How to Fix the Inventory Survey Rule*

Thomas S. Dye

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1 Introduction

In these brief comments I argue that it is in the public interest for the Society for Hawaiian Archaeology to debate changes in the inventory survey rule and then to lobby for their adoption. I outline the case for two fundamental changes to the rule. The first

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is to strip the rule of its preoccupation with site function so that a greater proportion of archaeological energy and funds can be spent on data recovery investigations. Second is to rewrite the rule so that it does not prescribe archaeological practice *per se*; this is necessary if Hawaiian archaeology is going to track progress in the discipline as a whole. These changes will greatly simplify the inventory survey rule and strengthen the role of research in everyday archaeological work.

The historic preservation review process balances public interest in historic properties with an owner's interest in maximizing the value of land. Effective archaeology rules must play to both sides of this equation; they must advance public interest in historic properties and effectively coerce landowners into sacrificing some monetary value for whatever historic value might accrue from their historic properties. In the United States, where private property rights are highly developed, the process can run afoul of courts who might decide that a loss of monetary value isn't worth the preservation of historic value and, thus, that it constitutes a "taking." On the other hand, the process must be sensitive to historic values and to public perception of these values. Shortchanging this side of the equation leads easily to the situation where historic preservation is used as a convenient platform for a public that is looking to dispute an owner's evaluation of how land value can be maximized.

My comments here are directed primarily at how archaeology contributes to public interest in historic properties. A major premise of the argument is that archaeology contributes most effectively when it functions as a professional discipline dedicated to maximizing the historical information it communicates to the public. In particular, I'm concerned about the effect the archaeology rules have on the practice of archaeology as a professional discipline because I think that, at their base, the rules are overly prescriptive and that the archaeology they prescribe is out-dated and limited in its ability to achieve historic preservation goals. I'll focus on the inventory survey rule because this is where historic preservation review starts and, in my opinion, where it first gets off track. In particular, I'll try to answer these questions:

- Do the rule's provisions flow logically from its objectives?
- Does the rule prescribe a rational allocation of effort in the context of a full historic preservation review?
- Does the rule encourage high quality archaeological work and interpretation?
- Does the rule provide for scientific progress?

2 Objective Provisions or Provisional Objectives?

The inventory survey rule has two worthwhile objectives, both necessary steps in the historic preservation review process: identify and locate all historic properties, and collect enough information to determine their significance. Both of these objectives are relatively straightforward. Identifying and locating all historic properties is completely transparent, inherent in the very idea of "inventory." Collecting information to determine significance is only slightly more problematic. The state archaeology rule sets out

five significance categories, often referred to by their letter designations *A* through *E*, that require archaeologists to consider a property's association with important people (*A*) and events (*B*), to evaluate its qualities of workmanship and whether it is an outstanding representative of its type (*C*), to determine whether it has research potential (*D*), and to find out whether one or another ethnic group attaches cultural significance to it (*E*). This kind of evaluation does not come naturally; in my experience it takes a bit of practice to feel comfortable that the criteria have been applied correctly in some historic preservation situations. Hawaiian archaeology is not one of the difficult situations, however. The significance of the traditional Hawaiian archaeological landscape is overwhelmingly evaluated as either criterion *D* or *E*, which are applied 78% and 19% of the time, respectively (table 1). The other three criteria together make up a paltry 3%. Clearly, archaeologists aren't making fine distinctions when they evaluate the significance of traditional Hawaiian historic properties.

Table 1. Significance evaluations in Hawaiian archaeology

	Criterion					
	A	**B**	**C**	**D**	**E**	**Total**
O‘ahu	24	18	221	1,975	583	2,821
Hawai‘i	12	17	6	4,504	766	5,305
Maui	27	19	33	1,861	581	2,521
Kaua‘i	2	10	0	1,055	353	1,420
Total	65	64	260	9,395	2,283	12,067
% Total	0.5	0.5	2.2	77.9	18.9	100

Data courtesy of E. Komori, SHPD.

