

EXECUTIVE SUMMARY

The current Vegetation Resource Inventory (VRI) Change Management Process (CMP) has been in place since 1998. Changes to VRI standards are managed through this process. The recent Inventory Program Review (2005-06) received comments from the VRI community of practice suggesting the current CMP may not be working as well as it could. Based on this initial feedback, the Vegetation Inventory Advisory Committee (VIAC) asked the Forest Analysis and Inventory Branch (FAIB) to conduct a more thorough review of the current CMP. The focus of this review is the current CMP, not the VRI standards themselves.

A VRI CMP satisfaction survey was distributed to 126 members of the VRI community of practice; 15 responses were received. The survey confirmed existing awareness of a much higher level of dissatisfaction among the licensee and consulting community compared to MFR VRI staff. The focus of this dissatisfaction seems to be more on the decision making process (0% satisfaction) than process logistics (50% satisfaction). In contrast, MFR VRI staff were generally satisfied with both the logistics and decision processes.

At the heart of these discrepancies were three basic issues:

1. CMP scope expectations and the lack of alternative CMPs for other issues.
2. Communications regarding the CMP and with those submitting suggestions.
3. Implementation expectations and delays.

Eight recommendations were made to rectify these issues:

1. There is a continued need for a CMP, but the process needs immediate clarification and modification.
2. Process scope needs to be clearly articulated and communicated to reflect realistic constraints, such as available resources, database environment, etc.
3. Scope of the CMP should be restricted to changes of a non-systemic nature, which also need to be clearly defined. An alternate venue needs to be established for managing suggestions for systemic change. VAIC is the logical venue in that regard, provided that experts continue to be consulted.
4. The CMP committee would likely benefit from greater licensee and/or consultant participation if logistics and time commitments can be managed.
5. Suggestion proponents should be encouraged to contact appropriate Ministry VRI staff in the early stages to benefit from their insider knowledge. Unrealistic suggestions could be pre-empted and practical suggestions enhanced.
6. Realistic targets need to be set for implementation of approved changes on a case-by-case basis.
7. Communication and documentation needs to be improved in order to enhance the common understanding of process expectations, scope, and decision rationales. Decision criteria need to be formalized and communicated up front.
8. The CMP should continue on an annual schedule while scope and process modifications are implemented. Temporarily suspending the CMP could further erode confidence at this point. CMP scheduling may eventually move to a less frequent schedule if warranted.

INTRODUCTION

The current Vegetation Resource Inventory (VRI) Change Management Process (CMP) has been in place since 1998. Changes to VRI standards are managed through this process. The recent Inventory Program Review (2005-06) received comments from the VRI community of practice suggesting the current CMP may not be working as well as it could. Based on this initial feedback, the Vegetation Inventory Advisory Committee (VIAC) asked the Forest Analysis and Inventory Branch (FAIB) to conduct a more thorough review of the current CMP.

The focus of this review is the current CMP, not the VRI standards themselves.

FAIB contracted with Steve Stearns-Smith, RPF, (Stearns-Smith & Associates) to conduct the review. John Wakelin, RPF, (FAIB) served as ministry contact for the project. The participation and input from the peer review committee (Appendix A) and the 15 survey respondents is gratefully acknowledged.

CURRENT PROCESS OVERVIEW

The current process, as described below, was developed in accordance with the Resource Information Standards Committee (RISC) Change Management Policy. http://ilmbwww.gov.bc.ca/risc/o_docs/other/richange.htm#standards

1. Suggestions for changes to standards are solicited from the VRI community of practice once a year (Sept-Oct) through the FAIB VRI Change Management website. <http://www.for.gov.bc.ca/hts/vri/changemgmt/index.html>
2. Suggestions may be submitted within the following topic areas:
 - a. Photo Interpretation (Phase 1) including calibration ground plots
 - b. Ground Sampling (Phase 2)
 - c. Net Volume Adjustment Factor (NVAF)
 - d. Monitoring
 - e. Planning
 - f. Analysis and Adjustment
 - g. Management Unit Monitoring (CMI)
 - h. Permanent Sample Plots
3. Suggestions are evaluated by a committee of ministry VRI staff against informal criteria such as:
 - a. Implementation cost
 - b. Relative benefit
 - c. Implementation timeframe
 - d. Statistical reliability
 - e. Database / data management
 - f. Quality control / assurance
 - g. Government information needs
 - h. Training
 - i. Relative to other proposed changes

4. Decisions are posted to the website by the following April. When possible, accepted changes are implemented prior to the next field season.

