Towards an Evaluation-Based Framework of Collaborative Archaeology

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Abstract

Collaborative archaeology is a growing field within the discipline, albeit one that is rarely analyzed. Although collaborative approaches are varied and diverse, we argue that they all can share a methodological framework. Moreover, we suggest that collaborative archaeology projects can be evaluated to determine the variety between projects and to determine what engaged research consists of. We provide two case studies emphasizing project evaluation: 1) inter-project evaluation of community-engagement in British Columbia archaeology, and 2) intra-project evaluation of co-management archaeology projects in Western Australia. The two case studies highlight that project evaluation is possible and that a singular framework can evaluate many different types of projects. Collaborative archaeology requires analysis and evaluation to determine what facilitates engagement to further the discipline and create better connections between archaeologists and community members. The discussed case studies share two methods in which this is possible.

Keywords: Collaborative archaeology; Co-Management; Australian Archaeology; Canadian Archaeology; Community Engagement; Evaluative Techniques

1. Collaborative Archaeology

Archaeologists are increasingly aware that their discipline and practice affect living people, including the descendant communities on whose lands projects are carried out (e.g., Atalay 2006, 2012; Ferris 2003; Layton 1994). Although there is extensive literature on the topic of community engagement in archaeology (e.g., Atalay 2012; Atalay et al. 2014; Colwell-Chanthaphonh and Ferguson 2008a; Little and Shackel 2007; Lyons 2013; Marshall 2002; McDavid 2014; Nicholas 2008; Nicholas and Andrews 1997; Silliman 2008), we have few analyses as to what engaged research consists of that meets requirements of legal, ethical, and professional practice.

This paper is shaped by the recognition of a "collaborative continuum" (Colwell-Chanthaphonh and Ferguson 2008b:1) and the associated difficulties of "differentiating various forms of collaborative practice" (Atalay 2012:48). In collaborative archaeology, a process is underway to develop definitions, processes, and working models so that the concept may be continually adopted, applied, and re-evaluated (Atalay 2012), that also borrows from other disciplines in education (c.f. Arnstein 1969; Austin 2004; Friend and Cook 2003; Lassiter 2008), and environmental management (adaptive co-management—c.f. Armitage et al. 2009; Folke et al. 2005; Plummer et al. 2012). This ongoing process ensures that the notion of collaborative projects does not simply remain a philosophy shared by community-oriented practitioners, but evolves in such a manner that brings with it a structured theoretical and methodological framework.

However, as with all archaeology, there remains a diversity of approaches in the development and implementation of a collaborative project. There remains extreme variation in opinion and practice in terms of what level of consultation, integration, engagement, or collaboration is required between community, research, and commercial projects, so that these terms are often used inter-changeably. Additionally, little attempt has been made to subject projects to systematic comparative analysis against a framework of what constitutes successful collaboration (Dalley 2004:4).

Thus, for the evolution of collaborative (Indigenous) archaeologies within the broader field of Cultural Heritage Management (CHM), a formal assessment and evaluation process is required in order to develop and evolve an applicable theoretical framework to this 'field'. This necessarily involves some framework for how to develop, implement, and evaluate a collaborative CHM project. Without this framework, there will remain much variation in the 'level of collaboration' between CHM projects so that, for instance, what may be considered 'collaboration' for some may only be viewed as 'engagement' or 'consultation' to another. Alternatively, a project may have a high level of collaboration in one or more aspects of the project but lack in others. Without a process of 'structuring' this type of archaeology, such approaches will remain on the periphery of mainstream scientific- and commercially-based archaeology, let alone embedded within broader management regimes.

At the same time, it is acknowledged that a uniform collaborative approach will not fit in every circumstance (Plummer and Hashimoto 2011), and that successful models for implementing collaborative CHM need to be developed and adapted at the local community level—"what works for one community may not work for another" (McNiven and Russell 2005:242). Thus, while acknowledging the importance of the 'local' and 'community specific'

models, it is also important to identify both local and global understandings of the "new formations of colonialism" and collaborative research practices in "local, regional, national and international contexts" (Hemming and Rigney 2010:101).

On this basis, this paper contributes to the further development of collaborative CHM in delivering an operational theoretical and methodological framework for developing and implementing projects, and a means for evaluating projects in terms of their relative *levels of collaboration*. The methodology involves identifying a qualitative and quantitative process for comparing projects along the notion of a "collaborative continuum" (Colwell-Chanthaphonh and Ferguson 2008b:1).

2. Why Collaborate?

There are many reasons to examine why we need collaborative projects in archaeology. Here we look briefly at the ethical and legal requirements and emphasize that both components require all projects to set minimum requirements of *consultation* only. This section precedes our argument that evaluation and assessment help to provide practical guidelines so that legal and ethical frameworks can begin to further incorporate collaborative archaeology. This is in addition to the other important reasons why assessment is needed for improving practice, for clarity of methods, and language, to name a few.

2.1. Ethical Requirements

At an ethical level, all archaeologists and anthropologists recognize that there are fundamental protocols of working with descendant communities (Traditional Owners) when carrying out commercial, community, or research projects.

> We must accept [Indigenous peoples] as full partners in exploring the past and making it relevant to the present, not because it is the politically correct thing to do, but because it is the right thing to do [Nicholas 2000:132].

The field has developed to embed the notion of *collaborative Indigenous archaeology* as a major component of the discipline, to the point where some would argue that archaeology must be collaborative, or it is nothing. Sonya Atalay emphasizes that "archaeology's sustainability is linked to collaboration" (2012:7). The question of 'why collaborate' is therefore found within a context of a general movement toward a 'decolonized archaeology'—a concept that has been widely explored in literature in the past two decades in Australia, Canada, and the United States (Allen 1988; Clarke 2001; David and McNiven 2004; Ferguson 1996; Hemming and Rigney 2010; Lilley 2000; Marshall 2002; Maslan 1995; McDavid 2014; McNiven and Russell 2005; Nicholas 2010; Nicholas and Andrews 1997; Smith and Wobst 2005; Thomas 1994, 2000).

Thus, collaborative approaches contribute to this fundamental movement toward a decolonized heritage management system—the key premise of these models being a fundamental restructuring of power within archaeology and heritage management. This restructure seeks to empower communities as the leading partner in heritage management, "not as equal stakeholders, but as the owners and controllers of their heritage" (McNiven and Russell 2005:236).

2.1.1. Professional Requirements. Archaeological professional standards require archaeologists to work together with those connected to the archaeological record, especially indigenous communities. For instance, the Society for American Archaeology has the "Principles of Archaeological Ethics," which include eight principles mandating collaboration (1996). The Australian Archaeological Association (AAA) requires members to follow its Code of Ethics, which includes principles relating to the archaeological record, indigenous archaeology, and conduct and "requires members to "negotiate *equitable* agreements between archaeologists and the Indigenous communities whose cultural heritage is being investigated" (2012:Indigenous Archaeology, emphasis added). The Canadian Archaeological Association (CAA) objectives include "promoting, protecting, and conserving the archaeological heritage of Canada, and the dissemination of archaeological knowledge" (CAA 2014a:Introduction). The CAA requires members to follow two sets of professional standards: 1) the Principles of Ethical Conduct; and 2) the Statement of Principles for Ethical Conduct Pertaining to Aboriginal Peoples (CAA 2014b; CAA 1997).

