Historical Research Letter
ISSN 2224-3178 (Paper) ISSN 2225-0964 (Online)
Vol.57, 2026

The Population of Hawai‘i from Initial Settlement to Cook’s Visits in 1778 and the Post-Contact Year of 1850

David A. Swanson
Population Research Center, Portland State University
Center for Studies in Demography and Ecology, University of Washington
Department of Sociology, University of California Riverside
dswanson@ucr.edu

Jeff Tayman
Tayman Demographics
2142 Diamond St.
San Diego, CA 92109
jtayman@san.rr.com

Abstract
There are no comprehensive sets of population estimates associated with the generally accepted “cultural periods” established by archeological work that are believed to have occurred between the initial settlement of Hawai‘i and Cook’s visits in 1778. We present a series of scenario-based population estimates for these periods. In evaluating these estimates, we are inclined to accept the two scenarios based, respectively, on 1778 estimates of 450,000 and 683,000. We suggest subsequent research that is aimed at the generation of age-related information from 1778 back to the initial settlement of Hawai‘i circa AD 1000. This would provide the foundation needed for determining the likely demographic path from first settlement to 1850, one that not only consistent with the archaeological evidence, the historical record, and demographic dynamics but provides a demographic foundation for a discussion involving sovereignty, a topic at the heart of social justice in regard to the Hawai’ian people and their descendants.
Keywords: Population of Hawaii
DOI: 10.7176/HRL/57-01
Publication date: April 30th 2026

Introduction

As noted by Swanson (2019), the historical demography of Hawai‘i was once a domain of work subject largely to academic discussion (Adams 1937; Adams et al., 1925; Cordy, 2007; Daws, 1968; Dye, 1994; Dye & Komori, 1992; Gardner & Nordyke, 1974; Hommon, 2008; Kirch, 1985, 2010, 2011; Kirch & Rallu, 2007; McArthur, 1970; Nordyke, 1989; Rallu, 2007; Schmitt, 1968, 1970a, 1970b, 1971; Stannard, 1989, 1992; Thornton 1987). Swanson (2019) continued with the observation that the academic discussion about the size of pre-contact indigenous populations in the Americas and the Pacific Basin had spilled over into the public domain and not without contentious dimensions (Churchill & Venne, 2005; Smith, 2017; Stannard, 2000; Trask, 1993; Trask, 2010; Wright, 1992) because the historical demography is inextricably bound to the issue of sovereignty (see, e.g., Warne, 2021), which is at the heart of the social justice perspective.

This paper is aimed at providing a comprehensive history of the demography from first settlement to the year of first European contact. It provides a series of 10 scenario-based estimates of the population of Hawai‘i designed to show the change in population over "cultural periods” of Hawai‘i (Exhibit 1) identified by Kirch (2010: 128) as having occurred between the year of first settlement and the year of first documented European contact, 1778.[1] These scenario-based and assumption-based estimates are designed to partially fill a gap in our knowledge of the demographic history of Hawai‘i because there are no comprehensive population estimates for Hawai‘i that are linked to these cultural periods that go from initial settlement to 1778. For purposes of this study two of the cultural periods shown in Exhibit 1, Early Expansion (1200-1400) and Late Expansion (1400 – 1650) are combined into a single “Expansion Period,” 1200-1650 because it appeared the demographic processes in each of them were similar. Thus, we examine three cultural periods: (1) Foundation, 1000 – 1200; (2) Expansion, 1200- 1650; and (3) Protohistoric, 1650-1778. For purposes of context, we also look at what we call the “Post-contact Period,” which we define as 1778 to 1850.

Exhibit 1. Time Span (AD), Cultural Period, and Salient Characteristics*

1000–1200 Foundation. Initial discovery and settlement by Polynesian colonists from central Eastern Polynesia. Small founding population; Island Settlements in a few ecologically favorable locations, primarily on O'ahu and Kaua'i

1200–1400 Early Expansion. The last period with long-distance voyaging contacts with central East Polynesia. Beginning of major phase of exponential increase in population. Adaption of technology and subsistence economy to local conditions. Development of significant taro irrigation systems on O'ahu, Kaua'i, and Moloka'i islands.

1400–1650 Late Expansion. Population growth peaks and begins to stabilize. Expansion of settlements into leeward and marginal zones, and initial formation of large-scale dryland field systems on Maui and Hawai'i islands. Considerable investment in monumental architecture. Archaic states emerge at the end of this period.