The CMP received a large number of suggestions during the first few years in conjunction with the initial release of VRI standards. Suggestions declined for a few years then began to climb again recently. Proportionally fewer suggestions have come from non-ministry sources in recent years (Figure 1). These data did not differentiate suggestions submitted by ministry staff on behalf of licensees; these were counted as government suggestions.

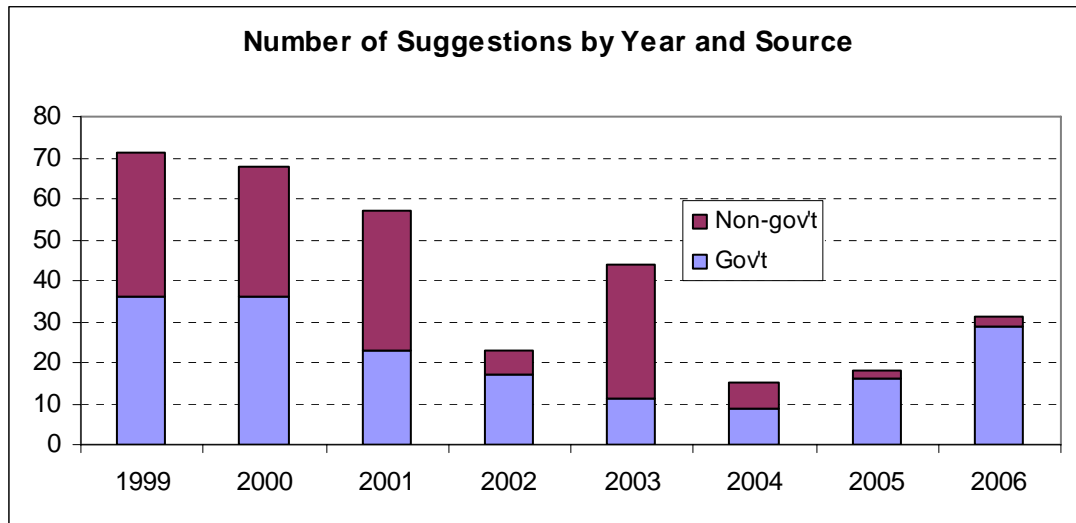


Figure 1. Number of suggestions submitted to the CMP by year and source.

REVIEW PROCESS AND METHODS

The review project was conducted over the summer in 2007. There were two components to the review process. First, a 10 member peer review committee (Appendix A) was established to provide review and comment on the draft survey questionnaire and draft report. The review committee represented a sector-balanced cross-section of the VRI community of practice. Second, a short survey questionnaire (Appendix B) was developed, reviewed by the committee, and e-mailed to 126 members of the VRI community of practice based on four distribution lists maintained by FAIB (Table 1). Fifteen survey responses were received and compiled in this report.

Table 1.
Survey Distribution and Response Statistics

Survey Distribution (List sources: FAIB)	Counts
VRI listserver	87
VIAC Members	14
VRI Contractors	38
VRI Photo Interpreters	22
Cross-list duplication	(-15)
Invalid e-mail addresses	(-20)
Total sample size	126
Total responses received	15
Response rate	12%

TABULATED SURVEY RESULTS

Table 2.
Number of Responses, Process Awareness, Involvement, and Continued Need for a CMP by Respondent Group

Respondent Group	No.	Aware of Process		Process Involvement				Process Needed	
		Yes	No	Review	Submit	Both	Neither	Yes	No
MFR HQ VRI Staff	3	3		1		1	1	2	1
MFR Regional VRI Staff	3	3				3		3	
Licensees	2	2			2			2	
Consultants	5	4	1		1	3 ^a	1	4	1
Other MFR staff	1	1				1		1	
Other gov't staff (MoE)	1	1					1	1	
TOTALS	15	14	1	1	4	7	3	13	2

^a includes 2 previous MFR VRI staff; timing of involvement unspecified

Table 3.
Process Satisfaction by Respondent Group

Respondent Group ^a	Sample Size	Satisfied with Process Logistics ^b	Satisfied with Decision Process ^b
MFR VRI Staff: HQ + Regions	6	100%	83%
Licensees + Consultants	6 ^c	50%	0%

^a "Other MFR" and "Other gov't" respondents both selected "no opinion"

^b "satisfactory" vs. "unsatisfactory" (no "very satisfactory" or "very unsatisfactory" ratings received)

^c 1 of 7 respondents did not provide satisfaction ratings

DISCUSSION

The survey response rate was very low (15, 12%). This could be partly attributed to timing during summer field season and holidays. But, it may also be that a relatively small proportion of the VRI community of practice has stayed actively engaged in the CMP. It became apparent over the course of this project that several licensees and consultants have become so disillusioned with the CMP that they no longer feel there is any point in participating, including responding to this survey.

