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SUBJECT: Proposed amendments to the San Juan Unified Development Code related to Critical Areas.

DATE: June 9, 2009

BACKGROUND

To protect people, property and sensitive natural resources, when it was adopted in 1990 the Washington Growth Management Act (GMA) included a requirement that local jurisdictions adopt policies and/or regulations to protect the “functions and values” of “Critical Areas” (formerly referred to as Environmentally Sensitive Areas). Communities that do not meet the requirements of the GMA are precluded from receiving grants for public works and water quality protection projects, in addition to other potential sanctions. Critical areas are defined as:

- Critical Aquifer Recharge Areas
- Frequently Flooded Areas
- Geologically Hazardous Areas
- Wetlands
- Fish and Wildlife Habitat Conservation Areas (FWHCAs) including:
 - Areas with which endangered, threatened and sensitive species have a primary association.
 - Habitats and species of local concern.
 - Shellfish beds;
 - Kelp and eelgrass beds;
 - Spawning areas for forage fish including Herring, Surf smelt and Sand lance;
 - Waters of the State including naturally occurring lakes, ponds and streams that provide fish and wildlife habitat.
 - State natural area preserves and natural resource conservation areas.

The requirement to protect Wetlands and Fish and Wildlife Habitat Conservation Areas is particularly important in San Juan County because of the high quality habitat still found on and around the islands, the sensitive nature of our ecosystem, and the role this region plays in supporting the marine food web including migrating juvenile salmon.

Located at the juncture of the Strait of Juan de Fuca and the Strait of Georgia, the San Juan Islands are part of a geologically and biologically diverse archipelago with some of the most productive habitat in the entire Puget Sound. This is an important area for salmon migrating from both Canada and the US, and juvenile salmon spend many months in this area feeding, growing and preparing for life in the Pacific Ocean. Healthy beds of kelp and eelgrass act as nurseries for creatures that form the basis of the marine food web, and abundant stocks of forage fish support an array of shorebirds as well as the salmon which in turn support the Southern Resident Orca. Healthy forests, native prairies and wetlands in upland areas support terrestrial birds and wildlife, and no matter where someone is located on the islands, their activities have an effect on nearby marine habitats and species.

Because the San Juan's were heavily glaciated, most areas have only a thin layer of soil, and little capacity to retain fresh water. This is exacerbated when land is developed and native vegetation is replaced with lawn and impervious or less pervious areas. If not carefully managed, water can become polluted, and streams, wetlands, underground aquifers and nearshore seeps can dry up during the dry summer months. These changes have the potential to effect people as well as the fish and wildlife that are such a defining part of this community.

To protect its natural resources, in 1991 San Juan County adopted its first Critical Area regulations and there have been few changes since that time.

In 1995 the State legislature amended the GMA to require local governments to consider the Best Available Science (BAS) in designating and protecting Critical Areas (RCW § 36.70A.172(1)). San Juan County was given a deadline of December 1, 2005 to accomplish this and make necessary changes to its regulations. Under the GMA Best Available Science means current scientific information derived from research, monitoring, inventory, survey, modeling, assessment, synthesis, and expert opinion that is:

- Logical and reasonable
- Based on quantitative analysis
- Peer reviewed
- Used in the appropriate context
- Based on accepted methods
- Well referenced

In response to the difficulties communities were having managing agricultural land uses in Critical Areas, in 2007 the State legislature passed a temporary exemption for agricultural activities and assigned the Ruckelshaus Center the task of developing workable alternatives. This exemption remains in place through July 1, 2010.

Over the years there has been a significant amount of litigation associated with the adoption of Critical Area protection requirements and the ensuing case law has placed numerous side boards on the available options. For example:

- Protection of Critical Areas has been further defined to mean “no net loss” of the functions and values of these areas. To accomplish this we are to prevent adverse impacts when possible, and mitigate impacts that cannot be avoided.
- In cases where scientific information is inadequate to support a proposed action, or if there is uncertainty that the regulations will prevent additional loss of a Critical Area, monitoring and adaptive management programs must be established and if Critical Areas are being harmed, the regulations must be modified.

