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National Register of Historic Places
Multiple Property Documentation Form

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This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900-a). Type all entries.

A. Name of Multiple Property Listing

The Indian Use of the Salt Pond Region between 4000 B.P. and 1750 A.D.

B. Associated Historic Contexts

The Indian Use of the Salt Pond Region between ca. 4000 B.P. and ca. 1750 A.D.

C. Geographical Data

The salt pond region extends across the southern edge of Rhode Island (figure 1). Located within Washington County, the area includes portions of the towns of Westerly, Charlestown, South Kingstown, and Narragansett. The eastern boundary is Route 108 in Narragansett; the western boundary is the Pawcatuck River; the southern boundary is Block Island Sound; the northern boundary generally is U.S. Route 1. Exceptions to this northern boundary occur (1) at the intersection of U.S. Route 1 and Narrow Lane. The boundary at this intersection follows the 60 foot contour line north and west around Cross Mills Pond, and (2) at the intersection of U.S. Routes 1 and 1A in Westerly. At this intersection, the boundary turns southwest along Route 1A to the Pawtucket River shoreline immediately adjacent to intersections of Avondale Road and India Point Road.

See continuation sheet

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards for Planning and Evaluation.

Frederick C. Williamson
Signature of certifying official

29 Sept 1987
Date

State or Federal agency and bureau

I, hereby, certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

John J. Kraehl
Signature of the Keeper of the National Register

12/8/87
Date

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

Summary Introduction

The Salt Pond context provides the temporal, geographical, and cultural framework for the identification, evaluation, and protection of Indian archaeological resources in the State's salt pond region. The region contains a series of coastal lagoons, salt ponds in local terminology, that were established approximately 4000 years ago. Indian groups used the area for its specialized resources: fish, shellfish, lithic cobbles, and with the beginnings of horticulture, the area's long growing season and relatively fertile soils were favorable to maize cultivation. The archaeological and historical record documents a fairly continuous use, especially after 3000 B.P., into the 18th century A.D. Although limited use continued after 1750 A.D., colonial settlement following Indian defeat in King Philip's War of 1675-76, increasingly restricted traditional Indian uses so that by the mid 1700s, most of the remaining Indian population had moved outside the region, taking up lumbering, livestock raising and farming.

The Geological and Environmental Setting

The Salt Pond context extends across the southern edge of Rhode Island from Westerly to Narragansett and contains the salt ponds: Maschaug, Little Maschaug, Winnapaug, Quonochontaug, Ninigret, Green Hill, Trustom, Card, Potter and Point Judith (figure 1). The area includes the land and ponds south of the terminal moraine laid down approximately 12,000 to 15,000 years ago by the retreating Wisconsin ice sheet. After several millennia of rising sea level, the modern configuration of the ponds was reached around 4000 years ago (Boothroyd, et. al. 1985).

The dominant environmental feature is the coastal lagoons, or salt ponds. These tidal features are sheltered from the ocean by barrier spits. The ponds vary in length from one to eight kilometers and in width from 0.8 to 3.5 kilometers. Average depths are 3 to 4 meters. The ponds provide habitat for a wide variety of fish, shellfish, and water fowl. The lands adjacent to the ponds are well-drained, relatively fertile and level to gently sloping. The ponds are fed primarily by fresh groundwater and secondarily by a few small streams. Springs and glacial kettle holes dot the region providing additional localized sources of fresh water.

To the north, the terminal moraine provides an abrupt geological and environmental boundary. Bounded on the north by the moraine and on the south by Block Island Sound, the region forms a distinct coastal environment that offered specialized resources to indigenous Indian groups.

Indian Use of the Ponds

At the time of European contact and settlement in the 16th and 17th centuries the salt ponds were used for specialized

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tasks. In the late 1630s Roger Williams observed that coastal areas were used in the summer for family gardens and fields. He also observed the year-round gathering of shellfish for sustenance and the gathering of quahog (*Mercenaria mercenaria*) for the manufacture of shell beads and wampum. These tasks were parts of an overall seasonal land-use strategy that involved other coastal and interior areas for winter residence, hunting, fishing, and gathering. In the 17th century and perhaps the 16th century, the salt pond region was the locale for another specialized use, trading with the Europeans.

The extent of change in Indian land use between 4000 B.P. and 1750 A.D. is poorly understood. In particular, the temporal depth of the family gardening settlement observed by Williams is unknown. The use of shellfish for food, however, appears to be continuous. Stratigraphic data from shell middens (the Appleby Site, RI-801, and the Foster Cove Site, RI-16) on Potter and Ninigret Ponds date to 3090 +/- 70, 2080 +/- 70, 1619 +/- 70, and 1120 +/- 80 B.P. In addition, shellfish in geological context have been dated to approximately 4100 B.P. Quahog and whelk were also used for the production of wampum, a secular and religious commodity. Wampum-making tools and shell waste have been recovered from Fort Ninigret (RI-15), a 17th-century Indian-European trading place.

