patterns at extents of roughly 1,000 acres or greater. Calculating summaries of the data at scales finer than this generally is not recommended. To characterize broader-scale patterns and trends, the minimum analytical (decision)

unit should be aggregated to the sub-county level (approximately 10,000 acres or greater), the equivalent of a Hydrologic Unit Code 12 or HUC12 level. CSP and AFT recognize that there may be some utility for using these data at relatively fine-scales, but caution that the interpretation of the results be used appropriately and considered in a probabilistic perspective, particularly when using the data for site-scale planning exercises. Calculating landscape change is particularly

challenging, and so we suggest that appropriate scales for calculating change or trends with data from *Farms Under Threat: State of America's Farmland* should be done at county, state, and national scales. Fine-scale analysis should proceed under advisement of the data developers (CSP) on a case-by-case basis. As with any map, there is some level of uncertainty associated with the data, and the statistical uncertainty associated with our findings has been fully documented.



Fields of squash in Virginia.

and NLCD, this best represents the point below which land previously identified as agricultural land is likely too small or fragmented to support an agricultural operation. These farm-size thresholds (calculated as roughly the 10th percentile of farm size in the county) vary widely from county to county and state to state and ranged in size from two acres (e.g. in parts of the Northeast) to 186 acres (e.g. in parts of Great Plains, etc.). This land was then re-classified as most likely low-density residential. Then CSP harmonized this data with the housing density data from the U.S. Census and used housing density to help distinguish large lot, low-density residential from agricultural uses.

Assigning values to agricultural land based on their productivity, versatility, and resilience for long-term cultivation.

Farmers and ranchers make decisions about how to use their land based on soil type, water resources, climate, adjoining land uses, proximity to markets and transportation, access to farm equipment, and other factors (Olson and Lyson 1999). However, the long-term sustainability of keeping the land in cultivation or in other agricultural uses depends on the productivity,¹⁰ versatility¹¹ and resiliency¹² (PVR values) of the land base. The research team looked for factors that offered reliable national coverage and could act as proxies to rank agricultural land nationally based on these key factors and chose *soil suitability*, *land cover/land use*, and *food production* to assess the land's potential to support long-term cultivation.

¹⁰ **Productivity** is output per unit of input (often measured as crop yield per acre). The highest productivity occurs in coastal areas where climate, soil, location, and irrigated conditions favor the production of perishable crops (fruits and vegetables) or where integrated livestock operations draw from an extended cropping area. Unfortunately, productivity can often mask environmental or health components of soil quality (Widbe and Gollehon 2006). The PVR analysis considers soils, their limitations, climate, type of production, and whether the land can produce commonly cultivated crops and pasture plants without deterioration over a long period of time.

¹¹ **Versatility** is the ability of land to support production and management of a wide range of crops. It is mainly assessed in terms of soil and land physical characteristics (Bloomer 2011).

¹² **Resiliency** (the land's ability to maintain its potential to provide ecosystem services) depends on the same factors that determine potential productivity (topography, relatively static soil properties and climate (UNEP 2016).

“Each acre not retained for use in agriculture, and each acre exceeding the tolerance value in erosion loss, removes flexibility for future decisions and reduces the nation’s options for directing our own destiny.” —Norm Berg, 1981

National Factors Used in the Productivity, Versatility and Resiliency (PVR) Analysis

Soil suitability uses important farmland designations, which interpret soil survey information to indicate relative suitability and productivity of soils. Important farmland designations are an attribute in the NRCS SSURGO database. This factor gets at the capacity of soils to support agricultural production (productivity) and provides clues to the land’s versatility and resiliency to withstand weather extremes. We consulted with state soil scientists and included the following important farmland designations: prime farmland, prime farmland with limitations, unique farmland, farmland of statewide importance, and farmland of statewide importance with limitations. We reclassified locally important soils in all states except Michigan and Ohio as not prime, because states inconsistently define their locally important soils and most states identify fewer than 1,000 acres as locally important. Working with the NRCS state soil scientist,

AFT reclassified Michigan locally important soils in counties adjacent to Lake Michigan as unique (since these areas support fruit trees or vineyards) and reclassified the locally important soils in remaining counties as statewide important. For Ohio, we reclassified locally important soils as statewide important.

Broad land cover/use shows where different major types of agriculture are conducted. Land cover is the vegetation or other kind of material that covers the land surface. Land use is the purpose of human activity on the land; it is usually, but not always, related to land cover. Continuous production indicates there are relatively fewer limitations and environmental consequences. It indicates resiliency over time. We mapped land cover/use by combining data from the NRI, the USGS National Land Cover Dataset for 2011, and the SSURGO database.

Food production was included in recognition of the fact that a primary goal of agriculture is to feed people. This factor is especially important as a proxy for characteristics that support production of specialty crops that may require unique soils and microclimates. Using data from the USDA NASS Cropland Data Layer, we grouped 132 Individual cropland types into five main groups: 1. fruit and nut trees; 2. fruits and vegetables grown as row crops; 3. staple food crops (e.g. wheat, rice, barley, oats, dry beans, potatoes); 4. feed grains, forages, and crops grown for livestock feed and processed foods (corn and soybean; hay and alfalfa; oilseeds and sugar beets and sugarcane); and 5. non-food crops (i.e. crops used for energy production excluding corn, fiber, tobacco, and nursery/greenhouse).



Pumpkin plants in Starlight, Indiana.

Farms Under Threat then used a structured, replicable process to elicit feedback from 33 national experts to decide the importance of each factor in determining the land's potential. The experts assigned the strongest weight to soil suitability (given the value of 1.0), followed by food production (= 0.522), and land cover/land use (= 0.398). For soil suitability, the experts ranked the soil types in the following order: prime, unique, prime with limitations,¹³ state important, and state important with limitations. For land cover/use, types, the ranked order was cropland, pastureland, rangeland, and woodland. For food production, the ranked order was fruit and vegetables, fruit and nut trees, staple food crops, feed grains, and forages and non-food crops. Because fruits, nuts, and vegetables occupy only a small percentage of total cropland acres and often depend on unique microclimates that limit their range, their ultimate weighting within the analysis was higher to reflect their disproportionate value.

Factoring in critical limitations to production and versatility.

To strengthen the soil suitability analysis, the analysis included a secondary factor based on production limitations documented within NRCS Land Capability Classes (LCC) (USDA SCS 1961). USDA developed this classification to group soils primarily on the basis of their capability to produce commonly cultivated crops and pasture plants without deteriorating over a long period. The LCC considers management hazards (e.g. erosion and runoff, excess water, root zone limitations, and climatic limitations). It also helps identify production versatility, identifying whether soils can be used for cultivated crops, pasture, range, woodland, and/or wildlife food and cover. The LCC identifies eight categories with increasing limitations. Land in Classes I through IV is suited to cultivation, although Classes II through IV have increasing limitations that reduce the choice of plants and require the use of progressively more conservation practices. Classes V through VIII are not suited to cultivation, and their use is limited largely to pastureland, rangeland, woodland, or wildlife food and cover. To improve the food production factor, the analysis also incorporated information about growing season length that limits production in parts of the country but allows almost year-around production in some of the southern states and in some coastal regions. After completing these refinements, CSP assigned each agricultural land mapping unit (5–10 acres) a combined PVR value based on the PVR factors and weighting (see Figure 4).

¹³ *Farms Under Threat* uses the NRI definitions for the various soil types. In this case, limitations denote the conditions that must be addressed before the soil qualifies as prime (e.g. prime if irrigated, prime if drained, prime if drained and either protected from flooding or not frequently flooded, etc.) or statewide important.

Identifying the best land for intensive food and crop production.

After assigning combined PVR values, CSP then applied a scenario model to identify the best land for intensive food and crop production (includes the production of fruits, vegetables, staple foods, grains, and animal feed). The scenario model included soils that are prime, unique, or prime with limitations; cropland and pasture; and the relevant cropland types. The land with values at or above the resulting PVR threshold value has the highest potential for food and crop production with the fewest limitations and environmental impacts. This subset of agricultural land is the best land for intensive food and crop production in terms of its ability to support cultivation.

Checking the PVR continuum against other classification schemes.

To help put the PVR value continuum into context with other classification schemes, CSP examined the PVR values generated for the NRI points. For the NRI points designated as prime, the mean PVR value was 0.45. For Land Capability Class designations, the mean PVR value for LCC Class I points was 0.53, Class II was 0.49, Class III was 0.40, Classes IV and V were 0.29, Class 6 was 0.20 and Classes VII and VIII were 0.15. *Farms Under Threat: State of America's Farmland* identifies land with a PVR value above 0.43 as best suited for intensive food and crop production. In other words, the threshold the scenario model uses to identify the best land for intensive food and crop production picked up all the prime farmland identified by the NRI points, all the agricultural land in LCC Classes I and II, and some of the agricultural land in LCC Class III.



Cherry Bomb peppers growing in northern Illinois.

JESS MERRILL/ALAMY



LARRY LINDELL/ISTOCKPHOTO

The sun sets over an Iowa cornfield.

Findings¹⁴

- **Between non-federal and federal lands, America’s farmers and ranchers make use of a diverse agricultural landscape that covers 55 percent of the land area in the continental United States.**

Farms Under Threat land cover/use categories include cropland, pastureland, rangeland, and woodland (Table 1)¹⁵ in the context of other major land uses (e.g. urban, low-density residential, forest, water, federal, federal land used for grazing, other rural land, etc.) (Figure 1). The broad extent to which land in the continental United States is used by farmers and ranchers becomes apparent when non-federal agricultural land and federal land used for grazing are mapped together (Figure 2). Farmers and ranchers use over one billion acres in the continental United States (Table 2), roughly 55 percent of the land area, providing a wide range of benefits and amenities that are valued by the public.

A Note About Land Cover/Use Categories Used in *Farms Under Threat*

Farms Under Threat defines agricultural land as cropland, pastureland, rangeland and woodland associated with farms in the continental United States (48 states), excluding federally owned grazing land. This non-federal agricultural land is commonly referred to as farmland and ranchland by the public.

Farms Under Threat uses the NRI definitions for rangeland, forestland, cropland and

pastureland. “Woodlands” is a new class of forested cover that is part of a functioning farm. “Federal (grazed)” is a new class compiled from USFS and BLM allotment data. “Urban” is mapped from the USGS NLCD urban/built-up categories. “Low density residential” is a new class calculated from Census block level housing statistics. “Other” includes locations not classed in other cover/use classes (e.g. along rural roads or scattered in

areas with little vegetation cover such as barren or steeper slopes). “Water” includes freshwater and some near-shore ocean. Compared to NRI, FUT slightly under estimates the total land area of the contiguous United States (CONUS). All percentages reported are based on the total CONUS land area reported by NRI and will not sum to 100 percent due to rounding and other factors described in more detail in the FUT technical report.

14 AFT is solely responsible for the conclusions and recommendations in this report. Although information from NRCS data comprises a major component of this analysis, the conclusions and recommendations are AFT’s alone.

15 Direct comparison of *Farms Under Threat* with the NRI and other agricultural datasets is difficult because of different classifications, sources, time periods, and spatial resolution. The accuracy of the revised cover types in our resulting map, compared to the ~800,000 NRI validation data points, is roughly 83 percent overall.



Figure 1: The extent and distribution of agricultural land in 2012.

Agricultural land in the continental United States, shown here in shades of yellow and green, encompass roughly 912 million acres of non-federal land, including cropland, pastureland, rangeland and woodland associated with farms. This agricultural land provides a rich and varied landscape that is part of a larger mosaic of land cover/uses, including forestland, federal land, federal land grazed by livestock, and other rural land, as well as urban and low-density residential development.

Table 1: Farms Under Threat Land Cover/Uses in 2012.*

| Land Cover/Use | | Thousands of Acres | Percent of Total Land Area |
|-------------------------|--------------------------------|--------------------|----------------------------|
| Agricultural Land | Cropland | 313,845 | 16.2% |
| | Pastureland | 108,410 | 5.6% |
| | Rangeland | 409,275 | 21.1% |
| | Woodland | 80,136 | 4.1% |
| | Total Agricultural Land | 911,666 | |
| Federal grazed | | 158,418 | 8.2% |
| Federal | | 217,934 | 11.2% |
| Forestland | | 328,572 | 17.0% |
| Other | | 87,889 | 4.5% |
| Urban | | 71,464 | 3.7% |
| Low Density Residential | | 69,536 | 3.6% |
| Water | | 43,469 | 2.2% |
| No data (unknown) | | 48,765 | 2.5% |
| Total | | 1,937,713 | 100% |

* See box on page 17 for an explanation of land use categories.

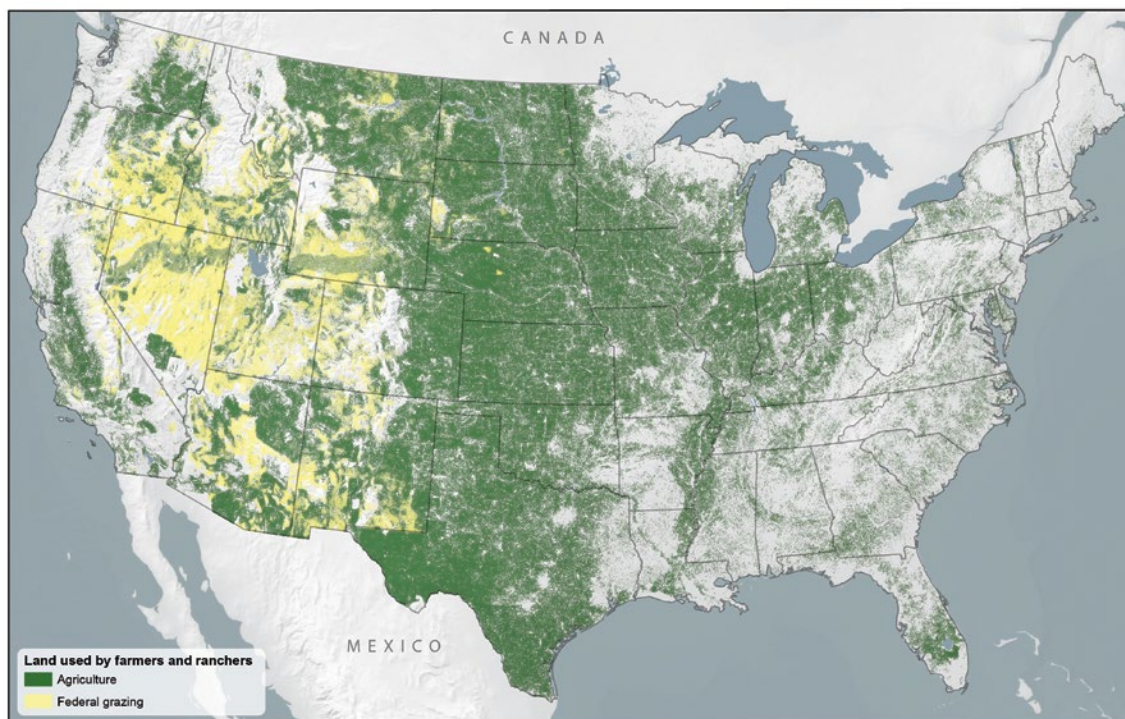


Figure 2: The widespread landscape used by farmers and ranchers in 2012.

Farmers and ranchers use over one billion acres, or 55 percent of the land in the continental United States, which includes agricultural land and federal land used to graze livestock. This map depicts only these land uses to show the broad extent of land used for agricultural production.