2.2. Legal Requirements

2.2.1. International Laws. From an international perspective, the UN Declaration for the Rights of Indigenous Peoples (UNDRIP) provides a mandate for free, prior, and informed consent when working with indigenous peoples (United Nations General Assembly 2007). Article 27 specifies that:

> States shall establish and implement, in conjunction with indigenous peoples concerned, a fair, independent, impartial, open and transparent process, giving due recognition to indigenous peoples' laws, traditions, customs and land tenure systems, to recognize and adjudicate the rights of indigenous peoples pertaining to their lands, territories and resources, including those which were traditionally owned or otherwise occupied or used. Indigenous peoples shall have the right to participate in this process [2007:10].

This is the highest level of framework for assessing consultation and partnership with indigenous peoples, and essentially requires worldwide consultation between indigenous peoples and those who want to work in their traditional territories. However, the UNDRIP lacks legal enforcement under national laws that do not recognize collective rights, and many "colonial governments" have issues with the self-determination theme expressed by the UNDRIP (Hammond 2009:44).

2.2.2. Federal Laws. Federal heritage legislation exists in some colonial countries, including the United States (with laws such as NHPA and NAGPRA) (Davis 2010) and Australia (with laws such as *Aboriginal and Torres Strait Islander Heritage Protection Act*[1]) (Burke and Smith 2010), no such legislation exists in Canada. There are two Canadian Acts with some relation to heritage (Burley 1994; Pokotylo and Mason 2010), the *Historic Sites and Monuments Act*[2] and the *Canadian Environmental Assessment Act*.[3] These two pieces of federal legislation have little or no potential to protect heritage sites and do not require any consultation within the heritage domain (including archaeology).

1 *Aboriginal and Torres Strait Islander Heritage Protection Act* 1984 (Cth.).
2 R.S.C. 1985, c. H-4.
3 S.C. 2012, c. 19.

2.2.3. State and Provincial Laws. State and provincial laws require archaeologists to acquire a permit before doing archaeological work and require the permit holder to "consult with or obtain the consent of one or more parties whose heritage the property represents or may represent."[4] Therefore, permit holders are required to at least consult with indigenous communities before archaeological work is done on their territory. However, consultation does not equate to collaboration, and instead connotes "a process of information exchange in a decision making process structured through government-to-government relations" (Colwell-Chanthaphonh and Ferguson 2008a:7). Many see consultation as a reactive process, in which the archaeologist sets the agenda (Greer et al. 2002:267).

However, the only legal responsibility of the state or provincial offices is its permitting process. For example, in British Columbia, all other undertakings are secondary and discretionary as they do not fall under the legislation of the *Heritage Conservation Act* (Apland 1993:11). Many archaeologists question whether these agencies primarily serve heritage or development (Welch et al. 2010). The same can be said for the situation in Australia and the USA (Welch and Ferris 2014:95).

Consultation in archaeology is required through international, national, and provincial ethical codes, heritage legislation, and agreements with specific communities. Moreover, many archaeologists recognize the benefits of community consultation in their practice and have created many forms of community-engaged practice. However, ethical guidelines and legal frameworks only focus on parameters and guidelines for consultation—which is the "floor," not the "ceiling" of the collaborative process. Thus, in order to unify the various ethical and legal frameworks of community engagement, we need methods for assessing community engagement,

4 R.S.B.C. 1996, c. 185, s. 12 (3b).

not as an end in itself, but as the necessary step toward an equitable, collaborative undertaking.

3. Evaluating Community Engagement

> "We must evaluate our programs for their effectiveness in collaboration and achieving goals. We really cannot know if we are being transformative if we do not evaluate" [Stottman 2014:192].

We argue that mechanisms are required to evaluate different levels of engagement between projects and also methods to evaluate individual projects—that is, inter-project and intra-project evaluations. We outline two overlapping case studies: the first assesses the range of engagement that may exist via an assessment of 'community/collaborative" projects in British Columbia, and the second is based on a review of a number of inter-related projects undertaken over eight years with several communities in southern Western Australia that began as loosely-defined, collaborative archaeology projects and, through the key mechanism of 'learning-by-doing', evolved as projects delivered within a formalized model. Focusing on case studies provides the dataset and also the methodological framework, as espoused here:

> As experiences with adaptive co-management are relatively recent, further consideration and refinement of these frameworks and the variables therein are required in light of grounded case studies [Plummer 2009].

3.1. Case Study 1: Inter-project Evaluation: Community Engagement in British Columbia

To assess community engagement in British Columbia archaeology, Hogg created a set of attributes to assess effective aspects of engagement. We define an *attribute* as a measureable and definable aspect of community engagement. To create these attributes, she studied past attempts to provide defined methods for community engagement, specific archaeology projects with effective engagement, and past attempts to assess community engagement. This section summarizes each of these efforts and then discusses each of the five identified attributes.

As we have discussed, evaluating our work as archaeologists is essential to the discipline. Hogg created a methodology for evaluation as part of her Master's thesis, in which she studied community engagement in British Columbia archaeology (Hogg 2014). Her thesis determined how archaeologists and communities are working together by creating a set of attributes to assess effective aspects of engagement.

Hogg interviewed archaeologists working throughout British Columbia and asked them to assess their past projects using these attributes, using a simple ordinal scale: high, medium, low, or not present. It is essential to note that she assessed community engagement from an archaeological perspective—she did not talk to non-archaeologists. Although this means that her assessment does not take into account all collaborators, it demonstrates that it is possible to use an assessment strategy to assess multiple projects. This assessment strategy could be used in the future to assess all collaborators. Unlike previous attempts to evaluate engagement in archaeology, in which project participants created an evaluation strategy and used it to assess their own project, this methodology used a single independent evaluative strategy to assess

multiple projects. Therefore, the evaluative strategy (the set of attributes) needed to be simple to understand and explain and useful to evaluate many different types of projects. To create the set of attributes Hogg studied past attempts to provide defined methods for community engagement, specific archaeology projects with effective engagement, and past attempts to assess community engagement (Table 1).

3.1.1. Methodology. Hogg focused on two past attempts to provide defined methods for community engagement: Moser et al. (2002) and Atalay (2012; Table 1). Moser et al. provide seven components for community archaeology (2002:229), emphasizing communication, collaboration, employment, and community-managed initiatives. These components were the main guidelines for their community archaeology project in Quesir, Egypt. Atalay identifies five principles that community-based participatory research all share, based on her experiences. She argues that these five principles can overlap with one another but that each "plays an important role in making an archaeological CBPR project successful" (2012:63). Her principles emphasize partnership, participation, community capacity, reciprocity, and the recognition of multiple knowledge systems (2012:63).