1650–1778 Protohistoric. High-density but stable (not expanding) population. Settlements across all ecological zones. Secondary intensification of dryland field systems. Conquest warfare endemic.

*Kirch (2010: 128).

Each of the ten scenarios is based on an estimate of the Hawai‘ian population in 1778, which, in turn, is linked to a “peak population” as of AD 1650, a year selected from a range of years corresponding to the expansion period (1200 to 1650) in which the population of Hawai‘i reached a maximum before 1778. This is a pivotal year we derived from work by Kirch (2010: 128), among others (Dye, 1994; Hommon, 2008). It is important here to note, for example, that there also is an empirically supported, well-researched argument for a plateau reached around 1550 with a population of 500,000 that is presented by Hommon (2008), who goes on to argue that by 1778, the Hawai‘ian population had declined by 10 percent to 450,000. Hommon’s (2008) 1778 number is used in one of the ten scenarios we employ in this paper.

These 10 scenario-based estimates are provided in conjunction with estimated populations of 100 in AD 1000, (the likely initial year of settlement by Polynesians) and 20,000 in 1150 (Dye, 1994), a year that closely approximates AD 1200, the end of the "Foundation Period" identified by Kirch (2010: 128).

Having a "peak" population estimate supports the major objective of this research, which is to show the change in population over the cultural periods of Hawai‘i that occurred between the year of first settlement and the year of first documented European contact, 1778. These scenario-based and assumption-based estimates are designed to partially fill a gap in our knowledge of the demographic history of Hawai‘i because there are no comprehensive sets of population estimates for Hawai‘i that are linked to these four cultural periods that go from initial settlement to 1778.

Each of the 10 scenarios is based on an estimated population for 1778, the year of first European contact. We assumed that the 1650 peak population is five percent higher than the year of first European contact. We derived this relationship from work by Kirch (2010, 2011), particularly his observation that 1650-1778 was a period of endemic conquest warfare (Kirch, 2010: 128), which not only suppressed population growth but may have acted in concert with other factors identified by others (Dye, 1994; Hommon, 2008), to push it downward.

What we have in terms of the estimated population of Hawai‘i at the time of first European contact in 1778 can be seen in Exhibit 2. There is a wide range of estimates of the total population of Hawai‘i at the time of first European contact in 1778 and they reflect a wide range of “methods,” only one of which is transparent, replicable, and based on demographic dynamics, namely Swanson’s (2019) estimate of 683,000.

EXHIBIT 2. EXAMPLE RANGE OF ESTIMATES OF THE TOTAL POPULATION OF HAWAI'I IN 1778*

Number	Source	Citation
200,000	Captain Dixon, visit of 1787	Schmitt (1968: 20)
242,000	Bligh, with Cook, 1st Visit, 1778	Schmitt (1968: 20)
200,000-250,000	Schmitt, 1971	Schmitt (1971)
300,000	Schmitt & Zane 1977	Nordyke (1989: 173)
400,000	King, with Cook, 2nd Visit, 1779	Adams (1937: 1)
450,000	Hommon, 2008	Hommon (2008:53)
500,000	Officers with Cook, 1st Visit, 1778	Schmitt (1968: 19)
683,000	Swanson, 2019	Swanson (2019)
800,000 – 1,000,000	Stannard, 1989	Stannard (1989: 50)

*There are more, often expressed as opinions concerning the initial estimates by Bligh, Dixon, King, and other British Naval officers, but most are in the range shown above (see, e.g., Schmitt, 1968: 18-23.)

It is not surprising that uncertainty would surround the number of Hawai‘ians at the time of first European contact. Hawai‘ians did not have a writing system (Kirch, 2010: 75-76) and even though arithmetic was “primitive and laborious,” counts were taken of certain items, and records were kept via cordage (Schmitt, 1981: 1). In addition, although there is no known census of the Hawai‘ian population that was taken circa 1778, it appears that King Umi may have conducted a complete census of Hawai‘i around the year 1500 (Schmitt, 1981: 1).

Without a count, the only recourse is to estimate the size of the 1778 population. The retrospective estimates by Schmitt and Stannard, as well as some of those provided by the first Europeans known to have contacted the Hawai‘ians, are informed by methods; others are much more speculative (Schmitt, 1968: 18-22). As can be seen in Exhibit 2, the estimates range from 200,000 to 1,000,000.