Table 2. Farms Under Threat agricultural land and federal land used for livestock grazing in 2012.*

| Land Cover/Use | | Thousands of Acres | Percent of Total Agricultural Land | Percent of Land in Agricultural Use |
|---------------------------------------|--------------------------------|--------------------|------------------------------------|-------------------------------------|
| Agricultural Land | Cropland | 313,845 | 34.4% | 29.3% |
| | Pastureland | 108,410 | 11.9% | 10.1% |
| | Rangeland | 409,275 | 44.9% | 38.2% |
| | Woodland | 80,136 | 8.8% | 7.5% |
| | Total Agricultural Land | 911,666 | 100% | |
| Federal Land Used for Grazing | | 158,418 | | 14.9% |
| Total Land in Agricultural Use | | 1,070,084 | | 100% |

* See box on page 17 for an explanation of land use categories.

- **Agricultural land varies in its potential to be used for food and crop production.**

The PVR land potential model calculates the productivity, versatility and resiliency value at each location on the map (Figure 3). As PVR values decrease, the land has progressively greater limitations and usually requires greater inputs to cultivate. Farmers may also need to adapt crops and practices and increase their level of management to use this land for cultivation. As PVR values increase, fewer and fewer acres of land qualify. Land that has high enough PVR values has the right soil characteristics and growing conditions to support intensive food and crop production with the fewest environmental limitations (Figure 5).

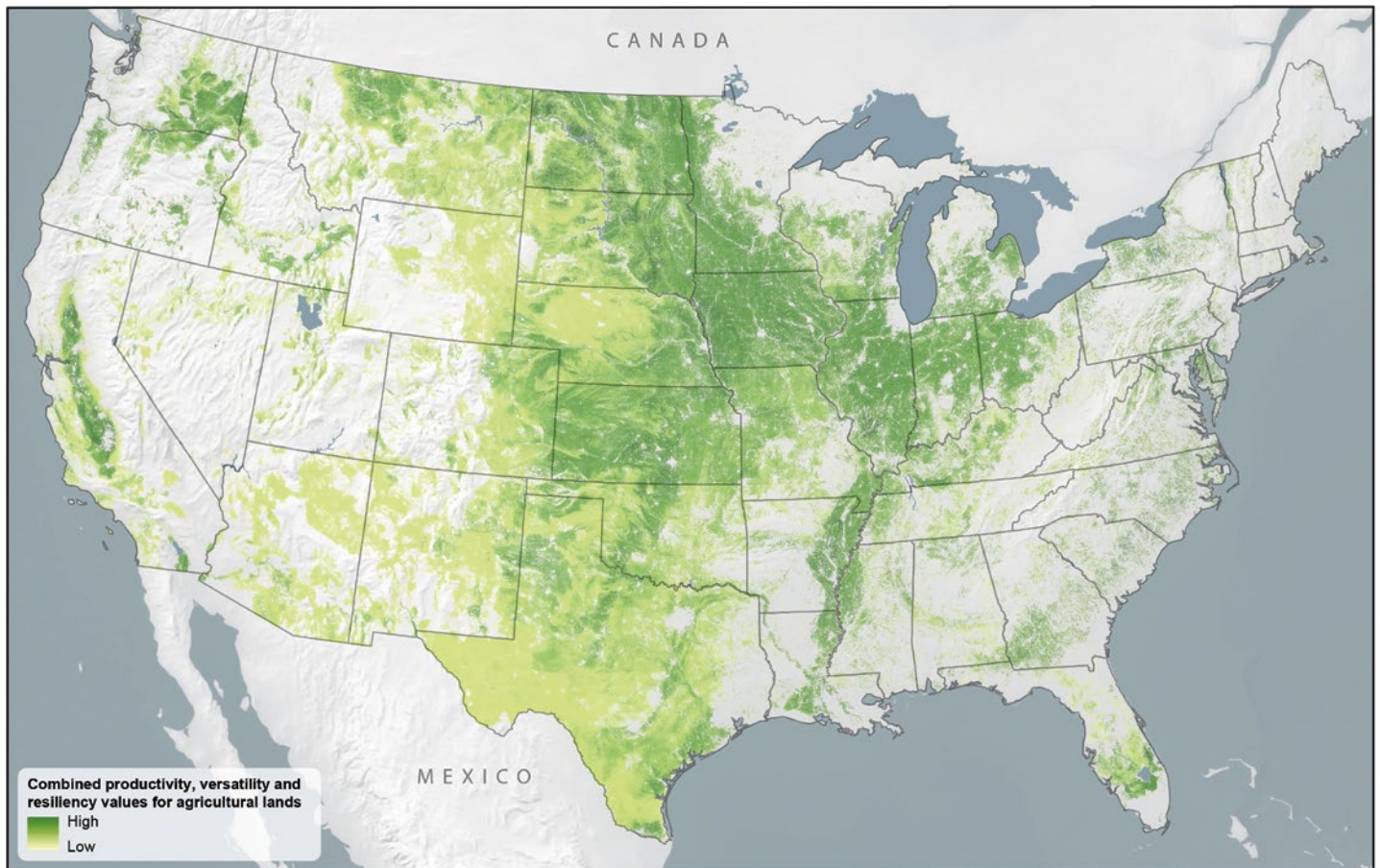


Figure 3: Combined productivity, versatility, and resiliency values for agricultural land.

The productivity, versatility, and resiliency of agricultural land for long-term cultivation largely depend on the quality of the soils, the farming infrastructure that exists, and climatic conditions, such as the length of the growing season. PVR values are calculated using data of the PVR factors and expert-based weights. Lower PVR values are shown by lighter tones, indicating land that has progressively greater limitations, may be more prone to off-farm environmental impacts, and that offers less potential for food and crop production and narrower choices for agricultural production in general.

- **Development converted almost 31 million acres of agricultural land in the United States between 1992 and 2012, nearly double the amount previously documented by national datasets.**

Agricultural land use in the United States continually changes—and these changes mask the irreversible losses that are taking place. *Farms Under Threat* was able to spatially map the patterns of conversion since 1992 that the NLCD was unable to distinguish through remote sensing (Figure 4). Overall, more than 62 percent of the development that occurred was on agricultural land.

Urban development converted roughly 18 million acres of agricultural land (59 percent of conversion), reinforcing the findings by the NRI. *Farms Under Threat* also captures and, for the first time, spatially allocates the emerging threat of low-density residential development associated with exurban development. Low-density residential development converted nearly 13 million acres of additional agricultural land (41 percent of conversion). Taken together, the loss of agricultural land to development is far more widespread than previously documented—nearly double previous estimates.

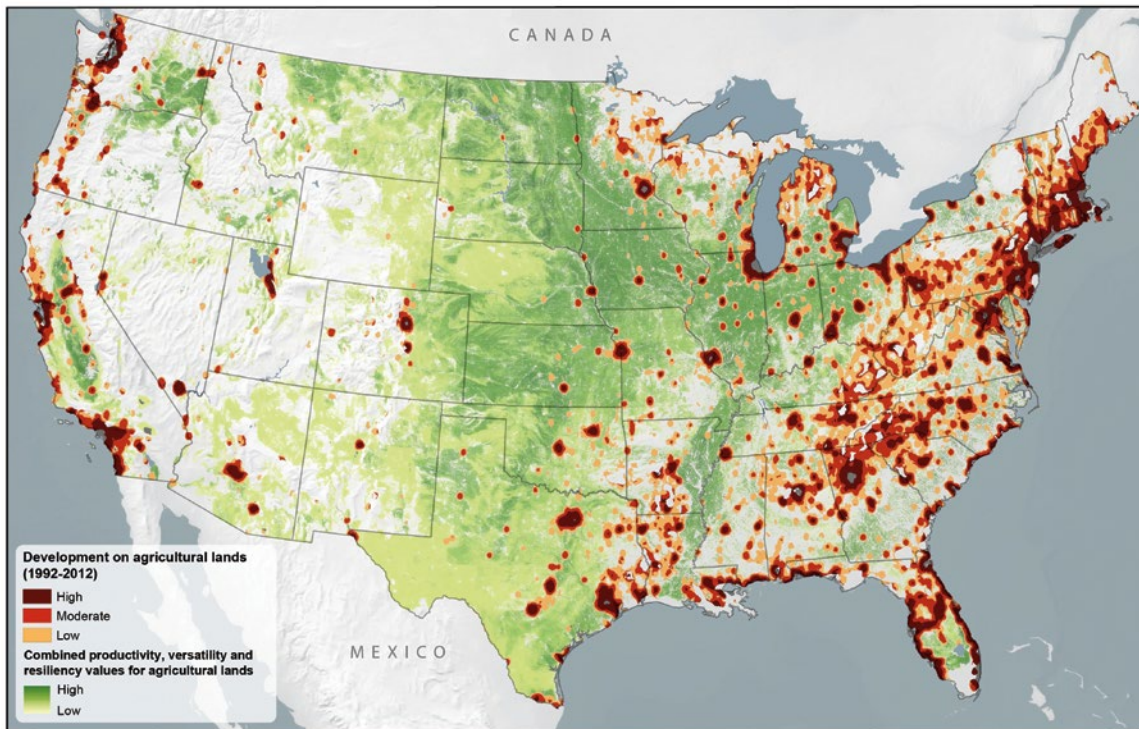


Figure 4: Conversion of agricultural land to urban and low-density residential development between 1992 and 2012.

The development of agricultural land is shown in relationship to the low-to-high continuum of productive, versatile, and resilient values for agricultural land. The conversion of agricultural land to urban and low-density residential uses between 1992 and 2012 is shown as high (dark brown-red, > 25% conversion within a 10-kilometer (6.2 miles) radius), moderate (light brown-red, 10-25% conversion) and low (tan, 5-10% conversion). Urban areas are shown in gray.

Table 3. Conversion by land cover/use in thousands of acres between 1992 and 2012.

| Land cover/use | % of ag land | Urban Development | | | Low Density Residential | | | Total Developed | | |
|-------------------------|--------------|-------------------|----------------|-----------------------------|-------------------------|----------------|-----------------------------|-----------------|----------------|-----------------------------|
| | | Acres lost | % by land type | % of ag land type converted | Acres lost | % by land type | % of ag land type converted | Acres lost | % by land type | % of ag land type converted |
| Cropland | 34.3% | 7,408 | 28.9% | 41% | 4,385 | 18.5% | 34.5% | 11,793 | 23.9% | 38.4% |
| Pastureland | 11.9% | 4,662 | 18.2% | 25.9% | 4,379 | 18.5% | 34.5% | 9,041 | 18.3% | 29.4% |
| Rangeland | 44.9% | 4,285 | 16.7% | 23.8% | 1,408 | 5.9% | 11.1% | 5,693 | 11.5% | 18.5% |
| Woodland | 8.8% | 1,674 | 6.5% | 9.3% | 2,527 | 10.6% | 19.9% | 4,201 | 8.5% | 13.7% |
| Total on ag land | | 18,029 | 70.4% | | 12,698 | 53.5% | | 30,727 | 62.3% | |
| Forestland | | 5,107 | 19.9% | | 9,739 | 41% | | 14,846 | 30.1% | |
| Other | | 2,463 | 9.6% | | 1,297 | 5.5% | | 3,761 | 7.6% | |
| Total | | 25,600 | | | 23,735 | | | 49,335 | | |

- **Over 70 percent of urban development and about 54 percent of low-density residential development occurred on agricultural land.**

As shown in Table 3, in the context of all land uses, urban development occurred more frequently on cropland (28.9 percent) than on any other land use type, while low-density residential development was more likely occur on forestland (41 percent).

When urban development occurred on agricultural land, it most frequently converted cropland (41 percent) while converting much lower percentages of pastureland (25.9 percent), rangeland (23.8 percent) and woodland (9.3 percent). In contrast, low-density residential development posed an equal threat to cropland and pastureland (34.5 percent each) and favored woodland (19.9 percent) over rangeland (11.1 percent).

After mapping the patterns of development on agricultural land, the analysis determined whether the United States was disproportionately losing agricultural land with higher PVR values. This was done by comparing the PVR values of the agricultural land that was converted by urban and low-density residential development between 1992 and 2012 with the PVR values of the agricultural land that was not developed.

- **Development patterns put higher quality agricultural lands at greater risk.**

The analysis found that land with higher PVR values was more at risk of being developed. Figure 5 shows the cumulative distribution curve of the PVR values of agricultural land in 1992 (335 million acres) that remained in agriculture in 2012 contrasted with similar cumulative distribution curves of the PVR values of land converted by low-density residential (13 million acres) and urban development (18 million acres). These distribution curves show that urban development and, to a lesser

extent, low-density residential development occurred on land with higher PVR values.

The median PVR value of agricultural land lost to development (0.39) was 1.3 times higher than the median PVR value of land that stayed in production (0.31). The contrasting distribution curves also show the nation's best land for intensive food and crop production (land with PVR values of 0.431 or higher) is disproportionately converted by urban and low-density residential development up to a PVR value of about 0.51.

It is interesting to note that above a PVR value of 0.51, the distribution curves converge, indicating that conversion is now proportional to the amount of agricultural land with these higher PVR values (less than 25 percent of agricultural land in 1992). Although the losses are no longer disproportional, the land with the highest PVR values continues to be converted. All of these cumulative losses could have serious implications for agricultural productivity and domestic food security in future decades.

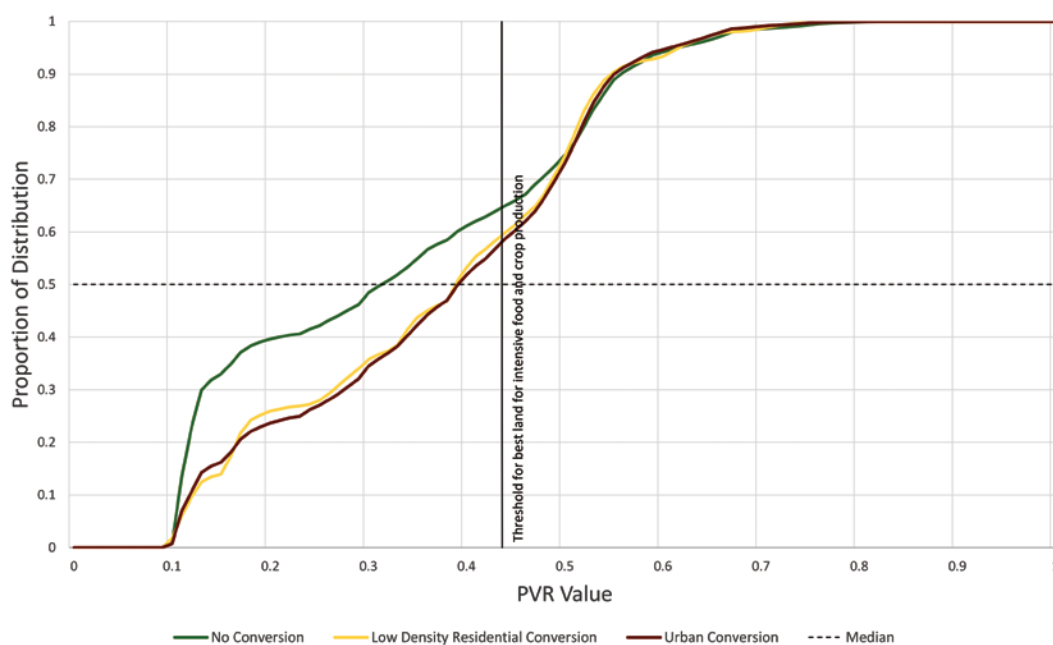


Figure 5: Distribution of PVR values for converted agricultural land and land remaining in agriculture.