There are many examples of community engagement in archaeology projects, including notable projects such as the Ozette Archaeological Project in Makah territory, Washington (Samuels and Daugherty 1991), and the work of Janet Spector and the Wahpeton community at Little Rapids, Minnesota (Spector 1993). In addition, there are more recent examples such as T.J. Ferguson and Chip Colwell-Chanthaphonh's work with the tribes in the San Pedro Valley (Colwell-Chanthaphonh and Ferguson 2004; Ferguson and Colwell-Chanthaphonh 2006); John Welch's work with the White Mountain Apache (Welch 2000; Welch and Ferguson 2007; Welch et al. 2009); Sue Rowley's work with the Inuit of the Eastern Arctic (Rowley 2002); George

Nicholas' work with the Secwepemc in British Columbia (Nicholas 2000); and Natasha Lyons' work with the Inuvialuit in the Western Arctic (Lyons 2013). This far from exhaustive list describes examples of effective community engagement from around North America.

However, to determine aspects of effective community engagement, Hogg chose to look at a different set of projects—the 40 "Working Together" articles from the *SAA Bulletin* and *SAA Archaeological Record*. These articles were created to inform archaeologists of collaborative efforts with Native Americans and function as early success stories in community engagement (Aldenderfer 1993). In fact, as their entire purpose was to emphasize aspects of effective engagement, they are the perfect source to study this topic. The articles were published somewhat regularly in the *SAA Bulletin* and then the *SAA Archaeological Record* from 1993 to 2010. The projects discussed took place from the 1970s to 2010 and took part mainly in the United States, but also included projects in Mexico and Canada.

The articles emphasize the importance of communication, information sharing, and allowing for community control in the research (Table 1). These characteristics contributed to positive outcomes in their projects and highlight aspects of community engagement. Although the articles report on mainly positive outcomes for projects, the objective of this analysis was to determine effective characteristics of engagement, therefore requiring the study of positive outcomes.

Hogg also studied specific examples of community engagement in British Columbia, including Rick Budhwa's work with the Wet'suwet'en (2005) and Klassen's Ph.D. dissertation addressing indigenous heritage stewardship with the St'at'imc and Nlaka'paux Nations (2013). These authors emphasize that community engagement includes community control from the onset of a project, forming meaningful relationships, and a dialogue between all involved (Table

1). Klassen argues that although community engagement in archaeology may not be the ultimate goal for the communities, it has meaningful effects for all involved (2013:304–307).

These different projects provide excellent examples of characteristics of effective community engagement and together with the examples of methods, provide an excellent base to frame her attributes. However, to create an even stronger base, Hogg also studied previous attempts to assess community engagement from within and outside of archaeology (Table 1).

One example is John Welch et al.'s dimensions of collaboration. Welch et al. (2011) expanded upon Colwell-Chanthaphonh and Ferguson's ideas of a continuum of collaboration (2008:9) to create a preliminary tool for assessing community engagement in the Sliamon First Nation-SFU Stewardship and Archaeology Program. They identified eight different collaborative dimensions that were described at each level of the continuum (resistance, participation, and collaboration) (Welch et al. 2011:180). Each dimension was graded on a scale of one to ten by project participants, thus creating a simple assessment tool to determine how collaboration had fared over the time of the project.

3.1.2. Attributes. Hogg took the common themes and characteristics of these examples to create her set of attributes (Figure 1; Table 2). *Degree of Community Support* assesses the degree (high, medium, low, not present) to which the community supported the project. Hogg allowed archaeologists to identify what community support consisted of in their projects, which included financial, personal, and timely support. *Degree of Community Control* assesses the degree to which the community was in control of designing the project goals, outcomes, and processes. *Degree of Community Involvement* assesses the degree of personal participation by community members. Hogg also asked archaeologists what percentage of the community was aware of the project. *Degree of Information Flow* assesses the degree of openness and reciprocity in

communication and dialogue between the community and archaeologists. Finally, *Degree of Community Needs Met* and *Degree of Archaeologist Needs Met* assess the degree that the community's needs were met, and the degree that the needs of the archaeologists' were met.

These attributes are designed to be simple to understand and use, as well as mutually exclusive. As described, *Community Control* is different than *Community Support*. A community can support the archaeological project, but can have no control over how it is run. *Information Flow* and *Community Involvement* also speak to different aspects—these can be a high degree of information sharing, but no actual participation from community members.

These five attributes reflect the essential characteristics of community engagement. They are mutually exclusive and can be easily described to interview participants. The small number of attributes ensure that participants will not become overwhelmed or confused, and will in general be able to use the attributes to assess their own projects (Bernard 2006:255–258).

This assessment strategy enabled Hogg to determine what attributes are more likely to occur in projects, therefore determining what attributes of community engagement are more effective. This is not the same as determining the success of the projects. Determining the success of community engagement and assessing the success of multiple projects is a challenging topic that few have attempted (Atalay 2012:253–256). Julia Wondolleck and Steven Yaffee studied successful collaborative projects in natural resource management. They emphasized that for them, a project was successful if the project participants deemed it to be (2000:xiii). Although different participants might have different ideas of success, the primary goal is for all participants to be satisfied with the outcome and feel it was a success (Atalay 2012:254). George Nicholas, John Welch, and Eldon Yellowhorn (2008:293) provide five "hallmarks" to assess the success or meaningfulness of community engagement: 1) personal satisfaction; 2) the

community recognizes the value of the project; 3) the project provides future interactions between archaeologists and the community; 4) the project is seen as profitable; and 5) there is a commitment to a long-term relationship between the community and archaeologists. These examples illustrate that attributes of engagement are not necessarily related to the success of the project. All five attributes could be present in some degree in the project, without any of Nicholas et al.'s "hallmarks" being met. However, the aim of this work was not to determine the success of community engagement, but determine what it consists of—which is why Hogg created these encompassing and synthetic attributes.

3.1.3. Results. Hogg used these attributes in interviews with archaeologists working in British Columbia. She asked each archaeologist to use her attributes to assess their own projects. In this way archaeologists assessed their own different projects using a singular framework. Through the interviews Hogg gained information on 29 projects, including eight consulting projects, twelve field schools, and nine research projects (Figure 2).

The results of the interviews indicated that some attributes of engagement were more likely to be present in projects than others. As indicated in Figure 2, *Degree of Archaeologist Needs Met* was high in 97 percent of the assessed projects, *Degree of Community Needs Met* was high in 83 percent of the projects, and *Degree of Community Support* was high in 72 percent of the projects.

To further analyze the effectiveness of each attribute, Hogg created a radar graph of the 90th, 75th, and 50th percentiles of each attribute (Figure 3).[5] The three percentiles are plotted as three data points for each attribute, thus creating three shapes of ascending size. The 90th percentile is

5 Radar graphs plot multivariate data and are useful to display outliers and commonalities in ordinal data. The data points are linked together by a line, creating a shape (or shapes) within the graph. The outside of the graph represents the highest value and the middle represents the lowest.

the solid inside line, the 75th percentile is the long-dashed middle line, and the 50th percentile is the dotted outside line. These data points indicate the effectiveness of each attribute, as well as the relationship between them.