The estimates for which methodological descriptions are available represent attempts to reconstruct the Hawai‘ian population in 1778 using information available at the time of European contact or earlier. These estimates include the use of counts of houses in villages visited or observed by the Europeans, their estimates of average household size, and extrapolation of these estimates to all Hawai‘i. In addition, Europeans estimated the size of the population by multiplying estimates of the land area of Hawai‘i by assumed levels of population density, a technique also applied retrospectively. Sometimes a variation of this method was used, by multiplying estimates of cultivated land at the time of first contact by assumed levels of population supported by the cultivated areas (Cordy, 2007; Hommon, 2008; Kirch & Rallu, 2007; Rallu, 2007; Schmitt, 1971; Stannard, 1989; Schmitt, 1968).

A review of these estimates showed that, except for Swanson (2019), no attempt has been made to leverage demographic dynamics to estimate the Hawai‘ian population in 1778. That is, to use post-contact data in the

form, say, of 19th and 20th-century census data in a retrospective extrapolation, a "backcast," the method used by Swanson (2019).

The 1778 estimate of 683,000 by Swanson (2019), which forms Scenario H in this paper, is based neither on a model of continuous population growth from the settlement in 1778 nor a model that includes cultural periods that are associated with different levels of population change over this same timeframe (Dye, 1994; Kirch, 2010, 2011). While one or more of the other nine scenarios used here may implicitly or explicitly be based on one of these conceptual models, a backcast is independent of both conceptual models. Of all the 10 estimates of the 1778 population of Hawai'i used here, Swanson's (2019) 1778 estimate is the only one that is empirically based on known population data, constructed using a standard demographic method, consistent with population dynamics, transparent, and replicable.

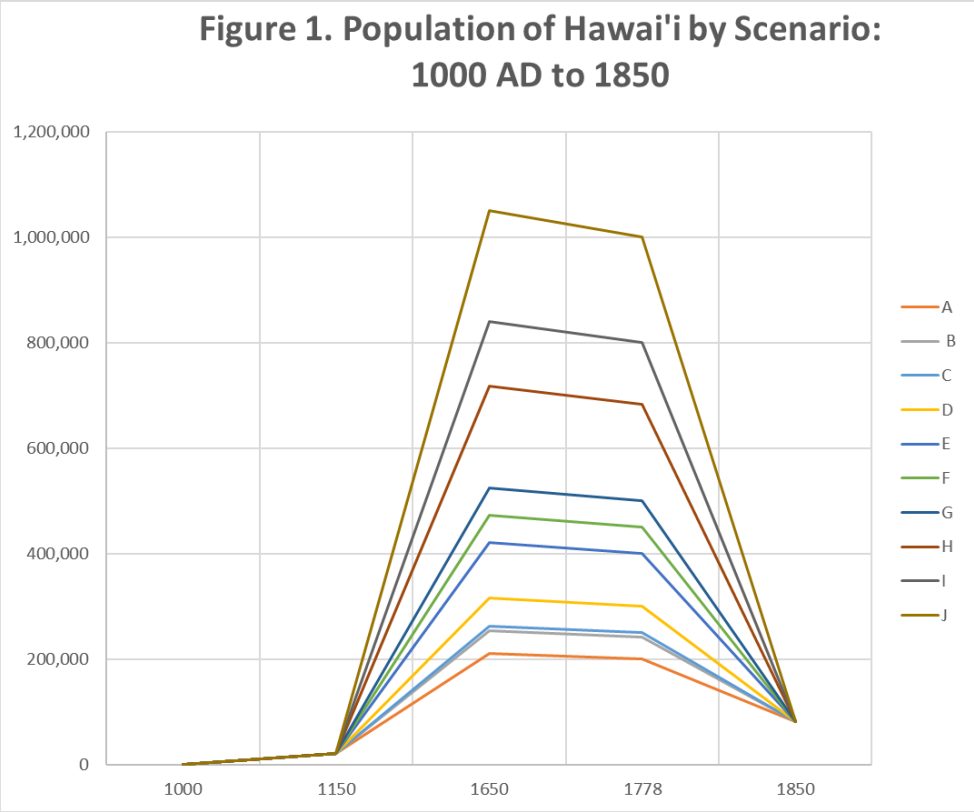
Results

Results are summarized by cultural phase and scenario in Table 1, which has four parts. The first part (1.a) shows the estimated population at the start of each cultural period while part 1.b provides the change in population during each cultural period. Part 1.c shows the average numeric change during each cultural period and 1.d, the annual rate of population change during each cultural period. Included with the cultural periods is the "Post-contact period (1778 to 1850). Figure 1 shows the total population data at each time point. The 10 scenarios are labeled A to J in the Figure.

