

RSTC EPGA2.0 Report 12 December2023 Draft- Kevin Brown

0.0 Summary (including Conclusions and Recommendations)

An environmental policy gap analysis (EPGA) should identify if and how different components of the natural environment are addressed by existing policy, assess their effectiveness or impact, and guide policy improvement or development to address those gaps.

Ideally, a Saanich EPGA should facilitate policy analysis and communication within the District and broader community, should be a “living” document, updated as policies change and understanding of local environmental issues increases. It should be seen as a tool for District staff and for the broader community.

Specifically, the EPGA should:

1. define what comprises Saanich’s natural environment in appropriate breadth and detail
2. document existing and emerging stressor/threats to Saanich’s natural environment
3. identify (and assess) existing Saanich policies meant to protect the natural environment and other policies which may affect the natural environment without having intended to. All Saanich policies should be viewed through a “natural environment” lens.
4. identify aspects of Saanich’s natural environment not adequately addressed by policy.
5. link environment, stressor/threats, and policies to facilitate items 3 and 4.

RSTC has reviewed the earlier draft EPGA prepared in 2020 by staff (EPGA2020) and suggested improvements to better address the above issues in this report. In this report we suggest:

1. what should be included in a Saanich EPGA and why
2. an approach to link environment, stressor/threats and policies
3. some examples of how a revised EPGA can be applied to identify gaps and conflicts in policy with respect to the natural environment.

RSTC is limited in how far it can take revisions to EPGA2020 due to time constraints, that many relevant District policies are undergoing revision and not finalized, and by our inability to examine administrative/departmental policies that are not listed on the public District webpage.

RSTC recommends that the District support completion of the policy database, including examples of how to apply it; and commit to ensuring that the database be maintained in appropriate form, be updated as policies and awareness change, and be publicly accessible.

1.0 Introduction

The Environmental Policy¹ Gap Analysis (EPGA) is central to the Environmental Policy Framework (EPF). Municipal policies may (1) intentionally seek to protect the natural environment, (2) incidentally address and benefit components of the natural environment, or (3) even conflict with stated desires to protect the natural environment. Over time, gaps or conflicts in policies protecting the natural environment arise as new data or issues emerge, as community values evolve, and as policies accumulate. An EPGA is a way to periodically take stock of such gaps and conflicts in municipal environmental policy and make appropriate changes toward protecting the natural environment.

An EPGA should identify if and how different components of the natural environment are addressed by existing policy, assess their effectiveness or impact, and guide policy improvement or development to address those gaps. An EPGA should facilitate policy analysis and communication within the District and broader community. It should be a “living” document, updated as policies change and understanding of local environmental issues increases.

More specifically, a District of Saanich EPGA should:

1. be thorough and systematic
2. define what comprises Saanich’s natural environment in appropriate breadth and detail
3. document existing and emerging stressor/threats to Saanich’s natural environment
4. identify (and assess) existing Saanich policies meant to protect the natural environment and other policies which may affect the natural environment without having intended to. In other words, viewing all Saanich policies through a “natural environment” lens.
5. identify aspects of Saanich’s natural environment not adequately addressed by policy.
6. link environment, stressor/threats, and policies to facilitate items 3 and 4.

District of Saanich policies to protect the natural environment are limited to those granted by senior (provincial and federal) levels of government². Hence, assessments of the “adequacy” of municipal policies should explicitly note those constraints.

In addition to a functional higher-level EPGA, RSTC has proposed gap analyses for individual thematic policy areas. The two approaches complement and don’t necessarily conflict with each other. A functional higher- level EPGA such as discussed in this report can better identify policies with multiple environmental benefits (or impacts) and confirm what components of natural environment are not addressed by existing policies. Conversely, individual thematic area gap analyses can provide more detailed analyses suitable for a given policy area.

A well-constructed list of natural environment components and potential threats also provide the District and broader community a checklist to aid in environmental assessments of “non-environmental” policies and of specific projects.

¹ By “policy”, we refer to legislation, regulations, policies, strategies, guidance, or any other documents formally recording policy decisions approved by Council (e.g., Government of British Columbia. 2020. Policy approaches handbook https://www2.gov.bc.ca/assets/gov/government/about-the-bc-government/regulatory-reform/pdfs/policy_approaches_playbook.pdf)

² Stewardship Centre for British Columbia. 2021. Green bylaws toolkit for protecting and enhancing the natural environment and green infrastructure. 3rd edition

The existing draft EPGA (EPGA2020) was prepared by staff in late 2020 and briefly reviewed by RSTC then, but not revised. Given the subsequent and ongoing development or revision of related policies and reports³, recent changes in provincial government legislation to increase housing density⁴, and research done by RSTC members during the Resilient Saanich process, it seemed timely to re-examine EPGA2020.

Suggested revisions to EPGA2020 are itemized in Appendix EPGA_4. Briefly, the breadth and detail of “natural environment” and stressor/threats should be made more complete and appropriately detailed; the list of Saanich policies that affect the natural environment (and how) should be more comprehensive; the links between specific policies and components of environment clearer; and the assessment of how “adequate” policy is more transparent. This report suggests updates to make EPGA2020 more complete, transparent, useable, and updateable.

1.1 What this report includes

This report proposes a revised approach to the EPGA and includes:

1. This cover document which explains spreadsheet components and how they are linked, including examples; how policies might be assessed; and suggested next steps.
2. Tables containing (a) suggested updated components of the Saanich “natural environment” (Table 1), and (b) associated stressors/threats (Tables 2a, 2b, and 2c), (c) a spreadsheet listing Saanich policies and showing their links to components of natural environment (extracted worksheet in Appendix EPGA_1, and (d) a document summarizing key points from each policy as seen through an environmental policy lens (Appendix EPGA_2. **A final copy of the spreadsheet itself will be attached separately with the final report.**
3. Analysis to confirm a suspected policy gap (Appendix EPGA_3)
4. Review of EPGA2020 and suggested revisions (Appendix EPGA_4)

1.2 What this report is not

This report is not a completed revised EPGA.

- (1) The list of policies and how to assess them is incomplete.
- (2) The report does not attempt to summarize the condition of the natural environmental components, the magnitude or severity of stressors/threats, or prioritize what components of environment or policies require action. All these assessments are essential but require data which may not exist.
- (3) A draft BCS and UFS have not been available to assess⁵. Other policies critical to protecting the natural environment in Saanich, such as the OCP⁶, are currently being updated.

³ For example, State of Biodiversity; State of Urban Forest; Biodiversity Conservation Strategy; Urban Forest Strategy; Official Community Plan; Animal Bylaw; Development Permit guidelines; Integrated Stormwater Management Plan

⁴ More small-scale, multi-unit homes coming to B.C., zoning barriers removed. Updated Nov. 2, 2023. <https://news.gov.bc.ca/releases/2023PREM0062-001706> (accessed 2 Nov 2023)

⁵ Draft BCS received for review 24 November 2023; draft UFS not available until 2024

⁶ Official Community Plan

However, by providing a clear sequence of steps, underlying rationale, specific “to-dos”, and some preliminary assessments, we hope that the report will lead to timely completion of a more useable and updateable EPGA that benefits both District staff and the broader community.

2.0 Components of the EPGA spreadsheet

2.1 Natural environment and potential stressor/threats (Tables 1 and 2)

2.1.1 Definition of “natural environment”

Defining “natural environment” and identifying its components is a necessary first step in linking environment, stressor/threats, and Saanich policies. What should be included in “natural environment” and how should it be represented?

The RSTC discussed (April 2023) but has not finalized what “natural environment” should include in the context of the EPGA and EPF. “Natural environment” could include: (1) abiotic factors necessary for life (2) physiography arising from planetary processes (3a) biota and ecosystems that occurred on southern Vancouver Island pre-European settlement and still could given adequate habitat; (3b) species which are introduced and which provide ecological goods and services (e.g., non-native trees) and which may become “naturalized”; (3c) species whose natural range may expand to southern Vancouver Island with climate change. This definition is more specific to southern Vancouver Island than is the general definition used in the EPF; however, the definitions are generally consistent with each other.

Non-native “invasive” species do not fit neatly with this definition. Invasives provide ecological goods and services but are, by definition, a threat to native species and may provide fewer and different ecological goods and services than do natives. We consider invasive species to be a stressor/threat to native ecosystems but recognize that their roles and potential benefits may differ in future “novel” urban environments.

Natural environment (1) contrasts with the modern built environment, i.e., infrastructure made from relatively permanent human-manufactured materials and (2) is outside of human structures. We note that human structures and activities may be well-integrated with the natural environment or relatively disconnected and with significant impacts on ecosystem processes and biodiversity.

2.1.2 Components (categories) of natural environment (Table 1; worksheet not attached):

For the purposes of the EPGA, components of natural environment should (1) cover the breadth of what makes up “natural environment” (2) be understandable and (3) be linkable to ecological processes and to policy. The number and specificity of components comprising the natural environment is arbitrary and a compromise between detail and useability. Hence, they can be modified as needed.

We suggest specifically acknowledging abiotic components of the natural environment in addition to biodiversity and ecosystem-level components. Reasons⁷ include:

- (1) Inappropriate levels of abiotic factors directly impact both public health and biodiversity and ecosystem functions and may also indirectly affect public health through impacts on biodiversity and

⁷ Kevin Brown, RSTC meeting agenda package 28 June 2022 pp 9-18

<https://www.saanich.ca/assets/Local~Government/Documents/Committees~and~Boards/RSTC/Agendas/2022~Agendas/2022-06-28-RSTC-REVISED%20%20Agenda.pdf>

ecosystems. However, levels of abiotic factors tolerable to and even desired by humans may be unsuitable for other (native) organisms. These nuances are best acknowledged in policy when both abiotic factors and biodiversity/ecosystems are explicitly recognized.

- (2) Historically, environmental protection focused on how the condition of the abiotic environment affects public health. That emphasis is still important, especially for community members with the greatest exposure to pollutants, noise, etc. Some Saanich (and CRD) policies or bylaws address aspects of air and water quality, sound, light, and soil, but in the context of public health, not biodiversity protection.

That said, the abiotic environment is part of ecosystems, not separate. This separation results in some redundancy in the worksheets.

Ideally, ecosystem/biodiversity components in the EPGA should be consistent with those (target categories) in the SOB report and BCS. However, the EPGA has a somewhat different emphasis and the same information may be better categorized differently⁸. Table 1 and the associated worksheet:

1. combine the SOB target categories of “Coastal Douglas-fir Forests” and “Garry Oak Ecosystems” into a single category of native terrestrial ecosystems.
2. separate agricultural ecosystems from the SOB “Backyard Biodiversity⁹” target category, and
3. recognize urban forests as a category distinct from native terrestrial ecosystems and backyard biodiversity.

These distinctions are arbitrary, and they overlap. However, protection and management of coastal Douglas-fir and Garry oak ecosystems share common high-level stressor/threats and are addressed by the same municipal policies. Other terrestrial groupings have unique combinations of disturbance and fragmentation, distribution, proportions and distribution of native and non-native vegetation, land ownership, and they differ in how they can be managed and regulated by the municipality.

Groups proposed here could be subdivided for more detailed thematic or policy area analyses. As a first cut, however, these categories seem appropriate for connecting environment, stressors/threats and policy at a high level but could be revised as needed.

Table 1 and worksheet 1 do not list indicators for components of the natural environment. These need to be determined and suitable supporting data collected. Appropriate indicators are required to assess policy effectiveness and for Saanich to properly assess its “natural assets” (see below). Data collected for the 2023 SOB and SUF reports should aid in selecting appropriate indicators.

This spreadsheet does not account for spatial variation. However, all components (and stressor/threats) can be represented spatially. The SOB and SUF process updated digital maps of ecosystem and urban forest distribution. Similarly, abiotic components of environment could be mapped¹⁰; this requires collection of appropriate data, along with resources to add and integrate the data into Saanich’s GIS.

⁹ As of 11 December 2023, the draft Biodiversity Conservation strategy referred to “Urban Matrix” rather than “Backyard Biodiversity”.

¹⁰ Kevin Brown, RSTC meeting agenda package 28 June 2022 pp 9-18

<https://www.saanich.ca/assets/Local~Government/Documents/Committees~and~Boards/RSTC/Agendas/2022~Agendas/2022-06-28-RSTC-REVISED%20%20Agenda.pdf>

Such data, shown spatially, aids in the understanding of biodiversity patterns and in planning to better protect and enhance Saanich's natural environment.

"Components" of natural environment referred to here are generally equivalent to "natural assets" of EPGA2020 and, for ecosystems and biodiversity specifically, to "biodiversity targets" used by the IUCN (e.g., Salafsky et al 2008) and suggested by the RSTC for use in the SOB.

From the District perspective, it is reasonable to view components of the natural environment as "natural assets". This may allow ecological goods and services and related maintenance costs to be better-valued in the context of municipal infrastructure and operations. Saanich recognizes this and also notes that an inventory of natural assets does not yet exist¹¹. Data collected for the SOB and SUF reports should provide some but not all of that information. What will ultimately be considered "natural assets" by the District is currently unknown.

The concept of "natural assets" may reinforce the perception that nature exists primarily to benefit we humans through the (economic) goods and services it provides. RSTC recognizes the intrinsic value of nature as a core principle of the EPF, but we also recognize that seeing nature as "municipal natural assets" may be valuable for municipal strategic and budgetary decisions.

2.1.3 Stressor/Threats (Tables 2a, 2b, 2c; worksheet not attached)

Stressors/threats and the actions that produce them link municipal policies and components of the natural environment. Policies typically address actions that threaten (or could benefit) the natural environment.

