

**WHATCOM COUNTY**

Planning & Development Services  
5280 Northwest Drive  
Bellingham, WA 98226-9097  
360-676-6907, TTY 800-833-6384  
360-738-2525 Fax



**J.E. "Sam" Ryan**  
Director

**Memorandum**

TO: The Honorable County Council  
Jack Louws, County Executive

FROM: Cliff Strong, Senior Planner *CS*

THROUGH: Mark Personius, Asst. Director *MP*

DATE: August 24, 2017

SUBJECT: 2016 Critical Areas Ordinance Update  
County Council Review Workshop on September 12, 2017

---

On September 12<sup>th</sup> the Council will continue its review of the 2016 Critical Areas Ordinance Update. Topics to be covered include:

- Review of certain questions, comments, and suggestions by Council members related to:
  - Article 2, Administrative Provisions
  - Article 6, Wetlands
  - Article 7, Habitat Conservation Areas
  - Article 8, Conservation Program on Agriculture Lands
  - Article 9, Definitions

To prepare for this meeting, please review this memo. Yellow highlighting in the text indicates a Councilperson's proposed amendments.

**Attachments**

- A – Other Jurisdictions' Definitions of Agricultural Land & Ongoing Agriculture
- B – PL1-85-004Z CPAL – Animal Threshold, Resource Priority
- C – Map showing location of wells DOE used in its nitrate studies (requested by CM Brenner)
- D – Additional info on Nooksack-Abbotsford-Sumas Transboundary Nitrogen Study

## Definition of “Ongoing Agriculture”

### ITEM 1 (Originally Issue 171)

#### 16.16.900 Definitions. (Browne’s original proposal)

“Ongoing agriculture” means those activities conducted on lands defined in RCW 84.34.020(2), and those activities involved in the production of crops and livestock, including, but not limited to, operation and maintenance of existing farm and stock ponds or drainage ditches, irrigation systems, changes between agricultural activities, and maintenance or repair of existing serviceable structures and facilities. Activities that bring an area into agricultural use are not part of an ongoing activity. **Unless the idle land is registered in a federal or state soils conservation program an operation ceases to be ongoing when the area on which it was conducted has been converted to a nonagricultural use, or has lain idle for more than five consecutive years it meets the criteria for Abandonment under the Food Security Act (7 CFR Section 12.33 (c)), and the criteria for receiving an exemption under the Food Security Act § 12.5(b)(1)(iii) has not been met, then such land is considered to be abandoned when the land meets the wetland criteria of the Food Security Act § 12.31 unless that idle land is registered in a federal or state soils conservation program.** Forest practices are not included in this definition.

**Staff Response:** As previously mentioned, staff does not recommend these proposed changes for several reasons. First, tying this definition to the Food Security Act only addresses wetlands, not other critical areas for which we are also responsible. Secondly, we advise against tying any of our code to federal codes. Our authority comes from state code, and we recommend that our codes align with those instead. Federal codes can be extremely complicated and are interpreted through a different court system. We would not want to put our staff in the position of having to interpret and enforce a federal regulation.

At your August 8<sup>th</sup> workshop, CM Browne provided a comment letter from Dannon Traxler (representing the ag community) dated 8/4/17. In it, the ag community also recommended against this definition.

CM Browne then made a motion (which was subsequently tabled) to use Thurston County’s purported definition of “agricultural activities,” which Ms. Traxler provided, as our definition of “ongoing agriculture.” It reads:

“Agricultural Activities” means all agricultural uses and practices as defined in RCW 90.58.065 (RCW 36.70A.703). “Agricultural Activities” means agricultural uses and practices including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facilities is no closer to the shoreline than the original facilities; and maintaining agricultural lands under production or cultivation.

However, a few things to note about this:

1. Staff cannot find this definition in Thurston County’s code.

2. Ms. Traxler did not request that this definition be used as our definition of “ongoing agriculture,” but rather as our definition of “Agricultural Activities,” which currently reads:

“Agricultural activities” means those activities directly pertaining to the production of crops or livestock including, but not limited to: cultivation; harvest; grazing; animal waste storage and disposal; fertilization; the operation and maintenance of farm and stock ponds or drainage ditches, irrigation systems, and canals; and normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas. The construction of new structures or activities that bring a new, non-ongoing agricultural area into agricultural use are not considered agricultural activities.

Though similar, our definition doesn’t include the language about land being left fallow. Staff has no issue with adding similar language to our definition of “Agricultural Activities,” though doesn’t believe it’s necessary as we consider land being left fallow a part of normal agricultural operations. The “fallow” language is usually put into definitions where one might lose a classification (like the case with ongoing ag). One doesn’t lose the classification of being an agricultural activity so it’s not really necessary to add, though doesn’t harm either.

3. Thurston County (TCC 17.15.200) does have the following definition regarding ongoing agriculture:

"Agriculture, existing and ongoing" means those activities involved in the production of crops or livestock, for example, the operation and maintenance of farm and stock ponds or drainage ditches, operation and maintenance of ditches, irrigation systems including irrigation laterals, canals, or irrigation drainage ditches, changes between agricultural activities, and normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas.

Activities which bring an area into agricultural use are not part of an ongoing operation. An operation ceases to be ongoing when the area on which it is conducted is proposed for conversion to a nonagricultural use or has lain idle for more than five years, unless the idle land is registered in a federal or state soils conservation program, or unless the activity is maintenance of irrigation ditches, laterals, canals, or drainage ditches related to an existing and ongoing agricultural activity. Forest practices are not included in this definition.

Their definition of existing or ongoing ag is quite similar to ours, which reads:

“Ongoing agriculture” means those activities conducted on lands defined in RCW [84.34.020](#)(2), and those activities involved in the production of crops and livestock, including, but not limited to, operation and maintenance of existing farm and stock ponds or drainage ditches, irrigation systems, changes between agricultural activities, and maintenance or repair of existing serviceable structures and facilities. Activities that bring an area into agricultural use are not part of an ongoing activity. An operation ceases to be ongoing when the area on which it was conducted has been converted to a nonagricultural use, or has lain idle for more than five consecutive years unless that idle land is registered in a federal or state conservation program. Forest practices are not included in this definition.

4. RCW 90.58.065 (to which the definition refers) is in the Shoreline Management Act of 1971, and this section is entitled, “Application of guidelines and master programs to agricultural activities.” It has to do with a directive that jurisdictions must address how new agricultural activities will be treated under the Shoreline Management Program (SMP), not the Critical Areas Ordinance,

and only applies to the SMP (see last sentence in the below paragraph). The controlling paragraph reads:

The guidelines adopted by the department and master programs developed or amended by local governments according to RCW 90.58.080 shall not require modification of or limit agricultural activities occurring on agricultural lands. In jurisdictions where agricultural activities occur, master programs developed or amended after June 13, 2002, shall include provisions addressing new agricultural activities on land not meeting the definition of agricultural land, conversion of agricultural lands to other uses, and development not meeting the definition of agricultural activities. Nothing in this section limits or changes the terms of the current exception to the definition of substantial development in RCW 90.58.030(3)(e)(iv). ***This section applies only to this chapter, and shall not affect any other authority of local governments.*** [emphasis added]

There still seems to be some confusion about when the term “ongoing ag” applies, and what it means to lose that designation. We say this because it seems that Council (and others) believes that, under the existing definition of ongoing ag, *any* farmer will lose their right to farm if they cease farming for 5 years. This is not true. The term “ongoing ag” only applies to a small subset of farms: Those that have been continuously practicing agricultural activities in critical areas prior to the adoption of the first CAO. (Figure 1)