The area's shell middens and other sites contain data that indicate other specialized uses of the region: processing faunal resources such as deer and fish and the procurement and reduction of lithics. Deer and fish bone, as well as other mammal and bird bones are frequently recovered in shell middens. Evidence of the procurement and reduction of stone materials, most notably glacial quartz cobbles occur at sites throughout the region.

The use of the region for family horticultural plots, described in the 17th century by Williams, has not been completely substantiated by archaeologists. Archaeological evidence, however, strongly suggests household settlements at several locations. These sites contain "domestic" artifacts such as pipe fragments, ceramic container sherds, bone awls, beads, and pieces of worked graphite (RI site files #15, 16, 171, 667, 801, 1050, 1054, 1058). Thus far, remains of cultigens or post hole features indicative of a wigwam have not been recovered. The ecofactual and architectural data, combined with the artifactual record would more firmly document Williams' observations.

With the exception of a carbonized bean and maize recovered

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from two 17th-century sites, no maize or other domestic plants have been recovered from any Rhode Island sites (Salwen and Mayer 1978). The earliest maize in southern New England was recovered on Martha's Vineyard and dates to approximately 1200 A.D. (Ritchie 1969). While it is possible that the biotic richness of southern New England's estuarine environment made the sustained use of domestic plants unnecessary, a more reasonable explanation for the scant evidence is simply that very little has been found. Early narratives from the 16th and 17th centuries record broad expanses of cleared lands, gardens, and storage facilities, and a seasonal calendar and mythology heavily influenced by the requirements of maize cultivation (Williams 1866; Winthrop 1853; Wroth 1870). The diversity and abundance of natural food resources, however, may have precluded a heavy reliance on domestic plants. Instead, a diverse mixture of domestic and other foods may have provided the basis for a mixed horticultural economy.

After King Phillip's War in 1675-76, the Indian use of the ponds became increasingly restricted as colonists moved into the area. In the 1700s the Indian leadership sold much of the remaining land to whites, but missionary accounts in the 1740s describe Indians living in wigwams (Simmons 1982). Accounts persist into the 19th century of some white landowners permitting Indians to gather shellfish and conduct other subsistence activities. The date of 1750, chosen as the end date of this context is therefore somewhat arbitrary, but generally represents a decreased Indian use of the region during the 18th century as the remaining Indians, engaged in lumbering, farming and livestock, became more restricted in an area north of the ponds.

Research Significance

While the maritime environment was a pervasive and continuous influence during the Indian use of the region, important cultural changes no doubt occurred. These changes can be grouped into three major episodes:

1. An extended drought may have occurred between approximately 5000 and 3000 B.P. This drought and its termination may have altered shellfish and mammal habitat and effected human choices in land use and settlement location (Cox and Thornbahn 1981).

2. Cultigens were introduced at least by 1200 A.D., but probably earlier. Understanding the development and role of a

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horticultural economy and the emergence of the family settlement observed by Williams is basic to understanding the history of Indian people in southern New England.

3. European contact in the 16th century and the later establishment of trading places and permanent settlements had profound impacts on native life. Understanding the alteration of native subsistence and settlement strategies and the persistence of Indian identity is fundamental to understanding the history of the area's Indian peoples as they attempted to cope with the impacts of European colonization.

These processual issues remain unresolved, but the information required for understanding them is present in the archaeological deposits with the Salt Pond region. Studies of the region's archaeological sites should seek to address these issues of long-term and short-term change. Frequently, however, project requirements posed by a small sewer project, unforeseen threats to an individual limited-activity site, or the specific interests of avocational archaeologists, limit investigations to single synchronic studies. Such narrowly focused studies can serve as building blocks for processual studies, provided that they are conducted with a regional framework that seeks to answer processual questions. Research topics listed below provide examples of significant research areas for sites within the Salt Pond context. Processual studies such as those discussed above will require that these topics be combined. Synchronic studies, however, such as "production techniques of grit-tempered Early Woodland ceramics" or a study focusing on the seasonality of a shell midden can be conducted within a single topic. Research topics include:

1. Technology: The totality of the means used to provide objects necessary for human sustenance and comfort.
2. Exchange: The process of reciprocal transfer of ownership (as between persons): trade, barter; broadly: a complex of transactions that results in the actual interchange of goods and services (as among primitive peoples) even though any one transfer may be widely separated in time and place and may take place under the guise of presenting gifts or in consequence of traditional ceremonies.
3. Social organization: The system of relations between persons and among groups with regard to the division of

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activity and the functional arrangement of mutual obligations within society.

4. Settlement pattern: The distribution of historic properties on the landscape.
5. Subsistence: The means of obtaining the necessities of life.
6. Demography and disease: The study of human populations especially with reference to size, density, growth rate and distribution, migration; and the effect of all these on social and economic conditions.
7. Warfare: A military activity undertaken by a political unit to weaken or destroy another.
8. Ideology: A systematic body of concepts about human life or culture; a manner or content of thinking characteristic of an individual, group, or culture. Such studies view land use and material culture as representing creations by people in accordance with their representation of the natural and social world.
9. Environmental change: Studies pertaining to identifying and describing changes in the natural environment that have implications for the human occupation of Rhode Island.

