

A Native American Graves Protection and Repatriation Act Census: Examining the Status and Trends of Culturally Affiliating Native American Human Remains and Associated Funerary Objects Between 1990 and 1999

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Enacted on November 16, 1990, the Native American Graves Protection and Repatriation Act (NAGPRA)² is a broad-reaching legislative scheme targeted at regulating the protection and treatment of a defined class of Native American human remains and cultural items. While NAGPRA and its implementing regulations mandate the execution of a host of duties and obligations, the Act can be expressed as basically possessing two overarching, independent objectives. These objectives include: 1) the repatriation of culturally affiliated³ Native American human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony in the possession or control (collections) of Federal agencies and museums prior to the Act's passage; and 2) the protection of these cultural items, and if excavated or removed their disposition, on Federal or tribal lands after the Act's enactment. The focus of this article is on the implementation of NAGPRA's "repatriation objective" between 1990 and 1999. More precisely, the cultural affiliation determinations for Native American human remains and associated funerary objects⁴ during this time frame will be analyzed. In addition to providing nationwide statistics, the intent of this initial investigation is to illuminate the general mechanics of repatriation, identify patterns and relationships in the cultural affiliation process, reveal similarities and differences in the effectuation of the Act, and display trends in the affiliation record.

Data Source and Methodology

Notices of inventory completion (NIC) published in the *Federal Register* between 1990 and 1999 served as the data source for this analysis.⁵ Each published announcement indicates the entry of specific human remains and associated funerary objects into the final stage of the cultural affiliation process. Because they represent the only public notification for repatriating these cultural items, and detail Federal agency and museum cultural affiliation decisions, NICs are the most accessible means to investigate the national implementation of this repatriation format.⁶ As a data source,

NICs offer an abundance of insightful information about the methods Federal agencies and museums employed to culturally affiliate human remains and associated funerary objects, as well as general descriptions of these cultural items and the basis for their cultural affiliation.⁷ Essentially, each published notice should summarize the contents and findings encapsulated within a corresponding NAGPRA inventory.

A total of 317 NICs and 15 corrections were published in the *Federal Register* between 1990 and 1999. However, the individual notices do not always represent a single case of cultural affiliation. Rather, a few contain dissimilar collections of human remains and associated funerary objects, which were determined to be culturally affiliated with one or more separate Native American groups. Thus, the 317 NICs represent 353 individual cases of cultural affiliation.

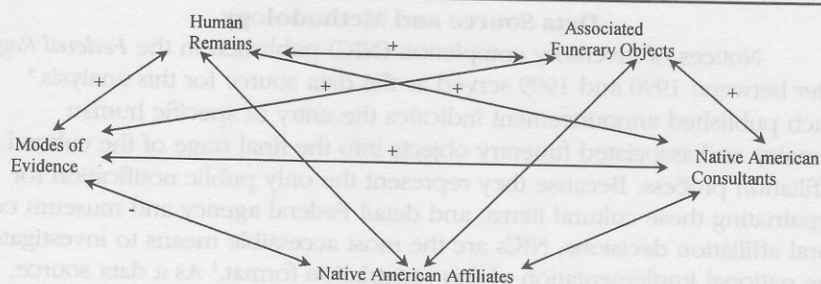
Data Exploration: Model Building, Comparison, and Analysis

To effectively explore the practice of culturally affiliating human remains and associated funerary objects, it was beneficial to construct a pre-NAGPRA implementation model that produced an expected general outcome for this complex, multifaceted process. The development of this basic variable relationship model acted as a useful means to compare the modeled outcomes generated from the analysis of corresponding data extracted from the combined (Federal agency and museum), Federal agency, and museum published NICs.

Relying upon NAGPRA's inventory and cultural affiliation provisions, the simple expectation model (Figure 1) was developed, which holds that:

The more information collected by an institution executing NAGPRA's cultural affiliation procedures, as gauged by increased numbers of utilized human remains, associated funerary objects, modes of evidence, and consultants, the more precise the determination of cultural affiliation, as measured by a decrease in the number of cultural affiliates, will be made.