Given the straightforward nature of the two inventory survey objectives, it would be reasonable to suppose that the inventory survey report is straightforward, too. A map with historic property boundaries clearly indicated, a general description of the historic properties, and an evaluation of their significance would be useful for the landowner, the archaeological community, and the general public. It would provide the landowner with the information needed to move forward with plans while taking into account the effect of a development on historic properties. The archaeological community would have the information it needs to protect the sites and to plan data recovery operations should those be necessary. The general public would have a useful overview, sufficient for their participation in the historic preservation review process.

The inventory rule doesn't prescribe such a simple, useful product. Instead, it takes a more labor intensive tack:

- it requires that maps be drawn of surface architecture, sufficiently detailed to include fire pits and cupboards;

- it specifies that information must be collected to determine how surface architecture functioned when it was in use;

- it encourages excavations at architectural features whose functions can't easily be determined based on examination alone;
- it discourages excavations in areas where architectural features are absent, unless the department deems them necessary;
- it prescribes assessments of site functions with reasonable and adequate supportive arguments, with special attention paid to different types of habitations;
- it requires a table of sites setting out formal type and inferred function;
- it requires summaries of functional classes that include more than one site; and
- in cases where there are more than five sites in a functional class, it requires a table that itemizes for each site and its relevant constituent structures the key variables used to determine the function and a map showing the distribution of the sites within that functional type.

What does all of this effort spent determining function have to do with the objectives of the inventory survey? The rule never says. Given the facts of significance evaluation—the overwhelming preponderance of criterion *D*—it is difficult to see how all the extra work can make much of a difference in meeting those objectives. Lost in the welter of functional determinations is any requirement that the boundaries of sites be determined or represented on a map. In fact, the bureaucratic hurdles set up in the way of excavations outside architectural features pretty much ensure that no real effort will be spent collecting information on site boundaries. This is important information and the inventory survey rule is clearly remiss in neglecting it. Site mapping, distributional studies, functional interpretations—all these could be more confidently addressed during data recovery investigations, guided by research-oriented plans reviewed by the archaeologists at SHPD.

Do the provisions of the rule follow logically from its objectives? No, they don't. Instead, they steer archaeological efforts away from the useful determination of site boundaries toward a detailed examination of surface architecture and its functional interpretation. The rule's confusion of surface architecture with sites is, in my opinion, one of its greatest weaknesses. Surface architecture *is* important in Hawai‘i—all the more reason to investigate it in its full site context.

3 A Rational Allocation of Effort?

Although there is, to my knowledge, no breakdown of the level of effort expended on inventory survey compared to data recovery, it is my strong impression from six years as O‘ahu Island archaeologist at SHPD and the last seven years working in the cultural resources management (CRM) world that the effort spent on inventory survey is many times that spent on data recovery. That the situation in Hawai‘i is opposite that found in other archaeologically active parts of the world doesn't seem to bother the archaeological community much, but I see two problems with it: one having to do

with the application of interpretive effort, and the other with the allocation of funds for archaeological research.

Archaeology's strength as a discipline is its ability to identify and track change over time using the twin tools of stratigraphy and chronometry. Synchronic analyses prove to be much more difficult and less productive for archaeology; imprecisions in dating methods make it almost impossible to establish contemporaneity on the scale of a human life span among sites, and the vagaries of differential discard and preservation hopelessly complicate inferences about short-term patterns of behavior. The fact that the inventory survey rule has directed the bulk of CRM archaeology's interpretive effort to essentially synchronic questions about the functions of surface architectural features, rather than to other, typically diachronic questions about change over time more commonly addressed during data recovery means that for a long time we in the CRM world have been playing to our discipline's weaknesses rather than its strengths.

I am even less sanguine about how funds for archaeological research are allocated. The relatively heavy research load carried by inventory survey in Hawai‘i means that for many places most of the funds spent on archaeological research will be determined in a competitive bidding process among archaeologists, none of whom have any knowledge about the archaeological resources there. The fact that this arrangement can work at all is a testament to the experience and knowledge of CRM archaeologists working today in Hawai‘i. But the fact is that it fails most of the time, sometimes spectacularly, as at Hōkūli‘a, but much more often quietly in a muddle of lost opportunity and misinterpretation. SHPD's recent response to community concerns over the many human burials found late in the historic preservation review process at places like Hōkūli‘a is to require more excavation during inventory survey at features that might contain burials. This is a rational response, and it might be the best response given the current unhealthy state of affairs, but it risks perpetuating the very problems it seeks to cure. On what basis are we to pin our hopes that the blind competitive bidding process will allocate sufficient resources to fund this laudable goal? Might not these added requirements create even more sorry low bidders who, once in the field, find they can't afford not to cut corners?