These research topics are discussed in relation to property types, National Register criteria, and registration requirements below and in Section F.

Property Types

The land use activities that occurred within the salt pond region can be used to construct five basic property types. These property types represent specialized uses of the region and thus embody the research values of the context. The property types are:

1. Household settlements
2. Resource processing and disposal areas
3. Resource storage facilities

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4. Burial places

5. Trading places

Each property type can potentially contribute to a wide range of research topics (table 1). These topics, taken singly or in combination, define the significance of the property type. Section F will provide a more detailed discussion of these property types and the basis of their significance.

Information Needs for Further Context Development

Information needs can be grouped into three major topics relating to the identification, evaluation, and protection of archaeological resources:

1. Studies to determine locational attributes of different property types

[REDACTED]

. More evaluation studies within strata around these ponds are required to determine if different property types exhibit distinct distributional characteristics. Given the current data, the most intensively used areas, perhaps the locations of household settlements and some burial places,

[REDACTED]

. The other property types, storage facilities and trading places, are documented at such low frequencies, 0 and 1 respectively, that statements about their locational characteristics are not possible.

[REDACTED]

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Property Types	Research Topics							
	Technology	Exchange	Social Organization	Settlement & Subsistence	Demography	Warfare	Ideology	Environmental Change
Resource Processing & Disposal	X	X	X	X	X		X	X
Resource Storage	X	X	X	X	X		X	
Household Settlements	X	X	X	X	X		X	X
Burial Places	X	X	X	X	X	X	X	
Trading Places	X	X	X	X	X	X	X	

Table 1: Property Types and Possible Research Topics in the Salt Pond Context,

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Trustom are thought to be related to fresh water availability, dates of inundation, and elevation. This simple ecological model should be tested at other ponds.

2. Diachronic studies

Evaluation and protection activities should be directed toward understanding and preserving property types that contain data pertaining to processual studies. Understanding the beginnings and role of horticulture, the emergence of household settlements, and the cultural ambiguities of the European contact and settlement period require multidisciplinary studies that use all possible analytical techniques.

Limited sampling should be conducted at sites representing all property types. Burial places are necessarily exempt from this program unless sanctioned by the Narragansett Indian Tribal Council. The sampling should be devised to collect data to determine the usefulness of the property typology and to better understand cultural processes operating in this context between 4000 B.P. and 1750 A.D. This emphasis on solving diachronic problems with limited sampling will improve the efficiency of property type recognition. In addition, understanding the processes of change is essential to characterizing locational patterns. Processual studies, therefore, are key to the development of a protection strategy:

1. they allow the prediction of where specific property types are likely to be found;
2. they require that all possible data pertaining to a wide range of research topics be used;
3. when based upon limited samples, data is left in the ground for future investigations.

3. Characterizing the condition of known property types

In a significant number of cases the only way to protect an archaeological site in the coastal zone is with excavation. Rising sea levels, ocean storms, and eroding soils represent serious threats to many properties. A statewide assessment in 1981 noted that 23 of 47 known shell middens were eroding into ocean, bay and salt pond waters. This assessment needs to be updated and supplemented with information on other social and natural forces that threaten the preservation of properties.

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In the salt pond context residential development is a problem (figure 2). Fortunately, this development is structured through a state review process, part of which has involved establishing high priority preservation areas based upon historic, recreational, and natural values. This review process is critical because many of the attributes required for the locations of archaeological property types (southern exposure, well-drained fertile soils, gentle slopes, freshwater) are identical to modern needs.

Registration Priorities

Registration priorities are guided by survey and planning strategies and by opportunity. First, survey efforts have concentrated on Potter Pond, an area undergoing rapid private development. Registration of the Potter Pond Archaeological District, based upon the results of a survey and planning grant project, is a high priority registration activity. As additional areas are surveyed, they will be added to the high priority list. At the same time, we are receptive to working with landowners who wish to develop protection strategies for significant properties requiring registration. These opportunities are high priority registration activities.

F. Associated Property Types

I. Name of Property Type Household Settlements

II. Description

In the late 1630s Roger Williams observed that during the summer growing season, Narragansett Indians would settle in family units along the coast. There the family would cultivate areas of corn, squash, and beans. This dispersed settlement strategy would have produced many single household sites. Such a site may contain a wig-wam's post holes, associated internal features, and resource disposal and processing areas. Because the seasonal activities involved resource acquisition, storage facilities probably would not occur. A burial place may be associated. Evidence of the cultivation of domestic crops, as well as diverse floral and faunal resources of the horticultural economy should be present in the site's features.

III. Significance

See Continuation Sheet F 2

IV. Registration Requirements

See Continuation Sheet F 2

See continuation sheet

See continuation sheet for additional property types

G. Summary of Identification and Evaluation Methods

Discuss the methods used in developing the multiple property listing.