As indicated in Figure 3, 90 percent of the projects (solid line) had a medium degree of *Community Needs Met*; a low degree of *Archaeologist Needs Met*, *Community Support*, *Community Involvement*, and *Information Flow*. *Degree of Community Control* was not present. Seventy-five percent of the projects (long-dashed line) had a high degree of *Community Needs Met*, *Archaeologist Needs Met*, and *Community Support*; a medium degree of *Community Involvement* and *Information Flow;* and a low degree of *Community Control.* Fifty percent of the projects (dotted line) had a high degree of *Information Flow*, *Community Needs Met*, *Archaeologist Needs Met*, and *Community Support;* and a medium degree of *Community Control and Community Involvement.*

These results indicate what attributes are more likely to be present in a project. As *Degree of Community Support* is high for 75 percent of the projects, it is likely easier to implement this attribute in projects. However, for the community to have a high degree of support for the project, one would assume that other attributes would be present in the project. For example, it would seem strange for a high level of community support to be present, but for the needs to the community not to be met. These other attributes may not need to be at the same degree as community support, but should be present in some amount.

The *Degree of Community Control* is lower in comparison to *Support.* Seventy-five percent of projects either had a low or not present *Degree of Community Control*. However, many participants acknowledged that community control was not necessary for community

engagement. If you have a strong relationship with the community, then there is a level of trust that does not always require control over the project.

Seventy-five percent of projects had at least a medium *Degree of Community Involvement*. Therefore, *Community Involvement* is more present in projects than *Community Control*, but not as present as *Community Support*. *Community Involvement* can be influenced by many factors, not all controlled by archaeologists. These factors can include available resources, community interests, location, and cultural concerns. However, effective involvement needs to be long-lasting and should build community capacity. Many participants indicated that they had tried to involve the community as much as possible but were restricted by community interests and time. For example, although community members may value the project, they may not be interested in directly participating, or the project may be in a remote location, making direct involvement challenging. Participants emphasized providing community members with education opportunities, including Resources Information Standards Committee (RISC) training (BCAPA 2011).

Degree of Information Flow, *Degree of Community Needs Met*, and *Degree of Archaeologist Needs Met* are all medium to high in most projects. *Degree of Information Flow* is medium in 75 percent of projects and high in 50 percent of projects. *Degree of Community Needs Met* and *Degree of Archaeologist Needs Met* are both high in 75 percent of the projects. Therefore, like *Community Support*, these attributes seem to be easier to implement into projects. Participants acknowledged that the only time that community needs were not met were when communities did not indicate any needs to begin with. Some participants felt uncomfortable with the question of community needs, as they did not want to speak for the community. The majority of participants indicated that their needs were met by getting to participate in archaeology.

Participants also indicated that they always tried to provide as much information to the community as possible.

Community engagement in British Columbia is occurring without effective legislation. Figure 3 indicates that some aspects of engagement are more effective than others, in particular, *Degree of Community Support*, *Degree of Information Flow*, *Degree of Community Needs Met*, and *Degree of Archaeologist Needs Met.* Most archaeologists recognize the importance of these attributes and are more likely to utilize them in their projects. *Community Control* and *Community Involvement* are affected by many factors and can be more challenging to implement, at least as indicated by Hogg's analysis. For example, in certain projects the community may not *want* to have control over parts of the project, as they may trust that the archaeologists know what to do. By breaking down the type of engagement into these attributes, it is clear that each project will have different results and that it is important to treat each project as unique. However, by making sure that each attribute is addressed, archaeologists can provide the highest possible level of engagement.

This assessment strategy is just one way to assess and evaluate collaboration. It was effective for Hogg's work as it allowed her to assess and evaluate many different types of projects. By allowing others to use these attributes, she was able to receive a wealth of information about community engagement in British Columbia archaeology.

3.2. Case Study 2: Intra-project Evaluation: Co-Management in Western Australia

This case study focuses on work undertaken in southern Western Australia between 2005 and 2013. The case studies for this analysis were all developed and implemented by Guilfoyle in

collaboration with a range of community leaders, local NRM organizations, conservation groups, local governments, and heritage agencies in Western Australia and spanned an eight-year period. The projects discussed here were developed largely in response to the disillusionment of many Traditional Owners with mainstream land and heritage management regimes in the region from which they felt disengaged and disenfranchised. The projects are aimed at conducting community heritage management projects focused on conservation and research, evolving from a model and associated projects developed for integrating Indigenous natural and cultural heritage management in this region, as well as community, research, and commercial archaeology (Guilfoyle et al. 2013; Guilfoyle et al. 2011; Guilfoyle et al. 2009; Guilfoyle, Guilfoyle, and Reynolds 2009; Mitchell et al. 2013; Guilfoyle and Mitchell 2015 (in press)). The projects are designed and implemented by the community leaders in collaboration with heritage personnel and specialists. The diversity of project structures and results provide an adequate basis from which to evaluate each individually and collectively.

The cultural and archaeological heritage management projects discussed here were developed within one of three main contexts.

1. Cultural Natural Resource Management (NRM) Projects (aimed at heritage place restoration, protection and management)
2. Community Foundations (aimed at community sustainable development and landscape management)
3. Commercial Cultural Heritage Management Projects (aimed at counter mapping and effective cultural place protection and management)

However, as is explained below, each project involved, at varying levels, a similar set of aims that blurs this distinction of the original project contexts. In some case, for example, an Indigenous NRM project expanded and was advanced through subsequent commercial CHM projects. Nonetheless, to facilitate the analysis and evaluation, a total of 14 projects are discussed, from each of these major contexts (Table 3).

3.2.1. Methodology. This analysis is aimed at determining how the concept of Adaptive Co-Management (ACM) that is rapidly advancing to be embedded in natural resource management can be adopted into the field of CHM (and borrows from the co-creative project designs (Simon 2010)). In drawing from conceptual frameworks within the field of adaptive co-management, this study applies a 'grounded theory approach' (Glaser and Strauss 1967; Miles and Huberman 1994, Charmaz 2000, Corbin and Strauss 2008) that involves developing theoretical constructs from qualitative, comparative data that is obtained and 'coded' via the analysis of a number of CHM projects/case studies. As mentioned, while there is a unifying goal structuring the various CHM projects discussed here—aimed at protecting and management of specific cultural places identified as priorities by various community groups—they were delivered without any plan to *formalize* a context of 'collaboration' or co-management. However, an adaptive management process unfolded via the process of learning-by-doing, and more formal structures were implemented incrementally as new projects were developed over time.

3.2.2. The (main) Elements of Adaptive Co-Management. Researchers had explored the multiple 'faces' of co-management that collectively define the components of *adaptive* co-management. These 'faces' therefore provide a theoretical and methodological framework from which to evaluate a number of projects that were developed with the aim of developing a working model for implementing 'structured' collaborative CHM projects. Here, based on a

review of current co-management syntheses, Guilfoyle isolates structural faces and their key elements of adaptive co-management, though acknowledging that there is much cross-over within and between these various components (Table 4).

Researchers (Armitage et al. 2009; Folke et al. 2005; Plummer et al. 2012) have synthesized ACM projects around the world and noted a number of common elements. With the limitations of space, the following table summarizes this review and identifies the key structural elements required in developing a collaborative CHM project, based on major 'faces' with associated 'elements'.

