

Written Comments to the CAO Issue Paper

12/2/09

Comments from Stephanie Johnson O'Day

My initial comments:

"No net loss" is not a defined term. "Thems fightin words" This was a bone of contention within the CAO committee. It needs to be addressed in our new code. I believe the courts have recently stated the obvious - which is it is an impossibility for a project not to affect the environment in some way. I believe the courts have opined that no net loss does not mean no loss. You might want to check on that.

The issue of vesting needs to be addressed. Currently, in our SMP we have what I call "relief valves" which vest plat setbacks. See 18.50.330B(19). This is so important. When someone subdivides their land, they go through a long sordid process, which includes the placement of setbacks from both shoreline and wetlands. Why should those setbacks be thrown out? The answer is they should not be. When someone buys property, they receive a title report which includes the plat and shows the setbacks. They have a right to rely on those setbacks, do rely on them, and buy in anticipation of placing a home on a property in accordance with the setbacks shown on the plat. We need a relief valve inserted into the CAO "exemptions" and we need to retain our relief valves when we get to the SL. Attached is my suggestion for the upland code re wetlands.

I really believe in the Island County model - for both the SL and the uplands. It is a fair and even handed way to handle this. Sure, it is more work, but in the long run it is better- less controversy will lead to less acrimony.

Susan across the hall from me would really like the Conservation District to be involved in all this, as I'm sure you know. Lets figure out a way to use this valuable resource (pun intended). While they cannot take monies from Joe Public, they can enter into a concomitant agreement with SJC wherein they receive funds from the county, and CDPD takes funds from Joe Public who wants to use the tables to determine his setback. A variable table is merely an extension of your tailored approach.

I look forward to the process and am glad you are involved. SJO

18.30.150 Wetlands.

A. Applicability and Purpose. Unless exempted under the provisions of SJCC 18.30.110.D, the regulations in this section apply to areas meeting the definition of a wetland.

18.30.110 Critical Areas

D. General Exemptions and Exceptions. The following uses and activities are exempt from some or all provisions of the Critical Area regulations in this chapter (SJCC sections 18.30.110-160).

1. **Emergencies.** Those activities necessary to prevent an imminent threat to public health, safety, or the environment, or to public or private property, and that require remedial or preventive action in a time frame too short to allow for review and approval in accordance with the requirements of this chapter. Prior to taking action the organization, agency, property owner or owner's representative shall notify the Director of the emergency and action being taken. Within seven days of the emergency, the person or agency undertaking the action shall report to the Director the extent of the action taken and any impacts to Critical Areas. Except in instances of a catastrophic natural event, mitigation and/ or restoration is required when necessary to bring the site into compliance with this Chapter, and the Director may require submission of a mitigation and/or restoration plan to guide this work . Final approval of the plan, and any required restoration or mitigation, shall be in accordance with provisions of this chapter.
2. Operation, maintenance, repair, remodel or replacement of existing structures, facilities, infrastructure, utilities, sewage disposal systems, water systems, public or private roads, driveways, developed areas, fences, vegetation, ponds, dikes, levees, or drainage systems, provided there is no increase in the developed area, structure footprint, or risk to life or property, and the activity does not further alter, impact, or encroach on wetlands, protected wildlife habitat, frequently flooded areas, geologically hazardous areas or their buffers.
3. **Forest Practices.** Forest practices regulated and conducted in accordance with the provisions of RCW Chapter 76.09 and WAC Title 222 (forest practices regulations).
4. Agricultural Activities as defined in SJCC 18.20.010.
5. Installation of navigation aids and survey markers.
6. Site investigative work associated with land use applications, such as surveys, soil borings and test holes, provided that Critical Areas are protected and disturbed areas are immediately restored.
7. Measures to control or remove damaging insects or noxious weeds identified by the San Juan County Weed Control Board, and ongoing activities such as lawn, landscaping, orchard, and garden maintenance, provided that chemicals are not used except for control of noxious weeds.
8. Removal of trees that are a hazard to people, domestic or commercial livestock and structures that house them, providing the stump of the tree is retained.
9. Minor pruning of up to 20% of buffer vegetation when compared to that which existed on _____ (the date these requirements were adopted). Pruning does not include the topping or removal of trees or ground cover except for hazard trees, and when hazard trees are removed the tree stump shall be retained.
- 10 Man made ponds constructed in conformance with this code that are not located in, and do not discharge to or negatively effect drainageways, streams, wetlands or required buffers.

11. The protection requirements of section 18.30.150(D) shall not apply to those parcels of land which were approved in a division of land between December 20, 1998 and the effective date of this ordinance. If the document approving a division of land establishes different setback standards from those in 18.30.150(D), the standards on the document approving the division of land shall control.

Comments from Mike Carlson

Hi Jim,

You did a great job directing the meeting Monday night.....I don't know if you have seen this attachment but the statements made by FOSJ members clearly shows they don't respect the fact that we own our land. The fact the FOSJ has whole lot of prominence in the CAO review process is very problematic for obvious reasons.

You made a statement in the Nov 9 workshop on San Juan that said we have really only three issues to talk about : 1) Prescriptive Buffers 2) Non Conforming/ Reasonable use 3) CASP . (I am not sure if I got them right) But the point I want to make is that the whole process of "REVIEWING" the CAO has turned into a complete overhaul with the assumption that the present regulations are inadequate. Can you tell me when and how an AUDIT was done to assess the realities of the current regulations in light of **local relevant scientific information??** I do not know of one and I honestly would like to know. ***This should be issue #4.***

I took away from the workshop that it is acknowledged we don't have a "**Baseline**" either therefore it is obvious the **CART IS BEFORE THE HORSE**. I also believe as you said that our County Council **IS** truly trying to listen to us on our concerns about the CAO. If that is true there needs to be a MUCH better effort to show where our present CAO does not work to protect our resources. As you know the GMA requires counties to **REVIEW** the CAO for protecting critical areas.....this has not been done to my knowledge. Further I don't see anything relevant to the statements about "staying in compliance with agencies" when an audit has not been done. The "Legally Defensible" statement that often comes from Shireen when asked why certain size buffers are set in the draft CAO does not "fish" either due to the fact large prescriptive buffers may not be "legally defensible" either, especially in light of the process to date.

I hope to hear your response to this very local question about how an audit was done related to our current CAO before drafting a new CAO and if so there would be some baseline information on the effects of land use vs. critical areas.

Mike Carlson,
Chairman of the Common Sense Alliance

Comment from Jim Slocumb

While your writing up your comments for the CC from the CAO outreach process it would be interesting if you were to comment on the relationship between cumulative impacts, no net loss of habitat functions and services, and allowing gardens, orchards, and expansion of structures within critical areas and buffer zones.

Thanks!!!!

Comments From Maile Johnson

Dear Shireene Hale,

Please include this email as a comment on the proposed Amendments to the San Juan County Critical Areas Ordinance. I attempted to send it to Mr. Jim Kramer at jkramer.consulting@gmail.com, but the email address was refused by my server. This address was used in the document inviting comments to be sent to Mr. Kramer by November 18, 2009 and which is titled Creating Environmental Laws That Work for Nature and People in the San Juans It's Time to Share, Consider and Decide, and dated October 26, 2009.

Protecting critical areas, under caselaw, means no net loss of functions, which means that we are to apply current scientific understanding to protect the ecological functions of those areas. We can see, after decades of gradual development of environment regulation in this nation, that despite those efforts we have polluted soil, water and air, destroyed the function and survival of vast regions of forest, drained aquifers, lost to extinction innumerable species, and gradually discovered that each minute element and species in the web of living relationships that is the world performs a function that holds our world together; renews the soil's fertility, pollinates food plants, minimizes harm from flooding, returns water to clouds, evolves disease resistance in plants and animals. Streams and wetlands, as we know, have some of the most important functions of all, filtering and purifying water, carrying nourishment and providing critical habitat.

I own land on Orcas on which the county website indicates a Class II wetland. There is a single residence on the property, for which a wetland delineation study was completed by a county approved professional to allow siting of a residence without impairing wetland functions. For the wetland study and delineation I paid 4 or 5 or 6 times the fee required for the building permit itself. I thought that was appropriate. Zoning applicable to my property allows one residence per 5 acres, and there thus remains potential for further development of this land. New regulations of wetlands may effect the development potential of my property. I do not believe in any so-called property right to impact land without regard to its impact on living systems, and especially not to those critical areas whose functions are so essential to the web of species living there. I support the revision of the CAO, as required by state law, to protect critical areas according to the best available science.

We may look about and see what some would call a "rural" environment. Yet we don't see property lines of parcels that in future will support a tripling or quadrupling of the population. We don't see the soluble phosphorous from our houses and gardens passing through stream buffers to create eutrophication and algae blooms that suffocate aquatic ecosystems. We don't see the failure of the murrelets, osprey, orca whales or owls to reproduce because of lack of food or degradation of their essential habitat, nor do we see the contamination of the wetlands where the osprey hunt and the red legged frogs swim

If wetland and stream buffers fail to function properly or are overwhelmed by particularly heavy rainfall, contaminants such as insecticides on houses, pesticides and fungicides in gardens, volatile and petrochemicals from garages and workshops and pharmaceuticals in septic leach fields, will spill directly into aquifer recharge zones, streams, wetlands, and nearshore waters.

"What will it mean to raise our babies on water contaminated with low levels of birth control drugs and athlete's foot remedies plus Viagra, Prozac, Valium, Claritin, Amoxicillin, Prevachol, Codeine, Flonase, Ibuprofen, Dilantin, Cozaar, Pepcid, Albuterol, Naproxen, Warfarin, Ranitidine, Diazepam, Bactroban, Lotrel, Lorazepam, Tamoxifen, Mevacor, and dozens of other potent drugs, along with hair removers, mosquito repellents, sunburn creams, musk and other fragrances? No one knows, but evidently we're going to find out, learning by doing." - Peter Montague, "Headline: Paydirt from the Human Genome"

The ecological protection accomplished by the GMA is very important and likely very imperfect. To satisfy the claims of "property rights" we must not allow degradation of ecological systems that are essential to the survival of all the species that live here.

Shoreline Setback

The shoreline setback of 50 feet appears to be inconsistent with Best Available Science and does not meet the legal requirement of Washington Department of Fish and Wildlife (WDFW), Community Trade and Economic Development (CTED) nor the 2008 Biological Opinion by the National Marine Fisheries Service regarding Endangered Species Act protection for listed salmon and Southern Resident Orca. 100 foot shoreline setbacks are necessary to meet the Federal and State requirements.

Mitigation, Mitigation Bank, Fee in Lieu of

It is inconsistent, in my view, to allow the offset of non-negligible impacts to critical areas as “mitigation” in the course of purporting to meet a legal requirement for no net loss of critical areas. Further, it is doubtful we humans know what would be a negligible impact. Soil organisms, mycelia and plants have co-evolved for up to 700 million years to establish relationships sufficiently sturdy and adaptable to endure and evolve. Plants produce thousands of complex chemistries as aerosols or root exudates, in addition to their bodies, pollens and seeds, which interact with other species in crucially supportive and complex ways over time periods incomprehensible in our life spans.

I don't support the proposed mitigation, mitigation banking or fee in lieu of mitigation for impairment of functions in a critical area. San Juan County lacks the professional, financial and political resources to administer an adequate program. Not only is there great biological complexity – and likely hubris – in the goal of mitigating harm to critical area functions that would be extremely technical and expensive to evaluate, there is also great political pressure on the county to grant development permits. Only an objective scientific body could fairly create, administer or monitor such a mitigation program, which would need to run steadily and in perpetuity to avoid impairing critical area functions.

Avoidance and minimization of harm should be required. San Juan County's CAO should conform to the Washington Administrative code which requires avoidance of harm to marine habitats. I do not support the creation of a Critical Area Stewardship Plan (CASP) model. Again, San Juan County lacks the resources to implement and monitor such a program, which itself is unproven and recently enacted in Jefferson County. Mitigation Banks require authorization by federal and state agencies and are highly technical. San Juan County has taken no steps towards creating mitigation banks. Allowing payment in lieu of mitigation would create a highly inequitable opportunity to buy the right to harm critical areas, a “pay as you degrade” policy that would be unfair to the financially disadvantaged and lead to a net loss of critical areas.

Reasonable Use Exception

Communications from the Community Trade and Economic Development (CTED) state that the majority of marine shoreline jurisdictions have, on average, incorporated reasonable use exceptions of 1200–2500 square feet (without any mitigation). This CAO, in a table in Section 18.30.110, E – Reasonable Use Exception, allows a much higher impact to critical areas than other jurisdictions have passed before growth management boards. The amount of critical area allowed to be impacted on smaller lots is proportionally much greater than that allowed on larger lots, which would seem to have no scientific justification. Critical area functions such as providing habitat, forage, purifying water, and the proximity of the impact to the critical area are relevant to determining impairment of critical functions – not mere parcel size. What evaluation has been made of the cumulative impact of allowing such impairment of critical areas? Again, San Juan County is ill-equipped to analyze, evaluate or monitor mitigation over time.