Figure 1. Expected Cultural Affiliation Relationship Model



While institutional determinations of multiple cultural affiliation are clearly allowed under NAGPRA,⁸ provisions and standards within the Act may be reasonably interpreted to reduce the field of potentially culturally affiliated Indian tribes or Native Hawaiian organizations.⁹ These provisions and standards include inventorying human remains and associated funerary objects, determining their cultural affiliation, and retaining such cultural items if unresolved competing claims are submitted for their repatriation.

The general intent of the inventory process is to determine the cultural affiliation status of human remains and associated funerary objects in Federal agency and museum collections. The inventory procedures seek to achieve this intent through the organization of such collections, an exchange of information via consultation, the evaluation of affiliation evidence, and the application of this evidence to NAGPRA's cultural affiliation standard. If these collections are determined by individual institutions to be culturally affiliated, the inventory process establishes a foundation upon which the cultural items may be funneled to the appropriate Indian tribes or Native Hawaiian organizations. Therefore, the flexible inventory procedures function to distinguish between human remains and associated funerary objects that can and cannot be culturally affiliated, and if these cultural items can be affiliated, to further differentiate between the initial pool of potential cultural affiliates.

The Act's competing claims provision, which may suspend the repatriation of human remains and associated funerary objects if a Federal agency or museum "cannot clearly determine which requesting party is the most appropriate claimant,"¹⁰ also motivates institutions to be selective during the inventory and cultural affiliation process. Thus, the inventory mandate and the threat of this effort being stalled or derailed by Indian tribes or Native Hawaiian organizations submitting competing repatriation requests induces Federal agencies and museums to discriminate between potential cultural affiliates. Additionally, by requiring a marshaling of evidence to identify appropriate recipients for specific cultural items, while also operating to reduce the possibility of multiple claimants and the potential for litigation, NAGPRA's inventory and competing claims stipulations display their consistency with common law concepts for the treatment and protection of property.

Given the intent of NAGPRA's inventory process, the mechanics of its procedures, and its consistency with property law, it is reasonable to assume that the more human remains and associated funerary objects possessed by a Federal agency or museum, the number of consulted parties will rise. The basis for this assumption is that the larger the collection of human remains and associated funerary objects possessed by an institution, the likelihood that its components are culturally affiliated with a wider pool of Indian tribes or Native Hawaiian organizations increases. Moreover, it is reasonable to assume that the greater the number of human remains and

associated funerary objects in an institution's collection, as well as an increase in the quantity of entities consulted, the opportunity to collect affiliation-related information appreciates. Therefore, the amount and types of evidence should rise. With an increase in the number of consultants and modes of evidence, compounded by the incentive to avoid competing claims, it is also reasonable to assume that institutions engaging in the inventory process would make determinations that reduce the number of affiliates per case of cultural affiliation (Figure 1).

Hence, NAGPRA's provisions provide a rationally grounded model that predicts a pre-execution outcome for the implementation of the Act's objective to ascertain the cultural affiliation status of human remains and associated funerary objects. Relying upon this model, one would expect a review of published repatriation decisions to reveal that the more affiliation information collected by institutions executing NAGPRA's cultural affiliation procedures, the more precise their cultural affiliation determinations, as measured by a decrease in the number of cultural affiliates, would be made (Figure 1).

To initiate a comparison of the *expected* model's predicted relationships against values from similar real-world variables, data collected from the total number of combined Federal agency and museum cultural affiliation cases was analyzed and applied to the production of three separate correlation matrixes. Utilizing Pearson's correlation coefficient, matrixes comprised of interval-level measurements for the quantities of human remains, associated funerary objects, modes of evidence, consultants, and cultural affiliates were developed from the three investigated populations' data sets. Based upon the correlation coefficients from these measurements, and following the testing of their strength, individual relationship models were produced for the *combined* (Figure 2), *Federal agency* (Figure 3), and *museum* (Figure 4) cultural affiliation cases.