Classifying stressor/threats in a way which relates both to components of environment and to local government policy is inherently complicated. For example:

- (1) the local natural environment can be impacted both by local actions that can be controlled locally and impacted by global stressor/threats that are not controllable locally.
- (2) local stressor/threats vary in their proximity to the stress they cause and it can be difficult to agree on the sources (e.g., human actions) of the threats (for example, Tables 2b and 2c).
- (3) actions which are sources of stressor/threats may also be beneficial to biodiversity/ecosystems.
- (4) Our scientific understanding of what constitutes threats to biodiversity in urbanized landscapes is increasing dramatically.
- (5) Perceptions of threats change over time and may or may not be consistent with scientific data (e.g., shifting baselines, Jones et al. 2020)

Some municipal policies may have little direct impact on Saanich's natural environment but directly affect biodiversity and ecosystems elsewhere, as per the "ecological footprint" concept (Wackernagel and Rees 1996). Such policies with beneficial impacts could include encouraging salvage and reuse of building materials from deconstructed houses or requiring concrete used in municipal infrastructure to contain recycled aggregate and other "waste" materials and thereby reduce impacts of extracting and processing virgin materials elsewhere.

¹¹ District of Saanich Asset Management Strategy 2023.

<https://www.saanich.ca/assets/Local~Government/Documents/Saanich%20Asset%20Management%20Strategy-20230711.pdf>

EPGA2020 presents a single column of threats associated with “natural assets”. We suggest refining the stressor/threats classification to focus on direct (proximate) threats and their sources that the municipality can largely control. “Global” threats are those overarching threats that the municipality largely cannot control but which may have significant local impacts and could be mitigated or adapted to (e.g., climate change). These can be acknowledged in the spreadsheet and explored more deeply elsewhere in the EPF, as can local policies which potentially impact biodiversity and ecosystems elsewhere. Recognizing the difference between proximate and global threats can clarify how the municipality can better protect Saanich’s natural environment.

Examples of direct (proximate) threats include loss of tree cover, soil quantity and quality, permeable surfaces, introduction and spread of invasive non-native species, polluted stormwater runoff, air pollution from localized burning, and noise and inappropriate outdoor night-time lighting. Many of these can be addressed effectively by municipal policy. Some examples of global threats with potentially pronounced local impacts are (a) climate change, (b) regional population growth and its associated pressures of land and resource consumption and waste generation, (c) non-greenhouse-gas air pollutants of non-local origin, (d) ubiquitous toxins such as microplastics and synthetic “forever” (e.g., PFAS) chemicals, and (e) geological events such as earthquakes and tsunamis. Global threats can influence the severity of proximate direct threats.

In the spreadsheet, we focus on local (proximate) threats that local (municipal and regional government) policy can impact locally and on “sources of those threats”. These may be difficult to separate. As a local example, is surface water pollution caused by an excess of a pollutant, the abundance of pavement which directs contaminated stormwater runoff to surface water, or land-use approaches that encourage road building, automobile use, and stormwater runoff? All may be correct. We refer to threats as “stressor/threats” as they overlap (but see Saito et al. 2022). Stressor/threats may have either already been documented locally or are possible in Saanich, based on studies in similar urban environments.

“Stressor/threats” and their “sources” do not always damage biodiversity and ecosystems. Levels of the “stressor/threats” and magnitude and intensity of the sources determine whether biodiversity and ecosystems are impacted or benefit. For example, fire can be good or bad for specific ecosystems depending on the ecosystem and the frequency and severity of the fires. Effective municipal environmental policy requires knowing how much of something is bad, good, or neutral for the natural environment. That requires appropriate data. We suggest that “stressor/threats” are really “potential stressor/treats” until confirmed and that the sources of threats refer to actions that are inappropriate via their location, intensity, and/or magnitude. This view of stressor/threats draws on but is not identical to that of IUCN-CMP (Salafsky et al. 2008; Master et al. 2012) and does not distinguish between stressors and threats (Saito et al. 2022).

We do not focus on global stressor/threats here, but they clearly can impact Saanich’s natural environment. Global stressor/threats influence the severity of more proximate stressor/threats and have important consequences for long-term planning. For example, climate change may exacerbate impacts of intensified land use and development on urban forest and freshwater ecosystem health and composition. Effects of climate change on Saanich’s natural environment have been briefly addressed in the Climate Plan, to be included in the Environmental Policy Framework (EPF).

Population growth in Saanich and the CRD is also a potential “global” stressor/threat to Saanich ecosystems and biodiversity. Saanich is the largest municipality in the CRD and surrounded by other municipalities. Population growth in Saanich therefore means increased densification at a municipality-

wide scale, especially within the urban containment boundary (UCB). Densification may lead to decreased per capita emissions of greenhouse gases (Ribiero et al. 2019) compared to less-densified areas with comparable populations, but the associated increase in the land base which is built environment can also lead to a greater proportion of impervious land, reduced tree canopy, changes in stormwater runoff patterns, increased urban air temperatures and habitat fragmentation, and decreased biodiversity and soil quantity and quality in the densified area. Where and how densification occurs matters for the natural environment within the Urban Containment Boundary. Population growth elsewhere in the Capital Region also implies increased impacts to Saanich's natural environment from transportation to and through the municipality. This increasing pressure on Saanich's natural environment from population growth and densification emphasizes the need for strong and effective municipal environmental policies and careful attention to the breadth and adequacy of those policies.

Global threats may have interacting impacts on Saanich's natural environment. Over the longer-term, climate change may drive migration to and increase population growth in areas with milder climates, such as the Puget Sound region (Saperstein 2015; Binder and Jurjevich 2016) and Vancouver Island, exacerbating effects of each on local biodiversity and the natural environment.

2.1.4 Policies (worksheet extract; Appendix EPGA_1)

Our approach was to view all readily accessible Saanich policies through a natural environment "lens" and then shorten the list to those with likely implications for the natural environment. Approximately 260 Saanich bylaws, council policies, and other strategic documents were found on the District website¹². From that list, ca. 110 policies seemed suitable for further inspection.

Administrative or departmental policies are not listed on the public District website although they may have implications for the natural environment. Similarly, Saanich strategic plans and annual reports are not listed in the worksheet although they may be important for assessing District intent and progress in implementing stated policies.

2.1.5 Linking environment, threats, and policies

An EPGA should clearly link policies to environment and/or to stressor/threats. EPGA2020 does not. We suggest sorting policies by the component of environment they potentially impact or by the stressor/threats they address. The relevance of policies to either environment or stressor/threats should then be assessed as begun in EPGA2020. Ultimately, these linkages would provide a snapshot of: (1) how existing municipal policies apply to the natural environment (or to stressor/threats) and, conversely (2) what aspects of the natural environment are not addressed by existing policy.

To facilitate sorting, we propose assigning numerical codes to components of natural environment, to stressor/direct threats, to sources of threats, or to some combination, then determining which numerical codes are relevant in any policy document.

Components of environment are appropriate as a sorting factor for policies because (1) the environment is what Saanich seeks to protect (2) components are not likely to change over time (although one might

¹² bylaws require the public to follow certain behaviors for specific issues; council policies formally express the intent of a specific council on a specific issue and remain in force until changed by Council; "other strategic" documents address a broader set of issues, but often in a specific geographical area; and provide context, targets, and a timeline.

wish to further split components) and (3) agreed-on indicators exist. Coding components of environment therefore seems relatively straight-forward and understandable.

Stressor/threats or their sources are also appropriate for sorting policies because policies typically target actions that result in stressor/threats. Policies do not directly regulate components of environment, even if environment is the ultimate reason for the policy. If stressor/threats are appropriately classified and linked to components of environment and to policies, it becomes possible to better identify policies (existing or not) with multiple environmental benefits. One example would be policy to minimize the proportion of land as impervious surfaces; this could have beneficial effects for tree canopy cover, terrestrial biodiversity, stream hydrology, and urban air temperatures. Similarly, appropriate tree planting and mature tree retention can improve soil health and air quality, lessen temperature extremes, increase biodiversity, and ameliorate stormwater runoff.

Classifying and coding is more complicated for stressor/threats than for environmental components (section 2.1.3). Either approach or a combination may be useful. As a first step toward a revised EPGA, we have assigned numeric codes to components of the natural environment relevant to Saanich and used those to sort and guide assessment of Saanich policies.

2.1.6. Assessing the “adequacy”, benefits, and potential impact of policies on the natural environment

A systematic and thorough assessment of environmental policy “adequacy” is not simple. Ultimately, it requires knowing if a policy benefits the target component(s) of the Saanich environment.

In general, **the RSTC feels that Saanich lacks the data it needs to comprehensively assess its natural environment. This is a significant gap when assessing the adequacy of policies.** As an initial step in assessing policies, one can assess how policies address components of the natural environment. For example, a policy may refer to the component incidentally or intentionally; if intentional, it may be for another purpose (e.g., human health and safety vs. biodiversity). A policy may be aspirational, express goals and measurable targets, voluntary (perhaps with incentives), or a bylaw with regulatory power. Wording matters; for example “should” and “shall” differ in intent and expectations with respect to desired actions¹³.

If a policy is a “strategy” or “action plan”, it should have clearly- defined and measurable targets, a timeline for achieving those targets, and follow-up monitoring to assess if the targets were met. Such documents typically contain the caveat that implementation is subject to the strategic planning and annual budgeting process. One way to assess implementation is to compare goals and timelines in the document with those in the forward-looking 5-year strategic plan (intent) and recent annual reports (progress).

The potential adequacy of bylaws depends, among other things, on the breadth of the issue addressed, the potential penalties, and whether the bylaws require enforcing and are enforced. Local bylaw enforcement programs are on a continuum from voluntary compliance to enforcement¹⁴.

¹³ District of Saanich 2023. Development Permit Area Guidelines Section 11.6 Accessed 30 November 2023.

[https://www.saanich.ca/assets/Local~Government/Documents/Planning/Attachment%201_Saanich_Proposed%20DPA%20Guidelines_16Nov2023.pdf](https://www.saanich.ca/assets/Local%20Government/Documents/Planning/Attachment%201_Saanich_Proposed%20DPA%20Guidelines_16Nov2023.pdf)

¹⁴ Province of BC. 2016. Bylaw enforcement: Best practices guide for local government. Office of the Ombudsperson. Special Report 36. <https://bcombudsperson.ca/assets/media/Special-Report-No-36-Bylaw-Enforcement-Best-Practices-Guide-for-Local-Governments.pdf>

Ideally, Saanich should know how well, not just how, policies address the natural environment.

2.1.7. Summary of worksheets and policy notes

To explore the feasibility of this approach for the EPGA, we created worksheets and associated summaries of existing policies:

- Worksheet 1 (shown as **Table 1**) - numeric codes were assigned to components of natural environment.
- Worksheet 2 (not attached)- all Saanich policies (bylaws, council policies, and other strategic documents) available on the Saanich website were listed. Some policies were listed more than once. In total, there were ca. 260 unique policies. After an initial scan, we reduced the list to ca. 110 policies that appeared to have some connection (intended or not) to components of the natural environment. Those policies were reviewed in more detail, and “relevant” environment numeric codes assigned (extract in **Appendix EPGA_1**). “Relevant” simply means whether a component of environment or stressor/threat is specifically mentioned or strongly inferred in a policy.
- Worksheet 3 (not attached) - combined policies and their relevant environmental codes were then structured to allow sorting in a third worksheet. This allowed for an initial assessment of how many existing Saanich policies might affect different components of the natural environment as well as what components of environment are not addressed or are minimally addressed by existing policy. Additional data have been added to further characterize policies and suggest “potential” adequacy. These include “intent” (protecting the natural environment versus community health and safety, etc.); potential strength (if policy sets specific targets, regulates or clearly incentivizes desired actions) and scale (breadth and specificity of the policy). The worksheets could also note if data exist to support the intent of the policy.
- Summary notes for individual policy documents, indicating what aspects of the natural environment were addressed (explicitly or implied) and how (**Appendix EPGA_2**)

2.1.8. Using the spreadsheet and policy notes to assess policy links to natural environment

One approach is “top-down”, in other words, assessing how many policies address components of environment and how. This can help show what components of Saanich’s natural environment may be under-addressed by municipal policies, highlight components that are well-addressed; and help highlight policy actions with effects on multiple components.

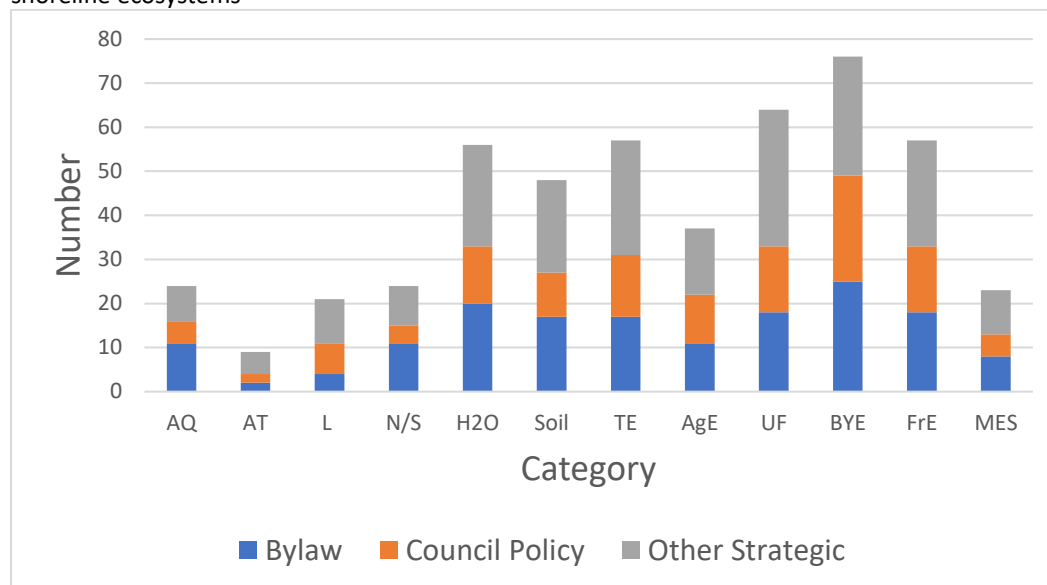
A second approach is “bottom-up”, in other words, use the spreadsheets, policy notes, and relevant policies (as needed) to determine whether existing policies address suspected gaps.

