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Reconceptualizing public participation in environmental assessment as EA civics

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ABSTRACT

Notwithstanding the considerable attention placed on creating meaningful opportunities for public participation in environmental assessment (EA), many participants and those who have reviewed participation processes often find practice sorely wanting. This reality stands in stark juxtaposition to future environmental governance needs, which will require increased openness, deliberation and transdisciplinary knowledge in order to deal with environmental change that is ever more uncertain, complex and conflictual. In this paper, our purpose was to consider how to meet those needs through reconceptualizing public participation as EA civics, founded on an active citizen base, deliberative in nature and orientated toward learning. We do this through developing a new conceptual model of next generation participation processes that is relevant at multiple spatial scales and institutional levels, is applicable to the entire assessment cycle and spans temporal scales through feedback loops. Our EA civics model builds on the “civics approach” to environmental governance and “action civics” by extending their core ideas to participation in EA. We did this by conducting an integrative literature review (including numerous papers we have contributed over the years) and reflecting on our own experiences as EA participants. We apply current thinking on public participation design to our EA civics conceptualization and highlight important design features that have received scant attention. We conclude that EA civics holds promise for fairer and more robust participation processes if all aspects of the model are considered and the actions related to each are implemented.

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1. Introduction

Sound public participation is well established in both practice and the literature as foundational to effective, efficient and fair environmental assessment (EA) (e.g., O’Faircheallaigh, 2010; Morgan, 2012; Lawrence, 2013; Sinclair and Diduck, 2016). Many journal papers, practice manuals, regulatory guidance documents and policy briefs provide direction on participation in EA (e.g., International Association for Public Participation, 2014; Canadian Environmental Assessment Agency, 2016; Connor, 2001; Petts, 1999). These draw on cases and experience from around the globe and even suggest regionally oriented techniques to ensure good practice (e.g., Devlin et al., 2005; Sinclair et al., 2008; Lostarnau et al., 2011). Despite all of the attention that has been placed on creating meaningful opportunities for public participation in EA, many participants and those who have reviewed participation processes find practice sorely wanting (e.g., O’Faircheallaigh, 2010; Morgan, 2012; Sinclair and Diduck, 2016). In the Canadian context, with which we are most familiar, participation processes in EA now tend to focus on passive involvement techniques (e.g., letter writing) offered to

those participants directly affected, with any participation events run and reported on by the proponents of the undertaking being assessed (Gibson et al., 2016). We are also aware that these sorts of problems are not unique to Canada. Hearings and other tribunals do of course still take place in Canada and elsewhere but for the most part their use is very limited.

The focus of many of the journal papers and theses on participation in EA revolves around, or is cast in the context of, power sharing often with reference to Sherry Arnstein’s seminal work (Arnstein, 1969). While we agree that Arnstein’s labels, such as “tokenism”, have been useful and often correct in capturing the nature and content of participation in EA, we question if power sharing has ever been the correct measure of good public participation in EA. The EA regimes we know best do not include mechanisms for power sharing, nor have governments shown much interest in sharing their decision-making authority. In EA, power over decisions tends to rest with a legislatively established decision-making body – not with the public. The public only has opportunities to *influence* those decisions, and it is in the exercise of such influence when we have tended to consider the fairness of the EA participation process used (Sinclair and Diduck, 2016; Petts, 1999; Roberts, 1998). In this context, we feel that reconceptualizing public participation as EA civics provides a novel and promising take on participation. Rather than emphasizing power sharing, a civics orientation

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focuses on developing common understanding through communication, adaptive learning and collaborative engagement (Nelson, 1995; Nelson and Serafin, 1996).

Conceiving of public participation as EA civics is also consistent with the growing calls for environmental governance processes like EA to become increasingly participative, decentralized, and learning oriented in order to help encourage decision outcomes that make a positive contribution to sustainability (e.g., Armitage and Plumber, 2010; Sinclair et al., 2008; Sinclair and Diduck, 2016). Environmental futures scenarios are highly uncertain as the human population grows and anthropogenic environmental change accelerates. Moreover, such scenarios will quite likely involve complicated conflict of various forms (cognitive, behavioral, normative, interest) as resources become increasingly scarce. As such, public participation in next generation EA regimes is going to have to do more to ensure fairness by, some suggest, incorporating the insights of deliberative democracy, collaborative rationality and environmental justice (Gibson et al., 2016; Hartz-Karp et al., 2015). Next generation participation processes are going to have to encourage and facilitate the active involvement of members of the public, stakeholders, relevant authorities and proponents in EA with the aim of enhancing the quality and credibility of assessment decision making while ensuring associated learning and capacity building benefits are obtained (Gibson et al., 2016).

In Canada, and we believe many other jurisdictions, we currently find ourselves with EA participation processes that in practice are often lacking, and this is compounded by the need to embrace a future that is different, more complex and more demanding of decision makers and the public. With these challenges in mind, our purpose here is to reconceptualize public participation as EA civics, founded on an active citizen base, deliberative in nature and orientated toward learning. In this context we view EA as incorporating the full decision cycle from project conception, planning and assessment (including identification of objectives and comparison of alternatives of various sorts), through approval processes, and on to monitoring of implementation effects and compliance, and eventual decommissioning.