Table 1. Demographic Indicators by Scenarios and Period

1.a	Scenario (1778 Estimates)										
Pivotal Point of Period	**Year**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
Start of the Foundation Period	1000	100	100	100	100	100	100	100	100	100	100
Start of the Expansion Period	1150	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Start of the Protohistoric Period	1650	210,000	254,100	262,500	315,000	420,000	472,500	525,000	717,150	840,000	1,050,000
Start of the Post Contact Period	1778	200,000	242,000	250,000	300,000	400,000	450,000	500,000	683,000	800,000	1,000,000
End of Post Contact Period	1850	82,000	82,000	82,000	82,000	82,000	82,000	82,000	82,000	82,000	82,000
1.b											
Period	**Years**	**Numeric Change**									
Foundation	1000-1150	19,900	19,900	19,900	19,900	19,900	19,900	19,900	19,900	19,900	19,900
Expansion	1150-1650	190,000	234,100	242,500	295,000	400,000	452,500	505,000	697,150	820,000	1,030,000
Protohistoric	1650-1778	-10,000	-12,100	-12,500	-15,000	-20,000	-22,500	-25,000	-34,150	-40,000	-50,000
Post Contact	1778-1850	-118,000	-160,000	-168,000	-218,000	-318,000	-368,000	-418,000	-601,000	-718,000	-918,000
1.c											
Period	**Years**	**Average Annual Numeric Change**									
Foundation	1000-1150	133	133	133	133	133	133	133	133	133	133
Expansion	1150-1650	380	468	485	590	800	905	1,010	1,394	1,640	2,060
Protohistoric	1650-1778	-78	-95	-98	-117	-156	-176	-195	-267	-313	-391
Post Contact	1778-1850	-1,639	-2,222	-2,333	-3,028	-4,417	-5,111	-5,806	-8,347	-9,972	-12,750
1.d											
Period	**Years**	**Annual Exponential Rate of Growth**									
Foundation	1000-1150	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%	3.53%
Expansion	1150-1650	0.47%	0.51%	0.51%	0.55%	0.61%	0.63%	0.65%	0.72%	0.75%	0.79%
Protohistoric	1650-1778	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%
Post Contact	1778-1850	-1.24%	-1.50%	-1.55%	-1.80%	-2.20%	-2.36%	-2.51%	-2.94%	-3.16%	-3.47%

Sources:
Years 1000 and 1150 (Dye, 1994)
Year 1650 (1.05 * 1778 Pop)
Year 1778 Scenarios (Exhibit 2)
Year 1850 Estimate



In Scenario A, the highest level of numeric population change occurs during the expansion period, AD 1150 to 1650 (380 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-78 persons per year). The greatest level of decline occurs during the "Post-contact period" between 1778 and 1850 (-1,639 persons per year). A somewhat different picture emerges between the foundation and expansion periods when looking at the annual rate of population change (where the rate is $r = (\ln(P_{t+k} / P_t))/(k - t) \times 100$. The foundation period r is much larger than the expansion period r because of the small starting population in the year 1000 and the shorter foundation period (150 years compared to the expansion period 500 years). The variance between the numeric and percent changes for the foundation and expansion periods is seen in all scenarios. For each cultural period, the r is (1) foundation = 3.53%; (2) expansion = 0.47%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is -1.24%.

In Scenario B, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (468 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-95 persons per year). The greatest level of decline occurs between 1778 and 1850 (-2,222 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.51%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-1.50%.

In Scenario C, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (485 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-98 persons per year). The greatest level of decline occurs between 1778 and 1850 (-2,333 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.51%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-1.55%.

In Scenario D, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (590 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-117 persons per year). The greatest level of decline occurs

between 1778 and 1850 (-3,028 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.55%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-1.80%.

In Scenario E, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (800 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-156 persons per year). The greatest level of decline occurs between 1778 and 1850 (-4,417 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.61%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-2.20%.