- If Best Management Practices are used to protect Critical Areas they must be monitored and enforced.
- Critical Area regulations must allow for reasonable use of the land, and requirements must be roughly proportional to the associated impacts.
- Enhancement of degraded areas is optional under the GMA (though it may not be optional under the Federal Endangered Species Act).

Many of the Critical Areas listed in the GMA are located in shorelines. According to a 2008 State Supreme Court decision, regulations for shoreline Critical Areas must be adopted separately in the Shoreline section of the County Code (SJCC Chapter 18.50). That section of the code is also subject to the requirements of the WA Shoreline Management Act (SMA), and is jointly adopted with the Dept. of Ecology who has veto authority over amendments that are not consistent with the law. Because there are different adoption procedures for Shoreline regulations, staff is preparing a separate public review draft containing Shoreline Critical Area amendments. In addition to meeting the requirements of the GMA, those amendments must also be consistent with the SMA policies, which give preference to the following uses in this order:

- Recognize and protect the statewide interest over local interest;
- Preserve the natural character of the shoreline;
- Result in long term over short term benefit;
- Protect the resources and ecology of the shoreline;
- Increase public access to publicly owned areas of the shorelines;
- Increase recreational opportunities for the public in the shoreline;

Finally, the Federal Endangered Species Act requires that we protect and restore habitat for endangered salmon and Southern resident orca. In September 2008, the National Marine Fisheries Service released a Biological Opinion outlining protection measures needed in and adjacent to wetlands, streams, and the marine shoreline, and a correction to this opinion, specifying larger buffers, was issued May 14, 2009 and received by County Planning staff June 9, 2009. Prior to September 2011 San Juan County is required to amend it's development codes to incorporate the protection measures, and in the interim must take steps to ensure that new development does not harm salmon habitat. Shoreline and riparian buffers specified in the revised Biological Opinion are as follows:

- 225 feet for Type N (non-fish bearing) streams with unstable slopes.
- 200 feet for Type F streams (streams capable of supporting fish) greater than 5 feet wide.
- 200 feet for marine shorelines.
- 150 feet for lakes, Type F streams less than 5 feet wide, and stable Type N streams.
- The Channel Migration Zone plus 50 feet; and
- Mapped floodways.

SAN JUAN COUNTY ACTIONS

In 2007 the County Council appointed a 10 member citizen committee to review the available science and work with staff to craft a set of amendments that will meet the requirements of the GMA and protect Critical Areas in a way that is workable San Juan County residents. The group included representatives from the Builders Association, Realtors Associations, Planning Commission, Agricultural Resource Committee, Friends of the San Juans, the Marine Resources Committee, and the San Juan Initiative as well as several at large members. Amendments related to Critical Aquifer Recharge Areas were adopted in 2008, and the Committee's work on the upland

portion of the amendments concluded in May of 2009. That work is reflected in the June 3, 2009 public review draft of the upland Critical Areas Ordinance.

This was a diverse group of individuals, who struggled through many difficult discussions as they explored different protection approaches. Though they did not reach consensus on a few issues, they were able to work through and agree on most of the proposed amendments. Some committee members are preparing minority opinions on issues where consensus was not reached and these opinions will be provided with the draft ordinance.

Though the committee did not develop “guiding principles” for the amendments, the following emerged as recurring themes:

- Draft language that is clear and understandable for both the property owner and County staff, with references to supplementary information. Provide as much certainty in the application process as possible.
- Provide property owners with as many options as possible.
- Provide both low cost options, and options that allow for greater flexibility.
- Establish regulations that meet, but don't go beyond the basic requirements of the law. Actions that are recommended by State agencies and the science, but that are not required, should be voluntary.
- In application processes, require only what is necessary to evaluate proposals for compliance with the regulations.
- To the greatest extent possible ensure that property owners can prepare their own plans without hiring a professional.
- Ensure that the regulations can be successfully implemented by the County.