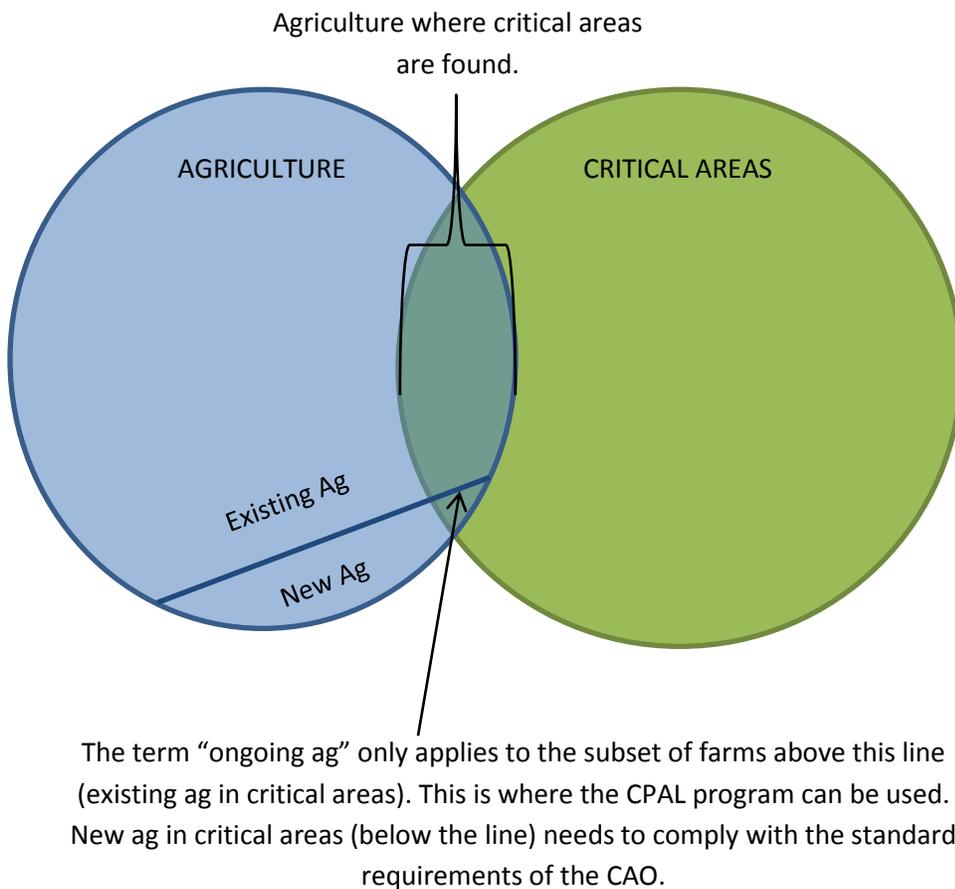


Figure 1. Where the term "ongoing ag" applies



## CM Brenner's Additional CAO Issues Submitted 7/21/17

### ITEM 2 (Issue 173) (Brenner)

*In 16.16.270(B)(2)(k), remove "...utilities (exclusive of septic systems), and all lawn and landscaping..."*

#### 16.16.270 Reasonable use exceptions.

##### B. Reasonable Use Standards.

2. To qualify as a reasonable use, the technical administrator or hearing examiner, as appropriate, must find that the proposal is consistent with all of the following criteria:

- k. For single-family residences, the maximum impact area may be no larger than 4,000 square feet. This impact area shall include the residential structure as well as appurtenant development that are necessarily connected to the use and enjoyment of a single-family residence. These appurtenant developments include garages, decks, driveways, **and parking, utilities (exclusive of an on-site septic system), and all lawn and landscaping,** with the following exceptions: ...

**Staff Response:** At your 8/8/17 workshop, Council indicated that they would like to not include minor utilities (lines running to houses) as appurtenant developments and asked staff to provide appropriate language. We would suggest:

- k. For single-family residences, the maximum impact area may be no larger than 4,000 square feet. This impact area shall include the residential structure as well as appurtenant development that are necessarily connected to the use and enjoyment of a single-family residence. These appurtenant developments include garages, decks, driveways, parking, ~~utilities (exclusive of an on-site septic systems)~~, and all lawn and landscaping, with the following exceptions: ...

### ITEM 3 (Issue 175) (Brenner)

*Section 16.16.620 (Wetlands-General Standards) needs to provide for temporary impacts associated with utilities. It is necessary for franchise utility companies, PUD, and various districts and associations.*

**Staff Response:** Staff does not see a need to amend this section as it already allows for utilities: utility lines in subsection (B); domestic wells in subsection (F); stormwater management facilities in subsection (G); on-site sewage disposal systems in subsection (J); and phosphorus reducing BMP structures in subsection (K)).

**Note:** Since Items 4, 5, & 6 all deal with 16.16.670, we're providing the entire text here for Council's reference:

#### 16.16.670 Review and reporting requirements.

- A. When County critical area maps or other sources of credible information indicate that a site proposed for development or alteration may contain or abut wetlands or wetland buffers, the technical administrator may require a site evaluation (field investigation) by a qualified professional to determine whether or not a regulated wetland is present and, if so, its relative location in relation to the proposed project area or site. If the technical administrator determines that a wetland is

more likely than not present, the technical administrator shall require a wetland assessment report pursuant to WCC [16.16.255](#) and subsection B of this section. If no regulated wetlands are present, then wetland review will be considered complete.

- B. A wetland assessment report describes the characteristics of the subject property and adjacent areas and must be consistent with WCC 16.16.255. The assessment shall include the occurrence, distribution, delineation, and determination of the wetland category and standard wetland buffers as set forth in WCC [16.16.630](#). The investigation shall also include field identification and a complete delineation of all wetland boundaries (with delineations field flagged and left in the field for County verification), and may include analysis of historical aerial photos, and review of public records. Assessment reports shall include the following site- and proposal-related information unless the technical administrator determines that any portion of these requirements is unnecessary given the scope and/or scale of the proposed development:
1. Location information (legal description, parcel number, and address);
  2. A qualitative written assessment and accompanying maps of wetlands and buffers within 300 feet of the site and an estimate of the existing acreage for each. For on-site wetlands, the assessment shall include the dominant and subdominant plant species; soil type, color and texture; sources of hydrology (patterns of surface and subsurface water movement, precipitation, etc.); topography; and other pertinent information. The assessment of off-site wetlands shall be based on available information and shall not require accessing off-site properties;
  3. Existing wetland functions and values and a detailed description of the effects of the proposed development on wetland and buffer function and value, including the area of direct wetland disturbance; area of buffer reduction or averaging including documentation that functions and values will not be adversely affected by the reduction or averaging; effects of stormwater management; proposed hydrologic alteration including changes to natural drainage or infiltration patterns; effects on fish and wildlife species and their habitats; clearing and grading impacts; temporary construction impacts; and effects of increased noise, light or human intrusion;
  4. Existing physical features of the site including buildings, fences, and other structures, roads, parking lots, utilities, water bodies, etc.;
  5. Copies of the wetland rating forms and associated figures from the Ecology Wetland Rating System for Western Washington, as amended.
  6. Wetland Determination and Mapping. The exact location of all wetland boundaries shall be determined through the performance of a field investigation by a qualified wetland professional applying the U.S. Army Corps of Engineers Wetlands Delineation Manual, 1987 Edition, and the Western Mountains, Valleys, and Coast Region supplement (Version 2.0) 2010 or as revised . The wetland boundary shall be marked in the field and surveyed. The surveyed wetlands areas shall be mapped showing location and size of all wetlands. The Technical Administrator may request verification of the wetland delineation by the Army Corps of Engineers when a high degree of accuracy is necessary to determine applicable regulations and requirements.
  7. Wetland Delineation Requirements. The following are required components of a wetland delineation report.
    - a. The report shall be prepared by a qualified professional for wetlands, who meets the minimum requirements as defined in this chapter
    - b. Maps. The wetland delineation report shall include the following maps:
      - i. Vicinity map.
      - ii. Parcel map, with scale, showing all wetlands within 300 feet of the development footprint unless access is denied in writing by the adjacent property owner. Parcel map