A second problem with allocating most of the effort to inventory survey is that the direct costs to the owner of historic preservation review are fairly evenly distributed among sites, regardless of their historic value. If most historic preservation funds were allocated to data recovery, after the relative historic value of sites was determined, with a greater portion going to sites of high value and less to sites with relatively little value, then this would add an economic incentive for preservation of sites with relatively great historic value. Of course, archaeologists will still have to work to identify sites worthy of preservation during inventory survey and then press the issue when landowners object. But it would be nice if every year a few additional sites were preserved, not because archaeologists pressed this issue vigorously, but because preservation made economic sense to the landowner.

Does the rule prescribe a rational allocation of effort in the context of a full historic preservation review? Again, the answer is "no." In fact, the blind competitive bidding process that today allocates most of the money for archaeological research in Hawai‘i appears to be irrational in the extreme.

4 Does Quality Matter?

For the inventory survey to work as an effective first step in the historic preservation review process it must provide a reasonably clear assessment of the historical value of properties. It must ensure that the entire space has been searched for sites and that the full time span represented by the sites has been identified. The rule's preoccupation with surface architecture and its bias against excavation outside architectural features work against both these goals in ways that appear to be little recognized or appreciated by the archaeological community today.

The voluminous record of traditional Hawaiian surface architecture compiled by CRM archaeologists over the last twenty years has been a remarkable achievement, won at the expense of much sweat and great effort. It is important to be clear, however, that the record of surface architecture is *not* a record of sites. In places where large-scale earth moving has been monitored it has often shown that an inventory of the surface architecture was a poor guide to the distribution of sites over the landscape. Three brief examples will suffice here. On the windward side of H3, in Kāne'ohe, 100 surface features, including primarily mounds, pond-field terraces and alignments were grouped into 20 sites (Williams 1992:69). When grading for the highway was complete, another 107 features had been found and grouped into 17 new sites. After a comprehensive dating program, the archaeologist there concluded that "[s]urface survey alone presents a view of inland use that is severely biased towards the last 200 years" (Williams 1992:74). On the leeward side of H3, in the upper reaches of North Hālawa Valley, site 50–80–10–2091 had no surface architecture at all, but during excavation yielded 13 *imu*, 20 fire-pits, and 17 other features (Gordon et al. 1997). Finally, on Kaho'olawe more than 1,000 small camp sites were discovered as lag deposits on the eroded surface of that mis-treated island (Hommon 1980); few of these would have been visible to archaeological survey before the erosion.

Although the inventory survey rule's preoccupation with surface architecture means that subsurface sites might be missed, a potentially greater problem has to do with the rule's misconception that cultural deposits are attributes of surface architectural features. Are the materials recovered during inventory survey excavation and used to date and determine function actually associated with the surface architectural feature? In most inventory surveys it is impossible to tell because excavations are typically placed where it is not possible to determine the stratigraphic position of the surface architecture. Instead, materials excavated within the boundaries of a surface architectural feature are simply assumed to be associated with construction and use of that feature. Is this assumption warranted? The best evidence that it is not comes from a recent inventory survey conducted by SHPD itself at Kahikinui *mauka*, where 219 test pits yielded an unparalleled view of the stratigraphic position of surface architecture across the archaeological landscape (Dixon et al. 2000). In all but seven instances, the test pits proved that surface architecture was constructed on an existing cultural deposit. In the vast majority of cases, *most* of the cultural material had been deposited by the time the surface architecture was constructed (fig.1). In fact, in the median case 86% of the cultural deposit was beneath the base of the surface architecture.