The Reasonable Use Exception should exclude accessory buildings, should take into consideration the habitat quality of the site, should allow only small residences and include a process that determines there is no other reasonable alternative that would have less impact on the critical area functions. San Juan County currently lacks any staff to provide technical review of proposed construction in critical areas.

Activities Allowed in Wetlands and/or Buffers

“Wetlands store water, purify water, filter runoff, abate flooding, decrease erosion and provide habitat. They act as ground water recharge and discharge sites. In addition to the hydrologic benefit of wetlands, hundreds of species of birds, fish, mammals, reptiles, and amphibians rely on wetland habitat for breeding, foraging, and cover. Wetlands provide unique habitat for species that cannot survive elsewhere.” Section 2.1 Creating Environmental Laws That Work for Nature and People in the San Juans. Food production or the production of crops for sale is already covered by the exemption for agricultural activities...why do we need additional impacts on the residential scale? There is already a general

agricultural exemption for Critical Areas, so it would seem that there is no further justification for converting wetlands from their critical natural functions. Wetland studies emphasize the importance of native vegetation in fulfilling and conserving wetland functions. Wetland buffer size recommendations assume the soil is well vegetated with native plants. Allowing undefined "gardens and orchards", including pruning to remove 20% of buffer vegetation, is not in keeping with Best Available Science. Despite the prohibition on chemical use, there is a heightened risk of nitrogen and other chemical imbalances disturbing wetland functions by allowing this disruption of the normal ecology of the wetland.

The CAO should require applicants to demonstrate that they have taken these steps:Comment

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Monitoring the impact and taking appropriate corrective measures.

Comment submitted by Maile Johnson
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November 17, 2009

Comments from Gordy Petersen

Jim,

Thank you for the opportunity to comment on your issue paper. The job that you are tasked with seems impossible when neither side can be satisfied with compromise. The pressure to find consensus and negotiate between opposite viewpoints is enormous. I offer the following comments in a spirit of goodwill and concern for my community.

I am a long time islander who has been involved in planning in San Juan County for more than 20 years. It has become clear to me from all that I have read and heard at the various meetings that the process is going in the wrong direction. If we don't change course, the final product will continue to polarize our community and will be indefensible upon appeal. My reasons for saying this are as follows:

1. Bottom-up Process

The process that San Juan Initiative is engaged in is flawed. It is inappropriate to have government agencies sitting in place of citizens on the committees dictating policy, and leaders managing meetings whose specific task is to fulfill the Puget Sound Partnership's, "Action Agenda" for San Juan County. This top-down approach is inconsistent with laws that encourage planning at the local level.

Puget Sound Partnership has invested in a certain outcome. Staff reports and Comprehensive Plan Elements advertise "Puget Sound Partnership" on the letterheads and covers. This group has funded agenda-driven scientists to attend meetings, paid most of the costs of the planning effort with grants, and still seem determined on intermingling shoreline regulation in our local upland CAO in direct conflict with the Council and court decisions. Intergovernmental agreements specifically state that implementing the "Action Agenda" is the process goal.

The process is designed by law to be bottom-up not top-down. The appearance that some citizens and landowners are left out of this process is very real. The result of this process will not be defensible. The following quotes from the law and analysis support this.

WAC 365-195-010 (3) The concept that the process should be a "bottom up" effort, involving early and continuous public participation, with the central locus of decision-making at the local level.

"Local comprehensive plans and development regulations require counties and cities to balance priorities and options for action in full consideration of local circumstances. The legislature finds that while this chapter requires local planning to take place within a framework of state goals and requirements, the ultimate burden and responsibility for planning, harmonizing the planning goals of this chapter, and implementing a county's or city's future rests with that community." (RCW 36.70A.3201)

"Unlike the SMA, which requires oversight and approval of a state agency, at the GMA's very foundation is the mandate providing local jurisdictions broad deference in planning decisions: the "GMA acts exclusively through local governments and is to be construed with the requisite flexibility to allow local governments to accommodate local needs." Viking Properties, Inc. v. Holm, 155 Wn.2d 112, 125-26 (2005);" (Brian Hodges PLF analysis 2009)

In order to create a defensible process, San Juan County needs to engage neutral consultants. Respected scientists, not regulators, not representatives from state agencies, or environmental groups, should have a leading role in our local process.

2. Review not Rewrite

The Washington Administrative Code requires "review" of existing codes, not a complete rewrite of the regulations. The County is required to change its regulations only if a review has determined errors or inconsistencies exist, or when new information justifies changes.

WAC 365-195-410 (2) (c) The review of existing designations should, in most cases, be limited to the question of consistency with the comprehensive plan, rather than a revisiting of the entire prior designation and regulation process. However, to the extent that new information is available or errors have been discovered, the review process should take this information into account.

Why are the San Juan Initiative and Puget Sound Partnership groups attempting to rewrite many of our CAO regulations rather than review them?

The problems, errors, or inconsistencies, in the existing regulations have not been clearly identified. There is evidence that our Islands are pristine. This is our baseline to begin with. According to the Intergovernmental Agreement between the Puget Sound Partnership and SJC, "San Juan County contains one of the most intact habitat areas in the whole Puget Sound." Our ecosystems are intact for several reasons.

San Juan County has voluntarily chosen to limit, and in some cases regulate or manage, our growth in a different way than some other communities around Puget Sound. We have a 5-acre rural density and a slow development pattern. The trickle of single-family custom home building supports our small population. We have virtually no large-scale residential developments (except for affordable housing). We have an island culture of environmental awareness and protection that supports unique and successful preservation programs like the Land Bank and the SJ Preservation Trust.

We have limited economic activities. We have no large industries that cause pollution and have only small-scale agriculture. Our economy does not depend on use of our natural resources like commercial timber harvesting or mining. Where are the problems or errors in our existing CAO that require new regulations?

In the 10/26/09 paper, Section 1 (pg 3), you have attempted to outline apparent problems. You present an incorrect premise that is unfortunately woven through the entire document and leads to false conclusions. It is claimed that "some" of the County's current regulations are "not working" or are "confusing."

In Section 1.2 there are five areas given as examples where the current CAO is not working or is confusing.

1. Shoreline bluffs continue to be hardened by bulkheads and riprap.
2. Current regulations are confusing to shoreline property owners when they try to maintain their views by clearing activities or provide access to the beach.
3. Property owners are confused about land clearing activities near streams and wetlands on their property.
4. It is not clear what activities are exempt for agricultural.
5. Linkage between regulatory agencies is not well defined.

The first two points concern shorelines. The shoreline issues are not under consideration at this time and therefore have no relevance to the uplands CAO process before the County now. Given the fact that the County Council has divided the shoreline and upland CAO process-consistent with the recent decisions of the Legislative and Judicial rulings in Washington State-it is inappropriate to lump them together.

The regulatory plan for agricultural activities is underway in a separate regional process and is not relevant to this discussion now. Linkage between regulatory agencies may be problematic but San Juan County can't solve this by demanding a certain behavior by State and Federal agencies. The fact that bureaucrats have trouble coordinating their activities certainly does not demand a wholesale rewrite of our local CAO.

One problem remains; confusion about land clearing activities near wetlands and streams. It seems to me that the process to clear up this confusion is to review the existing regulations. If there are issues of consistency, errors in the regulation, or an environmental concern due to a demonstrated problem, then steps should be taken according to law.

The analysis above does not even begin to show a justification for a complete rewrite of the CAO. Could it be that an entire rewrite was undertaken to impose the PSP "Action Agenda" on our local population when there is no need for it here?

3. Cart Before the Horse

On Page 1 of the issue paper, it is stated that one group of environmentalists believed that the code needed to be revised based on new scientific information. The re-write of the CAO was undertaken on this basis. It is my understanding that there has been no “audit” of the efficacy of the existing regulations. Further, I am not aware that our Council has adopted local science that addresses any specific environmental problems that our existing regulations fail to address.

In the meeting 11/9/09 Ms. Hale described the process as an effort to, “tease out the science” from a large inventory of generic documents that support the regulation. I believe this process is backwards. The county process should be about doing this correctly or the result will be fatally flawed.

The first step is to identify the specific environmental problem. It would then be necessary for the Council to adopt BAS that addresses the local problem, then craft a regulatory solution to the specific problem guided by that science. Unfortunately, this has not been done.

4. Appeal Process

This process has gone in the wrong direction from the start. This guarantees appeals from both environmental and property owner groups. I believe that re-writing the CAO has created an obvious and unnecessary quagmire. We should start with the existing regulations, and proceed in a legally defensible way.

The current Critical Areas Ordinance is the law now and is legally defensible. There are no challenges to our CAO. All appeal periods have passed. There is no evidence that these regulations are not working to protect the environment. County Council members should find a degree of comfort knowing that existing law is appeal-free. If we step out away from these regulations one way or another without first identifying problems, adopting local science that addresses the problem, and then crafting regulatory solutions to the problem, appeals will follow.

In my opinion Puget Sound Partnership, DOE, WDFW, CTED, NOAA, etc. should begin to study San Juan County in earnest. All we hear from them is how pristine and beautiful these islands are. They want to come here and help us protect everything. We don't need their help, thank you. What they should be doing is learning how we have done this. How has this community thrived in harmony with nature? What regulations have we chosen to keep this awesome ecosystem intact? Then they should take away what they learn to other communities instead of coming here to impose their big regulatory agendas.

5. Reasonable Use

The definition of reasonable has not changed and neither should the CAO regulations. We have no indication of the damage that a single family home near a wetland does, and no baseline for evaluating damage (or lack thereof) to the environment. The Island County definition could be useful:

Reasonable: As used herein, rational; logical; realistic; in accordance with common sense; or not expecting more than is possible or achievable.

Reasonable Use: The logical or rational use of a specific parcel of land which a person can be expected to conduct or maintain fairly and appropriately under the specific circumstances, considering the size of the Lot, the type of Use or Structure proposed and similar Existing or allowed Uses and Structures in the general vicinity of the Lot.

6. Site vesting

The idea of site vesting should be seriously considered. Somewhere between 80-90 % of all parcels in San Juan County contain some type of critical area. They may not know it yet but they will find out soon. The numbers of people affected by non-conforming uses and structures is huge. If we want to avoid a revolution, it may be wise to vest these uses with language like the following.

“Existing permanent improvements that were lawfully erected, installed or constructed shall not be required to be modified to comply with the requirements of this CAO.

Any legally constructed home, including all accessory structures, yard area, garden, landscaping, driveway, septic drain field shall be considered as the developed area associated with that home. The developed area shall be vested under law, shall remain so, and shall not be made non-conforming under subsequent changes to land use rules.”

7. Economic Analysis

An economic analysis of the cost to the community of this ordinance would be a good idea and something that should be done.

Thank you for the opportunity to comment.
Gordy Petersen

Comments from Melanie Thea Patten

November 18, 2009

Shireene Hale, Senior Planner

San Juan County Department of Community Development and Planning

To introduce myself, I am a long-time (40-year) resident of San Juan County. My husband, Mike Schifsky, and I own property on Orcas, near Olga, with a pond, a seasonal stream, and a "swampy" area. We have commissioned a wetlands delineation, but it is not yet complete. Preliminary indications are that all or most of the property will be either a Category 3 wetland, or within the current 50' buffer zone, or within the proposed 90' buffer zone.

I have read the June 3, 2009 Draft of the San Juan County Upland Critical Area Amendments; I also attended the public forum in Friday Harbor on August 25, two "Open House" meetings on Orcas, the "field trip" on Orcas and the recent public workshops on Orcas and Lopez Islands. I have some concerns with the Draft that I hope will be considered in the creation of the final version of the ordinance. Some of the points I want to raise could affect my own property; some do not.

One of my primary concerns is with the definition of "reasonable use" of the land. In the Draft [18.30.110-E] all of the proposed criteria for "Reasonable Use" are concerned with the square footage of the developed area, with different areas allowed for parcels of different sizes. I think there are a couple of problems with this.

I am sorry that I am having such a hard time articulating this, but it looks like square footage is the only criterion County officials may take into account when deciding how a property should be developed. If this is correct, the rigidity of this system could force conscientious County officials to make decisions which would not be "reasonable" from a common-sense point of view, or even from the point of view of a person trying to preserve the wetland environment. My example, of course, is my own property.

Our property near Olga is part of a former farm and orchard that was clear for much of the twentieth century. Most of our 4.9 acres has grown back to alder trees, but near the "back" of the land (farthest from the County road) there is a large grassy field or meadow of slightly higher and drier ground. There are several structures in the meadow, including a small cabin which probably does not have "grandfathered" status. We do however have a permitted and installed septic system, drainfield, electric and telephone there, installed in the anticipation of building a home. The meadow is within the proposed buffer zone for Category 3 wetlands and parts of it are within the current buffer zone.