GENERAL BUFFER DISCUSSION

One of the most difficult and controversial changes is that new and/or larger vegetative buffers are needed to protect water quality, streams, wetlands and fish and wildlife habitat from the effects of development. This involves a delicate balance between the rights and expectations of property owners, and those of the broader community that share fish, wildlife and water resources that can be harmed by excessive development or poorly managed land uses. The proposed changes to the regulations are described in the next section, but a more general discussion on buffers follows.

Over the last 30 years there has been a significant amount of research on stormwater, runoff and the effects of human activities on streams, wetlands, marine shorelines and the animals and habitats associated with them. Copies of many of these studies are available on the County web site and on CD, along with a summary of key findings.

Prior to human disturbance, water quality and runoff vary depending on the amount of precipitation; slope; the depth and type of soil; the size, type and condition of vegetation and associated root networks; and the complexity and depth of organic debris and duff. Forested areas produce the least runoff. As forest and native prairie are replaced with homes, driveways, compacted lawns, cutoff trenches and foundation drains, less water soaks into the ground, and more water runs into drainageways, wetlands and eventually marine bays and estuaries, carrying sediment and pollutants and eventually causing a shortage of water during the dry summer months. If improperly constructed, ponds which sometimes accompany development can further modify runoff patterns, increase water temperatures and reduce oxygen levels in the water.

In addition to causing water quality and quantity problems, land development near streams can negatively affect the function of the stream and the fish and other creatures that live in or near the

stream. Trees falling into and across streams create pools, riffles and complexity, and slow runoff during storm events. Without this material, small creatures are washed away and fish no longer have the resting and feeding areas they need to survive. Forested stream buffers are also important to keep the area along the stream cool and moist in the summer, and warmer in the winter, benefiting the animals that live there.

Studies conducted in the Puget Sound found a precipitous decline in the biotic integrity of streams when the imperviousness of a watershed exceeds 5%. A 2003 study of three watersheds found that streams with the highest biological indices are only found in areas with no or extremely low land development, very high forest retention and minimal human intrusion into riparian zones (areas next to streams). Based on this research there do not appear to be thresholds of clearing and development below which impacts can be absorbed with little decline in the health of the stream. Rather, the decline in biological health of streams starts in the earliest stages of land conversion to human occupation.

Land development also effects wildlife by removing food sources, nesting areas, and cover; by introducing noise and light; through increased predation by cats and dogs; and by grazing of native plants by deer and livestock. To protect the more sensitive species found along streams (including birds, reptiles and amphibians) buffers would need to be increased to as much as 600 feet. Though additional buffers could be prescribed to preserve habitat for these species, and additional buffers are recommended by the WA Dept. of Fish and Wildlife, general wildlife protection buffers are not proposed in San Juan County's draft regulations.

In reviewing the literature, it appears that in most cases, a well vegetated forest or meadow buffer of at least 100 feet is necessary to remove pollutants from upland runoff, in addition to on-site stormwater treatment and control measures. Under ideal circumstances, a smaller buffer might be adequate (e.g. a 50 ft. buffer in areas with permeable soils, less than 3% slope and undisturbed forest with a thick layer of duff and woody debris), but few sites have these ideal conditions. Once slopes exceed 3-4%, a minimum 100 foot water quality buffer is necessary, and if one were to strictly follow the science, under less ideal conditions (e.g. short grass pasture with 15% slopes) a buffer of as much as 500 feet could be necessary. Additional buffers for high impact sites are however not proposed.

Case law in Washington State also supports a minimum 100 foot buffer to protect basic water quality. Kitsap County attempted to adopt a 35 foot buffer, lost on appeal and ultimately adopted a 100 foot buffer which was found to comply with the GMA without being excessive.