Finally, a third use is as a reference, in other words, a catalogue of existing Saanich policies pertinent to the natural environment and a listing of components of environment and associated stressor/threats. This can help guide Environment and Social Review (ESR) and similar assessments.

Top-down

Figure 1 summarizes how many policies of what type address the different categories of natural environment. Policies most often acknowledge (or infer) ecosystem-level categories; the exception is marine ecosystems and least often address abiotic factors (other than water). A given bylaw tends to address fewer categories of natural environment than do “other strategic” documents, which include both “action plans” targeted at specific areas and broad District-wide strategies.

Figure 1. Policy types by category of natural environment. “Bylaw”, Council Policy”, and “Other Strategic” documents are as classified on the District of Saanich website. Abbreviations: AQ, air quality; AT, air temperature; L, light; N/S, noise/sound; H2O, water quality; TE, (native) terrestrial ecosystems; AgE, agroecosystems; UF, urban forests; BYE, “backyard” ecosystems (aka urban matrix); FrE, freshwater ecosystems; MES, marine, estuarine, shoreline ecosystems



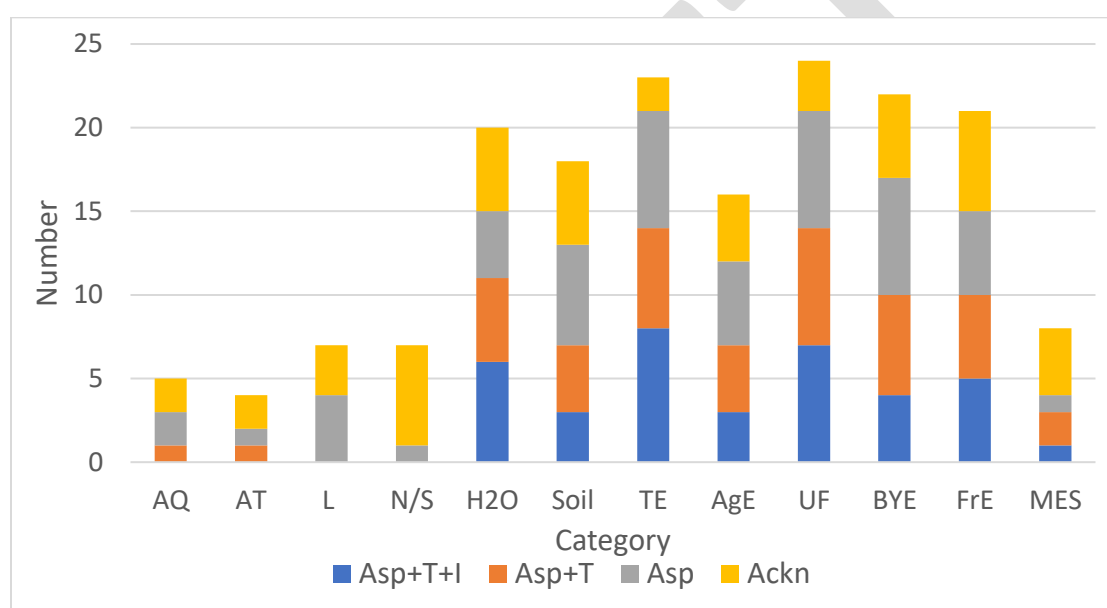
We also looked at “potential” effectiveness of policies at protecting different categories of Saanich’s natural environment. True effectiveness cannot be determined without appropriate environmental data. However, the presence of key components in the policy might infer potential effectiveness. For example, a stated desire to “improve air quality” would merely be aspirational without a timeline and indicators for how to measure air quality over time. A timeline and indicators suggest some intent to implement the policy and follow through on its aspirational goals, although such policies typically contain the caveat that implementation depends on the strategic planning and budgeting process. Ultimately, an assessment of “other strategic” policy effectiveness should note whether the policy was included in the forward-looking strategic plan and what goals were accomplished, as noted in annual reports.

Figure 2 shows how many “other strategic” policies either merely infer or aspire to some improvement in a given category of environment versus those that have a timeline and indicators. “Credit” for having a timeline and indicators was assigned generously. Policies referring to water, terrestrial (including “backyard”) and freshwater ecosystems, and urban forests are more likely to have a timeline and specific indicators than do other abiotic components of the natural environment (air quality and temperature; light; and noise/sound) or agricultural ecosystems. There is a longer history and greater awareness of the need to protect terrestrial and freshwater ecosystems and less awareness of how the urban abiotic environment affects urban biodiversity. Air quality and agricultural lands and ecosystems may be perceived more as a responsibility of the provincial government than of local government and subsequently seen as lower priority for municipal government.

Interestingly, bylaws and other strategic documents which address air quality, outdoor lighting, and noise/sound generally do so in the context of human health and safety. Those policies generally **do not** acknowledge impacts of poor air quality, inappropriate outdoor lighting or noise on biodiversity and ecosystems, nor are they an explicit component of local planning. These impacts are increasingly well-

documented and understood in urban landscapes, but not “mainstream” enough to have been addressed in Saanich municipal policies. A small exception is recent policy recognition that outdoor light from buildings can increase bird mortality, particularly during migration. However, policies do not yet mandate bird-friendly design and landscaping. Soil appears to be frequently referenced or inferred in policies, but the references are often vague, indirect, or focused on very specific concerns. The importance of soil in contributing to urban biodiversity and ecosystem function is ignored in current policy.

Figure 2. Components of “other strategic” documents in different environmental categories. Environment category abbreviations are as in Figure 1. Component abbreviations: Ackn (acknowledgement only = weakest), merely infers or mentions environmental category; Asp, aspirational- states general desire(s); Asp+T, states general desire(s) and goal(s) and has a timeline; Asp+T+I (strongest), states general goal(s), has timeline, has indicators for measuring progress



Bottom-up

Another application of updated policy worksheets and associated policy notes is to confirm suspected gaps in policy. A suggested approach is to:

1. Articulate the suspected gap
2. Determine what aspects of natural environment apply from Table 1 (e.g., 1-12) and the general stressor/threats associated with it.
3. Refer to spreadsheet – find bylaws, council policies, other strategic documents that specifically mention or imply connection to those components of natural environment
4. Review policy summary notes (word document) for specific notes pertaining to question; for additional detail, refer to actual document. Summarize.

For example, one might want to know how Saanich policies address specific components or stressor/threats of the natural environment (for example, the effects of urban noise or artificial lighting at night on nocturnal fauna; effects of microplastic litter on terrestrial and freshwater ecosystems; what policies seek to minimize the amount of impervious surface). The key point is that an appropriate

database of policies, seen through an “environmental lens”, should help District staff and the broader community understand what the natural environment encompasses, how our actions affect it, and whether local policies are adequate to protect it. An example application is to assess how Saanich policies address and protect soil (Appendix EPGA_3).

2.1.9 Complexity and comprehensiveness, useability, and flexibility

The worksheets represent an updated approach to capture the breadth of “natural environment” in Saanich while allowing matching of environment, threats, and policy. It is a “first cut”; individual issues or policies, threats or components of environment can be revised and examined in more detail as needed.

2.1.10 Suggested next steps

- Complete the tables and worksheet to ensure consistency throughout the spreadsheet and with relevant policies which are currently being revised or developed
- Ensure that the policy listings on the Saanich website are complete and up-to-date. For example, the 3-30-300 “rule” for urban forests passed by Council in 2021 does not appear in a listing of Saanich policies even though it seems to be a Council Policy.
- Similarly, identify Saanich administrative / departmental policies that impact the natural environment and code those policies as done for policies listed on the public website.
- Refine the method of assessing “potential” adequacy or effectiveness of policies in protecting features of Saanich’s natural environment. Include include reference to strategic planning documents, budgets, and annual reports and classify policies by their scope (geographic and issue)
- Flag the proximate (local) stressor/threats likely to be exacerbated by climate change. This could better integrate the EPGA with the Climate Plan.
- Identify key indicators for the condition of different components of environment and indicate whether data have been or are being collected.
- Identify components of environment or stressor/threats that are primarily the regulatory responsibility of senior levels of government; local government action may be more limited for those components.
- Determine how a completed and downloadable database of Saanich policy with implications for the natural environment can be made accessible to the public on the Saanich website.

The EPGA and database are a tool to aid District staff and the broader community to protect Saanich’s natural environment given a variety of stresses and threats. It should be a living document subject to regular updating and to modification as needed and it should be readily available to the public.

Completion of the database seems daunting, but much of the work has been done during the preparation of this report. Remaining work need not be done solely by Saanich staff – much may be appropriate for post-secondary students in public policy or interested members of the broader community, similar to the approach used in community science. Appropriate Saanich municipal advisory committees should be involved. An approach relying heavily on community input and expertise may reduce costs to Saanich while encouraging community understanding of Saanich’s natural environment and guiding the development of improved policies. District staff would need to guide the process, ensure accuracy of the data, and then ensure the database was updated as needed and publicly available.

3.0 References

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Table 1. Components of natural environment. “Env Component 2” refers to sub-categories of “Env Component 1”. Numeric codes are assigned to facilitate sorting of policies.

	Env. Component 1	Env. Component 2	Code
Abiotic	Air quality		1
	Air temperature		2
	Light		3
	Sound		4
	Water	Freshwater	5
		Groundwater	5
		Saltwater	5
	Soil	Native	6
		Urban	6
Ecosystems (biotic+abiotic)	Terrestrial	Native (categorize by ecosystems, species?)	7
		Agricultural	8
		Urban forest	9
		Urban “backyard”, ROW	10
	Freshwater	Lakes, streams, permanent and ephemeral wetlands	11
	Saltwater/estuary	Coastal sand, marine shoreline, near-shore	12

Table 2a. Stressor/Threats (to conditions appropriate for life), abiotic environment

Environment	Stressors/Threats	Source of threat
Air	Pollutants ¹	Combustion, traffic, soil disturbance
Air temperature	Extreme temperatures	increased pavement; dark surfaces, heat transfer from buildings; loss of tree cover
Light	ALAN ²	stationary outdoor light; visible indoor lighting; mobile light (traffic)
Sound	Noise ³	industry, traffic, human activity, increased hard surface, reduced rough surfaces (vegetation)
Water-fresh surface	Pollutants ⁴	stormwater and fertilizer runoff, chemical spills, sewage and animal waste, soil erosion, trash and litter incl. microplastics
	Extreme temperature, low oxygen	Lack of riparian tree cover, nutrient excess, low flow
	Extreme variation in quantity	Increased Impermeable surfaces, below-ground construction
Groundwater	Pollutants ⁵	chemical spills, landfill leachate, sewage, animal waste, chemical fertilizers
	Salinity	Excessive depletion, saltwater intrusion
	Disruption of flow, replenishment	Below-ground excavation and construction
Saltwater	Pollutants ⁶	stormwater runoff, sewage outflow, non-point pollution sources
Soil (native and urban)	Reduced fertility, soil biodiversity, permeability, and altered hydrology	Loss of topsoil, organic matter; soil sealing and compaction; invasive non-native plants and soil biota
	Pollutants ⁷	Intentional (e.g., biosolids; pesticides) and accidental (spills) application of chemical contaminants; localized domestic animal deposits

1/ includes particulate matter (PM), nano and microplastics; inorganic gases (e.g., O₃, NO_x, SO_x, CO, NH₃), volatile organic compounds (VOCs), persistent organic pollutants, and heavy metals, e.g., mercury

2/ Artificial light at night

3/ human-made sound that alters the behaviour of animals and interferes with their functioning

4/ includes point (industrial or storm sewer outfalls; nano- and microplastics, metals) and non-point (leachate from septic fields, runoff of excess fertilizers including manure, pesticides; oil and hydrocarbon leaks from buried oil, gasoline tanks)

5/ includes point and non-point pollutants, e.g., fertilizer leachate (e.g., NO₃), chemical and biological contamination from sewage or manures, hydrocarbon or other chemical leaks from storage tanks or pipelines

6/ includes point and non-point pollutants as for fresh and groundwater

7/ includes point and non-point pollutants as for groundwater; chemical contaminants (e.g., heavy metals, nano- and microplastics, other emerging chemicals of concern)

Table 2b. Stressor/Threats, terrestrial ecosystems

Environment	Stressors/Threats	Possible sources of threats
Ecosystem- native terrestrial	Loss of area-different terrestrial ecosystem types	Land use conversion buildings, traffic infrastructure; change in pre-settlement fire regime
	Fragmentation	Land use conversion Placement of buildings, roads, trails
	Pollutants	Litter and trash; see also Table 2a
	Reduced soil quality	See Table 2a
	Disrupted moisture availability	Increased impermeable surfaces Excavation and below-ground construction
	ALAN, Noise	See Table 2a
	Invasive species	Intentional or accidental introduction; non-removal; Improper disposal of yard waste Accelerated dispersal via trails, roads
	Direct disturbance, humans and domestic (pet) animals	Trail access and use; management of pet animals; collisions with traffic
Agricultural	Reduced soil quantity	Increase in built environment;
	Reduced soil fertility, organic matter	Inappropriate cultivation, drainage, fertilization, pesticide application; addition of construction fill
	Loss of habitat for native birds, insects including pollinators	Increased cultivation of fields (removal of within-field trees; vegetation along streams and field borders (hedgerows)
Urban forest	Mature tree decline, mortality, removal	land use change - loss of pervious surface; poor microsite and soil management; introduction of pests; use of inappropriate tree species
	Inadequate tree replacement, regeneration	Increased impermeable surfaces
	Insufficient soil volume	Increased impermeable surfaces; topsoil removal
	Poor soil quality	See Table 2a
	Disrupted hydrology	See Table 2a
	Introduced disease, insects	Inappropriate transfer of infested soil, biological material
Urban backyard/ROW	Loss of area	increased impermeable surfaces, introduction of invasive species; application of chemical fertilizers, pesticides
	Loss of native vegetation	Landscaping- physical and chemical (pesticides, synthetic fertilizers); introduction of invasive species;
	ALAN, Noise	See Table 2a
	Reduced soil quality, quantity	See Table 2a
	Pollutants ⁷	See Table 2a

Table 2c. Stressor/Threats, freshwater and saltwater ecosystems

Environment	Stressors/Threats	Possible sources of threats
Freshwater-surface	Disrupted surface, subsurface flow	Impervious surfaces, excavation and below-ground construction
	Disrupted channel morphology	
	Pollutants	See Table 2a
	Extreme temperature, low O ₂	See Table 2a
	Extreme flow variation	Impervious surfaces
	Excessive nutrient inputs	See Table 2a
	Cyanophyta blooms	Excess nutrients, temperature from low flows, sewage/septic/fertilizer runoff, loss of riparian shade
	Invasive plants and animals	
	Loss of riparian overstory	
Saltwater/estuary	Algal blooms	Excess nutrients from sewage/septic/fertilizer runoff
Near-shore	Pollutants; biological contaminants	
	Aquatic invasive species	Dispersal via watercraft
	Overharvesting	
Coastal Sand/Marine Shoreline	Altered sediment deposition	Shoreline hardening
	Pollutants; biological contaminants	

Appendix EPGA_1. Policies and associated environmental codes (extract).