Our thinking was informed by an integrative review (Torraco, 2005) that critiqued and synthesized selected literature chosen for its connection to EA and civics. We also reflected on our own research, conducted over the last 25 years, including work on public participation in EA, EA process design, and learning “about and through EA”. Further, the EA civics conceptual frame we present below was informed by our practical EA experiences, which include developing community education workshops about EA, organizing public participation events, testifying in public hearings, and helping guide consultations about EA law reform.

2. The formative literature

Our EA civics framework was inspired by the early work of Nelson and colleagues at the University of Waterloo, who developed a “civics approach” to environmental governance processes such as planning and EA. Contrasted with managerial and technocratic orientations, the civics approach is thought to be better suited for addressing complexity, uncertainty and conflict. The approach shares features with Lee’s (1993) “civic science”, a form of societal guidance (or social learning) relying on participative adaptive management and collaborative conflict resolution (or what he called bounded conflict). The civics approach offers a holistic, human ecological orientation to governing interactions between social and natural systems, focusing on goals such as sustainability, equity and heritage diversity (Nelson, 1995; Nelson and Serafin, 1996; Lawrence and Nelson, 1999; Sinclair et al., 2002; Diduck, 2010). An important characteristic of the civics approach is reliance on transactive and communicative models of planning, centering on dialog, cooperation and mutual learning (e.g., Friedmann, 1987). Another is an emphasis on transdisciplinarity, or recognizing cultural differences in how knowledge is validated and in how reality is understood and investigated (e.g., Kates et al., 2001). Further, it relies on adaptive strategies to

learn from experience by correcting errors and profiting from successes. In addition to these general characteristics, Nelson’s model conceptualizes environmental governance as seven functions linked by nonlinear, dynamic interactions (Fig. 1). At the center of the model is shared understanding, which is made possible by: “communication in its various forms; assessment activities of a regular or irregular type; strategic and other types of planning; implementation involving research and experiment; monitoring of different kinds of information; and, adapting” (Nelson and Serafin, 1995, 8).

Our conceptual frame also draws from recent literature on “action civics”, an emerging broad governance model that: i) encourages, values and incorporates participants’ voices to the fullest extent possible; ii) promotes and improves citizenship competence; iii) incorporates deliberative and collective action strategies and problem solving; iv) encompasses the experiences, knowledge, perspectives and concerns of participants as far as is practicable; v) encourages participants to learn by doing, with a focus on collaborative action; and, vi) ensures participants’ reflections and analysis are central to governance (Klebanoff and Schuchter, 2012; Pope et al., 2011; Cooper et al., 2006; Adler and Googin, 2005). Action civics is focused on helping people contribute to decision processes that affect them. Such active citizenship can be encouraged through thousands of volunteer non-governmental organizations, social clubs, and other grassroots organizations (e.g., Terriquez, 2015) and through schools and youth oriented education hubs (Klebanoff and Schuchter, 2012). Cooper et al. (2006) indicated that such citizen-centered approaches have the potential to result in outcomes such as enhanced government responsiveness, improved citizen competence, enhanced citizen trust in government, and heightened government trust in citizens.

For us, action civics evoke the purpose and potential we saw in critical EA education, a conceptual model of non-formal education we developed for animating marginalized publics, facilitating meaningful participation in EA, challenging the pro-growth discourse typically found in EA processes, and stimulating sustainability-oriented social



Fig. 1. The civics approach. A general model that conceptualizes basic environmental governance functions as interactive and adaptive processes underlying mutual and collective learning.
Source: Nelson and Serafin (1995).

action (Sinclair and Diduck, 1995; Diduck and Sinclair, 1997). However, action civics and Nelson's civics approach obviously go beyond critical EA education and encompass a broader array of motives, methods and participation opportunities. We have thus borrowed from these two models, focusing their core ideas on participation in EA and resulting in the EA civics framework.

3. Public participation as EA civics

EA civics is our conceptualization of next generation participation processes. Our vision is of processes that are highly responsive to those who want to engage in EA and which provide opportunities for, and encourage, active engagement on an ongoing basis. The EA civics model we envision is relevant at multiple spatial scales in that it is applicable to project assessments with local, subnational or national impacts as well as regional or strategic assessments with clear broad-area implications (Fig. 2). Further, we see it as applicable to cumulative effects assessment, which in our view should be an essential component in all assessments, be they project, regional or strategic. Additionally, we see our model applying to the entire assessment cycle, i.e., from the identification of a social or business need or opportunity to completion and evaluation of the assessment, or decommissioning in the case of a project-level EA. The model is also relevant at multiple institutional levels; it applies to existing legislative and policy frameworks governing the different types of assessments as well as to the higher order endeavor of evaluating and reforming the frameworks themselves. As well, the model offers tools to span temporal scales by creating feedback loops, enabling adaptive learning from prior assessment experiences, and encouraging assessment outcomes aimed at making a net contribution to sustainability (see Sinclair et al., 2008). What follows is a description of the basic elements of EA civics, framed by the interrelated governance functions depicted in Fig. 1 and informed by the core ideas of action civics. We developed the sub-categories of each of the governance functions through considering the literature on meaningful participation and our own practical EA experiences.