Cumulative distribution curves are shown for the PVR values of agricultural land in 1992 that remained in agriculture (no conversion) in 2012 (335 million acres) and for the agricultural land lost through urban conversion (18 million acres) and low-density residential conversion (13 million acres). Development disproportionately occurred on land with PVR values between 0.1 and 0.51. The distribution curves then converge above a PVR value of 0.51, indicating that conversion is now proportional to the amount of agricultural land with higher values (> 0.51). The dotted horizontal line shows the median PVR value of the agricultural land that remained in production was 0.31, whereas agricultural land lost to development had a higher median PVR value of 0.39. A solid vertical line shows the PVR threshold value (0.43) used to identify the best land for intensive food and crop production and represents slightly more than one third of agricultural land.

- **By 2012, the best land to support intensive food and crop production comprised less than 17 percent of the total land area.**

Only 324.1 million acres of agricultural land had PVR values > 0.43 that indicated that the right soil characteristics and growing conditions were present and the land could be farmed with the fewest environmental limitations (Figure 6). This is slightly more than one third of agricultural land.

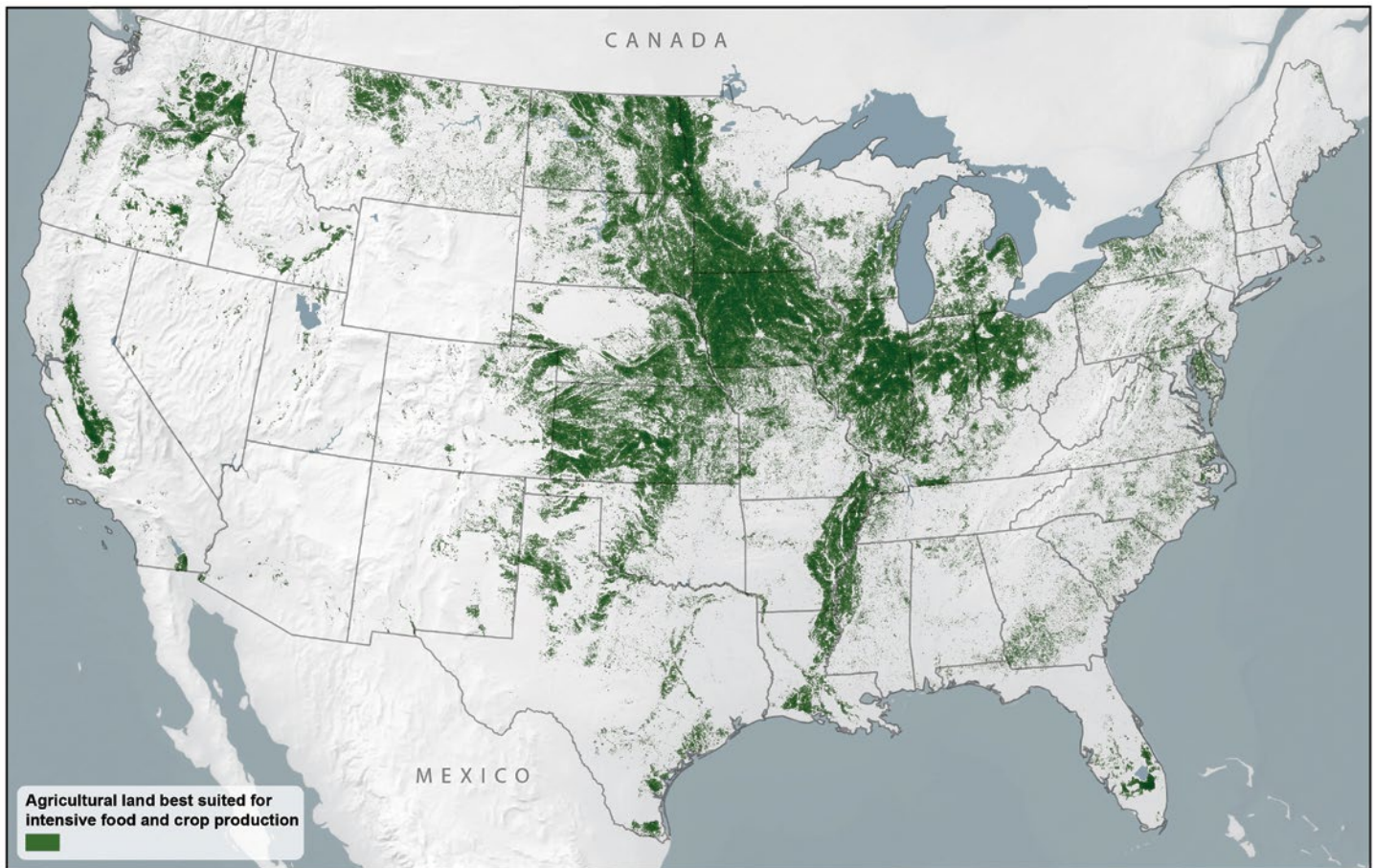


Figure 6: Best agricultural land for intensive food and crop production in 2012.

Agricultural land with PVR values between 0.43 and 1.0 is the land most suited for the intensive production of fruit and nut trees, vegetables, staple foods, grains, and animal feed with the fewest environmental limitations. This land represented about 36 percent of U.S. agricultural land, or only 16.7 percent of the total land area in the continental United States in 2012.



CAVAN SOCIAL/ALAMY STOCK PHOTO

Harvesting lettuce in New York state.

- **In less than one generation, the United States irreversibly lost nearly 11 million acres of the best land for food and crop production.**

From 1992 to 2012, the United States converted 10.928 million acres of land where soils, climate, growing seasons, and access to water combine to allow intensive food and crop production with the fewest environmental impacts. *To put this into perspective, this is equivalent to losing 95 percent of California's Central Valley or 47 percent of the state of Indiana.* This is the land that can help ensure food security for future generations, but only if the nation protects it from any further conversion, soil erosion, and declines in soil health. At this rate of loss (slightly over 3 percent), the nation would lose over 15 percent of its best agricultural land by the end of the century just to development—without factoring in any other threats. But housing a growing population while losing land to a changing climate will likely accelerate this rate of loss and farmers and ranchers will have to produce more food, fiber and energy on the agricultural lands that remain.



RICK DALTON-AG/LAMY STOCK PHOTO

Harvesting wheat in the Palouse region of Washington state.

Discussion

U.S. agricultural land supports a regionally diverse food and farming system and provides a secure food supply—for now. This land also plays a significant role in the U.S. landscape and economy. However, it faces unprecedented challenges as the world’s population continues to expand and the climate continues to change. By 2050, the demands on agriculture to provide sufficient food, fiber, and energy are expected to be 50 to 70 percent higher than they are now. Given a fixed land mass in the United States and the need to feed an increasing number of people, it is extremely important to consider land quality, land availability, and the maximization of nutrient production per unit of total land in the future (White and Hall 2017).

U.S. agricultural land also provides a wide range of benefits and amenities that are valued by the public. Along with producing food and crops, agricultural land is highly valued for providing wildlife habitat and environmental benefits such as flood water storage, etc. Well-managed agricultural land delivers a wide range of amenities that motivate communities and land trusts to pay \$88 to \$124,000 per acre on average to preserve this land (Brinkley 2012). These amenities include ecosystem services that improve the quality of water, air and soil, support wildlife and biodiversity, contribute to viewsheds and quality of life, provide recreational opportunities, shape land use, help the local economy, provide fresh healthy food, support community health and cohesion, and sequester carbon. The more marginal agricultural land where food production is rarely an option provide wildlife with the food, water, shelter, and space they need (AFT 2017). This includes wetlands, woodland, rangeland and pastureland with low-intensity management. The permanent habitat interspersed throughout the agricultural landscape (in areas like field margins, hedgerows, buffer strips, riparian corridors, and wood lots) allow wildlife to travel between larger areas of suitable habitat. Although quantifying the wide range of benefits offered by agricultural land is still in its infancy (Wainger and Ervin 2017), the market value of farmland services extends far beyond the local community and should be viewed in a regional context (Brinkley 2012). Because agricultural land varies so widely in its potential, maintaining this diversity with the philosophy that *every acre counts* provides the nation with options to optimize the nation’s limited land and agricultural resources to sustain future generations.



CSA farmer in Iowa.

PRESTON KERES/USDA

Decades of urban and low-density residential development have converted almost twice as much agricultural land as previously thought. Urbanization and associated land-use dynamics beyond the urban fringe encroach on both agricultural land and on natural land that supports wildlife habitat (Theobald 2001). *Farms Under Threat* shows the past spatial patterns of agricultural land conversion by exurban development for the first time.¹⁶ This low-density residential development was responsible for 41 percent of the conversion of agricultural land by development between 1992 and 2012. The pattern of low-density residential development expanding well beyond the suburbs represents an additional, insidious threat to the nation's agricultural land. These scattered single-family houses on large lots remove proportionately more land from agricultural production and are not accounted for in most national assessments. This pattern of development emerged in the 1970s, and by 1997, nearly 80 percent of the acreage used for housing in the previous three years was land outside of urban areas, with 57 percent on lots of 10 acres or more (Heimlich and Anderson 2001). While urban development has become more efficient and compact since then, it appears that better land use planning (i.e. "smart growth") has not yet reached the nation's exurban and rural areas.

Since 1997, large-lot properties have continued to increase in number and are often too small for traditional farming, ranching, and forestry uses. They no longer contribute to rural economies and lead to a loss of open space, a decline in wildlife habitat, water quality problems, and a higher demand for public services (Wilkins et al. 2003). The added roads, parking lots, and highly compacted lawns also increase the risk

Smart Growth: Balancing Economy, Community, and Environment

The antidote to development that needlessly paves over agricultural land is not to halt development but to develop more thoughtfully. Smart growth is a system of urban planning that seeks to balance the economic benefits of growth with distinctive, attractive communities and the protection

of natural resources. Principles of smart growth that relate to farmland protection include taking advantage of compact building design and strengthening and directing development toward existing communities. Compact development, and the transportation opportunities that

this encourages, can also provide greenhouse gas reduction benefits. To learn more about smart growth principles, visit www.smartgrowth.org.

Source: www.farmlandinfo.org/sites/default/files/EPA_what_is_smart_growth_1.pdf
www.epa.gov/smartgrowth/smart-growth-and-climate-change

¹⁶ In this case, suburbs form the ring around the urban core, and exurbs (with larger-lot homes) extend beyond the suburbs into rural areas.

of flooding and degrade water quality compared to concentrating the same number of houses into compact neighborhoods and village centers (Flinker 2010). The scattered development is subsidized by those living in adjoining municipalities, and for many living in these far-flung houses and subdivisions, the emergency response times for police, ambulance, and fire fighters exceed national standards (Esseks et al. 1999). The development footprint grew from 10.1 percent to 13.3 percent from 1980 to 2000, outpacing the population growth by 25 percent. By 2020, urban and suburban development is forecast to expand by 2.2 percent and exurban development by 14.3 percent (Theobald 2001; 2005). Based on the past conversion patterns shown by this present analysis, much of this forecasted expansion will be on land with higher PVR values.

As agricultural land with higher PVR values is lost, cultivation shifts to land with lower PVR values, which problematically can put more pressure on water, soils, and biodiversity. Market demands (e.g. corn to produce ethanol as a biofuel), rising prices, and water availability can accelerate this process, bringing even more of the remaining land into cultivation. Land with lower PVR values is much more limited in the crops it can support, and cultivation may lead to more significant environmental impacts. More inputs (like pesticides and fertilizers) and/or acres are required to maintain the same production levels, putting even more pressure on water, soil, and biodiversity (Verzandvoort et al. 2009). For example, from 2001 to 2011, the Midwest lost cropland to urban expansion in the eastern part of the region and gained cropland at the expense of rangeland in the western part (Wright and Wimberly 2013; Emili and Greene 2014). Keeping this new, more marginal cropland in cultivation is dependent on the use of irrigation and the High Plains aquifer. Long term, this trend could be detrimental to the economy, the environment, and food security.

Unfortunately, development is just one of the many threats to the nation's agricultural land base. Because development leads to the irreversible loss of agricultural land, it commands AFT's immediate attention in this analysis. However, several other interrelated factors pose additional—and significant—risks that can take agricultural land out of production and may result in its permanent loss. *The cumulative effects of these multiple threats to U.S. agricultural land significantly increase the need to recognize the strategic values of this land and step up efforts to protect it.*

For example, the changing climate already has caused shifts in food and fiber production and is intensifying competition for land with available water. Since the late 1970s, climatologists have documented weather-related changes that make it riskier to produce crops. These include rising temperatures that can reduce crop yields, increases in the length of the frost-free period (and corresponding growing season) that affect what can be grown where, increases in precipitation and



Farmland along the Connecticut River in South Deerfield, Massachusetts.

NORMAN EGGERT/ALAMY STOCK PHOTO



LANCE CHEUNG/USDA

Hurricane Harvey severely damaged the Bayside-Richardson Cotton Gin facility in Woodsboro, Texas, in 2017.

heavy downpours, and more frequent extreme weather events: droughts, floods, fires, and heat waves (Walsh et al. 2014). Researchers also have documented decreases in accumulated winter-chill units needed to grow fruit in some of the nation's fruit growing regions (Baldocchi and Wong 2007). A sampling of some of the crop damage in 2017 attributed to a changing climate includes the loss of nearly 80 to 90 percent of the peach crops in Georgia and South Carolina due to an overly warm winter and hard freeze in the early spring. Other effects included damaged peaches, blueberries, strawberries, and apples in parts of the Southeast; extensive damage to wheat, hay, livestock, and other crops in the Northern Plains due to extreme drought; and significant damage to Florida's citrus, sugarcane, and vegetable crops due to Hurricane Irma. The U.S. Office of Management and Budget and Council of Economic Advisors (2016) expects increased extreme heat and drought, more intense precipitation and soil erosion, growing stress from disease and pests, shifting soil moisture and water availability for irrigation, and higher concentrations of ozone, which will continue to reduce crop yields and increase uncertainty for producers.

The production of energy for domestic use and export introduces a new threat that competes for agricultural land. Energy production includes nuclear, natural gas, coal, renewables (wind, geothermal, solar, hydropower, biomass), oil and biofuels (corn, sugarcane, soybean, and cellulose). Researchers predict that, by 2040, the domestic production from all energy sources will rise by 27 percent and impact more than 197 million additional acres of land, an area greater than the state of Texas (Trainor et al. 2016). Most of this production will happen on agricultural land.¹⁷ This pace of development is more than double the historic rate of urban, commercial, and residential development, which has been the greatest driver of land conversion in the United States since 1970. To further reduce GHG emissions, states have also set ambitious goals for increasing the generation of renewable energy, which include dramatic increases in solar and wind energy. These efforts create opportunities for farmers and landowners to reduce their energy expenses and earn new income, but also pose threats to farmland and local food systems. For example, flat and open farm fields, often the most productive agricultural land, are also highly desirable for solar siting due to their ease of access and lower costs to clear vegetation and construct facilities.



U.S. solar panels.

ISTOCKPHOTO

The agricultural land base is also vulnerable to demographic and land ownership changes. Forty percent of U.S. agricultural land is owned by people over the age of 65. According to the 2012 Census of Agriculture, there are twice as many principal operators who are 75 and older as those under 35. Based on the 2014 TOTAL survey (Bigelow et al. 2016) and data from the 2012 Census of Agriculture, AFT calculates that about 370 million acres could change hands nationwide over the next 20 years. At the same time, beginning farmers and ranchers face major barriers like high start-up costs and difficulty accessing capital and affordable land. As a result, the numbers of beginning farmers and ranchers have declined steadily since 1982. Between 2007 and 2012, the number of beginning farmers declined by 20 percent (Freedgood and Dempsey 2014). In coming years, how millions of acres of agricultural land transfer and to whom—along with the agricultural infrastructure and assets associated with them—will fundamentally impact the structure of agriculture and rural America for generations to come.