- shall include all streams and drainages (Type S, F, Np, or Ns streams), shorelines, floodplains, flood prone areas and critical habitat for threatened and endangered species within 150 feet of the development footprint.
- iii. Topographic map based on city or surveyed data.
  - iv. Map of development proposal with accurate scale.
- c. Wetland Analysis. A wetland delineation report shall provide an analysis of all wetlands and buffers (to the extent they can be legally accessed) including, at a minimum, the following information:
- i. Wetland delineation.
  - ii. The wetland boundaries shall be surveyed by a licensed surveyor or using an equivalent method with an accuracy of plus or minus one foot of a survey.
  - iii. Determination of each wetland size.
  - iv. Description of each wetland class and category.
  - v. Description of overall water sources and drainage patterns on site.
  - vi. Description of vegetation, hydrologic conditions, and soil and substrate conditions.
  - vii. Description of wildlife and habitat.
  - viii. Topographic elevation, at two-foot contours.
  - ix. Functional assessment of the wetland and adjacent buffer using a local or state agency-recognized method and including the reference of the method and all data sheets.
  - x. Standard buffer requirements for each wetland.
  - xi. Site plan that includes scale, and wetlands and associated buffers and proposed development
- C. For single-family building permits, the applicant may hire a qualified professional to prepare the assessment report or may request that the County assess the regulated wetland(s) and buffers and determine the impacts associated with the project, subject to the following:
- a. Field investigation by County staff shall be at the discretion of the technical administrator and subject to workload and scheduling constraints.
  - b. Fees for County staff services shall be in accordance with the unified fee schedule.
- D. If a regulated wetland buffer from a neighboring property extends onto a proposed development site for which review under this chapter is required, the technical administrator shall have the authority to require that deterrent devices be placed at the edge of the buffer in accordance with WCC 16.16.265. The applicant shall provide written documentation that no buffer encroachment will occur. The documentation shall be in the form of a letter or similar affidavit.

#### **ITEM 4 (Issue 181) (Brenner)**

*In 16.16.670(B)(6) remove all mention of wetland boundary being surveyed. It hasn't been required in the past for single family and/or small properties due to the expense. How much will this requirement add to the cost of a house? Surveying is a major expense. What is gained?*

**Staff Response:** Staff does not recommend this amendment. The GMA references the use of the U.S. Army Corps of Engineers wetland delineation manual in determining wetland boundaries, and it requires a survey of them. However, it does not reference the detail of the survey, and staff has always tailored the scope of the survey to that of the project, i.e., we do not require the same level of detail in a survey for a Single Family Residence as we do for a Major Development, for instance. What is gained is knowing the location of the wetland boundary so that an adequate analysis can be performed.

**ITEM 5 (Issue 182) (Brenner)**

*Remove 16.16.670(B)(7)(c)(viii), " Topographic elevation, at two-foot contours" unless the County will provide GIS topography service. How much would this requirement add to the cost of a home?*

**Staff Response:** Staff does not recommend this amendment. Using 2-foot contours is the norm for most jurisdictions these days, and most engineers/surveyors already have those GIS layers. Furthermore, once Whatcom County obtains the forthcoming new LiDAR data, PDS plans on creating a 2-foot contour layer that will be made readily available to the public.

**ITEM 6 (Issue 183) (Brenner)**

*In regards to 16.16.670(B)(7)(c)(ix), why do we need a "functional assessment of wetland and buffer" in a delineation report? Why not leave this under mitigation plan requirements? This will also increase the cost of a home, unless they allow the rating form to serve as a functional assessment tool. Make wetland delineation reports reflect "existing conditions" only, and Mitigation Plans reflect "proposed conditions." It will save money and assist applicants and consultants in streamlining the process.*

**Staff Response:** Realize that the delineation report is a part of the Critical Area Assessment. We need such assessment up front (prior to the mitigation plan being developed) to assess whether mitigation is even needed. In many cases we don't require mitigation (e.g., if impacts are avoided), but we do need the functional assessment in order to determine this.

**ITEM 7 (Issue 187) (Brenner)**

*In 16.16.680(H), define the word "feasible," because it needs to be reasonable. Or just replace the word with "reasonable."*

**Staff Response:** The term "feasible" is already defined in 16.16.900 (Definitions) as:

"Feasible" means an action, such as a development project, mitigation, or preservation requirement that meets all of the following conditions:

- a. The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
- b. The action provides a reasonable likelihood of achieving its intended purpose; and,
- c. The action does not physically preclude achieving the project's primary intended legal use.

In cases where this chapter requires certain actions, unless they are infeasible, the burden of proving infeasibility is on the applicant/ proponent. In determining an action's infeasibility, the county may weigh the action's relative costs and public benefits, considered in the short- and long-term time frames.

This definition comes from the Shoreline Management Act.

**ITEM 9 (Issue 189) (Brenner)**

*Could 16.16.700 (Purpose), subsection (B), conflict with the Shoreline Management Program? If so, it might need to be removed.*

**16.16.700 Purpose.**

The purposes of this article are to:

- A. Protect, restore, and maintain native fish and wildlife populations by protecting and conserving fish and wildlife habitat and protecting the ecological processes, functions and values, and biodiversity that sustain these resources.
- B. Protect marine shorelines, valuable terrestrial habitats, lakes, ponds, rivers, and streams and their associated riparian areas, and the ecosystem processes on which these areas depend.
- C. Regulate development so that isolated populations of species are not created and habitat degradation and fragmentation are minimized.
- D. Maintain the natural geographic distribution, connectivity, and quality of fish and wildlife habitat and ensure no net loss of such important habitats, including cumulative impacts.

**Staff Response:** No. In fact, it's there to help implement the Shoreline Management Program (SMP). If you'll recall, after the courts ruled that the CAO doesn't apply in the shoreline jurisdiction, the solution was that jurisdictions would either need to have separate critical areas regulations in their SMP or have their CAO cover the shoreline and adopt it as part of the SMP. Whatcom County chose the latter. This is why the proposed adopting ordinance for the CAO update (provided to you in September 2016) includes an amendment to the SMP: to update the reference to the controlling CAO's date.

**ITEM 9 (Issue 190) (Brenner)**

*Add to 16.16.700 (Purpose) a new subsection (E) to read, "Protecting HCAs will also consider landowner needs and property rights."*

**Staff Response:** Staff recommends against this proposal. That statement of purpose is already included in 16.16.100 (Purpose and intent), subsection (C)(9), which reads, "Protect property rights, while allowing for economic development, including agriculture, and allowing for the development and maintenance of adequate and appropriate public services and essential public facilities." That statement covers and governs the entire CAO.

**ITEM 10 (Issue 191) (Brenner)**

*16.16.710 (Habitat conservation areas) needs to be clarified. The way it is written it could be any land in Whatcom County. It needs better wording and more specific criteria to prevent overreaching.*

**Staff Response:** Staff is unclear whether CM Brenner is referring to the entirety of 16.16.710 or just a portion of it. In either case, 16.16.710 seems to be pretty specific in its listing of HCAs (subsections (C)(1-12)).