Policy_ B=bylaw; CP= council policy; OS=other strategic document	Typ	No.	Year	clear intent/mentioned	indirect
Animals Bylaw	B	8556	2004	4,5,6,7,8,10,11,12	[1]
Animal bylaw_ amended		9924	2023	4,5,6,7,8,10,11,12	
Blasting Bylaw	B	6821	1992	[4,10]	
Boulevard Regulation Bylaw	B	9487	2018	6,9,10	
Building Bylaw [PDF - 318 KB]/Other	B	9529	2019	5,6,9,10	[11]
Bylaw notice enforcement bylaw	B	9525	2018	1,4,5,6,7,9,10,11	
Checkout Bag Regulation Bylaw	B	9589	2020		
Deposit and Removal of Soil Bylaw	B	9482	2022	1,4,5,6,7,8,9,10,11	[12]
Development Cost Charges Bylaw	B	9881	2019	5,7,9,10,11	
Development Cost Charges Reduction Bylaw	B	9607	2020	5,7,9,10,11	
Driveway Access Bylaw	B	9136	2011		{6,9,10}
Fire Prevention and Life Safety Bylaw	B	9712	2021	1,7,9,10	
Firearms & Bow Discharge Regulation Bylaw [PDF 263 KB]/	B	9414	2017	7,8,10	
Fireworks Regulation Bylaw [PDF - 76 KB]/Other	B	8865	2007	1,4,7,10,12	
Garbage Collection & Disposal Bylaw [PDF - 180 KB]/Other	B	9233	2013	1,5,6,7,10,11	[5,6,7,10,11,12]
Land Use & Development Application Fee Bylaw	B	8798	2006]
Land Use & Development Procedures Bylaw	B	9650	2020	1,2,3,4,5,6,7,8,9,10,11,12	
Minimum Property Maintenance Standards Bylaw	B	4050	1978	5,6,9,10,11	[5,12]
Noise Suppression Bylaw	B	7059	1993	1,4,5	
Noxious Weeds Bylaw	B	8080	2000	7,8,10	
Nuisance Bylaw	B	7622	1996	10	
Official Community Plan Bylaw	B	8940	2008	1,2,3,4,5,6,7,8,9,10,11,12	
Oil Burning Equipment and Flammable Liquid and Combustible Bylaw	B	9265/ 9700	2014/ 2021	5,6,11	
Parks Management and Control Bylaw [PDF - 249 KB]/Other	B	7753	1997	1,4,5,6,7,9,10,11,12	
Pesticide Bylaw [PDF - 516 KB]/Other	B	9054	2010	1,5,6,7,8,9,10,11	[12]
Sanitary Sewer Bylaw [PDF - 128 KB]/Other	B	8792	2006	1,5,6,7,9,10,11,12	
Sewer Water and Storm Drainage Connection Fee Bylaw	B	9688	2021		
Streets & Traffic Bylaw [PDF - 374 KB] Bylaw	B	8382	2002	4,5,6,9,10,11	

Subdivision Bylaw [PDF - 550 KB]/Other	B	7452	1995	3,5,6,7,8,9,10,11	[1,2,4]
Tree Protection Bylaw, 2014 and amendments No. 9548,9781	B	9272	2014	5,6,7,8,9,10,11,12	[1,2]
Truck Route Bylaw [PDF - 103 KB]/Other	B	6346	1989	4	
Unightly Premises Bylaw [PDF - 219 KB]/Other	B	9600	2021	10	[6]
Water Utility Bylaw [PDF - 112 KB]/Other (amended 2022)	B	8124	2000	5,6,8,9,10,11	
Watercourse & Drainage Bylaw [PDF - 190 KB]/Other	B	7501	1996	1,5,11	[12]
Zoning Bylaw 8200 [PDF - 14 MB]/Other*	B	8200	2003	1,3,4,5,6,7,8,9,10,11,12	[11]
Council Procedure Bylaw [PDF - 246 KB]/Other	B	9660	2021		
Freedom of information and protection of privacy bylaw	B	9369	2015		
Acquisition of Floodplain Lots [PDF - 10 KB]/Council Policies	CP	06/1C	2006	5,7,8,9,10,11	
Aerial Crop Spraying [PDF - 11 KB]/Council Policies	CP		1983	1,5,6,7,8,10,11,12	
Agricultural Land Reserve Appeals [PDF - 7 KB]/Council Policies	CP		1988	8	[7,8,9,10,11]
Asset Management Policy [PDF - 20 KB]/Council Policies	CP	19/CNCL	2019	5,6,7,8,9,10,11,12	
Boulevard Tree Policy [PDF - 17 KB]/Council Policies	CP	88/CW	1988	3,6,7,9,10	
Chlorofluorocarbons and Halons - Use of [PDF - 7 KB]/CP	CP		1989		[1]
Committee on Urban Growth [PDF - 7 KB]/Council Policies	CP		1981	7,8,9,10	
Community Gardens Policy	CP	03CW	2003	8,10	
Community Grants Program [PDF - 188 KB]/Council Policies	CP	13/CNCL	2013	3,4,5,6,7,8,9,10,11,12	
Environmental & Social Review Process Policy	CP	92/CW	1992	1,2,3,4,5,6,7,8,9,10,11,12	
Environmental Impact Assessment on Municipal Properties	CP	96/CW	1996	1,2,3,4,5,6,7,8,9,10,11,12	
Geothermal Heat Exchangers in Saanich Freshwater Ecosystems	CP	08/283	2008	5,11	
Green Building Policy - Private Sector	CP	07/230	2007		
Green Building Policy	CP	05/219	2005	5,7,10,11	[9]
Integrated Pest Management Policy	CP	10/CNCL	2010	1,5,6,7,8,9,10,11	
Landscape Enforcement [PDF - 8 KB]/Council Policies	CP		1986		[6,9,10]
Landscaping & Screening Guidelines - Development Permit Areas	CP		1987	6,9,10	
Local Food Procurement Policy [PDF - 8 KB]/Council Policies	CP	12/CNCL	2012	8	
Outdoor Lighting - Regulations for Areas Associated with Municipally Controlled Buildings & Structures	CP	92/CW	1992	3	
Park Development or Improvements	CP		1990	7,9,10,11	
Parks - Installation of Major Facilities or Services [PDF7KB]/Cncl Pol	CP		1983		
Purchasing Products & Materials Containing a Recycled Content	CP		1989		

Restrictive Covenants [PDF - 7 KB]/Council Policies	CP		1994	7,9,10,11	
Rezoning for Proposed Developments - Road Dedication & Servicing Requirements	CP		1988	10	
Rights-of-Way [PDF - 6 KB]/Council Policies	CP		1977	10	
Road Allotments [PDF - 7 KB]/Council Policies	CP		1979	10	
Roads - Design of Major [PDF - 7 KB]/Council Policies	CP		1986	10	
Sewer (Sanitary & Storm) Blockages [PDF - 8 KB]/Council Policies	CP		1995	5,9,10	
Sewer Damage Claims [PDF - 7 KB]/Council Policies	CP	88/CW	1988/2000 0		
Sewer Service Area - Boundary Extension for Health Hazard when Pump Station Required	CP	80/303C	1980/2000 7	5,6,11	
Small apartment infill policy	CP	23/CW	2023	2,3,5,6,7,9,10,11	
Smoking Ban - Municipal Facilities	CP	90/CW	1990	1	
Sound Barriers in Saanich - General Approach	CP		1992	4	
Storm Drains & Sewer Lines - Maintenance	CP		1987	5,9,11	
Street Lights	CP		1978	3	
Subdivision - Parkland Provision	CP		1986	7,10	
Subdivision - Provision of Public Access to Bodies of Water	CP		1979	11	
Subdivision - Refusal	CP		1978	10	
Subdivision Applications - Minimum Road Frontage Requirements	CP	95/CW_ 99/321	1995/199 9		
Subdivision Applications (Panhandle Lots) Reduced Frontage	CP	99/321	1999	3,9,10	[5,6]
Surface Stormwater Management - Development Guidelines	CP	01/CW	2001	5,7,9,10,11	
Toxic Real Estate Development [PDF - 10 KB]/Council Policies	CP		1990	6	
Traffic Islands - Design & Landscaping [PDF - 7 KB]/Council Policies	CP		1985	10	
	OS				
Active Transportation Plan	OS	8	2018	1,4,5,6,7,9,10	
Agriculture and Food Security Strategy (2018)	OS	8	2017	5,6,7,8,9,10,11,12	[1,4]
Asset Management Strategy		8	2023	5,6,7,8,9,10,11,12	
Biodiversity Conservation Strategy	OS	8	2023?	3,5,7,8,9*,10,11,12	[1,6]
Bowker Creek Initiative	OS	6	2011	5,7,9,10,11,12	
Burnside - Tillicum Action Plan (2005)	OS	10	2005	1,2,3,4,5,7,9,10,11,12	
Climate Plan Backgrounder Series	OS				
Climate Risk Assessment	OS				

Climate Plan (2020)	OS	12	2020	1,2,[3],4,5,6,7,8,9,10,11,12	
Craigflower Watershed Management Plan	OS	6	1998	5,7,8,9,10,11	[6]
CRD - Pedestrian and Cycling Master Plan	OS		2011		
Cuthbert Holmes Management Plan	OS	7	2015	5,6,7,9,10,11,12	
Development Permit Guidelines	OS	10	2008	3,4,5,6,7,8,9,10,11,[12]	
Durrell Creek Watershed Management Plan	OS	7	2000	5,6,7,8,9,10,11	
Elk Beaver Lake Management Plan (CRD)	OS	7	2020	5,6,7,8,9,10,11	
Garden Suite Guidelines	OS		2020	4,5,[6],9,10,11	
Global Age Friendly Cities Plan	OS		2008		
Gordon Head Action Plan	OS	4	1999	[3],4, 7,9,10	
Haro Woods Park Management Plan	OS	6	2018	5,6,7,9,10,11	
Healthy Saanich Community Workshop Report	OS	9	2013	1,5,6,7,8,9,10,11,12	
Integrated Pest Management	OS				
Invasive Species Management Strategy	OS	6	2013	6,7,8,9,10,11	
Integrated Stormwater Management Plan	OS		202_?		
Local Area Plans (numerous)	OS	10	2023	1,3,5,6,7,8,9,10,11,12	
Official Community Plan (being updated 2023)	OS	10	2008	1,2,3,4,5,6,7,8,9,10,11,[12]	
Panama Flats Concept Plan	OS	6	2014	5,6,7,8,9,11	
Parks, Recreation and Culture Master Plan	OS	3	2013	7,9,[11?]	
Population projections trends and capacity buildout analysis	OS				
Prospect Lake - Tod Creek Action Plan	OS	7	2001	5,6,7,8,9,10,11	
Quadra Corridor Action Area Plan	OS	3	1996	7,9,10	
Shelbourne Valley Action Plan	OS	8	2017	3,[4],5,6,7,9,10,11	
Short Street Action Plan	OS	1	1999	9	
South Wilkinson Valley Action Plan	OS	8	2002	3,5,6,7,[8],9,10,11	
Swan Lake Action Area Plan	OS	1	1995	7	[11]
Tillicum - Burnside Action Plan	OS	2	2005	[1,2,3,4,5,7],9,10,[11,12]	
Tod Creek Flats Integrated Management Plan	OS	7	2009	5,6,7,8,9,10,11	
Uptown-Douglas Corridor Plan	OS	9	2022	1,2,3,4,5,6,9,10,11	
Urban Forest Strategy	OS	8	2010	1,2,5,6,7,9,[11],10	
Urban Forest Strategy	OS		2024?		
West Saanich Road Streetscape Action Plan	OS	3	2005	3,9,10	

Others:

Saanich Strategic Plan 2023-2027			2023
Council Procedure Bylaw [PDF - 246 KB]/Other	B	9660	2021
Freedom of information and protection of privacy bylaw	B	9369	2015
Administrative/Departmental policies			