Our problem: The field is reached by a driveway which snakes through the alders (which are in a Category 3 wetland). The driveway is close to 700' in length. The County assessor says we have 4.9 acres, and thus we would be allowed 8,710 square feet of "developed area including the driveway." The driveway consumes almost all of this "developed" area. Are we then, if we want to build a modest home or even a small cabin, to be forced to abandon our installed utilities and historic meadow, and forced by the provisions of the new ordinance to log extensively, install an entirely new drainfield and disturb the existing natural vegetation in order to build close to the County road (thus shortening the driveway), only to avoid exceeding the square-footage requirements for a 4.9 acre parcel?

Further, if even a small area near the County road could be found which is outside the buffer zone, we might be forced to abandon existing permitted and installed infrastructure. I hope that the new ordinances will not force people to abandon existing permitted infrastructure. Can you reassure me that this will not be the case (or offer some relief for the expenses we have already legally incurred)? Can the

final draft of the ordinance be written so as to give some weight to existing infrastructure in the siting of the home? Can some language, some flexibility, be built into the final ordinance to allow County officials to consider other criteria for “reasonable use” than simply the square-footage of the total developed area of a parcel?

My second concern is with the provision in the Draft [18.40.310-C] that states that in the event of a fire or other disaster, a non-conforming structure may be rebuilt “if rebuilding is completed within 24 months of the date of destruction.” I believe this is quite unrealistic. The difficulties of this would be especially onerous to those living on non-ferry served islands, or those of us who are owner-builders. Even in the best of times, finding an architect, completing the design, doing the engineering, permitting, possibly new septic and other infrastructure and then hiring a contractor and doing the building can take far longer than two years. In these troubled times, just getting financing – especially when essential paper records may have been destroyed in a fire – can take “forever.” What if the disaster that destroys the house also leaves the family in crisis, with injured or killed family members? Are they then to lose their ability to rebuild? This would not be fair!

I request that a simple declaration of intent to rebuild, without a completion deadline, would be reasonable and humane.

Third, the Draft [18.30.150-E.6.a.viii] says that “the developed area within a buffer may be expanded up to 25%...” In the public meetings I attended, this was presented as an allowance for buildings & homes to be expanded by 25%. Thus a huge house would be allowed greater increase in size than small cabins. This does not seem reasonable or fair. Nor does it make environmental sense.

Fourth: This brings up another issue: due to the fact that many surveyed Sections are slightly less than their nominal one-square-mile size, many properties are actually very slightly under the 5 acres that would qualify them for an additional 2,180 square feet of developed area. This cut-off at exactly 5 acres seems arbitrary. Would not a developable area based on a percentage of the acreage be more sensible?

Finally, I want to say that I really, really appreciate the effort that has gone into drafting an ordinance that I hope will balance real human needs with environmental protections. If our property in Olga does turn out to be entirely in wetlands or buffers, I will be especially grateful for the section of the ordinance [48.30.110-E.1] that attempts to minimize paperwork and mitigations for small “disturbances” of less than 2500 square feet. We hope to build only a modest house.

THANK YOU,

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Comments from Bill Wright

This Issue Paper is fraudulent at inception for the following reasons:

INTRODUCTION fails to state:

- That San Juan County government is mandated by the Washington Constitution to protect property rights
- That the draft proposal, developed by a County Council appointed citizens committee was not unanimous. Several minority reports are documented.
- That Amy Windrope is a paid employee of Puget Sound Partnership

Under paragraph 4 PROPERTY RIGHTS ISSUES the issue paper states

- “The reasonable use exception typically included in local government critical area ordinances provides an exception of the regulations in order to prevent an unconstitutional taking of private property by the government”
- This is fraudulent statement by definition “Reasonable use” is a taking.

Any/All statements that the “Citizens Committee recommends” is fraudulent

Any/All recommendations by San Juan Initiative shall be struck from the issues, as they have no standing in the process.

The buffer widths should be reduced. Bob Fritzen, DOE representative, has offered, in a conversation, that DOE does not have specific buffer requirements. According to Mr. Fritzen, a County can set buffers based on local conditions.

GMA required the County to review its critical area regulations. It did not require the total re-write that this issue paper incorporates.

Comments from Fred Klein

Jim,

A few thoughts for consideration per your request for comments on p. 20, of "Creating Environmental Laws...", 10/28/09.

1. I believe it is of utmost importance to craft regs. which deal with local conditions...there are good reasons for the State laws which relegate DOE to providing guidance and recommendations (rather than for DOE to craft and enforce state-wide regulations) and leave it up to local jurisdictions to craft the regs.
2. Let's keep in mind that much of our awareness and regulation of environmental issues are rooted in the Federal Clean Water Act, passed I believe in 1974. A ruling by the US Supreme Court (in 2001 I believe) removed what are classified as "isolated wetlands" from Federal regulation. Now I know that this does not affect our Washington State regulations, but it is a significant data point that acknowledges, at least from a Federal perspective, that "isolated wetlands" are not as "critical" as marshes or streams which have outflows into navigable waters. It's true, of course, that all wetlands in addition to their effect on water quality have a habitat function, which is important for healthy ecosystems and of particular concern for endangered species.
3. As I've stated elsewhere, the endangered species which most concerns me is the threatened "Orcas Island Blue Collar Worker", and here on Orcas Island, it's habitat is increasingly limited to a very small portion of the island, the Eastsound Urban Growth Area. The habitat for the OIBCW may not be of significance state-wide, but it is of enormous significance to maintaining the vitality, diversity, and culture of the community of Orcas Island.
4. In addition to the Eastsound Swale which drains a large watershed and flows into East Sound, the Eastsound UGA contains quite a few isolated wetlands...wetlands created by natural depressions of topography accompanied by impervious substrate soils which do not allow rainfall to percolate and recharge the aquifer...wetlands which may have seasonal standing water but no outfall leading to Puget Sound.
5. I am NOT suggesting that the Eastsound Swale not be protected. I am NOT suggesting that "isolated wetlands" be unregulated, filled in, or otherwise ignored. I AM suggesting however, that as we craft our local regulations, that we take into account the location of those "isolated wetlands" which occur within our one UGA, and not subject them to the same buffer requirements as might be imposed in the rural areas. I AM suggesting that "isolated" Class 3 or 4 wetland buffers within a UGA be minimal...30 to 50 feet maximum.
6. The recent OPAL Community Land Trust project, Wild Rose Meadow, on Mt. Baker Road (within the UGA) is a case on point. A small area of the site had an "isolated wetland". As a consequence, I'm told that OPAL spent \$150,000.00 on consultant's fees alone (and untold dollars on extra site development costs) solely to deal with the wetland, in order for the project to move ahead to completion. This has had an enormous adverse impact on my favorite threatened species, the OIBCW.

7. What I'm suggesting is that, within the UGAs, we move the fulcrum as we seek the appropriate balance point between protecting the habitat of critters and protecting, and providing for, the habitat of people.

8. And I'm betting that there's an expert somewhere who can read the tea leaves and find some best available science to support this.

Fred Klein

Comments from John Evans

Dear Jim,

Just a note to say I think you did a very good job as the organizer and facilitator of the wetlands walk and the evening meeting on Orcas. In particular, I am referencing the participation of Dr. Brooks and how you allowed a variety of points to be brought forward and not just the comments of the usual suspects, including me.

I do not know where you plan to take this from here, but if a fair minded person had attended either event and was not already steeped in one or the other of the opposing views, they could have come away with some good ideas as to how to reach a general agreement. It is my hope that you are one of those fair-minded persons.

From our side, no one is saying that we should not take good care to protect our natural environment. The natural beauty of the islands and the existing healthy environment is why most of us have chosen to live here. We do think that the rights and reasonable expectations of private land owners to the responsible use and enjoyment of their property is an important community value as well as a legal right. We do believe that CONSERVATION is a principal for private lands that is far more useful overall than effectively TAKING land away from landowners to be overseen by a political and regulatory government bureaucracy. In the long run, the environment we are trying to protect will be better served.

It is our feeling that the "reasonable use" provision as currently in the draft CAO is far from reasonable. Our CAO Committee had a split vote on that provision.

It is also our position that the creation of thousands of additional parcels (over 50% of current parcels) that are either all or in part "non-conforming" or are encumbered with the CAO will be a mess for the county and the property owner.

We believe that the science should be applicable to the local conditions in the islands and that buffers should be reflective of our rural residential development pattern and lack of industrial pollution.

From my past experience, I think the "no net loss" provision is going to end up being arbitrary and difficult to administer if that issue is not further refined to include all the islands and if there is not a baseline by habitat types. Along those lines, the CASP system and the mitigation element are a long way from being ready for prime time. Both need to be tested or vetted as to their application by the county bureaucracy before they become part of the law.

Lastly, black and white rules for buffers is not a responsible approach for land owners. We have too many variables between parcels.

I may have additional comments later, but thank you again for the way you handled the Orcas meetings.

John Evans
Executive Director
San Juan Builders Association

Comments from John Evans

Jim,

The following are my comments as you requested.

For starters, I think you have done a good job of putting the issues regarding the upland CAO and the forthcoming shoreline review down on paper. You have an interesting sales and marketing job ahead.

1.1 Which specific current regulations are not working to protect what aspects of the environment in San Juan County? Specifics are important. Simply referencing best available science from DOE does not get to the point of the what, why, and where our citizens should be concerned about.

“How do you suggest we implement a “no net loss” standard? As long as “net loss” is defined as any alteration to the natural conditions or environment, it is impossible for a property owner to have any productive use of a parcel. If “no net loss” stays in the regulations, it should be tracked on a County wide basis by habitat classification. Further, the avoided “net loss” that comes from the conservation of otherwise developable land by the Land Bank, the Preservation Trust and the County’s Open Space programs should go on the “plus” side of the ledger when the County makes its “no net loss” evaluations. As of two years ago, over 1,600 potential developable parcel rights had been extinguished by the Land Bank and Preservation Trust. The number of parcels that will not be developed and managed as “natural” continues to grow each year.

Which feeder bluffs are important to protect? The courts have made a clear ruling that not all shoreline is “critical.” A reasonable approach regarding bulkheads is to recognize that not all shorelines are subject to the kind of erosion that is a significant source of beach sands, that not all “soft” beaches are negatively affect by well designed bulkheads and that there is an environmental value to protecting shoreline vegetation from erosion....not just structures.

Who thinks current shoreline vegetation rules are difficult to understand? While it may be true that those who want to stop everyone from doing any trimming or landscaping on the shoreline may find it difficult to force people not to do anything under the current regulations, it appears from any boat trip around the islands that most of the shoreline homeowners leave the native vegetation along the shore in place. As a nurseryman, I can tell you that keeping anything non-native growing on the shoreline or re-establishing native vegetation is a real challenge. People know this and tend to leave what is growing by itself alone. I would also add that a “no touch” vegetative management plan will not work for property owners.

If you try to impose CAO rules on agriculture you will not only stop most agriculture in the islands, you will markedly change the landscape from open land that is farmed to scrub forest and brush. I know this is on the agenda of Futurewise and maybe your organizations as well, but most of the productive farm land here and elsewhere occurs on land that would probably qualify as some type of wetland or is crossed by streams. Very little land in the islands is classified as agriculture resource land. Most of our farming in the islands is done on land

zoned rural farm forest so don't buy into the notion to just exempt designated agricultural land. The Skagit County Supreme Court Case made it clear farmers didn't have to abandon their land.

There is nothing wrong with the basic science that comes from “best available science.”

The problem for the CAO and shoreline is that the word “best” is also applied to the conditions we think we have to maintain for our critters to meet the intent of the law. I argue that the science should be used to guide a program of conservation and the sustainable use of our natural resources. This approach is called “resilience science” and identifies the range of conditions within which a species can function...from the “ideal, all is good” to the “we are in trouble now.”

I believe that we should have a “level of service” for our species as we do for transportation under GMA. The minimum level of service standard would be a C. A “c” is sustainable and can be maintained without the level of disruption to our neighbors the current CAO plan envisions. All of the species we have now, in variety as well as numbers, have shared the islands with us all their lives. We are already part of their habitat. If we apply the “no net loss” measurements I mentioned earlier, there is no reason to expect they will not be present a century from now.

2.1 Reasonable use. The draft proposal for reasonable use is simply an invitation for lawyers. Only allowing 5% or 10% of a parcel to be used under severe restrictions is no reasonable use. The reasonable use discussion has failed to recognize that parcels with wetlands many also have streams and other CAO overlays, so the number of parcels that will require the reasonable use process is much larger than the county currently has estimated. I suggest that reasonable use means 50% on parcels two acres or less, 40% for parcels up to 5 acres and 30% for parcels over 5 acres. This gives substantial portions of CAO-encumbered property...50%, 60% or 70% to habitat for critters.