Results of the survey, and personal communication, confirmed there is a disproportionate level of dissatisfaction with the process among the licensee and consulting community compared to MFR VRI staff. The focus of this dissatisfaction seems to be more on the decision making process (0% satisfaction) than process logistics (50% satisfaction). In contrast, MFR VRI staff were generally satisfied with both the logistics and decision processes, although they were keenly aware of dissatisfaction in the licensee and consulting community.

No attempt was made to conduct a decision audit, but it was clear from survey comments and personal communication that perspectives and process expectations between the two groups (licensees and consultants vs. MFR VRI staff) differed widely. Licensees and consultants faulted the process for being resistant to change and insensitive to non-ministry needs. This group often mentioned similar dissatisfaction with other government standards outside VRI, such as PEM and SIBEC. MFR VRI staff, on the other hand, felt a significant proportion of the suggestions were unrealistic with excessive implications for cost, database systems, etc.

At the heart of these discrepancies seem to be three basic issues:

1. CMP scope expectations and the lack of alternative CMPs for other issues.

The understanding of expectations for CMP scope seems to differ widely between the two groups. MFR VRI staff generally felt the CMP process was originally intended for relatively minor adjustments to standards that did not impact the original intent of the VRI, such as clarifying field procedures, etc. This view was seen to account for the large number of suggestions in the first few years as bugs were being worked out.

Over the years, the CMP has increasingly received suggestions for more systemic changes as well, largely because there is no alternate venue. However, the CMP was never intended to address systemic issues and composition of the review committee is not appropriate for such. The inability of the current CMP to address these larger issues is perceived as resistance to change and a barrier to innovation. Some of these systemic issues also reflect fundamental differences in understanding regarding the purpose of the VRI. Many of these differences are also reflected in the recent ABCFP papers on inventory.

Reductions in Branch resources (staffing and budgets) have had a major impact on all aspects of VRI implementation over the last several years, including the CMP and its ability to effectively respond to change requests. This and other factors affecting CMP scope and expectations may not have been clearly communicated to all those submitting suggestions to the CMP.

2. Communications regarding the CMP and with those submitting suggestions.

CMP suggestions from MFR VRI staff generally benefited from inside knowledge of scope expectations, practical limits, and ready access to other knowledgeable VRI staff. Unrealistic suggestions were more likely to be pre-empted. In contrast, suggestions from outside MFR did not always benefit from access to insider information. For example, awareness of database implications

that would be costly and time consuming given the existing Oracle environment.

In general, CMP communications have not effectively articulated scheduling, scope, and decision criteria. Rationales for rejecting suggestions are perceived as vague and abrupt, and unhelpful for improving future suggestions.

3. Implementation expectations and delays.

Both groups share concerns regarding delays in the implementation of approved suggestions. Such delays are frequently linked to a shortage of resources (budgets and/or staff time). In cases where resourcing is recognized as an issue up front, otherwise “good” suggestions can be deferred instead of approved. However, this is not always the case, which leads to delayed implementation of approved suggestions. Implementation schedules have not always been clear or realistic.

CONCLUSIONS AND RECOMMENDATIONS

The focus of this review is the CMP itself, not the VRI standards it addresses. No attempt was made to audit past CMP suggestions and decisions, or to evaluate decision rationales. The main sources of information were 15 survey responses and related personal communication with members of the VRI community of practice. This report and its conclusions were reviewed by a peer review committee representing that same community of practice.

