

# Ontario's Archaeological Curation Crisis – Twenty Years Later

by

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## AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## Abstract

Archaeological collections are cherished for future educational opportunities, cultural or spiritual reasons and archaeological research. With the ongoing destruction of archaeological sites, the information stored in these collections is quite valuable as it becomes the only remaining evidence of past life. Unfortunately, in Ontario, archaeological collections are at risk of becoming lost, destroyed or misplaced because they are stored privately without specific management guidelines. After interviewing five professional Ontario archaeologists, it was made clear that financial restrictions within the heritage sector limit the adequate care of archaeological collections, suggesting that traditional solutions remain challenging. Over the last decade, improper care has rendered many collections unusable for archaeological research. For these reasons, archaeological collections with remaining research potential must be prioritized and curated appropriately over collections with no remaining archaeological value. Preventative measures such as avoidance and legislation should be adopted to prevent future curation problems in the province. Importantly, this study has identified that future research is needed to determine the specific archaeological potential in Ontario's privately stored collections and to discuss our current options responding to this problem. This research is important to archaeologists and to anyone else who appreciates the shared value in Ontario's archaeological past.

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## Chapter 1: Introduction

*The loss of irretrievable data through the mismanagement of collections is a breach of the public's trust – it is a fundamental duty of archaeologists and the profession to curate and preserve excavated and surveyed resources – Kersel (2015:44)*

Each year, archaeologists excavate thousands of archaeological sites worldwide (Kersel 2015). Once excavated, amassed collections produced through extensive fieldwork are deposited in a variety of locations including museums, temporary storage and personal housing facilities (Ipsos Reid 2014; Kersel 2015). Unfortunately, many of these accommodations do not provide appropriate curation standards for materials to be held in perpetuity (Kersel 2015, Ipsos Reid 2014). Cultural Resource Management (CRM) firms have excavated millions of cultural artifacts and associated documentation some of which have been distributed to museums and other facilities. However, because of the lack of storage space at museums and repositories, and insufficient funds to curate artifacts properly, many collections end up in dangerous situations (Ipsos Reid 2014; Kersel 2015). In addition, priority is often given to excavate new archaeological sites rather than attentively curate materials which has also contributed to a curation crisis in North America (see Kersel 2015). Unfortunately, many collections left without suitable management procedures are at risk of becoming lost, abandoned, or destroyed as archaeologists who curate them become divorced, leave the profession, move, or pass away (Kersel 2015:44, Williamson 2010).

Like many jurisdictions in North America experiencing a curation crisis, (see Bawaya 2007; Childs and Sullivan 2004; Kersel 2015; Marquart et al. 1982) Ontario is suffering from a curation crisis of its own. In recent years, studies have discovered that several thousand

archaeological collections remain held by archaeologists in private storage, many of which are stored without management guidelines and are at risk of becoming lost and destroyed when archaeologists retire or leave the profession (Ipsos Reid 2014). These collections are an integral part of humanity's cultural heritage, and like many artifact collections produced globally, if lost or destroyed produce gaps in the archaeological record of Ontario. The goal of this thesis is to review the specific management challenges within the province in 2016 and to propose solutions for transferring archaeological collections to an appropriate facility. Archaeologists and the government need to collaborate to provide solutions to this ongoing public issue within the province.

### **1.1 Why is the Curation Crisis a Public Issue?**

Collections management issues have far-reaching implications for a variety of publics. Sullivan and Childs (2003:3) write, "...when curatorial practices are poor or nonexistent, everyone loses: Archaeologists suffer loss of irreplaceable research data, the general public suffers loss of an expensive and valuable educational resource, and those whose heritage may be linked to the collections lose that part of themselves." Therefore, the curation crisis not only involves the archaeological public but also includes other publics as well. This section addresses the social implications and the anthropological importance of the curation crisis. In this paper, the issue of the curation crisis is discussed in the context of three broad sectors, the archaeological public, the descendant community public, and the general public.

The archaeological public should be concerned about this issue for several reasons. First, the archaeological data stored within collections is irreplaceable. An archaeological site provides the original context of human occupation and, once destroyed, the collection of finds from that

site is the only remaining legacy of this evidence (Childs and Sullivan 2004:4). Worldwide, archaeological sites are threatened by various impacts including climate change (Gadzala 2014; Goetz 2010; Howard et al. 2008; Johnson et al. 2015; Reeder et al. 2012), looting and vandalism (Bowman 2008; Brodie and Renfrew 2005), war and conflict (Perring and Linde 2009), and various other destructive forces. In Ontario, one of the greatest threats to archaeological sites is the increasing pressure from land development (see Coleman and Williamson 1994; Williamson 2010). Williamson (2010) suggests that from the year 2000 to 2010, over 35 Iroquoian (Huron-Wendat and Neutral) settlements were excavated in Ontario, leading to the destruction of over 200 longhouses (2010:35). Thus, archaeological collections which contain records, artifacts, ecofacts and other documentation from the sites that are excavated become the only remaining resources for future archaeologists to study (Childs 2004; Kersel 2015). Therefore, the careful stewardship of these materials in perpetuity is very important.

Another benefit of utilizing archaeological collections for the archaeological community is the ability to re-examine old materials several years later. For example, orphaned collections from Market Street Chinatown, San, Jose, California were studied by student researchers several years after they were initially excavated (Voss 2012). Williams (2004) discovered that a collection of opium pipe tops within the Market Street Chinatown collections suggested that opium consumption was a routine activity for Chinese individuals. This was proposed following the discovery that opium paraphernalia was not concentrated in specific locales but was distributed evenly across the site (Voss 2012:158). Archaeological collections that are curated properly not only allow researchers to apply new interpretations to old materials, but also allow archaeologists to utilize new scientific methods and analytical techniques several years later (Childs and Sullivan 2004:15).

Although excavation is often prioritized over collections research (see Kersel 2015), archaeological excavation is extremely destructive. Therefore, utilizing extant collections for research may enable archaeologists to practice sustainable techniques rather than continually excavate new sites (Ferris and Welch 2014 cited in Glencross 2015; Sustainable Archaeology 2015). Using collections for these purposes also allows students of archaeology to develop experience analysing and interpreting archaeological materials as well as providing a context for the importance of minimally invasive research strategies (Glencross et al. 2015:3). For example, Bonnie Glencross and Gary Warrick along with four students from Wilfrid Laurier University analyzed and documented an artifact collection from the Chew site (BeGx-9) near Tay Point, Simcoe County, Ontario. They determined the collection had much remaining educational value and national significance, highlighting the importance of the site for understanding the historical interactions between the Wendat and early French explorers (Glencross et al. 2015:4). In addition, there is even a distinct possibility that the Chew and Ahatsitstari sites are the remains of the villages of Quieunonascaran and Carhagouha and were visited by Joseph Le Caron, Samuel de Champlain (Biggar 1922-1936 cited in Glencross et al. 2015), and Gabriel Sagard (Sagard 1939 cited in Glencross et al. 2015). These sites may represent some of the first observations of Wendat life during the early seventeenth century by European explorers (Glencross et al. 2015). Until 2014, the Chew site collection had never been documented by archaeologists with the exception of a preliminary catalogue created in the 1970s when the site was excavated. Along with aiding scholars in the production of original research of the Chew site collection, students also gained valuable experience utilizing techniques to analyze ceramic vessels, pipes, bone, and European trade artifacts (Glencross et al. 2015:16). Significantly, most of the methods used by Glencross et al. to analyze the artifacts within the collection had not been developed until several

years after the initial excavations took place at the Chew site, highlighting the importance of properly curating extant collections for future research with the development of new scientific methods. Furthermore, the analysis of the Chew collection also honored the values of descendant community members by limiting invasive excavation techniques (Glencross et al. 2015:16). This example highlights the extraordinary impact that extant collections can have on the archaeological community.