Minimum buffers to protect other stream and shoreline functions and associated habitat are less certain, particularly since the release of the May amendment to the Biological Opinion. Before proceeding San Juan County will need additional guidance from legal and scientific experts, but it appears that in streams capable of supporting fish (Type F streams), where logs falling into and across the stream are important, at least 150 feet is necessary to maintain basic stream functions.

COMPARISON OF DRAFT AMENDMENTS TO EXISTING CRITICAL AREA REQUIREMENTS

Following is a summary and comparison between the proposed and existing Critical Area regulations. Though the Critical Areas Committee worked out many issues, the draft regulations have some sections where consensus was not reached, and where revisions may be necessary to ensure clarity and conformance with the requirements of the Growth Management Act.

General Provisions

- Agricultural activities are exempt in accordance with the RCW 36.70A.560.
- New requirements do not apply to existing structures and uses provided they are not expanded.
- Pruning of up to 20% of limbs and vegetation is exempt from regulations (exemption does not allow topping or removal of ground cover).
- Non-conforming use provisions remain the same (though a duplicate section will be inserted into the Shoreline regulations in keeping with the separation of the two sections of code). e.g. If a home burns it can be replaced in the same location.
- A “Reasonable Use Exception” continues to be available for properties that have difficulty meeting the Critical Area requirements, though the amount of development allowed is reduced (currently ½ acre of development is allowed in a wetland, habitat area or buffer). A sliding scale is proposed ranging from 5,490 – 10,890 sq. ft. of developed area which is substantially more than other communities with GMA compliant codes.

(Note: It is anticipated that less than 2% of the remaining undeveloped parcels in the County (<150 parcels) may have difficulty meeting the new buffer requirements and may need to apply for a reasonable use exception).

- Exception included for public projects.
- Detail added for projects with mitigation/ restoration requirements.
- A new section has been added on site specific Critical Area Stewardship Plans (CASP). This is an option whereby a property owner can prepare a water quality and habitat protection plan tailored to the site rather than following prescriptive buffer requirements.

Geologically Hazardous Areas

- Standards updated to match current requirements and terminology.
- More detail provided on geotechnical reports.

Frequently Flooded Areas.

- Updated to comply with new flood zone requirements under the Federal Endangered Species Act.
- Essential public facilities not allowed in these areas unless there is no alternative.

Wetlands

- Most wetland definitions and many other sections of the existing code have been removed because they are now found in the Dept. of Ecology documents that are to be used in evaluating development proposals. The Dept. of Ecology (and in some cases the Army Corps of Engineers) also regulate development affecting wetlands and the proposed amendments minimize duplication and conflict between County and State programs.
- Most exemptions have been relocated to the General section of the ordinance (18.30.110) which applies to all five types of Critical Areas.

- Category I, II and III buffer widths are greater than what is currently required with the biggest change to Cat. II and III buffers. These changes are necessary to ensure that pollutants in runoff are removed before they reach wetlands and to preserve wildlife habitat associated with Cat. I and II wetlands.

The WA Dept. of Ecology provides three options for establishing buffer widths:

Alternative 1: Base the width only on the wetland category and use the upper end of the buffer range to ensure that high quality wetlands will be protected from high intensity land uses (this option assumes the worst situation for the wetland).

Alternative 2: Base the buffer width on the wetland category and the intensity of proposed land uses.

Alternative 3: Base the buffer width on the wetland category, the intensity of land uses, and wetland functions or special characteristics.

The buffers in the draft ordinance are based on Alternative 2 and the assumption that most land uses in San Juan County are between low and moderate intensity. Low intensity land uses include forestry, unpaved trails and utility corridors with no roads and little management of vegetation, while medium intensity land uses include residential development at a density less than 1 unit per acre, orchards, hay fields, paved trails and logging roads. While there are a few high intensity land uses (e.g. golf courses, commercial and small lot development in Lopez Village, Eastsound and around Rosario Resort) those are the exception. To comply with the no net loss provisions of the GMA however it may be necessary to increase the required width of the buffer in these areas.

