# FACTORS AFFECTING STREAM-FISH COMMUNITY STRUCTURE: EFFECTS OF SILVICULTURAL ACTIVITIES IN SOUTHEASTERN OKLAHOMA

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# PREFACE

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# CHAPTER I

# CHANGES IN THE FAUNA OF THE LITTLE RIVER DRAINAGE, SOUTHEASTERN OKLAHOMA, 1948-1955 TO 1981-1982: A TEST OF THE HYPOTHESIS OF ENVIRONMENTAL DEGRADATION

## Introduction

Declines in the occurrences of fish species in the central United States have been documented in many studies (Trautman 1939; Black 1949; Minckley and Cross 1959; Larimore and Smith 1963; Smith 1971; Trautman and Gartman 1974; Pflieger 1975; Cross et al. 1983). These declines are often attributed to anthropogenic environmental changes, and are often accompanied by increased occurrence of species considered more tolerant of environmental disturbance.

In this paper I present, for the Little River of southeastern Oklahoma, an analysis of differences in the fish fauna between two intervals of time separated by 25 years. In those 25 years, the terrestrial environment was greatly altered by clear-cutting forestry practices, and the purpose of this study is to determine whether there have been any associated changes in the fish fauna. Comparison of collections made in the 1981-82 survey of the Little River drainage with those in the same area in 1948-55 (Reeves 1953; Finnell et al. 1956) suggest that some species declined in occurrence while others increased and that there have been changes in indices of community structure.

Any two ichthyofaunal surveys made by different workers at times separated by two and a half decades are likely to show changes. Such changes may be due to any or all of three hypothetical causes: (1) human-related environmental change, (2) natural fluctuations in faunal structure, or (3) sampling bias. In this analysis hypotheses 2 and 3 cannot be eliminated; on the other hand, neither do these hypotheses provide easily seen corollaries regarding qualitative faunal changes. However, since intense human activity generally would cause a decline in environmental quality for natural faunas, hypothesis 1 produces the following corollary: species with greater tolerances to environmental extremes should increase in occurrence while those with lesser tolerances should decrease. Tolerance is defined as the persistence of a species in the face of environmental extremes, by whatever means; e.g., behavioral and reproductive attributes, not just physiological tolerances.

To examine the expected corollary to human-related change, I looked for trends among changes in occurrence of two groups of fishes in the Little River drainage: (1) those occurring westward into plains streams of Oklahoma and (2) those restricted to the eastern half of the state. In general, those fishes that can tolerate plains streams should have the greater tolerances to environmental extremes (cf., Matthews 1987).

Species of plains streams are exposed to widely fluctuating variables such as salinity, oxygen concentrations, temperature and waterflow (Hubbs and Hettler 1959; Cross 1967; Echelle et al. 1972; Matthews and Hill 1980) and natural die-offs probably are common, especially during harsh periods such as droughts coupled with high temperatures (e.g., Matthews et al. 1982). In contrast, conditions in streams of the forested area east of the plains environment are more stable and less harsh (Cross 1967; Ross et al. 1985). Thus, species restricted to eastern Oklahoma should be less tolerant of environmental extremes than would those occurring in plains streams. Based on that assumption, I examine the null hypothesis that changes in the Little River drainage fish fauna are not related to the assumed tolerances of the species. This allows potential falsification of the hypothesis that the observed changes are due to human activities.

# MATERIALS and METHODS

## Study Area

The Little River drains about 5700 km$^2$ in LeFlore, Pushmataha and McCurtain counties of southeastern Oklahoma. The system has three major components--the Little River proper and two major tributaries, Glover Creek and Mountain Fork River. The Little River flows in Oklahoma for about 241 km and then 129 km in Arkansas to its confluence with the Red River. Two large, artificial reservoirs occur in the drainage--Broken Bow Reservoir (1,952 km$^2$, impounded in 1968) and Pine Creek Reservoir (1,644 km$^2$, impounded in 1969).

The headwaters of the drainage lie in the Kiamichi and Ouachita Mountains, where the typical streams are small and clear and have rocky bottoms and steep gradients. The lower sections of the river pass through lowlands where streams are sluggish and bordered by swampy areas. The upper and middle reaches of the Little River flow through mixed pine/deciduous forest used primarily for silvicultural activities. There are few farms, communities, or other developments that might affect the fish fauna.

The human population in the three-county area of the Little River drainage (McCurtain, Pushmataha, LeFlore) grew 15% (from 35,276 to 40,698) between 1950 and 1980 (Peach and Pool 1965a, b; Dikeman and Earley 1982). Much, if not all population growth was in the larger urban centers (Peach and Pool op. cit.). In the Little River system, the larger urban centers (Broken Bow and Idabel) are in the lowlands and are downstream of or well removed from all locations used in the analysis of frequencies of occurrence.

Poor soil quality has insured continuously low agricultural activity in the Little River drainage. In fact, total area devoted to farmlands has declined from 444,316 ha in 1950 (Peach et al. 1965) to 405,754 ha in 1978 (Dikeman and Earley 1982). Altered farming practices (e.g., increased fertilizer application) could cause changes in the fish fauna despite reduced farmland. However, water analyses at many sites do not suggest an increase in nutrient inputs (B. Burks, pers. comm.).

Commercial forestry in southeastern Oklahoma began around 1910 with selective cutting of pine, cypress and oak (Honess 1923). Selective cutting continued to be the dominant forestry method until the 1960's when intensive silvicultural activities were initiated, including clearcutting and extensive dirt and gravel road building. Now, more than 16,200 ha are clearcut each year and, since 1970, an extensive network of more than 6,400 km of new logging roads have been constructed in southeastern Oklahoma (Oklahoma State Dept. Agric. 1982). This kind of activity is especially intense in the Little River drainage.

Weather conditions generally were similar in 1948-1955 and 1981-1982. Average annual rainfall across nine weather stations over the Little River drainage was 115.8 cm in 1948-1955 and 113.3 cm in 1981-1982. Average annual temperatures for these periods were 17.3°C and 16.3°C, respectively (U.S. Weather Bureau 1948-1955; National Oceanic and Atmospheric Administration 1975-1982).

### Data Collection

The data for 1948-1955 were taken from 91 collection localities reported by Reeves (1953) and 62 reported by Finnell et al. (1956).

Reeves' collections were made with seines and/or gillnets in August 1948, 1950 and 1951 by George A. Moore and his students, including J. D. Reeves. Collections reported by Finnell et al. were made with seines or rotenone in July-August 1955.

In July-September 1981 and 1982, fishes were sampled at 156 localities in the Little River drainage, of which 44 were also sampled by Reeves (1953) or Finnell et al. (1956), or both. Of the sites sampled in the two earlier surveys, 98 were not included in this survey for one or another of three reasons: 1) they were non-stream sites (oxbows, stockponds), or 2) they had been inundated by reservoir construction, or 3) they could not be located from the available descriptions.

Each sample area extended from the first available riffle (usually downstream from the access bridge) downstream to the next riffle or, if no second riffle was encountered, to a point about 100 m downstream. Sampling consisted of 45-60 minutes of electroshocking (AC generator, 220 v. 12 amp.; hand-held electrodes) followed by intensive seining of all available microhabitats. Seining was done with either a 1.2- x 3.7-m seine with 3.2-mm Ace mesh or a 1.8- x 9.1-m seine with 4.8-mm Ace mesh, or both. All fish were preserved in 10% formalin and returned to the laboratory for identification.

Each collection locality was scored for six environmental variables that are not likely to have changed significantly since 1948-55. This allows examination of changes in the fish fauna relative to the physical environment in a situation where there is no information on past environmental conditions.

The variables recorded were maximum stream width based on on-site measurements, four variables based on U. S. Geological Survey maps: elevation, stream gradient, stream order and distance from the headwater terminus of the stream and soil type taken from U. S. Soil Conservation Service maps. Strahler's (1957) method was used for stream order. Soil type was scored as follows: 1 = clay, 2 = silt loam, 3 = loam, 4 = fine sandy loam, 5 = sandy-gravelly loam, 6 = gravelly loam.

### Data Analysis

Frequencies of occurrence of each species in the two periods (early and recent) were compared based on the presence or absence in collections (Appendix A). Chi-square analysis of 2 X 2 contingency tables ($\alpha = 0.05$) were used to test the null hypothesis of no difference between recent and early collections in the presence or absence of species. In these analyses, only species occurring in a combined total of 10 or more recent or early collections (hereafter called "common" species; those in fewer than 10 collections are termed "rare") were included. Fisher's exact test was used for contingency table analysis in cases where expected frequency in one or more cells was fewer than five. Data for the 1948-1955 collections made by gill netting or with rotenone were eliminated from this analysis. This approach allowed direct comparison of 44 early seine collections with recent seine and electroshocking collections from the same locations (Figure 1).

Small cyprinids and other small, nectonic fishes generally are more susceptible to seining than to electroshocking, and seining efforts may have been less intensive than those in 1948-55. However, attempts were made to sample all available microhabitats at each site, and during the electroshocking effort I tried to preserve as many cyprinids and other small fishes as possible. Furthermore, all analyses are based only on the presence or absence of species, and the weighting of a single specimen equaled that of a large number of specimens of one species.

The use of electroshocking and the absence of this in the 1948-55 collecting effort might produce a bias towards higher frequencies of occurrence of larger, more mobile fishes (centrarchids, catfishes, suckers) in recent collections. However, of the five members of this group that showed statistically significant deviations from the early frequencies, two were less common in recent than in earlier collections. This would not be predicted based on more efficient sampling in the recent efforts.

To help search for sampling bias relevant to this study of widespread and restricted species, all fishes were divided into two groups taken at the 44 localities sampled both in 1948-55 and 1981-82. From experience, gars, bowfin, shad, suckers, catfishes (except Noturus nocturnus) and centrarchids were placed in a group considered more susceptible to capture by electroshocking than by seining. All other species were considered more susceptible to seining; these included species that, in general, are smaller than the members of the other group and tend to be less affected by electroshock (e.g., minnows, darters, pirate perch, pigmy sunfish, brook silverside). Chi-square tests of contingency between membership in the two groups and whether frequency of occurrence increased or decreased from 1948-55 to 1981-82 revealed no significant relationship in separate analyses of the common ($\chi^2$ = 1.1) and rare species (1.2), nor for the common and rare species considered together (2.1).

As an indication of environmental tolerance each species was rated based on whether it is a common inhabitant of plains streams in the Red River drainage of western Oklahoma. Contingency chi-square analysis ($\alpha = 0.05$) was used to test for independence between increased or decreased frequency of occurrence and whether species have widespread or restricted distributions.

To help examine patterns of change in community structure, the simple matching coefficient of similarity (Sneath and Sokal 1973) in presence/absence of species was computed, separately for the recent and the early data sets, for all pairwise combinations of collections. Mantel test (Sokal 1979) was then used to test for covariance between recent and early matrices. If patterns of relative similarity among sites are similar in the matrices of recent and early collections the Mantel test produces a significantly positive test statistic (= positive covariation), while if the matrices differ in pattern of relative similarity the test statistic is either nonsignificant (no covariation) or significantly negative (negative covariation). Significant negative values suggest an overall tendency toward reversed patterns in which similarities that are high for the early collections are low for the recent collections and vice versa.

With the simple matching coefficient and the Mantel test, the recent and early species-by-species matrices of similarity of presence/absence were compared across the 44 sites. This allows insight into the possible changes in pairwise species associations.

Patterns of covariation between the matrices of community similarity and a matrix of environmental dissimilarity at the collection sites was also examined with the Mantel test. Environmental dissimilarity was computed as Euclidean distance based on the six environmental variables described earlier.

Computations of similarity coefficients included only common species as defined above. Similarity coefficients and Mantel tests were computed, respectively, with NT-SYS (Numerical Taxonomy System), a multivariate computer program developed by F. J. Rohlf, J. Kishpaugh and R. Bartcher, GEOVAR (a series of computer programs written by D. M. Mallis, State Univ. of New York at Stony Brook).

# RESULTS

## Drainage-wide Presence or Absence

Totals of 96 and 74 species, respectively, were taken from the 153 collections in 1948-55 and 156 in 1981-82 (Table I). All species in the recent collections were also present in the early collections, with three exceptions: *Hybognathus hayi*, *Erimyzon sucetta* and *Etheostoma collettei*. These species were recognized only recently as occurring in Oklahoma (Miller and Robison 1973; Matthews and Robison 1982; Rutherford et al. 1985). Two of these, *Erimyzon sucetta* and *Etheostoma collettei*, were present, but misidentified, in early collections from the area. It is possible, but not verified, that *H. hayi* was also present, but confused with *H. nuchalis*.

In 1981-82 I failed to collect 25 species taken in the earlier collections. Most of these species were lowland forms inhabiting marshes or large waters, which were not well represented in recent collections. The collections on class field trips or communications with others (C. Hubbs, W. J. Matthews, J. Pigg) revealed that most of these fishes still occurred in the Little River drainage in 1981-1982. However, I am aware of no recent Little River collections of *Polyodon spathula*, *Alosa spp.*, *Hiodon spp.*, *Moxostoma carinatum*, *Hybognathus nuchalis*, or *Ictalurus nebulosus*. Most of these species were rare in the early collections and their absence in recent collections probably reflects restricted collecting effort in the larger waters. Reeves (1955) reported the only known record, a single specimen, of *Notropis pilsbryi* from the Little River drainage. Presumably this was a stray, or perhaps a released baitfish.

In regular sampling from the Little River drainage over the past 8 years, J. Pigg (pers. comm.) collected the following species, which were absent in both the early and recent collections: *Ichthyomyzon gaigei*, *Notropis buchanani*, *N. lutrensis*, *Ictalurus furcatus*, *Menidia beryllina*, *Morone mississippiensis*, *Percina shumardi* and *P. macrolepida*. Also in 1983, Miller (1984) collected the first specimens of *Notropis hubbsi* known from the Little River. All these species are rare in the Little River system. Finally, the recently described *Notropis snelsoni* (Robison 1985) brings the ichthyofaunal total for the Little River system to 109 species from 20 families.

### *Frequency of Occurrence*

A total of 70 fish species were taken in collections from the 44 sites analyzed for frequency of occurrence of species in 1981-82 versus 1948-55 (Table I). Of these species, 35 (50%) were less frequent and 26 (37%) were more frequent in the recent collections; 9 (13%) were equally frequent in both series of collections. Each common species (occurring in a combined total of 10 or more recent and early collections) was placed in one of four groups based on microhabitat preference and a subjective assessment of their susceptibility to capture by seining; recent occurrence was then plotted against historical occurrence (Figure 2).

Nine of the 15 "small, easily seinable fishes," a group composed primarily of cyprinids, were less frequent in the 1981-82 collections than in those taken in 1948-55 collections (Figure 2a). Three species, *Notropis whipplei*, *N. atrocaudalis* and *Pimephales notatus*, showed statistically significant decreases in frequency. No member of this group was significantly more frequent in recent collections.

Six of the nine "large, nectonic, pool dwelling" fishes, primarily centrarchids, were more frequent in the recent than in the early collections. The increases of two of these, *Lepomis cyanellus* and *L. punctatus*, were statistically significant (Figure 2b). One species, *Micropterus punctulatus*, was significantly less frequent in the recent collections.

Of three "large, bottom-dwelling" fishes, one (*Ictalurus natalis*) was significantly more frequent in the 1981-82 collections and a second, (*Moxostoma erythrurum*) was significantly less frequent (Figure 2c). Two of the four "small, riffle-dwelling" fishes (*Noturus nocturnus* and *Etheostoma spectabile*) were significantly more frequent in recent collections (Figure 2d).

There was a non-random association between whether a species was more frequent or less frequent in recent than in early collections, and whether the species was widely distributed or restricted to eastern Oklahoma (Table II). Species that were equally or more frequent in the 1981-82 collections were about evenly divided between widespread species and restricted species, whereas those occurring less frequently in recent collections tended to be those with restricted distributions. This relationship was statistically significant for all species considered together and for the common species, but not for the rare species alone.

All five common species showing statistically significant reductions in occurrence are restricted to the eastern half of Oklahoma. In contrast, four of the five common species showing statistically significant increases in occurrence are either widespread throughout Oklahoma (*Ictalurus natalis*, *Lepomis cyanellus*), or are more widely distributed and occur farther westward than their congeners in this study (*Noturus nocturnus*, *Etheostoma spectabile*); the fifth species, *Lepomis punctatus*, is a lowland form restricted to eastern Oklahoma.

### Pairwise Species Associations

The Mantel test comparing recent and early matrices of pairwise similarities of occurrence among species revealed significant positive covariation between the two matrices when all 31 common species were included in the analysis ($t = +8.93$, $p < 0.001$) and when only those 22 species restricted to eastern Oklahoma were considered ($t = +2.03$, $p < 0.05$). The test involving the nine widespread species alone revealed positive, albeit nonsignificant, covariation between recent and early matrices ($t = +1.07$, $p < 0.05$). The Mantel estimate is relatively crude for matrices as small as a 9 x 9 matrix of similarity among widespread species (Sokal and Wartenberg 1983); thus, the nonsignificant t-value is suspect.

### Community Similarities

The Mantel test comparing early and recent matrices of similarity among collections produced a nonsignificant, negative test statistic for the matrices based on all 31 common species ($t = -.986$, $p > 0.05$). This suggests that the 1981-82 pattern of similarities among local communities is not predictable from the pattern of similarities present in 1948-55. However, when the widespread species and those restricted to eastern Oklahoma are analyzed separately, an interesting difference emerges: The widespread species show significant positive covariation ($t = +3.08$, $p < 0.005$), while the restricted species show a significant negative relationship ($t = -2.09$, $p < 0.05$). The occurrences of widespread species apparently have not changed significantly, and the lack of predictability from 1948-55 to 1981-82 seems due to changes in occurrences of restricted species. The contingency analysis of occurrence (Table II) and plots of recent versus early occurrence onto maps of the drainage suggest that these changes primarily result from a drainage-wide decline in occurrence of restricted species and not from any localized patterns of change.

### Environment Versus Community Similarity

Mantel tests of congruence between the matrix of environmental dissimilarity among collection sites and matrices of community similarity showed significant negative covariation in all six cases ($p < 0.005$; three analyses each for early and recent data--the 31 common species, the 22 restricted species and the nine widespread species). Thus, community similarities are somewhat predictable from the environmental features examined.

The early data set and the recent data set both show higher covariance with environmental similarity for those species restricted to eastern Oklahoma than for the more widely distributed species ($t = -6.73$ and $-3.59$ for early collections; $-4.48$ and $-2.91$ for recent). Thus, the occurrences of widespread species may be less tightly related to the environmental variables measured than are occurrences of the species restricted to eastern Oklahoma. This direct comparison of t-values is valid because the early and recent matrices are the same size.

# DISCUSSION

There is no compelling evidence for extinctions nor for invasions of new species in the Little River drainage since 1948-55. Thus, the present species-list probably represents the natural fauna of the drainage. However, frequency of occurrence of individual species and indices of community similarity suggest that the faunal structure is different from that in 1948-55.

The results of the comparison of 1948-55 and 1981-82 collections agree with the expected corollary to human-induced faunal changes: (1) Little River species that also occur in the plains environment of western Oklahoma seem to have undergone little overall decline in frequency of occurrence while species restricted to eastern Oklahoma appear to have declined. (2) Statistically significant changes in patterns of interlocality community similarity have occurred between the early and recent collections and these seem centered in the decline in occurrence of those species restricted to eastern Oklahoma. As argued previously in this paper, these observations are consistent with the hypothesis that human activities have caused environmental changes that favor species with greater tolerance of environmental extremes.

The small sizes and distribution of urban centers compared with the recent collection localities, and the generally sparse population and declining agricultural activity of the area suggest that these factors cannot explain the observed changes. Regarding other anthropogenic factors, the most conspicuous changes in the Little River watershed in the period from 1949-55 to 1981-82 have resulted from commercial forestry and reservoir construction.

Reservoir construction and associated alterations in downstream flow and thermal regimes can have direct effects on occurrences of stream fishes (Mundy and Boschung 1981; see Wagner 1984, for an example in Little River). However, such effects probably do not explain the observed changes. None of the 44 collection sites used in the analysis of frequency of occurrence were from reservoirs, and all were from smaller streams well outside the direct influence of reservoirs. Echelle and Schnell (1976) suggested that dispersal of generalist species from reservoirs into tributary streams might cause faunal shifts of the kind shown by this survey. However, such effects would be most pronounced in waters near the reservoir and, because of the positions of the recent collection sites (Figure 1) I doubt that this has been an important factor.

The decade and a half of intensive clearcutting (and associated activities--e.g., roadbuilding) that began in the 1960s remains as the one conspicuous anthropogenic factor that might explain the apparent faunal changes that have occurred since 1948-55. I am aware of no previous attempt to document the effects of forestry activities on a warmwater system as large as the Little River of southeastern Oklahoma. Most studies have either dealt with coldwater faunas or they have attempted to compare "experimental" and "control" stretches of stream for short term effects on community structure (e.g., Boschung and O'Neil 1981).

Comparisons, such as the one described herein, of drainage-wide surveys separated by long periods of time are fraught with problems, including (1) lack of rigid control of sampling differences, (2) the possibility that observed differences are part of an unknown, normal cycle that is intrinsic to the fauna itself, (3) the possibility that subtle climatic change is causing faunal change, and (4) the possibility that faunal change is a synergistic result of a poorly understood interaction of different factors. Nonetheless, such comparisons typically represent the only avenue of investigation that can provide empirical insight into the possible long-term effects of a given environmental perturbation. For Little River fishes, the apparent changes are of a type that is consistent with expectations based on anthropogenic effects, and forestry practices seem to be the only intensive human activity that is closely associated with the change.

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Table I. Frequency of occurrence of species in all collections made in 1948-55 and 1981-82 and at the reduced set of 44 collection localities common to the two surveys. Numbers in parentheses correspond with identification numbers of the species represented in Figure 2.

| Species | Occurrence | | | | Distribution[1] |
|---|---|---|---|---|---|
| | 1948-1955 | | 1981-1982 | | |
| | n=153 | n=44 | n=156 | n=44 | |
| *Ichthyomyzon castaneus* | 5 | 0 | 0 | 0 | R |
| *Polyodon spathula* | 1 | 0 | 0 | 0 | R |
| *Lepisosteus oculatus* | 11 | 0 | 2 | 0 | R |
| *L. osseus* | 14 | 0 | 5 | 1 | W |
| *Amia calva* | 8 | 0 | 3 | 2 | R |
| *Alosa chrysochloris* | 7 | 0 | 0 | 0 | R |
| *A. alabamae* | 1 | 0 | 0 | 0 | R |
| *Dorosoma cepedianum* | 17 | 2 | 7 | 1 | W |
| *D. petenense* | 3 | 0 | 0 | 0 | R |
| *Hiodon alosoides* | 4 | 0 | 0 | 0 | R |
| *H. tergisus* | 1 | 0 | 0 | 0 | R |
| *Esox americanus* (24) | 64 | 26 | 90 | 26 | R |
| *Ictiobus cyprinellus* | 6 | 0 | 0 | 0 | R |
| *I. niger* | 11 | 0 | 0 | 0 | R |
| *I. bubalus* | 9 | 1 | 0 | 0 | R |
| *Carpiodes carpio* | 15 | 3 | 0 | 0 | W |
| *Moxostoma duquesnei* | 8 | 3 | 5 | 1 | R |
| *M. erythrurum* (25) | 49 | 18 | 9 | 4 | R |
| *M. carinatum* | 6 | 1 | 0 | 0 | R |
| *Minytrema melanops* | 22 | 4 | 9 | 5 | R |
| *Erimyzon oblongus* (26) | 62 | 22 | 71 | 21 | R |
| *E. sucetta* | 0 | 0 | 4 | 0 | R |
| *Cyprinus carpio* | 2 | 0 | 0 | 0 | W |
| *Carassius auratus* | 1 | 0 | 0 | 0 | W |
| *Notemigonus crysoleucas* (1) | 25 | 8 | 17 | 8 | W |
| *Semotilus atromaculatus* | 13 | 3 | 9 | 3 | R |
| *Notropis amnis* | 6 | 2 | 1 | 0 | R |
| *N. atherinoides* | 5 | 2 | 0 | 0 | W |
| *N. atrocaudalis* (6) | 23 | 11 | 8 | 2 | R |
| *N. boops* (8) | 76 | 25 | 111 | 27 | R |
| *N. chalybaeus* | 3 | 2 | 0 | 0 | R |
| *N. chrysocephalus* (4) | 30 | 14 | 29 | 12 | R |
| *N. emiliae* | 10 | 2 | 1 | 1 | R |
| *N. maculatus* | 9 | 0 | 0 | 0 | R |
| *N. ortenburgeri* | 9 | 1 | 6 | 0 | R |
| *N. perpallidus* | 7 | 0 | 1 | 0 | R |
| *N. pilsbryi* | 1 | 0 | 0 | 0 | R |
| *N. rubellus* | 10 | 1 | 3 | 0 | R |
| *N. stramineus* | 2 | 0 | 0 | 0 | W |

Table I. Continued.

| | | | | | |
|---|---|---|---|---|---|
| *N.* sp.[2] (2) | 27 | 11 | 64 | 12 | R |
| *N. umbratilis* (3) | 54 | 20 | 51 | 18 | R |
| *N. venustus* | 4 | 2 | 4 | 0 | W |
| *N. volucellus* | 8 | 0 | 3 | 1 | R |
| *N. whipplei* (5) | 62 | 19 | 25 | 6 | R |
| *Hybognathus hayi* | 0 | 0 | 1 | 0 | R |
| *H. nuchalis* | 8 | 2 | 0 | 0 | R |
| *Pimephales notatus* (7) | 62 | 19 | 48 | 11 | R |
| *P. vigilax* | 3 | 1 | 2 | 0 | W |
| *Campostoma anomalum* (9) | 84 | 34 | 123 | 34 | W |
| *Ictalurus melas* | 14 | 3 | 13 | 5 | W |
| *I. natalis* (27) | 53 | 17 | 95 | 27 | W |
| *I. nebulosus* | 6 | 0 | 0 | 0 | R |
| *I. punctatus* | 11 | 0 | 9 | 3 | W |
| *Noturus eleutherus* | 1 | 0 | 1 | 0 | R |
| *N. gyrinus* | 19 | 0 | 4 | 0 | W |
| *N. nocturnus* (31) | 7 | 1 | 40 | 10 | R |
| *Pylodictis olivaris* | 13 | 1 | 13 | 4 | W |
| *Aphredoderus sayanus* (14) | 35 | 5 | 29 | 10 | R |
| *Fundulus blairae* | 12 | 1 | 6 | 4 | R |
| *F. notatus* (10) | 73 | 25 | 63 | 20 | R |
| *F. olivaceus* | 4 | 3 | 26 | 6 | R |
| *Gambusia affinis* (11) | 44 | 18 | 40 | 18 | W |
| *Labidesthes sicculus* (12) | 67 | 22 | 72 | 14 | R |
| *Morone chrysops* | 3 | 0 | 0 | 0 | W |
| *Elassoma zonatum* (15) | 21 | 7 | 11 | 5 | R |
| *Centrarchus macropterus* | 15 | 5 | 7 | 3 | R |
| *Lepomis gulosus* (19) | 28 | 3 | 30 | 10 | W |
| *L. cyanellus* (20) | 92 | 32 | 151 | 41 | W |
| *L. humilis* | 7 | 0 | 3 | 2 | W |
| *L. macrochirus* (22) | 63 | 20 | 77 | 26 | W |
| *L. marginatus* | 16 | 2 | 1 | 1 | R |
| *L. megalotis* (23) | 107 | 36 | 137 | 38 | W |
| *L. microlophus* | 11 | 4 | 8 | 3 | W |
| *L. punctatus* (21) | 26 | 4 | 29 | 16 | R |
| *L. symmetricus* | 3 | 0 | 3 | 2 | R |
| *Micropterus dolomieui* (16) | 32 | 8 | 31 | 7 | R |
| *M. punctulatus* (18) | 36 | 14 | 27 | 5 | R |
| *M. salmoides* (17) | 47 | 12 | 53 | 17 | W |
| *Pomoxis annularis* | 17 | 2 | 6 | 2 | W |
| *P. nigromaculatus* | 13 | 1 | 1 | 1 | W |
| *Ammocrypta vivax* | 4 | 0 | 1 | 0 | R |
| *Crystallaria asprella* | 1 | 0 | 1 | 0 | R |
| *Etheostoma asprigene* | 14 | 4 | 2 | 1 | R |
| *E. chlorosomum* | 10 | 1 | 3 | 2 | R |
| *E. collettei* | 0 | 0 | 3 | 0 | R |
| *E. fusiforme* | 4 | 0 | 0 | 0 | R |
| *E. gracile* (13) | 22 | 8 | 13 | 5 | R |
| *E. histrio* | 2 | 0 | 3 | 0 | R |
| *E. nigrum* | 13 | 4 | 1 | 0 | R |
| *E. parvipinne* | 5 | 4 | 2 | 2 | R |

Table I. Continued.

| | | | | | |
|---|---|---|---|---|---|
| E. proeliare | 4 | 1 | 3 | 3 | R |
| E. radiosum (30) | 83 | 32 | 125 | 33 | R |
| E. spectabile (29) | 12 | 3 | 29 | 12 | R |
| Percina caprodes | 15 | 3 | 21 | 3 | R |
| P. copelandi | 15 | 6 | 5 | 1 | R |
| P. maculata | 3 | 0 | 0 | 0 | R |
| P. pantherina | 3 | 0 | 5 | 2 | R |
| P. phoxocephala | 3 | 0 | 2 | 0 | R |
| P. sciera (28) | 15 | 6 | 12 | 5 | R |

---

[1] W = common species with widespread distributions; R = common species with restricted distributions.