In Scenario F, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (905 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-176 persons per year). The greatest level of decline occurs between 1778 and 1850 (-5,111 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.63%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-2.36%.

In Scenario G, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (1,010 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-195 persons per year). The greatest level of decline occurs between 1778 and 1850 (-5,806 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.65%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-2.51%.

In Scenario H, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (1,394 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-267 persons per year). The greatest level of decline occurs between 1778 and 1850 (-8,347 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.72%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-2.94%.

In Scenario I, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (1,640 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-313 persons per year). The greatest level of decline occurs between 1778 and 1850 (-9,972 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.75%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-3.16%.

Finally, in Scenario J, we also see that the highest level of population change occurs during the expansion period, AD 1150 to 1650 (2,060 persons per year). This is followed by the second-highest rate of population increase during the foundation period, 1000 to 1150 (133 persons per year). In 1650, the population reaches a peak and declines during the prehistory period, from 1650 to 1778 (-391 persons per year). The greatest level of decline occurs between 1778 and 1850 (-12,750 persons per year). For each cultural period, r is (1) foundation = 3.53%; (2) expansion = 0.79%; and (3) protohistory = -0.04%. The rate from 1778 to 1850 is r =-3.47%.

Discussion

Given the assumption we have employed concerning the initial year of settlement (AD 1000), the beginning of the cultural period of expansion (1150), along with their respective populations of 100 and 20,000, there are only two cultural periods, expansion and protohistory, where the rates of population change can vary. Both periods are governed by one of the 10 scenarios concerning the 1778 population. These assumptions and the scenarios place limitations on the rates of population change that can be seen. This is manifested in the fact that the shape of the temporal pattern of population change seen in Figure 1 is generally similar for all the scenarios while the observed rates of population change vary from 1150 to 1650 and from 1778 to 1850. This means that the different scenarios mainly impact the pace of the expansion and rapid decline after 1778, but not the sequence of population change epochs. Given this limitation, we believe that these rates and their associated numbers are both realistic and have “face value.” They are generated from a plausible range of population estimates in conjunction with cultural periods that are based on a carefully researched and well-documented archaeological record.

While the 10 scenarios represent a plausible range of population estimates, they simultaneously represent the high level of uncertainty regarding the demographic history of Hawai‘i, as indicated by Exhibit 1. The estimates

for 1778 by Cook and members of his party are largely judgment calls, but they are (the only) first-hand, direct observations and have, in this regard, empirical bases. Moreover, some of these estimates were done in conjunction with demographic estimation methods (i.e., the "housing unit method," as mentioned earlier).

The remaining estimates are all based on secondary, indirect information. The 1778 estimate by Hommon (2008), for example, is based on applying demographic methods such as the housing unit method (Swanson & Tayman, 2012: 130-162) to the empirical evidence gained from archaeological work. Stannard's (1989) range of estimated 1778 population is based on carefully researched historical events corresponding with initial European contact with indigenous populations in the Pacific and the Americas, which are extrapolated to Hawai'i in conjunction with information concerning these contacts that directly related to Hawai'i. The estimate by Swanson (2019) uses a demographic estimation method (the reverse cohort change ratio method) that is based on empirical demographic data, one that is consistent with demographic dynamics and grounded in demographic theory (Baker et al., 2017; Swanson et al., 2023).

As this summary suggests, each of the 1778 estimates found in Exhibit 1, has strengths and weaknesses. They can largely be summarized as follows: What is the likely accuracy of estimates based on judgments made on first-hand observations compared to the accuracy of estimates that are made from demographic methods based on second-hand observations? As demographers, we are more inclined to accept the latter, which leads us to lean toward the 1778 estimates of 450,000 (Hommon, 2008) and 683,000 (Swanson, 2019).

One advantage of the method used by Swanson (2019) to estimate the population of Hawai'i in 1778, is that it could, with modifications, be used to generate age-related information from 1778 back to AD 1000, the likely year of initial settlement. It would need modifications to reflect the Cultural Periods identified by Kirch (2010: 128) as well as the related ideas by others about population change from the time of a small initial resident population to 1778 (Dye, 1994; Hommon, 2008; Rallu, 2007). However, while laborious, all of this is tractable and the consistency of the age-related information could be evaluated in terms of the dynamics by which age-structured populations change (Baker et al., 2017; Burch, 2018; Caswell, 2001; Coale, 1972; Preston et al., 2001; Stott et al., 2010; Swanson, 2020). Any inconsistencies could then be examined and used to refine the estimates, with the idea that a demographic path from first settlement to 1850 could be identified that is consistent with the archaeological evidence, the historical record, and demographic dynamics.