All three of the relationship models' individual correlations differed from the *expected* model's prediction that a negative correspondence would be found between increased amounts of affiliation information and the

Figure 2. Combined Cultural Affiliation Relationship Model

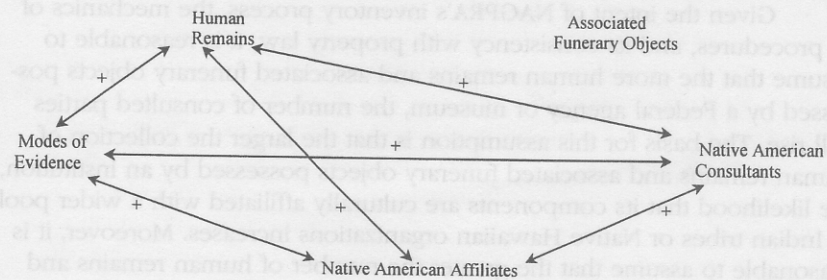


Figure 3. Federal Agency Cultural Affiliation Relationship Model

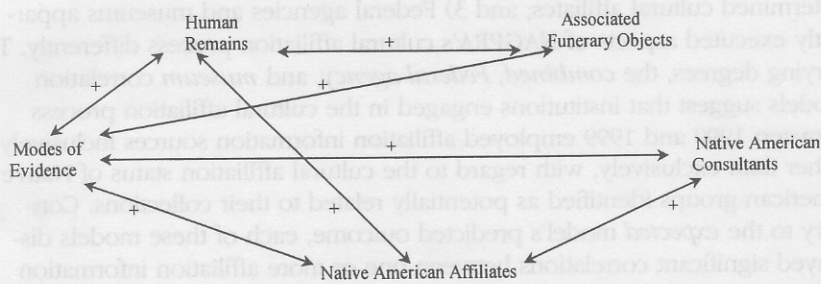
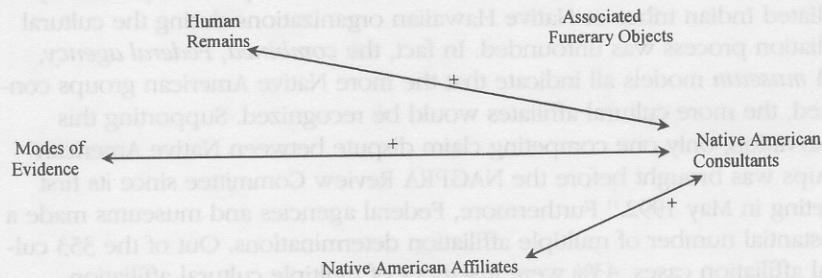


Figure 4. Museum Cultural Affiliation Relationship Model



quantity of determined cultural affiliates. Indeed, the *combined* and *Federal agency* models possess significant positive correlations between human remains, modes of evidence, consultants, and cultural affiliates. The *museum* model, however, only displayed a single significant positive correlation between numbers of consultants and cultural affiliates.

Differences between the *expected* model's scope of predicted positive relationships among quantities of human remains, associated funerary objects, modes of evidence, and consultants, and the *combined*, *Federal agency*, and *museum* models' displayed correlations for these affiliation information variables, were also observed. Excluding funerary objects, significant positive relationships were found to exist among numbers of human remains, modes of evidence, and consultants for the *combined* model. The *Federal agency* model shared these correlations, but with an additional observation that a significant positive correlation existed between human remains and associated funerary objects. Finally, the *museum* model only possessed significant positive correlations between the quantities of human remains and consultants, and consultants and modes of evidence.

