# Ecological Condition and Public use of the Cabrillo National Monument Intertidal Zone 1990–1995

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## ABSTRACT

Rocky intertidal communities in Cabrillo National Monument are among the most extensive and diverse in San Diego County. However, the rich marine life is impacted by a multitude of human activities associated with the San Diego metropolitan area, including recreational exploration by tens of thousands of visitors each year. In 1990, to ensure continued public access and enjoyment of unimpaired tide pools, the National Park Service, with support from the Cabrillo Historical Association, initiated long-term studies to determine how key components of this land/water interface ecosystem respond to natural environmental variations and human impacts so that effective management procedures can be implemented.

This report provides the results of a 6-yr resource monitoring program (1990-1995) in which 13 index species or species groups were surveyed semi-annually (Spring and Fall) by replicated fixed plots and transects, or by timed searches, within 3 contiguous shore areas. These 3 regions were chosen to reflect an apparent gradient of human visitor use from the sole access point south to the tip of Point Loma. Counts of people and birds in each area were carried out by Monument staff during many of the lowest seasonal midday low tides.

For 285 staff surveys tallying 18,225 people and 22,918 birds, there was a consistent inverse relationship between people and bird abundance gradients among the 3 areas, with the most people and fewest birds in the shore access region. The occurrence of low numbers of birds appeared to be independent of the number of people, but high bird counts were nearly always associated with few people.

Historically, black abalone and ochre sea stars occurred at the Monument, but none were found during area-wide searches on 12 semi-annual surveys, except for a single ochre sea star in Spring 1994. The results of other index species monitoring revealed considerable short-term and long-term variability in abundances. Rockweed and surf grass tended to be less common in Spring periods, while sargassum weed, red algal turf, and goose barnacles generally had lower cover in Fall surveys. Over the 6-yr period, 5 key species (rockweed, sargassum weed, red algal turf, aggregating anemones, acorn barnacles), though variable, ended up with similar abundances as at the study start. Surf grass was the only species to increase its cover, expanding by 39% in the grass zone where it was common from the start, and by 625% in the kelp zone as the once dominant boa kelp declined. Two species (goose barnacles, owl limpets) declined moderately, with overall population decreases of 29% and 23% respectively. Three other species (boa kelp, thatched barnacles, California mussels) declined drastically (by 84%, 75%, 87% respectively). Boa kelp and thatched barnacles are capable of recovery within a few years; however, the catastrophic decline of mussel beds to near extinction at the Monument is especially disturbing because they once were abundant, they provide shelter for a multitude of organisms, and even if environmental conditions become favorable recovery may take a decade or longer. Alternatively, despite moderate declines in overall numbers, the abundance of large owl limpets (reproductive females) in the protected Monument visitor areas and not elsewhere on Point Loma clearly demonstrates the importance of non-harvested regions in maintaining natural communities.

Overall, the fact that 7 of the 13 index species have either declined significantly (along with their associated flora and fauna) or remain absent from the Cabrillo National Monument ecosystem is cause for great concern. Definitive reasons for species abundance variations are difficult to determine without controlled experiments. Seasonal patterns likely are responses to cycles of physical conditions. The absence of black abalone and ochre sea stars and long-term changes in other key species also may reflect natural environmental trends, especially the 20-yr period of above normal seawater temperatures in southern California, but numerous human impacts are co-occurring. Evidence of human impacts noted during these surveys included frightened birds, beach debris and boat wrecks, trampled habitats, overturned rocks, displaced marine life, disturbed organisms, and illegal collecting. Despite these observed impacts, effects of visitor activities were not obvious from the results of the key species monitoring, as most of the population changes occurred similarly in all three public use areas. However, the Monument intertidal ecosystem may be in a continuously disturbed state because decades of visitor use took place prior to this study. For example, during a two-month ban on visitation in 1992 due to a nearby sewage spill, algae grew on previously trampled rock paths, but when the intertidal zone was reopened, the plant growth was quickly worn away to bare substrate once again. In addition, many impacts to Monument tidepools, such as water and air pollution, are widespread, affecting all survey areas. Likely contamination sources include shoreside runoff, the San Diego harbor, the Tijuana River, offshore shipping, and the Point Loma municipal outfall. Impacts from the massive February-April 1992 sewage spill included increased sedimentation of turf habitats and blooms of opportunistic algae throughout Monument shores. Even prior to the spill, tissues from mussels on Point Loma analyzed by federal and state Mussel Watch Programs contained some of the highest levels of silver (a known toxic trace metal) found anywhere in the country.

Measures to minimize the threat from external pollutants require cooperative efforts among multiple agencies. Goals should include identification of pollution sources, adoption of procedures to reduce ongoing or accidental chemical releases, and development of rapid-response capabilities for containing spills and removing or detoxifying contaminants without compounding shore impacts. Beach debris impacts could be minimized by controlling sources and sponsoring beach clean-up events. To lessen public use impacts at the Cabrillo tidepools, educational programs should be promoted, enforcement of regulations prohibiting collecting and minimizing disturbance increased, experimental research on ecological conditions encouraged, and an intertidal resource management plan developed. One option for this plan is to implement a zonal management scheme in which some intertidal areas are open to public visitation, some partially restricted, and others left in an undisturbed "natural" state. The non-use areas could serve as "controls" for evaluating natural ecosystem dynamics, that could then be compared with the disturbed public use areas. Continued monitoring of key resources in all 3 types of areas would be essential for evaluating the effectiveness of management actions. Coupling updated ecological research with comprehensive management strategies will help to achieve the optimum balance of public access and resource protection necessary to preserve the essential value of this important land/water interface ecosystem.

## 1. Introduction

Rocky intertidal communities along the ocean-facing side of Point Loma are the most extensive and diverse in San Diego County. With the majority of the peninsula owned by the U.S. Navy, restrictions on public use have preserved this coast as one of the few remote stretches of ocean shoreline in southern California. Visitors are fortunate to be able to see fascinating assemblages of plants and animals at the Cabrillo tidepools where the marine life is protected from collecting activities. However, the rich communities found in these tidepools and rocky reef habitats are subject to influences from a multitude of human activities associated with the large metropolitan area of San Diego, including harbor commerce, nearshore shipping, the municipal sewage outfall, shore-side development, and direct disturbance by beach explorers. Trampling, rock-turning, tampering, illegal collecting, and pollution all take their toll. Effective management of these increasingly-valued intertidal resources requires dynamic baseline surveys to determine what species are present and to understand how key components of this land/water interface ecosystem respond to natural environmental variations and human impacts.

The tidepools at the Cabrillo National Monument are visited by tens of thousands of people every year, so it is inevitable that short-term and cumulative disturbance impacts occur. Intertidal communities here should be restored and maintained while still providing recreational enjoyment for the public. Measures of resource conditions need to be established and updated to evaluate management efforts. Since biological systems are naturally dynamic, seasonal and annual surveys are needed in order to separate normal environmental fluctuations from human impacts. Thus, marine life monitoring is critical to developing successful strategies for ensuring maximum public access with acceptable low impacts to this vital web of life. The results of such surveys also can be used to assess accidental impacts should some catastrophic event such as an oil spill occur.

Assessing ecological conditions is a complex and often expensive undertaking. During the 1980's, Channel Islands National Park developed a cost-effective intertidal monitoring program that has become a model for rocky shore surveys throughout southern California (Richards & Davis 1988; Engle et al. 1994a,b). Instead of detailed surveys of all species at many sites, ecological conditions at representative locations are evaluated by concentrating on selected key species assemblages that are monitored semi-annually in fixed plots. Complementary reconnaissance surveys yield inventory data and provide ecosystem perspective for the key species monitoring. The dynamic baseline surveys developed for this study utilized the same key species monitoring approach, thus ensuring compatibility with ongoing studies elsewhere in southern California.

This technical report provides the results of a 6-yr biological monitoring program (1990-1995) funded by the Cabrillo Historical Association that has focused on 3 rocky intertidal areas within the Cabrillo National Monument tidepools to establish a temporal baseline for evaluating visitor and other impacts. The standardized monitoring protocol was developed using the key species approach, as well as incorporating information gained from previous marine ecological surveys on Point Loma, including Zedler (1976, 1978), Seapy and Littler (1978, 1979, 1980), Stewart and Meyers (1980), and Stewart (1982, 1983, 1989a,b). This protocol is described in a Monitoring Handbook produced specifically for the Cabrillo tidepool program (Engle & Davis 1996a). The Handbook provides the detailed information necessary for biologists and assistants to continue low-cost monitoring in a practical and standardized manner. Recently, in 1995, the

U.S. Navy has funded the establishment of 2 new surveys sites farther north on the outer coast of Point Loma (Engle & Davis 1996b). These additional stations will provide a regional perspective that will enhance peninsula-wide intertidal resource management efforts.

## 2. Methods

### 2.1 Target species assemblages

Ideally one would like to monitor the abundances of all species in an area; however, limited resources require that a subset of the resident species be targeted. Intertidal zonation is frequently characterized by distributions of dominant attached plants and sessile animals (Ricketts et al. 1985). Therefore, a representative group of important taxa (species or species groups), also referred to as "target" or "key" species assemblages, can provide an accurate index of ecological conditions (see Ambrose et al. 1995 for discussion). Criteria used for selecting these target species assemblages include the following:

- Species ecologically important in structuring intertidal communities
- Species characteristic of discrete intertidal heights
- Species that have been well-studied
- Species that are especially vulnerable to human impacts
- Species practical for long-term monitoring

Thirteen index taxa were chosen for monitoring at the Cabrillo National Monument (Table 1). The natural history and ecology of each of the key species are described in Appendix 1. All of these species are capable of dominating particular habitats, creating conspicuous bands or patches on the shore. Some (e.g., rockweed, mussels, boa kelp, red algal turf, surf grass) create thickets that provide shelter for a host of other plants and animals. Many (e.g., thatched barnacles, rockweed, mussels, goose barnacles, owl limpets) are long-lived and tend to recover slowly if their populations are decimated. Except for abalone and sea stars which prefer crevices, all of the target species are vulnerable to trampling impacts. Species preferred for food (i.e., mussels, goose barnacles, owl limpets, abalone) and for souvenirs (i.e., sea stars) are vulnerable to collectors. Black abalone and ochre sea stars are extremely rare or no longer exist at the Monument tidepools, yet these ecologically important species are worth including in the surveys in order to confirm their absence or rarity and to check for recruitment which could lead to recovery. In addition to the key species, broad categories (other plants, other animals, other biota) are scored, as well as the amount of tar and bare substrate (rock or sand).

Birds and people also were targeted for monitoring in this program. Unlike most intertidal life, birds can flee when disturbed, therefore their local distribution and abundance may reflect spatial patterns of human disturbance. A variety of wading, shore, and sea birds roost or forage in tidepool habitats, functioning as important predators and maintaining a diverse community. Herons and egrets are common wading birds at the Monument. Shore birds include plovers, willets, tattlers, godwits, whimbrels, turnstones, and sanderlings. Gulls, cormorants, and pelicans are typical sea birds. People were counted at the same time as the birds in order to document possible disturbance patterns. Monitoring tidepool visitation also can provide an index of the level of human activities that may be correlated with other resource conditions.

## 2.2 Resource monitoring areas

Public access to the monument's intertidal zone is restricted to a single point on the western coast of Point Loma approximately 800 m north of the peninsula tip (Figs. 1 & 2). From this point, visitors can explore about 1 km of open ocean shoreline without crossing deep channels that extend to the base of steep cliffs, or moving around the southern end of the Point into San Diego Bay. This situation creates an apparent gradient of diminishing public use extending from the access location downcoast to the Point. The resource monitoring stations were stratified into 3 contiguous areas (Areas I, II, & III, abbreviated as AI, AII, & AIII) along this presumed human use gradient, with each area encompassing roughly 330 m of shoreline (Fig. 2). AI, closest to the access point, receives the highest visitation. AII, south of Grunion Beach to the Radio Tower, appears to receive fewer visitors, and AIII, at the southwestern tip of the Point, receives the least.

The 3 monitoring sites have generally similar features, with poorly-consolidated, sedimentary reefs projecting out from eroding sandstone cliffs. The relatively flat, gently-sloping reefs are topped with scattered rocks and boulders. Reef width varies from 20-40 m in AI to >50 m in AII to >70 m in AIII, resulting in a moderate gradient in wave exposure conditions from highest wave shock in AI to calmest conditions in AIII (though AIII experiences currents sweeping across the peninsula tip). AI extends from ~220 m north to ~110 m south of the access point (Figs. 2 & 3). The northern portion of AI is backed by fractured low cliffs with small caves and pockets of cobble and boulders. The offshore region is composed of pools, surge channels, and numerous boulders. The southern part of the site is in a cove (Grunion Beach) backed by higher cliffs and a small sand beach. AII extends downcoast approximately 330 m from the boundary of AI, with the central portion located offshore from the old Navy dolphin training compound. The northern section of AII has sloping rock slabs and low-relief reefs, mixed with various-sized boulder/bedrock outcrops. The central and southern parts of the site are backed by an irregular low sandstone cliff with caves and pockets of boulders and cobbles. The lower intertidal zone encompasses extensive pools and flat reefs topped with occasional boulders. AIII extends another 330 m from AII (at the Radio Tower) south to the tip of Point Loma, including a prominent line of boulders that extend offshore southwest of the lighthouse. The site is backed by large riprap boulders and a low cliff. Except for the south end boulders, the offshore portion of AIII has extensive, broad, flat reefs with shallow pools and small rocks.

## 2.3 Public use and ecological monitoring

### *2.3.1 Visitor and bird censuses*

The number of people and birds were recorded by Cabrillo National Monument staff as part of their routine patrols of the shore during low tides when visitors were most likely to be present. Whenever possible, counts were made once during each day that the low tide occurred between 1000-1600 hrs (PST) and was <15 cm above mean lower low water (MLLW). About 120 days met these conditions each year, but actual sampling dates were far fewer and varied depending on staff availability. People and birds were censused within 30 min of the low tide by walking along the shore or on the bluffs through AI, AII, and AIII, keeping separate tallies for each of the 3 areas. Birds were identified to species if possible, but at least to 3 ecological categories: wading birds, shore birds, and sea birds. Data on weather and sea conditions were recorded as well.

### *2.3.2 Index species monitoring*

Within each of the 3 visitor use areas, abundance and distribution of 13 key species, collective taxa (other plants, other animals), bare substrate, and tar were measured during a series of daylight low tides in Spring and Fall each year from 1990-1995. A variety of sampling techniques were employed to gather information about the population dynamics of these taxa. The following section describes each technique and its application. Table 1 summarizes the taxa and respective sampling techniques. Further details, guidelines, and examples of data forms are provided in the Monitoring Handbook (Engle & Davis 1996a).

Thirty fixed photoplots, circular plots, band transects, and line transects were established within each of the 3 survey sites during February 1990 in a stratified design to represent the range of tidal and biologic zones in locations typical of each taxon, subject to physical constraints of plot or transect dimensions. In February 1995 the 3 goose barnacle band transects at each site were converted into 6 photoplots, resulting in a total of 33 plots or transects per area. Benchmark measurements, sketch maps, photographs, and video recordings were used to document plot/transect placements for ease of relocation (see maps in Figs. 3-6). Each plot and transect was coded in 2 ways: 1) a numerical code used on the original tags and for photoplot pictures, and 2) an alphanumeric code that indicated the key species targeted and replicate number (Table 2).

Species surveyed in photoplots

Rectangular (50 x 75 cm; 0.375 $m^2$) photoquadrats were used to monitor the population dynamics of 5 relatively small, densely-spaced index species, acorn barnacles (*Chthamalus* spp.), pink-thatched barnacles (*Tetraclita rubescens*), rockweed (*Pelvetia fastigiata*), mussels (*Mytilus californianus*), and goose barnacles (*Pollicipes polymerus*). All photoplots were established on stable boulders, except for the goose barnacle plots located along the cliff base. There were 5 replicates for each photoplot species (acorn and thatched barnacles were surveyed in the same plots), except for goose barnacles which have 6 because monitoring was changed from 3 band transects to 6 photoplots (2 per transect) in 1995.

The photoplot sampling protocol followed Richards and Davis (1988). The 4 corners of each rectangular photoplot (except for goose barnacles) were marked with ~5 cm diameter blobs of olive-green "Splash Zone" epoxy. Photoplot numbers were located at the upper left corner of each plot on a brass tag or etched into the epoxy. Stainless steel or silicone bronze bolts (3/8 in) fixed into the bedrock with epoxy were used to mark the corners of goose barnacle photoplots. The upper left bolt heads were marked with notches for plot identification (Table 2). Still photos were taken during each seasonal survey using a quadrapod apparatus, which holds a camera and strobe in a fixed orientation over each quadrat. Species abundance was scored from the slides in the laboratory as percentage cover by the point contact method. The slide was projected onto a grid of 100 uniformly-distributed points. The number of points occupied by key species, higher taxa, tar, and bare substrate were recorded to determine percentage cover of each taxon.

Goose barnacle band transects

The abundance and distribution of goose barnacles (*Pollicipes polymerus*) were recorded in 3 band transects (1 m x 10 m) located on cliff faces or rip-rap at the base of cliffs in each visitor use area. Each transect was marked with a numbered brass tag at the north end, and 3 bolts epoxied in holes drilled into the rock at the transect start, middle, and endpoint. The

dimensions of each clump of goose barnacles within 0.5 m of the transect line were recorded, and the presence of small (<1 cm), medium-sized (1-3 cm), and large (>3 cm) barnacles in each clump was noted. In 1995 band transect sampling of *Pollicipes* was abandoned due to the excessive amount of time required for this type of survey. Instead, 2 photoplots were established within each band transect to permit more efficient sampling and still maintain data continuity.

Owl limpet circular plots

The number and size distribution of owl limpets (*Lottia gigantea*) were monitored within permanent circular plots. There are 6 replicate plots in each public use area, 3 on cliff bases and 3 on boulders. Plots were marked with a numbered brass tag and a center bolt, notched to indicate the plot number (Table 2). All limpets ≥15 mm found within a 1 m radius circle (3.14 $m^2$ area) around each bolt were counted and measured (maximum length in millimeters).

Species surveyed in line transects

Three strata of flat surfaces subject to trampling were sampled with replicate 10-m line-intercept transects. Each transect was marked with a numbered brass tag at the north (start) end, and 3 bolts epoxied in holes drilled into the rock at the transect start, middle, and endpoint. Bolts at the north end of each transect were notched with number codes for identification (Table 2). Six transects were established in each visitor use area, 2 each at 3 elevations in the middle to low zones, as characterized by distributions of red algal turf (*Corallina* spp. and other tufted algae), surf grass (*Phyllospadix* spp.) and boa kelp (*Egregia menziezii*). The abundance and distribution of these 3 taxa, sargassum weed (*Sargassum muticum*), anemones (*Anthopleura elegantissima),* other biota, tar, and bare substrate were recorded as distances (to the nearest centimeter) along the edge of a meter tape laid out between the bolts.

Sea star and abalone timed searches

Historically, ochre sea stars (*Pisaster ochraceus*) and black abalone (*Haliotis cracherodii*) were important components of Point Loma's intertidal ecosystem (Zedler 1976, 1978). However, these key species have not been found here in recent years. Timed searches (30 person minutes) of likely habitats throughout each survey site were conducted during each sampling period in order to document possible occurrences of any species of abalone or sea stars.

## 3. Results

### 3.1 Sampling efforts

A total of 90 fixed plots and transects, 30 in each of the 3 public use areas (Fig. 2), were established in February 1990 and monitored in Spring and Fall each year through 1994 (see Table 3 for dates). The monitoring continued in 1995, except that the 9 goose barnacle band transects (3 per area) were replaced by 18 goose barnacle photoplots (6 per area). One additional survey was conducted in June 1992 to evaluate resource conditions after the February-April 1992 sewage spill from the Point Loma Wastewater Plant undersea pipeline. In addition to the authors, numerous people assisted in the periodic sampling, including Monument staff, biologists and students from local institutions, and other volunteers.

Sampling was made more efficient by the preparation of maps showing locations of each plot/transect and prominent physical features in each survey area (Figs. 3-6). The interplot measurements used in constructing these maps, survey data forms, and guidelines for standardized sampling are found in the Monitoring Handbook (Engle & Davis 1996a). Weather and sea conditions were recorded, along with ecological observations, on Field Log forms during

the surveys. Similar air and sea physical data were acquired during the people and bird censuses (Appendix 2). In addition, seawater temperature records from surface water at the Scripps pier (La Jolla) recorded from 1920-1995 were plotted to document current temperature patterns and compare them to historical conditions for the San Diego area (Figs. 7 & 8). The data indicate that the year prior to initiation of sampling (1989) was normal, but from 1990-1995 water temperatures were consistently warmer than the 76 yr mean, except for average to cooler conditions from Spring to Fall 1991 and normal temperatures in Spring/Summer 1995. These warm-water conditions continue a major warming trend that has been occurring since 1976.

The primary results of the 12 Spring and Fall samples from 1990-1995 (plus June 1992) are presented as raw data tables with descriptive statistics in Appendix 2 (Tables 1-69). Patterns and trends in the data among the 3 public use areas are described below for each key species, grouped by survey method. In these descriptions, mean values represent averages of the replicate plots for each area in each season unless otherwise indicated. For ease of presentation, sampling seasons will be abbreviated as "S" (Spring) or "F" (Fall) (e.g., S92 = Spring 1992), with J92 indicating the single post-spill (sewage) sample in June 1992. Consolidated summary data for all index taxa, birds, and people are shown in Table 4 and Figures 9-12.

### 3.2 Public use and bird censuses

The number of censuses for people and birds varied from 1-53 per season, depending on the availability of Monument staff for conducting the once-per-day counts during periods with lowest midday tides (Tables 5 & 6). A total of 288 counts (totaling 18,225 people) were made during 1990-1995, 165 in Spring and 123 in Fall. The number of people within the Monument intertidal zone at the specific count times varied from 0-384. Public use was substantially higher on weekends and holidays. The series of 16 zero values (with 2 exceptions) recorded from February 13 to April 4, 1992, reflect the shore closure in effect at that time due to contamination from the massive sewage spill from the nearby undersea pipeline. The historical gradient of diminishing public use from AI to AIII was consistently clear in all seasons and years (Figs. 13-16). Mean numbers of people in each area across all censuses were 45, 13, and 6 for AI, AII, and AIII, respectively (Table 5). Overall there were little or no Spring versus Fall differences in people abundance, but counts generally were lower during 1992-1995 than in 1990-1991 (Figs. 13 &14).

The number of birds on the Monument shore during the censuses varied from 2-573, with a total of 22,918 birds counted during 1990-1995 (Appendix 2; Table 6). Of these, 63% were sea birds, 30% shore birds, and 7% wading birds. Like the people counts, there were no obvious seasonal trends for total bird counts (nor for sea, shore, or wading categories) (Table 7; Figs. 17-21); however, there was an overall declining trend in bird abundances since 1990-1991 (Fig. 22). Bird usage of the 3 monitoring areas showed a consistent gradient that was opposite the gradient of public use (Figs. 23 & 24). Mean bird numbers for all censuses were 7, 16, and 57 for AI, AII, and AIII, respectively. Similar gradients were seen in all 3 categories of birds, though sea birds (predominantly gulls) exhibited the strongest gradient due to large numbers in AIII.

To assess the relationship between people and bird abundances, scatterplots were constructed for each of the 3 monitoring areas and for all areas combined (Figs. 25-28). The resulting plots all revealed a similar pattern: low numbers of birds occurred at all levels of people abundance, but the greatest numbers of birds were nearly always associated with the fewest people.

### 3.3 Barnacle, rockweed, and mussel photoplots

The abundances of acorn barnacles, thatched barnacles, rockweed, California mussels, goose barnacles, other plants, other animals, and bare substrate recorded in photoplots are presented in Appendix 2 and summarized in Tables 8 and 9. Acorn and thatched barnacles occurred mainly in the plots in which they were specifically targeted (barnacle plots), except that acorn barnacles were common at times in the AIII mussel plots. In the barnacle plots, mean acorn barnacle cover (5 plots per site) ranged from 1-42% of cover among the 3 sites over the 6 years. Within each area, acorn barnacle abundance was variable, with no clear seasonal or annual pattern, although some changes were comparable between areas (Fig. 29). For example, rapid declines to near zero values occurred in AI and AIII between J92 and F92. Mean thatched barnacle cover ranged from 3-30% during the surveys. Abundances were less variable than those of acorn barnacles, and there was a trend in all 3 areas of gradually-decreasing thatched barnacle cover from 1990-1995 (Fig. 30). Bare substrate cover was substantial in the barnacle plots and changed relatively little over the 6 yr (from 46% overall in S90 to 52% in F95). Abundance of other plants was variable, with some seasonality, and increased from 10% overall cover in S90 to 28% in F95.

Rockweed occurred only in the plots where it was targeted, except for minor amounts in a few barnacle and mussel photoplots (Tables 8 & 9). Mean cover was high, ranging from 43-86% during the study. Though somewhat variable, there was no overall trend among areas or years; final (F95) values were similar to initial (S90) study cover (Fig. 33). Rockweed cover tended to be slightly less extensive in Spring than in Fall; however, there was a notable drop in cover in all 3 areas between J92 and F92. Bare substrate and other plants made up nearly all of the secondary cover in the rockweed plots (Table 9). Bare substrate remained relatively stable at values ranging from 8-19% in AI, 4-13% in AII, and 4-12% in AIII. Other plant cover (15-42% in AI, 14-35% in AII, 3-27% in AIII) varied inversely with rockweed cover as understory plants, especially crusts, were exposed when the rockweed canopy diminished (Fig. 34).

During initial surveys at the Cabrillo National Monument, California mussels were found to be much less common than expected based on previous studies by Zedler (1976, 1978). They then became even rarer during the 6 yr of monitoring representative existing patches (Tables 8 & 9; Fig. 35). Cover in AII and AIII mussel plots was moderate in S90 (55% & 47%), but declined steadily to only 1% in both areas by F95. In AI, where plots averaged only 16% cover in S90, 4 of the 5 plots also showed declines by F95. Plot #296 in AI was the only 1 of the 15 mussel photoplots at the Monument to show increased cover (Table 8). The fact that it more than doubled in cover (from 17-39%) during the 6 yr resulted in little change overall for mussel abundance in AI. There was no seasonality evident in mussel population dynamics. Bare substrate and other plants made up most of the secondary cover in the mussel plots (Table 9; Fig. 36). Space lost by disappearing mussels was primarily occupied by other plants in AII, but by bare substrate and sometimes acorn barnacles in AIII.

Goose barnacles often are associated with mussels, but they almost never occurred in AII and AIII mussel plots. In AI goose barnacle cover was low (8-15%) and varied little during the study (Fig. 32). Separate goose barnacle photoplots established along the cliff bases in 1995 to replace the band transects (see below) had low cover (3-11%), including minor increases recorded from Spring to Fall (Table 9).

### 3.4 Goose barnacle band transects

In addition to intermingling with mussels on higher boulders (primarily in AI), a patchy narrow band of goose barnacles occurred higher up inshore along the cliff base (AI & AII) or on riprap (AIII). Here, barnacle clumps were counted and measured in 1 x 10 m band transects from 1990-1994 (Tables 10 & 11; Figs. 37-40). Results showed considerable variability due in part to difficulty in measuring irregular clumps, especially those in deep riprap crevices in AIII. The anomalously high values for AIII in F90 apparently were due to erroneous measurements. Overall, goose barnacle clump area declined in all 3 survey sites during the 5-yr monitoring period, with the greatest drop occurring in AI (43% decline vs. 24% in AII and 8% in AIII) (Fig. 37). The total number and mean size of clumps in AI and AII had generally similar, though irregular patterns, while clumps in AIII were always larger and less common (Figs. 38 & 39). Size-frequency measurements for clumps and for individuals within clumps indicated that large variations in population size structure occurred over seasons and years (Figs. 40-46). Greater numbers of smaller clumps and smaller individuals within clumps usually were recorded during Spring samplings and 1992 was a banner year for recruitment, after which levels returned to pre-1992 ranges. Lower values in most Fall surveys indicated high mortality of young goose barnacles, particularly those not settling amidst existing clumps.

### 3.5 Owl limpet circular plots

Owl limpets were the only key species counted and measured in 1-m radius circular plots. Limpet abundances in individual plots varied considerably during the study, but larger patterns of change were mostly similar among the 3 survey areas (Tables 12 & 13; Fig. 47). Area-wide average densities from 1990-1995 ranged from 22-52 limpets per plot. AI, AII, and AIII limpet counts declined from F90 to S92, followed by major increases through F92, then decreased to the lowest levels recorded by F95 (except for AI). There was no obvious seasonality. Overall, during the 6-yr period, limpet abundance increased 16% in AI, but dropped 17% in AII and 26% in AIII. These trends were similar in boulder and cliff habitats, except the single cliff plot in AIII (#13) did not show the overall decline typical of the AIII boulder plots (Table 13).

Large owl limpets (which are nearly always females because *Lottia* are protandrous hermaphrodites (Wright & Lindberg 1982)) were a common feature of the protected Monument visitor areas, but not elsewhere on Point Loma where they are subject to harvest. Monument owl limpets ranged in size from 15 mm (the smallest size *Lottia* can reliably be identified) to 87 mm, which approaches the largest size for this species (100 mm; Lindberg 1981). Mean sizes were less variable than counts, and decreased slightly in all areas in both boulder and cliff habitats (Fig. 48). Length frequency measurements reveal mostly similar temporal patterns among the 3 areas (Figs. 49-57). Recruitment peaks occurred in F90/S91, F92, and F93.

### 3.6 Turf, grass, and kelp line transects

The abundances of red algal turf, surf grass, boa kelp, sargassum weed, aggregating anemone, other biota, and bare substrate along 10-m long line-intercept transects at AI, AII, and AIII are presented in Tables 14 and 15 and Figures 58-63. Red algal turf was always abundant on the 2 middle intertidal transects at each public use area where this key species group was targeted. Mean site-wide cover ranged from 58-94% during the 6-yr study (Fig. 58). Smaller amounts of turf occurred on all grass (5-30%) and kelp (6-66%) zone transects as well (Table 15; Fig. 61). Red algal turf abundance in the turf zone transects was similar among the 3 survey

areas, and relatively consistent through time, except that turf cover tended to be lower in Fall samples compared to Spring periods (Fig. 58). The lowest turf cover (58%) occurred in Area II in F92, when sand (bare substrate) covered portions of the turf habitat.

Though more variable than red algal turf, surf grass generally was abundant in the grass zone transects, with cover ranging from 53-95%, except in AIII where large oscillations in cover reached values as low as 27% in S95 ( Tables 14 & 15; Fig. 60). The abundance cycles in AIII clearly were seasonal, with lower cover evident every Spring. The seasonality also was present, but much less pronounced in AII and AI. Overall, surf grass cover from 1990-1995 increased steadily for the most part in AI and AII from 53-80% cover and 57-95% cover respectively. In AIII cover tended to increase to a peak in F92, then declined to the low in S95, but recovered by F95 to the same cover initially found in S90. All 3 areas showed sharp declines in S95 followed by partial (AI) to beyond full recovery (AII & AIII) in F95. Surf grass occupied small amounts (0-20%) of the turf zone transects (Fig. 59) and greatly-expanding portions (4-11% in S90 vs. 33-79% in F95) of the kelp zone transects (Fig. 63) in all 3 areas during the course of the study.

Upon initiation of the long-term monitoring, boa kelp was common in the low kelp zone transects in all areas (44-55% cover) and present to lesser extents in grass (2-18% cover) and turf (0-6% cover) transects Tables 14 & 15). With time, a remarkably similar abundance pattern was followed for the 3 areas in which cover quickly declined to lows of 11-22% by S91, increased back to original levels by F91 (AI) or J92 (AII & AIII), then decreased rapidly to low values that reached near-zero levels in S95 (Fig. 62). By F95 boa kelp in AI and AIII increased slightly, but AII cover remained zero. Boa kelp in grass and turf transects followed a similar temporal abundance pattern (Table 15). During the first decline in boa kelp abundance (F90-S91), red algal turf, bare substrate, and sargassum weed filled in the space, but during the second longer decline (F92-S95), surf grass took over most of the kelp zone cover (Fig. 63).

Sargassum weed and aggregating anemones were monitored but not specifically targeted in the turf, grass, and kelp zone transects Table 15). Sargassum weed occurred now and then in transects in all 3 areas, with greatest abundances (0-26% cover) in AIII grass and kelp transects. Highest cover values occurred in Spring sampling periods. Aggregating anemones, with few exceptions, occurred only in turf zone transects. In all 3 areas, they consistently occupied 0-2% of the space, always in low, wet pockets in the sedimentary bedrock.

### 3.7 Sea star and abalone timed searches

Timed haphazard searches (30 person-minutes per area) for abalone (primarily black abalone) and sea stars (primarily ochre sea stars) were conducted during Spring and Fall from 1990-1995 at the Monument sites (Table 16). No black abalone (live or fresh shells) ever were found. Occasionally, 1-3 green abalone (*Haliotis fulgens*) were observed in crevices under boulders, mainly in AIII. A single ochre sea star was encountered in AI in S94. A total of 10 blue knobby sea stars (*Pisaster giganteus*) were seen during the 13 surveys, never more than 1 per area. Juvenile bat stars (*Asterina miniata*) often were found under rocks in AII and AIII; however, since rocks were not systematically overturned, counts do not necessarily reflect actual abundances.

## 4. Discussion

This section synthesizes information acquired during the Cabrillo National Monument rocky intertidal monitoring surveys with respect to the temporal variability of index species populations and effects of human activities. The natural history and ecology of the 13 index species targeted in this study are summarized in Appendix 1. The fixed plot data for index species document remarkable changing resource conditions within and among the 3 public use sites. However, determination of the causes for such changes is a difficult process. Much can be inferred from the data and observations during this study, combined with knowledge gained from previous intertidal ecology and human impact studies; nevertheless, carefully-designed experiments would be necessary to attribute specific causality with confidence.

The condition of intertidal resources at any one time reflects the result of complex biological responses to the physical environment as well as interactions among the diverse plants and animals in the ecosystem. Temporal environmental variations may be short-term or long-term, natural or human-influenced, cyclical or unpredictable, minor perturbations or catastrophic disturbances. Short-term environmental changes include fairly predictable as well as unforeseen variations in tidal exposure, water and air temperature, light level, wave height, sand movement, and other conditions. Important seasonal changes include the occurrence of midday low tides, colder water, more storms, and less sand influence in Winter compared to Summer. If the lowest low tides that occur during midday hours from November to March coincide with warm air temperatures and low humidity conditions (as is likely this time of year in San Diego), then heat and desiccation stress can injure or kill sensitive species (Littler 1980; Gunnill 1980a; Stewart 1989a). Major die-offs are possible during Santa Anas, when extremely hot, dry winds blow offshore from the desert. Colder water may stress species adapted to warm conditions, while higher nutrient levels associated with cooler temperatures can enhance productivity and growth throughout the food web. Storm swells may tear plants and animals loose from the soft sandstone substrate (or break out entire rock layers), causing patchy or extensive mortality. Loss of cover frees up space that can be colonized temporarily at least by opportunistic species (Littler & Seapy 1979). Heavy surf, usually from W/NW swells in winter, also removes sand from the intertidal, which is returned gradually during calmer periods, most often in the summer months (Stewart 1983, 1989a).

Less is known about ecosystem responses to environmental variability over time scales of years to decades or more, because relatively few long-term intertidal databases exist. Daily surface water temperatures taken at the Scripps Institution of Oceanography pier (La Jolla) since 1920 reveal remarkable long-term environmental trends (see Fig. 8). Notably, the 32-yr period from 1944-1975 was characterized by cooler than average temperatures, except for the 1957-1959 El Niño years. In contrast, the 20-yr period from 1976 to the present has been warmer than the 75-yr mean, except for a few normal or cool years. This 2-decade warming trend includes several El Niño episodes, such as the major 1982-83 event, in which a combination of severe storms, high temperatures, and low nutrients caused dramatic changes in marine ecosystems (Gunnill 1985; Tegner & Dayton 1987; Seymour et al. 1989; Engle 1994). Long-term warming has been associated with northward shifts in the ranges of southern species (Barry et al. 1995) and with dramatic declines in the abundance of zooplankton in southern California (Roemmich & McGowan 1995). The insight gained from these long-term perspectives of oceanographic conditions is that the species assemblages found in rocky intertidal habitats at Point Loma in 1995 likely reflect the cumulative effects of 2 decades of warm-water conditions.

Table 4 and Figures 9-12 summarize abundance trends for 13 index species, birds, and human visitors for the 1990-1995 surveys in the 3 public use areas. The 6-yr monitoring results clearly reveal the dynamic nature of the rocky intertidal resources at the Monument. Relatively minor seasonal cycles were identified for 5 of the 11 key species that had sufficient presence for evaluation (black abalone were absent and only 1 ochre sea star was seen). Rockweed and surf grass tended to be less abundant in Spring periods, while sargassum weed, red algal turf, and goose barnacles generally had lower cover in Fall surveys. Larger scale resource dynamics either were irregular or indicated multi-year trends, many of which were negative. Over the 6-yr period, 5 key species (rockweed, sargassum weed, red algal turf, aggregating anemones, & acorn barnacles), though variable in population dynamics, ended up with similar abundances as at the study start. Surf grass was the only species to increase its cover from 1990-1995. *Phyllospadix* in the grass zone transects, where it was common from the start, expanded by 39%, while in the kelp zone it increased 625% as the once dominant boa kelp declined. Two species (goose barnacles & owl limpets) declined moderately, with overall population decreases of 29% and 23% respectively. Three other species (boa kelp, thatched barnacles, & California mussels) declined drastically (by 84%, 75%, and 87% respectively). Boa kelp and thatched barnacle populations are capable of recovery within a few years if conditions are favorable (Vesco & Gillard 1980). However, the disappearance of mussels from the Cabrillo tidepools is especially disturbing because they once were abundant (Zedler 1976), they provide shelter for a high diversity of plants and animals (Paine 1966; MacGinitie & MacGinitie 1968; Suchanek 1979; Kanter 1980), and even if conditions become favorable recovery may take a decade or longer (Vesco & Gillard 1980; Kinnetics 1992).

The dynamic trends in most of these index species populations demonstrate the importance of long-term monitoring in assessing the changing "baseline" condition of intertidal resources. All of the key species populations showed periodic, irregular, or multi-year abundance patterns. The seasonal patterns probably were due to environmental cycles as described above. For example, Winter storms can thin out rockweed and surf grass populations (Gunnill 1983; Stewart 1989a; Ambrose et al. 1995), sargassum weed undergoes post-reproductive declines in the Summer (Gunnill 1980a; Deysher & Norton 1982), and increased sand cover during calm-weather periods can partially bury red algal turf (Stewart 1983, 1989a). Irregular storm activity affected owl limpet and goose barnacle populations as evidenced by break-outs of major rock sections from certain plots (e.g., L243 in S92; L242 & Po274 in S93).

Other annual or multi-year trends may be due to natural environmental changes, human impacts, or a combination of both influences. Historically black abalone and ochre sea stars were present at the Monument (Zedler 1976, 1978). Abalone losses prior to initiation of this project may have been associated with the mysterious "withering" syndrome that has caused widespread declines at the Channel Islands (Lafferty & Kuris 1993; Richards & Davis 1993) and along other mainland shores in southern California (Miller & Lawrenze-Miller 1993; Ambrose et al. 1995). Similarly, sea star populations in this region have been decimated by a "wasting" disease, apparently caused by a warm-water bacterium of the genus *Vibrio* (Schroeter & Dixon pers. comm.). The once common mussels declined greatly before these surveys, and continued to disappear from 1990-1995. It may be more than a coincidence that mussels feed on plankton, and that Roemmich and McGowan (1995) reported an 80% decline in macrozooplankton biomass in southern California waters from 1951-1993, associated with seawater warming. Also, boa kelp is known to be sensitive to heat stress, as evidenced by catastrophic mortalities in La Jolla populations during the 1982-83 El Niño (Gunnill 1985). Thus it is likely that some of the key

species trends are linked directly or indirectly to the remarkable 20-yr trend of warmer ocean temperatures (Fig. 8), a condition especially evident during the past 6 yrs (Fig. 7).

Impacts from human activities on rocky intertidal ecosystems may be caused by various types of pollution from point sources (e.g., outfalls, vessel spills) and non-point sources (e.g., storm runoff, aerial fallout), and visitor activities (see Ghazanshahi et al. 1983; Foster et al. 1988; Anderson et al. 1993 for reviews). Impacts may range from single events affecting one location (e.g., a shipwreck on the beach) to chronic (but often low level), widespread conditions (e.g., trace metal contamination) that may show little short-term effect, but cause significant cumulative effects over many years or decades. Widdowson (1971) resurveyed intertidal transects in the Los Angeles area that had been originally sampled by Dawson (1965) in 1956-1959, and found widespread declines in algal diversity that were attributed to human usage, air pollution, and water contamination. Thom and Widdowson (1978) expanded these resurveys throughout southern California 15 yr after Dawson's initial characterizations, and discovered general shifts in the flora away from massive species and toward turf and crustose species. These intertidal community changes were most evident at stations located in heavily-populated metropolitan areas or in public parks with heavy recreational use. Twenty years ago, Zedler (1976) compared areas varying in degree of human use at the Cabrillo tidepools and found lower abundances of certain coralline algae, sand castle worms, and limpets in more heavily-visited habitats. In experiments with turning over rocks, species diversity of exposed invertebrates declined rapidly after 2 weeks, and opportunistic green algae invaded by 4 weeks (Zedler 1978). In trampled algal turf mats, the more brittle species of erect coralline algae were most impacted, with recovery estimated to take 1-2 yr (Zedler 1978).

The people counts document that large numbers of visitors came to explore the Cabrillo tidepools, especially near the sole access point in AI. Evidence of human impacts noted during these surveys included the frightening of marine birds (clearly shown by the inverse relationship of people and birds), presence of beach debris (e.g., bottles, ropes, styrofoam, driftwood, lobster traps, shipwreck junk), trampled habitats (e.g., worn paths in the turf flats, cracked limpets), rocks turned upside down (killing attached species), displaced marine life (specimens moved to inappropriate microhabitats), disturbed organisms (e.g., anemones poked, limpets pried off rocks), and illegal collecting (e.g., several instances where people were cited by Monument staff for collecting sackfulls of owl limpets). Overall, limpet poaching appeared to be a rare occurrence, and the abundance of large owl limpets (which are mostly reproductive females) within the protected Cabrillo National Monument visitor use areas and not elsewhere on Point Loma (see Zedler 1978; Engle & Davis 1996b) clearly demonstrates that establishment and enforcement of non-harvested regions is critical to maintaining natural communities.

Except for birds, effects of visitor activities were not obvious from the specific results of the key species monitoring, as most of the population changes occurred similarly in all 3 public use areas, or reflected habitat differences among AI, AII, and AIII. This should not lead one to conclude that impacts are not occurring. An important consideration is that decades of visitor use took place prior to this study (Zedler 1976, 1978), so initial (1990) survey conditions were not pristine. Thus the ecosystem may be in a continuously disturbed state. Insight into this possibility occurred during the 1992 sewage spill from the nearby undersea pipeline, which resulted in closure of the Cabrillo tidepools for two months. During this time algae grew on previously trampled and mostly barren rock paths, but when the intertidal zone was reopened to visitors, the plant growth was quickly worn away to bare substrate once again (Engle 1992).

Another major consideration is that other (non-visitor) impacts to Monument tidepools, such as water and air pollution, are widespread, affecting all 3 survey areas. Likely contamination sources include shoreside runoff, the San Diego harbor, the Tijuana River, offshore shipping, and the Point Loma municipal outfall. Sometimes the source of the problem is obvious, such as when the sewage outfall pipe burst, creating a massive spill during February-April 1992. Fortunately, with the monitoring program in place, additional sampling was able to detect apparent impacts from suspended particulates and added nutrients to the intertidal ecosystem (i.e., increased sedimentation of turf habitats and blooms of opportunistic algae) (Engle 1992). Possible spill-related changes in the key species populations were more difficult to assess because there was no control for natural variation. Noteworthy were relatively large decreases in rockweed, boa kelp, and acorn barnacle cover between J92 and F92, coincident with increases in surf grass and owl limpet abundances, but sea temperatures were above normal that summer (Fig. 7). The source of another type of widespread contamination is unknown. Tissues from mussels on Point Loma analyzed by federal and state Mussel Watch Programs have shown some of the highest levels of silver found in mussels anywhere in the country (NOAA 1989; SWRCB 1989, 1995). Silver is known to be toxic, but its effect on Monument mussel populations is unclear.

Based on the above discussion, it is evident that impacts to the marine life of the Cabrillo tidepools from visitor and other human activities continue to occur, but the extent of these impacts is difficult to separate from natural environmental variation without detailed experimental studies. However, the fact that 7 of the 13 monitored index species have either declined significantly (presumably along with their associated flora and fauna) or remain absent from the Cabrillo National Monument ecosystem is cause for great concern. Measures to minimize the threat to Point Loma shores from external pollutants require cooperative efforts among multiple agencies. Goals should include identification of pollution sources, adoption of procedures to reduce ongoing or accidental chemical releases, and development of rapid-response capabilities for containing spills and removing or detoxifying contaminants without compounding shore impacts. Beach debris impacts could be minimized by controlling sources, and sponsoring beach clean-up events.

In order to lessen public use impacts at the Cabrillo tidepools, educational programs should be promoted, enforcement of regulations prohibiting collecting and minimizing disturbance should be increased, research on ecological conditions encouraged, and development of an intertidal resource management plan considered. One option for this plan would be to develop a zonal management scheme in which some intertidal areas are open to public visitation, some partially restricted, and others left in an undisturbed "natural" state. The non-use areas would serve as scientific "controls" for evaluating natural ecosystem dynamics, that could then be compared with the disturbed public use areas. Continued monitoring of key resources in all 3 types of areas would be essential for evaluating the effectiveness of management actions. The coupling of updated ecological research with comprehensive management strategies will help to achieve the optimum balance of public access and resource protection necessary to preserve the essential value of this important land/water interface ecosystem.

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## TABLES

**Table 1. Index Taxa and Monitoring Techniques at Cabrillo National Monument.**
Values in parentheses indicate the # of replicate plots emphasizing those particular species.

| Technique/Taxa | Dimensions | Number Per Area | Total Sample |
|---|---|---|---|
| **Photoplot** | 50 X 75 cm | 21 | 63 |
| Acorn Barnacle | | | |
| *Chthamalus* spp. | | | |
| Pink Thatched Barnacle | | (5) | |
| *Tetraclita rubescens* | | | |
| Rockweed | | (5) | |
| *Pelvetia fastigiata* | | | |
| California Mussel | | (5) | |
| *Mytilus californianus* | | | |
| Goose Barnacle | | (6) | |
| *Pollicipes polymerus* | | | |
| Other Plants | | | |
| Other Animals | | | |
| Tar | | | |
| Bare Substrate | | | |
| **Circular Plot** | 1 m radius | 6 | 18 |
| Owl Limpet | | | |
| *Lottia gigantea* | | | |
| **Line Transect** | 10 m | 6 | 18 |
| Boa Kelp | | (2) | |
| *Egregia menziesii* | | | |
| Sargassum Weed | | | |
| *Sargassum muticum* | | | |
| Red Algal Turf | | (2) | |
| *Corallina* spp. et al. | | | |
| Surf Grass | | (2) | |
| *Phyllospadix* spp. | | | |
| Aggregating Anemone | | | |
| *Anthopleura elegantissima* | | | |
| Other Biota | | | |
| Tar | | | |
| Bare Substrate | | | |
| **Timed Search** | 30 person-minutes | 1 | 3 |
| Black Abalone | | | |
| *Haliotis cracherodii* | | | |
| Ochre Sea Star | | | |
| *Pisaster ochraceus* | | | |

**Table 2. Rocky Intertidal Survey Plots and Plot Identification Codes.**

| Plot Type/ | Plot | Photo/Tag Code | | |
|---|---|---|---|---|
| Key Species | Code | Area I | Area II | Area III |
| Photoplot | | | | |
| Barnacles | B1 | 286 | 247 | 3 |
| | B2 | 299 | 248 | 16 |
| | B3 | 294 | 256 | 29 |
| | B4 | 292 | 259 | 30 |
| | B5 | 293 | 260 | 20 |
| | | | | |
| Rockweed | Pe1 | 291 | 249 | 9 |
| *(Pelvetia)* | Pe2 | 290 | 251 | 10 |
| | Pe3 | 295 | 252 | 28 |
| | Pe4 | 288 | 258 | 27 |
| | Pe5 | 287 | 265 | 25 |
| | | | | |
| Mussel | M1 | 298 | 245 | 24 |
| | M2 | 297 | 246 | 15 |
| | M3 | 296 | 253 | 14 |
| | M4 | 289 | 254 | 17 |
| | M5 | 285 | 255 | 12 |
| | | | | |
| Goose Barnacle | Po1 | 276N | | 269N |
| *(Pollicipes)* | Po2 | 276S | 275C | 269S |
| | Po3 | 281N | 274N | 196C |
| | Po4 | 281S | 274S | |
| | Po5 | 278N | | 23N |
| | Po6 | | 273S | |
| | | | | |
| Circular Plot | | | | |
| Owl Limpet | L1 | 280 | 239 | 13 |
| | L2 | 284 | 243 | 26 |
| | L3 | 283 | 240 | 21 |
| | L4 | 282 | 242 | 17 |
| | L5 | 279 | 266 | 18 |
| | L6 | 277 | 241 | 11 |
| | | | | |
| Line Transect | | | | |
| Red Algal Turf | T1 | 237 | 244 | 1 |
| | T2 | 210 | 270 | 8 |
| | | | | |
| Surf Grass | G3 | 238 | 267 | 7 |
| | G4 | 211 | 271 | 5 |
| | | | | |
| Feather Boa Kelp | K5 | 236 | 268 | 2 |
| | K6 | 212 | 272 | 4 |

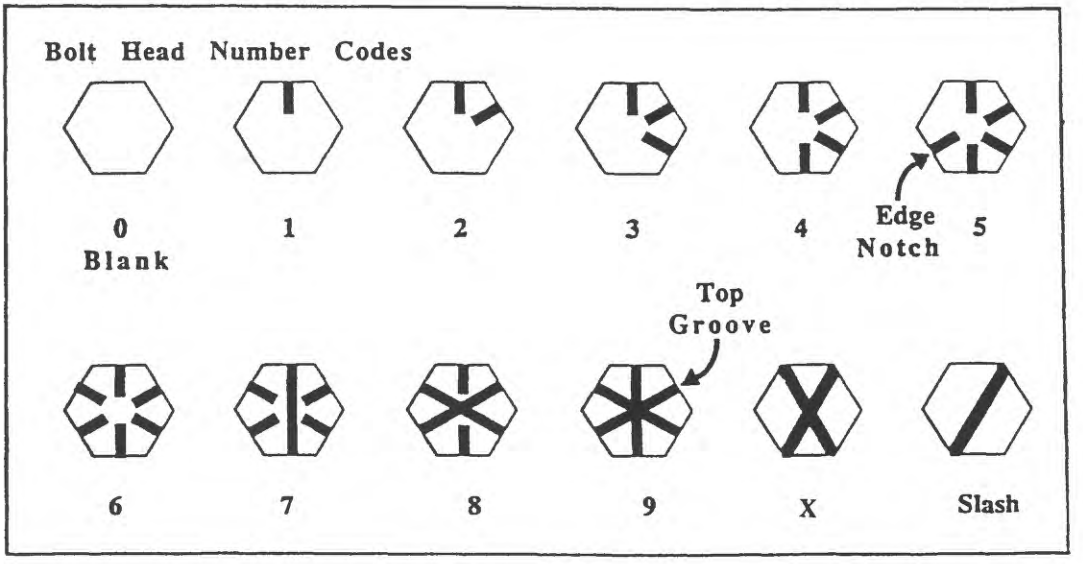


**Table 3. Cabrillo National Monument Rocky Intertidal Survey Schedule.**

| Season | Dates | Field Activity |
|---|---|---|
| Spring 1990 | Feb 4-7 | Establish CABR long-term monitoring sites |
| Spring 1990 | Feb 8-10 | S90 CABR monitoring surveys |
| Fall 1990 | Nov 28-Dec 1 | F90 CABR monitoring surveys |
| Spring 1991 | Mar 23-26 | S91 CABR monitoring surveys |
| Fall 1991 | Nov 3-5 | F91 CABR monitoring surveys |
| Spring 1992 | Apr 11-13 | S92 CABR monitoring surveys (after sewage spill) |
| June 1992 | Jun 2-5 | J92 CABR monitoring surveys (2 mo after sewage spill) |
| Fall 1992 | Nov 21-23 | F92 CABR monitoring surveys |
| Spring 1993 | Mar 6-8 | S93 CABR monitoring surveys |
| Fall 1993 | Oct 14-16 | F93 CABR monitoring surveys |
| Spring 1994 | Mar 6-8 | S94 CABR monitoring surveys |
| Fall 1994 | Oct 5-7 | F94 CABR monitoring surveys |
| Spring 1995 | Feb 15-17, 23 | Navy monitoring site scouting surveys |
| Spring 1995 | Feb 24, 27 | Establish Navy long-term monitoring sites |
| Spring 1995 | Feb 25-26, Mar 2 | S95 CABR monitoring surveys |
| Spring 1995 | Feb 28, Mar 1 | S95 Navy monitoring surveys |
| Fall 1995 | Oct 21-22, 25 | F95 CABR monitoring surveys |
| Fall 1995 | Oct 23-24 | F95 Navy monitoring surveys |

**Table 4. Rocky Intertidal Resource and Public Use Trends at Cabrillo National Monument: 1990 to 1995**

| | AREA I | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDEX TAXA | S90 | F90 | S91 | F91 | S92 | J92 | F92 | S93 | F93 | S94 | F94 | S95 | F95 |
| ACORN BARNACLES^ | 2 | 13 | 10 | 12 | 16 | 18 | 1 | 4 | 4 | 1 | 9 | 8 | 4 |
| THATCHED BARNACLES^ | 20 | 17 | 20 | 13 | 10 | 11 | 13 | 12 | 5 | 10 | 5 | 6 | 3 |
| ROCKWEED^ | 59 | 62 | 57 | 77 | 60 | 66 | 47 | 52 | 59 | 50 | 51 | 43 | 61 |
| CALIFORNIA MUSSEL^ | 16 | 9 | 6 | 9 | 7 | 10 | 8 | 9 | 13 | 16 | 12 | 11 | 14 |
| GOOSE BARNACLES (Photo) | 13 | 11 | 11 | 11 | 10 | 13 | 12 | 8 | 13 | 14 | 15 | 13 | 13 |
| GOOSE BARNACLES (Band) | 5.4 | 5.2 | 4.6 | 4.7 | 5.2 | 5.2 | 4.8 | 4.4 | 4 | 4.1 | 3 | nd | nd |
| X SIZE (mm | 52 | 84 | 55 | 66 | 46 | 43 | 43 | 39 | 41 | 37 | 57 | nd | nd |
| OWL LIMPETS: X #" | 34 | 40 | 39 | 34 | 36 | 39 | 44 | 37 | 42 | 37 | 31 | 37 | 39 |
| X SIZE (mm | 48 | 46 | 44 | 43 | 44 | 43 | 41 | 43 | 42 | 42 | 43 | 42 | 45 |
| BOA KELP^ | 44 | 31 | 14 | 54 | 51 | 43 | 33 | 10 | 11 | 13 | 6 | 2 | 16 |
| SARGASSUM WEED^ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| RED ALGAL TURF^ | 87 | 81 | 88 | 83 | 81 | 81 | 83 | 84 | 79 | 81 | 79 | 84 | 78 |
| SURF GRASS (Grass transect) | 53 | 72 | 70 | 71 | 79 | 77 | 86 | 85 | 90 | 87 | 91 | 68 | 80 |
| SURF GRASS (Kelp transect)^ | 10 | 16 | 8 | 19 | 20 | 20 | 40 | 31 | 45 | 49 | 61 | 40 | 63 |
| AGGREGATING ANEMONE | 2 | 1 | 2 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| BLACK ABALONE~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OCHRE SEASTAR~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| BIRDS" | 6 | 11 | 8 | 9 | 6 | nd | 4 | 0 | 9 | 5 | 10 | 4 | 3 |
| PEOPLE" | 80 | 73 | 50 | 62 | 33 | nd | 41 | 118 | 40 | 44 | 35 | 44 | 48 |

| | AREA II | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDEX TAXA | S90 | F90 | S91 | F91 | S92 | J92 | F92 | S93 | F93 | S94 | F94 | S95 | F95 |
| ACORN BARNACLES^ | 13 | 24 | 28 | 23 | 14 | 18 | 12 | 10 | 7 | 6 | 18 | 13 | 10 |
| THATCHED BARNACLES^ | 30 | 24 | 26 | 21 | 14 | 13 | 10 | 12 | 8 | 8 | 7 | 7 | 6 |
| ROCKWEED^ | 71 | 72 | 68 | 75 | 77 | 71 | 54 | 58 | 74 | 58 | 60 | 69 | 77 |
| CALIFORNIA MUSSEL^ | 55 | 30 | 21 | 18 | 10 | 8 | 8 | 8 | 4 | 1 | 1 | 1 | 1 |
| GOOSE BARNACLES (Photo) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| GOOSE BARNACLES (Band) | 3.5 | 2.6 | 2.5 | 2 | 3 | 2.8 | 2.6 | 2.6 | 2.5 | 2.6 | 2.7 | nd | nd |
| X SIZE (mm | 76 | 46 | 32 | 35 | 38 | 25 | 28 | 27 | 37 | 43 | 57 | nd | nd |
| OWL LIMPETS: X #" | 27 | 34 | 35 | 34 | 31 | 31 | 37 | 32 | 32 | 28 | 24 | 25 | 22 |
| X SIZE (mm | 53 | 52 | 47 | 51 | 51 | 51 | 51 | 51 | 50 | 50 | 49 | 48 | 50 |
| BOA KELP^ | 55 | 42 | 11 | 29 | 30 | 48 | 31 | 23 | 10 | 3 | 0 | 0 | 0 |
| SARGASSUM WEED^ | 6 | 0 | 6 | 0 | 3 | 3 | 2 | 0 | 0 | 2 | 1 | 4 | 0 |
| RED ALGAL TURF^ | 73 | 75 | 74 | 71 | 79 | 72 | 52 | 80 | 79 | 81 | 80 | 83 | 78 |
| SURF GRASS (Grass transect) | 57 | 69 | 62 | 70 | 72 | 74 | 78 | 77 | 85 | 79 | 81 | 58 | 95 |
| SURF GRASS (Kelp transect)^ | 11 | 17 | 24 | 38 | 47 | 29 | 49 | 48 | 73 | 78 | 81 | 67 | 79 |
| AGGREGATING ANEMONE | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 0 |
| BLACK ABALONE~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OCHRE SEASTAR~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BIRDS" | 19 | 15 | 15 | 29 | 31 | nd | 40 | 3 | 20 | 11 | 17 | 7 | 7 |
| PEOPLE" | 25 | 31 | 18 | 20 | 5 | nd | 12 | 141 | 13 | 8 | 11 | 10 | 6 |

^ = Percent Cover in Fixed plots " = Mean Counts in Fixed Plots ~ = Counts in Timed Searches S = Spring F = Fall J = June ND = No Data

**Table 4. Rocky Intertidal Resource and Public Use Trends at Cabrillo National Monument: 1990 to 1995**

| | AREA III | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDEX TAXA | S90 | F90 | S91 | F91 | S92 | J92 | F92 | S93 | F93 | S94 | F94 | S95 | F95 |
| ACORN BARNACLES^ | 13 | 27 | 24 | 42 | 36 | 35 | 3 | 10 | 20 | 17 | 32 | 37 | 10 |
| THATCHED BARNACLES^ | 22 | 23 | 24 | 24 | 16 | 14 | 16 | 20 | 15 | 19 | 13 | 12 | 9 |
| ROCKWEED^ | 84 | 74 | 65 | 76 | 71 | 86 | 63 | 65 | 60 | 70 | 74 | 77 | 82 |
| CALIFORNIA MUSSEL^ | 47 | 34 | 28 | 25 | 23 | 23 | 15 | 14 | 10 | 5 | 4 | 2 | 1 |
| GOOSE BARNACLES (Photo) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GOOSE BARNACLES (Band) | 2.6 | 7.2 | 3 | 2.6 | 4.1 | 3.4 | 3.6 | 4.1 | 3.6 | 3.5 | 2.4 | nd | nd |
| X SIZE (mm | 107 | 603 | 119 | 122 | 132 | 107 | 135 | 151 | 201 | 131 | 128 | nd | nd |
| OWL LIMPETS: X #" | 39 | 42 | 41 | 36 | 30 | 43 | 52 | 42 | 43 | 35 | 33 | 33 | 29 |
| X SIZE (mm | 46 | 47 | 46 | 47 | 47 | 47 | 45 | 47 | 44 | 44 | 43 | 42 | 44 |
| BOA KELP^ | 54 | 36 | 22 | 25 | 40 | 50 | 23 | 9 | 4 | 6 | 0 | 0 | 7 |
| SARGASSUM WEED^ | 3 | 2 | 0 | 3 | 8 | 2 | 1 | 3 | 6 | 26 | 11 | 20 | 6 |
| RED ALGAL TURF^ | 90 | 80 | 87 | 79 | 94 | 94 | 91 | 93 | 91 | 94 | 90 | 93 | 86 |
| SURF GRASS (Grass transect) | 60 | 72 | 58 | 70 | 61 | 76 | 77 | 53 | 63 | 41 | 53 | 27 | 61 |
| SURF GRASS (Kelp transect)^ | 4 | 7 | 7 | 14 | 5 | 11 | 17 | 12 | 23 | 22 | 27 | 20 | 33 |
| AGGREGATING ANEMONE | 2 | 1 | 2 | 2 | 1 | 2 | 0 | 1 | 0 | 2 | 1 | 1 | 1 |
| BLACK ABALONE~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OCHRE SEASTAR~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BIRDS" | 74 | 103 | 107 | 100 | 83 | nd | 33 | 95 | 42 | 40 | 36 | 23 | 8 |
| PEOPLE" | 6 | 18 | 9 | 5 | 2 | nd | 8 | 20 | 11 | 2 | 5 | 4 | 1 |

| | ALL AREAS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INDEX TAXA | S90 | F90 | S91 | F91 | S92 | J92 | F92 | S93 | F93 | S94 | F94 | S95 | F95 |
| ACORN BARNACLES^ | 9 | 21 | 21 | 26 | 22 | 24 | 5 | 8 | 10 | 8 | 20 | 19 | 8 |
| THATCHED BARNACLES^ | 24 | 21 | 23 | 19 | 13 | 13 | 13 | 15 | 9 | 12 | 8 | 8 | 6 |
| ROCKWEED^ | 71 | 69 | 63 | 76 | 69 | 74 | 55 | 58 | 64 | 59 | 62 | 63 | 73 |
| CALIFORNIA MUSSEL^ | 39 | 24 | 18 | 17 | 13 | 14 | 10 | 10 | 9 | 7 | 6 | 5 | 5 |
| GOOSE BARNACLES (Photo) | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 4 | 5 | 5 | 4 | 4 |
| GOOSE BARNACLES (Band) | 3.8 | 5 | 3.4 | 3.1 | 4.1 | 3.8 | 3.7 | 3.7 | 3.4 | 3.4 | 2.7 | nd | nd |
| X SIZE (mm | 78 | 244 | 69 | 74 | 72 | 58 | 69 | 72 | 93 | 70 | 81 | nd | nd |
| OWL LIMPETS: X #" | 33 | 39 | 38 | 35 | 32 | 38 | 44 | 37 | 39 | 33 | 29 | 32 | 30 |
| X SIZE (mm | 49 | 48 | 46 | 47 | 47 | 47 | 46 | 47 | 45 | 45 | 45 | 44 | 46 |
| BOA KELP^ | 51 | 36 | 16 | 36 | 40 | 47 | 29 | 14 | 8 | 7 | 2 | 1 | 8 |
| SARGASSUM WEED^ | 3 | 1 | 2 | 1 | 4 | 2 | 1 | 1 | 2 | 9 | 4 | 8 | 2 |
| RED ALGAL TURF^ | 83 | 79 | 83 | 78 | 85 | 82 | 75 | 86 | 83 | 85 | 83 | 87 | 81 |
| SURF GRASS (Grass transect) | 57 | 71 | 63 | 70 | 71 | 76 | 80 | 72 | 79 | 69 | 75 | 51 | 79 |
| SURF GRASS (Kelp transect)^ | 8 | 13 | 13 | 24 | 24 | 20 | 35 | 30 | 47 | 50 | 56 | 42 | 58 |
| AGGREGATING ANEMONE | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| BLACK ABALONE~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OCHRE SEASTAR~ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| BIRDS" | 33 | 43 | 43 | 46 | 40 | nd | 26 | 33 | 24 | 19 | 21 | 11 | 6 |
| PEOPLE" | 37 | 41 | 25 | 29 | 13 | nd | 20 | 93 | 21 | 18 | 17 | 19 | 18 |

^ = Percent Cover in Fixed plots " = Mean Counts in Fixed Plots ~ = Counts in Timed Searches S = Spring F = Fall J = June ND = No Data

**Table 5 . Summary of Public Use in Cabrillo NM Intertidal Zone.**
Data generally were collected within 30 min of daytime (1000-1600 hrs PST) low tides (<15 cm MLLW) during 1990-1995 at 3 sites.

| | # | People in Area I | | | | | People in Area II | | | | | People in Area III | | | | | People in All Areas | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Season | Surveys | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD |
| | # | People in Area I | | | | | People in Area II | | | | | People in Area III | | | | | People in All Areas | | | | |
| Season | Surveys | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD |
| S90 | 2 | 160 | 53 | 107 | 80 | 38 | 49 | 20 | 29 | 25 | 6 | 12 | 0 | 12 | 6 | 9 | 221 | 73 | 148 | 111 | 53 |
| F90 | 16 | 1162 | 1 | 297 | 73 | 95 | 488 | 0 | 200 | 31 | 54 | 287 | 0 | 87 | 18 | 29 | 1937 | 3 | 378 | 121 | 140 |
| S91 | 39 | 1930 | 0 | 151 | 50 | 39 | 686 | 0 | 150 | 18 | 28 | 365 | 0 | 80 | 9 | 17 | 2981 | 3 | 246 | 76 | 60 |
| F91 | 11 | 682 | 21 | 80 | 62 | 50 | 217 | 2 | 32 | 20 | 17 | 51 | 0 | 16 | 5 | 5 | 950 | 24 | 98 | 86 | 64 |
| S92 | 30 | 986 | 0 | 327 | 33 | 66 | 149 | 0 | 39 | 5 | 10 | 56 | 0 | 24 | 2 | 5 | 1191 | 0 | 384 | 40 | 79 |
| F92 | 6 | 245 | 24 | 92 | 41 | 27 | 69 | 0 | 27 | 12 | 10 | 49 | 0 | 23 | 8 | 9 | 363 | 25 | 117 | 61 | 32 |
| S93 | 1 | 118 | 118 | 118 | 118 | | 141 | 141 | 141 | 141 | | 20 | 20 | 20 | 20 | | 279 | 279 | 279 | 279 | |
| F93 | 42 | 1673 | 0 | 115 | 40 | 28 | 536 | 0 | 83 | 13 | 18 | 462 | 0 | 120 | 11 | 29 | 2671 | 2 | 241 | 64 | 54 |
| S94 | 53 | 2329 | 0 | 131 | 44 | 30 | 416 | 0 | 64 | 8 | 12 | 112 | 0 | 36 | 2 | 6 | 2857 | 0 | 182 | 54 | 39 |
| F94 | 39 | 1355 | 0 | 109 | 35 | 27 | 419 | 0 | 68 | 11 | 17 | 194 | 0 | 40 | 5 | 9 | 1968 | 1 | 173 | 51 | 47 |
| S95 | 40 | 1765 | 0 | 160 | 44 | 32 | 393 | 0 | 38 | 10 | 11 | 150 | 0 | 32 | 4 | 7 | 2308 | 0 | 206 | 58 | 43 |
| F95 | 9 | 435 | 0 | 93 | 48 | 34 | 57 | 0 | 26 | 6 | 9 | 7 | 0 | 7 | 1 | 2 | 499 | 0 | 116 | 55 | 41 |
| 90-95S | 165 | 7288 | 0 | 327 | 44 | 42 | 1834 | 0 | 150 | 11 | 20 | 715 | 0 | 80 | 4 | 10 | 9837 | 0 | 384 | 60 | 58 |
| 90-95 F | 123 | 5552 | 0 | 297 | 45 | 46 | 1786 | 0 | 200 | 15 | 25 | 1050 | 0 | 120 | 9 | 21 | 8388 | 0 | 378 | 68 | 71 |
| 90-95 All | 288 | 12840 | 0 | 327 | 45 | 43 | 3620 | 0 | 200 | 13 | 22 | 1765 | 0 | 120 | 6 | 16 | 18225 | 0 | 384 | 63 | 64 |

**Table 6. Bird Abundance Summary Data by Site.**
Data generally were collected within 30 min of daytime (1000-1600 hrs PST) low tides (<15 cm MLLW) during 1990-1995 at 3 sites.

| | # | Birds in Area I | | | | | Birds in Area II | | | | | Birds in Area III | | | | | Birds in All Areas | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Season | Surveys | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD |
| | # | Birds in Area I | | | | | Birds in Area II | | | | | Birds in Area III | | | | | Birds in All Areas | | | | |
| Season | Surveys | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD | Total | Min | Max | Avg | SD |
| S90 | 2 | 11 | 1 | 1 | 6 | 6 | 38 | 14 | 24 | 19 | 7 | 148 | 41 | 107 | 74 | 47 | 197 | 66 | 131 | 99 | 46 |
| F90 | 16 | 177 | 0 | 32 | 11 | 11 | 238 | 4 | 38 | 15 | 10 | 1649 | 4 | 360 | 103 | 97 | 2064 | 38 | 383 | 129 | 97 |
| S91 | 39 | 314 | 0 | 34 | 8 | 7 | 578 | 0 | 49 | 15 | 12 | 4173 | 14 | 537 | 107 | 102 | 5065 | 30 | 573 | 130 | 108 |
| F91 | 11 | 98 | 0 | 33 | 9 | 10 | 315 | 6 | 79 | 29 | 22 | 1105 | 7 | 395 | 100 | 135 | 1518 | 49 | 415 | 138 | 129 |
| S92 | 30 | 172 | 0 | 15 | 6 | 4 | 925 | 3 | 96 | 31 | 26 | 2481 | 0 | 329 | 83 | 83 | 3578 | 11 | 372 | 119 | 86 |
| F92 | 6 | 25 | 0 | 10 | 4 | 4 | 240 | 8 | 99 | 40 | 36 | 196 | 11 | 122 | 33 | 44 | 461 | 23 | 134 | 77 | 44 |
| S93 | 1 | 0 | 0 | 0 | 0 | | 3 | 3 | 3 | 3 | | 95 | 95 | 95 | 95 | | 98 | 98 | 98 | 98 | |
| F93 | 42 | 385 | 0 | 82 | 9 | 14 | 835 | 2 | 66 | 20 | 13 | 1773 | 0 | 185 | 42 | 49 | 2993 | 7 | 216 | 71 | 51 |
| S94 | 53 | 261 | 0 | 29 | 5 | 6 | 596 | 0 | 46 | 11 | 9 | 2139 | 0 | 224 | 40 | 59 | 2996 | 2 | 237 | 57 | 60 |
| F94 | 39 | 385 | 0 | 51 | 10 | 10 | 676 | 1 | 66 | 17 | 15 | 1402 | 1 | 183 | 36 | 36 | 2463 | 17 | 230 | 63 | 41 |
| S95 | 40 | 142 | 0 | 23 | 4 | 5 | 265 | 0 | 30 | 7 | 6 | 904 | 0 | 92 | 23 | 27 | 1311 | 2 | 119 | 33 | 29 |
| F95 | 9 | 31 | 0 | 8 | 3 | 2 | 67 | 2 | 16 | 7 | 5 | 76 | 1 | 26 | 8 | 9 | 174 | 7 | 38 | 19 | 12 |
| 90-95S | 165 | 900 | 0 | 34 | 5 | 6 | 2405 | 0 | 96 | 15 | 16 | 9940 | 0 | 537 | 60 | 78 | 13245 | 2 | 573 | 80 | 84 |
| 90-95 F | 123 | 1101 | 0 | 82 | 9 | 11 | 2371 | 1 | 99 | 19 | 17 | 6201 | 0 | 395 | 50 | 69 | 9673 | 7 | 415 | 81 | 72 |
| 90-95 All | 288 | 2001 | 0 | 82 | 7 | 9 | 4776 | 0 | 99 | 16 | 17 | 16141 | 0 | 537 | 57 | 74 | 22918 | 2 | 573 | 80 | 79 |

**Table 7. Bird Abundance Summary Data by Bird Type.**
Data generally were collected within 30 min of daytime (1000-1600 hrs PST) low tides (<15 cm MLLW) during 1990-1995 for 3 bird types at 3 sites.

| | # | MEAN # BIRDS IN AREA I | | | | MEAN # BIRDS IN AREA II | | | | MEAN # BIRDS IN AREA III | | | | MEAN # BIRDS IN ALL AREAS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEASON | Surveys | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| S90 | 2 | 3 | 3 | 0 | 6 | 5 | 9 | 6 | 19 | 12 | 55 | 7 | 74 | 20 | 67 | 13 | 99 |
| F90 | 16 | 2 | 6 | 3 | 11 | 1 | 8 | 6 | 15 | 6 | 29 | 68 | 103 | 9 | 43 | 77 | 129 |
| S91 | 39 | 0 | 5 | 2 | 8 | 1 | 10 | 4 | 15 | 5 | 37 | 65 | 107 | 6 | 52 | 72 | 130 |
| F91 | 11 | 1 | 4 | 4 | 9 | 1 | 10 | 18 | 29 | 3 | 8 | 89 | 100 | 5 | 22 | 111 | 138 |
| S92 | 30 | 0 | 2 | 4 | 6 | 1 | 22 | 7 | 31 | 3 | 22 | 58 | 83 | 5 | 46 | 69 | 119 |
| F92 | 6 | 0 | 1 | 3 | 4 | 2 | 29 | 9 | 40 | 2 | 7 | 24 | 33 | 4 | 37 | 36 | 77 |
| S93 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 41 | 54 | 95 | 0 | 43 | 55 | 98 |
| F93 | 42 | 1 | 3 | 5 | 9 | 2 | 9 | 9 | 20 | 3 | 8 | 31 | 42 | 7 | 20 | 45 | 71 |
| S94 | 53 | 1 | 1 | 3 | 5 | 1 | 6 | 4 | 11 | 3 | 3 | 35 | 40 | 4 | 10 | 42 | 57 |
| F94 | 39 | 1 | 3 | 6 | 10 | 1 | 6 | 10 | 17 | 3 | 6 | 27 | 36 | 5 | 15 | 43 | 63 |
| S95 | 40 | 1 | 1 | 2 | 4 | 1 | 2 | 4 | 7 | 4 | 2 | 17 | 23 | 6 | 4 | 23 | 33 |
| F95 | 9 | 1 | 1 | 2 | 4 | 1 | 2 | 4 | 7 | 4 | 2 | 17 | 23 | 6 | 4 | 23 | 33 |
| 90-95S | 165 | 1 | 2 | 3 | 5 | 1 | 9 | 5 | 15 | 4 | 15 | 42 | 60 | 5 | 26 | 49 | 80 |
| 90-95 F | 123 | 1 | 3 | 5 | 9 | 2 | 8 | 9 | 19 | 3 | 9 | 38 | 50 | 8 | 20 | 53 | 81 |
| 90-95 All | 288 | 1 | 3 | 4 | 7 | 1 | 9 | 7 | 17 | 4 | 13 | 40 | 56 | 6 | 24 | 51 | 81 |

## Table 8. Photoplot Primary Index Taxa Summary Data.

Percent cover data for 5 index taxa (acorn barnacles, thatched barnacles, rockweed, mussels, goose barnacles) are presented for 13 seasonal surveys at 3 sites.

| AREA I | ACORN | | | | | THATCHED | | | | | ROCKWEED | | | | | MUSSEL | | | | | GOOSE BARNACLE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | 286 | 292 | 293 | 294 | 299 | 286 | 292 | 293 | 294 | 299 | 287 | 288 | 290 | 291 | 295 | 285 | 289 | 296 | 297 | 298 | 285 | 289 | 296 | 297 | 298 |
| S90 | 5 | 2 | 0 | 0 | 4 | 11 | 26 | 7 | 37 | 21 | 27 | 60 | 48 | 72 | 88 | 10 | 13 | 17 | 23 | 16 | 17 | 0 | 28 | 16 | 19 |
| F90 | 39 | 0 | 0 | 0 | 24 | 18 | 17 | 5 | 25 | 21 | 44 | 45 | 70 | 69 | 82 | 6 | 2 | 17 | 14 | 7 | 14 | 0 | 36 | 18 | 9 |
| S91 | 33 | 4 | 0 | 0 | 13 | 23 | 26 | 10 | 23 | 18 | 29 | 42 | 56 | 79 | 80 | 7 | 2 | 11 | 5 | 6 | 13 | 0 | 26 | 18 | 14 |
| F91 | 29 | 0 | 0 | 0 | 29 | 16 | 17 | 7 | 16 | 10 | 78 | 58 | 84 | 73 | 93 | 9 | 0 | 15 | 13 | 7 | 13 | 0 | 25 | 17 | 15 |
| S92 | 25 | 2 | 3 | 1 | 50 | 18 | 11 | 4 | 3 | 5 | 41 | 60 | 63 | 62 | 76 | 2 | 0 | 18 | 8 | 5 | 10 | 0 | 27 | 20 | 13 |
| J92 | 31 | 5 | 1 | 6 | 48 | 19 | 8 | 6 | 19 | 3 | 37 | 63 | 72 | 78 | 80 | 5 | 3 | 21 | 10 | 9 | 16 | 0 | 27 | 32 | 21 |
| F92 | 5 | 0 | 0 | 2 | 0 | 32 | 8 | 8 | 13 | 5 | 44 | 52 |  | 27 | 65 | 7 | 1 | 18 | 10 | 6 | 13 | 0 | 22 | 28 | 24 |
| S93 | 1 |  | 0 | 0 | 14 | 29 |  | 2 | 15 | 2 | 34 | 50 | 70 | 37 | 70 | 2 | 0 | 28 | 9 | 7 | 18 | 0 | 24 | 27 | 23 |
| F93 | 10 | 0 | 0 | 0 | 9 | 21 | 1 | 3 | 13 | 2 | 46 | 68 | 71 | 40 | 72 | 7 | 1 | 34 | 12 | 9 | 15 | 0 | 24 | 30 | 26 |
| S94 | 3 | 0 | 0 | 0 | 1 | 32 | 0 | 6 | 11 | 3 | 48 | 46 | 74 | 30 | 52 | 8 |  | 33 | 11 | 10 | 11 |  | 24 | 20 | 21 |
| F94 | 5 | 4 | 5 | 0 | 20 | 14 | 5 | 4 | 0 | 2 | 38 |  | 79 | 28 | 59 | 6 | 0 | 38 | 13 | 4 | 7 | 0 | 21 | 18 | 29 |
| S95 | 4 | 4 | 0 | 0 | 30 | 17 | 0 | 5 | 6 | 3 | 42 | 56 | 52 | 25 | 41 | 3 | 0 | 34 | 12 | 4 | 6 | 0 | 23 | 17 | 19 |
| F95 | 6 | 0 | 0 | 0 | 14 | 11 | 1 | 2 | 1 | 2 | 56 | 74 | 69 | 35 | 71 | 6 | 0 | 39 | 15 | 8 | 1 | 0 | 22 | 19 | 21 |

| AREA II | ACORN | | | | | THATCHED | | | | | ROCKWEED | | | | | MUSSEL | | | | | GOOSE BARNACLE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | 247 | 248 | 256 | 259 | 260 | 247 | 248 | 256 | 259 | 260 | 249 | 251 | 252 | 258 | 265 | 245 | 246 | 253 | 254 | 255 | 245 | 246 | 253 | 254 | 255 |
| S90 | 0 | 25 | 4 | 29 | 6 | 15 | 12 | 43 | 29 | 52 | 72 | 71 | 72 | 69 | 73 | 65 | 74 | 46 | 18 | 74 | 0 | 0 | 0 | 0 | 0 |
| F90 | 1 | 44 | 8 | 49 | 17 | 9 | 7 | 39 | 12 | 52 | 73 | 62 | 66 | 77 | 80 | 44 | 53 | 17 | 6 | 31 | 0 | 0 | 0 | 0 | 0 |
| S91 | 0 | 43 | 8 | 66 | 23 | 10 | 5 | 41 | 19 | 54 | 66 | 62 | 71 | 75 | 68 | 41 | 43 | 3 | 0 | 18 | 0 | 0 | 0 | 0 | 0 |
| F91 | 4 | 45 | 14 | 30 | 21 | 8 | 7 | 41 | 18 | 31 | 90 | 47 | 83 | 82 | 72 | 36 | 36 | 5 | 0 | 15 | 0 | 0 | 0 | 0 | 0 |
| S92 | 0 | 14 | 18 | 22 | 17 | 0 | 5 | 34 | 10 | 20 | 76 | 77 | 81 | 82 | 68 | 20 | 27 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| J92 | 9 | 20 | 20 | 18 | 22 | 4 | 2 | 24 | 12 | 23 | 75 | 36 | 87 | 72 | 83 | 16 | 23 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| F92 | 0 | 34 | 11 | 8 | 0 | 5 | 1 | 17 | 11 | 15 | 44 | 27 | 66 | 57 | 74 | 18 | 18 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| S93 | 0 | 15 | 14 | 9 | 10 | 0 | 3 | 19 | 11 | 25 | 44 | 50 | 56 | 65 | 74 | 19 | 14 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| F93 | 0 | 21 | 0 | 8 | 8 | 3 | 0 | 12 | 1 | 22 | 58 | 69 | 79 | 83 | 79 | 9 | 10 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| S94 | 0 | 18 | 0 | 3 | 7 | 0 | 6 | 10 | 3 | 19 | 59 | 29 | 65 | 65 | 73 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F94 | 0 | 23 | 1 | 12 | 56 | 2 | 3 | 6 | 5 | 17 | 70 | 38 |  | 68 | 63 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| S95 | 2 | 21 | 6 | 9 | 26 | 1 | 4 | 14 | 4 | 12 | 65 | 59 | 70 | 78 | 72 | 4 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| F95 | 0 | 18 | 2 | 6 | 24 | 1 | 4 | 2 | 9 | 16 | 79 | 54 | 92 | 77 | 82 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |

| AREA III | ACORN | | | | | THATCHED | | | | | ROCKWEED | | | | | MUSSEL | | | | | GOOSE BARNACLE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | 3 | 16 | 20 | 29 | 30 | 3 | 16 | 20 | 29 | 30 | 9 | 10 | 25 | 27 | 28 | 12 | 14 | 15 | 17 | 24 | 12 | 14 | 15 | 17 | 24 |
| S90 | 11 | 14 | 0 | 13 | 29 | 22 | 15 | 18 | 30 | 25 | 77 | 90 | 92 | 76 | 84 | 64 | 40 | 39 | 55 | 39 | 0 | 0 | 0 | 0 | 0 |
| F90 | 11 | 26 | 14 | 44 | 42 | 34 | 18 | 10 | 19 | 32 | 64 | 79 | 90 | 66 | 69 | 36 | 30 | 32 | 44 | 28 | 0 | 0 | 0 | 0 | 0 |
| S91 | 13 | 19 | 9 | 33 | 47 | 38 | 23 | 11 | 25 | 22 | 56 | 60 | 62 | 72 | 74 | 37 | 24 | 27 | 33 | 20 | 0 | 0 | 0 | 0 | 0 |
| F91 | 25 | 53 | 32 | 52 | 48 | 37 | 19 | 10 | 21 | 31 | 67 | 89 | 99 | 78 | 47 | 20 | 28 | 19 | 37 | 22 | 0 | 0 | 0 | 0 | 0 |
| S92 | 17 | 40 | 36 | 59 | 27 | 26 | 17 | 8 | 16 | 11 | 72 | 81 | 74 | 83 | 46 | 24 | 25 | 21 | 28 | 16 | 0 | 0 | 0 | 0 | 0 |
| J92 | 25 | 29 | 32 | 53 | 34 | 20 | 12 | 6 | 14 | 17 | 85 | 77 | 94 | 84 | 92 | 23 | 25 | 22 | 26 | 21 | 0 | 0 | 0 | 0 | 0 |
| F92 | 10 | 1 | 0 | 2 | 0 | 12 | 14 | 8 | 17 | 31 | 58 | 60 | 70 | 75 | 53 | 18 | 24 | 15 | 12 | 8 | 0 | 0 | 0 | 0 | 0 |
| S93 | 14 | 14 | 0 | 13 | 11 | 15 | 17 | 8 | 25 | 35 | 54 | 93 | 69 | 49 | 62 | 11 | 22 | 19 | 11 | 9 | 0 | 0 | 0 | 0 | 0 |
| F93 | 19 | 12 | 14 | 31 | 26 | 12 | 10 | 8 | 19 | 27 | 62 | 86 | 63 | 67 | 20 | 4 | 16 | 17 | 8 | 7 | 0 | 0 | 0 | 0 | 0 |
| S94 | 13 | 9 | 11 | 35 | 19 | 16 | 15 | 14 | 22 | 27 | 78 | 67 | 82 | 80 | 45 | 2 | 11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F94 | 26 | 19 | 37 | 43 | 37 | 5 | 11 | 12 | 13 | 22 | 81 | 90 | 76 | 90 | 31 | 4 | 9 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| S95 | 11 | 27 | 59 | 42 | 47 | 3 | 1 | 11 | 18 | 25 | 67 | 88 | 60 | 86 | 83 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F95 | 8 | 12 | 6 | 12 | 10 | 0 | 1 | 9 | 13 | 20 | 75 | 92 | 84 | 93 | 67 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table 9. Photoplot Species Summary by Site.