Returning to the "social justice" perspective that introduced this paper, we note that he road to resolving the sovereignty issue is a hard one and it compounds the difficulty of developing a consensus on an accurate story of Hawai'i's demographic history. While the exact form of the hurdles affecting a clear understanding of Hawai'i's demography history is unique, it shares a general outline with those affecting all forms of inquiry. As such, it is fitting that we conclude with an observation by Thomas Kuhn (1962: 15): "History suggests that the road to a firm research consensus is extraordinarily arduous**."**

Endnote

1. Although there are arguments that both the Spanish and Japanese visited Hawai'i before Cook's visits in 1778, it appears likely that they were basically "ship-wrecked" (Dye, 1994: 14). The English were the first Europeans to visit, record the visit, and be able to depart (Nordyke, 1989: 15-18). This paper conforms to the argument that English contact in 1778 was the first.

Acknowledgement

We thank Pat Kirch for his advice and observations regarding modeling and the pre-historical population of Hawai'i. The authors are fully responsible for the content of this paper.

The data underlying this paper are secondary and available from the authors.

This research was not funded by any agency.

The authors have no conflicting interests in regard to this paper.

An ethics approval statement is not applicable because the data used are secondary and no human subjects review was required.

References

Adams, R. (1937). *Interracial marriage in Hawaii*. New York, NY: McMillan.

Adams, R., Livesay, T., & Van Winkle, E. (1925). *The peoples of Hawai'i*. Honolulu: Institute of Pacific Relations.

Baker, J., Swanson, D. A., Tayman, J., & Tedrow, L. (2017). *Cohort change ratios and their applications*. Springer B.V. Press. Dordrecht, Heidelberg, London, and New York.

Burch, T. (2018). *Model-based demography: Essays on integrating data, technique, and theory*. Demographic Research Monographs. Rostock, Germany. Max Planck Institute for Demographic Research.

Caswell, H. (2001). *Matrix population models: Construction, analysis, and interpretation, 2nd edition*. Sunderland, MA: Sinauer Associates, Inc.

Churchill, W., & Venne, S. (2005). *Islands in captivity: The International Tribunal on the Rights of Indigenous Hawai'ians*. Cambridge, MA: South End Press.

Coale, A. J. (1972). *The growth and structure of human populations: A mathematical investigation*. Princeton, NJ: Princeton University Press.

Cordy, R. (2007). Reconstructing Hawai'ian population at European contact. pp. 108-128 in P. Kirch and J. Rallu (eds.) *The Growth and Collapse of Pacific Island Societies: Archaeological and Demographic Perspectives*. Honolulu: University of Hawai'i Press.

Daws, G. (1968). *Shoal of time: A history of the Hawai'ian Islands*. Honolulu: University of Hawai'i Press.

Dye, T. (1994). Population trends in Hawai'i before 1778. *Hawai'ian J of History* 28: 1-20.

Dye, T., & Komori, E. (1992). A pre-censal population history of Hawai'i. *New Zealand Journal of Archaeology* 14:113–28.

Gardner, R., & Nordyke, E. (1974). *The demographic situation in Hawai'i*. Papers of the East-West Population Institute no. 31. Honolulu: East-West Center.

Hommon, R. (2008). Watershed: Testing the limited land hypothesis. pp 1-92 in T. Dye (ed.) *Research Designs for Hawai'ian Archaeology: Agriculture, Astronomy, and Architecture*. Honolulu, Society for Hawai'ian Archaeology.

Kirch, P. (1985). *Feathered gods and fishhooks: An introduction to Hawai'ian archaeology and prehistory*. Honolulu: University of Hawai'i Press.

Kirch, P. (2010). *How chiefs became kings*. University of California Press.

Kirch, P. (2011). When did the Polynesians settle Hawai'i? A review of 150 years of scholarly inquiry and a tentative answer. *Hawai'ian Archaeology* 12: 3–26.