This modeling exercise suggests three insightful phenomena occurred during NAGPRA's first decade of implementation: 1) positive correlations existed between the quantity of affiliation-related information sources and

the number of cultural affiliates; 2) concern for competing claims erupting between potential affiliates appeared to have no impact on the number of determined cultural affiliates; and 3) Federal agencies and museums apparently executed aspects of NAGPRA's cultural affiliation process differently. To varying degrees, the *combined*, *Federal agency*, and *museum* correlation models suggest that institutions engaged in the cultural affiliation process between 1990 and 1999 employed affiliation information sources inclusively, rather than exclusively, with regard to the cultural affiliation status of Native American groups identified as potentially related to their collections. Contrary to the *expected* model's predicted outcome, each of these models displayed significant correlations between one or more affiliation information sources, in the form of human remains, modes of evidence, or consultants, and the quantity of determined cultural affiliates. This finding implies that the concern that conflicts would arise between broad pools of potentially affiliated Indian tribes or Native Hawaiian organizations during the cultural affiliation process was unfounded. In fact, the *combined*, *Federal agency*, and *museum* models all indicate that the more Native American groups consulted, the more cultural affiliates would be recognized. Supporting this observation, only one competing claim dispute between Native American groups was brought before the NAGPRA Review Committee since its first meeting in May 1992.¹¹ Furthermore, Federal agencies and museums made a substantial number of multiple affiliation determinations. Out of the 353 cultural affiliation cases, 43% were instances of multiple cultural affiliation (Table 1). Thus, the *expected* model's assumptions and predictions appear to have been rejected by this investigation. Examination of the *Federal agency* and *museum* models also indicated that these statutorily distinguished institutions potentially implemented aspects of NAGPRA's cultural affiliation process differently over the Act's initial decade of operation (See Figures 3 and 4).

The *Federal agency* model, for example, implies that Federal agencies used information obtained from the human remains and associated funerary objects in their holdings to identify types of cultural affiliation evidence. Furthermore, increases in the amount of these cultural items raised the quantity of such evidence, which appears to have functioned to contact more consultants, who in turn seemingly provided additional modes of affiliation evidence. Lastly, this model suggests that information obtained from increased amounts of human remains, modes of evidence, and consultants resulted in Federal agencies raising the number of determined cultural affiliates. The *museum* model, however, only revealed the presence of significant positive correlations between human remains and consultants, modes of evidence and consultants, and consultants and cultural affiliates. Such correlations imply that museums used the amount of human remains in their collections and types of evidence to identify greater numbers of consultants. Although values for human remains, modes of evidence, and consultants were corre-

lated, this model indicates that museums found greater numbers of cultural affiliates when the quantity of consultants rose. While the *Federal agency* and *museum* models suggest these institutions arrived at similar outcomes, that affiliation information positively correlated with numbers of determined cultural affiliates, their dissimilar structure implies that they did so differently.

To further address whether Federal agencies and museums executed certain aspects of NAGPRA's cultural affiliation process differently, the quantities of human remains, associated funerary objects, modes of evidence, consultants, and cultural affiliates reported by these institutions in their NICs were analyzed and compared. In order to assist in answering this question, five null hypotheses were developed to individually test if Federal agencies and museums significantly processed varying amounts of human remains and associated funerary objects and utilized different quantities of consultants, modes of evidence, and cultural affiliates. Significant differences between the compared values for the investigated variables, which are integral components of the affiliation process, may be interpreted to reflect differences in the implementation of the Act's procedures for culturally affiliating human remains and associated funerary objects.

Discussion and Conclusion

The application of two-sample *t* tests to the five null hypotheses and their corresponding data revealed significant differences between the numbers of human remains, modes of evidence, consultants, and cultural affiliates Federal agencies and museums reported for their cultural affiliation determinations. These findings also confirmed that Federal agencies processed more human remains, utilized more modes of evidence, consulted with more Native American groups, and found more cultural affiliates for their collections than museums during NAGPRA's first ten years of implementation (Tables 2–5). Additionally, 49% of the Federal agencies' affiliation determinations were multiple cultural affiliate cases, while museums determined that 41% of their affiliation cases were of this type (Table 1).

The immediate response to these findings is—what do they actually mean? Were Federal agencies being more thorough than museums in their decisions to culturally affiliate Native American human remains and associ-

Table 1. Federal agency, museum, and combined cultural affiliation type determinations made between 1990 and 1999.