Extant collections can also hold significant value for culturally associated groups, and enable opportunities for indigenous participation in archaeological interpretation. Latta et al. (2015) suggests artifacts can be interpreted differently, depending on the examiner, adding unique stories to archaeological materials. For example, while excavating the defensive palisade area of the Thompson-Walker site, Dr. Marti Latta discovered a pipe made of local clay (Latta et al. 2015). The pipe was fashioned like other Huron pipes and is characterized by a round bowl decorated with rings traced in the clay (Latta et al. 2015:5). Interestingly, it still contained remnants of charred plant material. Richard Zane Smith, a Wyandot potter and Michel Savard, a collections manager of the Huron-Wendat Museum in Wendake, Quebec, were each given an opportunity to create a unique story of the pipe (Latta et al. 2015). This demonstrates how storing collections in ways that are accessible to descendant communities may enable participation and interpretation of archaeological materials. This is necessary because, without indigenous participation in archaeological research, Western academics continue to interpret, teach and write the past of others through a Western lens (Atalay 2006:282). Eldon Yellowhorn argues, "...Euro-American archaeologists find nothing of their ancestry in America's antiquity, they can only present externalist perspectives—like spectators to some ancient drama. Aboriginal actors can present an internal viewpoint—like actors in an ancient drama" (2006:207). Therefore, artifact

collections may hold significant value for descendant community members and may also enable future collaboration between archaeologists and indigenous community members.

The importance of extant collections can also be attributed to the general public. Teresa Moyer, of the Society of American Archaeology writes that “archaeological collections can be incorporated into the daily experiences of many people who would not ordinarily think of archaeology as pertinent in their lives and work” (2006:2). The benefits of archaeological collections accrue individuals of all age ages and professions. For example, archaeological collections may be used by researchers of other disciplines such as ecology. An ecologist may use an archaeological collection to understand past environments and human-environment relationships (Moyer 2006:3). In addition, Moyer writes, a historian may use an archaeological collection to complement traditional sources of data (2006:3). Furthermore, archaeological collections are also used by educators. Archaeologists and researchers at the Burke Museum in Washington State, in collaboration with culturally affiliated groups the Muckleshoot, Suquamish, and Tulalip tribes developed archaeological kits based on archaeological collections from The West Point Archaeological Site Complex (Phillips 2004). The kits were developed to provide unique educational experiences for school children and “...to teach the public that archaeology can have important impacts on our everyday lives” (Phillips 2004:38). Educational experiences are also generated by using archaeological collections in museums. For instance, the Nevada State Museum not only provides access to its collections for researchers, academics, federal and state archaeologists but provides a behind-the-scenes tour for members of the public (Moyer 2006:5). This helps the public appreciate the history of the Great Basin through the interaction of archaeological collections, some of which are several thousand years old (Moyer 2006:5). Interestingly, developing educational experiences by utilizing archaeological data in ways such

as this may actively engage the public, thus promoting the importance of archaeological data. Various members of society may utilize archaeological collections for research or educational purposes, therefore the proper curation of these materials is essential to the future value of these materials.

The proposed venue for publication for this thesis is *Ontario Archaeology*. This paper focuses on a regionally specific curation challenges in the province of Ontario, and therefore, the intended audience of this research is archaeologists who are actively engaged in archaeology in Ontario. I intend to reach as many Ontario archaeologists as possible in hopes that a collaborative discourse will be developed for tackling the legacy collection crisis in the province. In addition, the *Ontario Archaeology Society* encourages individuals to speak out about poor management practices and encourages the advancement of archaeology through collaborative efforts. This research approaches both avenues.

## Chapter 2: Ontario's Archaeological Curation Crisis – Twenty Years Later

With the rapid increase in development projects causing the exponential rate of archaeological excavation in Ontario, collections have been growing for decades (see Cannon and Ferris 2009, Ipsos Reid 2014). Unfortunately, archaeological collections remain situated in locations that often do not provide appropriate curation standards for proper care, including some that remain in the hands of private archaeologists, waiting for future care (see Ipsos Reid 2014). This paper primarily focuses on archaeological collections that have been accumulating under the care of licenced or avocational archaeologists. Though curation challenges exist in many public institutions around the province (see MTCS 2016), a shocking number of collections have been accumulating over the last twenty years that have been primarily excavated by consultant archaeologists (see Ipsos Reid 2014). The majority of archaeological assessments are undertaken by CRM firms which contributes to the production of archaeological materials on a grand scale (Uchiyama 2015). The systematic excavation of archaeological sites prior to development is increasing every year. This questions the sustainability of a process where there is no economic benefit to leave sites undisturbed for future generations (Uchiyama 2015:4). It is clearly time to turn our attention to the amassed collections and to take the advice of Alexander von Gernet who, more than twenty years ago, identified a “neglected task” that still haunts Ontario

Archaeology today:

... should some calamitous legal, socio-political, or economic transformation suddenly precipitate a suspension of all fieldwork, archaeology would continue in the province and might even undergo a temporary fluorescence as excavators turn their attention to the neglected task of analyzing and describing extant collections, revisiting long-held axioms, and publishing fresh ideas on old questions. That most of us have been guilty of

letting the digging outstrip the writing is evidenced by the oft-expressed lament that vital evidence is cached in a secluded basement or among the folds of a colleague's grey matter, as well as by the plethora of references to "personal communication." Even if a prohibition on fieldwork became permanent, we ran out of sites, and the writing caught up with the excavating, archaeology would not cease. Historians demonstrated long ago that new insights into past cultures are not dependent on new sources of "raw" data (von Gernet 1994: 3-4).

