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April 3, 2001

A discussion requested by the Salt Spring Island Conservancy

Review of Salt Spring Island Local Trust Committee Draft Bylaw 365 Schedule 1 on **Conservation of Garry Oak Ecosystems**

Terms of reference

The Salt Spring Island Conservancy requested comments on the bylaw from members of the Garry Oak Ecosystems Recovery Team (GOERT). Ingram is a Co-chair of both the Research Recovery Action Group and the Site Securement (conservation planning) Recovery Action Group. Each of these technical groups will produce a public document, on how to implement the Garry Oak Ecosystems Recovery Strategy**, by the end of 2001. The comments below represent the position of Ingram, only, though various perspectives and information are shared within GOERT.

General comments on draft

The draft bylaw represents an important step forward for habitat and biodiversity conservation for both Salt Spring Island and the entire Gulf Islands. If enacted in its present form five to ten years ago, the draft bylaw, as it is now written, probably would have saved some key areas of Garry oak ecosystems -- which are being lost or degraded. However, the situation around threats to remaining Garry oak ecosystems and the resulting options for conservation are changing rapidly.

As more species in Salt Spring Island's Garry oak ecosystems are detected, and classified as rare and endangered, attention in conservation planning may shift to those other organisms and just to oak trees. This tension between defining Garry oak ecosystems, just

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background:

❖ M.Sc. Ecosystem Management (1980) (thesis involved inventory and management plans of the ecological reserves on Mt. Tuam and Mt. Maxwell;

❖ Ph.D. Environmental Planning (1989) (forest biodiversity conservation on islands)

** <http://www.bc.natureconservancy.ca/cgo/index.html> &
<http://www.bc.natureconservancy.ca/cgo/litreview.pdf>

by presence of Garry oaks, in contrast to protection of associated species, which are much rarer, has not been fully anticipated in this draft. The largest technical problem in the current draft of the bylaw is around unresolved priorities for conservation in areas that have species on the Red and Blue Lists but where the actual presence of *Quercus garryana* ecosystems has not been considered significant or has not been detected.

For the bylaw to be effective, especially for protecting remaining habitat outside of protected areas over the coming decade, some revisions in language along with some insertions, are necessary. The following are recommendations could be probably be accommodated in a revised bylaw.

1. easy map revision

Because conceptions and maps of the nature and 'space' of Gary oak ecosystems are changing rapidly, there needs to be an easy, administrative way for Islands Trust to revise 'Map 27 DP AREA 7 Garry Oak Plant Communities' without totally reviewing and revising this bylaw. There were some serious constraints on how the Sensitive Ecosystems Inventory could detect and delineate oak ecosystems. And other consultants, with different criteria, will probably detect more areas with Garry oak ecosystems. GOERT now has convened a group of experts to tackle this problem in the coming year - the Inventory Recovery Action Group (RAG)¹. To lock-in to a map, before the results of the Inventory RAG, would undermine the effectiveness of the bylaw. Some of the important sites, for protection of certain Garry oak associations and associated species, may be outside of the areas delineated on Map 27 DP AREA 7 Garry Oak Plant Communities.

2. conserving isolated oak trees outside of Map 27 DP AREA 7 Garry Oak Plant Communities

All oaks outside of Map 27 DP AREA 7 Garry Oak Plant Communities warrant some kind of formal protection under the bylaw. As parks and easements are established in the coming years, it will be the larger oaks and even pockets of young oaks, outside of these formalised 'Garry oak plant communities', that will be most vulnerable. See the science section below. These oaks should be left while cutting of Douglas fir, around them, would be desirable. However, some logging and house building operations adjacent to vestigial oaks would be highly deleterious.