**ITEM 11 (Issue 192) (Brenner)**

*Does 16.16.710(C)(1)(b) mean natural water courses that "convey natural streams existing prior to human alternation"? If not, it could be used to regulate every stormwater conveyance system in Whatcom County.*

**16.16.710 Habitat conservation areas – Designation, mapping, and classification.**

- C. Habitat conservation areas shall include all of the following:

1. Streams.
  - b. Ditches or other artificial water courses are considered streams for the purposes of this Chapter. when:
    - (i) Used to convey natural streams existing prior to human alteration; and/or ,
    - (ii) The waterway is used by anadromous or resident salmonid or other resident fish populations; or
    - (iii) Flows directly into shellfish habitat conservation areas.

**Staff Response:** Yes, 16.16.710(C)(1)(b)(i) means exactly that. Subsections (i) – (iii) are the criteria WDFW uses in determining whether a waterway is regulated or not. And though *some* waterways that *some* people might *believe* to be ditches fall within these categories, manmade stormwater conveyance systems would not meet these criteria.

**ITEM 12 (Issue 193) (Brenner)**

*In 16.16.710(C)(2) remove "have a primary association with" because it is too ambiguous.*

**Staff Response:** Staff recommends against this proposal. The term “have a primary association with” is used by WDFW, DOE, USFW, etc., in determining whether a particular habitat is critical to a listed or priority species. Nor is it ambiguous; it is defined in 16.16.900.

**ITEM 13 (Issue 194) (Brenner)**

*In 16.16.710(C)(7), better clarify "or manmade ponds...under 20 acres in size and created prior to September 30, 2005" so it doesn't include little manmade landscape ponds, koi ponds, etc. that would now be considered a critical area necessitating a 50' buffer.*

**16.16.710 Habitat conservation areas – Designation, mapping, and classification.**

- C. Habitat conservation areas shall include all of the following:
  7. Naturally occurring ponds or manmade ponds and lakes under 20 acres in size and created prior to September 30, 2005, excluding agricultural, fire protection, and stormwater facilities.

**Staff Response:** Staff recommends against this proposal. Between the language of subsection (7) and the definition of “pond” in 16.16.900 (below), staff doesn’t believe there would be confusion in what it applies to.

“Pond” means an open body of water, generally equal to or greater than 6.6 feet deep, that persists throughout the year and occurs in a depression of land or expanded part of a stream and has less than 30% aerial coverage by trees, shrubs, or persistent emergent vegetation. Ponds are generally smaller than lakes. Farm ponds, ponds built for the primary purpose of combating fires, stormwater facilities, and beaver ponds less than two years old are excluded from this definition.

**ITEM 14 (Issue 195) (Brenner)**

**16.16.720 – Habitat conservation areas – General Standards**

*Can Whatcom County legally require regulation by WDFW?*

**Staff Response:** Staff is unclear on the question given the text of 16.16.720. There is nothing in that section requiring regulation by WDFW; it’s only a listing of what types of activities are allowed in HCAs and their buffers and under what conditions. If CM Brenner is referring to the phrase, “any applicable Washington Department of Fish and Wildlife management recommendations have been applied” found in the (unlettered) preface, that is only one of the conditions one must meet to do one of these activities. Whatcom County (and most other jurisdictions) uses the WDFW management recommendations since most of us have not developed our own management recommendations for all the various species and habitats found in our jurisdictions.

**ITEM 15 (Issue 196) (Sidhu/Brenner)**

**Exempting Agricultural Youth Club Activities from the CPAL Program**

At your workshop of 7/25/17 CM Sidhu raised the issue of exempting activities done for agricultural youth clubs (e.g., 4H, FFA, etc.) from the CPAL (and possibly other) requirements. CM Brenner says she raised this as well. However, staff is not sure what it is Council’s asking for.

If Council is asking that we exempt people that only have an animal or two on their property, that is already covered by PDS Policy PL1-85-004Z CPAL – Animal Threshold, Resource Priority (Attachment B). This policy deprioritizes landowners that do not exceed the number of animals set forth below, have at least three grazable acres, and manage their animals to avoid a direct discharge of sediment or fecal matter to surface waters.

Animal	Number
Cow	1
Horse	1
Sheep or lamb	2
Alpacas	2
Non-breeding Pigs	2
Goats	2
Ducks or Geese	20
Chickens	30

This policy could be codified, if that’s Council’s intent. If so, we would suggest adding the following to the code:

**16.16.814 Exemptions.**

The following are exempt from having to obtain a Conservation Farm Plan:

- A. Landowners that do not have critical areas on their property.
- B. Landowners that keep agricultural activities out of the standard critical area buffers.
- C. Landowners that do not exceed 1 animal unit per 3 acres, have at least three grazable acres, and manage their animals to avoid a direct discharge of sediment or fecal matter to surface waters.
  - (i) Indicators of direct discharge can include de-vegetated riparian area, unfenced access to a stream, or animal confinement areas adjacent to surface waters.

- (ii) There is no multiplier for acreage; this is not an animal per acre threshold. Even if the animals are grazed on 100 acres, they are most often fed, sheltered, and cared for in one central location.
- (iii) Grazable acres include both pasture and hayland, as described in the Whatcom County Standard Farm Conservation Planning Workbook.

## Attachment A: Other Jurisdictions' Definitions of Agricultural Land & Ongoing Agriculture

### State Definitions

#### RCW Chapter 84.34 Open Space, Agricultural, Timberlands—Current Use—Conservation Futures

##### 84.34.020 Definitions.

(2) "Farm and agricultural land" means:

- (a) Any parcel of land that is twenty or more acres or multiple parcels of land that are contiguous and total twenty or more acres:
  - (i) Devoted primarily to the production of livestock or agricultural commodities for commercial purposes;
  - (ii) Enrolled in the federal conservation reserve program or its successor administered by the United States department of agriculture; or
  - (iii) Other similar commercial activities as may be established by rule;
- (b)(i) Any parcel of land that is five acres or more but less than twenty acres devoted primarily to agricultural uses, which has produced a gross income from agricultural uses equivalent to, as of January 1, 1993:
  - (A) One hundred dollars or more per acre per year for three of the five calendar years preceding the date of application for classification under this chapter for all parcels of land that are classified under this subsection or all parcels of land for which an application for classification under this subsection is made with the granting authority prior to January 1, 1993; and
  - (B) On or after January 1, 1993, two hundred dollars or more per acre per year for three of the five calendar years preceding the date of application for classification under this chapter;
- (ii) For the purposes of (b)(i) of this subsection, "gross income from agricultural uses" includes, but is not limited to, the wholesale value of agricultural products donated to nonprofit food banks or feeding programs;
- (c) Any parcel of land of less than five acres devoted primarily to agricultural uses which has produced a gross income as of January 1, 1993, of:
  - (i) One thousand dollars or more per year for three of the five calendar years preceding the date of application for classification under this chapter for all parcels of land that are classified under this subsection or all parcels of land for which an application for classification under this subsection is made with the granting authority prior to January 1, 1993; and
  - (ii) On or after January 1, 1993, fifteen hundred dollars or more per year for three of the five calendar years preceding the date of application for classification under this chapter. Parcels of land described in (b)(i)(A) and (c)(i) of this subsection will, upon any transfer of the