The term 'archaeological collection' refers to cultural artifacts recovered from an excavated region including material remains and associated records and report (Childs and Sullivan 2004:4; Drew 2004; Eiteljorg 2004; Parezo and Fowler 1995). Childs and Sullivan (2004:4) write, "a collections of objects is not an archaeological collection unless it is accompanied by a set of integrated records that document the original contexts of the objects". Successful stewardship of archaeological collections involves caring for all materials included in an archaeological collection. The term *curation* involves the careful stewardship and management of archaeological collections, including accessioning, cleaning, cataloguing, maintaining, processing, publishing, storing artifacts, and their associated documentation (Kersel 2015:42). A commitment to this process ensures that archaeological collections, many of which are unique and irreplaceable, are preserved and accessible for future research, from which knowledge can continuously be obtained, gathered, and disseminated to the public (Childs and Sullivan 2004, Kersel 2015; Marquart et al. 1982).

## **2.1 Background and Context**

Archaeologists and the public have been aware of a curation crisis since at least the 1990s, when Elaine Dewar published a prominent article (1997) in *Toronto Life* magazine that outlined storage challenges faced by archaeologists in the province. One of her most important sources was William Finlayson, a productive Ontario archaeologist, who expressed his frustrations with

Ontario archaeology at the time. He told her, “Ontario Archaeology is a national and international disgrace” (Dewar 1997:85). Finlayson informed Dewar that the government spent millions of dollars each year on heritage but failed to protect the artifacts removed from the ground. He also noted that artifacts held in trust for the people of Ontario are housed in improper storage conditions, including archaeological collections stored in mouldy basements. This is partly due to the procedures outlined in the *Ontario Heritage Act* (1990), where archaeologists must hold their collections “in trust” for the people of Ontario and the Crown, and seek direction from the Minister of Tourism, Culture and Sport to deposit archaeological collections in an appropriate facility. Often, when an archaeologist fails to find the appropriate repository space, collections end up resting within his or her personal storage. Dewar also interviewed Dr. Ron Williamson, the founder of Archaeological Services Inc. (ASI). Williamson explained that ASI donated over 60% of their cultural artifacts to museums and other facilities at the time, but the rest of the material was stored within the firm’s basement. While observing the makeshift storage facility, Dewar discovered that cultural artifacts were stored in questionable conditions (1997:87). Climate control within the facility was lacking and a hint of mould was sensed in the basement where artifacts were stored. This phenomenon discovered by Dewar at ASI was considered common during this time, as a similar situation was present at the Ontario Ministry of Tourism, Culture and Sport. Dewar noticed that the Ministry’s archaeological collections were stored within a storage locker of an industrial storage facility, which constitutes a small room about ten by twenty by eight feet high. There was heat and air conditioning, but lack of proper climate control caused temperatures to fluctuate and hence, were unable to keep artifacts in stable condition (Dewar 1997:89). Further, Dewar explained that due to the lack of proper surveillance of the storage rooms, artifacts stored by the Ministry at this time were often times

housed without safety measures, thus leaving artifacts at risk of being looted. Her article was a damning indictment of the curation of Ontario archaeological collections as of the mid-1990s.

Many of the problems identified in Dewar's article still persist nearly two decades later. Researchers have expressed further concerns relating to the misfortunes produced when archaeologists are responsible for their own collections. Not only do artifacts deteriorate over time when housed in improper curation facilities, but leaving an archaeologist responsible for housing artifacts can also lead to other repercussions. Without a contingency plan, artifacts stored in these conditions can be inadvertently discarded, increasing the chance of losing cultural material rendered important for future archaeological research. Ron Williamson (2010:37-38) writes:

A few years ago, a colleague who was a CRM archaeologist died alone in his apartment after having suffered a cerebral hemorrhage. Within a week, the tragedy of his death was compounded when his landlord discarded boxes of archaeological material that he had recovered the past two decades. Those tens of thousands of artifacts are gone forever but what is worse – most of them were made by the ancestors of the First Peoples of Ontario and they should have been maintained by the Province.

Ideally, examples like this should not occur. However, archaeologists continue to have trouble making donations to museums and major institutions and, often, collections do not end up in a well-maintained repository space (Ipsos Reid 2014; Williamson 2010). Further, researchers have also expressed that while archaeological collections lie in private storage they are inaccessible for research purposes, publication and educational endeavours (Uchiyama 2015).

Recognizing this problem, in 2014 the Ontario Ministry of Tourism, Culture and Sport (MTCS) hired the market research firm Ipsos Reid to quantify the number of archaeological collections stored in various locations within the province (Ipsos Reid 2014). The company surveyed 188 archaeologists and concluded that over 17,000 standardized boxes of collected artifacts are housed by archaeologists within storage facilities or other personal housing locations

(Ipsos Reid 2014:10). Interestingly, the survey identified that within the next 10 years, over 30% of the archaeologists surveyed will be retired (Ipsos Reid 2014:13) The majority of these archaeologists have not made plans for their collections once they withdraw from the industry (Ipsos Reid 2014:29). In addition, according to the survey, 51 percent of respondents suggest that their collections are managed within their consulting firm, while 48 percent of respondents manage their collections personally (Ipsos Reid 2014). Nearly one third of the archaeologists surveyed store collections privately. These privately stored collections are more likely to be managed without specific curatorial guidelines (Ipsos Reid 2014:22). Shockingly, MTCS has not issued curatorial guidelines for archaeological collections, nor have they included appropriate collections management procedures within the *Standards and Guidelines for Consultant Archaeologists* (see MTC 2011). For these reasons, remaining archaeological collections should be situated in a facility where they can be monitored properly in perpetuity.

Another problem that Ipsos Reid identified is the lack of development providing finances for the curation of archaeological materials once they are excavated. Unfortunately, until recently, most archaeologists did not add costs of curation into project budgets, and it is likely that many still do not. In a competitive industry, consulting firms who add curation and collections management costs into project budgets are unlikely to win bids. Therefore, it is likely that many companies do not consider additional costs for curation and are forced to find their own private storage locations for cultural materials.

Sustainable Archaeology (SA), which opened a few years ago, was built to provide archaeologists with a facility that could adopt archaeological collections and provide future research opportunities for students and researchers. SA was funded by a Canadian Foundation for Innovation Research Grant and the Ontario Research Fund with a grant close to 10,000,000

dollars awarded to Dr. Neal Ferris and Dr. Aubrey Cannon (Cannon and Ferris 2009:12). The facility, with repositories in Hamilton and London, contains space to house 80,000 standardized boxes of cultural material. SA provides a progressive alternative to other facilities by consolidating Ontario's rich archaeological past. SA's management procedures also offer easily accessible archaeological information for researchers, descendant communities and members of the general public (Sustainable Archaeology 2014). In addition, the archaeological data from the collections is digitized for future inquiries. Interestingly, SA also features an advisory board that works in collaboration with First Nations representatives to safeguard the values of descendant communities regarding the archaeological use and management of collections (Sustainable Archaeology 2014). Therefore, SA provides exceptional curation procedures for Ontario's archaeological collections.

With the addition of a facility like Sustainable Archaeology, archaeologists have an appropriate repository to send accumulated collections. As will be shown, however, many archaeologists still do not have the appropriate financial means to send collections to this facility. Though it has been almost twenty years since Elaine Dewar addressed this issue, it seems that even with the establishment of Sustainable Archaeology, there has been limited progress responding to these challenges. There are still millions of artifacts left in unfavourable conditions, curated with the lack of specific guidelines, and left in various private storage locations (Ipsos Reid 2014:27).