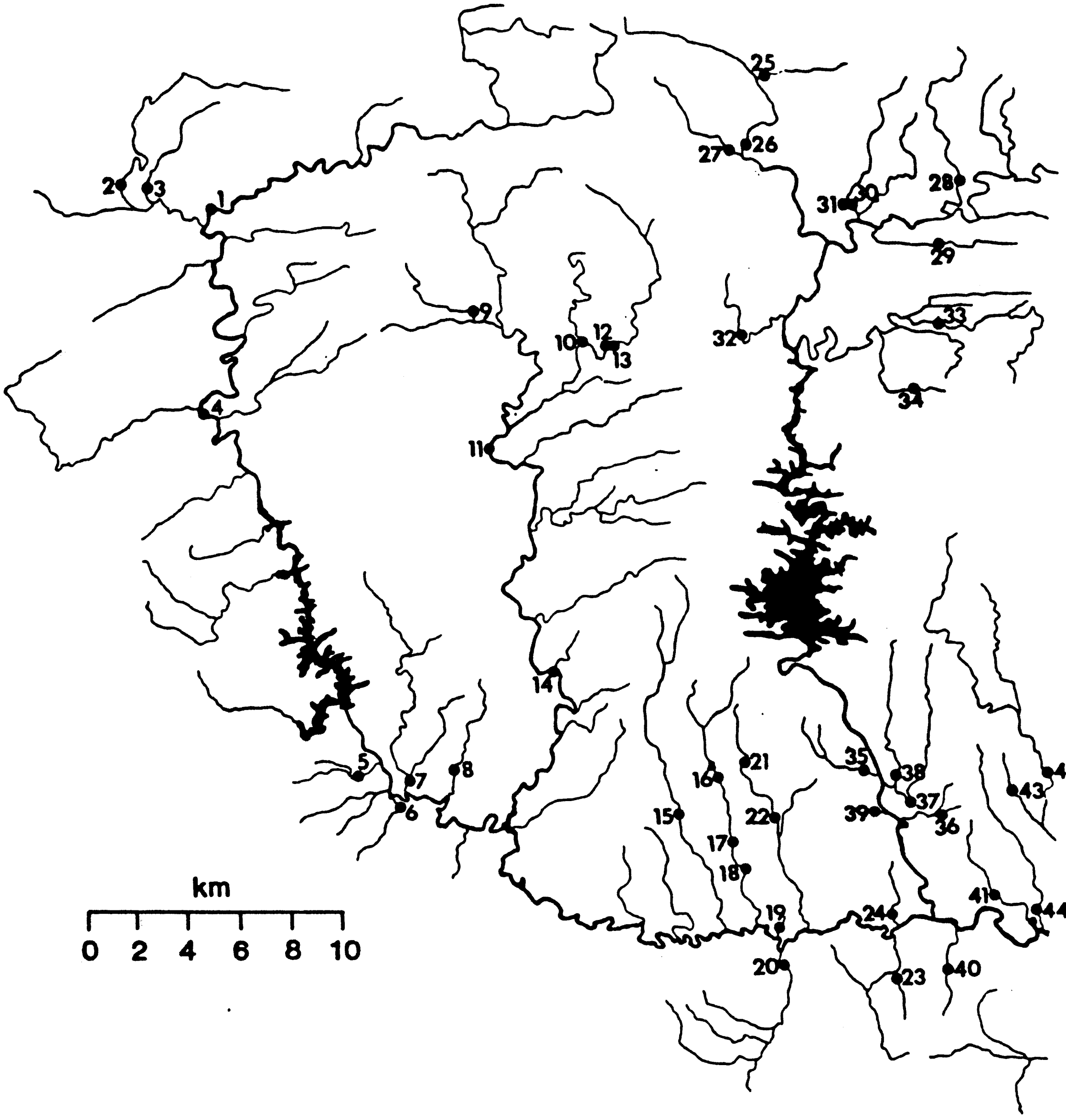
[2] N. sp. primarily represents Notropis snelsoni but, because of identification difficulties, may include N. fumeus.

Table II. Contingency table to test the hypothesis that changes in frequency of occurrence of fish species in recent versus early collections are not associated with distribution of the species.

| | Distribution | | | |
|---|---|---|---|---|
| | Widespread | | Restricted | |
| Change in occurrence | Common[1] | Rare | Common | Rare |
| Increase or No Change | 9 | 7 | 8 | 11 |
| Decrease | 0 | 6 | 14 | 17 |
| | Common species[2] | Rare species $\chi^2 = 0.29$ | | All species $\chi^2 = 6.05$ |
| Significance | $p = 0.002$ | $p = 0.59$ NS | | $p = 0.01$ |

[1] Common = occurrence at 10 or more of the early and/or recent collections; rare = fewer than 10 occurrences.

[2] Fisher's exact probability.


25
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29
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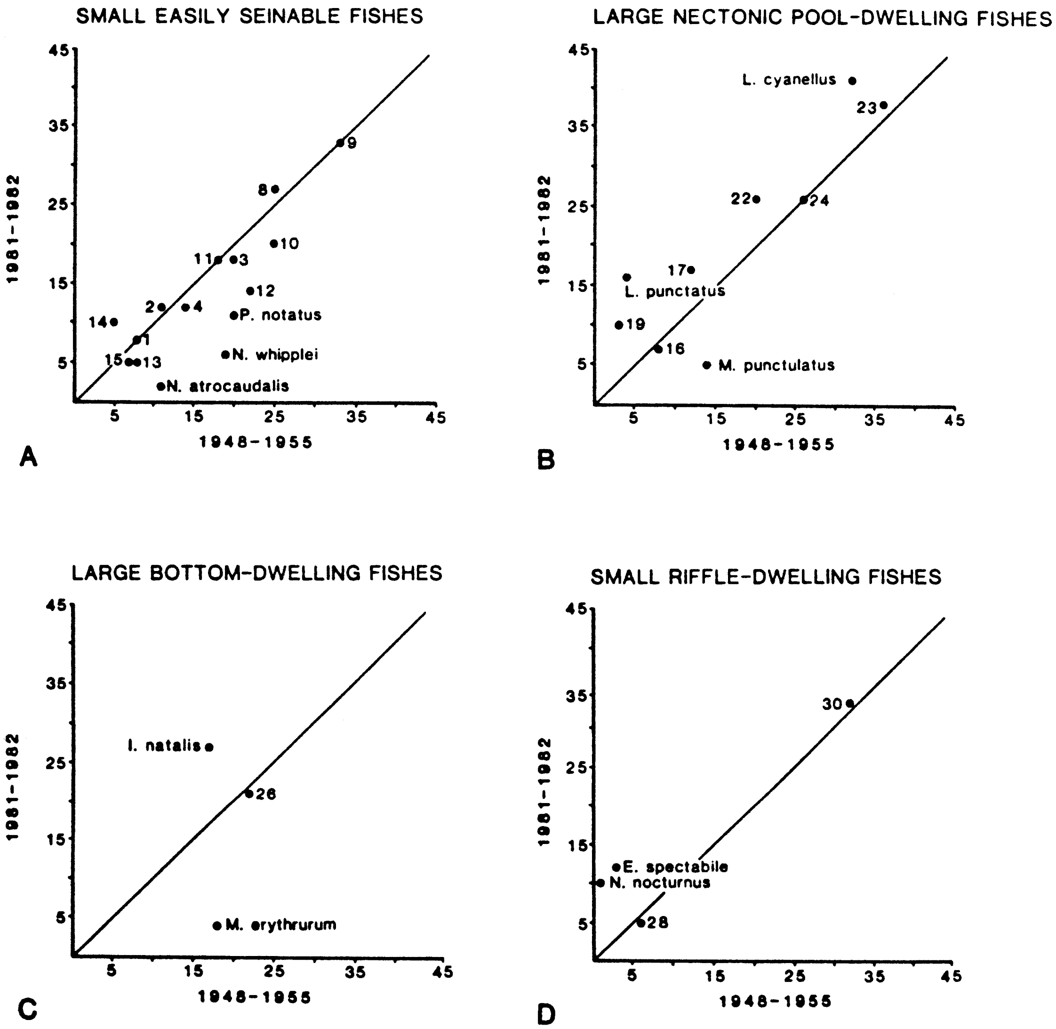
SMALL EASILY SEINABLE FISHES
1981-1982
1948-1955
45
35
25
15
5
5
15
25
35
45
9
8
10
11
3
12
2
4
14
P. notatus
1
N. whipplei
15
13
N. atrocaudalis
A
LARGE NECTONIC POOL-DWELLING FISHES
1981-1982
1948-1955
L. cyanellus
23
22
24
17
L. punctatus
19
16
M. punctulatus
B
LARGE BOTTOM-DWELLING FISHES
1981-1982
1948-1955
I. natalis
26
M. erythrurum
C
SMALL RIFFLE-DWELLING FISHES
1981-1982
1948-1955
30
E. spectabile
N. nocturnus
28
D

# CHAPTER II

## THE EFFECTS OF SILVICULTURAL ACTIVITIES ON STREAM-FISHES OF SOUTHEASTERN OKLAHOMA

### Introduction

Rutherford et al. (1987) examined historical changes in the fish fauna of a drainage area dominated by forestry activities, the Little River basin of southeastern Oklahoma. Comparison of two surveys separated by approximately 30 years suggested that less tolerant species had declined in frequency of occurrence, while more tolerant species either exhibited increased occurrence or no change. The patterns of change were consistent with the hypothesis that environmental degradation had occurred in response to the history of intensive clearcutting and associated silvicultural activity. However, Rutherford et al. (1987) suggested that their results might also be explained by four effects of unknown magnitude: 1) sampling bias, 2) a normal cycle of change intrinsic to the fauna, 3) climatic change between sampling periods, and, 4) a poorly understood interaction of factors. These alternatives are common to all studies of change based on surveys separated by long periods of time.

My purpose in the present study was to provide a direct assessment of whether fish assemblages in the Little River system are affected by silvicultural activity. This study was designed to determine whether fish assemblage structure in upland streams of the Little River drainage exhibits any variation attributable to age and extent of clearcutting in the watershed associated with each sample locality. May (1972) defined species assemblages as groups of interacting species having weak interactions with other groups of species. Fish assemblages in this study are defined as groups of species (species associations) exhibiting positive covariance in abundance (Smith and Powell 1971; Echelle and Schnell 1976; Rose and Echelle 1981; Herbold 1984).

Considerable research on the impacts of silvicultural activities (e.g., road building, clear-cut logging and site preparation) on stream ecosystems indicates both short- and long-term alterations (Gibbons and Salo 1973). Many perturbations to stream biota and physicochemistry are short-lived, and without continued disturbances, streams may gradually return to pre-disturbance conditions, often as a function of recovery of the adjacent terrestrial environment (Chutter 1969, Hamsmann and Phinney 1973, Newbold et al. 1980, Murphy and Hall 1981, Webster et al. 1983, 1988).

The abiotic effects of silviculture on stream ecosystems are manifold and include the following: increased streamflow (Reinhart and Eschner 1962, Likens et al. 1970, Patric 1973) for as long as 30 years after logging (Kovner 1956, Hewlett and Hibbert 1963); elevated nutrient levels for as long as 16 years after logging (Swank et al. 1988); increased stream sediments on a short-term basis (Brown and Krygier 1971; Cordone and Kelley 1961; Megahan 1972) with long-term effects through the redistribution and transport of sediments; reduced allochthonous input for as long as seven years after logging (Webster and Waide 1982); reduced forest canopy resulting in increased water temperature (Gray and Edington 1969, Brown and Krygier 1970, Swift and

Messer 1971, Swift and Baker 1973, Lee and Samuel 1976, Swift 1982, Swift 1988); and initially increased woody debris (Likens and Bilby 1982) with long-term decreases in woody inputs. (Silsbee and Larson 1983).

There have been few studies on the effects of silviculture on warmwater stream-fishes. Studies on coldwater stream-fishes have indicated some silvicultural impacts, but many studies have been inconclusive (Chapman 1962, Elson et al. 1972; Eschner and Larmoyeux 1963; Lantz 1967). Studies of the long-term effects of silvicultural activities on warmwater stream-fishes are absent from the literature. In one of the few short-term studies on warmwater streams, Boschung and O'Neil (1981) found minimal short-term effects of clear-cut logging activities.

The relationships between measures of silvicultural activity and fish populations result in patterns of covariation that are difficult to interpret. Observed patterns may be due to a silviculturally-related initial impact (e.g., harvest, site preparation, etc.) followed by differential population responses. Effects of silvicultural activities on the fish fauna may be subsequently evident, depending on the responses of individual species. I hypothesize that how a species responds will be associated with its tolerance to environmental extremes and/or its life history strategy. To examine these possibilities I assessed patterns of abundance in four groups of fishes in the Little River drainage: (1) fishes occurring in western and eastern Oklahoma, (2) fishes restricted to eastern Oklahoma, (3) *K*-selected species, and (4) *r*-selected species. Fishes tolerant of the harsh plains streams of western Oklahoma should have greater tolerance to environmental extremes than fishes restricted to the more benign streams of eastern Oklahoma. Based on this assumption, I examined the null hypothesis that the response of the Little River fish fauna to silvicultural activities is not associated with the assumed environmental tolerances of the species.

Correlates of the r - K selection continuum describe population characteristics of species having opportunistic (*r*-strategy) or equilibrial (*K*-strategy) life histories. *K*-selected species generally live longer, grow larger, delay reproduction and reproduce more than once. The converse is true of *r*-selected species (Pianka 1978). The results of this study suggests that *r*-selected species respond rather quickly to the changes induced by silvicultural activities, while *K*-selected species exhibit more delayed responses.

# MATERIALS and METHODS

## Study Area

The Little River drains approximately 5,700 km$^2$ in southeastern Oklahoma and has three main components: the Little River proper and two main tributaries, Glover Creek and Mountain Fork River. The drainage is heavily forested, making commercial harvest of both pine and oak the principal economic activity in the area. Much of the watershed is owned or leased by Weyerhaeuser Company.

Upper reaches of the Little River drainage are characterized by an east-west folding of terrain which results in short, high, nearly parallel ridges and produces a trellis-dendritic type of stream pattern. Tributaries are typified by steep gradients, rubble, boulders and bedrock substrate, with leaf litter covering many pool areas. The water chemistry tends to be slightly acidic with low specific conductance.

Lower reaches of the drainage basin are characterized by low, fertile, bottomlands. Lowland streams typically have low gradients, fine substrates and long, deep pools, separated by shallow riffles. Cutoff lakes in the Little River floodplain are common and vary from 2.0 to 120 hectares in surface area (Finnell et al. 1956). There are two large impoundments in the Little River: Pine Creek Reservoir on the Little River and Broken Bow Reservoir on the Mountain Fork River.

## Fish Data

Fishes were taken in July-September 1981 to 1982, from 156 collection localities in the Little River drainage. Eighty-nine of 156 collection localities were used in this analysis (Figure 3). Localities were eliminated from analysis if they occurred downstream from the Fall Line. The Fall Line, which closely coincides with State Highway 3 in the Little River area, separates upland streams of the Ouachita uplift from lowland streams of the coastal plains. Restricting the analysis to sites above the Fall Line effectively restricted analysis to one physiographic region and reduced confounding effects of different geological subregions. Localities were also eliminated if they were in downstream locations on major streams. Downstream locations tended to be large-water situations where it is often difficult to collect both biological and physicochemical samples efficiently.

Each collection locality included the first available riffle (usually downstream from an access bridge) and all areas immediately downstream either to the next riffle, or to a point approximately 100-m downstream. Sampling consisted of 45 to 60 minutes of electroshocking (230 v. 12 amp., AC generator with wading and hand-held electrodes) followed by intensive seining of all available microhabitats. Seining was done with either a 1.2 x 3.7-m seine with 3.2-mm Ace mesh or a 1.8 x 9.1-m seine with 4.8-mm Ace mesh, or both. All fishes were preserved in 10% formalin and returned to the laboratory for species identification and enumeration.

### Environmental Data

Thirty-five environmental variables were assessed for each collection locality. These included twenty-three habitat variables evaluated on-site, four variables evaluated from topographic maps, and eight clear-cutting variables evaluated from Weyerhaeuser data. The 23 on-site variables were scored at 60 to 100 transect points, 0.5 to 1.0-m apart (1.0 m in large streams, 0.5 m in small streams) along transects. Following Gorman and Karr (1978) transects were perpendicular to stream flow and separated by 5-m intervals over the entire sample area.

Current speed at each transect point was estimated by observing movement of water around a measuring pole (3.5-cm diameter) marked in millimeter increments and calibrated with a Pigmy-Gurley current meter. Categories were as follows: 1) no ripples around pole = very slow (0 to 0.05 m/sec); 2) slight "tail" around pole = slow (0.05 to 0.2 m/sec); 3) 5 to 10-mm vertical displacement on pole = moderate (0.2 to 0.4 m/sec); 4) 10 to 50-mm vertical displacement = fast (0.4 to 1.0 m/sec); 5) > 50-mm vertical displacement = torrent (>1.0 m/sec).

Bottom type at each transect point was recorded as dominant substrate in an area approximately 0.5-m in diameter immediately around the measuring pole. Substrate types were categorized as follows: 1) mud (soft sediments); 2) sand (firm, "grainy" sediments); 3) gravel (ca. 5 to 20 mm); 4) rubble (ca. 20 to 300 mm); 5) boulders and 6) bedrock.

Depths were divided into five ranges: Depth 1 (0 to 5 cm); Depth 2 (5 to 20 cm); Depth 3 (20 to 50 cm); Depth 4 (50 to 100 cm) and Depth 5 (>100 cm).

Vegetation was recorded at each transect point as algae, emergent vascular plants (EVP), submergent vascular plants (SVP)(living and dead, primarily logs and roots) and leaf litter (LL). Each of the six substrate types, four vegetation types, five ranges of current speed and five ranges of depth were expressed as the percentage of all transect points at the collection locality.

Other on-site measurements taken were total nonfilterable residue

(NFR), turbidity (TURB), and specific conductance (SC) (EPA 1979). A water sample from each collection locality was taken to the laboratory and measured for total nonfilterable residue (mg/l)(a measure of suspended solids retained by a 0.45-micron glass fiber filter). Turbidity, in nephelometric units (NTU) was measured with a Hach Model 2100A portable nephelometer. Specific conductance was measured with a Yellow Springs Instruments Co. SCT meter.

For each collection locality, elevation, stream gradient (SG), stream order (SO)(Hynes 1972) and distance from the headwater terminus of the stream (DFH) were taken from U.S. Geological Survey maps.

Relative abundance of eight age classes of clearcuts upstream from each collection locality was calculated from records and maps provided by Weyerhaeuser Company. Categories used were as follows: Year 1 = clearcuts less than 12 months old; Year 2 = 13 to 24 months; Year 3 = 25 to 36 months; Year 4 = 37 to 48 months; Year 5 = 49 to 60 months; Year 6 = 61 to 72 months; Year 7 = 73 to 84 months; and Year 8 = 85 months and longer. These variables were expressed as the percent of the total watershed in each of eight clear-cut classes (Year 1 to Year 8). The proportion of the area with no prior clearcutting was negligible, as virtually the entire watershed has been harvested at one time or another.

## Data Analysis

Data analysis was restricted to 29 common fish species (fishes occurring in at least 5% of the collections) from 89 collection localities. Species diversity in each collection was quantified from computations of the Shannon-Wiener diversity index, the species richness index and Simpson's dominance index (Pielou 1977).

To obtain indices of absolute abundance the fish abundances were coded as follows: 0 = absent, 1 = rare (1-5 specimens), 2 = uncommon (6-10 specimens), 3 = common (11-20 specimens) and 4 = abundant (>20 specimens). Coded fish abundances and environmental variables were examined for univariate normality with measures for skewness and kurtosis (PROC UNIVARIATE program, SAS 1982). Data transformations were performed to improve univariate normality. All proportions (i.e. percent abundance of mud, etc.) were reexpressed as arcsin transformations (arcsin of the square root of the proportion). All other variables (coded fish abundance, elevation, distance from the headwaters, etc.) were reexpressed as the common logarithmic transformation (Mosteller and Tukey 1977).

I used principal components analysis (PCA) to ordinate the fish samples. The goal of ordination is to discover whether there is some underlying order of entities (e.g., samples characterized by fish species abundance). Hill and Gauch (1980) proposed detrended correspondence analysis (DCA) as a new method for ordination in ecology. DCA is an ad hoc adjustment of correspondence analysis (CA)(Hill and Gauch 1980). CA is similar to PCA except that it decomposes an association matrix based on the chi-square distance metric rather than correlation or variance-covariance matrices (Gauch 1980). DCA has come into vogue because it claims to remove nonlinear dependencies among axes (the arch effect) and extracts one or more ordination axes (gradients) such that species show unimodal (bell-shaped) response curves with respect to these axes. Wartenburg et al. (1987) review and discuss the limitations of ordination techniques and argue that DCA is not an improvement but is influenced, as are all current methods, by data curvature and scaling. Several authors (Wartenburg et al. 1987; Gauch 1980; Ter Braak and Prentice 1986) propose the use of PCA over DCA in situations having short gradients (< 3.0 SD) with much species overlap. Short gradients and high species overlap indicate that most species are behaving monotonically over the gradient length (Gauch 1980). I used PCA because most fishes in upland streams of the Little River drainage occur throughout the system, producing a short ordination gradient.

The matrix of log-transformed coded abundance of common fish species was subjected to PCA (PROC FACTOR, SAS 1982). PCA reduces the number of variables in a data set to a few dimensions (principal components). Each principal component is a linear, weighted combination of all original variables (coded abundance of fishes). The first component (PC I) is computed to explain the maximum amount of the variance that can be explained by a single linear axis. The second component (PC II) must be orthogonal (mathematically uncorrelated) to PC I and is computed to explain the maximum amount of remaining variance, and so on for successive components. Each PC defines a new variable for which each sample unit (collection locality) has a position or score.

The first five principal components extracted by PCA were used for further analysis. Elimination of the remaining components was based on Cattell's Scree Test and Horn's Test (Green 1978). Cattell's scree test entails plotting variance accounted for by each principal component in their order of extraction and then looking for an elbow in the curve. This graphical technique can be subjective if a clear break is not apparent from the plot (Green 1978). Horn's Test entails plotting eigenvalue size against principal component number (ordered from large to small) for actual data and randomly generated data matrices. Using independent and normally distributed standardized variates (PROC MATRIX, SAS 1982), I generated 30 89 x 29 data matrices (representing 29 "species" and 89 "sample sites"). Each data set was then subjected to PCA and eigenvalues for each PC (I,II,III,...XXIX) extracted were averaged over 30 randomly generated matrices. Mean eigenvalues and eigenvalues from actual data were plotted together and the number of components retained (five) are those prior to the point where the two plotted lines cross (Green 1978).

The PCA analysis produced 1) a factor structure matrix showing the loading (correlation) of each original variable (log-transformed coded fish abundance) on each PC (= "fish PC" herein), and 2) a matrix of scores for each collection locality on each PC. Species having positive correlations with a given principal component tend to show higher coded abundance at collection localities having positive scores on that principal component and vice versa for localities having negative scores.

Each of the dependent variables (five fish PCs, the log coded abundance of each fish species, and each species diversity index) was regressed separately on a subset, p, of the 35 transformed environmental variables. The procedure utilized multiple stepwise regression with the maximum $r^2$ improvement technique (MSR)(PROC STEPWISE, SAS 1982). MSR finds the "best" one-variable, two-variable, three-variable, .... 35-variable models, each with the highest $r^2$. At all levels each variable in the model is compared to each variable not in the model. In each comparison, MSR determines if replacing one variable with another produces a larger $r^2$. Comparisons continue until MSR finds no switch in variables that would increase $r^2$. Mallows' $C_p$ statistic ($C_p$=p) was used as the criterion for model selection (Daniel and Wood 1980).

Significant partial correlations of the eight silvicultural variables in the regressions of dependent variables (fish component scores, log-transformed coded abundance of the 29 common fish species, and diversity indices) on subsets of the 35 environmental variables indicate associations between the silvicultural variables and each dependent variable. Partial correlations are correlations between a dependent variable and one independent variable with all other independent variables held constant (Steel and Torrie 1980).

When many significance tests are performed at the 0.05 alpha level the probability of rejecting at least one true null hypothesis (Type I error) is larger than 0.05. To decrease the number of significance tests examined, a subset of independent variables was chosen using Mallows' $C_p$ statistic. Significance tests were performed only on silvicultural variables included in a particular model as a result of subset selection. If more than one clear-cutting variable was included in a model by subset selection, the significance level was determined using the Bonferroni method. For a significance level of 0.05 and $\underline{c}$ significance tests, each test is done at a significance level of 0.05/$\underline{c}$ to guarantee an overall significance level of less than 0.05.

Multiple least squares regression is highly susceptible to the effects of collinearities (interrelationships among the independent variables) and tends to distort coefficient estimates, variances and covariances of the estimators, test statistics and predicted responses among the independent variables (Gunst and Mason 1980). Using singular-value decomposition and variance decomposition proportions

(Belsley et al. 1980), three linear dependencies (five depth categories, six current categories, five substrate categories) were identified among the 35 independent variables used in this study. There was no indication of collinearity among the eight clear-cutting variables or between the clear-cutting variables and the environmental covariates.

The purpose of including the 23 non-clear-cutting habitat variables in my analysis was to account for variation in fish abundance due to between locality variation in habitat variables (covariates) other than clearcutting. Collinearity among the non-silvicultural variables could be a serious problem if my purposes had included predictive model building or other regression applications where statistical inference of regression coefficients from collinear independent variables can lead to erroneous conclusions (Gunst and Mason 1980). In the present study the eight silvicultural variables are of interest and these variables show little collinearity among themselves or with other independent variables as assessed by the procedures recommended by Belsley et al. (1980).

Trends in fish-species response and patterns of silvicultural activity were examined using contingency analysis. The abundance of the 29 common fish species were regressed on each silvicultural variable (Year 1 - Year 8) and the 27 environmental covariables. From the regression of each species the regression coefficient for each clear-cutting variable was scored for sign (+ or -) regardless of magnitude or statistical significance. The signs were used as indicators of a species responses to the silvicultural variables.

As an index of environmental tolerance, I rated each of the 29 common species on the basis of whether it is commonly collected in the plains streams of the Red River drainage of western Oklahoma or restricted to the forested streams of eastern Oklahoma (Rutherford et al. 1987). Each species was also scored as an *r*-strategist or a *K*-strategist based on Pianka's (1978) correlates of r and K selection. Fisher's exact test for 2 X 2 contingency tables ($\alpha = 0.05$) was used to test for independence between positive or negative responses to the silvicultural variables and whether species have widespread or restricted distributions or whether they have *r*- or *K*-selected life histories. The raw data for all analyses reported in this paper are presented in Appendix C.

# RESULTS

## PC Analysis of Assemblage Structure

Principal component loadings (= correlations) of the 29 common species on the five fish PCs are given in Table III. Each PC defines one or more groups of positively associated species (= assemblages). Species having high correlations with a given PC tend to covary in distribution and abundance. A PC with both positively and negatively correlated species indicates two assemblages with contrasting distributions. Species having low principal component loadings (< 0.35) on all five PCs have essentially independent distribution patterns (Echelle and Schnell 1976). In this paper each assemblage is named for the species having the highest PC loading of the group.

PC I contrasts a group of 10 species (spotted bass assemblage) having high positive loadings (*Micropterus punctulatus*, *Notropis umbratilis*, *Lepomis macrochirus*, *Notropis ortenburgeri*, *Fundulus notatus*, *Micropterus salmoides*, *Fundulus olivaceus*, *Lepomis cyanellus*, *Aphredoderus sayanus* and *Lepomis punctatus*) with the orangethroat darter assemblage, a group of six species (*Etheostoma radiosum*, *Notropis*. sp., *Noturus nocturnus*, *Notropis boops* and *Micropterus dolomieui*) having high negative component loadings (Table III). The former assemblage is typical of pools and downstream areas of slow flow, while the latter is typical of faster flowing habitat.

PC II represents an assemblage of nine species (creek chub assemblage) having positive loadings (*Semotilus atromaculatus*, *Percina caprodes*, *Gambusia affinis*, *Etheostoma spectabile*, *Notropis whipplei*, *Micropterus punctulatus*, *Noturus nocturnus*, *Notropis chrysocephalus*, and *Lepomis megalotis*). PC II defines a downstream assemblage associated with riffles or raceways. *Gambusia affinis*, *Lepomis megalotis* and *Micropterus punctulatus* seem to be exceptions and may be associated with pools adjacent to fast-flowing habitats or may represent juveniles using the slow-water margins of riffles and raceways as refugia from predation.

PC III contrasts an assemblage of four species (brook silverside assemblage) having positive component loadings (*Labidesthes sicculus*, *Lepomis megalotis*, *Notropis* sp. and *Lepomis macrochirus*) with the central stoneroller assemblage, a group of three species having negative component loadings (*Campostoma anomalum*, *Etheostoma spectabile* and *Etheostoma radiosum*. The former assemblage occupies primarily deeper, slower waters, while the latter occupies shallower, moderately flowing waters.

PC IV represents the bigeye shiner assemblage, a group of six species with positive loadings (*Notropis boops*, *Pimephales notatus*, *Lepomis cyanellus*, *Etheostoma radiosum* and *Notropis umbratilis*). The members of this assemblage occur in a diversity of habitats throughout the study area.

PC V contrasts a quiet-water assemblage (warmouth assemblage) having positive component loadings (*Lepomis gulosus*, *Fundulus olivaceus*) with an assemblage (striped shiner assemblage) that occupies faster-flowing waters (*Notropis chrysocephalus* and *Etheostoma spectabile*).