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Appendix EPGA_2. Notes for EPGA- Saanich policies as they pertain to environment 12Dec2023

Codes:1=air quality 2=air temp 3=light 4=sound 5=water 6=soil 7=native terrestrial 8=agricultural 9=urban forest
10=backyard biodiversity 11=freshwater ecosystem 12=saltwater ecosystem

Bylaws

1_ Animals bylaw 8556_2004. 4*,5,6,7,8,10,11,12 (*noise explicitly listed in 2023 amendments)

- Dogs prohibited or under leash in certain areas of high habitat value; not allowed to run at large (terrestrial ecosystems, backyard biodiversity, shoreline)- noise??
- Dog feces must be picked up on public property including parks and private property other than dog owner's (soil, water quality)
- Cats-no restrictions on roaming
- Rodents, feral rabbits, deer- restrictions on keeping, feeding (terrestrial ecosystems, backyard biodiversity, agricultural ecosystems)
- Chickens- restrictions on numbers, managing manure (noise, soil, water quality implied)
- No reference to exotic reptiles, amphibians

1b_Animal bylaw 9924_2023 (noise explicitly listed in 2023 amended bylaw)

- Restricts where dogs can be leashed or unleashed
- Owners of dogs or other animals can be fined if animal makes noise which cause nuisance
- People and pets not allowed to kill, harass, capture animals, remove eggs or destroy nests in public parks, trails, etc
- People must remove and properly dispose of their dog's excrement
- No changes regarding free-roaming pet cats; feeding of rodents, feral rabbits, deer; or keeping of chickens

2_Blasting bylaw 6821_1992. 4,10

- Restricts when where how blasting can occur. Emphasis is safety.
- Permit is required, but blasting in parks, natural areas etc not specifically prohibited.
- Does not mention noise or backyard biodiversity directly- implied; referenced in Noise suppression bylaw 7059

3_Boulevard bylaw 9487_2018. 6,9,10

- Prohibits dumping trash; destroying native vegetation unless required; damaging existing trees or planting new trees unless District okays. Possible implication for soil contamination
- Requires adjacent property owners to maintain vegetation; requires permit to plant vegetation- approved plant list includes both natives, non-natives; does not encourage native vegetation

4_Building bylaw 9529_2019. 5,6,9,10, [11]

- Applies to land, surface of water, air space in District
- Regulates standards for safe occupancy- permit for occupancy; emphasis is on safety and preventing damage to infrastructure
- Demolition, construction have implications for soil, water supply and septic disposal, urban forest, backyard biodiversity, freshwater ecosystems (not explicitly stated); energy conservation provisions potentially affect water, soil, terrestrial and freshwater ecosystems elsewhere, GHG emission, indoor and outdoor air quality

Checkout bag regulation bylaw 9589_2020.

- Restricts retailers from providing free plastic bags to shoppers in certain situations. Unknown how much use of plastic bags is reduced.

6_Deposit and Removal of Soil Bylaw 9482_2022. 4,5,6,7,8,9,10,11, [12]

- Regulates deposit and removal of soil including private property, development permit areas (incl streamside and floodplain), agricultural land in conjunction with provincial regulations. Permit required
- Implications for surface and groundwater management; soil; productivity of all ecosystem types
- Implication for air quality (dust) and noise- hours for moving soil are restricted
- Permit can be rescinded if impacts on air, water, soil, agr, urb forest

7_Development and cost charges bylaw 9881_2019 5,7,9,10,11

- Refers to acquiring parkland; importance of appropriate development to minimize environmental impact. Specific environmental components are implied, not explicitly addressed

8_Development and cost charges reduction bylaw 9607_2020 5,7,9,10,11

- Reductions for affordable housing. Specific environmental components are implied, not explicitly addressed

_Fire Prevention and Life Safety Bylaw 9712_2021 1 7 9 10

- Regulates open-air burning, prohibits beach fires

- Emphasis on safety, not air quality or ecosystems
- Prohibits burning of certain materials
- Provides for more permissive outdoor burning outside of UCB
- Refers to smoke opacity as a limiting condition
- Bans littering with lighted cigarettes or other burning material (implication for litter and stormwater?)

10_Firearms and Bow Discharge Regulation Bylaw 9414_2017. 7,8,10

- Prohibits discharge in Saanich with exceptions, including on farmland, shooting ranges and consistent with provincial, federal regulations. Implications for terrestrial, agro-ecosystems, backyard biodiversity. Soil contamination from lead could be issue in designated shooting ranges.

11_Fireworks regulation bylaw 8865_2007. 1,4,7,10,12

- Restricts who what when where; emphasis is safety
- Does not mention air quality or noise directly
- Prohibits setting off in park or on beach/shoreline; directing at animal, tree, bush (implication for terrestrial and shoreline ecosystems, backyard biodiversity, urban forest)

12_Garbage collection and disposal bylaw 9233_2013. 1,5,6,7,10,11

- Regulates what can be disposed of as landfill waste including toxic materials, construction and demolition waste; organics and recyclables are to be separated.
- Implications for solid waste inputs to Hartland and need to expand landfill; minimizing leaching of toxic material; composting can reduce methane production (air quality) and lead to improved soil

14_Land Use & Development Procedures Bylaw 9650_2020. 1,2,3,4,5,6,7,8,9,10,11,12

- All applications for rezoning are subject to Environmental and Social Review based on criteria prescribed by Council [except that the Director of Planning may use discretion...]. Not a requirement
- Council policy is vague and discretion left to Director of Planning/approving officer/staff. Screening process includes: “shall consider” if within 50m of park, ALR, watercourse/streamside DPA; within 60m of marine shoreline; outside the UCB and proposed rezoning to 5 or more lots; “environmentally sensitive”. If required, approving officer will “consider”.
- ESR could apply to all aspects of natural environment but is arbitrary and there is no requirement for Saanich to require or follow. Meaningless?

15_Minimum property maintenance standards bylaw 4050_1978. 5,6,9,10,11

- Focus on structure habitability, also references “land” - Land shall be free from “debris” (implies trash)
- Specifies where sewerage must go; prevents downspout runoff to “adjacent” property
- Implications for soil, urban forest, backyard biodiversity, (water?) freshwater ecosystems

16_Noise suppression bylaw 7059_1993. 1,4,5

- Regulates noise levels as they may disturb humans; not other organisms- public health
- References barking dogs as nuisance (not in Animals bylaw)
- Allows exhaust gases from motorboats to be passed first through water as muffler (implications for water pollution?)
- Many exceptions to what activities are restricted; including blasting between certain hours
- Implications for air and water quality, noise

17_Noxious weeds bylaw 8080_2000. 7,8,10

- Requires property owners to remove “all brush, noxious weeds or other vegetation which because of their condition are likely to spread to or become a nuisance to other real property in the vicinity or which are so unkempt as to be unsightly to nearby residents”. Implications- terrestrial ecosystems, agricultural ecosystems?, backyard biodiversity. Doesn’t seem to include invasive aquatic vegetation
- Doesn’t seem to protect native vegetation or define “nuisance” and “unsightly” to neighbors. Anti-backyard biodiversity?

18_Nuisance bylaw 7622_1996. 10

- Prohibits land owner/occupier from actions causing land to become nuisance; including “erection of any kind or any pond, excavation, pile or other matter or thing on such land”.
- Doesn’t define nuisance.
- Implications for backyard biodiversity

19_Official Community Plan bylaw 8940_2008. 1,2,3,4,5,6,7,8,9,10,11,12 – many are inferred, not stated

- Bylaw only makes the OCP official- OCP is actually “other strategic” document
- Schedule N contains Development Permit Area guidelines – tool to protect natural environment- provides background and justification

- Includes exemptions - does not require permits if not in Streamside DPA or does not contain listed species or ecosystems
- Encourages behavior- not clear how easily approval granted
- Guidelines vary with development and area

20_Oil burning equipment and flammable liquid and combustible liquid fuel tank bylaw. 9265/9700_2014/2021. 5,6,11

- Requires removal of underground tanks after deactivation
- Requires soil testing and remediation of contaminated soil after removal of underground tanks
- Restricts installation of fuel tanks
- Requires testing and maintenance to prevent leaks
- Emphasis on safety and avoiding soil contamination

21_Parks Management Control Bylaw 7753_1997. 1,4,5,6,7,9,10,11,12

- Bans destroying vegetation, rocks in parks
- Bans disposal of organic waste and other garbage in water bodies in parks;
- Bans disposal in park garbage receptacles garbage from outside park
- Bans disposal of burning material on ground
- Bans unauthorized persons from removing sand soil plant material (invasives? Blackberries?)
- Bans “molest, disturb, frighten, injure, catch, trap, or snare any bird or animal in any park or any beach”
- Allows temporary camping in most parks subject to restrictions

22_Pesticide bylaw 2010_9054. 1,5,6,7,8,9,10,11

- References movement of pesticides through air, water, soil- thus implications for all ecosystems + abiotic, except AT, light, noise
- References precautionary principle
- Emphasis on IPM- lists exceptions; bans pesticide application to manage pests of vegetation
- many exceptions to ban

23_Sanitary sewer bylaw 8792_2006. 1,5,6,7,9,10,11,12

- Requires those in service areas to hook up to sanitary sewer system
- Prohibits disposal of various wastes into sanitary sewers, including those that contaminate air or could damage sewers
- Property owners responsible for avoiding blockages, including from tree roots, and preventing inflow of uncontaminated (and storm) water

25_Streets and traffic bylaw 8382_2002. 4,5,6,9,10,11

- References Boulevard Regulation and Buildings bylaws
- Implications for noise, water, soil urban forest and backyard biodiversity, freshwater ecosystems
- Bans unnecessary noise from vehicle; prohibits littering, disposal of hazardous/ organic waste in litter bins
- Bans drippings of oil and grease from vehicles
- Requires landowners to manage streetside vegetation, prevents street tree removal, restricts tree planting
- Bans driving unharnessed pigs and other such animals through streets!

26_Subdivision bylaw 7452_1995. [1] [2] 3 [4] 5,6,7,8,9,10,11

- Sets rules around what can be subdivided and to what; servicing requirements including paving, lighting, stormwater collection
- Requires applications to map and inventory existing trees and watercourses; sets standards for boulevard trees
- Implications for traffic, impervious surfaces, soil quantity and quality for urban forest; farmland and ag ecosystems;
- Implications for air, air temperature, noise;

27_Tree protection bylaw 9272 2014/2019 [1] [2] 5,6,7,8,9,10,12

- Restricts removal and damage to larger trees, including to soil around existing trees; sets standards for replacement
- Different restrictions for rural Saanich vs inside UCB; agricultural land incl ALR
- Restrictions to tree removal on steep slopes include coastal bluffs (marine shoreline); does not specifically address anything other than trees and associated soil; has implications for water, soil, ecosystems – possibly also air, air temp,
- Doesn't apply to trees on Saanich land if Saanich okays (or to CRD or Prov of BC or ALR land)
- Requires protection of soil to a distance dependent on tree size [Is it enough given climate change and reduced urban soil quantity and quality?]
- Provides for designation of “significant” trees which meet some threshold; are granted extra protection, and provide incentives to private owners who agree to designation

28_Truck route bylaw 6346_1989. 4

- Noise and excessive wear on infrastructure are implied, not explicitly referenced; other cities specifically refer to noise and road wear

29_ Unightly premises bylaw 9600_2021 10

- Prohibits “unsightly” properties- specifies what is included/excluded- includes “garbage)
- Unkempt vegetation is prohibited “unless a Naturescape property”
- Bans littering in public places- supposedly fineable minimum of \$150 – enforceable?
- Implications for backyard biodiversity (and stewardship) possibly soil (litter?, backyard soil health?)

30_ Water utility bylaw 8214_2000 (amended 2022) 5,6,8,9,10,11

- Allows for hookup and use of water for agriculture and highway landscaping
- Sets rates for residential use, agriculture and farmland; municipal parkland
- Implications for water and soil, terrestrial biodiversity in different land-use situations

31_ Watercourse and drainage bylaw 7501_1996 1,5,11,[12]

- Prevents fouling, obstructing, impeding watercourses including sewer, ditches, drains; enclosing allowed with District permission
- Regulates storm drain connections
- Prohibits discharge of domestic, trucked liquid, prohibited waste including fill (soil); allows discharge of water incidental to customary residential use
- Requires grease/oil traps from commercial + larger residential establishments
- Defines “air” and air contaminant” – applies under prohibited waste
- Adherence to attached schedules in related bylaws (e.g. schedule H subdivision bylaw)

32_ Zoning bylaw 8200_2003 1 [2] 3,4,5,6,7,8,9,10,11

- Regulates what activities can be done where (residential; commercial, industrial, agricultural, conservation etc)
- Requires “landscape area” for certain structures not specified – seems to include >duplex and some/most commercial. “Landscape area” defined as portion of a lot covered by lawns, trees, plants and other natural or decorative features. Does not specify native vegetation. Opportunity to increase native biodiversity?
- Restricts activities which cause odours (air), noise depending on zoning
- Sets lot sizes for different land uses; regulates building footprint, but not impermeable surface (see Garden suites)
- “Permeable surface mentioned only with respect to off-street parking spaces and preparation of stormwater management plan
- Regulates (schedule B) outdoor (stationary) lighting for commercial, non-single family residential; intent is to minimize light pollution that interferes with Observatory (not biodiversity)- standards differ with increasing distance
- Strong implications for all components of natural environment – air temperature is less direct (via influence on impervious surfaces and room for trees, etc)

Council Policies (note older council policies often not numbered)

33_ Acquisition of floodplain lots 06/1C_2006 5,7,8,10,11

- Acquire ca. 40 undeveloped floodplain lots in Wallingford Gillie area and hold for park, stormwater mgmt., agr, trails uses

34_ Aerial crop spraying _1983 1,5,6,7,8,10,11,12 (all are implied)

- Specifies requests for aerial crop spraying be considered on individual site and time basis. [Has this been negated by senior government legislation??]