And, if agricultural activities damage, erode, compact, or salinize the soil, the long term or permanent damage can also take land out of production. The 2011 RCA appraisal reported that about 27 percent of cropland acres were losing soil carbon (USDA 2011). Saline soils occupied about 5.4 million acres of cropland, and another 76.2 million acres were at risk, mostly in the southwestern United States. And roughly 20 percent of non-federal rangeland acres (82 million acres)

¹⁷ Between 2000 and 2012, about seven million acres were lost to oil and gas drilling in 11 central U.S. states and three Canadian provinces. About half the acreage was rangeland, 40 percent was cropland, 10 percent was forestland and a very small amount was wetland (Allred et al. 2015).

The best land for intensive food and crop production is critical for food security and the long-term sustainability of the nation. Securing this land may also help stabilize and reduce future GHG emissions.

needed additional practices or management to restore rangeland health. Even the most productive, versatile, and resilient acres require the use of sound management practices to maintain or improve soil quality and minimize environmental impacts. However, much higher levels of management are necessary to prevent deterioration when soils are cultivated on less productive acres (USDA SCS 1961). Some of the most environmentally sensitive land (like wetlands and grasslands of environmental significance) should not be cultivated at all. About 27 percent of cropland is highly erodible (USDA 2011) but can be carefully cultivated if restrictions and regulations are followed.

Over the last two decades, improved management practices have made it possible for producers to reduce soil erosion on cropland by 44 percent (USDA 2015), but nutrient losses and greenhouse emissions for agriculture still must drop dramatically to restore and maintain clean water and stabilize the climate by 2050 (Hunter et al. 2017). This may require a significant increase in the use of conservation practices on about 20 percent of U.S. cropland and additional conservation practices on about 46 percent to prevent the continuing losses of soil and nutrients.¹⁸ Compounding this challenge, more frequent extreme weather events will likely increase both soil erosion and runoff, particularly on less productive acres (SWCS 2003; Segura et al. 2014).

Balancing the growing demands for housing, food, energy, and water to ensure our best agricultural land remains available for food and crop production is critical. Since land with higher PVR values is most at risk from development, planners, policy makers, and concerned citizens should prioritize its protection before too late. *Farms Under Threat* shows that conversion has already resulted in a disproportionate loss of land with PVR values between 0.1 and 0.51. For the higher range of PVR values between 0.51 and 1.0, the losses are proportional to the shrinking amount of agricultural land existing at those higher PVR values but continue to occur. The high productivity and economic returns from land with the highest PVR values, along with effective farmland protection policies, may be slowing the disproportional losses at this point, and AFT will examine this in future analyses. *But any loss of land with these high PVR values is of great concern, even more so if we factor in the cumulative effects of the multiple threats to U.S. agricultural land mentioned above.* The best land for intensive food and crop production is critical for food security and the long-term sustainability of the nation. Securing this land may also help stabilize and reduce future GHG emissions. The detailed mapping undertaken by *Farms Under Threat*, combined with AFT's upcoming predictive analyses of the impacts of development and a

¹⁸ The USDA NRCS Conservation Effects Assessment Project (CEAP) quantifies the environmental effects of conservation practices: <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/ceap/>



INGA SPENCE/ALAMY STOCK PHOTO

Spinach pre-harvest in the Coachella Valley of California.

changing climate, can provide the solid foundation that the nation needs to protect and conserve these irreplaceable natural resources.

Now is the time for the United States to recognize the strategic value of its agricultural land and step up efforts to protect it. It is worth repeating that beyond food security and economic prosperity, well-managed agricultural land provides open space, resources for hunting and fishing, and critical ecological services such as wildlife habitat, carbon sequestration, groundwater recharge, and flood control. This incredible diversity provides the nation with options going forward that may help optimize the use of agricultural resources to sustain future generations. The nation has already lost a significant amount of its best land for intensive food and crop production and faces the risk of losing even more in the future. However, through thoughtful and carefully implemented agricultural, conservation, and land use policies, the nation can strategically protect this land from further development, nourish it with conservation practices, and help the farmers and ranchers who manage this bountiful landscape thrive.

Recommended Actions¹⁹

“From every conceivable angle—economic, social, cultural, public health, national defense—conservation of natural resources is an objective on which all should agree.” —**Hugh Hammond Bennet**, 1959

“As a nation, we will conserve our productive land and use it prudently only if there is sustained public demand for such a course of action..” —**Hugh Hammond Bennet**, 1959

The strategic value of U.S. agricultural land is now more important than ever, and any further loss of the best land for intensive food and crop production is short-sighted at best. When the issue of farmland and ranchland loss came to the fore in the 1980s, several federal programs were implemented that we must continue to support and improve. But, given the increasing number of threats to farmland and ranchland and the even higher than previously known land loss of the last decades, we also need a bold, comprehensive, 21st century federal commitment to saving the land that sustains us.

Additionally, concerted policy efforts at the state and local level will be necessary in order to fully address the scope of farmland loss. Future *Farms Under Threat* reports will detail these proposals.

Take Immediate Steps to Strengthen Existing Federal Farmland Protection Policies

→ **Double funding for the federal Agricultural Conservation Easement Program (ACEP) in the 2018 Farm Bill.** Congress has an immediate opportunity to strengthen existing federal farmland protection efforts. Priorities for improving ACEP in the 2018 Farm Bill include:

¹⁹ AFT is solely responsible for the conclusions and recommendations in this report. Although data and information from NRCS comprises a major component of this analysis, the conclusions and recommendations come from AFT alone.

- *Increase Agricultural Conservation Easement Program funding to at least \$500 million annually.* Without additional funding, less than seven percent of farmers and ranchers seeking to put agricultural conservation easements on their properties would be able to protect their land.
- *Provide entities that have the demonstrated experience and financial stability to achieve certification with greater certainty in using their own deed terms.* Improving the current ACEP certification process will allow for faster protection of farmland and rangeland when applicants craft deed terms to fit the broad variety of farmland and rangeland in need of protection. Every acre counts.

→ **Support and fully fund the critical programs that help monitor threats to U.S. land resources.** Just as important as funding for on-the-ground farmland protection is the funding for agencies and projects that help monitor farmland loss and threats to farmland—and help measure successes in reversing these trends.

- *Maintain and strengthen the NRCS National Resources Inventory by restoring staff capacity and continuing to support private-public partnerships.* The NRI is the only national *land use* data collected by federal agencies and is key to the strategic protection of agricultural land resources.
- *Continue critical funding for the USDA National Agricultural Statistics Service and Economic Research Service to deliver objective, timely, and accurate national research and analysis, including sufficient funding for a new 50-state Tenure, Ownership and Transfer of Agricultural Land (TOTAL) survey.* This unbiased information provides critical information for the nation’s policymakers and industry leaders to make decisions that can ensure future food security and revitalize rural economies.
- *Reauthorize and fully fund the 1977 Soil and Water Resources Conservation Act (RCA) and broaden its focus to fully assess the interrelated factors affecting the long-term sustainability of the nation’s agricultural land as a natural resource.*

Enact a Bold and Comprehensive 21st Century Agricultural Land Policy Platform

As evidenced by these initial findings, current federal policies are inadequate to safeguard America’s farmland and rangeland for future food security, economic opportunity, and community well-being. In particular, since land with higher PVR values is most at risk from development, we must prioritize their protection before it is too late.



MINT IMAGES/TIM PANNELL

A young farmer harvests fresh vegetables in New York state.



A New England farm family.

A new level of federal commitment is needed to save the land that sustains America. A comprehensive 21st century agricultural land policy platform might include:

- Develop a national designation for agricultural lands with high PVR values and afford them special protections;
- Strengthen the federal Farmland Protection Policy Act by *requiring* federal agencies to avoid farmland conversion;
- Require a mitigation fee to protect an equivalent amount of farmland when projects that receive federal funding or incentives result in farmland conversion. Use mitigation fees for federal farmland protection projects;
- Dramatically increase ACEP-ALE funding in future farm bills to fully meet demand and to leverage state, local and private investments in farmland protection;
- Develop climate change solutions that take advantage of the greenhouse gas reduction potential of farmland protection, improved management practices, and smart growth;
- Enact federal tax code changes that incentivize keeping agricultural land in production and encourage its transfer from one generation of farmers and ranchers to the next;
- Create tools that link farm business development and resource protection, and tools that enable agricultural landowners to plan for and address succession and retirement needs and transfer their land to the next generation of farmers and ranchers; and
- Fund new investments in planning to help rural communities address low density residential development and plan more proactively for agricultural economic development and conservation.

A diverse coalition of farm, conservation, rural development, and planning organizations will be needed to shape and move such a federal agricultural land agenda, as well as to advocate for changes at the state and local level. AFT welcomes organizations that want to join in such an effort. As we face a growing global population and many new threats to our agricultural land base, it is ever more urgent that we all work together to protect farms and ranches.

Future *Farms Under Threat* Releases and Analyses

State-level agricultural land cover/use data and conversion data: A forthcoming *Farms Under Threat: State of the States* report will use mapping and analyses to assess conversion of agricultural land at state level. It will examine both the quality and quantity of agricultural land lost to development within each state and compared with national findings. AFT will also release a *State Policy Scorecard* to demonstrate how states have used farmland protection policies to forestall agricultural land conversion. By showing solutions as well as threats, the *State of the States* report and *State Policy Scorecard* will share effective policy solutions to galvanize action and encourage states to increase and improve their efforts to protect farmland.

County data and projections to 2040: Going forward, AFT will release county-level data and publish findings that include future scenarios using housing density and climate projections to forecast potential impacts to our agricultural land by 2040 if we fail to take action. The *Farms Under Threat* data and models make it possible to spatially locate the agricultural land that may be most at risk from development and a changing climate.

Future analyses: As noted previously, development is not the only threat our agricultural land faces over the next few decades. With additional time and funding, AFT will map potential conversion due to the expansion of energy and transportation infrastructures, identify areas where we need to improve our soils and minimize the environmental impacts of crop and livestock production, and analyze and map the demographic shifts that put agricultural land at risk when it transitions from older generation landowners.

In future analyses, AFT will consider how to strike a sustainable balance among land use and land management, a viable agricultural economy, and the maintenance of biodiversity to preserve the many public benefits provided by the agricultural landscape. To keep track of the future findings from *Farms Under Threat*, see the “More Information” box on the inside of the back cover.



Blueberries ready for picking.

KC SHIELDS/ALAMY STOCK PHOTO

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KC SHIELDS/ALAMY STOCK PHOTO



An Oregon vineyard.

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Pumpkins in Connecticut.

LEE HACKER/ALAMY STOCK PHOTO



A snowy owl on a barn roof in Polson, Montana.

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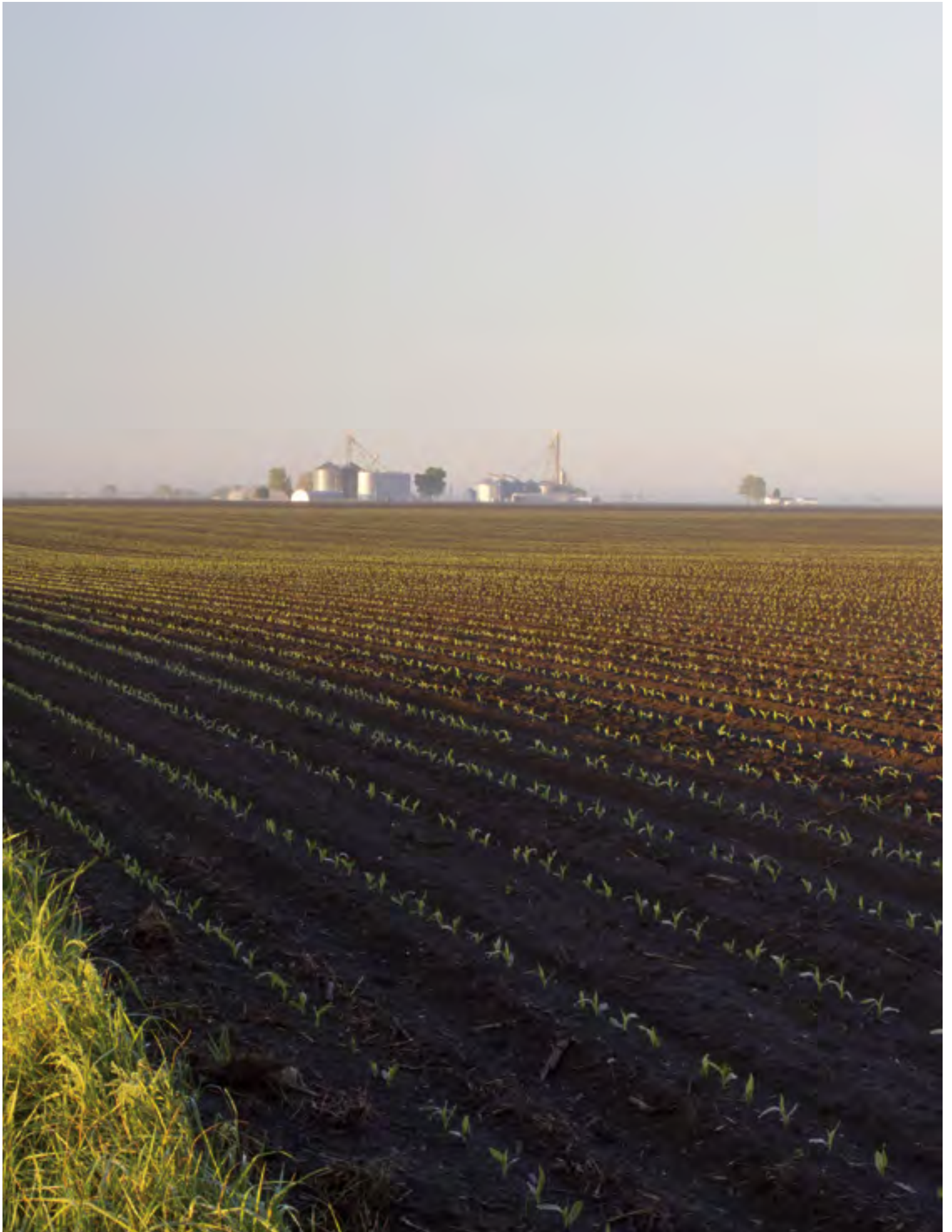
TOMAS KASPAR/ALAMY STOCK PHOTO

A blooming pear orchard in the Hood River Valley, Oregon.

Crop fields stretch to the horizon in Illinois.

For More Information

To keep track of *Farms Under Threat* and make use of reports, data, and white papers to build a constituency to protect this land for future generations, visit our website at www.farmland.org/FarmsUnderThreat. For technical questions concerning our analyses, contact AFT's Farmland Information Center at www.farmlandinfo.org or **(800) 370-4879**.



ROB CRANDALL/ALAMY STOCK PHOTO

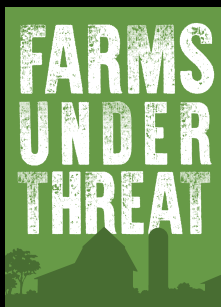


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To Kings County Municipal Council

In 2011 my husband and I purchased a designated Residential property on Woodside Road. It was ,and continues to be our hope to build a home and farm the arable land.

The property,approximately 16 acres,is predominantly wooded and steep rising up the North Mountain. Less than 5 acres is arable,most of which was deemed " Poor Soil "

We have made many improvements to the property,including removing diseased fruit trees, planting and maintaining 1000 grape vines, building a driveway,etc. However it is obvious that with such a small holding, making it productive is only possible by living there and working on it ourselves.

