

WHATCOM COUNTY

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TO: The Honorable County Council
The Honorable Jack Louws, County Executive

FROM: Cliff Strong, Senior Planner *CS*
Ryan Ericson, Natural Resources Supervisor *RCE*

THROUGH: Mark Personius, Director

DATE: October 29, 2018

SUBJECT: Critical Areas Ordinance Monitoring Proposal

Purpose

During the review and adoption of the Critical Areas Ordinance update, Council directed staff to develop a critical areas monitoring program (Ordinance 2017-077). Section 4 of the adopting ordinance reads:

Planning and Development Services will continue to implement Whatcom County Comprehensive Plan policies 10K-15, 10K-16, 10L-17 and 10L-18, and goal 10G, as well as bring forward a plan to enhance groundwater quality sampling as called for in best available science, in order to monitor the functions and values of critical areas and to develop baseline data to use for such monitoring. An update of the implementation of these policies will be presented to Council no later than January 2019.

This memo is intended to review the monitoring efforts the County already undertakes, and to propose new components for consideration.

Existing Monitoring Efforts

Whatcom County already does monitoring of certain critical areas. In the adopting ordinance, Council made the finding (#48) that “the County monitors various metrics to ensure that critical areas’ functions and values are protected. Monitoring programs include:”

Text from Ord 2017-077/Monitoring Method	What’s Monitored
a) Participating in the WDFW High Resolution Change Detection Project	Stream/River riparian cover
b) Performing critical areas mitigation monitoring for 5 years post-permit approval to ensure mitigation success	Mitigation projects
c) Participating in Puget Sound Partnership’s monitoring programs:	
(i) Puget Sound Ecosystem Monitoring Program	Region-wide ecosystem monitoring
(ii) Effectiveness Monitoring	Region-wide regulatory/permitting effectiveness

Text from Ord 2017-077/Monitoring Method	What's Monitored
(iii) Puget Sound Vital Signs Program	Region-wide ecosystem monitoring
d) PDS' ongoing administrative review of consistency between CAO requirements and permit conditions to ensure staff is applying code requirements consistently and correctly	Regulatory/ permitting consistency
e) CPAL Conservation Farm Plan monitoring to ensure the CPAL program is working effectively	Regulatory/ permitting effectiveness
f) Whatcom Clean Water Program, Pollution Identification and Correction (PIC) Program, and Surface Water Quality Monitoring to identify and improve water quality issues	Water quality in streams
g) Whatcom County Health Department's Potable Water Well Testing Program to test new wells for contaminants in order to meet state water quality standards	Drinking water quality in aquifers
h) Monitoring of the Department of Ecology's Drinking Water/Well Testing Program for monitoring drinking water quality	Drinking water quality in aquifers
i) Participation in the nascent Nooksack-Fraser Transboundary Nitrogen Study to work cooperatively with Canadian and U.S. agencies to address the transboundary issue of excess nitrogen in the aquifer	Drinking water quality in aquifers
j) Council's formation in 2016 of the Whatcom County Wildlife Advisory Committee to develop critical area monitoring and adaptive management program recommendations	Monitoring guidance
k) The Wildlife Advisory Committee's preparation of the <i>Whatcom County 2017 Ecosystem Report</i> , including existing ecosystem baseline conditions assessment and findings	Ecosystem baseline conditions assessment

Countywide Ecosystem Functions and Values Baseline Study & Effectiveness Monitoring

During the CAO review, Council asked for, and staff provided, an estimate to do a baseline study of our critical areas, from whence we could measure the effectiveness of our CAO. Staff pointed out that there is no statutory requirement to do jurisdiction-wide, long-term monitoring of the CAO's effectiveness.¹ We could only find two jurisdictions (King and Snohomish counties) that have performed such a task, and both were done only once, and both received EPA grants to do so.

Nonetheless, staff provided Council an estimate of developing such a program for Whatcom County. It included two stages: the initial baseline study and an ongoing monitoring program.

¹ Though the Growth Management Hearings Board in several of their decisions has indicated that doing so would be valuable, and in some cases *required* where the jurisdiction proposed something *not* based on Best Available Science.