- property excluding a transfer to a surviving spouse or surviving state registered domestic partner, be subject to the limits of (b)(i)(B) and (c)(ii) of this subsection;
- (d) Any parcel of land that is five acres or more but less than twenty acres devoted primarily to agricultural uses, which meet one of the following criteria:
    - (i) Has produced a gross income from agricultural uses equivalent to two hundred dollars or more per acre per year for three of the five calendar years preceding the date of application for classification under this chapter;
    - (ii) Has standing crops with an expectation of harvest within seven years, except as provided in (d)(iii) of this subsection, and a demonstrable investment in the production of those crops equivalent to one hundred dollars or more per acre in the current or previous calendar year. For the purposes of this subsection (2)(d)(ii), "standing crop" means Christmas trees, vineyards, fruit trees, or other perennial crops that: (A) Are planted using agricultural methods normally used in the commercial production of that particular crop; and (B) typically do not produce harvestable quantities in the initial years after planting; or
    - (iii) Has a standing crop of short rotation hardwoods with an expectation of harvest within fifteen years and a demonstrable investment in the production of those crops equivalent to one hundred dollars or more per acre in the current or previous calendar year;
  - (e) Any lands including incidental uses as are compatible with agricultural purposes, including wetlands preservation, provided such incidental use does not exceed twenty percent of the classified land and the land on which appurtenances necessary to the production, preparation, or sale of the agricultural products exist in conjunction with the lands producing such products. Agricultural lands also include any parcel of land of one to five acres, which is not contiguous, but which otherwise constitutes an integral part of farming operations being conducted on land qualifying under this section as "farm and agricultural lands";
  - (f) The land on which housing for employees and the principal place of residence of the farm operator or owner of land classified pursuant to (a) of this subsection is sited if: The housing or residence is on or contiguous to the classified parcel; and the use of the housing or the residence is integral to the use of the classified land for agricultural purposes;
  - (g) Any land that is used primarily for equestrian related activities for which a charge is made, including, but not limited to, stabling, training, riding, clinics, schooling, shows, or grazing for feed and that otherwise meet the requirements of (a), (b), or (c) of this subsection; or
  - (h) Any land primarily used for commercial horticultural purposes, including growing seedlings, trees, shrubs, vines, fruits, vegetables, flowers, herbs, and other plants in containers, whether under a structure or not, subject to the following:
    - (i) The land is not primarily used for the storage, care, or selling of plants purchased from other growers for retail sale;
    - (ii) If the land is less than five acres and used primarily to grow plants in containers, such land does not qualify as "farm and agricultural land" if more than twenty-five percent of the land used primarily to grow plants in containers is open to the general public for on-site retail sales;
    - (iii) If more than twenty percent of the land used for growing plants in containers qualifying under this subsection (2)(h) is covered by pavement, none of the paved area is eligible for

classification as "farm and agricultural land" under this subsection (2)(h). The eligibility limitations described in this subsection (2)(h)(iii) do not affect the land's eligibility to qualify under (e) of this subsection; and

- (iv) If the land classified under this subsection (2)(h), in addition to any contiguous land classified under this subsection, is less than twenty acres, it must meet the applicable income or investment requirements in (b), (c), or (d) of this subsection.

## **WAC Chapter 458-30 Open Space Taxation Act Rules**

### **WAC 458-30-200 Definitions.**

(w) "Farm and agricultural land" means:

- (i) Any parcel of land twenty or more acres in size or multiple parcels of land that are contiguous and total twenty or more acres in size when the lands are:
  - (A) Primarily used to produce agricultural products for commercial agricultural purposes;
  - (B) Enrolled in the federal conservation reserve program or its successor administered by the United States Department of Agriculture; or
  - (C) Primarily used for other commercial agricultural purposes as established by rule.
- (ii) Any parcel of land or contiguous parcels of land at least five acres, but less than twenty acres in size that are primarily used for commercial agricultural purposes, and produce a gross income equal to:
  - (A) One hundred dollars or more in cash per acre per year for three of the five calendar years preceding the date of application for classification when the application was made prior to January 1, 1993; or
  - (B) Two hundred dollars or more in cash per acre per year for three of the five calendar years preceding the date of application for classification when the application is made on or after January 1, 1993.

For the purposes of meeting the minimum gross income requirements as described in (w)(ii)(A) and (B) of this subsection for leased classified farm and agricultural land, the owner may use either the cash income received from leasing his or her classified farm and agricultural land, or the cash income received by the lessee for the production of the agricultural product on the owner's classified farm and agricultural land.

- (iii) Any parcel of land or contiguous parcels of land at least five acres, but less than twenty acres in size that are primarily used for commercial agricultural purposes and that have:
  - (A) Standing crops with an expectation of harvest within seven years and a demonstrable investment in the production of those crops equivalent to one hundred dollars or more per acre in the current or previous calendar year; or
  - (B) Standing crops of short rotation hardwoods with an expectation of harvest within fifteen years and a demonstrable investment in the production of those crops equivalent to one hundred dollars or more per acre in the current or previous calendar year.

For the purposes of meeting the minimum investment requirements as described in (w)(iii)(A) and (B) of this subsection for leased classified farm and agricultural land, the owner may use either the cash income received from leasing his or her classified farm and agricultural land, or

the cash income invested by the lessee in the production of the standing crop on the owner's classified farm and agricultural land.

- (iv) Any parcel of land or contiguous parcels of land less than five acres in size that are primarily used for commercial agricultural purposes, and produce a gross income equal to:
  - (A) One thousand dollars or more in cash per year for three of the five calendar years preceding the date of application for classification when the application was made prior to January 1, 1993; or
  - (B) One thousand five hundred dollars or more in cash per year for three of the five calendar years preceding the date of application for classification when the application is made on or after January 1, 1993.

For the purposes of meeting the minimum gross income requirements as described in (w)(iv)(A) and (B) of this subsection for leased classified farm and agricultural land, the owner may use either the cash income received from leasing his or her classified farm and agricultural land, or the cash income received by the lessee for the production of the agricultural product on the owner's classified farm and agricultural land.

- (v) Farm and agricultural land also includes:
  - (A) Land on which employee housing or the principal residence of the farm owner or operator is located, if the housing or residence is on or contiguous to a classified farm and agricultural land parcel of twenty acres or more or multiple parcels that are contiguous and total twenty acres or more, and the use of the housing or residence is integral to the use of the classified farm and agricultural land for commercial agricultural purposes;
  - (B) Land on which appurtenances necessary for the production, preparation, or sale of the agricultural products are situated when the appurtenances are used in conjunction with the land(s) producing agricultural products, such as a machinery maintenance shed or a shipping facility located on farm and agricultural land that produces the products to be shipped;
  - (C) Land incidentally used for an activity or enterprise that is compatible with commercial agricultural purposes as long as the incidental use does not exceed twenty percent of the classified land. An incidental use of classified farm and agricultural land may include, but is not limited to, wetland preservation, a gravel pit, a farm woodlot, or a produce stand;
  - (D) A noncontiguous parcel of land from one to five acres in size that constitutes an integral part of the commercial agricultural operation being conducted on land qualifying as "farm and agricultural land." As used in this paragraph, noncontiguous means not adjoining or touching but held by the same ownership as defined in RCW 84.34.020;
  - (E) Land used primarily for equestrian related activities for which a charge is made including, but not limited to, stabling, training, riding, clinics, schooling, shows, or grazing for feed and that otherwise meets the requirements in (w)(i), (ii), or (iv) of this subsection; or
  - (F) Land used primarily for horticultural purposes including growing plants in the ground or in a container, regardless of whether under a structure, such as a greenhouse, subject to the following:
    - (I) The land is not primarily used for the storage, care, or selling of plants purchased from other growers for retail sale;

- (II) If the land is less than five acres and used primarily to grow plants in containers, such land does not qualify as "farm and agricultural land" if more than twenty-five percent of the land used primarily to grow plants in containers is open to the general public for on-site retail sales;
- (III) If more than twenty percent of the land used for growing plants in containers is covered by pavement, none of the paved area is eligible for classification as "farm and agricultural land." However, this limitation does not prevent up to twenty percent of the paved area from qualifying as "incidental use" as described in (bb) of this subsection; and
- (IV) If the land classified under (w)(v)(F) of this subsection, in addition to any contiguous land classified under (w) of this subsection, is less than twenty acres, it must meet the applicable income or investment requirements described in (w)(ii), (iii), or (iv) of this subsection.