As each of these faces can have a wide-range in terms of the level of collaboration, a rating system is developed and applied to each 'face'. This section provides the qualitative data analysis framework for evaluating the development of a *cultural heritage* ACM project (CHACM): evaluating the processes employed and evaluating the outcomes (success and failures). In this regard, Guilfoyle examined the structure of each project as the dependent variable affecting the relative degree of success or failure of the project in terms of the criteria defined for CHACM (Table 5, 6). The purpose is to isolate key factors influencing the relative success of individual projects, while having a baseline framework for comparing and evaluating different projects.

The results can also be portrayed graphically for quick analysis. The following graph compares the above projects for illustrative purposes (Figure 4). (More detailed analysis is currently being undertaken by Guilfoyle on a number of other projects and variables using multivariate analysis.) The data provides a base line from which to compare and contract projects, whether through project leader self-evaluation or community or stakeholder rankings. It allows review of the relative stage of a project as it progresses toward more advanced

collaboration. It provides a means to track how a collaborative partnership improves or worsens over time. Importantly, it provides some mechanism to identify key areas where improvements or changes should be made.

3.2.3. Outcomes and Potential. The current structures described in the variety of case studies were encouraged to develop at their own pace, and avoid interventions from external, organizational control and decision making that can undermine people's sense of involvement and ownership. As they were undertaken over a period of time, we could predict that the older projects had less developed structures than the more recent projects. However, this is not the case, as the background context, externals changes, and the project aims differed markedly. For instance, the Gabbie Kylie projects scored high on all levels as it was a community program that directly set out to establish solid operational structures. Conversely, the more recent Fitzgerald River project lacked key governance structures, processes, and learning mechanisms, as it was a reactionary project in response to a plan developed by an external agency that did not see collaboration in planning and development as a goal. Despite the different contexts of these projects, a uniformly applied qualitative rating system for how each project was 'developed' or 'structured' is justified—as we can identify ways forward for future programs in specific areas, in order to contribute to social outcomes, or simply to avoid conflict or delays.

One identified theme from this (abbreviated) analysis, is that the community programs have been most successful as drivers for collaboration and change. The community programs provide a conduit to negotiate dynamics through a flexible, action-orientated approach that affords Traditional Owners a means for engagement based on flexibility and independence while working directly with agencies, stakeholders and partners. For agencies and stakeholders, the community structures provide a means to work with a community directly as a partner in projects

and general operations, without some of the challenges associated with integrating community dynamics with agency policies and procedures. Thus, agencies or land managers may benefit by investing in a community initiative as these inherently establish structures that facilitate the development of mutually beneficial goals of conservation, management and research.

The key challenge of the community structures (e.g., Foundations) in developing their programs is maintaining the balance that necessarily **embraces external partnerships** but remains steadfast in the commitment to **upholding customary protocols and priorities**. By identifying the relative level of advancement of each structural component of a program, these challenges can be directly met, with support from those operating in disciplines such as archaeology, anthropology and natural resource management. These are field that require the constant development of projects that that are of greater relevance to communities and so require understanding of the social context of their operations (Lu Holt 2005:199). At the same time, by attempting to develop formal evaluation measures of each project, we address the growing demand from community groups that are seeking more from agencies and researchers to become *genuine* partners in community-based cultural heritage management.

4. Conclusion

We argue that a formal framework from which to evaluate 'the level of collaboration' in a CHM project becomes a platform for expansion beyond collaborative arrangements between heritage practitioners and Traditional Owners, to a mechanism that can lead to effective co-management of cultural resources and landscapes, across all levels of government and institutions. In other words, a formal structure is required as a preliminary mechanism to advance

this ‘sub-field’ as a collective structurally sound process that increasingly develops and benefits the communities and the ecosystems involved; whereby the archaeological management process itself contributes to increasing social resilience and emancipation (Chapin et al. 2009; McGuire 2008). Each CHM project, wherever it may be and despite the challenges of cross-cultural comparison, should be organized in a way to allow a baseline comparative analysis, so that each project may be objectively reviewed and advanced in identified areas—ensuring that each project contributes to refining this framework and the methods and development of the field of CHM (that encompasses anthropology and archaeology).

Community is inherently dynamic and is often somewhat at odds with the operations of academic departments, resource managers, and agencies. Guilfoyle’s case study demonstrates that Traditional Owner communities of southern Western Australia advocate collaborative partnerships with researchers and land managers in managing their cultural heritage; however, communities often feel alienated or disengaged by mainstream management regimes. Land managers in Australia now recognize the importance of Indigenous culture and heritage as an inherent part of successfully managing natural resources. However, agencies and land managers of all kinds consistently find it challenging to integrate the dynamics of Traditional Owner communities into their operations.

Despite some misunderstanding of some practitioners in believing ‘engagement’ equals ‘collaboration’, the basic principle of heritage professionals and Traditional Owners working together is manifested in all types of CHM projects in Australia and Canada. At the same time, however, the highly developed discipline of archaeology and the regulatory and academic structures that support the field have continued in some instances to widen the gulf between archaeologists and descendant communities. There is no doubt that community involvement in

archaeology and CHM projects can be of scientific, social, and economic benefit to practitioners and communities alike; however, there remains much variation in the level of opportunity to embed involvement. We may ask whether the discipline is, collectively, doing enough to address the historical, social, economic, and even legal structures, all well-known and well documented, that act as barriers to higher levels of equity between archaeologists and descendant communities. For example, in the *Society for American Archaeology Annual Meeting* (2013), the president's keynote address was entitled: *The Future of Archaeology: Engagement with Descendant Communities*. Thus, another level of justification of this study is based on the argument that the future of archaeology should be "collaboration" in the fullest sense of the word—where 'engagement' is but an evolved form of consultation—albeit one step toward collaboration.

In summary, the projects developed and in some cases still operating in southern Western Australia are based upon long-term, community-driven, collaborative research projects that sought to uphold the cultural aspirations and responsibilities of the Traditional Owners. While the case studies are inherently local in focus and based on the particularities of several different communities, it is suggested that through this analysis the identified frameworks may have applicability for heritage practitioners and descendant communities in a range of different international contexts, and that some of the lessons learned to date may have global application for the fields of both Indigenous heritage management and natural resource management.

As discussed above, collaborative approaches in natural and cultural heritage management share similar overarching goals. These projects were based on the recognition that effective Indigenous cultural heritage management requires protecting and managing both the physical fabric of places and landscapes, as well as the associated values related to community-identified

social and cultural activity (Byrne et al. 2003). In so doing, structures are required to enable these activities to take place, and this necessarily involves moving beyond the assessment or identification of values, and to embedding a mechanism that allows social and cultural activity to take place.

For CHM, an important measure of "success" within any project is the level of control and ownership embedded with the local Traditional Owner community. If control/ownership is tokenistic, short-term, or un-developed, archaeological research outcomes remain limited by default—in the understanding that Indigenous heritage management is linked to community identity and wellbeing, and requires delivery under customary practice/protocols. Any level of archaeological research—whether community, research or commercial—requires systems to ensure Traditional Owners are in control of all facets of project development, implementation, and reporting, at the level and context that they demand.