Mean % cover data for 8 taxa in 4 intertidal zones (barnacle, rockweed, mussel and goose barnacle) are presented for 13 seasonal surveys at 3 sites.
N = 5 for barnacles, rockweed and mussels. N = 6 for goose barnacles.

| AREA I | BARNACLE | | | | | | | | ROCKWEED | | | | | | | | MUSSEL | | | | | | | | GOOSE BARNACLE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS |
| SPRING 90 | 2 | 20 | 0 | 0 | 4 | 15 | 15 | 43 | 0 | 0 | 59 | 0 | 0 | 19 | 2 | 19 | 0 | 2 | 0 | 16 | 13 | 29 | 4 | 37 | | | | | | | | |
| FALL 90 | 13 | 17 | 0 | 1 | 4 | 23 | 5 | 38 | 0 | 0 | 62 | 0 | 0 | 23 | 0 | 15 | 0 | 1 | 0 | 9 | 11 | 38 | 5 | 36 | | | | | | | | |
| SPRING 91 | 10 | 20 | 0 | 0 | 4 | 12 | 9 | 46 | 0 | 0 | 57 | 0 | 0 | 23 | 1 | 19 | 1 | 2 | 0 | 6 | 11 | 37 | 4 | 40 | | | | | | | | |
| FALL 91 | 12 | 13 | 0 | 1 | 3 | 24 | 7 | 39 | 0 | 0 | 77 | 0 | 0 | 15 | 0 | 8 | 0 | 1 | 0 | 9 | 11 | 39 | 4 | 36 | | | | | | | | |
| SPRING 92 | 16 | 10 | 0 | 1 | 3 | 38 | 6 | 25 | 2 | 0 | 60 | 0 | 0 | 25 | 0 | 12 | 0 | 0 | 0 | 7 | 10 | 44 | 4 | 35 | | | | | | | | |
| JUNE 92 | 18 | 11 | 0 | 0 | 4 | 23 | 11 | 32 | 0 | 0 | 66 | 0 | 0 | 21 | 0 | 13 | 0 | 0 | 0 | 10 | 13 | 28 | 7 | 42 | | | | | | | | |
| FALL 92 | 1 | 13 | 0 | 2 | 2 | 35 | 4 | 43 | 0 | 0 | 47 | 0 | 0 | 39 | 0 | 14 | 0 | 0 | 0 | 8 | 12 | 37 | 6 | 37 | | | | | | | | |
| SPRING 93 | 4 | 12 | 0 | 3 | 2 | 23 | 5 | 53 | 2 | 0 | 52 | 0 | 0 | 33 | 0 | 13 | 1 | 0 | 0 | 9 | 8 | 28 | 11 | 43 | | | | | | | | |
| FALL 93 | 4 | 5 | 3 | 3 | 1 | 42 | 2 | 38 | 1 | 0 | 59 | 0 | 0 | 30 | 0 | 10 | 1 | 0 | 0 | 13 | 13 | 40 | 7 | 27 | | | | | | | | |
| SPRING 94 | 1 | 10 | 0 | 4 | 0 | 28 | 8 | 50 | 0 | 0 | 50 | 0 | 0 | 41 | 0 | 8 | 0 | 0 | 0 | 16 | 14 | 29 | 6 | 35 | | | | | | | | |
| FALL94 | 9 | 5 | 0 | 2 | 0 | 51 | 1 | 32 | 1 | 0 | 51 | 0 | 0 | 33 | 0 | 15 | 2 | 0 | 0 | 12 | 15 | 37 | 1 | 33 | | | | | | | | |
| SPRING 95 | 8 | 6 | 0 | 2 | 0 | 45 | 2 | 37 | 1 | 1 | 43 | 0 | 0 | 42 | 0 | 12 | 1 | 0 | 0 | 11 | 13 | 54 | 1 | 20 | 3 | 0 | 0 | 0 | 5 | 7 | 1 | 84 |
| FALL 95 | 4 | 3 | 0 | 2 | 0 | 43 | 1 | 46 | 0 | 0 | 61 | 0 | 0 | 28 | 0 | 10 | 1 | 0 | 0 | 14 | 13 | 47 | 1 | 24 | 1 | 0 | 0 | 0 | 7 | 4 | 1 | 87 |

| AREA II | BARNACLE | | | | | | | | ROCKWEED | | | | | | | | MUSSEL | | | | | | | | GOOSE BARNACLE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS |
| SPRING 90 | 13 | 30 | 1 | 2 | 0 | 6 | 5 | 43 | 0 | 0 | 71 | 0 | 0 | 14 | 2 | 13 | 2 | 2 | 0 | 55 | 0 | 14 | 4 | 23 | | | | | | | | |
| FALL 90 | 24 | 24 | 2 | 1 | 0 | 24 | 4 | 21 | 2 | 0 | 72 | 0 | 0 | 18 | 0 | 9 | 0 | 1 | 0 | 30 | 0 | 44 | 3 | 22 | | | | | | | | |
| SPRING 91 | 28 | 26 | 1 | 1 | 0 | 5 | 2 | 37 | 2 | 0 | 68 | 0 | 0 | 19 | 0 | 11 | 2 | 1 | 0 | 21 | 0 | 39 | 4 | 34 | | | | | | | | |
| FALL 91 | 23 | 21 | 1 | 1 | 0 | 27 | 11 | 16 | 1 | 0 | 75 | 0 | 0 | 19 | 0 | 6 | 1 | 1 | 0 | 18 | 0 | 52 | 3 | 24 | | | | | | | | |
| SPRING 92 | 14 | 14 | 1 | 1 | 0 | 32 | 17 | 21 | 0 | 0 | 77 | 0 | 0 | 14 | 0 | 9 | 0 | 0 | 0 | 10 | 0 | 70 | 3 | 16 | | | | | | | | |
| JUNE 92 | 18 | 13 | 2 | 3 | 0 | 13 | 21 | 31 | 0 | 0 | 71 | 0 | 0 | 20 | 0 | 9 | 0 | 0 | 0 | 8 | 0 | 71 | 1 | 20 | | | | | | | | |
| FALL 92 | 12 | 10 | 1 | 3 | 0 | 20 | 5 | 50 | 0 | 0 | 54 | 0 | 0 | 35 | 0 | 11 | 0 | 0 | 0 | 8 | 0 | 65 | 0 | 27 | | | | | | | | |
| SPRING 93 | 10 | 12 | 0 | 3 | 0 | 28 | 15 | 33 | 0 | 0 | 58 | 0 | 0 | 29 | 0 | 13 | 3 | 0 | 0 | 8 | 0 | 64 | 0 | 25 | | | | | | | | |
| FALL 93 | 7 | 8 | 1 | 1 | 0 | 47 | 6 | 29 | 0 | 0 | 74 | 0 | 0 | 19 | 0 | 7 | 1 | 0 | 0 | 4 | 0 | 70 | 1 | 24 | | | | | | | | |
| SPRING 94 | 6 | 8 | 1 | 2 | 0 | 41 | 13 | 29 | 0 | 0 | 58 | 0 | 0 | 30 | 0 | 12 | 4 | 0 | 0 | 1 | 1 | 60 | 4 | 29 | | | | | | | | |
| FALL94 | 18 | 7 | 5 | 2 | 0 | 31 | 2 | 34 | 1 | 0 | 60 | 0 | 0 | 30 | 0 | 10 | 5 | 0 | 0 | 1 | 0 | 74 | 1 | 20 | | | | | | | | |
| SPRING 95 | 13 | 7 | 5 | 2 | 0 | 44 | 9 | 20 | 1 | 0 | 69 | 0 | 0 | 17 | 0 | 13 | 12 | 0 | 0 | 1 | 0 | 67 | 1 | 18 | 1 | 0 | 0 | 0 | 8 | 6 | 1 | 84 |
| FALL 95 | 10 | 6 | 5 | 2 | 0 | 17 | 1 | 59 | 0 | 0 | 77 | 0 | 0 | 19 | 0 | 4 | 0 | 4 | 0 | 1 | 0 | 75 | 1 | 20 | 0 | 0 | 0 | 0 | 11 | 4 | 2 | 83 |

| AREA III | BARNACLE | | | | | | | | ROCKWEED | | | | | | | | MUSSEL | | | | | | | | GOOSE BARNACLE | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS | AB | TB | RW | CM | GB | OP | OA | BS |
| SPRING 90 | 13 | 22 | 1 | 0 | 0 | 9 | 10 | 45 | 2 | 0 | 84 | 0 | 0 | 3 | 6 | 5 | 5 | 5 | 0 | 47 | 0 | 0 | 4 | 38 | | | | | | | | |
| FALL 90 | 27 | 23 | 2 | 0 | 0 | 13 | 3 | 32 | 3 | 1 | 74 | 0 | 0 | 5 | 11 | 6 | 8 | 4 | 0 | 34 | 0 | 10 | 4 | 40 | | | | | | | | |
| SPRING 91 | 24 | 24 | 1 | 0 | 0 | 6 | 4 | 41 | 6 | 1 | 65 | 0 | 0 | 16 | 4 | 8 | 6 | 3 | 0 | 28 | 0 | 7 | 7 | 49 | | | | | | | | |
| FALL 91 | 42 | 24 | 3 | 0 | 0 | 5 | 8 | 18 | 1 | 1 | 76 | 0 | 0 | 8 | 8 | 5 | 17 | 4 | 0 | 25 | 0 | 8 | 5 | 41 | | | | | | | | |
| SPRING 92 | 36 | 16 | 1 | 0 | 0 | 25 | 1 | 22 | 2 | 0 | 71 | 0 | 0 | 21 | 0 | 6 | 24 | 1 | 0 | 23 | 0 | 12 | 3 | 37 | | | | | | | | |
| JUNE 92 | 35 | 14 | 3 | 0 | 0 | 11 | 13 | 24 | 1 | 0 | 86 | 0 | 0 | 9 | 0 | 4 | 0 | 1 | 0 | 23 | 0 | 21 | 8 | 47 | | | | | | | | |
| FALL 92 | 3 | 16 | 4 | 0 | 0 | 25 | 3 | 48 | 1 | 0 | 63 | 0 | 0 | 25 | 2 | 8 | 3 | 3 | 0 | 15 | 0 | 10 | 6 | 63 | | | | | | | | |
| SPRING 93 | 10 | 20 | 2 | 0 | 0 | 14 | 8 | 45 | 2 | 0 | 65 | 0 | 0 | 25 | 0 | 8 | 4 | 2 | 0 | 14 | 0 | 7 | 7 | 66 | | | | | | | | |
| FALL 93 | 20 | 15 | 4 | 0 | 0 | 21 | 1 | 39 | 1 | 0 | 60 | 0 | 0 | 27 | 0 | 12 | 7 | 4 | 1 | 10 | 0 | 16 | 4 | 58 | | | | | | | | |
| SPRING 94 | 17 | 19 | 4 | 0 | 0 | 5 | 2 | 53 | 1 | 0 | 70 | 0 | 0 | 22 | 0 | 6 | 10 | 2 | 0 | 5 | 0 | 18 | 5 | 60 | | | | | | | | |
| FALL94 | 32 | 13 | 3 | 0 | 0 | 13 | 3 | 36 | 1 | 0 | 74 | 0 | 0 | 21 | 0 | 5 | 48 | 4 | 0 | 4 | 0 | 15 | 1 | 28 | | | | | | | | |
| SPRING 95 | 37 | 12 | 4 | 0 | 0 | 13 | 7 | 27 | 2 | 0 | 77 | 0 | 0 | 13 | 0 | 8 | 68 | 4 | 1 | 2 | 0 | 3 | 2 | 21 | 19 | 0 | 0 | 0 | 3 | 4 | 1 | 73 |
| FALL 95 | 10 | 9 | 6 | 0 | 0 | 25 | 0 | 51 | 1 | 0 | 82 | 0 | 0 | 12 | 0 | 5 | 23 | 7 | 1 | 1 | 0 | 8 | 1 | 60 | 24 | 0 | 0 | 0 | 4 | 2 | 1 | 69 |

AB=ACORN BARNACLE TB=THATCHED BARNACLE RW=ROCKWEED GB=GOOSE BARNACLE
CM=CALIFORNIA MUSSEL OP=OTHER PLANTS OA=OTHER ANIMALS BS=BARE SUBSTRATE

## Table 10. Goose Barnacle Summary Data.

Area covered ($cm^2$), number of clumps, and clump size (cm) statistics for 11 seasonal surveys at 3 sites.

| AREA I | TRANSECT #276 | | | | | | | | TRANSECT #278 | | | | | | | | TRANSECT #281 | | | | | | | | ALL TRANSECTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD |
| SPRING 90 | 7745 | 111 | 35 | 76 | 1 | 707 | 70 | 120 | 5080 | 130 | 39 | 91 | 1 | 491 | 39 | 69 | 3306 | 71 | 19 | 52 | 1 | 392 | 47 | 86 | 16131 | 312 | 93 | 219 | 1 | 707 | 52 | 94 |
| FALL 90 | 8211 | 68 | 5 | 63 | 1 | 900 | 121 | 173 | 4599 | 60 | 2 | 58 | 2 | 525 | 77 | 108 | 2806 | 59 | 12 | 47 | 1 | 589 | 48 | 95 | 15615 | 187 | 19 | 168 | 1 | 900 | 84 | 135 |
| SPRING 91 | 6430 | 80 | 20 | 60 | 1 | 660 | 80 | 117 | 5190 | 110 | 29 | 81 | 1 | 452 | 47 | 70 | 2283 | 61 | 16 | 45 | 1 | 420 | 37 | 73 | 13903 | 251 | 65 | 186 | 1 | 660 | 55 | 90 |
| FALL 91 | 7000 | 76 | 21 | 55 | 1 | 735 | 92 | 162 | 4464 | 84 | 20 | 64 | 1 | 600 | 53 | 86 | 2571 | 53 | 13 | 40 | 3 | 462 | 49 | 85 | 14035 | 213 | 54 | 159 | 1 | 735 | 66 | 120 |
| SPRING 92 | 8620 | 120 | 41 | 79 | 1 | 882 | 72 | 145 | 3779 | 125 | 48 | 77 | 1 | 294 | 30 | 55 | 3116 | 90 | 44 | 46 | 1 | 527 | 35 | 81 | 15514 | 335 | 133 | 202 | 1 | 882 | 46 | 104 |
| JUNE 92 | 7465 | 119 | 50 | 69 | 1 | 635 | 63 | 130 | 4817 | 156 | 62 | 94 | 1 | 403 | 31 | 57 | 3384 | 89 | 40 | 49 | 1 | 626 | 38 | 93 | 15666 | 364 | 152 | 212 | 1 | 635 | 43 | 96 |
| FALL 92 | 7303 | 95 | 34 | 61 | 1 | 1290 | 77 | 187 | 4330 | 156 | 69 | 87 | 1 | 300 | 28 | 51 | 2671 | 83 | 36 | 47 | 1 | 408 | 32 | 66 | 14304 | 334 | 139 | 195 | 1 | 1290 | 43 | 113 |
| SPRING 93 | 6730 | 118 | 43 | 75 | 1 | 594 | 57 | 103 | 3759 | 157 | 80 | 77 | 1 | 324 | 24 | 50 | 2872 | 65 | 20 | 45 | 1 | 336 | 44 | 71 | 13361 | 340 | 143 | 197 | 1 | 594 | 39 | 77 |
| FALL 93 | 6209 | 97 | 30 | 67 | 1 | 646 | 64 | 108 | 2945 | 113 | 48 | 65 | 1 | 377 | 26 | 57 | 2788 | 80 | 31 | 49 | 1 | 512 | 35 | 77 | 11942 | 290 | 109 | 181 | 1 | 646 | 41 | 83 |
| SPRING 94 | 6416 | 115 | 46 | 69 | 1 | 1386 | 56 | 151 | 3527 | 119 | 50 | 69 | 1 | 392 | 30 | 64 | 2270 | 92 | 45 | 47 | 1 | 274 | 25 | 51 | 12213 | 326 | 143 | 183 | 1 | 1386 | 37 | 102 |
| FALL 94 | 5600 | 59 | 10 | 49 | 1 | 550 | 95 | 137 | 1432 | 46 | 9 | 37 | 1 | 264 | 31 | 42 | 2102 | 56 | 17 | 39 | 1 | 343 | 38 | 69 | 9134 | 161 | 36 | 125 | 1 | 550 | 57 | 99 |

| AREA II | TRANSECT #273 | | | | | | | | TRANSECT #274 | | | | | | | | TRANSECT #275 | | | | | | | | ALL TRANSECTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD |
| SPRING 90 | 2130 | 53 | 8 | 45 | 1 | 450 | 40 | 70 | 6568 | 37 | 3 | 34 | 3 | 1385 | 178 | 320 | 1816 | 48 | 12 | 36 | 1 | 319 | 38 | 75 | 10514 | 138 | 23 | 115 | 1 | 1385 | 76 | 186 |
| FALL 90 | 2681 | 92 | 23 | 69 | 1 | 408 | 29 | 52 | 3640 | 51 | 12 | 39 | 1 | 962 | 71 | 138 | 1551 | 28 | 4 | 24 | 3 | 314 | 55 | 79 | 7872 | 171 | 39 | 132 | 1 | 962 | 46 | 92 |
| SPRING 91 | 2677 | 141 | 77 | 64 | 1 | 408 | 19 | 47 | 3367 | 53 | 16 | 37 | 1 | 908 | 64 | 136 | 1393 | 40 | 16 | 24 | 1 | 227 | 35 | 59 | 7437 | 234 | 109 | 125 | 1 | 908 | 32 | 80 |
| FALL 91 | 2009 | 95 | 36 | 59 | 1 | 319 | 21 | 42 | 2513 | 41 | 5 | 36 | 1 | 578 | 61 | 107 | 1506 | 34 | 11 | 23 | 1 | 304 | 44 | 72 | 6027 | 170 | 52 | 118 | 1 | 578 | 35 | 71 |
| SPRING 92 | 3482 | 135 | 69 | 66 | 1 | 858 | 26 | 82 | 3873 | 59 | 23 | 36 | 1 | 1748 | 66 | 231 | 1745 | 44 | 18 | 26 | 1 | 315 | 40 | 73 | 9099 | 238 | 110 | 128 | 1 | 1748 | 38 | 134 |
| JUNE 92 | 3480 | 120 | 47 | 73 | 1 | 560 | 29 | 69 | 3583 | 147 | 99 | 48 | 1 | 1008 | 24 | 93 | 1270 | 72 | 45 | 27 | 1 | 224 | 18 | 40 | 8333 | 339 | 191 | 148 | 1 | 1008 | 25 | 76 |
| FALL 92 | 3404 | 90 | 36 | 54 | 1 | 585 | 38 | 85 | 3295 | 120 | 74 | 46 | 1 | 884 | 27 | 93 | 995 | 69 | 45 | 24 | 1 | 204 | 14 | 32 | 7694 | 279 | 155 | 124 | 1 | 884 | 28 | 79 |
| SPRING 93 | 3426 | 121 | 65 | 56 | 1 | 684 | 28 | 82 | 3304 | 111 | 43 | 68 | 1 | 616 | 30 | 79 | 1062 | 52 | 30 | 22 | 1 | 154 | 20 | 35 | 7792 | 284 | 138 | 146 | 1 | 684 | 27 | 74 |
| FALL 93 | 3104 | 96 | 38 | 58 | 1 | 464 | 32 | 75 | 3487 | 76 | 36 | 40 | 1 | 924 | 46 | 130 | 827 | 30 | 11 | 19 | 1 | 192 | 28 | 42 | 7418 | 202 | 85 | 117 | 1 | 924 | 37 | 98 |
| SPRING 94 | 3212 | 68 | 31 | 37 | 1 | 682 | 47 | 131 | 3686 | 92 | 52 | 40 | 1 | 1120 | 40 | 137 | 880 | 22 | 5 | 17 | 1 | 237 | 40 | 61 | 7778 | 182 | 88 | 94 | 1 | 1120 | 43 | 127 |
| FALL 94 | 3690 | 56 | 14 | 42 | 1 | 855 | 66 | 154 | 3169 | 62 | 17 | 45 | 1 | 416 | 51 | 88 | 1118 | 22 | 5 | 17 | 1 | 227 | 51 | 66 | 7977 | 140 | 36 | 104 | 1 | 855 | 57 | 116 |

| AREA III | TRANSECT #22 | | | | | | | | TRANSECT #23 | | | | | | | | TRANSECT #269 | | | | | | | | ALL TRANSECTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD | SUM | NUM | #S | #L | MIN | MAX | AVG | SD |
| SPRING 90 | 3185 | 47 | 18 | 29 | 1 | 714 | 68 | 149 | 1373 | 10 | 0 | 10 | 7 | 314 | 137 | 101 | 3220 | 16 | 0 | 16 | 7 | 616 | 201 | 216 | 7778 | 73 | 18 | 55 | 1 | 714 | 107 | 168 |
| FALL 90 | 6908 | 15 | 0 | 15 | 8 | 3318 | 461 | 817 | 7360 | 8 | 0 | 8 | 314 | 2827 | 920 | 803 | 7431 | 13 | 0 | 13 | 8 | 2827 | 572 | 795 | 21699 | 36 | 0 | 36 | 8 | 3318 | 603 | 803 |
| SPRING 91 | 2561 | 39 | 11 | 28 | 1 | 715 | 66 | 132 | 1977 | 18 | 4 | 14 | 1 | 296 | 110 | 107 | 4600 | 20 | 0 | 20 | 6 | 1810 | 230 | 407 | 9138 | 77 | 15 | 62 | 1 | 1810 | 119 | 240 |
| FALL 91 | 2345 | 35 | 13 | 22 | 1 | 675 | 67 | 127 | 1499 | 13 | 4 | 9 | 1 | 375 | 115 | 141 | 3945 | 16 | 1 | 15 | 3 | 1590 | 247 | 414 | 7789 | 64 | 18 | 46 | 1 | 1590 | 122 | 243 |
| SPRING 92 | 3406 | 60 | 25 | 35 | 1 | 1200 | 57 | 167 | 3142 | 14 | 3 | 11 | 1 | 988 | 224 | 358 | 5701 | 19 | 0 | 19 | 15 | 2576 | 300 | 585 | 12249 | 93 | 28 | 65 | 1 | 2576 | 132 | 337 |
| JUNE 92 | 2761 | 53 | 29 | 24 | 1 | 910 | 52 | 139 | 3359 | 19 | 3 | 16 | 2 | 861 | 177 | 239 | 4213 | 25 | 7 | 18 | 1 | 1728 | 169 | 352 | 10333 | 97 | 39 | 58 | 1 | 1728 | 107 | 236 |
| FALL 92 | 3637 | 31 | 12 | 19 | 1 | 1248 | 117 | 250 | 2642 | 23 | 6 | 17 | 1 | 531 | 115 | 179 | 4647 | 27 | 7 | 20 | 1 | 1728 | 172 | 359 | 10926 | 81 | 25 | 56 | 1 | 1728 | 135 | 274 |
| SPRING 93 | 3605 | 38 | 12 | 26 | 1 | 1113 | 95 | 203 | 3525 | 22 | 6 | 16 | 1 | 680 | 160 | 242 | 5259 | 22 | 3 | 19 | 1 | 1862 | 239 | 406 | 12389 | 82 | 21 | 61 | 1 | 1862 | 151 | 283 |
| FALL 93 | 3092 | 21 | 4 | 17 | 3 | 1127 | 147 | 261 | 3024 | 16 | 2 | 14 | 3 | 616 | 189 | 247 | 4761 | 17 | 0 | 17 | 8 | 1520 | 280 | 398 | 10877 | 54 | 6 | 48 | 3 | 1520 | 201 | 266 |
| SPRING 94 | 3663 | 39 | 14 | 25 | 1 | 1296 | 94 | 234 | 2486 | 20 | 3 | 17 | 1 | 595 | 124 | 182 | 4341 | 21 | 5 | 16 | 1 | 1326 | 207 | 316 | 10489 | 80 | 22 | 58 | 1 | 1326 | 131 | 249 |
| FALL 94 | 2452 | 25 | 3 | 22 | 3 | 735 | 98 | 165 | 1460 | 14 | 1 | 13 | 3 | 640 | 104 | 171 | 3282 | 17 | 2 | 15 | 2 | 1088 | 193 | 300 | 7194 | 56 | 6 | 50 | 2 | 1088 | 128 | 217 |

#S = # CLUMPS <= 5 $CM^2$ #L = # CLUMPS > 5 $CM^2$

**Table 11. Goose Barnacle Size Distribution within Clumps by Site.**

Mean % (n=3) of barnacle clumps containing small, medium, and large individuals for 11 seasonal surveys at 3 sites.

| DATE | AREA I | | | AREA II | | | AREA III | | | ALL AREAS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % SMALL (<1cm) | % MEDIUM (1-3cm) | % LARGE (>3cm) | % SMALL (<1cm) | % MEDIUM (1-3cm) | % LARGE (>3cm) | % SMALL (<1cm) | % MEDIUM (1-3cm) | % LARGE (>3cm) | % SMALL (<1cm) | % MEDIUM (1-3cm) | % LARGE (>3cm) |
| SPRING 90 | 82 | 95 | 59 | 75 | 93 | 71 | 67 | 81 | 71 | 78 | 93 | 64 |
| FALL 90 | 68 | 92 | 81 | 80 | 94 | 50 | 86 | 86 | 56 | 75 | 92 | 65 |
| SPRING 91 | 81 | 88 | 76 | 74 | 76 | 55 | 70 | 88 | 77 | 77 | 83 | 68 |
| FALL 91 | 86 | 86 | 75 | 83 | 75 | 46 | 81 | 73 | 67 | 84 | 80 | 63 |
| SPRING 92 | 85 | 78 | 16 | 78 | 82 | 15 | 63 | 91 | 34 | 79 | 81 | 18 |
| JUNE 92 | 90 | 81 | 36 | 89 | 69 | 22 | 69 | 81 | 43 | 87 | 76 | 31 |
| FALL 92 | 79 | 83 | 49 | 83 | 77 | 31 | 83 | 93 | 58 | 81 | 82 | 43 |
| SPRING 93 | 71 | 86 | 48 | 76 | 83 | 32 | 80 | 85 | 56 | 74 | 85 | 43 |
| FALL 93 | 87 | 90 | 25 | 82 | 85 | 26 | 89 | 93 | 65 | 85 | 88 | 29 |
| SPRING 94 | 86 | 79 | 48 | 91 | 68 | 22 | 93 | 79 | 53 | 88 | 76 | 41 |
| FALL 94 | 41 | 80 | 82 | 77 | 87 | 54 | 57 | 80 | 77 | 58 | 83 | 70 |

**Table 12. Owl Limpet Density and Size Data by Plot. Number of limpets and shell length (mm) statistics for 6 circular plots are presented for 13 seasonal surveys at 3 sites.**

| AREA I | 282 Boulder | | | | | 283 Boulder | | | | | 284 Boulder | | | | | 277 Cliff | | | | | 279 Cliff | | | | | 280 Cliff | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD |
| SPRING 90 | 27 | 33 | 81 | 56 | 14 | 25 | 39 | 68 | 50 | 7 | 54 | 22 | 70 | 46 | 10 | 16 | 36 | 59 | 50 | 7 | 28 | 37 | 58 | 47 | 6 | 54 | 28 | 64 | 47 | 8 |
| FALL 90 | 40 | 23 | 85 | 58 | 15 | 19 | 26 | 64 | 50 | 10 | 59 | 19 | 67 | 42 | 13 | 42 | 19 | 63 | 37 | 10 | 22 | 22 | 61 | 47 | 12 | 60 | 18 | 64 | 45 | 12 |
| SPRING 91 | 39 | 22 | 83 | 54 | 16 | 18 | 30 | 63 | 49 | 10 | 56 | 22 | 69 | 44 | 12 | 39 | 18 | 61 | 34 | 9 | 28 | 23 | 58 | 41 | 12 | 53 | 19 | 63 | 43 | 11 |
| FALL 91 | 33 | 19 | 84 | 51 | 19 | 17 | 25 | 66 | 52 | 11 | 65 | 17 | 63 | 39 | 13 | 29 | 18 | 46 | 34 | 9 | 28 | 21 | 56 | 41 | 10 | 32 | 28 | 65 | 46 | 8 |
| SPRING 92 | 32 | 26 | 79 | 52 | 16 | 15 | 38 | 66 | 54 | 8 | 60 | 21 | 70 | 42 | 12 | 38 | 20 | 50 | 35 | 8 | 35 | 18 | 56 | 42 | 11 | 33 | 29 | 59 | 45 | 8 |
| JUNE 92 | 37 | 15 | 79 | 47 | 19 | 14 | 40 | 64 | 54 | 8 | 54 | 15 | 72 | 44 | 12 | 63 | 17 | 62 | 37 | 10 | 32 | 17 | 58 | 41 | 13 | 32 | 24 | 62 | 45 | 9 |
| FALL 92 | 43 | 15 | 84 | 52 | 19 | 17 | 22 | 66 | 54 | 12 | 69 | 17 | 75 | 41 | 15 | 67 | 15 | 60 | 32 | 12 | 42 | 19 | 64 | 39 | 13 | 27 | 23 | 61 | 43 | 12 |
| SPRING 93 | 37 | 22 | 82 | 53 | 16 | 11 | 30 | 66 | 51 | 14 | 54 | 20 | 74 | 45 | 13 | 49 | 18 | 60 | 35 | 10 | 45 | 15 | 63 | 37 | 12 | 28 | 22 | 66 | 44 | 11 |
| FALL 93 | 47 | 19 | 85 | 50 | 19 | 17 | 18 | 69 | 38 | 17 | 68 | 15 | 76 | 40 | 16 | 41 | 19 | 56 | 36 | 9 | 51 | 16 | 65 | 40 | 12 | 28 | 25 | 71 | 49 | 12 |
| SPRING 94 | 39 | 20 | 84 | 50 | 17 | 16 | 24 | 69 | 44 | 14 | 55 | 18 | 74 | 41 | 13 | 37 | 15 | 62 | 33 | 9 | 49 | 21 | 60 | 40 | 10 | 27 | 30 | 70 | 52 | 10 |
| FALL 94 | 32 | 19 | 82 | 53 | 15 | 14 | 23 | 63 | 48 | 11 | 52 | 16 | 75 | 40 | 14 | 24 | 20 | 59 | 39 | 9 | 39 | 22 | 61 | 39 | 9 | 24 | 17 | 69 | 44 | 11 |
| SPRING 95 | 43 | 22 | 82 | 47 | 15 | 22 | 18 | 64 | 43 | 13 | 50 | 20 | 75 | 41 | 12 | 44 | 17 | 58 | 33 | 8 | 40 | 23 | 62 | 41 | 10 | 25 | 18 | 65 | 50 | 11 |
| FALL 95 | 48 | 17 | 85 | 51 | 17 | 19 | 22 | 65 | 49 | 11 | 55 | 18 | 74 | 43 | 14 | 41 | 19 | 62 | 34 | 8 | 47 | 24 | 64 | 44 | 9 | 26 | 42 | 79 | 56 | 8 |

| AREA II | 239 Boulder | | | | | 240 Boulder | | | | | 241 Boulder | | | | | 242 Cliff | | | | | 243 Cliff | | | | | 266 Cliff | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD |
| SPRING 90 | 26 | 25 | 64 | 46 | 10 | 17 | 34 | 81 | 57 | 12 | 36 | 34 | 77 | 58 | 13 | 11 | 32 | 70 | 54 | 11 | 22 | 33 | 59 | 49 | 7 | 49 | 33 | 87 | 54 | 11 |
| FALL 90 | 34 | 18 | 62 | 41 | 13 | 24 | 20 | 82 | 50 | 20 | 35 | 26 | 76 | 64 | 10 | 17 | 25 | 69 | 49 | 17 | 29 | 29 | 72 | 55 | 12 | 62 | 23 | 83 | 52 | 15 |
| SPRING 91 | 34 | 20 | 61 | 39 | 13 | 23 | 25 | 78 | 49 | 17 | 35 | 28 | 76 | 62 | 12 | 14 | 29 | 70 | 46 | 14 | 28 | 24 | 66 | 45 | 13 | 76 | 19 | 81 | 44 | 15 |
| FALL 91 | 24 | 30 | 58 | 45 | 9 | 22 | 19 | 77 | 50 | 15 | 37 | 20 | 78 | 62 | 15 | 21 | 27 | 67 | 48 | 12 | 32 | 24 | 71 | 54 | 12 | 70 | 19 | 80 | 46 | 13 |
| SPRING 92 | 26 | 23 | 56 | 42 | 9 | 24 | 22 | 78 | 48 | 16 | 33 | 16 | 79 | 64 | 14 | 17 | 29 | 66 | 49 | 11 | 18 | 30 | 68 | 54 | 9 | 67 | 27 | 79 | 50 | 11 |
| JUNE 92 | 25 | 22 | 59 | 45 | 10 | 23 | 17 | 72 | 48 | 15 | 32 | 17 | 80 | 64 | 14 | 18 | 18 | 68 | 51 | 12 | 14 | 18 | 71 | 49 | 14 | 71 | 22 | 66 | 49 | 11 |
| FALL 92 | 41 | 16 | 66 | 41 | 13 | 24 | 17 | 79 | 49 | 17 | 31 | 31 | 82 | 66 | 12 | 24 | 32 | 73 | 58 | 11 | 25 | 19 | 71 | 40 | 16 | 77 | 21 | 74 | 52 | 13 |
| SPRING 93 | 32 | 26 | 61 | 43 | 10 | 21 | 27 | 77 | 53 | 14 | 32 | 39 | 81 | 67 | 10 | 12 | 17 | 72 | 52 | 14 | 30 | 23 | 70 | 43 | 12 | 68 | 23 | 74 | 49 | 14 |
| FALL 93 | 44 | 15 | 61 | 40 | 14 | 24 | 16 | 79 | 49 | 20 | 31 | 24 | 83 | 67 | 12 | 13 | 21 | 75 | 59 | 14 | 27 | 16 | 73 | 45 | 14 | 52 | 27 | 73 | 50 | 12 |
| SPRING 94 | 36 | 21 | 60 | 42 | 10 | 26 | 19 | 78 | 51 | 17 | 29 | 19 | 85 | 64 | 16 | 10 | 30 | 72 | 58 | 13 | 22 | 21 | 66 | 44 | 13 | 43 | 20 | 72 | 46 | 14 |
| FALL 94 | 29 | 29 | 62 | 43 | 9 | 24 | 26 | 79 | 51 | 15 | 23 | 34 | 84 | 66 | 12 | 7 | 38 | 75 | 54 | 14 | 24 | 35 | 63 | 48 | 9 | 40 | 16 | 75 | 42 | 16 |
| SPRING 95 | 28 | 20 | 59 | 40 | 10 | 23 | 24 | 80 | 53 | 13 | 24 | 25 | 84 | 60 | 16 | 6 | 36 | 57 | 45 | 8 | 20 | 18 | 62 | 48 | 11 | 49 | 15 | 73 | 44 | 15 |
| FALL 95 | 27 | 17 | 62 | 44 | 11 | 23 | 29 | 74 | 51 | 14 | 20 | 36 | 81 | 64 | 11 | 3 | 54 | 60 | 56 | 3 | 21 | 30 | 65 | 49 | 9 | 40 | 19 | 72 | 46 | 14 |

| AREA III | 11 Boulder | | | | | 18 Boulder | | | | | 19 Boulder | | | | | 21 Boulder | | | | | 26 Boulder | | | | | 13 Cliff | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD | NUM | MIN | MAX | AVG | SD |
| SPRING 90 | 56 | 27 | 64 | 45 | 8 | 82 | 16 | 56 | 41 | 8 | 19 | 27 | 67 | 52 | 12 | 30 | 30 | 72 | 50 | 10 | 23 | 33 | 74 | 57 | 10 | 26 | 35 | 82 | 48 | 12 |
| FALL 90 | 62 | 19 | 65 | 44 | 9 | 76 | 20 | 60 | 43 | 9 | 28 | 21 | 73 | 54 | 15 | 29 | 37 | 71 | 52 | 8 | 22 | 27 | 72 | 58 | 9 | 32 | 24 | 81 | 45 | 14 |
| SPRING 91 | 60 | 20 | 64 | 44 | 9 | 78 | 20 | 60 | 40 | 10 | 27 | 26 | 73 | 54 | 15 | 28 | 27 | 66 | 50 | 9 | 23 | 28 | 71 | 56 | 10 | 31 | 24 | 80 | 45 | 13 |
| FALL 91 | 55 | 23 | 66 | 44 | 8 | 71 | 23 | 64 | 43 | 9 | 30 | 32 | 74 | 55 | 13 | 21 | 41 | 61 | 53 | 5 | 20 | 30 | 71 | 56 | 9 | 22 | 26 | 78 | 45 | 11 |
| SPRING 92 | 36 | 31 | 57 | 46 | 5 | 58 | 28 | 56 | 44 | 7 | 24 | 35 | 69 | 53 | 12 | 19 | 39 | 64 | 53 | 7 | 18 | 21 | 70 | 54 | 11 | 28 | 26 | 69 | 43 | 11 |
| JUNE 92 | 55 | 24 | 62 | 46 | 8 | 86 | 24 | 63 | 44 | 8 | 33 | 22 | 76 | 53 | 14 | 27 | 37 | 64 | 54 | 8 | 20 | 33 | 72 | 55 | 12 | 39 | 15 | 77 | 43 | 14 |
| FALL 92 | 75 | 17 | 65 | 43 | 13 | 88 | 18 | 57 | 41 | 10 | 39 | 17 | 74 | 49 | 17 | 28 | 24 | 68 | 54 | 12 | 25 | 17 | 72 | 50 | 16 | 54 | 15 | 77 | 41 | 15 |
| SPRING 93 | 52 | 24 | 62 | 47 | 9 | 76 | 20 | 60 | 43 | 9 | 31 | 17 | 73 | 52 | 16 | 28 | 27 | 66 | 52 | 12 | 22 | 17 | 71 | 51 | 16 | 43 | 19 | 75 | 43 | 14 |
| FALL 93 | 73 | 15 | 65 | 40 | 13 | 65 | 15 | 58 | 39 | 10 | 33 | 17 | 74 | 53 | 14 | 25 | 21 | 66 | 54 | 11 | 26 | 18 | 68 | 48 | 15 | 36 | 22 | 75 | 43 | 14 |
| SPRING 94 | 47 | 15 | 63 | 39 | 12 | 56 | 24 | 57 | 40 | 8 | 26 | 27 | 71 | 53 | 13 | 30 | 15 | 69 | 51 | 14 | 27 | 17 | 69 | 47 | 17 | 22 | 32 | 74 | 45 | 10 |
| FALL 94 | 54 | 15 | 62 | 41 | 11 | 50 | 15 | 55 | 38 | 9 | 21 | 35 | 69 | 53 | 9 | 20 | 29 | 67 | 54 | 9 | 17 | 22 | 68 | 46 | 17 | 37 | 17 | 61 | 37 | 11 |
| SPRING 95 | 51 | 17 | 57 | 40 | 10 | 66 | 17 | 54 | 37 | 9 | 22 | 25 | 65 | 50 | 13 | 20 | 30 | 66 | 53 | 9 | 12 | 30 | 68 | 50 | 12 | 25 | 15 | 56 | 39 | 11 |
| FALL 95 | 42 | 16 | 59 | 43 | 9 | 55 | 17 | 57 | 41 | 9 | 22 | 17 | 67 | 51 | 13 | 15 | 47 | 68 | 57 | 7 | 12 | 25 | 60 | 47 | 11 | 32 | 16 | 62 | 38 | 12 |

**Table 13. Owl Limpet Density and Size Summary Data by Habitat and Site.**
Number of limpets and shell length (mm) statistics for 6 circular plots divided among boulder and cliff habitats are presented for 13 seasonal surveys at 3 sites.

| AREA I | BOULDER | | | | | | | CLIFF | | | | | | | ALL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | NUM | #S | #L | MIN | MAX | AVG | SD | NUM | #S | #L | MIN | MAX | AVG | SD | NUM | #S | #L | MIN | MAX | AVG | SD |
| SPRING 90 | 106 | 1 | 105 | 22 | 81 | 50 | 12 | 98 | 1 | 97 | 28 | 64 | 47 | 7 | 204 | 2 | 202 | 22 | 81 | 48 | 10 |
| FALL 90 | 118 | 23 | 95 | 19 | 85 | 49 | 15 | 124 | 27 | 97 | 18 | 64 | 43 | 12 | 242 | 50 | 192 | 18 | 85 | 46 | 14 |
| SPRING 91 | 113 | 13 | 100 | 22 | 83 | 48 | 14 | 120 | 33 | 87 | 18 | 63 | 40 | 12 | 233 | 46 | 187 | 18 | 83 | 44 | 13 |
| FALL 91 | 115 | 25 | 90 | 17 | 84 | 45 | 16 | 89 | 12 | 77 | 18 | 65 | 41 | 10 | 204 | 37 | 167 | 17 | 84 | 43 | 14 |
| SPRING 92 | 107 | 15 | 92 | 21 | 79 | 47 | 14 | 106 | 14 | 92 | 18 | 59 | 41 | 10 | 213 | 29 | 184 | 18 | 79 | 44 | 12 |
| JUNE 92 | 105 | 13 | 92 | 15 | 79 | 47 | 14 | 127 | 24 | 103 | 17 | 62 | 40 | 11 | 232 | 37 | 195 | 15 | 79 | 43 | 13 |
| FALL 92 | 129 | 28 | 101 | 15 | 84 | 47 | 17 | 136 | 49 | 87 | 15 | 64 | 36 | 13 | 265 | 77 | 188 | 15 | 84 | 41 | 16 |
| SPRING 93 | 102 | 9 | 93 | 20 | 82 | 48 | 15 | 122 | 32 | 90 | 15 | 66 | 38 | 12 | 224 | 41 | 183 | 15 | 82 | 43 | 14 |
| FALL 93 | 132 | 36 | 96 | 15 | 85 | 43 | 17 | 120 | 20 | 100 | 16 | 71 | 41 | 12 | 252 | 56 | 196 | 15 | 85 | 42 | 17 |
| SPRING 94 | 110 | 22 | 88 | 18 | 84 | 45 | 15 | 113 | 16 | 97 | 15 | 70 | 40 | 12 | 223 | 38 | 185 | 15 | 84 | 42 | 14 |
| FALL 94 | 98 | 16 | 82 | 16 | 82 | 45 | 15 | 87 | 10 | 77 | 17 | 69 | 40 | 10 | 185 | 26 | 159 | 16 | 82 | 43 | 13 |
| SPRING 95 | 115 | 21 | 94 | 18 | 82 | 44 | 14 | 109 | 22 | 87 | 17 | 65 | 40 | 12 | 224 | 43 | 181 | 17 | 82 | 42 | 13 |
| FALL 95 | 122 | 19 | 103 | 17 | 85 | 47 | 15 | 114 | 13 | 101 | 19 | 64 | 43 | 12 | 236 | 32 | 204 | 17 | 85 | 45 | 14 |

| AREA II | BOULDER | | | | | | | CLIFF | | | | | | | ALL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | NUM | #S | #L | MIN | MAX | AVG | SD | NUM | #S | #L | MIN | MAX | AVG | SD | NUM | #S | #L | MIN | MAX | AVG | SD |
| SPRING 90 | 79 | 1 | 78 | 25 | 81 | 54 | 13 | 82 | 0 | 82 | 32 | 87 | 52 | 10 | 161 | 1 | 160 | 25 | 87 | 53 | 11 |
| FALL 90 | 93 | 18 | 75 | 18 | 82 | 52 | 17 | 108 | 14 | 94 | 23 | 83 | 52 | 14 | 201 | 32 | 169 | 18 | 83 | 52 | 16 |
| SPRING 91 | 92 | 18 | 74 | 20 | 78 | 51 | 17 | 118 | 29 | 89 | 19 | 81 | 44 | 15 | 210 | 47 | 163 | 19 | 81 | 47 | 16 |
| FALL 91 | 83 | 5 | 78 | 19 | 78 | 54 | 15 | 123 | 10 | 113 | 19 | 80 | 49 | 13 | 206 | 15 | 191 | 19 | 80 | 51 | 14 |
| SPRING 92 | 83 | 7 | 76 | 16 | 79 | 52 | 16 | 102 | 4 | 98 | 27 | 79 | 50 | 11 | 185 | 11 | 174 | 16 | 79 | 51 | 13 |
| JUNE 92 | 80 | 4 | 76 | 17 | 80 | 54 | 16 | 103 | 7 | 96 | 18 | 71 | 49 | 12 | 183 | 12 | 171 | 17 | 80 | 51 | 14 |
| FALL 92 | 96 | 12 | 84 | 16 | 82 | 51 | 18 | 126 | 14 | 112 | 19 | 74 | 50 | 14 | 222 | 26 | 196 | 16 | 82 | 51 | 16 |
| SPRING 93 | 85 | 6 | 79 | 26 | 81 | 54 | 15 | 110 | 11 | 99 | 17 | 74 | 48 | 14 | 195 | 17 | 178 | 17 | 81 | 51 | 15 |
| FALL 93 | 99 | 17 | 82 | 15 | 83 | 51 | 19 | 92 | 7 | 85 | 16 | 75 | 50 | 17 | 191 | 24 | 167 | 15 | 83 | 50 | 17 |
| SPRING 94 | 91 | 10 | 81 | 19 | 85 | 52 | 17 | 75 | 9 | 66 | 20 | 72 | 47 | 14 | 166 | 19 | 174 | 19 | 85 | 50 | 16 |
| FALL 94 | 76 | 3 | 73 | 26 | 84 | 52 | 15 | 71 | 11 | 60 | 16 | 75 | 45 | 14 | 147 | 14 | 133 | 16 | 84 | 49 | 15 |
| SPRING 95 | 75 | 8 | 67 | 20 | 84 | 50 | 16 | 75 | 12 | 63 | 15 | 73 | 45 | 13 | 150 | 20 | 130 | 15 | 84 | 48 | 15 |
| FALL 95 | 70 | 4 | 66 | 17 | 81 | 52 | 14 | 64 | 3 | 61 | 19 | 72 | 48 | 12 | 134 | 7 | 127 | 17 | 81 | 50 | 14 |

| AREA III | BOULDER | | | | | | | CLIFF | | | | | | | ALL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | NUM | #S | #L | MIN | MAX | AVG | SD | NUM | #S | #L | MIN | MAX | AVG | SD | NUM | #S | #L | MIN | MAX | AVG | SD |
| SPRING 90 | 210 | 9 | 201 | 16 | 74 | 46 | 10 | 26 | 0 | 26 | 35 | 82 | 48 | 12 | 236 | 9 | 227 | 16 | 82 | 46 | 11 |
| FALL 90 | 217 | 20 | 197 | 19 | 73 | 47 | 11 | 32 | 5 | 27 | 24 | 81 | 45 | 14 | 249 | 25 | 224 | 19 | 81 | 47 | 12 |
| SPRING 91 | 216 | 27 | 189 | 20 | 73 | 46 | 12 | 31 | 5 | 26 | 24 | 80 | 45 | 13 | 247 | 32 | 215 | 20 | 80 | 46 | 12 |
| FALL 91 | 197 | 8 | 189 | 23 | 74 | 48 | 11 | 22 | 1 | 21 | 26 | 78 | 45 | 11 | 219 | 9 | 210 | 23 | 78 | 47 | 11 |
| SPRING 92 | 155 | 3 | 152 | 21 | 70 | 48 | 9 | 28 | 1 | 27 | 26 | 69 | 43 | 11 | 183 | 4 | 179 | 21 | 70 | 47 | 10 |
| JUNE 92 | 221 | 7 | 214 | 22 | 76 | 48 | 10 | 39 | 6 | 33 | 15 | 77 | 43 | 14 | 260 | 13 | 247 | 15 | 77 | 47 | 11 |
| FALL 92 | 255 | 45 | 210 | 17 | 74 | 45 | 14 | 54 | 13 | 41 | 15 | 77 | 41 | 15 | 309 | 58 | 251 | 15 | 77 | 45 | 14 |
| SPRING 93 | 209 | 21 | 188 | 17 | 73 | 47 | 12 | 43 | 7 | 36 | 19 | 75 | 43 | 14 | 252 | 28 | 224 | 17 | 75 | 47 | 12 |
| FALL 93 | 222 | 37 | 185 | 15 | 74 | 44 | 14 | 36 | 5 | 31 | 22 | 75 | 43 | 14 | 258 | 42 | 216 | 15 | 75 | 44 | 14 |
| SPRING 94 | 186 | 26 | 160 | 15 | 71 | 44 | 13 | 22 | 0 | 22 | 32 | 74 | 45 | 10 | 208 | 26 | 182 | 15 | 74 | 44 | 13 |
| FALL 94 | 162 | 21 | 141 | 15 | 69 | 43 | 12 | 37 | 8 | 29 | 17 | 61 | 37 | 11 | 199 | 29 | 170 | 15 | 69 | 43 | 12 |
| SPRING 95 | 171 | 23 | 148 | 17 | 68 | 42 | 12 | 25 | 3 | 22 | 15 | 56 | 39 | 11 | 196 | 20 | 176 | 15 | 68 | 42 | 12 |
| FALL 95 | 143 | 10 | 133 | 16 | 68 | 45 | 11 | 32 | 8 | 24 | 16 | 62 | 39 | 12 | 175 | 18 | 157 | 16 | 68 | 44 | 11 |

NOTE: DATA FOR 3 PLOTS COMBINED FOR EACH HABITAT EXCEPT AREA III (5 BOULDER,1 CLIFF).
#S = # LIMPETS < 30 mm #L = # LIMPETS >= 30 mm

## Table 14. Line Transect Primary Index Taxa Summary Data.

Percent cover data for 3 index taxa (red algal turf, surf grass, boa kelp) are presented for 13 seasonal surveys at 3 sites.

| AREA I | TURF TRANSECT | | GRASS TRANSECT | | KELP TRANSECT | |
|---|---|---|---|---|---|---|
| DATE | 210 | 237 | 211 | 238 | 212 | 236 |
| S90 | 78 | 96 | 50 | 56 | 43 | 44 |
| F90 | 67 | 96 | 88 | 57 | 29 | 33 |
| S91 | 81 | 94 | 82 | 58 | 13 | 16 |
| F91 | 69 | 97 | 75 | 67 | 64 | 43 |
| S92 | 66 | 95 | 91 | 67 | 81 | 21 |
| J92 | 65 | 98 | 85 | 69 | 54 | 33 |
| F92 | 67 | 99 | 92 | 80 | 45 | 20 |
| S93 | 71 | 96 | 95 | 75 | 20 | 0 |
| F93 | 60 | 99 | 96 | 85 | 17 | 6 |
| S94 | 63 | 99 | 96 | 79 | 27 | 0 |
| F94 | 59 | 100 | 97 | 84 | 12 | 0 |
| S95 | 71 | 97 | 69 | 66 | 5 | 0 |
| F95 | 58 | 98 | 82 | 78 | 33 | 0 |

| AREA II | TURF TRANSECT | | GRASS TRANSECT | | KELP TRANSECT | |
|---|---|---|---|---|---|---|
| DATE | 244 | 270 | 267 | 271 | 268 | 272 |
| S90 | 86 | 59 | 64 | 51 | 76 | 34 |
| F90 | 79 | 71 | 78 | 61 | 52 | 32 |
| S91 | 92 | 56 | 84 | 40 | 16 | 6 |
| F91 | 63 | 79 | 94 | 47 | 31 | 27 |
| S92 | 96 | 62 | 87 | 56 | 35 | 25 |
| J92 | 93 | 51 | 93 | 55 | 48 | 47 |
| F92 | 68 | 47 | 92 | 63 | 47 | 15 |
| S93 | 96 | 64 | 87 | 66 | 43 | 3 |
| F93 | 92 | 66 | 99 | 71 | 8 | 12 |
| S94 | 95 | 66 | 94 | 63 | 2 | 5 |
| F94 | 92 | 69 | 96 | 66 | 0 | 0 |
| S95 | 95 | 71 | 70 | 46 | 0 | 0 |
| F95 | 96 | 60 | 96 | 93 | 1 | 0 |

| AREA III | TURF TRANSECT | | GRASS TRANSECT | | KELP TRANSECT | |
|---|---|---|---|---|---|---|
| DATE | 1 | 8 | 5 | 7 | 2 | 4 |
| S90 | 86 | 94 | 66 | 54 | 47 | 61 |
| F90 | 76 | 84 | 76 | 67 | 28 | 44 |
| S91 | 79 | 95 | 69 | 46 | 22 | 21 |
| F91 | 86 | 71 | 74 | 66 | 23 | 28 |
| S92 | 90 | 99 | 73 | 49 | 32 | 48 |
| J92 | 89 | 99 | 85 | 68 | 42 | 58 |
| F92 | 87 | 95 | 80 | 75 | 17 | 28 |
| S93 | 86 | 100 | 63 | 42 | 10 | 8 |
| F93 | 83 | 99 | 54 | 72 | 7 | 2 |
| S94 | 90 | 99 | 39 | 43 | 7 | 5 |
| F94 | 81 | 99 | 42 | 64 | 0 | 0 |
| S95 | 87 | 100 | 26 | 28 | 0 | 0 |
| F95 | 86 | | 75 | 48 | 12 | 3 |

# Table 15. Line Transect Species Summary Data by Site.

**Mean % cover data (n=2) for 7 taxa in 3 intertidal zones are presented for 13 seasonal surveys at 3 sites.**

| | AREA I TURF | | | | | | | AREA I GRASS | | | | | | | AREA I KELP | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | BK | SW | RT | SG | AA | OB | BS | BK | SW | RT | SG | AA | OB | BS | BK | SW | RT | SG | AA | OB | BS |
| SPRING 90 | 3 | 0 | 87 | 5 | 2 | 0 | 3 | 10 | 0 | 25 | 53 | 0 | 1 | 11 | 44 | 0 | 34 | 10 | 0 | 5 | 7 |
| FALL 90 | 0 | 0 | 81 | 14 | 1 | 0 | 4 | 1 | 0 | 23 | 72 | 0 | 0 | 4 | 31 | 0 | 36 | 16 | 0 | 8 | 9 |
| SPRING 91 | 0 | 0 | 88 | 8 | 2 | 0 | 2 | 1 | 0 | 26 | 70 | 0 | 0 | 3 | 14 | 0 | 66 | 8 | 0 | 12 | 0 |
| FALL 91 | 1 | 0 | 83 | 14 | 1 | 0 | 1 | 10 | 0 | 17 | 71 | 0 | 0 | 3 | 54 | 2 | 21 | 19 | 0 | 4 | 1 |
| SPRING 92 | 0 | 0 | 81 | 17 | 2 | 0 | 0 | 0 | 0 | 21 | 79 | 0 | 0 | 0 | 51 | 0 | 28 | 20 | 0 | 0 | 1 |
| JUNE 92 | 5 | 0 | 81 | 13 | 1 | 0 | 0 | 6 | 0 | 17 | 77 | 0 | 0 | 0 | 43 | 0 | 23 | 20 | 0 | 14 | 0 |
| FALL 92 | 0 | 0 | 83 | 16 | 0 | 0 | 0 | 1 | 0 | 12 | 86 | 0 | 0 | 1 | 33 | 0 | 19 | 40 | 0 | 6 | 2 |
| SPRING 93 | 0 | 0 | 84 | 14 | 1 | 0 | 1 | 0 | 0 | 13 | 85 | 0 | 0 | 2 | 10 | 0 | 43 | 31 | 0 | 4 | 13 |
| FALL 93 | 4 | 1 | 79 | 16 | 0 | 0 | 0 | 0 | 0 | 7 | 90 | 0 | 0 | 2 | 11 | 11 | 23 | 45 | 0 | 7 | 3 |
| SPRING 94 | 0 | 0 | 81 | 18 | 1 | 0 | 0 | 0 | 0 | 12 | 87 | 0 | 0 | 0 | 13 | 0 | 33 | 49 | 0 | 3 | 2 |
| FALL 94 | 0 | 0 | 79 | 20 | 0 | 0 | 0 | 0 | 1 | 9 | 91 | 0 | 0 | 0 | 6 | 0 | 11 | 61 | 0 | 22 | 0 |
| SPRING 95 | 0 | 0 | 84 | 13 | 1 | 0 | 2 | 0 | 0 | 21 | 68 | 0 | 1 | 10 | 2 | 0 | 41 | 40 | 0 | 8 | 10 |
| FALL 95 | 2 | 0 | 78 | 19 | 1 | 0 | 0 | 1 | 1 | 17 | 80 | 0 | 0 | 1 | 16 | 0 | 8 | 63 | 0 | 11 | 2 |

| | AREA II TURF | | | | | | | AREA II GRASS | | | | | | | AREA II KELP | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | BK | SW | RT | SG | AA | OB | BS | BK | SW | RT | SG | AA | OB | BS | BK | SW | RT | SG | AA | OB | BS |
| SPRING 90 | 6 | 0 | 73 | 2 | 1 | 0 | 18 | 18 | 6 | 11 | 57 | 0 | 1 | 7 | 55 | 0 | 28 | 11 | 0 | 1 | 5 |
| FALL 90 | 3 | 0 | 75 | 5 | 1 | 0 | 17 | 8 | 0 | 16 | 69 | 0 | 2 | 5 | 42 | 0 | 32 | 17 | 3 | 3 | 3 |
| SPRING 91 | 0 | 0 | 74 | 4 | 0 | 2 | 20 | 10 | 6 | 10 | 62 | 0 | 8 | 4 | 11 | 0 | 64 | 24 | 0 | 0 | 2 |
| FALL 91 | 1 | 1 | 71 | 8 | 1 | 0 | 19 | 17 | 0 | 8 | 70 | 0 | 5 | 0 | 29 | 6 | 23 | 38 | 0 | 4 | 0 |
| SPRING 92 | 1 | 3 | 79 | 11 | 1 | 0 | 5 | 13 | 3 | 9 | 72 | 0 | 4 | 0 | 30 | 0 | 20 | 47 | 0 | 3 | 0 |
| JUNE 92 | 8 | 3 | 72 | 12 | 2 | 1 | 2 | 16 | 3 | 6 | 74 | 0 | 1 | 1 | 48 | 0 | 11 | 29 | 0 | 12 | 0 |
| FALL 92 | 4 | 0 | 58 | 14 | 0 | 1 | 23 | 13 | 2 | 5 | 78 | 0 | 0 | 1 | 31 | 0 | 19 | 49 | 0 | 0 | 1 |
| SPRING 93 | 2 | 0 | 80 | 8 | 1 | 0 | 9 | 1 | 0 | 14 | 77 | 0 | 4 | 4 | 23 | 0 | 25 | 48 | 0 | 2 | 2 |
| FALL 93 | 2 | 0 | 79 | 19 | 0 | 0 | 1 | 3 | 0 | 7 | 85 | 0 | 5 | 0 | 10 | 0 | 6 | 73 | 0 | 11 | 0 |
| SPRING 94 | 1 | 1 | 81 | 14 | 1 | 0 | 3 | 3 | 2 | 16 | 79 | 0 | 0 | 0 | 3 | 0 | 13 | 78 | 0 | 3 | 2 |
| FALL 94 | 0 | 2 | 80 | 15 | 0 | 0 | 2 | 2 | 1 | 8 | 81 | 0 | 8 | 0 | 0 | 0 | 13 | 81 | 0 | 6 | 0 |
| SPRING 95 | 0 | 3 | 83 | 7 | 1 | 0 | 7 | 0 | 4 | 24 | 58 | 0 | 2 | 13 | 0 | 0 | 24 | 67 | 0 | 2 | 6 |
| FALL 95 | 2 | 0 | 78 | 18 | 0 | 0 | 2 | 0 | 0 | 5 | 95 | 0 | 1 | 0 | 0 | 0 | 17 | 79 | 0 | 3 | 1 |

| | AREA III TURF | | | | | | | AREA III GRASS | | | | | | | AREA III KELP | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | BK | SW | RT | SG | AA | OB | BS | BK | SW | RT | SG | AA | OB | BS | BK | SW | RT | SG | AA | OB | BS |
| SPRING 90 | 0 | 0 | 90 | 4 | 2 | 0 | 4 | 2 | 3 | 25 | 60 | 0 | 1 | 9 | 54 | 0 | 34 | 4 | 0 | 2 | 6 |
| FALL 90 | 0 | 0 | 80 | 4 | 1 | 1 | 14 | 4 | 2 | 15 | 72 | 0 | 0 | 7 | 36 | 0 | 47 | 7 | 0 | 3 | 7 |
| SPRING 91 | 0 | 1 | 87 | 3 | 2 | 0 | 6 | 6 | 0 | 16 | 58 | 0 | 0 | 20 | 22 | 14 | 32 | 7 | 0 | 5 | 21 |
| FALL 91 | 0 | 0 | 79 | 6 | 2 | 0 | 14 | 4 | 3 | 16 | 70 | 0 | 0 | 7 | 25 | 4 | 44 | 14 | 0 | 11 | 2 |
| SPRING 92 | 0 | 0 | 94 | 3 | 1 | 0 | 2 | 4 | 8 | 26 | 61 | 0 | 0 | 1 | 40 | 8 | 44 | 5 | 0 | 3 | 0 |
| JUNE 92 | 0 | 0 | 94 | 4 | 2 | 0 | 0 | 2 | 2 | 19 | 76 | 0 | 0 | 0 | 50 | 7 | 24 | 11 | 0 | 6 | 2 |
| FALL 92 | 0 | 0 | 91 | 6 | 0 | 0 | 3 | 2 | 1 | 15 | 77 | 0 | 0 | 5 | 23 | 4 | 44 | 17 | 0 | 9 | 3 |
| SPRING 93 | 0 | 0 | 93 | 3 | 1 | 0 | 3 | 4 | 3 | 30 | 53 | 0 | 2 | 8 | 9 | 14 | 51 | 12 | 0 | 10 | 4 |
| FALL 93 | 0 | 0 | 91 | 7 | 0 | 0 | 1 | 0 | 6 | 24 | 63 | 0 | 1 | 6 | 4 | 1 | 28 | 23 | 0 | 16 | 2 |
| SPRING 94 | 0 | 1 | 94 | 1 | 2 | 0 | 1 | 0 | 26 | 29 | 41 | 0 | 0 | 3 | 6 | 18 | 53 | 22 | 0 | 2 | 0 |
| FALL 94 | 0 | 0 | 90 | 1 | 1 | 0 | 8 | 0 | 11 | 26 | 53 | 0 | 0 | 10 | 0 | 1 | 50 | 27 | 0 | 19 | 4 |
| SPRING 95 | 0 | 2 | 93 | 0 | 1 | 0 | 3 | 0 | 20 | 24 | 27 | 0 | 0 | 29 | 0 | 8 | 55 | 20 | 0 | 5 | 11 |
| FALL 95 | 0 | 0 | 86 | 7 | 1 | 0 | 6 | 5 | 6 | 12 | 61 | 0 | 0 | 16 | 7 | 0 | 38 | 33 | 0 | 12 | 9 |

BK=BOA KELP SW=SARGASSUM WEED RT=RED ALGAL TURF SG=SURF GRASS
AA=AGGREGATING ANEMONE OB=OTHER BIOTA BS=BARE SUBSTRATE

**Table 16. Abalone and Sea Star Abundance Data.**
Number of abalone and sea stars observed during timed searches (~30 min. duration) at 3 sites.

| | Area I | | | | | Area II | | | | | Area III | | | | | All Areas | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Abalone | | Sea Stars | | | Abalone | | Sea Stars | | | Abalone | | Sea Stars | | | Abalone | | Sea Stars | | |
| DATE | Black | Green | Ochre | Blue | Bat | Black | Green | Ochre | Blue | Bat | Black | Green | Ochre | Blue | Bat | Black | Green | Ochre | Blue | Bat |
| S90 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 1 | 15 |
| F90 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 1 | 24 |
| S91 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 1 | - | 0 | 0 | 0 | 1 | 0 |
| F91 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 17 |
| S92 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 24 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 2 | 45 |
| J92 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 1 | 17 |
| F92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 8 |
| S93 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 |
| F93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| S94 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 5 | 0 | 2 | 0 | 1 | 5 | 0 | 3 | 1 | 3 | 10 |
| F94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 10 |
| S95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 |
| F95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 3 |

S=Spring F=Fall

# FIGURES

Fig. 1. Point Loma Rocky Intertidal Monitoring Sites.