There remains two substantial parts to the curation crisis in Ontario. Part one of the problem is the challenge of adopting strategies to provide appropriate care for the remaining collections in the province. The second part of the problem is to prevent the situation from re-developing. This study aims to explore archaeologists' current perceptions of the legacy

collection crisis nearly two decades after Elaine Dewar brought it to public attention, and to propose solutions for remaining collections and ones that have yet to be excavated. The survey produced by MTCS makes note of some of the greater challenges faced by archaeologists today when seeking curatorial responsibilities for their excavated collections; however, the survey only briefly scratches the surface of the ongoing challenges that are experienced by archaeologists while adopting procedures to address curatorial struggles. This study aims to address these challenges and to initiate a discourse to promote collaborative solutions to save Ontario's valued legacy collections before they are lost forever.

## **2.2 Definitions**

There are two types of artifact collections discussed in this paper. A "legacy collection" in this paper is a collection of materials that has been produced by any licenced archaeologist in the province of Ontario and has not been transferred to a public institution. A "private collection" consists of materials that have been collected by any member of the public not licenced by the Ministry of Tourism, Culture and Sport. A "standardized box" of archaeological materials referred to in this paper is used as the typical container size of collected material which is equivalent to a 15" wide x 12" deep x 10" high "banker's box" (Sustainable Archaeology 2014).

## **2.3 Methods**

The methods employed in this study included a literature review on the issue facing archaeological collections management world-wide, and semi-structured interviews with archaeologists in the Province of Ontario. A total of five participants were selected to participate in this study, all of whom are professionally licensed archaeologists in Ontario. The five

participants were selected by the researcher, on the basis of their experiences working with private collections, legacy collections, and their familiarity with collections management issues in Ontario. This type of nonprobability sampling is used when collecting information about cultural data. Expert informants are selected by the researcher for their competence in the subject (see Trembley 1957 cited in Bernard 2011:153). The participants in this study who were selected to take part in this study responded swiftly and agreed to participate. Direct identifiers have been removed in this paper to establish confidentiality and to protect the researcher and each participant. Prior to the interviews, participants were informed that their anonymity could not be absolutely guaranteed because of the focused, tight-knit community of archaeologists working in this area of study. These individuals are instead referred to as P1, P2, P3, P4 and P5 throughout this paper. This study was cleared by the ethics committee at the University of Waterloo on July 13, 2016.

Semi-structured interviews were used as a primary form of data collection. Interviews were designed to follow a set of fifteen questions including individuals' experiences working on private collections and the value of these collections to their research. Questions were asked about the composition of these collections which aimed to seek information relating to provenience and contextual documentation. Some participants discussed experiences working with private collections held by members of the public, while many discussed detailed information about legacy collections held by avocational archaeologists. Participants were asked about collections that have been misplaced, lost or improperly cared for. For CRM collections, questions were asked to identify current problems and major reasons for improper storage. In addition, questions were asked to determine why archaeological materials have yet to be transferred to a public institution. Furthermore, questions were proposed to participants to initiate

a conversation in aims of developing solutions attending to collections management challenges. Each interview lasted approximately 30 to 50 minutes. Interviews were transcribed into a text document and sent back to each participant to ensure that the transcript contained a true representation of our conversation.

## **2.4 Results**

### 2.4.1 Current Scope, 2016

If archaeologists are to develop and implement solutions to the legacy collection problem in Ontario, then the current scope of the problem must be well documented. One participant in this study expressed the challenge in this way: "...We have a crisis in part because we haven't even wrapped our heads around why it is a crisis, we just know there is a [large amount] of stuff and we do everything in our power to hide from [the] fact [of] what the scale of this is..." (P4).

The number of legacy collections held in storage by licenced archaeologists was estimated to be at least 17,500 standardized boxes by Ipsos Reid in 2014. Shockingly, according to P4, the number of legacy collections in the province may be currently totaled at 30-35,000 standardized boxes. For the sake of this paper, I will average the range to 32,500 standardized boxes in Ontario. This number does not include collections held by museums or other institutions (P4). The quantity of legacy collections will likely continue to rise due to the increase in development projects and sequential archaeological excavations in the province (see Uchiyama 2015). Interestingly, the composition of legacy collections is almost equally balanced between First Nations and Euro-Canadian materials (P1). This was similar to Ipsos Reid's original estimate of collections that are of aboriginal origin (51 percent) (Ipsos Reid 2014). Unfortunately, due to improper storage, many of these archaeological collections have

deteriorated and some have been lost. For that reason, there are strong variations in the remaining research potential of many archaeological collections in the province of Ontario. However, there are clearly some collections that have been curated in better conditions and have characteristics that make them valuable for future archaeological research.

Three participants implied that it is absurd that archaeological collections continue to be stored by private individuals (P3, P4, P5), which has contributed to their deterioration. Of the proposed 32,500 legacy collections in Ontario, it was suggested by P4 that 20-25% of the materials will have “degraded past the point of any value,” based on collections that are more than a decade old. P4 explained that artifacts are still situated in unfavorable conditions: “...they [collections] are thrown on a shelf somewhere, new collections come in and they are moved around, they are corrugated cardboard boxes for the most part which are prone to Asian cockroach vermin, mice and rats, so you get mice [feces and urine] and contaminated collections very quickly” (P4). Faulty storage conditions such as these will have rendered such collections unfit for research purposes. P4 noted that this can be as simple as the artifact bag losing its label, water damaging the label producing illegible data, artifact water damage, and/or contamination from rodent vermin and other waste making it difficult to use the artifacts and contextual data. Furthermore, P4 also explained that digital data associated with archaeological collections is often lost as well. This is due to the continual updating of computer software which renders older software obsolete. If the digital data are not continually converted into up-to-date formats, they are effectively lost. This can cause a great loss of data including contextual information which renders the collection unusable for the purpose of archaeology (P4).

It is possible to document the fact that valued collections stored by archaeologists that may have provided significant research opportunities have been lost in Ontario. One example

was provided by P3, who described a scenario in which an avocational archaeologist named John Morrison had been collecting materials off of the Parsons site in the 1950s and hadn't made plans for its future. According to P3, the collection of around 400,000 artifacts was extraordinary and the majority of the materials were diagnostic. It contained items that were "gorgeous," and "beautiful" and included objects that P3 had never seen before. Some of these items were removed from middens and included effigies and rattle pipes, much of which was rare Iroquoian material. Sadly, after Morrison's untimely death in the early 2000s the materials that he had collected were moved to the curb and discarded as garbage. P3 described that a catalogue of some of the materials exists but the exact proveniences and the artifacts themselves are forever lost. Situations like this may occur because, as suggested by P3, the Ministry doesn't keep track of where these collections are stored; they only know that the collection is associated with the archaeologist responsible for those materials.