At the present time, the case studies outlined above necessarily entail a process for working beyond narrowly defined methods of assessment and regulatory structures so to fully integrate traditional and archaeological understandings of interconnected cultural landscapes. It is argued that this movement for integrated approaches to archaeology and heritage management—including the demands from Indigenous communities—requires a critical need for heritage and resource management practitioners to not settle for the status quo, and take a more applied approach, incorporating holistic approaches into their own operations, and directly assist with the development of community-based approaches and structures; as a matter of professional ethics and for the benefit of the discipline. Working together, it is up to the practitioners to 'work outside the box' until such time as the regulatory and organizational structures are able to support the changes and processes required by the dynamic and evolving world of CRACM.

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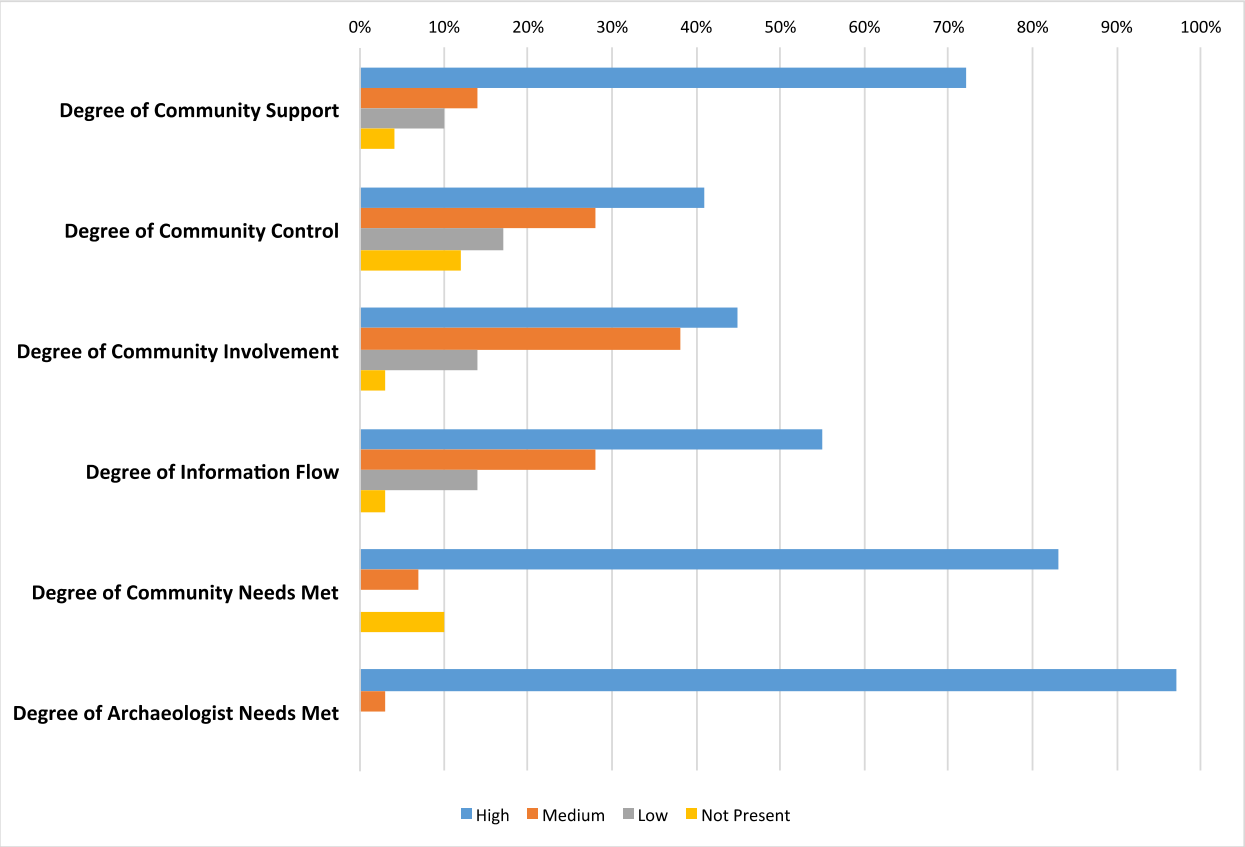

Figure 1. Attribute results.

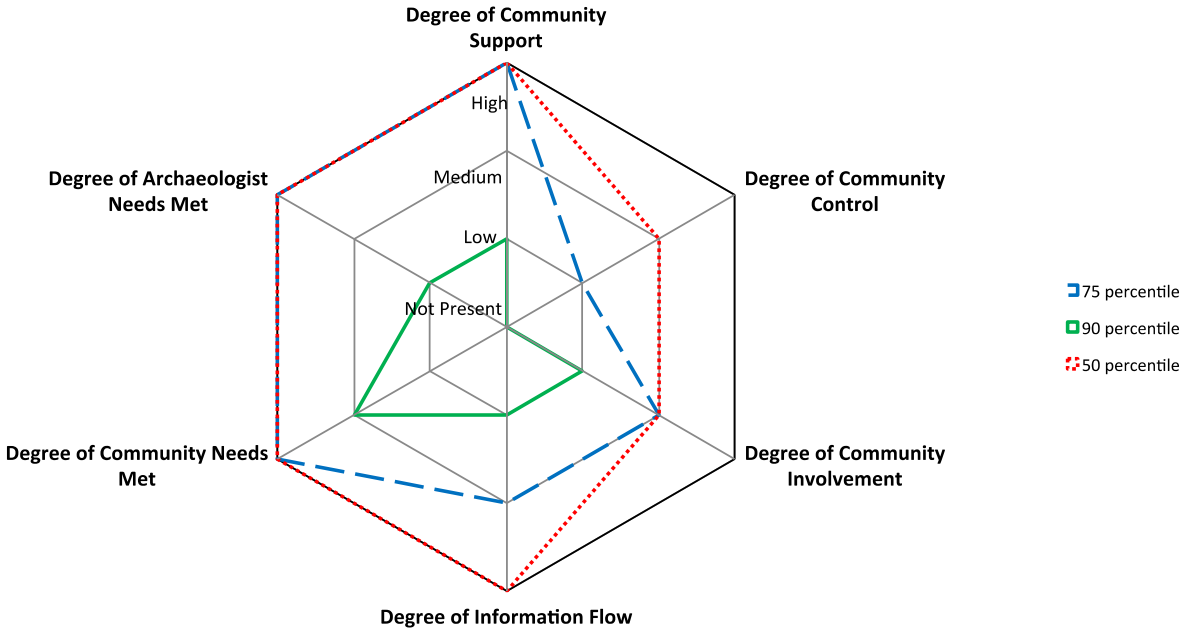

Figure 2. Radar graph illustrating the ninetieth, seventy-fifth, and fiftieth percentiles of attributes.