Archaeological information about the Salt Pond Context comes from a variety of sources and has been collected with different methods and techniques. In the late 1940s, the State's amateur society, the Narragansett Archaeological society, conducted extensive excavations at a shell midden on Potter Pond (Fowler and Luther 1950). In 1974 the Historical Preservation Commission conducted limited excavations at a shell midden on Ninigret Pond (Senulis 1974). The next excavations were also single site-oriented, at Fort Ninigret, a 17th-century fortified trading place on Ninigret Pond (Salwen and Mayer 1978). In the 1980s the Historical Preservation Commission began reviewing permits for housing and other development in the State's coastal zone. This review process, conducted through the Coastal Resources Management Council, resulted in the discovery and protection of additional sites (Robinson 1981, 1982).

See continuation sheet

H. Major Bibliographical References

See Continuation Sheet H 2

See continuation sheet

Primary location of additional documentation:

- State historic preservation office
 Other State agency
 Federal agency

- Local government
 University
 Other

Specify repository: Rhode Island Historical Preservation Commission

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It is not known when household settlements of the kind described by Williams were first established. The emergence of this property type may have focused activities such as resource processing and disposal and perhaps mortuary practice so that fewer isolated examples of other property types occur.

Archaeological visibility may be low. It is possible that the same location may not have been used during successive growing seasons. This movement may have produced a "smear" of low-visibility features and a wide scatter of domestic artifacts such as pipes, ceramics, beads, stone pendants, graphite pieces, and exotic lithics. The visibility of these sites is linked to locational characteristics. In some areas that contain highly favorable locational attributes, movement may have been more restricted thus focusing and increasing the visibility of the remains, especially post hole patterns. These geographical characteristics are: southern exposures adjacent to ponds on well-drained, fertile, level to gently sloping surfaces in proximity to fresh water. Standardized shovel tests and larger 1 x 1 meter square units and the screening of soils are required for detection and evaluation.

III. Significance:

A household settlement of the kind Williams described would contain information important to understanding the processes underlying the introduction and use of cultigens in Indian life. It is possible, as Lynn Ceci has suggested for coastal New York, that prior to European contact and settlement, the role of maize and other domesticates was not prominent in the Indian economy (Ceci 1977). If Ceci's suggestion applies to Rhode Island, the substantial investment and time in maize cultivation that Williams observed in the 1630s may have been in response to the European need for food during the first decade or so of colonization. The amount of labor and time invested in cultivation activities may have been highly variable, dependent upon economic, demographic, and climatic factors predating European settlement. The prominent place of corn, beans, and squash in Narragansett mythology and calendrical ritual and the 16th century observations of Verrazano suggest, however, a longer involvement in maize cultivation.

Using household settlements to investigate the origins, role, and intensity of horticulture could involve a wide range of research topics, but generally the topics social organization,

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settlement patterns, and subsistence will form the basis of significance: when were cultigens introduced into southern New England? How did the household settlement relate to other components of the annual settlement pattern? Was cultivation primarily carried out by women? How large was the work unit; what was its composition? And after contact with Europeans, what were the impacts of European contact and settlement upon native society?

IV. Registration Requirements:

- a) National Register criteria: d
- b) areas of significance: archaeology, prehistoric archaeology, historic aboriginal
- c) data requirements:

Table 2 presents the research topics pertaining to the significance of this property type and the data required to address these research topics. Table 2 sets a minimal level that a property must achieve to be eligible for listing on the National Register of Historic Places. A property must satisfy the data requirements of at least one research topic. It is possible that other conditions not listed can be used to refine or supplement these requirements.

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- I. Name of Property Type: Resource processing and disposal areas
II. Description:

This property type includes those sites where resources of the salt pond region were processed and waste materials disposed. Examples of these sites include: (1) lithic procurement and reduction areas, (2) shell middens, (3) butchering areas.

(1) Lithic procurement and reduction areas

The salt pond region contains an abundance of glacially deposited quartz cobbles that were used year-round by native people to produce stone tools. In general these sites are small, less than 2500 square meters, but can be much larger when associated with an extensive cobble surface. Cores, primary flakes, secondary flakes, tertiary flakes, shatter and broken tools will predominate at these sites. Although temporal indicators such as dateable charcoal deposits or diagnostic artifacts are often lacking, geological context may be used to derive an approximate date. Lithic reduction areas located within 200 meters of the present pond shore line are assumed to have been used in the past 4000 years. Sites used before 4000 B.P. are assumed to have eroded into the ponds. This assumption applies only to cobble reduction areas. Quartz was used, however, from 4000 B.P. into 1670s A.D. Standardized shovel tests and soils screening are required for detection and evaluation. With these techniques, site visibility is high.

(2) Shell middens

The salt pond region contains a diverse saline habitat capable of supporting quahog (Mercenaria mercenaria), scallop (Pecten irradians), oyster (Crassostrea virginica), soft-shelled clams (Mya arenaria), and whelk (Busycon carica and Busycon canaliculatum). These shellfish were collected year-round and used for food as well as the production of shell beads and wampum. Shells generated from collection and processing were deposited in heaps, generally adjacent to the shore. These deposits of shell are termed shell middens. These sites can occur isolated or as part of a larger site associated with households or other task groups.