In situations such as this, care must be taken to segregate materials stratigraphically associated with the surface architecture from those that were deposited before the

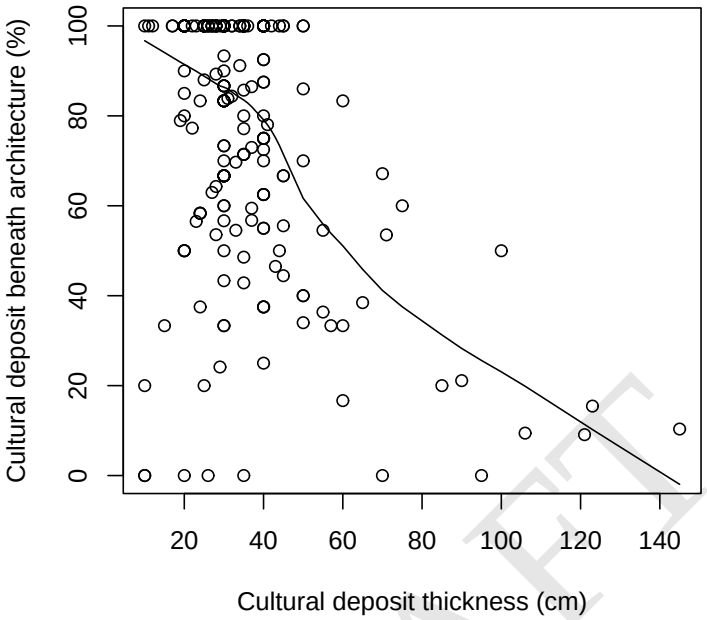

Figure 1. Cultural deposits at Kahikinui *mauka* pre-date surface architecture. The locally weighted regression line follows the central trend of the data. The sites with cultural deposits thicker than 80 cm are platforms and terraces whose fill makes up most of the cultural deposit.

surface architecture was constructed. Otherwise, materials that just happened to be laying around or buried when the architectural feature was constructed will be mistakenly associated with use of the feature. Unfortunately, when SHPD worked at Kahikinui *mauka* excavated materials were automatically associated with surface architecture, regardless of their stratigraphic positions. Of the 15 dated ^{14}C samples from archaeological contexts with a direct stratigraphic relationship to surface architecture, only one has a stratigraphic association (fig. 2). The other 14 all have the potential to contain materials deposited before construction of the surface architecture or are composed entirely of materials that stratigraphically pre-date the construction event. Barring contamination with younger materials moving down the stratigraphic column—a situation that would make the samples unsuitable dating material—these 14 samples should yield dates older than the surface architecture. Here, the full effects of the inventory survey rule's preoccupation with surface architecture and synchronic analysis can be seen. A stratigraphic record of change culminating in construction of architectural features has been interpreted as a synchronic attribute of the surface features. There is no reason to

believe that the situation at Kahikinui *mauka* is atypical—I've been guilty of ignoring the stratigraphic position of surface architecture, too. The only difference is that at Kahikinui *mauka*, excavations were placed in such a way that the stratigraphic position of surface architecture can be identified. The conclusion to be drawn from this is disheartening—the Kahikinui *mauka* data indicate strongly that much of the excavation required by the inventory survey rule has yielded results that are of questionable utility for determining the age and function of surface architecture.

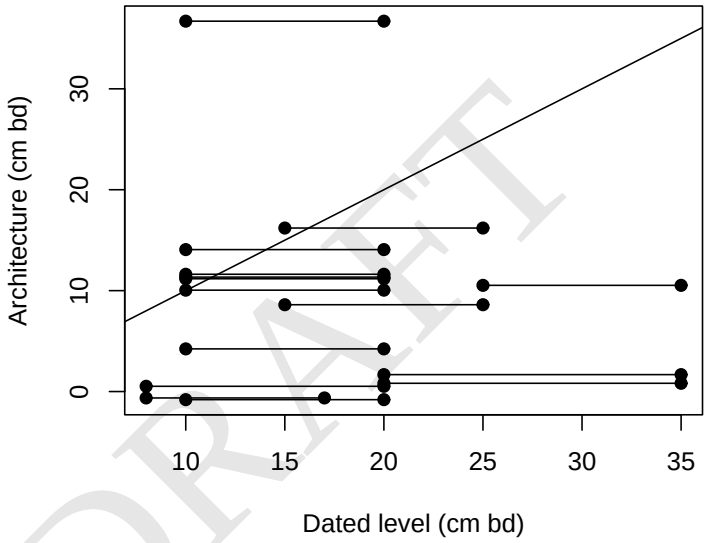

Figure 2. Dating materials usually pre-date surface architecture. Dating materials at Kahikinui *mauka* were generally collected from 10 cm excavation spits, which are represented on the diagram by two points connected by a line segment. The diagonal line $x = y$ represents the base of surface architecture. The area above and to the left of the line represents deposits that post-date architecture, to the right and below the line deposits that pre-date architecture.