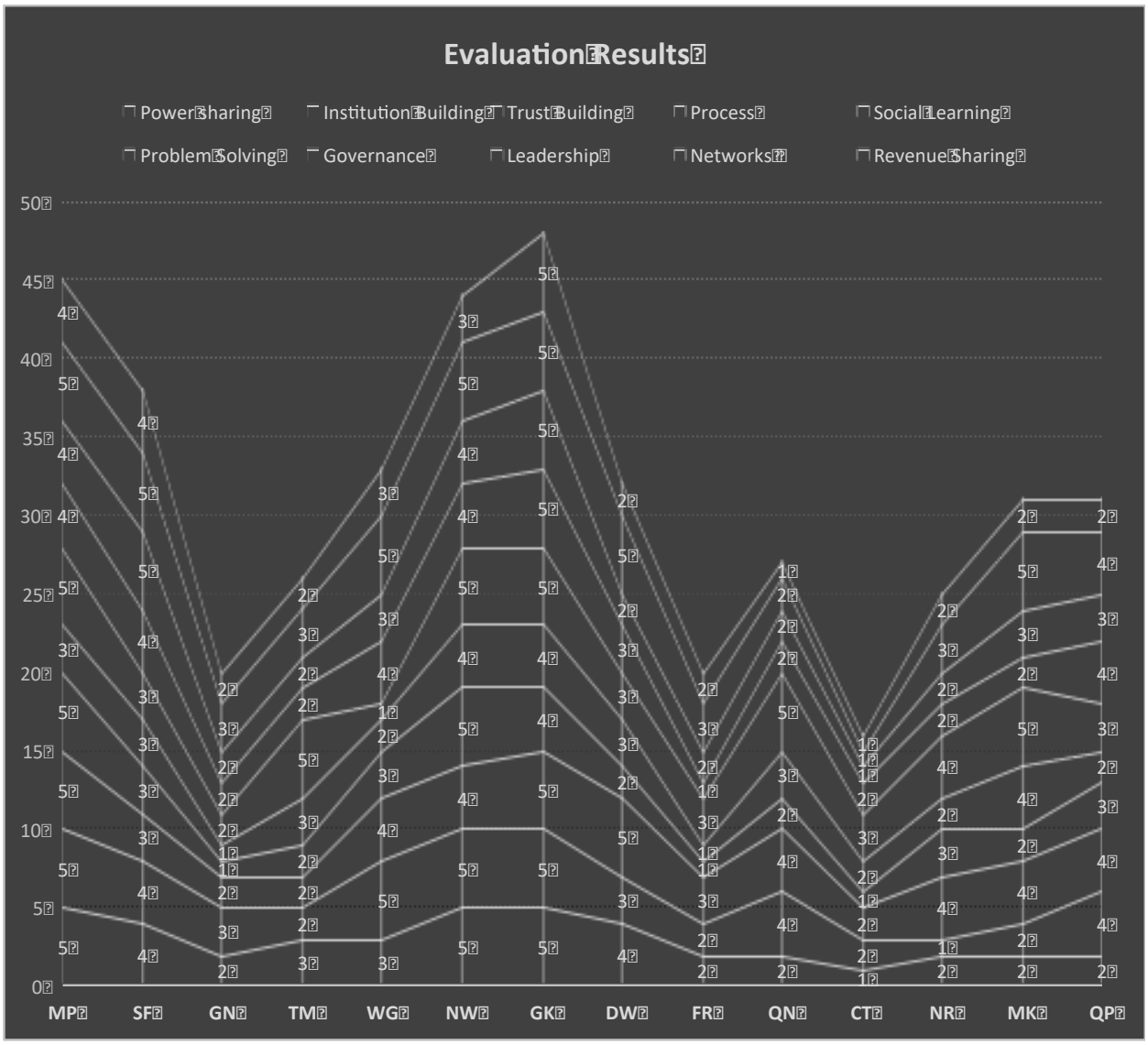

Figure 3. Results of the evaluation analysis of 14 projects in southern Western Australia.

Table 1. Attributes of Community Engagement.

Attribute	Description
Degree of Community Support	What was the level of community support for the project?
Degree of Community Control	Was the community in control of designing the project goals/outcomes? Was the community in control of designing the project process/outcomes?
Degree of Community Involvement	What was the level of personal participation by community members? What percentage of the community was aware of the project?
Degree of Information Flow	Was there open communication and dialogue between the archaeologists and the community?
Degree of Community Needs Met/ Archaeologist Needs Met	Were the needs of the community met? Were the needs of the archaeologists met?

Table 2. Projects and Case Studies.

Project #	Project Name	Description
Cultural NRM Projects		
1 MP	Yoolberup (Many Peaks) Wetlands Cultural Landscape Management Project	The result of a five-year cultural heritage landscape conservation and management action plan developed for a property purchased for the community organization, and bordering Lake Pleasant View, near Many Peaks (50 kilometres east of Albany) (Guilfoyle et al. 2013).
2 SF	Southern Forests Community Cultural Heritage Management Program	A series of discrete, yet overlapping projects that identified cultural heritage values and priorities, and provided a platform/process for supporting local communities to drive the project work, with secondary support from agencies and organizations. A number of discrete projects within this larger program including project work at heritage complexes such as "Lake Jasper", and "Boonwiup Pools" and also on private land. (Guilfoyle et al. 2009).
3 GN	Gnowangerup Community NRM Project	NRM project that involved an integrated community development and training plan that involved development of a native tree nursery, cultural display, re-vegetation project and cultural mapping program (2007a).
4 TM	Tambellup Graves Protection Project	A natural resource management project focused on addressing issues of town site salinity in the Great Southern Region of Western Australia that adopted a specifically 'cultural values' approach to the environmental issue associated with flooded, Aboriginal graves. The on-ground works involved a community action plan involving constructing of a drain, re-vegetation, Ground Penetrating Radar Survey, and work towards an integrated community monitoring system (Guilfoyle 2007).
5 WG	Marribank/Wagin Community NRM Project	A natural resource management project that involved an integrated community development and training plan that involved development of a heritage trails, sustainable agriculture (community) plan, re-vegetation project and cultural mapping program, and an Indigenous community NRM team (Bishop 2005).
6 NW	Nowanup Meeting Place and the Pallinup Catchment	This NRM project involved the construction of a cultural 'meeting place', large-scale cultural mapping associated with the Gondwana Link macro-conservation corridor, long-term community training and employment program, and TEK studies, for overall integration with conservation and management planning and on-ground (adaptive management) conservation works (Dortch and Guilfoyle 2007; Guilfoyle 2010a).
Community Foundation Projects		
7 GK	Gabbie Kylie	Community-based operation involving regional cultural mapping, integrated research, heritage assessment, identified protection plan, rock art conservation works, development of a heritage management walk trail, and documentation of the associated cultural features for strategic planning (see Mitchell et al. 2013).
8 DW	Dowark Foundation Cultural Landscape Mapping Project	The Dowark Foundation conducts community heritage management projects focused on conservation and research. The projects are designed and implemented by the Wadandi people in collaboration with Foundation