1. There is a continued need for a CMP, but the process needs immediate clarification and modification.
2. As the first step, the scope of the process needs to be clearly articulated and communicated. Scope should reflect realistic constraints, such as available resources, database environment, etc. These should be revisited regularly as they can be expected to change over time.
3. Scope of the current CMP should be restricted to changes of a non-systemic nature, which also need to be clearly defined. At the same time, an alternate venue needs to be established for managing suggestions for systemic change. VAIC is the logical venue in that regard, provided that experts continue to be consulted.
4. The CMP committee would likely benefit from greater licensee and/or consultant participation if logistics and time commitments can be managed.
5. Suggestion proponents should be encouraged to contact appropriate Ministry VRI staff in the early stages to benefit from their insider knowledge. Unrealistic suggestions could be pre-empted and practical suggestions enhanced. This would also help enhance the common understanding of CMP scope and its limitations.
6. Realistic targets need to be set for implementation of approved changes on a case-by-case basis. For example, targets could be 1-3 years depending on the nature of the change and available resources.
7. Communication and documentation needs to be improved in order to enhance the common understanding of process expectations, scope, and decision rationales. Decision criteria need to be formalized and communicated up front so that

appropriate and realistic change suggestions can be crafted to specifically address stated criteria.

8. The CMP should continue on an annual schedule while scope and process modifications are implemented. Temporarily suspending the CMP could further erode confidence at this point. CMP scheduling may eventually move to a less frequent schedule if warranted.

Decision satisfaction should improve over time with better communication and refinement of scope and purpose, along with establishment of an alternate venue for changes of a more systemic nature. However, it is unrealistic to expect 100% satisfaction with decisions in a multi-stakeholder environment. Satisfaction does not necessarily require suggestion approval either; proponents can also be satisfied with respectable reasons for rejection. The current CMP is clearly not the appropriate venue for debating systemic issues such as the underlying philosophy of VRI, its integration with other provincial forest information systems, or the application of radically different technologies and sampling techniques (etc).

APPENDIX A – Project Peer Review Committee

		Comments Returned on Draft Report
Earl Spielman	West Fraser, Quesnel	X
Hamish Robertson	Timberline, Vancouver	
Jon Aleman	Trillium Pacific, Victoria	
Mike Sandvoss	Timberline, Prince George	X
Simon Walter	RFT, Kelowna	
Evert Kenk	MoAgL ILBM, Victoria	X
Gary Johansen	MFR FAIB, Victoria	
John Wakelin	MFR FAIB, Victoria	
Laurence Bowdige	MFR FAIB, Victoria	
Matt Makar	MFR SI Region, Kamloops	X

APPENDIX B – Survey Questions

1. What is your affiliation and role(s) within the VRI community of practice? You may indicate more than one role in column two.

Affiliation	VRI-related Role(s)
MFR HQ VRI Staff	Standards custodian
MFR Regional VRI Staff	Database custodian
VRI-related ILMB Staff	Training delivery
Other MFR Staff	VRI project planning
Other Gov't Staff	Project management
Academia	Field data collection
Licencee	Photo interpretation
Consultant/contractor	Quality control
	Research / Teaching
	VRI User Only

2. Were you previously aware of the VRI CMP? Yes / No

3. What was your previous involvement with the VRI CMP?

None / Submitted suggestion(s) / Reviewed suggestions / Both submit and review

4. How would you rate current process logistics (e.g., format, website, timing, etc):
 (Note the next question addresses the review and decision making process.)

Very satisfactory / Satisfactory / Unsatisfactory / Very unsatisfactory / No opinion

If less than satisfactory, please identify specific areas of concern and suggest ways to improve those aspects of process logistics.

5. How would you rate the associated review and decision making process (e.g., transparency, criteria, participation, etc):

Very satisfactory / Satisfactory / Unsatisfactory / Very unsatisfactory / No opinion

If less than satisfactory, please identify specific areas of concern and suggest ways to improve those aspects of the decision making process.