Does the inventory survey rule encourage high quality archaeological interpretation? Again, the answer is "no." In fact, the opposite appears to be true. If we think clearly about the Kahikinui *mauka* results, it is hard to resist the conclusion that the archaeological study of change in Hawai‘i has been sacrificed on the altar of an ill-conceived and unnecessary preoccupation during inventory survey with surface architectural features and their functions.

5 Progress or Not?

Where do we go from here? One way would be to make a list of flawed archaeological procedures either permitted or required by the inventory survey rule and write a new prescriptive requirement into the rule to correct each item on the list. In my opinion, this would be the wrong approach. Prescriptive rules treat Hawaiian archaeology like a trade, ignoring the fact that it is part of a larger scientific enterprise whose methods and techniques grow and improve over time. The example of Kahikinui *mauka* is instructive here. The interpretation of the dating evidence might have been improved if a Bayesian calibration and analysis of ^{14}C dates (Buck et al. 1996) had been required by the inventory survey rule. The Bayesian approach requires that the archaeologist model stratigraphic relations of deposits, including surface architecture. At the least, the archaeologists would have had to consider the question of association. One can't fault the rules for failing to prescribe Bayesian calibration—it wasn't invented when the rules were written. The problem, though, is that substantive changes to the rules require a full set of public hearings. The staff time and effort required to go through the public hearing process is considerable, and the archaeology staff at SHPD, saddled with the onerous task of administering the flawed archaeology rules, hasn't time to spare for public hearings! Thus, this approach will always leave the practice of Hawaiian archaeology lagging behind the discipline as a whole. In my view, the only solution is to write the rule so that it protects public interest in historic preservation review, but does not prescribe standard archaeological practice, which must be allowed to evolve with progress in the discipline.

Does the rule provide for scientific progress? The answer here is a qualified "yes," not because the rule itself accommodates progress, but because the state's rule-making process provides a mechanism to modify rules that have been promulgated. However, the probability that the rule will be changed at all, let alone often enough to keep up with even the leisurely pace of scientific progress in archaeology, is exceedingly small. Even here there is little reason for hope.

6 Modest Proposals

I have painted a somewhat grim picture of Hawaiian archaeology becoming a trade under the yoke of a regressive inventory survey rule that prescribes out-dated practices and hoards a disproportionate share of archaeological funds to collect data unrelated to the rule's objectives. The proposals outlined below seek to streamline the inventory survey so that it can be used as a basis for planning more thoughtful and thorough research. My hope is that the changes will: rejuvenate the investigation of site function so archaeologists can do a better job of identifying burials and other site types; release more funds for data recovery investigations guided by active research questions; lead to a renaissance in mapping whole sites, rather than just individual features; and strengthen preservation efforts by making certain the focus is on the most valuable sites.

1. Rewrite the inventory survey rule so it prescribes only what is needed to meet its objectives, which are sound as they stand. It is important here to understand that

the inventory rule should prescribe practices that ensure that archaeological work serves public interest, but that it should not prescribe archaeological practice *per se*. That is, the rule should ensure that all sites are identified, that site boundaries are accurately described, that significance is responsibly evaluated, and that this information is reliably reported. For Hawaiian archaeology to progress along with the rest of the discipline, the rule must leave the question of what constitutes "standard practice" to a context that is better able to track progress.

2. Consign the failed program of architectural function to the dustbin of inventory survey history and let the problem be addressed primarily in data recovery. In data recovery, where it belongs, the question's theoretical underpinnings, now woefully neglected, can be sorted out in data recovery plans and the very real sampling problems associated with it can be addressed with adequate, well-planned excavation strategies. To the extent that function is necessary to determine significance, it should be made clear to everyone that, at the level of inventory survey, it is difficult to determine the function of many, if not most, traditional Hawaiian archaeological sites with a reasonable degree of confidence.