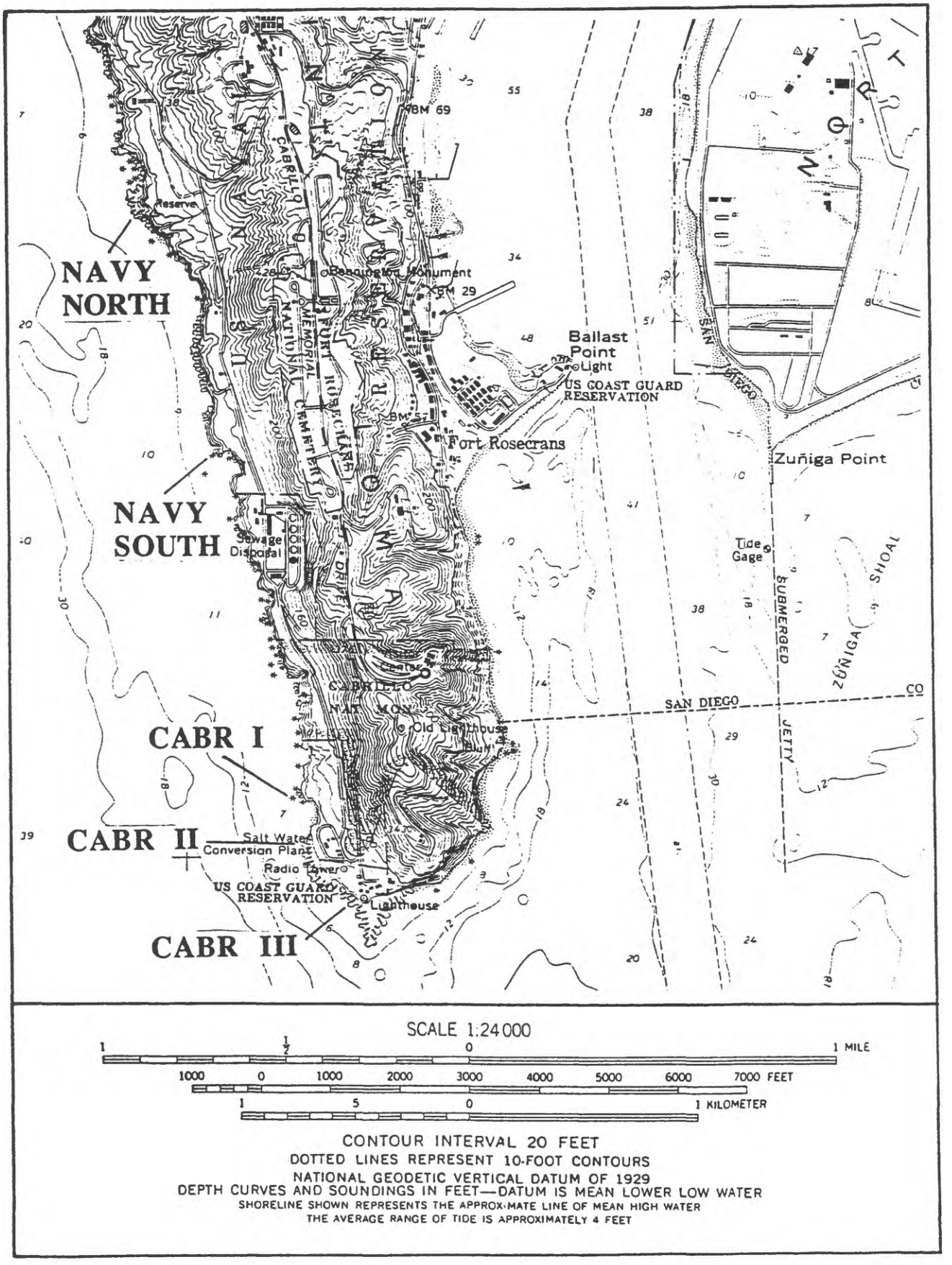


**Figure 2. Intertidal Visitor Use and Ecological Monitoring Areas in Cabrillo NM.**

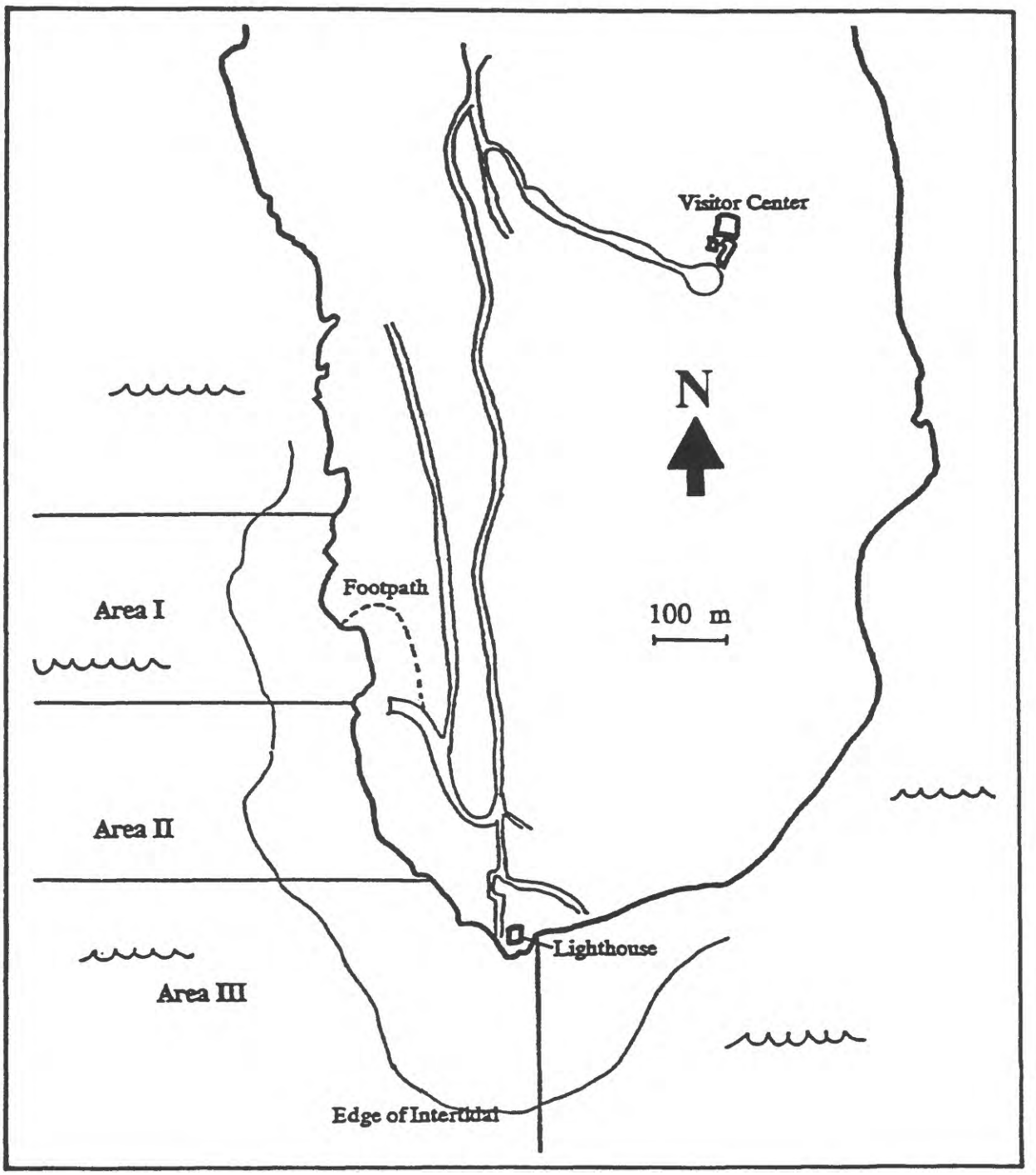


Fig. 3. Cabrillo National Monument Area I Map.

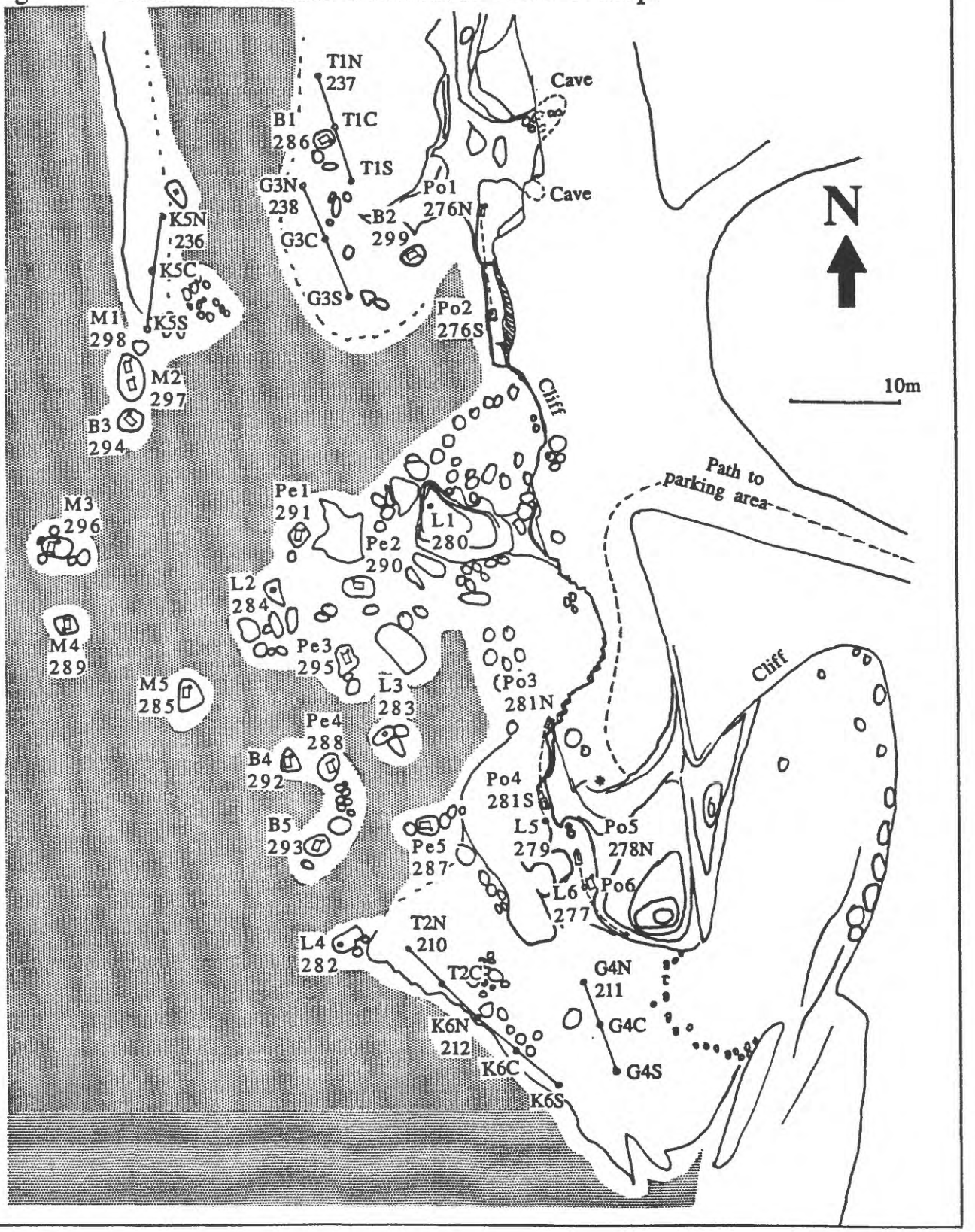


Fig. 4. Cabrillo National Monument Area II Map.

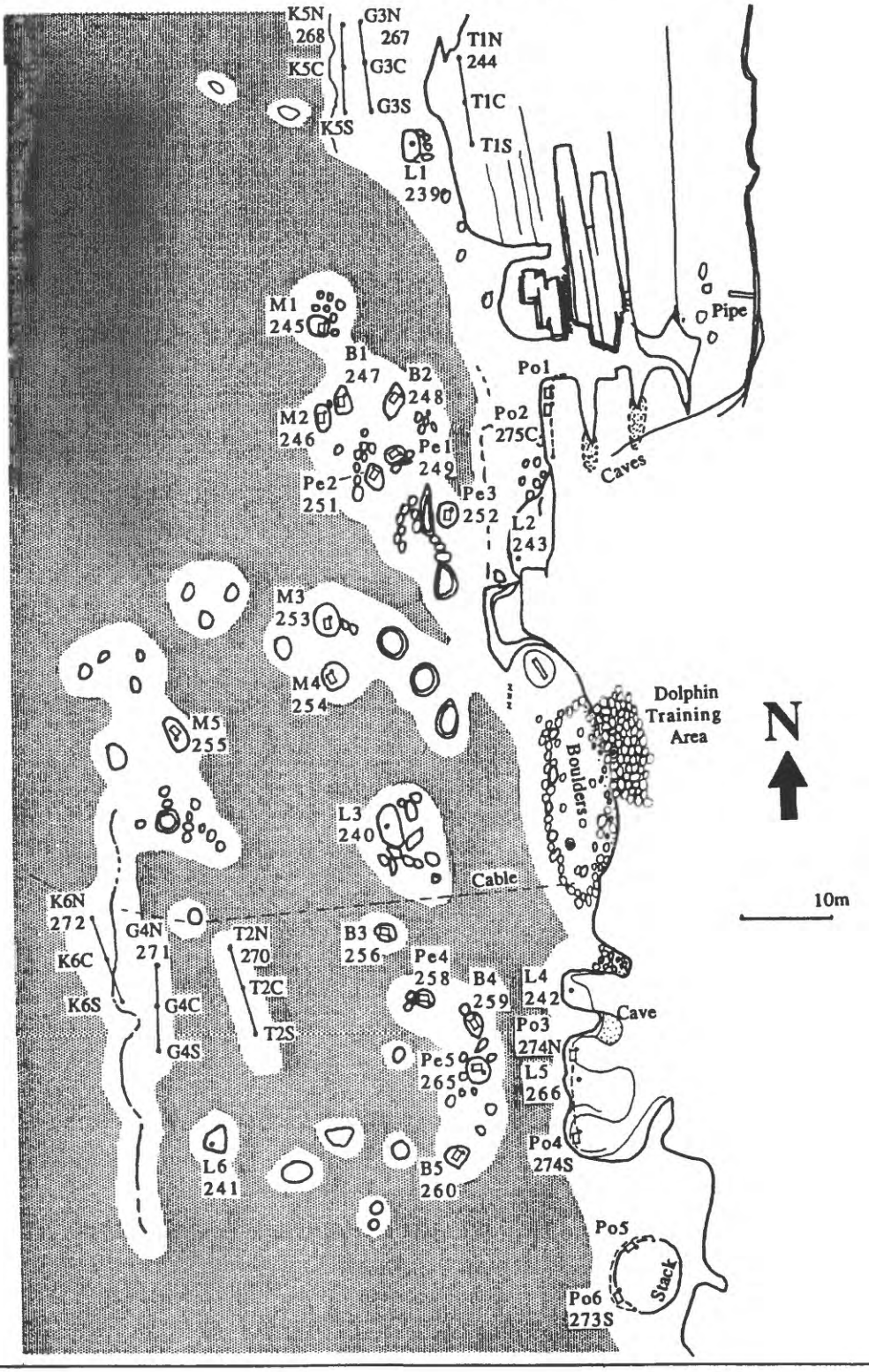


Fig. 5. Cabrillo National Monument Area III North Map.

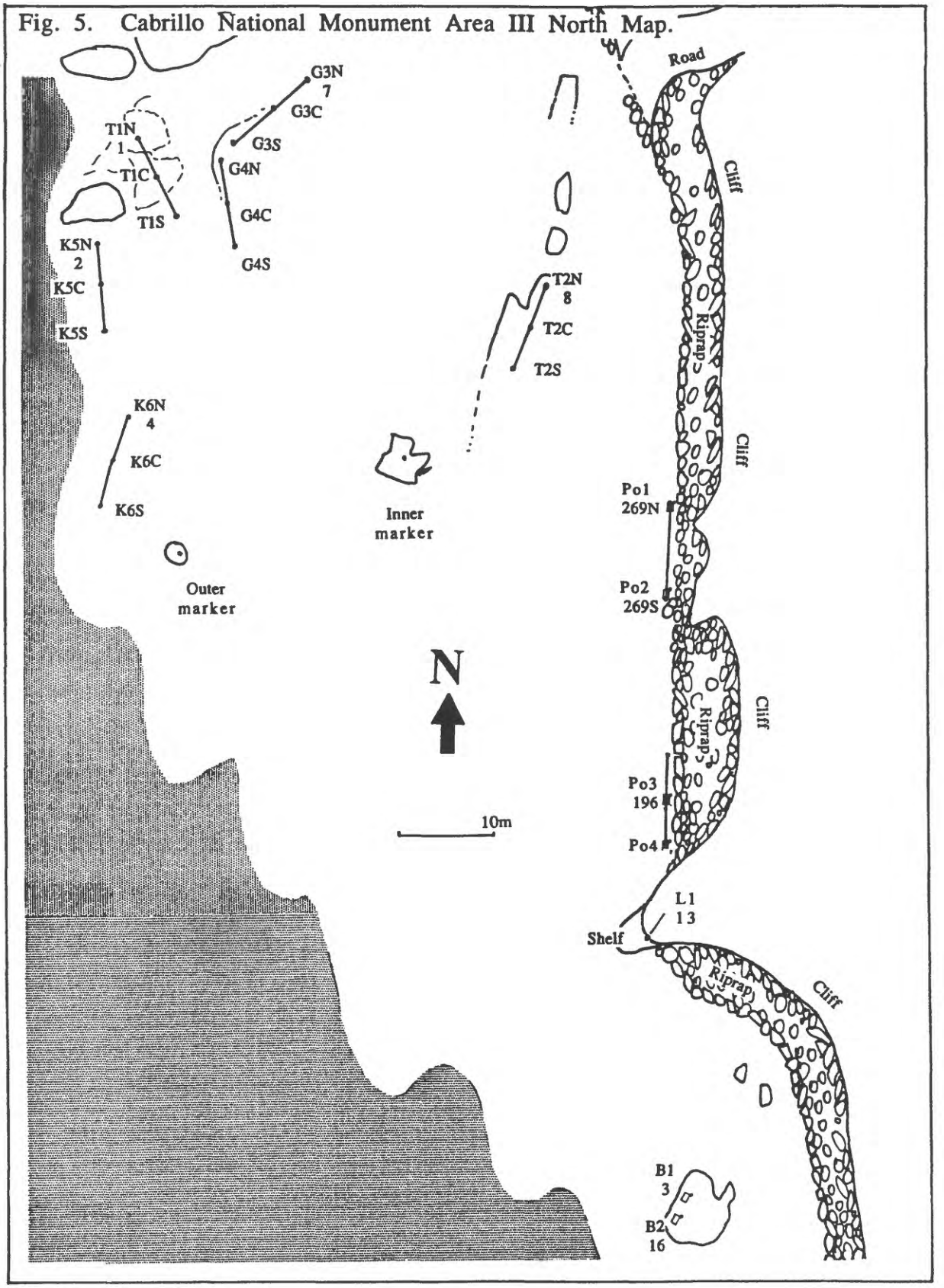


Fig. 6. Cabrillo National Monument Area III South Map.

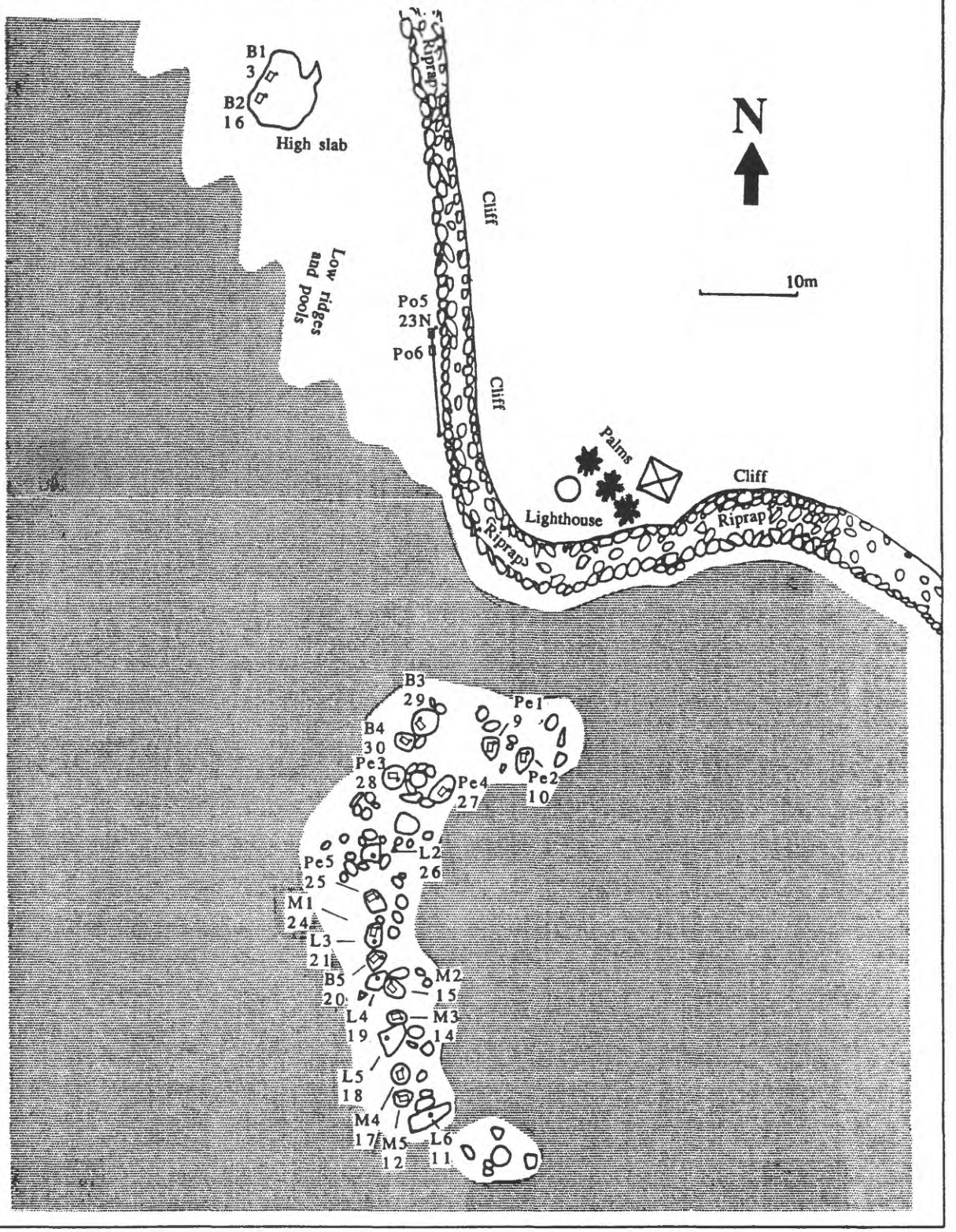
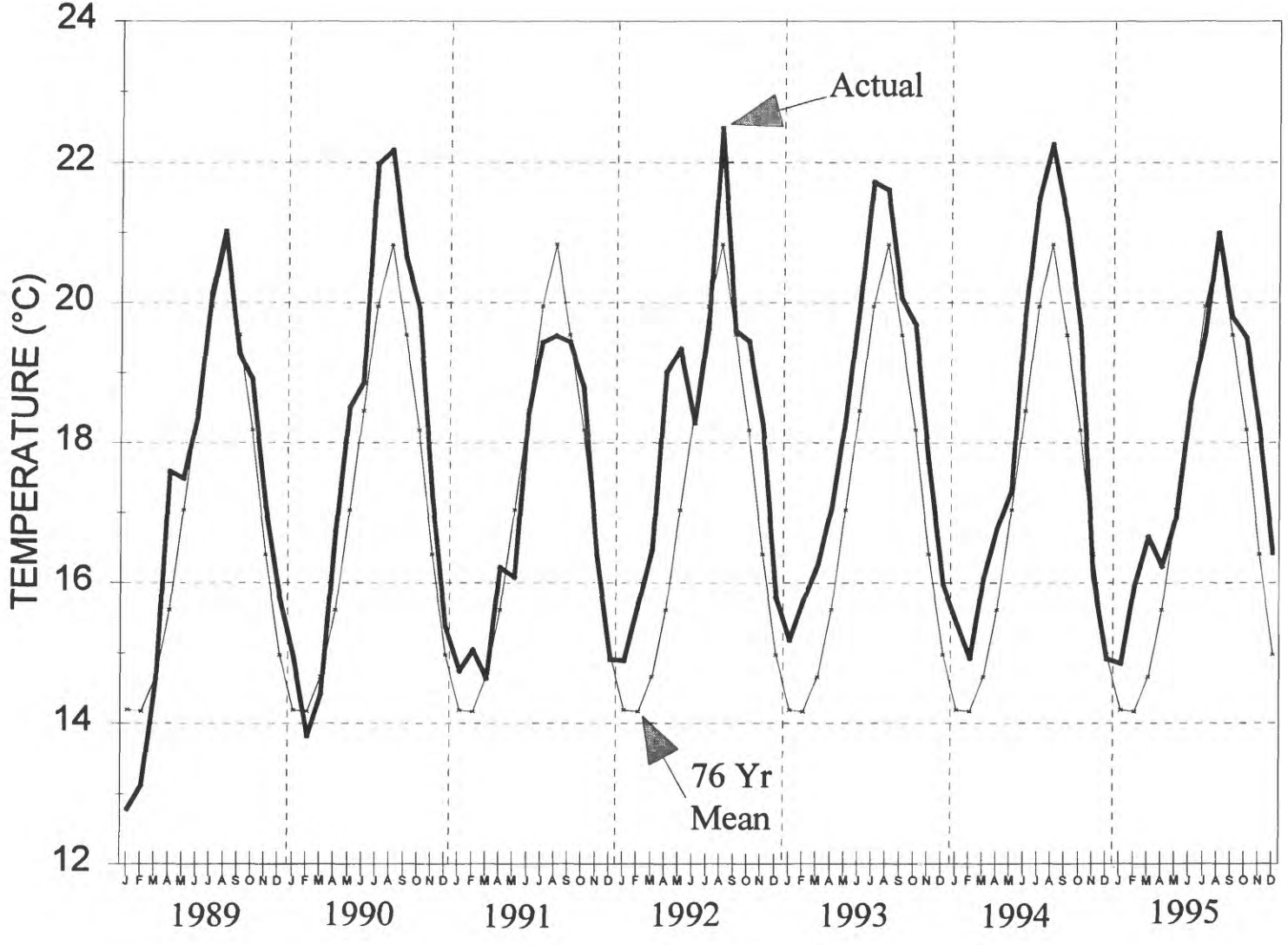


**Figure 7. Seawater Temperatures at the Scripps Pier from 1989 to 1995.**



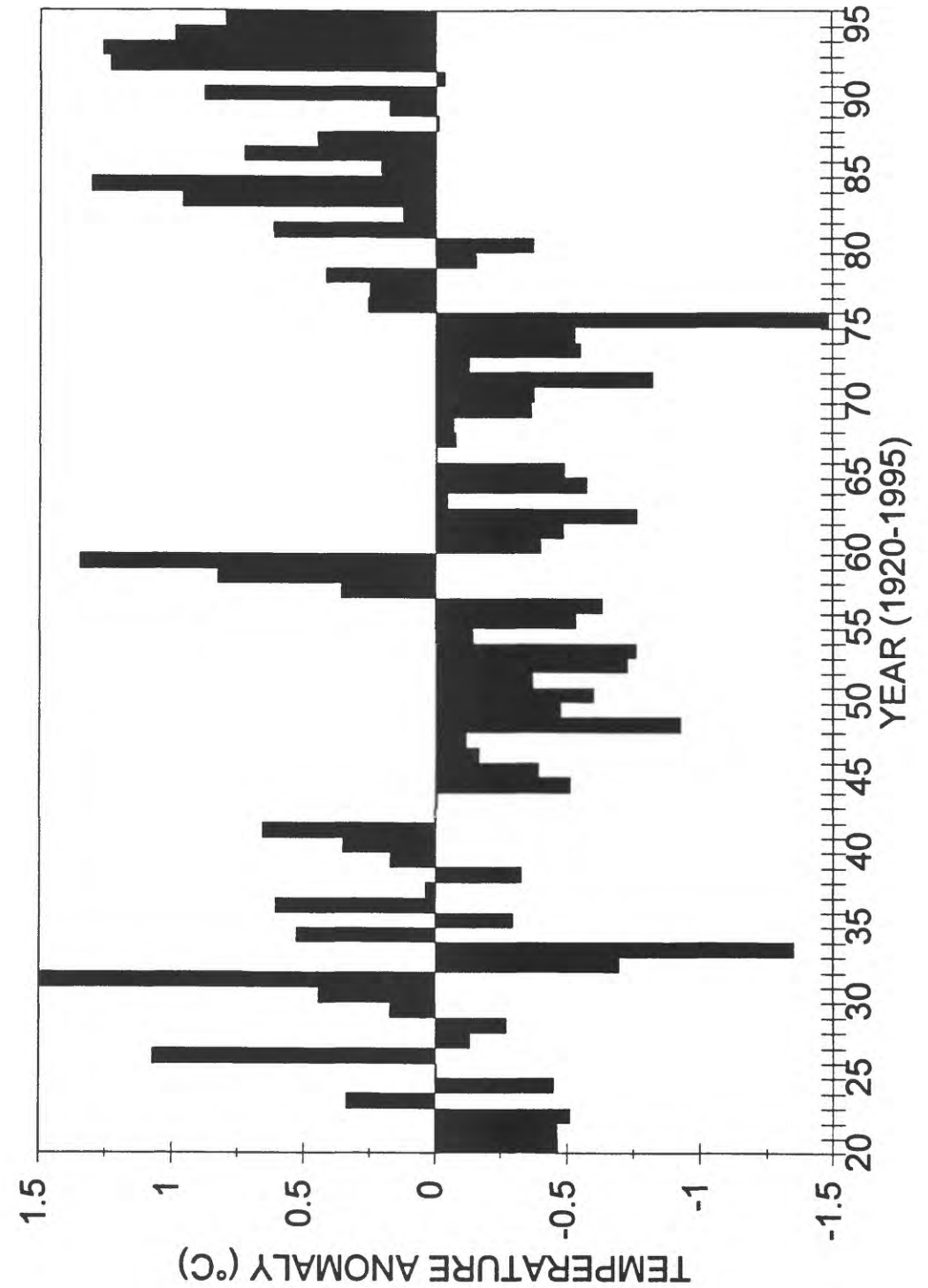



**Figure 8. Seawater Temperature Anomalies at the Scripps Pier from 1920 to 1995.**

**Fig. 9. Mean Cover of Photoplot Species at Cabrillo NM.**

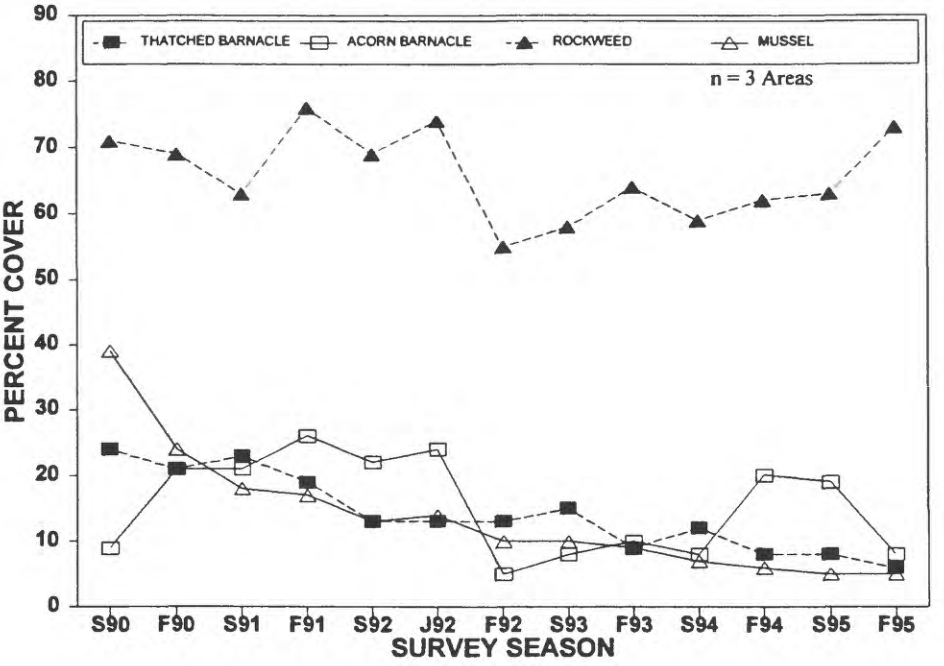



**Fig. 10. Mean Cover of Line-Transect Species at Cabrillo NM.**

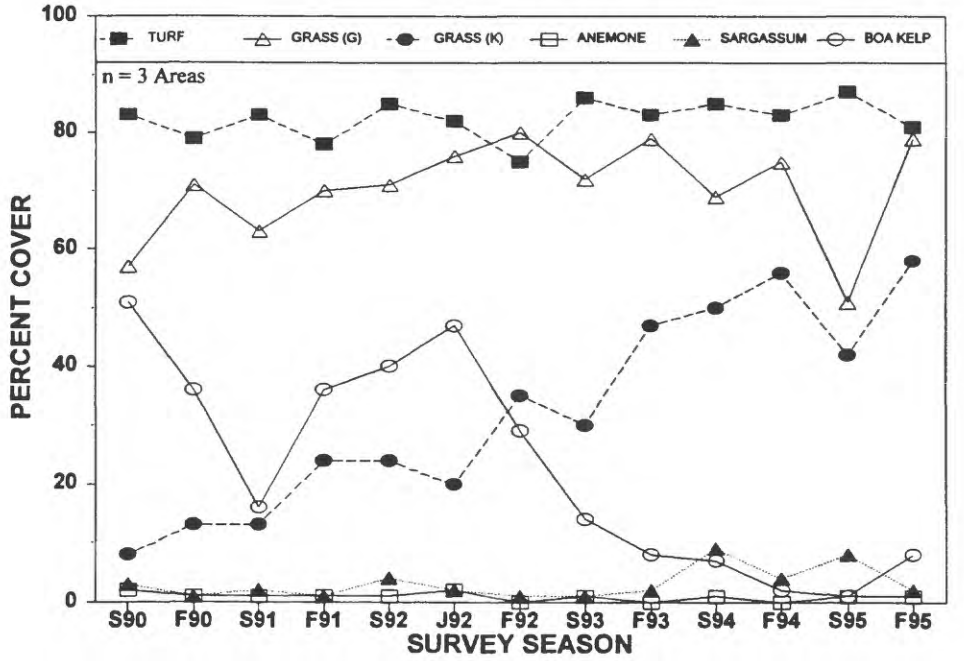


**Fig. 11. Mean Cover and Clump Size of Goose Barnacles at Cabrillo NM.**

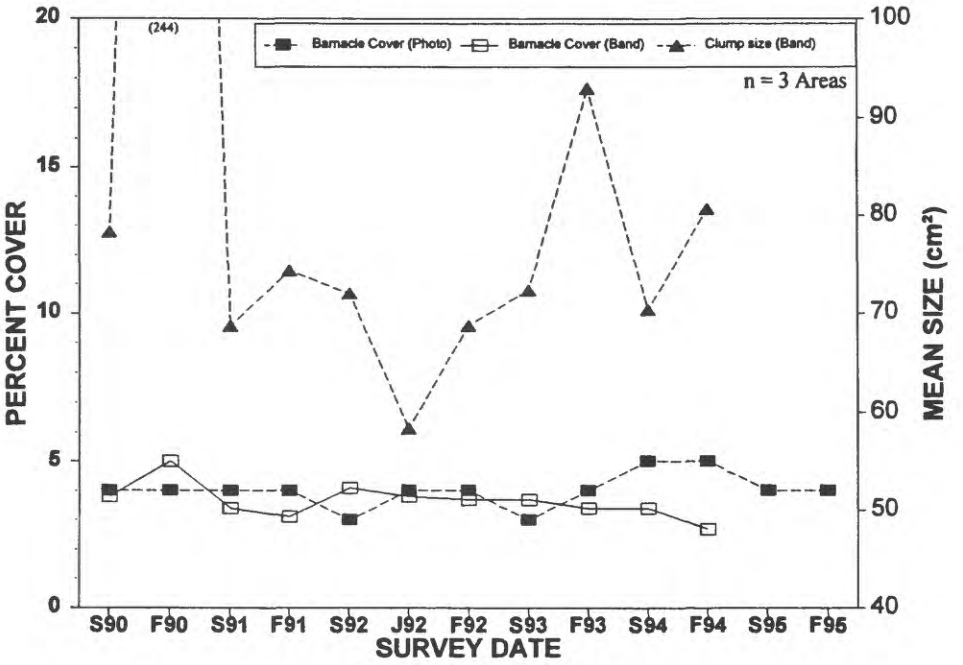



**Fig. 12. Mean Number and Size of Owl Limpets at Cabrillo NM.**

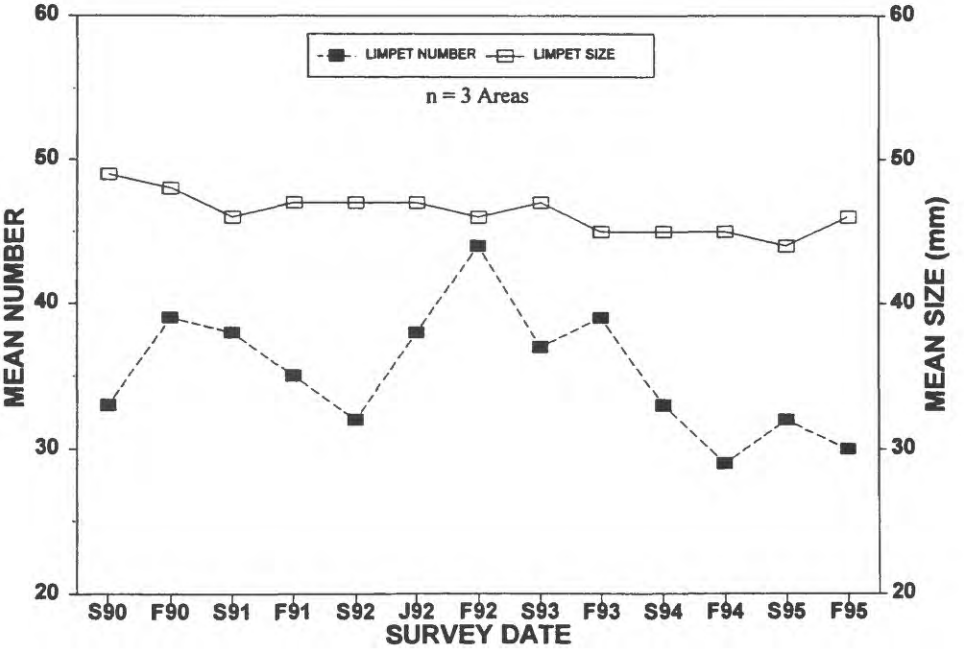


**Fig. 13. Mean Abundance of People in the Intertidal Zone by Season.**

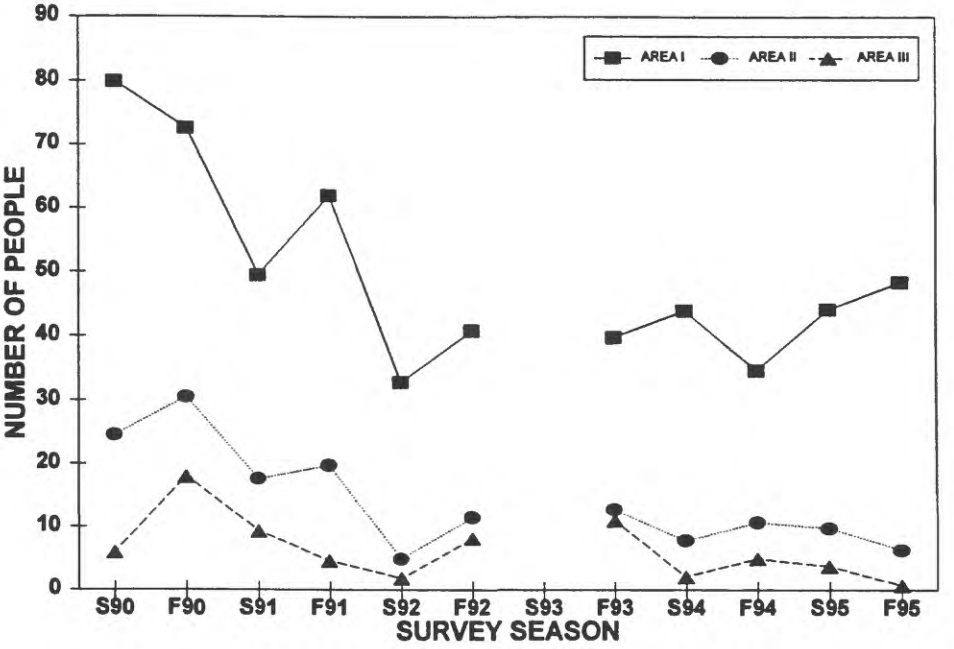



**Fig. 14. Mean Abundance of People in the Intertidal Zone by Year.**

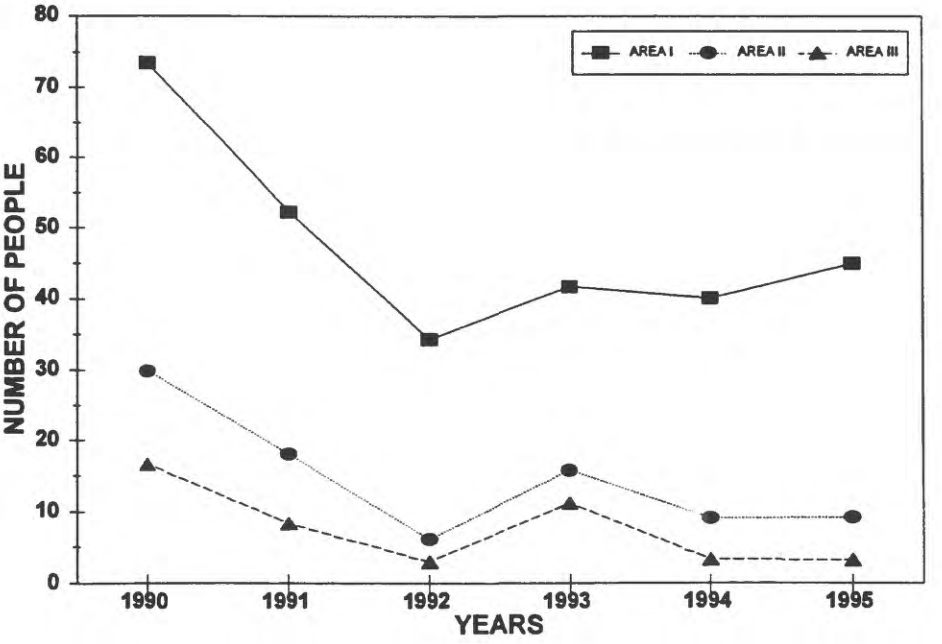


**Fig. 15. Relative Abundance of People in the Intertidal Zone by Year.**

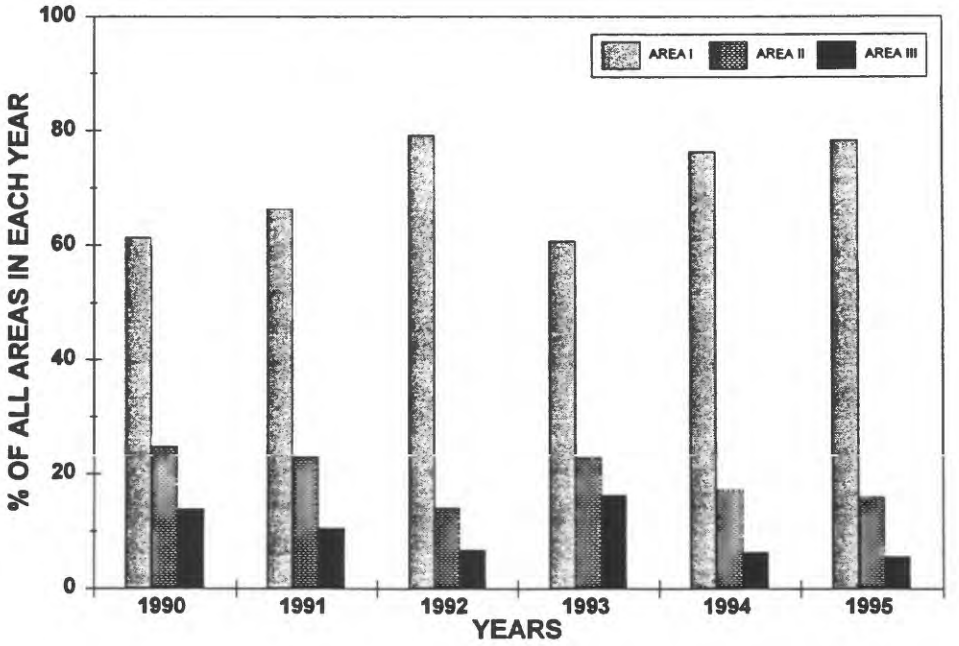



**Fig. 16. Relative Abundance of People in the Intertidal Zone at Cabrillo NM.**

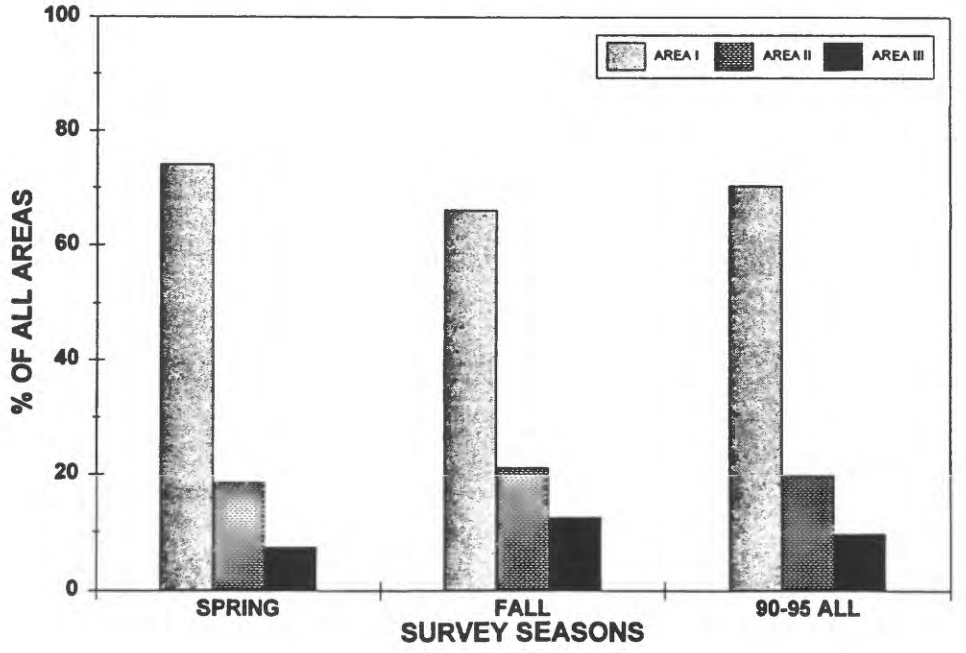


**Fig. 17. Mean Abundance of Birds in Area I by Season.**

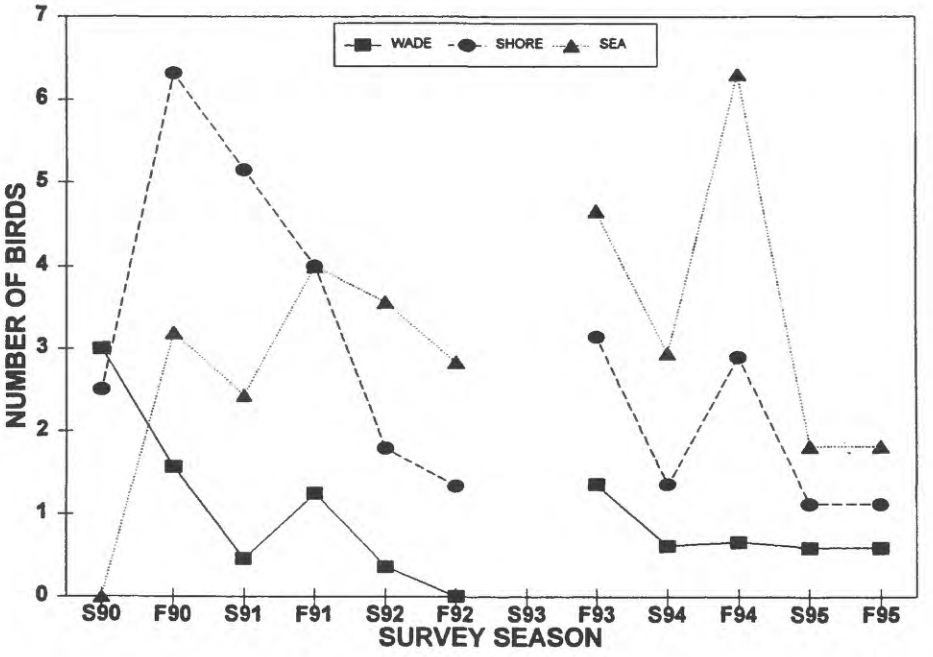



**Fig. 18. Mean Abundance of Birds in Area II by Season.**

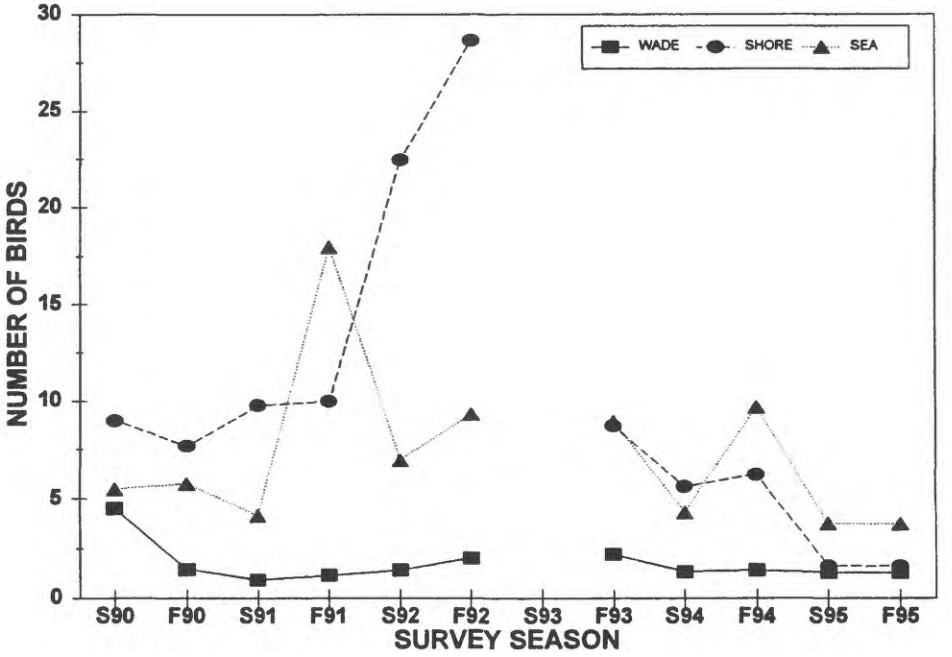


**Fig. 19. Mean Abundance of Birds in Area III by Season.**

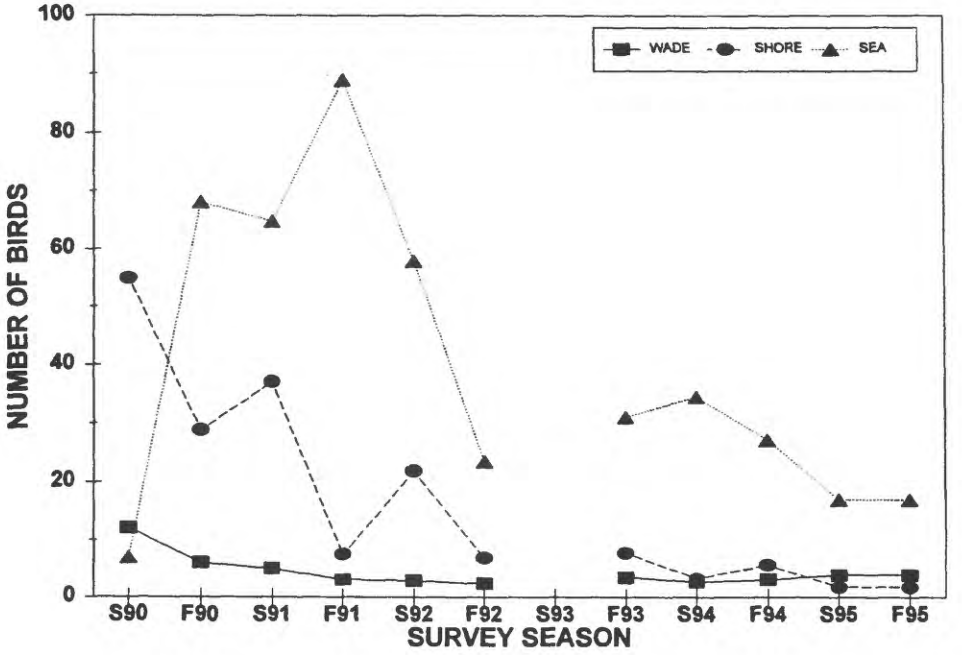



**Fig. 20. Mean Abundance of Birds in All Areas by Season.**

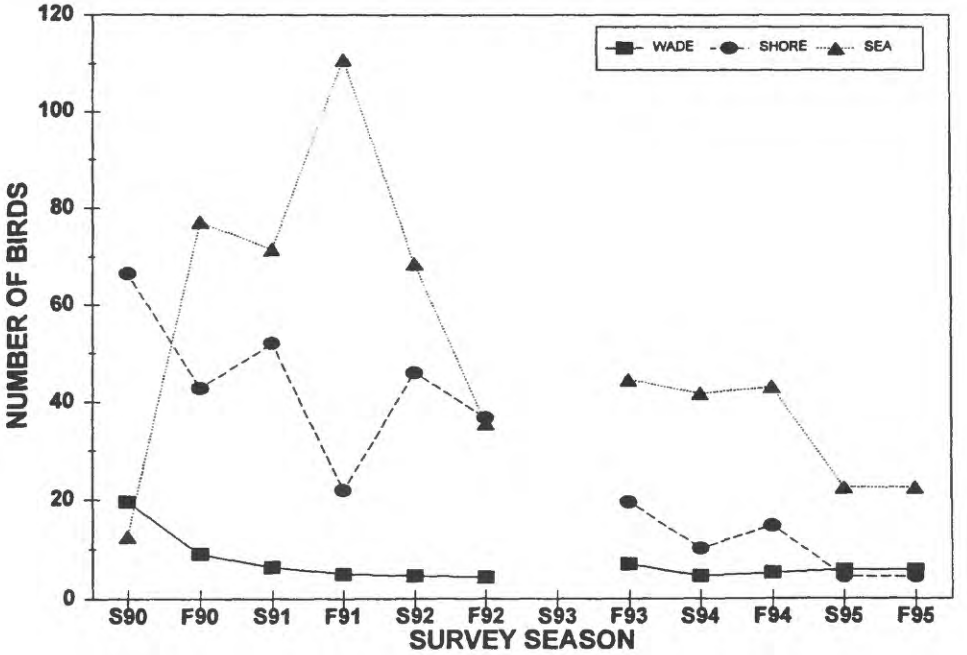


**Fig. 21. Mean Abundance of Birds in the Intertidal Zone by Season.**

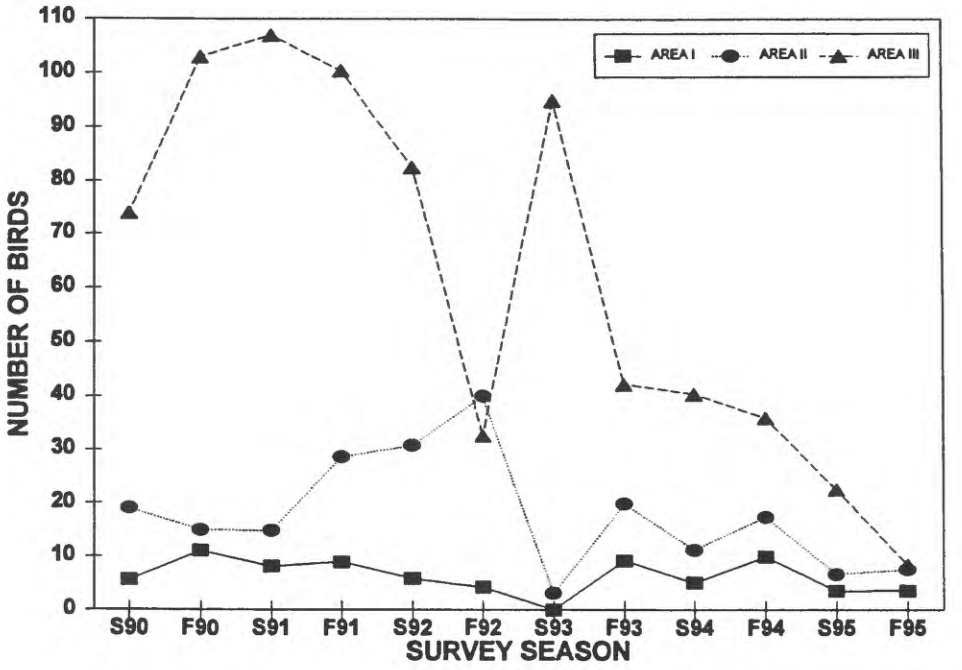



**Fig. 22. Mean Abundance of Birds in the Intertidal Zone by Year.**

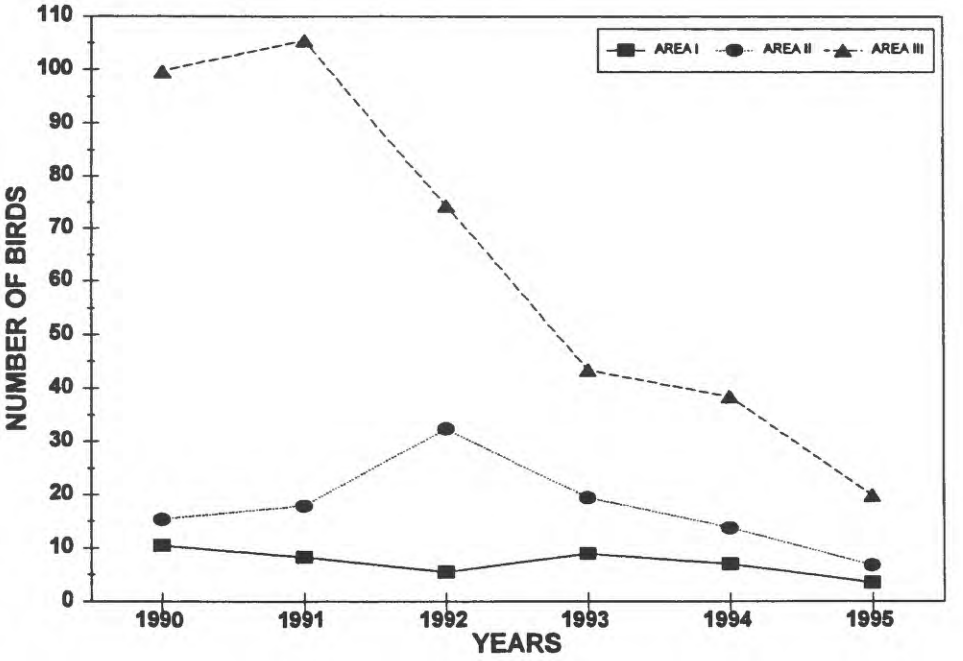


**Fig. 23. Relative Abundance of Birds in the Intertidal Zone by Year.**

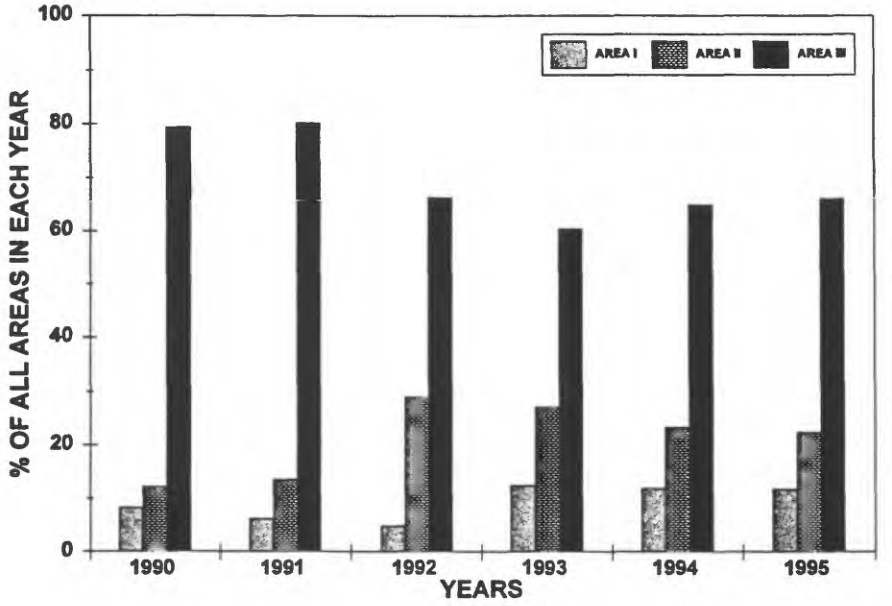



**Fig. 24. Relative Abundance of Birds in the Intertidal Zone at Cabrillo NM.**

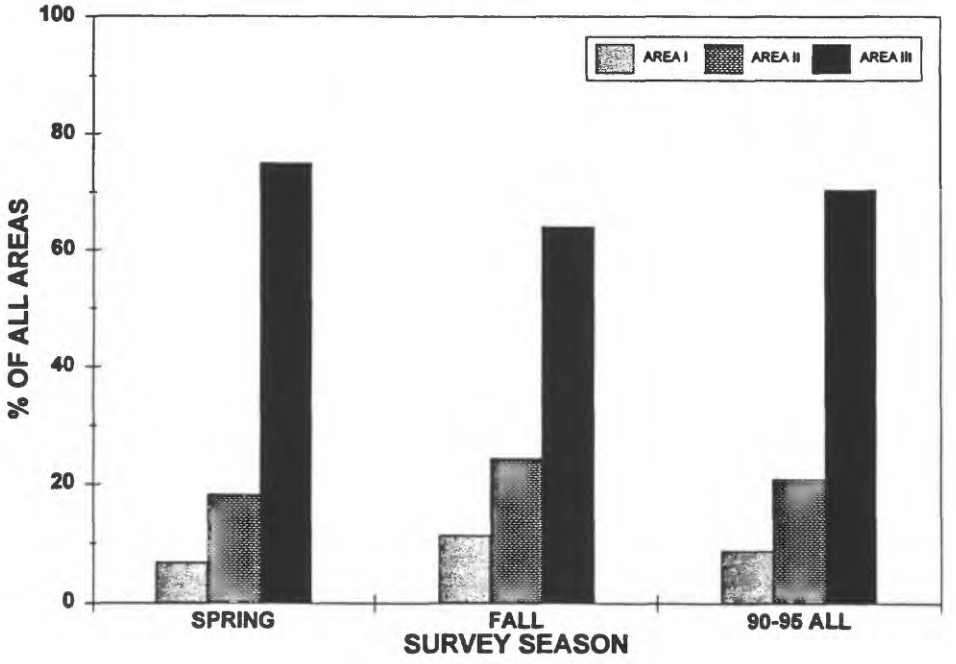


Fig. 25. Relationship of Birds Versus People Abundance in Area I.

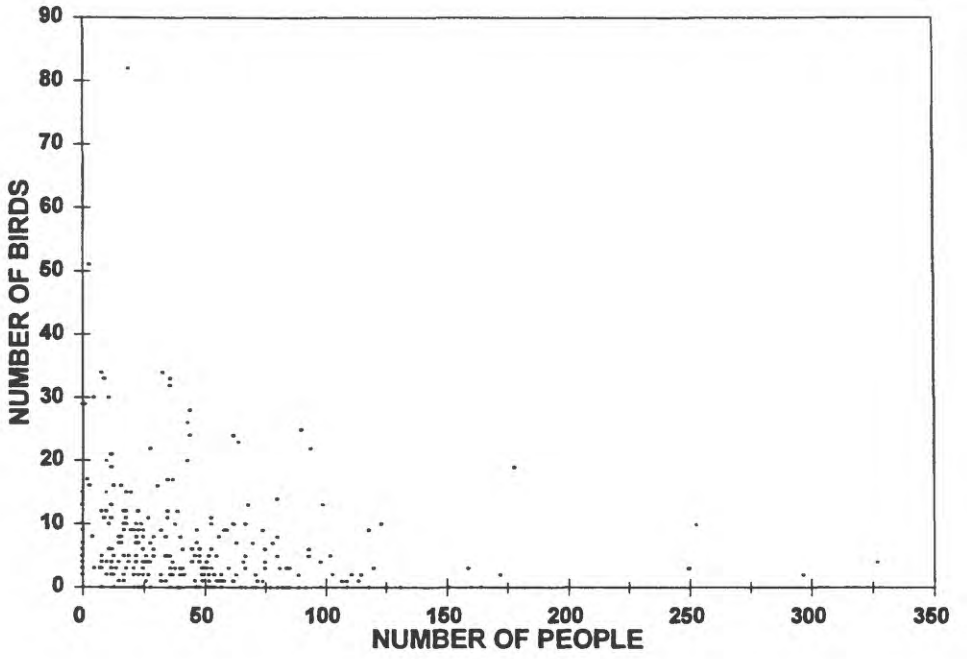



Fig. 26. Relationship of Birds Versus People Abundance in Area II.

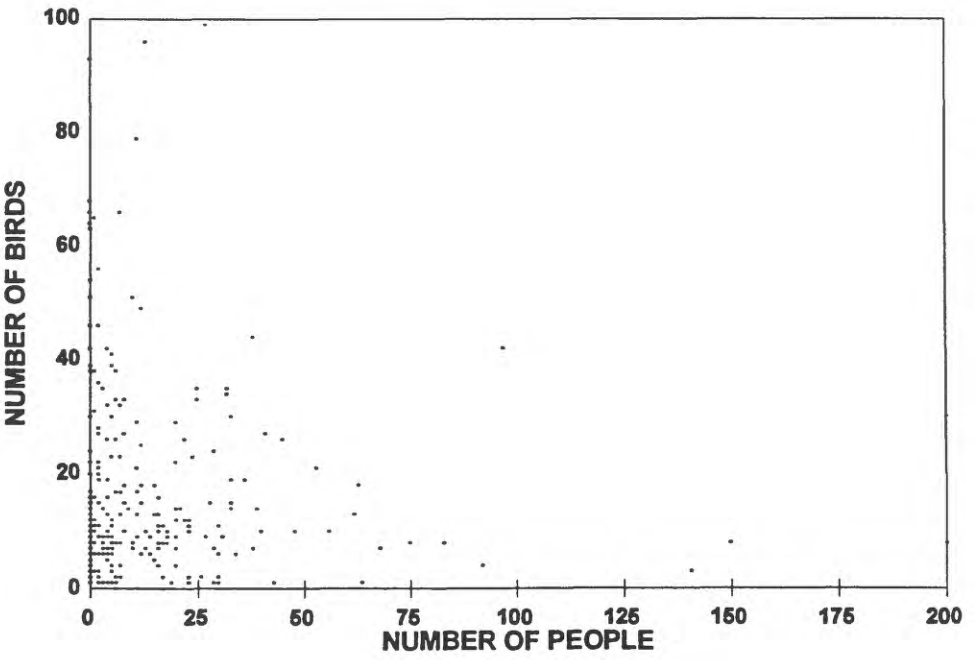


Fig. 27. Relationship of Birds Versus People Abundance in Area III.

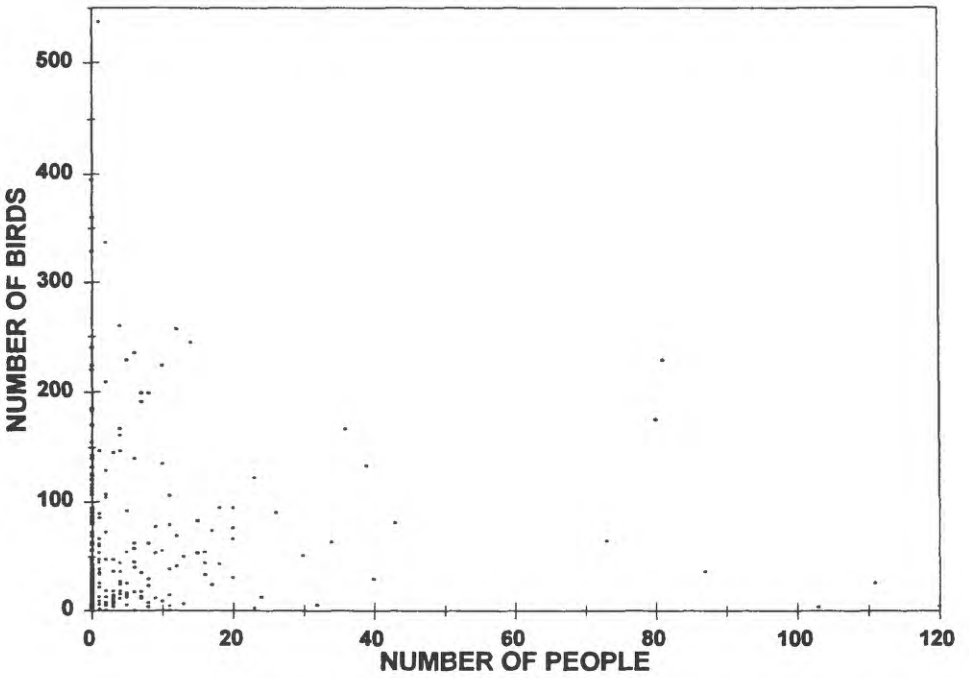



Fig. 28. Relationship of Birds Versus People Abundance in All Areas.

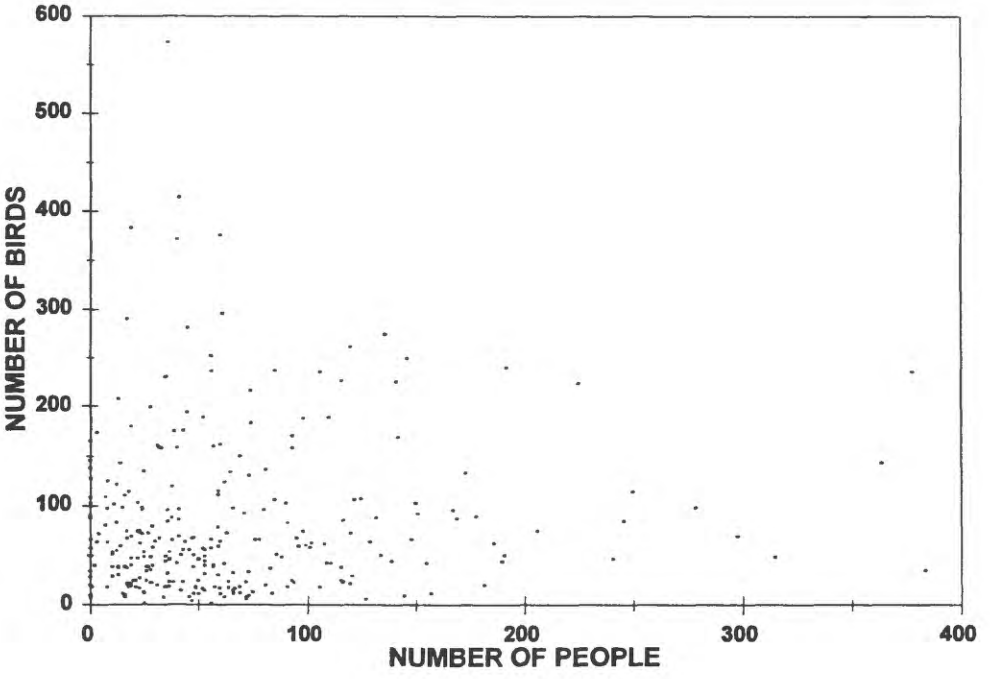


Fig. 29. Mean Cover of Acorn Barnacles Surveyed by Barnacle Photoplots.

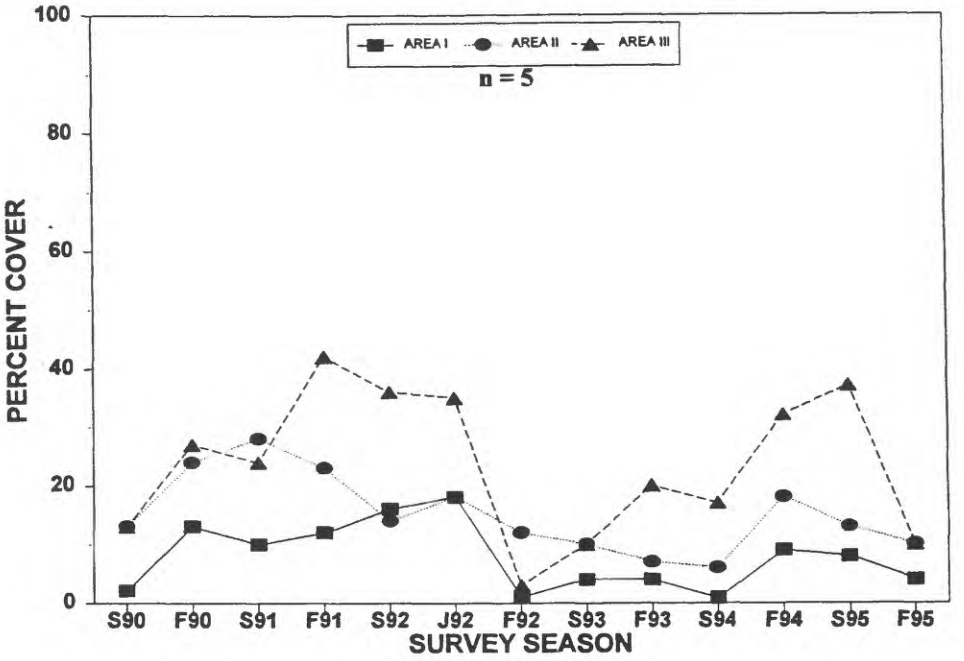



Fig. 30. Mean Cover of Thatched Barnacles Surveyed by Barnacle Photoplots.