As well,the property was fully surveyed and approved for subdivision into 2 lots of approximately 11 acres and 5 acres;the 11 acre lot including the predominantly wooded,steep,unarable land by the Municipality in 2014.

Under the proposed MPS and LUB we would not be allowed to build our home on the land we bought for that purpose.

Not only will the proposed bylaw prevent us from living and farming on the land we purchased with that intent,the land will likely not be used productively,as it was before we purchased it.

The Municipality must consider reparation to those land owners who bought land under one set of rules and now find a stroke of the pen changing the rules.

As well,as property owners affected by the proposed by law we should have been notified in writing prior to the October 10 meeting.

We hope you will consider the effect on small landowners like ourselves before passing a bylaw preventing us from living on our land.

Sincerely,
Peter Limoges
Sheila Smith

Councillors
Municipality of the County of Kings
181 Coldbrook Village Park Drive
Coldbrook
Nova Scotia B4R 1B9



Councillors:

I am writing to express my concerns over the further expansion of the Port Williams Growth Boundary. I grew up in the area, and in 2000 returned to Nova Scotia. I lived in Port Williams for fourteen years. I was a member of the last Port Williams S.P.S. Committee. I am familiar with the studies that focus on problems with the impact of development on the wells and recharge lands, and the concerns of the Department of the Environment regarding this problem.

I no longer live in Port Williams. However, as a citizen of Canada and resident of Nova Scotia, decisions about farmland and the potential damage to wells effects me. If the Village of Port Williams wants to cause problems with their wells, then residents of that community should pay for any new wells needed to service the community. I do not think that I should be asked to help pay for these wells as part of my Provincial and Federal taxes. Everyone paid for the new water tower so the village could have two towers, only to have the old one torn down.

Farmland. There is not an abundance of GOOD farmland available in this area. Farming contributes greatly to the economy of this region. There are more young men and women who want to farm on small parcels of land. Local food costs less than food trucked or flown from thousands of miles to the stores here. Costs associated with highway maintenance, and to the negative impact on the environment due to fuel consumption, are rarely factored into the cost. Often, the method of growing food in large buildings using a hydroponic approach, is cited as a reason that farmland is no longer needed. This food is not less expensive to purchase. Also, "there is plenty of farmland" is cited as a reason that no one should worry about development on the Port Williams farmland. This land is the

best quality farmland, and can't be compared to other land of lesser quality.

There is available land that can be used to build seniors and other developments. For instance, the land south of the new Highway 101 interchange to New Minas, is close to shopping and health services. This is not the case if one lives in Port Williams.

Collins Road is not easily used in the winter due to blowing snow, thus access by emergency vehicles is an issue. The road will need major work. Who will pay for that?

The sewage system in the village, is at risk of flooding as water levels rise. Who will pay for future work needed on this system.

Members of the Port Williams Village Commission are not interested in information that shows the development of farmland near well heads is a problem. They do not consider facts about water management. They also do not want to accept that properly managed fertilization of the land does not cause a contamination issue. The request to expand the Growth Boundary will continue in the future in order to fulfill the vision of the larger village. Development has been shown NOT to help the financial bottom line.

Councillors of King County are responsible to look at the long term consequences of your decisions. Decisions about Port Williams do not only effect the people who live in the village.

The question is, who really benefits from the expansion of the Growth Boundary? Doing favours for a few should not be your mandate.

Roberta Whidden



48 Fox Hollow Drive
Kentville
Nova Scotia B4N 5R7

Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----

From: Vina Palmeter

Date: 2019-11-08 9:12 PM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>, Trish Javorek
<tjavorek@countyofkings.ca>

Subject: letter for Public Hearing November 14/19

To: Mayor Muttart and Council

councillors@countyofkings.ca

cc. pjavorek@countyofkings.ca

Subject: MPS/LUB Hearing

I moved to the valley 34 years ago and in that time, have witnessed the gradual loss of farmland throughout the region.

Farmland loss is a serious matter and even more critical with climate change impacting weather patterns which in turn have devastated crops. As council considers final approval of the MPS draft I hope that you will consider the long term implications of what is before you and commit to the best possible document to protect agricultural land for future food security. The document that was passed by Planning Advisory Committee and moved on to council, although not perfect, is a vast improvement over the existing MPS. It took years of public consultation starting with the Kings 2050 process to arrive at that point. At 1st Reading three amendments were made to PAC's motion which have negative implications for farmland protect: extending the boundary between houses on infill lots; expanding the Growth Centre of Port Williams; and making a zone boundary adjustment for three parcels of agricultural land on the North Mountain which total about 3000 acres.

I would like to express my concerns about these amendments, two of which come from private

requests. Decisions are being made without adequate information regarding the impact. For instance, staff can only estimate the number of infill lots that will be added for development. approximately 500. There is no information regarding the amount of farmland that could be lost from the north mountain amendment. And this is the third attempt by Port Williams to have a Growth Centre expansion despite lacking a proper study of the well fields to learn whether the water supply can handle more development, let alone the loss of yet another piece of prime farmland.

The purpose of the MPS is to provide a document that serves the common good and not private interests. I strongly urge council to remove the three amendments and accept the document that was forwarded from PAC.

Sincerely,

Allister and Vina Palmeter



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Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----

From: Bibiana Burton

Date: 2019-11-08 4:29 PM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Subject: Fw: SUBJECT: MPS/LUB Hearing

Mayor Muttard and Council,

My husband and I moved to the valley almost 28 years ago because, among other things, we were attracted by the rural life and the beautiful farmland in this area, not to mention the bounty of fruit and vegetables we enjoyed most of the year. I'm very distressed to witness how this rich and fertile farmland is being sacrificed, bit by bit, in the name of progress and development; a great threat to the future of agricultural land.

I'm also very concerned about the three amendments (two from private sources) made to PAC's motion at 1st Reading because these amendments will be detrimental to the future of farmland in the valley and to a whole way of life.

Therefore, I strongly ask the Council to remove the three amendments in question and to approve the documentation sent from PAC.

Sincerely,

Bibiana Burton
316 Old Post Road
Grande Pre.

-----Original Message-----

From: Hannah Sarrouy

Sent: November-09-19 5:33 PM

To: Municipal Clerk <municipalclerk@countyofkings.ca>

Subject: Re-zoning land

Hello,

I would like to send a message to let you know of my great support for the cause to re-zone some of the land around Kentville to A1 Agricultural. I hope this passes. It would be cause to celebrate, and a great step toward positive environmental change in our own community.

Thank you,

Hannah Sarrouy

From: A Sarrouy

Sent: November-10-19 9:51 AM

To: Municipal Clerk <municipalclerk@countyofkings.ca>

Subject: preserving farmland

Hello! I understand that the Municipality of Kings County will be voting on a proposal that would preserve farmland in King's Country. As someone who cares about the area, I just wanted to say how pleased I am, and how much I approve of protecting farmland in Nova Scotia.

Sincerely,

Amos Sarrouy

Sent from my Bell Samsung device over Canada's largest network.

----- Original message -----

From: carwarden

Date: 2019-11-11 4:11 PM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: MPS/LUB

Dear Council,

Re: amendments to motion from Planning and Advisory committee concerning MPS/LUB

I am writing to express my strong objections to the three proposed amendments to this motion, in particular to the amendment which would add some 40 acres on the Collins Road to the Port Williams growth area. In a time of increased awareness of the importance of food security, and the increasing challenge of maintaining that security, it makes no sense to trade our birthright for a mess of pottage, i.e. to destroy irreplaceable farm lands/food source in exchange for real estate development. With transportation costs ever spiraling upward, the cost of imported food can only keep pace with this cost spiral. Since food is one of the necessities of life, it seems unwise indeed to increase our dependency on outside sources for the very food we eat, but this situation will inevitably follow our continued thoughtless frittering away of our finite agricultural land base. Kings County was never meant to be a housing sprawl - it is farm land, meant to support a farming industry and to feed people. Is it really wise to gentrify a significant chunk of Kings County at the expense of losing valuable and irreplaceable agricultural land, with all its lasting potential? Remember the advice of Mark Twain, who is reported to have said "Buy land - they've stopped making it". He did not advocate land purchase for development - he meant to save the land we need to feed ourselves, and if we continue to sell it off for bedroom communities and country estates, eventually there will be a shortage of food for all of us.

Tourism is now a major contributor to the economy of Nova Scotia - \$2.61 billion dollars in 2018 - but tourists don't come here to look at housing developments, they come for the rural aspect of our area, to see the attractive views created by fields of crops, blocks of orchards and, more recently, vineyards. They want to visit and shop at farm markets stocked with local foods, and at farm gate retail businesses. Since this area is becoming known as a destination for fine quality dining and drinking experiences, it makes no sense to compromise the land base which supports these experiences.

Since further development could pose a threat to the village well fields, there should be a very thorough and completely independent study done by persons who can legitimately be deemed to be thoroughly knowledgeable in the field of water management, and any advice they may offer should be heeded. It is understood that medium to high density housing poses a greater risk to a water source than does intelligently practiced agriculture.

I would ask council to bring back the original motion, without these unwise amendments, and to adopt a policy of stricter protection of agricultural lands. We cannot afford to act like the people in the Joni

Mitchell song, who "paved paradise, and put in a parking lot."

With kindest regards,
Mary McMahon

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Kings County Council
Attn: Ms. Laura Mosher

November 11, 2019

RE: Rezoning A1 Lands

Dear Councillors:

It is my understanding that there is a request to rezone land to take 40 acres of agricultural land in Port Williams, and a further 410 acres near North Mountain out of the protection of A1 zoning. The Port Williams tract of land is south facing, which makes it prime land for any farmer. And the North Mountain land is a huge piece of property.

No doubt you are aware that in all of Canada there are just three areas with top-rated agricultural soil: BC's Okanagan Valley, Ontario's Niagara Peninsula, and NS's own Annapolis Valley. Along with other produce, these are Canada's fruit growing regions. These areas are protected against being built upon by local zoning law, and the reason they are protected is because it is recognized that they are so valuable, not only to Nova Scotia, but to Canada as a whole. It is infuriating and unconscionable to continually consider rezoning these lands in order to build on them! There is plenty of land in the Valley to build upon, land that is not prime agricultural land. Once those areas are lost to agriculture, the loss is forever.

I'm sure you know that, statistically, every complaint you receive represents ten people who share that opinion. I feel very strongly about this issue, as do many of my neighbours, and we urge you to preserve the A1 land that is still protected in the Annapolis Valley.

Sincerely,
S.M. Fullerton
902-542-5800
sm.fullerton11@gmail.com

Waldo and Judy Walsh
Birchleigh Farms Ltd
210 Bentley Road
Rockland, NS B0P 1E0

November 11, 2019

Dear Mr. Mayor and Councilors of the County of Kings,

My name is Waldo Walsh and my wife Judy and I operate a family farm in Rockland and South Berwick. Our primary crop is tree fruits: apples, pears and plums.

In 2006, we purchased a 46 acre parcel of land on the North side of Highway #1 in South Berwick (P.I.D. #55141436). This land was comprised of approximately 23 acres of apples and 23 acres of forest land. At the time of purchase we bought the parcel to expand our orchard operation but understood that the land was contained within the hamlet of South Berwick, and was zoned R7, which added significant value to the parcel over many of our other lands which were zoned A2.

Farming at the best of times is risky and we are at the mercy of the weather and a changing climate due to global warming. This was especially evident in 2018 and 2019 when our farm suffered severe losses due to multiple weather related perils. As farmers we need all the safety nets that are available to us. Safety nets come in different forms whether it be through Crop Insurance, Agri- Stability, Agri Invest or other risk mitigating programs. The purchase of the aforementioned parcel of land was a deliberate attempt by us to diversify our risk within our farm operation and offer us a further safety net, when and if it was required in the future, to sustain our farm operation.

It is our understanding that the proposed land use by-law under Kings 2050 will change this parcel of land from R7 to A2 designation. This change will result in a dramatic drop in the market value of this property. My question to you Mr. Mayor and Council is: How will my wife and I be compensated for this resulting drop in the market value?

It is apparent that this proposed change, which affects this particular parcel has taken place within the last two to three years. I found a map online dated June of 2016 of the proposed changes and on this map our property was still zoned R7.

I only recently found out about the revised changes a few weeks ago. Is it reasonable to assume that all affected land owners in the Kings County are knowledgeable about the proposed changes in the zoning of their properties? In our case a change from R7 to A2 zoning designation is dramatic and the Municipality or Council should have had the courtesy to reach out and notify us personally of the proposed change.

It is of my opinion that further residential development should take place along the main corridor through the County (Highway #1) where people have access to progressive things such as public transit and where they are close to retail stores, health services and other amenities.

I ask that council consider keeping the R7 designation within the Hamlet of South Berwick, which includes this property, rather than rezoning it to A2.

Now that we have finished this year's challenging apple harvest, I am open to discussing this issue further.

Thank you for your attention to this important matter.

Sincerely,

Waldo Walsh

From: [Annette Veasey](#)
To: [Laura Mosher](#)
Subject: Public Hearing 14 Nov
Date: Tuesday, November 12, 2019 11:34:46 AM

Dear Councillors & Staff of Kings County.

Thank you for the opportunity to put my views forward at this upcoming public hearing, which I am unable to attend.

I have been citizen member of the Planning and Advisory Committee for about a year and have appreciated all the work done by the municipal Council which has led to these proposed changes.

I am writing to express my views, which I have formulated as someone who has been a commercial dairy farmer in the UK and also during my last year on the PAC at Kings County, NS.. In particular regarding the proposed Agricultural land (A1) zoning, and the newly added matter of land development on Port Williams village watershed area (which I voted against taking forward to Council at the June PAC).

Firstly I disagree with the views put forward that developing in-fill lots on the proposed zoned A1 lands, will equate to huge amounts of money for some citizens and not allowing development of these lands is a massive missed opportunity for citizens and Kings Municipality. I believe those same in-fill lots have the ability to generate income for agriculture in perpetuity. Those Councillors who vote for these on-going in-fill developments will be giving the go-ahead to the loss of revenue and subsequent food production of these lands for ever, which I believe is huge and incalculable. The future of Kings County to supply food is of enormous importance, both in terms of market value and because we live in a time when productive agricultural lands are reducing at alarming rates around the world.

A1 zoned areas have a role to play in our overall agricultural systems, they hold water and refill wells, which many people in the County rely upon. The Port Williams development has been refused many times. Any building on well field sites will affect water availability in surrounding areas. The premise that manuring the land is bad for the drinking water in the village, I believe shows contempt by those who own the land in this nitrate sensitive zone, as they are allowing manure to be put on the land at the wrong time of the year. This matter can be easily remedied and does not require the building of houses to stop this blatant disregard of sound agricultural practices.

I hope Councillors will take the longest view and not be persuaded by those who are looking for cash from land development in the short term.

Best wishes for your debates. Annette Veasey

e

David A. Daniels
Wolfville, Nova Scotia

November 12, 2019

Dear Council Members:

Re: Planning Process and the North Mountain Amendments:

At the October 10th Council meeting, you approved for first reading drafts of the Municipal Planning Strategy and Land Use Bylaws (the “Planning Documents”).

I did not attend the meeting but I have listened to the recording provided by the County.

The approved Planning Documents incorporated a change proposed by Councillor Hirtle. This change dealt with land on the North Mountain.