3. discouraging the planting of invasive plants near Garry oak areas

Section E.7.4.5 is worth clarifying. As recognized in the draft bylaws, not only is direct disturbance a threat but the problem of the continued planting of invasive species. Since the bylaw is already specific, adding a list of invasive species to not be planted, in at least the areas on Map 27 DP AREA 7 Garry Oak Plant Communities, is desirable. Such a list of cultivars undesirable for planting could be updated. Such a list is prudent given the amount of new landscaping that will be going on as adjacent areas are subdivided and houses built.

¹ One contact for the GOERT Inventory RAG is Mr. Wayne Erickson, email: Wayne.Erickson@gems3.gov.bc.ca

4. precision around no road building or presence of heavy equipment in Garry oak areas

This extent of this bylaw for minimising roads and driveways in key areas is a bit unclear. Siting restrictions in relation to oak stems and canopies warrant more specifications.

5. anticipating climate change in the 'Reasons for this Development Permit Area'

An additional passage, at the end of the Reason section, would be a good idea. If the climate does shift towards longer and drier summers, Garry oak ecosystems could become more dominant anyway. But without conservation at the 'neighbourhood' level, these expanded oak and grassland areas might well not have rich sets of species and could be even more vulnerable to infestations of broom. The increasing vulnerability to fire is just one point. Having native 'seed banks' in each neighbourhood, so that Garry oak ecosystem species can be established rather than ignition-prone invasives -- most notably broom, can be easily argued.

6. less reliance on the *Sensitive Ecosystems Inventory Conservation Manual* as other guidelines are developed

Simply put, this manual is a large, complex document that does not focus on Garry oak ecosystems, specifically, and only provides vague guidelines. More specific guidelines are scheduled from GOERT, a body that may have more of a legal basis by the end of 2001. The manual will be difficult to implement whereas more specific guidelines, related to particular Garry oak ecosystems associations and species could be adopted by Island Trust on an ongoing and more flexible basis.

7. Islands Trust augmentation of list of species of concern

The provincial Red and Blue lists are a good start. For now, those lists are the best that we have. But there may soon be the (highly political) federal lists. More worrisome is what could happen with the Red and Blue lists with a new provincial government (in combination with some kind of limited federal protection of plants). In addition, GOERT will be developing its own Garry oak rare plant conservation strategy by the end of the year.

8. specifying terms of mitigation Garry when oak habitat is destroyed

There are allusions to some form of mitigation if it cannot be helped that oak habitat is destroyed. But what would be effective offsets? Planting a few oak seedlings in degraded grassland does not offset the losses of larger oaks, supporting much higher richness of species (and habitats), are destroyed. I suggest that that such procedures either be specified or left out. I suggest that the bylaw is clarified around mitigation but this would make for a longer (and more complex) bylaw.

9. development of a specific roster of experts

The phrase 'Registered Professional Biologist or other qualified professional' warrants clarification. Lots of R.P.Bio's have had no training or up dating, for these particular

ecosystems. In addition, 'qualified professional' is vague. At times, the need would be for an arboriculturist and at other times the need is really for a landscape architect or environmental planner. Arborists and landscape architects have their own certification which should probably be mentioned if R.P.Bio's are specified

Scientific background

Both the science and social significance of Garry oak ecosystems in Canada are shifting rapidly. A number of new scientific articles and conservation discussions are due in the coming two years. This body of knowledge, now being shared with and within GOERT, suggests the some additional conservation priorities for oak ecosystems on Salt Spring.