- Site specific plan can be developed in lieu of following prescriptive buffer requirements.
- Clear requirements on what is and is not allowed in wetlands and buffers. 5 foot wide trail or stairway is allowed.
- A new provision is added allowing existing developed areas within buffers to be expanded up to 25% providing the expansion does not further encroach on the wetland. Otherwise procedures for upland non-conforming uses remain the same.
- The proposed allowance for buffer averaging (making the buffer bigger in some areas and smaller in others) is significantly less protective of wetlands when compared to the existing regulation. Currently buffer averaging is allowed providing the size of the buffer is at least 75% of the standard buffer. The proposed ordinance would allow a 100 foot buffer to be reduced to as little as 25 feet. This is one section that probably does not meet the no net loss and BAS requirements of the GMA, and which needs additional consideration.
- More detail is provided on road, trail and utility crossings.
- Requirements related to subdivision of land have been moved to the subdivision section of the code.

Fish and Wildlife Habitat Conservation Areas.

- List of protected habitats and species expanded to comply with GMA.

- New buffer requirements for mapped streams conform to basic requirements established by science, case law and the 2008 National Marine Fisheries Service Biological Opinion as follows
 - F Type streams (those capable of supporting fish) – 150 feet.
 - N Type streams (seasonal and perennial streams not capable of supporting fish) – 100 feet.
- Property owners have the option of doing a site specific plan in lieu of following prescriptive buffer requirements.
- New section on what can and cannot occur in stream buffers. 5 foot wide trail or stairway is allowed. This section may need additional consideration to ensure that property owners and staff can determine what is and is not allowed, and to ensure it complies with the requirement to protect all waters of the State (see staff recommendations).
- More detail provided on road, trail and utility crossings.
- Animal specific protection requirements and recommendations expanded for endangered, threatened and sensitive species with a description of their habitat.
- The proposed regulations establish three habitats of local concern with voluntary protection recommendations. Those habitats are:
 - Native grassland/ Camas/ wildflower prairie.
 - Herbaceous Balds and Bluffs.
 - Garry oak woodlands, savannahs and associated ecosystems.

Non-conforming structures

- Existing section of code to be duplicated in shoreline regulations, and shoreline references removed from that section.
- Terminology updated with regard to no net loss of Critical Areas.
- Cross references added.

Lighting

- New requirement that lighting be directed away from wetlands and habitat areas.

Application Requirements

- Additional application requirements for shoreline permits and approvals.
- More detailed guidance on Critical Area review process.

Shoreline Regulations

In addition to the above changes, the following are also proposed in the staff draft of amendments to the Shoreline Regulations:

- Standard buffer for marine shorelines proposed to be 100 feet (all San Juan County shorelines meet the definition of a Fish and Wildlife Habitat Conservation Area and so must meet Critical Area requirements). 5 foot wide trail or stairway to the shore allowed.
- Proposed regulation allows for removal of some trees and additional vegetation to allow for a filtered view.
- For parcels with < 200 feet of frontage, allows house to be constructed closer to shoreline.
- New, replacement or enlarged shoreline stabilization structures (e.g. bulkheads) are only allowed when necessary to protect an existing, primary upland structure, an existing septic system where there is no reasonable means of replacement, or an existing road/ driveway where there is no other reasonable means of access.
- Construction or expansion of docks in areas with eelgrass is more limited. Mooring buoys drilled into the substrate are allowed. Special provisions for boating facilities that benefit the public and for docks on non-ferry served islands if there is no other available moorage that can provide reasonable access.