3.1. Communicating

3.1.1. Creating a common law-like library

In our vision of EA civics, information is the basic currency and must be available to all participants. Moreover, it must be comprehensive

enough to cover all facets of an EA situation and reflect the interests of all concerned parties (Nelson and Serafin, 1996). One enduring problem in most EA participation processes is gaining access to information on like project reviews that have taken place in the past and/or data that might be useful to the EA review at hand, not to mention gaining complete access to information on the project being assessed. An important step to remedy this situation would be the establishment of an easily accessed, well-organized and searchable electronic library (or linked set of libraries) of EA case materials, including documentation of impact predictions and monitoring findings, records of decisions and justifications, and associated legal cases (Diduck et al., 2002; Gibson et al. 2016; Sánchez and Morrison-Saunders, 2011). We view this as a potentially powerful tool to aid in adaptive learning from prior assessment experiences (the feedback loop in Fig. 2). If made available to all, the assessment community and participants in a particular case could use such a resource to improve future project and strategic-level assessments and decisions over time and to identify needs and openings for improvements to assessment law and policy. Such a library could be easily linked to public registries containing information on current cases. Such information availability is also a key to encouraging learning in regard to issues such as EA practice, needed regulatory revisions and improvements to similar types of projects over time.

3.1.2. Enhanced techniques for managing and processing information

The necessity to communicate, manage and process current and historical information in an effective manner brings to light the need to move beyond just posting EA participant input on a public registry. That is, we need to go beyond simply providing access to what has been said and move toward decision makers bringing people together to discuss, share and collaborate on what has been said. Further, these interactions would need to include discussing and sharing issues that are difficult for government agencies to deal with and which require new solutions.

The public participation literature reveals an array of innovative communication methods, including proven ways to share information with youth (e.g., Sinclair et al., 2015; Evans-Cowley and Hollander, 2010; Evans-Cowley 2010). In the EA context, we see the need for, and promote using, as many of these as possible; everything from an e-registry to use of Twitter and other electronic and non-electronic means. We also agree with McHenry et al. (2015) that innovative ways need to be found to enhance transparency by helping people

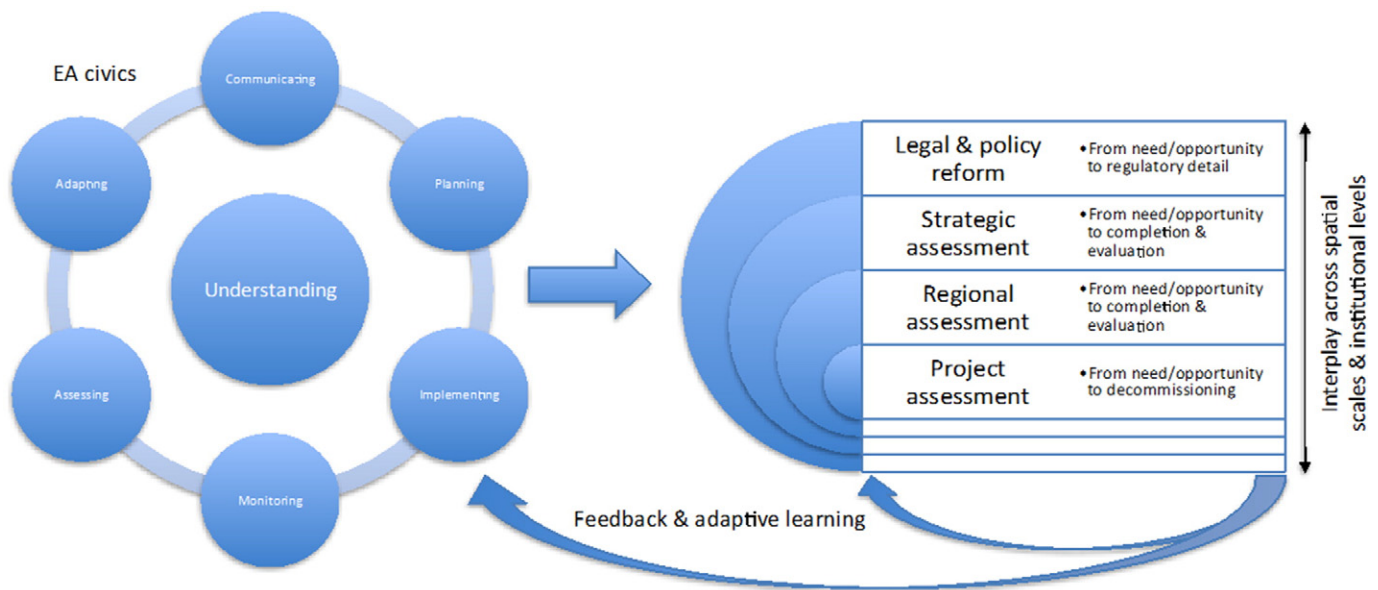


Fig. 2. EA civics - a conceptual model. A conceptual model of next generation participation processes in EA, relevant at multiple spatial scales, and institutional levels – applying to the entire assessment cycle and spanning temporal scales through feedback loops.

piece together and contextualize the flood of information available in complicated resource development decision processes. They suggest visual mapping of documents can aid communication by helping people see the big picture as well identify missing pieces of the puzzle if there are any.