6. Is a CMP still needed? Yes / No

7. Please add any other related comments you may have, including personal experience with the CMP, etc.

APPENDIX C – Compiled Survey Comments

	Affiliation	Comments on Process Logistics
1	MFR HQ VRI Staff	<No comments requested if satisfied.>
9	MFR HQ VRI Staff	
14	MFR HQ VRI Staff	
5	MFR Reg VRI Staff	
12	MFR Reg VRI Staff	
13	MFR Reg VRI Staff	Defined annual deadlines for review, decisions and implementation must be set. Currently we have a deadline for submissions, but we need dates to say that if a given change is to be implemented in this season, it must be completely written up and published by a given date. This has been flexible in the last few years.
4	Licencee	The process is meant to be structured and open. It does not come across that way. Solicitation and communication, in recent years has been intermittent, at best. A lack of changes being implemented, in the past, may have produced the drop in participation.
15	Licencee	Very few of the clients (consultants, licencees) concerns and recommendations are ever addressed by Ministry staff (see attached spreadsheet). I have discussed this with a number of consultants and licencees over the years and the general agreement is that Ministry staff do not appear to have a genuine interest or in some cases, are dismissive, in addressing clients problems with current VRI standards, processes, databases, etc,
2	Consultant/contractor	It would be better if the call for suggestions was announced, perhaps by an email. Sept/Oct are busy months and sometimes we need reminding.
3	Consultant/contractor	Perhaps the cycle needs to be lengthened. E.g., change accepted in year n but may be implemented in year n+1 and must be implemented by year n+2.
6	Consultant/contractor	
7	Consultant/contractor	I think the current format is slow and cumbersome. It is not very responsive to new ideas and is generally set on maintaining the status quo.
11	Consultant/contractor	
10	Other MFR Staff	I cannot comment on the current structure effectiveness but in the past (2004) we asked for suggestions etc and were largely unable to make changes especially if they involved ground sample data base structures. The database is very expensive to change. My sense is industry felt ... why bother, nothing can change anyway. I work with the NVAF systems and while receiving good support from FAIB. We are pushing to have interior grades either collected as part of the VRI or derive interior grades from the alpha grade system. Generation of this data would support Revenue business.
8	Other Gov't Staff	

	Affiliation	Comments on Decision Process
1	MFR HQ VRI Staff	<No comments requested if satisfied.>
9	MFR HQ VRI Staff	
14	MFR HQ VRI Staff	
5	MFR Reg VRI Staff	
12	MFR Reg VRI Staff	The database is not flexible, so are not able to follow through on all proposed changes.
13	MFR Reg VRI Staff	
4	Licencee	Initially many suggestions were sent in but very few were implemented. Most streamlining suggestions seem to only get superficial review. There does not appear to be a willingness to change things.
15	Licencee	I have witnesses a number of significant changes to inventory standards that been costly, unnecessary, and arbitrary. As well, some standards changes have impacted previously approved projects and inventories, requiring licensee to incur additional expenses. Improvements to decision making process for changes to standards should include the following objectives: <ul style="list-style-type: none"> • Project costs (e.g. What is a reasonable project cost? What is a reasonable expectation for data collection – plot cost? Set standards accordingly) • Utility of data (Determine data use before adding it to a standard) • Risk (Do a sensitivity analysis to determine what measurement standard should be used) • Use statistical principles. (Setting sample sizes that are arbitrary is costly and irrational) • Avoid standards creep
2	Consultant/contractor	It used to be that input on changes was solicited from users and non-government personnel. This was to keep the integrity of the inventory and not allow it to deviate from the original intent. Also, more heads are always better than a few.
3	Consultant/contractor	There is always resistance to change. Changes should only be rejected when they do not hold up to scientific scrutiny. How you force that is difficult but in the early days of VRI development, we employed an expert panel drawn from respected members in the world community. Perhaps for challenging issues an external panel is the way to address these issues. I think the key is to continually boot the local community into the wider world view. We often tend to look inward rather than outward.
6	Consultant/contractor	Some changes need review by subject matter experts outside FIAB for overall impact on the program. It appears to be an in-house program with no input, discussion, or consultation with those outside FIAB beyond initial change submission.
7	Consultant/contractor	I think that participation in this process is limited to a few hand picked cooperators and is slow to respond to new ideas. The group seems willing to listen but slow to act and resists change. There seems to be an unwillingness for the powers that be to risk change and people seem comfortable to continue with the same old processes and settle for the same old unsatisfactory results that users of the VRI keep complaining about. New thinking seems to be avoided. The process seems to be process driven rather than results driven which stifles innovation and creativity.
11	Consultant/contractor	Information provided back about why suggestions are not incorporated is extremely sketchy.
10	Other MFR Staff	
8	Other Gov't Staff	