- ❖ The present landscape mosaic, dominated by Garry oak and Douglas fir, has covered much of Salt Spring for at least five thousand years.
- ❖ This mosaic has been highly dynamic shifting to larger areas of Douglas fir, in cooler times, and Garry oak woodland and savannah in drier times. Wildfire and more recently aboriginal burning have been certain determinants in the distribution of Garry oak, grassland, and Douglas fir on drier slopes with southwestern aspects.
- ❖ Aboriginal burning, associated with food gathering, was a key factor in these ecosystems until a century ago. The current distribution of Douglas fir forest and Garry oak is largely the result of that legacy.
- ❖ As fire has been suppressed in the twentieth century, many areas with oak and grassland communities have been overgrown by Douglas fir. Over the last century on the Gulf Islands, there may well have been as much of a loss of Garry oak ecosystems from fire suppression and subsequent Douglas fir encroachment than from clearing and house building.
- ❖ Many of the rare and threatened species, associated with Garry oak, are part of edges between oaks and Douglas fir and oaks and grassland that require some regular fire. But re-introduction of fire, with years of fuel build-up on the ground, would lead to hot fires that could kill those same native species (including Garry oak). In areas where Garry oak are now marginal (outside of Map 27 DP AREA 7 Garry Oak Plant Communities), partial removal of Douglas fir trees younger than 80 years is desirable. Removal would need to with great care. Controlled burning around remaining oaks and other restoration measures would also be necessary. These marginal areas of oak, along with the areas delineated within the current boundaries of the proposed Garry Oak Development Permit Area, could well comprise half of the lands mass of Salt Spring Island.
- ❖ It will be another century before the full impacts of invasive species such as broom are manifested. Broom is still effectively naturalising, and becoming more aggressive, in such areas as Mt. Maxwell. Thus, a key delineation could also be between areas of Garry oak without major infestations of the more invasive plants (particularly broom)

and those already afflicted. Even a small stand of oak and grassland that is without broom, even outside of the current boundaries proposed for the Garry Oak Development Permit Area, could be key to the local survival of some associations and vulnerable species.

Specific concerns & suggestions about text

E.7.1.1.

I wonder if there is not a basis to add a buffer of 100 to 200 metre buffer around all of the areas identified in Map 27 DP AREA 7 Garry Oak Plant Communities. A scientific argument could be made for this.

- ❖ Because of fire suppression and subsequent encroachment by Douglas fir, most of the areas with oak and grassland have probably shrunken more than this much over the last 50 years.
- ❖ Not all of the Red and Blue list species are directly adjacent to the Garry oak trees, themselves, but rather in their vicinity.
- ❖ A lot of the prospective disturbances, even when well-regulated within those areas delineated in Map 27 DP AREA 7 Garry Oak Plant Communities, will 'bleed out' into adjacent areas (that may have aspects of Garry oak ecosystems but no longer oaks and grasses as dominants).
- ❖ Given the constraints placed on activities within the areas identified in 'Map 27 DP AREA 7 Garry Oak Plant Communities', there probably will be heavier development pressures on these adjacent areas.

One of my greatest concerns is for the last paragraph in this section beginning, "The Garry Oak Development Permit Area." I question whether the notion of 'significant' in that first sentence is consistent with what we know about those Red and Blue List species. I suspect that there are some differing sets of priorities here between 'significant stands of Garry oak trees' and the concerns for the broader ecosystem including species on the Red and Blue Lists. While it may not be possible to limit all development around all oaks on Salt Spring Island, the subsequent sentence where 'owners of properties with Garry oak trees that are not included in this Development Permit Area are **encouraged** to follow the guidelines...' falls flat. It is in these adjacent areas where development will tend to go on -- even though there might also be a few (highly strategic) oaks and even species on the Red and Blue Lists. **Surely, some kind of constraints on the destruction of oaks and other Red and Blue Listed species, outside of the Garry Oak Development Permit Area, can be inserted before the bylaw goes into effect.**

It may be necessary to separate out, in the language of the draft bylaw, the 4 sets of biological resources, related to Garry oak ecosystems that are discussed:

1. Garry oaks and aspects of their ecosystems in the The Garry Oak Development Permit Area;
2. Garry oaks and aspects of their ecosystems outside of The Garry Oak Development Permit Area;
3. species on the Red and Blue Lists inside The Garry Oak Development Permit Area; and
4. species on the Red and Blue Lists outside of The Garry Oak Development Permit Area (that may or may not be adjacent to Garry oaks).

With this list in mind, I will now suggest clarifications and inserts to fill the gaps in conservation that I have mentioned above.