Managing and processing information that encourages discussion about a current EA case and the historical record must facilitate the meaningful involvement of members of the public, stakeholders, relevant authorities and proponents. The basic elements of meaningful participation have been well documented in the literature (e.g., Stewart and Sinclair, 2007; Sinclair and Diduck, 2016). They include adequate public notice, timely and convenient access to information, participant assistance, opportunities for public comment, public hearings, deliberative forums and early and ongoing participation. Table 1 summarizes the full range of participation techniques available for achieving meaningful involvement, including various practices for communicating, managing and processing information. Gibson et al. (2016) suggest further that while each of the basic components of meaningful participation enjoys some recognition in assessment practice in Canada, special attention needs to be given in both current practice and in EA policy and law reform (the multi-level interplay in Fig. 2) to enhancing the capacity and funding necessary to “enable representation of important interests and considerations not otherwise effectively included (for example, disadvantaged populations, future generations, broader socio-ecological relations)”.

3.2. Planning

3.2.1. Public focus in planning participation programs

Practice and guidance documents (e.g., Canadian Environmental Assessment Agency, 2016; International Association for Public Participation, 2014) as well as the academic literature (e.g., Diduck et al. 2015) recommend that plans be created for participation programs. Plans can be used to establish objectives, develop strategies of engagement, identify techniques to implement the strategies, and establish ways to review and adapt the plan. Although not part of

Table 1
Public participation techniques available for use in EA.

Passive public information techniques		
Advertisements	Feature stories	Information repositories
News conferences	Newspaper inserts	Press releases
Print materials	Technical reports	Television
Websites		
Active public information techniques		
Briefings	Central contact person	Community fairs
Expert panels	Field offices	Field trips
Information hotline	Open houses	Technical assistance
Simulation games		
Small-group public input techniques		
Informal meetings	In-person surveys	Interviews
Small-format meetings		
Large-group public input techniques		
Public hearings	Response sheets	Mail, telephone, and Internet surveys
Small-group problem-solving techniques		
Advisory committees	Citizen juries	Community facilitation
Consensus-building	Mediation and negotiation	Panels
Role-playing	Task forces	
Large-group problem-solving techniques		
Workshops	Interactive polling	Sharing circles
Websites and chat rooms	Future search conference	

Sources: Rowe and Frewer (2005); Diduck et al. (2015); Sinclair and Diduck (2016); International Association for Public Participation (2014).

mainstream EA practice, we recommend, as part of EA civics, that program planning of this type be done in a participatory manner. Such an approach would provide benefits for all the parties involved, including proponents and regulators, because it helps ensure that strategies and techniques are tailored to the needs and desires of all the parties, thereby increasing the plan's potential effectiveness. Planning in a participatory way can also help identify the resources and time that will be needed and the most appropriate ways the plan can be implemented. For us, perhaps the most essential aspect of planning is establishing the objectives of the participation program, since doing so will clarify the issues that public input is being sought on as well as the expectations of all parties.

3.2.2. Learning focus and design

A further implication of EA civics is that public participation programs need to be planned and designed with a learning focus. They need to be carried out in a continuous, interactive and adaptive way in order to encourage common understanding and achieve a high level of success. As Nelson and Serafin (1996: 18) suggested, “public participation exercises which are conducted at intervals in a staged top down management approach are not in line with ongoing social learning” – the sorts of learning that underscore success and are possible in EA (e.g., Webler et al., 1995; Sinclair et al., 2008).

There is also a growing literature making the case that for EA to be effective in building understanding and capacity to assist in the sustainability transition, it must rely more often on deliberative decision-making processes that foster mutual learning among all interested participants (e.g., Gibson et al., 2016; Sinclair et al., 2015; Hartz-Karp et al., 2015). In 2008, we developed a conceptual framework for learning ‘about and through’ EA that had sustainability outcomes as the end goal that offers direction in this regard (Sinclair et al., 2008). Building on this conceptual work we, and others, have identified the sorts of conditions for bringing a deliberative approach and a learning focus to both project-based EA (Webler et al., 1995; Wiklund, 2005; Sinclair and Diduck, 2016) and next generation approaches, such as sustainability assessment (Sinclair and Doelle, 2015; Gibson et al., 2016). We have advanced the use of deliberative forms of participation that emphasize knowledge integration, face-to-face discussions and consensus-based decision making, achieved through mechanisms for ongoing involvement, such as advisory committees, monitoring agencies, collaborative hearings and co-management boards. A key to success is ensuring that all assessment participants share a commitment to mutual learning and responsibility for making contributions to the process.

3.2.3. New approaches to supporting participants

Yet another implication of EA civics is that public participation programs need to be planned and designed with a view to adopting and experimenting with new approaches to supporting public participants. Governments have generally been very hesitant to provide direct funding support to help individuals prepare for and participate in EA public participation activities, despite the calls and need for such support (Canadian Environmental Network, CEN, 1988; Lynn and Wathern, 1991; Gibson, 2002; Wood, 2003; McRobert and Boutis, 2012; Lawrence, 2013). In Canada, while some EA legislation allows for participant support, only the Governments of Canada and Manitoba offer such support and this is only provided for large complex cases and in Manitoba only for hearings (Sinclair and Diduck, 2016).