## MSR Analysis of Effects of Clearcutting on Fish Assemblages

The regression models obtained by multiple stepwise regression (MSR) of PC scores on habitat variables explained high proportions of the variance in scores on PCs I, II and III ($r^2$ = .62 - .75) and were only weakly associated with variance in PCs IV and V ($r^2$ = .08 - .14).

The relationship between a silvicultural variable and a species assemblage (PC I-V) is indicated by comparing the sign of the PC loadings for the species assemblage (Table III) with the sign of the partial correlation coefficient for the clear-cutting variable in the MSR analysis of the PC scores (Table IV). Positive associations are inferred when the loadings and the partial correlations have the same sign: i.e., when an assemblage loads positively on a PC and the clear-cutting variable exhibits a positive partial correlation coefficient or when the assemblage has a negative PC loading and a clear-cutting variable exhibits a negative partial correlation coefficient. Negative associations are inferred when the component loadings and partial correlations have opposite signs.

One or another of five clear-cut classes, Year 1, Year 2, Year 4, Year 6 and Year 7 was significantly associated with collection locality scores on three fish components, PC I, PC II and PC III (Table IV). In situations where the PC was a contrast of two different assemblages (PCs I, III, V), this analysis cannot be interpreted to indicate whether only one or both assemblages were affected by clearcutting. In such instances, a strong association between PC scores of one of the contrasting assemblages and a clear-cutting variable would result in a significant partial correlation and be interpreted incorrectly for the other assemblage.

## MSR Analysis of Effects of Clearcutting on Individual Fish Populations

Results of multiple stepwise regression of each of the 29 common fish species (log transformed) regressed on a subset, p, of the 27 environmental covariates and eight silvicultural variables are shown in Table V. Significant partial correlation coefficients ($p < 0.05$) indicate the sign and degree of association between each species and each clear-cutting variable.

Comparison of Tables IV and V shows only rough correspondence between the significant partial correlation coefficients of assemblages and their component populations. Different members of the spotted bass assemblage had both positive and negative associations with silvicultural variables Year 5 and Year 6, while sample scores for the entire assemblage were negatively associated with Year 4. The orangethroat darter assemblage had a positive association with Year 4 clearcuts and one member of that assemblage, Noturus nocturnus, exhibited a positive response to Year 4 clearcuts. Significant responses of other members of the orangethroat darter assemblage were associated with silvicultural variables Year 1, Year 2 and Year 6. The creek chub assemblage was positively associated with clear-cutting variable Year 4, and negatively with Years 6 and 7. Among the members of that assemblage, only Noturus nocturnus showed a positive response to Year 4, while no members of this assemblage were associated with Years 6 and 7.

The brook silverside assemblage showed better correspondence between assemblage and population level responses. This assemblage was negatively associated with Year 1 and Year 6 clearcuts and positively with Year 2 clearcuts and two member species, Labidesthes sicculus and

*Notropis* sp., exhibited the same responses. The central stoneroller assemblage exhibited responses similar to the brook silverside assemblage -- the assemblage-level response was positive with Year 1 and Year 6 clearcuts and negative with Year 2 clearcuts. Among members of that assemblage, *Campostoma anomalum* exhibited a positive response to Year 6 clearcuts, while *Etheostoma radiosum* exhibited a negative response to Year 2 clearcuts.

## Community Indices

Table VI shows the significant partial correlation coefficients ($p < 0.05$) from separate multiple stepwise regressions of the Shannon-Wiener index of diversity, species richness and Simpson's dominance index regressed on environmental covariates and eight silvicultural variables. Year 6 clearcuts were associated with all indices, negatively with the Shannon-Wiener index and species richness, positively with Simpson's index. None of the other clear-cutting variables had significant partial correlations with species diversity, species richness or dominance.

## Clearcutting Versus Tolerance and Life History of Fishes

The signs of the partial correlations of the eight clear-cutting variables in the multiple regression models for each of the 29 common fish species are shown in Table VII. For each clear-cutting variable, Figures 4 and 5 compare numbers of species in which the sign of the partial correlation (= species response, see Materials and Methods) was negative and numbers of species for which the sign was positive in each of four separate categories of species: (1) species occurring only in eastern Oklahoma and assumed to have narrow environmental tolerances ("restricted species"), (2) species occurring in both eastern and western Oklahoma and assumed to have broad environmental tolerances ("widespread species"), (3) species having *r*-selected life-histories, and (4) species having *K*-selected life-histories.

None of the four groups of fishes exhibited statistically significant heterogeneity of species responses across the eight clear-cutting variables (Heterogeneity G-test, Sokal and Rohlf 1969; $\alpha = 0.05$). This may be a function of small sample sizes in the four categories of fish (8-21 species) because in three of the four groups (*r*-selected, *K*-selected and widespread) there were apparent shifts in the pattern of responses between Years 3 and 4 (Figures 4 and 5). The widespread species and the *K*-selected species both exhibited predominantly positive responses to clearcut years 1-3, and predominantly negative responses to Years 4-8, while *r*-selected species showed the reverse pattern.

There was a significant negative correlation between *r*-selected and *K*-selected fishes in their responses to the different age-classes of clearcut (Spearmann's $r = -.76$, $p < 0.02$). Correspondingly, the contingency analysis indicated that, for four of the eight clear-cutting variables (Years 2, 3, 5, 6), responses of individual species were significantly associated with whether the species was *r*- or *K*-selected (Fisher's exact test, Figure 5). There was little evidence of covariation between restricted and widespread fishes ($r = -.44$, $p = 0.10$), although, for two clear-cutting variables (Years 7 and 8), there was a significant association between response and whether the species was widespread or restricted in occurrence (Figure 4).

The similar patterns of variation in response due to life history and geographic variation may be in part due to a lack of independence between these two variables. A contingency analysis indicates a tendency for the restricted species to be *r*-selected (15 of 21) while widespread species tend to be *K*-selected (6 of 8; Fisher's exact test, $p = 0.03$).

# DISCUSSION

Two sets of observations from this study indicate that clear-cutting activities are associated with changes in upland fish assemblages of the Little River drainage: (1) Regressions of a variety of indices of community structure on habitat variables revealed significant partial correlations with the clear-cutting variables. The dependent variables significantly associated with clear-cutting variables include scores for three multivariate measures of community structure (fish PCs I, II, III), individual abundances of 14 fish species, and all three measures associated with overall species diversity. (2) Responses of individual species to the clear-cutting variables were contingent upon life history (*r*- vs *K*-selected species) and, to a lesser extent, whether the species was geographically widespread (assumed environmentally tolerant) or restricted (less tolerant).

The regressions consistently gave small partial correlations for the clear-cutting variables (< 0.10 in all instances). Thus, as expected, other habitat variables are the primary determinants of community structure in Little River fishes (e.g., substrate, current speed, depth of stream, etc,), while clear-cutting apparently is rather weakly associated with community structure. Nonetheless, in the long-term, small drainage-wide effects could cause notable faunal changes, such as those reported for the Little River ichthyofauna between 1948-1955 and 1981-1982 (Rutherford et al. 1987).

The study by Rutherford et al. (1987) indicated that the restricted species occurred at fewer sites in 1981-82 than they did in samples from the same sites in 1948-55. Those results are difficult to compare with those of the present study because of the potential in the latter for differential responses to different ages of clearcuts and because of the difference in time scale of the two studies. There is no overall tendency for the restricted species to exhibit negative responses. Sixty-two percent (8) of the 13 statistically significant partial correlations between restricted species and clear-cutting variables were negative, but this pattern is not a statistically significant deviation from random expectation ($\chi^2 = 0.69$).

The relatively high frequency of significant partial correlations involving Year 6 clearcuts warrants further investigation. No other age-class of clearcut was significantly associated with the three indices of species diversity, while the proportionate abundance of Year 6 clearcuts was negatively associated with Shannon-Wiener diversity and species richness, and positively with Simpson's dominance index. In addition, Year 6 was significantly associated with seven fish species (2 positive associations, 5 negative) and two fish PCs, while the numbers of significant associations for the remaining seven age-classes of clearcuts were 0-3 with fish species and 0-2 with the fish PCs. Year 6 accounted for 12 (46%) of the 26 significant partial correlations involving clear-cutting variables. This is a highly significant ($p < 0.005$), non-random distribution of correlations among the eight clear-cutting variables ($\chi^2 = 26.3$). Considering only the 16 significant correlations for fish species, 44 percent were with Year 6 -- again producing a highly significant Chi-square ($\chi^2 = 14.3$, $p < 0.005$). Additional study would be required for an understanding of the significance of this pattern of correlations.

Another area of potential interest for future research is the possibility for differential responses of smallmouth bass, Micropterus dolomieui, relative to largemouth bass, Micropterus salmoides, and spotted bass, M. punctulatus. The smallmouth, which was one of only two species exhibiting significant correlations with more than one clear-cutting variable, -- showed a positive correlation with the relative abundance of Year 1 clearcuts, and a negative correlation with Year 6 clearcuts, while neither of the other two basses exhibited a significant correlation with clearcutting. In Oklahoma, the smallmouth is restricted to clear, flowing waters in upland areas of the extreme eastern part of the state, while the other two basses are much more widespread (Miller and Robison 1973). Thus, smallmouth bass would be expected to be more sensitive to environmental disturbances than the other two species, and this might explain the differential responses of the three species.

The positive correlation between smallmouth bass abundance and relative abundance of Year 1 clearcuts may be due to the life span of the fish relative to the time since Year 1 clearcuts were made. Year 1 clearcuts were made in previously uncut areas or after an interval of time sufficient to allow regrowth of harvestable trees. During that time, the smallmouth bass population might have had time to recover. Thus, the relationship between abundance of smallmouth bass and relative abundance of Year 1 clearcuts might be more reflective of a time-lag in its response (e.g., altered reproduction), rather than of any positive effects attributable to Year 1 clearcuts.

A similar explanation might explain the significant negative correlation between *r*-selected and *K*-selected species in their responses to the eight clear-cutting variables. In general, *K*-selected species exhibited positive responses to Years 1-3 clearcuts and negative responses to Years 4-8. The reverse pattern for *r*-selected species may reflect a quicker response of these shorter-lived fishes to the negative effects of Years 1-3 clearcuts and, due to a higher reproductive potential, a quicker recovery during Years 4-8. This suggestion implies that the negative effects of Years 1-3 clearcuts are greater than those of Years 4-8 clearcuts, and there is some indication that this may be true (Webster et al. 1988).

Within one to three years after clearcutting, sites are prepared for planting new pine seedlings. This activity includes bulldozing stumps and any hardwood trees left after clearcutting, onsite burning of the resulting piles of wood, preparing the soil for planting by creating plowed "furrows" on the surface, and often the broadcast application of a granular herbicide (e.g., Pronone). Planting of new pine-seedlings generally occurs from December through February following site preparation and may include the spraying of a liquid herbicide (e.g., Velpar, or Velpar and Oust). After planting, the primary activity consists of pre-commercial thinning (ca. 5-7 years post harvest) of trees and shrubs to create cleared rows -- the felled trees are left lying on the site. Thus, it appears that the disturbance to the terrestrial environment, and by inference the aquatic habitat, would be maximal during years 1-3. This corresponds well with studies demonstrating increased streamflow (Reinhart and Eschner 1962, Likens et al 1970, Patric 1973, Swank 1988), increased sedimentation (Tebo 1955, 1957; Brown and Krygier 1971; Burns 1972), increased water temperature

(Brown and Krygier 1970, Swift and Messer 1971, Swift 1982) and decreased allochthonous inputs (Webster and Waide 1982) in the years immediately following clearcutting.

Studies of the type represented here can easily be over interpreted with ad hoc hypotheses and speculation. It should be emphasized that this study does not demonstrate cause and effect between clearcutting and fish community structure. The demonstration of causation, in a study like this, requires that changes in the dependent variable ("fish variables") can be induced by changes in the independent variables (clear-cutting) and that the independent variables are the only effectors involved (Gunst and Mason 1980). This study was designed in such a way as to examine associations between clearcutting and fish assemblage structure while statistically "holding other habitat variables constant". It is possible, however, that some important causal variable(s) were not considered. Such a factor could covary with clearcutting without being a function of that activity. However, if such factors exist, they are not readily obvious. Thus, while not directly demonstrating causality, the data do indicate an apparently causal effect of clearcutting on fish assemblage structure.

The significance of this study is that it is the first attempt to demonstrate an association between patterns of clearcutting and fish assemblage structure. The results indicate that such an association exists. This provides support for the suggestion (Rutherford et al. 1987) that changes in the overall frequency of occurrence of individual species in the Little River drainage are associated with the initiation of clearcutting in the 1960's. Since that time, silvicultural activities have been intensive over virtually the entire study area.

Because of the low density of the human population and low levels of agriculture, silvicultural activities are by far the major human activity in the study area (Rutherford et al. 1987).

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Table III. Principal component loadings for each species having a loading ≧¦.35¦ on a component.

| Species and Assemblage Name | Fish Components | | | | |
|---|---|---|---|---|---|
| | I | II | III | IV | V |
| Spotted Bass Assemblage | | | | | |
| *Micropterus punctulatus* | .60 | .40 | | | |
| *Notropis umbratilis* | .57 | | | .38 | |
| *Lepomis macrochirus* | .57 | | .38 | | |
| *Notropis ortenburgeri* | .55 | | | | |
| *Fundulus notatus* | .54 | | | | |
| *Micropterus salmoides* | .53 | | | | |
| *Fundulus olivaceus* | .51 | | | | .51 |
| *Aphredoderus sayanus* | .39 | | | | |
| *Lepomis punctatus* | .38 | | | | |
| Orangethroat Darter Assemblage | | | | | |
| *Etheostoma radiosum* | -.47 | | -.39 | .43 | |
| *Micropterus dolomieui* | -.35 | | | | |
| Creek Chub Assemblage | | | | | |
| *Semotilus atromaculatus* | | .85 | | | |
| *Percina caprodes* | | .73 | | | |
| *Gambusia affinis* | | .67 | | | |
| *Etheostoma spectabile* | | .50 | -.48 | | -.35 |
| *Notropis whipplei* | | .48 | | | |
| *Noturus nocturnus* | -.36 | .38 | | | |
| Brook Silverside Assemblage | | | | | |
| *Labidesthes sicculus* | | | .58 | | |
| *Lepomis megalotis* | | .36 | .56 | .38 | |
| *Notropis* sp.[1] | -.43 | | .52 | | |
| Central Stoneroller Assemblage | | | | | |
| *Campostoma anomalum* | | | -.65 | | |
| *Erimyzon oblongus* | | | -.35 | | |
| Bigeye Shiner Assemblage | | | | | |
| *Notropis boops* | -.38 | | | .61 | |
| *Pimephales notatus* | | | | .60 | |
| *Lepomis cyanellus* | .42 | | | .44 | |
| *Esox americanus* | | -.35 | | .36 | |
| Warmouth Assemblage | | | | | |
| *Lepomis gulosus* | | | | | .67 |
| Striped Shiner Assemblage | | | | | |
| *Notropis chrysocephalus* | | .37 | | | -.46 |

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[1] *Notropis snelsoni* and *N. fumeus*; the former was described after collections were made.

Table IV. Stepwise multiple regression of fish principal component scores (PC I - PC V) on a subset, p, of 27 environmental covariables and eight silvicultural variables. The subset of independent variables was determined by Mallows' $C_p$ statistic where $C_p = p$. Significant partial correlations ($p < 0.05$) are shown for the eight silvicultural variables.

| Principal Components and Assemblages | p | $C_p$ | Significant Silvicultural Variables ($p < 0.05$) Year 1 - Year 8 | | | | | | | | $r^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Spotted Bass(+) vs<br>Orangethroat Darter(-) | | | | | | | | | | | |
| I | 10 | 9.2 | | | | -.06 | | | | | .75 |
| Creek Chub(+) | | | | | | | | | | | |
| II | 7 | 12.9 | | | | .05 | | -.05 | -.06 | | .62 |
| Brook Silverside(+) vs<br>Central Stoneroller(-) | | | | | | | | | | | |
| III | 14 | 24.9 | -.06 | .05 | | | | -.05 | | | .71 |
| Bigeye Shiner(+) | | | | | | | | | | | |
| IV | 3 | 1.4 | | | | | | | | | .14 |
| Warmouth(+) vs<br>Striped Shiner(-) | | | | | | | | | | | |
| V | 4 | 3.7 | | | | | | | | | .08 |

Table V. Stepwise multiple regression of log coded abundance of the 29 common fish species on a subset, p, of 27 environmental covariables and eight silvicultural variables. The subset of independent variables was determined by Mallows' $C_p$ statistic where $C_p = p$. Significant partial correlations ($p < 0.05$) are shown for the eight silvicultural variables.

| Species | p | $C_p$ | Silvicultural Variables Year 1 - Year 8 | | | | | | | | $r^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| *Esox americanus* | 5 | 7.8 | | | | -.05 | | | | | .33 |
| *Campostoma anomalum* | 7 | 7.9 | | | | | | +.03 | | | .40 |
| *Notropis boops* | 3 | 5.6 | | | | | | -.07 | | | .36 |
| *N. chrysocephalus* | 3 | 2.1 | | | | | | | | | .17 |
| *N. ortenburgeri* | 3 | 1.8 | | | | | | +.05 | | | .30 |
| *N.* sp. | 6 | 5.4 | | | | | | -.06 | | | .44 |
| *N. umbratilis* | 4 | 4.6 | | | | | | | | | .42 |
| *N. whipplei* | 4 | 5.8 | | | | | | | | | .22 |
| *Pimephales notatus* | 5 | 7.2 | | | | | | | | | .28 |
| *Semotilus atromaculatus* | 4 | 4.4 | | | | | | | | | .46 |
| *Erimyzon oblongus* | 4 | 2.3 | | | +.08 | | | | | | .30 |
| *Ictalurus natalis* | 2 | 6.3 | | | | | | | | | .16 |
| *Noturus nocturnus* | 6 | 4.6 | | | | +.06 | | | | | .43 |
| *Aphredoderus sayanus* | 6 | 6.3 | | | | -.05 | | | | | .44 |
| *Fundulus notatus* | 7 | 6.8 | | | | | -.05 | -.08 | | | .49 |
| *F. olivaceus* | 7 | 6.4 | | | | | | | | | .46 |
| *Gambusia affinis* | 3 | 4.4 | | | | | | | | | .25 |
| *Labidesthes sicculus* | 4 | 3.5 | | +.05 | | | | | | | .35 |
| *Lepomis cyanellus* | 5 | 6.1 | | | | | | -.06 | | | .43 |
| *L. gulosus* | 5 | 6.5 | | -.05 | | | | | | | .28 |
| *L. macrochirus* | 3 | 4.8 | | | | | | | | | .41 |
| *L. megalotis* | 6 | 5.6 | | | | | | | | | .42 |
| *L. punctatus* | 4 | 3.0 | | | | | | | | | .36 |
| *Micropterus dolomieui* | 6 | 6.3 | +.06 | | | | | -.05 | | | .38 |
| *M. punctulatus* | 4 | 3.9 | | | | | | | | | .34 |
| *M. salmoides* | 3 | 2.8 | | | | | | | | | .22 |
| *Percina caprodes* | 2 | 3.6 | | | | | | | | | .38 |
| *Etheostoma radiosum* | 8 | 7.4 | | -.05 | | | | | | | .40 |
| *E. spectabile* | 4 | 6.6 | | | | | | | | | .33 |

Table VI. Stepwise multiple regression of community indices on a subset, p, of 27 environmental covariables and eight silvicultural variables. The subset of independent variables was determined by Mallows' $C_p$ statistic where $C_p = p$. Significant partial correlations ($p < 0.05$) are shown for the eight silvicultural variables.

| Community Index | p | $C_p$ | Silvicultural Variables Year 1 - Year 8 | | | | | | | | $r^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Shannon-Wiener Diversity | 7 | 8.2 | | | | | | -.08 | | | .49 |
| Species Richness | 8 | 6.9 | | | | | | -.05 | | | .62 |
| Simpson's Index | 7 | 7.4 | | | | | | .05 | | | .35 |

Table VII. Response of the 29 common fish species to the eight silvicultural variables (Year 1-8). Species responses were determined by a multiple regression of each species on a the eight silvicultural variables and the 27 environmental covariables. For the contingency analysis (see text), the sign (+ or -) of the regression coefficient of a silvicultural variable is interpreted to represent the response of a species.

| Species | Species Distribution[1] | Species Selection Strategy[2] | Clearcut Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| *Esox americanus* | R | K | + | + | + | - | + | + | + | + |
| *Erimyzon oblongus* | R | K | + | + | + | - | - | + | + | + |
| *Semotilus atromaculatus* | R | r | + | - | - | + | + | - | - | - |
| *Notropis boops* | R | r | - | - | + | + | - | - | - | - |
| *N. chrysocephalus* | R | r | + | - | - | - | + | + | + | + |
| *N. ortenburgeri* | R | r | + | + | - | - | + | + | - | + |
| *N. umbratilis* | R | r | - | + | - | - | + | + | + | + |
| *N. whipplei* | R | r | + | - | - | - | - | - | - | - |
| *N.* sp. | R | r | - | - | - | + | - | - | + | + |
| *Pimephales notatus* | R | r | + | + | - | + | + | + | + | + |
| *Campostoma anomalum* | W | r | - | - | + | + | + | + | - | - |
| *Ictalurus natalis* | W | K | - | + | + | - | + | + | + | + |
| *Noturus nocturnus* | R | r | - | - | + | + | + | + | + | + |
| *Aphredoderus sayanus* | R | K | + | + | + | - | - | - | - | - |
| *Fundulus notatus* | R | r | - | + | - | - | - | - | - | - |
| *F. olivaceus* | R | r | - | - | + | + | + | + | + | + |
| *Gambusia affinis* | W | r | + | - | - | - | - | - | - | - |
| *Labidesthes sicculus* | R | r | - | + | + | - | + | + | + | + |
| *Lepomis gulosus* | W | K | - | - | + | - | - | - | - | + |
| *L. cyanellus* | W | K | + | + | + | - | - | - | - | - |
| *L. macrochirus* | W | K | + | + | - | + | - | - | - | - |
| *L. megalotis* | W | K | - | + | + | - | - | - | - | - |
| *L. punctatus* | R | K | - | + | + | + | - | - | - | - |
| *Micropterus dolomieui* | R | K | + | + | + | - | - | - | + | + |
| *M. punctulatus* | R | K | + | - | - | - | - | - | - | - |
| *M. salmoides* | W | K | - | + | + | + | - | - | - | - |
| *Etheostoma radiosum* | R | r | + | - | - | + | + | + | + | + |
| *E. spectabile* | R | r | + | - | + | + | + | + | + | + |
| *Percina caprodes* | R | r | - | + | + | + | - | + | - | + |

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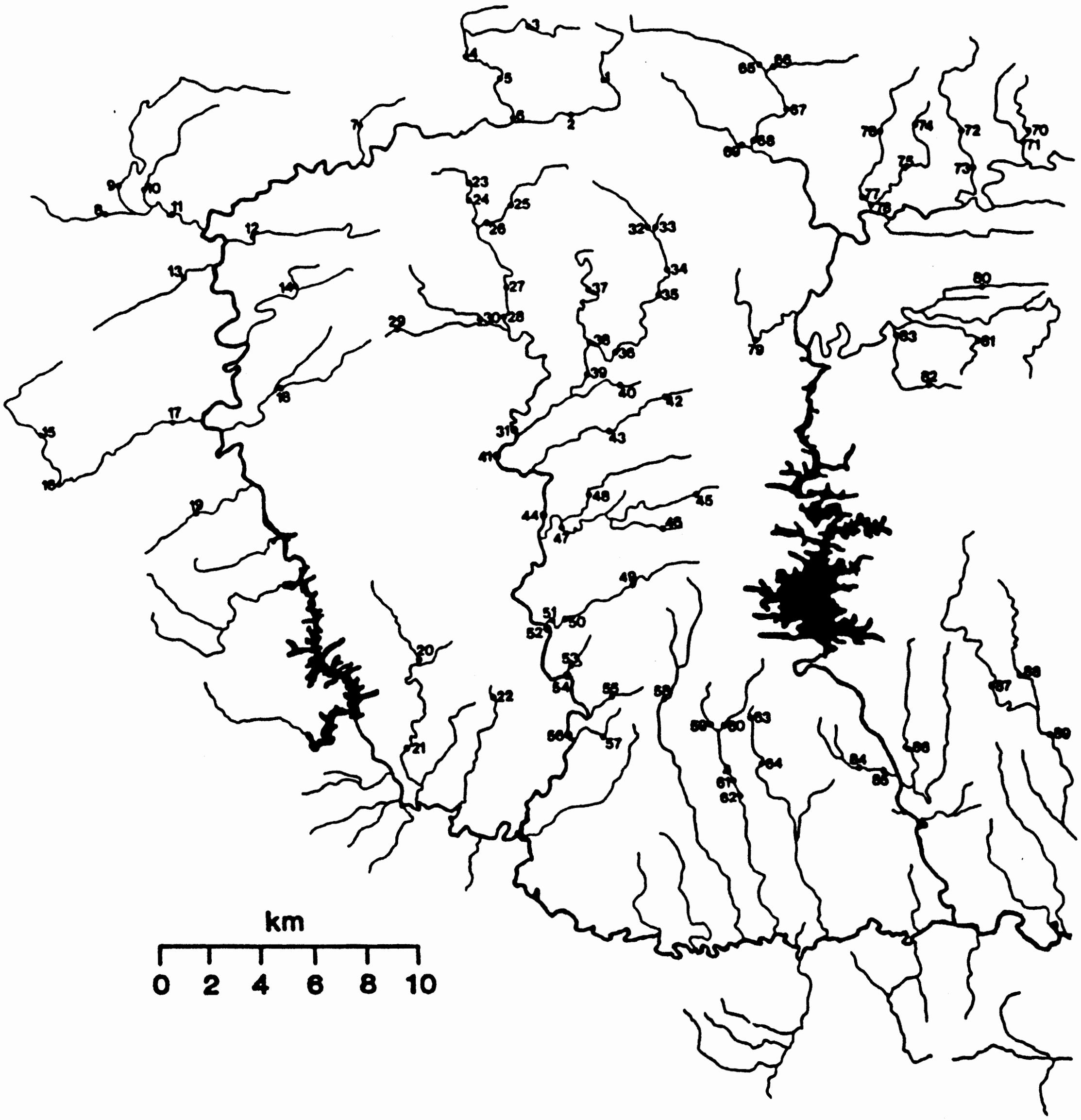
[1] W = widespread distributions; R = restricted distributions.