3. Expunge the rule's preoccupation with surface architecture and ensure that *site* boundaries are investigated during the inventory survey. Ensure that the rule clearly distinguishes surface architecture from sites, and that it correctly recognizes surface architecture as just one type of cultural deposit whose stratigraphic relationship to other kinds of cultural deposit at a site is a central archaeological question. This will require some encouragement to excavate in promising locales away from surface architecture and a requirement that excavations at surface architecture place it securely within the site-wide stratigraphic sequence. Wherever possible, encourage analyses of change over time, rather than synchronic reconstructions.

4. Designate the Society for Hawaiian Archaeology as the organization responsible for defining "standard archaeological practice." There should be a clear division of labor between SHPD, which is responsible for making sure archaeology is carried out in the public interest, and the Society, which is responsible for ensuring that appropriate archaeological methods and theories are employed. In this vision, Society members would debate among themselves the direction the discipline should take. The Society would maintain a public list of standards, which it would review, up-date, and augment periodically with the goal of ensuring that archaeological practice in Hawai‘i tracked progress in the discipline as a whole.

5. Consider making data recovery plans a requirement of inventory survey reports. At the least, this requirement would force archaeologists enamored of criterion D to specify how information from a site might be important. More importantly, producing a plan early in the process would place more archaeological cards on the table. This would benefit landowners, who would know up front how archaeologists planned to spend their money, and the broader community, which could use the plan to gauge the degree to which the archaeological interpretation of the landscape coincides with its own.

6. Review the data recovery rule to ensure that it is capable of regulating a far greater volume of archaeological work than it does today. Develop, through the Society, a list of high priority research questions, each accompanied by a bibliography of pertinent resources. Require SHPD staff to stay abreast of standard archaeological practices and research questions, and encourage them to be active participants in the Society for Hawaiian Archaeology.

7. Change the burial rule to classify burials found during data recovery as "previously identified" rather than "inadvertently discovered." With more emphasis on data recovery, archaeologists are going to discover more burials at this relatively late stage in the process. The benefit is that, freed from the blind competitive bidding process, archaeologists will be able to do a better job of budgeting the effort needed to identify as many burials as possible. There is no reason to have this change decrease the important work of the Island Burial Councils in determining burial treatments. Instead, the change should work to strengthen the Councils by providing them with more complete and accurate information than is the case today.

The State's historic preservation law was written to promote the use and conservation of historic property for the education, inspiration, pleasure, and enrichment of its citizens. We archaeologists are often the last ones to "use" traditional Hawaiian historic properties; if we don't do our work well, then the properties we study have lost their last opportunity to inspire and enrich. The inventory survey rule makes it hard for us to do our jobs well and should be fixed. The changes I've proposed will benefit archaeologists, land owners, and the larger community. It is clearly in the public interest for the Society to discuss and agree upon changes to the historic preservation review process and then to lobby until those changes are made. Together, we can fix the inventory survey rule.

Bibliography

Buck, C. E., W. G. Cavanagh, and C. D. Litton (1996). *Bayesian Approach to Interpreting Archaeological Data*. Statistics in Practice. Chichester: John Wiley & Sons.

Dixon, B., P. J. Conte, V. Nagahara, and W. K. Hodgins (2000). *Kahikinui Mauka: Archaeological Research in the Lowland Dry Forest of Leeward East Maui*. Prepared for Department of Hawaiian Home Lands. Kapolei, Hawaii: Historic Preservation Division, Department of Land and Natural Resources.

Gordon, I. P., L. Morlock, and H. H. Leidemann (1997, February). Site 50–80–10–2091. In *Imu, Adzes, and Upland Agriculture: Inventory Survey Archaeology in North Hālawa Valley, O'ahu*. Honolulu: Anthropology Department, B. P. Bishop Museum.

Hommon, R. J. (1980). Multiple resources nomination form for Kaho'olawe archaeological sites. National Register of Historic Places.

Williams, S. S. (1992). Early inland settlement expansion and the effect of geomorphological change on the archaeological record in Kāne‘ohe, O‘ahu. *New Zealand Journal of Archaeology 14*, 67–78.