Group	Total Cases	Lineal (%) Cases	Single (%) Cases	Multiple (%) Cases	Regional (%) Cases
Federal agencies	107	3 (.028 / 3%)	51 (.476 / 47%)	53 (.495 / 49%)	0
Museums	246	4 (.016 / 1.6%)	141 (.573 / 57%)	100 (.406 / .41%)	1 (.004 / .4%)
Combined	353	7 (.019 / 2%)	192 (.543 / 54%)	153 (.433 / 43%)	1 (.002 / .2%)

ated funerary objects? Were museums merely including the minimum level of information in their NICs to show they met the basic standards of the Act? Did Federal agencies simply write more detailed NICs? The results presented by this review indicate that Federal agencies and museums practiced certain aspects of NAGPRA's cultural affiliation process in a dissimilar fashion. Although this accounting of human remains, associated funerary objects, modes of evidence, consultants, and cultural affiliates illuminated some similarities and dissimilarities in the implementation of the Act, the cause or causes behind these differences were not fully identified. A variety of positive correlations were found to exist between the investigated variables; however, they only suggest the presence of meaningful correspondences and do not necessarily reveal actual causal relationships. Thus, the data analyzed in this investigation cannot answer why there is a significant dissimilarity between the Federal agencies' and museums' cultural affiliation decisions. Possible reasons for these differences, therefore, must be sought beyond the variables utilized in this study.

Potential causes for the observed dissimilarities in the Act's implementation may include differences in geography, financial resources, the nature of the institutions' collections, or the level of experience in consult-

Table 3. Combined statistics for the Federal agency cultural affiliation cases published in the *Federal Register* between 1990 and 1999.

Variable	Number of Cases	Sum	Mean	Median	Range	Standard Deviation
Human Remains	107	9,750	91.121	6.00	1-1,958	321.158
Funerary Objects	107	92,172	861.421	11.00	0-13,558	2325.872
Modes of Evidence	107	684	6.393	6.00	3 12	1.675
Consultants	107	826	7.720	3.00	1 37	9.856
Cultural Affiliates	107	430	4.019	2.00	1 22	5.474

Table 5. Combined statistics for the museum cultural affiliation cases published in the *Federal Register* between 1990 and 1999.

Variable	Number of Cases	Sum	Mean	Median	Range	Standard Deviation
Human Remains	246	9,272	37.691	2.00	0-1,921	167.564
Funerary Objects	246	246,526	1002.138	0.00	0-65,160	6201.290
Modes of Evidence	246	1,270	5.163	5.00	0-10	1.556
Consultants	246	821	3.337	2.00	0-30	3.845
Cultural Affiliates	246	534	2.171	1.00	0-18	2.364

Table 2. General yearly statistics for the Federal agency cultural affiliation cases published in the *Federal Register* between 1990 and 1999.

	Human Remains		Funerary Objects		Modes of Evidence		Consultants		Cultural Affiliates		
	N	M	N	M	N	M	N	M	N	M	
1992	15	7.50	12,225	6112.50	9	4.50	16	8.00	15	7.50	Cases = 2
1993	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	Cases = 0
1994	1,552	776.00	286	143.00	13	6.50	6	3.00	25	12.5	Cases = 2
1995	84	14.00	19	3.17	36	6.00	16	2.67	21	3.5	Cases = 6
1996	2,089	54.97	50,803	1336.92	242	6.37	275	7.24	127	3.34	Cases = 38
1997	3,239	124.58	9,978	383.77	152	5.85	106	4.08	67	2.58	Cases = 26
1998	918	41.73	12,808	582.18	141	6.41	189	8.59	81	3.68	Cases = 22
1999	1,853	168.46	6,053	550.27	91	8.27	218	19.82	94	8.55	Cases = 11

Table 4. General yearly statistics for the museum cultural affiliation cases published in the *Federal Register* between 1990 and 1999.