AGENCY COMMENTS AND CONCERNS

Some local, State and Federal agencies have submitted comments on previous drafts of these ordinances, and it is anticipated that some will submit additional comments. Agency concerns that have been expressed so far include:

- From Ecology.
 - The wetland buffers should be bigger for medium and high intensity uses and should follow the Ecology guidance.
 - Many of the activities allowed in wetlands are inappropriate. There is no science to support a 25% expansion of an existing structure or use within a wetland buffer. The widths of the buffers need to be increased for moderate and high impact land uses.
 - The mitigation sequence used by Ecology should be retained (this requires that impacts to wetlands be avoided and/or minimized, and if that isn't possible, that wetlands be restored, constructed or enhanced in other areas to provide substitute resources).
 - Reduction of as much as 75 % of a buffer in conjunction with the proposed buffer averaging procedures is not supported by the available science or the Ecology guidance (see Section 8C.2.6, pg. 13 of *Wetlands in Washington State, Vol. 2, Guidance for Protecting and Managing Wetlands*). The proposed ordinance is also not consistent with the Ecology guidance that buffer averaging only be allowed when there is no other feasible alternative.
- From WA Dept of Fish and Wildlife (WDFW).
 - Protect as many of the State's priority species as possible. At a minimum consider listing the following as local species of concern with voluntary protection measures. The full list of priority species and habitats can be viewed at <http://wdfw.wa.gov/hab/phslist.htm>:

-Black Oyster Catcher. (Only occurs on the west coast of the US, with a total population

of 11,000. The San Juans have the largest concentrations of these birds. They nest on the ground above the rocky intertidal zone in areas without mammals).

-Golden Eagle. (Currently declining throughout the Western US. Protection measures are similar to those for Bald Eagles and Peregrine Falcon).

-Great Blue Heron. (Numbers of breeding colonies in the San Juans are declining).

-Island Marble Butterfly (now only found in the San Juans).

-Pigeon Guillemot. (A shore bird that nests in colonies in burrows on sandy and rocky cliffs).

-Townsend's Big Eared bat and areas with roosting concentrations of all bat species.

- Stream buffers should be bigger to better protect the array of species that rely on riparian habitat. Based on an extensive review of buffer research, the WA Dept. of Fish and Wildlife recommends 200 ft. buffers next to type F streams and 150 next to Type N streams.
 - Buffer averaging should not allow buffers to be reduced to as little as 25% of standard buffers.
 - A qualified professional should be required to prepare site specific Conservation Area Stewardship, restoration and mitigation plans.
 - Buffer averaging and site specific Conservation Area Stewardship Plans should be processed as a variance so State agencies will be notified.
- From the San Juan County Land Bank. Other animals and habitats that could be considered for designation as local species and habitats of concern include:
 - Western toad
 - Golden eagle
 - Long toed salamander.
 - Red legged frog.
 - Northwestern salamander.
 - Rough skinned newt.
 - Coastal sand spits including *Carex macrocephala* vegetation.
 - Sphagnum bog (already covered by wetland regulations?)

STAFF CONCERNS AND RECOMMENDATIONS

Following are remaining issues with the draft amendments that staff feel warrant additional consideration along with recommendations.

- The size of the reasonable use exception is generous compared to other jurisdictions (which typically range from 1,200 to 2,500 s.f.) and though it does require mitigation of impacts exceeding 2,500 square feet (e.g. on or off site restoration of degraded areas to equal the damage resulting from the development), mitigation projects have a poor rate of success, San Juan County is ill equipped to deal with them, and as a result it is likely there will be a net loss of Critical Areas which would not meet the requirements of the GMA.

Given the County's dire financial situation and the lack of knowledgeable staff to oversee mitigation projects, staff recommends that reasonable use exceptions be limited to 2,500 square feet of development within a wetland, fish and wildlife habitat conservation area, frequently flooded area, or associated buffer.

- Allowing gardens and orchards of all kinds in wetlands and wetland/ stream buffers, without limit, may exceed the scope and intent of the agricultural exemption and result in a net loss of habitat and water quality. This is a loophole that could result in significant damage to

sensitive natural resources. Staff recommends the special exemption for gardens and orchards be removed from the draft ordinance because those used for food production or the production of crops for sale are already covered by the exemption for agricultural activities.