35_ Agricultural Land Reserve appeals (unnumbered) 1988 8 [7,9,10,11]

- Policy to establish a policy re exclusions to ALR that Council opposes

73_ Asset Management Policy 19/CNCL_2019 5,6,7,8,9,10,11,12 older

- Recognizes and provides general definition of municipal natural assets “stocks of natural resources or ecosystems that contribute to the provision of services required for health, well-being, sustainability of a community and its residents. But...
- Considers land owned by Saanich which supports engineered assets and undeveloped land owned by Saanich as “engineered assets”. [Land is not natural?]

36_ Boulevard tree policy 88/CW_1988 3,6,7,9,10

- Guidance on what boulevard trees can be removed, maintenance, replacement, homeowner responsibility and interdepartmental responsibility - gives Director of Parks authority to prevent concrete construction within six (6) feet of any tree. Planting of boulevard trees shall not be permitted within six (6) feet of existing above or below ground utility structures without prior consultation with the appropriate utility agency. [Unclear if still in force given tree protection bylaw]

37_ Chlorofluorocarbons and halons- use of 1989

- Saanich will not purchase chlorofluorocarbon- based products which are non-essential and if suitable alternatives exist.

38_ Committee on urban growth 1981 7,8,9,10

- Endorses recommendations of the ad hoc committee on urban growth, including:
- preserving more open space by considering townhousing for residential development (without increasing the target population growth); Infilling within the UCB; for LAPs consider views of local groups, but with “best interests” of Municipality as over-riding consideration; consider higher densities to preserve open space (**without increasing the target population growth**).

39_ Community gardens policy 03CW_2003 8,10 (also shown on website as “bylaw)

- Sets out guidelines for establishing, maintaining and operating, and retaining sites
- Two listed in policy – now 3 (added GorgePark)?

40_ **Community grants program** 13/CNCL_2013 3,4,5,6,7,8,9,10,11,12

- Outlines who and what is eligible for community grants
- Suggests community groups can use for environmental stewardship activities- projects that “enhance public spaces” and “enhance or steward public green space”

41_ **Environmental and social review process policy** 92/CW_1992 1,2,3,4,5,6,7,8,9,10,11,12

Administered by planning

- Zoning and subdivision applications may be recommended for ESR if: (a) near natural park, watercourse, ALR, floodplain DPA, shoreline (b) outside UCB and rezoning for commercial, institutional or large subdivision (c) deemed “environmentally sensitive” [**what does that mean?**]; deemed to have “social impact”
- When deciding to recommend, staff consider complexity and whether they can do or if consultant is required at applicant expense
- Sets out timeline and related process including input of community association [**How many are done; still policy?**]

42_ Environmental impact assessment on municipal properties 96/CW_1996 1,2,3,4,5,6,7,8,9,10,11,12

- Specifies that departments “from time to time” review planned major works projects with the Env Adv Committee to identify need for environmental assessment and/or env impact reports.

43_ Geothermal heat exchangers in Saanich freshwater ecosystems 08/283_2008 5,11

- Council rejects geothermal heat exchangers in freshwater bodies until cumulative effects

44_ Green building policy private buildings 07/230 2007 ???

- Fast tracks “green” building applications
- “green” seems to apply to ongoing energy consumption; not clear if how building materials and design and impacts on biodiversity locally or at point of material extraction are addressed

45_ Green building policy 05/219 2005 5,7,10,11

- Endorses “green building” practices for new and existing Saanich buildings; including LEED level
- Refers to improved stormwater management and “help minimize ecological degradation (habitat, air, water, soil)”

46_ Integrated pest management policy 10/CNCL 2010 1,5,6,7,8,9,10,11

- IPM is priority policy on District lands
- Notes precautionary principle; references “health and environmental impacts” of pesticides
- Proactive approach; Saanich will keep written and photographic records, and maps of areas affected and regularly evaluate (adaptive management); refers to “regular monitoring”
- Precursor to pesticide bylaw??

47_ Landscape enforcement 1986 [6,9,10- possibly]

48_ Landscaping & Screening Guidelines - DPA/CP 1987 6,9,10

- Suggests standards for landscaping around developed lots, including number and size of trees; vegetated ground cover (vs gravel); landscaping around parking lots; protection of existing trees and planting of new street trees at the expense of the developer;
- Seems to be superseded (in part) by tree protection bylaw

49_ Local food procurement policy 12/CNCL_2012 8

- Intent to support local agriculture by favoring purchase of food produced locally
- All relevant District divisions to ensure that when practical, 40% of purchases shall be local.
- Many exemptions- includes farmers’ markets, licensing of street food and park vendors, vending/snack machines,

50_ Outdoor Lighting - Regulations for Areas Associated with Municipally Controlled Buildings & Structures 92/CW 1992 3

- Policy applied to outdoor lighting of municipal structures w/in 5km of Observatory

- 51_ Park Development or Improvements 1990 7,9,10,11
- For development projects in parks: where any work would involve natural areas, natural wildlife or ecologically sensitive areas, an environmental assessment will be conducted by the Municipality
 - Requires vetting by Parks and Rec committee and the committee to hold public meetings
- 52_ Parks - Installation of Major Facilities or Services 1983
- Facilities and/or services in Saanich Parks require prior council approval
- 53_ Purchasing Products & Materials Containing Recycled Content 1989
- Policy “giving preference” to paper purchases containing at least 20% post-consumer (recycled) fibre
- 54_ Restrictive covenants 1994 7,9,10,11
- Approving officer, municipal engineer, and manager of inspection services can acquire covenants on behalf of Saanich as per provincial enabling legislation
- 55_ Rezoning Proposed Development-Road Dedication Servicing Req 1988 10
- Council will consider impacts to municipality as a whole of development associated with rezoning with particular reference to costs (to Saanich) of additional road-building
- 56_ Rights of Way 1977 10
- Permission to consent to easement or right of way crossing municipal (public) right of way
- 57_ Road allotments 1979 10
- Formalizes accepting of road allotments from subdividers for future (potential) road use
- 58_ Roads- Design of major roads 1986 10
- Design should acknowledge “adjacent land use” “Boulevard landscaping” “environment”
 - Rights of way and funding must be adequate for boulevard landscaping
 - Overall character of road should be established before design commences
- 59_ Sewer blockages 1995 5,9,10
- Procedure to assess and assign responsibility for clearing sewer blockages to either property owner or Saanich
- 60_ Sewer damage claim 88/CW 1988_rev 2000 ????
- Saanich pays plumber bill and small damage claims for sewer blockages not caused by owner affected
- 61_ Sewer Service Area - Boundary extension for health hazard when pump station required_80/303C 1980, amended 2007. 5,6,11
- Allows for extension of sewer service if sewage disposal in area adjacent to sewer lines is failing, a health hazard, the sewer line has sufficient capacity, and affected property owners pay the cost of hookup and pump station (if gravity flow not possible)
 - Implications for containing urban sprawl
- 61a. Small apartment infill policy 23/CW 2023 2,3,5,6,7,9,10,11
- Goal is to maximize housing on smaller lots, consistent with area plan
 - Vague references to “green space”: common area size not specified but should have at least one tree; no requirement for private amenity space. “Minimize impermeable surface area”. Outdoor “light” is mentioned, only in context of amenity
 - No specification for number of potential residents which could be added in small area
- 62_ Smoking ban municipal facilities 90/CW 1990 1
- Bans “smoking” in municipal facilities and vehicles (if non-smokers present and object)
- 63_ Sound barriers in Saanich_general approach 1992 4
- Noise barriers will not be considered as a general solution to reducing traffic noise but depend on clearly identified need, site specific requirements, and neighbourhood acceptability.
 - Each will be assessed individually by the advisory design panel
- 64_ Storm drains and sewer lines maintenance 1987 5,9,11
- Procedures and assigning of responsibilities for clearing storm sewers between Saanich and private property owner- emphasis on blockage by tree roots
 - May affect urban forest if removal of offending tree is required

65_Street lights 1978 3

- Future installations of street lights will use Sodium Luminaires where feasible.

66_Subdivision_parkland provision 1986 7,10

- Subdivision owner to provide parkland in subdivision (if designated in OCP) or cash in-lieu

67_Subdivision_provision of public access to water 1979 11

- Supports granting public access to bodies of water as part of subdivision process

68_Subdivision_refusal 1978 10

- Endorses refusal of subdivision if “remainder” portion does not meet minimum lot area

69_Subdivision application (panhandle lots)_reduced frontage 99/321 1999 3,9 [5,6] 10

- Applications for exemption to requirement for minimum frontage (Municipal Act) can take into consideration: conflict with natural features; extent to which proposed building causes loss of trees (inferred- damage to soil and groundwater via blasting) overshadowing and blocking sunlight

70_Surface stormwater management development guidelines 01/CW 2001 5,7,9,10,11

- Addresses use of public park land for stormwater management and wetlands creation
- Discourages building of man-made subsurface stormwater storage facilities
- Parks with “significant trees, other environmental assets...” not likely considered as suitable
- Any facility created must be asset in terms of hydrology, environmental restoration and habitat creation

71_Toxic real estate development 1990 6

- Specifies environmental audit needed before development is approved on wide and specified variety of sites subjected to potential historic contamination. Audit to be under supervision of Ministry of Environment

72_Traffic islands design and landscaping 1985 10

- Parks Dept designs and landscapes traffic islands at developer expense or assigns responsibility to developer
- Traffic islands as part of subdivisions? Or?

Other strategic documents

74. Active transportation plan 2018 **in revision 2023** 1,4,5,6,7,9,10 (from 2018)

- Natural environment components referenced incidentally and in relation to human needs; e.g.,
- active transport may reduce air pollution from transportation; traffic noise makes walking less enjoyable; watercourses are an impediment; soil not mentioned directly; trees referenced as amenity; terrestrial ecosystems best connected to planting vegetation as amenity or to access to and through parks.
- No targets or indicators that relate directly to components of environment

75. Agriculture and food security strategy 2018 5.6.7,8.9.10,11,12 [1,4]

- one action is to review related bylaws and council policies to ensure they are consistent with this strategy and then update (those?) as feasible. 22 bylaws, policies, OS documents (LAPs listed as 1) listed- overlap with this list.
- Supports implementation of Panama Flats concept plan (2014, see below)
- Support composting via Victoria Compost Education Centre, policies, bylaws
- Mitigate drainage impacts from development on farmland; encourage rainwater harvesting to minimize pressure on CRD water supplies, streams and aquifers (how much is drained from aquifers?)
- Promote retention and development of native pollinator habitat
- Increase food production opportunities on public land (details? Conflicts?)
- Many proposed actions involve “investigate” “promote” “explore” “work with”
- **Implementation: could be led or supported by District with NGOs as partners; rate of implementation determined by resources available and conflicting demands**
- Identified priority actions and indicators. 5 year progress report issued 2023 and on website
- Saanich strategic plan 2023-2027 states “implement key elements”

76. Asset management strategy 2023 5,6,7,8,9,10,11,12

- Notes importance of valuing natural assets- Saanich doesn't do that yet
- Links natural assets to current strategic plan; climate plan (2020)
- Doesn't value specific assets except replacement trees

- Strategy 5.3 Complete natural asset inventory (Prov of BC suggests by 2024)
- Appendix shows importance of including current strategic plan in identifying priorities
- Strategic plan indicators for natural assets and environment are very vague and weak if existing- largely dependent on what is ultimately in BCS, UFS, ISWMP etc
- Timeline: complete natural assets inventory from Q1_2024 to end Q2 2025; complete plan Q3_2025 to end Q2_2027

____. Biodiversity conservation strategy 2023/4 (notes from draft 12Dec2023) 3,5,7,8,10,11,12

[9-key points from UFS repeated in BCS; 1 air quality and 6 soil mentioned only in quote from 2008 OCP].