I attended many of the Planning Advisory Committee (PAC) meetings and have reviewed the earlier drafts of the Planning Documents. I do not recall that Councillor’s Hirtle’s proposed changes to the Planning Documents in regards to the North Mountain have ever been discussed at the PAC nor have they been included in earlier drafts of the Planning Documents. (Councillor Hirtle has been a member of PAC since at least January 2016.) I reviewed the planning staff’s list of “Motions Related to MPS/LUB Review” which appears on pages 84 – 95 in the agenda package for the June 11, 2019 PAC meeting. I was unable to find any motions that either directly or indirectly discussed the changes Councillor Hirtle proposed at the October 10th Council meeting.

The *Municipal Government Act* (“MGA”) states, in part, at s. 200:

Planning advisory committee

200 (1) A municipality may, by policy, establish a planning advisory committee and may establish different planning advisory committees for different parts of the municipality.

...

(3) A planning advisory committee or joint planning advisory committee shall include members of the public and may include a representative appointed by a village commission.

(4) The purpose of a planning advisory committee or a joint planning advisory committee is to advise respecting the preparation or

amendment of planning documents and respecting planning matters generally.

(5) The duties assigned, pursuant to this Part, to a planning advisory committee or a joint planning advisory committee shall only be carried out by the committee.

. . .

In the MGA s. 204 the Council is given the power and obligation to devise a public participation program when planning documents are being prepared.

Public participation program

204 (1) A council shall adopt, by policy, a public participation program concerning the preparation of planning documents.

(2) A council may adopt different public participation programs for different types of planning documents.

(3) The content of a public participation program is at the discretion of the council, but it shall identify opportunities and establish ways and means of seeking the opinions of the public concerning the proposed planning documents.

. . . .

The Council has taken advantage of the powers it was given by MGA ss. 200 and 204 and has put in place “Public Participation Program” involving the PAC. (Plan-09-001). Part 1 of the Program addresses requirements when amendments to the MPS are being considered. The second condition under Part 1 requires “*the Planning Advisory Committee to hold one or more public participation meetings to explain the proposed amendments and receive comments from the public. . .*”

The Council is not in the process of amending the MPS but rewriting the entire document. Part 2 of the Policy addresses that condition.

Part 2: Comprehensive Review of the Municipal Planning Strategy . . . Council resolves to seek the view of the public and to encourage public participation regarding any comprehensive review of the Kings County Municipal Strategy 1. at a minimum, fulfilling the requirements of Part 1 above. . . . [Bolding in original.]

Whether Councilor Hirtle’s proposed changes are substantive or non-substantive is not a factor in deciding whether PAC reviews the proposed changes to the

Planning Documents. The PAC is required to review all amendments to an MPS and carry out a review, including public participation meetings, when a comprehensive review of the MPS occurs. The proposed changes listed in “Motions Related to MPS/LUB Review” contains both substantive and non-substance proposals. Councillor Hirtle’s proposed changes concerning the North Mountain would certainly have been considered by the PAC if they had been proposed in a timely manner.

The County, in accordance with the MGA and its own policy is required to send the amendment proposed by Councillor Hirtle to the PAC where at least one public participation meeting must be held and the proposed changes explained. Input by planning staff is needed, but that by itself does not satisfy the requirements of the Public Participation Program. Nor does the holding of a public hearing between the first and second readings satisfy the Program requirements. Section 200(5) of the MGA states explicitly that “[t]he duties assigned, pursuant to this Part, to a planning advisory committee or a joint planning advisory committee **shall only be carried out by the committee.**” My emphasis. Failing to act in accordance with Policy Plan 09-001 may constitute more than a mere “procedural irregularity”.

Ms. Mosher in her “Briefing Note regarding Agricultural Lands on the North Mountain,” prepared for the November 14th public hearing, included the following:

Amendments at Second Reading

Staff have consulted with representatives from the Department of Municipal Affairs and Housing (DMAH) and the Municipality’s Solicitor with regard to amendments to the documents, or to the First Reading motion following the Public Hearing.

DMAH indicated that, while not common, it is not unheard of that Councils make amendments to Planning Documents or motions following the Public Hearing. The representative indicated that, provided the amendments are not substantive, a new public hearing or a recommencement of the public participation program is not required.

This is consistent with the Municipality’s Solicitor’s legal opinion dated August 20, 2019 regarding substantive vs. non-substantive matters.

Nothing in Ms. Mosher’s comment above indicates that County Council may adopt the Hirtle amendment without it first being reviewed by the PAC.

Did Ms. Mosher ask the representative and County’s Solicitor about all three amendments, including the Hirtle amendment? Did she make reference to the possible relevance of Policy Plan-09-001? Did she ask them if the Council could consider the Hirtle amendment without it first being reviewed by the PAC?

If either the representative or Solicitor answered that it was not necessary for the Hirtle amendment to be reviewed by PAC before it was considered by PAC, what reasons did they provide to justify their answer?

In light of the County's own Planning Policies, a better course of action would be for Council to move forward with consideration of the Planning Documents, but without the Hirtle amendment. After the Planning Documents are adopted, the PAC could then be requested to review and make recommendations to the Council on the Hirtle amendment in accordance with the County's policies.

Respectfully,

/s/

David A. Daniels

Craig Nichols Farms
6640 Aylesford Road
Aylesford, Nova Scotia
BOP 1C0

November 12, 2019

Kings 2050 Public Hearing Agenda

Comment for Inclusion

My name is Craig Nichols and I operate a 4th generation farm in the Aylesford Road/Prospect Road area of King's County. To diversify and not depend on a single crop, my farm consists of apple orchards as well as field crops of primarily corn, soy bean and wheat.

Diversifying crops is a hedge that a bad season will not impact all crops and also serves as a hedge against market conditions and price fluctuations. A cold wet spring, a late frost, a summer lacking heat units or a fall hurricane all have similar devastating impacts on most crops- some worse than others. Some would argue in this world of global warming that our seasons will become more erratic and certainly less predictable than in the past.

Like many businesses, a solid strategy is to invest and try to build a strong asset base in the good years so you have the financial resources to leverage for cash flow to weather the bad years, and also build for a secure future and create value long term. There are many ways to invest, some with possible higher future returns but at much higher risks than others. I would put two well known "investment vehicles" at opposite ends of the risk spectrum. In general stocks would be very high risk and land would be considered quite low. Historically, and especially in times of low interest rates, people naturally gravitate to investing in land as a solid plan for the future. As they say, they are not making any more of it. Land can also serve as a legacy asset where one generation transitions to the next.

My strategy in investing in land has a few key factors I would evaluate in making my decision, but the most critical beyond location would be the future use options for the land. When you invest in anything, knowing the rules at the point of decision making is critical. Having those rules change while holding ownership can have a severe impact. Some families have been long term owners of this land and held the land as a future asset, now only to be devalued.

Not only does having any land I have invested in as Country Residential converted to A2 Agricultural tie my hands in terms of future use, it may also dictate that I have overpaid for this investment. There are many family farms with similar land investments and for some, the impact may even be greater.

Getting back to the poor crop year. The one that might feature a cold wet spring, a late frost, a summer without heat units or a fall hurricane.. which is essentially what has happened in 2018 and 2019 in Nova Scotia. Many farms rely on their pooled assets to leverage cash flow to pay the bills and prepare for another season. This Bill devalues the asset on many farm Balance Sheets. It dictates that they cannot

diversify in the future. They cannot develop any real estate to lessen their dependence on field or orchard crops to have a successful year or even plan for family succession in a manner long term where a 5th or 6th generation of farming continues on into the future.

I want to make certain that the decision makers evaluate the impact of their decisions. The long term strategy for those of us caught in the middle as a family farm investing in the most solid and low risk vehicle possible in the market – land- are put in the position of the rules changing after the investment. There are also farms that are long term land holders and see their asset devalued just as a result of this rezoning.

In other parts of Canada, you can read of Municipalities struggling with a process where speculative investors acquire A2 land and attempt to rezone to meet their development needs. Here we are faced with an arbitrary rezoning do create more A2 zoned land. According to data in the 2018 King's County Register article, King's County had 98,200 acres of A1 land, of which 57,000 were farmed in 2012. So only 58% of the A1 zoned land was being utilized. What is driving the rezoning need? Perhaps the current land owners should be consulted as to which individual tracts should be rezoned, perhaps when there is less than X% surplus of A1 land for use. That would be less arbitrary and likely manageable for the real stakeholders... the current land owners.

The real world impact is far greater than simply dictating the future use of a tract of land. The arbitrary nature of this rezoning needs further explanation.

The success of agriculture is one of the key economic engines for the County and it is very much in the County's interest to protect this and the many people that make this engine run. I question if the rezoning of land to protect this economic resource is the correct approach.

Sincerely,



Craig R. Nichols

Craig Nichols Farms Ltd.

Municipality of the County of Kings, Mayor Muttart and Council

Regards: Municipality of Kings, Public Hearing, Thursday November 14 2019

Adoption of the new Municipality Planning Documents

Dear Mayor Muttart, Deputy Mayor Lutz, Council members, and Council Staff.

Thank you for this opportunity for the Public to address issues surrounding the adoption of this subject Municipal Planning Document.

I am a resident and lover of Kings County, as you all are, and am also engaged in developing community garden plots on Church St, Port Williams. I am also as a member of the global ecological movement named '*Extinction Rebellion*'. We are activists acting for survival of our ecology and acting to stop 'business-as-usual' initiatives in order to arrest the Climate Crisis we are all facing.

We commend this Municipal Council for its progressive stance in developing the MCCAP (Kings 2050...Municipal Climate Change Action Plan) of 2013 and now with strengthening that document via the current progressive revision of the MPS.

The essence of this Submission is twofold: 1/a call to ***Honour Commitments*** that Council has clearly spelled out in the MCCAP, and 2/ a call to *Recognize the Reality* of the ongoing climate crisis and its implications for farmland, and then to act accordingly in the interests of protecting farmland.

Firstly, let's take a look at the MCCAP: titled...***Kings County 2050- A Collaborative Project; Municipal Climate Change Action Plan***

1. The opening paragraph of this MCCAP , Executive Summary, enshrines the commitment of the Municipality of Kings and the Towns of Wolfville, Kentville, and Berwick, in an Memorandum of Understanding 'MOU', to ***work collaboratively, 'to guide the long term sustainable development of the region'***
2. Clause I.1 with great pride, deserved pride, cites: "***this MCCAP report is regional and attempts to address regional issues, as well as those specific to individual municipalities.***"...and again and again, the collaborative nature of this overriding commitment is stressed; "***four municipalities that make up Kings County, the Towns of Kentville, Wolfville, Berwick and the Municipality of Kings, as well as a number of other partners that include seven Villages, are... involved in a regional planning initiative entitled Kings 2050.***"
3. Clause I.2.1: Kings 2050, therefore, "***looks beyond political boundaries by facilitating the cooperation of all four municipal units, seven villages and a variety of other partners to plan the future of Kings County in a truly comprehensive manner.***" And "Forward looking partnerships are central to Kings 2050's collaborative and comprehensive planning approach. A collaborative management group coordinates Kings 2050 initiatives with the support of a variety of 'Implementing Partners'"

4. Clause I.2.2 ...quoting " Using Kings 2050 as a model, and with the full support of the Provincial Government, *the municipalities in Kings County have decided to approach the completion of the MCCAP in a regional manner.* Shared geography and infrastructure dictates that the most comprehensive approach to dealing with Climate Change be a regional one." "*By working together, these partners are gathering more information, leveraging limited resources, and improving the coordination of a variety of planning, infrastructure and economic development initiatives.*"

It is clear therefore that Planning of land use is to be done on a regional basis.

As a consequence of this, MPS Policies (including 2.I.8) clearly define land boundaries for regional development opportunities... this development is stated to be within the regional clusters AND these provide for future development demands for between 33– 76 years, depending on the growth rate. Port Williams (Growth Centre) is within the Kentville/Wolfville Cluster and therefore there is NO NEED to extract from farmlands, space for residential development. This is NOT an anti-development position. It is the fundamental basis of the MCCAP and the MPS to enable residential development space within designated Clusters, Growth Centres and in the regional context, AND to protect all farm acreage from rezoning (such as proposed in Port Williams, the North Mountain and with 'infill' provisions.)

We call this Council to **Honour these Commitments** enshrined in the MCCAP.

Second Point, the reduction of farmland area is dangerous to the future of Kings County agricultural industry, and lacks Recognition of the Reality of our unfolding Climate Crisis. When one refers to last weeks' updated global mapping (see www.climatecentral.org) we see far greater global threats from sea level rise and coastal flooding than previously thought. The loss of farmlands from rising sea levels is huge.

Council's proposal to *further* reduce areas available for farmland, at a time when low lying farmlands will be devastated by flooding and salination is counter-productive. AND, regardless of flooding, the yield/productivity of farmland drops about 10% for each 1°C increase in ambient temperature. NOTE: The Municipality Climate Change Action Plan acknowledges there will be a 3°C rise by 2050... meaning a 30% loss of yield.

Last week stats from the UK recorded that for both years 2018 and 2019, there has already been a 20% drop in agricultural harvest. And merely asking Kings County farmers, about lower yields of squash/pumpkins/ potatoes / etc. for the last 2 years and of the shortened 'storage life' of crops, will give a reality check.

Carbon is stored by and absorbed in living plants.. Farming and grazing lands represent carbon stores and improved management of agricultural acreage will enhance their ability to sequester. Residential roofs, driveways, septic fields and manicured lawns are not Earth-friendly and should not be permitted on farm acreage.

The implication of our Climate Crisis is that **there will be increased demand for farmland** to make up for loss of arable area and loss of yield. Therefore, the rezoning of *any* farmland for residential use, including

that now proposed for Port Williams, on North Mountain and the Infill provisions does not recognize the seriousness of our Climate Crisis.

Surely, we can see how rezoning farm land for residential use, while facing consequences of our Climate Crisis, puts the agricultural future of Kings County in jeopardy.

The bottom line of this Presentation:

1. ***Honour Commitments*** : Residential development is catered to under exiting provisions for regional collaboration and designated Growth Centre/Cluster spaces. There is no need or basis to rezone farmland.
2. ***Recognize the Reality***: Two consequences of our Climate Crisis are the loss of farmland areas and the drop in produce yields. This obviously creates demand for more viable farmland. Any reduction of farmland area by Municipality therefore jeopardizes the future of the agricultural industry of Kings.

Franklin Wilmot

P.Eng. (Civil); PQS

fwilmot@protonmail.com

-----Original Message-----

From: jwhitman

Sent: November-12-19 8:10 AM

To: Councillors

Cc: Trish Javorek

Subject: Municipal Planning Strategy/Land Use Bylaw hearing

Since 1975 we have been residents of the Annapolis Valley, living first in Rockland near Berwick, and since 1979, in White Rock. Because of Rick's 27 years of employment with the NS Department of Agriculture, we have a long-term awareness of, and interest in, the challenges and benefits of local agriculture.

Agricultural land is a limited resource, one that must be preserved and protected in order to have agriculture that is viable and sustainable.

Preventing non-agricultural development on agricultural land helps to ensure that there will continue to be good land for future generations to farm and for the production of food locally. The conservation of forest land is also extremely important for many reasons, including encouraging biodiversity, reduction of soil erosion, and carbon sequestration. We are imploring you to make a decision about the new Municipal Planning Strategy and Land Use Bylaw that will prevent further loss of agricultural and forest land in this region.

The effects of global climate change are upon us. Floods, droughts, wildfires, hurricanes, sea level rise – all of these and more have become constant reminders that our way of life and our very existence are increasingly threatened. Awareness of the challenges ahead is growing, particularly among young people. We owe it to them to preserve land in a way that will give them a future – to become farmers, to earn a living in agricultural industries, to appreciate the natural world of forest and field that we must preserve for the future, and, of course, for food security.