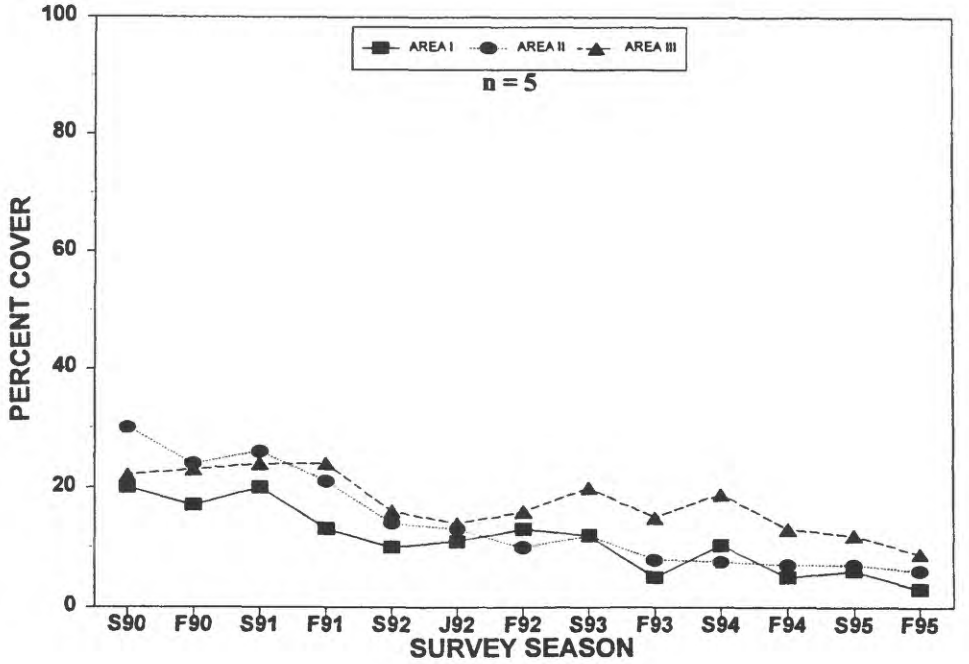


Fig. 31. Mean Cover of Other Plants Surveyed by Barnacle Photoplots.

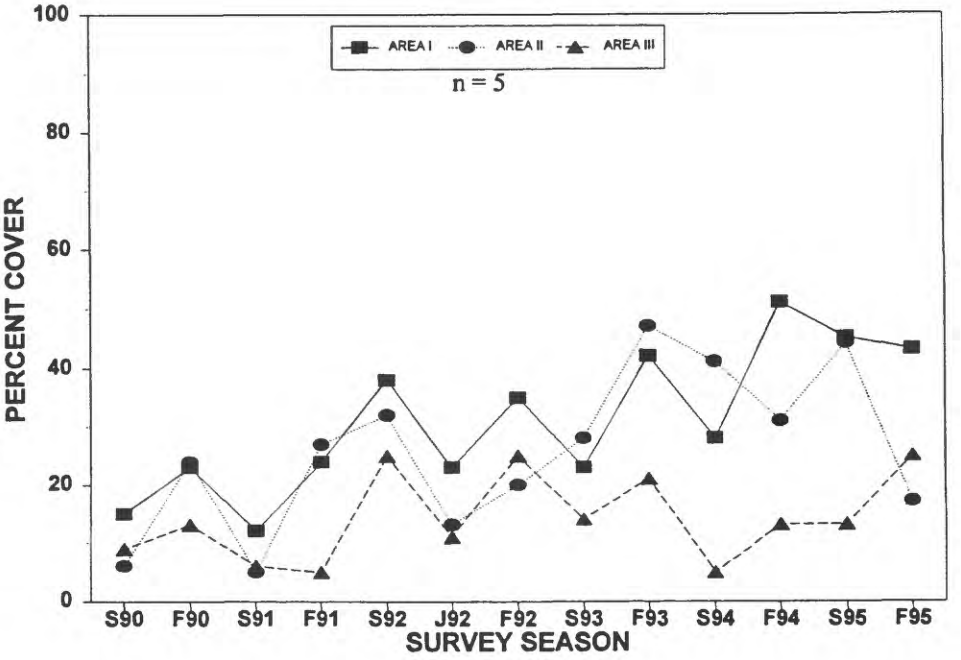



Fig. 32. Mean Cover of Goose Barnacles Surveyed by Mussel Photoplots.

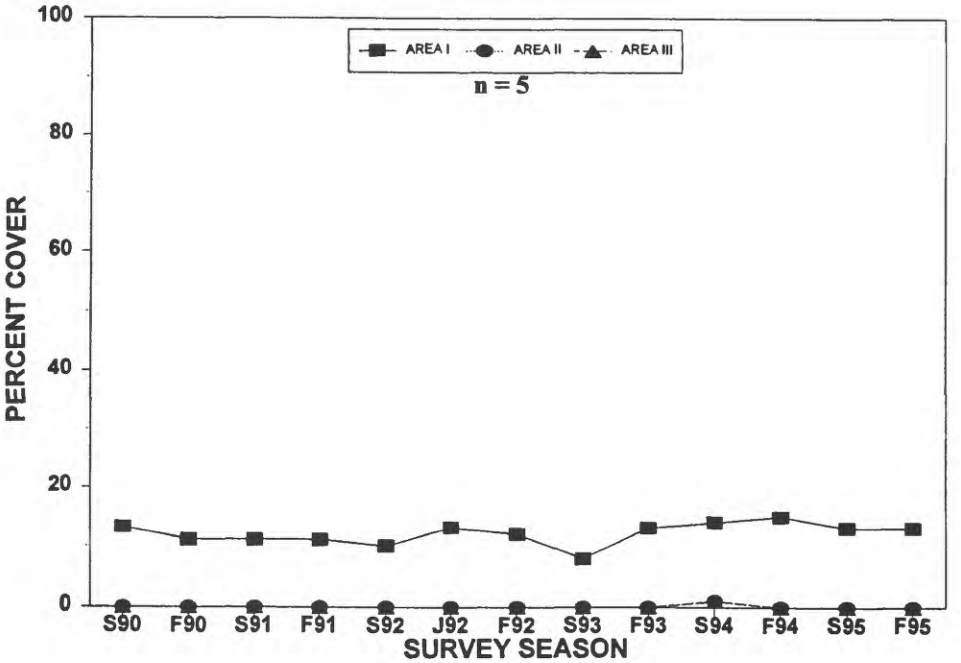


**Fig. 33. Mean Cover of Rockweed Surveyed by Rockweed Photoplots.**

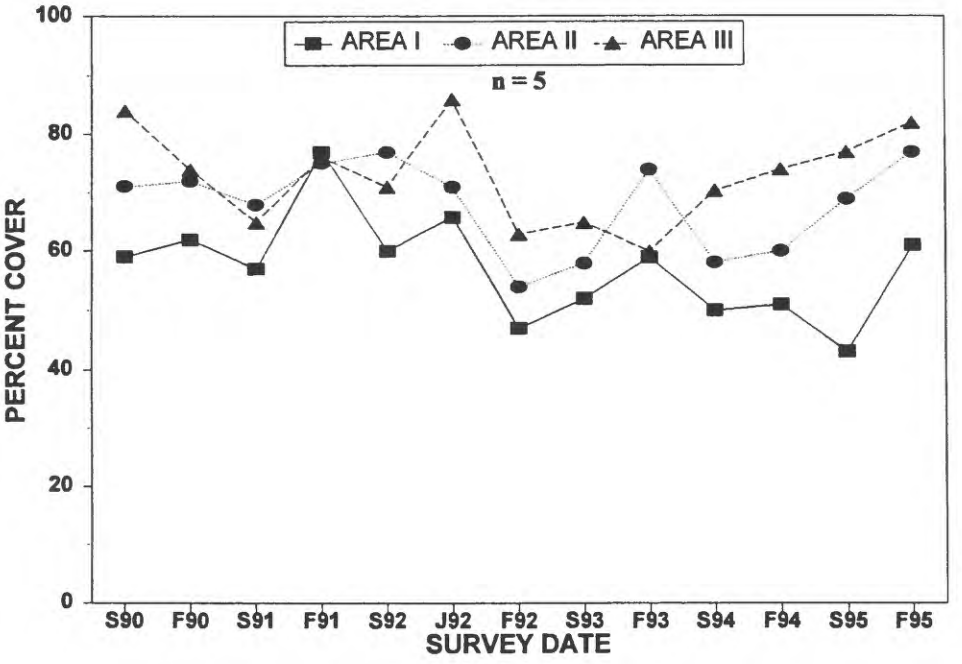



**Fig. 34. Mean Cover of Other Plants Surveyed by Rockweed Photoplots.**

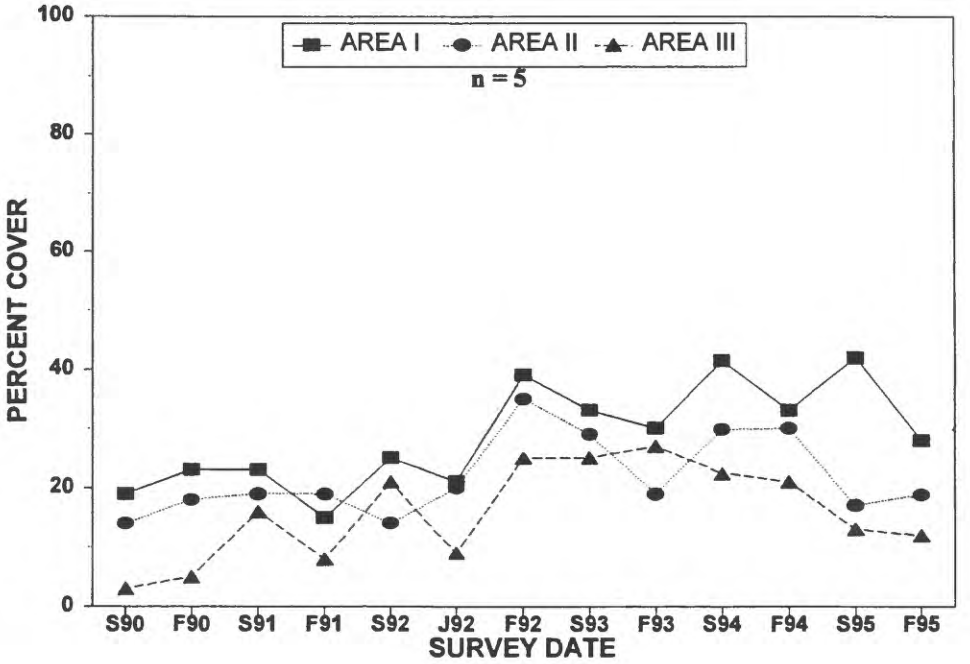


**Fig. 35. Mean Cover of California Mussels Surveyed by Mussel Photoplots.**

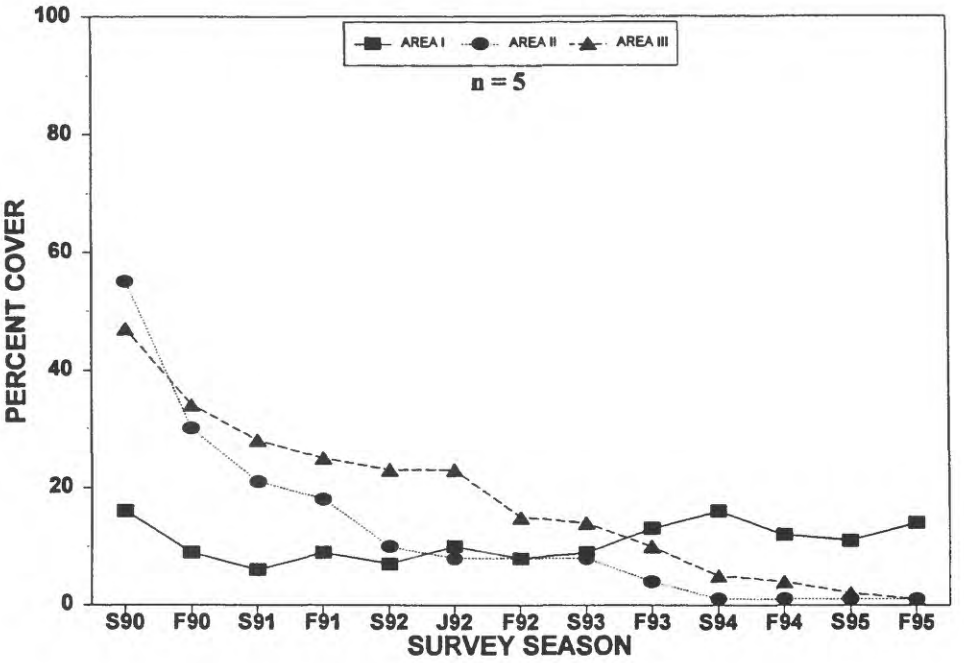



**Fig. 36. Mean Cover of Other Plants Surveyed by Mussel Photoplots.**

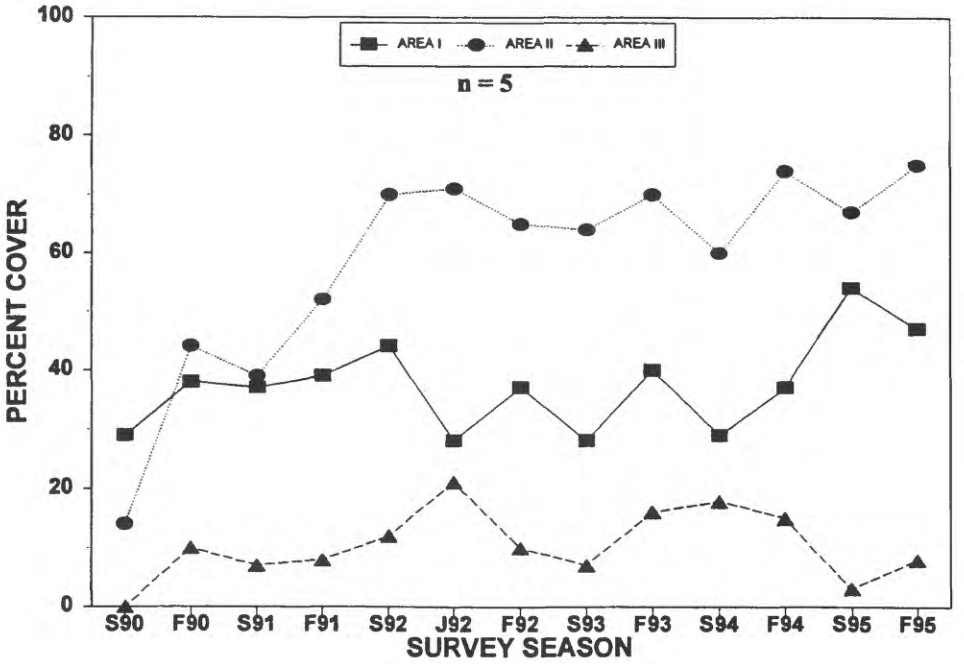


Fig. 37. Total Area of Goose Barnacle Clumps Surveyed by Band Transects.

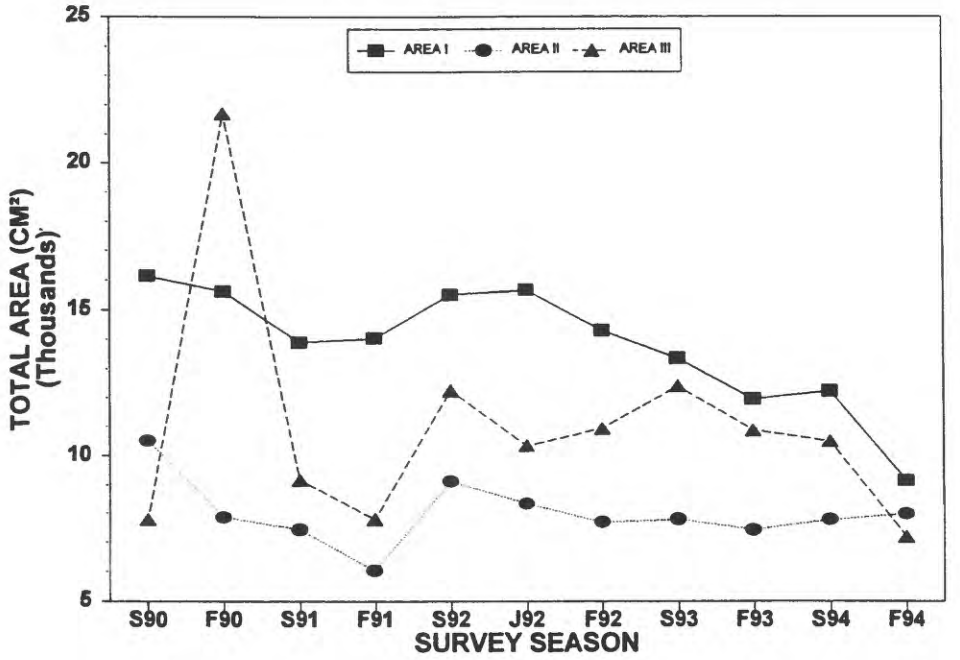



Fig. 38. Mean Size of Goose Barnacle Clumps Surveyed by Band Transects.