[2] K = *K*-selected life history; r = *r*-selected life history.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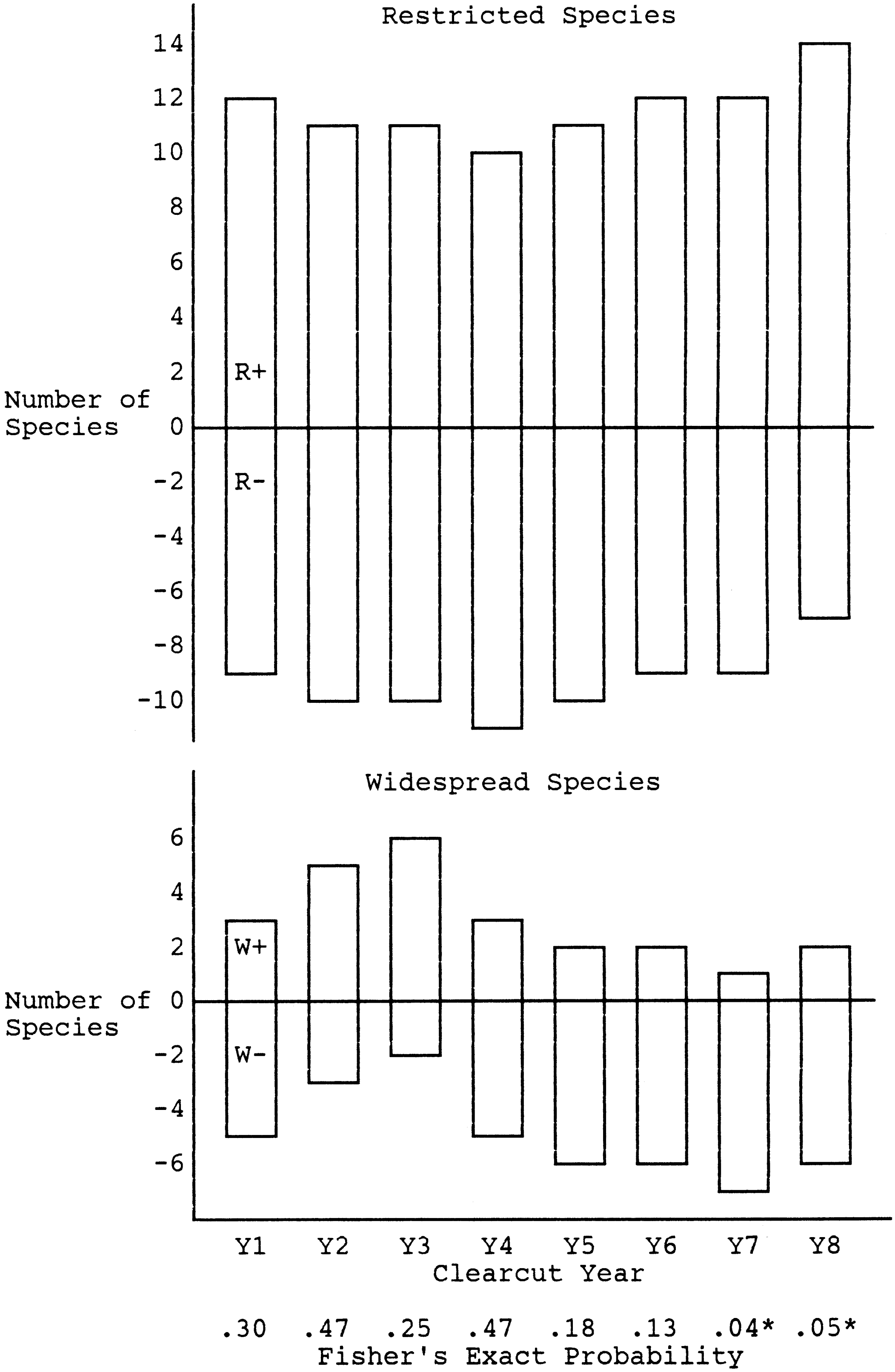
Restricted Species
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-10
Number of Species
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Widespread Species
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-6
Number of Species
W+
W-
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Y8
Clearcut Year
.30
.47
.25
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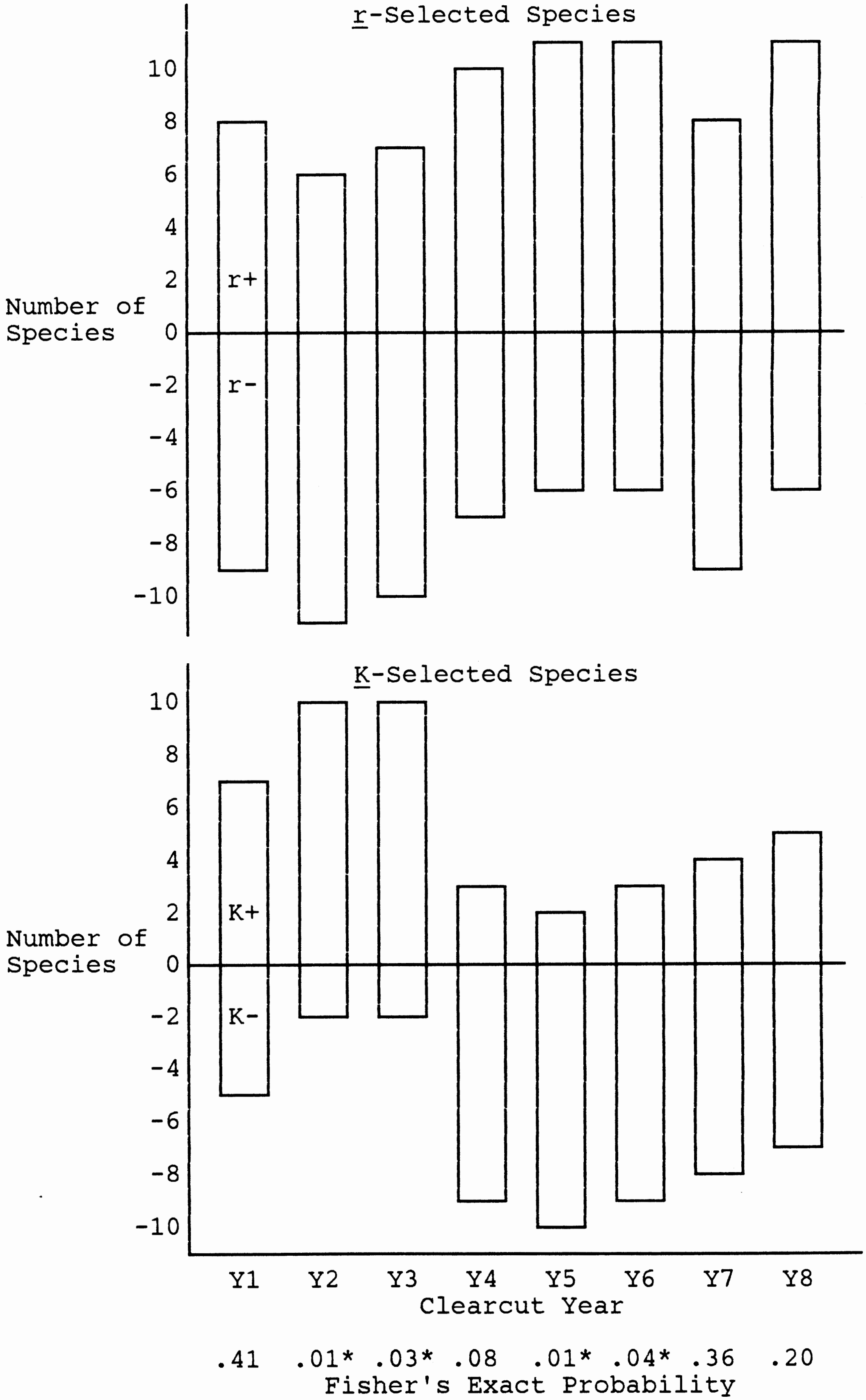
.18
.13
.04*
.05*
Fisher's Exact Probability


r-Selected Species
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Number of Species
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r-
K-Selected Species
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-10
Number of Species
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Y2
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Y5
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Y8
Clearcut Year
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.04*
.36
.20
Fisher's Exact Probability

# APPENDIXES

# APPENDIX A

Presence/absence data for 31 common species at 44 collection localities in 1948-55 and 1981-82. Species identification numbers correspond with names as shown in Table I. Each column represents a collection (0 = absent, 1 = present). Collections are arranged from left to right in the numerical sequence (1 to 44) that corresponds with the identification numbers given in Figure 1. The collection numbers for the historical analysis are identified in Appendix C next to the site number.

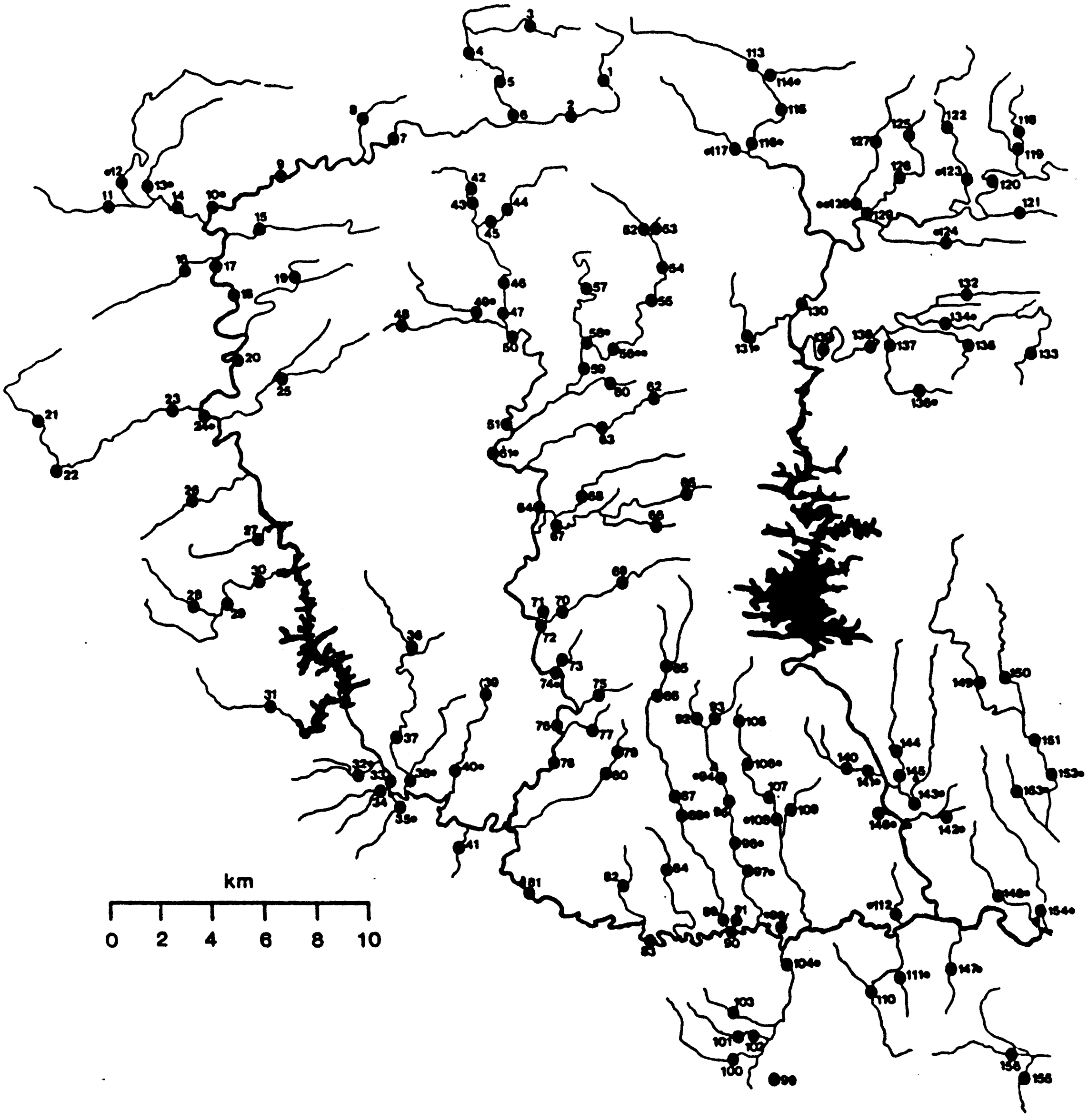
| Species | Occurrence in 1948-55 |
|---|---|
| 1 | 00001101000000000001001000000000000000011001 |
| 2 | 01100000101100000010000000011000010011000000 |
| 3 | 00011011000010111010110000001001100101111100 |
| 4 | 00011011000000101100110000000000000111000011 |
| 5 | 10010100010100101110110000000000100111101101 |
| 6 | 00000101000000100011000100000000000000110111 |
| 7 | 11100000011110110010010001111110000010000100 |
| 8 | 00110011111010111110110000000011110111101100 |
| 9 | 11110011111110101110110011111111110001111111 |
| 10 | 00000011001110101110110011111110001010111101 |
| 11 | 00001110000000110111011000011000000110011101 |
| 12 | 00010010011000111101010001111111101011000100 |
| 13 | 00000100000000100001000000000000000010111001 |
| 14 | 00000000000000000000001100000000000100001100 |
| 15 | 00001000000000000011000100000000000000001101 |
| 16 | 00010000001010000000000001100100100000000100 |
| 17 | 10000000010100101101010000000100000010001100 |
| 18 | 10011111000010101100010000000110000000000100 |
| 19 | 01000100000000000000001000000000000000000000 |
| 20 | 11111011111010101111111110000001110011111111 |
| 21 | 00000001000000000001100000000000000000000100 |
| 22 | 01001100000100111001111100100010000111001101 |
| 23 | 11111001111011111111110011111111111111100101 |
| 24 | 01001110000010111101111110101000101110011111 |
| 25 | 00010010101011101111010000001001000010001101 |
| 26 | 01001001000010100000111110001001001111111111 |
| 27 | 01001100000000100101010001101000011010011101 |
| 28 | 10011110000000000100000000000000000000000000 |
| 29 | 00000010000000100100000000000000000000000000 |
| 30 | 11100001111100101100110111111011111011111111 |
| 31 | 00000010000000000000000000000000000000000000 |

Appendix A. continued.

| Species | Occurrence in 1981-82 |
|---|---|
| 1 | 000000000000000000110011000000000000100011001 |
| 2 | 110000001011000011000100011000000001000100000 |
| 3 | 000011110000001111100101000000000001001111101 |
| 4 | 000001010000001111100100000000000001010000011 |
| 5 | 101000110010000000000000000000000100000000000 |
| 6 | 000000000000000000100000000000000000000000010 |
| 7 | 100000000010000100010100101111100000000000000 |
| 8 | 110100111111111111001100111111111100010000000 |
| 9 | 111101111111111111101100011111111111011000110 |
| 10 | 000000000011110000111100001001100001111011111 |
| 11 | 000011110000001111111111000000000000110001100 |
| 12 | 000000010100111000001010010011010000001011000 |
| 13 | 000001100000000000000001000000000000100001000 |
| 14 | 000001100000000000001110000000000000100011011 |
| 15 | 000000100000000000010011000000000000000001000 |
| 16 | 101000000011100000000000010000010000000000000 |
| 17 | 010001010000011111110110000000001000000111001 |
| 18 | 001110000000000000100010000000000000000000000 |
| 19 | 000010000000001000110010000000000000100111001 |
| 20 | 111111111011111111111111111111111110111110111 |
| 21 | 000001101000001011111101000000000000111001001 |
| 22 | 101011110000011011100111000111101000101111101 |
| 23 | 111111111111010011111110011111111101111111111 |
| 24 | 011000100110001110001011111011101011110110111 |
| 25 | 100000010000001000000000000000000000000000001 |
| 26 | 000010000000000000100101111111111001111111011 |
| 27 | 111001111111100011100000011011111011111101000 |
| 28 | 100100000000000011000000000000000000010000000 |
| 29 | 000011110000001111100100000000000001010000000 |
| 30 | 110001111111111111001100111111111111011010110 |
| 31 | 100100000010000000001100010001111000000000000 |

# APPENDIX B

Locations of 156 sites in the Little River drainage where fish collections were made in 1981-1982. The 44 historical sites are identified with a dot. A double dot indicates two historical collections were made at a location.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## APPENDIX C

Fish abundances (as number of specimens), and untransformed environmental and silvicultural data collected at 156 localities in the Little River drainage in 1981-1982. The 44 historical site numbers, and numbers for the 89 sites used in the analysis of silvicultural activities follow the drainage-wide site numbers. Each variable (1 to 109) is identified by name and number on the following pages.

| Variable Number | Variable Name |
|---|---|
| 1 | *Lepisosteus* *oculatus* |
| 2 | *L.* *osseus* |
| 3 | *Amia* *calva* |
| 4 | *Dorosoma* *cepedianum* |
| 5 | *Esox* *americanus* |
| 6 | *Moxostoma* *duquesnei* |
| 7 | *M.* *erythrurum* |
| 8 | *Minytrema* *melanops* |
| 9 | *Erimyzon* *oblongus* |
| 10 | *E.* *sucetta* |
| 11 | *Notemigonus* *crysoleucas* |
| 12 | *Semotilus* *atromaculatus* |
| 13 | *Notropis* *amnis* |
| 14 | *N.* *atrocaudalis* |
| 15 | *N.* *boops* |
| 16 | *N.* *chrysocephalus* |
| 17 | *N.* *ortenburgeri* |
| 18 | *N.* *perpallidus* |
| 19 | *N.* *rubellus* |
| 20 | *N.* sp. |
| 21 | *N.* *umbratilis* |
| 22 | *N.* *venustus* |
| 23 | *N.* *volucellus* |
| 24 | *N.* *whipplei* |
| 25 | *Hybognathus* *hayi* |
| 26 | *Pimephales* *notatus* |
| 27 | *P.* *vigilax* |
| 28 | *Campostoma* *anomalum* |
| 29 | *Ictalurus* *melas* |
| 30 | *I.* *natalis* |
| 31 | *I.* *punctatus* |
| 32 | *Noturus* *eleutherus* |
| 33 | *N.* *gyrinus* |
| 34 | *N.* *nocturnus* |
| 35 | *Pylodictis* *olivaris* |
| 36 | *Aphredoderus* *sayanus* |
| 37 | *Fundulus* *blairie* |
| 38 | *F.* *notatus* |
| 39 | *F.* *olivaceus* |
| 40 | *Gambusia* *affinis* |
| 41 | *Labidesthes* *sicculus* |
| 42 | *Elassoma* *zonatum* |
| 43 | *Centrarchus* *macropterus* |
| 44 | *Lepomis* *cyanellus* |
| 45 | *L.* *gulosus* |
| 46 | *L.* *humilis* |
| 47 | *L.* *macrochirus* |
| 48 | *L.* *marginatus* |
| 49 | *L.* *megalotis* |
| 50 | *L.* *microlophus* |
| 51 | *L.* *punctatus* |

| Variable Number | Variable Name |
|---|---|
| 52 | *L. symmetricus* |
| 53 | *M. dolomieui* |
| 54 | *M. punctulatus* |
| 55 | *M. salmoides* |
| 56 | *Pomoxis annularis* |
| 57 | *P. nigromaculatus* |
| 58 | *Ammocrypta vivax* |
| 59 | *Crystallaria asprella* |
| 60 | *Etheostoma asprigene* |
| 61 | *E. chlorosomum* |
| 62 | *E. colletti* |
| 63 | *E. gracile* |
| 64 | *E. histrio* |
| 65 | *E. nigrum* |
| 66 | *E. parvipinne* |
| 67 | *E. proeliare* |
| 68 | *E. radiosum* |
| 69 | *E. spectabile* |
| 70 | *Percina caprodes* |
| 71 | *P. copelandi* |
| 72 | *P. pantherina* |
| 73 | *P. phoxocephala* |
| 74 | *P. sciera* |
| 75 | % Mud Substrate |
| 76 | % Sand Substrate |
| 77 | % Gravel Substrate |
| 78 | % Rubble Substrate |
| 79 | % Boulder Substrate |
| 80 | % Bedrock Substrate |
| 81 | % Emergent Vascular Plants |
| 82 | % Submergent Vascular Plants |
| 83 | % Algae |
| 84 | % Leaf Litter |
| 85 | % Depth 1 |
| 86 | % Depth 2 |
| 87 | % Depth 3 |
| 88 | % Depth 4 |
| 89 | % Depth 5 |
| 90 | % Very Slow Current |
| 91 | % Slow Current |
| 92 | % Moderate Current |
| 93 | % Fast Current |
| 94 | % Torrent Current |
| 95 | Elevation |
| 96 | Stream Gradient |
| 97 | Stream Order |
| 98 | Distance from the Headwaters |
| 99 | Specific Conductance |
| 100 | Turbidity |
| 101 | Nonfilterable Residue |