We have reported on the importance of funding support for active engagement in EA and how it has enabled both individuals and organizations to play important roles in studying aspects of proponents' plans and bringing forward informed, critical perspectives (Sinclair et al., 2015; Hayward et al., 2007; Sinclair and Diduck, 2016). We agree with the many voices (e.g., Canadian Environmental Network, CEN, 1988; Lynn and Wathern, 1991; McRobert and Boutis, 2012) that call for funding to help people and organizations wade through complex EA documentation in order to offer more informed input. We feel that

both government agencies and proponents should financially support the activities of participants and that at least some of this funding could come from reducing proponents' responsibilities for public participation programs. The money proponents put into running these programs could be re-directed to public involvement activities run by the public and government agencies. This builds on the model used in Manitoba where proponents are called on to cover the main costs associated with Clean Environment Commission EA hearings (Government of Manitoba, 2015a, b).

Other forms of participant support also need to be considered. In this regard, most governments in Canada and many other jurisdictions we have considered over the years rely on passive public education/training techniques by posting on-line descriptions of "how to be a participant" as well as posting information on the EA process itself. We view these as useful on-ramps for encouraging more active participation but feel that much more attention needs to be directed at offering training and other education opportunities to enable people to be active citizens. Prime among these is the action-oriented education envisioned in our model of critical EA discussed earlier and the participatory opportunities it affords (Sinclair and Diduck, 1995; Diduck and Sinclair, 1997). These opportunities are discussed above in regard to encouraging the more active participation called for, but we want to underscore here the importance of helping public participants understand the opportunity to engage, the importance of engaging, as well as the EA decision issues at hand. Developing such understanding is going to require more direct contact with potential participants by government agencies and could start with activities as simple as attending open houses and other events to explain EA process and procedure and by offering training opportunities. We also recognize the need for more attention to action civics for youth in schools, colleges and universities, and we feel that EA provides an excellent case for focusing such experiential education (e.g., Diduck, 1999; Stelmack et al., 2005).

Further support could be offered to participants through providing access to government scientists and other officials who could assist people to understand the EA process and the case under consideration. This could include helping people to network and find others with similar interests or the expertise needed to understand a project or program impact. It is likely that to encourage and support participation in the ways we envision, governments will need to assign resources and staff to the initiative.

3.3. Implementing

3.3.1. Active participation

EA civics underscores the necessity of active participation and offers ways to encourage it. First, there is a strong need to bring the interpretation of public input and the decision making based on that and/or other input out of the shadows. Achieving this would increase transparency and openness for all participants and would counter the common perception that decisions are made by government and industry behind closed doors (Diduck and Sinclair, 2002; Diduck and Mitchell, 2003; Petts, 1999). In this regard, we envision a re-engagement of government agencies in EA participation programs through being a lead partner in designing such programs and participating in involvement events, including those involving dialog and discussion (Sinclair and Diduck, 2016).

In our EA civics framework, another central component of encouraging more active public engagement is sharing control of participation programs among proponents, regulators and interested publics. Many participants have long viewed the practice of having project proponents alone run participation events and report the views of the public from those events as highly problematic due in part to the strong perception of bias in how both of these tasks are accomplished. As well, the move to more proponent-driven participation programs now common in many jurisdictions explains in part the passing of costs for such programs to proponents. Changing these practices will require government agencies

to take on new roles, with proponents becoming key participants in the program, sharing information, discussing approaches to modifying plans and answering questions from the public and regulators. The public will also have to build capacity with the help of government and proponents to play a direct role in the design of participation programs, participate in them and help to solidify outcomes.

Steps to achieving this may be logically borrowed from community-based approaches to EA (CBEA), in which interactive participation is the key methodological component (e.g., Spaling, 2003; Spaling and Vroom, 2007; Sinclair et al., 2009). In CBEA, the community enters into a partnership with government agencies and developers, its values and interests help set the direction of the CBEA and its participation generates knowledge for the assessment. CBEA is highly participatory and relies on qualitative tools for participants to gather, analyze and interpret information for their own benefit, such as through transect walks, community mapping, semi-structured interviews, focus groups, among others (Spaling et al., 2011). Many government agencies have been and are more engaged in participation programs in community-based EA and these experiences are instructive for moving forward in conventional EA.

Initiating deliberative forums as an integral component of participation programs also requires renewed attention. Proponents, who most often lead participation activities, frequently use open houses (and similar consultation methods), while government officials occasionally convene hearings, with the result that deliberative participation techniques are rarely used. Effective techniques for deliberative participation include stakeholder advisory committees and task forces, mediation and non-adversarial negotiation and community boards (Table 1). These methods not only facilitate dialog and communication among proponents, regulators, interested publics and civic organizations, they enable ongoing interactions, mutual learning, relationship building, and conflict resolution (Diduck et al., 2015; Doelle and Sinclair, 2010; Andrew, 2001; Sipe and Stiffler, 1995; Sinclair and Diduck, 2016). Such techniques, however, presuppose active engagement of public officials, experts, stakeholders and members of the public in EA participation programs. The reward is that EA decisions have increased legitimacy, fewer objections and are less likely to end up in court creating undue delays.