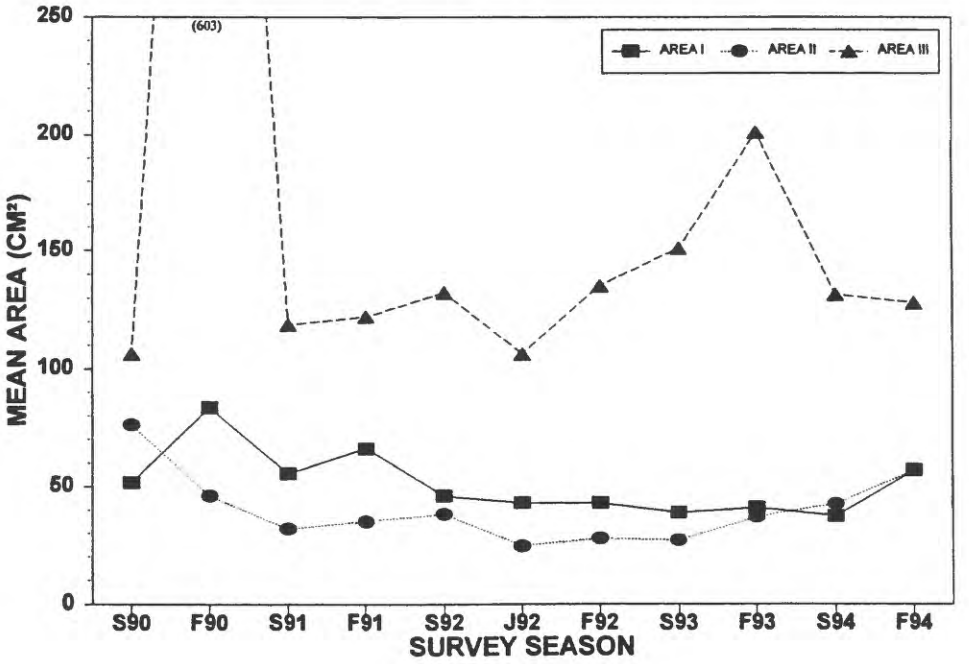


**Fig. 39. Total Number of Goose Barnacle Clumps Surveyed by Band Transects.**

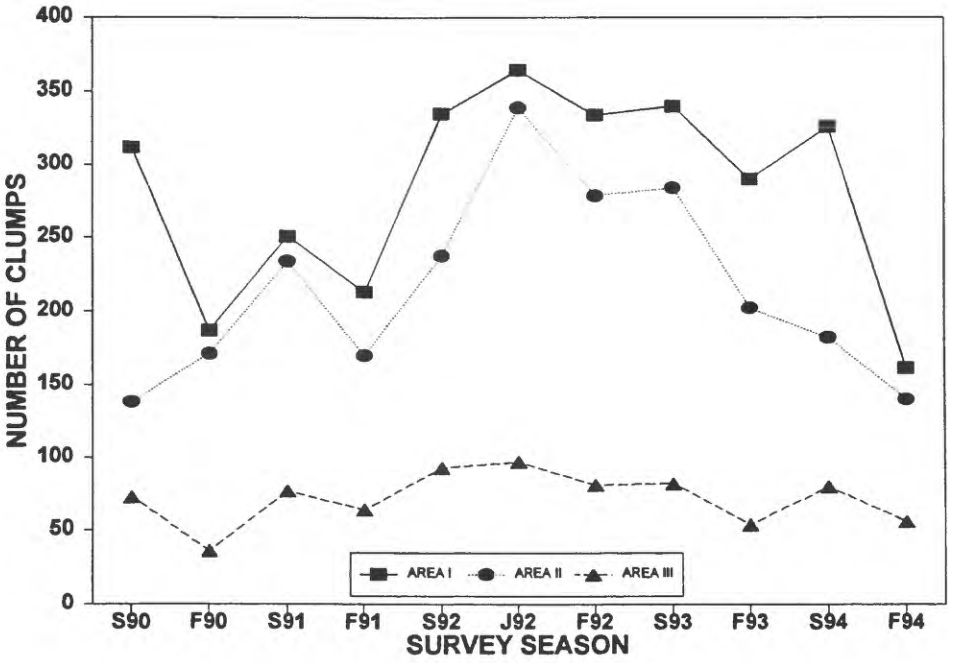



**Fig. 40. Number of Small & Large Goose Barnacle Clumps Surveyed by Band Transects.**

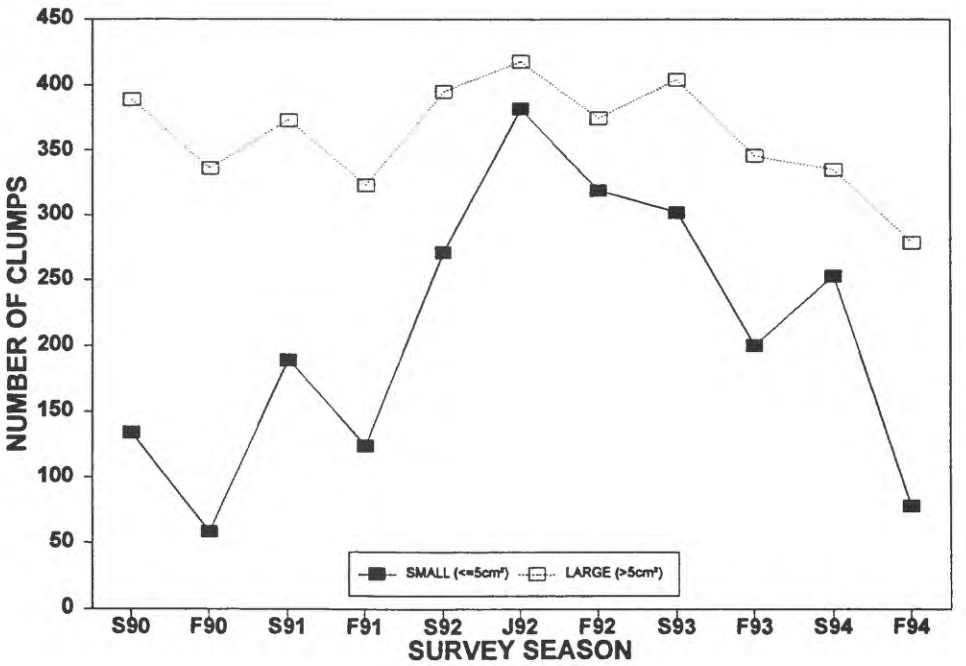


**Fig. 41. Goose Barnacle Clump Size Frequencies for 1990.**

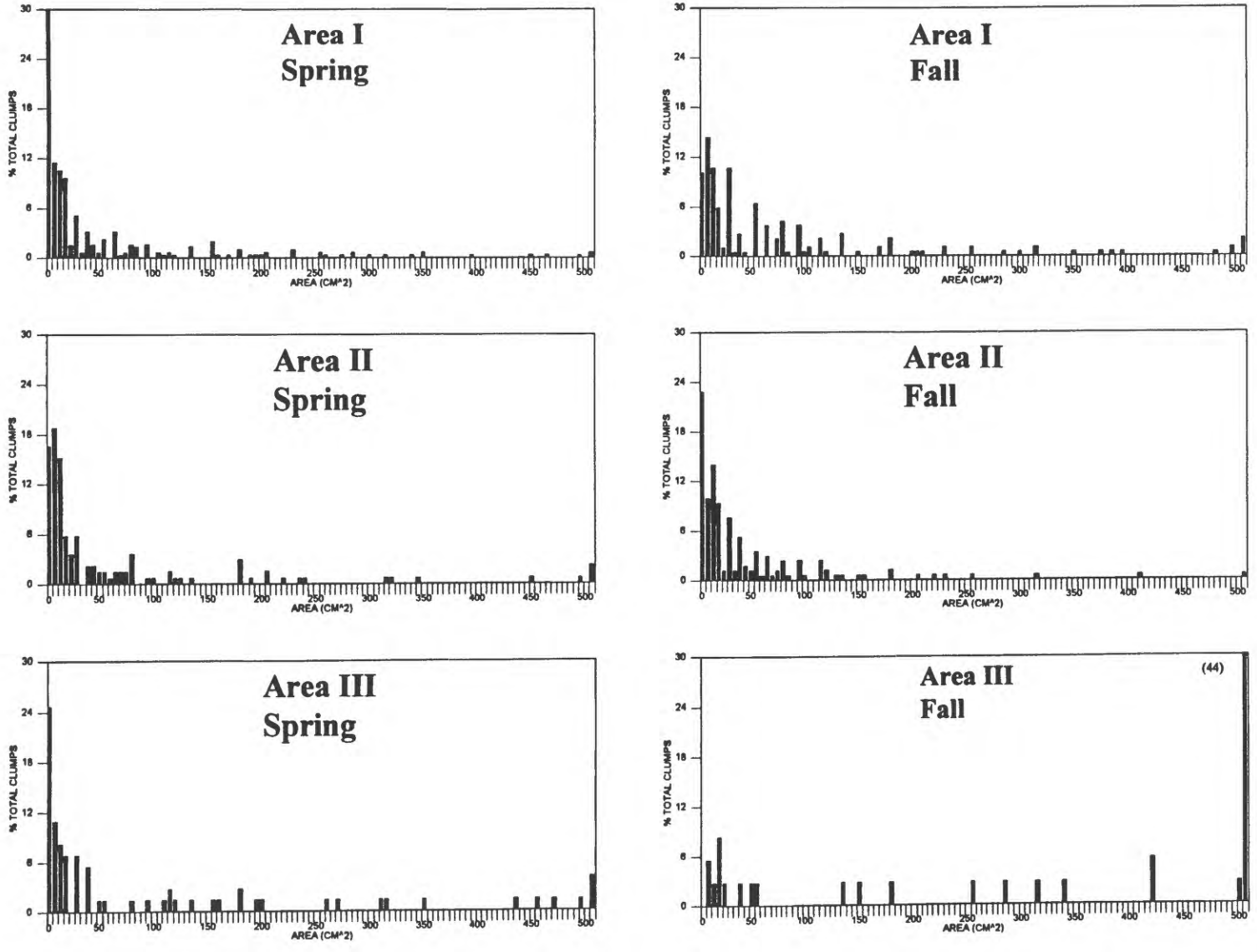


**Fig. 42. Goose Barnacle Clump Size Frequencies for 1991.**

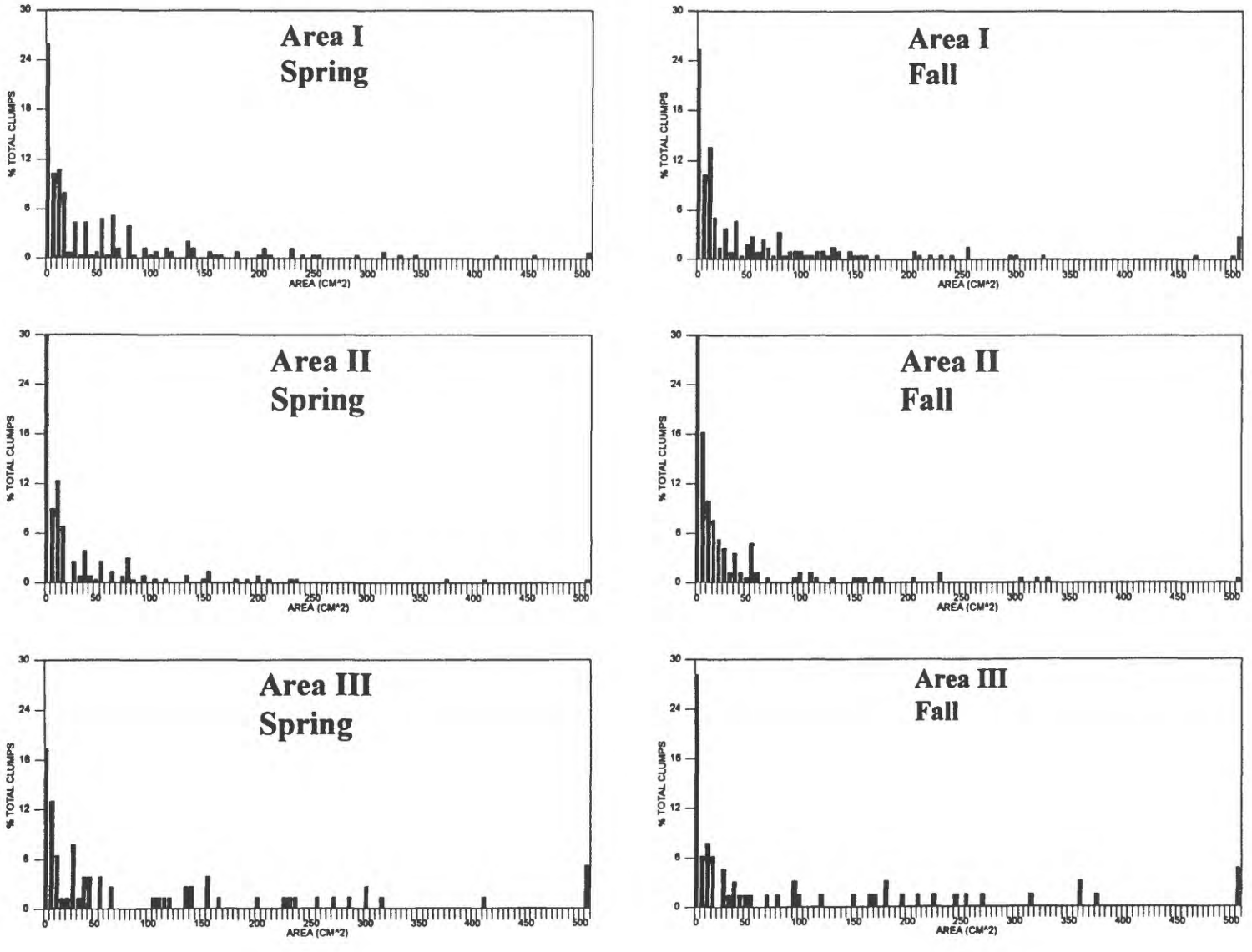


**Fig. 43. Goose Barnacle Clump Size Frequencies for 1992.**

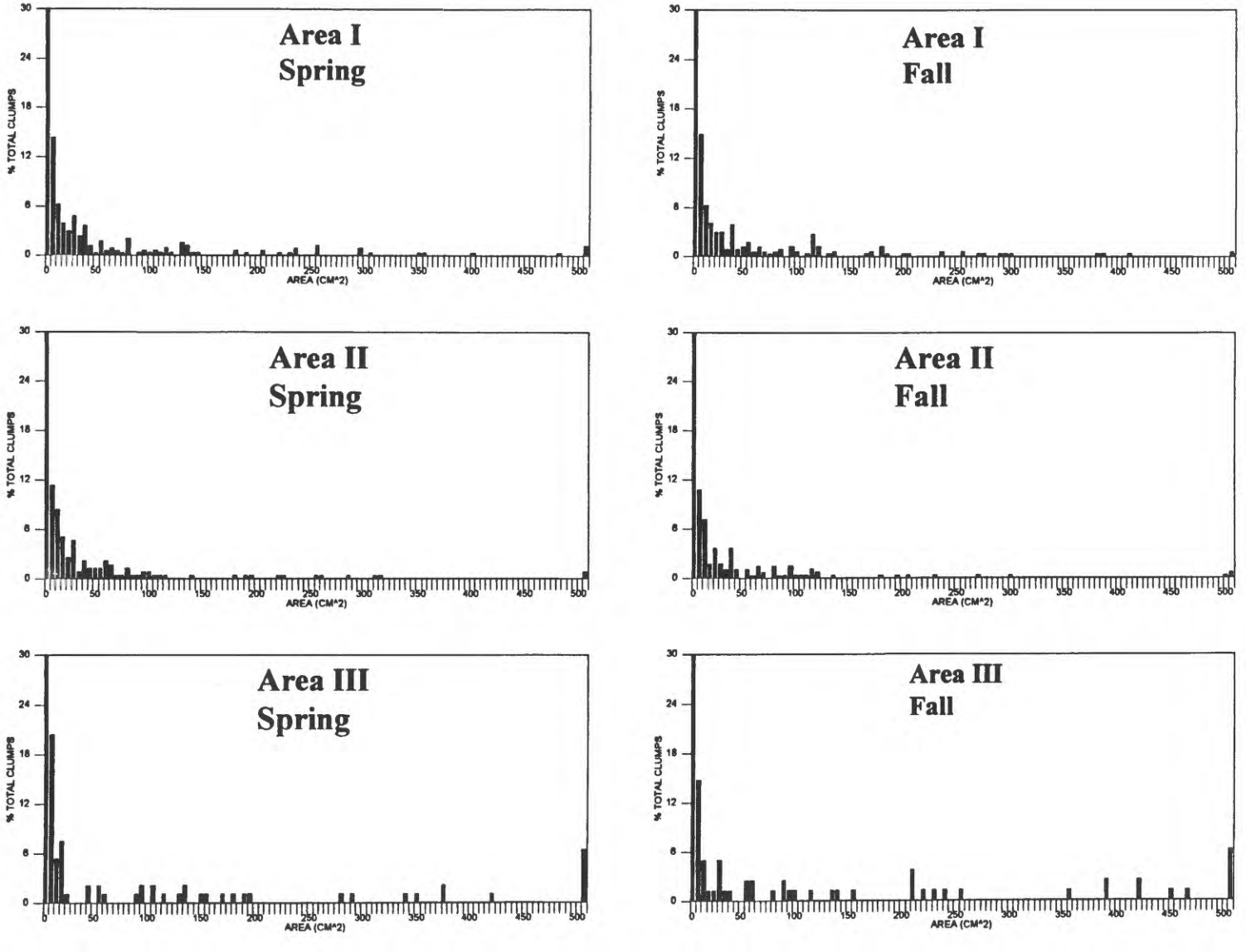


**Fig. 44. Goose Barnacle Clump Size Frequencies for June 1992.**

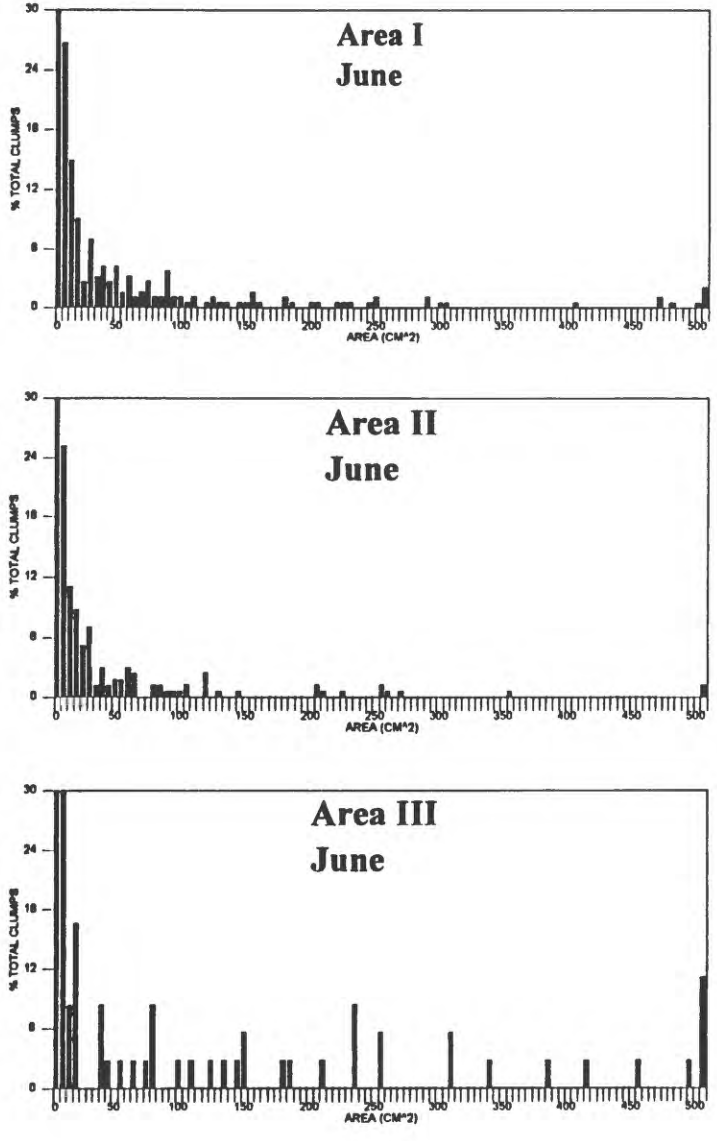


**Fig. 45. Goose Barnacle Clump Size Frequencies for 1993.**

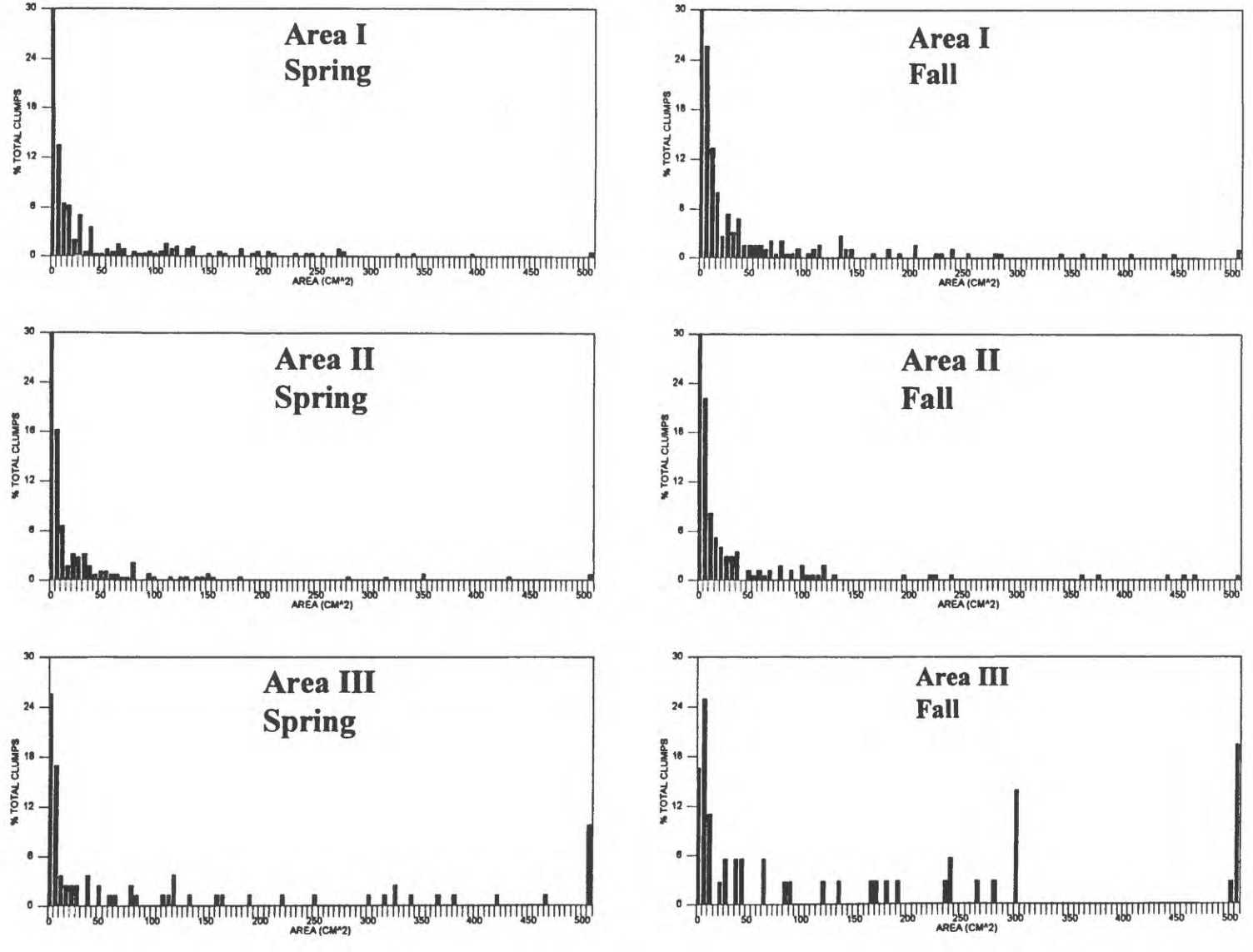


**Fig. 46. Goose Barnacle Clump Size Frequencies for 1994.**

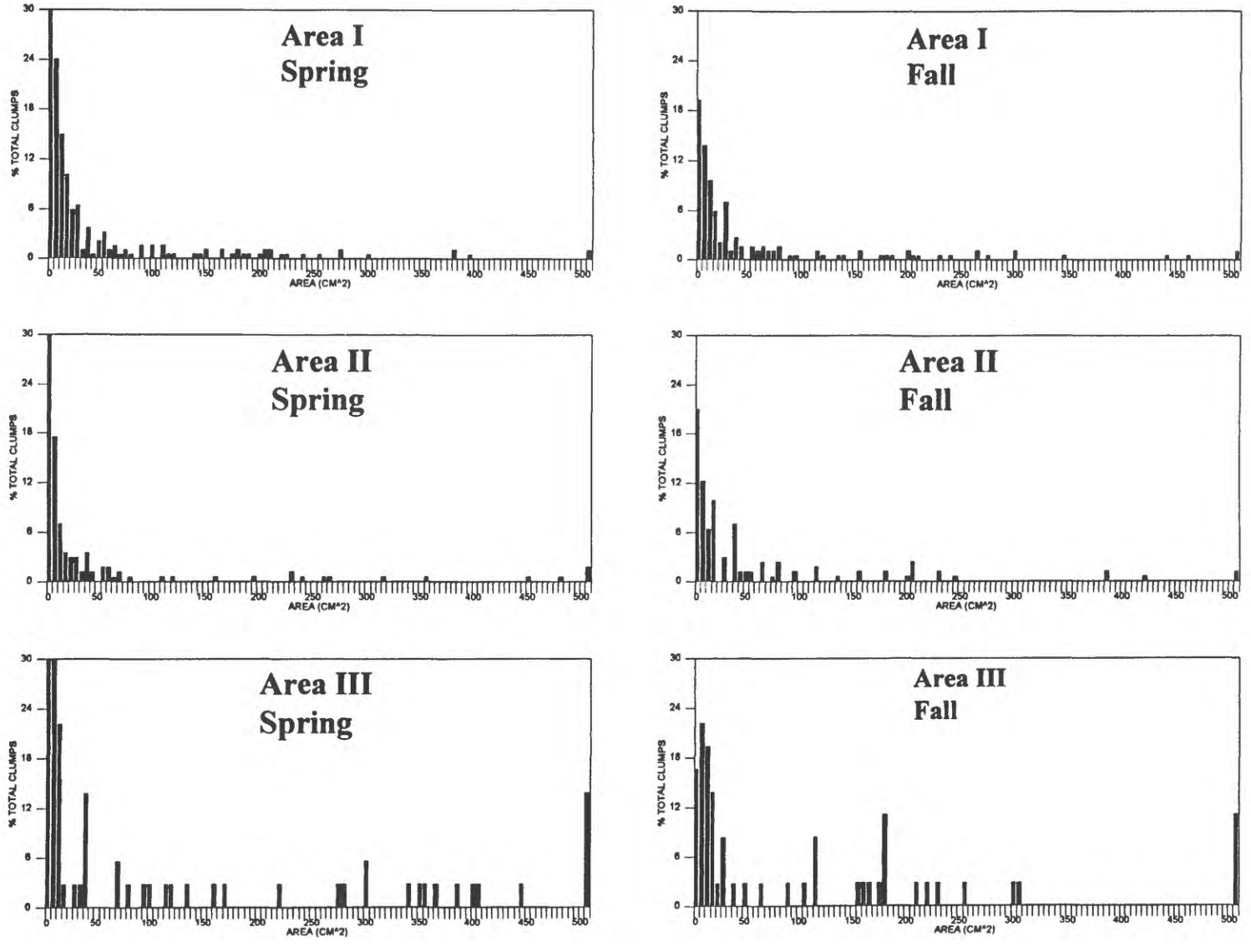


**Fig. 47. Total Number of Owl Limpets Surveyed by Circular Plots.**

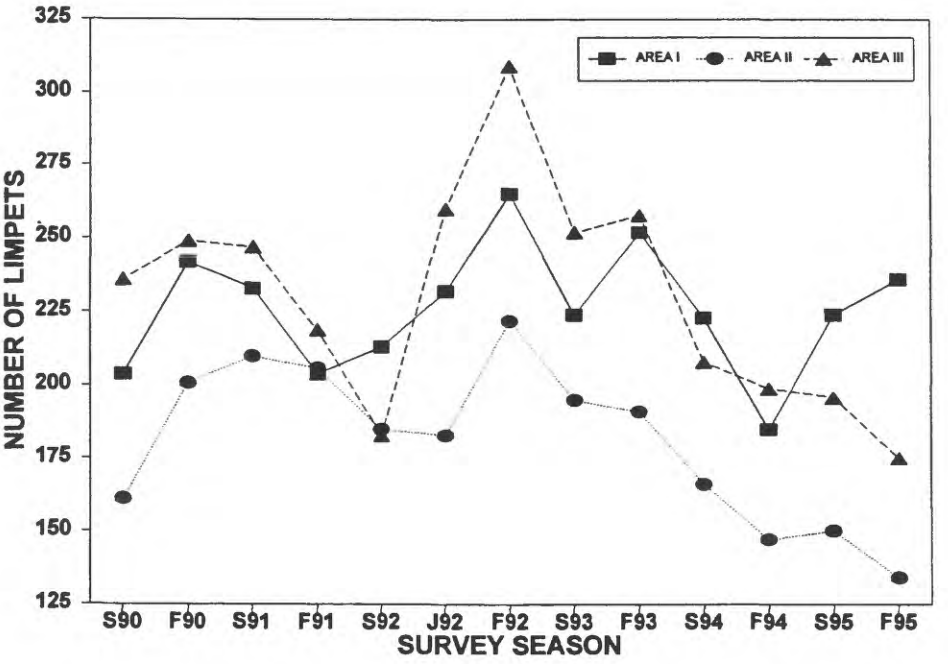



**Fig. 48. Mean Size of Owl Limpets Surveyed by Circular Plots.**

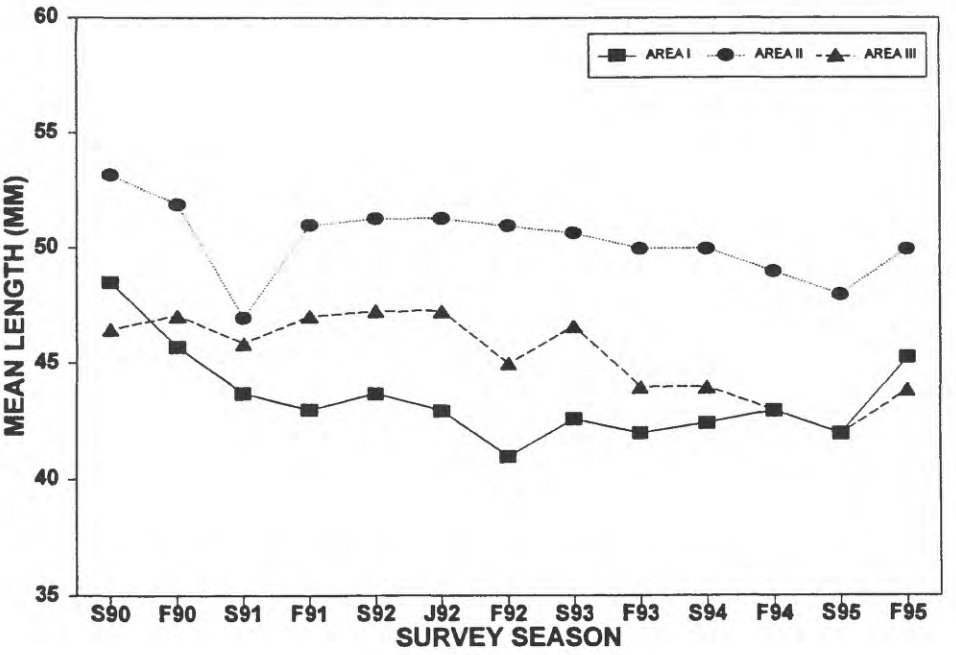


**Fig. 49. Number of Small and Large Owl Limpets Surveyed by Circular Plots.**

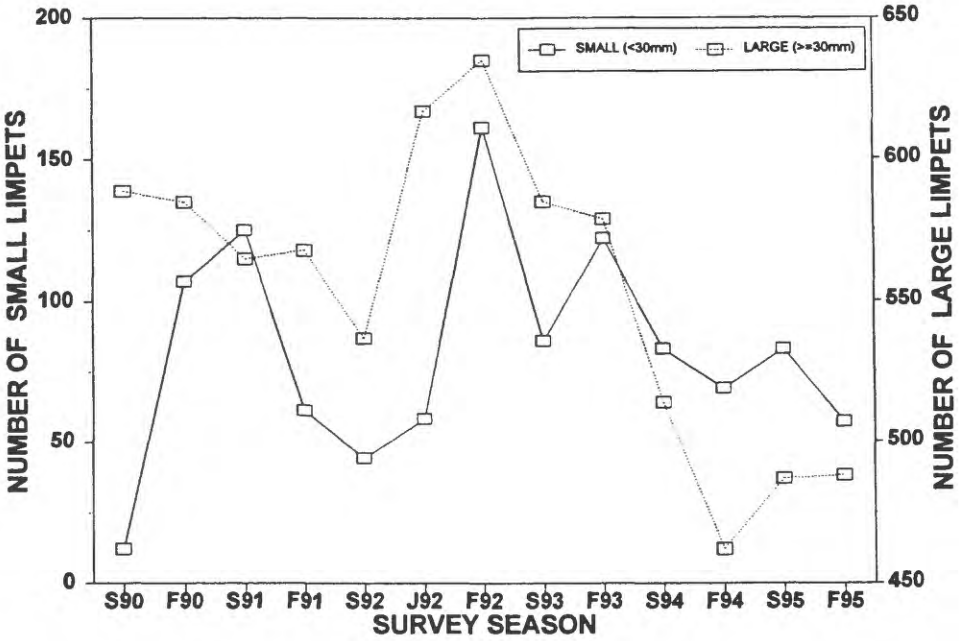



**Fig. 50. Number of Small and Large Owl Limpets Surveyed by Circular Plots.**

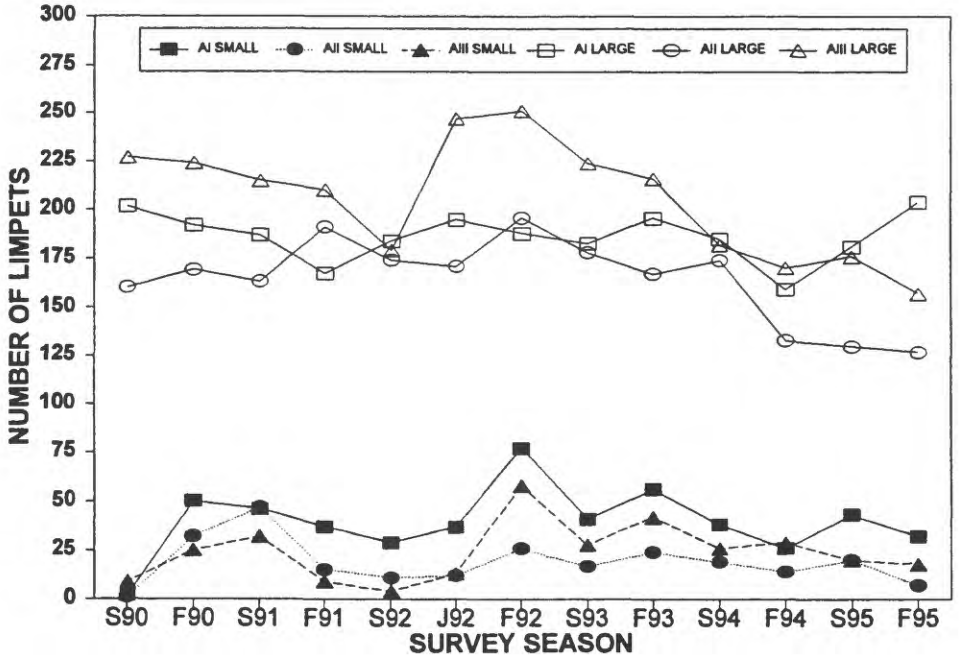


**Fig. 51. Owl Limpet Length Frequencies for 1990.**

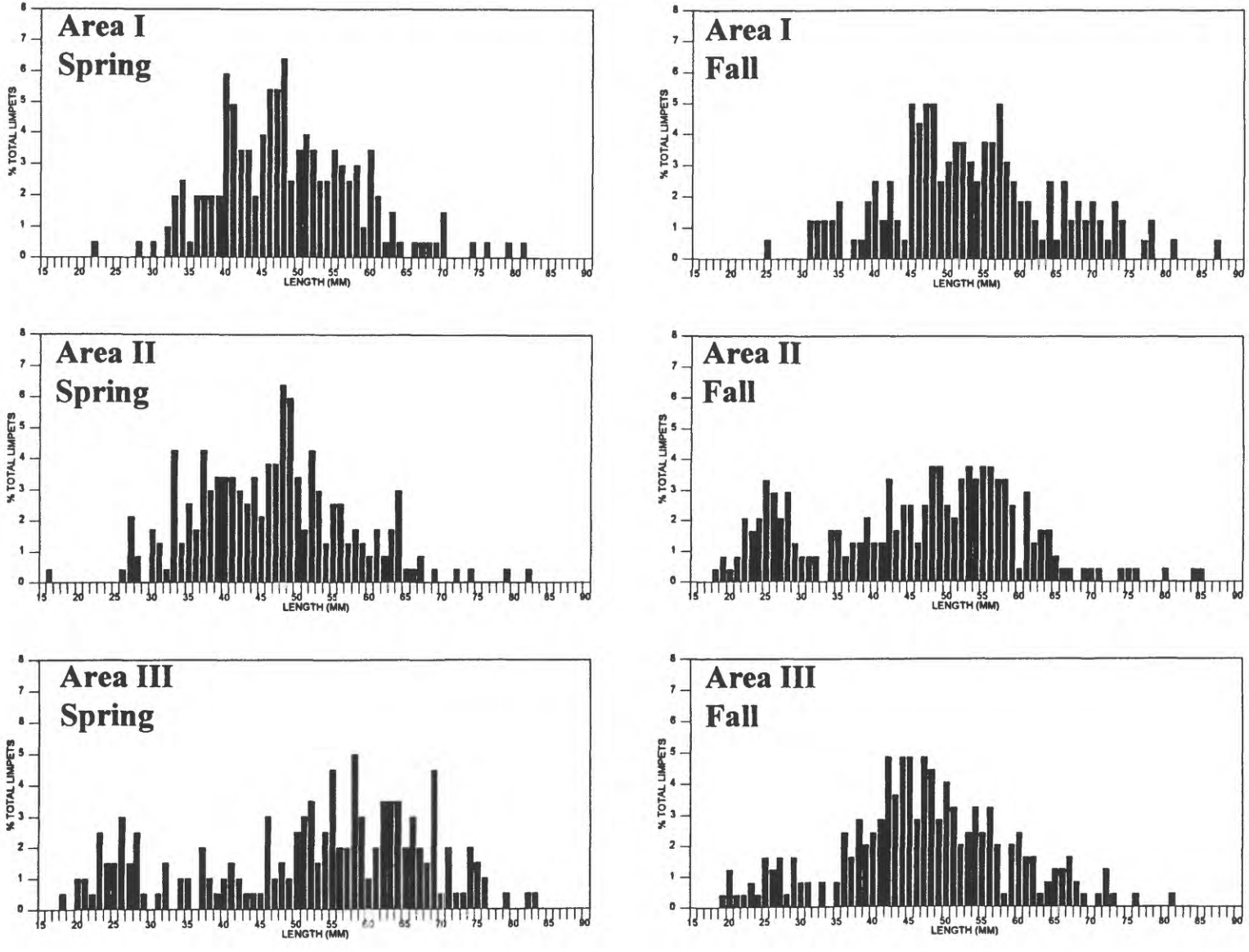


**Fig. 52. Owl Limpet Length Frequencies for 1991.**

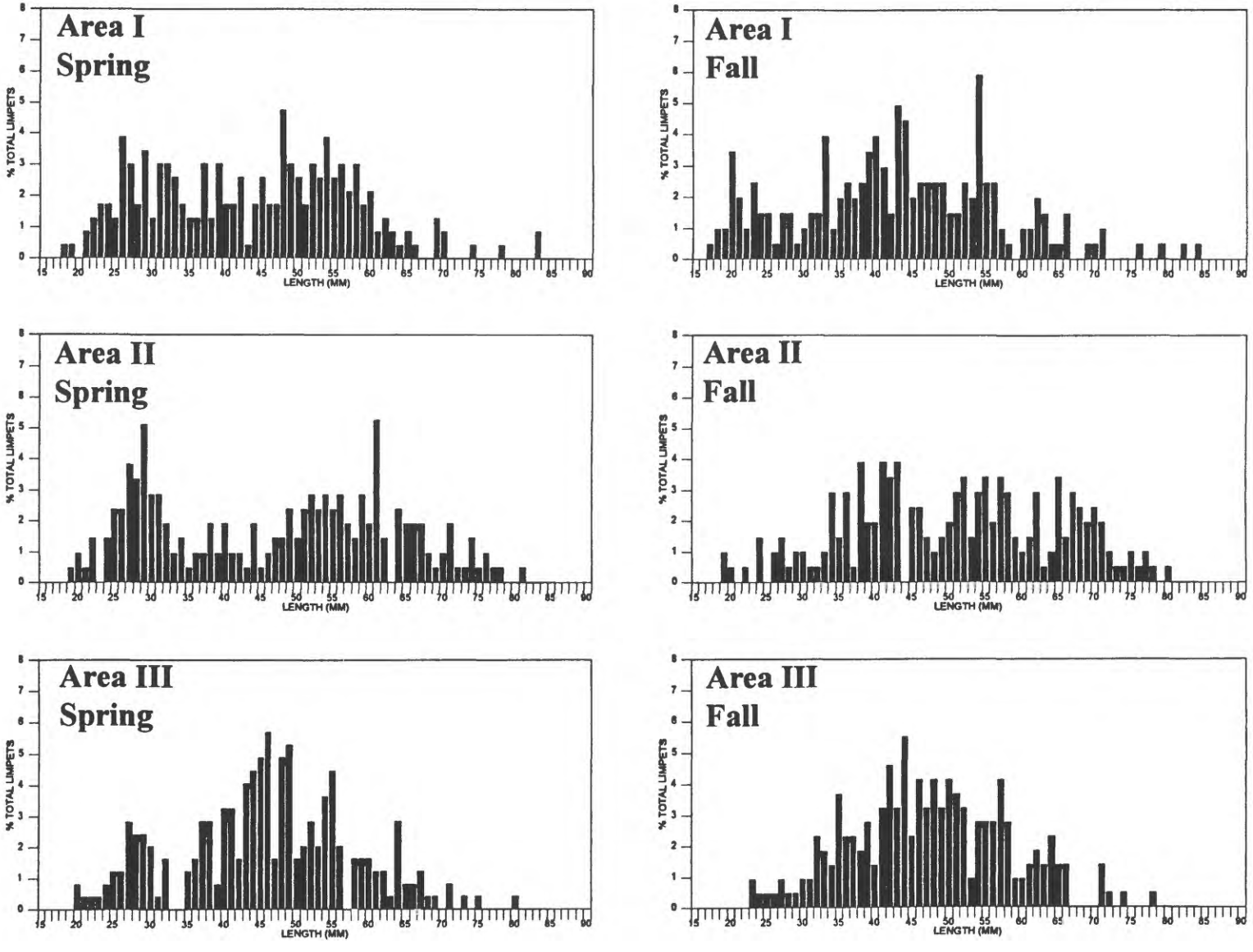


**Fig. 53. Owl Limpet Length Frequencies for 1992.**

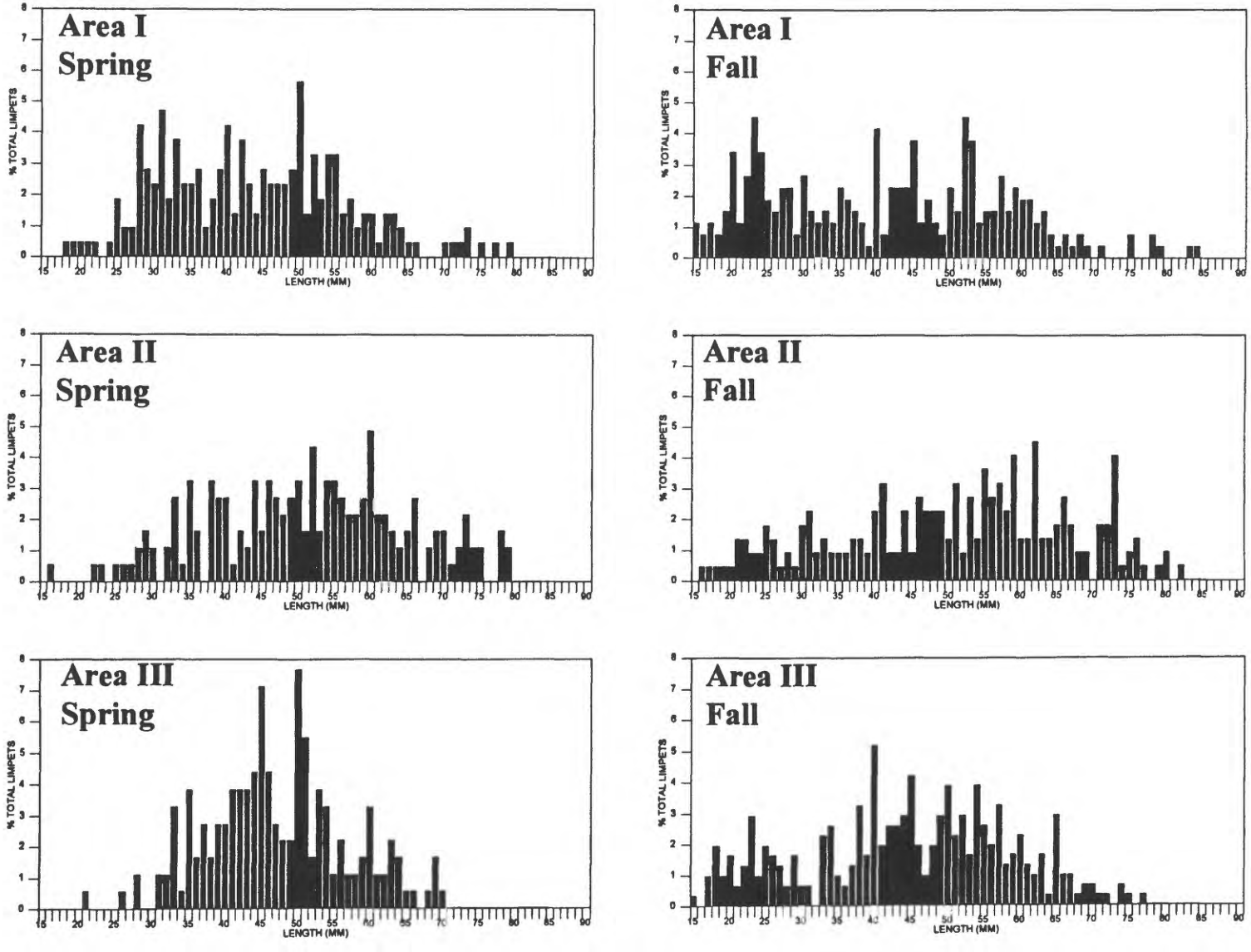


**Fig. 54. Owl Limpet Length Frequencies in June, 1992.**

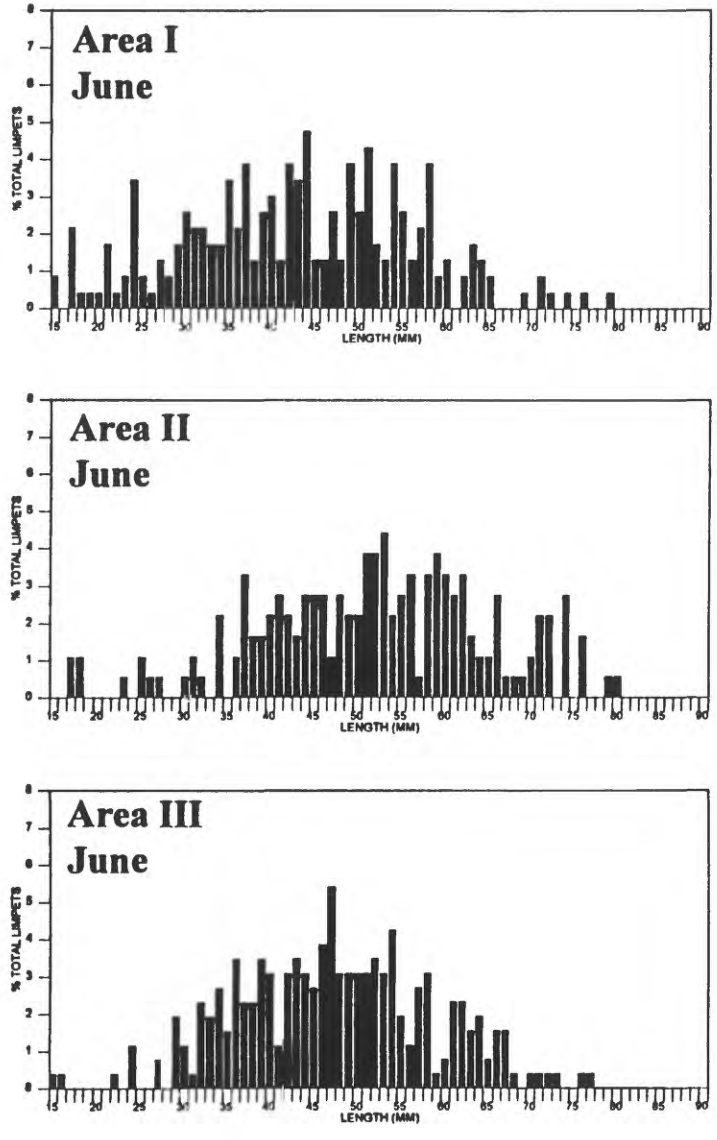


**Fig. 55. Owl Limpet Length Frequencies for 1993.**

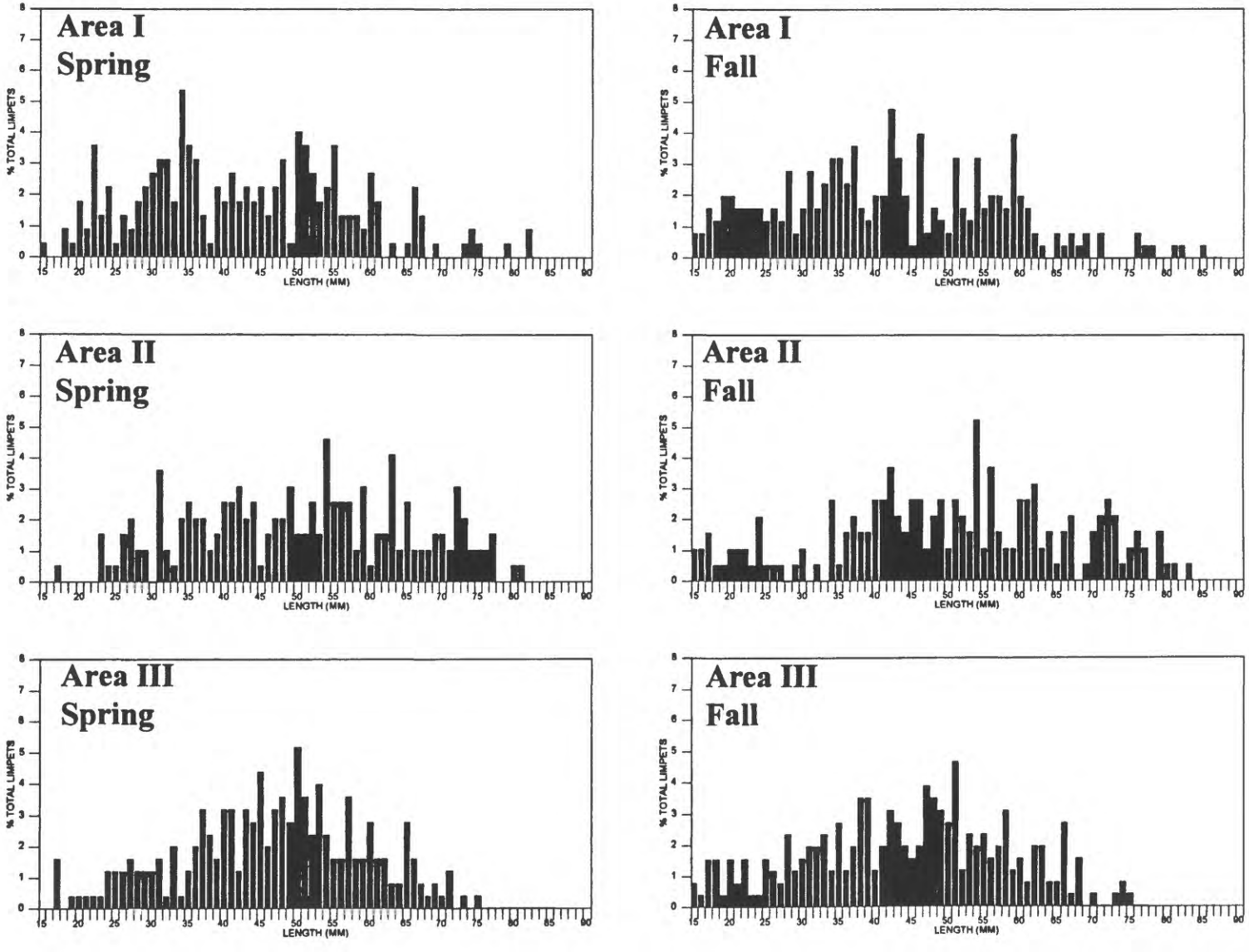


**Fig. 56. Owl Limpet Length Frequencies for 1994.**

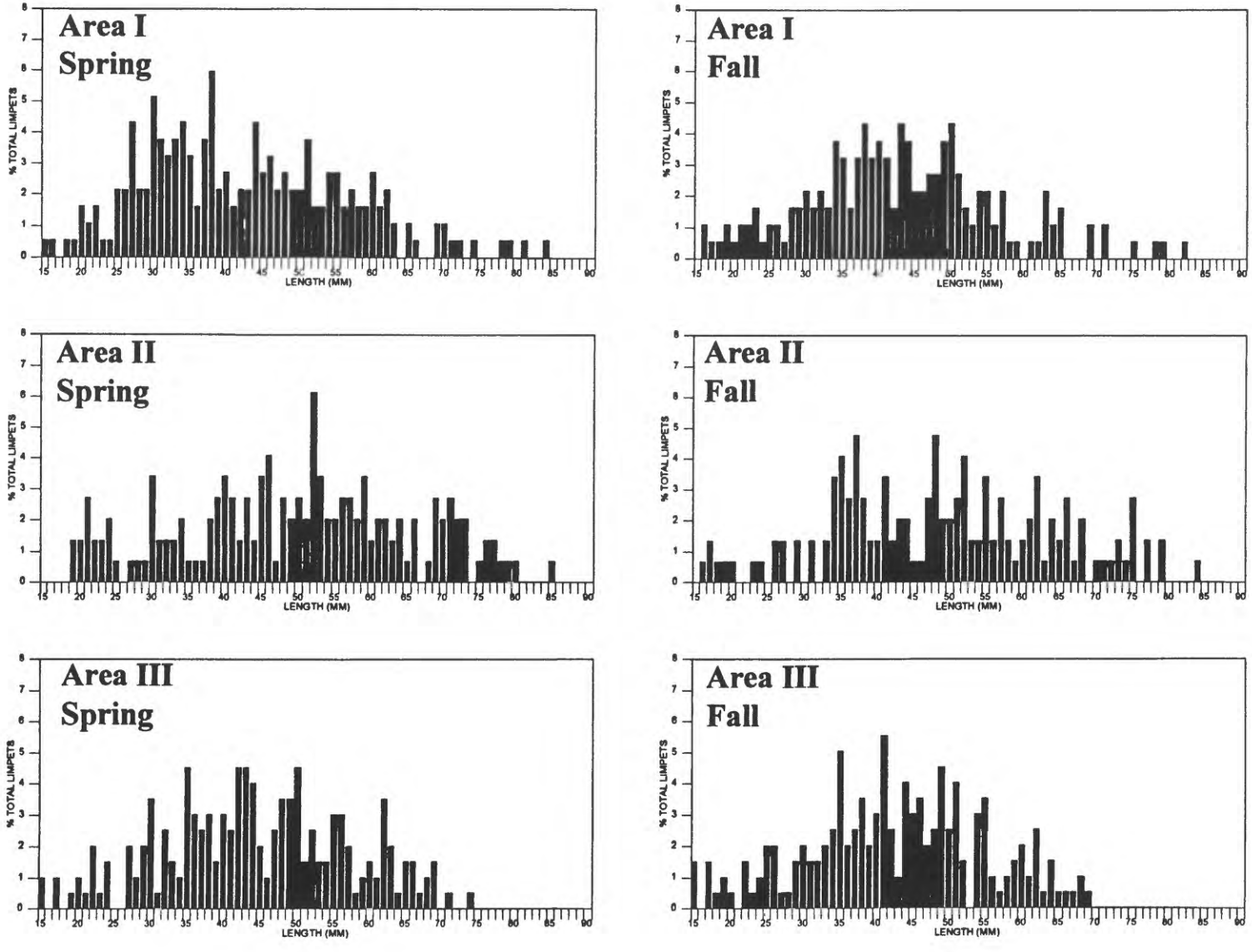


**Fig. 57. Owl Limpet Length Frequencies for 1995.**

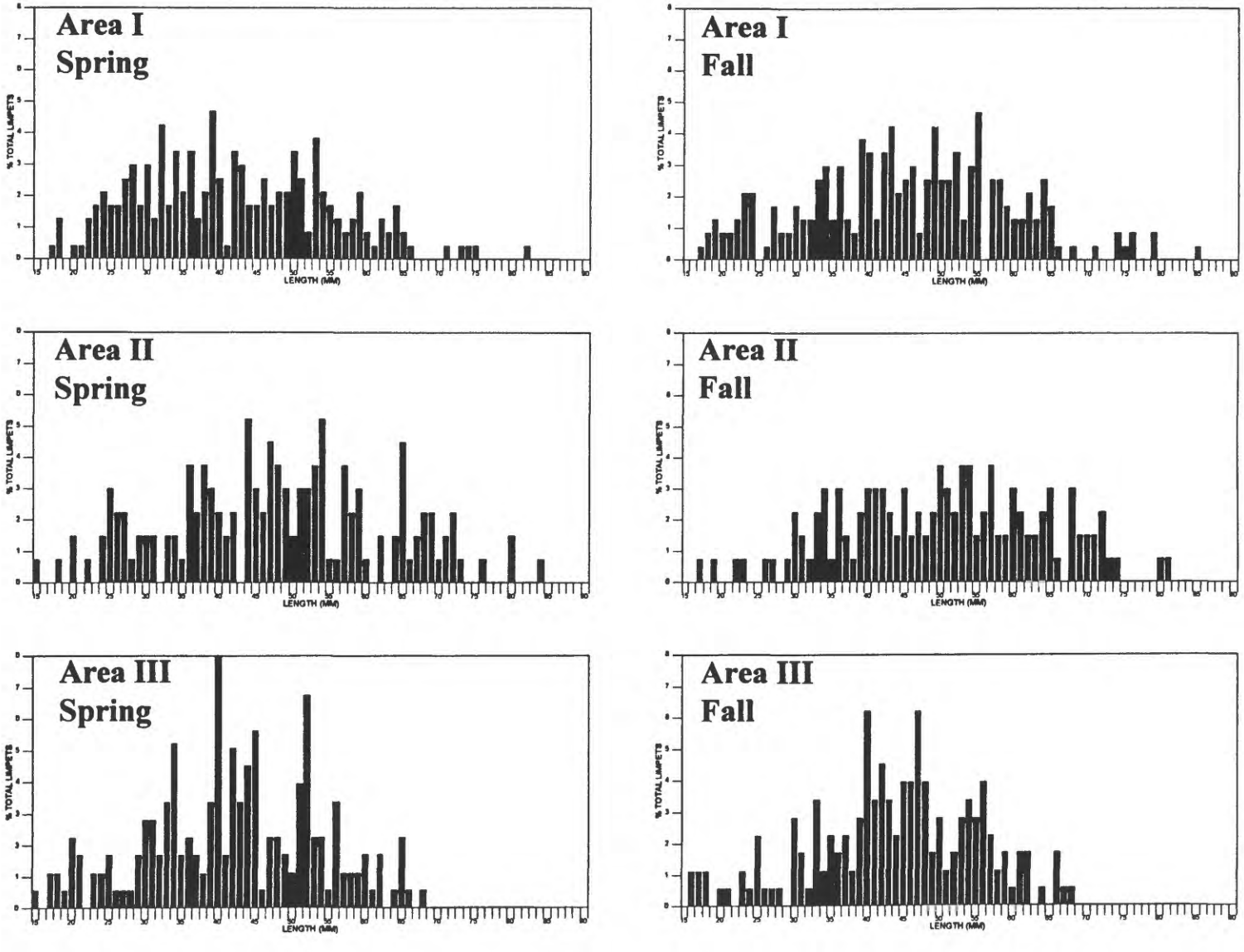


**Fig. 58. Mean Cover of Red Algal Turf Surveyed by Turf Line Transects.**

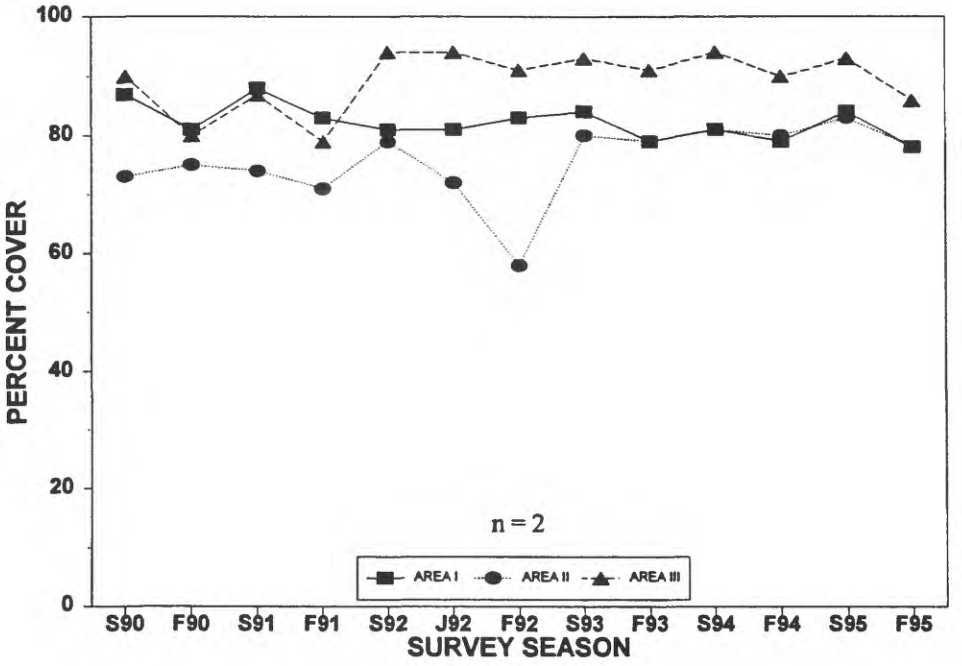



**Fig. 59. Mean Cover of Surf Grass Surveyed by Turf Line Transects.**

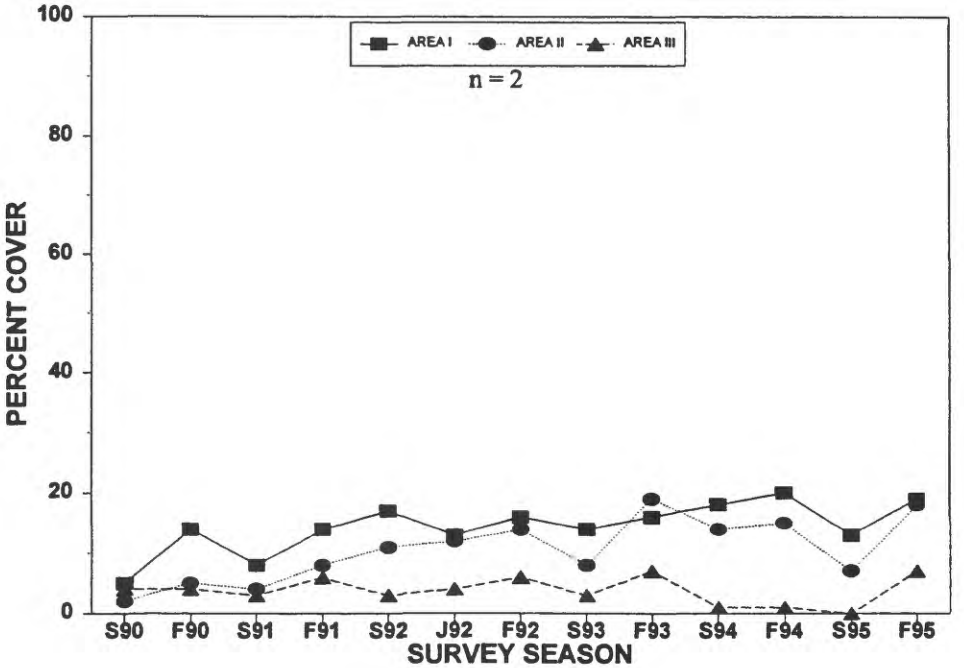


**Fig. 60. Mean Cover of Surf Grass Surveyed by Grass Line Transects.**

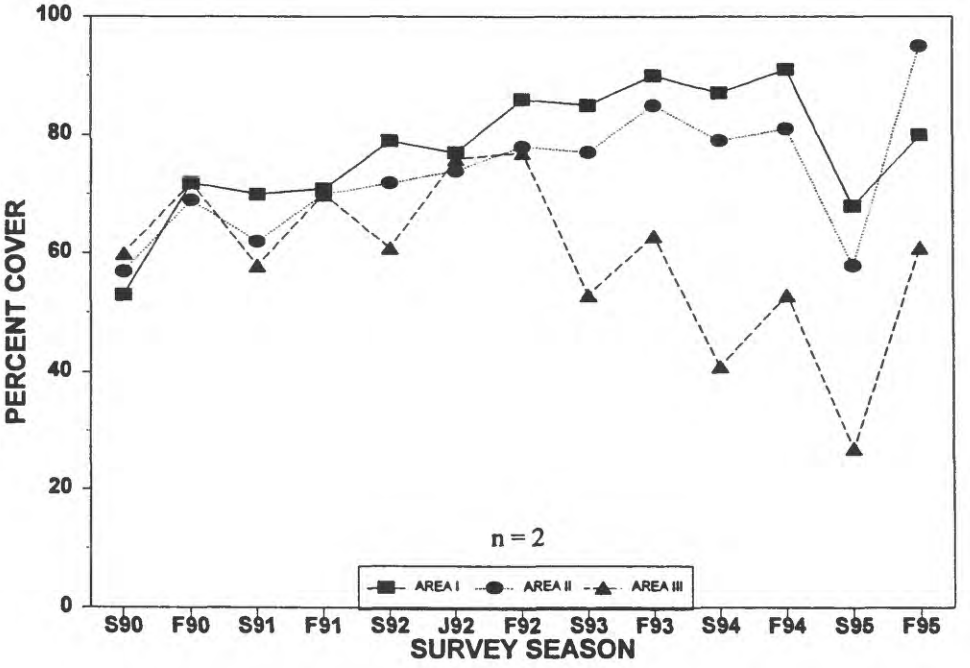



**Fig. 61. Mean Cover of Red Algal Turf Surveyed by Grass Line Transects.**

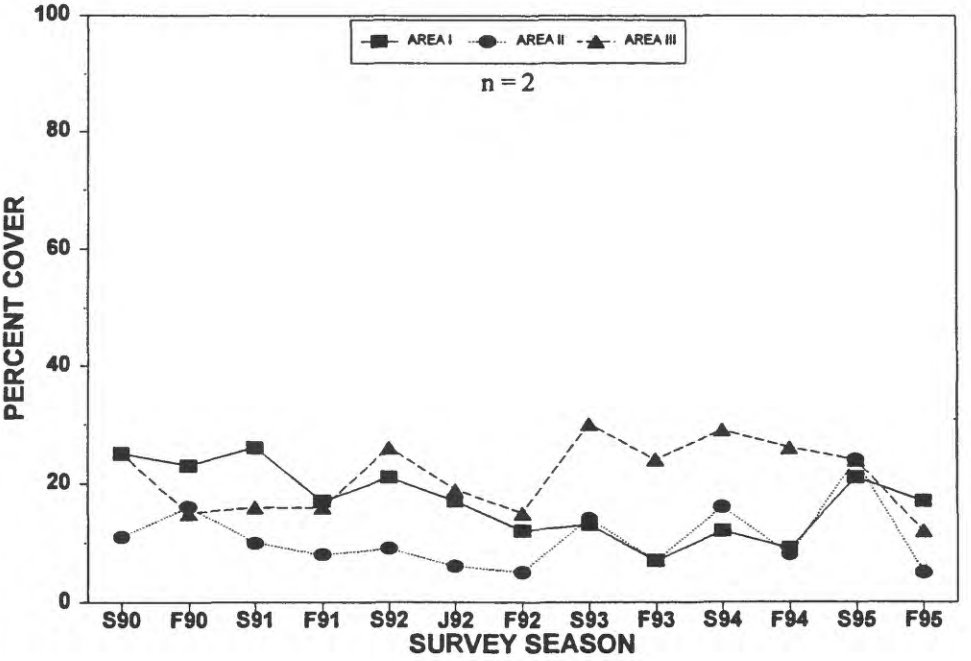


**Fig. 62. Mean Cover of Boa Kelp Surveyed by Kelp Line Transects.**

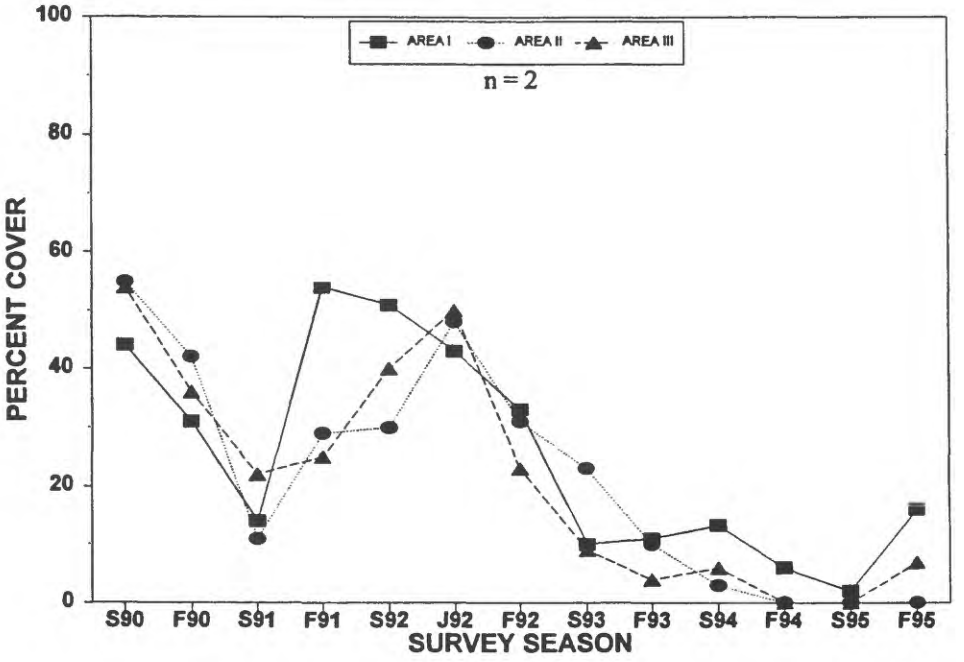
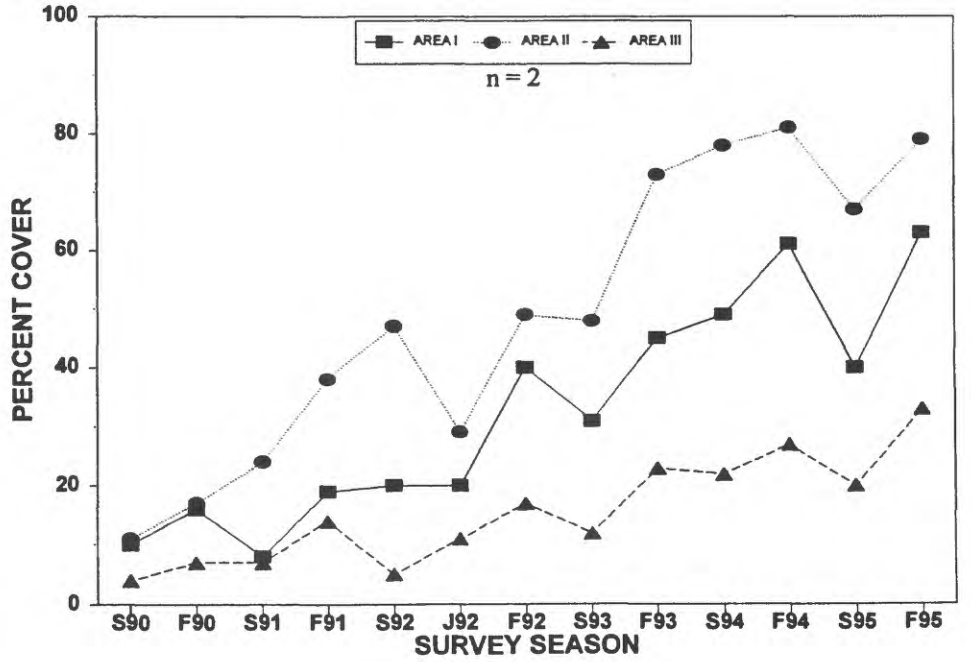



**Fig. 63. Mean Cover of Surf Grass Surveyed by Kelp Line Transects.**



## APPENDIX 1. Key Species Natural History

The following are summary descriptions of the natural history and ecology of the 13 key rocky intertidal species or species groups emphasized in this study:

### Rockweed (*Pelvetia fastigiata*)

This conspicuous fucoid alga can be locally abundant in dense patches in upper mid-tidal regions of southern California rocky shores that are partially protected from open surf. The typical mainland form is an olive green or yellowish brown plant about 30 cm long, composed of thick, narrow, dichotomous branches. A finer-branched, lighter-colored form (*P. fastigiata gracilis*) is more typical of the Channel Islands (Abbott and Hollenberg 1976). *Pelvetia* is a dominant perennial whose thick clumps provide shelter and protection from desiccation for many animals that otherwise could not exist so high up on the shore (Hill 1980; Gunnill 1983; Ricketts et al. 1985). *Pelvetia* plants are tough, resilient, and long-lived; however, recruitment is irregular, survivorship low, and individuals slow-growing (Gunnill 1980b; 1985). Rockweeds are vulnerable to oil spills because of their location fairly high on the shore. Specific sensitivity of *Pelvetia* to oiling is unclear, but other fucoids are known to be adversely affected (Foster et al. 1988). Recovery from impacts could take several years or more (Hill 1980; Vesco & Gillard 1980; Engle unpub.).

### Sargassum Weed (*Sargassum muticum*)

*Sargassum muticum* is a non-native species of brown fucoid algae that was introduced to the West Coast in the 1930's or 40's, apparently on the shells of young oysters released in Puget Sound (Scagel 1956). It spread southward from Washington State, established itself in southern California in the 1960's and 70's, and currently ranges to central Baja California. *S. muticum* can be distinguished from the two native species of *Sargassum* in California (*S. agardhianum* and *S. palmeri*) by its larger size (to 10 m, but generally <3 m intertidally) and undivided leaflike blades that occur singly along the main branches (Abbott & Hollenberg 1976). Sargassum weed is widely distributed in sheltered and semi-exposed rocky habitats subtidally (to 10 m depth), along wet low tide zones, and in tidepools at higher zones. Its habitat requirements are generally similar to surf grass. They frequently occur intermixed; however, surf grass is more common in lower surf-swept areas, while sargassum weed dominates the warmer middle intertidal pools. *S. muticum* is an opportunistic "weedy" species that can quickly colonize bare spaces and unstable substrates, but it is a poor competitor for space, thus in time native plants usually take over (Deysher & Norton 1982). *Sargassum* is perennial, but the coarse elongate fronds die back annually (after reproduction in Spring/Summer) to stubby bases (in Summer/Fall) (Gunnill 1980a). Sargassum weed grows rapidly in warm water, but can survive cold conditions, as evidenced by its northern range limit. It is susceptible to desiccation damage and can be dislodged by high surf, but is capable of rapid recovery from disturbance (Gunnill 1985).

### Boa Kelp (*Egregia menziesii*)

Boa kelp is one of the largest intertidal plants in California. It is a brown laminarian alga that forms conspicuous bands or patches in lower intertidal and shallow subtidal rocky habitats on exposed shores from central California to central Baja California (though some specimens range as far north as Alaska). Appearing like the feather boa wraps once worn by fashionable

women, this rapidly-growing kelp produces 2-15 m long straplike stipes fringed with gas-filled bladders and numerous small, elongate blades in young plants or hair-like blades in old plants. The largest forms are subtidal. Boa kelp is perennial, but many plants die annually (Black 1974; Gunnill 1980a). Dense, draping fronds of *Egregia* provide protection from desiccation for understory plants and animals, as well as food for grazers such as isopods, kelp crabs, snails, and limpets (Humphrey 1965). One limpet, *Notoacmaea incessa*, is found only on *Egregia*. These short-lived limpets excavate pits or furrows in the kelp stipe which weaken the plant, increasing the likelihood of frond loss (Black 1976). Though tough, boa kelp can be abraded or torn out by wave action. It also is sensitive to desiccation and heat stress. During sunny midday low tides, plants uppermost on the shore may deteriorate, as evidenced first by color changes from brown to green, and later by sloughing of fronds. The 1982-83 El Niño caused catastrophic mortalities, but recruitment continued to occur (Gunnill 1985). *Egregia* was conspicuously absent from rocky habitat at the terminus of a small sewage outfall at San Clemente Island (Littler & Murray 1975). If recruitment is successful, recovery from disturbance can be relatively rapid (0.5-2 yr) due to fast growth rates (Murray & Littler 1979; Vesco & Gillard 1980).

**Red Algal Turf (mostly *Corallina* spp.)**

Large portions of the middle intertidal zones of rocky shores in southern California are covered by a mixed assemblage of low-growing (<7 cm high) green, brown, and red algal species, of which the reds predominate. This turf is best developed on relatively flat reefs where the algal mat forms a meshwork that traps sand and shell particles. Species composition within the turf assemblage varies geographically. In the San Diego area, as many as 67 species of attached and epiphytic plants are found within a relatively homogeneous and persistent assemblage (Stewart 1982). Two species of red erect coralline algae (*Corallina vancouveriensis* and *C. pinnatifolia*) dominate, together covering >60% of the substrate. By cementing firmly to the rock, these perennial calcareous algae form a low, but highly structured thicket that supports diverse epiphytic plants and infaunal animals. Common epiphytes include *Ceramium eatonianum, C. floccideum, Centroceras clavulatum, Hypnea valentiae, Lithothrix aspergillum*, and *Laurencia pacifica*. The sea anemone, *Anthopleura elegantissima*, is the most conspicuous invertebrate within the turf assemblage. The turf may also enhance recruitment of mussels by providing attachment surfaces and a relatively sheltered micro-environment. Typically, the algal turf zone is located just above the surf grass zone, because algal turf is better able to withstand desiccation (Stewart 1989a). The *Corallina* species dominating the turf can bleach and die-back during daytime exposures to dry air (especially during the October-February low tides), or filaments may be broken off by storm waves, but erect portions easily grow back from the crusts that persist after such disturbances (Stewart 1989b). They also are highly resistant to the sand abrasion and burial which commonly occurs on low-sloping reefs. *Corallina* crusts can survive more than a year under sand; once re-exposed, they regain pink color and start growing erect portions within two weeks (Stewart 1989b). Turf algae species my bleach or die in response to oil, municipal wastes, or other pollutants (Foster et al. 1988). Recovery of *Corallina*-dominated turf after complete clearings can take about 2 yr (Stewart 1898b).

## Surf Grass (*Phyllospadix* spp.)

Surf grass is one of only two types of marine flowering plants on the West Coast. Unlike the eelgrass *Zostera* (often confused with surf grass) that grows in quiet-water mud or sand habitats, surf grass attaches by short roots to rock on surf-swept shores from the low intertidal down to 10-15 m depths. The 0.5-2 m tall, emerald green grass commonly occurs in dense perennial beds formed primarily by vegetative growth from spreading rhizomes. Two species (*P. torreyi* & *P. scouleri*) overlap in geographical distribution and morphological characteristics ( Dawson & Foster 1982). *P. torreyi* generally has longer (1-2 m), narrower (1-2 mm) leaves, longer flower stems with several spadices, and occurs more in semi-protected habitats as well as at deeper depths. *P. scouleri* tends to have shorter (<50 cm), broader (2-4 mm) leaves, shorter flower stems with 1-2 spadices, and is found more often in wave-swept intertidal areas. Surf grass meadows are highly productive ecosystems, providing structurally complex microhabitats for a rich variety of epiphytes, epibenthos, and infauna. Stewart and Myers (1980) identified 71 species of algae and 90 species of invertebrates associated with surf grass habitats in San Diego. Some organisms, such as the red algae *Smithora naiadum* and *Melobesia mediocris*, are exclusive epiphytes on surf grass (or eelgrass) (Abbott & Hollenberg 1976). Also, *Phyllospadix* beds provide nursery habitat for various fishes and invertebrates, including the California spiny lobster *Panulirus interruptus* (Engle 1979). Green lobster juveniles shelter in the thicket of leaves and forage on a variety of tiny gastropods and bivalves. Surf grass beds are persistent (Turner 1985) and can preempt space from other plants, including boa kelp (Black 1974) and sargassum weed (Deysher & Norton 1982). Surf grass cannot tolerate much heat or drying; the leaves will bleach quickly when midday low tides occur during hot, calm-water periods. Surf grass can be particularly sensitive to sewage discharge (Littler & Murray 1975) and oil pollution ( Foster et al. 1988). Recovery can be relatively rapid if the rhizome systems remain functional, but might take many years if entire beds are lost, because recruitment is irregular and must be facilitated by the presence of perennial turf algae to which surf grass seeds attach (Turner 1983, 1985). Transplant projects undertaken to speed recovery of *Phyllospadix* beds destroyed by shoreline construction have been largely unsuccessful.

## Aggregating Anemone (*Anthopleura elegantissima)*

*Anthopleura elegantissima* is abundant throughout semi-protected rocky shores of the Pacific Coast. This greenish anemone can exist as large (to 25 cm) solitary individuals in tidepools and subtidally, or as small (to 8 cm) densely aggregated clones in middle intertidal zones, especially sand-influenced habitats (Morris et al. 1980). Solitary *A. elegantissima* often are confused with *A. xanthogrammica*, a larger relative uncommon south of Point Conception. The green color of all of these *Anthopleura* comes from symbiotic unicellular plants. *A. elegantissima* are able to persist practically indefinitely under normal conditions because genetically-identical individuals are periodically produced by longitudinal fission (Sebens 1982). Extensive carpets of these clones may occur, but often go unrecognized under low tide conditions because the anemones contract to small sand or shell-covered blobs which provide protection from desiccation. Anemone mats create a moist microenvironment that allows the development of some other species, such as coralline algae and sand tube worms (*Phragmatopoma californica*) at higher intertidal levels than they would normally occur (Taylor & Littler 1982). Adjacent anemone clones are separated by a narrow bare corridor caused by the

withdrawal of non-clonemates following aggressive stinging encounters. *A. elegantissima* are quite resistant to disturbances from shifting sands. They not only withstand moderate sand abrasion, but can resist shallow sand burial by extending their columns to re-expose the tentacles and oral disk. If buried deeper, they can survive for at least 3 months by metabolizing body tissue (Sebens 1980). Aggregating anemones are not known to be unusually sensitive to oiling. Recovery from major disturbances may take 1-2 years or more (Vesco & Gillard 1980).

### White Acorn Barnacles (*Chthamalus fissus/dalli)*

White acorn barnacles typically dominate high intertidal zones along the West Coast. *C. dalli* and *Balanus* are most common in the colder waters north of Point Conception, but all three species overlap in southern California. Acorn barnacle species can be difficult to distinguish, especially in photographic monitoring. Tiny (to 8 mm) *C. fissus* and *C. dalli* require dissection and microscopic examination of scutal plates. *Balanus glandula* can be field identified in most cases by its larger size (to 22 mm), whiter color, and differing shell plate arrangements. It is rare at Point Loma. Acorn barnacles spawn often, at variable times throughout the year (Hines 1978), and settle in incredible densities (to 70,000/$m^2$), forming distinct white bands along the upper intertidal that contain few other invertebrates except littorines and the hardiest limpets. *Balanus* can out compete *Chthamalus* by crowding or smothering, but *Chthamalus* can occupy higher tide levels than *Balanus*, because it is more resistant to desiccation. Slightly lower down, acorn barnacles mix in with the *Endocladia* assemblage, and are common on mussel shells. *Chthamalus* species grow rapidly, but only survive a few months to a few years. *Balanus* can live longer (to 10 years), but its larger size and lower tidal position subject it to higher levels of mortality from predatory gastropods and ochre sea stars. White acorn barnacles are highly vulnerable to smothering from oil spills because floating oil often sticks along the uppermost tidal levels. Significant, widespread barnacle impacts were reported after the 1969 Santa Barbara oil platform blow-out (Foster et al. (1971) and the 1971 collision of two tankers off San Francisco (Chan 1973). However, high recruitment rates may promote relatively rapid recovery of acorn barnacles; disturbance recovery times ranging from several months to several years have been reported ( Vesco & Gillard 1980).

### Pink Thatched Barnacle (*Tetraclita rubescens)*

The pink thatched barnacle is the largest (to 50 mm) acorn barnacle commonly occurring in middle to low rocky intertidal habitats in southern California. This prominent, volcano-shaped barnacle ranges from Oregon to the southern tip of Baja California (Kozloff 1993). Unlike the aggregated white barnacles, *Tetraclita* tend to occur as solitary individuals scattered on rock surfaces and mussel shells. Pink thatched barnacles are effective competitors for space and likely influence the local distribution of mussels and other associated species (Foster et al. 1988). Adult *Tetraclita* are distinctive light pink to brick red in color, with tests composed of four plates whose outer surface is uniformly roughened by vertical grooves and ridges. Juveniles are white. Sexual maturity is reached in about 2 yr (18 mm dia), and individuals may live as long as 10-15 yr (Hines 1978). A related form, *Tetraclita rubescens* var. *elegans*, is a smaller white variety more common in lower intertidal and subtidal water. Pink barnacles may be sensitive to sewage pollution; they were less common in the vicinity of a small sewage outfall at San Clemente Island than in nearby unpolluted areas (Littler & Murray 1975). Recovery from major disturbance may take more than 2 yr (Murray & Littler 1979).

### Goose Barnacles (*Pollicipes polymerus*)

Goose barnacles are conspicuous in high to middle intertidal zones on surf-swept rocky shores all along the US Pacific Coast. Young goose barnacles settle preferentially among other *Pollicipes*, forming tight clusters on exposed outcrops, ridges, and walls, just above or intermixed with mussel beds. This distinctive black and white barnacle is firmly attached to the rock by a muscular (edible) stalk that holds the cirral net up to 8 cm high to filter-feed, primarily from wave backwash. Unlike white acorn barnacles, goose barnacles are relatively slow-growing and long-lived. Sexual maturity is reached in approximately 5 years, and large adults may be 20 years old (Morris et al. 1980). *Pollicipes* is very resistant to desiccation and can tolerate all but the highest wave exposures. Mortality has been reported from oil spills (Foster et al. 1971; Chan 1973), and recovery could be slow. Populations have been reduced in accessible areas where goose barnacles are collected for food.

### Owl Limpet (*Lottia gigantea*)

Owl limpets are common in high and middle tide zones of exposed rocky shores from Washington south to Baja California. Adult *Lottia* are relatively easy to identify because of their large size (5-10 cm), oval shape with low rounded profile, and color patterns of brown, white, and black on the often eroded shell. Accessory gills on the mantle increase surface area for aerial respiration during low tide periods. Owl limpet habitats extend from the barnacle and *Endocladia* zones down to the mussel beds. Here they maintain feeding territories on relatively smooth rock surfaces which they keep free (by rasping and bulldozing) of most macroalgae and invertebrates, including turfweed, sea anemones, barnacles, mussels, and other limpets (Stimpson 1970; Wright 1982). By removing most competitors for space and grazers, they promote the growth of algal films upon which they systematically graze. These "clearings" vary in appearance with *Lottia* size and structural features of the substrate, creating a patchwork of differing microhabitats. *Lottia* tend to occupy one or more characteristic "home scars" within their territories. Here the shell margin conforms to the rock surface, making a tight seal to hold moisture during low tides. The limpets also may tuck into crevices and under mussels for protection from heat, desiccation, and high surf. *Lottia* grow slowly, taking up to 10-15 years to reach maximum size (Morris et al. 1980). As an ecological dominant, any change in *Lottia* populations greatly affects abundances of other species. The limpets and their feeding territories are vulnerable to oiling, but oil impacts are unclear. For example, they were not obviously affected by the 1971 San Francisco oil spill (Chan 1973). Recovery from any major disturbance likely would be lengthy. Larger owl limpets are collected for food, tasting much like abalone. Since the largest individuals are nearly always females (because *Lottia* are protandrous hermaphrodites) (Wright & Lindberg 1982), collecting may impair reproductive capabilities within owl limpet populations.

### Black Abalone (*Haliotis cracherodii*)

Black abalone inhabit mid-low intertidal levels down to shallow subtidal depths (to 6 m) from Oregon to southern Baja California (Morris et al. 1980). They are readily identified by dark, bluish-black coloration, a smooth shell with 5-7 open respiratory holes, and relatively small size (5-20 cm as adults). Black abalone are relatively sedentary, and are typically found clustered in wet crevices, under boulders, or on the walls of surge channels along exposed shores. Juveniles graze on diatom films and coralline algae, while adults primarily eat drift algae, especially brown kelps. *H. cracherodii* compete with sea urchins and other crevice-dwellers for

space and food (Taylor & Littler 1979; Miller & Lawrence-Miller 1993). Where abundant, abalone may be stacked on top of each other, reaching densities of more than 100/$m^2$ (Douros 1987; Richards & Davis 1993). Black abalone are slow-growing and long-lived, with recruitment apparently being low and variable (Morris et al. 1980; VanBlaricom 1993). Growth rates depend on animal size, location, food availability, reproductive condition, and other factors. Absolute longevity has not been determined, but ages greater than 30 years appear likely based on tagging and other population studies (e.g., VanBlaricom 1993). A large fishery exists, of which the black abalone has become increasingly harvested as stocks of other abalone declined (Leet et al. 1992). *H. cracherodii* populations in southern California suffered catastrophic declines since the mid-1980's that have resulted in nearly complete disappearance of black abalone along mainland shores south of Point Conception (Miller & Lawrence-Miller 1993), as well as at many of the Channel Islands (Lafferty & Kuris 1993; Richards & Davis 1993). Mortality is associated with "withering syndrome", in which the foot shrinks and weakened individuals lose their grip on rock surfaces. Abalone also may be subject to smothering by sand burial, dislodgment by storm waves, and predation by octopus, sea stars, fishes, and sea otters (Morris et al. 1980; VanBlaricom 1993). Impacts from oil are little known, but North et al. (1965) reported black abalone mortality following a spill in Baja California. Because of low recruitment, slow growth, and already decimated reproductive populations, additional mortality from oil spills would be devastating, and recovery prospects long-term at best.

### California Mussel (*Mytilus californianus)*

California mussels are abundant at middle to low levels of exposed rocky shores along the entire Pacific Coast. These 10-20 cm black/blue/gray mussels firmly attach to rocks or other mussels by tough byssal threads, forming dense patches or beds. The literature on *Mytilus californianus* is extensive, including key ecological studies on the effects of predation, grazing, and disturbance on succession and community structure (see for discussion Morris et al. 1980; Ricketts et al. 1985; Kinnetics 1992). The bay mussel, *M. edulis*, can co-occur with *M. californianus*, but is most common in sheltered habitats. Thick (≥20 cm) beds of California mussels trap water, sediment, and detritus that provide food and shelter for an incredible diversity of plants and animals, including cryptic forms inhabiting spaces between mussels as well as biota attached to mussel shells (Paine 1966; MacGinitie & MacGinitie 1968; Suchanek 1979; Kanter 1980). For example, MacGinitie & MacGinitie (1968) counted 625 mussels and 4,096 other invertebrates in a single 25 $cm^2$ clump, and Kanter (1980) identified 610 species of animals and 141 species of algae from mussel beds at the Channel Islands. Kinnetics (1992) documented locational differences in the composition and abundance of mussel bed species. Northern sites had densely-packed, multi-layered beds, but the more open southern sites had higher species diversity. Mussels feed on suspended detritus and plankton. Young mussels settle preferentially into existing beds at irregular intervals, grow at variable rates depending on environmental conditions, and eventually reach ages of 8 years or more ( Morris et al. 1980, Ricketts et al. 1985). Mussels can tolerate typical rigors of intertidal life quite successfully. However, desiccation likely limits the upper extent of mussel beds, storms tear out various-sized mussel patches, and sea stars prey especially on lower zone mussels. *Mytilus* are adversely affected by oil spills (Chan 1973; Foster et al. 1971). Recovery from disturbance varies from fairly rapid (if clearings are small and surrounded by mussels that can move in) to periods greater than 10 years (if clearings are large and recruitment is necessary for recolonization)( Vesco & Gillard 1980; Kinnetics 1992).

### Ochre Sea Star (*Pisaster ochraceus*)

Ochre sea stars are found on middle and low tide levels of wave-swept rocky coasts from Alaska to Baja California, but are much less common south of Point Conception. Their relatively large size (to 45 cm diameter), variety of colors (yellow, orange, purple, brown), and ability to withstand air exposure (at least 8 hours) attract considerable attention from visitors exploring the shore at low tide. The ochre sea star typically is associated with mussels, which constitute its chief food, but barnacles, limpets, snails, and chitons also may be taken (Morris et al. 1980). Predator-prey interactions involving ochre sea stars have been intensely studied, especially the role of *P. ochraceus* in determining the lower limit of northern mussel beds (Paine 1966, 1974: Dayton 1971). Like black abalone, ochre sea stars are relatively slow-growing, long-lived, and apparently variable in recruitment success. They are tolerant of high surf, using their numerous tube feet to remain firmly in place, often in cracks and crevices. They have few predators, except for curious tidepool visitors. However, in southern California, *P. ochraceus* populations have been decimated by a widespread wasting disease caused by a warm-water bacterium of the genus *Vibrio* (Schroeter & Dixon pers. comm.). Sensitivity to oil spills is not well known; Chan (1973) saw no obvious effects from a San Francisco oil spill. Recovery time from any major population loss likely would be very long.

## APPENDIX 2. Rocky Intertidal Monitoring Data Tables: 1990-1995.

### List of Tables

# Table 1. Public Use of the Cabrillo National Monument Intertidal Zone in 1990.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIN DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 02/08/90 | TH | 1459 | -46 | 10 | 17 | 3 | W | 1 | 53 | 20 | 0 | 73 |
| 02/10/90 | SA | 1558 | -30 | 0 | 18 | 3 | NW | 2 | 107 | 29 | 12 | 148 |
| 11/28/90 | WE | 1230 | +9 | 0 | 21 | 2 | NW | 1 | 4 | 6 | 0 | 10 |
| 11/29/90 | TH | 1315 | -18 | 5 | 19 | 2 | N | <1 | 9 | 4 | 4 | 17 |
| 11/30/90 | FR | 1403 | -40 | 0 | 21 | 2 | W | <1 | 36 | 33 | 16 | 85 |
| 12/01/90 | SA | 1449 | -55 | 10 | 22 | 3 | N | 1 | 172 | 92 | 34 | 298 |
| 12/02/90 | SU | 1537 | -61 | 0 | 0 | 0 | NW | 1 | 250 | 75 | 39 | 364 |
| 12/11/90 | TU | 1122 | +55 | 30 | 0 | 2 | W | 1 | 27 | 56 | 8 | 91 |
| 12/12/90 | WE | 1307 | +6 | 30 | 0 | 0 | W | 1 | 16 | 2 | 0 | 18 |
| 12/13/90 | TH | 1345 | -6 | 50 | 0 | 2 | NW | 1 | 5 | 0 | 2 | 7 |
| 12/14/90 | FR | 1421 | -15 | 30 | 12 | 2 | W | 1 | 17 | 2 | 0 | 19 |
| 12/15/90 | SA | 1453 | -21 | 50 | 15 | 1 | W | 1 | 98 | 0 | 0 | 98 |
| 12/17/90 | MO | 1556 | -24 | - | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 4 |
| 12/18/90 | TU | 1630 | -21 | 1 | 0 | 1 | W | 1 | 1 | 0 | 2 | 3 |
| 12/27/90 | TH | 1221 | -3 | 90 | 16 | 1 | E | 1 | 41 | 3 | 0 | 44 |
| 12/28/90 | FR | 1313 | -27 | 20 | 15 | 2 | W | <1 | 159 | 14 | 13 | 186 |
| 12/30/90 | SU | 1446 | -61 | 0 | 18 | 1 | W | 1 | 297 | 0 | 81 | 378 |
| 12/31/90 | MO | 1529 | -67 | 100 | 23 | 0 | NW | 1 | 28 | 200 | 87 | 315 |

**BEAUFORT SCALE OF WIND/SEA CONDITIONS**

| Beaufort Scale | Wind (knots) | Sea Conditions |
|---|---|---|
| 0 | 0-1 | Smooth; mirror-like |
| 1 | 1-3 | Small ripples w/o foam crests |
| 2 | 4-6 | Sm wavelets w/o breaking crests |
| 3 | 7-10 | Lg wavelets w/ breaking crests |
| 4 | 11-16 | Sm waves w/ white foam crests |
| 5 | 17-21 | Mod waves w/ many foam crests |
| 6 | 22-27 | Lg waves with extensive white foam crests and some spray |
| 7 | 28-33 | Sea heaps up; white foam from breaking waves blown in streaks |
| 8 | 34-40 | Highest waves of greater length; crest edges break into spindrift |

| | | AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|
| SPRING | # OF COUNTS | 2 | 2 | 2 | 2 |
| | MINIMUM # | 53 | 20 | 0 | 73 |
| | MAXIMUM # | 107 | 29 | 12 | 148 |
| | MEAN # | 80.0 | 24.5 | 6.0 | 110.5 |
| | ST DEV | 38.2 | 6.4 | 8.5 | 53.0 |
| | TOTAL # | 160 | 49 | 12 | 221 |
| | % ALL AREA | 72.4 | 22.2 | 5.4 | 100.0 |
| FALL | # OF COUNTS | 16 | 16 | 16 | 16 |
| | MINIMUM # | 1 | 0 | 0 | 3 |
| | MAXIMUM # | 297 | 200 | 87 | 378 |
| | MEAN # | 72.6 | 30.5 | 17.9 | 121.1 |
| | ST DEV | 95.2 | 54.0 | 28.5 | 139.5 |
| | TOTAL # | 1162 | 488 | 287 | 1937 |
| | % ALL AREA | 60.0 | 25.2 | 14.8 | 100.0 |
| ALL | # OF COUNTS | 18 | 18 | 18 | 18 |
| | MINIMUM # | 1 | 0 | 0 | 3 |
| | MAXIMUM # | 297 | 200 | 87 | 378 |
| | MEAN # | 73.4 | 29.8 | 16.6 | 119.9 |
| | ST DEV | 89.9 | 50.8 | 27.1 | 131.7 |
| | TOTAL # | 1322 | 537 | 299 | 2158 |
| | % ALL AREA | 61.3 | 24.9 | 13.9 | 100.0 |

## Table 2. Public Use of the Cabrillo National Monument Intertidal Zone in 1991.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIND DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/01/91 | TU | 1611 | -61 | 70 | 22 | 0 | W | <1 | 23 | 150 | 73 | 246 |
| 01/09/91 | WE | 1209 | 21 | 100 | 13 | 2 | SE | <1 | 3 | 0 | 0 | 3 |
| 01/10/91 | WE | 1258 | 6 | 30 | 14 | 1 | NW | <1 | 18 | 10 | 2 | 30 |
| 01/11/91 | TH | 1336 | -6 | 70 | 20 | 4 | NW | <1 | 0 | 24 | 4 | 28 |
| 01/12/91 | FR | 1410 | -6 | 10 | 15 | 2 | WNW | <1 | 93 | 30 | 11 | 134 |
| 01/13/91 | SA | 1440 | -21 | 5 | 19 | 2 | NW | >1 | 151 | 23 | 16 | 190 |
| 01/14/91 | SU | 1509 | -27 | 50 | 26 | 3 | NNW | >1 | 8 | 41 | 7 | 56 |
| 01/15/91 | MO | 1536 | -27 | 60 | 26 | 1 | S | >1 | 10 | 32 | 3 | 45 |
| 01/16/91 | TU | 1602 | -24 | | | | | | 18 | 5 | 0 | 23 |
| 01/17/91 | WE | 1628 | -21 | 15 | | 1 | N | >1 | 35 | 0 | 1 | 36 |
| 01/25/91 | TH | 1215 | -9 | 100 | 23 | 2 | N | <1 | 0 | 6 | 7 | 13 |
| 01/26/91 | FR | 1307 | -34 | 50 | 16 | 2 | NW | >1 | 114 | 17 | 10 | 141 |
| 01/27/91 | SA | 1352 | -49 | 0 | 16 | 2 | NW | <1 | 125 | 7 | 14 | 146 |
| 01/28/91 | SU | 1433 | -58 | 80 | 22 | 2 | NW | <1 | 12 | 25 | 2 | 39 |
| 01/29/91 | MO | 1511 | -58 | | | | | | 25 | 8 | 17 | 50 |
| 01/30/91 | TU | 1548 | -52 | | | | | | 13 | 2 | 4 | 19 |
| 01/31/91 | WE | 1622 | -40 | | 14 | 4 | NW | <1 | 35 | 4 | 4 | 43 |
| 02/07/91 | WE | 1145 | 24 | 0 | 14 | 2 | W | <1 | 11 | 0 | 1 | 12 |
| 02/08/91 | TH | 1239 | 9 | 0 | | 2 | W | <1 | 43 | 2 | 0 | 45 |
| 02/09/91 | FR | 1317 | -3 | 0 | 20 | 2 | WNW | >1 | 99 | 15 | 6 | 120 |
| 02/10/91 | SA | 1348 | -12 | | | | | | 98 | 33 | 8 | 139 |
| 02/11/91 | SU | 1415 | -21 | | 20 | 3 | N | <1 | 90 | 12 | 4 | 106 |
| 02/13/91 | TU | 1504 | -24 | | | | | | 40 | 2 | 0 | 42 |
| 02/21/91 | WE | 915 | 21 | 50 | 24 | 2 | NNW | <1 | 22 | 1 | 1 | 24 |
| 02/22/91 | TH | 1054 | 3 | 30 | 14 | 1 | NW | <1 | 8 | 0 | 0 | 8 |
| 02/24/91 | SA | 1251 | -30 | 5 | 26 | 2 | N | <1 | 48 | 97 | 80 | 225 |
| 03/02/91 | FR | 1612 | 0 | 0 | 16 | 2 | NW | >1 | 59 | 0 | 0 | 59 |
| 03/09/91 | FR | 1158 | 24 | 60 | 17 | 1 | W | >1 | 67 | 5 | 6 | 78 |
| 03/10/91 | SA | 1237 | 3 | 100 | 24 | 1 | NW | <1 | 53 | 5 | 1 | 59 |
| 03/16/91 | FR | 1511 | 0 | | | | | | 82 | 20 | 7 | 109 |
| 03/17/91 | SA | 1537 | 12 | 10 | 26 | 1 | W | <1 | 75 | 23 | 10 | 108 |
| 03/23/91 | FR | 1028 | -6 | | | | | | 22 | 0 | 0 | 22 |
| 03/24/91 | SA | 1133 | -15 | 100 | 23 | 2 | NW | <1 | 74 | 30 | 18 | 122 |
| 03/28/91 | WE | 1409 | -15 | 0 | 16 | 2 | W | >1 | 78 | 6 | 15 | 99 |
| 03/31/91 | SA | 1530 | 24 | 25 | 17 | 2 | NW | >1 | 81 | 8 | 1 | 90 |
| 04/08/91 | SU | 1235 | 12 | | | | | | 21 | 7 | 0 | 28 |
| 04/10/91 | TU | 1340 | 3 | | | | | | 27 | 0 | 0 | 27 |
| 04/14/91 | SA | 1532 | 21 | 0 | | 2 | W | <1 | 98 | 16 | 2 | 116 |
| 04/21/91 | SA | 1049 | -9 | 80 | 22 | 1 | NW | <1 | 51 | 20 | 30 | 101 |
| 09/02/91 | SU | 932 | 24 | 95 | 17 | 4 | WSW | <1 | 60 | 11 | 3 | 74 |
| 10/20/91 | SA | 1422 | 24 | 100 | 17 | 5 | S | <1 | 75 | 6 | 0 | 81 |
| 11/03/91 | SU | 1324 | -3 | 0 | 19 | 3 | NW | <1 | 80 | 10 | 8 | 98 |
| 11/04/91 | SU | 1405 | -15 | 0 | 26 | 4 | N | >1 | 22 | 18 | 16 | 56 |
| 11/05/91 | MO | 1444 | -24 | | | | | | 26 | 32 | 2 | 60 |
| 11/21/91 | TH | 1504 | -40 | 65 | 20 | 3 | E | <1 | 39 | 6 | 8 | 53 |
| 11/22/91 | FR | 1548 | -46 | | | | | | 21 | 2 | 1 | 24 |
| 12/05/91 | TH | 1515 | -27 | | | | | | 25 | 16 | 0 | 41 |
| 12/07/91 | SA | 1623 | -21 | 100 | 13 | 0 | W | <1 | 36 | 23 | 4 | 63 |
| 12/21/91 | SA | 1540 | -61 | | | | | | 178 | 63 | 9 | 250 |
| 12/22/91 | SU | 1624 | -58 | 25 | | 1 | W | <1 | 120 | 30 | 0 | 150 |

**BEAUFORT SCALE OF WIND/SEA CONDITIONS**

| Beaufort Scale | Wind (knots) | Sea Conditions |
|---|---|---|
| 0 | 0-1 | Smooth; mirror-like |
| 1 | 1-3 | Small ripples w/o foam crests |
| 2 | 4-6 | Sm wavelets w/o breaking crests |
| 3 | 7-10 | Lg wavelets w/ breaking crests |
| 4 | 11-16 | Sm waves w/ white foam crests |
| 5 | 17-21 | Mod waves w/ many foam crests |
| 6 | 22-27 | Lg waves with extensive white foam crests and some spray |
| 7 | 28-33 | Sea heaps up; white foam from breaking waves blown in streaks |
| 8 | 34-40 | Highest waves of greater length; crest edges break into spindrift |

| | | AREA I | AREA II | AREA III | ALL |
|---|---|---|---|---|---|
| SPRING | # OF COUNTS | 39 | 39 | 39 | 39 |
| | MINIMUM # | 0 | 0 | 0 | 3 |
| | MAXIMUM # | 151 | 150 | 80 | 246 |
| | MEAN # | 49.5 | 17.6 | 9.4 | 76.4 |
| | ST DEV | 39.2 | 28.1 | 17.2 | 60.3 |
| | TOTAL # | 1930 | 686 | 365 | 2981 |
| | % ALL AREAS | 64.7 | 23.0 | 12.2 | 100.0 |
| FALL | # OF COUNTS | 11 | 11 | 11 | 11 |
| | MINIMUM # | 21 | 2 | 0 | 24 |
| | MAXIMUM # | 80 | 32 | 16 | 98 |
| | MEAN # | 62.0 | 19.7 | 4.6 | 86.4 |
| | ST DEV | 49.5 | 17.4 | 5.1 | 63.5 |
| | TOTAL # | 682 | 217 | 51 | 950 |
| | % ALL AREAS | 71.8 | 22.8 | 5.4 | 100.0 |
| ALL | # OF COUNTS | 50 | 50 | 50 | 50 |
| | MINIMUM # | 0 | 0 | 0 | 3 |
| | MAXIMUM # | 178 | 150 | 80 | 250 |
| | MEAN # | 52.2 | 18.1 | 8.3 | 78.6 |
| | ST DEV | 41.4 | 25.9 | 15.4 | 60.5 |
| | TOTAL # | 2612 | 903 | 416 | 3931 |
| | % ALL AREAS | 66.4 | 23.0 | 10.6 | 100.0 |

## Table 3. Public Use of the Cabrillo National Monument Intertidal Zone in 1992.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIND DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/03/92 | FR | 1505 | -27 | 85 | 14 | 3 | SSE | >1 | 40 | 7 | 1 | 48 |
| 01/17/92 | FR | 1403 | -21 | 40 | 20 | 2 | W | <1 | 39 | 1 | 0 | 40 |
| 01/18/92 | SA | 1443 | -58 | 50 | 16 | 3 | W | >1 | 327 | 33 | 24 | 384 |
| 01/19/92 | SU | 1523 | -61 | 0 | 18 | | W | <1 | 85 | 39 | 12 | 136 |
| 01/20/92 | MO | 1602 | -58 | 0 | 19 | | W | <1 | 164 | 23 | 5 | 192 |
| 01/29/92 | WE | 1308 | -6 | | | | | <1 | 15 | 0 | 0 | 15 |
| 01/30/92 | TH | 1345 | -15 | 0 | 21 | 3 | NW | >1 | 17 | 0 | 0 | 17 |
| 02/02/92 | SU | 1510 | -24 | 75 | 16 | | W | >1 | 75 | 12 | 6 | 93 |
| 02/04/92 | TU | 1556 | -15 | 0 | 21 | | W | <1 | 17 | 2 | 0 | 19 |
| 02/05/92 | WE | 1618 | -6 | 100 | 16 | | WSW | <1 | 14 | 0 | 0 | 14 |
| 02/13/92 | TH | 1216 | -9 | 78 | 16 | 3 | W | >1 | 0 | 0 | 0 | 0 |
| 02/14/92 | FR | 1302 | -30 | 97 | 16 | 3 | S | >1 | 0 | 0 | 0 | 0 |
| 02/16/92 | SU | 1420 | -52 | 60 | 16 | 3 | W | <1 | 0 | 0 | 0 | 0 |
| 02/17/92 | MO | 1457 | -52 | 10 | 14 | | W | <1 | 0 | 0 | 0 | 0 |
| 02/19/92 | WE | 1607 | -27 | 0 | | | | <1 | 0 | 0 | 0 | 0 |
| 02/27/92 | TH | 1241 | 0 | 0 | 24 | 2 | W | <1 | 0 | 0 | 0 | 0 |
| 02/28/92 | FR | 1317 | -9 | 30 | 23 | 2 | W | <1 | 0 | 0 | 0 | 0 |
| 02/29/92 | SA | 1346 | 122 | 90 | | | | | 10 | 2 | 0 | 12 |
| 03/01/92 | SU | 1411 | -15 | 100 | 17 | 4 | S | <1 | 0 | 0 | 0 | 0 |
| 03/13/92 | FR | 1145 | -12 | 0 | 21 | 2 | W | <1 | 0 | 0 | 0 | 0 |
| 03/14/92 | SA | 1232 | -24 | 60 | 16 | 4 | WNW | <1 | 0 | 0 | 0 | 0 |
| 03/15/92 | SU | 1312 | -30 | 10 | 21 | 3 | W | <1 | 0 | 0 | 0 | 0 |
| 03/17/92 | TU | 1425 | -27 | 0 | 18 | | W | <1 | 8 | 0 | 0 | 8 |
| 03/19/92 | TH | 1531 | 0 | 20 | 18 | 3 | SW | <1 | 0 | 0 | 0 | 0 |
| 04/03/92 | FR | 1458 | -6 | 65 | 19 | 3 | W | <1 | 0 | 0 | 0 | 0 |
| 04/04/92 | SA | 1523 | -12 | 85 | 19 | 3 | W | <1 | 0 | 0 | 0 | 0 |
| 04/11/92 | SA | 1204 | -6 | | | | | | 57 | 12 | 0 | 69 |
| 04/12/92 | SU | 1253 | -12 | 5 | 21 | | W | <1 | 40 | 13 | 8 | 61 |
| 04/13/92 | MO | 1335 | -12 | 10 | 21 | | W | <1 | 55 | 5 | 0 | 60 |
| 05/09/92 | SA | 1017 | -3 | 100 | 20 | 3 | SW | >1 | 23 | 0 | 0 | 23 |
| 11/09/92 | MO | 1449 | -15 | 5 | 21 | 2 | W | <1 | 92 | 14 | 11 | 117 |
| 11/10/92 | TU | 1525 | -21 | 0 | 21 | 3 | WNW | <1 | 24 | 11 | 0 | 35 |
| 11/11/92 | WE | 1604 | -24 | 0 | 20 | 4 | WNW | <1 | 50 | 0 | 9 | 59 |
| 11/20/92 | FR | 1237 | 0 | 10 | 18 | 4 | W | >1 | 25 | 0 | 0 | 25 |
| 11/21/92 | SA | 1325 | -21 | 75 | 20 | 3 | W | >1 | 29 | 27 | 6 | 62 |
| 11/23/92 | MO | 1452 | -30 | 5 | | 1 | W | <1 | 25 | 17 | 23 | 65 |

**BEAUFORT SCALE OF WIND/SEA CONDITIONS**

| Beaufort Scale | Wind (knots) | Sea Conditions |
|---|---|---|
| 0 | 0-1 | Smooth; mirror-like |
| 1 | 1-3 | Small ripples w/o foam crests |
| 2 | 4-6 | Sm wavelets w/o breaking crests |
| 3 | 7-10 | Lg wavelets w/ breaking crests |
| 4 | 11-16 | Sm waves w/ white foam crests |
| 5 | 17-21 | Mod waves w/ many foam crests |
| 6 | 22-27 | Lg waves with extensive white foam crests and some spray |
| 7 | 28-33 | Sea heaps up; white foam from breaking waves blown in streaks |
| 8 | 34-40 | Highest waves of greater length; crest edges break into spindrift |

| | | AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|
| SPRING | # OF COUNT | 30 | 30 | 30 | 30 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 327 | 39 | 24 | 384 |
| | MEAN # | 32.9 | 5.0 | 1.9 | 39.7 |
| | ST DEV | 66.2 | 10.1 | 5.1 | 79.2 |
| | TOTAL # | 986 | 149 | 56 | 1191 |
| | % ALL AREA | 82.8 | 12.5 | 4.7 | 100.0 |
| FALL | # OF COUNT | 6 | 6 | 6 | 6 |
| | MINIMUM # | 24 | 0 | 0 | 25 |
| | MAXIMUM # | 92 | 27 | 23 | 117 |
| | MEAN # | 40.8 | 11.5 | 8.2 | 60.5 |
| | ST DEV | 26.9 | 10.4 | 8.6 | 32.0 |
| | TOTAL # | 245 | 69 | 49 | 363 |
| | % ALL AREA | 67.5 | 19.0 | 13.5 | 100.0 |
| ALL | # OF COUNT | 36 | 36 | 36 | 36 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 327 | 39 | 24 | 384 |
| | MEAN # | 34.2 | 6.1 | 2.9 | 43.2 |
| | ST DEV | 61.2 | 10.3 | 6.1 | 73.5 |
| | TOTAL # | 1231 | 218 | 105 | 1554 |
| | % ALL AREA | 79.2 | 14.0 | 6.8 | 100.0 |

## Table 4. Public Use of the Cabrillo National Monument Intertidal Zone in 1993.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIND DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 03/06/93 | SA | 1406 | -30 | 0 | | 3 | W | >1 | 118 | 141 | 20 | 279 |
| 09/15/93 | WE | 1528 | -12 | | 22 | | | | 36 | 2 | 0 | 38 |
| 09/18/93 | SA | 1755 | -12 | 0 | 24 | 1 | W | <1 | 21 | 0 | 0 | 21 |
| 09/29/93 | WE | 1528 | 18 | 0 | 23 | 2 | NNW | <1 | 18 | 0 | 0 | 18 |
| 09/30/93 | TH | 1558 | 15 | 0 | 22 | 2 | WNW | <1 | 28 | 0 | 0 | 28 |
| 10/12/93 | TU | 1348 | 18 | 5 | | 4 | NW | >1 | 34 | 0 | 0 | 34 |
| 10/13/93 | WE | 1434 | -6 | | 19 | 3 | W | >1 | 62 | 25 | 1 | 88 |
| 10/14/93 | TH | 1519 | -24 | | 20 | 3 | | | 63 | 45 | 17 | 125 |
| 10/15/93 | FR | 1606 | -34 | 60 | 20 | 3 | W | >1 | 22 | 16 | 9 | 47 |
| 10/16/93 | SA | 1654 | -37 | 75 | 20 | 1 | W | >1 | 37 | 22 | 3 | 62 |
| 10/17/93 | SU | 1745 | -30 | 55 | 18 | 3 | SW | <1 | 70 | 5 | 0 | 75 |
| 10/27/93 | WE | 1444 | 15 | 100 | 26 | 3 | W | >1 | 36 | 4 | 0 | 40 |
| 10/28/93 | TH | 1515 | 3 | 20 | 22 | 3 | WNW | <1 | 7 | 0 | 0 | 7 |
| 10/29/93 | FR | 1545 | -3 | 65 | 21 | 1 | W | >1 | 47 | 5 | 0 | 52 |
| 10/30/93 | SA | 1617 | -6 | 60 | 19 | 4 | NW | <1 | 51 | 18 | 0 | 69 |
| 10/31/93 | SU | 1550 | -6 | 80 | | 3 | SW | <1 | 53 | 0 | 4 | 57 |
| 11/02/93 | TU | 1705 | 0 | 0 | 23 | 3 | W | <1 | 8 | 0 | 0 | 8 |
| 11/11/93 | TH | 1328 | -24 | 70 | 18 | 5 | W | >1 | 50 | 11 | 11 | 72 |
| 11/13/93 | SA | 1500 | -49 | 25 | 21 | 4 | W | <1 | 9 | 62 | 120 | 191 |
| 11/15/93 | MO | 1634 | -43 | 0 | 17 | 4 | NW | >1 | 0 | 27 | 4 | 31 |
| 11/16/93 | TU | 1723 | -30 | 10 | 13 | 4 | NW | | 33 | 0 | 0 | 33 |
| 11/25/93 | TH | 1330 | 6 | 0 | 21 | | W | <1 | 63 | 11 | 0 | 74 |
| 11/26/93 | FR | 1403 | -3 | 0 | 21 | 2 | W | <1 | 89 | 20 | 2 | 111 |
| 11/28/93 | SU | 1507 | -18 | | 19 | | | | 56 | 7 | 10 | 73 |
| 11/29/93 | MO | 1540 | -21 | 10 | 21 | | W | <1 | 28 | 4 | 0 | 32 |
| 11/30/93 | TU | 1615 | -21 | 10 | | 3 | W | >1 | 12 | 6 | 1 | 19 |
| 12/01/93 | WE | 1652 | -18 | 10 | | | W | <1 | 12 | 0 | 0 | 12 |
| 12/02/93 | TH | 1732 | -15 | 0 | 21 | 3 | W | >1 | 10 | 0 | 0 | 10 |
| 12/09/93 | TH | 1236 | -9 | 0 | 18 | 4 | W | >1 | 10 | 0 | 0 | 10 |
| 12/10/93 | FR | 1325 | -30 | 70 | 16 | 1 | W | >1 | 37 | 3 | 3 | 43 |
| 12/11/93 | SA | 1411 | -46 | 100 | 14 | 4 | W | >1 | 25 | 8 | 4 | 37 |
| 12/12/93 | SU | 1456 | -52 | 25 | 14 | 3 | N | >1 | 52 | 83 | 43 | 178 |
| 12/13/93 | MO | 1538 | -52 | 0 | 15 | 3 | NW | >1 | 35 | 15 | 0 | 50 |
| 12/14/93 | TU | 1620 | -46 | 90 | 13 | 3 | WSW | >1 | 23 | 0 | 2 | 25 |
| 12/15/93 | WE | 1701 | -34 | 45 | 14 | 4 | W | >1 | 10 | 0 | 0 | 10 |
| 12/16/93 | TH | 1742 | -18 | 30 | 20 | 2 | W | | 0 | 2 | 0 | 2 |
| 12/24/93 | FR | 1316 | 6 | 50 | 21 | 3 | W | >1 | 68 | 4 | 4 | 76 |
| 12/26/93 | SU | 1422 | -18 | 60 | 16 | 2 | NW | <1 | 62 | 38 | 10 | 110 |
| 12/27/93 | MO | 1454 | -27 | 0 | 24 | | W | <1 | 102 | 30 | 0 | 132 |
| 12/28/93 | TU | 1526 | -34 | 0 | 20 | 4 | W | <1 | 19 | 29 | 103 | 151 |
| 12/29/93 | WE | 1559 | -34 | 0 | 26 | | W | <1 | 85 | 8 | 0 | 93 |
| 12/30/93 | TH | 1632 | -34 | 0 | 17 | 4 | SW | >1 | 115 | 15 | 111 | 241 |
| 12/31/93 | FR | 1708 | -24 | 10 | 18 | 3 | W | >1 | 75 | 11 | 0 | 86 |

### BEAUFORT SCALE OF WIND/SEA CONDITIONS

| Beaufort Scale | Wind (knots) | Sea Conditions |
|---|---|---|
| 0 | 0-1 | Smooth; mirror-like |
| 1 | 1-3 | Small ripples w/o foam crests |
| 2 | 4-6 | Sm wavelets w/o breaking crests |
| 3 | 7-10 | Lg wavelets w/ breaking crests |
| 4 | 11-16 | Sm waves w/ white foam crests |
| 5 | 17-21 | Mod waves w/ many foam crests |
| 6 | 22-27 | Lg waves with extensive white foam crests and some spray |
| 7 | 28-33 | Sea heaps up; white foam from breaking waves blown in streaks |
| 8 | 34-40 | Highest waves of greater length; crest edges break into spindrift |

| | | AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|
| SPRING | # OF COUNTS | 1 | 1 | 1 | 1 |
| | MINIMUM # | 118 | 141 | 20 | 279 |
| | MAXIMUM # | 118 | 141 | 20 | 279 |
| | MEAN # | 118.0 | 141.0 | 20.0 | 279.0 |
| | ST DEV | | | | |
| | TOTAL # | 118 | 141 | 20 | 279 |
| | % ALL AREAS | 42.3 | 50.5 | 7.2 | 100.0 |
| FALL | # OF COUNTS | 42 | 42 | 42 | 42 |
| | MINIMUM # | 0 | 0 | 0 | 2 |
| | MAXIMUM # | 115 | 83 | 120 | 241 |
| | MEAN # | 39.8 | 12.8 | 11.0 | 63.6 |
| | ST DEV | 28.3 | 17.8 | 29.2 | 54.3 |
| | TOTAL # | 1673 | 536 | 462 | 2671 |
| | % ALL AREAS | 62.6 | 20.1 | 17.3 | 100.0 |
| ALL | # OF COUNTS | 43 | 43 | 43 | 43 |
| | MINIMUM # | 0 | 0 | 0 | 2 |
| | MAXIMUM # | 118 | 141 | 120 | 279 |
| | MEAN # | 41.7 | 15.7 | 11.2 | 68.6 |
| | ST DEV | 30.4 | 26.3 | 28.9 | 62.9 |
| | TOTAL # | 1791 | 677 | 482 | 2950 |
| | % ALL AREAS | 60.7 | 22.9 | 16.3 | 100.0 |

## Table 5. Public Use of the Cabrillo National Monument Intertidal Zone in 1994.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIND DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/07/94 | FR | 1234 | -12 | 5 | 17 | 4 | NW | <1 | 26 | 3 | 7 | 36 |
| 01/08/94 | SA | 1323 | -30 | 10 | | | | <1 | 89 | 17 | 36 | 142 |
| 01/09/94 | SU | 1407 | -43 | 10 | 20 | | W | <1 | 52 | 4 | 0 | 56 |
| 01/10/94 | MO | 1447 | -49 | 0 | 20 | | W | <1 | 80 | 5 | 0 | 85 |
| 01/11/94 | TU | 1525 | -46 | 0 | 21 | 3 | NW | <1 | 18 | 17 | 0 | 35 |
| 01/12/94 | WE | 1559 | -40 | 0 | 20 | 2 | W | <1 | 38 | 6 | 2 | 46 |
| 01/13/94 | TH | 1632 | -30 | 20 | 18 | 3 | W | <1 | 20 | 2 | 0 | 22 |
| 01/14/94 | FR | 1703 | -15 | 0 | 21 | | W | <1 | 15 | 0 | 0 | 15 |
| 01/23/94 | SU | 1330 | -6 | 0 | 26 | | W | <1 | 45 | 7 | 0 | 52 |
| 01/24/94 | MO | 1401 | -21 | | 21 | | W | <1 | 40 | 0 | 0 | 40 |
| 01/25/94 | TU | 1432 | -30 | | 15 | 5 | W | >1 | 71 | 0 | 0 | 71 |
| 01/27/94 | TH | 1534 | -40 | | 20 | 3 | W | <1 | 32 | 11 | 0 | 43 |
| 01/28/94 | FR | 1606 | -34 | 0 | 14 | 3 | WNW | <1 | 41 | 0 | 0 | 41 |
| 01/29/94 | SA | 1639 | -24 | 0 | 13 | 3 | W | <1 | 45 | 11 | 1 | 57 |
| 01/30/94 | SU | 1714 | -9 | 0 | 20 | 1 | W | <1 | 54 | 5 | 5 | 64 |
| 02/05/94 | SA | 1226 | -15 | 3 | 20 | 3 | W | <1 | 46 | 6 | 0 | 52 |
| 02/06/94 | SU | 1314 | -27 | 0 | 21 | 0 | | >1 | 74 | 16 | 3 | 93 |
| 02/07/94 | MO | 1355 | -34 | 100 | | 7 | WNW | <1 | 0 | 0 | 0 | 0 |
| 02/08/94 | TU | 1430 | -37 | 75 | 16 | 4 | W | >1 | 22 | 1 | 1 | 24 |
| 02/09/94 | WE | 1502 | -34 | | 16 | 3 | W | >1 | 20 | 4 | 2 | 26 |
| 02/11/94 | FR | 1558 | -15 | | 16 | 3 | W | <1 | 53 | 0 | 0 | 53 |
| 02/13/94 | SU | 1647 | 9 | 50 | 20 | 3 | W | <1 | 111 | 5 | 5 | 121 |
| 02/22/94 | TU | 1328 | -18 | 25 | 21 | 3 | W | >1 | 46 | 21 | 0 | 67 |
| 02/24/94 | TH | 1430 | -34 | 0 | 20 | 3 | W | >1 | 32 | 16 | 11 | 59 |
| 02/26/94 | SA | 1535 | -24 | 50 | 21 | 3 | W | <1 | 52 | 64 | 0 | 116 |
| 02/28/94 | MO | 1643 | 3 | 0 | 20 | 4 | W | <1 | 17 | 3 | 0 | 20 |
| 03/05/94 | SA | 1103 | 0 | 100 | 17 | 1 | W | <1 | 49 | 8 | 0 | 57 |
| 03/06/94 | SU | 1204 | -9 | 99 | 18 | 3 | SW | >1 | 43 | 5 | 0 | 48 |
| 03/07/94 | MO | 1252 | -18 | 100 | 18 | 3 | S | >1 | 0 | 9 | 8 | 17 |
| 03/08/94 | TU | 1330 | -21 | 98 | 21 | 2 | W | >1 | 17 | 0 | 1 | 18 |
| 03/09/94 | WE | 1403 | -21 | 0 | 19 | 4 | WNW | <1 | 32 | 5 | 1 | 38 |
| 03/10/94 | TH | 1431 | -15 | 80 | 17 | 3 | NW | <1 | 25 | 17 | 0 | 42 |
| 03/11/94 | FR | 1457 | -9 | 10 | 20 | 3 | WNW | >1 | 25 | 0 | 0 | 25 |
| 03/12/94 | SA | 1520 | 0 | 0 | 21 | 3 | NW | >1 | 58 | 33 | 3 | 94 |
| 03/13/94 | SU | 1543 | 0 | 0 | 26 | 1 | W | >1 | 131 | 20 | 6 | 157 |
| 03/14/94 | MO | 1605 | 24 | 0 | 24 | 5 | W | >1 | 36 | 0 | 0 | 36 |
| 03/21/94 | MO | 1125 | 12 | 0 | 18 | 4 | WNW | <1 | 72 | 0 | 0 | 72 |
| 03/22/94 | TU | 1208 | 0 | 75 | 18 | 7 | W | >1 | 37 | 0 | 0 | 37 |
| 03/23/94 | WE | 1245 | -9 | 10 | 20 | 2 | W | <1 | 47 | 3 | 0 | 50 |
| 03/24/94 | TH | 1319 | -15 | | 17 | 4 | | >1 | 58 | 2 | 0 | 60 |
| 03/26/94 | SA | 1427 | -15 | 0 | 16 | 3 | WSW | >1 | 109 | 14 | 6 | 129 |
| 03/27/94 | SU | 1503 | -6 | 0 | 16 | 3 | W | >1 | 123 | 48 | 11 | 182 |
| 03/28/94 | MO | 1530 | 6 | 90 | 17 | 3 | W | <1 | 52 | 14 | 0 | 66 |
| 04/02/94 | SA | 0907 | 0 | 98 | 17 | 1 | N | <1 | 41 | 0 | 0 | 41 |
| 04/03/94 | SU | 1125 | 0 | 90 | | 3 | W | >1 | 37 | 0 | 0 | 37 |
| 04/07/94 | TH | 1325 | 3 | 99 | 18 | 2 | WNW | <1 | 17 | 0 | 3 | 20 |
| 04/09/94 | SA | 1514 | 15 | 20 | 17 | 6 | W | >1 | 48 | 2 | 0 | 50 |
| 04/23/94 | SA | 1313 | -6 | 30 | 20 | 3 | W | >1 | 67 | 5 | 0 | 72 |
| 04/24/94 | SU | 1453 | 9 | 7.5 | 19 | 6 | W | >1 | 23 | 2 | 0 | 25 |
| 04/25/94 | MO | 1532 | 15 | 100 | 16 | 5 | W | >1 | 0 | 0 | 0 | 0 |
| 05/01/94 | SU | 0926 | -6 | 100 | 21 | 0 | | <1 | 12 | 1 | 0 | 13 |
| 05/02/94 | MO | 1035 | 3 | 25 | | 2 | W | <1 | 19 | 0 | 0 | 19 |
| 06/13/94 | MO | 1831 | 76 | 20 | 18 | 4 | NW | <1 | 12 | 4 | 0 | 16 |
| 09/06/94 | TU | 1627 | 9 | 0 | 22 | 3 | W | <1 | 10 | 0 | 0 | 10 |
| 09/19/94 | MO | 1554 | 15 | 35 | 21 | 3 | W | <1 | 3 | 1 | 4 | 8 |
| 09/20/94 | TU | 1628 | 15 | 0 | 25 | 3 | W | <1 | 0 | 0 | 1 | 1 |
| 10/03/94 | MO | 1451 | 6 | 100 | 21 | 2 | W | <1 | 12 | 0 | 0 | 12 |
| 10/04/94 | TU | 1533 | -9 | 95 | 20 | 4 | S | <1 | 22 | 7 | 0 | 29 |
| 10/05/94 | WE | 1617 | -21 | 10 | 22 | 3 | W | <1 | 27 | 0 | 5 | 32 |
| 10/06/94 | TH | 1705 | -24 | 0 | | 3 | W | <1 | 37 | 12 | 0 | 49 |
| 10/17/94 | MO | 1510 | 6 | 0 | | | | | 17 | 7 | 1 | 25 |
| 10/18/94 | TU | 1542 | 0 | | 22 | 3 | WNW | <1 | 8 | 0 | 5 | 13 |
| 10/19/94 | WE | 1619 | 0 | 0 | 18 | 4 | W | <1 | 25 | 4 | 2 | 31 |
| 11/01/94 | YU | 1339 | -15 | 40 | | | N | >1 | 62 | 1 | 3 | 66 |