| Variable Number | Variable Name |
|---|---|
| 102 | % Year 1 Clearcuts |
| 103 | % Year 2 Clearcuts |
| 104 | % Year 3 Clearcuts |
| 105 | % Year 4 Clearcuts |
| 106 | % Year 5 Clearcuts |
| 107 | % Year 6 Clearcuts |
| 108 | % Year 7 Clearcuts |
| 109 | % Year 8 Clearcuts |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 |
| 2 | . | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 3 | . | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | . | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 5 | . | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | . | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 7 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | . | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | . | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 11 | . | 8 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| 12 | 2 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 3 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | . | 11 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 15 | . | 12 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | . | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | . | 14 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 16 | 0 | 0 |
| 20 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | . | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 22 | . | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | . | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 4 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | . | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 |
| 26 | . | 19 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | . | . | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 |
| 28 | . | . | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | . | . | 0 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 31 | . | . | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 32 | 5 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 33 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 | . | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | 6 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | . | 20 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 1 |
| 37 | . | 21 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 38 | 7 | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39 | . | 22 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 |
| 40 | 8 | . | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 41 | . | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 | . | 23 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 7 | 0 | 0 |
| 43 | . | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | . | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | . | 26 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | . | 27 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 47 | . | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48 | . | 29 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 10 | 0 | 0 |
| 49 | 9 | 30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | . | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52 | . | 32 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 54 | . | 34 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | . | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | . | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | . | 37 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 58 | 10 | 38 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 | . | 39 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 | . | 40 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 23 | 0 | 0 |
| 61 | 11 | 41 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 62 | . | 42 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 7 | 0 | 0 |
| 63 | . | 43 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | . | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 66 | . | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 67 | . | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | . | 48 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 0 |
| 69 | . | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | . | 50 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 |
| 71 | . | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | . | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | . | 53 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 |
| 74 | 14 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | . | 55 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| 76 | . | 56 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 77 | . | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 |
| 78 | . | . | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 |
| 80 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 81 | . | . | 0 | 1 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | . | . | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | . | . | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 84 | . | . | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 5 | 0 | 0 |
| 85 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | . | 58 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 2 | 0 | 0 |
| 87 | . | . | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 |
| 88 | 15 | . | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 |
| 89 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 91 | . | . | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 92 | . | 59 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 6 | 0 | 0 |
| 93 | . | 60 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| 94 | 16 | 61 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | . | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 | 17 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 97 | 18 | . | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 98 | 19 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 2 |
| 99 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 |
| 100 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 102 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 2 |
| 103 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 3 |
| 104 | 20 | . | 1 | 0 | 1 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 106 | 21 | 64 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 4 | 0 | 0 |
| 107 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 |
| 108 | 22 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 11 | 0 | 0 |
| 109 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 110 | . | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 |
| 111 | 23 | . | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 4 | 1 | 0 | 39 |
| 112 | 24 | . | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 5 |
| 113 | . | 65 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 |
| 114 | 25 | 66 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 10 | 0 | 0 |
| 115 | . | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 116 | 26 | 68 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 117 | 27 | 69 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 |
| 118 | . | 70 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 |
| 119 | . | 71 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 13 | 0 | 0 |
| 120 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121 | . | . | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 122 | . | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 123 | 28 | 73 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 |
| 124 | 29 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 125 | . | 74 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 126 | . | 75 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 127 | . | 76 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 128 | . | 77 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 |
| 129 | . | 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 131 | 32 | 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 132 | . | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 133 | . | . | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 |
| 134 | 33 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | . | 81 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 12 | 0 | 0 |
| 136 | 34 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137 | . | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 138 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 139 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140 | . | 84 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 18 | 0 | 0 |
| 141 | 35 | 85 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 | 0 |
| 142 | 36 | . | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 7 | 3 | 6 | 15 |
| 143 | 37 | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 144 | . | 86 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 38 | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 | 0 |
| 146 | 39 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 147 | 40 | . | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 5 | 0 | 13 |
| 148 | 41 | . | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 7 | 0 | 4 | 10 |
| 149 | . | 87 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 |
| 150 | . | 88 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 |
| 151 | . | 89 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 152 | 42 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153 | 43 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 |
| 154 | 44 | . | 1 | 8 | 0 | 0 | 3 | 0 | 5 | 0 | 3 | 0 | 0 |
| 155 | . | . | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 1 | 8 | 0 | 2 |
| 156 | . | . | 0 | 0 | 1 | 0 | 9 | 0 | 1 | 0 | 3 | 0 | 32 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 20 | 0 | 0 |
| 2 | . | 2 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 23 | 0 | 0 |
| 3 | . | 3 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 6 | 0 | 0 |
| 4 | . | 4 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | . | 5 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 6 | . | 6 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7 | . | . | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 28 | 0 | 0 |
| 8 | . | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | . | . | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 22 | 0 | 0 |
| 10 | 1 | . | 0 | 0 | 0 | 69 | 0 | 0 | 0 | 12 | 109 | 0 | 0 |
| 11 | . | 8 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 65 | 0 | 0 |
| 12 | 2 | 9 | 0 | 0 | 0 | 73 | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| 13 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | . | 11 | 0 | 0 | 0 | 121 | 0 | 0 | 0 | 0 | 43 | 0 | 0 |
| 15 | . | 12 | 0 | 0 | 0 | 93 | 0 | 0 | 0 | 0 | 74 | 0 | 0 |
| 16 | . | 13 | 0 | 0 | 0 | 16 | 0 | 1 | 0 | 0 | 8 | 0 | 0 |
| 17 | . | . | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 13 | 0 |
| 18 | . | . | 0 | 0 | 0 | 67 | 0 | 0 | 0 | 0 | 13 | 0 | 0 |
| 19 | . | 14 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | . | . | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | . | 15 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | . | 16 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 21 | 0 | 0 |
| 23 | . | 17 | 0 | 0 | 0 | 121 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 24 | 4 | . | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | . | 18 | 0 | 0 | 0 | 38 | 6 | 0 | 0 | 0 | 0 | 7 | 0 |
| 26 | . | 19 | 0 | 0 | 0 | 41 | 1 | 1 | 0 | 0 | 0 | 13 | 0 |
| 27 | . | . | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 23 | 0 |
| 28 | . | . | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | . | . | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | . | . | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| 32 | 5 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 33 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 86 | 1 | 4 |
| 34 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| 35 | 6 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 36 | . | 20 | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 1 | 0 |
| 37 | . | 21 | 0 | 0 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 34 | 0 |
| 38 | 7 | . | 0 | 0 | 0 | 74 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 39 | . | 22 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 1 | 0 |
| 40 | 8 | . | 0 | 0 | 0 | 49 | 18 | 0 | 0 | 0 | 0 | 38 | 0 |
| 41 | . | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 0 |
| 42 | . | 23 | 0 | 0 | 0 | 102 | 0 | 0 | 0 | 0 | 91 | 0 | 0 |
| 43 | . | 24 | 0 | 0 | 0 | 53 | 0 | 0 | 0 | 0 | 28 | 0 | 0 |
| 44 | . | 25 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 14 | 0 | 0 |
| 45 | . | 26 | 0 | 0 | 0 | 64 | 0 | 0 | 0 | 0 | 17 | 0 | 0 |
| 46 | . | 27 | 0 | 0 | 0 | 95 | 0 | 0 | 0 | 0 | 56 | 0 | 0 |
| 47 | . | 28 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48 | . | 29 | 0 | 0 | 0 | 20 | 0 | 4 | 0 | 0 | 9 | 0 | 0 |
| 49 | 9 | 30 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | . | 31 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 52 | . | 32 | 0 | 0 | 0 | 160 | 0 | 0 | 0 | 0 | 73 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | . | 34 | 0 | 0 | 0 | 288 | 0 | 0 | 0 | 0 | 132 | 0 | 0 |
| 55 | . | 35 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | . | 36 | 0 | 0 | 0 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | . | 37 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 58 | 10 | 38 | 0 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 | . | 39 | 0 | 0 | 0 | 138 | 0 | 0 | 0 | 0 | 22 | 0 | 0 |
| 60 | . | 40 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 5 | 0 | 0 |
| 61 | 11 | 41 | 0 | 0 | 0 | 103 | 0 | 0 | 0 | 0 | 20 | 0 | 0 |
| 62 | . | 42 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 63 | . | 43 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | . | 44 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 79 | 0 | 0 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | . | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 | . | 47 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 12 | 0 | 0 |
| 68 | . | 48 | 0 | 0 | 0 | 80 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 69 | . | 49 | 1 | 0 | 0 | 299 | 0 | 0 | 0 | 0 | 6 | 0 | 0 |
| 70 | . | 50 | 0 | 0 | 0 | 173 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 71 | . | 51 | 0 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 25 | 0 | 0 |
| 72 | . | 52 | 0 | 0 | 0 | 309 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | . | 53 | 4 | 0 | 0 | 30 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 74 | 14 | 54 | 0 | 0 | 0 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | . | 55 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| 76 | . | 56 | 0 | 0 | 0 | 93 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 77 | . | 57 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | . | . | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | . | . | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 54 | 0 |
| 80 | . | . | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 3 | 2 |
| 82 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 83 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | . | . | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 12 | 0 |
| 85 | . | . | 0 | 0 | 0 | 58 | 2 | 0 | 0 | 0 | 0 | 120 | 0 |
| 86 | . | 58 | 0 | 0 | 0 | 238 | 0 | 0 | 0 | 0 | 0 | 26 | 0 |
| 87 | . | . | 0 | 0 | 0 | 36 | 8 | 0 | 0 | 0 | 0 | 12 | 0 |
| 88 | 15 | . | 0 | 0 | 0 | 42 | 1 | 0 | 0 | 0 | 0 | 5 | 0 |
| 89 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 119 |
| 90 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 91 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 92 | . | 59 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 | . | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 | 16 | 61 | 0 | 0 | 0 | 33 | 2 | 0 | 0 | 0 | 0 | 19 | 0 |
| 95 | . | 62 | 0 | 0 | 0 | 58 | 1 | 0 | 0 | 0 | 22 | 11 | 0 |
| 96 | 17 | . | 0 | 0 | 0 | 7 | 13 | 0 | 0 | 0 | 0 | 8 | 0 |
| 97 | 18 | . | 0 | 0 | 0 | 28 | 10 | 0 | 0 | 0 | 0 | 21 | 0 |
| 98 | 19 | . | 0 | 0 | 6 | 0 | 3 | 0 | 0 | 0 | 0 | 11 | 0 |
| 99 | . | . | 1 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| 101 | . | . | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| 102 | . | . | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 103 | . | . | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 0 |
| 104 | 20 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 4 | 0 |
| 106 | 21 | 64 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 107 | . | . | 0 | 0 | 0 | 5 | 15 | 0 | 0 | 0 | 64 | 0 | 0 |
| 108 | 22 | . | 0 | 0 | 0 | 24 | 76 | 0 | 0 | 0 | 16 | 2 | 0 |
| 109 | . | . | 1 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 110 | . | . | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 111 | 23 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 112 | 24 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| 113 | . | 65 | 0 | 0 | 0 | 216 | 0 | 0 | 0 | 0 | 58 | 0 | 0 |
| 114 | 25 | 66 | 4 | 0 | 0 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | . | 67 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 116 | 26 | 68 | 0 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 43 | 0 | 0 |
| 117 | 27 | 69 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 11 | 0 | 0 |
| 118 | . | 70 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 119 | . | 71 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 0 | 0 | 68 | 0 |
| 120 | . | . | 0 | 0 | 0 | 93 | 0 | 0 | 0 | 0 | 28 | 0 | 0 |
| 121 | . | . | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 22 | 0 | 0 |
| 122 | . | 72 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 123 | 28 | 73 | 0 | 0 | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 124 | 29 | . | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | . | 74 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 126 | . | 75 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 14 | 0 | 0 |
| 127 | . | 76 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| 128 | . | 77 | 0 | 0 | 0 | 72 | 0 | 0 | 0 | 0 | 33 | 0 | 0 |
| 129 | . | 78 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 | 5 | 0 | 0 |
| 130 | . | . | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 131 | 32 | 79 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 23 | 0 | 0 |
| 132 | . | 80 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 133 | . | . | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 7 | 0 | 0 |
| 134 | 33 | . | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 14 | 0 | 0 |
| 135 | . | 81 | 0 | 0 | 0 | 78 | 0 | 0 | 0 | 0 | 30 | 0 | 0 |
| 136 | 34 | 82 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137 | . | 83 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 16 | 0 | 0 |
| 138 | . | . | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 139 | . | . | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 33 | 0 | 0 |
| 140 | . | 84 | 0 | 0 | 0 | 20 | 25 | 0 | 0 | 0 | 3 | 0 | 0 |
| 141 | 35 | 85 | 0 | 0 | 0 | 69 | 10 | 0 | 0 | 0 | 0 | 11 | 0 |
| 142 | 36 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 143 | 37 | . | 0 | 0 | 0 | 22 | 46 | 0 | 0 | 0 | 0 | 0 | 0 |
| 144 | . | 86 | 0 | 0 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 8 | 0 |
| 145 | 38 | . | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 15 | 0 |
| 146 | 39 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 147 | 40 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| 148 | 41 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 | 0 |
| 149 | . | 87 | 0 | 0 | 0 | 114 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 150 | . | 88 | 0 | 0 | 0 | 50 | 1 | 0 | 0 | 0 | 8 | 11 | 0 |
| 151 | . | 89 | 0 | 0 | 0 | 132 | 0 | 4 | 0 | 0 | 103 | 0 | 0 |
| 152 | 42 | . | 0 | 0 | 0 | 73 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 153 | 43 | . | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 154 | 44 | . | 0 | 0 | 0 | 0 | 8 | 3 | 0 | 0 | 0 | 35 | 0 |
| 155 | . | . | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 32 | 0 |
| 156 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 2 | 0 | 0 | 0 |
| 2 | . | 2 | 0 | 0 | 0 | 5 | 0 | 4 | 0 | 1 | 1 | 0 | 0 |
| 3 | . | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 4 | . | 4 | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 2 | 0 | 0 | 0 |
| 5 | . | 5 | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 6 | . | 6 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 2 | 0 | 0 | 0 |
| 7 | . | . | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 1 | 0 | 0 | 0 |
| 8 | . | 7 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 1 | 0 | 0 | 0 |
| 9 | . | . | 0 | 3 | 0 | 4 | 0 | 9 | 0 | 2 | 0 | 0 | 0 |
| 10 | 1 | . | 13 | 9 | 0 | 4 | 0 | 23 | 0 | 9 | 3 | 0 | 0 |
| 11 | . | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 2 | 9 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 3 | 0 | 0 | 0 |
| 13 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 6 | 2 | 0 | 0 |
| 14 | . | 11 | 0 | 0 | 0 | 7 | 0 | 9 | 0 | 0 | 0 | 0 | 0 |
| 15 | . | 12 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 |
| 16 | . | 13 | 0 | 0 | 0 | 1 | 0 | 73 | 0 | 2 | 0 | 0 | 0 |
| 17 | . | . | 0 | 11 | 0 | 0 | 0 | 52 | 0 | 3 | 2 | 0 | 0 |
| 18 | . | . | 0 | 16 | 0 | 1 | 0 | 25 | 0 | 2 | 0 | 0 | 0 |
| 19 | . | 14 | 0 | 0 | 0 | 0 | 0 | 41 | 0 | 4 | 0 | 0 | 0 |
| 20 | . | . | 0 | 2 | 0 | 1 | 0 | 39 | 0 | 5 | 5 | 0 | 0 |
| 21 | . | 15 | 0 | 0 | 0 | 1 | 0 | 15 | 0 | 7 | 0 | 0 | 0 |
| 22 | . | 16 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| 23 | . | 17 | 4 | 0 | 0 | 4 | 0 | 67 | 0 | 14 | 0 | 0 | 0 |
| 24 | 4 | . | 0 | 11 | 0 | 0 | 0 | 35 | 0 | 0 | 1 | 0 | 0 |
| 25 | . | 18 | 0 | 0 | 0 | 5 | 0 | 19 | 0 | 3 | 0 | 0 | 0 |
| 26 | . | 19 | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 1 | 0 | 0 | 0 |
| 27 | . | . | 0 | 0 | 0 | 2 | 0 | 15 | 0 | 5 | 0 | 0 | 0 |
| 28 | . | . | 0 | 0 | 0 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 29 | . | . | 0 | 0 | 0 | 1 | 0 | 46 | 0 | 4 | 0 | 0 | 0 |
| 30 | . | . | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 | 5 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| 33 | . | . | 0 | 13 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 34 | . | . | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 2 | 0 | 0 | 0 |
| 35 | 6 | . | 0 | 3 | 0 | 0 | 0 | 8 | 0 | 2 | 0 | 0 | 0 |
| 36 | . | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 37 | . | 21 | 0 | 0 | 0 | 11 | 0 | 40 | 0 | 0 | 0 | 0 | 0 |
| 38 | 7 | . | 0 | 0 | 0 | 0 | 0 | 71 | 0 | 16 | 0 | 0 | 0 |
| 39 | . | 22 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 6 | 0 | 0 | 0 |
| 40 | 8 | . | 0 | 26 | 0 | 1 | 0 | 102 | 0 | 4 | 0 | 0 | 0 |
| 41 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 42 | . | 23 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 2 | 0 | 0 | 0 |
| 43 | . | 24 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 2 | 0 | 0 | 0 |
| 44 | . | 25 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 |
| 45 | . | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | . | 27 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| 47 | . | 28 | 0 | 0 | 0 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 48 | . | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| 49 | 9 | 30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | . | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 |
| 52 | . | 32 | 0 | 0 | 0 | 1 | 0 | 57 | 0 | 3 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 0 | 0 |
| 54 | . | 34 | 0 | 0 | 0 | 4 | 0 | 42 | 0 | 0 | 0 | 0 | 0 |
| 55 | . | 35 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| 56 | . | 36 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 |
| 57 | . | 37 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 58 | 10 | 38 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 3 | 0 | 0 | 0 |
| 59 | . | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 | . | 40 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 |
| 61 | 11 | 41 | 0 | 0 | 0 | 3 | 0 | 13 | 0 | 6 | 0 | 0 | 0 |
| 62 | . | 42 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 63 | . | 43 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 6 | 0 | 0 | 0 |
| 64 | . | 44 | 0 | 3 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 2 | 0 | 0 | 0 |
| 66 | . | 46 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 |
| 67 | . | 47 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 68 | . | 48 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 5 | 0 | 0 | 0 |
| 69 | . | 49 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 6 | 0 | 0 | 0 |
| 70 | . | 50 | 0 | 0 | 0 | 1 | 0 | 243 | 0 | 0 | 0 | 0 | 0 |
| 71 | . | 51 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 |
| 72 | . | 52 | 0 | 17 | 0 | 0 | 0 | 26 | 0 | 0 | 2 | 0 | 0 |
| 73 | . | 53 | 0 | 1 | 0 | 0 | 0 | 49 | 0 | 2 | 0 | 0 | 0 |
| 74 | 14 | 54 | 0 | 27 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 |
| 75 | . | 55 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 1 | 0 | 0 | 0 |
| 76 | . | 56 | 0 | 43 | 0 | 1 | 0 | 46 | 0 | 0 | 1 | 0 | 0 |
| 77 | . | 57 | 0 | 0 | 0 | 0 | 0 | 87 | 0 | 3 | 0 | 0 | 0 |
| 78 | . | . | 1 | 118 | 0 | 0 | 0 | 13 | 0 | 1 | 0 | 0 | 0 |
| 79 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 80 | . | . | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 4 | 0 | 0 | 0 |
| 81 | . | . | 0 | 29 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 1 | 0 |
| 82 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| 85 | . | . | 0 | 0 | 0 | 8 | 0 | 44 | 0 | 0 | 0 | 0 | 0 |
| 86 | . | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 87 | . | . | 0 | 0 | 0 | 1 | 0 | 82 | 0 | 1 | 0 | 0 | 0 |
| 88 | 15 | . | 0 | 101 | 0 | 0 | 0 | 301 | 0 | 0 | 0 | 0 | 0 |
| 89 | . | . | 0 | 0 | 0 | 0 | 9 | 25 | 0 | 1 | 0 | 0 | 3 |
| 90 | . | . | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 91 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 92 | . | 59 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 93 | . | 60 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 8 | 0 | 0 | 0 |
| 94 | 16 | 61 | 0 | 0 | 0 | 2 | 0 | 35 | 0 | 0 | 0 | 0 | 0 |
| 95 | . | 62 | 0 | 0 | 0 | 1 | 0 | 34 | 0 | 1 | 0 | 0 | 0 |
| 96 | 17 | . | 0 | 0 | 0 | 0 | 0 | 70 | 0 | 1 | 0 | 0 | 0 |
| 97 | 18 | . | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 1 | 0 | 0 | 0 |
| 98 | 19 | . | 0 | 0 | 0 | 0 | 0 | 8 | 2 | 1 | 0 | 0 | 0 |
| 99 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 101 | . | . | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 102 | . | . | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 103 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 104 | 20 | . | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 0 | 0 | 0 | 22 | 1 | 0 | 0 | 0 | 0 |
| 106 | 21 | 64 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 |
| 107 | . | . | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 1 | 0 | 0 | 0 |
| 108 | 22 | . | 0 | 0 | 0 | 1 | 0 | 68 | 0 | 0 | 0 | 0 | 0 |
| 109 | . | . | 0 | 0 | 0 | 0 | 0 | 88 | 0 | 1 | 0 | 0 | 0 |
| 110 | . | . | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 11 | 0 | 0 | 0 |
| 111 | 23 | . | 0 | 0 | 0 | 0 | 0 | 26 | 139 | 0 | 0 | 0 | 0 |
| 112 | 24 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 113 | . | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 114 | 25 | 66 | 0 | 0 | 0 | 3 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| 115 | . | 67 | 0 | 0 | 0 | 2 | 0 | 20 | 0 | 1 | 0 | 0 | 0 |
| 116 | 26 | 68 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 0 |
| 117 | 27 | 69 | 0 | 0 | 0 | 1 | 0 | 11 | 0 | 1 | 0 | 0 | 0 |
| 118 | . | 70 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 119 | . | 71 | 0 | 0 | 0 | 3 | 0 | 49 | 0 | 0 | 0 | 0 | 0 |
| 120 | . | . | 0 | 62 | 0 | 0 | 0 | 5 | 0 | 3 | 0 | 0 | 0 |
| 121 | . | . | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 122 | . | 72 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 |
| 123 | 28 | 73 | 0 | 0 | 0 | 13 | 0 | 12 | 0 | 0 | 0 | 0 | 0 |
| 124 | 29 | . | 0 | 0 | 0 | 1 | 0 | 27 | 0 | 1 | 0 | 0 | 0 |
| 125 | . | 74 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 7 | 0 | 0 | 0 |
| 126 | . | 75 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 7 | 0 | 0 | 0 |
| 127 | . | 76 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 128 | . | 77 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 2 | 0 | 0 | 0 |
| 129 | . | 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 130 | . | . | 0 | 9 | 0 | 0 | 0 | 17 | 0 | 5 | 2 | 0 | 0 |
| 131 | 32 | 79 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 2 | 0 | 0 | 0 |
| 132 | . | 80 | 0 | 0 | 0 | 2 | 0 | 13 | 0 | 6 | 0 | 0 | 0 |
| 133 | . | . | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 2 | 0 | 0 | 0 |
| 134 | 33 | . | 0 | 6 | 0 | 0 | 0 | 44 | 0 | 4 | 0 | 0 | 0 |
| 135 | . | 81 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 4 | 0 | 0 | 0 |
| 136 | 34 | 82 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 |
| 137 | . | 83 | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 2 | 0 | 0 | 0 |
| 138 | . | . | 0 | 3 | 0 | 1 | 0 | 50 | 0 | 3 | 0 | 0 | 0 |
| 139 | . | . | 0 | 3 | 0 | 0 | 0 | 24 | 0 | 1 | 0 | 0 | 0 |
| 140 | . | 84 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 2 | 0 | 0 | 0 |
| 141 | 35 | 85 | 0 | 0 | 0 | 0 | 0 | 44 | 0 | 3 | 0 | 0 | 0 |
| 142 | 36 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 143 | 37 | . | 0 | 0 | 0 | 1 | 0 | 135 | 0 | 7 | 0 | 0 | 0 |
| 144 | . | 86 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 3 | 0 | 0 | 0 |
| 145 | 38 | . | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 0 |
| 146 | 39 | . | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 |
| 147 | 40 | . | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 0 |
| 148 | 41 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 149 | . | 87 | 0 | 0 | 0 | 6 | 0 | 33 | 0 | 1 | 0 | 0 | 0 |
| 150 | . | 88 | 0 | 0 | 0 | 4 | 0 | 20 | 0 | 2 | 0 | 0 | 0 |
| 151 | . | 89 | 0 | 3 | 0 | 3 | 0 | 51 | 0 | 0 | 0 | 0 | 1 |
| 152 | 42 | . | 0 | 0 | 0 | 3 | 0 | 35 | 0 | 0 | 0 | 0 | 0 |
| 153 | 43 | . | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 |
| 154 | 44 | . | 0 | 4 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 |
| 156 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 2 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 2 | . | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 12 |
| 3 | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 7 |
| 4 | . | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 18 |
| 5 | . | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 6 | . | 6 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 5 |
| 7 | . | . | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 12 |
| 8 | . | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 9 | . | . | 6 | 1 | 0 | 0 | 1 | 0 | 0 | 48 | 0 | 0 | 60 |
| 10 | 1 | . | 16 | 0 | 0 | 0 | 0 | 3 | 0 | 4 | 0 | 0 | 22 |
| 11 | . | 8 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 3 | 0 | 0 | 23 |
| 12 | 2 | 9 | 6 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 18 |
| 13 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 14 | . | 11 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 4 | 0 | 0 | 15 |
| 15 | . | 12 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 17 | 0 | 0 | 23 |
| 16 | . | 13 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 27 |
| 17 | . | . | 7 | 3 | 0 | 0 | 0 | 19 | 0 | 35 | 0 | 0 | 25 |
| 18 | . | . | 17 | 6 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 52 |
| 19 | . | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| 20 | . | . | 4 | 6 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 16 |
| 21 | . | 15 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 35 |
| 22 | . | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 23 | . | 17 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 2 | 0 | 0 | 44 |
| 24 | 4 | . | 4 | 2 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 4 |
| 25 | . | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 17 |
| 26 | . | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 22 |
| 27 | . | . | 0 | 0 | 19 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 23 |
| 28 | . | . | 0 | 0 | 0 | 0 | 30 | 2 | 0 | 19 | 0 | 0 | 36 |
| 29 | . | . | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 43 |
| 30 | . | . | 0 | 0 | 1 | 0 | 0 | 36 | 0 | 70 | 0 | 0 | 5 |
| 31 | . | . | 0 | 0 | 1 | 0 | 0 | 1 | 16 | 0 | 1 | 0 | 0 |
| 32 | 5 | . | 0 | 0 | 0 | 0 | 0 | 3 | 10 | 0 | 0 | 0 | 6 |
| 33 | . | . | 5 | 2 | 0 | 0 | 0 | 7 | 0 | 8 | 0 | 1 | 13 |
| 34 | . | . | 2 | 0 | 2 | 0 | 0 | 1 | 12 | 0 | 1 | 0 | 5 |
| 35 | 6 | . | 0 | 0 | 2 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 6 |
| 36 | . | 20 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 7 | 0 | 0 | 9 |
| 37 | . | 21 | 0 | 0 | 0 | 0 | 5 | 0 | 4 | 12 | 0 | 0 | 59 |
| 38 | 7 | . | 0 | 0 | 2 | 0 | 0 | 6 | 7 | 0 | 1 | 0 | 16 |
| 39 | . | 22 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 |
| 40 | 8 | . | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 11 |
| 41 | . | . | 0 | 0 | 0 | 0 | 0 | 1 | 15 | 0 | 0 | 0 | 2 |
| 42 | . | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 15 |
| 43 | . | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 5 |
| 44 | . | 25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 4 |
| 45 | . | 26 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 4 |
| 46 | . | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 2 |
| 47 | . | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 48 | . | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 49 | 9 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 6 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | . | 31 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 |
| 52 | . | 32 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | . | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 55 | . | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 56 | . | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 |
| 57 | . | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| 58 | 10 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 59 | . | 39 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 0 | 0 | 13 |
| 60 | . | 40 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 18 |
| 61 | 11 | 41 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 23 |
| 62 | . | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 16 |
| 63 | . | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| 64 | . | 44 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 12 | 0 | 0 | 19 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 66 | . | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 67 | . | 47 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 15 |
| 68 | . | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 11 |
| 69 | . | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 70 | . | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 4 |
| 71 | . | 51 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 4 | 0 | 0 | 20 |
| 72 | . | 52 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 7 |
| 73 | . | 53 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 15 |
| 74 | 14 | 54 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 31 |
| 75 | . | 55 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 21 |
| 76 | . | 56 | 1 | 0 | 0 | 0 | 1 | 0 | 9 | 3 | 0 | 0 | 22 |
| 77 | . | 57 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 11 |
| 78 | . | . | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 79 | . | . | 0 | 0 | 0 | 0 | 6 | 0 | 4 | 0 | 0 | 0 | 12 |
| 80 | . | . | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 81 | . | . | 4 | 4 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 6 |
| 82 | . | . | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 |
| 83 | . | . | 0 | 0 | 0 | 0 | 0 | 2 | 11 | 2 | 0 | 0 | 9 |
| 84 | . | . | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 5 |
| 85 | . | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 15 |
| 86 | . | 58 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 16 | 0 | 0 | 21 |
| 87 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 2 | 0 | 0 | 27 |
| 88 | 15 | . | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 0 | 4 |
| 89 | . | . | 0 | 0 | 0 | 0 | 1 | 13 | 44 | 0 | 0 | 0 | 12 |
| 90 | . | . | 9 | 0 | 0 | 1 | 0 | 0 | 37 | 23 | 0 | 0 | 6 |
| 91 | . | . | 0 | 0 | 0 | 8 | 0 | 0 | 114 | 0 | 4 | 12 | 5 |
| 92 | . | 59 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 14 |
| 93 | . | 60 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 94 | 16 | 61 | 0 | 0 | 0 | 0 | 7 | 0 | 2 | 2 | 0 | 0 | 8 |
| 95 | . | 62 | 0 | 0 | 0 | 0 | 15 | 0 | 29 | 9 | 0 | 0 | 20 |
| 96 | 17 | . | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 28 |
| 97 | 18 | . | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 6 |
| 98 | 19 | . | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 3 | 59 |
| 99 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 1 |
| 100 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 34 |
| 101 | . | . | 0 | 0 | 0 | 0 | 6 | 0 | 110 | 0 | 0 | 0 | 46 |
| 102 | . | . | 0 | 0 | 1 | 0 | 12 | 0 | 22 | 0 | 0 | 0 | 20 |
| 103 | . | . | 0 | 0 | 2 | 0 | 8 | 0 | 81 | 0 | 0 | 0 | 25 |
| 104 | 20 | . | 0 | 0 | 0 | 3 | 1 | 0 | 130 | 0 | 1 | 0 | 6 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 66 |
| 106 | 21 | 64 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 31 |
| 107 | . | . | 0 | 0 | 3 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 8 |
| 108 | 22 | . | 1 | 0 | 1 | 0 | 8 | 0 | 2 | 1 | 0 | 0 | 16 |
| 109 | . | . | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 11 |
| 110 | . | . | 0 | 0 | 4 | 0 | 3 | 0 | 65 | 0 | 1 | 0 | 42 |
| 111 | 23 | . | 0 | 0 | 7 | 0 | 0 | 0 | 4 | 0 | 1 | 2 | 2 |
| 112 | 24 | . | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 1 | 2 | 0 | 18 |
| 113 | . | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 114 | 25 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 |
| 115 | . | 67 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 116 | 26 | 68 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 9 |
| 117 | 27 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 12 |
| 118 | . | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 119 | . | 71 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 |
| 120 | . | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 24 |
| 121 | . | . | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 15 | 0 | 0 | 6 |
| 122 | . | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 123 | 28 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| 124 | 29 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| 125 | . | 74 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 21 |
| 126 | . | 75 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 3 | 0 | 0 | 25 |
| 127 | . | 76 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| 128 | . | 77 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 18 | 0 | 0 | 16 |
| 129 | . | 78 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 9 | 0 | 0 | 19 |
| 130 | . | . | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 10 |
| 131 | 32 | 79 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| 132 | . | 80 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 |
| 133 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 |
| 134 | 33 | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 20 |
| 135 | . | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 8 |
| 136 | 34 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 137 | . | 83 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 4 | 0 | 0 | 24 |
| 138 | . | . | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 26 |
| 139 | . | . | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 0 | 0 | 15 |
| 140 | . | 84 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 27 |
| 141 | 35 | 85 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 10 |
| 142 | 36 | . | 2 | 0 | 14 | 0 | 8 | 0 | 6 | 0 | 0 | 0 | 14 |
| 143 | 37 | . | 0 | 0 | 0 | 0 | 6 | 0 | 7 | 0 | 0 | 0 | 17 |
| 144 | . | 86 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 21 | 0 | 0 | 40 |
| 145 | 38 | . | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 7 |
| 146 | 39 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 17 |
| 147 | 40 | . | 0 | 0 | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 35 |
| 148 | 41 | . | 0 | 0 | 1 | 2 | 4 | 0 | 20 | 17 | 1 | 0 | 2 |
| 149 | . | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 37 |
| 150 | . | 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 19 |
| 151 | . | 89 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 26 | 0 | 0 | 25 |
| 152 | 42 | . | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 5 | 0 | 0 | 12 |
| 153 | 43 | . | 0 | 0 | 3 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 2 |
| 154 | 44 | . | 0 | 0 | 8 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 20 |
| 155 | . | . | 0 | 0 | 7 | 0 | 26 | 0 | 5 | 0 | 11 | 0 | 30 |
| 156 | . | . | 0 | 0 | 18 | 0 | 6 | 0 | 17 | 70 | 13 | 1 | 5 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | . | 2 | 0 | 0 | 1 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | . | 3 | 0 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 |
| 4 | . | 4 | 0 | 0 | 3 | 0 | 26 | 0 | 0 | 0 | 3 | 0 | 0 |
| 5 | . | 5 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 1 | 0 | 0 |
| 6 | . | 6 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | . | . | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 1 | 1 | 0 |
| 8 | . | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | . | . | 0 | 0 | 1 | 0 | 65 | 0 | 0 | 0 | 2 | 1 | 2 |
| 10 | 1 | . | 0 | 0 | 2 | 0 | 51 | 0 | 0 | 0 | 1 | 0 | 0 |
| 11 | . | 8 | 0 | 0 | 12 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12 | 2 | 9 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 1 |
| 13 | 3 | 10 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 |
| 14 | . | 11 | 0 | 0 | 5 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | . | 12 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | . | 13 | 0 | 0 | 5 | 0 | 20 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17 | . | . | 0 | 0 | 4 | 0 | 56 | 0 | 0 | 0 | 0 | 5 | 2 |
| 18 | . | . | 0 | 0 | 0 | 0 | 69 | 0 | 0 | 0 | 0 | 0 | 2 |
| 19 | . | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | . | . | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 0 | 0 | 3 | 0 |
| 21 | . | 15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | . | 16 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23 | . | 17 | 4 | 0 | 9 | 0 | 31 | 0 | 3 | 0 | 0 | 0 | 1 |
| 24 | 4 | . | 0 | 0 | 0 | 0 | 44 | 0 | 0 | 0 | 0 | 14 | 0 |
| 25 | . | 18 | 0 | 0 | 2 | 0 | 40 | 0 | 1 | 0 | 0 | 0 | 3 |
| 26 | . | 19 | 0 | 0 | 9 | 0 | 18 | 0 | 3 | 0 | 0 | 0 | 0 |
| 27 | . | . | 2 | 0 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 3 |
| 28 | . | . | 1 | 0 | 6 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 7 |
| 29 | . | . | 0 | 0 | 9 | 0 | 20 | 0 | 2 | 0 | 0 | 1 | 2 |
| 30 | . | . | 3 | 0 | 97 | 0 | 2 | 74 | 0 | 0 | 0 | 0 | 2 |
| 31 | . | . | 8 | 0 | 33 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 32 | 5 | . | 1 | 0 | 5 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33 | . | . | 2 | 0 | 67 | 0 | 22 | 0 | 2 | 0 | 0 | 8 | 2 |
| 34 | . | . | 0 | 0 | 2 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 |
| 35 | 6 | . | 0 | 0 | 8 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 3 |
| 36 | . | 20 | 1 | 0 | 4 | 0 | 17 | 0 | 1 | 0 | 0 | 0 | 1 |
| 37 | . | 21 | 0 | 0 | 1 | 0 | 30 | 0 | 1 | 0 | 0 | 0 | 0 |
| 38 | 7 | . | 0 | 0 | 1 | 0 | 70 | 0 | 12 | 0 | 0 | 0 | 0 |
| 39 | . | 22 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | 8 | . | 0 | 0 | 3 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 1 |
| 41 | . | . | 0 | 0 | 10 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 |
| 42 | . | 23 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | . | 24 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | . | 25 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | . | 26 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 46 | . | 27 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 47 | . | 28 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 |
| 48 | . | 29 | 0 | 0 | 2 | 0 | 13 | 0 | 5 | 0 | 0 | 0 | 0 |
| 49 | 9 | 30 | 0 | 0 | 1 | 0 | 13 | 0 | 1 | 0 | 0 | 0 | 0 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | . | 31 | 0 | 0 | 2 | 0 | 17 | 0 | 0 | 0 | 4 | 0 | 0 |
| 52 | . | 32 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | . | 34 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | . | 35 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | . | 36 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | . | 37 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 |
| 58 | 10 | 38 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 | . | 39 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 1 |
| 60 | . | 40 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| 61 | 11 | 41 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 1 | 0 | 0 |
| 62 | . | 42 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 63 | . | 43 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 1 |
| 64 | . | 44 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 0 | 2 | 0 | 0 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | . | 46 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 | . | 47 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 1 | 0 | 0 |
| 68 | . | 48 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | . | 49 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 3 | 0 | 0 |
| 70 | . | 50 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | . | 51 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 1 | 0 | 0 |
| 72 | . | 52 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 1 | 0 | 0 |
| 73 | . | 53 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 1 | 0 | 0 |
| 74 | 14 | 54 | 0 | 0 | 1 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 1 |
| 75 | . | 55 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | . | 56 | 0 | 0 | 4 | 0 | 63 | 0 | 0 | 0 | 0 | 2 | 1 |
| 77 | . | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | . | . | 0 | 1 | 1 | 0 | 41 | 0 | 0 | 0 | 0 | 3 | 0 |
| 79 | . | . | 0 | 0 | 0 | 0 | 16 | 0 | 4 | 0 | 0 | 0 | 4 |
| 80 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 81 | . | . | 1 | 0 | 16 | 0 | 34 | 0 | 0 | 0 | 0 | 9 | 5 |
| 82 | . | . | 3 | 0 | 7 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | . | . | 2 | 0 | 9 | 0 | 29 | 1 | 3 | 0 | 0 | 3 | 2 |
| 84 | . | . | 1 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 85 | . | . | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | . | 58 | 0 | 0 | 1 | 0 | 14 | 0 | 0 | 0 | 1 | 0 | 1 |
| 87 | . | . | 0 | 0 | 4 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 1 |
| 88 | 15 | . | 5 | 0 | 12 | 0 | 23 | 0 | 2 | 0 | 0 | 0 | 5 |
| 89 | . | . | 1 | 0 | 2 | 0 | 10 | 3 | 0 | 0 | 0 | 5 | 8 |
| 90 | . | . | 2 | 0 | 18 | 0 | 25 | 9 | 5 | 0 | 0 | 2 | 1 |
| 91 | . | . | 2 | 0 | 25 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 7 |
| 92 | . | 59 | 0 | 0 | 11 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 |
| 93 | . | 60 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 | 16 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 95 | . | 62 | 0 | 0 | 3 | 0 | 23 | 0 | 0 | 0 | 0 | 6 | 0 |
| 96 | 17 | . | 0 | 0 | 8 | 0 | 13 | 0 | 3 | 0 | 0 | 0 | 3 |
| 97 | 18 | . | 0 | 0 | 0 | 0 | 20 | 0 | 5 | 0 | 0 | 5 | 1 |
| 98 | 19 | . | 2 | 1 | 7 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 3 |
| 99 | . | . | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | . | . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 | . | . | 2 | 0 | 10 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 8 |
| 102 | . | . | 1 | 0 | 10 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 1 |
| 103 | . | . | 4 | 0 | 32 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 104 | 20 | . | 22 | 8 | 79 | 0 | 8 | 8 | 3 | 2 | 0 | 0 | 10 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 106 | 21 | 64 | 0 | 0 | 0 | 0 | 25 | 0 | 2 | 0 | 0 | 0 | 0 |
| 107 | . | . | 0 | 0 | 2 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 1 |
| 108 | 22 | . | 0 | 0 | 1 | 0 | 12 | 0 | 2 | 0 | 0 | 2 | 1 |
| 109 | . | . | 0 | 0 | 4 | 0 | 12 | 0 | 1 | 0 | 0 | 0 | 3 |
| 110 | . | . | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 111 | 23 | . | 4 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 112 | 24 | . | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 113 | . | 65 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 114 | 25 | 66 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | . | 67 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 1 | 0 | 0 |
| 116 | 26 | 68 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 1 | 0 | 0 |
| 117 | 27 | 69 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 |
| 118 | . | 70 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 119 | . | 71 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 1 | 0 |
| 120 | . | . | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 0 | 1 | 1 |
| 121 | . | . | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 1 |
| 122 | . | 72 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 |
| 123 | 28 | 73 | 0 | 0 | 3 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| 124 | 29 | . | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | . | 74 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 126 | . | 75 | 1 | 0 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 127 | . | 76 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 0 | 0 |
| 128 | . | 77 | 0 | 0 | 1 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129 | . | 78 | 0 | 0 | 3 | 0 | 34 | 0 | 0 | 0 | 0 | 3 | 0 |
| 130 | . | . | 0 | 0 | 4 | 0 | 69 | 0 | 0 | 0 | 1 | 1 | 0 |
| 131 | 32 | 79 | 0 | 0 | 0 | 0 | 42 | 0 | 0 | 0 | 3 | 0 | 0 |
| 132 | . | 80 | 0 | 0 | 3 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 133 | . | . | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 |
| 134 | 33 | . | 0 | 0 | 3 | 0 | 58 | 0 | 0 | 0 | 2 | 0 | 1 |
| 135 | . | 81 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 |
| 136 | 34 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137 | . | 83 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| 138 | . | . | 0 | 0 | 3 | 0 | 84 | 0 | 0 | 0 | 1 | 1 | 0 |
| 139 | . | . | 0 | 0 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 2 | 0 |
| 140 | . | 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 141 | 35 | 85 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| 142 | 36 | . | 1 | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 |
| 143 | 37 | . | 0 | 0 | 0 | 0 | 58 | 0 | 2 | 0 | 0 | 0 | 0 |
| 144 | . | 86 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 38 | . | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 146 | 39 | . | 1 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 147 | 40 | . | 1 | 0 | 4 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 1 |
| 148 | 41 | . | 2 | 0 | 27 | 0 | 30 | 0 | 6 | 0 | 0 | 0 | 5 |
| 149 | . | 87 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 1 | 0 | 0 |
| 150 | . | 88 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 |
| 151 | . | 89 | 1 | 0 | 1 | 0 | 54 | 0 | 0 | 0 | 1 | 0 | 0 |
| 152 | 42 | . | 0 | 0 | 1 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153 | 43 | . | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 154 | 44 | . | 5 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | . | . | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 2 |
| 156 | . | . | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 3 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | . | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | . | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | . | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | . | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | . | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 1 | . | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 11 | . | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 2 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | . | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | . | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | . | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | . | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | . | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | . | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | . | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 4 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | . | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | . | 19 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 28 | . | . | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | . | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | . | . | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 32 | 5 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 33 | . | . | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 16 | 0 | 0 |
| 34 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | 6 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 36 | . | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 37 | . | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 38 | 7 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39 | . | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | 8 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 42 | . | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | . | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | . | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | . | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | . | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | . | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48 | . | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49 | 9 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 | . | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52 | . | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | . | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | . | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | . | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | . | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 58 | 10 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 | . | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 60 | . | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 61 | 11 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 62 | . | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 63 | . | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | . | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | . | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 | . | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | . | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | . | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | . | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | . | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | . | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | . | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 14 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | . | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | . | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | . | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | . | . | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 |