- Current version mentions many components of natural environment
- current wording acknowledges importance, but rarely expresses aspirational desire (e.g., "increase" or "improve" or "restore"). Passive and lacking urgency- actions include "implement" existing strategies; "consider" etc.
- Timelines not specific; indicators not spelled out even for terrestrial biodiversity.
- Most complete documentation goes with terrestrial ecosystems on public land, esp. natural parks

77. Bowker Creek Blueprint 2011 5,7,9,10,11,12

- Multijurisdictional initiative- Saanich OakBay Victoria CRD
- Detailed assessment of all listed components (water quality; terrestrial freshwater saltwater ecosystems; urban forest and backyard biodiversity); actions by creek stretch and priorities assigned

78. Burnside Tillicum action plan 2005 1,2,3,4,5,7,9,10,11,12 (see Tillicum Burnside action plan, below)

81. Climate plan 2020 (to be revised 2024?) 1,2,[3],4,5,6,7,8,9,10,11,12

- No targets for accomplishing many of the below sub-strategies
- Suggests noise (indoor) can be mitigated by high-performance buildings; in general, by increasing proportion of vehicles which are electric (and decreasing proportion which are combustion-based)
- Strategy F2 (Food and Materials) targets reducing solid waste, including single-use plastics (latter underway, led by "Building Bylaw Licensing Legal")
- Strategies B4 and B5 (Building and infrastructure) refer to stormwater and impermeable surfaces
- Strategies E1 and E2 (Ecosystems) address natural environment. 15 substrategies
- Shows "initiation timeline" only except for E1.1. Most identified as "high priority". No indication of how most will be accomplished (lack of awareness of what to measure and how; not clear what is considered success). No completion dates, just caveat relating to other strategic and budget priorities.
 1. Double the rate of planting trees to enhance the urban forest – plant 10000 new trees by 2025
 2. Increase stewardship tools for private landowners (e.g. Naturescape)
 3. Implement "natural Intelligence" program in Parks
 4. Develop operational approach to retaining tree canopy during development- internal working group to "consider additional and potentially competing objectives such as tree canopy cover, enhancing biodiversity, increasing urban density, and expanding the active transportation network". [What does "consider" mean?]
 5. Protect and expand the urban forest through an updated strategy, updated monitoring, stronger protection, urban reserve fund
 6. Develop biodiversity conservation strategy
 7. Expand connect and restore natural areas "through a variety of strategies"
 8. Partner with school districts
 9. Explore carbon dioxide removal measures [via management of natural areas]
 10. Prevent planting and spread of invasive plants
 11. Improve monitoring of ecosystem health
 12. Develop principles for assisted migration
 13. Improve compliance with new bylaws and policies [refers specifically to ecosystems and stewardship]
 14. (2.1) evaluate services provided by natural assets
 15. (2.2) develop strategies to maintain services provided by natural assets

82. Craigflower watershed management plan 1998 5,7,9,10,11,12

- Small area within Saanich
- Focus on managing water quality, water flow, and freshwater habitat. Native vegetation of importance primarily in relation to riparian ecosystem health. Reference to agriculture mainly in seeking to reduce its impact on water quality and riparian habitat
- References impervious surfaces and suggests as indicator
- Clear targets, timelines, proposed indicators

83. Cuthbert Holmes management plan 2015 5,6,7,9,10,11,12

- Mainly focused on restoration- includes concerns re water quality (interchange runoff; downstream flow along Colquitz; soil compaction from off-trail use; invasive terrestrial vegetation; terrestrial, freshwater/estuary/saltwater ecosystems
- Sets targets and priorities for natural resource management- env focus on water, soil, terr ecosystems

84. Development permit guidelines 2008 [following notes are from draft **revision Nov 2023**] 3,4,5,6,7,8,9,10,11, [12?]
- intended to communicate design “expectations” for development
 - exempts need for development permit within DAP if impervious (impermeable) surface < 250m²; numerous other exemptions
 - different guidelines for different types of developments and depending on inclusion in specific DPA vs general
 - **does not require certain standards**, but not clear. Section 8.6 Guidelines for Garden Suites distinguishes between “shall” and “should”. Note- “shall” means guideline is “mandatory” but variations may be acceptable at the discretion of the appropriate planning official. Thus, it is unclear to what extent environmental guidelines are required.
 - specifically references “bird-friendly” building design; “growing the urban forest and enhancing green infrastructure”; “urban agriculture” opportunities at street level and on building rooftops; “noise impacts from the street”; “landscape-based stormwater management”; buildings and landscapes should be sited and designed to respond to natural topography and protect significant natural features wherever possible
 - General environmental guidelines refer to:
 - Bird-friendly building design, landscaping, and lighting/mechanical strategies
 - Minimizing impervious impermeable surface cover
 - Protecting and enhancing remnant riparian zones, watercourses, urban forest
 - Preserve areas (with buffers) containing listed species
 - Remove invasive species as per noxious weeds bylaw
 - Preserve open space using covenants
 - Apply Naturescape principles
 - Plant vegetation screens using appropriate native species
 - Potential conflicts between maximizing sunlight, privacy and shading
85. Durrell Creek watershed management plan 2000 5,6,7,8,9,10,11
- Driven by winter flooding issues – (how has continued urbanization and climate change influenced? Loss of natural water holding capacity?)
 - Highlighted potential effects of urbanization on some hydrology/flooding metrics – impermeable surfaces?
 - Recommendations for “environment” include: continued water quality and septic testing; informing landowners about ESAs and encouraging private land stewardship and practicing stewardship on municipal land (p. 124)
 - Called for measurements over time (p. 128)
 - *“Saanich is likely breaking new ground in the development and implementation of an Integrated Watershed Management Plan. **Too often, these documents are planning tools that don't get implemented.** Use of a watershed based approach to management at the local level is long overdue in BC”.* Unknown if implemented and how
86. Elk-Beaver Lake management plan 2020. 5,6,7,8,9,10,11
- CRD- led, but within Saanich; headwaters for Colquitz
 - Focus on water quality and lake ecosystem, sources of nutrients to lakes from land use
87. Global age-friendly cities plan 2008
88. Gordon Head action plan- Greenways, Bikeways, and Pedestrian Mobility 1999 3,7,9,10
- Refers to outdoor lighting as desirable amenity for greenways
 - Notes noise from nearby traffic can make walking less enjoyable; street trees can abate noise
 - Notes importance of street trees for providing habitat
 - Applies to restricted geographic area
 - Specific actions suggested
 - Timeline for actions- “short-term actions” and “long-term objectives” and specific
 - Unknown if actions implemented
89. Haro Woods park management plan 2018 5,6,7,9,10,11
- Notes creek receives much storm drain runoff (water); refers to compacted, disturbed, eroded soil associated with rogue trails; underground wastewater infrastructure. Focus on restoring native vegetation; creek
 - Shows priorities and timeline contingent upon annual strategic planning and budgeting process
90. Healthy Saanich community workshop report 2013
- __. Integrated stormwater management plan In progress since pre-2021; modest goals listed in Saanich 2023 Strategic plan 2023-2027

91. Invasive species management strategy 2013 6,7,8,9,10,11

- Focus on vegetation but acknowledges invasive animals- bullfrogs, eastern grey squirrels, rabbits, feral cats, but not rats, wall lizards, birds, insects; notes problem with feeding wildlife; Refers to noxious weed bylaw and animal control bylaw
- Consultations for strategy development suggest “Pulling Together” take lead in control and management of established populations of invasive vegetation with District providing support via volunteer coordinator(s), outreach, technical support. Funding issues- need to explore **partnerships with outside groups to help fund needed initiatives**
- Some actions proposed:
- Continue to develop” program to map and inventory, develop protocol, monitor, track, record, invasives; Determine appropriate responses for animals; continue to inform community or progress and challenges
- Measures of success: include % of area of Saanich natural areas inventoried; % of area restored once invasives removed
- Set priorities for ecosystems and sites
- **Some targets and indicators, no timeline- dependent on inclusion in strategic and departmental plans and subject to budget process.** Discussions in RSTC suggest formal documentation of invasive vegetation and its removal is sporadic or non- existent

92. Local area plans (various dates)

93. Official Community Plan 2008 (notes are from 2023 draft updated OCP) – will include development permit guidelines 1,2,3,4,5,6,7,8,9,10,11,[12]

- References urban containment boundary (UCB) as primary tool for restricting growth and protecting biodiversity (proposed policy 6.1.5)
- References temperature in context of climate change; ability of ecosystems and urban forest to mitigate extremes
- All components of natural environment mentioned in high-level language; much appears to be from SOB and SUF reports
- Priorities (section 15.2) for environment are high level: complete Resilient Saanich, BCS, UFS
- Soil policies only in agriculture sections 12.1.8, 12.1.9, 12.2.5 “support” “discourage”
- Implementation- few preliminary priorities identified; high-level indicators such as “complete or implement strategy”
- Monitoring every 5 years of progress using indicators to be developed

94. Panama Flats concept plan 2014 5,6,7,8,9,11

Recommendations/targets/timelines:

- Agriculture and food security strategy (2018) recommends implementation of plan
- Saanich strategic plan 2023-2027 recommends “revisit”ing concept plan [sometime before 2027]

95. Parks Recreation Culture master plan 2013

- Most up-to-date master plan on website; intended to go from 2013 through 2020; “align with ...OCP...”
- No statutory authority, just guide to decision-making
- Vision includes “environmental integrity” “environmental sustainability”
- Recommendations/**Indicators**: “continue to (1) build comprehensive inventory and report annually (implement UFS(2010) (3)Invasive species mgmt. strategy (4) implement Park natural areas plan and guidelines (5) explore “experimenting with fruit and vegetable-bearing trees and plants” [could potentially include native vegetation traditionally used by First Nations]
- **Timeline** update every 10 years
- Notes challenges, including declining resources relative to population, demands for inventory, “stewardship”; increased need for transparency in decision-making and communication (access)
- Notes need to consider alternate funding strategies/partnerships for operations, mgmt. prior to acquisition (also in 2001 plan)- extended opportunities for volunteers and community assns.; formal relationships with public and private entities, NGOs
- Notes that OCP standard of specified park area per 1000 residents is a minimum, but sometimes misinterpreted as maximum. [Note: same is happening now with 3-30-300 “rule” adopted by council- some staff think 30% canopy coverage is acceptable ceiling, not floor]
- Identifies weakness in cross-department planning and need to fix
- Notes conflicting views on dog management in parks
- See also Natural areas guidelines and plan
Natural areas action plan 2012-2017 2011:
 - Intended timeline of 5 years
 - Focus on invasive mgmt. (Invasive species mgmt. strategy 2013); mapping, inventory and monitoring; community collaboration; park mgmt. plans
 - Mapping- focus on SEI- useful for broad scale planning, not intended to provide detailed info; not complete. Need data entry to GIS, update every 5 years; compatible with UFS implementation and could engage graduate students in inventory; target completion 2015 then remeasure periodically; in-house staffing insufficient
 - Community collaboration notes working with specialists in parks, also initiation of Pulling Together
 - Recommends priority areas for specific park management plans: includes Knockan Hill, PanamaFlats, Layritz and Colquitz complex as longer-term priorities; MtDoug MtTolmie, Rithets, Bow/Feltham and others as more immediate. Park plans (on website) completed since 2011 include Cuthbert Holmes, HaroWoods, Panama Flats (now out-of-date?)

- Action plan seems to largely be about completing plans

97. Prospect Lake Tod Creek action plan 2001 5,6,7,8,9,10,11

- Provides a vision to 2020
- Focus on surface and ground water quality; stressor/threats, and actions to improve;
- Organization: strategies fall under objectives (maintain and restore riparian area; support community stewardship;
- Strategies include establishing DPA; extending tree protection; tax incentive to property owners who protect riparian vegetation; keep nutrients/pollutants out of water; minimize runoff (notes relation between impermeable surface % and stream health
- Identifies priorities and timeline, measures of success
- Implemented?

98. Quadra corridor action area plan 1996

99. Shelbourne Valley action plan 2017 3,[4],5,6,7,9,10,11

Vision- Bowker Creek to be restored; urban tree canopy to be enhanced; Shelbourne to be revived as “Street of Remembrance”

Includes:

- 4.1.3 Promote the use of Natural State Covenants to protect remnant Garry Oak ecosystems
- 4.1.4-4.1.5 Identify additional areas of environmental significance for protection
- 4.2.1-4.2.2 improve stormwater management in the Bowker Creek and Douglas Creek watersheds
- 4.2.3-4.2.10 Implement Bowker Crk Blueprint; support restoring and daylighting the creek
- 4.3.1-4.3.2 Protect the urban forest and enhance tree canopy cover
- 4.3.11, 7.1.2 Increase the recognition of Shelbourne Street as a Road of Remembrance and assess opportunities for planting new London Plane Trees
- 4.11-4.16, 5.9.1,5.9.2,7.2.1 Preserve the Valley’s heritage and connection to the natural environment including viewsapes

Sets priorities for actions including (5,9,10,11)

- Consider additional identified areas for inclusion in ESA atlas (medium)
- adopt stormwater bylaw (high)
- secure properties to protect Bowker Creek (medium)
- work with Victoria Oak Bay to develop common DPA guidelines to protect Bowker Creek (medium)
- assess opportunities, constraints to daylight creek (high)
- “will be **monitored** regularly for effectiveness”; **implementation** to depend on annual strategic planning and budgeting

100. Short St action plan 1999

101. South Wilkinson Valley action plan 2002 3,5,6,7,[8],9,10,11

- Recommends limits to outdoor streetlights consistent with municipal standards to minimize light pollution (to the observatory, not for biodiversity)
- Recommends removal of land from ALR- (formerly farmed, justification was contamination by failing septic systems)
- Seeks to restrict amount of impermeable surface- targets not specified
- Soil referred to only in context of impermeable surfaces
- References to stormwater management and improving stream-related function and habitat quantity and quality
- Recommends protection of existing native trees and additional plantings
- Timeline and specified targets not obvious

102. Swan Lake action area plan 1995 (amendments to 1998) 7 [11]

- Developed in response to concerns about the interchange and subsequent development moratorium
- Recommends addition of land to Sanctuary and trail between lake and Christmas Hill
- No specific reference to “ecosystems etc” just the need to complete trails, add to property

103. Tillicum Burnside action plan 2005 (also shown on Saanich website as “Burnside Tillicum action plan 2005”). [1,2,3,4,5,7],9,10,[11,12]

- Principles include: “ecological impact reduction”; “green the street”
- Clearly refers to “street trees” and “landscaped green strip” (urban forest, backyard biodiversity); potential effects (but not articulated) on air, air temp, light, noise, stormwater, terrestrial ecosystems, fresh- and saltwater ecosystems
- Recommendations, but no timelines for targets

104. Tod Creek Flats integrated management plan 2008 5,6,7,8,9,10,11

- Focus on management of flats; related to Prospect Lake Tod Creek action plan, but that is not mentioned

- Notes effect of pumping and drainage for framing on soil subsidence (also effect on organic matter decomposition and carbon emissions?)
- Good references to old maps showing historical land use
- Pre- and post-development effects on stream channel density, wetland area, urban forest canopy coverage
- Identifies information gaps that need addressing
- Implemented?