Of the 32,500 legacy collections stored in Ontario, some have certainly been curated responsibly and will have considerable future research value. An example is Charles Garrad's collection. Garrad is an influential avocational archaeologist who produced substantial archaeological documentation on the Petun from the region near Collingwood and the Blue Mountains (ASI n.d.). His collection contains many high-valued items considered "world-class" according to ASI (ASI n.d.). Some of the items are originally from the village of "Etharita", a mid-seventeenth century Tionontate village which was a safe haven for many Huron-Wendat escaping Iroquois invasion (ASI n.d.). Evidently, Garrad's collection was organized by site and catalogued appropriately (P3). In addition, the collection was preserved well and contains intact provenience information (Anderson 2015). These characteristics indicate that Garrad's collection has much remaining research potential for future study. Uniquely, it has been processed and

prepared for accessioning into a permanent repository through collaboration between Garrad himself and ASI. In addition, summer interns also provided support through funding supplied to the Ontario Archaeological Society by a provincial Summer Experience Program (SEP) grant. An unpaid intern from the University of Toronto iSchool also worked on the collection to help process it (Rob MacDonald personal communication, 2016). ASI provided the necessary supervision, facilities and resources to carry out this work. The final step will be finding a permanent repository willing to take and curate the collection in perpetuity. Although this example is promising and may provide a model for a few other valuable legacy collections, it is unlikely that any CRM firm could or would accomplish such a task alone, since the costs are significant (Rob MacDonald personal communication, 2016). CRM firms would likely have challenges paying interns or their own employees to process a large collection like Garrad's without external financial support. In addition, many CRM firms likely do not have the same resources and facilities that ASI does. These challenges become more evident in the following sections and further suggest that archaeologists have trouble maintaining their own collections let alone caring for additional ones.

#### 2.4.2 Ongoing Challenges

Budgeting challenges in the heritage sector were identified by several participants.

Unfortunately, financial limitations in this sector contribute to the challenges of appropriately caring for legacy collections. P5 implied that there is limited money available for heritage from within the government.

“With consistent funding cuts from the 90s there hasn't been a good economic time for this sector, you know for museums. For the heritage sector since the 80s, I'd say. With

consistent funding cuts [museums] have a really hard time storing things, so even when an archaeologist tries to find homes for these things they are being told “no” (P5).

This financial challenge was also identified in 2015 by MTCS in a survey of 29 public institutions including universities, museums and First Nations cultural centres. Unfortunately, the most critical need for museums is more funding (MTCS 2016:3). These financial constraints in that sector further the inability of many museums to adopt additional collections, which in turn contributes to the overgrowth of accumulated collections in the care of CRM archaeologists.

Most participants implied that they saw the value in utilizing a repository such as SA. However, the accessioning and perpetual curation of archaeological collections by repositories such as museums or the Sustainable Archaeology facilities costs a lot. All participants reported that most archaeologists cannot afford the transfer and processing fee charged by SA. Although SA has plenty of storage space for the accumulated collections in the province, the operation and management costs associated with managing collections in perpetuity is very expensive.

According to P1 and P3, generating money to build a repository is relatively easy; however, P1 notes that the issue at large is operations and management costs. To make up for these ongoing expenses the institution requires a per-box fee associated with archaeological collection transfers to the facility. However, many archaeologists still do not budget these costs into archaeological projects. P4 suggests that consultants believe collections management is a short term issue and as a whole do not budget for long-term care of collections. P2 notes that even when curation funds are budgeted, projects run longer than expected, and the finances that would be used for curation are used for other purposes. Furthermore, P5 notes that the costs for curation at SA are not out of line, however, P5 couldn't afford to pay for the price SA is asking for transfer. These factors all contribute to the improper curation of archaeological materials in the province.

These costs that SA charges for processing and transfer are variable depending on the condition of the archaeological collection. The least expensive option is \$150 per box to transfer a collection that is completely ready to be accessioned (Sustainable Archaeology n.d.). Collections that require processing are \$400 per box and collections that require rehabilitation are \$675 per box. Thus, at the lowest tier it would cost \$4,875,000 to move all of the 32,500 legacy collections to Sustainable Archaeology at \$150/box ( $\$150/\text{box} \times 32,500 \text{ collections} = \$4,875,000$ ). Unfortunately, many of the suggested 32,500 legacy collections probably require processing, thus making the total cost of transferring them all to SA much higher. For example, if collections require processing at \$400/box then cost would be \$13,000,000. These numbers are speculative, but they do address the extraordinary financial barriers that lie between archaeologists in the province and the ultimate goal for archaeological collections still remaining in private storage.

Addressing these financial concerns becomes even more challenging because of the apparent lack of government support and public awareness of the legacy collection crisis in the province despite it having been publicized almost a generation ago (Dewar 1997). P5 notes that collections management itself is at the bottom of the list of priorities of concern within provincial government budgeting. In addition, P5 suggests that collections management priorities may wane with political agendas. Furthermore, two participants (P3, P5) identified challenges that exist while attempting to gather support from the general public. P5 notes that the public likes to see things completed and they may not see the benefit in artifact collections or the value in developing solutions for curating them. More shocking however, is the lack of public awareness of this issue. P3 acknowledged his frustrations in this way:

So all of this stuff, is sort of in this mixer, and all of it is mixing around, and my biggest frustration is nobody seems to care, nobody seems to want to do anything about it and it drives me a bit insane that we can be talking about reconciliation and ignoring 12,000 years of history

that is sitting all over the province in church basements, and garages, and stinky places, poorly managed. The thing that bothers me the most I think is that nobody has any idea about the problem.

Thus, ultimately the primary challenge to curating legacy collections appropriately in Ontario is a financial one. The intensive collaboration in managing and processing Garrad's collections may be a model for a solution for other legacy collections but with the lack of finances available to archaeologists most collections will remain in private storage and are likely to stay there. Processing and transferring collections is impossible without financial aid and with the lack of prioritization and funding for archaeology and collections management from the government, providing adequate care for archaeological collections is challenging. Further complicating the situation is the public's very limited awareness of archaeology. For these reasons, movement is halted for gathering financial support for collections that may have remaining research value like Garrad's.

#### 2.4.3 Potential Solutions

Some of the participants in this study gave detailed information about some potential solutions to solve the legacy collections crisis without much prompting from the researcher. Others participants were asked about their opinions on how to tackle the major current challenges. The major theme present in what they said was that archaeologists need help caring for legacy collections.

All five participants suggested that financial relief should aid in the development of a solution for collections situated in unfavorable conditions. Four participants (P1, P5, P3, P4) expressed the belief that financial support should be solicited from the government through political means; however, the methods they said should be used to attract political attention differed. Four participants agreed that money should be obtained through political measures. I

interpret this solution as providing money to transfer and process collections at a repository like SA. Two participants suggest that collaboration with First Nations individuals may help attract the government to apply financial aid (P1, P5). P1 says:

...that's the only way it's going to work, and I've said many times, the only way the government is going to take archaeology seriously other than the cocktail party set of influencers, is through strong First Nations cooperation and support. They have more leverage than they've ever used so far, and you know it's starting to heat up now. Yeah I think that's the only way the government can be encouraged to take on their responsibility.