Data concerning midden sizes is sparse but documented depths of shell range from 5 centimeters to 70 centimeters. Horizontal extent varies considerably, but no deposits greater than an acre have been recorded for the entire state. Archaeological

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visibility is high provided that subsurface tests with shovels or auger cores are used. These subsurface techniques are required for identification and evaluation. Because of the alkaline chemistry of the soil at midden locations, the preservation of organic remains such as bone, seeds and charcoal is unusually good for New England. Shell middens can also contain other refuse such as ceramic pieces and stone flakes and tools. Occasionally human burials are found.

The earliest documented shell midden contains quahog dated to 3090 +/- 70 B.P. Other shell deposits have been dated to 2080 +/- 70 B.P., 1610 +/- 70 B.P., and 1120 +/- 80 B.P. (Morenon 1983). In addition, shell remains in a geological context have been dated to approximately 4100 B.P. and shell has been recovered in a 17th century context. The use of shellfish is therefore fairly continuous through the time period covered by the salt pond context.

(3) Butchering areas

The remains of birds and mammals are frequently found in shell middens. Butchering areas have not been found in isolation, although they are hypothesized. Such sites would contain points, scrapers, knives, choppers, and debitage from tool manufacture and maintenance. A cooking feature with fire-cracked rock may be present. The site would represent a short-term occupation and probably be contained within 2500 square meters. Archaeological visibility would be high provided that subsurface shovel tests and screens were used. These subsurface techniques are required for identification and evaluation. Dating may be possible with charcoal samples and diagnostic stone tools.

III. Significance:

Resource processing and disposal areas have the potential to contribute to a wide range of research topics (table 3), but most topics generally would be subsumed under social organization and settlement/subsistence patterns. The means by which groups extract, process, use, and discard resources is fundamental to understanding that group's relationship to the land.

Defining the composition of the task groups that used the salt pond region and how that composition changed through time in relation to the emergence of the household settlement and the adoption of horticulture is one broad area of research to which sites in this property type can contribute. Examples of research

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questions include: Do dateable, stratified shell middens exhibit changes in female or male-oriented activities (weaving and ceramic vs. production stone tool and wampum production?) Are the locations of Terminal Late Archaic (3700-2700 B.P.) lithic procurement/reduction areas different from those used during the Late Woodland? Do the location of butchering sites also change through time? Do these changes represent a spatial focusing of activities associated with the emergence of the household settlement and the beginnings of horticulture? Do ratios of local to exotic lithics at any of these sites change through time? Are these changes contemporaneous with larger regional movements of raw materials? Do these sites exhibit an emphasis or de-emphasis upon the area's resources through time? Can these changes be linked to the end of the drought around 3000 B.P. or the beginnings of horticulture? Can changes in the composition of these sites be linked, after contact, to the participation of the Indians in European trade and European colonization?

IV. Registration Requirements:

- a) National Register criteria: d
- b) areas of significance: archaeology, prehistoric archaeology, historic aboriginal
- c) data requirements:

Table 3 presents the research topics pertaining to the significance of this property type and the data required to address these research topics. Table 3 sets a minimal level that a property must achieve to be eligible for listing on the National Register of Historic Places. A property must satisfy the data requirements of at least one research topic. It is possible that other conditions not listed can be used to supplement or refine these requirements.

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- I. Name of Property Type: Resource storage facilities
II. Description:

This property type includes those sites where resources from the salt pond region were stored. Examples of these sites are hypothesized to be rare because the region was used primarily for resource extraction and processing. In general, resource storage would have occurred at more permanent settlements away from the coast. During the horticultural period, the maize and other domestic crops would have been harvested and initially processed at the household settlement, then transported inland for final processing and storage. Similarly, before the emergence of the household settlement, storage would have occurred at locations away from the coast. It is also possible that during the periods of warmer weather, "wintering over" was not a problem and therefore storage was not required.

While food storage may not have been a significant activity, the storage of shell blanks, particularly quahog and whelk, for the production of shell beads and wampum may have been. Roger Williams observed in the 1630s that many Narragansett Indians along "the sea-side make money, and store up shells in summer" for the production of wampum at their winter residences (Williams 1866:180).

Although wampum blanks have been recovered in mortuary context, caches of wampum blanks are undocumented in Rhode Island's archaeological record, but would be very distinct from shell middens. Caches would contain little household or other refuse and would be composed primarily of quahog and perhaps whelk, the shellfish used for wampum production.

Wampum production was not a major activity until the 17th century, when the Dutch and English began to use it as currency. Wampum blank caches are therefore not expected to occur until the first quarter of the 17th century.

Sites would be located adjacent to the ponds, near shellfish habitat or adjacent to a household settlement or trading place. Site size is hypothesized to be very small, probably less than 10 square meters. Because of its small size, detection would be difficult. Subsurface testing using standardized techniques with shovel tests and screens would be required.