105. Uptown Douglas corridor plan (now appendix in bylaw 8940, OCP) 2022 1,2,3,4,5,6,9,10,11

- References air temperature and air quality in context of climate change and built environment; light in context of daylighting Cecilia Creek, lighting needs for humans and potential impacts on birds; need to balance maximizing daylight exposure and providing shade trees; soil in relation to permeable surfaces and survival of urban trees; reference to “urban agriculture”
- Specific priorities related to natural environment: 4.4.1 assess feasibility of daylighting Cecilia Creek 4.5.3 explore opportunities to enhance ecological value of Regina Park 4.5.5 prepare inventory of native species plant materials for development that reflect principles of Naturescape [vague wording and promises]- none is high priority
- Sets priorities with timing to be determined by annual strategic and budgetary processes
- Monitoring of progress at 5yr intervals

106. Urban forest strategy 2010 (in revision 2023) 1,2,5,6,7,9,[11],10

- Identifies why protection and strategy for urban forest is needed; not just trees but ecosystems; recognizes continued fragmentation as threat to ecosystems
- Identifies actions:
 - Grow canopy (no net loss canopy policy; green infrastructure contribution fund; comprehensive urban planting program)
 - Amend tree protection bylaw
 - Develop urban forest design guidelines- design should be adapted to protect existing trees, enable new plantings. Recognizes need for balance with development
 - **Inventory**- canopy cover and individual trees
 - Best practices maintenance manual
 - Educate staff and public
- Implementation dependent on strategic planning and budgets
- States “District presently: ... Reduces impervious surfaces during re-development, construction of new infrastructure and other activities that disturb or compact the soil and roots”. [Not clear how- through what regulations or policies]
- call for protecting soil; calls for incorporating best practices to maintain soil health during development process
- Calls for developing criteria for new plantings- fairly detailed, applicable to climate change.
- Recognizes importance of community participation in a variety of ways
- Specifies indicators for actions and 5 year monitoring:

107. West Saanich Road streetscape action plan 2005 3,9, 10

- Refers to street lighting in the context of appropriate (heritage) design
- Need to protect mature native oaks; refers to “significant trees” (p5)
- References to “landscaping” could imply biodiversity but specifically references aesthetics, viewscape, neighborhood character, etc
- Goals seem clear; timeline not clear- suggests implementation will occur over time based on funding and development proposals and land use change

108. Garden suite guidelines 2020 (to be included in updated Development Permit guidelines)

Other relevant policies not listed under “Bylaws”, Council Policies” or “Other Strategic” documents

Saanich Strategic Plan 2023-2027. 2023. (see also previous strategic plans to assess what was promised in previous years with respect to relevant policies; annual reports to assess what staff said was accomplished)

Actions:

- Introduce EPF with focus on climate plan, enhanced stewardship, biodiversity [not clear what the last two intended to mean]
- Implement “key initiatives” from agriculture and food security strategy and implement invasive species strategy; implement (new) urban forest strategy; develop biodiversity conservation strategy
- “Continue to advance” ISMPs; including completing “baseline” studies for Colquitz...
- “Develop” an up to 100000 trees (planted) in 10 years initiative
- “Revisit” the Panama Flats concept plan
- Develop community-wide “zero-waste” strategy
- [Note- environment and housing sections are written in way to not acknowledge possible conflict]

Administrative (departmental) policies

- Operational policies that reside within a department, are not shown on website, and updated or deleted by the department and approved by the leadership team¹⁵.
- Such policies may have effects on components of natural environment but generally haven't been examined here.
- Parks? Operational policies concerning tree species choices; soil volumes and aerial space required (see UFS)
- Includes purchasing policies. Saanich departments are not limited to purchasing only those products with the lowest up-front cost¹⁶. For example, Engineering could specify a type of concrete for sidewalks that has lower lifecycle CO2 emissions than "standard" concrete if it meets engineering standards. Presumably, this could also be a requirement of new building construction if engineering standards are met.

Council procedures bylaw

- Limits community input on issues pertain to natural environment

Freedom and information and privacy protection bylaw

- Limits community access to publicly-funded data, policies, rationale etc. relevant to natural environment

DRAFT

¹⁵ Personal communication, District of Saanich 01 Nov 2023

¹⁶ Personal communication, District of Saanich Finance Dept. 01 Nov 2023

Appendix EPGA_3. Sample analysis to confirm a suspected policy gap using the bottom-up approach.
How does Saanich policy address/protect/conserve urban soil?

1. Using the worksheet, 40 policies were identified which in some way addressed soil
 2. The policies were classified by the stressor/threats and sources they addressed. In this first cut, stressor/threats were divided into biological, chemical, and physical stressors. Biological stressors (biological contaminants) focused on connections to sewer lines. Examples of chemical contamination could include chemical leaks and spills (e.g., fuel oil and other hydrocarbons, pesticides, inorganic chemicals, including fertilizers); long-term heavy metal deposition and incorporation of microplastics. Physical stressors included (1) inappropriate removal and deposition of soil, compaction, erosion, and loss of rooting volume and (2) impervious surfaces. Other stressors of the soil ecosystem include loss of native organic matter, invasive soil organisms (e.g., non-native earthworms), disrupted moisture availability, and loss of organic matter inputs.
 3. Four (4) policies (3 bylaws, 1 council policy) in some way addressed biological contamination; 10 addressed chemical contamination (7 bylaw; 3 council policies); 10 addressed physical stressors other than impervious surfaces (4 bylaws, 2 council policies, 4 “other strategic”); and 11 specifically mentioned impervious surfaces.
 4. Biological contamination specifically referred to sewage hookups (3 policies) or to a requirement to remove dog excrement from parks and like public property (Animal Bylaw, 2024).
 5. Chemical contamination measures attempt to prevent pesticide contamination of soil, hydrocarbon (including home heating oil) leaks from storage tanks, hazardous waste disposal at Hartland landfill; leakage of hydrocarbons from vehicular traffic along roads, and littering (although not identified specifically as a chemical contaminant).
 6. Many policies encourage minimizing the extent of impermeable surfaces. None explicitly state incentives and one requires a development permit for impermeable surfaces greater than 250 m² (Development Permit guidelines 2023, draft).
 7. Other policies pertaining to physical stressor/threats of soil focus on regulating or preventing soil removal or relocation from development sites and from parks; “mixing” of soils on agricultural land; ensuring adequate soil volumes for trees and compaction from recreational use (two park management plans).
- Few data exist for soils in Saanich (as for most urban areas) wrt structure, chemistry, function and biodiversity. Existing documents do not quantify impervious surfaces
 - Policies target a few specific stressor/threats; no policies specifically focus on protecting and enhancing soil health and function

Appendix EPGA_4. Review of EPGA2020 and possible updates (circulated June 2023, subsequently modified)

Background

EPGA2020 was prepared by staff and presented to RSTC in Sept 2020 for review. As initially envisioned:

As part of Milestone One, taking stock of the existing policy framework and identifying gaps is an important first step in the [EPF] process. The Terms of Reference action item deliverable is to: “Draft a Resilient Saanich framework skeleton of existing policies, etc. Conduct a gap analysis. Identify options for filling gaps using the Green Bylaws Toolkit and other references”.

The intent was to answer three questions largely as milestone 1 actions:

- 1. What natural assets are there and what risks do they face?**
- 2. How do we currently enhance and protect our natural assets?**
- 3. What do we have the authority or opportunity to do?**

A complete EPGA would then be used to guide the setting of EPF goals and objectives and determine related actions necessary to completing the EPF. The draft EPGA notes that *“this document will continually be revised throughout the process”*, implying the EPF process.

The existing draft EPGA consists of several tables:

1. “Natural assets”, their “benefits”, and “threats”
2. Overview of Saanich bylaws, policies, strategies, procedures, and programs and partnerships (that contain provisions for environmental protection)
3. Related Saanich bylaws overview and “status” (“is there a gap or room for improvement?”). Status was summarized as (a) “Significantly out-of-date or missing key elements” (b) “Room for improvement or at least a review” (c) “Complete and up-to-date” (d) “Unknown or lack of data”
4. Stewardship approaches, listing some current (as of 2020) approaches by (a) the District and (b) community-based (non-governmental) organizations
5. Gap analysis summary and next steps – lists “natural assets” as per Table 1; summary status of plans and policies, stewardship status as in Table 3; and comments that appear to relate to analysis embedded in individual cells of the matrix.

How can the existing draft EPGA be improved?

The September 2020 draft EPGA begins to address key questions posed in its introduction but could be more comprehensive, functional, and useful. For example, the completeness and organization of “components of natural environment” (i.e., “natural assets in EPGA2020) and “stressor/threats” (both Table 1) could be improved and the relationship of Saanich policy to environment and stressor/threats could be clearer. EPGA2020 does not identify policies with multiple environmental benefits (or impacts).

Specifically:

1. Table 1 presents an inconsistent breakdown of natural environment or “natural assets”. For example, habitat is separate from ecosystems; soil is separate from terrestrial ecosystems, but

water isn't separate from freshwater ecosystems and watersheds. Urban forests are specified but not agroecosystems. (Note: the State of Biodiversity report refers to agricultural lands)

2. Table 1 - What constitutes "Natural environment" seems incomplete. For example:
 - (a) The draft EPGA doesn't include or obscures some abiotic components (light, sound, air quality, temperature, water quality) of the natural environment. Human activity, especially with urbanization, affects abiotic components. These should be explicitly included in Table 1
 - (b) The draft EPGA doesn't explicitly acknowledge that ecosystems in the urban landscape are fragmented, disturbed, and novel to varying degrees – for example, "backyard biodiversity"
3. Table 1- "Human benefits" might suggest that the well-being of the natural environment is important primarily for our well-being; inconsistent with RSTC principles in the EPF.
4. Table 1- "Threats" (= stressors) range from proximate to the local environment (and controllable at the municipal level) to global overarching threats that the municipality can't control but could (and should) adapt to. Distinguishing between these may help focus local policy development
5. Table 3 - It is unclear what the assessments of bylaws in Table 3 mean and how they were arrived at. What does it mean in terms of natural environment to "be complete and up-to-date" or "could be reviewed"? Table 3 refers to 43 "enabling legislation tools" and associated bylaws – of those 6 were "complete and up-to-date" 21 "could be reviewed" 8- "absent or missing" and remainder no assessment. The different bylaws are not connected to the different components of natural environment.
6. Table 4- there is both consistency and conflict with what RSTC has said in the stewardship report
7. Table 5 attempts to integrate 7 natural asset classes from Table 1 with the "assessed" policy approaches- but:
 - (a) the natural asset classes may be inadequate as components of natural environment;
 - (b) the information underlying the color-coded assessments is unclear; and
 - (c) it's not clear what is included in each of the 28 (7 x 4) colored squares. Of those 28, 3 are said to be "complete and up-to-date" – 9 are "significantly out-of-date" or "missing key elements" 13 have "room for improvement or need review" (+3 vacant entries under community stewardship). The comments are based on what is not shown in the colored squares so the conclusions are questionable.

General thoughts:

1. The draft EPGA is a good start – it includes the main pieces necessary for a functional EPGA.
2. Reassess whether the existing "natural assets" category adequately covers "natural environment"; identify what stressor/threats are controllable locally or can be largely only adapted to; link environment or stressor/threats and policy and indicate policy intent.
3. RSTC can do some, but not all, revisions prior to December 31 2023. We can make significant improvements and recommend others to be completed as time and resources permit. The more RSTC completes prior to December 31, the more likely EPGA2.0 can be completed and used.

Specific revisions:

1. Table 1 - Delete "human benefits" column; recognize in EPGA introduction interrelationships among human impacts on (a) abiotic environment (b) biodiversity/natural ecosystems and (c) human health and wellness
2. Table 1- Revise "natural assets" classes to better reflect item #1, be more hierarchical, better align with the SOB report, and link via stressors to policies/regulations/etc. Add farmland and "backyard biodiversity" (SOB) to acknowledge that biodiversity and ecosystems occur and differ across a disturbance/urbanization gradient.

3. Table 1- Update the list of stressors potentially associated with different components of environment. Distinguish between those potentially controllable by the municipality versus not directly controllable. The latter require municipal policies that mitigate or adapt to stressors but can't prevent them. Similarly, Natureserve (2) distinguishes between "direct" and "indirect" threats, although the classes of stressors used by Natureserve and the IUCN (3) may not be ideal for linking environment, stressors and local policy in a Saanich-specific context.
4. Assign numeric codes to either classes of environment or to associated stressors and assign the same codes to policy tools.
 - This could facilitate sorting and identifying (a) gaps in what aspects of environment or stressors are addressed (b) policy tools with multiple environmental benefits.
 - An advantage of coding environment components is that they are understandable and key words may be easier to find in policies. An advantage of coding stressors is that stressors are what policy tools typically directly address. In other words, policy tools often address the action (causing the stress) not the environment (the outcome).
 - Base the coding on 10 or so components of environment (or on the stressors) rather web page, 13 planning (OCP, LAP) documents, ca. 50 other strategic documents).
5. Table 3- Note the limitations inherent in the "assessments" of existing policies. Point out the uncertainty in knowing the intent (especially for regulations) and what "adequate" or "room for improvement" means with respect to protecting the specific aspect of environment.
6. Table 4. Align with stewardship WG findings.
7. Table 5. Amend to account for changes to Tables 1,3,4,5

Footnotes

1. Natural environment – refers to (1) abiotic factors necessary for life (2) physiography arising from planetary processes (3) biota and ecosystems that occurred on southern Vancouver Island pre-European settlement and still could occur given adequate habitat. Introduced and naturalized species might be considered as "natural environment" recognizing they may have deleterious effects. Natural environment (1) contrasts with the modern built environment, i.e., infrastructure made from relatively permanent human-manufactured materials² and (2) for our purposes, is predominantly outside of human structures.
2. Master, L. L., et al. 2012. NatureServe Conservation Status Assessments: Factors for Evaluating Species and Ecosystem Risk. NatureServe, Arlington, VA.
3. Salafsky et al. 2008. A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions. *Conserv. Biol.* 22: 897