	Human Remains		Funerary Objects		Modes of Evidence		Consultants		Cultural Affiliates		
	N	M	N	M	N	M	N	M	N	M	
1992	10	5.00	60,050	30025.00	9	4.50	3	1.50	2	1.00	Cases = 2
1993	36	3.60	34	3.40	47	4.70	11	1.63	23	2.3	Cases = 10
1994	279	25.36	13	1.18	49	4.46	39	3.55	19	1.73	Cases = 11
1995	721	42.41	18,702	1100.12	99	5.82	87	5.12	25	1.47	Cases = 17
1996	580	14.87	68,953	1768.03	179	4.59	74	1.90	75	1.92	Cases = 39
1997	764	13.89	46,601	847.29	307	5.58	211	3.84	139	2.53	Cases = 44
1998	3,758	76.69	20,763	423.74	261	5.33	200	4.08	121	2.47	Cases = 49
1999	3,124	49.59	31,410	498.57	319	5.06	196	3.11	130	2.06	Cases = 63

ing with Native American groups. For example, museums often maintain collections of Native American human remains and associated funerary objects that vary through time and across space. Although collections possessed by Federal agencies' field units may also vary through time, they are typically from a single geographic location, which is usually the immediate managed land base. When Federal agencies' field units possessed cultural items from a single geographic region and initiated the cultural affiliation process, they would have been able to focus all of their energy and resources on one region and could have also called upon any previously established consultation networks for assistance in identifying Native American consultants. Museums that controlled collections of Native American human remains and associated funerary objects from several geographic regions, however, would have had to spread their cultural affiliation efforts out to multiple areas of the country. Such endeavors may have been more time consuming and costly to museums than Federal agencies. Thus, the differences among institutions' collections may account for the dissimilarity between the Federal agencies' and museums' cultural affiliation decisions.

In conclusion, this review should be seen as an initial examination of NAGPRA's cultural affiliation process. Analysis of the data extracted from the NICs published in the *Federal Register* between 1990 and 1999 revealed dissimilarities between the Federal agencies' and museums' cultural affiliation decisions. Future investigations of this data should attempt to determine why Federal agencies and museums executed some aspects of NAGPRA differently. In addition to the previously discussed potential causes for the observed discrepancies, the Federal agencies' and museums' individual sub-groups, such as National Park Service units and universities, as well as the chronology for the reported Native American human remains and associated funerary objects, should be analyzed in conjunction with the variables this study tested.

Notes

1. The views expressed in this article are those of the author and do not necessarily represent the position of the Archeology & Ethnography Program, National Park Service, or Department of the Interior. Due to publication limitations, the supporting data could not be provided in this article. If one would like to receive this information, please contact the author at jcorcoranr@yahoo.com.
2. See Pub. L. No. 101-601, 104 Stat. 3048 (1990), 25 U.S.C. §§ 3001-3013 (1994). See also, Native American Graves Protection and Repatriation Act Regulations, 43 C.F.R. § 10 (1998).
3. For purposes of this article, the term "culturally affiliated" refers to cultural items affiliated with lineal descendants or culturally affiliated with Indian tribes or Native Hawaiian organizations. See generally 25 U.S.C. § 3005 (a) (1994).