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III. Significance:

Wampum blank caches would contain information important to the study of many research topics (table 4), but primarily the topics of technology, exchange, social organization, and settlement pattern/ subsistence strategy and ideology. Understanding the role of wampum in Indian and colonial society is critical to understanding the effect of European contact and settlement upon local Indian society. The identification and dating of shell storage areas could contribute to an understanding of changes that occurred in Indian society as wampum was transformed from a sacred substance to one that conveyed both sacred and secular meaning: did the production of wampum alter Indian settlement and subsistence strategies? The shell used for the highly valued purple wampum was limited in distribution to the Long Island Sound area: Was wampum traded among Indian groups in finished form? Were "blanks" valued as trade commodities? Did wampum production, a predominantly male activity, compete with other male tasks and thus contribute to or strengthen European-Indian trade dependency? Were wampum production levels manipulated by local Indians as a strategy for resisting European influence?

IV. Registration Requirements:

- a) National Register criteria: d
- b) Areas of significance: archaeology, prehistoric archaeology, historic aboriginal
- c) data requirements:

Table 4 presents research topics pertaining to the significance of this property type and the data required to address these topics. A property must satisfy the data requirements of at least one research topic. Table 4 sets a minimal level that a property must achieve to be eligible for listing on the National Register of Historic Places. It is possible that other conditions not listed can be used to supplement or refine these requirements.

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- I. Name of Property Type: Burial Places
II. Description:

This property type includes those sites that contain the skeletal remains and possibly grave associations of one or more individuals. Examples include cremations, secondary burials and primary burials. Burials can occur in shell deposits and middens or in a soil matrix. Single interments, small groups of less than ten individuals, and larger burial areas containing over ten individuals can occur. Cremation burials apparently are restricted to the Terminal Late Archaic: two cremation features outside the salt pond region on Conanicut Island have been carbon dated to 3280 +/- 90 B.P. and 3225 +/- 110 B.P. (Simmons 1970). Isolated individuals and small groups of primary burials occur in the Late Woodland with large burial places or cemeteries of more than 10 individuals developing in the 16th and 17th centuries. Mortuary practices for the time between the Terminal Late Archaic cremations and Late Woodland primary interments are poorly documented, with the exception of occasional isolated primary burials in shell middens. This lack of sites may be due to low soil pH levels that hinder bone preservation outside the alkaline environment of shell deposits.

Locational patterns are poorly understood, although after King Philip's War in 1676, more marginal lands seem to have been chosen for burial plots. This trend may relate to colonial land encroachment (Cook 1985). Archaeological visibility is generally very low. Burial places, except for those of the 18th century, are unmarked, small and difficult to detect. Subsurface testing with shovel test and auger cores is required. Remote sensing devices such as ground-penetrating radar and magnetometers are highly recommended when soil conditions permit. Because of the importance of these sites to the Narragansett Indian Tribe and Tribal Council, any identification and evaluation activities should be conducted in consultation with the Tribal Council. In addition, data recovery should occur only after all in-place preservation options have been thoroughly considered.

- III. Significance:

Burial places contain information important to the study of a wide range of research topics (table 5). Osteological analysis can determine dietary and nutritional status and disease patterns. Archaeological analysis of burial type, grave associations, and spatial attributes can contribute to an understanding of social organization, settlement pattern,

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subsistence and ideology. When grave associations are present, additional insights are possible into technology and exchange. In rare cases, skeletal remains may also provide clues about warfare-related trauma. If the sample is large enough and regional comparisons possible, in-depth demographic studies can be conducted.

Burial places are significant in their own right, but when combined with other contemporaneous property types become an extremely powerful tool for the study of past societies. The effects of dietary change, detected in resource disposal areas or household settlements, can be directly measured with skeletal remains by using techniques such as trace element analysis and by examining skeletal and dental tissue for stress. Similarly the ambiguities of culture contact, whether European-Indian or the hypothesized contact related to the Iroquoian intrusion during the Terminal Late Archaic, can be more fully described by examining ideological responses in mortuary practice and economic-ideological responses at settlements.

IV. Registration Requirements:

- a) National Register criteria: d
- b) areas of significance: archaeology, prehistoric archaeology, historic aboriginal
- c) data requirements:

Table 5 presents research topics pertaining to the significance of this property type and the data required to address these topics. A property must satisfy the data requirements of at least one research topic. Table 5 sets a minimal level that a property must achieve to be eligible for listing on the National Register of Historic Places. It is possible that other conditions not listed can be used to supplement or refine these requirements.

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- I. Name of Property Type: Trading Places
II. Description:

This property includes only those places that were used during the period of contact and trade between Europeans and Indians, ca. 1524-1676. Trading places were established by either Europeans or Indians in an effort to focus and regularize trading efforts. Although trade items can occur at all property types, a trading place was a unique site that emerged during the 16th and 17th centuries in an attempt to regularize trading activities between Europeans and Indians.

Only one trading place is documented archaeologically in the salt pond region, Fort Ninigret, RI-15. This fortified trading place was established by Niantic/Narragansett Indians early in the 17th century. It is located on a high bluff overlooking Ninigret Pond and is defined by a rectangular earth and stone embankment with five-sided bastions at three of its four corners. This palisade encloses an area of 56 by 50 meters. Activities at this site included wampum production and trade. Refuse from the borrow ditch included shell waste and tools from wampum production, European trade items, mollusc shells, animal bones, and stone tool flakes. The scarcity of tools and features related to female tasks (cultivating and ceramic production) and the presence of materials related to male activities (trade and wampum production) suggest that the site was used primarily by men. The lack of storage features and the information in 17th century documents concerning Indian land-use strategies suggest a spring-summer occupation (Salwen and Mayer 1978).