2.1 Non-conforming use. Adjusting the proposed regulations to assure that existing home, buildings, improvements and developed area on a parcel are vested and enjoy the full legal benefits that existed prior to the CAO is the largest single step you can take to make the upland and shoreline rules acceptable. The new CAO rules can be applied to the area outside that which is already developed. The owners developed portions of their property that was perfectly legal should remain so with no additional restrictions. The restrictions under the standard non-conforming status decreases the value and enjoyment of the property for the current owner and the resale value to a future owner. It is totally unnecessary to achieve the goal of maintaining a sustainable critter population.

3.1 Non-fish seasonal streams. There is science that supports smaller buffers than are being put forward in the current draft ordinance. The “law of buffers” is that for each additional foot of buffer, the additional filtration value achieved decreases. In other words, the environment will see proportionately decreasing benefit the higher the number of private acres sequestered from the use and enjoyment of private owners.

Visual and physical access to the shorelines. Any boat trip around the islands should demonstrate that the 50 foot and 100 foot setbacks in the current shoreline ordinance and the current rules for vegetation and stairways is serving our shorelines well. I think a lot of the opinions on this issue are solutions looking for a problem.

4.1 Natural vegetation. I do not think there is any science that shows native trees, shrubs and grasses offer higher quality insects, better filtration of runoff or any other values than non-native plants. I think this is a straw man argument. As a nurseryman, I am happy to supply our customers with “native” plants or non-native plants. The major issue is what will grow and what won’t. Healthy plants make the homeowner happy and I suspect make the environment happy as well.

Along the same lines....if we get too carried away with putting things go back to pre-1830 conditions, many of the species we take for granted in the islands today will no longer be able to exist here. Like it or not, human activity...farms, yards, structures... provides habitat that many species need to exist here. There is a lot of responsibility that goes with playing God. Generally, we are not very good at it and are soon swamped by unintended consequences.

Summery: Many of the people I talk to, some who have lived here far longer than my 30 years, are very concerned about a proposed new batch of regulations in their activities and property based on some agenda arriving in San Juan County from a collection of mainland environmental activists, government bureaucrats and politicians beholdng to supporters with narrow agendas.

Also, most of the people I know are strongly committed to protecting the quality of life...including the healthy environment...we enjoy in the islands. If there is a credible environmental problem that we are responsible for, we will fix it, but clearly identify the problem first. Don’t hold us responsible for forage fish when the Department of Fish and Wildlife still issues commercial and recreation licenses to net them on County spawning beaches. Don’t hold us responsible for changes in ocean temperature that greatly affect the success of salmon, or for degraded salmon spawning habitat on the mainland. Don’t hold us responsible for the thousands of tons of chemicals that flow into the Sound daily from city sewage treatment facilities. (Most of us are on septic systems that work). Don’t hold us responsible for the State-approved ongoing over fishing of everything edible in Puget Sound.

The reality is that whatever the Puget Sound Partnership, the San Juan Initiative, DOE, Commerce, Fish and Wildlife and the hundreds of NGO groups have in mind for us will probably come to pass. All the players seem to be in the right places to move the nature first agenda forward. That doesn’t make it right. At some point, working families, our local builders and their employees, seniors, regular citizens and regular property owners are going to say enough. It would be a real ray of sunshine if you and your group came back with a proposal that clearly identified real problems and offered common sense solutions that were rational, balanced, responsible, affordable and actually tailored to the facts on the ground in San Juan County.

Have a great day,

John Evans
Executive Director
San Juan Builders Association

Comments from Ross Lockwood

Note: The formatting of this letter changed in conversion from the original PDF.

I attended the CAO public meeting in Friday Harbor on November 9th and would like to make some comments.

I would like to express my concern that the proposed regulations may be far to flexible and permit various activities which would have a negative impact on the resources that the regulations are intended to protect.

1. The exclusions that would permit “Gardens and orchards” in buffer areas around wetlands and fish habitat areas provides a very broad pathway which can result in delivery of nutrients directly into a wetland or stream. It is not necessary to use synthetic chemicals (pesticides, herbicides, or fertilizer) to cause harm “downstream”.
2. “Gardens and orchards” is a very loose term, which quickly morphs into landscaping which includes broad lawns with a few border plants and fruit trees.
How will this be enforced?

Please note that I am in favor of gardens and orchards (we have both on our property), my concern lies with ensuring appropriate uses for appropriate places, and that establishment of a garden or orchard could involve clearing a significant area of native vegetation.

It seems that it would be preferable to permit activities in a buffer area only provided that the impact of the new use/activity is not any greater than the pre-existing use, and that it should be made clear that native vegetation is always preferable to artificial modifications.

Regarding the “reasonable use” clauses, I agree with a comment that was made in the meeting that the science indicates that there should be no exception made to permit development in a protected area, but that the proposed reasonable use exceptions are a recognition that people need to have an ability to make use of their property. However, there should be no expectation or ability for any party to subdivide a parcel in such a way that one of the divided pieces would lie wholly or even substantially in a critical area and/or buffer zone.

I am in favor of the use of “Best Available Science”. I think it is very important to make use of the applicable studies that have been done regarding the decisions that need to be made to help protect our quality of life here in these beautiful islands.

It is striking to me that proposed land-use regulations always seem to result in argument between the “reality” of economics, land value, and property rights vs. the “intangible qualities” provided by habitat and environmental protection. What is ironic in this argument is that the concepts of economics, land value, and even property are constructs of our society, whereas there is nothing more real than our environment and the habitats in which we live.

Thank you very much for coordinating this effort and for the opportunity to comment.

Respectfully yours,

Ross Lockwood

524 False Bay Dr

Friday Harbor, WA 98250

Comments from Shona Aitken

Note: The formatting of the letter changed in the conversion from a pdf.

I attended the CAO public meeting in Friday Harbor on November 9th and wish to submit the following comments.

1. Gardens/Orchards in buffers.

I strongly disagree with the proposal that gardens and orchards should be allowable uses within wetland buffers. The definition of buffers includes the language, “Buffers shall consist of **undisturbed** areas of water, **native vegetation**, duff, logs and snags.....” The establishment of a garden or orchard involves the removal of native vegetation and disturbance of the soil, two activities that greatly reduce the effectiveness of a buffer, and certainly come under the category of “Excessive removal of vegetation that alters natural site characteristics.” I would suggest that planting a garden/orchard within a buffer should only be allowable if this is a less detrimental use of the land than that which currently exists.

2. Scientific Studies not Applicable in the San Juans?

Several people voiced the opinion that scientific data concerning the effects of development on wetlands, collected elsewhere, was not applicable in the San Juans. What was not mentioned was the possibility that studies carried out specifically in the San Juans could result in **more restrictive** regulations. Shallow soils, exposed bedrock, steep slopes, relatively small watersheds and other features commonly found in the San Juans could lead to the conclusion that this area is **more sensitive** than many and that buffers need to be larger to protect wetlands on the islands!

3. A large percentage of the wetlands and other critical areas in San Juan County have already been destroyed or seriously degraded, making the remaining areas delicate and essential resources that should be protected by effective ordinances based on the best available science. If we fail to do this, we will lose many of the features that make the San Juans such a special place to live.

Sincerely
Shona Aitken

Comments from Tim Blanchard and Peg Manning

Note: The formatting of this letter was changed in conversion from a PDF to this document.

P.O. Box 490

Orcas, Washington 98280-0490

November 18, 2009

To: County Council, San Juan County

Re: Comments on San Juan County Proposed Upland Critical Area Amendments

We submit for consideration by County Council the following comments on the current version of the proposed CAO amendments and supporting documents, including the “position paper” posted on the County website. Like many of our fellow islanders with whom we have discussed this issue, we have grave reservations about both the CAO process and the proposal now circulating. In short, we believe that:

- The current proposal is unprecedented in its broad scope and huge burden on property owners, yet devoid of scientific justification required by law;
- The proposals have been misrepresented to the public as affecting only a small number of parcels and having minimal impact on those parcels; and
- The draft regulation is poorly drafted, promising confusion to property owners and litigation expense for the County and its citizens.

I. GROUNDS FOR NEW POLICY.

We have reviewed the materials provided by the County in support of the proposed rule, and have found no evidence that the County has identified a problem cognizable under the law, much less a nexus between any such problem and the current rules governing use of property in San Juan County. Despite this, the County proposes to impose onerous, complicated and expensive limitations on the use of private property in the County. At the same time, the County has not demonstrated how the specific limitations proposed would affect the outcome. As a matter of fundamental fairness, the County should designate the critical areas that will be subject to the CAO with specificity before proposing restrictions and limitations. This is necessary to give the public a reasonable opportunity to consider the effects of the proposal. Unless residents understand the broad reach of the proposal – affecting potentially every parcel in the county, the public participation required by the GMA is severely undermined if not essentially illusory.

Comments on San Juan County Proposed Upland Critical Area Amendments

November 18, 2009

II. PROCESS.

Regardless of the County’s budget constraints, the Council’s actions effectively delegating much of the decision-making and public outreach to groups and individuals with a vested interest in restrictions on land use in the County is inappropriate. It has produced not only a one-sided and unjustified proposed regulation, but also significant misrepresentations made in the County’s name regarding the scientific evidence; the legal requirements by which the County is bound; and the potential impact of proposed CAO amendments on its citizens. “Co-branding” what should be County documents with Puget Sound Partnership or other logos gives the impression that the County has ceded control to what are, indisputably, organizations with their own agendas. No one we

know voted for the San Juan Initiative or Puget Sound Partnership to administer the County.

Examples:

- Repeated misrepresentations in public meetings regarding scope and impact, including statements:
 - That only a relatively small number of parcels will be affected by the proposal (whereas, in fact, few parcels will be unaffected);
 - That property subject to “nonconforming” use status as a result of the proposed ordinance will not really be affected (whereas the ability of property owners to improve or renovate their properties will be substantially burdened).

The workshop held on Orcas on November 12, 2009, focused on issues related to wetlands and downplayed the impact of the proposed regulation upon property affected by other types of critical area designations. During what was supposed to be a general discussion regarding nonconforming uses, exemptions, and “reasonable use” exceptions, we were told that the CAO would affect only a small number of parcels county-wide. That estimate clearly applies solely to wetland areas, however, and may not even be accurate regarding them. The proposed CAO imposes its restrictions not only on wetland critical areas but also upon wildlife habitat and the remaining critical areas as well. See Sections 2, 3, and 7 of the proposed CAO. Every parcel in the County is potentially affected by the CAO because any or all could be included in a designated critical area. The Orcas audience was also told that the wildlife habitat critical area provision currently includes only a few species; there was no discussion of the proposed process allowing the nomination of additional plant and animal species for protection in the future.

• Power Point presentation:

- “Changes are necessary – also required by State and Federal law.” Changes in the ordinance are not required unless there is a finding that the current ordinance is inadequate. Nothing in this presentation provides the basis for the conclusion that changes are needed.
- “Choices!!!!” One of our choices is to make no substantive change in the protections already imposed by the existing ordinance, i.e., to redesignate our existing ordinance as our CAO, clarifying any existing confusing and ambiguous elements.

• Misuse of “Best Available Science” standard

Regarding consideration of Best Available Science, the proposed ordinance should be revised to limit the policymaking and administrative discretion of the County only to that mandated by state law. The proposed CAO seeks to constrain the County to a far greater extent and to essentially convert the science of the day into the law of the land. This is simply not consistent Washington law. Contrary to the standard articulated in the proposed CAO and in the position paper, State law requires only that counties “include the best available science in developing policies and development regulations.” RCW 36.70A.172 (1). It does not require a county’s ordinance to be “in accordance with the Best Available Science” as the proposed CAO does. State law requires only that Best Available Science “should be reviewed for local applicability.” WAC 365-195-905(2). As the Critical Areas Assistance Handbook prepared by the State

explains at page 13: “Local governments must substantively consider best available science.” There is no authority requiring counties to be bound by the current version of best available science in adopting ordinances to protect critical areas. See *Ferry County v. Concerned Friends of Ferry County*, 155 Wn.2d 824 (2005). Notwithstanding these clear statements of the law, those promoting the proposed CAO continue to misstate the requirement. Indeed, the position paper asserts that: “the County is required to update its regulations based on the best available science,” and that the proposed ordinance “must be supported by the Best Available Science,” but that simply is not true. There is no reason that the county should voluntarily constrain its discretion and in this area where the flexibility to balance serious goals in light of Comments on San Juan uncertain and evolving science will be critical to the development of fair and effective policies under its CAO.