4. While notices of inventory completion are intended to only include Native American human remains and associated funerary objects, unassociated funerary objects were occasionally included due to confusion with the definition for associated funerary objects or at the specific request of a publishing Federal agency or museum. The instrument of notification utilized in the repatriation of unassociated funerary objects, sacred objects, and objects of cultural patrimony is the notice of intent to repatriate, which should correspond to a Federal agency's or museum's summary. See 43 C.F.R. § 10.8 (a)–(f) (1998). Although the cultural affiliation and repatriation of associated funerary objects and unassociated funerary objects operate under different provisions of the Act, these two categories were combined for this review and will be referred to as associated funerary objects in this article because they were treated as the same category by the publishing institutions.
5. Due to the amount of information, the varied nature of cultural items undergoing the repatriation process, the diversity in publishing institutions, and the multiple cases of determined cultural affiliation, it was necessary to generate a “thumbnail sketch” for each published NIC. The intent of producing thumbnail sketches, which include 20 variables, was to standardize the extraction of information, organize the retrieved data, and memorialize the synthesized materials for future reference.
6. See generally 43 C.F.R. § 10.9 (a)–(e). Published NICs do not indicate that any human remains and associated funerary objects were actually repatriated. These notices merely clear the way for repatriation. Short of contacting the parties listed in an NIC or obtaining information outside of the NAGPRA process, such as a newspaper publication of a repatriation occurrence, there is no mechanism for documenting the physical return of these cultural items.
7. This review revealed that a number of NICs possessed internal inconsistencies between the number of human remains or associated funerary objects recorded within the body of their texts and their final reported tallies. These mistakes were corrected, utilizing the specific enumerated numbers described in the text over any inconsistent final counts, for this examination. Additionally, a few NICs did not provide a precise number for human remains or associated funerary objects. In order to account for such ambiguities, this study assigned numbers through the use of minimum number of individuals (MNI) for the reported human remains and minimum number of objects (MNO) for the listed associated funerary objects. For example, one NIC failed to provide an exact number for its associated funerary objects. Therefore, MNO was utilized to approximate these cultural items. The following categories of associated funerary objects were assigned a specific MNO number: i.) rings (2 MNO); ii.) fragments of fabric (2 MNO); iii.) fragments of metal (2 MNO); iv.) shoes (2 MNO); v.) buttons (2 MNO); toy revolver (1 MNO); and coffin fragments (2 MNO). The total MNO count is 13. See Notice of Inventory Completion, South Dakota State Archaeological Research Center, 59 Fed. Reg. 180, 47942–47943 (1994). These mistakes and ambiguities were rare and generally confined to the earliest publications.
8. Legislative intent concerning the possibility for finding one or more Indian tribes or Native Hawaiian organizations to be culturally affiliated with any NAGPRA-

- related cultural items is explicitly demonstrated within the Act's definition of "Native Hawaiian organization," which "shall include the Office of Hawaiian Affairs and Hui Malama I Na Kupuna O Hawai'i Nei. See 25 U.S.C. § 3001 (11) (1994). Additionally, the NAGPRA Review Committee has emphasized that nothing within the Act precludes more than one Indian tribe from establishing cultural affiliation through shared group identity with an earlier group. See Draft Recommendations Regarding the Disposition of Culturally Unidentifiable Human Remains and Associated Funerary Objects, 61 Fed. Reg. 162, 43071 (1996). Finally, a substantial number of multiple cultural affiliation cases were determined between 1990 and 1999. See Table 1.
9. The primary standard within NAGPRA's definition of cultural affiliation that functions as a means to restrict determinations of multiple cultural affiliation is "reasonableness. See 25 U.S.C. § 3001 (2) (1994). Reasonable is defined as "fair, proper, just, moderate, suitable under the circumstances. See Black's Law Dictionary 1265 (6th ed. 1990).
 10. See 25 U.S.C. § 3005 (e).
 11. Dispute between the Oneida Tribe of Wisconsin and the Oneida Tribe of New York over a wanapum belt. See NAGPRA Review Committee Minutes, Twelfth Meeting: November 1-3, 1996, pg. 8 (Visited June 1, 2000) <<http://www.cast.uark.edu/other/nps/nagpra/nagpra.dat/rms012.html>>.
 12. After applying 1,059 Native American human remains and 306 associated funerary objects, ranging from the Paleo-Indian to the Woodland traditions, to NAGPRA's provisions, the Minnesota Indian Affairs Council determined that these cultural items were culturally unidentified. However, the Minnesota Indian Affairs Council, with the NAGPRA Review Committee's agreement, utilized Minnesota's state law to initiate the disposition of the unidentified cultural items to seventeen (17) regional Indian tribes. "[I]n accordance with the recommendations of the NAGPRA Review Committee, officials of the Minnesota Indian Affairs Council have determined that, pursuant to 43 C.F.R. § 10.2 (e), there is no relationship of shared group identity which can be reasonably traced between these Native American human remains and associated funerary objects [1,059 human remains and 306 associated funerary objects] and any present-day Indian tribe or group; and the disposition of these Native American human remains and associated funerary objects will follow Minnesota Statute 307.08. See Minnesota Indian Affairs Council, Notice of Inventory Completion, 64 Fed. Reg. 152, 43211-43222 (1999).