	Affiliation	Other General Comments
1	MFR HQ VRI Staff	
9	MFR HQ VRI Staff	This process was particularly useful when the VRI was first being implemented, as bugs were rapidly being discovered and required fixes. Staffing and budgets were adequate, and database development was active. Now, rather than a continuous CM process, perhaps it may be more efficient and effective if the current standards/procedures were reviewed at a less regular interval (every 3 to 5 years), but more resources were available at that time to more thoroughly review suggestions, and open the databases and other tools up for development. Minor changes should be dealt with in a less formal format, and implemented if feasible. We don't really have buy-in as it currently exists (whether the problems with the process are real or perceived). A decision to either fix it or drop it is required.
14	MFR HQ VRI Staff	It's what happens after the process is complete is where there are major flaws. There is very little follow-up with the approved change management items in terms of resolution and implementation. Some approved items have had to be resubmitted in following years to affect resolution and implementation, there is no certainty of funding and often it takes a concerted effort by the item's proponent to push an item forward to final implementation. Consequently the change management process appears to be one more limited to the short term process of item evaluation in the context of its short life cycle. However, the process is not flawed and is a worthwhile one – it just needs a far stronger focus by management.
5	MFR Reg VRI Staff	This CMP process is supposed to address changes / improvements to current VRI standards and procedures. I think at times suggestions are made that would require changes to attributes collected or VRI processes, etc that would result in excessive costs for changes to data base, etc; and this is beyond what this group does, but can be perceived that the group is not interested!
12	MFR Reg VRI Staff	CMP should be put on hold for a few years until we can get the database changed.
13	MFR Reg VRI Staff	As custodian of the data on a provincial scale, the ministry needs to be able to have defined standards. It is not practical to make separate standards for each project and still have a provincial program. As long as projects are funded through the province, the province needs to be able to determine what is collected. This is not to say that other parties should not be involved. The Ministry must solicit ideas and input, but there can't be the expectation that all input will be accepted. If the Ministry is going to be committed to a Change Management Process, then it must ensure that the resources are available to review submissions. Annual Funding needs to be available to test new procedures, and staff time be committed to the process. Contracted help is appropriate. Changes that will take significant \$ to test could be approached through a cost share of some sort. If a change has been determined that it is worthy and needs to be tested, resources must be allocated to it. Many submissions that have been approved or have had decisions made that the project seems sound but testing is needed prior to approval, have been delayed years due to lack of resources.
4	Licencee	
15	Licencee	Licencee participation will depends on how the Ministry responds to licencee and consultant concerns. The suggestions I submitted were rejected.
2	Consultant/contractor	I have been working with these inventories since very early on. I gladly volunteer my time in reviewing the submissions and putting forth my comments. I think it is important to keep a variety of expertise and users involved in any further changes to the inventory. This keeps the inventory from changing to what industry wants from what the science needs.
3	Consultant/contractor	
6	Consultant/contractor	The CMP is a good process for controlling submissions, and documenting rationales and decisions for historical record. Many of the submissions are corrections of minor errors or clarification of procedures. But at this stage in the program life, change should be implemented rarely, and carefully. The program has been relatively stable considering over 300 submissions have been reviewed. But there's a risk that seemingly harmless changes have deeper impacts if subject matter experts aren't consulted. For example, the acceptance of uncorrected GPS navigation for ground sampling undermines the principle of a photo-based inventory, and likely exceeds allowable error for GPS and provincial mapping standards.
7	Consultant/contractor	We don't need change management as much as we need change. We simply need leaders who are willing to risk change. We need less focus on committees and more focus on action by the existing infrastructure.
11	Consultant/contractor	With the changing face of the forests in BC (current and post beetle attack) the inventory needs to be flexible enough to address the information needs of the various users of the data. The VRI as it stands was designed to report on a live forest (with ancillary data on dead stems, i.e. snags/ha). We have moved from a situation where the live stems in a forest stand were described in great detail and having (for discussion purposes) 1200

		stems/ha with 35 snags/ha. The situation in central BC has been reversed and there are now 1200 snags/ha and perhaps 35 live stems...but the existing system will not allow for a reporting of the snag attributes. This is just one situation that clearly shows the CMP is still required...perhaps now more than any time after the first few years of the VRI.
10	Other MFR Staff	In general this is a good model and provides certainty with respect to planning changes.
8	Other Gov't Staff	I believe having an accepted government wide change monitoring protocol is important from the perspective of using your suite of data for as many purposes as possible (maximize benefits for precious dollars spent). For example, structural attributes of a PI stand within a particular BGC zone could be useful for multiple studies, as well as 'State of the Environment' reporting projects? I found using the VRI field forms gave an 'accepted and common language' when talking to contractors and others...