III. THE SUPPORTING DOCUMENTS ARE POORLY REASONED, POORLY ORGANIZED, AND POORLY WRITTEN.

Examples:

- The “position paper” uses a wholly inappropriate tone, discussing “polarization” and “controversy,” rather than summarizing the County’s existing rules, detailing whether and how they may be inconsistent with applicable requirements, and whether they need to be changed. (It is beyond dispute that, unless there is a problem identified in the existing regulations that render them inconsistent with governing statutes, there is no justification to further limit the rights of property owners.)
- Section 1.1 of the position paper states: “Once the Critical Area Ordinance is adopted by the County Council . . . ,” giving the distinct impression that the CAO ordinance will be adopted, whereas the County could reasonably conclude that existing regulations have not been shown to be inadequate for their purpose.
- Section 1.2 of the position paper, which should be the centerpiece of the discussion—an analysis of any perceived problems with the existing regulations and scientific evidence supporting that analysis—comprises half a page and cites two “examples.”
- Typos: “forge fish” and “swallow water” and “rational for recommendations”? This kind of carelessness doesn’t inspire confidence with respect to the substantive conclusions.

IV. THE DRAFT ORDINANCE IS POORLY DRAFTED, WITH SOME PROVISIONS BORDERING ON INDECIPHERABLE.

The draft ordinance is poorly drafted and poorly structured, with numerous vague and ambiguous provisions that will lead to end-user confusion and disputes about meaning.

- Definitions. Despite the fact that many of the terms defined in the proposal are terms drawn directly from state law or regulation, the proposal unnecessarily includes confounding additions, along with the relevant citation, such as “including . . . but not limited to” Citing a definition of a common term Comments on San Juan County followed by “including, but not limited to” or other text such as examples is an invitation to ambiguity and litigation. (In other words, if it means what the authorizing statute means, then why does it have further text?) This problem runs throughout the definitions.
 - “Best Available Science” is adequately and appropriately defined through the WAC references. The inclusion of “examples” is unnecessary and potentially confusing.

- “Best management practices” is defined in state administrative code and a cross-reference is more practical than a list of examples “including but not limited to.”
- “Binding site plan” definition: this provision does not “define.” It seems to be a backdoor effort to limit “binding” site plans to large developments. One would expect that a binding site plan would be a site plan [defined in cited section] that is binding on [whom] under [specified conditions].
- “Conditional use permit” is already defined in SJCC 18.20.030 “C” definitions.
- “Critical area” is defined in WAC.
- Surely there is an official title for the head of the planning function. Is it Director? The correct legal title should be used.
- “Development” includes mere division? How can division of a parcel affect anything with respect to critical areas, when all it does is draw a line on paper? Why is a boundary line adjustment also subject to the Director’s decision? These are either actions that property owners had a right to do unimpeded before, or not (for example, is the lot large enough to subdivide? If so, the owner has a right to do so. There is no excuse for encumbering them in this process. After division or boundary line adjustment, if the property owner then seeks to take action covered by the CAO (building, renovating, etc.), the owner’s actions will be judged on their merits under the CAO.
- Can’t a “Driveway” provide access to more than two houses? Does it become a roadway if it provides access to three or more?
- “Functions and values” relate to the critical areas, not to the buffer; the current definition is circular. (Where are “functions” and “values” defined?)
- “Primary structure”: principal is misspelled. What prescribes only one “primary structure” on a parcel?
- “In kind compensation” means to replace something?
- “No net loss” does not specify the universe against which the loss is calculated.
- “Qualified Professional.” What is a “wetlands professional”? The regulation needs to be more specific. DOE uses professional society certification for wetlands professionals. This would make more sense than the language now used. The experience and education required should be better explained. I can call myself a wetlands professional if I wander about a wetland and assess it?
- “Riparian habitat”: from a legal perspective, this is gibberish. Surely there must be a definition.

- Regulatory content.

- What is a three-dimensional building envelope? If, for example, my hot tub is outside the roofline of my house and needs to be replaced, do I need to go through the application process?
- What is “degree of nonconformity” in this context? If my property becomes a nonconforming use and I want to renovate, what would “increase” the degree of nonconformity? Isn’t nonconformity an all-or-nothing condition?
- When I seek to change something in my property, the County will consider the entire impact of my pre-existing house as well as the incremental impact of any change? How is that consonant with the interpretation of minimal impact on existing homes being presented by the proponents?

- Rebuilding within two years of the date of destruction is highly unreasonable; given the complexity and expense involved in this regulation, it could take that long just to get a permit.
 - The exterior lighting provision seems to address not only CAO but also neighbors and rights-of-way. Why? What is “unusual” brightness or intensity? What is “glare”? What is “decorative” lighting?
 - Why does the applicant have to supply the County the names and addresses of all owners within 300 feet of the subject property? The County has the best and current information available on that score.
 - The 10-day processing provision is highly unrealistic. Yet the owner’s only alternative is to take the risk and pay a financial guarantee?
 - Why is the Director permitted both to require additional information not specified in the regulation and to waive the submission of documents required in the regulation? This renders the determination of application “completeness” impossible, and gives potential challengers a valid objection.
 - “Yes” uses? At the very least, specify what this means in professional terms and then, if necessary, designate it “yes” use.
 - We are unable to decipher the Appeals provision. G.
 - What is the “least impact possible” for roads, utilities and trails? Wouldn’t removing all human activity for the islands be the “least impact possible”? How does the County propose to interpret these terms?
 - Why does the regulation address “rare plants”?
 - Maps. Given the burden being placed upon the property owner, the County should map the protected species and habitats. If the County does not know that a species/habitat is present, how can it know that there is a problem or require protection?
 - “Qualified professional” full employment plan. It seems unwise to pay QPs to decide what “problems” exist, and then require property owners to pay them large sums of money for studies and evaluations as a prerequisite to using their land.
 - “Additional protection requirements.” Are these required by law? If not, it should be made clear that their imposition is a choice to add further burden to the property owner.
 - “Local concern.” Recommended but not required. Onerous. Remove conifers near Garry oak? Replanting?
 - Nomination petition process not available for delisting?
- Note also that there apparently is no subsection (E)(5) in proposed SJCC 18.30.160. Ambiguous terms and provisions must be eliminated to avoid violating due process and engulfing the County in endless, expensive litigation. As proposed, the CAO is a trap for both the cautious and the unwary, because it incorporates throughout the draft ambiguous terminology and conditions susceptible to post hoc interpretation. Accordingly, it is impossible for any land owner to know in advance whether a particular parcel will ultimately be held subject to particular CAO provisions. A particularly problematic example of the sloppy drafting that infects almost the entire proposed CAO is “nonconforming uses.” According to the proposed ordinance, once a structure becomes a nonconforming use because it is declared to be within a critical area or buffer, any “alteration, modification, intensification, or expansion” of the nonconforming use or structure is subject to review. See Section 7 of the Proposed CAO. The proposed ordinance, however, does not define what is meant by “alteration” or “modification.” While “[o]rdinary maintenance and repair of a nonconforming structure and its

equipment or fixtures is permitted,” the ordinance does not define what is meant by “ordinary” or when maintenance . Unless the proposed draft is revised, most structures and uses in the county will become nonconforming as a result of continuing expansion of critical area designations and ever expanding restrictions on uses of affected property contemplated by the ordinance as drafted would be held to result in a potentially prohibited “alteration” or “modification.” Indeed, while the proposal would allow “total replacement” of a structure “provided, that the existing three dimensional building envelope remains unchanged,” even this technical-sounding term is not defined in the CAO. Similarly, the proposed CAO says it would allow alteration and modifications of nonconforming uses “provided the degree of nonconformity of the structure is not increased,” whatever that means. Likewise, the proposed ordinance would allow changes in nonconforming uses, but only if “the proposed use is equally or more appropriate to the district than the existing nonconforming use.” Again, we have no idea what this means. Leaving critical terms to post hoc interpretation by those seeking to enforce restriction and limitation under the CAO is unacceptable in the interest of fundamental due process in the administration of the ordinance going forward.

V. THE PROPOSED ORDINANCE SEEKS TO CONVERT CONSTITUTIONALLY-PROTECTED PROPERTY RIGHTS TO MERE LICENSES.

Fundamentally, those promoting the proposed CAO appear to believe that being allowed to continue a nonconforming use is some kind of “privilege,” as opposed to the established legal property right that it is. For example, in connection with wildlife habitat conservation critical areas, the proposed CAO states: To aid property owners in meeting these requirements, the County will develop standardized habitat management agreements that will be signed by the property owner and attached to permits and approvals. Approval of building and land use permits, and activities requiring County review, will be contingent on compliance with these agreements.

Proposed SJCC 18.30.160(E)(6) (emphasis added). Characterizing a contract of adhesion as being created “for the assistance of the property owner” is disingenuous, at best. There are two additional serious problems with this provision. First, if such a provision is to be adopted, at least the form of such agreements should be developed and made available for public comment in the consideration of the proposed CAO. Second, a series of legal questions come immediately to mind concerning the validity of the proposal. For example: If a building permit is contingent on compliance with a standardized habitat management agreement, does failure to continue compliance with the management agreement at some point in the future render the building permit void ab initio? If so, what are the consequences of a retroactively invalid permit? Will the standardized habitat management agreement include provisions allowing noncompliance in cases of emergency? How will conflicts of potentially governing laws be addressed in these agreements? More important, requiring a land owner to agree to “recommendations” that do not themselves have the force of law as a condition of lawfully continuing to use one’s property should be seen for the taking that it is. Because we believe that the fundamental bases set forth for this proposal are legally deficient, we have not taken much time to address elements such as the CASP, which is seemingly designed to be as complicated and exorbitantly expensive as possible. The purported “flexibility” supposedly offered is, as a practical matter, available only to the very wealthy among us. Established legal rights of property owners should be burdened

by the Council to the minimum extent necessary to comply with a reasonable interpretation of state law, and the County should be prepared to protect its citizens and defend the correct position through the highest courts in the land.

Tim Blanchard

Peg Manning

pegntim@gmail.com

360.376.4465

Is More CAO Science Needed?

I do not agree with those who say that we must delay increasing protections for critical areas until we have locally repeated studies done in other areas of our country. This would be like saying that we must not treat sick people in San Juan County until we repeat all studies of human health and disease in each community in our islands. This would be very expensive and take a very long time. People would suffer needlessly.

We do not have the money or the time to duplicate existing studies from other areas. Our marine ecosystems are sick, and we need to act soon.

We need not replicate the studies from other areas because water flows downhill in all 50 states. This insight allows us to use the knowledge gained in buffer studies from other locations. The significance of water flowing downhill is that stormwater picks up contaminants as it flows downhill.

Local studies in San Juan County do show that the stormwater carries toxic compounds into our waters. Mike Kaill began studying surfactants in Friday Harbor stormwater after the Spring Street Aquarium animals died off. These studies, in collaboration with the WSU Beach Watchers Program, have been extended to Eastsound and Deer Harbor on Orcas Island. High levels of surfactants have been measured in the stormwater from both Eastsound and Deer Harbor.

Most surfactants are synthetic compounds that are used in large quantities by people. The synthetic (man made) surfactants were once thought to be non-toxic except for skin and eye irritation. But recent studies show that surfactants are toxic to fish, amphibians, and other aquatic creatures. Even more importantly, a class of widely-used surfactants, known as nonionic, breakdown into a very toxic compound, nonylphenol, that persists in marine and fresh waters.

Nonylphenol is a hormone mimic that feminizes male fish and amphibians and disrupts their reproduction. It has been shown to be active at extremely low concentrations, one part per billion, or possibly lower. It is difficult to measure levels lower than one part per billion except by radioactively tagging the chemical under study. In lab animals and people, such studies show that hormones are active on the order of parts per trillion. Therefore, "dilution is not the solution."

The good news is that the nonylphenol, while persistent in water, can be efficiently biodegraded by bacteria and fungi in the soil. This biodegradation is twice as efficient in vegetated soil as in bare soil. But for this biodegradation to occur, the stormwater must be slowed down enough by surface irregularities to sink into the soil. And you need to have enough soil to absorb the runoff and enough vegetation to create a thriving community of the beneficial bacteria and fungi to degrade the nonylphenol and other toxic compounds that we now use or might create in the future.

San Juan County's abundance of rocky coastline and other extensive rocky areas with shallow soil require buffers that are much wider than buffers in places that have deeper soils. Steeper slopes need wider buffers to allow the stormwater to be absorbed into the soil. Buffers must be vegetated to promote efficient biodegradation of contaminants.

One possible alternative to extremely wide buffers along our rocky shores and areas of shallow soils over rock is the construction of bioswales. A bioswale is a Low Impact Development technology where vegetated soil in the shape of a broad, shallow depression is installed in the landscape. Stormwater can

be captured in the bioswale and the water can be purified by the action of soil bacteria and fungi.

Janet Alderton

Orcas Island

360-376-3905

Jim,

The Pollution Prevention Specialist for San Juan County, Brian Rader, is doing a fantastic job trying to educate our county's residents about how contaminants are carried downhill to our marine (and fresh) waters by stormwater flows.

But no matter how much education occurs, there will always be discharges by people who do not understand or do not care. This is why ample buffers of undisturbed native vegetation in addition to low impact development such as rain gardens and bioswales are needed to protect all critical areas. Brian makes the point that even "biodegradable" products should not be put down storm drains. This is because "biodegradable" products, such as surfactants, are toxic to fresh water and marine creatures until they are completely broken down. "Biodegradable" products often do not breakdown efficiently in water. The complex ecology of undisturbed vegetated soil is where biodegradation occurs most efficiently.