Kirch, P., & Rallu, J. (2007). Long-term demographic evolution in the Pacific Islands. pp. 1-14 in P. Kirch and J. Rallu (eds.) *The Growth and Collapse of Pacific Island Societies: Archaeological and Demographic Perspectives*. Honolulu: University of Hawai'i Press.

Kuhn, T. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.

McArthur, N. (1970). The demography of primitive populations. *Science* 167, pp. 1097-1101.

Nordyke, E. (1989). *The peopling of Hawai'i, 2nd Edition*. Honolulu: University of Hawai'i Press.

Preston, S., P. Heuveline, & Guillot, M. (2001). *Demography: Measuring and modeling population processes*. Malden, MA: Blackwell Publishing.

Rallu, J. (2007). Pre- and post-contact population in Island Polynesia. pp. 15-34 in P. Kirch and J. Rallu (eds.) The Growth and Collapse of Pacific Island Societies: Archaeological and Demographic Perspectives. Honolulu: University of Hawai'i Press.

Schmitt, R. (1968). *Demographic Statistics of Hawaii, 1778-1965*. Honolulu: University of Hawai'i Press.

Schmitt, R. (1970a). Famine mortality in Hawaii. *Journal of Pacific History* 5: 109-115.

Schmitt, R. (1970b). The okuu – Hawaii's greatest epidemic. *Hawaii Medical Journal* 29: 359-362.

Schmitt, R. (1971). New estimates of the pre-censal population of Hawaii. *Journal of the Polynesian Societ*y 80: 237- 243.

Schmitt, R. (1977). *Historical statistics of Hawai'i*. Honolulu: University of Hawai'i Press.

Schmitt, R. (1981). Early Hawai'ian Statistics. *The American Statistician* 35 (1): 1-3.

Smith, D. (2017). Counting the dead: Estimating the loss of life in the Indigenous holocaust, 1492-present. Native American Symposium (https://iportal.usask.ca/record/67397).

Smith, S., Tayman, J., & Swanson, D. (2013). *A practitioner's guide to state and local population projections.* Dordrecht, Netherlands: Springer.

Stannard, D. (1989). Before the horror: The population of Hawai'i on the eve of Western contact. Honolulu: University of Hawai'i Press.

Stannard, D. (1992). *American holocaust*. Oxford, UK: Oxford University Press.

Stannard, D. (2000). The Hawai'ians: Health, justice, and sovereignty. *Cultural Survival Quarterly* 24 (http://www.culturalsurvival.org/ourpublications/csq/article/the-Hawai'ians-health-justice-and-sovereignty) .

Stott, I., Townley, S. Carslake, D., & Hodgson, D. (2010). On reducibility and ergodicity of population projection models. *Methods in Ecology and Evolution* 1: 242-252.

Swanson, D. (2019). A new estimate of the Hawai'ian population for 1778, the year of first European contact. *Hŭlili* 11 (2): 203-222

Swanson, D. (2020). The number of native Hawai'ians and part-Hawai'ians in Hawai'i, 1778 to 1900: Demographic estimates by age. pp. 345-356 in B. Jivetti and M. N. Hoque (eds.). *Population Change and Public Policy*. Springer B.V. Press. Dordrecht, Heidelberg, London, and New York.

Swanson, D., & Tayman, J. (2012). *Subnational population estimates*. Dordrecht, Netherlands: Springer.

Swanson, D., Bryan, T., Hattendorf, M., Comstock, K., Starosta, L., & Schmidt, R. (2023). An example of combining expert judgment and small area projection methods: Forecasting for water district needs. *Spatial Demography* (https://link.springer.com/article/10.1007/s40980-023-00119-3)

Thornton, R. (1987). A*merican Indian holocaust and survival: A population history since 1492*. Norman, OK. University of Oklahoma Press.

Trask, H. (1993). *From a native daughter: Colonialism and sovereignty in Hawai'i*. Monroe, ME. Common Courage Press.

Trask, M. (2010). *Hawai'ian sovereignty*. (https://www.culturalsurvival.org/publications/cultural-survival-quarterly/Hawai'ian-sovereignty).

Warne, K. (2021). Farewell to a woman of fire. *E-Tangata* (https://e-tangata.co.nz/reflections/farewell-to-a-woman-of-fire/)

Wright, R. (1992). *Stolen continents: The "New World" through Indian eyes*. Boston, MA: Houghton-Mifflin.