## Table 5. Public Use of the Cabrillo National Monument Intertidal Zone in 1994.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIND DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/02/94 | WE | 1424 | -30 | | 18 | 2 | SE | <1 | 44 | 1 | 3 | 48 |
| 11/03/94 | TH | 1509 | -43 | 50 | 21 | 4 | WNW | >1 | 44 | 36 | 40 | 120 |
| 11/04/94 | FR | 1557 | -46 | 25 | 21 | 3 | WNW | >1 | 49 | 4 | 0 | 53 |
| 11/05/94 | SA | 1648 | -43 | 2 | 22 | 3 | W | <1 | 55 | 10 | 15 | 80 |
| 11/13/94 | SU | 1247 | 21 | 0 | 19 | 3 | WNW | <1 | 34 | 2 | 0 | 36 |
| 11/14/94 | MO | 1325 | 9 | 0 | 20 | 3 | W | <1 | 12 | 1 | 1 | 14 |
| 11/16/94 | WE | 1431 | 9 | 35 | 22 | 4 | NW | <1 | 17 | 0 | 0 | 17 |
| 11/17/94 | TH | 1503 | -12 | 70 | 16 | 4 | W | >1 | 11 | 20 | 5 | 36 |
| 11/18/94 | FR | 1534 | -12 | 25 | 17 | 4 | WNW | >1 | 35 | 0 | 0 | 35 |
| 11/19/94 | SA | 1606 | -12 | 0 | 16 | 3 | W | <1 | 50 | 2 | 1 | 53 |
| 11/20/94 | SU | 1640 | -6 | 5 | 18 | 2 | WNW | <1 | 67 | 22 | 6 | 95 |
| 11/29/94 | TU | 1245 | -34 | 0 | 28 | 2 | NW | <1 | 15 | 13 | 1 | 29 |
| 11/30/94 | WE | 1331 | -40 | 0 | 25 | 4 | NW | <1 | 34 | 6 | 1 | 41 |
| 12/01/94 | TH | 1417 | -46 | 0 | 19 | 1 | W | <1 | 19 | 3 | 0 | 22 |
| 12/02/94 | FR | 1503 | -58 | 20 | 21 | 2 | SW | <1 | 70 | 43 | 7 | 120 |
| 12/03/94 | SA | 1550 | -58 | 75 | | | | <1 | 67 | 68 | 20 | 155 |
| 12/04/94 | SU | 1637 | -52 | | | | | | 94 | 53 | 26 | 173 |
| 12/05/94 | MO | 1725 | -40 | 50 | 19 | 2 | NW | <1 | 18 | 5 | 3 | 26 |
| 12/13/94 | TU | 1314 | 6 | 75 | 16 | 3 | W | >1 | 5 | 3 | 0 | 8 |
| 12/15/94 | TH | 1421 | -12 | 20 | 16 | 3 | WNW | <1 | 11 | 0 | 0 | 11 |
| 12/16/94 | FR | 1453 | -18 | 10 | 17 | 4 | NW | >1 | 23 | 0 | 0 | 23 |
| 12/17/94 | SA | 1522 | -21 | 20 | 16 | 2 | WNW | >1 | 71 | 28 | 3 | 102 |
| 12/18/94 | SU | 1553 | -21 | 2 | 14 | 2 | W | >1 | 29 | 8 | 0 | 37 |
| 12/19/94 | MO | 1625 | -18 | 20 | 17 | 4 | NW | >1 | 19 | 0 | 0 | 19 |
| 12/20/94 | TU | 1655 | -30 | 90 | 18 | 1 | NW | >1 | 16 | 0 | 0 | 16 |
| 12/27/94 | TU | 1142 | 15 | 40 | 16 | 1 | SW | >1 | 34 | 2 | 1 | 37 |
| 12/29/94 | TH | 1326 | -34 | 35 | 17 | 3 | WNW | <1 | 80 | 17 | 20 | 117 |
| 12/31/94 | SA | 1455 | -58 | 80 | 20 | 3 | NW | <1 | 109 | 40 | 20 | 169 |

**BEAUFORT SCALE OF WIND/SEA CONDITIONS**

| Beaufort Scale | Wind (knots) | Sea Conditions |
|---|---|---|
| 0 | 0-1 | Smooth; mirror-like |
| 1 | 1-3 | Small ripples w/o foam crests |
| 2 | 4-6 | Sm wavelets w/o breaking crests |
| 3 | 7-10 | Lg wavelets w/ breaking crests |
| 4 | 11-16 | Sm waves w/ white foam crests |
| 5 | 17-21 | Mod waves w/ many foam crests |
| 6 | 22-27 | Lg waves with extensive white foam crests and some spray |
| 7 | 28-33 | Sea heaps up; white foam from breaking waves blown in streaks |
| 8 | 34-40 | Highest waves of greater length; crest edges break into spindrift |

| | | AREA I | AREA II | AREA III | ALL |
|---|---|---|---|---|---|
| SPRING | # OF COUNT | 53 | 53 | 53 | 53 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 131 | 64 | 36 | 182 |
| | MEAN # | 43.9 | 7.8 | 2.1 | 53.9 |
| | ST DEV | 29.6 | 12.1 | 5.5 | 38.7 |
| | TOTAL # | 2329 | 416 | 112 | 2857 |
| | % ALL AREA | 81.5 | 14.6 | 3.9 | 100.0 |
| FALL | # OF COUNT | 39 | 39 | 39 | 39 |
| | MINIMUM # | 0 | 0 | 0 | 1 |
| | MAXIMUM # | 109 | 68 | 40 | 173 |
| | MEAN # | 34.7 | 10.7 | 5.0 | 50.5 |
| | ST DEV | 26.5 | 16.5 | 8.8 | 46.5 |
| | TOTAL # | 1355 | 419 | 194 | 1968 |
| | % ALL AREA | 68.9 | 21.3 | 9.9 | 100.0 |
| ALL | # OF COUNT | 92 | 92 | 92 | 92 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 131 | 68 | 40 | 182 |
| | MEAN # | 40.0 | 9.1 | 3.3 | 52.4 |
| | ST DEV | 28.6 | 14.1 | 7.2 | 42.0 |
| | TOTAL # | 3684 | 835 | 306 | 4825 |
| | % ALL AREA | 76.4 | 17.3 | 6.3 | 100.0 |

## Table 6. Public Use of the Cabrillo National Monument Intertidal Zone in 1995.

Date were collected whenever possible within 30 minutes of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| DATE | DAY OF WEEK | LOW TIDE TIME | TIDE HT (cm) MLLW | CLOUD COVER (%) | AIR TEMP (°C) | SEA COND (BEAUFORT) | WIND DIR | WAVE HT (m) | PEOPLE COUNTS AREA I # | AREA II # | AREA III # | ALL # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01/01/95 | SU | 1538 | -58 | 0 | 18 | 1 | WNW | >1 | 160 | 34 | 12 | 206 |
| 01/02/95 | MO | 1619 | -52 | 60 | 17 | 3 | WSW | >1 | 118 | 38 | 11 | 167 |
| 01/14/95 | SA | 1436 | -18 | 96 | 18 | 3 | WNW | >1 | 48 | 2 | 3 | 53 |
| 01/16/95 | MO | 1532 | -24 | 90 | 11 | 4 | W | >1 | 48 | 18 | 0 | 66 |
| 01/17/95 | TU | 1600 | -24 | 55 | 18 | 5 | NW | >1 | 17 | 5 | 1 | 23 |
| 01/18/95 | WE | 1628 | -18 | 5 | 20 | 4 | W | >1 | 13 | 0 | 0 | 13 |
| 01/27/95 | FR | 1318 | -34 | 80 | | | W | | 47 | 31 | 18 | 96 |
| 01/29/95 | SU | 1441 | -52 | 100 | 19 | 4 | W | >1 | 31 | 19 | 6 | 56 |
| 01/30/95 | MO | 1519 | -49 | 20 | 21 | 1 | W | | 21 | 12 | 5 | 38 |
| 01/31/95 | TU | 1555 | -43 | 0 | 24 | 4 | NW | >1 | 26 | 6 | 3 | 35 |
| 02/10/95 | FR | 1309 | 3 | 25 | | | W | >1 | 29 | 0 | 0 | 29 |
| 02/11/95 | SA | 1340 | -6 | 40 | 18 | 3 | SW | >1 | 84 | 7 | 0 | 91 |
| 02/13/95 | MO | 1435 | -21 | 100 | 15 | 1 | W | <1 | 13 | 8 | 0 | 21 |
| 02/14/95 | TU | 1502 | -24 | 100 | 16 | 3 | W | <1 | 12 | 11 | 3 | 26 |
| 02/15/95 | WE | 1529 | -21 | 0 | 18 | 3 | W | <1 | 38 | 5 | 23 | 66 |
| 02/16/95 | TH | 1557 | -15 | 90 | 18 | 0 | | <1 | 46 | 0 | 0 | 46 |
| 02/23/95 | TH | 1113 | 0 | | | | | >1 | 36 | 3 | 0 | 39 |
| 02/24/95 | FR | 1213 | 15 | 100 | 18 | 3 | W | <1 | 13 | 1 | 2 | 16 |
| 02/25/95 | SA | 1301 | -27 | 85 | 16 | 3 | WNW | <1 | 64 | 16 | 3 | 83 |
| 02/26/95 | SU | 1342 | -34 | 95 | | 2 | W | >1 | 103 | 29 | 13 | 145 |
| 02/27/95 | MO | 1419 | -37 | 100 | 18 | 2 | W | >1 | 77 | 4 | 0 | 81 |
| 02/28/95 | TU | 1453 | -34 | 40 | 18 | 2 | W | <1 | 21 | 7 | 0 | 28 |
| 03/01/95 | WE | 1524 | -21 | 20 | 17 | 3 | W | >1 | 27 | 2 | 0 | 29 |
| 03/02/95 | TH | 1554 | -9 | 100 | 16 | 4 | S | <1 | 16 | 5 | 2 | 23 |
| 03/13/95 | MO | 1328 | -9 | 10 | 17 | 3 | WNW | >1 | 57 | 1 | 0 | 58 |
| 03/14/95 | TU | 1357 | -12 | 0 | 17 | 5 | NW | >1 | 57 | 5 | 0 | 62 |
| 03/15/95 | WE | 1425 | 0 | 1 | 19 | 5 | W | >1 | 28 | 20 | 0 | 48 |
| 03/16/95 | TH | 1453 | -12 | 85 | 21 | 0 | W | <1 | 51 | 13 | 0 | 64 |
| 03/17/95 | FR | 1524 | -3 | 0 | 20 | 3 | W | <1 | 57 | 2 | 0 | 59 |
| 03/24/95 | FR | 1045 | -12 | 60 | | 5 | W | >1 | 53 | 0 | 0 | 53 |
| 03/26/95 | SU | 1234 | -12 | 0 | 19 | | | | 56 | 4 | 0 | 60 |
| 03/28/95 | TU | 1349 | -15 | 0 | 19 | 2 | | <1 | 65 | 30 | 32 | 127 |
| 03/29/95 | WE | 1421 | -9 | 10 | 20 | 4 | W | <1 | 24 | 23 | 0 | 47 |
| 03/30/95 | TH | 245 | 0 | 25 | 24 | 3 | NW | <1 | 42 | 16 | 2 | 60 |
| 04/12/95 | WE | 1411 | 0 | 25 | 22 | 3 | NW | >1 | 54 | 10 | 5 | 69 |
| 04/21/95 | FR | 954 | 0 | | | | | | 8 | 5 | 4 | 17 |
| 05/20/95 | SA | 917 | -9 | 100 | 15 | 0 | | >1 | 13 | 1 | 2 | 16 |
| 05/21/95 | SU | 1020 | 3 | | 19 | | | | 36 | 0 | 0 | 36 |
| 05/22/95 | MO | 1119 | 12 | 95 | 17 | 2 | WSW | <1 | 56 | 0 | 0 | 56 |
| 06/18/95 | SU | 833 | 0 | 0 | 22 | 1 | NNW | >1 | 0 | 0 | 0 | 0 |
| 09/09/95 | SA | 1616 | -9 | 0 | 23 | 4 | W | <1 | 84 | 0 | 0 | 64 |
| 09/10/95 | SU | 1657 | 9 | 5 | 27 | 4 | NW | <1 | 49 | 0 | 0 | 49 |
| 09/24/95 | SU | 1554 | 9 | 0 | 23 | 4 | WNW | >1 | 66 | 7 | 0 | 73 |
| 09/25/95 | MO | 1633 | 3 | 15 | 22 | 5 | WNW | >1 | 25 | 0 | 0 | 25 |
| 10/05/95 | TH | 1403 | 24 | 0 | 24 | | S | >1 | 0 | 0 | 0 | 0 |
| 10/06/95 | FR | 1446 | 9 | 40 | 24 | 3 | WSW | <1 | 15 | 4 | 0 | 19 |
| 10/08/95 | SU | 1604 | -6 | 40 | 21 | 4 | W | <1 | 80 | 26 | 0 | 106 |
| 10/09/95 | MO | 1641 | -6 | 20 | | | | >1 | 23 | 4 | 0 | 27 |
| 10/22/95 | SU | 1503 | 0 | 0 | 22 | 2 | NW | <1 | 93 | 16 | 7 | 116 |

**BEAUFORT SCALE OF WIND/SEA CONDITIONS**

| Beaufort Scale | Wind (knots) | Sea Conditions |
|---|---|---|
| 0 | 0-1 | Smooth; mirror-like |
| 1 | 1-3 | Small ripples w/o foam crests |
| 2 | 4-6 | Sm wavelets w/o breaking crests |
| 3 | 7-10 | Lg wavelets w/ breaking crests |
| 4 | 11-16 | Sm waves w/ white foam crests |
| 5 | 17-21 | Mod waves w/ many foam crests |
| 6 | 22-27 | Lg waves with extensive white foam crests and some spray |
| 7 | 28-33 | Sea heaps up; white foam from breaking waves blown in streaks |
| 8 | 34-40 | Highest waves of greater length; crest edges break into spindrift |

| | | | | | |
|---|---|---|---|---|---|
| SPRING | # OF COUNTS | 40 | 40 | 40 | 40 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 160 | 38 | 32 | 206 |
| | MEAN # | 44.1 | 9.8 | 3.8 | 57.7 |
| | ST DEV | 31.8 | 10.7 | 7.0 | 42.5 |
| | TOTAL # | 1765 | 393 | 150 | 2308 |
| | % ALL AREAS | 76.5 | 17.0 | 6.5 | 100.0 |
| FALL | # OF COUNTS | 9 | 9 | 9 | 9 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 93 | 26 | 7 | 116 |
| | MEAN # | 48.3 | 6.3 | 0.8 | 55.4 |
| | ST DEV | 33.9 | 9.0 | 2.3 | 41.1 |
| | TOTAL # | 435 | 57 | 7 | 499 |
| | % ALL AREAS | 87.2 | 11.4 | 1.4 | 100.0 |
| ALL | # OF COUNTS | 49 | 49 | 49 | 49 |
| | MINIMUM # | 0 | 0 | 0 | 0 |
| | MAXIMUM # | 160 | 38 | 32 | 206 |
| | MEAN # | 44.9 | 9.2 | 3.2 | 57.3 |
| | ST DEV | 31.9 | 10.4 | 6.5 | 41.6 |
| | TOTAL # | 2200 | 450 | 157 | 2807 |
| | % ALL AREAS | 78.4 | 16.0 | 5.6 | 100.0 |

# Table 7. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1990.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 02/08 | 6 | 4 | 0 | 10 | 3 | 11 | 0 | 14 | 15 | 92 | 0 | 107 | 24 | 107 | 0 | 131 |
| 02/10 | 0 | 1 | 0 | 1 | 6 | 7 | 11 | 24 | 9 | 18 | 14 | 41 | 15 | 26 | 25 | 66 |
| 11/28 | 2 | 3 | 3 | 8 | 2 | 19 | 5 | 26 | 0 | 4 | 0 | 4 | 4 | 26 | 8 | 38 |
| 11/29 | 5 | 5 | 1 | 11 | 1 | 14 | 4 | 19 | 9 | 51 | 200 | 260 | 15 | 70 | 205 | 290 |
| 11/30 | 1 | 14 | 17 | 32 | 5 | 10 | 15 | 30 | 3 | 19 | 22 | 44 | 9 | 43 | 54 | 106 |
| 12/01 | 0 | 0 | 2 | 2 | 0 | 0 | 4 | 4 | 0 | 56 | 7 | 63 | 0 | 56 | 13 | 69 |
| 12/02 | 0 | 2 | 1 | 3 | 0 | 0 | 8 | 8 | 6 | 27 | 100 | 133 | 6 | 29 | 109 | 144 |
| 12/11 | 0 | 10 | 1 | 11 | 1 | 2 | 7 | 10 | 8 | 17 | 37 | 62 | 9 | 29 | 45 | 83 |
| 12/12 | 0 | 3 | 4 | 7 | 0 | 19 | 3 | 22 | 8 | 61 | 16 | 85 | 8 | 83 | 23 | 114 |
| 12/13 | 1 | 24 | 5 | 30 | 2 | 2 | 3 | 7 | 9 | 50 | 13 | 72 | 12 | 76 | 21 | 109 |
| 12/14 | 3 | 7 | 2 | 12 | 1 | 1 | 9 | 11 | 6 | 48 | 306 | 360 | 10 | 56 | 317 | 383 |
| 12/15 | 0 | 0 | 0 | 0 | 2 | 3 | 6 | 11 | 8 | 19 | 36 | 63 | 10 | 22 | 42 | 74 |
| 12/17 | 5 | 7 | 5 | 17 | 2 | 10 | 4 | 16 | 6 | 7 | 25 | 38 | 13 | 24 | 34 | 71 |
| 12/18 | 8 | 19 | 2 | 29 | 6 | 24 | 8 | 38 | 13 | 20 | 74 | 107 | 27 | 63 | 84 | 174 |
| 12/27 | 0 | 6 | 0 | 6 | 0 | 11 | 3 | 14 | 5 | 23 | 15 | 43 | 5 | 40 | 18 | 63 |
| 12/28 | 0 | 0 | 3 | 3 | 1 | 6 | 2 | 9 | 10 | 27 | 13 | 50 | 11 | 33 | 18 | 62 |
| 12/30 | 0 | 0 | 2 | 2 | 0 | 0 | 5 | 5 | 4 | 15 | 210 | 229 | 4 | 15 | 217 | 236 |
| 12/31 | 0 | 1 | 3 | 4 | 0 | 2 | 6 | 8 | 1 | 18 | 17 | 36 | 1 | 21 | 26 | 48 |
| **SPRING** | | | | | | | | | | | | | | | | |
| # COUNTS | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| MIN # | 0 | 1 | 0 | 1 | 3 | 7 | 0 | 14 | 9 | 18 | 0 | 41 | 15 | 26 | 0 | 66 |
| MAX # | 6 | 4 | 0 | 10 | 6 | 11 | 11 | 24 | 15 | 92 | 14 | 107 | 24 | 107 | 25 | 131 |
| MEAN # | 3.0 | 2.5 | 0.0 | 5.5 | 4.5 | 9.0 | 5.5 | 19.0 | 12.0 | 55.0 | 7.0 | 74.0 | 19.5 | 66.5 | 12.5 | 98.5 |
| ST DEV | 4.2 | 2.1 | 0.0 | 6.4 | 2.1 | 2.8 | 7.8 | 7.1 | 4.2 | 52.3 | 9.9 | 46.7 | 6.4 | 57.3 | 17.7 | 46.0 |
| TOTAL # | 6 | 5 | 0 | 11 | 9 | 18 | 11 | 38 | 24 | 110 | 14 | 148 | 39 | 133 | 25 | 197 |
| % ALL AREA | 54.5 | 45.5 | 0.0 | 100.0 | 23.7 | 47.4 | 28.9 | 100.0 | 16.2 | 74.3 | 9.5 | 100.0 | 19.8 | 67.5 | 12.7 | 100.0 |
| **FALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 4 | 0 | 4 | 0 | 15 | 8 | 38 |
| MAX # | 8 | 24 | 17 | 32 | 6 | 24 | 15 | 38 | 13 | 61 | 306 | 360 | 27 | 83 | 317 | 383 |
| MEAN # | 1.6 | 6.3 | 3.2 | 11.1 | 1.4 | 7.7 | 5.8 | 14.9 | 6.0 | 28.9 | 68.2 | 103.1 | 9.0 | 42.9 | 77.1 | 129.0 |
| ST DEV | 2.4 | 7.2 | 4.0 | 10.6 | 1.8 | 7.9 | 3.2 | 9.7 | 3.7 | 18.1 | 90.8 | 97.3 | 6.4 | 21.6 | 90.8 | 97.0 |
| TOTAL # | 25 | 101 | 51 | 177 | 23 | 123 | 92 | 238 | 96 | 462 | 1091 | 1649 | 144 | 686 | 1234 | 2064 |
| % ALL AREA | 14.1 | 57.1 | 28.8 | 100.0 | 9.7 | 51.7 | 38.7 | 100.0 | 5.8 | 28.0 | 66.2 | 100.0 | 7.0 | 33.2 | 59.8 | 100.0 |
| **ALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 4 | 0 | 15 | 0 | 38 |
| MAX # | 8 | 24 | 17 | 32 | 6 | 24 | 15 | 38 | 15 | 92 | 306 | 360 | 27 | 107 | 317 | 383 |
| MEAN # | 1.7 | 5.9 | 2.8 | 10.4 | 1.8 | 7.8 | 5.7 | 15.3 | 6.7 | 31.8 | 61.4 | 99.8 | 10.2 | 45.5 | 69.9 | 125.6 |
| ST DEV | 2.6 | 6.9 | 3.9 | 10.2 | 2.0 | 7.4 | 3.6 | 9.4 | 4.1 | 22.9 | 87.6 | 92.6 | 7.1 | 25.8 | 87.9 | 92.3 |
| TOTAL # | 31 | 106 | 51 | 188 | 32 | 141 | 103 | 276 | 120 | 572 | 1105 | 1797 | 183 | 819 | 1259 | 2261 |
| % ALL AREA | 16.5 | 56.4 | 27.1 | 100.0 | 11.6 | 51.1 | 37.3 | 100.0 | 6.7 | 31.8 | 61.5 | 100.0 | 8.1 | 36.2 | 55.7 | 100.0 |

## Table 8. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1991.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 01/01 | 0 | 6 | 6 | 12 | 1 | 3 | 4 | 8 | 2 | 29 | 33 | 64 | 3 | 38 | 43 | 84 |
| 01/09 | 1 | 11 | 4 | 16 | 0 | 16 | 4 | 20 | 1 | 22 | 4 | 27 | 2 | 49 | 12 | 63 |
| 01/10 | 2 | 8 | 0 | 10 | 1 | 3 | 3 | 7 | 9 | 23 | 15 | 47 | 12 | 34 | 18 | 64 |
| 01/11 | 2 | 0 | 7 | 9 | 3 | 8 | 12 | 23 | 15 | 70 | 82 | 167 | 20 | 78 | 101 | 199 |
| 01/12 | 1 | 3 | 2 | 6 | 1 | 3 | 2 | 6 | 7 | 17 | 14 | 38 | 9 | 23 | 18 | 50 |
| 01/13 | 0 | 0 | 0 | 0 | 4 | 0 | 7 | 11 | 6 | 15 | 12 | 33 | 10 | 15 | 19 | 44 |
| 01/14 | 0 | 27 | 7 | 34 | 1 | 15 | 11 | 27 | 17 | 74 | 100 | 191 | 18 | 116 | 118 | 252 |
| 01/15 | 4 | 4 | 7 | 15 | 5 | 21 | 8 | 34 | 19 | 74 | 52 | 145 | 28 | 99 | 67 | 194 |
| 01/16 | 1 | 8 | 2 | 11 | 0 | 5 | 2 | 7 | 6 | 8 | 30 | 44 | 7 | 21 | 34 | 62 |
| 01/17 | 0 | 11 | 1 | 12 | 2 | 16 | 6 | 24 | 5 | 28 | 504 | 537 | 7 | 55 | 511 | 573 |
| 01/25 | 0 | 6 | 0 | 6 | 0 | 0 | 2 | 2 | 0 | 49 | 150 | 199 | 0 | 55 | 152 | 207 |
| 01/26 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 19 | 203 | 224 | 2 | 19 | 204 | 225 |
| 01/27 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 4 | 9 | 36 | 200 | 245 | 9 | 37 | 203 | 249 |
| 01/28 | 0 | 6 | 7 | 13 | 2 | 19 | 12 | 33 | 18 | 86 | 25 | 129 | 20 | 111 | 44 | 175 |
| 01/29 | 1 | 3 | 2 | 6 | 1 | 5 | 9 | 15 | 1 | 5 | 18 | 24 | 3 | 13 | 29 | 45 |
| 01/30 | 1 | 3 | 1 | 5 | 0 | 6 | 5 | 11 | 1 | 3 | 20 | 24 | 2 | 12 | 26 | 40 |
| 01/31 | 1 | 2 | 2 | 5 | 1 | 6 | 3 | 10 | 5 | 6 | 150 | 161 | 7 | 14 | 155 | 176 |
| 02/07 | 0 | 3 | 3 | 6 | 0 | 13 | 0 | 13 | 0 | 26 | 9 | 35 | 0 | 42 | 12 | 54 |
| 02/08 | 1 | 17 | 2 | 20 | 5 | 13 | 3 | 21 | 6 | 33 | 201 | 240 | 12 | 63 | 206 | 281 |
| 02/09 | 0 | 12 | 1 | 13 | 0 | 11 | 2 | 13 | 1 | 30 | 204 | 235 | 1 | 53 | 207 | 261 |
| 02/10 | 0 | 0 | 0 | 0 | 0 | 9 | 6 | 15 | 11 | 11 | 7 | 29 | 11 | 20 | 13 | 44 |
| 02/11 | 2 | 14 | 9 | 25 | 2 | 35 | 12 | 49 | 11 | 113 | 37 | 161 | 15 | 162 | 58 | 235 |
| 02/13 | 0 | 3 | 0 | 3 | 0 | 17 | 2 | 19 | 5 | 19 | 4 | 28 | 5 | 39 | 6 | 50 |
| 02/21 | 0 | 5 | 3 | 8 | 0 | 1 | 2 | 3 | 0 | 66 | 19 | 85 | 0 | 72 | 24 | 96 |
| 02/22 | 0 | 10 | 2 | 12 | 0 | 18 | 4 | 22 | 1 | 24 | 4 | 29 | 1 | 52 | 10 | 63 |
| 02/24 | 0 | 2 | 4 | 6 | 0 | 30 | 12 | 42 | 5 | 95 | 75 | 175 | 5 | 127 | 91 | 223 |
| 03/02 | 0 | 9 | 0 | 9 | 0 | 7 | 0 | 7 | 2 | 9 | 3 | 14 | 2 | 25 | 3 | 30 |
| 03/09 | 0 | 2 | 1 | 3 | 0 | 1 | 0 | 1 | 3 | 55 | 4 | 62 | 3 | 58 | 5 | 66 |
| 03/10 | 0 | 3 | 3 | 6 | 1 | 37 | 1 | 39 | 6 | 48 | 12 | 66 | 7 | 88 | 16 | 111 |
| 03/16 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 7 | 5 | 8 | 22 | 35 | 6 | 13 | 23 | 42 |
| 03/17 | 0 | 4 | 0 | 4 | 0 | 2 | 0 | 2 | 0 | 47 | 8 | 55 | 0 | 53 | 8 | 61 |
| 03/23 | 1 | 2 | 7 | 10 | 2 | 16 | 4 | 22 | 3 | 31 | 8 | 42 | 6 | 49 | 19 | 74 |
| 03/24 | 0 | 7 | 2 | 9 | 0 | 1 | 1 | 2 | 2 | 72 | 21 | 95 | 2 | 80 | 24 | 106 |
| 03/28 | 0 | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 4 | 37 | 12 | 53 | 4 | 44 | 12 | 60 |
| 03/31 | 0 | 2 | 1 | 3 | 0 | 5 | 5 | 10 | 1 | 37 | 51 | 89 | 1 | 44 | 57 | 102 |
| 04/08 | 0 | 0 | 0 | 0 | 2 | 18 | 3 | 23 | 1 | 22 | 2 | 25 | 3 | 40 | 5 | 48 |
| 04/10 | 0 | 0 | 2 | 2 | 0 | 7 | 2 | 9 | 2 | 20 | 39 | 61 | 2 | 27 | 43 | 72 |
| 04/14 | 0 | 1 | 3 | 4 | 0 | 6 | 7 | 13 | 0 | 59 | 150 | 209 | 0 | 66 | 160 | 226 |
| 04/21 | 0 | 0 | 3 | 3 | 0 | 2 | 2 | 4 | 1 | 22 | 28 | 51 | 1 | 24 | 33 | 58 |
| 09/02 | 0 | 2 | 1 | 3 | 0 | 21 | 58 | 79 | 1 | 11 | 2 | 14 | 1 | 34 | 61 | 96 |
| 10/20 | 0 | 5 | 1 | 6 | 0 | 16 | 17 | 33 | 0 | 10 | 9 | 19 | 0 | 31 | 27 | 58 |
| 11/03 | 0 | 14 | 0 | 14 | 1 | 31 | 19 | 51 | 0 | 6 | 1 | 7 | 1 | 51 | 20 | 72 |
| 11/04 | 0 | 0 | 4 | 4 | 1 | 2 | 5 | 8 | 9 | 7 | 38 | 54 | 10 | 9 | 47 | 66 |
| 11/05 | 0 | 0 | 4 | 4 | 0 | 0 | 35 | 35 | 4 | 12 | 321 | 337 | 4 | 12 | 360 | 376 |
| 11/21 | 0 | 0 | 0 | 0 | 3 | 10 | 13 | 26 | 3 | 15 | 5 | 23 | 6 | 25 | 18 | 49 |
| 11/22 | 0 | 3 | 0 | 3 | 4 | 16 | 16 | 36 | 2 | 0 | 57 | 59 | 6 | 19 | 73 | 98 |
| 12/05 | 3 | 3 | 3 | 9 | 0 | 3 | 8 | 11 | 2 | 5 | 388 | 395 | 5 | 11 | 399 | 415 |

## Table 8. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1991.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 12/07 | 3 | 13 | 17 | 33 | 0 | 9 | 3 | 12 | 4 | 8 | 15 | 27 | 7 | 30 | 35 | 72 |
| 12/21 | 4 | 0 | 15 | 19 | 0 | 1 | 17 | 18 | 5 | 7 | 65 | 77 | 9 | 8 | 97 | 114 |
| 12/22 | 0 | 0 | 3 | 3 | 1 | 2 | 3 | 6 | 6 | 6 | 81 | 93 | 7 | 8 | 87 | 102 |
| **SPRING** | | | | | | | | | | | | | | | | |
| # COUNTS | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 14 | 0 | 12 | 3 | 30 |
| MAX # | 4 | 27 | 9 | 34 | 5 | 37 | 12 | 49 | 19 | 113 | 504 | 537 | 28 | 162 | 511 | 573 |
| MEAN # | 0.5 | 5.2 | 2.4 | 8.1 | 0.9 | 9.8 | 4.2 | 14.8 | 4.9 | 37.1 | 64.9 | 107.0 | 6.3 | 52.1 | 71.5 | 129.9 |
| ST DEV | 0.9 | 5.6 | 2.5 | 7.1 | 1.4 | 9.5 | 3.7 | 12.3 | 5.2 | 27.2 | 97.0 | 102.3 | 6.6 | 34.7 | 97.3 | 108.1 |
| TOTAL # | 18 | 201 | 95 | 314 | 35 | 381 | 162 | 578 | 193 | 1448 | 2532 | 4173 | 246 | 2030 | 2789 | 5065 |
| % ALL AREA | 5.7 | 64.0 | 30.3 | 100.0 | 6.1 | 65.9 | 28.0 | 100.0 | 4.6 | 34.7 | 60.7 | 100.0 | 4.9 | 40.1 | 55.1 | 100.0 |
| **FALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 1 | 7 | 0 | 8 | 18 | 49 |
| MAX # | 4 | 14 | 17 | 33 | 4 | 31 | 58 | 79 | 9 | 15 | 388 | 395 | 10 | 51 | 399 | 415 |
| MEAN # | 0.9 | 3.6 | 4.4 | 8.9 | 0.9 | 10.1 | 17.6 | 28.6 | 3.3 | 7.9 | 89.3 | 100.5 | 5.1 | 21.6 | 111.3 | 138.0 |
| ST DEV | 1.6 | 5.2 | 6.0 | 9.7 | 1.4 | 10.0 | 16.2 | 21.9 | 2.7 | 4.0 | 134.8 | 134.7 | 3.3 | 13.9 | 135.5 | 129.2 |
| TOTAL # | 10 | 40 | 48 | 98 | 10 | 111 | 194 | 315 | 36 | 87 | 982 | 1105 | 56 | 238 | 1224 | 1518 |
| % ALL AREA | 10.2 | 40.8 | 49.0 | 100.0 | 3.2 | 35.2 | 61.6 | 100.0 | 3.3 | 7.9 | 88.9 | 100.0 | 3.7 | 15.7 | 80.6 | 100.0 |
| **ALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 8 | 3 | 30 |
| MAX # | 4 | 27 | 17 | 34 | 5 | 37 | 58 | 79 | 19 | 113 | 504 | 537 | 28 | 162 | 511 | 573 |
| MEAN # | 0.6 | 4.8 | 2.9 | 8.2 | 0.9 | 9.8 | 7.1 | 17.9 | 4.6 | 30.7 | 70.3 | 105.6 | 6.0 | 45.4 | 80.3 | 131.7 |
| ST DEV | 1.1 | 5.5 | 3.6 | 7.7 | 1.4 | 9.5 | 9.8 | 15.8 | 4.8 | 27.0 | 105.4 | 108.7 | 6.0 | 33.7 | 106.6 | 111.7 |
| TOTAL # | 28 | 241 | 143 | 412 | 45 | 492 | 356 | 893 | 229 | 1535 | 3514 | 5278 | 302 | 2268 | 4013 | 6583 |
| % ALL AREA | 6.8 | 58.5 | 34.7 | 100.0 | 5.0 | 55.1 | 39.9 | 100.0 | 4.3 | 29.1 | 66.6 | 100.0 | 4.6 | 34.5 | 61.0 | 100.0 |

## Table 9. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1992.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 01/03 | 1 | 0 | 1 | 2 | 3 | 20 | 9 | 32 | 8 | 22 | 4 | 34 | 12 | 42 | 14 | 68 |
| 01/17 | 0 | 1 | 11 | 12 | 1 | 25 | 5 | 31 | 8 | 12 | 309 | 329 | 9 | 38 | 325 | 372 |
| 01/18 | 1 | 0 | 3 | 4 | 1 | 4 | 14 | 19 | 4 | 4 | 4 | 12 | 6 | 8 | 21 | 35 |
| 01/19 | 0 | 0 | 3 | 3 | 0 | 4 | 10 | 14 | 9 | 59 | 189 | 257 | 9 | 63 | 202 | 274 |
| 01/20 | 0 | 0 | 0 | 0 | 1 | 5 | 4 | 10 | 8 | 68 | 153 | 229 | 9 | 73 | 157 | 239 |
| 01/29 | 0 | 0 | 8 | 8 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 11 |
| 01/30 | 0 | 1 | 4 | 5 | 2 | 11 | 7 | 20 | 0 | 37 | 5 | 42 | 2 | 49 | 16 | 67 |
| 02/02 | 1 | 1 | 1 | 3 | 0 | 5 | 10 | 15 | 1 | 27 | 112 | 140 | 2 | 33 | 123 | 158 |
| 02/04 | 0 | 2 | 7 | 9 | 0 | 23 | 5 | 28 | 4 | 18 | 121 | 143 | 4 | 43 | 133 | 180 |
| 02/05 | 0 | 1 | 2 | 3 | 1 | 6 | 17 | 24 | 6 | 0 | 110 | 116 | 7 | 7 | 129 | 143 |
| 02/13 | 1 | 5 | 1 | 7 | 1 | 31 | 6 | 38 | 0 | 21 | 0 | 21 | 2 | 57 | 7 | 66 |
| 02/14 | 1 | 1 | 3 | 5 | 5 | 53 | 5 | 63 | 3 | 12 | 4 | 19 | 9 | 66 | 12 | 87 |
| 02/16 | 1 | 1 | 5 | 7 | 5 | 2 | 6 | 13 | 3 | 2 | 3 | 8 | 9 | 5 | 14 | 28 |
| 02/17 | 0 | 0 | 2 | 2 | 0 | 0 | 30 | 30 | 0 | 0 | 95 | 95 | 0 | 0 | 127 | 127 |
| 02/19 | 0 | 0 | 2 | 2 | 5 | 2 | 5 | 12 | 3 | 1 | 120 | 124 | 8 | 3 | 127 | 138 |
| 02/27 | 0 | 1 | 4 | 5 | 2 | 32 | 8 | 42 | 1 | 36 | 6 | 43 | 3 | 69 | 18 | 90 |
| 02/28 | 1 | 2 | 6 | 9 | 0 | 62 | 6 | 68 | 4 | 7 | 20 | 31 | 5 | 71 | 32 | 108 |
| 02/29 | 0 | 2 | 2 | 4 | 2 | 47 | 7 | 56 | 4 | 56 | 1 | 61 | 6 | 105 | 10 | 121 |
| 03/01 | 1 | 3 | 6 | 10 | 3 | 4 | 5 | 12 | 1 | 4 | 7 | 12 | 5 | 11 | 18 | 34 |
| 03/13 | 1 | 0 | 12 | 13 | 1 | 57 | 10 | 68 | 3 | 11 | 7 | 21 | 5 | 68 | 29 | 102 |
| 03/14 | 1 | 2 | 3 | 6 | 5 | 83 | 5 | 93 | 2 | 38 | 7 | 47 | 8 | 123 | 15 | 146 |
| 03/15 | 1 | 1 | 4 | 6 | 2 | 47 | 5 | 54 | 3 | 18 | 18 | 39 | 6 | 66 | 27 | 99 |
| 03/17 | 0 | 0 | 5 | 5 | 0 | 0 | 10 | 10 | 0 | 0 | 110 | 110 | 0 | 0 | 125 | 125 |
| 03/19 | 0 | 12 | 3 | 15 | 2 | 2 | 0 | 4 | 2 | 21 | 15 | 38 | 4 | 35 | 18 | 57 |
| 04/03 | 0 | 10 | 0 | 10 | 0 | 3 | 0 | 3 | 0 | 3 | 33 | 36 | 0 | 16 | 33 | 49 |
| 04/04 | 0 | 8 | 1 | 9 | 0 | 4 | 1 | 5 | 0 | 1 | 5 | 6 | 0 | 13 | 7 | 20 |
| 04/11 | 0 | 0 | 0 | 0 | 0 | 14 | 4 | 18 | 1 | 119 | 12 | 132 | 1 | 133 | 16 | 150 |
| 04/12 | 0 | 0 | 0 | 0 | 0 | 89 | 7 | 96 | 3 | 40 | 156 | 199 | 3 | 129 | 163 | 295 |
| 04/13 | 0 | 0 | 1 | 1 | 0 | 38 | 3 | 41 | 1 | 12 | 107 | 120 | 1 | 50 | 111 | 162 |
| 05/09 | 0 | 0 | 7 | 7 | 0 | 1 | 2 | 3 | 1 | 7 | 9 | 17 | 1 | 8 | 18 | 27 |
| 11/09 | 0 | 0 | 0 | 0 | 4 | 0 | 5 | 9 | 6 | 4 | 4 | 14 | 10 | 4 | 9 | 23 |
| 11/10 | 0 | 4 | 6 | 10 | 0 | 12 | 9 | 21 | 3 | 10 | 5 | 18 | 3 | 26 | 20 | 49 |
| 11/11 | 0 | 2 | 1 | 3 | 3 | 39 | 22 | 64 | 0 | 4 | 7 | 11 | 3 | 45 | 30 | 78 |
| 11/20 | 0 | 0 | 0 | 0 | 0 | 37 | 2 | 39 | 0 | 13 | 1 | 14 | 0 | 50 | 3 | 53 |
| 11/21 | 0 | 2 | 6 | 8 | 5 | 81 | 13 | 99 | 2 | 8 | 7 | 17 | 7 | 91 | 26 | 124 |
| 11/23 | 0 | 0 | 4 | 4 | 0 | 3 | 5 | 8 | 3 | 2 | 117 | 122 | 3 | 5 | 126 | 134 |
| **SPRING** | | | | | | | | | | | | | | | | |
| # COUNTS | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 11 |
| MAX # | 1 | 12 | 12 | 15 | 5 | 89 | 30 | 96 | 9 | 119 | 309 | 329 | 12 | 133 | 325 | 372 |
| MEAN # | 0.4 | 1.8 | 3.6 | 5.7 | 1.4 | 22.5 | 7.0 | 30.8 | 2.8 | 21.9 | 58.1 | 82.7 | 4.5 | 46.1 | 68.6 | 119.3 |
| ST DEV | 0.5 | 3.0 | 3.1 | 3.9 | 1.7 | 25.9 | 5.8 | 26.2 | 2.7 | 26.4 | 75.8 | 83.2 | 3.5 | 39.5 | 77.3 | 86.2 |
| TOTAL # | 11 | 54 | 107 | 172 | 42 | 674 | 209 | 925 | 83 | 656 | 1742 | 2481 | 136 | 1384 | 2058 | 3578 |
| % ALL AREA | 6.4 | 31.4 | 62.2 | 100.0 | 4.5 | 72.9 | 22.6 | 100.0 | 3.3 | 26.4 | 70.2 | 100.0 | 3.8 | 38.7 | 57.5 | 100.0 |
| **FALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8 | 0 | 2 | 1 | 11 | 0 | 4 | 3 | 23 |
| MAX # | 0 | 4 | 6 | 10 | 5 | 81 | 22 | 99 | 6 | 13 | 117 | 122 | 10 | 91 | 126 | 134 |
| MEAN # | 0.0 | 1.3 | 2.8 | 4.2 | 2.0 | 28.7 | 9.3 | 40.0 | 2.3 | 6.8 | 23.5 | 32.7 | 4.3 | 36.8 | 35.7 | 76.8 |
| ST DEV | 0.0 | 1.6 | 2.9 | 4.1 | 2.3 | 30.6 | 7.3 | 35.8 | 2.3 | 4.2 | 45.9 | 43.8 | 3.6 | 32.8 | 45.4 | 44.1 |
| TOTAL # | 0 | 8 | 17 | 25 | 12 | 172 | 56 | 240 | 14 | 41 | 141 | 196 | 26 | 221 | 214 | 461 |
| % ALL AREA | 0.0 | 32.0 | 68.0 | 100.0 | 5.0 | 71.7 | 23.3 | 100.0 | 7.1 | 20.9 | 71.9 | 100.0 | 5.6 | 47.9 | 46.4 | 100.0 |
| **ALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 11 |
| MAX # | 1 | 12 | 12 | 15 | 5 | 89 | 30 | 99 | 9 | 119 | 309 | 329 | 12 | 133 | 325 | 372 |
| MEAN # | 0.3 | 1.7 | 3.4 | 5.5 | 1.5 | 23.5 | 7.4 | 32.4 | 2.7 | 19.4 | 52.3 | 74.4 | 4.5 | 44.6 | 63.1 | 112.2 |
| ST DEV | 0.5 | 2.8 | 3.0 | 4.0 | 1.8 | 26.4 | 6.0 | 27.7 | 2.6 | 24.7 | 72.3 | 79.8 | 3.5 | 38.2 | 73.5 | 81.8 |
| TOTAL # | 11 | 62 | 124 | 197 | 54 | 846 | 265 | 1165 | 97 | 697 | 1883 | 2677 | 162 | 1605 | 2272 | 4039 |
| % ALL AREA | 5.6 | 31.5 | 62.9 | 100.0 | 4.6 | 72.6 | 22.7 | 100.0 | 3.6 | 26.0 | 70.3 | 100.0 | 4.0 | 39.7 | 56.3 | 100.0 |

## Table 10. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1993.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 03/06 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 41 | 54 | 95 | 0 | 43 | 55 | 98 |
| 09/15 | 0 | 0 | 0 | 0 | 0 | 5 | 41 | 46 | 1 | 7 | 34 | 42 | 1 | 12 | 75 | 88 |
| 09/18 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 24 |
| 09/29 | 0 | 1 | 2 | 3 | 0 | 6 | 0 | 6 | 0 | 0 | 13 | 13 | 0 | 7 | 15 | 22 |
| 09/30 | 1 | 5 | 1 | 7 | 0 | 8 | 4 | 12 | 1 | 3 | 12 | 16 | 2 | 16 | 17 | 35 |
| 10/12 | 0 | 5 | 0 | 5 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| 10/13 | 0 | 1 | 0 | 1 | 0 | 20 | 15 | 35 | 1 | 7 | 4 | 12 | 1 | 28 | 19 | 48 |
| 10/14 | 2 | 5 | 0 | 7 | 0 | 3 | 23 | 26 | 1 | 3 | 70 | 74 | 3 | 11 | 93 | 107 |
| 10/15 | 0 | 1 | 6 | 7 | 0 | 2 | 5 | 7 | 3 | 2 | 48 | 53 | 3 | 5 | 59 | 67 |
| 10/16 | 0 | 1 | 2 | 3 | 0 | 24 | 2 | 26 | 1 | 1 | 10 | 12 | 1 | 26 | 14 | 41 |
| 10/17 | 0 | 0 | 0 | 0 | 1 | 3 | 5 | 9 | 1 | 0 | 3 | 4 | 2 | 3 | 8 | 13 |
| 10/27 | 0 | 1 | 1 | 2 | 6 | 5 | 21 | 32 | 0 | 2 | 6 | 8 | 6 | 8 | 28 | 42 |
| 10/28 | 0 | 3 | 0 | 3 | 4 | 16 | 46 | 66 | 5 | 6 | 0 | 11 | 9 | 25 | 46 | 80 |
| 10/29 | 1 | 4 | 4 | 9 | 4 | 14 | 12 | 30 | 1 | 2 | 14 | 17 | 6 | 20 | 30 | 56 |
| 10/30 | 3 | 0 | 1 | 4 | 0 | 5 | 4 | 9 | 3 | 2 | 0 | 5 | 6 | 7 | 5 | 18 |
| 10/31 | 0 | 2 | 1 | 3 | 0 | 13 | 4 | 17 | 3 | 7 | 8 | 18 | 3 | 22 | 13 | 38 |
| 11/02 | 2 | 1 | 1 | 4 | 5 | 3 | 5 | 13 | 7 | 24 | 49 | 80 | 14 | 28 | 55 | 97 |
| 11/11 | 0 | 1 | 1 | 2 | 3 | 1 | 13 | 17 | 1 | 1 | 2 | 4 | 4 | 3 | 16 | 23 |
| 11/13 | 3 | 16 | 14 | 33 | 1 | 6 | 6 | 13 | 0 | 0 | 4 | 4 | 4 | 22 | 24 | 50 |
| 11/15 | 2 | 2 | 1 | 5 | 3 | 3 | 3 | 9 | 8 | 63 | 76 | 147 | 13 | 68 | 80 | 161 |
| 11/16 | 2 | 9 | 23 | 34 | 1 | 2 | 8 | 11 | 7 | 2 | 104 | 113 | 10 | 13 | 135 | 158 |
| 11/25 | 2 | 0 | 0 | 2 | 2 | 21 | 6 | 29 | 5 | 1 | 179 | 185 | 9 | 22 | 185 | 216 |
| 11/26 | 1 | 0 | 1 | 2 | 3 | 15 | 4 | 22 | 2 | 13 | 3 | 18 | 6 | 28 | 8 | 42 |
| 11/28 | 0 | 0 | 8 | 8 | 0 | 4 | 13 | 17 | 2 | 1 | 5 | 8 | 2 | 5 | 26 | 33 |
| 11/29 | 0 | 3 | 19 | 22 | 3 | 3 | 10 | 16 | 4 | 2 | 115 | 121 | 7 | 8 | 144 | 159 |
| 11/30 | 2 | 11 | 6 | 19 | 2 | 5 | 10 | 17 | 4 | 0 | 29 | 33 | 8 | 16 | 45 | 69 |
| 12/01 | 2 | 8 | 1 | 11 | 3 | 3 | 3 | 9 | 4 | 4 | 26 | 34 | 9 | 15 | 30 | 54 |
| 12/02 | 2 | 14 | 4 | 20 | 1 | 16 | 3 | 20 | 7 | 6 | 0 | 13 | 10 | 36 | 7 | 53 |
| 12/09 | 1 | 1 | 0 | 2 | 2 | 18 | 0 | 20 | 0 | 7 | 0 | 7 | 3 | 26 | 0 | 29 |
| 12/10 | 6 | 0 | 11 | 17 | 3 | 27 | 5 | 35 | 0 | 1 | 2 | 3 | 9 | 28 | 18 | 55 |
| 12/11 | 0 | 1 | 3 | 4 | 1 | 18 | 8 | 27 | 4 | 0 | 11 | 15 | 5 | 19 | 22 | 46 |
| 12/12 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 6 | 10 | 65 | 81 | 6 | 10 | 73 | 89 |
| 12/13 | 4 | 2 | 5 | 11 | 0 | 2 | 3 | 5 | 5 | 17 | 8 | 30 | 9 | 21 | 16 | 46 |
| 12/14 | 3 | 1 | 3 | 7 | 9 | 1 | 14 | 24 | 8 | 0 | 96 | 104 | 20 | 2 | 113 | 135 |
| 12/15 | 0 | 6 | 6 | 12 | 8 | 2 | 5 | 15 | 7 | 3 | 14 | 24 | 15 | 11 | 25 | 51 |
| 12/16 | 0 | 0 | 4 | 4 | 1 | 11 | 3 | 15 | 4 | 1 | 15 | 20 | 5 | 12 | 22 | 39 |
| 12/24 | 4 | 3 | 6 | 13 | 1 | 31 | 10 | 42 | 3 | 5 | 3 | 11 | 8 | 39 | 19 | 66 |
| 12/26 | 5 | 1 | 4 | 10 | 9 | 20 | 15 | 44 | 14 | 63 | 58 | 135 | 28 | 84 | 77 | 189 |
| 12/27 | 3 | 0 | 2 | 5 | 2 | 6 | 3 | 11 | 4 | 3 | 65 | 72 | 9 | 9 | 70 | 88 |
| 12/28 | 5 | 23 | 54 | 82 | 1 | 4 | 2 | 7 | 2 | 0 | 1 | 3 | 8 | 27 | 57 | 92 |
| 12/29 | 0 | 0 | 0 | 0 | 6 | 6 | 3 | 15 | 5 | 3 | 147 | 155 | 11 | 9 | 150 | 170 |
| 12/30 | 1 | 0 | 1 | 2 | 3 | 11 | 4 | 18 | 3 | 20 | 3 | 26 | 7 | 31 | 8 | 46 |
| 12/31 | 0 | 0 | 0 | 0 | 4 | 2 | 3 | 9 | 6 | 32 | 4 | 42 | 10 | 34 | 7 | 51 |
| **SPRING** | | | | | | | | | | | | | | | | |
| # COUNTS | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 41 | 54 | 95 | 0 | 43 | 55 | 98 |
| MAX # | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 41 | 54 | 95 | 0 | 43 | 55 | 98 |
| MEAN # | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 1.0 | 3.0 | 0.0 | 41.0 | 54.0 | 95.0 | 0.0 | 43.0 | 55.0 | 98.0 |
| ST DEV | | | | | | | | | | | | | | | | |
| TOTAL # | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 41 | 54 | 95 | 0 | 43 | 55 | 98 |
| % ALL AREA | | | | | 0.0 | 66.7 | 33.3 | 100.0 | 0.0 | 43.2 | 56.8 | 100.0 | 0.0 | 43.9 | 56.1 | 100.0 |
| **FALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| MAX # | 6 | 23 | 54 | 82 | 9 | 31 | 46 | 66 | 14 | 63 | 179 | 185 | 28 | 84 | 185 | 216 |
| MEAN # | 1.4 | 3.1 | 4.7 | 9.2 | 2.2 | 8.7 | 9.0 | 19.9 | 3.4 | 7.7 | 31.1 | 42.2 | 7.0 | 19.6 | 44.7 | 71.3 |
| ST DEV | 1.7 | 5.0 | 9.3 | 14.1 | 2.5 | 8.1 | 9.8 | 13.1 | 3.0 | 14.3 | 43.5 | 49.1 | 5.5 | 16.4 | 45.3 | 51.0 |
| TOTAL # | 57 | 132 | 196 | 385 | 92 | 367 | 376 | 835 | 143 | 324 | 1306 | 1773 | 292 | 823 | 1878 | 2993 |
| % ALL AREA | 14.8 | 34.3 | 50.9 | 100.0 | 11.0 | 44.0 | 45.0 | 100.0 | 8.1 | 18.3 | 73.7 | 100.0 | 9.8 | 27.5 | 62.7 | 100.0 |
| **ALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| MAX # | 6 | 23 | 54 | 82 | 9 | 31 | 46 | 66 | 14 | 63 | 179 | 185 | 28 | 84 | 185 | 216 |
| MEAN # | 1.3 | 3.1 | 4.6 | 9.0 | 2.1 | 8.6 | 8.8 | 19.5 | 3.3 | 8.5 | 31.6 | 43.4 | 6.8 | 20.1 | 45.0 | 71.9 |
| ST DEV | 1.7 | 4.9 | 9.2 | 14.0 | 2.5 | 8.1 | 9.8 | 13.2 | 3.0 | 15.0 | 43.1 | 49.2 | 5.6 | 16.6 | 44.7 | 50.6 |
| TOTAL # | 57 | 132 | 196 | 385 | 92 | 369 | 377 | 838 | 143 | 365 | 1360 | 1868 | 292 | 866 | 1933 | 3091 |
| % ALL AREA | 14.8 | 34.3 | 50.9 | 100.0 | 11.0 | 44.0 | 45.0 | 100.0 | 7.7 | 19.5 | 72.8 | 100.0 | 9.4 | 28.0 | 62.5 | 100.0 |

# Table 11. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1994.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 01/07 | 0 | 0 | 1 | 1 | 3 | 2 | 2 | 7 | 0 | 11 | 0 | 11 | 3 | 13 | 3 | 19 |
| 01/08 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 4 | 160 | 167 | 5 | 4 | 160 | 169 |
| 01/09 | 2 | 0 | 3 | 5 | 4 | 1 | 2 | 7 | 2 | 0 | 222 | 224 | 8 | 1 | 227 | 236 |
| 01/10 | 1 | 3 | 1 | 5 | 3 | 1 | 8 | 12 | 1 | 2 | 217 | 220 | 5 | 6 | 226 | 237 |
| 01/11 | 4 | 2 | 6 | 12 | 1 | 3 | 4 | 8 | 3 | 17 | 4 | 24 | 8 | 22 | 14 | 44 |
| 01/12 | 2 | 0 | 8 | 10 | 4 | 17 | 17 | 38 | 2 | 1 | 4 | 7 | 8 | 18 | 29 | 55 |
| 01/13 | 3 | 4 | 2 | 9 | 5 | 14 | 8 | 27 | 2 | 8 | 1 | 11 | 10 | 26 | 11 | 47 |
| 01/14 | 0 | 0 | 1 | 1 | 2 | 6 | 5 | 13 | 6 | 16 | 62 | 84 | 8 | 22 | 68 | 98 |
| 01/23 | 1 | 2 | 3 | 6 | 2 | 3 | 8 | 13 | 2 | 8 | 160 | 170 | 5 | 13 | 171 | 189 |
| 01/24 | 2 | 0 | 6 | 8 | 1 | 1 | 9 | 11 | 4 | 0 | 136 | 140 | 7 | 1 | 151 | 159 |
| 01/25 | 2 | 0 | 0 | 2 | 1 | 0 | 5 | 6 | 4 | 0 | 80 | 84 | 7 | 0 | 85 | 92 |
| 01/27 | 0 | 1 | 0 | 1 | 0 | 11 | 2 | 13 | 4 | 2 | 3 | 9 | 4 | 14 | 5 | 23 |
| 01/28 | 0 | 1 | 2 | 3 | 1 | 1 | 4 | 6 | 9 | 0 | 78 | 87 | 10 | 2 | 84 | 96 |
| 01/29 | 1 | 0 | 3 | 4 | 1 | 1 | 7 | 9 | 16 | 7 | 124 | 147 | 18 | 8 | 134 | 160 |
| 01/30 | 2 | 0 | 0 | 2 | 3 | 2 | 4 | 9 | 5 | 4 | 3 | 12 | 10 | 6 | 7 | 23 |
| 02/05 | 1 | 3 | 1 | 5 | 1 | 7 | 0 | 8 | 3 | 0 | 0 | 3 | 5 | 10 | 1 | 16 |
| 02/06 | 0 | 0 | 1 | 1 | 0 | 6 | 4 | 10 | 4 | 5 | 4 | 13 | 4 | 11 | 9 | 24 |
| 02/07 | 2 | 1 | 26 | 29 | 1 | 0 | 9 | 10 | 4 | 0 | 122 | 126 | 7 | 1 | 157 | 165 |
| 02/08 | 1 | 1 | 2 | 4 | 1 | 4 | 3 | 8 | 4 | 1 | 54 | 59 | 6 | 6 | 59 | 71 |
| 02/09 | 2 | 11 | 2 | 15 | 2 | 0 | 3 | 5 | 1 | 2 | 1 | 4 | 5 | 13 | 6 | 24 |
| 02/11 | 1 | 9 | 1 | 11 | 1 | 2 | 2 | 5 | 3 | 0 | 25 | 28 | 5 | 11 | 28 | 44 |
| 02/13 | 0 | 0 | 2 | 2 | 2 | 5 | 4 | 11 | 4 | 6 | 6 | 16 | 6 | 11 | 12 | 29 |
| 02/22 | 0 | 1 | 0 | 1 | 1 | 10 | 3 | 14 | 1 | 0 | 0 | 1 | 2 | 11 | 3 | 16 |
| 02/24 | 0 | 0 | 2 | 2 | 0 | 6 | 1 | 7 | 3 | 8 | 95 | 106 | 3 | 14 | 98 | 115 |
| 02/26 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 4 | 15 | 3 | 22 | 5 | 16 | 4 | 25 |
| 02/28 | 1 | 3 | 1 | 5 | 0 | 1 | 0 | 1 | 4 | 11 | 3 | 18 | 5 | 15 | 4 | 24 |
| 03/05 | 0 | 0 | 1 | 1 | 1 | 29 | 3 | 33 | 4 | 0 | 2 | 6 | 5 | 29 | 6 | 40 |
| 03/06 | 0 | 0 | 26 | 26 | 0 | 5 | 3 | 8 | 2 | 0 | 2 | 4 | 2 | 5 | 31 | 38 |
| 03/07 | 0 | 2 | 2 | 4 | 2 | 1 | 11 | 14 | 1 | 0 | 2 | 3 | 3 | 3 | 15 | 21 |
| 03/08 | 0 | 0 | 2 | 2 | 1 | 6 | 1 | 8 | 4 | 0 | 4 | 8 | 5 | 6 | 7 | 18 |
| 03/09 | 2 | 0 | 7 | 9 | 1 | 13 | 9 | 23 | 3 | 0 | 30 | 33 | 6 | 13 | 46 | 65 |
| 03/10 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 3 | 0 | 7 | 10 | 3 | 0 | 11 | 14 |
| 03/11 | 0 | 3 | 0 | 3 | 0 | 4 | 1 | 5 | 2 | 1 | 1 | 4 | 2 | 8 | 2 | 12 |
| 03/12 | 1 | 0 | 0 | 1 | 1 | 10 | 3 | 14 | 2 | 5 | 0 | 7 | 4 | 15 | 3 | 22 |
| 03/13 | 0 | 0 | 0 | 0 | 1 | 10 | 1 | 12 | 0 | 0 | 0 | 0 | 1 | 10 | 1 | 12 |
| 03/14 | 0 | 0 | 0 | 0 | 1 | 15 | 4 | 20 | 0 | 5 | 7 | 12 | 1 | 20 | 11 | 32 |
| 03/21 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 2 | 2 | 5 | 2 | 4 | 2 | 8 |
| 03/22 | 0 | 0 | 2 | 2 | 0 | 36 | 10 | 46 | 0 | 1 | 4 | 5 | 0 | 37 | 16 | 53 |
| 03/23 | 0 | 0 | 0 | 0 | 1 | 5 | 3 | 9 | 0 | 0 | 2 | 2 | 1 | 5 | 5 | 11 |
| 03/24 | 0 | 0 | 9 | 9 | 0 | 0 | 6 | 6 | 0 | 0 | 2 | 2 | 0 | 0 | 17 | 17 |
| 03/26 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 6 | 2 | 1 | 54 | 57 | 3 | 4 | 56 | 63 |
| 03/27 | 0 | 4 | 6 | 10 | 0 | 6 | 4 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 20 |
| 03/28 | 0 | 0 | 1 | 1 | 1 | 8 | 0 | 9 | 1 | 1 | 2 | 4 | 2 | 9 | 3 | 14 |

# Table 11. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1994.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 04/02 | 0 | 0 | 2 | 2 | 0 | 15 | 0 | 15 | 0 | 8 | 61 | 69 | 0 | 23 | 63 | 86 |
| 04/03 | 0 | 0 | 3 | 3 | 0 | 6 | 4 | 10 | 0 | 5 | 0 | 5 | 0 | 11 | 7 | 18 |
| 04/07 | 0 | 0 | 1 | 1 | 0 | 4 | 1 | 5 | 0 | 4 | 14 | 18 | 0 | 8 | 16 | 24 |
| 04/09 | 0 | 0 | 4 | 4 | 0 | 5 | 15 | 20 | 0 | 0 | 0 | 0 | 0 | 5 | 19 | 24 |
| 04/23 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 0 | 1 | 1 | 2 | 2 | 3 | 1 | 6 |
| 04/24 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 04/25 | 0 | 0 | 4 | 4 | 0 | 0 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 |
| 05/01 | 0 | 18 | 3 | 21 | 0 | 1 | 9 | 10 | 1 | 5 | 1 | 7 | 1 | 24 | 13 | 38 |
| 05/02 | 0 | 1 | 3 | 4 | 0 | 6 | 7 | 13 | 0 | 2 | 0 | 2 | 0 | 9 | 10 | 19 |
| 06/13 | 2 | 0 | 1 | 3 | 12 | 3 | 11 | 26 | 12 | 0 | 69 | 81 | 26 | 3 | 81 | 110 |
| 09/06 | 0 | 1 | 3 | 4 | 0 | 6 | 16 | 22 | 0 | 1 | 1 | 2 | 0 | 8 | 20 | 28 |
| 09/19 | 2 | 1 | 48 | 51 | 0 | 12 | 26 | 38 | 1 | 6 | 29 | 36 | 3 | 19 | 103 | 125 |
| 09/20 | 0 | 0 | 4 | 4 | 1 | 1 | 7 | 9 | 0 | 2 | 3 | 5 | 1 | 3 | 14 | 18 |
| 10/03 | 0 | 0 | 6 | 6 | 1 | 4 | 46 | 51 | 0 | 0 | 26 | 26 | 1 | 4 | 78 | 83 |
| 10/04 | 0 | 3 | 2 | 5 | 0 | 6 | 60 | 66 | 1 | 1 | 6 | 8 | 1 | 10 | 68 | 79 |
| 10/05 | 0 | 2 | 2 | 4 | 0 | 4 | 5 | 9 | 0 | 3 | 51 | 54 | 0 | 9 | 58 | 67 |
| 10/06 | 0 | 4 | 0 | 4 | 0 | 1 | 5 | 6 | 0 | 2 | 5 | 7 | 0 | 7 | 10 | 17 |
| 10/17 | 0 | 6 | 4 | 10 | 0 | 4 | 13 | 17 | 2 | 4 | 15 | 21 | 2 | 14 | 32 | 48 |
| 10/18 | 0 | 0 | 3 | 3 | 0 | 3 | 10 | 13 | 0 | 10 | 4 | 14 | 0 | 13 | 17 | 30 |
| 10/19 | 0 | 0 | 2 | 2 | 0 | 0 | 6 | 6 | 1 | 4 | 7 | 12 | 1 | 4 | 15 | 20 |
| 11/01 | 0 | 18 | 6 | 24 | 0 | 62 | 3 | 65 | 1 | 2 | 5 | 8 | 1 | 82 | 14 | 97 |
| 11/02 | 6 | 0 | 22 | 28 | 2 | 0 | 10 | 12 | 1 | 2 | 7 | 10 | 9 | 2 | 39 | 50 |
| 11/03 | 1 | 1 | 22 | 24 | 0 | 6 | 13 | 19 | 2 | 6 | 21 | 29 | 3 | 13 | 56 | 72 |
| 11/04 | 0 | 0 | 2 | 2 | 4 | 2 | 3 | 9 | 3 | 13 | 4 | 20 | 7 | 15 | 9 | 31 |
| 11/05 | 1 | 2 | 2 | 5 | 2 | 5 | 1 | 8 | 6 | 2 | 75 | 83 | 9 | 9 | 78 | 96 |
| 11/13 | 1 | 5 | 2 | 8 | 3 | 6 | 2 | 11 | 2 | 4 | 6 | 12 | 6 | 15 | 10 | 31 |
| 11/14 | 2 | 0 | 2 | 4 | 0 | 5 | 3 | 8 | 4 | 12 | 31 | 47 | 6 | 17 | 36 | 59 |
| 11/16 | 0 | 8 | 2 | 10 | 0 | 13 | 9 | 22 | 0 | 2 | 3 | 5 | 0 | 23 | 14 | 37 |
| 11/17 | 2 | 1 | 27 | 30 | 2 | 10 | 17 | 29 | 5 | 19 | 1 | 25 | 9 | 30 | 45 | 84 |
| 11/18 | 3 | 0 | 14 | 17 | 4 | 14 | 12 | 30 | 10 | 2 | 171 | 183 | 17 | 16 | 197 | 230 |
| 11/19 | 1 | 1 | 1 | 3 | 3 | 7 | 17 | 27 | 13 | 5 | 7 | 25 | 17 | 13 | 25 | 55 |
| 11/20 | 0 | 8 | 2 | 10 | 2 | 5 | 5 | 12 | 7 | 11 | 27 | 45 | 9 | 24 | 34 | 67 |
| 11/29 | 0 | 3 | 4 | 7 | 1 | 4 | 2 | 7 | 2 | 2 | 40 | 44 | 3 | 9 | 46 | 58 |
| 11/30 | 1 | 4 | 3 | 8 | 0 | 1 | 7 | 8 | 1 | 27 | 25 | 53 | 2 | 32 | 35 | 69 |
| 12/01 | 1 | 1 | 3 | 5 | 0 | 3 | 5 | 8 | 1 | 35 | 54 | 90 | 2 | 39 | 62 | 103 |
| 12/02 | 0 | 4 | 3 | 7 | 0 | 0 | 1 | 1 | 1 | 10 | 2 | 13 | 1 | 14 | 6 | 21 |
| 12/03 | 0 | 0 | 5 | 5 | 0 | 0 | 7 | 7 | 0 | 10 | 20 | 30 | 0 | 10 | 32 | 42 |
| 12/04 | 0 | 19 | 3 | 22 | 1 | 9 | 11 | 21 | 1 | 0 | 89 | 90 | 2 | 28 | 103 | 133 |
| 12/05 | 2 | 2 | 11 | 15 | 2 | 2 | 3 | 7 | 1 | 4 | 7 | 12 | 5 | 8 | 21 | 34 |
| 12/13 | 1 | 0 | 2 | 3 | 1 | 4 | 1 | 6 | 4 | 0 | 5 | 9 | 6 | 4 | 8 | 18 |
| 12/15 | 1 | 4 | 5 | 10 | 0 | 2 | 7 | 9 | 11 | 0 | 71 | 82 | 12 | 6 | 83 | 101 |
| 12/16 | 1 | 3 | 5 | 9 | 0 | 2 | 6 | 8 | 8 | 0 | 48 | 56 | 9 | 5 | 59 | 73 |
| 12/17 | 0 | 0 | 0 | 0 | 1 | 5 | 9 | 15 | 8 | 15 | 24 | 47 | 9 | 20 | 33 | 62 |

# Table 11. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1994.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 12/18 | 0 | 1 | 4 | 5 | 4 | 8 | 6 | 18 | 9 | 3 | 10 | 22 | 13 | 12 | 20 | 45 |
| 12/19 | 0 | 3 | 2 | 5 | 5 | 6 | 3 | 14 | 4 | 0 | 24 | 28 | 9 | 9 | 29 | 47 |
| 12/20 | 0 | 6 | 10 | 16 | 13 | 2 | 1 | 16 | 6 | 0 | 0 | 6 | 19 | 8 | 11 | 38 |
| 12/27 | 0 | 0 | 1 | 1 | 0 | 14 | 7 | 21 | 0 | 0 | 1 | 1 | 0 | 14 | 9 | 23 |
| 12/29 | 0 | 2 | 6 | 8 | 2 | 5 | 4 | 11 | 3 | 0 | 63 | 66 | 5 | 7 | 73 | 85 |
| 12/31 | 0 | 0 | 1 | 1 | 0 | 0 | 10 | 10 | 1 | 0 | 75 | 76 | 1 | 0 | 86 | 87 |
| **SPRING** | | | | | | | | | | | | | | | | |
| # COUNTS | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 53 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| MAX # | 4 | 18 | 26 | 29 | 12 | 36 | 17 | 46 | 16 | 17 | 222 | 224 | 26 | 37 | 227 | 237 |
| MEAN # | 0.6 | 1.4 | 2.9 | 4.9 | 1.3 | 5.6 | 4.3 | 11.2 | 2.6 | 3.2 | 34.6 | 40.4 | 4.5 | 10.2 | 41.9 | 56.5 |
| ST DEV | 1.0 | 3.2 | 5.1 | 6.2 | 1.9 | 7.0 | 4.0 | 9.1 | 3.0 | 4.4 | 57.9 | 59.2 | 4.6 | 8.2 | 59.4 | 59.7 |
| TOTAL # | 33 | 72 | 156 | 261 | 69 | 298 | 229 | 596 | 136 | 169 | 1834 | 2139 | 238 | 539 | 2219 | 2996 |
| % ALL AREA | 12.6 | 27.6 | 59.8 | 100.0 | 11.6 | 50.0 | 38.4 | 100.0 | 6.4 | 7.9 | 85.7 | 100.0 | 7.9 | 18.0 | 74.1 | 100.0 |
| **FALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 17 |
| MAX # | 6 | 19 | 48 | 51 | 13 | 62 | 60 | 66 | 13 | 35 | 171 | 183 | 19 | 82 | 197 | 230 |
| MEAN # | 0.7 | 2.9 | 6.3 | 9.9 | 1.4 | 6.2 | 9.7 | 17.3 | 3.1 | 5.6 | 27.3 | 35.9 | 5.1 | 14.7 | 43.3 | 63.2 |
| ST DEV | 1.2 | 4.3 | 9.2 | 10.2 | 2.4 | 9.9 | 11.6 | 15.0 | 3.5 | 7.7 | 34.2 | 35.8 | 5.3 | 14.1 | 37.7 | 41.0 |
| TOTAL # | 26 | 113 | 246 | 385 | 54 | 243 | 379 | 676 | 120 | 219 | 1063 | 1402 | 200 | 575 | 1688 | 2463 |
| % ALL AREA | 6.8 | 29.4 | 63.9 | 100.0 | 8.0 | 35.9 | 56.1 | 100.0 | 8.6 | 15.6 | 75.8 | 100.0 | 8.1 | 23.3 | 68.5 | 100.0 |
| **ALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| MAX # | 6 | 19 | 48 | 51 | 13 | 62 | 60 | 66 | 16 | 35 | 222 | 224 | 26 | 82 | 227 | 237 |
| MEAN # | 0.6 | 2.0 | 4.4 | 7.0 | 1.3 | 5.9 | 6.6 | 13.8 | 2.8 | 4.2 | 31.5 | 38.5 | 4.8 | 12.1 | 42.5 | 59.3 |
| ST DEV | 1.1 | 3.7 | 7.3 | 8.5 | 2.1 | 8.3 | 8.5 | 12.3 | 3.2 | 6.1 | 49.2 | 50.4 | 4.9 | 11.2 | 51.1 | 52.4 |
| TOTAL # | 59 | 185 | 402 | 646 | 123 | 541 | 608 | 1272 | 256 | 388 | 2897 | 3541 | 438 | 1114 | 3907 | 5459 |
| % ALL AREA | 9.1 | 28.6 | 62.2 | 100.0 | 9.7 | 42.5 | 47.8 | 100.0 | 7.2 | 11.0 | 81.8 | 100.0 | 8.0 | 20.4 | 71.6 | 100.0 |