		personnel and specialists. The Dowark Foundation received Australian Government funding and commercial (NRM) contracts to carry out a regional cultural mapping project and project-specific management plans; including an integrated plan to protect and manage a number of priority areas with overlapping ecological, historical, archaeological and ethnographic values (Guilfoyle 2011a).
Commercial CHM Projects		
9 **FR**	Fitzgerald River National Park Heritage Assessments	This project involved several commercial heritage assessment projects within the Fitzgerald River National Park, associated with discrete development plans provided to the archaeologist and the community. The response was a process of place-based assessment and mapping and a counter-mapping alternative that in some cases, altered or diverted the proposed development plans of the proponents, and in other cases, were ignored completely by the proponents (Guilfoyle and Mitchell 2015 in press).
10 **QN**	Quindalup (Dunsborough) Playing Fields	This project involved a commercial archaeology project associated with construction of a new football oval (Guilfoyle et al 2012). The community-based structure ensured a multifaceted level of investigation without demanding any additional resources upon the client, and a place-based approach to documenting and incorporating the range of values associated with archaeological heritage that delivered multiple, positive outcomes. At an operational level this necessarily entailed a process for working beyond the site to fully integrate traditional and archaeological understandings of interconnected cultural landscapes (Guilfoyle et al. 2011).
11 **CT**	Cattlin Mine Development Project	This commercial heritage project involved a place-based and counter-mapping approach in response to a mine development that aimed to identify archaeological site patterning with associated ethnographic information to associated waterways and landforms for more effective management (Guilfoyle et al. 2015 in press).
12 **NR**	Nornalup Inlet, Frankland River and Denmark River Co-Management Plan	This commercial heritage project involved a place-based and counter-mapping approach to register a number of archaeological places with associated ethnographic information that linked together a number of discrete sites as part of an integrated cultural landscape. The resultant cultural heritage management plans were adopted by the local government shire (Guilfoyle 2010b).
13 **MK**	Mokidup (Ellensbrook) Integrated Natural and Cultural Heritage Management Plan	The Mokidup area contains many Dreaming Places, which includes places with mythological and ritual significance. The intent and scope for this Plan was to produce a holistic and comprehensive environmental plan that builds upon and compliments existing documents and promotes ongoing conservation of the place, respecting and promoting heritage values (both Indigenous and European). Its primary focus is on the management of environmental values, while considering indigenous values and practices, where possible. This case study evaluates this process of integration (Guilfoyle 2010c).
14 **QP**	Quaranup Peninsula Community Management	This cultural mapping project aimed to develop a co-management plan for a prominent peninsula with significant ecological and cultural values, and

and Protection Project	developed from a small-scale Indigenous NRM training program to an ongoing cultural mapping program that aimed to first have the area legally-registered as a cultural landscape, and then integration into a community-controlled cultural heritage management plan (Guilfoyle 2011b).

Table 3. Structural Faces and Elements of ACM projects (adapted from Plummer et al. 2012).

Face	Element
Power sharing	Relates to sharing responsibility for management and how much control the community has over land/resources/authority etc. High level collaboration for this component is power sharing at multiple scales.
Institution Building	Examines the degree that partners develop cross-cultural partnerships that involves restructuring of systems in operation by individual agency, organizations or community groups to develop a new level of collaborative structure.
Trust Building	Trust relates to working relationships and there are different levels of trust – ranging from "deterrence-based trust', to 'knowledge-based trust', and identification-based trust' (See….).
Process	This relates to ensuring that power sharing and all other components of collaboration are not an endpoint, but embedded in operational processes.
Social Learning	Relates to feedback mechanisms so parties can learn from past experiences, adapt and respond - management flexibility.
Problem Solving	Advanced collaboration means there are more opportunities to transfer learning/skills and so progress more complex issues or projects over time.
Governance	Relates to the principles of good governance – transparency and accountability at all levels shared amongst all partners.
Leadership	A successful ACM project requires a combination of Knowledge Carriers - Interpreters-Networkers - Leaders - Visionaries - Entrepreneurs – Followers.
Networks	Assumes that larger networks provide more opportunities for problem solving, development of more complex projects and expansion with more elaborate outcomes.
Revenue Sharing	Level of monetary payment/equity across all partners and collaborators derived from the project funds and/or external resources created by the project.

Table 4. Qualitative Ratings.

Face	Qualitative Ratings	Score
Power sharing	Consultation	1
	Engagement	2
	Agreement/MoU	3
	Project-specific Partnership	4
	Shared management rights and responsibilities (ongoing)	5
Institution Building	Informal structure	1
	Third-party structure/ engagement	2
	Project-specific partnership	3
	Community and Stakeholder based Structure – project or local level	4
	Community and Stakeholder based Structure – multi-project or regional level	5
Trust Building	No previous relationship/interaction	1
	Deterrence-based Trust	2
	Knowledge-based Trust	3
	Identity based Trust	4
	Identity based trust with legal/operational framework	5
Process	Preliminary engagement/toward initiated a process	1
	Project-specific co-management	2
	Stop-start co-management	3
	Fixed, multi-year or multi-project process	4
	Formal co-management, long-term arrangement	5
Social Learning	Provides results only	1
	Identifies recommendations for limitations/further work/refinement only toward co-management	2
	Project-specific review process	3
	Program-review process	4
	Formal review and evaluation structure	5
Problem Solving	Recognizes problems only	1

	Identifies/Defines problems only	2
	Identifies Problems and Possible Solutions	3
	Identifies Problems and Evaluates Solutions	4
	Addresses Problems/Implements Solutions	5
Governance	Host-Guest Model	1
	Stakeholder Model	2
	Agreement/MoU	3
	Project-specific Partnership	4
	Formalized Collaboration (ongoing)	5
Leaders	Project leaders only	1
	Community Leaders Facilitators	2
	Steering Group	3
	Community/Multiple Leaders	4
	Program Leaders and Committee/Board	5
Networks	One partnership	1
	Two Partners	2
	Three Partners	3
	Four Partners	4
	Five+ Partners	5
Revenue Sharing	One-off remuneration	1
	Project-specific remuneration	2
	Casual (ongoing) remuneration	3
	Ongoing remuneration within internal program	4
	Ongoing remuneration expanded to both internal and external systems	5

Table 5. Rating the Structural Processes of the Case Studies.

Project/Component	MP	SF	GN	TM	WG	NW	GK	DW	FR	QN	CT	NR	MK	QP
Power sharing	5	4	2	3	3	5	5	4	2	2	1	2	2	2
Institution Building	5	4	3	2	5	5	5	3	2	4	2	1	2	4
Trust Building	5	3	2	2	4	4	5	5	3	4	2	4	4	4
Process	5	3	1	2	3	5	4	2	1	2	1	3	2	3
Social Learning	3	3	1	3	2	4	4	3	1	3	2	2	4	2
Problem Solving	5	3	2	5	1	5	5	3	3	5	3	4	5	3
Governance	4	4	2	2	4	4	5	3	1	2	2	2	2	4
Leadership	4	5	2	2	3	4	5	2	2	2	1	2	3	3
Networks	5	5	3	3	5	5	5	5	3	2	1	3	5	4
Revenue Sharing	4	4	2	2	3	3	5	2	2	1	1	2	2	2
Total	**45**	**38**	**20**	**26**	**33**	**44**	**48**	**32**	**20**	**27**	**16**	**25**	**31**	**31**