P5 argues that First Nations can apply pressure to see their collections cared for, but they need funding to help manage collections. P5 explains, "If [First Nations] can start applying more pressure on a political level to get this situation dealt with, that is where the impetus will come from". P5 also implied that government support would not come from archaeologists' efforts alone.

Political attention can be gained in other ways. This example was explained in response to a recent development in Toronto, where politicians have adopted a management plan for archaeological artifacts around and near the city of Toronto to be housed in a new facility (see Loric and Williamson 2016). The opportunity to begin developing a management plan for archaeological collections in Toronto came after the vocalization of the issue was made through public media. Toronto City Council quickly responded to the issues and have explained that they will prepare a report by June 2017 to identify the number of collections held by consultants, how many more will come in the future, and the costs of curation of these materials. Politicians were quick to offer financial support for this issue after becoming aware of the poor storage of legacy collections in Toronto, Ontario (Toronto City Council 2016). However, the direct outcome of this proposal is still awaiting follow-through. P3 suggests that five million dollars requested for the 25,000 legacy collections in Toronto would be used to transfer collections into a repository

that is co-managed. A model for a solution such as this may be used to address the provincial curation crisis; however, archaeologists are still waiting to see if financial support to build a repository is actually distributed.

Archaeologists need help caring for collections. The need to attract political support to provide financial aid is clearly evident. However, with the challenges still plaguing the heritage sector in 2016, it is difficult to envision how we could gather enough financial aid to save all archaeological collections. Realistically, there is no archaeological justification for government support without first exploring the research and public value of these materials. Identifying collections that are higher priority than ones that have remaining research potential may be a first step in addressing this issue.

## **2.5 Discussion**

The proposed solutions in this study highlight the financial challenges facing long-term artifact curation in the province. The solutions that were proposed in the interviews were not clear; this could be due to the questions asked in the interview which didn't draw precise answers for the legacy collection problem. Regardless, considering the scope of the issue, with help from the government and the public, archaeologists must develop creative solutions to save remaining collections that are valuable for research purposes and future educational opportunities.

There is a need for an immediate response to the legacy collection crisis in this province. Over the last twenty years the number of legacy collections has grown substantially and unfortunately, as I write this paper, several collections are still situated in flooded basements, rotting, exposed to rodents and other vermin. The remaining research potential of these collections is degrading fast. As a public, we are failing to protect the data that we fondly

cherish. Ultimately, what is the main goal of archaeology in this province if our collections are left to decompose?

Money seems to be one of the biggest limitations in our attempts to develop solutions for the privately stored archaeological collections in the province. Unfortunately, it is unlikely that government can be persuaded to provide enough money to transfer all collections to a repository. However, persuading the government to provide money for a subset of collections, for which archaeologists can document their importance, might be possible. Therefore, archaeologists might adopt a process where existing legacy collections are triaged. This process identifies “important” collections that contain contextual information, remaining research value, and remain in solid condition. It may be possible to persuade the government to provide the financial means to transfer a subset of collections that meet these characteristics. Notably, this procedure is developed through an “archaeo-centric” perspective which places value on the remaining scientific integrity of an archaeological collection. Other publics may utilize a different set of criteria for determining the remaining value contained within archaeological collections. For example, some descendant communities may place value on specific items of spiritual importance (see Latta et al. 2015). However, because of the striking number of remaining collections in the province, it is of critical importance that archaeologists start to develop such a process.

Equally important in this process would be the removal of collections that do not share these qualities. Most archaeologists are trained to keep everything that is excavated from a site which has resulted in an obsession to curate all collections. Everything is washed and recorded, labeled, inventoried and catalogued, while nothing is discarded, save for a few exceptions (Kersel 2015:47). Every piece of a collection is considered valuable for scientific research

(Kersel 2015:47). While appropriately handling and curating all collections results in the succession of immediate and future research goals, mismanagement of these collections results in the deterioration of research value and the inaccessibility of data (Marquart et al. 1982:409). Therefore, it is desirable that archaeologists remove collections from their storage that are *not* desirable for research purposes. Archaeologists must be officially released from their responsibility expressed within the *Ontario Heritage Act* (1990). These actions need to come from MTCS and in addition they also need to provide guidelines for unusable legacy collections. In an ideal world, all archaeological collections would be preserved and saved, however because we failed to accomplish this task we must move forward and save the collections that are still worth saving. Sorting through archaeological collections is a necessary step in determining successive solutions for collections that remain valued and ones that do not.

The triage process may identify collections that are valued that are in need of immediate transfer to an institution like Sustainable Archaeology or to a descendant community with appropriate curation facilities. Thus, it is possible to locate these collections and strategically convince the government to provide funding for artifact transfer to a proper repository space and their long-term management. But what about collections that are considered unimportant for archaeological research? Some scholars have proposed alternative solutions for these collections. Kersel (2015:53) writes, “In a world where space is equated with money, archaeologists must face the hard reality that we simply cannot keep everything”. Kersel suggests that a “catch-and-release” policy for archaeological excavation should be adopted. A “catch-and-release” method is a procedure that involves the recording of archaeological data and the collection of artifacts from the initial excavation and sequentially removing them from storage. Artifacts are then distributed to their original place of origin (Kersel 2015:47). Old collections that do not meet the

objectives of a museum or repository should be removed from storage and deaccessioned upon consultation with descendant community members. The process of deaccessioning archaeological collections means that the current repository will no longer hold an object in perpetuity (Kersel 2015:48). According to Kersel (2015), this practice is highly contentious in archaeological practice. Although conflicting, the interviewees agreed collections do not share the same research value and creative solutions must be adopted. P4 shared an interesting perspective from an indigenous advisor that suggests cultural values and beliefs may also support the removal of certain collections from storage:

In those contexts, if the collection is deemed not to have any value then what do we do with that collection? One of the indigenous advisors said, “well maybe what we should do is pulverize that material and put it as the bedding for a path, and make the path in a park where we are celebrating the heritage of the indigenous peoples here.” We are literally walking over that path. In other words, this is what we do when we walk over an archaeological site that hasn’t been excavated. This is underscoring the point, that this material is in the ground and it is part of that heritage. That was a really interesting idea and I would be hard pressed in terms of my own philosophical and intellectual understanding of this issue, that this has less value than sitting on a shelf in dusty boxes somewhere where no one is ever going to look at because it is just more broken pottery or more broken stone, but some archaeologist is afraid that someday, somewhere, somehow, someone is going to come along and advance the science of archaeology. That is such a naïve statement when we know the scale of what we ourselves are doing let alone anyone else.