# Table 12. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1995.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| 01/01 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 6 | 7 | 0 | 62 | 69 | 8 | 0 | 67 | 75 |
| 01/02 | 3 | 2 | 4 | 9 | 2 | 4 | 1 | 7 | 11 | 0 | 68 | 79 | 16 | 6 | 73 | 95 |
| 01/14 | 0 | 2 | 3 | 5 | 0 | 1 | 0 | 1 | 7 | 0 | 1 | 8 | 7 | 3 | 4 | 14 |
| 01/16 | 0 | 0 | 0 | 0 | 2 | 2 | 6 | 10 | 11 | 1 | 10 | 22 | 13 | 3 | 16 | 32 |
| 01/17 | 0 | 1 | 4 | 5 | 7 | 0 | 2 | 9 | 4 | 0 | 57 | 61 | 11 | 1 | 63 | 75 |
| 01/18 | 3 | 10 | 3 | 16 | 2 | 1 | 8 | 11 | 7 | 0 | 3 | 10 | 12 | 11 | 14 | 37 |
| 01/27 | 0 | 4 | 3 | 7 | 3 | 0 | 6 | 9 | 6 | 3 | 34 | 43 | 9 | 7 | 43 | 59 |
| 01/29 | 3 | 5 | 8 | 16 | 1 | 0 | 0 | 1 | 7 | 0 | 33 | 40 | 11 | 5 | 41 | 57 |
| 01/30 | 1 | 0 | 1 | 2 | 0 | 0 | 25 | 25 | 4 | 0 | 88 | 92 | 5 | 0 | 114 | 119 |
| 01/31 | 2 | 1 | 2 | 5 | 0 | 0 | 1 | 1 | 2 | 0 | 10 | 12 | 4 | 1 | 13 | 18 |
| 02/10 | 0 | 3 | 3 | 6 | 2 | 0 | 3 | 5 | 5 | 3 | 20 | 28 | 7 | 6 | 26 | 39 |
| 02/11 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 13 | 16 | 3 | 0 | 15 | 18 |
| 02/13 | 0 | 0 | 2 | 2 | 2 | 1 | 7 | 10 | 3 | 1 | 2 | 6 | 5 | 2 | 11 | 18 |
| 02/14 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 34 | 36 | 3 | 0 | 35 | 38 |
| 02/15 | 0 | 2 | 1 | 3 | 2 | 2 | 2 | 6 | 2 | 0 | 0 | 2 | 4 | 4 | 3 | 11 |
| 02/16 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 3 | 0 | 1 | 4 | 4 | 2 | 2 | 8 |
| 02/23 | 0 | 2 | 3 | 5 | 0 | 3 | 4 | 7 | 6 | 0 | 5 | 11 | 6 | 5 | 12 | 23 |
| 02/24 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 8 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 8 |
| 02/25 | 0 | 2 | 21 | 23 | 1 | 2 | 5 | 8 | 2 | 0 | 4 | 6 | 3 | 4 | 30 | 37 |
| 02/26 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 1 | 2 | 0 | 4 | 6 | 2 | 0 | 7 | 9 |
| 02/27 | 0 | 0 | 0 | 0 | 1 | 3 | 5 | 9 | 7 | 1 | 3 | 11 | 8 | 4 | 8 | 20 |
| 02/28 | 4 | 3 | 2 | 9 | 2 | 0 | 6 | 8 | 3 | 0 | 2 | 5 | 9 | 3 | 10 | 22 |
| 03/01 | 3 | 1 | 0 | 4 | 4 | 1 | 4 | 9 | 6 | 0 | 3 | 9 | 13 | 2 | 7 | 22 |
| 03/02 | 0 | 4 | 4 | 8 | 4 | 0 | 0 | 4 | 3 | 0 | 2 | 5 | 7 | 4 | 6 | 17 |
| 03/13 | 1 | 0 | 1 | 2 | 1 | 0 | 10 | 11 | 1 | 0 | 4 | 5 | 3 | 0 | 15 | 18 |
| 03/14 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 1 | 2 | 5 | 2 | 2 | 4 | 8 |
| 03/15 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 9 | 1 | 0 | 1 | 2 | 1 | 8 | 2 | 11 |
| 03/16 | 0 | 0 | 0 | 0 | 3 | 2 | 5 | 10 | 4 | 0 | 3 | 7 | 7 | 2 | 8 | 17 |
| 03/17 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 7 | 6 | 42 | 55 | 7 | 9 | 43 | 59 |
| 03/24 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 6 | 4 | 10 | 19 | 33 | 4 | 15 | 20 | 39 |
| 03/26 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 6 | 12 | 44 | 62 | 7 | 13 | 44 | 64 |
| 03/28 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 2 | 2 | 2 | 6 |
| 03/29 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 1 | 3 | 4 |
| 03/30 | 1 | 1 | 0 | 2 | 0 | 2 | 2 | 4 | 0 | 4 | 1 | 5 | 1 | 7 | 3 | 11 |
| 04/12 | 0 | 0 | 0 | 0 | 0 | 5 | 2 | 7 | 0 | 2 | 3 | 5 | 0 | 7 | 5 | 12 |
| 04/21 | 0 | 0 | 0 | 0 | 4 | 6 | 20 | 30 | 4 | 10 | 30 | 44 | 8 | 16 | 50 | 74 |
| 05/20 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 6 | 4 | 0 | 0 | 4 | 5 | 0 | 5 | 10 |
| 05/21 | 0 | 1 | 2 | 3 | 1 | 5 | 0 | 6 | 6 | 13 | 67 | 86 | 7 | 19 | 69 | 95 |
| 05/22 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 06/18 | 1 | 0 | 2 | 3 | 1 | 0 | 4 | 5 | 1 | 0 | 1 | 2 | 3 | 0 | 7 | 10 |
| 09/09 | 0 | 0 | 3 | 3 | 0 | 0 | 7 | 7 | 0 | 0 | 2 | 2 | 0 | 0 | 12 | 12 |
| 09/10 | 0 | 0 | 3 | 3 | 0 | 0 | 8 | 8 | 0 | 0 | 7 | 7 | 0 | 0 | 18 | 18 |
| 09/24 | 0 | 1 | 3 | 4 | 0 | 0 | 4 | 4 | 1 | 0 | 0 | 1 | 1 | 1 | 7 | 9 |
| 09/25 | 2 | 0 | 6 | 8 | 0 | 0 | 4 | 4 | 0 | 0 | 1 | 1 | 2 | 0 | 11 | 13 |
| 10/05 | 0 | 1 | 1 | 2 | 0 | 3 | 0 | 3 | 0 | 1 | 1 | 2 | 0 | 5 | 2 | 7 |
| 10/06 | 0 | 2 | 2 | 4 | 4 | 8 | 1 | 13 | 1 | 3 | 0 | 4 | 5 | 13 | 3 | 21 |
| 10/08 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 6 | 0 | 10 | 16 | 6 | 0 | 12 | 18 |
| 10/09 | 0 | 0 | 2 | 2 | 4 | 0 | 6 | 10 | 1 | 3 | 22 | 26 | 5 | 3 | 30 | 38 |
| 10/22 | 0 | 0 | 5 | 5 | 2 | 11 | 3 | 16 | 0 | 4 | 13 | 17 | 2 | 15 | 21 | 38 |

## Table 12. Bird Abundance in the Cabrillo National Monument Intertidal Zone in 1995.

Data were collected whenever possible within 30 min of daytime (esp. 1000-1600 hrs) low tides (esp. < 15cm MLLW) at 3 sites.

| | CABR AREA I | | | | CABR AREA II | | | | CABR AREA III | | | | AREAS I, II, III | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL | WADE | SHORE | SEA | ALL |
| **SPRING** | | | | | | | | | | | | | | | | |
| # COUNTS | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| MAX # | 4 | 10 | 21 | 23 | 7 | 8 | 25 | 30 | 11 | 13 | 88 | 92 | 16 | 19 | 114 | 119 |
| MEAN # | 0.6 | 1.1 | 1.8 | 3.6 | 1.3 | 1.6 | 3.8 | 6.6 | 3.9 | 1.7 | 17.0 | 22.6 | 5.7 | 4.5 | 22.6 | 32.8 |
| ST DEV | 1.1 | 2.0 | 3.6 | 5.1 | 1.5 | 2.0 | 5.1 | 5.9 | 2.9 | 3.5 | 23.6 | 26.5 | 3.9 | 4.8 | 25.8 | 29.3 |
| TOTAL # | 24 | 45 | 73 | 142 | 51 | 64 | 150 | 265 | 154 | 69 | 681 | 904 | 229 | 178 | 904 | 1311 |
| % ALL AREA | 16.9 | 31.7 | 51.4 | 100.0 | 19.2 | 24.2 | 56.6 | 100.0 | 17.0 | 7.6 | 75.3 | 100.0 | 17.5 | 13.6 | 69.0 | 100.0 |
| **FALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 7 |
| MAX # | 2 | 2 | 6 | 8 | 4 | 11 | 8 | 16 | 6 | 4 | 22 | 26 | 6 | 15 | 30 | 38 |
| MEAN # | 0.4 | 0.6 | 1.8 | 2.8 | 1.1 | 2.0 | 3.3 | 6.3 | 2.5 | 1.9 | 9.5 | 13.9 | 4.0 | 4.5 | 14.6 | 23.1 |
| ST DEV | 0.7 | 0.7 | 1.9 | 2.2 | 1.8 | 4.2 | 2.7 | 4.8 | 1.9 | 1.6 | 7.6 | 9.0 | 2.4 | 5.9 | 9.0 | 11.5 |
| TOTAL # | 2 | 4 | 25 | 31 | 10 | 22 | 35 | 67 | 9 | 11 | 56 | 76 | 21 | 37 | 116 | 174 |
| % ALL AREA | 6.5 | 12.9 | 80.6 | 100.0 | 14.9 | 32.8 | 52.2 | 100.0 | 11.8 | 14.5 | 73.7 | 100.0 | 12.1 | 21.3 | 66.7 | 100.0 |
| **ALL** | | | | | | | | | | | | | | | | |
| # COUNTS | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| MIN # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| MAX # | 4 | 10 | 21 | 23 | 7 | 11 | 25 | 30 | 11 | 13 | 88 | 92 | 16 | 19 | 114 | 119 |
| MEAN # | 0.5 | 1.0 | 2.0 | 3.5 | 1.2 | 1.8 | 3.8 | 6.8 | 3.3 | 1.6 | 15.0 | 20.0 | 5.1 | 4.4 | 20.8 | 30.3 |
| ST DEV | 1.0 | 1.8 | 3.3 | 4.7 | 1.6 | 2.5 | 4.7 | 5.7 | 2.9 | 3.2 | 21.9 | 24.8 | 3.9 | 4.9 | 23.9 | 27.4 |
| TOTAL # | 26 | 49 | 98 | 173 | 61 | 86 | 185 | 332 | 163 | 80 | 737 | 980 | 250 | 215 | 1020 | 1485 |
| % ALL AREA | 15.0 | 28.3 | 56.6 | 100.0 | 18.4 | 25.9 | 55.7 | 100.0 | 16.6 | 8.2 | 75.2 | 100.0 | 16.8 | 14.5 | 68.7 | 100.0 |

## Table 13. Intertidal Cover within Photoplots in Spring 1990.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 5 | 2 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 11 | 26 | 7 | 37 | 21 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 2 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 60 | 48 | 72 | 88 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 13 | 17 | 23 | 16 | 16 | | | | | | | |
| GOOSE BARNACLE | 0 | 3 | 19 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 28 | 0 | 19 | 13 | | | | | | | |
| OTHER PLANTS | 0 | 24 | 17 | 32 | 0 | 15 | 19 | 34 | 22 | 12 | 10 | 19 | 36 | 37 | 11 | 27 | 33 | 29 | | | | | | | |
| OTHER ANIMALS | 28 | 10 | 0 | 22 | 15 | 15 | 0 | 0 | 3 | 7 | 0 | 2 | 7 | 0 | 0 | 13 | 0 | 4 | | | | | | | |
| BARE SUBSTRATE | 55 | 35 | 57 | 9 | 60 | 43 | 53 | 6 | 27 | 9 | 2 | 19 | 30 | 43 | 44 | 37 | 32 | 37 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 25 | 4 | 29 | 6 | 13 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 10 | 1 | 0 | 2 | | | | | | | |
| THATCHED BARNACLE | 15 | 12 | 43 | 29 | 52 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 0 | 2 | | | | | | | |
| ROCKWEED | 0 | 3 | 0 | 0 | 0 | 1 | 72 | 71 | 72 | 69 | 73 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 1 | 9 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 74 | 46 | 18 | 74 | 55 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 26 | 0 | 4 | 0 | 2 | 6 | 7 | 25 | 19 | 12 | 5 | 14 | 21 | 15 | 21 | 11 | 0 | 14 | | | | | | | |
| OTHER ANIMALS | 0 | 2 | 9 | 4 | 10 | 5 | 0 | 0 | 0 | 7 | 1 | 2 | 0 | 1 | 1 | 16 | 0 | 4 | | | | | | | |
| BARE SUBSTRATE | 59 | 56 | 31 | 38 | 30 | 43 | 19 | 4 | 9 | 12 | 21 | 13 | 13 | 10 | 16 | 51 | 26 | 23 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 11 | 14 | 0 | 13 | 29 | 13 | 6 | 0 | 1 | 1 | 0 | 2 | 3 | 4 | 8 | 8 | 2 | 5 | | | | | | | |
| THATCHED BARNACLE | 22 | 15 | 18 | 30 | 25 | 22 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 12 | 4 | 5 | 5 | | | | | | | |
| ROCKWEED | 0 | 0 | 4 | 3 | 0 | 1 | 77 | 90 | 92 | 76 | 84 | 84 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | 40 | 39 | 55 | 39 | 47 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 22 | 14 | 0 | 1 | 6 | 9 | 0 | 0 | 6 | 1 | 10 | 3 | 0 | 1 | 0 | 1 | 0 | 0 | | | | | | | |
| OTHER ANIMALS | 13 | 12 | 2 | 1 | 20 | 10 | 9 | 3 | 0 | 14 | 3 | 6 | 6 | 4 | 5 | 0 | 7 | 4 | | | | | | | |
| BARE SUBSTRATE | 32 | 45 | 76 | 52 | 20 | 45 | 7 | 7 | 1 | 8 | 3 | 5 | 24 | 49 | 36 | 32 | 47 | 38 | | | | | | | |

## Table 14. Intertidal Cover within Photoplots in Fall 1990.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **286** | **292** | **293** | **294** | **299** | **AVG** | **287** | **288** | **290** | **291** | **295** | **AVG** | **285** | **289** | **296** | **297** | **298** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 39 | 0 | 0 | 0 | 24 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 18 | 17 | 5 | 25 | 21 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 45 | 70 | 69 | 82 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 17 | 14 | 7 | 9 | | | | | | | |
| GOOSE BARNACLE | 0 | 3 | 15 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 33 | 0 | 9 | 11 | | | | | | | |
| OTHER PLANTS | 9 | 42 | 15 | 45 | 3 | 23 | 18 | 47 | 12 | 26 | 13 | 23 | 36 | 66 | 8 | 28 | 53 | 38 | | | | | | | |
| OTHER ANIMALS | 3 | 8 | 0 | 15 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 15 | 0 | 5 | | | | | | | |
| BARE SUBSTRATE | 31 | 30 | 65 | 12 | 52 | 38 | 38 | 8 | 18 | 5 | 5 | 15 | 34 | 29 | 42 | 43 | 31 | 36 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **247** | **248** | **256** | **259** | **260** | **AVG** | **249** | **251** | **252** | **258** | **265** | **AVG** | **245** | **246** | **253** | **254** | **255** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 1 | 44 | 8 | 49 | 17 | 24 | 4 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 9 | 7 | 39 | 12 | 52 | 24 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 1 | | | | | | | |
| ROCKWEED | 0 | 4 | 4 | 0 | 0 | 2 | 73 | 62 | 66 | 77 | 80 | 72 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 53 | 17 | 6 | 31 | 30 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 59 | 19 | 25 | 7 | 11 | 24 | 4 | 37 | 30 | 14 | 5 | 18 | 36 | 28 | 63 | 43 | 49 | 44 | | | | | | | |
| OTHER ANIMALS | 2 | 1 | 1 | 12 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 4 | 3 | 3 | | | | | | | |
| BARE SUBSTRATE | 29 | 25 | 16 | 20 | 14 | 21 | 19 | 1 | 4 | 8 | 11 | 9 | 18 | 16 | 17 | 42 | 17 | 22 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **3** | **16** | **20** | **29** | **30** | **AVG** | **9** | **10** | **25** | **27** | **28** | **AVG** | **12** | **14** | **15** | **17** | **24** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 11 | 26 | 14 | 44 | 42 | 27 | 9 | 1 | 2 | 3 | 2 | 3 | 11 | 3 | 7 | 17 | 2 | 8 | | | | | | | |
| THATCHED BARNACLE | 34 | 18 | 10 | 19 | 32 | 23 | 5 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 11 | 2 | 4 | 4 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 5 | 3 | 2 | 64 | 79 | 90 | 66 | 69 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 30 | 32 | 44 | 28 | 34 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 25 | 25 | 6 | 1 | 6 | 13 | 3 | 1 | 8 | 3 | 12 | 5 | 12 | 8 | 7 | 11 | 11 | 10 | | | | | | | |
| OTHER ANIMALS | 4 | 5 | 6 | 1 | 0 | 3 | 3 | 18 | 0 | 15 | 17 | 11 | 2 | 10 | 2 | 3 | 3 | 4 | | | | | | | |
| BARE SUBSTRATE | 25 | 26 | 64 | 30 | 17 | 32 | 16 | 0 | 0 | 13 | 0 | 6 | 38 | 48 | 41 | 23 | 52 | 40 | | | | | | | |

## Table 15. Intertidal Cover within Photoplots in Spring 1991.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **286** | **292** | **293** | **294** | **299** | **AVG** | **287** | **288** | **290** | **291** | **295** | **AVG** | **285** | **289** | **296** | **297** | **298** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 33 | 4 | 0 | 0 | 13 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | | | | | | | |
| THATCHED BARNACLE | 23 | 26 | 10 | 23 | 18 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 0 | 0 | 0 | 2 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 42 | 56 | 79 | 80 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 11 | 5 | 6 | 6 | | | | | | | |
| GOOSE BARNACLE | 0 | 6 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 26 | 0 | 14 | 11 | | | | | | | |
| OTHER PLANTS | 0 | 13 | 4 | 42 | 0 | 12 | 22 | 45 | 18 | 15 | 15 | 23 | 25 | 55 | 11 | 32 | 60 | 37 | | | | | | | |
| OTHER ANIMALS | 10 | 8 | 0 | 23 | 3 | 9 | 0 | 0 | 1 | 2 | 0 | 1 | 4 | 1 | 0 | 15 | 0 | 4 | | | | | | | |
| BARE SUBSTRATE | 34 | 43 | 73 | 12 | 66 | 46 | 49 | 13 | 25 | 4 | 5 | 19 | 50 | 33 | 49 | 48 | 20 | 40 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **247** | **248** | **256** | **259** | **260** | **AVG** | **249** | **251** | **252** | **258** | **265** | **AVG** | **245** | **246** | **253** | **254** | **255** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 43 | 8 | 66 | 23 | 28 | 7 | 0 | 0 | 0 | 2 | 2 | 1 | 7 | 0 | 0 | 0 | 2 | | | | | | | |
| THATCHED BARNACLE | 10 | 5 | 41 | 19 | 54 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | | | | | | | |
| ROCKWEED | 0 | 5 | 0 | 0 | 0 | 1 | 66 | 62 | 71 | 75 | 68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 43 | 3 | 0 | 18 | 21 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 10 | 0 | 13 | 0 | 1 | 5 | 10 | 26 | 24 | 14 | 19 | 19 | 18 | 13 | 77 | 35 | 50 | 39 | | | | | | | |
| OTHER ANIMALS | 2 | 0 | 4 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 | 4 | 10 | 2 | 4 | | | | | | | |
| BARE SUBSTRATE | 78 | 47 | 28 | 12 | 21 | 37 | 17 | 12 | 5 | 11 | 10 | 11 | 39 | 32 | 16 | 51 | 30 | 34 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **3** | **16** | **20** | **29** | **30** | **AVG** | **9** | **10** | **25** | **27** | **28** | **AVG** | **12** | **14** | **15** | **17** | **24** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 13 | 19 | 9 | 33 | 47 | 24 | 12 | 3 | 6 | 9 | 1 | 6 | 4 | 2 | 9 | 9 | 4 | 6 | | | | | | | |
| THATCHED BARNACLE | 38 | 23 | 11 | 25 | 22 | 24 | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 4 | 13 | 0 | 0 | 3 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 4 | 0 | 1 | 56 | 60 | 62 | 72 | 74 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 24 | 27 | 33 | 20 | 28 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 13 | 10 | 1 | 0 | 6 | 6 | 5 | 25 | 28 | 1 | 21 | 16 | 7 | 10 | 1 | 2 | 13 | 7 | | | | | | | |
| OTHER ANIMALS | 5 | 15 | 0 | 0 | 0 | 4 | 5 | 4 | 1 | 6 | 2 | 4 | 8 | 7 | 7 | 9 | 6 | 7 | | | | | | | |
| BARE SUBSTRATE | 31 | 33 | 79 | 38 | 25 | 41 | 19 | 6 | 3 | 12 | 2 | 8 | 44 | 53 | 43 | 47 | 57 | 49 | | | | | | | |

## Table 16. Intertidal Cover within Photoplots in Fall 1991.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 29 | 0 | 0 | 0 | 29 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 16 | 17 | 7 | 16 | 10 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 78 | 58 | 84 | 73 | 93 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 15 | 13 | 7 | 9 | | | | | | | |
| GOOSE BARNACLE | 0 | 5 | 11 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 25 | 0 | 15 | 11 | | | | | | | |
| OTHER PLANTS | 3 | 40 | 18 | 63 | 0 | 25 | 5 | 33 | 3 | 27 | 7 | 15 | 36 | 68 | 19 | 35 | 39 | 39 | | | | | | | |
| OTHER ANIMALS | 13 | 4 | 0 | 15 | 3 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 16 | 0 | 4 | | | | | | | |
| BARE SUBSTRATE | 38 | 34 | 64 | 3 | 58 | 39 | 17 | 9 | 13 | 0 | 0 | 8 | 41 | 26 | 41 | 35 | 39 | 36 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 4 | 45 | 14 | 30 | 21 | 23 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 1 | | | | | | | |
| THATCHED BARNACLE | 8 | 7 | 41 | 18 | 31 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | | | | | | | |
| ROCKWEED | 0 | 6 | 0 | 0 | 0 | 1 | 90 | 47 | 83 | 82 | 72 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 36 | 5 | 0 | 15 | 18 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 68 | 12 | 8 | 18 | 27 | 27 | 5 | 53 | 17 | 8 | 11 | 19 | 54 | 38 | 53 | 47 | 70 | 52 | | | | | | | |
| OTHER ANIMALS | 0 | 2 | 21 | 28 | 4 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 5 | 3 | 3 | | | | | | | |
| BARE SUBSTRATE | 20 | 28 | 9 | 6 | 17 | 16 | 5 | 0 | 0 | 7 | 17 | 6 | 8 | 22 | 36 | 42 | 12 | 24 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 25 | 53 | 32 | 52 | 48 | 42 | 3 | 0 | 0 | 3 | 0 | 1 | 15 | 10 | 34 | 13 | 15 | 17 | | | | | | | |
| THATCHED BARNACLE | 37 | 19 | 10 | 21 | 31 | 24 | 1 | 0 | 0 | 0 | 4 | 1 | 0 | 2 | 14 | 1 | 2 | 4 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 11 | 2 | 3 | 67 | 89 | 99 | 78 | 47 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 28 | 19 | 37 | 22 | 25 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 8 | 12 | 4 | 2 | 1 | 5 | 2 | 5 | 1 | 2 | 32 | 8 | 13 | 3 | 5 | 3 | 15 | 8 | | | | | | | |
| OTHER ANIMALS | 9 | 10 | 5 | 5 | 12 | 8 | 8 | 6 | 0 | 11 | 15 | 8 | 8 | 10 | 4 | 3 | 1 | 5 | | | | | | | |
| BARE SUBSTRATE | 21 | 6 | 49 | 9 | 6 | 18 | 19 | 0 | 0 | 6 | 2 | 5 | 44 | 47 | 24 | 43 | 45 | 41 | | | | | | | |

## Table 17. Intertidal Cover within Photoplots in Spring 1992.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 25 | 2 | 3 | 1 | 50 | 16 | 6 | 0 | 3 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 18 | 11 | 4 | 13 | 5 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 60 | 63 | 62 | 76 | 60 | 0 | 2 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 2 | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 18 | 8 | 5 | 7 | | | | | | | |
| GOOSE BARNACLE | 0 | 6 | 11 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 27 | 0 | 13 | 10 | | | | | | | |
| OTHER PLANTS | 25 | 54 | 48 | 59 | 4 | 38 | 12 | 39 | 19 | 36 | 20 | 25 | 52 | 65 | 16 | 48 | 38 | 44 | | | | | | | |
| OTHER ANIMALS | 2 | 3 | 0 | 23 | 1 | 6 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 17 | 0 | 4 | | | | | | | |
| BARE SUBSTRATE | 28 | 23 | 34 | 1 | 40 | 25 | 40 | 1 | 14 | 2 | 3 | 12 | 33 | 32 | 39 | 27 | 44 | 35 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 14 | 18 | 22 | 17 | 14 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 0 | 5 | 34 | 10 | 20 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 2 | 2 | 2 | 0 | 1 | 1 | 76 | 77 | 81 | 82 | 68 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 27 | 0 | 0 | 5 | 10 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 57 | 3 | 18 | 36 | 44 | 32 | 8 | 22 | 19 | 12 | 9 | 14 | 58 | 53 | 95 | 58 | 87 | 70 | | | | | | | |
| OTHER ANIMALS | 1 | 33 | 11 | 26 | 12 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 8 | 3 | 3 | | | | | | | |
| BARE SUBSTRATE | 40 | 43 | 11 | 6 | 6 | 21 | 16 | 1 | 0 | 5 | 23 | 9 | 22 | 16 | 5 | 34 | 5 | 16 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 17 | 40 | 36 | 59 | 27 | 36 | 8 | 0 | 0 | 4 | 0 | 2 | 35 | 6 | 47 | 7 | 25 | 24 | | | | | | | |
| THATCHED BARNACLE | 26 | 17 | 8 | 16 | 11 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 4 | 3 | 1 | 72 | 81 | 74 | 83 | 46 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 25 | 21 | 28 | 16 | 23 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 27 | 30 | 2 | 8 | 56 | 25 | 0 | 17 | 25 | 7 | 54 | 21 | 6 | 9 | 10 | 10 | 23 | 12 | | | | | | | |
| OTHER ANIMALS | 0 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 | 4 | 3 | 2 | 3 | | | | | | | |
| BARE SUBSTRATE | 30 | 13 | 51 | 13 | 2 | 22 | 20 | 2 | 1 | 6 | 0 | 6 | 34 | 52 | 15 | 52 | 34 | 37 | | | | | | | |

## Table 18. Intertidal Cover within Photoplots in June 1992.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **286** | **292** | **293** | **294** | **299** | **AVG** | **287** | **288** | **290** | **291** | **295** | **AVG** | **285** | **289** | **296** | **297** | **298** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 31 | 5 | 1 | 6 | 48 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 19 | 8 | 6 | 19 | 3 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 63 | 72 | 78 | 80 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 21 | 10 | 9 | 10 | | | | | | | |
| GOOSE BARNACLE | 0 | 9 | 13 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 27 | 0 | 21 | 13 | | | | | | | |
| OTHER PLANTS | 6 | 45 | 18 | 43 | 2 | 23 | 21 | 31 | 13 | 21 | 19 | 21 | 20 | 66 | 18 | 20 | 17 | 28 | | | | | | | |
| OTHER ANIMALS | 18 | 0 | 8 | 23 | 8 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 28 | 0 | 7 | | | | | | | |
| BARE SUBSTRATE | 26 | 33 | 54 | 7 | 39 | 32 | 42 | 6 | 15 | 1 | 1 | 13 | 54 | 30 | 34 | 41 | 53 | 42 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **247** | **248** | **256** | **259** | **260** | **AVG** | **249** | **251** | **252** | **258** | **265** | **AVG** | **245** | **246** | **253** | **254** | **255** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 9 | 20 | 20 | 18 | 22 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 4 | 2 | 24 | 12 | 23 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 2 | 3 | 0 | 0 | 5 | 2 | 75 | 36 | 87 | 72 | 83 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 13 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 23 | 0 | 0 | 2 | 8 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 20 | 4 | 19 | 7 | 17 | 13 | 13 | 63 | 9 | 12 | 4 | 20 | 54 | 55 | 92 | 63 | 90 | 71 | | | | | | | |
| OTHER ANIMALS | 2 | 35 | 19 | 34 | 13 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | | | | | | | |
| BARE SUBSTRATE | 63 | 36 | 5 | 29 | 20 | 31 | 12 | 1 | 4 | 16 | 13 | 9 | 30 | 20 | 8 | 37 | 6 | 20 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **3** | **16** | **20** | **29** | **30** | **AVG** | **9** | **10** | **25** | **27** | **28** | **AVG** | **12** | **14** | **15** | **17** | **24** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 25 | 29 | 32 | 53 | 34 | 35 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 20 | 12 | 6 | 14 | 17 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 1 | 1 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 9 | 7 | 3 | 85 | 77 | 94 | 84 | 92 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 25 | 22 | 26 | 21 | 23 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 33 | 7 | 0 | 3 | 12 | 11 | 3 | 20 | 6 | 6 | 8 | 9 | 23 | 15 | 14 | 22 | 30 | 21 | | | | | | | |
| OTHER ANIMALS | 7 | 24 | 7 | 5 | 23 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 11 | 8 | 6 | 8 | 8 | | | | | | | |
| BARE SUBSTRATE | 15 | 28 | 55 | 16 | 7 | 24 | 8 | 3 | 0 | 10 | 0 | 4 | 49 | 46 | 54 | 46 | 40 | 47 | | | | | | | |

## Table 19. Intertidal Cover within Photoplots in Fall 1992.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **286** | **292** | **293** | **294** | **299** | **AVG** | **287** | **288** | **290** | **291** | **295** | **AVG** | **285** | **289** | **296** | **297** | **298** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 0 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 5 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 32 | 8 | 8 | 13 | 5 | 13 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 1 | 0 | 44 | 52 | | 27 | 65 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 1 | 1 | 7 | 0 | 2 | 0 | 0 | | 0 | 0 | 0 | 7 | 1 | 18 | 10 | 6 | 8 | | | | | | | |
| GOOSE BARNACLE | 0 | 4 | 6 | 0 | 0 | 2 | 0 | 0 | | 0 | 0 | 0 | 13 | 0 | 22 | 0 | 24 | 12 | | | | | | | |
| OTHER PLANTS | 14 | 56 | 18 | 75 | 13 | 35 | 8 | 47 | | 67 | 32 | 39 | 28 | 76 | 18 | 38 | 24 | 37 | | | | | | | |
| OTHER ANIMALS | 4 | 2 | 0 | 1 | 11 | 4 | 0 | 0 | | 0 | 0 | 0 | 6 | 0 | 0 | 24 | 0 | 6 | | | | | | | |
| BARE SUBSTRATE | 45 | 29 | 67 | 2 | 70 | 43 | 47 | 1 | | 6 | 3 | 14 | 46 | 23 | 42 | 28 | 46 | 37 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **247** | **248** | **256** | **259** | **260** | **AVG** | **249** | **251** | **252** | **258** | **265** | **AVG** | **245** | **246** | **253** | **254** | **255** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 34 | 11 | 8 | 5 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 5 | 1 | 17 | 11 | 15 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 3 | 1 | 0 | 0 | 1 | 44 | 27 | 66 | 57 | 74 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 13 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 18 | 0 | 1 | 3 | 8 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 5 | 13 | 34 | 26 | 21 | 20 | 39 | 69 | 20 | 32 | 16 | 35 | 45 | 45 | 60 | 89 | 86 | 65 | | | | | | | |
| OTHER ANIMALS | 3 | 2 | 1 | 16 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | | | | | |
| BARE SUBSTRATE | 87 | 47 | 23 | 39 | 55 | 50 | 17 | 4 | 14 | 11 | 10 | 11 | 37 | 37 | 40 | 9 | 11 | 27 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **3** | **16** | **20** | **29** | **30** | **AVG** | **9** | **10** | **25** | **27** | **28** | **AVG** | **12** | **14** | **15** | **17** | **24** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 10 | 1 | 0 | 2 | 0 | 3 | 5 | 0 | 0 | 2 | 0 | 1 | 7 | 1 | 2 | 1 | 4 | 3 | | | | | | | |
| THATCHED BARNACLE | 12 | 14 | 8 | 17 | 31 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 3 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 15 | 7 | 4 | 58 | 60 | 70 | 75 | 53 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 24 | 15 | 12 | 8 | 15 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 52 | 47 | 1 | 15 | 10 | 25 | 16 | 30 | 27 | 9 | 45 | 25 | 18 | 11 | 5 | 9 | 7 | 10 | | | | | | | |
| OTHER ANIMALS | 0 | 4 | 5 | 1 | 6 | 3 | 0 | 9 | 0 | 0 | 0 | 2 | 4 | 11 | 6 | 3 | 6 | 6 | | | | | | | |
| BARE SUBSTRATE | 26 | 34 | 86 | 50 | 46 | 48 | 20 | 1 | 3 | 14 | 2 | 8 | 53 | 53 | 60 | 75 | 74 | 63 | | | | | | | |

## Table 20. Intertidal Cover within Photoplots in Spring 1993.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 0 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 1 | | 0 | 0 | 14 | 4 | 6 | 0 | 3 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | | | | | | | |
| THATCHED BARNACLE | 29 | | 2 | 15 | 2 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | | 0 | 0 | 0 | 0 | 34 | 50 | 70 | 37 | 70 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | | 0 | 12 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 28 | 9 | 7 | 9 | | | | | | | |
| GOOSE BARNACLE | 0 | | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 23 | 8 | | | | | | | |
| OTHER PLANTS | 7 | | 14 | 66 | 4 | 23 | 18 | 41 | 16 | 63 | 26 | 33 | 13 | 58 | 13 | 29 | 28 | 28 | | | | | | | |
| OTHER ANIMALS | 13 | | 0 | 3 | 2 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 24 | 27 | 0 | 11 | | | | | | | |
| BARE SUBSTRATE | 50 | | 78 | 4 | 78 | 53 | 41 | 9 | 11 | 0 | 4 | 13 | 65 | 37 | 35 | 34 | 42 | 43 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 15 | 14 | 9 | 10 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 11 | 3 | 0 | 0 | 3 | | | | | | | |
| THATCHED BARNACLE | 0 | 3 | 19 | 11 | 25 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 50 | 56 | 65 | 74 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 14 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 14 | 0 | 1 | 4 | 8 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 33 | 17 | 31 | 22 | 37 | 28 | 29 | 47 | 30 | 28 | 10 | 29 | 52 | 38 | 84 | 75 | 72 | 64 | | | | | | | |
| OTHER ANIMALS | 3 | 22 | 9 | 36 | 4 | 15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| BARE SUBSTRATE | 64 | 43 | 13 | 22 | 24 | 33 | 25 | 3 | 13 | 7 | 16 | 13 | 28 | 37 | 13 | 24 | 24 | 25 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 14 | 14 | 0 | 13 | 11 | 10 | 7 | 0 | 0 | 2 | 0 | 2 | 11 | 1 | 2 | 0 | 4 | 4 | | | | | | | |
| THATCHED BARNACLE | 15 | 17 | 8 | 25 | 35 | 20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 3 | 2 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 10 | 1 | 2 | 54 | 93 | 69 | 49 | 62 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 22 | 19 | 11 | 9 | 14 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 18 | 49 | 0 | 1 | 4 | 14 | 12 | 6 | 31 | 37 | 38 | 25 | 7 | 6 | 5 | 7 | 11 | 7 | | | | | | | |
| OTHER ANIMALS | 30 | 10 | 2 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 7 | 3 | 3 | 7 | | | | | | | |
| BARE SUBSTRATE | 23 | 10 | 90 | 51 | 49 | 45 | 26 | 1 | 0 | 12 | 0 | 8 | 65 | 51 | 63 | 79 | 70 | 66 | | | | | | | |

## Table 21. Intertidal Cover within Photoplots in Fall 1993.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 10 | 0 | 0 | 13 | 9 | 6 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | | | | | | | |
| THATCHED BARNACLE | 21 | 1 | 3 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 14 | 3 | 46 | 68 | 71 | 40 | 72 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 13 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 34 | 12 | 9 | 13 | | | | | | | |
| GOOSE BARNACLE | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 24 | 0 | 26 | 13 | | | | | | | |
| OTHER PLANTS | 26 | 76 | 29 | 68 | 13 | 42 | 22 | 26 | 16 | 60 | 26 | 30 | 37 | 74 | 13 | 37 | 38 | 40 | | | | | | | |
| OTHER ANIMALS | 1 | 2 | 5 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 31 | 0 | 7 | | | | | | | |
| BARE SUBSTRATE | 42 | 19 | 62 | 5 | 62 | 38 | 27 | 6 | 13 | 0 | 2 | 10 | 37 | 22 | 28 | 20 | 27 | 27 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 21 | 0 | 8 | 8 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | | | | | | | |
| THATCHED BARNACLE | 3 | 0 | 12 | 1 | 22 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 3 | 1 | 3 | 0 | 1 | 58 | 69 | 79 | 83 | 79 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 10 | 0 | 0 | 1 | 4 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 43 | 46 | 70 | 51 | 25 | 47 | 37 | 27 | 13 | 12 | 7 | 19 | 66 | 49 | 65 | 80 | 92 | 70 | | | | | | | |
| OTHER ANIMALS | 4 | 3 | 0 | 20 | 2 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | | | | | | | |
| BARE SUBSTRATE | 50 | 27 | 10 | 17 | 43 | 29 | 5 | 4 | 8 | 5 | 13 | 7 | 24 | 39 | 32 | 20 | 7 | 24 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 19 | 12 | 14 | 31 | 26 | 20 | 5 | 0 | 0 | 0 | 0 | 1 | 14 | 5 | 3 | 0 | 15 | 7 | | | | | | | |
| THATCHED BARNACLE | 12 | 10 | 8 | 19 | 27 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 16 | 2 | 0 | 4 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 12 | 7 | 4 | 62 | 86 | 63 | 67 | 20 | 60 | 3 | 0 | 0 | 0 | 0 | 1 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 16 | 17 | 8 | 7 | 10 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 26 | 49 | 11 | 13 | 5 | 21 | 2 | 1 | 36 | 23 | 74 | 27 | 19 | 19 | 4 | 17 | 19 | 16 | | | | | | | |
| OTHER ANIMALS | 1 | 0 | 3 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 5 | 5 | 4 | 4 | 4 | | | | | | | |
| BARE SUBSTRATE | 42 | 29 | 64 | 25 | 35 | 39 | 30 | 12 | 1 | 10 | 6 | 12 | 58 | 53 | 55 | 69 | 55 | 58 | | | | | | | |

## Table 22. Intertidal Cover within Photoplots in Spring 1994.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **286** | **292** | **293** | **294** | **299** | **AVG** | **287** | **288** | **290** | **291** | **295** | **AVG** | **285** | **289** | **296** | **297** | **298** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 0 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | | | | | | |
| THATCHED BARNACLE | 32 | 0 | 6 | 11 | 3 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 48 | 46 | 74 | 30 | 52 | 50 | 0 | | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 2 | 0 | 16 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | | 33 | 11 | 10 | 16 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | | 24 | 0 | 21 | 14 | | | | | | | |
| OTHER PLANTS | 9 | 47 | 14 | 65 | 3 | 28 | 22 | 51 | 20 | 69 | 45 | 41 | 38 | | 16 | 27 | 34 | 29 | | | | | | | |
| OTHER ANIMALS | 14 | 13 | 6 | 0 | 6 | 8 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | | 0 | 20 | 0 | 6 | | | | | | | |
| BARE SUBSTRATE | 42 | 38 | 74 | 8 | 87 | 50 | 30 | 3 | 5 | 1 | 3 | 8 | 37 | | 27 | 42 | 35 | 35 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **247** | **248** | **256** | **259** | **260** | **AVG** | **249** | **251** | **252** | **258** | **265** | **AVG** | **245** | **246** | **253** | **254** | **255** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 18 | 0 | 3 | 7 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 12 | 2 | 0 | 4 | | | | | | | |
| THATCHED BARNACLE | 0 | 6 | 10 | 3 | 19 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 2 | 3 | 2 | 1 | 59 | 29 | 65 | 65 | 73 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 1 | | | | | | | |
| OTHER PLANTS | 67 | 25 | 60 | 34 | 19 | 41 | 27 | 66 | 18 | 25 | 13 | 30 | 70 | 56 | 38 | 50 | 88 | 60 | | | | | | | |
| OTHER ANIMALS | 4 | 20 | 3 | 31 | 7 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 7 | 4 | 4 | 4 | | | | | | | |
| BARE SUBSTRATE | 29 | 31 | 15 | 26 | 46 | 29 | 14 | 5 | 17 | 10 | 14 | 12 | 14 | 39 | 41 | 44 | 8 | 29 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **3** | **16** | **20** | **29** | **30** | **AVG** | **9** | **10** | **25** | **27** | **28** | **AVG** | **12** | **14** | **15** | **17** | **24** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 13 | 9 | 11 | 35 | 19 | 17 | 3 | 0 | 0 | 0 | 0 | 1 | 29 | 5 | 1 | 7 | 9 | 10 | | | | | | | |
| THATCHED BARNACLE | 16 | 15 | 14 | 22 | 27 | 19 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 1 | 2 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 10 | 8 | 4 | 78 | 67 | 82 | 80 | 45 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 11 | 11 | 0 | 0 | 5 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 2 | 1 | 0 | 15 | 6 | 5 | 12 | 27 | 10 | 13 | 50 | 22 | 12 | 27 | 8 | 11 | 31 | 18 | | | | | | | |
| OTHER ANIMALS | 3 | 2 | 2 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 11 | 1 | 1 | 4 | 5 | | | | | | | |
| BARE SUBSTRATE | 66 | 73 | 73 | 17 | 37 | 53 | 6 | 6 | 8 | 7 | 5 | 6 | 51 | 46 | 69 | 81 | 55 | 60 | | | | | | | |

## Table 23. Intertidal Cover within Photoplots in Fall 1994.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 0 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 5 | 14 | 5 | 0 | 20 | 9 | 2 | | 0 | 0 | 1 | 1 | 5 | 2 | 1 | 0 | 2 | 2 | | | | | | | |
| THATCHED BARNACLE | 14 | 5 | 4 | 0 | 2 | 5 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 0 | 1 | 0 | 38 | | 79 | 28 | 59 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 4 | 4 | 0 | 2 | 0 | | 0 | 0 | 0 | 0 | 6 | 0 | 38 | 13 | 4 | 12 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 7 | 0 | 21 | 18 | 29 | 15 | | | | | | | |
| OTHER PLANTS | 51 | 38 | 30 | 94 | 44 | 51 | 16 | | 10 | 70 | 37 | 33 | 30 | 74 | 14 | 36 | 31 | 37 | | | | | | | |
| OTHER ANIMALS | 1 | 0 | 3 | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 1 | | | | | | | |
| BARE SUBSTRATE | 29 | 43 | 54 | 2 | 33 | 32 | 44 | | 11 | 2 | 3 | 15 | 51 | 24 | 26 | 32 | 31 | 33 | | | | | | | |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 0 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 0 | 23 | 1 | 12 | 56 | 18 | 0 | 0 | | 3 | 0 | 1 | 1 | 0 | 19 | 5 | 0 | 5 | | | | | | | |
| THATCHED BARNACLE | 2 | 3 | 6 | 5 | 17 | 7 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| ROCKWEED | 0 | 0 | 20 | 3 | 0 | 5 | 70 | 38 | | 68 | 63 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 12 | 0 | 0 | 2 | 0 | 0 | | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 15 | 31 | 46 | 51 | 14 | 31 | 27 | 58 | | 10 | 23 | 30 | 63 | 60 | 71 | 81 | 93 | 74 | | | | | | | |
| OTHER ANIMALS | 2 | 0 | 0 | 9 | 0 | 2 | 0 | 0 | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | | | | | | | |
| BARE SUBSTRATE | 81 | 43 | 15 | 20 | 13 | 34 | 3 | 4 | | 19 | 14 | 10 | 30 | 39 | 10 | 13 | 7 | 20 | | | | | | | |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 0 | 0 | 0 | 0 | 0 | 0 | |
| ACORN BARNACLE | 26 | 19 | 37 | 43 | 37 | 32 | 3 | 0 | 0 | 0 | 0 | 1 | 34 | 45 | 54 | 60 | 47 | 48 | | | | | | | |
| THATCHED BARNACLE | 5 | 11 | 12 | 13 | 22 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 10 | 2 | 5 | 4 | | | | | | | |
| ROCKWEED | 0 | 0 | 0 | 13 | 0 | 3 | 81 | 90 | 76 | 90 | 31 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 7 | 0 | 0 | 4 | | | | | | | |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | |
| OTHER PLANTS | 19 | 33 | 3 | 8 | 3 | 13 | 5 | 4 | 24 | 5 | 66 | 21 | 38 | 12 | 10 | 8 | 5 | 15 | | | | | | | |
| OTHER ANIMALS | 6 | 9 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 1 | | | | | | | |
| BARE SUBSTRATE | 44 | 28 | 48 | 23 | 38 | 36 | 11 | 6 | 0 | 5 | 3 | 5 | 21 | 30 | 16 | 29 | 43 | 28 | | | | | | | |

## Table 24. Intertidal Cover within Photoplots in Spring 1995

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **286** | **292** | **293** | **294** | **299** | **AVG** | **287** | **288** | **290** | **291** | **295** | **AVG** | **285** | **289** | **296** | **297** | **298** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | |
| ACORN BARNACLE | 4 | 4 | 0 | 0 | 30 | 8 | 2 | 0 | 3 | 1 | 1 | 1 | 2 | 0 | 0 | 2 | 3 | 1 | 2 | 6 | 4 | 4 | 0 | 1 | 3 |
| THATCHED BARNACLE | 17 | 0 | 5 | 6 | 3 | 6 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| ROCKWEED | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 56 | 52 | 25 | 41 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 8 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 34 | 12 | 4 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 23 | 17 | 19 | 13 | 1 | 3 | 8 | 3 | 4 | 12 | 5 |
| OTHER PLANTS | 26 | 75 | 30 | 83 | 13 | 45 | 17 | 44 | 26 | 68 | 57 | 42 | 80 | 72 | 24 | 44 | 48 | 54 | 21 | 1 | 9 | 1 | 5 | 4 | 7 |
| OTHER ANIMALS | 2 | 5 | 4 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 2 | 2 | 0 | 1 | 1 |
| BARE SUBSTRATE | 51 | 16 | 61 | 2 | 54 | 37 | 38 | 0 | 18 | 5 | 1 | 12 | 7 | 27 | 18 | 24 | 24 | 20 | 76 | 89 | 77 | 90 | 91 | 81 | 84 |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **247** | **248** | **256** | **259** | **260** | **AVG** | **249** | **251** | **252** | **258** | **265** | **AVG** | **245** | **246** | **253** | **254** | **255** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | |
| ACORN BARNACLE | 2 | 21 | 6 | 9 | 26 | 13 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 2 | 56 | 0 | 0 | 12 | 0 | 2 | 3 | 1 | 0 | 2 | 1 |
| THATCHED BARNACLE | 1 | 4 | 14 | 4 | 12 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ROCKWEED | 0 | 0 | 17 | 0 | 8 | 5 | 65 | 59 | 70 | 78 | 72 | 69 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| CALIFORNIA MUSSEL | 0 | 0 | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 | 7 | 9 | 8 | 10 | 8 |
| OTHER PLANTS | 91 | 24 | 36 | 42 | 29 | 44 | 10 | 37 | 19 | 5 | 16 | 17 | 80 | 49 | 26 | 85 | 94 | 67 | 8 | 4 | 4 | 4 | 12 | 4 | 6 |
| OTHER ANIMALS | 2 | 18 | 1 | 25 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 1 |
| BARE SUBSTRATE | 4 | 33 | 16 | 20 | 25 | 20 | 25 | 3 | 11 | 15 | 12 | 13 | 11 | 42 | 18 | 15 | 4 | 18 | 89 | 84 | 86 | 85 | 77 | 83 | 84 |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PHOTOPLOT #** | **3** | **16** | **20** | **29** | **30** | **AVG** | **9** | **10** | **25** | **27** | **28** | **AVG** | **12** | **14** | **15** | **17** | **24** | **AVG** | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **AVG** |
| **# POINTS SCORED** | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | |
| ACORN BARNACLE | 11 | 27 | 59 | 42 | 47 | 37 | 4 | 0 | 0 | 1 | 4 | 2 | 70 | 43 | 78 | 89 | 59 | 68 | 10 | 20 | 8 | 3 | 36 | 39 | 19 |
| THATCHED BARNACLE | 3 | 1 | 11 | 18 | 25 | 12 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 1 | 12 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ROCKWEED | 0 | 0 | 0 | 12 | 8 | 4 | 67 | 88 | 60 | 86 | 83 | 77 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 6 | 4 | 2 | 2 | 3 |
| OTHER PLANTS | 34 | 31 | 0 | 1 | 1 | 13 | 14 | 7 | 39 | 4 | 3 | 13 | 10 | 5 | 0 | 0 | 1 | 3 | 10 | 0 | 0 | 11 | 5 | 0 | 4 |
| OTHER ANIMALS | 6 | 11 | 3 | 0 | 14 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 3 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 1 |
| BARE SUBSTRATE | 46 | 30 | 27 | 27 | 5 | 27 | 14 | 5 | 1 | 8 | 10 | 8 | 15 | 47 | 8 | 8 | 25 | 21 | 77 | 77 | 86 | 80 | 56 | 59 | 73 |

## Table 25. Intertidal Cover within Photoplots in Fall 1995.

| CABR AREA I | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 286 | 292 | 293 | 294 | 299 | AVG | 287 | 288 | 290 | 291 | 295 | AVG | 285 | 289 | 296 | 297 | 298 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | 0 | |
| ACORN BARNACLE | 6 | 0 | 0 | 0 | 14 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 3 | 0 | | 1 |
| THATCHED BARNACLE | 11 | 1 | 2 | 1 | 2 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| ROCKWEED | 0 | 0 | 1 | 0 | 0 | 0 | 56 | 74 | 69 | 35 | 71 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | | 0 |
| CALIFORNIA MUSSEL | 0 | 1 | 0 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 39 | 15 | 8 | 14 | 0 | 0 | 0 | 0 | 0 | | 0 |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 22 | 19 | 21 | 13 | 1 | 5 | 10 | 11 | 7 | | 7 |
| OTHER PLANTS | 19 | 71 | 20 | 90 | 17 | 43 | 9 | 25 | 20 | 59 | 28 | 28 | 78 | 82 | 8 | 29 | 40 | 47 | 12 | 2 | 4 | 0 | 3 | | 4 |
| OTHER ANIMALS | 0 | 2 | 5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 4 | 1 | 0 | 2 | 1 | 0 | 0 | | 1 |
| BARE SUBSTRATE | 64 | 25 | 72 | 2 | 67 | 46 | 33 | 1 | 10 | 5 | 1 | 10 | 11 | 17 | 30 | 37 | 27 | 24 | 84 | 89 | 85 | 86 | 90 | | 87 |

| CABR AREA II | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 247 | 248 | 256 | 259 | 260 | AVG | 249 | 251 | 252 | 258 | 265 | AVG | 245 | 246 | 253 | 254 | 255 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | 100 | |
| ACORN BARNACLE | 0 | 18 | 2 | 6 | 24 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| THATCHED BARNACLE | 1 | 4 | 2 | 9 | 16 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ROCKWEED | 0 | 0 | 21 | 5 | 1 | 5 | 79 | 54 | 92 | 77 | 82 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CALIFORNIA MUSSEL | 0 | 0 | 8 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 5 | 16 | 17 | 13 | 11 |
| OTHER PLANTS | 6 | 15 | 38 | 23 | 5 | 17 | 17 | 46 | 8 | 13 | 13 | 19 | 82 | 67 | 43 | 85 | 98 | 75 | 4 | 5 | 0 | 4 | 7 | 3 | 4 |
| OTHER ANIMALS | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 3 | 3 | 2 | 0 | 3 | 0 | 2 |
| BARE SUBSTRATE | 92 | 62 | 29 | 56 | 54 | 59 | 4 | 0 | 0 | 10 | 5 | 4 | 15 | 32 | 36 | 15 | 0 | 20 | 89 | 81 | 93 | 80 | 72 | 84 | 83 |

| CABR AREA III | BARNACLES (% COVER) | | | | | | ROCKWEED (% COVER) | | | | | | MUSSELS (% COVER) | | | | | | GOOSE BARNACLE (% COVER) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHOTOPLOT # | 3 | 16 | 20 | 29 | 30 | AVG | 9 | 10 | 25 | 27 | 28 | AVG | 12 | 14 | 15 | 17 | 24 | AVG | P1 | P2 | P3 | P4 | P5 | P6 | AVG |
| # POINTS SCORED | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 100 | 100 | | 100 | 100 | 100 | 0 | 100 | 100 | |
| ACORN BARNACLE | 8 | 12 | 6 | 12 | 10 | 10 | 3 | 0 | 1 | 0 | 0 | 1 | 18 | 15 | 13 | 50 | 18 | 23 | 14 | 30 | 8 | | 21 | 46 | 24 |
| THATCHED BARNACLE | 0 | 1 | 9 | 13 | 20 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 13 | 0 | 12 | 7 | 0 | 0 | 0 | | 0 | 0 | 0 |
| ROCKWEED | 0 | 0 | 0 | 14 | 14 | 6 | 75 | 92 | 84 | 93 | 67 | 82 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | 0 | 0 | 0 |
| CALIFORNIA MUSSEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | | 0 | 0 | 0 |
| GOOSE BARNACLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 5 | 6 | | 1 | 1 | 4 |
| OTHER PLANTS | 53 | 49 | 6 | 6 | 9 | 25 | 5 | 7 | 15 | 4 | 31 | 12 | 13 | 8 | 8 | 1 | 10 | 8 | 9 | 2 | 0 | | 0 | 0 | 2 |
| OTHER ANIMALS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | | 0 | 0 | 1 |
| BARE SUBSTRATE | 39 | 38 | 78 | 55 | 47 | 51 | 17 | 1 | 0 | 3 | 2 | 5 | 62 | 67 | 63 | 49 | 59 | 60 | 70 | 62 | 84 | | 78 | 53 | 69 |

**Table 26. Density and Size Distribution of Goose Barnacle Clumps in Spring 1990.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 35 | 39 | 19 | 93 | 30 | 8 | 3 | 12 | 23 | 17 | 18 | 0 | 0 | 18 | 25 |
| 10 | 9 | 16 | 11 | 36 | 12 | 11 | 5 | 10 | 26 | 19 | 6 | 1 | 1 | 8 | 11 |
| 15 | 8 | 17 | 8 | 33 | 11 | 11 | 2 | 8 | 21 | 15 | 5 | 0 | 1 | 6 | 8 |
| 20 | 12 | 8 | 10 | 30 | 10 | 3 | 2 | 3 | 8 | 6 | 2 | 1 | 2 | 5 | 7 |
| 25 | 0 | 3 | 2 | 5 | 2 | 2 | 1 | 2 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| 30 | 6 | 8 | 2 | 16 | 5 | 2 | 2 | 4 | 8 | 6 | 4 | 0 | 1 | 5 | 7 |
| 35 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | 3 | 6 | 1 | 10 | 3 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 4 | 5 |
| 45 | 1 | 2 | 2 | 5 | 2 | 0 | 1 | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 2 | 0 | 2 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 1 |
| 55 | 2 | 3 | 2 | 7 | 2 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| 60 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65 | 4 | 3 | 3 | 10 | 3 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 70 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 2 | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 80 | 2 | 1 | 2 | 5 | 2 | 3 | 2 | 0 | 5 | 4 | 1 | 0 | 0 | 1 | 1 |
| 85 | 0 | 3 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 4 | 1 | 0 | 5 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 100 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 105 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 115 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 3 |
| 120 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 125 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 1 | 2 | 1 | 4 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 3 | 3 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 160 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 1 | 1 | 3 | 1 | 0 | 2 | 2 | 4 | 3 | 0 | 1 | 1 | 2 | 3 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 195 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 200 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 205 | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 240 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 275 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 26. Density and Size Distribution of Goose Barnacle Clumps in Spring 1990.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 315 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 350 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 2 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 3 | 2 | 2 | 0 | 1 | 3 | 4 |
| # CLUMPS | 111 | 130 | 71 | 312 | 100 | 53 | 37 | 48 | 138 | 100 | 47 | 10 | 16 | 73 | 100 |
| AREA SUM | 7745 | 5080 | 3306 | 16131 | | 2130 | 6568 | 1816 | 10514 | | 3185 | 1373 | 3320 | 7778 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 3 | 1 | 1 | | 1 | 7 | 7 | 1 | |
| MAX SIZE | 707 | 491 | 392 | 707 | | 450 | 1385 | 319 | 1385 | | 714 | 314 | 616 | 714 | |
| MEAN | 70 | 39 | 47 | 52 | | 40 | 178 | 38 | 76 | | 68 | 137 | 201 | 107 | |
| ST DEV | 120 | 69 | 86 | 94 | | 70 | 320 | 75 | 186 | | 149 | 101 | 216 | 168 | |
| % COVER | 8% | 5% | 3% | 5% | | 2% | 7% | 2% | 4% | | 3% | 1% | 3% | 3% | |

**Table 27. Density and Size Distribution of Goose Barnacle Clumps in Fall 1990.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 5 | 2 | 12 | 19 | 10 | 23 | 12 | 4 | 39 | 23 | 0 | 0 | 0 | 0 | 0 |
| 10 | 9 | 9 | 9 | 27 | 14 | 14 | 2 | 1 | 17 | 10 | 1 | 0 | 1 | 2 | 6 |
| 15 | 4 | 9 | 7 | 20 | 11 | 17 | 2 | 5 | 24 | 14 | 1 | 0 | 0 | 1 | 3 |
| 20 | 1 | 2 | 8 | 11 | 6 | 10 | 2 | 4 | 16 | 9 | 0 | 0 | 3 | 3 | 8 |
| 25 | 0 | 2 | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 3 |
| 30 | 7 | 4 | 9 | 20 | 11 | 7 | 4 | 2 | 13 | 8 | 0 | 0 | 0 | 0 | 0 |
| 35 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 40 | 2 | 1 | 2 | 5 | 3 | 2 | 3 | 4 | 9 | 5 | 1 | 0 | 0 | 1 | 3 |
| 45 | 0 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 3 |
| 55 | 7 | 4 | 1 | 12 | 6 | 2 | 3 | 1 | 6 | 4 | 1 | 0 | 0 | 1 | 3 |
| 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65 | 3 | 3 | 1 | 7 | 4 | 0 | 5 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 4 | 0 | 4 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 80 | 2 | 4 | 2 | 8 | 4 | 1 | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 5 | 1 | 1 | 7 | 4 | 1 | 3 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| 100 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 105 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 2 | 1 | 1 | 4 | 2 | 3 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| 120 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 135 | 4 | 1 | 0 | 5 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 3 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 3 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 2 | 1 | 4 | 2 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 3 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 3 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |

**Table 27. Density and Size Distribution of Goose Barnacle Clumps in Fall 1990.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 3 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 6 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 |
| >500 | 2 | 1 | 1 | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 3 | 7 | 6 | 16 | 44 |
| # CLUMPS | 68 | 60 | 59 | 187 | 100 | 92 | 51 | 28 | 171 | 100 | 15 | 8 | 13 | 36 | 100 |
| AREA SUM | 8211 | 4599 | 2806 | 15615 | | 2681 | 3640 | 1551 | 7872 | | 6908 | 7360 | 7431 | 21699 | |
| MIN SIZE | 1 | 2 | 1 | 1 | | 1 | 1 | 3 | 1 | | 8 | 314 | 8 | 8 | |
| MAX SIZE | 900 | 525 | 589 | 900 | | 408 | 962 | 314 | 962 | | 3318 | 2827 | 2827 | 3318 | |
| MEAN | 121 | 77 | 48 | 84 | | 29 | 71 | 55 | 46 | | 461 | 920 | 572 | 603 | |
| ST DEV | 173 | 108 | 95 | 135 | | 52 | 138 | 79 | 92 | | 817 | 803 | 795 | 803 | |
| % COVER | 8% | 5% | 3% | 5% | | 3% | 4% | 2% | 3% | | 7% | 7% | 7% | 7% | |

**Table 28. Density and Size Distribution of Goose Barnacle Clumps in Spring 1991.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 20 | 29 | 16 | 65 | 26 | 77 | 16 | 16 | 109 | 47 | 11 | 4 | 0 | 15 | 19 |
| 10 | 6 | 9 | 11 | 26 | 10 | 12 | 5 | 4 | 21 | 9 | 7 | 1 | 2 | 10 | 13 |
| 15 | 8 | 10 | 9 | 27 | 11 | 21 | 4 | 4 | 29 | 12 | 2 | 1 | 2 | 5 | 6 |
| 20 | 2 | 11 | 7 | 20 | 8 | 7 | 4 | 5 | 16 | 7 | 0 | 0 | 1 | 1 | 1 |
| 25 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 30 | 4 | 5 | 2 | 11 | 4 | 3 | 2 | 1 | 6 | 3 | 4 | 0 | 2 | 6 | 8 |
| 35 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 1 |
| 40 | 3 | 5 | 3 | 11 | 4 | 5 | 2 | 2 | 9 | 4 | 3 | 0 | 0 | 3 | 4 |
| 45 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 2 | 3 | 4 |
| 50 | 0 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | 2 | 10 | 0 | 12 | 5 | 2 | 3 | 1 | 6 | 3 | 0 | 2 | 1 | 3 | 4 |
| 60 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 | 4 | 7 | 2 | 13 | 5 | 1 | 2 | 0 | 3 | 1 | 2 | 0 | 0 | 2 | 3 |
| 70 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 80 | 4 | 3 | 3 | 10 | 4 | 1 | 5 | 1 | 7 | 3 | 0 | 0 | 0 | 0 | 0 |
| 85 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 2 | 1 | 0 | 3 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 100 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105 | 0 | 2 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 115 | 2 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 120 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 3 | 2 | 0 | 5 | 2 | 0 | 2 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 3 |
| 140 | 0 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 |
| 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 1 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 3 | 1 | 2 | 1 | 0 | 3 | 4 |
| 160 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 |
| 205 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 230 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 240 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

**Table 28. Density and Size Distribution of Goose Barnacle Clumps in Spring 1991.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 290 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 4 | 5 |
| # CLUMPS | 80 | 110 | 61 | 251 | 100 | 141 | 53 | 40 | 234 | 100 | 39 | 18 | 20 | 77 | 100 |
| AREA SUM | 6430 | 5190 | 2283 | 13903 | | 2677 | 3367 | 1393 | 7437 | | 2561 | 1977 | 4600 | 9138 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 6 | 1 | |
| MAX SIZE | 660 | 452 | 420 | 660 | | 408 | 908 | 227 | 908 | | 715 | 296 | 1810 | 1810 | |
| MEAN | 80 | 47 | 37 | 55 | | 19 | 64 | 35 | 32 | | 66 | 110 | 230 | 119 | |
| ST DEV | 117 | 70 | 73 | 90 | | 47 | 136 | 59 | 80 | | 132 | 107 | 407 | 240 | |
| % COVER | 6% | 5% | 2% | 5% | | 3% | 3% | 1% | 2% | | 3% | 2% | 5% | 3% | |

**Table 29. Density and Size Distribution of Goose Barnacle Clumps in Fall 1991.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM^2 | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 21 | 20 | 13 | 54 | 25 | 36 | 5 | 11 | 52 | 31 | 13 | 4 | 1 | 18 | 28 |
| 10 | 9 | 6 | 7 | 22 | 10 | 18 | 8 | 5 | 31 | 18 | 3 | 1 | 0 | 4 | 6 |
| 15 | 8 | 13 | 8 | 29 | 14 | 9 | 6 | 2 | 17 | 10 | 2 | 0 | 3 | 5 | 8 |
| 20 | 1 | 6 | 4 | 11 | 5 | 10 | 3 | 0 | 13 | 8 | 2 | 0 | 2 | 4 | 6 |
| 25 | 1 | 2 | 0 | 3 | 1 | 6 | 2 | 1 | 9 | 5 | 0 | 0 | 0 | 0 | 0 |
| 30 | 2 | 3 | 3 | 8 | 4 | 2 | 2 | 3 | 7 | 4 | 2 | 1 | 0 | 3 | 5 |
| 35 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 2 |
| 40 | 2 | 5 | 3 | 10 | 5 | 3 | 2 | 1 | 6 | 4 | 1 | 1 | 0 | 2 | 3 |
| 45 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 2 |
| 50 | 2 | 2 | 0 | 4 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 |
| 55 | 2 | 2 | 2 | 6 | 3 | 4 | 1 | 3 | 8 | 5 | 0 | 1 | 0 | 1 | 2 |
| 60 | 1 | 1 | 0 | 2 | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65 | 1 | 3 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 2 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 75 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 2 | 2 | 3 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 85 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 2 | 3 |
| 100 | 2 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 2 |
| 105 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 115 | 0 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 120 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 125 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 1 | 2 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 135 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 |
| 155 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 160 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 170 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 |
| 175 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 3 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 210 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 230 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 29. Density and Size Distribution of Goose Barnacle Clumps in Fall 1991.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM^2 | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 320 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 325 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 5 | 1 | 0 | 6 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 3 | 5 |
| # CLUMPS | 76 | 84 | 53 | 213 | 100 | 95 | 41 | 34 | 170 | 100 | 35 | 13 | 16 | 64 | 100 |
| AREA SUM | 7000 | 4464 | 2571 | 14035 | | 2009 | 2513 | 1506 | 6027 | | 2345 | 1499 | 3945 | 7789 | |
| MIN SIZE | 1 | 1 | 3 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 3 | 1 | |
| MAX SIZE | 735 | 600 | 462 | 735 | | 319 | 578 | 304 | 578 | | 675 | 375 | 1590 | 1590 | |
| MEAN | 92 | 53 | 49 | 66 | | 21 | 61 | 44 | 35 | | 67 | 115 | 247 | 122 | |
| ST DEV | 162 | 86 | 85 | 120 | | 42 | 107 | 72 | 71 | | 127 | 141 | 414 | 243 | |
| % COVER | 7% | 4% | 3% | 5% | | 2% | 3% | 2% | 2% | | 2% | 1% | 4% | 3% | |

**Table 30. Density and Size Distribution of Goose Barnacle Clumps in Spring 1992.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM^2 | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 41 | 48 | 44 | 133 | 40 | 69 | 23 | 18 | 110 | 46 | 25 | 3 | 0 | 28 | 30 |
| 10 | 13 | 22 | 13 | 48 | 14 | 14 | 9 | 4 | 27 | 11 | 16 | 3 | 0 | 19 | 20 |
| 15 | 8 | 10 | 3 | 21 | 6 | 13 | 4 | 3 | 20 | 8 | 4 | 0 | 1 | 5 | 5 |
| 20 | 6 | 3 | 4 | 13 | 4 | 7 | 2 | 3 | 12 | 5 | 3 | 1 | 3 | 7 | 8 |
| 25 | 4 | 4 | 2 | 10 | 3 | 2 | 1 | 3 | 6 | 3 | 0 | 1 | 0 | 1 | 1 |
| 30 | 4 | 8 | 4 | 16 | 5 | 7 | 3 | 1 | 11 | 5 | 0 | 0 | 0 | 0 | 0 |
| 35 | 4 | 2 | 2 | 8 | 2 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 40 | 5 | 6 | 1 | 12 | 4 | 3 | 0 | 2 | 5 | 2 | 0 | 0 | 0 | 0 | 0 |
| 45 | 1 | 1 | 2 | 4 | 1 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 2 | 2 | 2 |
| 50 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 55 | 1 | 3 | 2 | 6 | 2 | 1 | 2 | 0 | 3 | 1 | 0 | 1 | 1 | 2 | 2 |
| 60 | 0 | 1 | 1 | 2 | 1 | 1 | 3 | 1 | 5 | 2 | 0 | 0 | 1 | 1 | 1 |
| 65 | 1 | 2 | 0 | 3 | 1 | 2 | 1 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 3 | 3 | 1 | 7 | 2 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 95 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 2 |
| 100 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 105 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 | 2 |
| 110 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 120 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 4 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 135 | 3 | 0 | 1 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 |
| 140 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 235 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 1 | 2 | 1 | 4 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 30. Density and Size Distribution of Goose Barnacle Clumps in Spring 1992.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM^2 | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 295 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 355 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 2 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 3 | 0 | 1 | 4 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 3 | 2 | 6 | 6 |
| # CLUMPS | 120 | 125 | 90 | 335 | 100 | 135 | 59 | 44 | 238 | 100 | 60 | 14 | 19 | 93 | 100 |
| AREA SUM | 8620 | 3779 | 3116 | 15514 | | 3482 | 3873 | 1745 | 9099 | | 3406 | 3142 | 5701 | 12249 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 15 | 1 | |
| MAX SIZE | 882 | 294 | 527 | 882 | | 858 | 1748 | 315 | 1748 | | 1200 | 988 | 2576 | 2576 | |
| MEAN | 72 | 30 | 35 | 46 | | 26 | 66 | 40 | 38 | | 57 | 224 | 300 | 132 | |
| ST DEV | 145 | 55 | 81 | 104 | | 82 | 231 | 73 | 134 | | 167 | 358 | 585 | 337 | |
| % COVER | 9% | 4% | 3% | 5% | | 3% | 4% | 2% | 3% | | 3% | 3% | 6% | 4% | |

**Table 31. Density and Size Distribution of Goose Barnacle Clumps in June 1992.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 50 | 62 | 40 | 152 | 42 | 47 | 99 | 45 | 191 | 56 | 29 | 3 | 7 | 39 | 40 |
| 10 | 16 | 24 | 10 | 50 | 14 | 22 | 14 | 7 | 43 | 13 | 6 | 4 | 3 | 13 | 13 |
| 15 | 7 | 12 | 9 | 28 | 8 | 13 | 5 | 1 | 19 | 6 | 3 | 0 | 0 | 3 | 3 |
| 20 | 4 | 9 | 4 | 17 | 5 | 8 | 4 | 3 | 15 | 4 | 4 | 1 | 1 | 6 | 6 |
| 25 | 1 | 3 | 1 | 5 | 1 | 5 | 2 | 2 | 9 | 3 | 0 | 0 | 0 | 0 | 0 |
| 30 | 2 | 5 | 6 | 13 | 4 | 0 | 5 | 7 | 12 | 4 | 0 | 0 | 0 | 0 | 0 |
| 35 | 4 | 2 | 0 | 6 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 40 | 3 | 4 | 1 | 8 | 2 | 4 | 1 | 0 | 5 | 1 | 0 | 1 | 2 | 3 | 3 |
| 45 | 0 | 4 | 1 | 5 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 |
| 50 | 4 | 3 | 1 | 8 | 2 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 55 | 0 | 1 | 2 | 3 | 1 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 1 |
| 60 | 0 | 4 | 2 | 6 | 2 | 2 | 1 | 2 | 5 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65 | 0 | 2 | 0 | 2 | 1 | 1 | 3 | 0 | 4 | 1 | 1 | 0 | 0 | 1 | 1 |
| 70 | 1 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 3 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 80 | 1 | 0 | 1 | 2 | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 2 | 1 | 3 | 3 |
| 85 | 1 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 90 | 2 | 3 | 2 | 7 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 1 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 105 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 110 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 0 |
| 125 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 130 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 150 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 |
| 155 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 185 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 3 |
| 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 2 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 31. Density and Size Distribution of Goose Barnacle Clumps in June 1992.**

| AREA | CABR AREA I TRANSECTS | | | | | CABR AREA II TRANSECTS | | | | | CABR AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 290 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 500 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 3 | 0 | 1 | 4 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 1 | 4 | 4 |
| # CLUMPS | 119 | 156 | 89 | 364 | 100 | 120 | 147 | 72 | 339 | 100 | 53 | 19 | 25 | 97 | 100 |
| AREA SUM | 7465 | 4817 | 3384 | 15666 | | 3480 | 3583 | 1270 | 8333 | | 2761 | 3359 | 4213 | 10333 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 2 | 1 | 1 | |
| MAX SIZE | 635 | 403 | 626 | 635 | | 560 | 1008 | 224 | 1008 | | 910 | 861 | 1728 | 1728 | |
| MEAN | 63 | 31 | 38 | 43 | | 29 | 24 | 18 | 25 | | 52 | 177 | 169 | 107 | |
| ST DEV | 130 | 57 | 93 | 96 | | 69 | 93 | 40 | 76 | | 139 | 239 | 352 | 236 | |
| % COVER | 7% | 5% | 3% | 5% | | 3% | 4% | 1% | 3% | | 3% | 3% | 4% | 3% | |

**Table 32. Density and Size Distribution of Goose Barnacle Clumps in Fall 1992.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 34 | 69 | 36 | 139 | 42 | 36 | 74 | 45 | 155 | 56 | 12 | 6 | 7 | 25 | 31 |
| 10 | 13 | 22 | 15 | 50 | 15 | 12 | 13 | 5 | 30 | 11 | 7 | 2 | 3 | 12 | 15 |
| 15 | 5 | 11 | 5 | 21 | 6 | 6 | 10 | 4 | 20 | 7 | 0 | 3 | 1 | 4 | 5 |
| 20 | 4 | 6 | 4 | 14 | 4 | 2 | 1 | 2 | 5 | 2 | 0 | 1 | 0 | 1 | 1 |
| 25 | 3 | 4 | 3 | 10 | 3 | 3 | 3 | 4 | 10 | 4 | 0 | 0 | 1 | 1 | 1 |
| 30 | 4 | 5 | 1 | 10 | 3 | 4 | 1 | 0 | 5 | 2 | 1 | 2 | 1 | 4 | 5 |
| 35 | 1 | 2 | 0 | 3 | 1 | 1 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 1 | 1 |
| 40 | 2 | 10 | 1 | 13 | 4 | 5 | 3 | 2 | 10 | 4 | 0 | 1 | 0 | 1 | 1 |
| 45 | 0 | 2 | 1 | 3 | 1 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 2 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | 1 | 4 | 1 | 6 | 2 | 2 | 1 | 0 | 3 | 1 | 0 | 1 | 1 | 2 | 2 |
| 60 | 0 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 |
| 65 | 2 | 1 | 1 | 4 | 1 | 2 | 2 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 |
| 70 | 1 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 1 | 1 | 2 | 1 | 3 | 1 | 0 | 4 | 1 | 1 | 0 | 0 | 1 | 1 |
| 85 | 1 | 0 | 2 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 | 2 |
| 95 | 1 | 3 | 0 | 4 | 1 | 2 | 2 | 0 | 4 | 1 | 1 | 0 | 0 | 1 | 1 |
| 100 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 105 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 5 | 4 | 0 | 9 | 3 | 0 | 2 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 1 |
| 120 | 3 | 1 | 0 | 4 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 2 | 0 | 2 | 4 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 4 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 235 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 290 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 32. Density and Size Distribution of Goose Barnacle Clumps in Fall 1992.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 2 | 1 | 2 | 5 | 6 |
| # CLUMPS | 95 | 156 | 83 | 334 | 100 | 90 | 120 | 69 | 279 | 100 | 31 | 23 | 27 | 81 | 100 |
| AREA SUM | 7303 | 4330 | 2671 | 14304 | | 3404 | 3295 | 995 | 7694 | | 3637 | 2642 | 4647 | 10926 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | |
| MAX SIZE | 1290 | 300 | 408 | 1290 | | 585 | 884 | 204 | 884 | | 1248 | 531 | 1728 | 1728 | |
| MEAN | 77 | 28 | 32 | 43 | | 38 | 27 | 14 | 28 | | 117 | 115 | 172 | 135 | |
| ST DEV | 187 | 51 | 66 | 113 | | 85 | 93 | 32 | 79 | | 250 | 179 | 359 | 274 | |
| % COVER | 7% | 4% | 3% | 5% | | 3% | 3% | 1% | 3% | | 4% | 3% | 5% | 4% | |