| 79 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| 82 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | . | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 15 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | . | . | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 91 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 92 | . | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 | . | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 | 16 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | . | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 | 17 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97 | 18 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 98 | 19 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 99 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | . | . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 103 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 104 | 20 | . | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 106 | 21 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 107 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 108 | 22 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 109 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 111 | 23 | . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 112 | 24 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 22 |
| 113 | . | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 114 | 25 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | . | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 116 | 26 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 117 | 27 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 118 | . | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 119 | . | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 122 | . | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 123 | 28 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 124 | 29 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | . | 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 126 | . | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 127 | . | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 128 | . | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129 | . | 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 131 | 32 | 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 132 | . | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 133 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 134 | 33 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | . | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 136 | 34 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137 | . | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 138 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 139 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140 | . | 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 141 | 35 | 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 142 | 36 | . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 |
| 143 | 37 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 144 | . | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 38 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 146 | 39 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 147 | 40 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 148 | 41 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| 149 | . | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | . | 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 151 | . | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 152 | 42 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153 | 43 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 154 | 44 | . | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 0 |
| 155 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 |
| 156 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 2 | . | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.037 |
| 3 | . | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.081 |
| 4 | . | 4 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 5 | . | 5 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.031 |
| 6 | . | 6 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.133 |
| 7 | . | . | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.036 |
| 8 | . | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.039 |
| 9 | . | . | 0 | 8 | 0 | 1 | 0 | 1 | 0 | 0 | 0.000 | 0.000 |
| 10 | 1 | . | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 5 | 0.000 | 0.167 |
| 11 | . | 8 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.169 |
| 12 | 2 | 9 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 13 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.013 |
| 14 | . | 11 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.174 |
| 15 | . | 12 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 16 | . | 13 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 17 | . | . | 0 | 50 | 0 | 3 | 0 | 0 | 0 | 2 | 0.000 | 0.000 |
| 18 | . | . | 0 | 15 | 0 | 2 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 19 | . | 14 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 20 | . | . | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 1 | 0.000 | 0.013 |
| 21 | . | 15 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 22 | . | 16 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0.000 | 0.045 |
| 23 | . | 17 | 0 | 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.208 |
| 24 | 4 | . | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 4 | 0.000 | 0.026 |
| 25 | . | 18 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.051 |
| 26 | . | 19 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.082 | 0.466 |
| 27 | . | . | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0.000 | 0.262 |
| 28 | . | . | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.013 | 0.154 |
| 29 | . | . | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.035 | 0.302 |
| 30 | . | . | 0 | 1 | 0 | 4 | 1 | 0 | 0 | 0 | 0.080 | 0.333 |
| 31 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.974 | 0.026 |
| 32 | 5 | . | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.436 |
| 33 | . | . | 0 | 10 | 3 | 1 | 0 | 0 | 0 | 4 | 0.000 | 0.054 |
| 34 | . | . | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 8 | 0.240 | 0.320 |
| 35 | 6 | . | 0 | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 0.089 | 0.333 |
| 36 | . | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.135 |
| 37 | . | 21 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.081 |
| 38 | 7 | . | 1 | 22 | 1 | 0 | 0 | 0 | 0 | 0 | 0.012 | 0.095 |
| 39 | . | 22 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 40 | 8 | . | 0 | 50 | 69 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.197 |
| 41 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.953 | 0.047 |
| 42 | . | 23 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0.082 | 0.000 |
| 43 | . | 24 | 0 | 12 | 0 | 2 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 44 | . | 25 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 45 | . | 26 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0.016 | 0.008 |
| 46 | . | 27 | 0 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 0.038 | 0.000 |
| 47 | . | 28 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 48 | . | 29 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.206 |
| 49 | 9 | 30 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.141 |
| 50 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.126 |
| 51 | . | 31 | 0 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0.016 | 0.000 |
| 52 | . | 32 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.038 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.185 |
| 54 | . | 34 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.017 |
| 55 | . | 35 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 56 | . | 36 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 57 | . | 37 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.026 |
| 58 | 10 | 38 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.019 |
| 59 | . | 39 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.077 |
| 60 | . | 40 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.365 |
| 61 | 11 | 41 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.033 |
| 62 | . | 42 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.069 |
| 63 | . | 43 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 64 | . | 44 | 0 | 16 | 0 | 4 | 0 | 0 | 0 | 0 | 0.000 | 0.017 |
| 65 | . | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.055 |
| 66 | . | 46 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.057 |
| 67 | . | 47 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 68 | . | 48 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.096 |
| 69 | . | 49 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.020 |
| 70 | . | 50 | 0 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.048 |
| 71 | . | 51 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 72 | . | 52 | 0 | 40 | 0 | 6 | 2 | 0 | 0 | 0 | 0.000 | 0.000 |
| 73 | . | 53 | 0 | 17 | 8 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.154 |
| 74 | 14 | 54 | 0 | 18 | 0 | 5 | 1 | 3 | 0 | 0 | 0.000 | 0.000 |
| 75 | . | 55 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.206 |
| 76 | . | 56 | 0 | 36 | 15 | 1 | 0 | 0 | 0 | 0 | 0.000 | 0.144 |
| 77 | . | 57 | 0 | 10 | 5 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.025 |
| 78 | . | . | 0 | 60 | 14 | 0 | 0 | 0 | 0 | 12 | 0.000 | 0.284 |
| 79 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.377 | 0.113 |
| 80 | . | . | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.175 |
| 81 | . | . | 0 | 32 | 27 | 14 | 2 | 0 | 4 | 12 | 0.000 | 0.379 |
| 82 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.651 |
| 83 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.632 |
| 84 | . | . | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.510 |
| 85 | . | . | 0 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.103 |
| 86 | . | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.033 |
| 87 | . | . | 0 | 67 | 162 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.022 |
| 88 | 15 | . | 0 | 126 | 221 | 0 | 0 | 0 | 0 | 0 | 0.013 | 0.089 |
| 89 | . | . | 0 | 4 | 31 | 1 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 90 | . | . | 0 | 0 | 13 | 2 | 0 | 0 | 1 | 5 | 0.000 | 0.362 |
| 91 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.999 | 0.000 |
| 92 | . | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.323 |
| 93 | . | 60 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.079 |
| 94 | 16 | 61 | 0 | 113 | 1 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 95 | . | 62 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.056 |
| 96 | 17 | . | 0 | 99 | 28 | 0 | 0 | 0 | 0 | 1 | 0.032 | 0.000 |
| 97 | 18 | . | 0 | 31 | 53 | 1 | 0 | 0 | 0 | 2 | 0.020 | 0.082 |
| 98 | 19 | . | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0.025 | 0.225 |
| 99 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.769 |
| 100 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.871 |
| 101 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.020 | 0.080 |
| 102 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.317 | 0.024 |
| 103 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.024 | 0.000 |
| 104 | 20 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.350 | 0.650 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.059 | 0.118 |
| 106 | 21 | 64 | 2 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.143 |
| 107 | . | . | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 108 | 22 | . | 0 | 17 | 1 | 1 | 0 | 0 | 0 | 0 | 0.000 | 0.055 |
| 109 | . | . | 0 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.092 |
| 110 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.063 | 0.083 |
| 111 | 23 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.120 | 0.800 |
| 112 | 24 | . | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.037 | 0.037 |
| 113 | . | 65 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.028 |
| 114 | 25 | 66 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0.029 | 0.010 |
| 115 | . | 67 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 116 | 26 | 68 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 117 | 27 | 69 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.129 |
| 118 | . | 70 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.022 | 0.000 |
| 119 | . | 71 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.016 |
| 120 | . | . | 0 | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 0.000 | 0.012 |
| 121 | . | . | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.112 |
| 122 | . | 72 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 123 | 28 | 73 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.076 |
| 124 | 29 | . | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.028 |
| 125 | . | 74 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.139 |
| 126 | . | 75 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.078 |
| 127 | . | 76 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.016 |
| 128 | . | 77 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.147 |
| 129 | . | 78 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0.015 | 0.046 |
| 130 | . | . | 0 | 7 | 0 | 12 | 0 | 0 | 0 | 0 | 0.000 | 0.017 |
| 131 | 32 | 79 | 0 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 132 | . | 80 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0.031 | 0.281 |
| 133 | . | . | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.029 |
| 134 | 33 | . | 0 | 16 | 0 | 1 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 135 | . | 81 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.140 |
| 136 | 34 | 82 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.047 |
| 137 | . | 83 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.020 |
| 138 | . | . | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 139 | . | . | 0 | 10 | 0 | 1 | 0 | 1 | 0 | 0 | 0.000 | 0.000 |
| 140 | . | 84 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.091 |
| 141 | 35 | 85 | 0 | 22 | 2 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 142 | 36 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.179 | 0.282 |
| 143 | 37 | . | 1 | 74 | 8 | 0 | 0 | 0 | 0 | 1 | 0.000 | 0.026 |
| 144 | . | 86 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 145 | 38 | . | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.063 |
| 146 | 39 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.660 | 0.106 |
| 147 | 40 | . | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.896 |
| 148 | 41 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 | 0.125 |
| 149 | . | 87 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.017 |
| 150 | . | 88 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.000 |
| 151 | . | 89 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000 | 0.015 |
| 152 | 42 | . | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0.016 | 0.000 |
| 153 | 43 | . | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0.049 | 0.230 |
| 154 | 44 | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.521 | 0.063 |
| 155 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.145 | 0.182 |
| 156 | . | . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.021 | 0.250 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0.588 | 0.235 | 0.000 | 0.000 | 0.647 | 0.000 | 0.147 |
| 106 | 21 | 64 | 0.159 | 0.159 | 0.159 | 0.381 | 0.492 | 0.000 | 0.730 |
| 107 | . | . | 0.621 | 0.379 | 0.000 | 0.000 | 0.034 | 0.000 | 0.000 |
| 108 | 22 | . | 0.521 | 0.110 | 0.068 | 0.247 | 0.315 | 0.014 | 0.082 |
| 109 | . | . | 0.615 | 0.138 | 0.000 | 0.154 | 0.000 | 0.000 | 0.000 |
| 110 | . | . | 0.708 | 0.000 | 0.000 | 0.000 | 0.125 | 0.000 | 0.021 |
| 111 | 23 | . | 0.053 | 0.000 | 0.027 | 0.000 | 0.253 | 0.000 | 0.000 |
| 112 | 24 | . | 0.593 | 0.259 | 0.000 | 0.074 | 0.074 | 0.000 | 0.000 |
| 113 | . | 65 | 0.124 | 0.429 | 0.210 | 0.162 | 0.000 | 0.010 | 0.038 |
| 114 | 25 | 66 | 0.086 | 0.210 | 0.638 | 0.029 | 0.210 | 0.048 | 0.000 |
| 115 | . | 67 | 0.077 | 0.462 | 0.453 | 0.009 | 0.043 | 0.009 | 0.000 |
| 116 | 26 | 68 | 0.091 | 0.380 | 0.512 | 0.017 | 0.355 | 0.000 | 0.000 |
| 117 | 27 | 69 | 0.200 | 0.229 | 0.157 | 0.286 | 0.400 | 0.000 | 0.000 |
| 118 | . | 70 | 0.111 | 0.356 | 0.222 | 0.289 | 0.044 | 0.000 | 0.000 |
| 119 | . | 71 | 0.047 | 0.600 | 0.200 | 0.100 | 0.078 | 0.000 | 0.000 |
| 120 | . | . | 0.259 | 0.600 | 0.012 | 0.118 | 0.388 | 0.000 | 0.000 |
| 121 | . | . | 0.509 | 0.103 | 0.069 | 0.207 | 0.147 | 0.000 | 0.147 |
| 122 | . | 72 | 0.173 | 0.423 | 0.404 | 0.000 | 0.019 | 0.000 | 0.077 |
| 123 | 28 | 73 | 0.076 | 0.430 | 0.101 | 0.316 | 0.089 | 0.013 | 0.000 |
| 124 | 29 | . | 0.778 | 0.083 | 0.028 | 0.083 | 0.167 | 0.000 | 0.000 |
| 125 | . | 74 | 0.111 | 0.417 | 0.222 | 0.111 | 0.139 | 0.000 | 0.056 |
| 126 | . | 75 | 0.333 | 0.490 | 0.059 | 0.039 | 0.510 | 0.020 | 0.098 |
| 127 | . | 76 | 0.194 | 0.597 | 0.177 | 0.016 | 0.048 | 0.000 | 0.032 |
| 128 | . | 77 | 0.064 | 0.569 | 0.174 | 0.046 | 0.312 | 0.000 | 0.028 |
| 129 | . | 78 | 0.077 | 0.462 | 0.277 | 0.123 | 0.031 | 0.000 | 0.000 |
| 130 | . | . | 0.102 | 0.212 | 0.373 | 0.297 | 0.322 | 0.000 | 0.011 |
| 131 | 32 | 79 | 0.065 | 0.370 | 0.537 | 0.028 | 0.000 | 0.000 | 0.000 |
| 132 | . | 80 | 0.562 | 0.094 | 0.031 | 0.000 | 0.000 | 0.000 | 0.031 |
| 133 | . | . | 0.286 | 0.657 | 0.029 | 0.000 | 0.057 | 0.086 | 0.600 |
| 134 | 33 | . | 0.188 | 0.542 | 0.146 | 0.125 | 0.229 | 0.021 | 0.000 |
| 135 | . | 81 | 0.093 | 0.419 | 0.209 | 0.140 | 0.000 | 0.023 | 0.000 |
| 136 | 34 | 82 | 0.422 | 0.313 | 0.125 | 0.094 | 0.078 | 0.000 | 0.000 |
| 137 | . | 83 | 0.353 | 0.588 | 0.039 | 0.000 | 0.039 | 0.000 | 0.020 |
| 138 | . | . | 0.120 | 0.347 | 0.400 | 0.133 | 0.120 | 0.040 | 0.000 |
| 139 | . | . | 0.157 | 0.451 | 0.294 | 0.098 | 0.020 | 0.000 | 0.078 |
| 140 | . | 84 | 0.303 | 0.364 | 0.000 | 0.242 | 0.061 | 0.000 | 0.030 |
| 141 | 35 | 85 | 0.938 | 0.031 | 0.031 | 0.000 | 0.203 | 0.000 | 0.000 |
| 142 | 36 | . | 0.513 | 0.026 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 143 | 37 | . | 0.846 | 0.128 | 0.000 | 0.000 | 0.154 | 0.000 | 0.077 |
| 144 | . | 86 | 0.128 | 0.769 | 0.051 | 0.051 | 0.051 | 0.000 | 0.385 |
| 145 | 38 | . | 0.800 | 0.138 | 0.000 | 0.000 | 0.863 | 0.000 | 0.000 |
| 146 | 39 | . | 0.191 | 0.064 | 0.000 | 0.234 | 0.021 | 0.000 | 0.000 |
| 147 | 40 | . | 0.021 | 0.042 | 0.000 | 0.042 | 0.458 | 0.000 | 0.083 |
| 148 | 41 | . | 0.181 | 0.000 | 0.000 | 0.000 | 0.361 | 0.042 | 0.097 |
| 149 | . | 87 | 0.090 | 0.650 | 0.090 | 0.033 | 0.267 | 0.000 | 0.350 |
| 150 | . | 88 | 0.190 | 0.714 | 0.095 | 0.000 | 0.381 | 0.000 | 0.000 |
| 151 | . | 89 | 0.123 | 0.538 | 0.015 | 0.308 | 0.185 | 0.046 | 0.169 |
| 152 | 42 | . | 0.960 | 0.024 | 0.000 | 0.000 | 0.144 | 0.000 | 0.000 |
| 153 | 43 | . | 0.721 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 154 | 44 | . | 0.083 | 0.000 | 0.021 | 0.000 | 0.083 | 0.000 | 0.000 |
| 155 | . | . | 0.273 | 0.000 | 0.000 | 0.000 | 0.491 | 0.000 | 0.218 |
| 156 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0.027 | 0.000 | 0.230 | 0.324 | 0.378 | 0.068 | 0.811 |
| 2 | . | 2 | 0.000 | 0.111 | 0.333 | 0.457 | 0.099 | 0.000 | 0.593 |
| 3 | . | 3 | 0.095 | 0.081 | 0.203 | 0.297 | 0.243 | 0.176 | 0.878 |
| 4 | . | 4 | 0.000 | 0.028 | 0.394 | 0.563 | 0.014 | 0.000 | 0.352 |
| 5 | . | 5 | 0.000 | 0.172 | 0.406 | 0.422 | 0.000 | 0.000 | 0.438 |
| 6 | . | 6 | 0.133 | 0.117 | 0.450 | 0.433 | 0.000 | 0.000 | 0.300 |
| 7 | . | . | 0.055 | 0.045 | 0.236 | 0.436 | 0.282 | 0.000 | 0.627 |
| 8 | . | 7 | 0.013 | 0.091 | 0.429 | 0.481 | 0.000 | 0.000 | 0.896 |
| 9 | . | . | 0.031 | 0.031 | 0.216 | 0.526 | 0.227 | 0.000 | 0.536 |
| 10 | 1 | . | 0.092 | 0.058 | 0.242 | 0.533 | 0.167 | 0.000 | 0.583 |
| 11 | . | 8 | 0.169 | 0.026 | 0.221 | 0.312 | 0.442 | 0.000 | 0.961 |
| 12 | 2 | 9 | 0.000 | 0.085 | 0.549 | 0.366 | 0.000 | 0.000 | 0.507 |
| 13 | 3 | 10 | 0.013 | 0.158 | 0.513 | 0.328 | 0.000 | 0.000 | 0.882 |
| 14 | . | 11 | 0.000 | 0.029 | 0.232 | 0.319 | 0.420 | 0.000 | 0.725 |
| 15 | . | 12 | 0.000 | 0.060 | 0.300 | 0.320 | 0.320 | 0.000 | 0.760 |
| 16 | . | 13 | 0.039 | 0.053 | 0.197 | 0.211 | 0.487 | 0.053 | 0.987 |
| 17 | . | . | 0.035 | 0.133 | 0.452 | 0.252 | 0.139 | 0.139 | 0.609 |
| 18 | . | . | 0.000 | 0.014 | 0.397 | 0.270 | 0.200 | 0.121 | 0.702 |
| 19 | . | 14 | 0.029 | 0.206 | 0.397 | 0.309 | 0.088 | 0.000 | 0.926 |
| 20 | . | . | 0.013 | 0.052 | 0.432 | 0.432 | 0.077 | 0.000 | 0.781 |
| 21 | . | 15 | 0.071 | 0.357 | 0.548 | 0.095 | 0.000 | 0.000 | 0.881 |
| 22 | . | 16 | 0.015 | 0.313 | 0.328 | 0.224 | 0.134 | 0.000 | 0.806 |
| 23 | . | 17 | 0.292 | 0.135 | 0.385 | 0.427 | 0.052 | 0.000 | 0.781 |
| 24 | 4 | . | 0.139 | 0.137 | 0.436 | 0.162 | 0.291 | 0.000 | 0.530 |
| 25 | . | 18 | 0.026 | 0.141 | 0.449 | 0.410 | 0.000 | 0.000 | 0.936 |
| 26 | . | 19 | 0.260 | 0.000 | 0.233 | 0.411 | 0.315 | 0.041 | 0.999 |
| 27 | . | . | 0.262 | 0.049 | 0.443 | 0.508 | 0.000 | 0.000 | 0.999 |
| 28 | . | . | 0.000 | 0.026 | 0.372 | 0.333 | 0.205 | 0.064 | 0.999 |
| 29 | . | . | 0.093 | 0.012 | 0.140 | 0.267 | 0.337 | 0.244 | 0.999 |
| 30 | . | . | 0.200 | 0.027 | 0.133 | 0.387 | 0.387 | 0.067 | 0.999 |
| 31 | . | . | 0.038 | 0.000 | 0.013 | 0.231 | 0.474 | 0.282 | 0.999 |
| 32 | 5 | . | 0.077 | 0.128 | 0.385 | 0.462 | 0.026 | 0.000 | 0.821 |
| 33 | . | . | 0.022 | 0.011 | 0.348 | 0.457 | 0.130 | 0.054 | 0.652 |
| 34 | . | . | 0.160 | 0.080 | 0.360 | 0.180 | 0.360 | 0.020 | 0.700 |
| 35 | 6 | . | 0.333 | 0.022 | 0.377 | 0.422 | 0.177 | 0.000 | 0.733 |
| 36 | . | 20 | 0.000 | 0.000 | 0.180 | 0.348 | 0.461 | 0.011 | 0.999 |
| 37 | . | 21 | 0.274 | 0.016 | 0.177 | 0.677 | 0.129 | 0.000 | 0.999 |
| 38 | 7 | . | 0.060 | 0.024 | 0.310 | 0.500 | 0.167 | 0.000 | 0.833 |
| 39 | . | 22 | 0.047 | 0.209 | 0.465 | 0.279 | 0.047 | 0.000 | 0.953 |
| 40 | 8 | . | 0.030 | 0.258 | 0.348 | 0.242 | 0.136 | 0.015 | 0.667 |
| 41 | . | . | 0.419 | 0.000 | 0.163 | 0.581 | 0.256 | 0.000 | 0.999 |
| 42 | . | 23 | 0.059 | 0.106 | 0.388 | 0.423 | 0.082 | 0.000 | 0.388 |
| 43 | . | 24 | 0.059 | 0.024 | 0.424 | 0.435 | 0.118 | 0.000 | 0.259 |
| 44 | . | 25 | 0.000 | 0.068 | 0.593 | 0.322 | 0.017 | 0.000 | 0.136 |
| 45 | . | 26 | 0.033 | 0.016 | 0.148 | 0.369 | 0.443 | 0.025 | 0.385 |
| 46 | . | 27 | 0.013 | 0.013 | 0.127 | 0.190 | 0.671 | 0.000 | 0.519 |
| 47 | . | 28 | 0.000 | 0.089 | 0.711 | 0.200 | 0.000 | 0.000 | 0.100 |
| 48 | . | 29 | 0.031 | 0.051 | 0.526 | 0.300 | 0.124 | 0.000 | 0.639 |
| 49 | 9 | 30 | 0.076 | 0.054 | 0.359 | 0.315 | 0.272 | 0.000 | 0.435 |
| 50 | . | . | 0.063 | 0.053 | 0.221 | 0.347 | 0.379 | 0.000 | 0.105 |
| 51 | . | 31 | 0.008 | 0.016 | 0.256 | 0.620 | 0.107 | 0.000 | 0.174 |
| 52 | . | 32 | 0.000 | 0.115 | 0.345 | 0.365 | 0.154 | 0.019 | 0.615 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0.185 | 0.093 | 0.259 | 0.333 | 0.315 | 0.000 | 0.870 |
| 54 | . | 34 | 0.051 | 0.051 | 0.458 | 0.373 | 0.119 | 0.000 | 0.424 |
| 55 | . | 35 | 0.014 | 0.139 | 0.556 | 0.222 | 0.083 | 0.000 | 0.347 |
| 56 | . | 36 | 0.000 | 0.135 | 0.538 | 0.327 | 0.000 | 0.000 | 0.288 |
| 57 | . | 37 | 0.039 | 0.092 | 0.592 | 0.316 | 0.000 | 0.000 | 0.395 |
| 58 | 10 | 38 | 0.037 | 0.370 | 0.500 | 0.130 | 0.000 | 0.000 | 0.241 |
| 59 | . | 39 | 0.019 | 0.058 | 0.212 | 0.173 | 0.462 | 0.096 | 0.827 |
| 60 | . | 40 | 0.095 | 0.111 | 0.413 | 0.460 | 0.016 | 0.000 | 0.857 |
| 61 | 11 | 41 | 0.000 | 0.055 | 0.286 | 0.516 | 0.143 | 0.000 | 0.462 |
| 62 | . | 42 | 0.000 | 0.241 | 0.276 | 0.276 | 0.207 | 0.000 | 0.931 |
| 63 | . | 43 | 0.000 | 0.186 | 0.605 | 0.209 | 0.000 | 0.000 | 0.651 |
| 64 | . | 44 | 0.000 | 0.009 | 0.350 | 0.564 | 0.077 | 0.000 | 0.453 |
| 65 | . | 45 | 0.036 | 0.218 | 0.509 | 0.273 | 0.000 | 0.000 | 0.764 |
| 66 | . | 46 | 0.094 | 0.075 | 0.415 | 0.453 | 0.057 | 0.000 | 0.887 |
| 67 | . | 47 | 0.000 | 0.067 | 0.311 | 0.533 | 0.089 | 0.000 | 0.356 |
| 68 | . | 48 | 0.019 | 0.115 | 0.442 | 0.308 | 0.135 | 0.000 | 0.904 |
| 69 | . | 49 | 0.000 | 0.100 | 0.420 | 0.280 | 0.200 | 0.000 | 0.580 |
| 70 | . | 50 | 0.032 | 0.097 | 0.403 | 0.419 | 0.081 | 0.000 | 0.597 |
| 71 | . | 51 | 0.025 | 0.038 | 0.273 | 0.291 | 0.304 | 0.089 | 0.810 |
| 72 | . | 52 | 0.021 | 0.011 | 0.245 | 0.468 | 0.277 | 0.000 | 0.277 |
| 73 | . | 53 | 0.077 | 0.135 | 0.442 | 0.250 | 0.173 | 0.000 | 0.500 |
| 74 | 14 | 54 | 0.000 | 0.047 | 0.340 | 0.528 | 0.085 | 0.000 | 0.236 |
| 75 | . | 55 | 0.079 | 0.016 | 0.143 | 0.397 | 0.254 | 0.190 | 0.905 |
| 76 | . | 56 | 0.029 | 0.043 | 0.209 | 0.388 | 0.360 | 0.000 | 0.619 |
| 77 | . | 57 | 0.025 | 0.500 | 0.375 | 0.025 | 0.100 | 0.000 | 0.725 |
| 78 | . | . | 0.078 | 0.009 | 0.172 | 0.207 | 0.405 | 0.207 | 0.457 |
| 79 | . | . | 0.226 | 0.000 | 0.302 | 0.472 | 0.226 | 0.000 | 0.999 |
| 80 | . | . | 0.000 | 0.200 | 0.375 | 0.425 | 0.000 | 0.000 | 0.999 |
| 81 | . | . | 0.024 | 0.000 | 0.218 | 0.250 | 0.444 | 0.089 | 0.194 |
| 82 | . | . | 0.372 | 0.000 | 0.093 | 0.395 | 0.512 | 0.000 | 0.999 |
| 83 | . | . | 0.197 | 0.026 | 0.171 | 0.224 | 0.355 | 0.224 | 0.999 |
| 84 | . | . | 0.082 | 0.122 | 0.327 | 0.388 | 0.163 | 0.000 | 0.653 |
| 85 | . | . | 0.051 | 0.103 | 0.203 | 0.291 | 0.253 | 0.139 | 0.861 |
| 86 | . | 58 | 0.000 | 0.000 | 0.017 | 0.183 | 0.650 | 0.150 | 0.999 |
| 87 | . | . | 0.000 | 0.198 | 0.319 | 0.440 | 0.044 | 0.000 | 0.901 |
| 88 | 15 | . | 0.038 | 0.063 | 0.203 | 0.165 | 0.544 | 0.025 | 0.709 |
| 89 | . | . | 0.011 | 0.056 | 0.551 | 0.337 | 0.056 | 0.000 | 0.708 |
| 90 | . | . | 0.245 | 0.000 | 0.117 | 0.202 | 0.404 | 0.277 | 0.999 |
| 91 | . | . | 0.036 | 0.023 | 0.143 | 0.786 | 0.048 | 0.000 | 0.999 |
| 92 | . | 59 | 0.290 | 0.032 | 0.258 | 0.419 | 0.290 | 0.000 | 0.999 |
| 93 | . | 60 | 0.105 | 0.368 | 0.421 | 0.158 | 0.053 | 0.000 | 0.999 |
| 94 | 16 | 61 | 0.011 | 0.023 | 0.280 | 0.258 | 0.161 | 0.280 | 0.323 |
| 95 | . | 62 | 0.000 | 0.167 | 0.185 | 0.167 | 0.481 | 0.000 | 0.944 |
| 96 | 17 | . | 0.000 | 0.177 | 0.468 | 0.226 | 0.129 | 0.000 | 0.258 |
| 97 | 18 | . | 0.000 | 0.041 | 0.367 | 0.449 | 0.143 | 0.000 | 0.286 |
| 98 | 19 | . | 0.075 | 0.150 | 0.250 | 0.350 | 0.250 | 0.000 | 0.999 |
| 99 | . | . | 0.231 | 0.154 | 0.462 | 0.282 | 0.103 | 0.000 | 0.846 |
| 100 | . | . | 0.171 | 0.000 | 0.143 | 0.486 | 0.314 | 0.057 | 0.999 |
| 101 | . | . | 0.020 | 0.060 | 0.600 | 0.340 | 0.000 | 0.000 | 0.999 |
| 102 | . | . | 0.123 | 0.000 | 0.220 | 0.561 | 0.220 | 0.000 | 0.999 |
| 103 | . | . | 0.357 | 0.024 | 0.167 | 0.452 | 0.333 | 0.024 | 0.999 |
| 104 | 20 | . | 0.133 | 0.000 | 0.133 | 0.483 | 0.383 | 0.000 | 0.999 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0.000 | 0.176 | 0.294 | 0.353 | 0.176 | 0.000 | 0.999 |
| 106 | 21 | 64 | 0.032 | 0.111 | 0.286 | 0.460 | 0.143 | 0.000 | 0.999 |
| 107 | . | . | 0.000 | 0.103 | 0.310 | 0.276 | 0.310 | 0.000 | 0.862 |
| 108 | 22 | . | 0.055 | 0.288 | 0.123 | 0.466 | 0.123 | 0.000 | 0.877 |
| 109 | . | . | 0.031 | 0.185 | 0.462 | 0.323 | 0.031 | 0.000 | 0.923 |
| 110 | . | . | 0.271 | 0.146 | 0.604 | 0.250 | 0.000 | 0.000 | 0.999 |
| 111 | 23 | . | 0.387 | 0.040 | 0.400 | 0.307 | 0.093 | 0.160 | 0.999 |
| 112 | 24 | . | 0.148 | 0.222 | 0.148 | 0.185 | 0.222 | 0.222 | 0.667 |
| 113 | . | 65 | 0.048 | 0.010 | 0.181 | 0.176 | 0.362 | 0.124 | 0.019 |
| 114 | 25 | 66 | 0.057 | 0.000 | 0.114 | 0.514 | 0.371 | 0.000 | 0.410 |
| 115 | . | 67 | 0.000 | 0.026 | 0.308 | 0.513 | 0.154 | 0.000 | 0.043 |
| 116 | 26 | 68 | 0.000 | 0.083 | 0.298 | 0.463 | 0.157 | 0.000 | 0.455 |
| 117 | 27 | 69 | 0.029 | 0.114 | 0.157 | 0.400 | 0.329 | 0.000 | 0.914 |
| 118 | . | 70 | 0.022 | 0.200 | 0.511 | 0.288 | 0.000 | 0.000 | 0.911 |
| 119 | . | 71 | 0.008 | 0.000 | 0.219 | 0.484 | 0.227 | 0.070 | 0.195 |
| 120 | . | . | 0.000 | 0.035 | 0.282 | 0.612 | 0.071 | 0.000 | 0.212 |
| 121 | . | . | 0.043 | 0.060 | 0.233 | 0.388 | 0.293 | 0.026 | 0.922 |
| 122 | . | 72 | 0.000 | 0.173 | 0.577 | 0.212 | 0.038 | 0.000 | 0.423 |
| 123 | 28 | 73 | 0.013 | 0.038 | 0.076 | 0.354 | 0.430 | 0.101 | 0.165 |
| 124 | 29 | . | 0.056 | 0.361 | 0.444 | 0.194 | 0.000 | 0.000 | 0.944 |
| 125 | . | 74 | 0.028 | 0.222 | 0.361 | 0.278 | 0.139 | 0.000 | 0.833 |
| 126 | . | 75 | 0.039 | 0.196 | 0.314 | 0.392 | 0.098 | 0.000 | 0.922 |
| 127 | . | 76 | 0.048 | 0.081 | 0.435 | 0.323 | 0.161 | 0.000 | 0.903 |
| 128 | . | 77 | 0.165 | 0.046 | 0.284 | 0.220 | 0.330 | 0.119 | 0.963 |
| 129 | . | 78 | 0.000 | 0.046 | 0.431 | 0.523 | 0.000 | 0.000 | 0.846 |
| 130 | . | . | 0.000 | 0.017 | 0.136 | 0.551 | 0.297 | 0.000 | 0.500 |
| 131 | 32 | 79 | 0.000 | 0.102 | 0.380 | 0.315 | 0.185 | 0.019 | 0.731 |
| 132 | . | 80 | 0.000 | 0.063 | 0.406 | 0.531 | 0.000 | 0.000 | 0.938 |
| 133 | . | . | 0.057 | 0.057 | 0.429 | 0.429 | 0.086 | 0.000 | 0.999 |
| 134 | 33 | . | 0.000 | 0.083 | 0.271 | 0.313 | 0.333 | 0.000 | 0.688 |
| 135 | . | 81 | 0.233 | 0.000 | 0.023 | 0.279 | 0.512 | 0.186 | 0.999 |
| 136 | 34 | 82 | 0.125 | 0.000 | 0.641 | 0.359 | 0.000 | 0.000 | 0.266 |
| 137 | . | 83 | 0.059 | 0.059 | 0.294 | 0.549 | 0.098 | 0.000 | 0.941 |
| 138 | . | . | 0.000 | 0.040 | 0.387 | 0.573 | 0.000 | 0.000 | 0.493 |
| 139 | . | . | 0.000 | 0.020 | 0.314 | 0.588 | 0.078 | 0.000 | 0.490 |
| 140 | . | 84 | 0.212 | 0.121 | 0.333 | 0.545 | 0.000 | 0.000 | 0.999 |
| 141 | 35 | 85 | 0.031 | 0.016 | 0.375 | 0.500 | 0.109 | 0.000 | 0.094 |
| 142 | 36 | . | 0.385 | 0.128 | 0.487 | 0.385 | 0.000 | 0.000 | 0.974 |
| 143 | 37 | . | 0.154 | 0.308 | 0.564 | 0.128 | 0.000 | 0.000 | 0.538 |
| 144 | . | 86 | 0.103 | 0.026 | 0.231 | 0.487 | 0.256 | 0.000 | 0.999 |
| 145 | 38 | . | 0.038 | 0.013 | 0.425 | 0.563 | 0.000 | 0.000 | 0.138 |
| 146 | 39 | . | 0.191 | 0.000 | 0.106 | 0.489 | 0.404 | 0.000 | 0.999 |
| 147 | 40 | . | 0.042 | 0.021 | 0.313 | 0.396 | 0.250 | 0.021 | 0.999 |
| 148 | 41 | . | 0.042 | 0.042 | 0.417 | 0.514 | 0.028 | 0.000 | 0.972 |
| 149 | . | 87 | 0.000 | 0.067 | 0.267 | 0.550 | 0.083 | 0.033 | 0.933 |
| 150 | . | 88 | 0.000 | 0.333 | 0.190 | 0.286 | 0.190 | 0.000 | 0.952 |
| 151 | . | 89 | 0.031 | 0.031 | 0.200 | 0.262 | 0.508 | 0.000 | 0.999 |
| 152 | 42 | . | 0.008 | 0.064 | 0.248 | 0.536 | 0.144 | 0.008 | 0.272 |
| 153 | 43 | . | 0.082 | 0.016 | 0.443 | 0.377 | 0.148 | 0.016 | 0.426 |
| 154 | 44 | . | 0.038 | 0.000 | 0.313 | 0.563 | 0.125 | 0.000 | 0.958 |
| 155 | . | . | 0.000 | 0.055 | 0.454 | 0.436 | 0.055 | 0.000 | 0.999 |
| 156 | . | . | 0.229 | 0.000 | 0.479 | 0.521 | 0.000 | 0.000 | 0.999 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 0.081 | 0.081 | 0.027 | 0.000 | 353.6 | 10.8 | 3 | 2.7 |
| 2 | . | 2 | 0.235 | 0.111 | 0.049 | 0.012 | 280.4 | 5.1 | 3 | 15.3 |
| 3 | . | 3 | 0.081 | 0.041 | 0.000 | 0.000 | 362.7 | 9.2 | 3 | 11.4 |
| 4 | . | 4 | 0.380 | 0.211 | 0.056 | 0.000 | 320.0 | 11.2 | 3 | 19.5 |
| 5 | . | 5 | 0.281 | 0.125 | 0.141 | 0.016 | 277.4 | 5.9 | 3 | 26.2 |
| 6 | . | 6 | 0.383 | 0.217 | 0.100 | 0.000 | 259.1 | 5.9 | 3 | 30.1 |
| 7 | . | . | 0.200 | 0.082 | 0.091 | 0.000 | 228.6 | 1.1 | 4 | 32.3 |
| 8 | . | 7 | 0.078 | 0.013 | 0.013 | 0.000 | 253.0 | 6.3 | 2 | 6.8 |
| 9 | . | . | 0.351 | 0.113 | 0.000 | 0.000 | 198.4 | 1.0 | 4 | 46.1 |
| 10 | 1 | . | 0.325 | 0.083 | 0.008 | 0.000 | 193.5 | 1.0 | 4 | 53.3 |
| 11 | . | 8 | 0.039 | 0.000 | 0.000 | 0.000 | 210.3 | 4.1 | 3 | 6.5 |
| 12 | 2 | 9 | 0.268 | 0.183 | 0.042 | 0.000 | 210.3 | 3.2 | 4 | 31.8 |
| 13 | 3 | 10 | 0.118 | 0.000 | 0.000 | 0.000 | 216.4 | 9.2 | 2 | 13.8 |
| 14 | . | 11 | 0.174 | 0.087 | 0.014 | 0.000 | 195.1 | 3.3 | 4 | 38.8 |
| 15 | . | 12 | 0.160 | 0.060 | 0.020 | 0.000 | 198.1 | 5.7 | 3 | 14.8 |
| 16 | . | 13 | 0.013 | 0.000 | 0.000 | 0.000 | 195.1 | 5.6 | 2 | 9.1 |
| 17 | . | . | 0.235 | 0.139 | 0.017 | 0.000 | 185.9 | 1.0 | 5 | 60.3 |
| 18 | . | . | 0.206 | 0.092 | 0.000 | 0.000 | 179.8 | 1.0 | 5 | 64.4 |
| 19 | . | 14 | 0.074 | 0.000 | 0.000 | 0.000 | 243.7 | 10.5 | 2 | 7.0 |
| 20 | . | . | 0.200 | 0.013 | 0.000 | 0.000 | 165.2 | 1.0 | 5 | 75.1 |
| 21 | . | 15 | 0.119 | 0.000 | 0.000 | 0.000 | 216.4 | 7.6 | 2 | 14.4 |
| 22 | . | 16 | 0.179 | 0.000 | 0.015 | 0.000 | 179.8 | 3.4 | 3 | 19.7 |
| 23 | . | 17 | 0.188 | 0.031 | 0.000 | 0.000 | 167.6 | 1.2 | 4 | 31.3 |
| 24 | 4 | . | 0.231 | 0.239 | 0.000 | 0.000 | 155.4 | 1.0 | 5 | 82.7 |
| 25 | . | 18 | 0.064 | 0.000 | 0.000 | 0.000 | 231.6 | 12.2 | 2 | 13.2 |
| 26 | . | 19 | 0.000 | 0.000 | 0.000 | 0.000 | 185.9 | 1.7 | 2 | 6.0 |
| 27 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 140.2 | 5.4 | 2 | 7.0 |
| 28 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 169.2 | 6.4 | 3 | 5.8 |
| 29 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 146.3 | 5.5 | 3 | 10.6 |
| 30 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 146.3 | 2.3 | 4 | 15.6 |
| 31 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 137.5 | 1.2 | 3 | 8.5 |
| 32 | 5 | . | 0.051 | 0.128 | 0.000 | 0.000 | 115.8 | 3.0 | 2 | 6.9 |
| 33 | . | . | 0.250 | 0.098 | 0.022 | 0.000 | 109.7 | 1.0 | 5 | 123.1 |
| 34 | . | . | 0.160 | 0.140 | 0.000 | 0.000 | 112.8 | 2.5 | 3 | 8.8 |
| 35 | 6 | . | 0.200 | 0.022 | 0.044 | 0.000 | 115.5 | 1.5 | 2 | 7.2 |
| 36 | . | 20 | 0.000 | 0.000 | 0.000 | 0.000 | 164.6 | 3.9 | 3 | 16.5 |
| 37 | . | 21 | 0.000 | 0.000 | 0.000 | 0.000 | 121.9 | 2.2 | 3 | 25.7 |
| 38 | 7 | . | 0.095 | 0.060 | 0.012 | 0.000 | 117.3 | 1.7 | 3 | 29.4 |
| 39 | . | 22 | 0.047 | 0.000 | 0.000 | 0.000 | 149.3 | 6.3 | 3 | 6.8 |
| 40 | 8 | . | 0.258 | 0.076 | 0.000 | 0.000 | 112.8 | 4.6 | 3 | 18.7 |
| 41 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 117.3 | 4.6 | 2 | 3.3 |
| 42 | . | 23 | 0.494 | 0.082 | 0.024 | 0.012 | 280.4 | 10.8 | 3 | 8.2 |
| 43 | . | 24 | 0.553 | 0.153 | 0.035 | 0.000 | 268.2 | 12.2 | 3 | 9.3 |
| 44 | . | 25 | 0.492 | 0.305 | 0.034 | 0.034 | 301.7 | 10.8 | 3 | 9.4 |
| 45 | . | 26 | 0.484 | 0.041 | 0.090 | 0.000 | 259.1 | 4.9 | 4 | 11.1 |
| 46 | . | 27 | 0.380 | 0.051 | 0.038 | 0.013 | 265.2 | 7.5 | 4 | 18.2 |
| 47 | . | 28 | 0.567 | 0.300 | 0.033 | 0.000 | 222.5 | 2.6 | 4 | 21.0 |
| 48 | . | 29 | 0.351 | 0.010 | 0.000 | 0.000 | 185.9 | 2.9 | 1 | 1.7 |
| 49 | 9 | 30 | 0.522 | 0.033 | 0.011 | 0.000 | 228.6 | 4.5 | 3 | 12.5 |
| 50 | . | . | 0.568 | 0.158 | 0.126 | 0.042 | 216.4 | 3.9 | 4 | 23.6 |
| 51 | . | 31 | 0.347 | 0.264 | 0.165 | 0.050 | 185.9 | 4.6 | 4 | 38.8 |
| 52 | . | 32 | 0.269 | 0.058 | 0.058 | 0.000 | 323.1 | 10.8 | 2 | 5.8 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
|---|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 0.130 | 0.000 | 0.000 | 0.000 | 316.9 | 21.7 | 2 | 3.2 |
| 54 | . | 34 | 0.424 | 0.085 | 0.068 | 0.000 | 283.5 | 8.1 | 3 | 9.5 |
| 55 | . | 35 | 0.472 | 0.167 | 0.014 | 0.000 | 262.1 | 12.2 | 3 | 13.2 |
| 56 | . | 36 | 0.404 | 0.231 | 0.058 | 0.019 | 216.4 | 5.3 | 3 | 7.9 |
| 57 | . | 37 | 0.434 | 0.145 | 0.026 | 0.000 | 246.9 | 9.3 | 3 | 11.6 |
| 58 | 10 | 38 | 0.593 | 0.167 | 0.000 | 0.000 | 207.3 | 12.2 | 2 | 18.7 |
| 59 | . | 39 | 0.173 | 0.000 | 0.000 | 0.000 | 208.8 | 2.4 | 4 | 21.0 |
| 60 | . | 40 | 0.143 | 0.000 | 0.000 | 0.000 | 216.4 | 8.5 | 2 | 3.4 |
| 61 | 11 | 41 | 0.253 | 0.132 | 0.154 | 0.000 | 176.8 | 2.3 | 5 | 41.9 |
| 62 | . | 42 | 0.069 | 0.000 | 0.000 | 0.000 | 265.2 | 7.9 | 2 | 4.1 |
| 63 | . | 43 | 0.302 | 0.047 | 0.000 | 0.000 | 210.3 | 6.6 | 3 | 9.7 |
| 64 | . | 44 | 0.205 | 0.111 | 0.154 | 0.077 | 164.6 | 1.2 | 5 | 50.1 |
| 65 | . | 45 | 0.164 | 0.073 | 0.000 | 0.000 | 271.3 | 6.8 | 2 | 3.3 |
| 66 | . | 46 | 0.075 | 0.038 | 0.000 | 0.000 | 246.9 | 7.5 | 2 | 5.4 |
| 67 | . | 47 | 0.578 | 0.044 | 0.022 | 0.000 | 182.9 | 8.3 | 3 | 16.1 |
| 68 | . | 48 | 0.077 | 0.019 | 0.000 | 0.000 | 228.6 | 8.1 | 2 | 9.1 |
| 69 | . | 49 | 0.140 | 0.120 | 0.000 | 0.020 | 179.8 | 6.7 | 3 | 10.7 |
| 70 | . | 50 | 0.177 | 0.210 | 0.016 | 0.000 | 149.4 | 3.7 | 3 | 16.1 |
| 71 | . | 51 | 0.127 | 0.051 | 0.013 | 0.000 | 143.3 | 6.1 | 3 | 18.1 |
| 72 | . | 52 | 0.170 | 0.181 | 0.213 | 0.160 | 131.1 | 2.7 | 5 | 63.9 |
| 73 | . | 53 | 0.442 | 0.058 | 0.000 | 0.000 | 134.1 | 5.1 | 2 | 3.7 |
| 74 | 14 | 54 | 0.255 | 0.113 | 0.311 | 0.085 | 125.0 | 1.4 | 5 | 69.5 |
| 75 | . | 55 | 0.048 | 0.016 | 0.032 | 0.000 | 125.0 | 9.3 | 2 | 2.9 |
| 76 | . | 56 | 0.115 | 0.065 | 0.094 | 0.108 | 121.6 | 1.4 | 5 | 77.1 |
| 77 | . | 57 | 0.200 | 0.075 | 0.000 | 0.000 | 140.2 | 9.7 | 1 | 3.0 |
| 78 | . | . | 0.267 | 0.095 | 0.147 | 0.034 | 112.8 | 1.3 | 5 | 80.7 |
| 79 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 137.2 | 4.6 | 2 | 3.3 |
| 80 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 131.1 | 4.8 | 2 | 5.0 |
| 81 | . | . | 0.282 | 0.258 | 0.258 | 0.008 | 100.6 | 1.0 | 6 | 149.0 |
| 82 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 106.7 | 2.6 | 2 | 5.1 |
| 83 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 100.6 | 1.0 | 6 | 164.5 |
| 84 | . | . | 0.265 | 0.041 | 0.041 | 0.000 | 106.7 | 5.1 | 2 | 4.3 |
| 85 | . | . | 0.063 | 0.063 | 0.000 | 0.000 | 173.7 | 6.5 | 2 | 5.0 |
| 86 | . | 58 | 0.000 | 0.000 | 0.000 | 0.000 | 155.4 | 2.1 | 3 | 7.4 |
| 87 | . | . | 0.066 | 0.022 | 0.011 | 0.000 | 125.0 | 2.9 | 3 | 17.9 |
| 88 | 15 | . | 0.114 | 0.101 | 0.076 | 0.000 | 118.9 | 3.1 | 3 | 20.4 |
| 89 | . | . | 0.213 | 0.056 | 0.022 | 0.000 | 100.6 | 2.8 | 3 | 31.0 |
| 90 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 97.5 | 1.0 | 6 | 175.8 |
| 91 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 102.4 | 1.0 | 0 | 0.5 |
| 92 | . | 59 | 0.000 | 0.000 | 0.000 | 0.000 | 170.7 | 8.9 | 2 | 2.9 |
| 93 | . | 60 | 0.000 | 0.000 | 0.000 | 0.000 | 158.5 | 4.5 | 3 | 6.4 |
| 94 | 16 | 61 | 0.312 | 0.097 | 0.226 | 0.043 | 131.1 | 6.5 | 3 | 12.0 |
| 95 | . | 62 | 0.037 | 0.019 | 0.000 | 0.000 | 125.0 | 3.7 | 3 | 14.7 |
| 96 | 17 | . | 0.371 | 0.290 | 0.065 | 0.000 | 118.9 | 1.9 | 3 | 18.3 |
| 97 | 18 | . | 0.327 | 0.204 | 0.184 | 0.000 | 100.6 | 1.2 | 3 | 21.1 |
| 98 | 19 | . | 0.000 | 0.000 | 0.000 | 0.000 | 102.1 | 1.6 | 1 | 0.3 |
| 99 | . | . | 0.154 | 0.000 | 0.000 | 0.000 | 115.8 | 7.4 | 1 | 0.7 |
| 100 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 112.8 | 2.0 | 3 | 11.6 |
| 101 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 113.4 | 3.4 | 2 | 5.0 |
| 102 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 111.2 | 2.2 | 2 | 7.0 |
| 103 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 117.3 | 4.5 | 2 | 3.5 |
| 104 | 20 | . | 0.000 | 0.000 | 0.000 | 0.000 | 101.2 | 2.3 | 3 | 20.7 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 |
|---|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 0.000 | 0.000 | 0.000 | 0.000 | 172.2 | 7.7 | 1 | 0.6 |
| 106 | 21 | 64 | 0.000 | 0.000 | 0.000 | 0.000 | 138.7 | 4.8 | 3 | 4.4 |
| 107 | . | . | 0.138 | 0.000 | 0.000 | 0.000 | 123.4 | 3.2 | 3 | 8.3 |
| 108 | 22 | . | 0.123 | 0.000 | 0.000 | 0.000 | 117.3 | 3.2 | 3 | 10.2 |
| 109 | . | . | 0.031 | 0.046 | 0.000 | 0.000 | 120.4 | 3.6 | 3 | 3.6 |
| 110 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 106.7 | 5.7 | 2 | 7.4 |
| 111 | 23 | . | 0.000 | 0.000 | 0.000 | 0.000 | 102.1 | 2.4 | 2 | 3.8 |
| 112 | 24 | . | 0.333 | 0.000 | 0.000 | 0.000 | 99.1 | 1.8 | 2 | 4.7 |
| 113 | . | 65 | 0.714 | 0.105 | 0.086 | 0.028 | 329.2 | 12.2 | 2 | 15.4 |
| 114 | 25 | 66 | 0.162 | 0.238 | 0.086 | 0.105 | 304.8 | 8.7 | 3 | 14.5 |
| 115 | . | 67 | 0.214 | 0.368 | 0.282 | 0.094 | 280.4 | 8.1 | 4 | 20.9 |
| 116 | 26 | 68 | 0.298 | 0.165 | 0.066 | 0.017 | 248.4 | 5.7 | 4 | 25.6 |
| 117 | 27 | 69 | 0.057 | 0.029 | 0.000 | 0.000 | 247.2 | 5.9 | 4 | 12.3 |
| 118 | . | 70 | 0.044 | 0.022 | 0.022 | 0.000 | 268.2 | 14.4 | 2 | 5.5 |
| 119 | . | 71 | 0.125 | 0.234 | 0.305 | 0.141 | 249.9 | 8.9 | 3 | 12.7 |
| 120 | . | . | 0.200 | 0.176 | 0.271 | 0.141 | 227.7 | 1.9 | 4 | 38.3 |
| 121 | . | . | 0.060 | 0.009 | 0.009 | 0.000 | 243.7 | 2.7 | 3 | 22.9 |
| 122 | . | 72 | 0.308 | 0.135 | 0.135 | 0.000 | 274.3 | 9.7 | 3 | 15.3 |
| 123 | 28 | 73 | 0.443 | 0.190 | 0.203 | 0.000 | 237.7 | 7.5 | 3 | 19.7 |
| 124 | 29 | . | 0.056 | 0.000 | 0.000 | 0.000 | 231.6 | 5.5 | 3 | 14.8 |
| 125 | . | 74 | 0.167 | 0.000 | 0.000 | 0.000 | 281.9 | 22.9 | 2 | 2.5 |
| 126 | . | 75 | 0.078 | 0.000 | 0.000 | 0.000 | 228.6 | 3.0 | 3 | 9.1 |
| 127 | . | 76 | 0.065 | 0.032 | 0.000 | 0.000 | 257.6 | 10.8 | 3 | 8.1 |
| 128 | . | 77 | 0.037 | 0.000 | 0.000 | 0.000 | 213.4 | 7.1 | 3 | 13.5 |
| 129 | . | 78 | 0.154 | 0.000 | 0.000 | 0.000 | 217.9 | 3.1 | 4 | 14.1 |
| 130 | . | . | 0.288 | 0.127 | 0.085 | 0.000 | 189.0 | 2.2 | 5 | 67.4 |
| 131 | 32 | 79 | 0.194 | 0.074 | 0.000 | 0.000 | 220.4 | 7.8 | 3 | 16.7 |
| 132 | . | 80 | 0.031 | 0.031 | 0.000 | 0.000 | 254.5 | 4.6 | 2 | 8.0 |
| 133 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 271.3 | 10.3 | 2 | 4.6 |
| 134 | 33 | . | 0.146 | 0.104 | 0.063 | 0.000 | 237.7 | 2.0 | 4 | 16.3 |
| 135 | . | 81 | 0.000 | 0.000 | 0.000 | 0.000 | 256.0 | 6.6 | 2 | 4.2 |
| 136 | 34 | 82 | 0.234 | 0.281 | 0.219 | 0.000 | 281.9 | 17.7 | 1 | 2.7 |
| 137 | . | 83 | 0.059 | 0.000 | 0.000 | 0.000 | 231.6 | 7.4 | 3 | 3.8 |
| 138 | . | . | 0.440 | 0.067 | 0.000 | 0.000 | 213.4 | 3.0 | 4 | 27.5 |
| 139 | . | . | 0.412 | 0.078 | 0.020 | 0.000 | 190.0 | 3.5 | 4 | 37.1 |
| 140 | . | 84 | 0.000 | 0.000 | 0.000 | 0.000 | 120.4 | 6.0 | 3 | 7.0 |
| 141 | 35 | 85 | 0.281 | 0.250 | 0.297 | 0.078 | 114.3 | 6.9 | 3 | 8.8 |
| 142 | 36 | . | 0.026 | 0.000 | 0.000 | 0.000 | 108.2 | 5.5 | 2 | 3.3 |
| 143 | 37 | . | 0.359 | 0.077 | 0.026 | 0.000 | 105.2 | 1.0 | 2 | 15.4 |
| 144 | . | 86 | 0.000 | 0.000 | 0.000 | 0.000 | 126.5 | 4.7 | 2 | 11.1 |
| 145 | 38 | . | 0.575 | 0.200 | 0.075 | 0.013 | 108.2 | 2.9 | 2 | 13.3 |
| 146 | 39 | . | 0.000 | 0.000 | 0.000 | 0.000 | 114.3 | 5.7 | 1 | 0.4 |
| 147 | 40 | . | 0.000 | 0.000 | 0.000 | 0.000 | 102.1 | 2.2 | 3 | 4.3 |
| 148 | 41 | . | 0.028 | 0.000 | 0.000 | 0.000 | 102.1 | 1.4 | 2 | 6.2 |
| 149 | . | 87 | 0.067 | 0.000 | 0.000 | 0.000 | 192.0 | 9.4 | 2 | 17.4 |
| 150 | . | 88 | 0.000 | 0.048 | 0.000 | 0.000 | 173.7 | 14.4 | 3 | 9.9 |
| 151 | . | 89 | 0.000 | 0.000 | 0.000 | 0.000 | 112.8 | 2.5 | 4 | 16.5 |
| 152 | 42 | . | 0.112 | 0.256 | 0.280 | 0.080 | 106.7 | 2.5 | 4 | 19.9 |
| 153 | 43 | . | 0.295 | 0.246 | 0.033 | 0.000 | 117.3 | 7.4 | 2 | 0.4 |
| 154 | 44 | . | 0.042 | 0.000 | 0.000 | 0.000 | 92.9 | 1.8 | 3 | 17.0 |
| 155 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 105.2 | 2.6 | 2 | 2.1 |
| 156 | . | . | 0.000 | 0.000 | 0.000 | 0.000 | 102.1 | 1.8 | 3 | 8.9 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 99 | 100 | 101 | 102 | 103 | 104 | 105 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | 1 | 28 | 320 | 0.9 | 0.079 | 0.000 | 0.056 | 0.000 |
| 2 | . | 2 | 40 | 100 | 4.1 | 0.077 | 0.089 | 0.000 | 0.000 |
| 3 | . | 3 | 32 | 40 | 2.7 | 0.008 | 0.000 | 0.041 | 0.000 |
| 4 | . | 4 | 30 | 60 | 1.4 | 0.021 | 0.000 | 0.022 | 0.015 |
| 5 | . | 5 | 30 | 70 | 1.8 | 0.014 | 0.000 | 0.014 | 0.009 |
| 6 | . | 6 | 33 | 140 | 7.0 | 0.012 | 0.000 | 0.012 | 0.008 |
| 7 | . | . | 42 | 100 | 3.0 | . | . | . | . |
| 8 | . | 7 | 48 | 197 | 4.5 | 0.000 | 0.000 | 0.000 | 0.000 |
| 9 | . | . | 49 | 110 | 5.7 | . | . | . | . |
| 10 | 1 | . | 50 | 90 | 1.9 | . | . | . | . |
| 11 | . | 8 | 52 | 70 | 15.7 | 0.000 | 0.000 | 0.044 | 0.030 |
| 12 | 2 | 9 | 50 | 70 | 2.7 | 0.053 | 0.020 | 0.032 | 0.039 |
| 13 | 3 | 10 | 50 | 190 | 7.2 | 0.111 | 0.000 | 0.000 | 0.000 |
| 14 | . | 11 | 70 | 40 | 5.4 | 0.061 | 0.025 | 0.037 | 0.030 |
| 15 | . | 12 | 58 | 360 | 9.1 | 0.029 | 0.000 | 0.022 | 0.056 |
| 16 | . | 13 | 62 | 240 | 5.1 | 0.024 | 0.048 | 0.031 | 0.131 |
| 17 | . | . | 51 | 50 | 1.7 | . | . | . | . |
| 18 | . | . | 51 | 90 | 1.8 | . | . | . | . |
| 19 | . | 14 | 51 | 50 | 4.4 | 0.053 | 0.000 | 0.041 | 0.000 |
| 20 | . | . | 51 | 120 | 1.6 | . | . | . | . |
| 21 | . | 15 | 73 | 50 | 3.8 | 0.000 | 0.055 | 0.000 | 0.135 |
| 22 | . | 16 | 75 | 45 | 4.1 | 0.000 | 0.069 | 0.028 | 0.096 |
| 23 | . | 17 | 70 | 50 | 3.2 | 0.050 | 0.000 | 0.036 | 0.055 |
| 24 | 4 | . | 60 | 370 | 2.0 | . | . | . | . |
| 25 | . | 18 | 60 | 70 | 2.5 | 0.000 | 0.000 | 0.074 | 0.000 |
| 26 | . | 19 | 87 | 130 | 8.2 | 0.000 | 0.000 | 0.000 | 0.000 |
| 27 | . | . | 63 | 70 | 2.9 | . | . | . | . |
| 28 | . | . | 95 | 100 | 4.1 | . | . | . | . |
| 29 | . | . | 89 | 100 | 10.2 | . | . | . | . |
| 30 | . | . | 97 | 140 | 10.9 | . | . | . | . |
| 31 | . | . | 99 | 650 | 31.0 | . | . | . | . |
| 32 | 5 | . | 71 | 340 | 7.8 | . | . | . | . |
| 33 | . | . | 57 | 140 | 4.8 | . | . | . | . |
| 34 | . | . | 63 | 120 | 3.2 | . | . | . | . |
| 35 | 6 | . | 185 | 200 | 9.0 | . | . | . | . |
| 36 | . | 20 | 72 | 100 | 6.4 | 0.080 | 0.045 | 0.009 | 0.014 |
| 37 | . | 21 | 72 | 60 | 1.9 | 0.056 | 0.031 | 0.006 | 0.009 |
| 38 | 7 | . | 75 | 180 | 12.7 | . | . | . | . |
| 39 | . | 22 | 172 | 30 | 5.4 | 0.000 | 0.000 | 0.058 | 0.000 |
| 40 | 8 | . | 170 | 40 | 0.9 | . | . | . | . |
| 41 | . | . | 240 | 150 | 15.1 | . | . | . | . |
| 42 | . | 23 | 25 | 110 | 1.1 | 0.000 | 0.103 | 0.000 | 0.000 |
| 43 | . | 24 | 35 | 130 | 1.8 | 0.000 | 0.108 | 0.000 | 0.000 |
| 44 | . | 25 | 30 | 130 | 2.5 | 0.000 | 0.000 | 0.016 | 0.061 |
| 45 | . | 26 | 35 | 120 | 2.3 | 0.038 | 0.000 | 0.015 | 0.058 |
| 46 | . | 27 | 35 | 120 | 2.0 | 0.040 | 0.049 | 0.030 | 0.055 |
| 47 | . | 28 | 35 | 70 | 3.9 | 0.044 | 0.040 | 0.035 | 0.045 |
| 48 | . | 29 | 61 | 125 | 14.2 | 0.000 | 0.000 | 0.000 | 0.000 |
| 49 | 9 | 30 | 50 | 80 | 3.3 | 0.011 | 0.036 | 0.044 | 0.042 |
| 50 | . | . | 48 | 60 | 4.1 | 0.041 | 0.033 | 0.036 | 0.037 |
| 51 | . | 31 | 42 | 85 | 3.7 | 0.053 | 0.039 | 0.035 | 0.030 |
| 52 | . | 32 | 25 | 170 | 4.6 | 0.000 | 0.013 | 0.000 | 0.076 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 99 | 100 | 101 | 102 | 103 | 104 | 105 |
|---|---|---|---|---|---|---|---|---|---|
| 53 | . | 33 | 30 | 90 | 0.1 | 0.000 | 0.000 | 0.000 | 0.051 |
| 54 | . | 34 | 32 | 120 | 0.3 | 0.000 | 0.027 | 0.000 | 0.040 |
| 55 | . | 35 | 35 | 70 | 1.3 | 0.000 | 0.035 | 0.000 | 0.043 |
| 56 | . | 36 | 43 | 60 | 2.1 | 0.101 | 0.068 | 0.000 | 0.000 |
| 57 | . | 37 | 40 | 25 | 1.4 | 0.081 | 0.022 | 0.026 | 0.028 |
| 58 | 10 | 38 | 45 | 45 | 0.9 | 0.006 | 0.029 | 0.000 | 0.036 |
| 59 | . | 39 | 42 | 40 | 3.6 | 0.042 | 0.033 | 0.006 | 0.027 |
| 60 | . | 40 | 60 | 40 | 4.8 | 0.000 | 0.000 | 0.126 | 0.147 |
| 61 | 11 | 41 | 49 | 55 | 4.2 | 0.049 | 0.034 | 0.026 | 0.035 |
| 62 | . | 42 | 58 | 50 | 6.3 | 0.202 | 0.000 | 0.000 | 0.000 |
| 63 | . | 43 | 60 | 30 | 1.9 | 0.000 | 0.047 | 0.000 | 0.075 |
| 64 | . | 44 | 50 | 60 | 2.1 | 0.045 | 0.034 | 0.025 | 0.038 |
| 65 | . | 45 | 45 | 45 | 0.8 | 0.000 | 0.130 | 0.000 | 0.000 |
| 66 | . | 46 | 35 | 30 | 0.5 | 0.000 | 0.089 | 0.000 | 0.000 |
| 67 | . | 47 | 45 | 40 | 7.7 | 0.046 | 0.017 | 0.006 | 0.076 |
| 68 | . | 48 | 53 | 35 | 3.4 | 0.000 | 0.111 | 0.132 | 0.000 |
| 69 | . | 49 | 50 | 35 | 0.1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 70 | . | 50 | 90 | 30 | 0.6 | 0.000 | 0.000 | 0.000 | 0.085 |
| 71 | . | 51 | 80 | 15 | 3.9 | 0.000 | 0.000 | 0.000 | 0.000 |
| 72 | . | 52 | 51 | 50 | 0.8 | 0.037 | 0.031 | 0.026 | 0.035 |
| 73 | . | 53 | 245 | 15 | 1.3 | 0.174 | 0.000 | 0.000 | 0.000 |
| 74 | 14 | 54 | 55 | 60 | 3.0 | 0.037 | 0.030 | 0.026 | 0.036 |
| 75 | . | 55 | 370 | 20 | 1.0 | 0.000 | 0.000 | 0.000 | 0.000 |
| 76 | . | 56 | 70 | 30 | 2.6 | 0.037 | 0.028 | 0.027 | 0.036 |
| 77 | . | 57 | 320 | 20 | 0.7 | 0.000 | 0.000 | 0.046 | 0.000 |
| 78 | . | . | 61 | 70 | 9.2 | . | . | . | . |
| 79 | . | . | 325 | 50 | 0.7 | . | . | . | . |
| 80 | . | . | 320 | 60 | 3.8 | . | . | . | . |
| 81 | . | . | 81 | 160 | 6.6 | . | . | . | . |
| 82 | . | . | 81 | 110 | 3.1 | . | . | . | . |
| 83 | . | . | 91 | 110 | 3.6 | . | . | . | . |
| 84 | . | . | 65 | 120 | 4.5 | . | . | . | . |
| 85 | . | . | 142 | 30 | 2.0 | . | . | . | . |
| 86 | . | 58 | 272 | 25 | 3.8 | 0.043 | 0.053 | 0.046 | 0.059 |
| 87 | . | . | 238 | 125 | 8.8 | . | . | . | . |
| 88 | 15 | . | 195 | 80 | 7.8 | . | . | . | . |
| 89 | . | . | 300 | 110 | 6.2 | . | . | . | . |
| 90 | . | . | 249 | 70 | 6.5 | . | . | . | . |
| 91 | . | . | 102 | 450 | 13.9 | . | . | . | . |
| 92 | . | 59 | 192 | 120 | 10.6 | 0.000 | 0.423 | 0.000 | 0.000 |
| 93 | . | 60 | 149 | 75 | 0.6 | 0.057 | 0.055 | 0.000 | 0.000 |
| 94 | 16 | 61 | 22 | 90 | 26.3 | 0.050 | 0.088 | 0.000 | 0.019 |
| 95 | . | 62 | 180 | 50 | 2.0 | 0.061 | 0.095 | 0.000 | 0.028 |
| 96 | 17 | . | 111 | 90 | 6.2 | . | . | . | . |
| 97 | 18 | . | 110 | 100 | 5.0 | . | . | . | . |
| 98 | 19 | . | 311 | 80 | 1.8 | . | . | . | . |
| 99 | . | . | 60 | 250 | 34.7 | . | . | . | . |
| 100 | . | . | 500 | 90 | 17.8 | . | . | . | . |
| 101 | . | . | 450 | 190 | 21.1 | . | . | . | . |
| 102 | . | . | 210 | 390 | 34.0 | . | . | . | . |
| 103 | . | . | 240 | 650 | 14.1 | . | . | . | . |
| 104 | 20 | . | 250 | 820 | 5.6 | . | . | . | . |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 99 | 100 | 101 | 102 | 103 | 104 | 105 |
|---|---|---|---|---|---|---|---|---|---|
| 105 | . | 63 | 31 | 220 | 1.1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 106 | 21 | 64 | 105 | 30 | 0.6 | 0.026 | 0.000 | 0.045 | 0.000 |
| 107 | . | . | 102 | 75 | 3.7 | . | . | . | . |
| 108 | 22 | . | 150 | 50 | 6.4 | . | . | . | . |
| 109 | . | . | 79 | 40 | 0.5 | . | . | . | . |
| 110 | . | . | 147 | 340 | 9.9 | . | . | . | . |
| 111 | 23 | . | 110 | 450 | 1.8 | . | . | . | . |
| 112 | 24 | . | 51 | 150 | 2.2 | . | . | . | . |
| 113 | . | 65 | 20 | 130 | 2.9 | 0.000 | 0.000 | 0.000 | 0.000 |
| 114 | 25 | 66 | 25 | 110 | 0.5 | 0.048 | 0.000 | 0.000 | 0.000 |
| 115 | . | 67 | 16 | 180 | 2.9 | 0.056 | 0.000 | 0.054 | 0.051 |
| 116 | 26 | 68 | 31 | 70 | 3.7 | 0.000 | 0.014 | 0.000 | 0.000 |
| 117 | 27 | 69 | 49 | 140 | 3.7 | 0.016 | 0.043 | 0.000 | 0.081 |
| 118 | . | 70 | 50 | 180 | 1.6 | 0.000 | 0.000 | 0.000 | 0.000 |
| 119 | . | 71 | 50 | 190 | 1.7 | 0.000 | 0.000 | 0.017 | 0.000 |
| 120 | . | . | 49 | 290 | 1.0 | . | . | . | . |
| 121 | . | . | 55 | 45 | 8.9 | . | . | . | . |
| 122 | . | 72 | 32 | 40 | 0.4 | 0.000 | 0.000 | 0.000 | 0.000 |
| 123 | 28 | 73 | 35 | 55 | 1.7 | 0.017 | 0.012 | 0.000 | 0.000 |
| 124 | 29 | . | 68 | 70 | 45.9 | . | . | . | . |
| 125 | . | 74 | 45 | 125 | 2.8 | 0.000 | 0.180 | 0.000 | 0.000 |
| 126 | . | 75 | 61 | 70 | 4.0 | 0.000 | 0.047 | 0.000 | 0.000 |
| 127 | . | 76 | 40 | 60 | 1.3 | 0.000 | 0.056 | 0.000 | 0.000 |
| 128 | . | 77 | 45 | 50 | 4.0 | 0.019 | 0.049 | 0.042 | 0.017 |
| 129 | . | 78 | 52 | 315 | 2.7 | 0.012 | 0.041 | 0.026 | 0.052 |
| 130 | . | . | 53 | 60 | 2.3 | . | . | . | . |
| 131 | 32 | 79 | 40 | 130 | 1.4 | 0.059 | 0.035 | 0.075 | 0.028 |
| 132 | . | 80 | 45 | 140 | 11.6 | 0.000 | 0.000 | 0.000 | 0.000 |
| 133 | . | . | 55 | 50 | 5.3 | . | . | . | . |
| 134 | 33 | . | 51 | 235 | 4.6 | . | . | . | . |
| 135 | . | 81 | 46 | 200 | 1.0 | 0.000 | 0.120 | 0.000 | 0.000 |
| 136 | 34 | 82 | 42 | 110 | 3.1 | 0.015 | 0.000 | 0.043 | 0.022 |
| 137 | . | 83 | 50 | 52 | 2.3 | 0.000 | 0.000 | 0.000 | 0.000 |
| 138 | . | . | 50 | 100 | 3.7 | . | . | . | . |
| 139 | . | . | 50 | 55 | 7.7 | . | . | . | . |
| 140 | . | 84 | 60 | 150 | 2.7 | 0.070 | 0.105 | 0.090 | 0.000 |
| 141 | 35 | 85 | 18 | 290 | 2.3 | 0.063 | 0.095 | 0.133 | 0.000 |
| 142 | 36 | . | 125 | 160 | 4.8 | . | . | . | . |
| 143 | 37 | . | 92 | 100 | 2.5 | . | . | . | . |
| 144 | . | 86 | 71 | 70 | 1.6 | 0.000 | 0.064 | 0.000 | 0.000 |
| 145 | 38 | . | 10 | 120 | 2.9 | . | . | . | . |
| 146 | 39 | . | 54 | 80 | 4.7 | . | . | . | . |
| 147 | 40 | . | 90 | 950 | 8.7 | . | . | . | . |
| 148 | 41 | . | 87 | 250 | 12.8 | . | . | . | . |
| 149 | . | 87 | 62 | 40 | 0.7 | 0.043 | 0.038 | 0.044 | 0.048 |
| 150 | . | 88 | 51 | 80 | 6.3 | 0.000 | 0.072 | 0.000 | 0.075 |
| 151 | . | 89 | 61 | 130 | 4.3 | 0.053 | 0.056 | 0.036 | 0.036 |
| 152 | 42 | . | 20 | 150 | 1.4 | . | . | . | . |
| 153 | 43 | . | 16 | 150 | 1.2 | . | . | . | . |
| 154 | 44 | . | 72 | 270 | 5.8 | . | . | . | . |
| 155 | . | . | 1790 | 380 | 9.2 | . | . | . | . |
| 156 | . | . | 100 | 710 | 22.1 | . | . | . | . |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 106 | 107 | 108 | 109 |
|---|---|---|---|---|---|---|
| 1 | . | 1 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2 | . | 2 | 0.128 | 0.000 | 0.126 | 0.000 |
| 3 | . | 3 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4 | . | 4 | 0.000 | 0.000 | 0.000 | 0.000 |
| 5 | . | 5 | 0.000 | 0.000 | 0.017 | 0.000 |
| 6 | . | 6 | 0.000 | 0.000 | 0.015 | 0.000 |
| 7 | . | . | . | . | . | . |
| 8 | . | 7 | 0.000 | 0.155 | 0.073 | 0.034 |
| 9 | . | . | . | . | . | . |
| 10 | 1 | . | . | . | . | . |
| 11 | . | 8 | 0.000 | 0.045 | 0.045 | 0.050 |
| 12 | 2 | 9 | 0.017 | 0.028 | 0.035 | 0.000 |
| 13 | 3 | 10 | 0.034 | 0.000 | 0.000 | 0.009 |
| 14 | . | 11 | 0.026 | 0.032 | 0.040 | 0.012 |
| 15 | . | 12 | 0.086 | 0.000 | 0.041 | 0.000 |
| 16 | . | 13 | 0.000 | 0.045 | 0.052 | 0.025 |
| 17 | . | . | . | . | . | . |
| 18 | . | . | . | . | . | . |
| 19 | . | 14 | 0.000 | 0.000 | 0.069 | 0.000 |
| 20 | . | . | . | . | . | . |
| 21 | . | 15 | 0.000 | 0.000 | 0.000 | 0.000 |
| 22 | . | 16 | 0.000 | 0.000 | 0.026 | 0.000 |
| 23 | . | 17 | 0.010 | 0.057 | 0.035 | 0.018 |
| 24 | 4 | . | . | . | . | . |
| 25 | . | 18 | 0.053 | 0.000 | 0.000 | 0.171 |
| 26 | . | 19 | 0.160 | 0.000 | 0.000 | 0.000 |
| 27 | . | . | . | . | . | . |
| 28 | . | . | . | . | . | . |
| 29 | . | . | . | . | . | . |
| 30 | . | . | . | . | . | . |
| 31 | . | . | . | . | . | . |
| 32 | 5 | . | . | . | . | . |
| 33 | . | . | . | . | . | . |
| 34 | . | . | . | . | . | . |
| 35 | 6 | . | . | . | . | . |
| 36 | . | 20 | 0.024 | 0.093 | 0.036 | 0.122 |
| 37 | . | 21 | 0.027 | 0.065 | 0.025 | 0.101 |
| 38 | 7 | . | . | . | . | . |
| 39 | . | 22 | 0.052 | 0.062 | 0.087 | 0.126 |
| 40 | 8 | . | . | . | . | . |
| 41 | . | . | . | . | . | . |
| 42 | . | 23 | 0.000 | 0.000 | 0.000 | 0.000 |
| 43 | . | 24 | 0.000 | 0.000 | 0.000 | 0.000 |
| 44 | . | 25 | 0.030 | 0.000 | 0.000 | 0.000 |
| 45 | . | 26 | 0.029 | 0.000 | 0.000 | 0.012 |
| 46 | . | 27 | 0.010 | 0.019 | 0.040 | 0.057 |
| 47 | . | 28 | 0.014 | 0.015 | 0.062 | 0.047 |
| 48 | . | 29 | 0.000 | 0.000 | 0.000 | 0.000 |
| 49 | 9 | 30 | 0.000 | 0.031 | 0.064 | 0.008 |
| 50 | . | . | 0.025 | 0.023 | 0.054 | 0.036 |
| 51 | . | 31 | 0.029 | 0.019 | 0.061 | 0.077 |
| 52 | . | 32 | 0.052 | 0.000 | 0.000 | 0.000 |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 106 | 107 | 108 | 109 |
|---|---|---|---|---|---|---|
| 53 | . | 33 | 0.074 | 0.000 | 0.000 | 0.000 |
| 54 | . | 34 | 0.107 | 0.000 | 0.000 | 0.000 |
| 55 | . | 35 | 0.075 | 0.000 | 0.065 | 0.033 |
| 56 | . | 36 | 0.087 | 0.000 | 0.050 | 0.123 |
| 57 | . | 37 | 0.039 | 0.000 | 0.241 | 0.000 |
| 58 | 10 | 38 | 0.073 | 0.000 | 0.061 | 0.046 |
| 59 | . | 39 | 0.071 | 0.000 | 0.091 | 0.050 |
| 60 | . | 40 | 0.000 | 0.000 | 0.083 | 0.159 |
| 61 | 11 | 41 | 0.042 | 0.010 | 0.072 | 0.077 |
| 62 | . | 42 | 0.000 | 0.000 | 0.000 | 0.432 |
| 63 | . | 43 | 0.048 | 0.000 | 0.000 | 0.121 |
| 64 | . | 44 | 0.040 | 0.009 | 0.061 | 0.089 |
| 65 | . | 45 | 0.000 | 0.075 | 0.000 | 0.000 |
| 66 | . | 46 | 0.100 | 0.051 | 0.000 | 0.000 |
| 67 | . | 47 | 0.059 | 0.026 | 0.000 | 0.034 |
| 68 | . | 48 | 0.065 | 0.112 | 0.000 | 0.076 |
| 69 | . | 49 | 0.088 | 0.000 | 0.073 | 0.000 |
| 70 | . | 50 | 0.009 | 0.032 | 0.000 | 0.000 |
| 71 | . | 51 | 0.082 | 0.009 | 0.031 | 0.000 |
| 72 | . | 52 | 0.040 | 0.012 | 0.050 | 0.069 |
| 73 | . | 53 | 0.000 | 0.000 | 0.000 | 0.000 |
| 74 | 14 | 54 | 0.038 | 0.012 | 0.049 | 0.071 |
| 75 | . | 55 | 0.051 | 0.135 | 0.095 | 0.435 |
| 76 | . | 56 | 0.036 | 0.012 | 0.049 | 0.075 |
| 77 | . | 57 | 0.000 | 0.000 | 0.137 | 0.424 |
| 78 | . | . | . | . | . | . |
| 79 | . | . | . | . | . | . |
| 80 | . | . | . | . | . | . |
| 81 | . | . | . | . | . | . |
| 82 | . | . | . | . | . | . |
| 83 | . | . | . | . | . | . |
| 84 | . | . | . | . | . | . |
| 85 | . | . | . | . | . | . |
| 86 | . | 58 | 0.039 | 0.000 | 0.092 | 0.028 |
| 87 | . | . | . | . | . | . |
| 88 | 15 | . | . | . | . | . |
| 89 | . | . | . | . | . | . |
| 90 | . | . | . | . | . | . |
| 91 | . | . | . | . | . | . |
| 92 | . | 59 | 0.187 | 0.000 | 0.000 | 0.000 |
| 93 | . | 60 | 0.034 | 0.076 | 0.070 | 0.046 |
| 94 | 16 | 61 | 0.056 | 0.038 | 0.059 | 0.136 |
| 95 | . | 62 | 0.072 | 0.029 | 0.047 | 0.129 |
| 96 | 17 | . | . | . | . | . |
| 97 | 18 | . | . | . | . | . |
| 98 | 19 | . | . | . | . | . |
| 99 | . | . | . | . | . | . |
| 100 | . | . | . | . | . | . |
| 101 | . | . | . | . | . | . |
| 102 | . | . | . | . | . | . |
| 103 | . | . | . | . | . | . |
| 104 | 20 | . | . | . | . | . |