- III. Significance:

Trading places contain information important to the study of a wide range of research topics (table 6). Changes in Indian technology, exchange systems, social organization, settlement pattern and subsistence strategies, warfare and ideology are potentially detectable at these sites. Wampum manufacturing areas, food refuse, shell middens, trade items, and earthen embankments/palisades contain data that can contribute directly to these research topics: Did increased male participation in trade and wampum production alter settlement or subsistence strategies? Does the appearance of fortified sites during this period indicate increased conflict and competition among Indian groups? In combination with burial places and household settlements, a trading place can provide insights into the ambiguous strategies used by Indians during this period: How were

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the strategies of resistance, accommodation, and acceptance blended into an overall strategy? What ideological implications did this ambiguous position have for religious, social, and economic aspects of Indian society?

IV. Registration Requirements:

- a) National Register criteria: d
- b) areas of significance: archaeology, prehistoric archaeology, historic aboriginal
- c) data requirements:

Table 6 presents research topics pertaining to the significance of this property type and the data required to address these topics. A property must satisfy the data requirements of at least one research topic. Table 6 sets a minimal level that a property must achieve to be eligible for listing on the National Register of Historic Places. It is possible that other conditions not listed can be used to supplement or refine these requirements.

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Key for data requirements (To be used with tables 2-6),

1. The site must contain features or other cultural material that can be used to derive functional inferences.
2. The site must contain floral, faunal or shell remains that may potentially be used to establish the season of occupation.
3. The site must contain artifacts or other data that can be used to identify the site or its contents within an established chronology.
4. The site must contain artifactual materials that can be used to derive inferences on floral or faunal food processing or contain preparation or midden areas within the site.
5. The site must contain the remains of at least one individual in a sufficient state of preservation to determine sex, age category (infant, juvenile, adolescent, adult).
6. The site must contain the remains of at least one individual in sufficient state of preservation to conduct a thorough analysis of stress and pathology.
7. The site must exhibit evidence of domestic residence structures or other features that can be inferred to represent areas of domestic residence.
8. The site must retain undisturbed spatial relationships among artifacts and features or demonstrate that reconstruction of these relationships is possible.
9. The site must contain exotic raw material whose source can be postulated to be outside the study area.
10. The site must contain associated natural deposits or cultural features containing data pertaining to the reconstruction of past vegetation sequences, climates, or coastal inundation.

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Data Requirements

Research Topics	1	2	3	4	5	6	7	8	9	10
Technology	X		X					X		
Exchange			X					X	X	
Social Organization	X	X	X				X	X		
Settlement Patterns/ Subsistence Strategies	X	X	X	X			X	X		
Ideology	X		X	X				X		
Demography	X	X	X				X	X		
Environmental Change			X					X		X

Table 2: Registration Requirements for Household Settlements

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Data Requirements

Research Topics	1	2	3	4	5	6	7	8	9	10
Technology	abc		abc					abc		
Exchange	ab							abc	abc	
Social Organization	abc	b	abc	bc				abc		
Settlement Patterns/ Subsistence Strategies	abc	b	abc	bc				abc		
Ideology	abc		abc					abc		
Demography	abc	b	abc	bc				abc		
Environmental Change								b		b

Table 3: Registration requirements for resource processing and disposal areas (a - lithic procurement and reduction; b - shell midden; c - butchering area)

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Data Requirements

Research Topics	1	2	3	4	5	6	7	8	9	10
Technology	X	X	X					X		
Exchange	X	X	X					X		
Social Organization	X	X	X					X		
Settlement Patterns/ Subsistence Strategies	X	X	X					X		
Ideology	X		X					X		
Demography	X	X	X					X		
Environmental Change										X

Table 4: Registration Requirements for wampum blank caches (storage facilities)

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Data Requirements

Research Topics	1	2	3	4	5	6	7	8	9	10
Technology	X		X					X		
Exchange	X		X					X	X	
Social Organization	X		X		X			X		
Settlement Patterns/ Subsistence Strategies	X		X		X			X		
Ideology	X		X		X			X		
Demography	X		X		X			X		
Disease	X		X		X	X		X		
Warfare	X		X		X	X		X		

Table 5: Registration Requirements for Burial places.

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Research Topics	Data Requirements									
	1	2	3	4	5	6	7	8	9	10
Technology	X		X					X		
Exchange	X		X					X	X	
Social Organization	X	X	X					X		
Settlement Patterns/ Subsistence Strategies	X	X	X	X				X		
Ideology	X		X					X		
Demography	X	X	X					X		
Environmental Change										
Warfare	X		X					X		

Table 6: Data Requirements for Trading Places.