3.3.2. Early in the decision cycle and ongoing

Many authors have argued for public participation early in EA decision processes (Petts, 1999; Doelle, 2012; Gibson, 2012; Sinclair and Diduck, 2016). It is also clear that early participation is essential to next generation EA approaches such as sustainability assessment. As Sala et al. (2013: 1667) argued in this regard, participation in sustainability assessment should be "open and structured for allowing the participation of stakeholders along the whole assessment process (from problem framing, design of methodology, goal and indicator setting, testing of the methodology and application, to inclusion in the decision-making process)".

Current EA practice in Canada and beyond stands in contrast to these calls for early and ongoing participation and actually encourages the proponent to complete a project description and a preliminary EA before there is any required public participation (Diduck and Mitchell, 2003; Doelle and Sinclair, 2006; Doelle, 2012; Gibson, 2012). To ensure that public participation is meaningful and can effectively contribute to an EA, legislation is needed requiring extensive early and ongoing involvement. To these ends, a fundamental shift in the first point of public engagement is required in many jurisdictions. Currently, the starting point for public participation in many jurisdictions is frequently not until the proponent and government officials jointly decide to initiate the EA process through notice of a project proposal and the filing of an EIS, which usually is a detailed assessment of the potential environmental impacts of the proposed project prepared on behalf of the proponent. What we propose for EA civics is to motivate the proponent to shift this initial point of contact to much earlier in the project conception and

selection phase, when decisions are being made about the relevant purposes and opportunities and the possible types of development to be initiated. Case-by-case decisions almost invariably mean a project proposal is well developed before deliberations about assessment needs begin. This precludes effective early involvement (Sinclair and Diduck, 2016; George, 1999). In suggesting this we understand that many EA agencies recommend that project proponents consult with directly affected parties when preparing their EIS, but when this does occur it is outside of the EA decision process and suffers from the potential biases of proponent led and interpreted consultations noted above.

Ongoing involvement should include extending participation programs to the monitoring and follow-up phases of EA (Morrison-Saunders et al., 2014). These phases are, of course, essential because they involve gauging the actual impacts of a project, improving mitigation if necessary, learning from experience, and making ongoing corrective adjustments in project operations. Although cases of effective public participation in follow-up can be found, e.g., the establishment of monitoring agencies for the diamond mines in the Northwest Territories in Canada, occasions for participation in monitoring and follow-up have typically been lacking (Sinclair and Diduck, 2016; Morrison-Saunders et al., 2014). This gap represents a serious lost opportunity because public participation can provide access to important local knowledge of a project, its implementation and its impacts. Further, some forms of participation, such as community-based monitoring, can have powerful social learning effects, helping to transfer and disperse knowledge (Moyer et al., 2008; Diduck et al., 2012a). Overall, public participation in monitoring and follow-up is an important part of our EA civics framework because it respects transdisciplinarity and relies on active engagement and experiential learning. Moreover, it supports learning and the development of common understandings that are lasting and applicable beyond a single EA case (Gibson et al., 2016).

3.3.3. Research and experiment with new ways of involving people in EA

The academic literature (e.g., Beierle and Cayford, 2002; Rowe and Frewer, 2005; Diduck et al., 2015) and guidance documents (e.g., International Association for Public Participation, 2014; Canadian Environmental Assessment Agency, 2010) are replete with techniques for involving the public in EA and environmental governance processes more generally. However, as numerous authors have established (e.g., Sinclair and Diduck, 2016; O'Faircheallaigh, 2010), EA public participation has tended to default to very passive involvement techniques, such as providing the opportunity to submit written comments, open houses and websites as we have noted above. We are not discounting these techniques as they are important and can be critical on-ramps to more active engagement, but we are wary of over-reliance on such techniques because they do not allow for dialog and discussion. We do not have the space here to outline and describe all the participatory techniques that have potential for EA, but these are well established in the literature (e.g., International Association for Public Participation, 2014; Sinclair et al., 2015).

Also important to thinking about new ways of involving people in EA decisions is the fact that to date, processes and legislation which address the role of the public in EA have been designed largely on the assumption that if a process is put in place it will be properly facilitated, and the public will participate actively, resulting in better decisions. This assumes that if an opportunity is provided at crucial decision-making points in the process, the public will be ready, willing and able to make constructive and convincing contributions, and that those contributions will be incorporated into project design and decision-making (Doelle and Sinclair 2006). These unrealistic assumptions have led to public participation mechanisms that actually have the effect of discouraging participation, encouraging conflict, and fostering distrust among the participants (Sinclair and Doelle, 2003). We suggest that EA civics offers guidance on how people might learn about EA processes and how they can be encouraged to become actively engaged (see the approaches for supporting participation discussed above).