| SITE NUMBER | HISTORICAL SITES | HARVEST SITES | 106 | 107 | 108 | 109 |
|---|---|---|---|---|---|---|
| 105 | . | 63 | 0.000 | 0.000 | 0.000 | 0.000 |
| 106 | 21 | 64 | 0.057 | 0.000 | 0.000 | 0.005 |
| 107 | . | . | . | . | . | . |
| 108 | 22 | . | . | . | . | . |
| 109 | . | . | . | . | . | . |
| 110 | . | . | . | . | . | . |
| 111 | 23 | . | . | . | . | . |
| 112 | 24 | . | . | . | . | . |
| 113 | . | 65 | 0.000 | 0.000 | 0.000 | 0.000 |
| 114 | 25 | 66 | 0.000 | 0.000 | 0.000 | 0.000 |
| 115 | . | 67 | 0.108 | 0.023 | 0.000 | 0.028 |
| 116 | 26 | 68 | 0.000 | 0.000 | 0.030 | 0.000 |
| 117 | 27 | 69 | 0.029 | 0.020 | 0.048 | 0.051 |
| 118 | . | 70 | 0.044 | 0.000 | 0.000 | 0.000 |
| 119 | . | 71 | 0.072 | 0.000 | 0.000 | 0.000 |
| 120 | . | . | . | . | . | . |
| 121 | . | . | . | . | . | . |
| 122 | . | 72 | 0.000 | 0.000 | 0.000 | 0.000 |
| 123 | 28 | 73 | 0.000 | 0.000 | 0.000 | 0.000 |
| 124 | 29 | . | . | . | . | . |
| 125 | . | 74 | 0.000 | 0.000 | 0.000 | 0.000 |
| 126 | . | 75 | 0.000 | 0.000 | 0.000 | 0.000 |
| 127 | . | 76 | 0.000 | 0.000 | 0.000 | 0.000 |
| 128 | . | 77 | 0.027 | 0.000 | 0.040 | 0.000 |
| 129 | . | 78 | 0.000 | 0.000 | 0.000 | 0.000 |
| 130 | . | . | . | . | . | . |
| 131 | 32 | 79 | 0.034 | 0.000 | 0.000 | 0.186 |
| 132 | . | 80 | 0.000 | 0.000 | 0.000 | 0.003 |
| 133 | . | . | . | . | . | . |
| 134 | 33 | . | . | . | . | . |
| 135 | . | 81 | 0.038 | 0.149 | 0.000 | 0.000 |
| 136 | 34 | 82 | 0.000 | 0.000 | 0.000 | 0.055 |
| 137 | . | 83 | 0.128 | 0.000 | 0.000 | 0.000 |
| 138 | . | . | . | . | . | . |
| 139 | . | . | . | . | . | . |
| 140 | . | 84 | 0.019 | 0.000 | 0.098 | 0.313 |
| 141 | 35 | 85 | 0.017 | 0.000 | 0.088 | 0.281 |
| 142 | 36 | . | . | . | . | . |
| 143 | 37 | . | . | . | . | . |
| 144 | . | 86 | 0.000 | 0.074 | 0.107 | 0.099 |
| 145 | 38 | . | . | . | . | . |
| 146 | 39 | . | . | . | . | . |
| 147 | 40 | . | . | . | . | . |
| 148 | 41 | . | . | . | . | . |
| 149 | . | 87 | 0.096 | 0.000 | 0.082 | 0.066 |
| 150 | . | 88 | 0.062 | 0.000 | 0.081 | 0.062 |
| 151 | . | 89 | 0.065 | 0.016 | 0.105 | 0.103 |
| 152 | 42 | . | . | . | . | . |
| 153 | 43 | . | . | . | . | . |
| 154 | 44 | . | . | . | . | . |
| 155 | . | . | . | . | . | . |
| 156 | . | . | . | . | . | . |