How could archaeologists accomplish such a contentious task: sorting through valuable archaeological materials and de-accessioning ones that are unimportant for research purposes when we have been trained to keep everything and to treat all artifacts equally? I suggest that archaeologists should form a task-force of sorts that could group together with collaboration from descendant community representatives and travel to various locations and offer to provide a service that could sort through remaining collections in private storage. This task-force would help process valuable archaeological collections for their ultimate deposition within SA where further collaboration with descendant community members would be applied, while spiritually significant items could be transferred to culturally associated groups. In addition, collections that

are rendered unusable for the purposes of archaeology could be adopted by this team as well and decisions would be made on how to ethically remove them from storage and develop responsible solutions for these materials if they hold no value for descendant community representatives. Finances for this project would have to be supplied by the government because archaeologists cannot afford this task alone. Furthermore, it is important to note that by addressing a solution to this problem in this way, it is likely that a fund provided by the government would be a lot less than the proposed \$4.8 million dollars to transfer everything the SA. Realistically, one million dollars could probably cover the costs of the processing of valuable collections that have been stored that do not require much rehabilitation. This fund would also cover the costs of determining solutions for remaining collections that have minimal remaining use. Although this approach would not completely solve the problem it may initiate collaboration between archaeologists, the government and descendant communities to start dealing with this issue.

These recommendations may contribute to a solution for the remaining 32,500 collections in the province, but what about collections that are excavated in the future? To address the second part of the legacy collection crisis archaeologists and the provincial government need to prevent the continued growth of legacy collections in the province. To halt another curation crisis from developing, there are a few things that could be accomplished. Completely avoiding archaeological sites during development would prevent the accumulation of excavated materials that are removed from the ground during development purposes. This strategy exists in the Provincial Standards and Guidelines for Consultant Archaeologists. Developers and archaeologists should protect and avoid archaeological sites that have high potential prior to Stage 4 excavation (see MTC 2011). If a site can be protected through avoidance this should drastically limit the number of archaeological collections that are removed from an excavation. If

an archaeological site cannot be protected through avoidance, the government needs to produce legislation that requires archaeologists to provide the finances to adopt appropriate curation standards for excavated collections prior to an archaeological assessment. Moreover, it is important that MTCS develops a document for proper curation standards and that these requirements are added to the *Standards and Guidelines for Consultant Archaeologists* (2011). Taking these proactive steps should limit the number of collections that are excavated in the future and prevent archaeological materials from becoming situated in poor conditions where a primary caretaker is absent or has passed away.

## 2.6 Conclusions

Archaeological collections in Ontario continue to grow. As times passes, more and more collections will continue to degrade and lose archaeological value. As archaeologists we have an ethical and moral obligation to protect these materials for future generations; however, there are still financial challenges that hinder proper curation procedures. To respond to these challenges, participants in this study suggest the need for gathering public and political attention for financial support. However, because many archaeological collections have lost much of their archaeological potential in the last decade, justifying financial support for all of these materials is difficult as priorities for conserving heritage remain low among government offices and members of the general public. However, it is possible the government may be swayed to help provide financial support for collections that have remaining value, and thus, deaccessioning old collections that have deteriorated or are “redundant” may leave more room for incoming collections. Limiting the growth of archaeological collections by avoiding complete excavation should prevent another curation crisis from developing in the province. In addition, the establishment of appropriate legislation may see that proper care is provided for collections that are excavated in the future. Indeed, further research is necessary to determine the composition and value of archaeological collections in the province of Ontario. Only then can strategic solutions be developed for this curation crisis.

## References

- Ainslie, P.  
1999 Deaccessioning as a Collections Management Tool. In: *Museums and the Future of Collecting* edited by S. J. Knell, pp. 173–93. Aldershot: Ashgate.
- Anderson, K.  
2015 A Fresh Start: Reboxing a Collection.  
<<http://www.ontarioarchaeology.on.ca/community-blog/3421062>>. Accessed November 10, 2016.
- ASI  
n.d. Etharita: Highlights from Charlie Garrad’s Collections. <<http://asiheritage.ca/portfolio-items/etharita-highlights-from-charlie-garrads-collections/>>. Accessed October 3, 2016.
- Atalay, S.  
2006 Indigenous Archaeology as Decolonizing Practice. *American Indian Quarterly* 30 (3-4): 280-310.
- Baway, M.  
2007 "Archaeology: curation in crisis." *Science* 317.5841 (2007):1025-1026.
- Bernard, H. R.  
2011 *Research Methods in Anthropology Qualitative and Quantitative Approaches Fifth Edition*. Altamira Press. Pp. 157.
- Biggar, H.P.  
1922-1936 *The Works of Samuel de Champlain in Six Volumes 1615-1618*, edited by J.H. Cameron, W.F. Ganong, and H.H. Langton. Champlain Society, Toronto.
- Bowman, B.  
2008 Transnational Crimes Against Culture Looting at Archaeological Sites and the “Grey” Market in Antiquities. *Journal of Contemporary Criminal Justice* 24(3):225-242. Sage Publications.
- Brodie, N. and Renfrew C.  
2005 Looting and the world’s archaeological heritage: the inadequate response. *Annual Review of Anthropology* 34:343-361.
- Cannon, A. and Ferris, N.  
2009 *Capacities for a Sustainable Archaeology* (talk). Ontario archaeological Society Annual Meeting, Waterloo, Ontario, October 17, 2009.

Coleman, Derek J. and Ronald F. Williamson

1994 Landscapes Past to Landscapes Future: Planning for Archaeological Resources. In *Great Lakes Archaeology and Paleoecology: Exploring Interdisciplinary Initiatives for the Nineties*, edited by Robert I. MacDonald, pp.61-80. Proceedings of a symposium presented by the Quaternary Science Institute, University of Waterloo, Ontario, September 21-22, 1991.

Childs, S. Terry and Sullivan, Lynne P.

2004 Archaeological Stewardship: It's About Both Collections and Sites. In *Our Collective Responsibility: The Ethics and Practice of Archaeological Collections Stewardship* ed. Terry Childs. Pp:3-21. The Society for American Archaeology, Washington D.C.

Danielson, E. S.

2010 *The Ethical Archivist*. Chicago: Society of American Archivists.

Dewar, E.

1997 Behind this door. Toronto Life, May 1997.

Drew, Natalie M.

2004 Preserving Archaeological Associated Records. In *Our Collective Responsibility: The Ethics and Practice of Archaeological Collections Stewardship* ed. Terry Childs. Pp:55-66. The Society for American Archaeology, Washington D.C.

Eiteljorg II, H.

2004 Archiving Digital Archaeological Records. In *Our Collective Responsibility: The Ethics and Practice of Archaeological Collections Stewardship* ed. Terry Childs. Pp:67-77. The Society for American Archaeology, Washington D.C.

Ferris, N. and J.R. Welch

2014 Beyond Archaeological Agendas: In the Service of a Sustainable Archaeology. In *Transforming Archaeology: Activist Practices and Prospects*, edited by S. Atalay, L.R. Clauss, R.H. McGuire, and J.R. Welch, pp. 215-238. Left Coast Press, Walnut Creek, CA.