3.4. Monitoring and assessing

3.4.1. Formally assess the success of public participation programs

In order to encourage good communication, learning from experience, building common understanding and making effective adaptations, which are all central to EA civics, participation processes must be monitored and assessed. The literature on public participation evaluation is quite rich (e.g., Smith, 1983; Beierle, 1999; Rowe and Frewer, 2000; Conley and Moote, 2003; Mandarano, 2008; and also see Reed's 2008 comprehensive literature review). In this paper, given the overall orientation of EA civics, we have emphasized community-based monitoring and assessment (of both process and outcomes).

In our vision for EA civics, community-based monitoring of participation programs should could consider a variety of issues, such as how satisfied people were with the programs' processes and outcomes, whether there were established roles for local citizens, whether monitoring had an influence on assessment results, and the degree to which monitoring data and assessment results were distributed widely so others could learn from the participation programs' successes and failures (e.g., Moyer et al., 2008; Diduck et al., 2012b). These considerations for community-based monitoring and assessment of EA public participation programs are generally consistent with suggestions Doelle and Sinclair (2006) have offered for government reviews of proponent-led participation programs. These authors suggested that there are four possible outcomes of such a review, which are summarized below, modified slightly for a community-based monitoring and assessment context rather than a government-led one:

- i) The monitoring and assessment team discovers that the public was properly notified and engaged, all public concerns were identified, and there is widespread agreement that the project, program or plan would make a net positive contribution to sustainability, and its potential to contribute to sustainability is maximized to the extent reasonably possible.
- ii) The monitoring and assessment team discovers that the concerns of the public were properly identified and therefore the public had been properly notified and engaged, but widespread agreement was not reached on how the concerns should be addressed. This result implies that there is no agreement on need, alternatives or on whether and how the proposed project, program or plan makes a net positive contribution to sustainability. In such a case, a determination must be made as to why there was no agreement on the substance.
- iii) The monitoring and assessment team finds that potentially affected members of the public who came forward in response to calls for involvement were not engaged satisfactorily. In such a case, we propose that the monitoring and assessment team have the discretion to rectify the situation, if the failure to engage was through inadvertence and there appears to be a reasonable opportunity to resolve outstanding issues. This discretion may be exercised more generously initially, but should be exercised more and more sparingly as the parties develop a level of comfort with the process and the expectations.
- iv) We suggest that a fourth option be available, namely allowing the monitoring and assessment team to, under certain limited circumstances, override agreements reached through a participation program. However, in our view, it would be premature to consider such a measure until sufficient experience had been built up with this type of monitoring and assessment process to be able to evaluate objectively whether there is even a need for the team to be granted such authority.

3.5. Adapting

In addition to the adaptations required or suggested in response to the monitoring and assessment outcomes contemplated above, especially scenarios ii–iv, EA civics implies the adoption of a higher order type of adaptation.

3.5.1. Promote more flexible and open EA participation processes

Many EA participation processes have become less open and more focused, with leading examples of this coming from Canada. For example, the move to limit participation by focusing efforts on only those directly affected (e.g., Doelle, 2012; Gibson, 2012). Since this approach is often aimed at excluding people and groups that address sustainability objectives and outcomes (i.e., NGOs), participation processes with this narrow orientation are going to have to be adapted to being more open and inclusive to be sure such voices are heard. As an initial step, we suggest the abolition of any 'directly affected' bias in the design of EA participation processes. Being more open is of course going to require greater flexibility (an important hallmark of EA civics) to ensure that ways and means are sought to encourage people to get involved. Flexibility for us means having the capacity and opportunity to choose from among a diverse assortment of techniques when designing participation programs and recognizing that these may not all work, which will require adaptation as the program unfolds.

3.5.2. Dig deep in the participation toolbox

In adopting the EA civics framework we recognize that, in addition to testing new approaches as suggested above, there will be a need to use techniques found in the participation toolbox that are not well utilized and prime among these is alternative dispute resolution (ADR). Doelle and Sinclair (2010) underscored the potential value of ADR in EA participation programs, but noted that formidable challenges have held back ADR's widespread use. One challenge is identification of interested parties and another is establishing what happens in the event ADR fails. In our view, there needs to be more testing of ADR as a component of EA participation programs, as these authors suggest, in relatively less complicated circumstances, such as for example using it in disputes of fact involving only some of the parties of involved.

We also see great opportunity to use hearings more often (e.g., single person panels for smaller projects) and in new, creative and effective ways through encouraging the use of less formal, participant friendly hearings. As we have noted elsewhere (Sinclair and Diduck, 2016), highly formal hearing procedures impact people's level of comfort, willingness to participate, and ability to absorb information and really engage in discussion. Stone (2015:41) supports this view by indicating that hearings need to appeal to would-be participants and should "be celebrated for providing space for a large range of democratic communication, including reasonable hostility", using techniques such as those outlined in Table 1. Similarly, Lee (2014) reports on the positive trend of tribunals adopting more flexible rules in order to facilitate participation and make hearings more accessible to parties with limited resources, such as through holding evening sessions, not allocating costs to "losers", simultaneous transmission of proceedings, etc., thereby encouraging more participants' voices to be heard. Further, de Castro (2013) suggests that a move away from the typical five-minute presentation format at hearings allows for more discussion and lets participants and panel members delve into complex issues.