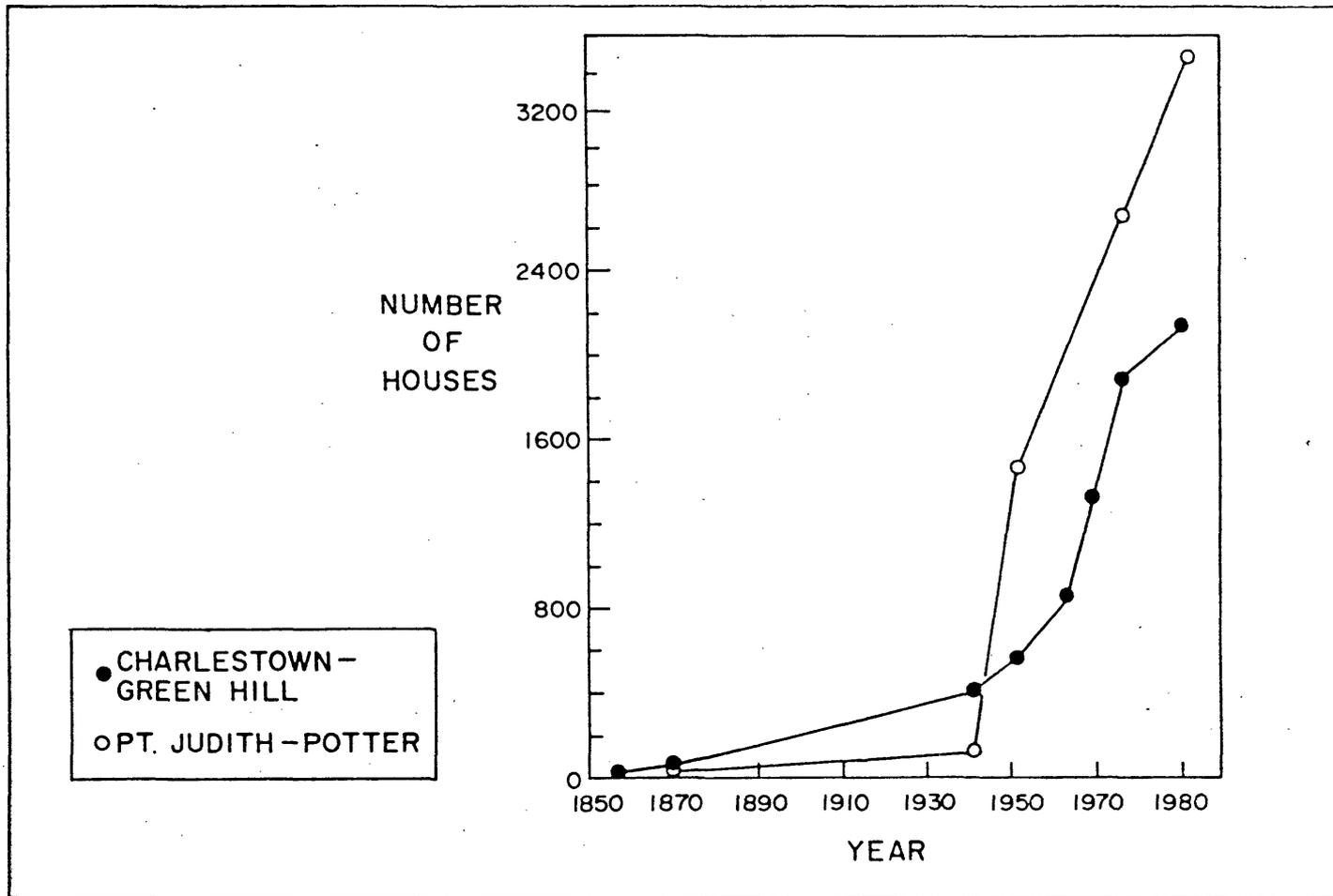


Figure 2: The increase of residential development within the salt pond watersheds south of Route 1. From Olsen and Lee, 1984,p.3.

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These excavations and permit application reviews were largely site-oriented and did not provide the kind of contextual data required to understand general land use patterns or long-term processual issues. To provide a data context, 1982 survey and planning grant funds were awarded to Rhode Island College. [REDACTED] (Morenon 1983; Morenon, et al., 1983). These surveys were conducted using standardized survey methods and techniques (Rhode Island Historical Preservation Commission, 1982). Subsurface tests and screening were used within standard-sized quadrats distributed randomly within pre-determined environmental strata. This standardized approach helped assure that results would be comparable and that the basis for determining requirements for listing properties on the National Register was replicable. The sampling approach would also allow preliminary extrapolation concerning the locational characteristics of property types to be made to other ponds based upon their ecological, geological, and historical characteristics. Evaluation methods also were conducted according to the Historical Preservation Commission's Standards (1982).

The results of these surveys in combination with the site-specific excavations and historical documentation led to the creation of the salt pond context. The use of the area for specialized resources, the property typology that reflects that use, the dates for the formation of the ponds around 4000 B.P. and ultimately the decreasing Indian use of the ponds during the 18th century, and the conception of the region as a distinct area within the state was supported by the surveys, the excavations, the scientific literature, and the historical documents.

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