Kudos to you for creating a draft Municipal Planning Strategy and Land Use Bylaw that will address these issues, but please do not reduce the impact by passing the 3 proposed by-laws that will erode its effectiveness and open the door to more requests to have personal interests served to the detriment of the future of life in the Annapolis Valley. Allowing development on the Port Williams well fields, permitting infill lots on agricultural land, and releasing 3000 acres on the North Mountain from development restrictions might benefit a few people, but the long-term impact, and the precedent set, will have a lasting adverse impact. Please do not let this happen. Reject these amendments and approve the original document submitted by the Planning Advisory Committee.

Thank you.

Janet and Rick Whitman

428 Schofield Road
White Rock NS
B4P 2R2

From: [Karen Robinson](#)
To: [Laura Mosher](#)
Cc: [Pauline Raven](#)
Subject: Letter for Councillors for Thursday's public meeting and the record
Date: Tuesday, November 12, 2019 1:00:41 PM

Hello Ms. Mosher,

I was just speaking to farmer Bruce Kennie who does not use email.

He asked that I send the following message to you for Council and the record:

“To Kings County Council

Re: the MPS/LUB final decisions

November 12, 2019

As I said in a similar email in August, I am very pleased that the plan is to return our North Kentville Farms to Agricultural zoning. Our North Kentville Farmers are very committed to continuing the legacy of farm production. As an illustration, you may be aware that I recently purchased a substantial piece of local A1 land that had been under long term pressure to be zoned for development.

Thank you and your staff and the Planning Advisory Committee. I look forward to seeing this completed at Municipal Council.

I also support the MPS/LUB’s original intention to protect the Port Williams and North Mountain agricultural land and prevent infill of agricultural land. We must protect the A1 land for its most valuable purpose of producing food.

Bruce Kennie, North Kentville Farmer.”

Thank you,

Karen Robinson

--



Nova Scotia Federation
of Agriculture
7 Atlantic Central Drive
East Mountain, N.S. B6L 2Z2

T 902.893.2293
F 902.893.7063
E info@nsfa-fane.ca
W nsfa-fane.ca

Dear Mayor Muttart and Councillors of Kings County,

The Nova Scotia Federation of Agriculture represents over 2400 farms throughout Nova Scotia. Keeping inline with our vision of a prosperous and sustainable future for Nova Scotia farms and farmers and a mission to influence and affect change for the continual success of agriculture in Nova Scotia, our membership has identified protecting agriculture land as a top priority. Through our Agricultural Land Use Policy Committee, we look at agricultural land from a provincial perspective with policies on transfer of land, accessing land, land bank, taxation, registration and migration.

Agriculture in Kings County has impressive stats; Kings County land is made up of more than 12% of Nova Scotia's top Class 2 soils and accounts for 18% of Nova Scotia's active Agricultural Land. These class 2 soils are moderate to high in productivity for a wide range of field crops and aren't overly difficult to manage. There are almost 400 farms that contributed more than \$250 Million in farm cash receipts in 2016. This generates over 2,800 jobs directly on farms and countless others supporting the industry. Kings County is home to many specialized agriculture businesses ranging from consultants, to processors, to sales.

Contrary to the favourable stats above, Kings County is facing a similar decline of active agricultural land that is experienced throughout the rest of Nova Scotia. According to the recent update of the Agricultural Land Inventory Project, comparison between the 2018 and 1998 statistics indicates there was a reduction of active farmland by nearly 10,000 acres over the 20-year period. While there is rationale for this, including higher density planting of vineyards and orchards, any acre of agriculture land lost to development or encroached on by (sub)urban sprawl is one acre too many.

From being a driver of the rural economy and a necessity for food security, agricultural land is more important now than ever before. The 2016 Agriculture Census data shows the number of farm operators under 35 years of age is, for the first time since the 1970s, on the rise. Important issues gaining momentum such as climate change and local procurement will provide additional markets as people look to reduce the miles their food has travelled. In order to meet the demands presented by these shifts in policies and social norms, agriculture land will be required.

Kings County has been a leader across Canada when it comes to protecting agricultural land. The Municipal Planning Strategies have consistently prioritized the importance of protecting agriculture land by directing residential growth to growth centres. The recent proposed amendments to Kings County's Municipal Planning Strategy and the Land Use Bylaws were brought to Nova Scotia Federation of Agriculture's attention by our membership. We are concerned about three amendments Council passed on October 10th as they are not reflective of the protecting prime agriculture land policies of past. Good planning ensures future development and housing as well as that irreplaceable farm land is preserved for future generations.

With respect to amendment on Port Williams to reflect a change in the Port Williams Growth Centre boundary, the planned loss of class 2 soils on south facing slope is significant. Class two soils, especially on south facing



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slopes, are favourable for growing higher value crops. Though proximity to an already developed area also indicates urban sprawl is likely, protecting this land has the potential to both support food security in Nova Scotia and add to the existing agri-tourism sector in the specific community.

The amendment on adjusting infill housing by increasing the maximum setback from 300 feet to 500 feet presents two problems. First of all, the greater distance in the amendment opens up more gaps that become possible building lots and thus potentially decreasing the amount of land farmed in the agriculture district. Secondly, and as expressed in the Kings County Federation of Agriculture Position Paper on the proposed Kings 2050 Municipal Planning Strategy and Land Use Bylaws, increased residences along farm land will yield more “nuisance” agriculture related complaints. Legislation is in place to protect farmers and their farming practices, but complaints cause unnecessary distress and takes time to address. Maintaining the distance of 300’ setback is recommended from an access to farmland perspective.

From our understanding based on membership concerns, the amendment on Agricultural Designation on the North Mountain was unforeseen. Aside from removing protection on prime agriculture land, this amendment is concerning as it was not part of land discussions. The last-minute request discounts the years of work, consultation and process that lead to the recommendations presented by the Planning Advisory Committee. Removing this protection is contradictory to both the set of recommendations stated in the Kings County Federation of Agriculture Position Paper on Proposed Municipal Planning Strategy and the Nova Scotia Statement of Provincial Interest on Agricultural Land.

With the information presented in this submission, Nova Scotia Federation of Agriculture and Kings County Federation of Agriculture recommends that the Municipality of Kings County does not move forward with the amendments passed on October 10th, 2019. Thank-you for the opportunity to respond.

Sincerely,

Victor Oulton, President, Nova Scotia Federation of Agriculture

Katie Keddy, President, Kings County Federation of Agriculture



12 November 2019

Mayor and Council
Municipality of the County of Kings
181 Coldbrook Village Park Dr.
Coldbrook, NS B4R 1B9

Sent via email: Laura Mosher, lmosher@countyofkings.ca

Re: Draft Municipal Planning Strategy & Draft Land Use By-Law

Dear Mayor Muttart and Members of Council,

I am writing on behalf of the Ecology Action Centre to express concern regarding the three amendments to the draft Kings County's Municipal Planning Strategy and draft Land Use Bylaws in relation to agricultural land (discussed by Council on October 10, 2019). If fully approved, these amendments would remove important protections and are not in keeping with the Nova Scotia Statement of Provincial Interest on Agricultural Land.


For over 17 years, the Ecology Action Centre has been working to improve access to good food for all Nova Scotians. In 2010, we published [Is Nova Scotia eating Local? And if not... Where is our food coming from?](#), which estimated that our food travels 4,000 km to reach our plates. This situation contributes to greenhouse gas emissions and the climate crisis. By ensuring strong protections for agricultural land, the Municipality of the County of Kings will continue to play a leadership role in Nova Scotia's economic development opportunities and advancing a more sustainable food system in the province.

As you are aware, these decisions have an impact well beyond the borders of the Municipality. The Ecology Action Centre is a founding member of the Halifax Food Policy Alliance, which is working towards a healthy, just and sustainable food system for all within the Halifax region. The Annapolis Valley is vital to the health of the food system in Halifax, with so many producers serving the Halifax market. With a consistently upward interest from consumers in buying local agricultural products and serious strides to be made in achieving food security, we have a clear opportunity to realize mutual economic, social and environmental gains.

All of these benefits accrue only when we protect agricultural lands – especially some of the best agricultural soils in Nova Scotia – from well-established incompatible uses.

I urge Council to reconsider the amendments of October 10th in order to protect vital agricultural land for the food security of Nova Scotians and a strong local food economy.

Sincerely,



Satya Ramen
Senior Coordinator, Community Food
Ecology Action Centre
satya@ecologyaction.ca

cc. Trish Javorek, tjavorek@countyofkings.ca

Kings County Public Hearing Submission: Municipal Planning Strategy and Land Use By-Laws. [MPS/LUB] November 14, 2019

November 12, 2019.

Dear Mayor Muttart and Members of Council,

I have previously attended some public participation sessions for Kings 2050. I was concerned about a few proposals for Kings County agricultural land in the early MPS draft.

It is good to see the Planning Advisory Committee correct document errors, and eliminate the pre-94 lot provision. This will prevent a considerable number of new houses being erected on valuable farmland. I'm happy to see growth centres won't be expanded till all available land/lots have been used in urban centres. I'm also encouraged to see only genuine, working farmers who earn 50% or more from farming, will have access to farmland to build a home.

However, I was shocked to see Councillors and/or County staff members propose three new amendments during the first reading of the document. It appears all the hard work, both public and the PAC put into making our County's planning documents the best they can be, is being annexed at the eleventh hour for a few individuals with private interests.

Furthermore, feedback on public consultations from your website postings (PlaceSpeak, emails, etc.) showed little, if any, support for expanding growth centre boundaries or infill development. I am certain not one person asked to extend their front boundary line from the existing 250 ft to 500 ft on their North Mountain A1 zoned properties.

Since the first reading when council passed new documents containing the three amendments, I have learned more about their impact on agricultural land.

1. Infill development of 240ft-500ft between two existing homes has the potential for building over 505 new houses within the farming districts on an estimated 1,000 acres of A1 land. This is bound to cause conflicts between farmers and non-farming property owners. I fail to see any reason for increasing strip development along our rural roads.

2. Port Williams expansion. This would remove 40 acres of prime south facing agricultural land. Until building developments on existing available land/lots have been used, no growth centre expansions should be permitted, as mandated in your own documents.

3. Removing 410 acres off North Mountain A1 zoned land, extending front boundary back to 500 ft. This is contrary to every goal and objective in your document on preserving and protecting agricultural land. I am at a loss to understand why council is even considering this amendment.

Please note, I am strongly opposed to these three amendments. I urge Council to eliminate them and accept the version of the MPS circulated by the PAC.

Studying your amendments I see how little protection I and my neighbouring farmers have for their North Mountain farmland under the F1/A2 zone. Therefore I request the County begin the process of identifying and creating an inventory of **all** agricultural land on the North Mountain, and change the zone to A1 in order to effectively protect this vital resource.

As a landowner, I hereby request my own property be part of this and converted to the A1 zone prior to adoption of the MPS/LUB documents. My acreage has been farmed for more than 70 years and continues to this day.

Yesterday, a local farmer told me farmers feel like they're being tricked. They are rushing to harvest their crops before the weather deteriorates with next to no time to study the new Kings 2050 amendments. If these meetings were held in winter, farmers, who most need to respond to this, would be able to do so. After seven years of deliberation, what is your rush?

And as a reminder, we, on the North Mountain still have areas with sickeningly slow Internet connection that inhibits our abilities to view or download maps, etc. from your website.

Mayor, Councilors, how do you wish to be remembered? The council who made farsighted, proactive decisions for the benefit of generations to come, or the council who frittered away our valuable food-growing resource for our communities' food security?

In conclusion, I've learnt it takes years to build healthy soils: 500 to 1,000 to build just 2 inches of fertile topsoil without costly amendments, and 10 fallow years to restore depleted soil. With the onslaught of climate change, every bit of farmland in Nova Scotia, and Canada, may need to be farmed out of pure necessity, sooner rather than later - certainly in my lifetime.

I see agricultural land as the gold for our future generations and it should be protected at all costs. It is a legacy we dare not squander. Without food, we cannot survive.

Thank you.

Sincerely,

Satya Tiana

tianahugs@startmail.com

9 Armstrong Road,

Burlington. NS, B0P 1E0.

From: Scott & Nancy Burbidge
Sent: November-12-19 2:42 PM
To: Councillors
Cc: Trish Javorek
Subject: Municipal Planning Strategy/Land Use Bylaw

Dear Mayor Muttart and Council:

I am writing to urge Council to reject the motion to adopt the MPS/LUB including the three amendments which are the subject of the public consultation on Thursday, November 14th.

I am sure that you are all aware of the fact that the vast majority of the world's scientific community and the Canadian public are fully aware of the urgent need for concerted efforts to avert global climate disaster. Accordingly, if the updated MPS/LUB is indeed to serve until the year 2050, then it should be about augmenting and protecting agricultural land in Kings County (and beyond), not frittering it away.

Please reject the motion with the three amendments that can only diminish further our agricultural base, and please approve the motion on the MPS/LUB package PAC submitted to Council in September of this year.

Yours sincerely,

Scott Burbidge
664 Canard Street
Port Williams, NS
B0P 1T0

From: Bruce Sarty
Sent: November-12-19 7:43 PM
To: Municipal Clerk
Subject: Agricultural land

To Kings County Municipal Council

Re: Municipal Planning Strategy/LUB

November 12, 2019

Please protect valley agricultural land from development. In this time of change the value of such efforts is of great importance. Future generations will thank you.

BK Sarty

----- Original message -----

From: berta klooster

Date: 2019-11-13 8:41 AM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: MPS/LUB

Mayor Muttart and Council:

I've lived in rural Nova Scotia, on the north mountain, for more than 25 years. One of the many things that makes Nova Scotia such a special place to live is how many people support local and sustainable agriculture. I appreciate that a lot of time and effort has brought the Municipal Planning Strategy this far along, but I'm very concerned about last minute amendments in the draft being considered at the public hearing on November 14th. Council has a huge responsibility when it comes to making decisions that will affect the lives of Nova Scotians for generations to come. The task before you ... deciding the balance between growth that is development and growth of a different kind that is tied into protecting existing farmland ... is challenging.

As touched on in the original MPS document, many opportunities already exist for development throughout the valley, for example in existing growth areas, without eroding important agricultural land. In light of how very crucial self-sufficiency is becoming, our future depends on protecting this land ... our food source.

No one can deny the evidence that climate breakdown is happening and one consequence is that growing food is becoming more and more challenging. Lots of research and writing has happened and continues to happen on this topic, but for the purposes of this letter, I'll just share this comment by Dr. Wayne Caldwell, Associate Vice-President Research, University of Guelph, in a discussion paper entitled: Planning and Food Security Within the Commonwealth. Although you may have already seen it, it bears repeating:

“food production will need to increase by 70% over the next 30 years in order to feed the future, and more urbanized, world population. It is estimated that between 10% and 20% of this increase will need to come from expansion of cultivated lands, the

rest from increased yields and cropping intensity. Every country must have a sustainable food supply. Continued food production ensures a healthy and prosperous nation and it will also contribute to the country's economic welfare including the continued creation of job opportunities. Available land with agricultural potential is very limited within most countries. High potential agricultural land needs to be identified and protected through appropriate legislation to ensure that this land is preserved for current or future production. Based on a study by Cline 2007, with a 4.4 C increase in temperature and a 2.9% decrease in precipitation, global agriculture output potential is likely to decrease by 6%, or 16% without carbon fertilization. As climate change increases, projections have been made that by 2080 agricultural output potential may be reduced by up to 60% for several African countries, on average 16-27%, dependent upon the effect of carbon fertilization in addition to general water scarcity as a result of melting glaciers, change in rainfall patterns, or overuse."