That last paragraph in E.7.1.1 could be expanded to stress that while there is now The Garry Oak Development Permit Area (with constraints on development), all oaks and all of the species on the Blue and Red Lists should have some limited protection under this bylaw. Without this clarification, there may soon be species that qualify for federal and provincial protection but are outside of The Garry Oak Development Permit Area -- effectively not protected by this bylaw.

E.7.1.2

a. "Removal or alteration of a Garry oak tree" can be clarified to "Removal or alteration of a Garry oak tree **and removal, addition, disturbance and interference of any native species and soil under its crown-line.**" The crown-line is a key concept here and has been the source of numerous discussions around California bylaws for this oak species and its closest relatives (such as *Q. lobata* and *Q. engelmannii*).

d. Three points:

- ❖ Alteration could include "planting of non-native species" or "highly invasive non-native species" (that could involve a list with the major ones such as broom...yes people are still planting broom...).
- ❖ Alteration could also include road building and the laying of asphalt (bad news as it suffocates roots) or gravel (less of a problem but heavy equipment often damages roots -- a source of mortality for larger and older oaks).
- ❖ And, as the notes on my copy suggest, cutting of Douglas fir younger than 80 years should encouraged -- but without logs and heavy equipment disturbing soil (instead helicopters, horses, careful falling).

E.7.1.3.

a. After Registered Professional Biologist, I would insert the following:
", a Registered Landscape Architect, or other environmental professional".

Part of what the bylaw is discussing here is site planning and outside of what an R.P.Bio. is expected to know.

The three subsequent points begin to clarify this (i - iii). But a fourth point could be added as a new "iv" as "iv. site planning."

The professional must have proven experience in these things and all R.P.Bio's do not have this level of expertise. By adding these two phrases, qualified R.P.Bio's are favoured but other professionals with just as important experience and with considerable knowledge of those species, could be involved. One note: the BC Society of Landscape Architects is also concerned about the protection of sensitive habitats.

Under the current 'v', "Registered Professional Biologist" can be substituted with "a qualified professional as listed above."

vii.

Over-emphasis on the *Sensitive Ecosystems Inventory Conservation Manual* is not a good idea. The guidelines are too vague, especially for the species mentioned here, and would not hold up in court. Better-specified, legalistic guidelines are necessary or this section will be difficult to implement.

I suggest that instead of "the *Sensitive Ecosystems Inventory Conservation Manual*," the bylaw state "guidelines provided and periodically updated by Islands Trust consistent with the conservation biology of these species and ecosystems." It would be easier to ask for guideline revisions, with review and approval from within Islands Trust, than to get locked into a particular set based on limited information.

This section is not very clear. In my interpretation of the current passage, a species in a Red or Blue List warrants attention only if it is within 15 m of an oak tree WITHIN The Garry Oak Development Permit Area. But as of this year, because of the initiatives of a number of groups and agencies, species listed on the Red or Blue List, anywhere, warrant protection. Certainly, that is the advocacy already underway around GOERT and the weaker protections currently being proposed through federal legislation.

For the sake of comprise, the occurrences of oaks and those other species within The Garry Oak Development Permit Area could involve requiring a more significant buffer than for the populations outside of The Garry Oak Development Permit Area. But this might involve an additional passage requiring some kind of permitting protection around these species and ongoing revisions of the bylaw map.

vii.

The discussion of "compensation," what is sometimes called 'habitat mitigation', warrants expansion and clarification here. If other oak ecosystem habitat were protected on Salt Spring, then I would assume that the only kind of compensation would involve restoration of degraded habitat. But a formula needs to be set here, or at least some principles. Without specific guidelines for compensation, the door is open for the planting of young oaks and a few other native plants as compensation for the destruction of sites with older trees with far more biological richness (and species listed as Red and Blue).

b. I have a question here. In timber production and harvesting areas (at least outside of Forest Land Reserves), cannot oaks and areas around oaks, such as under their canopies, still be protected through these bylaws? Is so, this would be a very good idea.