Please enter this email and its attachments as part of the record.

Thank-you for your work.

Janet Alderton
Orcas Island
360-376-3905

--- On Fri, 11/13/09, Brian Rader <BrianR@co.san-juan.wa.us> wrote:

From: Brian Rader <BrianR@co.san-juan.wa.us>
Subject: Stormwater Outreach with 109 businesses (so far)...

Hi all,

I am back in the office today after spending 3 days this week in Eastsound and most of last week in Friday Harbor . I have spent this time going door-to-door talking with local businesses about urban stormwater runoff. Using the fish tank story from Friday Harbor (canary in a coal mine) and armed with some photographs of dirty stormwater and data showing elevated concentrations of surfactants and hydrocarbons in stormwater, and pesticide concentrations in Eastsound clams, I was able to convince most of the people that I talked to that we do have a stormwater quality problem. The essence of my message:

- I wanted to make sure that everyone knows that the metal grates in streets & parking lots collect water that is discharged, **untreated**, into the marine waters. This water does **not** go to the wastewater treatment plant. Many people were not clear on this point.
- I talked about, and handed out, a fact sheet (attached) on stormwater that lists some housekeeping 'best practice' actions that each one of us can take to help make sure the stormwater is as clean as possible when it hits the bay.

This education effort was in support of an article that I wrote that appeared the week before my education effort in each area (attached and links: <http://www.pnwlocalnews.com/sanjuans/isj/community/68644457.html>, <http://www.pnwlocalnews.com/sanjuans/isj/news/66538192.html>). Despite this press, and numerous other articles and letters to the editor (many by Mike Kaill), I was surprised by how many members of our community (in Eastsound and Friday Harbor) were unaware of the stormwater problems we have been

having with the fish tank. Hoping for help in disseminating this information through the community, I made a special effort to meet with churches and realtors.

I tried to do some outreach (both targeted stormwater and more 'traditional' pollution prevention) with restaurants, as well. This turned out to be difficult without an appointment. I did accomplish a handful of these types of visits, but I passed up many other restaurants due to how busy they were at the time or my perception of how intrusive such a visit would be. I distributed a separate fact sheet (attached) focused on issues specific to restaurants.

Totals for this effort so far:

- Friday Harbor: 61 businesses
- Eastsound: 48 businesses

Lopez Village is scheduled for early next week. I anticipate this will take only one or two days.

Thanks!

Brian Rader
Pollution Prevention Specialist
San Juan County
135 Rhone Street
PO Box 947
Friday Harbor, WA 98250
360-370-7581
brianr@sanjuanco.com



11. PUT DIRT IN ITS PLACE...

Instead of hosing off the sidewalk, parking area or driveway, sweep up the dirt and put it in the trash. Rinse water will pick up dirt and other pollutants on the way to the water.

10. ...OR COVER IT UP

Plant vegetation or find another way to cover up exposed soil. Soil and sediment that is exposed can erode and wash into the harbor. Suspended sediments in stormwater can both impair marine animals directly and help to carry hydrocarbons, metals and other pollutants into our harbor.

9. PUT LITTER IN ITS PLACE

Deposit cigarette butts and other trash into the proper receptacles.

8. DON'T DO IT IN THE ROAD

If you need to wash your car, either use a commercial car wash or direct the wash water to a grassy area where it can infiltrate into the ground without running into storm drains or roadside ditches.

7. "BIODEGRADABLE"? MAY NOT BE ENVIRONMENTALLY FRIENDLY

Even if a product is labeled as "Biodegradable", it is still not allowed to go into the storm drains or roadside ditches.

6. GET THAT LEAK FIXED...

Leaky dumpsters can contribute pollutants to stormwater. Keep rainwater out of your dumpster by closing the lid. Notify your waste hauler if your dumpster is leaking and they can repair or replace it.

5. ...AND THAT OTHER LEAK, TOO

Maintain your car. Our notoriously drippy island cars have created some impressive staining in frequently used parking areas. Much of this residue eventually makes its way into the harbor.

4. CATCH BASINS CATCH POLLUTANTS

Catch basins – these are the underground boxes beneath the metal grates that you see on streets and in some parking lots – these boxes allow some of the sediment and pollutants to settle out of the stormwater. Catch basins require maintenance, primarily sediment removal, to function correctly. Maintenance of catch basins located on private property is the responsibility of the land owner.

3. KEEP IT NATURAL

Try not to use fertilizers, pesticides and herbicides. The chemical residue from these products can wash into the harbor with stormwater. Never use these products if rain is forecasted.

2. DOGS POOP, YOU GET TO PICK IT UP

Pick up after pets. Bacteria and pathogens from pet waste will wash into the harbor along with stormwater.

AND, TA DA - #1: STORMWATER FLOWS DOWNHILL (who knew, eh?)

It all ends up in the harbor, so never dump anything into a storm drain. The only thing that should be going into a stormwater system is rainwater.



-Brian Rader, San Juan County Pollution Prevention Specialist, 370-7581, brianr@sanjuanco.com

STORMWATER RUNOFF IN FRIDAY HARBOR

Friday Harbor, like all urban centers, has a stormwater quality problem. The good news is we think the situation is improving. The better news is we can all do some things to help.

For nearly two years now, the animals in the aquarium at the end of Spring Street Landing have been struggling to survive. Many of the animals associated with the sediment have died. The aquarium pulls water out of the harbor from below the dock, near the primary stormwater discharge outfall at the base of Spring Street, and circulates this water through the aquarium and back into the bay. This system helps to make the aquarium an indicator of what is going into the harbor. If the animals in the aquarium (that we can see) are struggling, chances are some animals in the harbor (that we can't see) are struggling, too.

The aquarium animals are our 'canary' and the harbor is our 'coal mine'.

Part of the problem can be attributed to the quality of the stormwater runoff into the harbor. Town streets are subject to constant accumulation of lubricating fluids, antifreeze, brake dust, and fuels leaking from vehicles which end up in the harbor after each rain storm. Pesticides, herbicides, and fertilizers are often misapplied or over applied. Also, some people inappropriately use catch basins in the streets to dispose of soapy cleaning agents. During rain events (especially the first rain after a dry spell), the stormwater from the discharge pipe at the base of Spring Street is often a brownish-grey color, kind of like chocolate milk. At other times, I have seen a sheen on the water (likely from petroleum products) or even soap suds. So what can we all do to improve the situation?

If we want to have cleaner stormwater running into the harbor, we have two choices: we can treat the stormwater runoff before it enters the bay, or we can try to be cleaner and tidier in Town so that the water that enters the bay is cleaner without having to find a way to treat it.

Taking a look at these two options, the first option, to treat the stormwater before it enters the bay, may not be a practical alternative right now. First of all, this option would be expensive. Second, as the new sewer line installation project from last winter has reminded us, we live on a rock. Since most stormwater treatment options involve some form of encouraging stormwater to infiltrate into the ground, this option may not be practical here on Rock Island. Also, if we can do a good enough job with option number two, then maybe we don't need to treat a large volume of stormwater at the end of the system.

This leaves us with option number two: find practical, low or no cost ways to go about our business of living and working in the Town of Friday Harbor while minimizing the amount of pollutants carried away in runoff water. The dedicated, hard working employees for the Town already do a lot of cleaning up after us. The street sweeper can be seen nearly every morning trundling around Town sucking up dirt, sand and other trash. The Town has installed lots of convenient trash cans, pet waste stations, and cigarette receptacles. So, what else can we do?

There are a number of things that we can do to help make sure that the stormwater that reaches our harbor is as clean as possible. During the week of November 2nd, I will be walking the streets of Friday Harbor, visiting with business owners and managers as part of a stormwater education outreach program. I will try to communicate a common-sense, low cost approach to help improve the quality of the stormwater entering the harbor. Here is a list of ideas and actions that each one of us can take to help solve this problem:

1. Stormwater flows downhill. It all ends up in the harbor, so never dump anything into a storm drain. The only thing that should be going into a stormwater system is rainwater. Dump mop buckets into the sink.
2. Even if a product is labeled as "Biodegradable", it is still not allowed to go into the storm drains or roadside ditches.
3. Instead of hosing off the sidewalk, parking area or driveway, sweep up the dirt and put it in the trash. Rinse water will pick up dirt and other pollutants on the way to the water.
4. Leaky dumpsters can contribute pollutants to stormwater. Keep rainwater out of your dumpster by closing the lid. Notify your waste hauler if your dumpster is leaking and they can repair or replace it.
5. If you need to wash your car, either use a commercial car wash or direct the wash water to a grassy area where it can infiltrate into the ground without running into storm drains or roadside ditches.

6. Clean out your catch basins. Catch basins are the underground boxes beneath the grates that you see on streets and in some parking lots. These boxes allow some of the sediment and pollutants to settle out of the stormwater. Catch basins require maintenance, primarily sediment removal, to function correctly. Maintenance of catch basins located on private property is the responsibility of the land owner.
7. Maintain your car. Our notoriously drippy island cars have created some impressive staining in frequently used parking areas. Much of this residue eventually makes its way into the harbor.
8. Try not to use fertilizers, pesticides and herbicides. The chemical residue from these products can wash into the harbor with stormwater. Never use these products if rain is in the forecast.
9. Pick up after pets. Bacteria and pathogens from pet waste will wash into the harbor along with stormwater.
10. Deposit cigarette butts and other trash into the proper receptacles.
11. Plant vegetation or find another way to cover up exposed soil. Soil and sediment that is exposed can erode and wash into the harbor. Suspended sediments in stormwater can both impair marine animals directly and help to carry hydrocarbons, metals and other pollutants into our harbor.
12. Try to think about item #1 (above) as you go about your daily life.

-Brian Rader, San Juan County Pollution Prevention Specialist, 370-7581, brianr@sanjuanco.com

STORMWATER RUNOFF

Orcas residents may not have heard about the stormwater quality problems in Friday Harbor.

Since late 2007 the animals in the aquarium at the end of Spring Street Landing in Friday Harbor have been struggling to survive. Many of the animals associated with the sediment have died. The aquarium pulls water out of the harbor from below the dock, near the primary stormwater discharge outfall at the base of Spring Street, and circulates this water through the aquarium and back into the bay. This system helps to make the aquarium an indicator of what is going into the harbor. If the animals in the aquarium (that we can see) are struggling, chances are some animals in the harbor (that we can't so easily see) are struggling, too.

Friday Harbor is not unique. All urban centers share these problems. Frequently traveled streets are subject to constant accumulation of lubricating fluids, antifreeze, brake dust, and fuels leaking from vehicles. Pesticides, herbicides, and fertilizers are often misapplied or over applied. Some people inappropriately use catch basins in the streets to dispose of soapy cleaning agents or other waste. When it rains, all this stuff tends to run downhill, most often into our harbors and bays.

Recent local environmental sampling suggests that stormwater runoff from Eastsound contains unwanted chemicals, as well. Concentrations of pyrethroids pesticides in clams collected from Fishing Bay near the stormwater outfall were higher than concentrations in clams collected other bays in Eastsound (Buck Bay and White Beach). Additionally, water sampled from stormwater outlets has shown elevated concentrations of surfactants, a class of chemicals commonly found in soaps and detergents.

If we want to reduce the amount of contaminants entering the ocean, we have two choices. We can either treat stormwater runoff before it reaches the bay, or we can find ways to reduce the contaminants that end up on the streets and in storm drains so the stormwater itself carries less pollutants into the ocean.

The treatment option may not be a practical alternative. First, treatment is expensive. Second, the soils in much of Eastsound Village are low permeability soils, with above average runoff potential. Since most forms of stormwater treatment involve encouraging the water to infiltrate back into the ground, this option would be difficult to accomplish on a large scale.

This makes the alternative look very attractive. That is, we need to find practical, low or no cost ways to go about the business of living and working in Eastsound while minimizing the amount of pollutants carried away in runoff water.