## **2012 Washington State Department of Ecology Stormwater Management Manual for Western Washington**

Commercial Agriculture – Those activities conducted on lands defined in RCW 84.34.020(2), and activities involved in the production of crops or livestock for commercial trade. An activity ceases to be considered commercial agriculture when the area on which it is conducted is proposed for conversion to a nonagricultural use or has lain idle for more than five (5) years, unless the idle land is registered in a federal or state soils conservation program, or unless the activity is maintenance of irrigation ditches, laterals, canals, or drainage ditches related to an existing and ongoing agricultural activity.

## **County & City Definitions**

### **Skagit County**

**Ongoing agriculture:** the continuation of any existing agricultural activity on Agricultural—Natural Resource lands or Rural Resource—Natural Resource lands, including crop rotations; provided, however, that for lands in RRC-NRL that are subject to the provisions of SCC 14.24.120, any property owner who applies for and receives CaRD approval under SCC 14.18.300 through 14.18.330 shall, at the time of CaRD approval, automatically be subject to the buffer requirements of SCC 14.24.530 and shall no longer be subject to the provisions of SCC 14.24.120. Activities undertaken for the first time after May 13, 1996, the date Skagit County adopted Ordinance 16156, the Critical Areas Ordinance, do not constitute “ongoing agriculture”; provided, that any lands that were fallow on May 13, 1996, but had been in agricultural production within 5 years prior to May 13, 1996, shall be considered “ongoing agriculture” for purposes of this definition. Activities that bring an area into agricultural use are not considered ongoing agriculture. In addition, in order for parcels of land under 20 acres to qualify under this definition, they must meet the criteria of RCW 84.34.020(2)(b) and (c).

## City of Pasco

**Existing and Ongoing Agriculture.** Those activities conducted on lands defined in RCW 84.34.080(2), and those existing activities involved in the production of crops or livestock. Activities may include the operation and maintenance of farm and stock ponds or drainage ditches; operation and maintenance of existing ditches or irrigation systems; changes from one type of agricultural activity to another agricultural activity; normal maintenance, repair, and operation of existing serviceable structures, facilities, or improved areas. Activities that bring a non-agricultural area into agricultural use are not part of an ongoing operation. An operation ceases to be ongoing when the area on which it is conducted is converted to a non-agricultural use or has lain idle for more than five years.

## City of Poulsbo

**“Existing and ongoing agriculture”** includes those activities conducted on lands defined in RCW 84.34.020(2) or defined as agricultural practices in this chapter, for example, the operation and maintenance of existing farm and stock ponds or drainage ditches, operation and maintenance of ditches, irrigation systems including irrigation laterals, canals, or irrigation drainage ditches, changes between agricultural activities, such as rotating crops or grasses used for grazing, and normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas; provided, that alteration of the contour of wetlands or streams by leveling or filling—other than that which results from normal cultivation—or draining of wetlands shall not be considered normal or necessary farming or ranching activities.

## Clallam County

**“Existing, ongoing agriculture”** means agriculture that is both: (a) on land located within the agricultural retention zoning district and/or on land that meets the criteria and are enrolled in the Washington State open space and agricultural current use program per RCW 84.34.020(2)(b) and (c); and (b) is on land that has been used for agriculture since June 16, 1992, and not ceased use for agriculture for more than five consecutive years at any one time. Changing the type of agricultural activities being conducted is not considered new or expansion of existing agricultural activity. Agriculture that meets the definition of existing, ongoing agriculture on farmed wetlands, farmed wetland pastures, and prior converted wetlands is allowed to continue subject to the provisions of CCC 27.12.037.

## Federal Definitions

### U.S. Food Security Act, Subpart D - Labels: Wetlands Converted to Agricultural Use before December 23, 1985

#### 514.30 Prior Converted Cropland (PC)

##### A. Definition

- (1) Prior converted cropland (PC) is a converted wetland where the conversion occurred before December 23, 1985; an agricultural commodity had been produced at least once before December 23, 1985; and as of December 23, 1985, the area was capable of producing an

agricultural commodity (i.e., did not support woody vegetation and was sufficiently drained to support production of an agricultural commodity). The conversion could include draining, dredging, filling, leveling, or otherwise manipulating (including the removal of woody vegetation or any activity that results in impairing or reducing the flow and circulation of water) the wetland area. In addition, PC meets the following hydrologic criteria:

- (i) If the area is not a pothole, playa, or pocosin, inundation is less than 15 consecutive days during the growing season or 10 percent of the growing season, whichever is less, in most years (50 percent chance or more).
- (ii) If the area is a pothole, playa, or pocosin, inundation is less than 7 consecutive days and saturation is less than 14 consecutive days during the growing season in most years (50 percent chance or more).

(2) The presence and extent of pothole, playa, and pocosin wetlands in each State will be determined by the State Conservationist with advice from the State Technical Committee.

#### B. Supporting Documentation

(1) The NRCS Engineering Field Handbook (EFH), Chapter 19, "Hydrology Tools for Wetland Determination;" the 1987 COE Manual; and the approved State mapping conventions are used to determine if the area is inundated for the requisite time. Site conditions must be thoroughly documented, using information such as:

- (i) Aerial photographs and FSA slides.
- (ii) Flood frequency studies.
- (iii) Interviews with the person and other knowledgeable residents of the area.
- (iv) Field indicators of surface water such as water marks, drift lines, and drowned or stressed crops.
- (v) Stream gauge data.

(2) FSA records may be used to determine current or prior cropping history. In the absence of FSA records, any determination of cropping history should be based on aerial photography, crop expense or receipt records, grain elevator records specific to tract and field, or other suitable documentation that can be tied to the specific field and/or tract under review.

#### C. Drainage Maintenance and Improvement

(1) Drainage systems or other hydrologic manipulations on PCs may be maintained or improved after December 23, 1985, without loss of eligibility for USDA program benefits. USDA program participants should exercise caution when maintaining drainage systems so that neighboring wetlands are not inadvertently drained.

#### D. Procedures for Identifying PCs

(1) Aerial photographs, crop records, and other resources are consulted to determine if the area—

- (i) Has hydric soils.
- (ii) Was converted for production of an agricultural commodity before December 23, 1985.
- (iii) Was capable of producing an agricultural commodity (i.e., did not support woody vegetation and was sufficiently drained to support production of an agricultural commodity) as of December 23, 1985.
- (iv) Fails to meet hydrologic criterion of Farmed Wetland (FW).

## USDA

### **Prior Converted Cropland Exemption**

Areas that qualify as Prior Converted Cropland (PC) are exempt from the Swampbuster provision of the Farm Bill. These areas can be further drained, cropped or manipulated without loss of eligibility for USDA program benefits. Prior converted croplands that are certified by NRCS are also exempt from wetland regulations administered by the Army Corps of Engineers and EPA (Section 404 of the Clean Water Act). However, if the land changes to a non-agricultural use, or is abandoned, according to the criteria established by the Corps and EPA, it may be regulated under the CWA.