# VITA

Douglas Allen Rutherford, Jr.

Candidate for the Degree of

Doctor of Philosophy

Thesis: FACTORS AFFECTING STREAM-FISH COMMUNITY STRUCTURE: EFFECTS OF SILVICULTURAL ACTIVITIES IN SOUTHEASTERN OKLAHOMA

Major Field: Zoology

Biographical:

Personal Data: Born in Beeville, Texas, 15 August 1955, the son of D. A. and Barbara W. Rutherford. Married to Cyndy A. Wehman on 24 July 1976. One child, Casey Noel, born 18 December 1984.

Education: Graduated from Pleasanton High School, Pleasanton, Texas, in May, 1973; received Bachelor of Science degree in Biology from Baylor University, Waco, Texas, in December, 1977; received Master of Science degree in Biology from Baylor University, Waco, Texas, in August, 1980; completed requirements for the Doctor of Philosophy degree in Zoology at Oklahoma State University, Stillwater, Oklahoma, in December, 1988.

Professional Experience: Undergraduate Teaching Assistant, Department of Biology, Baylor University, Waco, Texas, 1975 - 1978; Graduate Teaching Assistant, Department of Biology, Baylor University, Waco, Texas, 1978 - 1980; Instructor, Department of Biology, Baylor University, Waco, Texas, 1980 - 1981; Research Assistant, Department of Zoology, Oklahoma State University, Stillwater, Oklahoma, 1981 - 1982; Teaching Assistant, Department of Zoology, Oklahoma State University, Stillwater, Oklahoma, 1982 - 1984; Staff Teaching Assistant, Department of Zoology, Oklahoma State University, Stillwater, Oklahoma, 1984 - 1985; Instructor, School of Forestry - Wildlife - Fisheries, Louisiana State University, Baton Rouge, Louisiana, 1985 to present.