Component	Additional FTEs	Estimated Cost	Cost Recurrence
<p>Ecosystem Functions and Values Baseline Study</p> <ul style="list-style-type: none"> • Hire a consultant to design the baseline analysis, develop data architecture, develop assessment data forms, and train field crew (WC staff). The baseline analysis is an on-the-ground rapid assessment to ground truth GIS data sets for ecosystem health. • Create working relationship with Western University and citizen science community • Use a stratified random sampling analysis for site selection in order to maintain statistical integrity. PDS would recommend 7 sites for each unique ecosystem (nearshore/offshore/sand spit, marine riparian, wetland, fresh water stream/ river, fresh water lake, grassland/prairie/AG, upland forest,) for a total of 49 sites. The Wildlife Committee has established 5 habitat categories for their report to Council; the study design would use these categories as one of the stratification levels. • Complete Rapid Habitat Assessments for various habitats and wildlife (bird, amphibian, upland vegetation (grassland, forest (secession type), bald), streams, marine riparian, riparian, wetlands, lakes, nearshore • GIS Vegetation Change Analysis (WDFW High Resolution Change Detection) • Water quality conventional sampling at each site as applicable • Wetland Prediction Model (work with Snohomish County and Skagit County) • GIS Analysis • Laboratory Analysis • Citizen Scientist Workshops 	0.25	\$250,000 – \$400,000	Once
<p>Baseline Ecosystem Functions and Values Monitoring Program</p> <ul style="list-style-type: none"> • Complete Rapid Habitat Assessments • Laboratory Analysis • Internal assessment of program consistency (Permit issuance + Mitigation) • Wetland Prediction Model Maintenance • Citizen Scientist Workshops 	0.25	\$100,000	Every 5 years

The State’s Recommendation

The Department of Commerce (DOC) has released a draft Chapter 7 of their updated Critical Areas Assistance Handbook addressing Monitoring and Adaptive Management. In it, they classify three different types of CAO monitoring:

- *Permit implementation monitoring* asks: (1) whether the local government issued a permit consistent with the regulations; and (2) did the projects as built comply with all of the conditions noted in the permit. Data is about individual permits.
- *Effectiveness monitoring* continues to ask the two permit implementation monitoring questions noted above over a longer period of time: Are permits being issued that are consistent with all regulatory requirements and are projects continuing to meet permit requirements? Effectiveness monitoring can also address procedural improvements to improve efficiency of the permit system. The data is not about the individual permit, but whether and how to adaptively manage the system.
- *Validation monitoring* asks general ecosystem questions about whether critical areas functions and values are being protected, and whether we are achieving no net loss of the ecosystem. Another term for this type of monitoring is status and trends monitoring. Validation monitoring requires extensive scientific research that is probably beyond the resources of most local governments.

The DOC recommends against individual jurisdictions performing validation monitoring (a.k.a., what we've been calling "Ecosystem Functions and Values Monitoring"), pointing out that this type of monitoring is typically conducted regionally or as part of a particular scientific study. Rather, they recommend that jurisdictions start off with permit implementation monitoring and, as the monitoring system is built, add in effectiveness monitoring.

Staff Recommendation

Based on the DOC recommendation, staff recommends that we enhance and formalize our existing Permit Implementation and Effectiveness monitoring. Though we already do these to some extent, it has been *ad hoc*. By "formalize," we mean that it be done regularly, with a defined purpose, that regular reports be made available to the public, and that we use adaptive management to continually improve our permitting process and regulations.

To this end, staff would develop a monitoring protocol and incorporate it into our standard procedures. This would include:

- Developing a regular schedule
- Reviewing our permit tracking software to ensure that it's adequately set up to produce desired results
- Developing a sampling protocol
- Having a protocol for incorporating geographic information into our GIS system
- Developing a reporting template, and
- Develop an adaptive management protocol for addressing any deficiencies found.

We believe this can be achieved with existing staff, and that no additional funds would be needed.

Staff further recommends that the Wildlife Advisory Committee be involved in recommending amendments to our code and/or permitting process.

Future Considerations

In their 2017 Ecosystem Report, the Wildlife Advisory Committee recognized the need for additional data to better inform Whatcom County's understanding of local ecosystem conditions and assist in prioritization of ecosystem protection and/or restoration efforts. These protection and restoration priorities could then be used in the future in a natural resource marketplace to incentivize their protection and ensure whole ecosystem values are maintained, protected, and restored, and ensure that property owners have a compensatory incentive for their ecosystem protection/restoration efforts, as recommended by the Agricultural Advisory Committee. The point here is that, though staff is not recommending doing validation monitoring at this time, it may still have value at some point in the future if and when ecosystem benefits and impacts can be accurately measured, quantified, and traded in a natural resources marketplace.