### **What it Takes for Farmland to Qualify as Prior Converted Cropland**

Farmland must meet **all of the following criteria** for it to be designated as Prior Converted Cropland:

- Cropped prior to December 23, 1985 with an agricultural commodity (an annually tilled crop such as corn);
- The land was cleared, drained or otherwise manipulated to make it possible to plant a crop;
- The land has continued to be used for agricultural purposes (cropping, haying or grazing)
- The land does not flood or pond for more than 14 days during the growing season

Woodland, pasture and hayland without a history of annual tillage and cropping do not qualify as Prior Converted Cropland.

## **Department of Ecology Prior Converted Croplands/Wetlands Information**

### **What are prior converted croplands?**

Prior converted croplands (PCCs) are identified for the purpose of implementing the Food Security Act (FSA), and refers to wetlands that were converted from a non-agricultural use to production of a commodity crop prior to December 23, 1985. In other words, PCCs are wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, to enable production of an agricultural commodity.

To be considered a PCC, the area must have had an agricultural commodity planted or produced at least once prior to December 23, 1985. After 1985 these sites must continue to be in active agricultural use. This means a commodity crop that requires annual tilling must be produced at least once every five years.

In addition, PCCs must not have standing water present for more than 14 consecutive days during the growing season. If an agricultural site has standing water for greater than 14 consecutive days it would be considered a "farmed wetland." Many farmed areas in valleys flood throughout the winter and would not be considered PCC. Therefore, it is important to document surface water levels throughout the year (i.e., determining the hydroperiod during the dry season alone is not adequate).

### **Conversion of a PCC to a non-agricultural use may be subject to local, state, and federal regulations**

While many PCC areas have been extensively manipulated and drained, and some may no longer be wetlands, a PCC area may meet the federal and state wetland hydrology criterion (refer to the federal [delineation manual and regional supplements](#)). If the land changes to non-agricultural use, or is abandoned, a PCC area may be regulated under federal, state or local laws. Landowners, who intend to develop their land or conduct an activity that precludes use of the land for continued agricultural

production, should [contact the Corps, Ecology](#) and the local government ([city/town](#) or [county](#)) to determine if the land meets the criteria for jurisdictional wetlands under applicable laws.

Even if not abandoned, PCC wetlands, like [isolated wetlands](#), that meet the state's wetland delineation criteria ([Chapter 173-22-035 WAC](#)) are still regulated under the state's Water Pollution Control Act ([Chapter 90.48 RCW](#)), the Shoreline Management Act, and the Growth Management Act. ***Conversion of a PCC wetland to non-agricultural use requires state and local approval.***

### **Why regulate PCC wetlands?**

In the past, PCC wetlands were often exempt from federal regulation under the Clean Water Act, based on the belief that these wetlands had been so altered they no longer provided important wetland functions. However, PCC wetlands in Washington perform many of the same important environmental functions as other wetlands, including recharging streams and aquifers, storing flood waters, filtering pollutants from water and providing wildlife habitat. In some cases, PCC wetlands have been significantly altered so they provide only minimal functions. However, in many cases, PCC wetlands provide important hydrologic functions and may provide significant wildlife habitat.

### **Guidance on delineating wetlands on agricultural lands**

In 1994, the Departments of Agriculture, Interior, and Army and the EPA entered into a Memorandum of Agreement (MOA), *Guidance on Conducting Wetland Determinations for the Food Security Act (FSA) and Section 404 of the Clean Water Act (CWA)*. The MOA was developed to streamline the wetland delineation process on agricultural lands, to promote consistency between the CWA and the FSA, and to provide predictability and simplification for U.S. Department of Agriculture program participants.

In January 2005, both the Natural Resources Conservation Service (NRCS) and Department of the Army withdrew from the MOA. The MOA was replaced with the Corps and NRCS [Joint Guidance on Conducting Wetland Delineations for the Food Security Act of 1985 and Section 404 of the Clean Water Act](#) (PDF, February 25, 2005). This guidance addresses the responsibility of NRCS for performing wetland delineations for the FSA and the Corps for delineations for CWA Section 404 purposes. Also see [Key Points - February 28, 2005](#) (PDF) for the rationale for withdrawal from the 1994 MOA.

The 2005 MOA also states that the identification of prior converted croplands (PCC) made by NRCS remains valid as long as the area is devoted to an agricultural use. If the land changes to a non-agricultural use, the PCC determination is no longer applicable and a new wetland determination is required for Clean Water Act purposes. Specific guidance will be provided by the Corps in the future addressing how the Corps will treat PCC designations for land that changes from agricultural to non-agricultural use.

## Attachment B

### WHATCOM COUNTY

Planning & Development Services  
5280 Northwest Drive,  
Bellingham, WA 98226-9097  
360-676-6907, TTY 800-833-6384  
360-738-2525 Fax



**David Stalheim**

Director

**J.E "Sam" Ryan**

Assistant Director

### Planning and Development Services Policy

Subject/Title: Conservation Program on Agriculture Land (CPAL) – Animal Threshold, Resource Priority

Number: PL1-85-004Z

Effective Date: 05/06/10

Submitted By: Peter Gill, Senior Planner

Reviewed By: Natural Resources/Long Range Planning

Approved By: David Stalheim, Director

---

#### Statement:

This Administrative Procedure describes livestock operations that are deprioritized for farm conservation planning. This procedure applies to landowners that do not exceed the number of animals set forth below, have at least three grazable acres, and manage their animals to avoid a direct discharge of sediment or fecal matter to surface waters.

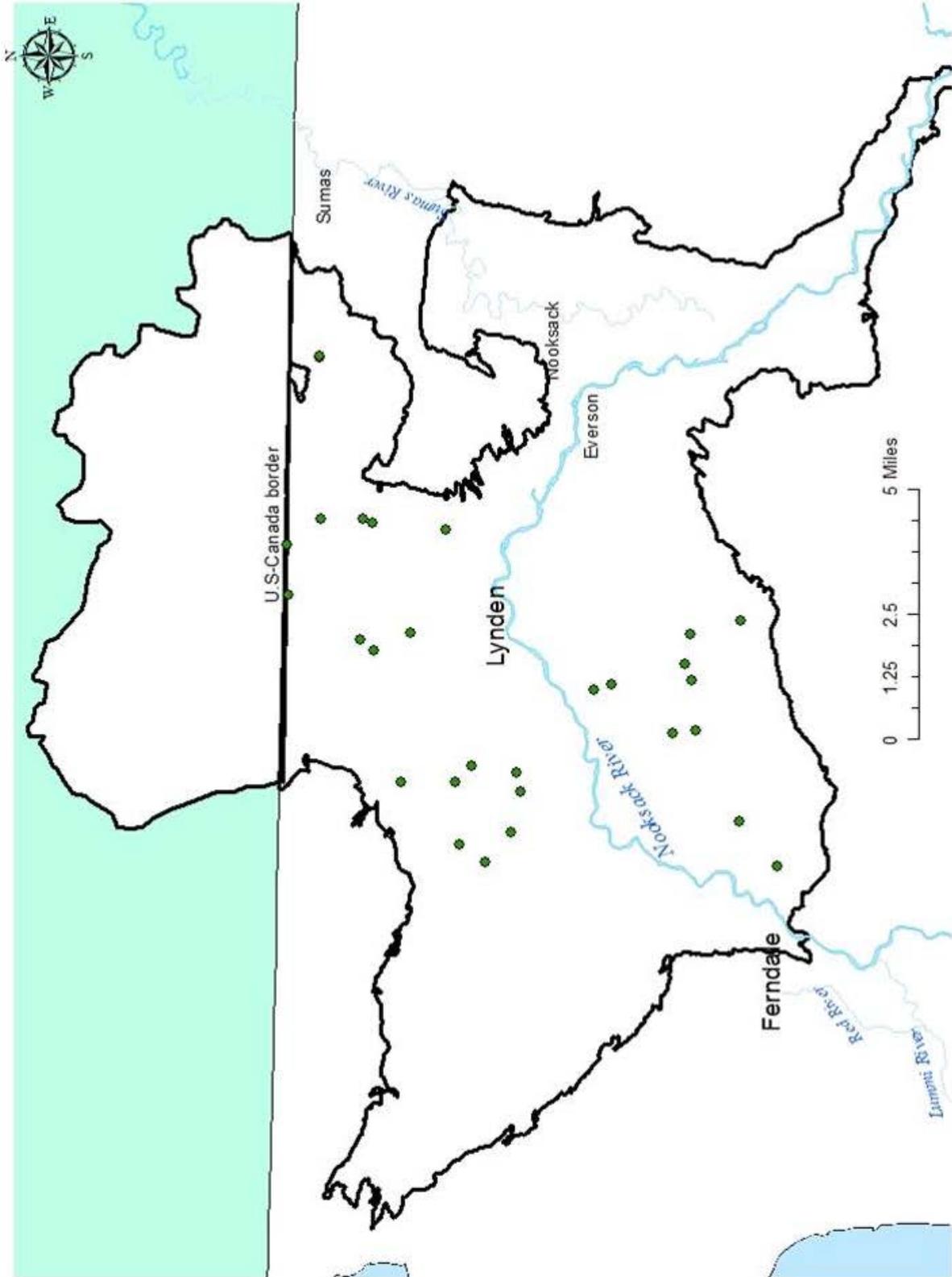
- (1) Cow, or
- (1) Horse, or
- (2) Sheep or lamb, or
- (2) Alpacas, or
- (2) Non-breeding Pigs, or
- (2) Goats, or
- (20) Ducks or Geese, or
- (30) Chickens. Rationale:

Experience implementing farm plans has shown that with very few animals the anticipated impacts to critical areas are so negligible that a farm plan may not be necessary to protect existing functions and conditions. If there is a direct discharge to surface waters, a farm plan is required regardless of the number of livestock on the property. Indicators of direct discharge can include de-vegetated riparian area, unfenced access to a stream, animal confinement area adjacent to surface waters. There is no multiplier for acreage; this is not an animal per acre threshold. Even if the animals are grazed on 100 acres, they are most often fed, sheltered, and cared for in one central location. Grazable acres include both pasture and hayland, as described in the Whatcom County Standard Farm Conservation Planning Workbook.

A land owner that does not have critical areas on their property does not require a farm plan.

A property owner that keeps agricultural activities out of the standard Critical Area buffers does not require a farm plan.

Attachment C – Map showing location of wells DOE used in its nitrate studies



## Attachment D - Additional info on Nooksack-Abbotsford-Sumas Transboundary Nitrogen Study

### Nooksack-Abbotsford-Sumas Transboundary Nitrogen Meeting

Sept. 14-16, 2017

Location: Bellewood Acres, 6140 Guide Meridian, Lynden, WA 98264

Sponsored by the Dept. of Biology and College of Science and Engineering, Western Washington Univ.

**Overall project goals:** Gather and present a common set of biophysical facts about nitrogen use and management and view them from multiple socioeconomic perspectives to understand the problems and identify preferred potential solutions. We see three key ingredients:

1. **Create a nitrogen inventory as a basis for understanding management options:**
  - a. Trace and quantify the sources, movement, and fates of nitrogen, both inside and outside our study area.
  - b. Quantify effects of different nitrogen types on resources and human health and well-being.
  - c. Identify knowledge gaps in both the budget and impacts of nitrogen.
2. **Share information among citizens:** Bring together citizens in the study region to share the information collected in Step 1 and collect their input, knowledge and concerns. Anyone affected by nitrogen in some way is welcome to participate.
3. **Identify and evaluate solutions:** Work with all participants to develop a menu of strategies for dealing with regional nitrogen issues, along with pros and cons for local food production and harvest, the economy, and natural resources.

### Specific workshop goals

1. Develop a project strategy and charter (Thu. Afternoon) – Jill Baron, Jana Compton, and Dave Hooper, leads
  - a. Outline project goals
  - b. Develop set of activities & timeline
  - c. Codify approach: understanding the socio-ecological setting, evidence-based (biophysical sciences, social science, local and indigenous knowledge), citizen engagement, transparency, collaboration.
  - d. Project participants: scientists (biophysical and social), agency personnel, political leadership, citizens
  - e. Funding possibilities
2. Review N budgets from Canada and U.S. (Fri. morning) – Shabtai Bitman, Canada lead; Jiajia Lin and Jana Compton, U.S. leads
  - a. Approach

- b. Main findings and work still to do
- c. Knowledge gaps and uncertainties
- d. Strategies for completion and publication, including summaries for citizens
- 3. Develop preliminary citizen/participant outreach plan (Fri. afternoon) – leads (TBD)
  - a. Balance of participants: inclusive; diverse perspectives; U.S. and Canadian
  - b. Outreach activities and timeline
  - c. Facilitators
  - d. Solicit early input from key citizen representatives
    - i. How to build trust for collaborative research and problem-solving?
    - ii. What would be favorable outcomes?
    - iii. Planning meetings – timing, structure, location
    - iv. N budget – what are questions and concerns?
- 4. Field trip to Canadian sites (Sat. morning – early afternoon)
- 5. Meeting wrap – BC Ministers table (Sat. afternoon)  
Abbotsford

### **Draft Agenda**

#### **Thurs., 9/14**

1:30 – 2:15: Introductions and meeting overview  
 2:15-2:45: Links to International Nitrogen Management System (INMS) and discussion; Jill Baron  
 2:30-5:30: Develop NAST-N Charter (Hooper will send out a draft before the meeting, to start discussion)  
 3:30-3:50: Coffee break  
 5:30-7: Dinner discussion – All welcome, but everyone pays for their own food and drink (location TBD)  
 7:30-8:30 pm: Panel Discussion for the public, at the Nooksack Salmon Enhancement Association (NSEA), 3057 E Bakerview Rd, Bellingham, WA 98226. All welcome, but not part of the official meeting. This is meant as information outreach to NSEA members and other interested citizens.

#### **Fri., 9/15**

8:00-8:30: gather, coffee  
 8:30-9:30 – Review of Lower Fraser N budget; Shabtai Bitman  
 9:30-10:30: Review draft of Nooksack N budget and introduction to the data repository on eRAMS; Jiajia Lin & Jana Compton  
 10:30-10:50: coffee, discussion  
 10:50-11:30: Discussion of N budgets  
 11:30-12: Nitrogen policy goals, strategies, synergies and tradeoffs: experience from elsewhere; Céó Gaudet  
 12-1: Lunch at Bellewood Acres  
 1-1:30: Primer on citizen engagement; George Boggs

1:30-1:45: Discussion

1:45-3: Breakout discussion groups: strategies for outreach to engage with different groups

3-3:20: Coffee break

3:20-4: Reporting back to the group as a whole on outreach strategies

4-5: Synthesize outreach strategies

**Sat., 9/16** – Field trip and meeting wrap-up

8:00-2:00 (approx.): Field trip, Canada (Shabtai Bittman is organizing)

2:00-4: Meeting wrap-up, next steps (David Poon, host. BC Ministry Building, 1767 Angus Campbell Rd., Abbotsford, BC)