During the week of November 9th, I will be walking the streets of Eastsound, visiting with business owners and managers as part of a stormwater education outreach program. I will work with business owners to develop common-sense, low cost ways to handle and dispose of chemicals and detergents that may be finding their way into stormwater entering the bay. But many of the things we can do require no special expertise and very little extra effort. Here are some of those ideas:

1. Stormwater flows downhill. Anything that goes into a storm drain ends up in the harbor, so never dump anything into a storm drain. The only thing that should be going into a stormwater system is rainwater. Dump mop buckets into the sink.
2. Even if a product is labeled as “Biodegradable”, it is still not allowed to go into the storm drains or roadside ditches.
3. Instead of hosing off the sidewalk, parking area or driveway, sweep up the dirt and put it in the trash. Rinse water will pick up dirt and other pollutants on the way to the water.
4. Leaky dumpsters can contribute pollutants to stormwater. Keep rainwater out of your dumpster by closing the lid. Notify your waste hauler if your dumpster is leaking and they can repair or replace it.
5. If you need to wash your car, either use a commercial car wash or direct the wash water to a grassy area where it can infiltrate into the ground without running into storm drains or roadside ditches.
6. Clean out your catch basins. Catch basins are the underground boxes beneath the grates that you see on streets and in some parking lots. These boxes allow some of the sediment and pollutants to settle out of the stormwater. Catch basins require maintenance, primarily sediment removal, to function correctly. Maintenance of catch basins located on private property is the responsibility of the land owner.
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9. Pick up after pets. Bacteria and pathogens from pet waste will wash into the harbor along with stormwater.
10. Deposit cigarette butts and other trash into the proper receptacles.
11. Plant vegetation or find another way to cover up exposed soil. Soil and sediment that is exposed can erode and wash into the harbor. Suspended sediments in stormwater can both impair marine animals directly and help to carry hydrocarbons, metals and other pollutants into our harbor.
12. Try to think about item #1 (above) as you go about your daily life.



-Brian Rader, San Juan County Pollution Prevention Specialist, 370-7581, brianr@sanjuanco.com

***Pollution Solutions For:
Restaurants and Other Food Handling Facilities
– Don’t “Feed” The Fishes!***



Everything that is washed into storm drains is untreated and ultimately ends up in the nearest bay. Waste from restaurants can include food waste, grease, detergents and cleaning chemicals. These substances are harmful to aquatic life. Even “biodegradable” products can be harmful.

Storm drains (nearly all outside drains): These are intended to collect and transport clean rainfall to the bay. There is no treatment and no contaminants are removed.

Sanitary sewers (sinks, toilets, floor sinks, and (most) floor drains): These transport waste to a wastewater treatment plant where some pollutants are removed prior to discharge to the bay.

MOP BUCKETS AND SINKS

- Soaps and detergents contain a class of chemicals called surfactants. They are what give soap that slippery feeling. Soaps are toxic to fish at fairly low concentrations.
- Never empty a mop bucket where it will drain into a storm drain. Dump mop buckets into the mop sink.

GARBAGE DUMPSTERS

- Leaky dumpsters can contribute pollutants to stormwater.
- Keep the lid closed on the dumpster to keep out rainwater.
- Inspect your dumpster often and notify your waste hauler if your dumpster is leaking. They will repair or replace it for you.

GREASE AND OIL

- Oil and grease are known to be toxic to aquatic organisms at relatively low concentrations; they can coat fish gills, prevent oxygen from entering the water, and clog drainage facilities (leading to increased maintenance costs and potential flooding problems).
- Minimize spills when transferring oil and grease.
- If you do get a spill, use dry cleanup methods, such as kitty litter absorbents.
- Maintain grease traps to prevent overflows.

SPILLS

- Spills happen. The important thing is to make sure you know how to contain and clean it up, and that you have the right cleanup materials on hand.
- To clean up liquid spills, use an absorbent material, such as kitty litter. Don't let the absorbent materials become too saturated. Dispose of the absorbent material by placing it in a sealed plastic bag and place it in the garbage dumpster.

EQUIPMENT CLEANING AND/OR PRESSURE WASHING

- When cleaning floor mats or garbage cans, the wash water is not allowed into the storm drain system.
- Possible options: Use mop sinks or interior floor drains (verify that the floor drain goes to the sanitary sewer) or use a commercial car wash.



Jim,

Please add the following CAO comment letter to the file.

Thank-you again,

Janet Alderton

No Gardens or Orchards in Critical Area Buffers

Janet Alderton, Orcas Island, jalderton@yahoo.com

The functions and values of Critical Areas and their Buffers will be compromised if gardens and orchards are developed within the buffer zones, even if organic gardening methods are used. I am an organic gardener. While working in my garden yesterday, I came up with several reasons why gardens and orchards are incompatible with the functions and values of critical areas.

Imagine that we begin with an undisturbed native buffer bordering a critical area such as a wetland. The first thing one does to create a garden or orchard is to clear the native vegetation. This action destroys habitat. Amphibians especially move up out of the wetland to over-winter in the surrounding undisturbed native vegetation. The buffer widths that amphibians require are quite large. Since the critical areas citizen committee settled on choosing buffer widths for wetlands that are a compromise between low and medium intensity uses, the buffer widths are already marginal for sustaining amphibian populations. Amphibians are key wetland species.

After clearing the native vegetation and thus destroying habitat, the next action taken in creating a garden or orchard is to smooth out the surface irregularities. A native landscape is replete with surface irregularities unless it is a flood plain. Rocks, fallen logs and branches, and depressions left by rotted tree stumps are examples of surface irregularities. When the surface irregularities are removed, an important hydrological function of the buffer is destroyed: the stormwater will no longer accumulate in the low places. Thus, the hydrological function of slowing stormwater runoff and allowing the stormwater to sink

into the soil is compromised by the creation of smooth contours. Aquifer recharge is compromised.

Stormwater that sinks into the soil can be purified by the community of soil organisms that exist in abundance in an undisturbed native buffer. If instead the stormwater runs off the buffer and directly into the wetland, any contaminants carried by the stormwater will pollute the wetland. Surfactants are common stormwater contaminants that are efficiently biodegraded in vegetated soil, but only slowly degraded in fresh and marine waters. Surfactants are directly toxic to fish and amphibians. Especially deleterious are the nonionic surfactants. These synthetic chemicals biodegrade slowly and incompletely in marine and fresh waters to produce a highly toxic and persistent hormone mimic, nonylphenol. Nonylphenol feminizes male fish and amphibians and interferes with their reproduction.

After destroying habitat and compromising the hydrological functions of stormwater retention, purification, and aquifer recharge, the next action the gardener takes is to till the soil. Compared to undisturbed native soil, tilling soils destroys soil structure and disrupts the soil ecology of beneficial bacteria, fungi, and micro-invertebrates. Tilled soils absorb water less efficiently because the crumb-like structure of soil aggregates is disrupted by tilling. No-till gardening is a recently introduced technique, but it uses herbicides to replace tilling. Herbicide products contain large quantities of surfactants. As noted above, surfactants and their breakdown products are toxic to fish and amphibians.

As an alternative to allowing gardens and orchards in critical area buffers, garden plots on the order of 50 by 25 feet could be provided in agricultural land acquired by the San Juan County Land Bank. Such “garden allotments” work well in England for city residents who otherwise lack space to grow fruits, vegetables, and flowers.

Local Science (plus published references) for Critical Areas Decisions

--Surfactants, which are toxic to fish, have been measured at high levels in stormwater from Eastsound, Deer Harbor, and Friday Harbor. Non-ionic surfactants, widely used in pesticides and herbicides, as well as in many household cleaning and personal care products, breakdown into potent hormone mimics that persist in marine and fresh water. The accumulation of these hormone mimics, which feminize male fish

and amphibians, may be at least partly responsible for the drastic declines in our fish populations. Fortunately, these toxic chemicals can be biodegraded in vegetated soils by bacteria and fungi. But this requires that the stormwater be slowed down by surface irregularities so that the surfactants can be trapped in the soil. This is why broad, vegetated buffers are essential to protect our marine and fresh waters.

Where smooth landscaped surfaces or bare rock exist, the stormwater will not be absorbed quickly enough to trap the toxic surfactants. On such parcels, extremely deep buffers or, where technically possible, the creation of vegetated bioswales to catch and retain the stormwater are essential to protect our marine and fresh waters.

Local stormwater samples are being collected and the levels of surfactants are being measured in a joint effort of the Washington State University program, Beach Watchers, and Mike Kaill of the Friends of the San Juans. Beach Watcher volunteers are also being trained to measure surfactant concentrations in runoff and in our marine ecosystems by Russel Barsh of Kwiaht, Center for the Historical Ecology of the Salish Sea, as an outgrowth of his studies at Friday Harbor Labs.

Surfactants are chemicals that are widely used to disperse oil-like molecules in water. For example, a naturally occurring surfactant in egg yolks, lecithin, is used in making mayonnaise. Mayonnaise is a mixture of oil and vinegar that would separate if the lecithin were absent. Because lecithin is a naturally occurring compound, it can be readily biodegraded by bacteria.

Although naturally occurring surfactants exist, chemists have created many novel surfactants that are thought to be harmless, except for skin and eye irritation. Their detergent, emulsifying, and wetting properties, as well as presumed non-toxicity, have resulted in their widespread use in such products as insecticides, herbicides, paints, as well as many household cleaning products and personal care products.

Despite the apparent non-toxicity for humans, surfactants are toxic for aquatic organisms. Probably because these surfactants are synthetic or “new to nature,” the bacteria required to efficiently and completely biodegrade nonylphenol ethoxylates, a type of non-ionic surfactant, do not exist in marine and fresh waters.

The slow and incomplete biodegradation of nonylphenol ethoxylates is emerging as a great threat to our marine ecosystems because the incomplete degradation of these surfactants results in the accumulation of a persistent estrogen mimic, 4-nonylphenol. This estrogen mimic affects the reproduction and development of fish at extremely low concentrations. The declines of salmon and the smaller fishes that make up their diet may very well be linked to the accumulation of such endocrine disruptors in our marine ecosystems. In turn, the orca whales are declining, at least in part, because, the salmon are less abundant.

The good news is that the 4-nonylphenol, while persistent in water, can be efficiently biodegraded by the bacteria and fungi in living soils. This biodegradation is twice as efficient in vegetated soil as in bare soil. These studies are important to our Critical Areas decisions because they show that:

1. 1. Man-made chemicals that were previously thought to be harmless can have highly toxic and persistent breakdown products in marine and fresh waters.
2. 2. Stormwater picks up surfactants, especially from impervious surfaces created by development, and carries these chemicals down slope.

3. 3. Undisturbed native vegetation is important because people almost always smooth out surface irregularities when they install man-made landscaping. Smooth contours are just more pleasing to most people. Storm water runs off smooth surfaces much faster than from the irregular surfaces found in our undisturbed native lands. If storm water runs off quickly, less water is able to travel down into the soil where contaminants can be biodegraded.
4. 4. Since vegetated soils efficiently biodegrade 4-nonylphenol, vegetated buffers should be able to biodegrade this toxic breakdown product of non-ionic surfactants, **if the buffers have sufficient soil and undisturbed vegetation and, very importantly, the buffers must have surface irregularities to slow the runoff and allow it to infiltrate the soil.**
5. 5. Logically, since the rate of stormwater infiltration into the soil is much reduced on rocky shorelines and on steeper vegetated slopes, both of these shoreline areas should have greater buffer setbacks, unless Low-Impact Development techniques such as bioswales or rainwater gardens can be created above or on these difficult sites.
6. 6. Because our knowledge of toxic compounds is constantly evolving, we must take extra care when crafting regulations. **We can no longer assume that "dilution is the solution"**. As our ability to measure ever-lower concentrations of toxic chemicals increases, we are discovering that for some man-made chemicals the threshold of harm is on the order of parts per billion, and possibly lower.

Recent peer-reviewed references can be found below, as well as links to Scientific American articles.

[Environ Int.](#) 2008 Oct;34(7):1033-49. Epub 2008 Feb 20.

Nonylphenol in the environment: a critical review on occurrence, fate, toxicity and treatment in wastewaters.

[Soares A](#), [Guieysse B](#), [Jefferson B](#), [Cartmell E](#), [Lester JN](#).

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Nonylphenol is a toxic xenobiotic compound classified as an endocrine disrupter capable of interfering with the hormonal system of numerous organisms. **It originates principally from the degradation of nonylphenol ethoxylates which are widely used as industrial surfactants.** Nonylphenol ethoxylates reach sewage treatment works in substantial quantities where they biodegrade into several by-products including nonylphenol. Due to its physical-chemical characteristics, such as low solubility and high hydrophobicity, nonylphenol accumulates in

environmental compartments that are characterised by high organic content, typically sewage sludge and river sediments, where it persists. The occurrence of nonylphenol in the environment is clearly correlated with anthropogenic activities such as wastewater treatment, landfilling and sewage sludge recycling. Nonylphenol is found often in matrices such as sewage sludge, effluents from sewage treatment works, river water and sediments, soil and groundwater. **The impacts of nonylphenol in the environment include feminization of aquatic organisms, decrease in male fertility and the survival of juveniles at concentrations as low as 8.2 microg/l. Due to the harmful effects of the degradation products of nonylphenol ethoxylates in the environment, the use and production of such compounds have been banned in EU countries and strictly monitored in many other countries such as Canada and Japan*.** Although it has been shown that the concentration of nonylphenol in the environment is decreasing, it is still found at concentrations of 4.1 microg/l in river waters and 1 mg/kg in sediments. Nonylphenol has been referred to in the list of priority substances in the Water Frame Directive and in the 3rd draft Working Document on Sludge of the EU. Consequently there is currently a concern within some industries about the possibility of future regulations that may impose the removal of trace contaminants from contaminated effluents. The significance of upgrading sewage treatment works with advanced treatment technologies for removal of trace contaminants is discussed.