Gadzala, D.

2014 The Preservation and Stewardship of Archaeological Sites in the Boreal Forest: A Public Issues Approach, M.A. dissertation, Department of Anthropology, University of Waterloo.

Glencross, B., G. Warrick, K. Anderson, S. MacKinnon, S. Millar, and S. Patterson

2015 The Chew Site (BeGx-9): A Case Study in the Value of Archived Collections. *Ontario Archaeology* 95:3-20

Goetz, P.

2010 Preserving Arctic Archaeology in the 21st Century: Threats of Climate Change, M.A. dissertation, Department of Anthropology, University of Waterloo.

Howard, A.J., K. Challis, J. Holden, M. Kinsey, and D. G. Passmore  
2008 The impact of climate change on archaeological resources in Britain: a catchment scale assessment. *Climatic Change*, 91:405–422.

Ipsos Reid

2014 *Archaeological Collections Management Study: Final Report*. October 2014.

Johnson A, Marrick, L. and S. Dolan

2015 Threats to Coastal Archaeological Sites and the Effects of Future Climate Change: Impacts of the 2011 Tsunami and an Assessment of Future Sea-Level Rise at Honaunua, Hawai'i. *The Journal of Island and Coastal Archaeology*.

Katzman, L. R., and K. A. Lawson

2009 The (Im)permanent Collection: Lessons from a Deaccession. *Museum* 88 (1):54–61.

Kersel, Morag M.

2015 Storage Wars: Solving the Archaeological Curation Crisis? *Journal of Eastern Mediterranean Archaeology and Heritage Studies*, 3 (1) 2015:42-54. Penn State University Press.

Latta, M. R.Z Smith, and M. Savard.

2015 Looking at Archaeology from all angles. *Heritage Matters*. Ontario Heritage Trust 13(2) October 2015:5-7.

Lorinc, J. and R. Williamson

2016 Ontario's Hidden Archaeological Scandal. Electronic document.

<https://www.thestar.com/opinion/commentary/2016/06/10/ontarios-hidden-archaeological-scandal.html>, accessed October 10, 2016.

Marquardt, William H., Anta Montet-White, and Sandra C. Scholtz

1982 Resolving the Crisis in Archaeological Collections Curation. *American Antiquity* 47(2):409-418.

Moyer, T.S.

2006 Technical Brief 19: Archaeological Collections and the Public: Using Resources for the Public Benefit. Electronic document. <http://www.nps.gov/archeology/pubs/techBr/TCH19.htm>, accessed November 2016.

MTC

2011 *Standards and Guidelines for Consultant Archaeologists*. <

[http://www.mtc.gov.on.ca/en/publications/SG\\_2010.pdf](http://www.mtc.gov.on.ca/en/publications/SG_2010.pdf)>. Accessed January 8, 2017.

Ontario Heritage Act

1990 (2009) Revised Statutes of Ontario 1990, c. O.18. Electronic Document.

<<https://www.ontario.ca/laws/statute/90o18>>. Accessed August 15, 2016.

Ontario Ministry of Tourism, Culture and Sport (MTCS)  
2016 Public Institutions Survey Results. Manuscript. Ministry of Tourism, Culture and Sport, Toronto, ON.

Parezo, Nancy J. and Don D. Fowler

1995 Archaeological Records Preservation: An Ethical Obligation. In *Ethics in American Archaeology: Challenges for the 1990's*, edited by Mark J. Lynott and Alison Wylie, pp. 50-55. Society for American Archaeology, Washington, D.C.

Perring, D. and Linde, S.V.D.

2009 The Politics and Practice of Archaeology in Conflict. *Conservation and Management of Arch. Sites* 11(3-4) 2009:197-213.

Philips, L.S.

2004 Adaptive Reuse: Incorporating Public Education into the Curation Process. In: *Our Collective Responsibility: The Ethics and Practice of Archaeological Collections Stewardship* ed. S. Terry Childs. Society for American Archaeology pp. 137-148.

Reeder, Leslie A., Torben C. Rick, and Jon M. Erlandson.

2012 Our disappearing past: a GIS analysis of the vulnerability of coastal archaeological resources in California's Santa Barbara Channel region. *Journal of Coastal Conservation*, 16: 187-197.

Sagard, Gabriel

1939 [1632] *The Long Journey to the Country of the Hurons*, ed. By G.M. Wrong. Translated by H.H. Langton. Toronto, Champlain Society.

Sonderman, R. C.

1996 Primal Fear: Deaccessioning Collections. *Common Ground* 1(2). Electronic document. [http://www.nps.gov/archeology/cg/vol1\\_num2/fear.htm](http://www.nps.gov/archeology/cg/vol1_num2/fear.htm), accessed November 3, 2016.

Stephens, H. H.

2011–2012 All in a Day's Work: How Museums May Approach Deaccessioning as a Necessary Collections Management Tool. *DePaul Journal of Art, Technology & Intellectual Property Law* 22:119–81.

Sullivan, L.P, and S.T. Childs

2003 *Curating Archeological Collections: From the Field to the Repository*. Altamira Press, Walnut Creek, California.

Sustainable Archaeology

n.d. Sustainable Archaeology Facilities at Western & McMaster. Electronic document. <http://www.sustainablearchaeology.org/facility-equipment.html#facilities>, accessed May 10, 2016.

Sustainable Archaeology

2014 Sustainable Archaeology Procedures and Practices. Electronic document.  
<http://sustainablearchaeology.org/procedures-practices.html>, accessed October 10, 2016.

Sustainable Archaeology

2015 Sustainable Archaeology – Our Mission Statement. Electronic document.  
<http://sustainablearchaeology.org/about.html#mission>, accessed November 16, 2016.

Toronto City Council

2016 City Council consideration on July 12, 2016. Electronic document.  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.MM20.15>, accessed  
November 10, 2016.

Trembley, M.

1957 The Key informant technique: A non-ethnographic application. *American Anthropologist*  
59:688-701.

Uchiyama, C.

2015 Heritage Hoarders? Archaeology Cultural Heritage Resources in Ontario. Unsettling  
Heritage: Critical/Creative Conservation Carleton University Heritage Conservation Symposium  
2015 Ottawa, March 28 2015.

von Gernet, A.

1994 Archaeology as Discourse: An Editorial Essay. *Arch Notes* No.57:1-19.

Voss, Barbara L.

2012 Curation as Research. A Case Study in Orphaned and Underreported Archaeological  
Collections. *Archaeological Dialogues* 19(2):145-169.

Williams, B.

2004 Opium pipe tops at the Market Street Chinese Community in San Jose. *Proceedings of  
the Society for California Archaeology* 17:219.

Williamson, R.

2010 Planning for Ontario's Archaeological Past: Accomplishments and Continuing  
Challenges. *Journal of American Archaeology* 28:7-45.