3.6. Understanding

3.6.1. Outcomes oriented

There is a rich literature on the intended and actual outcomes of public participation, covering benefits such as improved environmental quality, increased empowerment and equity, enhanced community capacity, improved social and economic conditions, and important learning outcomes (e.g., Doelle and Sinclair, 2006; Mandarano, 2008; Reed,

2008; Lawrence, 2013; Diduck et al., 2015). Focusing on outcomes is important to the EA civics framework, given its normative stance on sustainability, equity and heritage diversity, and its view of learning and building common understanding as the prime means of achieving those goals. These aspects of EA civics are in line with numerous authors who have argued for orienting EA participation programs toward sustainability outcomes using many of the techniques that we have suggested above (e.g., early involvement) and for assessing for such outcomes during and after an EA (e.g., Doelle and Sinclair 2006; Gibson et al. 2013; Sinclair et al. 2008). To achieve this, Doelle and Sinclair (2006) recommended a strong regulatory frame for public participation that includes using consensus approaches, which we view as a key to EA civics.

3.6.2. Recognition of the value of learning outcomes

One key conclusion of some of the empirical work we have done on learning through participation in EA is that those who have designed, undertaken and even participated in such programs have not fully considered the learning potential that such participation processes hold. We have often heard from participants, comments such as "yes, there is good potential for learning through participation in EA, that is clear, but I have never really thought about it or how to incorporate learning centered-approaches". Others and we have argued that recognizing the potential for learning and framing participation processes within a learning context as suggested above (e.g., more deliberative) will in fact result in participation processes that are more meaningful, legitimate and impactful (e.g., Sinclair et al., 2008; Webler et al., 1995; Diduck et al., 2012a).

4. Conclusions

At the outset of the paper we argued that much attention in EA public participation has been focused on the power, or the lack thereof, that public participants hold in EA decision processes. This focus (i.e., trying to find new ways to share decision power) may be in part responsible for directing attention away from designing EA public participation programs that are fair and actually work for the people who choose to participate in them. Our purpose was to reconceptualize public participation as EA civics founded on an active citizen base and deliberative in orientation. EA civics appealed to us because its focus is not power, but rather the people who might choose to engage, encouraging them to become involved, and adopting a higher order focus on adaptation when designing decision processes to ensure they work for all involved. The interconnected governance functions featured in Figs. 1 and 2 capture this idea and provide a neat conceptualization of the interactions that stoke the processes of shared understanding, central to our vision for EA civics. These key functions helped inform our experiences and our use of the literature in outlining how each might operate in the context of EA.

Through considering these seven interconnected governance functions we were able to bring together many ideas about how to achieve meaningful participation into a model of EA civics that is future oriented and interactive, as captured in Fig. 2. Our vision is that EA civics, including the elements outlined in Section 3, would be considered by each of the parties to an EA, likely led by a government agency or outside professional. The process would begin with communicating and planning about a proposed undertaking and approaches to these would be modified as the participation process moved through implementation to assessing and monitoring. As shared learning is encouraged and occurs through an iterative process, changes can be made to adapt to unexpected problems or events.

Consistent with Nelson and Serafin's (1995) original "civics approach", we see a need in EA civics for interaction among and adaptation of the seven governance functions that comprise the model. Each of these interacts with and feeds back to the other. One cannot just have good planning or advanced monitoring in the ways we have

suggested above to achieve outcomes based on shared understanding; all the elements must be considered. This, in our minds, is a key to next generation thinking about public participation in EA, and in current practice this key is missing. We have tried to draw from the literature and practice the essential elements of EA participation design that are foundational to our framework of EA civics. In doing so, meaningful participation was the ethos that ran through everything for us – meaning that designing a public participation program is much more than selecting from a toolbox of techniques. It also involves recognizing that when a particular tool or technique is chosen, that choice has implications for other aspects of EA civics. EA civics requires a holistic consideration of multiple interacting governance processes and of means and ends and processes and outcomes.

Developing the framework also provided us with the opportunity to critically review and draw attention to elements of participation in EA that have received little consideration to this point. Monitoring of participation processes is one element that has received almost no attention in the literature despite its clear utility for assessment, learning, adaptation and improving participation. Establishing innovative ways and means to encourage active citizenship are other areas that have received scant attention in the EA participation literature, yet these too are vital to improving participation processes in terms of both encouraging more people to participate and helping them to understand the opportunities at hand. Thinking about new ways to interact with each other in more deliberative ways, while established in the literature, was also exciting and challenging. In short, we found it very enlightening to think about participation in EA as a civics undertaking because it forced us to think more about elements of participation and how they interact in ways that we have not paid enough attention to in the past.

We also believe that embedded in EA civics is the foundation for achieving greater fairness in decision processes and that this can be achieved in the context of uncertain future environmental scenarios that will likely be punctuated by greater conflict among resource users. Our confidence in this regard is based on the participatory nature of the model and its grounding in deliberation, learning and adaptation. We are also keenly aware that, like other papers in this volume, our thinking is conceptual, many of the ideas are not tested and that successful implementation will rely on enlightened regulators who are keen to reorient EA, open-minded proponents, and active and engaged citizens.

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