E.7.2

The following passage could be added to the "Reasons" section.

"As well as ethical and aesthetic concerns for protection of Garry oak ecosystems, associated species are also key for future (sustainable) development on Salt Spring Island. Garry oak and other grassland areas on Salt Spring are the reservoirs for most of the species and genotypes that could prove to be key for our communities if there was climate change and, in particular, more severe and longer annual droughts.

E.7.4.1

As outlined earlier, such a rule about no disturbance within 15 m of "the base of a Garry oak tree" could extend to outside of the mapped area or on a revised map with outlying oak and Red and Blue List species sites indicated. And no disturbance within 15 m of "the base of a Garry oak tree" could be clarified as,

"from the crownline of a Garry oak tree and from the base of any species on the Red or Blue Lists"

But this rule could also be as workable by instead inserting "occurrences of Garry oak and other species on the Red and Blue Lists outside The Garry Oak Development Permit Area and that is subsequently listed by Islands Trust." Thus, such groups as the GOERT Inventory RAG and the Rare Plants RAGs could identify and map these outlying populations.

E.7.4.2

There is perhaps an over-emphasis on the provincial Red and Blue Lists. What if, under political pressure, some species were removed from these lists? I do not like to think of this but it is a possibility. The current list could be easily altered as a shorter, more politised, list of species is finally federally protected. Given the political uncertainties of the coming years, the Red and Blue Lists should be the bare minimum of species listed. But if Trustees wanted more species listed, based

on sound scientific advice, they would have as much right to be concerned with them as they do for the species on the Red and Blue Lists.

I suggest inserting, after "B.C. Ministry of Environment," the following,
", or deemed of concern by Island Trust based on sound scientific advice,".

E.7.4.3 & E.7.4.4

If I sent the current wording of this draft over to the BC Society of Landscape Architects, I think that they would get upset. There is no requirement for R.P.Bio's to have training in this kind of "rehabilitation." The only place where this is taught is in an occasional landscape architecture or related forest conservation course. Consequently, I suggest that after the first mention of "Registered Professional Biologist," that there be inserted ", Registered Landscape Architect" with the insertion of "environmental" after "other" and "these" inserted before "nature." The "**these** natural plant communities" is the key here. Lots of environmental professionals know lots of things but there is some rather special knowledge needed for these Garry oak ecosystems on the Gulf Island. I suggest that Island Trust may eventually need to publish a roster of those professionals who have professional "expertise." Unfortunately, most people, today, who qualify for calling themselves R.P.Bio's have had no training in these particular ecosystems (or in site rehabilitation for that matter). And some training courses, even certification, might not be a bad idea.

E.7.4.5

Why would such "disruption" of Garry oak communities take place if there was protection under these guidelines? Is this passage better for E.7.1 vi? Or perhaps this is a guideline that can be extended to the areas outside of The Garry Oak Development Permit Area?

E.7.4.6

My suggestion here is that the "qualified professional" should be approved by Islands Trust -- typically through the publication of a roster of individuals with recognized qualifications for either biology, landscape architecture, and arbouriculture AND professional expertise with these particular ecosystems. In quite a few of these cases, both a biologist and a landscape architect (someone certified in grading and drainage) may be necessary. Islands Trust may want to stipulate this up-front so as to avoid possible litigation from an annoyed homeowner who happened to choose a good biologist who was an untrained, would-be landscape architect (or *visa-versa*). And I am also thinking about individuals who do not, in their hearts, want to co-operate with the spirit of the bylaw. A little more specificity here, in terms of legal protection for Islands Trust, might save a lot of headaches for staff (and Trustees).

Finally, what is supposed to happen to all of those misguided landowners who might

- a. choose to stay blissfully ignorant of these ecosystems and species (especially the obscure ones) and the needs to conserve them and
- b. read this bylaw looking for loopholes?

What are the penalties once the damage has been done?