*** Nonylphenol ethoxylates are not banned in the US.**

[J Toxicol Environ Health A](#). 2006 Jan 8;69(1-2):175-84.

Endocrine disruptors in the marine environment: mechanisms of toxicity and their influence on reproductive processes in fish.

[Goksøyr A](#).

Recent research demonstrated how endocrine-disrupting chemicals (EDCs) may disturb wildlife populations and possibly also represent a human health risk. Much of the focus has been on (anti-)estrogenic and (anti-)androgenic effects, and these effects are thought to be mediated through the estrogen (ER) and androgen (AR) receptors, respectively. The seriousness of the problem has led international bodies such as the Organization for Economic Cooperation and Development (OECD) and the European Union (EU) to initiate large research programs and developments toward new guidelines and regulations. EDCs have both synthetic and natural sources. The mechanisms of action of EDCs can be divided into: (1) agonistic/antagonistic effect ("hormone mimics"), (2) disruption of production, transport, metabolism, or secretion of natural hormones, and (3) disruption of production and/or function of hormone receptors. However, the number of nuclear hormone receptors being potential targets for EDCs has increased dramatically the last decade, opening up new avenues for possible endocrine disruptor effects. **In studies with Atlantic salmon, data showed that 4-nonylphenol, a model xenoestrogen previously** used in large volumes, for example, in paints and detergents, acts as an estrogen mimic, as a steroid metabolism disruptor, and by modulating estrogen receptor (ER) levels, indicating that one single compound exerts all of these three mechanisms, depending on the dose given to the organism.** A hypothesis explaining this observation is that the nature of the effect of an EDC is determined by dose-dependent routing and cross-talk between different classes of nuclear receptors.

****Recently banned in the EU, but not controlled in the US.**

[Chemosphere](#). 2006 Jun;64(1):135-43. Epub 2005 Dec 15.

Toxicity on crustaceans and endocrine disrupting

activity on *Saccharomyces cerevisiae* of eight alkylphenols.

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In the last few years many concerns have been raised regarding the environmental safety of alkylphenol polyethoxylate surfactants (APnEOs). They are widely used in detergents, paints, herbicides and many other formulated products. It has been estimated that 60% of APnEOs end up in the aquatic environment; **they are biodegradable and transformed into alkylphenols, such as nonylphenol and octylphenol that are hydrophobic and tend to accumulate.** In the present study, acute and chronic aquatic toxicity and the estrogenic activity of the following eight alkylphenols were assessed: 4-nonylphenol, 4-octylphenol, 4-nonylphenol-10-ethoxylate, 4-tert-octylphenol, POE (1 to 2)-nonylphenol, POE (6)-nonylphenol, POE (3)-tert-octylphenol and POE (9 to 10)-tert-octylphenol. The toxic potential was measured on the crustaceans *Daphnia magna* and *Ceriodaphnia dubia*, while the estrogenic activity was determined by using the YES-test with the strain *Saccharomyces cerevisiae* RMY326. The results showed that the exposure of crustaceans to the eight xenoestrogens investigated caused both acute and chronic effects. The EC50 values found for *C. dubia* at 48 h were compared to *D. magna* at 24h and, gave a first indication about the toxic activity of the compounds investigated, that is better expressed in the long-term. **In fact, chronic data showed a strong increase in toxicity with EC50 values one or two orders of magnitude lower than the acute values.** The results of the YES-test showed that nonylphenol, octylphenol and 4-tert-octylphenol were the most estrogenic and the bioassay was able to detect their estrogenicity at very low concentrations (ng-microg/l).

[Arch Environ Contam Toxicol](#). 2009 Sep 19. [Epub ahead of print]

Larval Responses of Three Midwestern Anurans to Chronic, Low-Dose Exposures of Four Herbicides.

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Low levels of agricultural herbicides often contaminate surface water and might persist throughout the growing season, potentially acting as stressors on aquatic organisms. Although low-dose, chronic exposures to agrochemicals are likely common for many nontarget organisms, studies addressing these effects using end-use herbicide formulations are rare. We exposed three common species of tadpoles to conservative levels of atrazine, S-metolachlor, and glyphosate end-use herbicide formulations throughout the larval period to test for survival differences or life-history trait alterations. Exposure to the glyphosate product Roundup WeatherMax((R)) at 572 ppb glyphosate acid equivalents (a.e.) resulted in 80% mortality of western chorus frog tadpoles, likely as a result of a unique surfactant formulation. Exposure to WeatherMax((R)) or Roundup Original Max((R)) at 572 ppb a.e. also lengthened the larval period for American toads. Chronic atrazine and S-metolachlor exposures induced no significant negative effects on survival, mass at metamorphosis, or larval period length at the levels tested. These results highlight the importance of explicitly tying chronic tests to the natural environment and considering contributions of surfactant/adjuvant components to end-use formulation toxicities, even between very similar products***.

***Translation: we need to test the toxicity of the complete product, (not just the toxicity of the pesticide component), and test the long-term (chronic) effects of each product in the natural environment.

[Chemosphere](#). 2008 Jan;70(5):761-8. Epub 2007 Sep 7.

Transformation of 4-nonylphenol isomers during biosolids composting.

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4-Nonylphenol, a degradation intermediate of commercial surfactant and known endocrine disruptor, has been frequently detected at levels up to several thousand $\mu\text{g l}^{-1}$ in surface waters and up to several hundred mg kg^{-1} (dry weight) in soil and sediment samples. Large quantities of 4-NP can be quickly sorbed by the organic rich solid phase during wastewater treatment and are concentrated in biosolids, a possible major source for 4-NP in the environment. Microbial transformation in culture studies followed different mechanisms for different 4-NP isomers, which have different estrogenic activity. Composting is a process of solid matrix transformation where biological activity is enhanced by process control. This approach has been used successfully in remediation of contaminated soils and sludges. In this study, the transformation kinetics of 4-NP and its isomers were characterized during biosolids composting. Five distinctive 4-NP isomer groups with structures relative to alpha- and beta-carbons of the alkyl chain were identified in biosolids. **Composting biosolids mixed with wood shaving at a dry weight percentage ratio of 43:57 (C:N ratio of 65:1) removed 80% of the total 4-NP within two weeks.** At this biosolids/wood shaving ratio (B:WS), the transformation of total 4-NP and its isomers followed second-order kinetic. Higher B:WS ratios yielded significantly slower 4-NP transformation which followed first-order kinetic. Isomers with alpha-methyl-alpha-propyl structure transformed significantly slower than those with less branched tertiary alpha-carbon and those with secondary alpha-carbon, suggesting isomer-specific degradation of 4-NP during biosolids composting.

[Chemosphere](#). 2009 Apr;75(4):549-54. Epub 2009 Jan 22.

Fate of 4-nonylphenol in a biosolids amended soil.

[Brown S](#), [Devin-Clarke D](#), [Doubrava M](#), [O'Connor G](#).

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The fate of the endocrine disrupting compound 4-nonylphenol (NP) in an agricultural soil amended with biosolids was assessed in a greenhouse study. A biosolids with a total NP concentration of 900 mg kg⁻¹ was incorporated into the 4 cm surface layer of soil columns at an agronomic rate equivalent to 1.7 kg m². Half of the columns were planted with *Triticum aestivum* L., red hardy winter wheat seeds, whereas the remaining columns were unplanted to evaluate the influence of plant growth on the fate of NP. The degradation of total NP and eight NP isomers was monitored over 45 d. The half-life of NP in this soil system ranged from 16 to 23 d depending on treatment. **After 45 d from the start of the trail, 15% of the initial biosolids-NP remained in the planted columns, whereas approximately 30% remained in the unplanted columns, indicating enhanced degradation in the presence of plants.** The eight NP isomers exhibited different degradation rates, but minimal amounts of all isomers persisted after 45 d. Movement of NP below the zone of incorporation was slight (<2% of total NP present at any sampling interval) and no NP was detected in column leachates or in wheat leaves.

<http://www.scientificamerican.com/article.cfm?id=new-website-maps-endocrine-disruptors>

<http://www.scientificamerican.com/article.cfm?id=dolphin-development-antibacterial-soap-triclosan>

Why are nonionic surfactants so useful in pesticide (and herbicide) formulations?

These chemicals, also called wetting agents and spreaders, physically alter the surface tension of a spray droplet. For a pesticide to perform its function properly, a spray droplet must be able to wet the foliage and spread out evenly over a leaf. Surfactants enlarge the area of pesticide coverage, thereby increasing the pest's exposure to the chemical. Surfactants are particularly important when applying a pesticide to waxy or hairy leaves. Without proper wetting and spreading, spray droplets often run off or fail to adequately cover these surfaces. Nonionic surfactants, often used with systemic pesticides, help pesticide sprays penetrate plant cuticles. Nonionic surfactants are compatible with most pesticides, and

most EPA-registered pesticides that require a surfactant recommend a nonionic type.

Jim,

Please include this final letter in your files.

Respectfully yours,

Janet Alderton

A Reply to the Property Rights Activists

There are many existing limits on what a property owner can do with their property. The variance regulations and procedures currently deal with these situations, and this system has not been found to violate "takings" restrictions. This accepted and tested variance procedure should be retained for the Critical Areas Ordinance for smaller parcels (certainly parcels 1 acre or smaller) that are entirely or largely encumbered by a critical area or its buffers.

Property regulation has increased over time as human population has grown, and the number of new synthetic chemicals has increased rapidly. Public support of ecosystem preservation is shown by the existence of the Growth Management Act and the Shoreline Management Act. Large producers of toxic chemicals are certainly not permitted to release pollutants directly into our public waters. New scientific studies are revealing that the impact of the individual homeowner on the health of our marine and fresh water ecosystems is substantial.

We have recently learned that many products that are commonly used by the ordinary consumer each day are harmful to our marine and fresh water ecosystems. Scientific studies of man-made chemicals are being extended beyond the testing of an individual new chemical in a simple laboratory experiment to long-term field-testing of the complete product in the ecosystem. These more complex studies are revealing extremely harmful effects of chemicals that were previously believed to be relatively harmless.

The case of a class of man-made chemicals known as surfactants illustrates this point, and shows that the current buffer setbacks are certainly failing to protect our marine and fresh waters. New studies show that the breakdown product of nonionic surfactants, nonylphenol, persists and therefore accumulates over time in both fresh and marine waters. Nonylphenol is a potent hormone mimic that feminizes male fish and amphibians and disrupts their reproduction. The level of nonylphenol that causes this disruption is probably below one part in a billion. This means that dilution is not the solution. Also, the chemical characteristics of nonylphenol are such that it will accumulate in the fatty tissues of animals. This means that the concentration will rise in animals that eat high on the food chain. This includes orcas and humans that eat large fish such as salmon.

The salmon populations in the San Juan Islands have already declined significantly. A healthy local salmon population is dependent on an abundance of the smaller "forage fish," such as herring. The forage fish reproduce on our local beaches, and grow and shelter in our local eelgrass and kelp beds. Therefore, harmful chemicals used by property owners on the shoreline and on properties with wetlands will certainly enter the aquatic ecosystems unless substantial buffers with native vegetation exist to capture the harmful chemicals.

Buffers of native vegetation are known to capture and degrade toxic chemicals. The extremely harmful breakdown product of nonionic surfactants, nonylphenol, is biodegraded efficiently in vegetated soil, but less efficiently in bare soil. As mentioned above, nonylphenol does not biodegrade efficiently in fresh or marine waters. This is why we need buffers of undisturbed native vegetation to intercept toxic chemicals and biodegrade them before they reach our fresh and marine waters.

Man-made gardens and landscapes are not adequate as buffers. When people alter a native landscape,

they invariably smooth out the irregular contours of the land. This decreases the ability of the soil to capture stormwater runoff because the irregular contours of the native landscape capture the stormwater in the low spots. In these temporary puddles the water and the chemicals it carries can sink into the soil. A lawn installed in a critical area buffer will absorb very little stormwater. Even a vegetable garden will absorb much less stormwater than an undisturbed native landscape because of the smoothing of the contours and the exposure of bare soil to erosion in the winter season.

In addition to smoothing out the contours of the land, gardeners till the soil. Tilling the soil changes the soil structure so that the soil is less efficient at absorbing water than untilled soil.

As pointed out at the beginning of this response to the property rights activists, the variance regulations and procedures currently deal with the "takings" issue. This variance protocol should be retained for smaller parcels affected by the Critical Areas Ordinance. An additional reason to avoid the use of square footage exemptions proportional to parcel size is that property owners will be permitted to build as they wish in critical areas such as geologically unstable or frequently flooded areas as long as the square footage of the development does not exceed the stated limits.

This will place our county in a vulnerable position since these areas are known to be hazardous. Such property owners will demand the right to build bulkheads, and our ecosystems will be further degraded.

Janet Alderton

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