So, as food production becomes more and more of an issue worldwide, our need, as stated previously, to become more self-sufficient increases ... our healthy and prosperous province depends on this. Protect agricultural lands!! Three amendments proposed and ultimately approved during first reading of the MPS by Council are concerning. How these three amendments came to Council without even going through the Planning Advisory Committee is also concerning, but I'm just going to focus on the three amendments themselves.

(1) Increasing the infill distance between two houses (or one house and a road) from 300 feet back to 500 feet will strip protection from over 1,000 acres and result in the potential for over 500 new dwellings on A1 land. This kind of "strip" development along rural roads is totally unnecessary given other already existing development opportunities. This kind of development also leads to potential conflicts between non-farming and farming neighbours because of differences in lifestyles. Why is this amendment even being considered?

(2). Expansion of Port Williams growth centre ... potentially involving up to 40 acres of A1 land... should not be supported. The Village Commission's claim that housing development is a better option over farming for keeping their well-field water supply safe is not supported by the Department of Environment. The DOE maintains that leaving the land, as a green space, to allow the recharge of the well fields is the better option, since medium and high-density housing development creates excessive non-permeable surfaces from roads, roofs and driveways and risks from septic leaks and other household toxins. The village didn't act on an opportunity to buy this land years ago and now private interests are pushing this matter in a direction that does not serve the general good.

(3) Further stripping of protection on the only A1 land on the North Mountain should not be supported. Road set back distance must be held at 250 feet. Not increased. More than 400 acres of prime A1 land could be lost if more set back is allowed.

Considering the long-term implications of what is laid out in the final draft of the MPS and committing to the best possible document that protects agricultural land for

future food security is in your hands. Do not be seduced by private and/or short-term interests. Please use your position wisely and consider approval of a document that serves the common good for generations to come.

Berta Klooster
1207 Russia Road
Black Rock, NS, BOP 1V0
902-538-7899

----- Original message -----

From: Susan Haley

Date: 2019-11-13 9:57 AM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: subject of MPS/LUB Hearing

This summer, my daughter got married here in the Annapolis Valley, which is her home and has always been mine.

Her future in-laws, along with friends of her future husband, travelled to Nova Scotia from Chicago to attend the wedding. I was happy and excited when I saw how they loved the beautiful agricultural landscape we all enjoy here, the dairy farms with small herds, our beautiful diversified patchwork of fields and orchards and vineyards.

I was in the American midwest on a visit to Iowa and Illinois the year before last, and was a witness to what has happened to agriculture there: Iowa, in particular, has become one huge cornfield, with all animals, pigs, chickens, even cows, entirely confined to sinister metal-sided sheds. No wild land at all in Iowa, no woods even in the river bottoms, one little patch of tall grass prairie that we were able to search out, only a few acres in extent.

Our appreciation of the beauty of our own landscape should not count for nothing--especially when you see how the small fields and woods and streams have been destroyed by large-scale industrial agriculture elsewhere.

We need to protect what we have here for other more pressing reasons, however.

We are facing a global emergency which we must all urgently attend to: climate change.

Obviously, whatever we decide to do here will have only a small effect upon global weather patterns, but it can have a huge effect on how we, in this little place, manage to survive into the future. Our own food security depends to a very large degree upon what we decide to do now--right here. Our farmers are still producing the foods we can live on; we are not yet completely dependent upon globalized imports.

Here in the Annapolis Valley we have the best land in Nova Scotia. We should see this as a great treasure. We should not--and for our own survival, we must not-- allow it to be degraded by housing sprawl. Our planning should put the preservation of fields and forests first, not a secondary consideration to the profits of development.

For years, in this county, we have had regulations that protected farmland.

But I know that the county council has been under immense pressure from developers for the past fifteen years, for the incursion of housing on Church St. ("Just a mother-in-law home"), the golf course housing development at Berwick Heights, re-zoning Greenwich and so on. And also for the expansion of Port Williams to risk destroying its own well-field with housing development. I participated, along with many others, in the protests against these things.

But why does all this keep coming up again and again?

Why is it now, that you, our own council of wise elders, elected by us, do not represent our real interests in this matter?

Why is it that, after extensive public consultation, and after consultation and agreement with your own planning department, you councillors suddenly decided to introduce three amendments to the agreed-upon compromise solution? And why was it that you suddenly pushed all this through first reading?

And why did these three amendments permit more infill lots, more housing development on the only agricultural land in the forestry zone? And why on earth did you apparently decide again to push for development on the Port Williams well-field?

I do not understand why you cannot see what an appearance this gives: pushing these amendments through, in such a great hurry at the last moment, without any sort of consultation, and quite obviously for the benefit of the developers.

Perhaps an old people's home is needed. Does it have to be on a well-field? More infill lots for housing are not needed; this question has been discussed and debated over and over and the answer is clear. But I would point out to you that your job as councillors is not just a matter of deciding what developer gets to do what when.

The preservation of farmland here is a matter of our future, for us, for our children and grandchildren -- it is actually an existential question. Will we survive in the hot world that is coming soon, or will we starve?

You are our elected leaders. Please think about these issues in a larger way.

Susan Haley
1000 Davidson St
Black River, N.S.

From: Ardyth Robinson
Sent: November-13-19 10:49 AM
To: Councillors
Cc: Trish Javorek
Subject: Concern regarding the recent amendments and ensuring the security of our farmlands

Dear Honourable Members of Council,

My name is Ardyth Robinson, I am incredibly proud of our beautiful Annapolis Valley, a ninth generation descendent with family roots connected to our French Acadians and First Generation Native. My family have been successful farmers and people of business within this region and we have purposefully reserved our farmland to protect it for future generations. I have had close connection with the struggles of our farming communities over the last 40 years and watch as my father-in-law slipped into a deep depression when his life's work in the pig industry collapsed.

I have presented to the municipal council in the passed regarding the importance of careful planning and the protection of our soil, farming land and land that can be returned from misuse. (we cannot return after development) I have great concern over the recent 3 amendments that are being proposed as they may allow much needed land to be developed. The purpose of development does not meet the need of the community and our future. What is important, the request of development does not over ride the opportunity to farm in the future! Development must be done in harmony with the needs of our community, in the long term and in the present.

I ask please listen to our people, look ahead to protect our future interests. This is your duty. I am certain protecting our precious land, investing in it's positive use will be a 'win ' win for all. Please help protect us from these decisions.

Sincerely

Ardyth Robinson
1156 Sherman Belcher Road
Centerville, Nova Scotia

Greenwich, Kings County, Nova Scotia
November 13, 2019

Dear Mayor Muttart and Municipality of Kings County Councillors:

Thank you for the opportunity I have had to participate as a citizen member of the Planning Advisory Committee. On September 10th the Committee, composed of 5 Councillors and 3 Citizen Members, were told by Kings County planning staff:

"It is the opinion of staff that the 2019 draft planning documents have undergone rigorous research, consultation and review. Further, it is Staff's opinion that the policies, directives and regulations contained within the 2019 draft Municipal Planning Strategy and 2019 draft Land Use By-law provide the tools and approaches necessary to achieving the vision for Kings County that was first developed at the beginning of the Kings 2050 process. It is for this reason that staff is forwarding a positive recommendation that the 2019 draft Municipal Planning Strategy and 2019 draft Land Use By-law be forwarded to Municipal Council for First Reading".

That day, in a very strong consensus, by a vote of 7-1, the Committee supported the staff recommendation. After many years of public input and 3 years of hard work reviewing and rewriting the documents, there was a real sense of accomplishment among Councillors, citizen members, and planning Staff. The documents we created and recommended to Council were ones we were proud of, that our whole County could be proud of. The new Planning Strategy was a unifying document. It lived up to our collective Vision to protect our agricultural resource. It strengthened the farmland protection policies of our first Municipal Planning Strategy created in 1979 when Kings County was in the forefront of Canadian municipalities in trying to preserve agricultural land for future generations.

Within one month, this sense of accomplishment and unity was shattered. At Council's first reading three amendments, all of which significantly weaken the protection of our agricultural land were approved.

How did these last minute amendments come about? Did the public ask for these? On the contrary, throughout the public consultation process the overwhelming view of citizens was that farmland should be preserved wherever possible. Our Planning Advisory Committee heard and read hundreds of submissions from citizens to that effect.

Looking at each of these amendments:

Port Williams

We know the Province ruled against rezoning this very land just a few years ago in order to preserve it for agriculture.

We know supporters of development tried to convince PAC and the public that agriculture is too great a risk to the water supply. We know the Nova Scotia Department of Environment disagrees, stating medium to high density development is a greater risk to water than the type of agriculture practiced on this farmland today.

We know that the staff document of October 1st proposed expanding Port Williams presenting a rationale that

"current-day ownership suggests uses beyond farming."

Is this is a valid planning reason? Emphatically NOT. We may as well shout out ***"Come and get it. Speculators welcome. Buy our farmland and we will rezone it for you."***

Council relies on the expertise of its planning staff. But what Councillors did not know until the recent "freedom of information" request is that planning staff advised against recommending Port Williams expansion. Staffs' good advice was not seen by councillors. The altered recommendation appeared despite staffs' best advice. And yet Council was influenced to support the expansion of Port Williams due in large part to their trust in staff.

Infill Policy

The infill issue was discussed extensively by the Planning Advisory Committee. The Kings County Federation of Agriculture had advised that each piece of land affected should be looked at on its own merits. Many of the infill lots ARE in fact farmed.

This policy position did not win enough support in the Committee, but a reasonable compromise was reached and recommended. Under this compromise, only smaller lots could be created and there would only be a small number of them.

Before PAC's infill recommendation reached Council, planning staff reversed their support of the policy they had recommended just a few weeks prior. Suddenly they proposed larger lots and many more houses built in the agriculture zone. A rationale stated for this change in its October 1st memo was

"The staff recommendation provides for limited development to offset the elimination of the pre-1994 and poor soil lot exemptions."

Again, councillors based their decision to a large degree on staffs' advice. Of course councillors relying on the staffs' planning expertise makes sense, but what is expressed here is not based on planning expertise. None of the Vision or Goals or Objectives within the MPS support a policy to "offset" the elimination of the pre-1994 and poor soil lot exemptions. This is not planning expertise. This is planning staff commenting on what they think is politically feasible. This is political opinion.

For expertise on farmland planning, councillors ought to consider Canada's most knowledgeable person on the subject, Dr. Wayne Caldwell of the University of Guelph. He states:

- "Commercial agriculture and non-farm residential development are not compatible uses"
- "To nearby farmers each new lot means loss of farm options and new pressures from non-farm residents"
- "Residential lot creation in agricultural designations produces numerous impacts. These impacts occur in a variety of forms, including shifting political and social values, changing land prices, net costs for municipal servicing, loss of agricultural land, restrictions on a range of agricultural commodities, conflict, and lost opportunities in the future value of farmlands."

The North Mountain

The North Mountain policy amendment which emerged at First Reading was moved by Councillor Hirtle who had sat on the Planning Advisory Committee throughout the review process. Councillor Hirtle did not make this motion in the Committee when and where it could and should have been carefully considered. Council, however, agreed to move this amendment forward without **any** prior study or public input.

In the Briefing Note prepared by Staff for today's Public Hearing there is only raw data about the size of the land in question and the amount of land which would lose A-1 zoning protection. 410 acres it turns out. No recommendation is made by Planning Staff. They could not support this amendment considering the stated vision, goals, and objectives of the Planning Strategy. Council should not support it either.

Considering all three amendments, it is important to remember that each of them aim to remove protection from farmland. There is no question that if passed these amendments will result in significant losses of farm land. The question Council must ask, that we all must ask, is "*Do we choose to destroy this precious farmland, our greatest natural resource?*"

More importantly, we must consider this decision from our grandchildren's point of view, and the point of view of our great-grandchildren as yet unborn. Now the question is "**How dare we?**"

How dare we act as if the world is not changing, as if the population is not growing, as if the world's need for food is not greater than ever? **How dare we** fail to recognize the opportunity our agricultural resources give us, to build prosperity and to earn our livings. **How dare we** steal food security from our descendants?

It is not too late to reject each of the destructive amendments that are before you tonight. Respectfully, I ask Councillors to vote in favour of the good policies most of you supported in the Planning Advisory Committee. The documents created in PAC are unifying and inspiring and they speak to our shared vision. Enacting those documents without the amendments will reignite the sense of accomplishment and pride that our planning committee and planning staff felt 2 months ago in this room. More importantly, these documents will reignite the pride of our entire community that Kings County continues to lead our Province and our Country in preserving farmland for future generations.

In the wise words of Councillor Hirtle who wrote to the Kings County Federation of Agriculture in September 2016

"It should be the mandate of our municipal government to protect our farmland. Quality farmland must be protected from excessive residential growth...Although we need to promote growth within the county, it must not be done at the expense of arable farmland. Our primary concern is to protect our farmland and the quality and way of life of our farmers."

Tom Cosman

----- Original message -----

From: Tracy Webb

Date: 2019-11-13 11:40 AM (GMT-04:00)

To: Councillors <Councillors@countyofkings.ca>

Cc: Trish Javorek <tjavorek@countyofkings.ca>

Subject: MPS/LUB Hearing

To: Mayor Muttart and Council

councillors@countyofkings.ca

cc. pjavorek@countyofkings.ca

Subject: MPS/LUB Hearing

I am very concerned with the amendments being proposed that will have a huge impact on our limited farmland resources. Over the forty plus years I have lived here in the Valley, I have seen the relentless encroachment of urban growth and sprawl over our farming soils - with many areas of massive homes and prime acreage now used for maintaining lawns.

We can not afford the luxury of continuing this type of resource waste. The amount of arable land is decreasing throughout the world, and particularly closer to home, with the combined effects of land use/misuse, changing climatic patterns, increasing weather disturbances and storms which lead to flooding, and also drought. Over-farming has depleted soil nutrients, adding chemicals gets into water systems, and building infrastructures on top permanently takes land out of the food chain, decreasing food security.

The Valley has specific zones of arable soils that are highly regarded for agriculture. The farming regions on the North Mountain and around Port Williams, as well as other such future areas that may come under such suggested amendments, directly and negatively impact our long term ability to produce food. When the future is considered with the projections of climate change, we cannot afford to be so rash with our resources. The farther afield (no pun intended) we need to go to bring in more food to support our local populations, the more at risk we are to outside influences beyond our control. These influences can include chemical

and/or bacterial contamination, availability, cost of transport, crop losses elsewhere and so on.

I have just returned from a week long conference Gulf of Maine Symposium 2050, where scientists, grad students and others presented current data that demonstrates and shows specific changes in the Minas Basin, Bay of Fundy and Gulf of Maine. It is not a pretty picture, with the present and future impacts of diminishing and altered species range, fisheries loss (due to changing pH, species range, impacts of larval development etc.), sea level rise and how warming temperatures also affect local weather and climate patterns. It is not difficult to join the dots. It is not fabrication or fear-mongering. It is basic science. It is more difficult to see the signs in the ocean compared to terrestrial change, but it is absolutely there. And, when one considers the oceans are the key driver to storing and releasing heat and CO₂, you have to realize there will be more impacts to coastal regions first: growing seasons change (late springs, earlier frosts), flooding and droughts strangely can go hand in hand. How well can we farm if we do not protect the farmland we have, especially considering how much of it is below sea level and very prone to future flooding? It is all inter-connected - human aspects, economics, environment, and dare I say sustainability...

I ask you to reconsider these amendments for the greater good, and not for the benefit of a very few, relatively speaking. I strongly urge council to remove the three amendments and accept the document that was forwarded from PAC.

Sincerely,
Tracy Webb

Sent from my iPad