- Allowing the reduction of wetland or stream buffers to as little as 25% of the standard buffer, in conjunction with buffer averaging, is not supported by science, is not supported by the agencies with jurisdiction, and is significantly less protective than our current regulations. Staff recommends that the existing requirement be retained and that averaged buffers be at least 75 % of the standard buffer.
- Allowing activities (such as the construction of buildings) in stream buffers if it can be shown there will be no net loss of salmon habitat. While this might meet the requirements under the Endangered Species Act, it probably doesn't meet the requirements of the Growth Management Act (the requirement to protect Waters of the State and to protect streams with other types of fish). This concept is already addressed in the Critical Area Stewardship Plan option where there is more detail on what is required to gain approval and ensure that water quality and habitat are protected. Staff recommends that section 18.30.160.E.4.c of the June 3, 2009 Public Review Draft be removed.
- Larger wetland buffers adjacent to high impact land uses. To help ensure there is no net loss of the function and values of wetlands, at a minimum staff recommends we increase wetland buffers adjacent to high impact land uses in accordance with the Dept. of Ecology guidance, and/or adopt the three tiered system of buffers for low, moderate and high impact uses. Though not as simple as one buffer width, it would ensure that the requirements are commensurate with the impacts of the land use.
- Larger buffers to protect upland wildlife habitat. Staff recommends we consider increasing the stream buffers by 50 feet, in accordance with WDFW recommendations, to provide some habitat for upland birds, amphibians and reptiles (150 feet for Type N streams and 200 feet for Type F streams). This is still far less than what is needed by the wildlife (up to 600 feet is needed).
- Adoption of species and habitats of local concern. Staff recommends we identify vulnerable species that will not be adequately protected by the proposed water quality and buffer regulations and adopt them as species of local concern with voluntary protection measures. County staff would need to prepare handouts with photos and information, and given the state of County finances would not be able to provide much assistance, but this would at least get people looking for these animals and thinking about preserving their habitat. Species and habitats that are locally rare and could be considered include:
 - *Golden Eagle. (Currently declining throughout the Western US. Protection measures are similar to those for Bald Eagles and Peregrine Falcon)*
 - *Great Blue Heron. (Numbers of breeding colonies in the San Juans are declining)*
 - *Island Marble Butterfly. (though to be extinct – now only found in the San Juans)*
 - *Pigeon Guillemot. (A shore bird that nests in colonies in burrows on sandy and rocky cliffs)*
 - *Townsend's Big Eared bat and areas with roosting concentrations of all bat species.*
 - Sharptail snake
 - Oregon vesper sparrow
 - Keens myotis (a bat)
 - Aspen stands (locally rare)

- *Black Oyster Catcher*. (Only occurs on the west coast of the US, with a total population of 11,000. The San Juans have the largest concentrations of these birds. They nest on the ground above the rocky intertidal zone in areas without mammals).
 - Western toad
 - Long toed salamander.
 - Red legged frog.
 - Northwestern salamander.
 - Rough skinned newt.
 - Coastal sand spits including *Carex macrocephala* vegetation.
- Based on the recently released correction to the 2008 Biological Opinion, it appears that additional discussion on buffers to lakes, Type N streams and marine shorelines is necessary. Before proceeding staff recommends that representatives of the National Marine Fisheries Service and FEMA be invited to meet with the County Council to discuss the requirements imposed under the Opinion and options for meeting those requirements.

Other useful references

- June 3, 2009 Public Review Draft of upland Critical Areas Ordinance.
- May 20, 2009 summary of key scientific findings related to Fish and Wildlife Habitat Conservation Areas..
- Scientific reports, State guidance and maps related to Critical Areas and maps available on CD or at <http://www.sanjuanco.com/cdp/default.aspx?dept=cdp&listname=CAO> .