**Table 33. Density and Size Distribution of Goose Barnacle Clumps in Spring 1993.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 43 | 80 | 20 | 143 | 42 | 65 | 43 | 30 | 138 | 49 | 12 | 6 | 3 | 21 | 26 |
| 10 | 16 | 21 | 9 | 46 | 14 | 17 | 31 | 4 | 52 | 18 | 11 | 1 | 2 | 14 | 17 |
| 15 | 6 | 7 | 9 | 22 | 6 | 8 | 9 | 2 | 19 | 7 | 0 | 3 | 0 | 3 | 4 |
| 20 | 7 | 9 | 5 | 21 | 6 | 2 | 2 | 1 | 5 | 2 | 1 | 1 | 0 | 2 | 2 |
| 25 | 1 | 5 | 1 | 7 | 2 | 5 | 2 | 2 | 9 | 3 | 1 | 1 | 0 | 2 | 2 |
| 30 | 6 | 7 | 4 | 17 | 5 | 3 | 4 | 1 | 8 | 3 | 0 | 1 | 1 | 2 | 2 |
| 35 | 0 | 2 | 0 | 2 | 1 | 2 | 5 | 2 | 9 | 3 | 0 | 0 | 0 | 0 | 0 |
| 40 | 5 | 7 | 0 | 12 | 4 | 2 | 1 | 2 | 5 | 2 | 0 | 1 | 2 | 3 | 4 |
| 45 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 50 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 3 | 1 | 0 | 1 | 1 | 2 | 2 |
| 55 | 1 | 0 | 2 | 3 | 1 | 1 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0 | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 1 |
| 65 | 3 | 2 | 0 | 5 | 1 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 |
| 70 | 2 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 1 | 0 | 1 | 2 | 1 | 4 | 2 | 0 | 6 | 2 | 1 | 0 | 1 | 2 | 2 |
| 85 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 90 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 1 | 3 | 1 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 115 | 2 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| 120 | 0 | 2 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 4 |
| 125 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 4 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 165 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 195 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 255 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 33. Density and Size Distribution of Goose Barnacle Clumps in Spring 1993.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 325 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 4 | 3 | 8 | 10 |
| # CLUMPS | 118 | 157 | 65 | 340 | 100 | 121 | 111 | 52 | 284 | 100 | 38 | 22 | 22 | 82 | 100 |
| AREA SUM | 6730 | 3759 | 2872 | 13361 | | 3426 | 3304 | 1062 | 7792 | | 3605 | 3525 | 5259 | 12389 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | |
| MAX SIZE | 594 | 324 | 336 | 594 | | 684 | 616 | 154 | 684 | | 1113 | 680 | 1862 | 1862 | |
| MEAN | 57 | 24 | 44 | 39 | | 28 | 30 | 20 | 27 | | 95 | 160 | 239 | 151 | |
| ST DEV | 103 | 50 | 71 | 77 | | 82 | 79 | 35 | 74 | | 203 | 242 | 406 | 283 | |
| % COVER | 7% | 4% | 3% | 4% | | 3% | 3% | 1% | 3% | | 4% | 4% | 5% | 4% | |

**Table 34. Density and Size Distribution of Goose Barnacle Clumps in Fall 1993.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 30 | 48 | 31 | 109 | 38 | 38 | 36 | 11 | 85 | 42 | 4 | 2 | 0 | 6 | 11 |
| 10 | 15 | 18 | 15 | 48 | 17 | 17 | 15 | 6 | 38 | 19 | 5 | 3 | 1 | 9 | 17 |
| 15 | 10 | 10 | 5 | 25 | 9 | 7 | 5 | 2 | 14 | 7 | 2 | 2 | 0 | 4 | 7 |
| 20 | 4 | 5 | 6 | 15 | 5 | 8 | 0 | 1 | 9 | 4 | 0 | 0 | 0 | 0 | 0 |
| 25 | 1 | 3 | 1 | 5 | 2 | 4 | 3 | 0 | 7 | 3 | 0 | 1 | 0 | 1 | 2 |
| 30 | 3 | 3 | 4 | 10 | 3 | 5 | 0 | 0 | 5 | 2 | 0 | 0 | 2 | 2 | 4 |
| 35 | 0 | 4 | 2 | 6 | 2 | 1 | 3 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 |
| 40 | 1 | 6 | 2 | 9 | 3 | 2 | 1 | 3 | 6 | 3 | 0 | 0 | 2 | 2 | 4 |
| 45 | 1 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 4 |
| 50 | 1 | 2 | 0 | 3 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 55 | 1 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 65 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2 | 4 |
| 70 | 3 | 1 | 0 | 4 | 1 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 1 | 2 | 1 | 4 | 1 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 85 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 90 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 2 |
| 95 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| 105 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 0 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 2 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 1 | 2 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 5 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 140 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 240 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 4 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 285 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 5 | 9 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 34. Density and Size Distribution of Goose Barnacle Clumps in Fall 1993.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| >500 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 4 | 2 | 7 | 13 |
| # CLUMPS | 97 | 111 | 80 | 290 | 100 | 96 | 76 | 30 | 202 | 100 | 21 | 16 | 17 | 54 | 100 |
| AREA SUM | 6209 | 2945 | 2788 | 11942 | | 3104 | 3487 | 827 | 7418 | | 3092 | 3024 | 4761 | 10877 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 3 | 3 | 8 | 3 | |
| MAX SIZE | 646 | 377 | 512 | 646 | | 464 | 924 | 192 | 924 | | 1127 | 616 | 1520 | 1520 | |
| MEAN | 64 | 26 | 35 | 41 | | 32 | 46 | 28 | 37 | | 147 | 189 | 280 | 201 | |
| ST DEV | 108 | 57 | 77 | 83 | | 75 | 130 | 42 | 98 | | 261 | 247 | 398 | 266 | |
| % COVER | 6% | 3% | 3% | 4% | | 3% | 3% | 1% | 2% | | 3% | 3% | 5% | 4% | |

**Table 35. Density and Size Distribution of Goose Barnacle Clumps in Spring 1994.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 46 | 50 | 45 | 143 | 44 | 31 | 52 | 5 | 88 | 48 | 14 | 3 | 5 | 22 | 28 |
| 10 | 20 | 13 | 11 | 45 | 14 | 13 | 13 | 4 | 30 | 16 | 9 | 4 | 1 | 14 | 18 |
| 15 | 6 | 11 | 11 | 28 | 9 | 4 | 6 | 2 | 12 | 7 | 5 | 3 | 0 | 8 | 10 |
| 20 | 6 | 9 | 3 | 19 | 6 | 2 | 3 | 1 | 6 | 3 | 0 | 0 | 1 | 1 | 1 |
| 25 | 3 | 1 | 7 | 11 | 3 | 1 | 3 | 1 | 5 | 3 | 0 | 0 | 0 | 0 | 0 |
| 30 | 2 | 8 | 2 | 12 | 4 | 1 | 4 | 0 | 5 | 3 | 0 | 0 | 1 | 1 | 1 |
| 35 | 1 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 |
| 40 | 3 | 4 | 0 | 7 | 2 | 3 | 0 | 3 | 6 | 3 | 1 | 2 | 2 | 5 | 6 |
| 45 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 50 | 1 | 3 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | 3 | 2 | 1 | 6 | 2 | 0 | 0 | 3 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 60 | 1 | 0 | 1 | 2 | 1 | 2 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 65 | 0 | 2 | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 70 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 2 | 3 |
| 75 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 1 | 2 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 100 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 105 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110 | 1 | 2 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 115 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 120 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 140 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 165 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 175 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 200 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 225 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 35. Density and Size Distribution of Goose Barnacle Clumps in Spring 1994.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CM² | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 2 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 3 | 2 | 2 | 1 | 2 | 5 | 6 |
| # CLUMPS | 115 | 119 | 92 | 326 | 100 | 68 | 92 | 22 | 182 | 100 | 39 | 20 | 21 | 80 | 100 |
| AREA SUM | 6416 | 3527 | 2270 | 12213 | | 3212 | 3696 | 880 | 7778 | | 3141 | 2486 | 4341 | 10489 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | |
| MAX SIZE | 1386 | 392 | 274 | 1386 | | 682 | 1120 | 237 | 1120 | | 774 | 595 | 1326 | 1326 | |
| MEAN | 56 | 30 | 25 | 37 | | 47 | 40 | 40 | 43 | | 81 | 124 | 207 | 131 | |
| ST DEV | 151 | 64 | 51 | 102 | | 131 | 137 | 61 | 127 | | 170 | 182 | 316 | 249 | |
| % COVER | 6% | 4% | 2% | 4% | | 3% | 4% | 1% | 3% | | 3% | 2% | 4% | 3% | |

**Table 36. Density and Size Distribution of Goose Barnacle Clumps in Fall 1994.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 5 | 10 | 9 | 17 | 36 | 22 | 14 | 17 | 5 | 36 | 26 | 3 | 1 | 2 | 6 | 11 |
| 10 | 13 | 3 | 10 | 26 | 16 | 9 | 8 | 4 | 21 | 15 | 4 | 3 | 1 | 8 | 14 |
| 15 | 4 | 8 | 6 | 18 | 11 | 1 | 8 | 2 | 11 | 8 | 4 | 2 | 1 | 7 | 13 |
| 20 | 3 | 3 | 5 | 11 | 7 | 11 | 5 | 1 | 17 | 12 | 4 | 0 | 1 | 5 | 9 |
| 25 | 1 | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 30 | 1 | 8 | 4 | 13 | 8 | 4 | 1 | 0 | 5 | 4 | 2 | 1 | 0 | 3 | 5 |
| 35 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | 1 | 3 | 1 | 5 | 3 | 1 | 9 | 2 | 12 | 9 | 0 | 0 | 1 | 1 | 2 |
| 45 | 2 | 1 | 0 | 3 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 2 |
| 55 | 0 | 1 | 2 | 3 | 2 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 60 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 | 1 | 2 | 0 | 3 | 2 | 1 | 1 | 2 | 4 | 3 | 0 | 1 | 0 | 1 | 2 |
| 70 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 80 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 4 | 3 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 95 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 2 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 3 | 2 | 1 | 0 | 2 | 3 | 5 |
| 120 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 140 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 2 |
| 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 180 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 1 | 2 | 1 | 1 | 4 | 7 |
| 185 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 205 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 0 |
| 210 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 230 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 2 |
| 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 240 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 245 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 255 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 265 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 275 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 280 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 300 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 305 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 310 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 320 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 36. Density and Size Distribution of Goose Barnacle Clumps in Fall 1994.**

| AREA | AREA I TRANSECTS | | | | | AREA II TRANSECTS | | | | | AREA III TRANSECTS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $CM^2$ | 276 | 278 | 281 | ALL | % | 273 | 274 | 275 | ALL | % | 22 | 23 | 269 | ALL | % |
| 325 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 330 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 340 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 345 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 355 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 365 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 370 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 375 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 385 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 390 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 395 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 405 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 410 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 420 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 425 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 435 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 440 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 445 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 450 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 460 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 480 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 495 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >500 | 2 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 2 | 4 | 7 |
| # CLUMPS | 59 | 46 | 56 | 161 | 100 | 56 | 62 | 22 | 140 | 100 | 25 | 14 | 17 | 56 | 100 |
| AREA SUM | 5600 | 1432 | 2102 | 9134 | | 3690 | 3169 | 1118 | 7977 | | 2452 | 1460 | 3282 | 7194 | |
| MIN SIZE | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 3 | 3 | 2 | 2 | |
| MAX SIZE | 550 | 264 | 343 | 550 | | 855 | 416 | 227 | 855 | | 735 | 640 | 1088 | 1088 | |
| MEAN | 95 | 31 | 38 | 57 | | 66 | 51 | 51 | 57 | | 98 | 104 | 193 | 128 | |
| ST DEV | 137 | 42 | 69 | 99 | | 154 | 88 | 66 | 116 | | 165 | 171 | 300 | 217 | |
| % COVER | 6% | 1% | 2% | 3% | | 4% | 3% | 1% | 3% | | 2% | 1% | 3% | 2% | |

**Table 37. Size Distribution of Goose Barnacles within Clumps in 1990.**

| SPRING CABR AREA | BAND # | SMALL (<1cm) # | SMALL (<1cm) % | MEDIUM (1-3cm) # | MEDIUM (1-3cm) % | LARGE (>3cm) # | LARGE (>3cm) % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 87 | 78 | 106 | 96 | 65 | 59 | 111 |
| | 278 | 112 | 86 | 125 | 96 | 61 | 47 | 130 |
| | 281 | 57 | 80 | 65 | 92 | 58 | 82 | 71 |
| | ALL | 256 | 82 | 296 | 95 | 184 | 59 | 312 |
| II | 273 | 40 | 75 | 50 | 94 | 40 | 75 | 53 |
| | 274 | 23 | 62 | 33 | 89 | 26 | 70 | 37 |
| | 275 | 41 | 85 | 46 | 96 | 32 | 67 | 48 |
| | ALL | 104 | 75 | 129 | 93 | 98 | 71 | 138 |
| III | 22 | 36 | 77 | 40 | 85 | 28 | 60 | 47 |
| | 23 | 3 | 30 | 7 | 70 | 9 | 90 | 10 |
| | 269 | 10 | 63 | 12 | 75 | 15 | 94 | 16 |
| | ALL | 49 | 67 | 59 | 81 | 52 | 71 | 73 |
| ALL AREAS | | 409 | 78 | 484 | 93 | 334 | 64 | 523 |

| FALL CABR AREA | BAND # | SMALL (<1cm) # | SMALL (<1cm) % | MEDIUM (1-3cm) # | MEDIUM (1-3cm) % | LARGE (>3cm) # | LARGE (>3cm) % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 48 | 71 | 63 | 93 | 59 | 87 | 68 |
| | 278 | 34 | 57 | 51 | 85 | 56 | 93 | 60 |
| | 281 | 45 | 76 | 58 | 98 | 37 | 63 | 59 |
| | ALL | 127 | 68 | 172 | 92 | 152 | 81 | 187 |
| II | 273 | 80 | 87 | 92 | 100 | 25 | 27 | 92 |
| | 274 | 45 | 88 | 47 | 92 | 34 | 67 | 51 |
| | 275 | 12 | 43 | 22 | 79 | 27 | 96 | 28 |
| | ALL | 137 | 80 | 161 | 94 | 86 | 50 | 171 |
| III | 22 | 11 | 73 | 11 | 73 | 7 | 47 | 15 |
| | 23 | 8 | 100 | 8 | 100 | 5 | 63 | 8 |
| | 269 | 12 | 92 | 12 | 92 | 8 | 62 | 13 |
| | ALL | 31 | 86 | 31 | 86 | 20 | 56 | 36 |
| ALL AREAS | | 296 | 75 | 364 | 92 | 258 | 65 | 394 |

**Table 38. Size Distribution of Goose Barnacles within Clumps in 1991.**

| SPRING CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 67 | 84 | 72 | 90 | 64 | 80 | 80 |
| | 278 | 91 | 83 | 97 | 88 | 84 | 76 | 110 |
| | 281 | 45 | 74 | 51 | 84 | 43 | 70 | 61 |
| | ALL | 203 | 81 | 220 | 88 | 191 | 76 | 251 |
| II | 273 | 100 | 71 | 108 | 77 | 59 | 42 | 141 |
| | 274 | 44 | 83 | 40 | 75 | 39 | 74 | 53 |
| | 275 | 30 | 75 | 31 | 78 | 30 | 75 | 40 |
| | ALL | 174 | 74 | 179 | 76 | 128 | 55 | 234 |
| III | 22 | 24 | 62 | 32 | 82 | 28 | 72 | 39 |
| | 23 | 12 | 67 | 16 | 89 | 16 | 89 | 18 |
| | 269 | 18 | 90 | 20 | 100 | 19 | 95 | 20 |
| | ALL | 54 | 70 | 68 | 88 | 63 | 82 | 77 |
| ALL AREAS | | 431 | 77 | 467 | 83 | 382 | 68 | 562 |

| FALL CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 66 | 89 | 63 | 85 | 60 | 81 | 74 |
| | 278 | 72 | 86 | 73 | 87 | 61 | 73 | 84 |
| | 281 | 43 | 81 | 46 | 87 | 37 | 70 | 53 |
| | ALL | 181 | 86 | 182 | 86 | 158 | 75 | 211 |
| II | 273 | 84 | 88 | 68 | 72 | 23 | 24 | 95 |
| | 274 | 30 | 73 | 34 | 83 | 30 | 73 | 41 |
| | 275 | 27 | 79 | 25 | 74 | 26 | 76 | 34 |
| | ALL | 141 | 83 | 127 | 75 | 79 | 46 | 170 |
| III | 22 | 30 | 86 | 25 | 71 | 20 | 57 | 35 |
| | 23 | 11 | 85 | 8 | 62 | 8 | 62 | 13 |
| | 269 | 11 | 69 | 14 | 88 | 15 | 94 | 16 |
| | ALL | 52 | 81 | 47 | 73 | 43 | 67 | 64 |
| ALL AREAS | | 374 | 84 | 356 | 80 | 280 | 63 | 445 |

**Table 39. Size Distribution of Goose Barnacles within Clumps in 1992.**

| SPRING CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 110 | 92 | 91 | 76 | 32 | 27 | 120 |
| | 278 | 100 | 80 | 102 | 82 | 17 | 14 | 125 |
| | 281 | 75 | 83 | 67 | 74 | 5 | 6 | 90 |
| | ALL | 285 | 85 | 260 | 78 | 54 | 16 | 335 |
| II | 273 | 105 | 78 | 109 | 81 | 12 | 9 | 135 |
| | 274 | 50 | 85 | 48 | 81 | 13 | 22 | 59 |
| | 275 | 30 | 68 | 39 | 89 | 10 | 23 | 44 |
| | ALL | 185 | 78 | 196 | 82 | 35 | 15 | 238 |
| III | 22 | 30 | 50 | 54 | 90 | 11 | 18 | 60 |
| | 23 | 12 | 86 | 13 | 93 | 6 | 43 | 14 |
| | 269 | 17 | 89 | 18 | 95 | 15 | 79 | 19 |
| | ALL | 59 | 63 | 85 | 91 | 32 | 34 | 93 |
| ALL AREAS | | 529 | 79 | 541 | 81 | 121 | 18 | 666 |

| FALL CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 58 | 61 | 83 | 87 | 63 | 66 | 95 |
| | 278 | 132 | 85 | 127 | 81 | 64 | 41 | 156 |
| | 281 | 75 | 90 | 68 | 82 | 36 | 43 | 83 |
| | ALL | 265 | 79 | 278 | 83 | 163 | 49 | 334 |
| II | 273 | 66 | 73 | 85 | 94 | 41 | 46 | 90 |
| | 274 | 104 | 87 | 86 | 72 | 29 | 24 | 120 |
| | 275 | 61 | 88 | 45 | 65 | 17 | 25 | 69 |
| | ALL | 231 | 83 | 216 | 77 | 87 | 31 | 279 |
| III | 22 | 25 | 81 | 27 | 87 | 15 | 48 | 31 |
| | 23 | 20 | 87 | 22 | 96 | 12 | 52 | 23 |
| | 269 | 22 | 81 | 26 | 96 | 20 | 74 | 27 |
| | ALL | 67 | 83 | 75 | 93 | 47 | 58 | 81 |
| ALL AREAS | | 563 | 81 | 569 | 82 | 297 | 43 | 694 |

**Table 40. Size Distribution of Goose Barnacles within Clumps in June 1992.**

| CABR AREA | BAND # | SMALL (<1cm) | | MEDIUM (1-3cm) | | LARGE (>3cm) | | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| | | # | % | # | % | # | % | |
| I | 276 | 111 | 93 | 82 | 69 | 59 | 50 | 119 |
| | 278 | 143 | 92 | 131 | 84 | 56 | 36 | 156 |
| | 281 | 73 | 82 | 82 | 92 | 16 | 18 | 89 |
| | ALL | 327 | 90 | 295 | 81 | 131 | 36 | 364 |
| II | 273 | 112 | 93 | 94 | 78 | 38 | 32 | 120 |
| | 274 | 125 | 85 | 88 | 60 | 37 | 25 | 147 |
| | 275 | 66 | 92 | 52 | 72 | 0 | 0 | 72 |
| | ALL | 303 | 89 | 234 | 69 | 75 | 22 | 339 |
| III | 22 | 34 | 64 | 42 | 79 | 16 | 30 | 53 |
| | 23 | 15 | 79 | 18 | 95 | 11 | 58 | 19 |
| | 269 | 18 | 72 | 19 | 76 | 15 | 60 | 25 |
| | ALL | 67 | 69 | 79 | 81 | 42 | 43 | 97 |
| ALL AREAS | | 697 | 87 | 608 | 76 | 248 | 31 | 800 |

**Table 41. Size Distribution of Goose Barnacles within Clumps in 1993.**

| SPRING CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 89 | 75 | 108 | 92 | 68 | 58 | 118 |
| | 278 | 122 | 78 | 132 | 84 | 46 | 29 | 157 |
| | 281 | 31 | 48 | 54 | 83 | 50 | 77 | 65 |
| | ALL | 242 | 71 | 294 | 86 | 164 | 48 | 340 |
| II | 273 | 106 | 88 | 94 | 78 | 30 | 25 | 121 |
| | 274 | 75 | 68 | 98 | 88 | 44 | 40 | 111 |
| | 275 | 36 | 69 | 44 | 85 | 18 | 35 | 52 |
| | ALL | 217 | 76 | 236 | 83 | 92 | 32 | 284 |
| III | 22 | 31 | 82 | 29 | 76 | 19 | 50 | 38 |
| | 23 | 18 | 82 | 21 | 95 | 10 | 45 | 22 |
| | 269 | 17 | 77 | 20 | 91 | 17 | 77 | 22 |
| | ALL | 66 | 80 | 70 | 85 | 46 | 56 | 82 |
| ALL AREAS | | 525 | 74 | 600 | 85 | 302 | 43 | 706 |

| FALL CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 80 | 82 | 97 | 82 | 23 | 19 | 97 |
| | 278 | 101 | 64 | 89 | 57 | 25 | 16 | 111 |
| | 281 | 69 | 106 | 72 | 111 | 24 | 37 | 79 |
| | ALL | 250 | 74 | 258 | 76 | 72 | 21 | 287 |
| II | 273 | 81 | 67 | 85 | 85 | 21 | 21 | 100 |
| | 274 | 62 | 82 | 65 | 86 | 20 | 26 | 76 |
| | 275 | 25 | 83 | 26 | 87 | 12 | 40 | 30 |
| | ALL | 168 | 82 | 176 | 85 | 53 | 26 | 206 |
| III | 22 | 17 | 81 | 19 | 90 | 12 | 57 | 21 |
| | 23 | 15 | 94 | 15 | 94 | 7 | 44 | 16 |
| | 269 | 16 | 94 | 16 | 94 | 16 | 94 | 17 |
| | ALL | 48 | 89 | 50 | 93 | 35 | 65 | 54 |
| ALL AREAS | | 466 | 85 | 484 | 88 | 160 | 29 | 547 |

**Table 42. Size Distribution of Goose Barnacles within Clumps in 1994.**

| SPRING CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 88 | 77 | 86 | 75 | 70 | 61 | 115 |
| | 278 | 113 | 95 | 101 | 85 | 39 | 33 | 119 |
| | 281 | 78 | 85 | 71 | 77 | 49 | 53 | 92 |
| | ALL | 279 | 86 | 258 | 79 | 158 | 48 | 326 |
| II | 273 | 64 | 94 | 47 | 69 | 15 | 22 | 68 |
| | 274 | 81 | 88 | 56 | 61 | 15 | 16 | 92 |
| | 275 | 20 | 91 | 21 | 95 | 10 | 45 | 22 |
| | ALL | 165 | 91 | 124 | 68 | 40 | 22 | 182 |
| III | 22 | 35 | 90 | 29 | 74 | 18 | 46 | 39 |
| | 23 | 20 | 100 | 15 | 75 | 9 | 45 | 20 |
| | 269 | 19 | 90 | 19 | 90 | 15 | 71 | 21 |
| | ALL | 74 | 93 | 63 | 79 | 42 | 53 | 80 |
| ALL AREAS | | 518 | 88 | 445 | 76 | 240 | 41 | 588 |

| FALL CABR AREA | BAND # | SMALL (<1cm) # | % | MEDIUM (1-3cm) # | % | LARGE (>3cm) # | % | TOTAL # CLUMPS |
|---|---|---|---|---|---|---|---|---|
| I | 276 | 21 | 36 | 48 | 40 | 49 | 41 | 59 |
| | 278 | 8 | 9 | 37 | 40 | 39 | 42 | 46 |
| | 281 | 37 | 11 | 44 | 13 | 44 | 13 | 56 |
| | ALL | 66 | 97 | 129 | 190 | 132 | 194 | 161 |
| II | 273 | 46 | 50 | 50 | 89 | 27 | 48 | 56 |
| | 274 | 42 | 68 | 55 | 89 | 31 | 50 | 62 |
| | 275 | 20 | 91 | 17 | 77 | 18 | 82 | 22 |
| | ALL | 108 | 77 | 122 | 87 | 76 | 54 | 140 |
| III | 22 | 17 | 68 | 22 | 88 | 16 | 64 | 25 |
| | 23 | 6 | 43 | 11 | 79 | 11 | 79 | 14 |
| | 269 | 9 | 53 | 12 | 71 | 16 | 94 | 17 |
| | ALL | 32 | 57 | 45 | 80 | 43 | 77 | 56 |
| ALL AREAS | | 206 | 58 | 296 | 83 | 251 | 70 | 357 |

**Table 43. Density and Size-Distribution of Owl Limpets within Circular Plots in Spring 1990.**

| | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 5 | 2 |
| 28 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 4 | 2 |
| 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 1 |
| 32 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33 | 1 | 0 | 2 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 4 | 3 | 1 | 1 | 1 | 0 | 10 | 4 |
| 34 | 1 | 0 | 2 | 0 | 0 | 2 | 5 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| 35 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 2 | 2 | 1 | 0 | 0 | 1 | 6 | 3 |
| 36 | 0 | 0 | 3 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 |
| 37 | 1 | 0 | 1 | 0 | 1 | 1 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 1 | 2 | 0 | 1 | 10 | 4 |
| 38 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 5 | 0 | 0 | 0 | 1 | 7 | 3 |
| 39 | 0 | 1 | 0 | 1 | 0 | 2 | 4 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 2 | 2 | 2 | 0 | 0 | 2 | 2 | 8 | 3 |
| 40 | 0 | 1 | 6 | 0 | 4 | 1 | 12 | 6 | 3 | 0 | 0 | 1 | 0 | 0 | 4 | 2 | 3 | 2 | 0 | 0 | 0 | 3 | 8 | 3 |
| 41 | 1 | 2 | 0 | 0 | 3 | 4 | 10 | 5 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 4 | 1 | 1 | 0 | 1 | 8 | 3 |
| 42 | 0 | 0 | 3 | 1 | 1 | 2 | 7 | 3 | 1 | 0 | 2 | 0 | 0 | 1 | 4 | 2 | 2 | 4 | 0 | 1 | 0 | 0 | 7 | 3 |
| 43 | 2 | 0 | 3 | 0 | 1 | 1 | 7 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 0 | 1 | 0 | 1 | 6 | 3 |
| 44 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 5 | 1 | 0 | 0 | 1 | 8 | 3 |
| 45 | 0 | 1 | 4 | 2 | 0 | 1 | 8 | 4 | 0 | 1 | 1 | 0 | 2 | 4 | 8 | 5 | 2 | 2 | 0 | 1 | 0 | 0 | 5 | 2 |
| 46 | 1 | 3 | 2 | 0 | 2 | 3 | 11 | 5 | 0 | 0 | 1 | 0 | 2 | 4 | 7 | 4 | 4 | 2 | 0 | 1 | 0 | 2 | 9 | 4 |
| 47 | 0 | 1 | 1 | 0 | 4 | 5 | 11 | 5 | 1 | 1 | 1 | 0 | 0 | 5 | 8 | 5 | 3 | 3 | 0 | 2 | 0 | 1 | 9 | 4 |
| 48 | 1 | 2 | 2 | 1 | 1 | 6 | 13 | 6 | 1 | 2 | 1 | 0 | 2 | 2 | 8 | 5 | 7 | 7 | 0 | 0 | 0 | 1 | 15 | 6 |
| 49 | 0 | 1 | 0 | 2 | 1 | 1 | 5 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 3 | 5 | 1 | 3 | 0 | 2 | 14 | 6 |
| 50 | 0 | 2 | 2 | 1 | 0 | 2 | 7 | 3 | 1 | 0 | 1 | 0 | 2 | 1 | 5 | 3 | 2 | 5 | 0 | 1 | 0 | 0 | 8 | 3 |
| 51 | 2 | 2 | 1 | 0 | 2 | 1 | 8 | 4 | 0 | 0 | 1 | 1 | 2 | 2 | 6 | 4 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 2 |
| 52 | 0 | 1 | 3 | 0 | 0 | 3 | 7 | 3 | 2 | 0 | 1 | 0 | 1 | 2 | 6 | 4 | 2 | 3 | 0 | 3 | 2 | 0 | 10 | 4 |
| 53 | 0 | 0 | 0 | 0 | 1 | 4 | 5 | 2 | 1 | 0 | 1 | 1 | 1 | 1 | 5 | 3 | 2 | 0 | 1 | 2 | 1 | 1 | 7 | 3 |
| 54 | 0 | 0 | 1 | 2 | 2 | 0 | 5 | 2 | 0 | 1 | 0 | 1 | 2 | 0 | 4 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 |
| 55 | 1 | 2 | 0 | 2 | 1 | 1 | 7 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 6 | 4 | 1 | 1 | 0 | 0 | 2 | 2 | 6 | 3 |
| 56 | 2 | 2 | 1 | 0 | 0 | 1 | 6 | 3 | 0 | 0 | 0 | 2 | 1 | 3 | 6 | 4 | 0 | 1 | 1 | 3 | 1 | 0 | 6 | 3 |
| 57 | 0 | 1 | 1 | 1 | 1 | 1 | 5 | 2 | 2 | 1 | 2 | 0 | 0 | 3 | 8 | 5 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 |
| 58 | 1 | 0 | 2 | 1 | 2 | 0 | 6 | 3 | 0 | 3 | 0 | 0 | 0 | 2 | 5 | 3 | 1 | 0 | 2 | 1 | 0 | 0 | 4 | 2 |
| 59 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 4 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 |
| 60 | 1 | 2 | 2 | 0 | 0 | 2 | 7 | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 61 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 2 |
| 62 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 63 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 4 | 2 |
| 64 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 4 | 2 | 1 | 0 | 3 | 1 | 2 | 0 | 7 | 3 |
| 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 66 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 67 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 68 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 70 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 27 | 25 | 54 | 16 | 28 | 54 | 204 | 100 | 26 | 17 | 36 | 11 | 22 | 49 | 161 | 100 | 56 | 82 | 19 | 30 | 23 | 26 | 236 | 100 |
| MIN SIZE | 33 | 39 | 22 | 36 | 37 | 28 | 22 | | 25 | 34 | 34 | 32 | 33 | 33 | 25 | | 27 | 16 | 27 | 30 | 33 | 35 | 16 | |
| MAX SIZE | 81 | 68 | 70 | 59 | 58 | 64 | 81 | | 64 | 81 | 77 | 70 | 59 | 87 | 87 | | 64 | 56 | 67 | 72 | 74 | 82 | 82 | |
| AVG SIZE | 56 | 50 | 46 | 50 | 47 | 47 | 48 | | 46 | 57 | 58 | 54 | 49 | 54 | 53 | | 45 | 41 | 52 | 50 | 57 | 48 | 46 | |
| ST DEV | 14 | 7 | 10 | 7 | 6 | 8 | 10 | | 10 | 12 | 13 | 11 | 7 | 11 | 11 | | 8 | 8 | 12 | 10 | 10 | 12 | 11 | |

## Table 44. Density and Size-Distribution of Owl Limpets within Circular Plots in Fall 1990.

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 20 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 1 |
| 21 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 22 | 0 | 0 | 2 | 1 | 1 | 1 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 23 | 1 | 0 | 1 | 0 | 2 | 0 | 4 | 2 | 0 | 2 | 0 | 0 | 0 | 3 | 5 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 24 | 0 | 0 | 1 | 2 | 0 | 2 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 25 | 1 | 0 | 4 | 0 | 0 | 3 | 8 | 3 | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 4 | 2 |
| 26 | 0 | 1 | 4 | 1 | 0 | 1 | 7 | 3 | 3 | 0 | 1 | 1 | 0 | 1 | 6 | 3 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 |
| 27 | 1 | 0 | 4 | 0 | 0 | 0 | 5 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 | 0 | 2 | 0 | 0 | 1 | 1 | 4 | 2 |
| 28 | 0 | 0 | 2 | 3 | 1 | 1 | 7 | 3 | 2 | 0 | 0 | 2 | 0 | 1 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 29 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 2 |
| 30 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| 31 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 32 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 34 | 0 | 2 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | 0 | 0 | 0 | 2 | 1 | 1 | 4 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 36 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 0 | 0 | 6 | 2 |
| 37 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 4 | 2 |
| 38 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 3 | 1 | 1 | 0 | 0 | 7 | 3 |
| 39 | 0 | 1 | 1 | 3 | 0 | 0 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 1 | 0 | 1 | 5 | 2 |
| 40 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 4 | 0 | 0 | 0 | 0 | 6 | 2 |
| 41 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 3 | 3 | 0 | 1 | 0 | 0 | 7 | 3 |
| 42 | 0 | 0 | 0 | 4 | 0 | 4 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 6 | 2 | 0 | 0 | 3 | 12 | 5 |
| 43 | 0 | 0 | 1 | 2 | 0 | 1 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 5 | 0 | 0 | 0 | 1 | 9 | 4 |
| 44 | 1 | 1 | 1 | 1 | 0 | 2 | 6 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 | 0 | 2 | 0 | 4 | 12 | 5 |
| 45 | 0 | 0 | 2 | 2 | 0 | 2 | 6 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 5 | 0 | 1 | 0 | 3 | 12 | 5 |
| 46 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 6 | 3 | 5 | 1 | 1 | 0 | 0 | 0 | 7 | 3 |
| 47 | 0 | 0 | 3 | 1 | 1 | 1 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 7 | 3 | 0 | 1 | 0 | 1 | 12 | 5 |
| 48 | 1 | 0 | 3 | 3 | 0 | 2 | 9 | 4 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 1 | 2 | 5 | 0 | 2 | 0 | 2 | 11 | 4 |
| 49 | 0 | 1 | 5 | 0 | 2 | 1 | 9 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 2 | 3 | 0 | 2 | 0 | 0 | 7 | 3 |
| 50 | 0 | 1 | 3 | 0 | 0 | 2 | 6 | 2 | 1 | 1 | 1 | 0 | 0 | 2 | 5 | 2 | 3 | 5 | 1 | 0 | 0 | 1 | 10 | 4 |
| 51 | 1 | 1 | 0 | 0 | 1 | 2 | 5 | 2 | 2 | 1 | 1 | 0 | 1 | 1 | 6 | 3 | 1 | 1 | 0 | 3 | 2 | 1 | 8 | 3 |
| 52 | 0 | 1 | 1 | 0 | 3 | 3 | 8 | 3 | 1 | 0 | 1 | 0 | 1 | 4 | 7 | 3 | 2 | 1 | 1 | 0 | 0 | 1 | 5 | 2 |
| 53 | 1 | 2 | 1 | 0 | 2 | 3 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 2 | 0 | 1 | 3 | 0 | 6 | 2 |
| 54 | 0 | 2 | 1 | 0 | 2 | 3 | 8 | 3 | 1 | 1 | 0 | 1 | 1 | 1 | 5 | 2 | 3 | 2 | 1 | 1 | 1 | 0 | 8 | 3 |
| 55 | 1 | 1 | 2 | 0 | 2 | 3 | 9 | 4 | 3 | 1 | 0 | 0 | 2 | 3 | 9 | 4 | 1 | 3 | 0 | 2 | 0 | 0 | 6 | 2 |
| 56 | 2 | 1 | 2 | 0 | 1 | 3 | 9 | 4 | 1 | 0 | 1 | 0 | 1 | 1 | 4 | 2 | 0 | 2 | 2 | 1 | 1 | 2 | 8 | 3 |
| 57 | 3 | 1 | 2 | 0 | 1 | 1 | 8 | 3 | 2 | 0 | 0 | 1 | 1 | 0 | 4 | 2 | 0 | 2 | 0 | 2 | 1 | 0 | 5 | 2 |
| 58 | 1 | 1 | 2 | 0 | 0 | 4 | 8 | 3 | 0 | 0 | 3 | 1 | 3 | 3 | 10 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 59 | 2 | 1 | 1 | 0 | 1 | 1 | 6 | 2 | 0 | 1 | 2 | 1 | 0 | 2 | 6 | 3 | 0 | 0 | 1 | 0 | 3 | 1 | 5 | 2 |
| 60 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 6 | 2 |
| 61 | 3 | 0 | 1 | 0 | 1 | 2 | 7 | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 4 | 2 |
| 62 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 7 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 |
| 63 | 1 | 0 | 1 | 1 | 0 | 1 | 4 | 2 | 0 | 1 | 2 | 1 | 1 | 2 | 7 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 64 | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 2 | 1 | 1 | 3 | 7 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 65 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 4 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 |
| 66 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 6 | 3 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 |
| 67 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 4 | 2 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 |
| 69 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 1 | 3 | 9 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 70 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 1 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 74 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 40 | 19 | 59 | 42 | 22 | 60 | 242 | 100 | 34 | 24 | 35 | 17 | 29 | 62 | 201 | 100 | 62 | 76 | 28 | 29 | 22 | 32 | 249 | 100 |
| MIN SIZE | 23 | 26 | 19 | 19 | 22 | 18 | 18 | | 18 | 20 | 26 | 25 | 29 | 23 | 18 | | 19 | 20 | 21 | 37 | 27 | 24 | 19 | |
| MAX SIZE | 85 | 64 | 67 | 63 | 61 | 64 | 85 | | 62 | 82 | 76 | 69 | 72 | 83 | 83 | | 65 | 60 | 73 | 71 | 72 | 81 | 81 | |
| AVG SIZE | 58 | 50 | 42 | 37 | 47 | 45 | 46 | | 41 | 50 | 64 | 49 | 55 | 52 | 52 | | 44 | 43 | 54 | 52 | 58 | 45 | 47 | |
| ST DEV | 15 | 10 | 13 | 10 | 12 | 12 | 14 | | 13 | 20 | 10 | 17 | 12 | 15 | 16 | | 9 | 9 | 15 | 8 | 9 | 14 | 12 | |

**Table 45. Density and Size-Distribution of Owl Limpets within Circular Plots in Spring 1991.**

| | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 21 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 22 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 23 | 0 | 0 | 2 | 1 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 24 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 |
| 25 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 5 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| 26 | 1 | 0 | 3 | 2 | 1 | 2 | 9 | 4 | 1 | 0 | 0 | 0 | 0 | 4 | 5 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 1 |
| 27 | 1 | 0 | 0 | 3 | 2 | 1 | 7 | 3 | 2 | 1 | 0 | 0 | 2 | 3 | 8 | 4 | 0 | 4 | 1 | 1 | 0 | 1 | 7 | 3 |
| 28 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 2 | 0 | 1 | 1 | 0 | 0 | 5 | 7 | 3 | 0 | 2 | 1 | 0 | 1 | 2 | 6 | 2 |
| 29 | 1 | 0 | 2 | 0 | 2 | 3 | 8 | 3 | 3 | 1 | 0 | 1 | 3 | 4 | 12 | 6 | 0 | 4 | 0 | 1 | 0 | 1 | 6 | 2 |
| 30 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 3 | 6 | 3 | 0 | 3 | 1 | 0 | 1 | 0 | 5 | 2 |
| 31 | 0 | 0 | 3 | 1 | 1 | 2 | 7 | 3 | 1 | 1 | 0 | 3 | 1 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 32 | 1 | 1 | 2 | 2 | 0 | 1 | 7 | 3 | 0 | 0 | 0 | 0 | 1 | 3 | 4 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 4 | 2 |
| 33 | 2 | 0 | 1 | 0 | 1 | 2 | 6 | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 | 1 | 0 | 1 | 1 | 0 | 1 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 |
| 36 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 |
| 37 | 0 | 2 | 1 | 3 | 0 | 1 | 7 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 3 | 3 | 0 | 1 | 0 | 0 | 7 | 3 |
| 38 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 2 | 3 | 3 | 1 | 0 | 0 | 0 | 7 | 3 |
| 39 | 0 | 0 | 2 | 3 | 0 | 2 | 7 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 40 | 0 | 0 | 0 | 1 | 1 | 2 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 1 | 4 | 0 | 1 | 0 | 2 | 8 | 3 |
| 41 | 0 | 1 | 0 | 2 | 0 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 4 | 2 | 0 | 1 | 0 | 1 | 8 | 3 |
| 42 | 0 | 0 | 2 | 3 | 0 | 1 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 4 | 2 |
| 43 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 5 | 0 | 1 | 0 | 1 | 10 | 4 |
| 44 | 0 | 1 | 1 | 0 | 0 | 2 | 4 | 2 | 3 | 0 | 0 | 1 | 0 | 0 | 4 | 2 | 3 | 4 | 1 | 0 | 0 | 3 | 11 | 4 |
| 45 | 2 | 0 | 3 | 0 | 0 | 1 | 6 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 5 | 5 | 0 | 0 | 1 | 1 | 12 | 5 |
| 46 | 0 | 0 | 2 | 1 | 0 | 1 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 5 | 4 | 0 | 2 | 0 | 3 | 14 | 6 |
| 47 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 2 | 0 | 1 | 0 | 0 | 1 | 4 | 2 |
| 48 | 1 | 0 | 4 | 1 | 1 | 4 | 11 | 5 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 5 | 4 | 0 | 2 | 0 | 1 | 12 | 5 |
| 49 | 0 | 0 | 2 | 0 | 2 | 3 | 7 | 3 | 0 | 2 | 0 | 1 | 0 | 2 | 5 | 2 | 4 | 4 | 1 | 3 | 0 | 1 | 13 | 5 |
| 50 | 0 | 1 | 4 | 0 | 1 | 0 | 6 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 4 | 2 |
| 51 | 0 | 2 | 1 | 0 | 0 | 1 | 4 | 2 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 5 | 2 |
| 52 | 0 | 2 | 1 | 0 | 3 | 1 | 7 | 3 | 0 | 1 | 0 | 1 | 2 | 2 | 6 | 3 | 2 | 1 | 0 | 1 | 1 | 2 | 7 | 3 |
| 53 | 1 | 0 | 0 | 0 | 4 | 1 | 6 | 3 | 1 | 0 | 2 | 0 | 1 | 1 | 5 | 2 | 1 | 2 | 0 | 2 | 0 | 0 | 5 | 2 |
| 54 | 1 | 3 | 2 | 0 | 1 | 2 | 9 | 4 | 2 | 1 | 0 | 0 | 0 | 3 | 6 | 3 | 3 | 1 | 2 | 0 | 3 | 0 | 9 | 4 |
| 55 | 4 | 0 | 1 | 0 | 1 | 0 | 6 | 3 | 1 | 0 | 0 | 1 | 1 | 2 | 5 | 2 | 1 | 2 | 1 | 4 | 2 | 1 | 11 | 4 |
| 56 | 4 | 0 | 1 | 0 | 0 | 2 | 7 | 3 | 3 | 0 | 1 | 0 | 0 | 2 | 6 | 3 | 0 | 2 | 0 | 2 | 0 | 1 | 5 | 2 |
| 57 | 0 | 2 | 2 | 0 | 0 | 1 | 5 | 2 | 0 | 0 | 1 | 1 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 58 | 1 | 0 | 2 | 0 | 1 | 3 | 7 | 3 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 4 | 2 |
| 59 | 2 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 0 | 1 | 2 | 0 | 2 | 1 | 6 | 3 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 2 |
| 60 | 1 | 0 | 2 | 0 | 0 | 2 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 2 | 0 | 1 | 0 | 0 | 3 | 0 | 4 | 2 |
| 61 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 3 | 11 | 5 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 1 |
| 62 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 |
| 63 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 64 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 5 | 2 | 1 | 0 | 1 | 1 | 3 | 1 | 7 | 3 |
| 65 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 66 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 1 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 69 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 70 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 74 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 39 | 18 | 56 | 39 | 28 | 53 | 233 | 100 | 34 | 23 | 35 | 14 | 28 | 76 | 210 | 100 | 60 | 78 | 27 | 28 | 23 | 31 | 247 | 100 |
| MIN SIZE | 22 | 30 | 22 | 18 | 23 | 19 | 18 | | 20 | 25 | 28 | 29 | 24 | 19 | 19 | | 20 | 20 | 26 | 27 | 28 | 24 | 20 | |
| MAX SIZE | 83 | 63 | 69 | 61 | 58 | 63 | 83 | | 61 | 78 | 76 | 70 | 66 | 81 | 81 | | 64 | 60 | 73 | 66 | 71 | 80 | 80 | |
| AVG SIZE | 54 | 49 | 44 | 34 | 41 | 43 | 44 | | 39 | 49 | 62 | 46 | 45 | 44 | 47 | | 44 | 40 | 54 | 50 | 56 | 45 | 46 | |
| ST DEV | 16 | 10 | 12 | 9 | 12 | 11 | 13 | | 13 | 17 | 12 | 14 | 13 | 15 | 16 | | 9 | 10 | 15 | 9 | 10 | 13 | 12 | |

## Table 46. Density and Size-Distribution of Owl Limpets within Circular Plots in Fall 1991.

| | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 2 | 0 | 2 | 3 | 0 | 0 | 7 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 3 | 1 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 24 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 25 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 26 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 27 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 28 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 29 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 30 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 |
| 31 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 32 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 5 | 2 |
| 33 | 2 | 0 | 1 | 2 | 1 | 2 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 2 |
| 34 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 6 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 |
| 35 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 4 | 2 | 0 | 0 | 1 | 8 | 4 |
| 36 | 1 | 0 | 3 | 1 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 3 | 1 | 2 | 0 | 0 | 1 | 1 | 5 | 2 |
| 37 | 1 | 0 | 1 | 0 | 1 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 5 | 2 |
| 38 | 1 | 0 | 1 | 2 | 1 | 0 | 5 | 2 | 2 | 1 | 0 | 1 | 0 | 4 | 8 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 |
| 39 | 0 | 0 | 3 | 1 | 1 | 2 | 7 | 3 | 0 | 2 | 0 | 0 | 0 | 2 | 4 | 2 | 1 | 5 | 0 | 0 | 0 | 0 | 6 | 3 |
| 40 | 0 | 0 | 2 | 1 | 4 | 1 | 8 | 4 | 0 | 1 | 0 | 0 | 0 | 3 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 |
| 41 | 1 | 0 | 1 | 3 | 0 | 1 | 6 | 3 | 1 | 1 | 0 | 1 | 0 | 5 | 8 | 4 | 2 | 3 | 0 | 1 | 0 | 1 | 7 | 3 |
| 42 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 1 | 1 | 2 | 2 | 1 | 7 | 3 | 3 | 3 | 1 | 0 | 0 | 3 | 10 | 5 |
| 43 | 0 | 0 | 1 | 3 | 2 | 4 | 10 | 5 | 2 | 0 | 2 | 2 | 1 | 1 | 8 | 4 | 4 | 2 | 1 | 0 | 0 | 0 | 7 | 3 |
| 44 | 1 | 0 | 2 | 1 | 2 | 3 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 6 | 0 | 1 | 0 | 0 | 12 | 5 |
| 45 | 0 | 0 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 0 | 0 | 1 | 3 | 0 | 5 | 2 | 3 | 0 | 1 | 0 | 0 | 1 | 5 | 2 |
| 46 | 0 | 1 | 0 | 1 | 0 | 3 | 5 | 2 | 1 | 0 | 0 | 1 | 1 | 2 | 5 | 2 | 2 | 4 | 0 | 1 | 0 | 2 | 9 | 4 |
| 47 | 1 | 0 | 2 | 0 | 1 | 1 | 5 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 7 | 3 |
| 48 | 1 | 1 | 2 | 0 | 1 | 0 | 5 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 3 | 4 | 0 | 2 | 0 | 0 | 9 | 4 |
| 49 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 1 | 2 | 4 | 0 | 1 | 0 | 0 | 7 | 3 |
| 50 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 4 | 2 | 3 | 1 | 1 | 2 | 0 | 2 | 9 | 4 |
| 51 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 1 | 3 | 0 | 0 | 0 | 1 | 2 | 6 | 3 | 2 | 3 | 1 | 0 | 1 | 1 | 8 | 4 |
| 52 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 2 | 1 | 1 | 1 | 0 | 3 | 1 | 7 | 3 | 1 | 2 | 0 | 1 | 1 | 2 | 7 | 3 |
| 53 | 0 | 1 | 2 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 54 | 2 | 0 | 4 | 0 | 2 | 4 | 12 | 6 | 3 | 1 | 0 | 0 | 0 | 2 | 6 | 3 | 1 | 1 | 0 | 0 | 3 | 1 | 6 | 3 |
| 55 | 1 | 2 | 0 | 0 | 1 | 1 | 5 | 2 | 1 | 1 | 1 | 2 | 0 | 2 | 7 | 3 | 2 | 2 | 1 | 0 | 1 | 0 | 6 | 3 |
| 56 | 0 | 1 | 2 | 0 | 1 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 2 | 1 | 0 | 0 | 3 | 1 | 1 | 6 | 3 |
| 57 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 5 | 7 | 3 | 0 | 2 | 0 | 5 | 2 | 0 | 9 | 4 |
| 58 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 6 | 3 | 0 | 2 | 2 | 1 | 1 | 0 | 6 | 3 |
| 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 60 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 61 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 |
| 62 | 1 | 0 | 3 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 1 | 1 | 1 | 3 | 6 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 |
| 63 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 1 |
| 64 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 2 | 0 | 2 | 0 | 5 | 2 |
| 65 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 2 | 2 | 7 | 3 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 1 |
| 66 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 2 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 1 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 33 | 17 | 65 | 29 | 28 | 32 | 204 | 100 | 24 | 22 | 37 | 21 | 32 | 70 | 206 | 100 | 55 | 71 | 30 | 21 | 20 | 22 | 219 | 100 |
| MIN SIZE | 19 | 25 | 17 | 18 | 21 | 28 | 17 | | 30 | 19 | 20 | 27 | 24 | 19 | 19 | | 23 | 23 | 32 | 41 | 30 | 26 | 23 | |
| MAX SIZ | 84 | 66 | 63 | 46 | 56 | 65 | 84 | | 58 | 77 | 78 | 67 | 71 | 80 | 80 | | 66 | 64 | 74 | 61 | 71 | 78 | 78 | |
| AVG SIZE | 51 | 52 | 39 | 34 | 41 | 46 | 43 | | 45 | 50 | 62 | 48 | 54 | 46 | 51 | | 44 | 43 | 55 | 53 | 56 | 45 | 47 | |
| ST DEV | 19 | 11 | 13 | 9 | 10 | 8 | 14 | | 9 | 15 | 15 | 12 | 12 | 13 | 14 | | 8 | 9 | 13 | 5 | 9 | 11 | 11 | |

**Table 47. Density and Size-Distribution of Owl Limpets within Circular Plots in Spring 1992.**

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 22 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | 0 | 0 | 2 | 1 | 1 | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 27 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 | 2 | 0 | 5 | 1 | 1 | 0 | 9 | 4 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| 29 | 0 | 0 | 2 | 2 | 1 | 1 | 6 | 3 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 2 | 3 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 | 2 | 0 | 1 | 4 | 3 | 0 | 10 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 32 | 0 | 0 | 1 | 1 | 2 | 0 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| 33 | 1 | 0 | 2 | 3 | 2 | 0 | 8 | 4 | 3 | 0 | 1 | 1 | 0 | 0 | 5 | 3 | 0 | 3 | 0 | 0 | 0 | 3 | 6 | 3 |
| 34 | 0 | 0 | 2 | 1 | 1 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 35 | 0 | 0 | 2 | 2 | 0 | 1 | 5 | 2 | 3 | 0 | 1 | 0 | 0 | 2 | 6 | 3 | 1 | 2 | 2 | 0 | 0 | 2 | 7 | 4 |
| 36 | 0 | 0 | 4 | 0 | 0 | 2 | 6 | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 2 |
| 37 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 5 | 3 |
| 38 | 1 | 1 | 2 | 0 | 0 | 0 | 4 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 6 | 3 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 2 |
| 39 | 1 | 0 | 0 | 2 | 0 | 3 | 6 | 3 | 0 | 0 | 0 | 1 | 0 | 4 | 5 | 3 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 3 |
| 40 | 1 | 1 | 0 | 1 | 3 | 3 | 9 | 4 | 2 | 1 | 0 | 0 | 1 | 1 | 5 | 3 | 1 | 1 | 1 | 0 | 0 | 2 | 5 | 3 |
| 41 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 3 | 7 | 4 |
| 42 | 3 | 0 | 3 | 1 | 0 | 1 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 2 | 4 | 0 | 0 | 0 | 1 | 7 | 4 |
| 43 | 0 | 0 | 0 | 4 | 1 | 0 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 1 | 0 | 0 | 1 | 7 | 4 |
| 44 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 4 | 6 | 3 | 2 | 3 | 1 | 1 | 0 | 1 | 8 | 4 |
| 45 | 1 | 0 | 1 | 2 | 0 | 2 | 6 | 3 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 2 | 6 | 4 | 1 | 0 | 1 | 1 | 13 | 7 |
| 46 | 0 | 0 | 1 | 2 | 0 | 2 | 5 | 2 | 1 | 1 | 0 | 2 | 0 | 2 | 6 | 3 | 5 | 3 | 0 | 0 | 0 | 0 | 8 | 4 |
| 47 | 0 | 0 | 0 | 0 | 2 | 3 | 5 | 2 | 1 | 1 | 0 | 0 | 0 | 3 | 5 | 3 | 1 | 1 | 0 | 1 | 0 | 2 | 5 | 3 |
| 48 | 0 | 0 | 1 | 1 | 1 | 2 | 5 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 4 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 |
| 49 | 0 | 1 | 3 | 0 | 1 | 1 | 6 | 3 | 0 | 0 | 1 | 0 | 1 | 3 | 5 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 |
| 50 | 0 | 2 | 5 | 1 | 3 | 1 | 12 | 6 | 0 | 2 | 0 | 1 | 1 | 2 | 6 | 3 | 3 | 6 | 0 | 3 | 0 | 2 | 14 | 8 |
| 51 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 5 | 4 | 0 | 1 | 0 | 0 | 10 | 5 |
| 52 | 2 | 2 | 1 | 0 | 1 | 1 | 7 | 3 | 2 | 1 | 2 | 1 | 0 | 2 | 8 | 4 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 2 |
| 53 | 0 | 1 | 3 | 0 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | 7 | 4 |
| 54 | 0 | 0 | 5 | 0 | 0 | 2 | 7 | 3 | 1 | 0 | 1 | 0 | 1 | 3 | 6 | 3 | 1 | 2 | 1 | 0 | 2 | 0 | 6 | 3 |
| 55 | 0 | 1 | 1 | 0 | 5 | 0 | 7 | 3 | 1 | 1 | 0 | 0 | 0 | 4 | 6 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| 56 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 3 | 0 | 1 | 0 | 2 | 1 | 0 | 4 | 2 |
| 57 | 2 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 58 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 59 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 2 | 1 | 2 | 5 | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 2 |
| 60 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 3 | 0 | 1 | 5 | 9 | 5 | 0 | 0 | 2 | 3 | 1 | 0 | 6 | 3 |
| 61 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 62 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 63 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 2 |
| 64 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 2 |
| 65 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 66 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 5 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 2 |
| 70 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 71 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 32 | 15 | 60 | 38 | 35 | 33 | 213 | 100 | 26 | 24 | 33 | 17 | 18 | 67 | 185 | 100 | 36 | 58 | 24 | 19 | 18 | 28 | 183 | 100 |
| MIN SIZE | 26 | 38 | 21 | 20 | 18 | 29 | 18 | | 23 | 22 | 16 | 29 | 30 | 27 | 16 | | 31 | 28 | 35 | 39 | 21 | 26 | 21 | |
| MAX SIZE | 79 | 66 | 70 | 50 | 56 | 59 | 79 | | 56 | 78 | 79 | 66 | 68 | 79 | 79 | | 57 | 56 | 69 | 64 | 70 | 69 | 70 | |
| AVG SIZE | 52 | 54 | 42 | 35 | 42 | 45 | 44 | | 42 | 48 | 64 | 49 | 54 | 50 | 51 | | 46 | 44 | 53 | 53 | 54 | 43 | 47 | |
| ST DEV | 16 | 8 | 12 | 8 | 11 | 8 | 12 | | 9 | 16 | 14 | 11 | 9 | 11 | 13 | | 5 | 7 | 12 | 7 | 11 | 11 | 10 | |

## Table 48. Density and Size-Distribution of Owl Limpets within Circular Plots in June 1992.

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 17 | 0 | 0 | 1 | 1 | 3 | 0 | 5 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | 1 | 0 | 0 | 3 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 23 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24 | 2 | 0 | 0 | 4 | 1 | 1 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 |
| 25 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 28 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | 0 | 0 | 2 | 2 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 5 | 2 |
| 30 | 0 | 0 | 1 | 4 | 0 | 1 | 6 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 1 |
| 31 | 1 | 0 | 1 | 3 | 0 | 0 | 5 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 32 | 1 | 0 | 2 | 1 | 1 | 0 | 5 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 4 | 0 | 0 | 0 | 2 | 6 | 2 |
| 33 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 5 | 2 |
| 34 | 0 | 0 | 2 | 2 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 2 | 1 | 1 | 0 | 1 | 2 | 7 | 3 |
| 35 | 0 | 0 | 2 | 4 | 2 | 0 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 |
| 36 | 1 | 0 | 3 | 1 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 2 | 4 | 0 | 0 | 0 | 3 | 9 | 3 |
| 37 | 0 | 0 | 1 | 5 | 1 | 2 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 6 | 2 |
| 38 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 1 | 4 | 0 | 0 | 0 | 1 | 6 | 2 |
| 39 | 1 | 0 | 1 | 1 | 2 | 1 | 6 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 5 | 1 | 0 | 0 | 2 | 9 | 3 |
| 40 | 1 | 1 | 2 | 2 | 0 | 1 | 7 | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 2 | 0 | 5 | 0 | 1 | 0 | 2 | 8 | 3 |
| 41 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 5 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 1 |
| 42 | 1 | 0 | 4 | 2 | 2 | 0 | 9 | 4 | 0 | 0 | 1 | 0 | 1 | 1 | 4 | 2 | 3 | 2 | 2 | 0 | 0 | 1 | 8 | 3 |
| 43 | 1 | 0 | 2 | 3 | 1 | 1 | 8 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 2 | 2 | 5 | 1 | 0 | 0 | 1 | 9 | 3 |
| 44 | 2 | 0 | 1 | 3 | 2 | 3 | 11 | 5 | 0 | 1 | 0 | 0 | 0 | 3 | 5 | 3 | 2 | 4 | 0 | 1 | 0 | 1 | 8 | 3 |
| 45 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 5 | 3 | 0 | 3 | 1 | 1 | 0 | 2 | 7 | 3 |
| 46 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 5 | 3 | 2 | 7 | 0 | 1 | 0 | 0 | 10 | 4 |
| 47 | 1 | 0 | 1 | 2 | 1 | 1 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 6 | 5 | 2 | 1 | 0 | 0 | 14 | 5 |
| 48 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 2 | 0 | 2 | 0 | 1 | 5 | 3 | 5 | 1 | 0 | 1 | 0 | 1 | 8 | 3 |
| 49 | 2 | 0 | 2 | 2 | 1 | 2 | 9 | 4 | 0 | 1 | 0 | 0 | 0 | 2 | 4 | 2 | 5 | 2 | 0 | 0 | 0 | 1 | 8 | 3 |
| 50 | 0 | 2 | 0 | 0 | 2 | 2 | 6 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 0 | 4 | 1 | 2 | 0 | 1 | 8 | 3 |
| 51 | 0 | 1 | 2 | 2 | 2 | 3 | 10 | 4 | 0 | 1 | 2 | 1 | 1 | 2 | 7 | 4 | 3 | 4 | 0 | 0 | 0 | 1 | 8 | 3 |
| 52 | 0 | 0 | 2 | 2 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 4 | 0 | 3 | 7 | 4 | 3 | 2 | 0 | 2 | 1 | 1 | 9 | 3 |
| 53 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 6 | 8 | 4 | 3 | 4 | 0 | 0 | 1 | 0 | 8 | 3 |
| 54 | 0 | 0 | 7 | 1 | 0 | 1 | 9 | 4 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 3 | 4 | 0 | 2 | 1 | 1 | 11 | 4 |
| 55 | 0 | 2 | 1 | 1 | 2 | 0 | 6 | 3 | 0 | 2 | 0 | 0 | 1 | 0 | 5 | 3 | 1 | 0 | 1 | 0 | 2 | 1 | 5 | 2 |
| 56 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 6 | 3 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 1 |
| 57 | 3 | 0 | 1 | 0 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 7 | 3 |
| 58 | 0 | 2 | 3 | 0 | 3 | 1 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 3 | 2 | 0 | 1 | 3 | 2 | 0 | 8 | 3 |
| 59 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 3 | 7 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 60 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 2 | 6 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 5 | 3 | 1 | 0 | 3 | 1 | 0 | 1 | 6 | 2 |
| 62 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 2 | 1 | 0 | 0 | 3 | 6 | 3 | 1 | 0 | 0 | 4 | 1 | 0 | 6 | 2 |
| 63 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 4 | 2 |
| 64 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 3 | 0 | 1 | 5 | 2 |
| 65 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 5 | 3 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 69 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 71 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 72 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 74 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 37 | 14 | 54 | 63 | 32 | 32 | 232 | 100 | 25 | 23 | 32 | 18 | 14 | 71 | 182 | 99 | 55 | 86 | 33 | 27 | 20 | 39 | 260 | 100 |
| MIN SIZE | 15 | 40 | 15 | 17 | 17 | 24 | 15 | | 22 | 17 | 17 | 18 | 18 | 22 | 17 | | 24 | 24 | 22 | 37 | 33 | 15 | 15 | |
| MAX SIZE | 79 | 64 | 72 | 62 | 58 | 62 | 79 | | 59 | 72 | 80 | 68 | 71 | 66 | 80 | | 62 | 63 | 76 | 64 | 72 | 77 | 77 | |
| AVG SIZE | 47 | 54 | 44 | 37 | 41 | 45 | 43 | | 45 | 48 | 64 | 51 | 49 | 49 | 51 | | 46 | 44 | 53 | 54 | 55 | 43 | 47 | |
| ST DEV | 19 | 8 | 12 | 10 | 13 | 9 | 13 | | 10 | 15 | 14 | 12 | 14 | 11 | 14 | | 8 | 8 | 14 | 8 | 12 | 14 | 11 | |

## Table 49. Density and Size-Distribution of Owl Limpets within Circular Plots in Fall 1992

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 2 | 0 | 0 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 16 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 1 |
| 18 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 1 | 6 | 2 |
| 19 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 1 |
| 20 | 0 | 0 | 1 | 7 | 1 | 0 | 9 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 1 | 5 | 2 |
| 21 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 22 | 0 | 1 | 4 | 2 | 0 | 0 | 7 | 3 | 0 | 2 | 0 | 0 | 1 | 0 | 3 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 4 | 1 |
| 23 | 2 | 0 | 3 | 3 | 3 | 1 | 12 | 5 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 3 | 2 | 0 | 0 | 2 | 9 | 3 |
| 24 | 0 | 0 | 3 | 3 | 2 | 1 | 9 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 |
| 25 | 1 | 0 | 2 | 1 | 1 | 0 | 5 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 2 | 1 | 0 | 1 | 1 | 0 | 3 | 6 | 2 |
| 26 | 0 | 0 | 1 | 1 | 2 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 5 | 2 |
| 27 | 1 | 0 | 1 | 2 | 1 | 1 | 6 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 4 | 1 |
| 28 | 0 | 0 | 3 | 0 | 1 | 2 | 6 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 |
| 29 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 5 | 2 |
| 30 | 1 | 1 | 1 | 0 | 2 | 2 | 7 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 |
| 31 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 2 | 1 | 2 | 1 | 0 | 0 | 1 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 32 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 | 1 | 0 | 2 | 0 | 0 | 1 | 4 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 3 | 1 | 1 | 1 | 1 | 1 | 0 | 3 | 7 | 2 |
| 34 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 0 | 0 | 4 | 8 | 3 |
| 35 | 0 | 0 | 0 | 4 | 2 | 0 | 6 | 2 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 1 |
| 36 | 1 | 0 | 1 | 3 | 0 | 0 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 37 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 4 | 1 |
| 38 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 2 | 6 | 1 | 0 | 0 | 1 | 10 | 3 |
| 39 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 3 | 0 | 0 | 0 | 1 | 5 | 2 |
| 40 | 0 | 0 | 2 | 5 | 3 | 1 | 11 | 4 | 2 | 0 | 0 | 0 | 0 | 3 | 5 | 2 | 6 | 7 | 0 | 0 | 1 | 2 | 16 | 5 |
| 41 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 1 | 7 | 3 | 1 | 3 | 0 | 1 | 0 | 1 | 6 | 2 |
| 42 | 1 | 0 | 4 | 1 | 0 | 0 | 6 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 6 | 1 | 0 | 0 | 0 | 8 | 3 |
| 43 | 0 | 0 | 3 | 2 | 1 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 3 | 3 | 0 | 0 | 2 | 8 | 3 |
| 44 | 1 | 0 | 2 | 3 | 0 | 0 | 6 | 2 | 2 | 1 | 0 | 0 | 0 | 2 | 5 | 2 | 0 | 6 | 0 | 0 | 1 | 2 | 9 | 3 |
| 45 | 2 | 0 | 2 | 3 | 2 | 1 | 10 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 4 | 3 | 0 | 1 | 1 | 4 | 13 | 4 |
| 46 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 1 | 1 | 0 | 3 | 6 | 3 | 1 | 3 | 0 | 0 | 1 | 1 | 6 | 2 |
| 47 | 0 | 2 | 0 | 1 | 2 | 0 | 5 | 2 | 1 | 0 | 1 | 0 | 1 | 2 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 |
| 48 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 5 | 2 | 1 | 2 | 1 | 2 | 0 | 0 | 6 | 2 |
| 49 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 5 | 2 | 4 | 3 | 1 | 1 | 0 | 0 | 9 | 3 |
| 50 | 0 | 0 | 1 | 2 | 1 | 2 | 6 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 3 | 1 | 7 | 4 | 0 | 1 | 0 | 0 | 12 | 4 |
| 51 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 2 | 2 | 1 | 0 | 1 | 0 | 3 | 7 | 3 | 4 | 0 | 0 | 1 | 0 | 2 | 7 | 2 |
| 52 | 4 | 0 | 2 | 0 | 4 | 2 | 12 | 5 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 5 | 0 | 1 | 1 | 1 | 9 | 3 |
| 53 | 1 | 2 | 5 | 0 | 1 | 1 | 10 | 4 | 1 | 4 | 0 | 0 | 1 | 0 | 6 | 3 | 1 | 1 | 1 | 2 | 0 | 0 | 5 | 2 |
| 54 | 1 | 0 | 1 | 0 | 0 | 1 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 5 | 3 | 1 | 1 | 2 | 0 | 12 | 4 |
| 55 | 0 | 0 | 2 | 1 | 0 | 1 | 4 | 2 | 2 | 0 | 0 | 1 | 1 | 4 | 8 | 4 | 3 | 3 | 0 | 1 | 0 | 1 | 8 | 3 |
| 56 | 0 | 0 | 2 | 1 | 0 | 1 | 4 | 2 | 0 | 1 | 1 | 1 | 0 | 3 | 6 | 3 | 3 | 1 | 0 | 0 | 0 | 2 | 6 | 2 |
| 57 | 2 | 1 | 1 | 0 | 2 | 1 | 7 | 3 | 2 | 1 | 0 | 0 | 0 | 4 | 7 | 3 | 3 | 4 | 0 | 0 | 2 | 1 | 10 | 3 |
| 58 | 1 | 0 | 1 | 0 | 1 | 1 | 4 | 2 | 1 | 0 | 0 | 2 | 0 | 2 | 5 | 2 | 2 | 0 | 0 | 1 | 1 | 0 | 4 | 1 |
| 59 | 2 | 2 | 2 | 0 | 0 | 0 | 6 | 2 | 0 | 0 | 2 | 3 | 1 | 3 | 9 | 4 | 1 | 0 | 2 | 1 | 1 | 0 | 5 | 2 |
| 60 | 0 | 1 | 3 | 1 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 1 | 0 | 2 | 2 | 1 | 1 | 7 | 2 |
| 61 | 1 | 2 | 1 | 0 | 0 | 1 | 5 | 2 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 4 | 1 |
| 62 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 10 | 5 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 1 |
| 63 | 1 | 3 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 5 | 2 |
| 64 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 65 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 4 | 2 | 1 | 0 | 4 | 2 | 1 | 1 | 9 | 3 |
| 66 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 6 | 3 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 1 |
| 67 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 1 |
| 68 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 69 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 71 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 3 | 0 | 1 | 9 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 75 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 78 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 43 | 17 | 69 | 67 | 42 | 27 | 265 | 100 | 41 | 24 | 31 | 24 | 25 | 77 | 222 | 100 | 75 | 88 | 39 | 28 | 25 | 54 | 309 | 100 |
| MIN SIZE | 15 | 22 | 17 | 15 | 19 | 23 | 15 | | 16 | 17 | 31 | 32 | 19 | 21 | 16 | | 17 | 18 | 17 | 24 | 17 | 15 | 15 | |
| MAX SIZE | 84 | 66 | 75 | 60 | 64 | 61 | 84 | | 66 | 79 | 82 | 73 | 71 | 74 | 82 | | 65 | 57 | 74 | 68 | 72 | 77 | 77 | |
| AVG SIZE | 52 | 54 | 41 | 32 | 39 | 43 | 41 | | 41 | 49 | 66 | 58 | 40 | 52 | 51 | | 43 | 41 | 49 | 54 | 50 | 41 | 45 | |
| ST DEV | 19 | 12 | 15 | 12 | 13 | 12 | 16 | | 13 | 17 | 12 | 11 | 16 | 13 | 16 | | 13 | 10 | 17 | 12 | 16 | 15 | 14 | |

## Table 50. Density and Size-Distribution of Owl Limpets within Circular Plots in Spring 1993.

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 |
| 18 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 20 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 21 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 22 | 1 | 0 | 0 | 4 | 2 | 1 | 8 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 23 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 24 | 0 | 0 | 1 | 3 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 |
| 25 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 1 |
| 26 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 |
| 27 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 4 | 2 |
| 28 | 1 | 0 | 2 | 0 | 1 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| 29 | 0 | 0 | 0 | 1 | 3 | 1 | 5 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 3 | 1 |
| 30 | 1 | 1 | 1 | 1 | 0 | 2 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 |
| 31 | 1 | 1 | 1 | 0 | 3 | 1 | 7 | 3 | 3 | 0 | 0 | 0 | 1 | 3 | 7 | 4 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 2 |
| 32 | 1 | 1 | 2 | 1 | 1 | 1 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 33 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 5 | 2 |
| 34 | 3 | 0 | 2 | 5 | 1 | 1 | 12 | 5 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 35 | 1 | 0 | 3 | 2 | 1 | 1 | 8 | 4 | 1 | 0 | 0 | 0 | 2 | 2 | 5 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 1 |
| 36 | 0 | 0 | 1 | 2 | 3 | 1 | 7 | 3 | 0 | 1 | 0 | 0 | 3 | 0 | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 2 | 5 | 2 |
| 37 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 4 | 2 | 0 | 5 | 0 | 1 | 0 | 2 | 8 | 3 |
| 38 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 5 | 0 | 0 | 0 | 1 | 6 | 2 |
| 39 | 0 | 0 | 3 | 0 | 1 | 1 | 5 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 2 | 1 | 0 | 0 | 1 | 4 | 2 |
| 40 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 2 | 1 | 0 | 1 | 0 | 1 | 2 | 5 | 3 | 2 | 6 | 0 | 0 | 0 | 0 | 8 | 3 |
| 41 | 1 | 0 | 3 | 2 | 0 | 0 | 6 | 3 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 3 | 3 | 3 | 2 | 0 | 0 | 0 | 8 | 3 |
| 42 | 0 | 0 | 2 | 1 | 1 | 0 | 4 | 2 | 2 | 1 | 0 | 0 | 1 | 2 | 6 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 1 |
| 43 | 0 | 0 | 1 | 2 | 1 | 1 | 5 | 2 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 2 | 2 | 2 | 1 | 1 | 0 | 2 | 8 | 3 |
| 44 | 0 | 0 | 1 | 1 | 1 | 1 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 3 | 5 | 3 | 1 | 4 | 0 | 0 | 0 | 2 | 7 | 3 |
| 45 | 1 | 0 | 2 | 2 | 0 | 0 | 5 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 6 | 0 | 0 | 1 | 2 | 11 | 4 |
| 46 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 2 | 1 | 2 | 0 | 0 | 1 | 1 | 5 | 2 |
| 47 | 3 | 0 | 0 | 2 | 0 | 0 | 5 | 2 | 1 | 0 | 0 | 1 | 0 | 2 | 4 | 2 | 2 | 3 | 2 | 0 | 0 | 1 | 8 | 3 |
| 48 | 0 | 0 | 1 | 2 | 3 | 1 | 7 | 3 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 2 | 3 | 3 | 0 | 0 | 1 | 2 | 9 | 4 |
| 49 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 6 | 3 | 3 | 2 | 1 | 0 | 1 | 0 | 7 | 3 |
| 50 | 3 | 1 | 0 | 0 | 2 | 3 | 9 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 3 | 5 | 1 | 1 | 0 | 3 | 13 | 5 |
| 51 | 0 | 0 | 3 | 0 | 1 | 4 | 8 | 4 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 | 2 | 3 | 0 | 2 | 1 | 1 | 9 | 4 |
| 52 | 1 | 0 | 1 | 1 | 2 | 1 | 6 | 3 | 1 | 1 | 0 | 1 | 2 | 0 | 5 | 3 | 3 | 2 | 0 | 1 | 0 | 0 | 6 | 2 |
| 53 | 1 | 1 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 2 | 4 | 2 | 1 | 2 | 1 | 0 | 10 | 4 |
| 54 | 2 | 0 | 2 | 0 | 0 | 1 | 5 | 2 | 2 | 1 | 0 | 1 | 0 | 5 | 9 | 5 | 4 | 0 | 0 | 2 | 0 | 0 | 6 | 2 |
| 55 | 2 | 0 | 3 | 0 | 2 | 1 | 8 | 4 | 0 | 2 | 0 | 0 | 0 | 3 | 5 | 3 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 2 |
| 56 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 2 | 2 | 1 | 5 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 |
| 57 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | 5 | 3 | 4 | 2 | 0 | 1 | 1 | 1 | 9 | 4 |
| 58 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 4 | 2 |
| 59 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 3 | 6 | 3 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 2 |
| 60 | 0 | 2 | 3 | 1 | 0 | 0 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 2 | 7 | 3 |
| 61 | 3 | 0 | 1 | 0 | 0 | 0 | 4 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 0 | 2 | 0 | 4 | 2 |
| 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 2 | 1 | 0 | 1 | 2 | 0 | 0 | 4 | 2 |
| 63 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 8 | 4 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 |
| 65 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 5 | 3 | 0 | 0 | 2 | 4 | 1 | 0 | 7 | 3 |
| 66 | 2 | 1 | 1 | 0 | 0 | 1 | 5 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 4 | 2 |
| 67 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 69 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 1 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 74 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 37 | 11 | 54 | 49 | 45 | 28 | 224 | 100 | 32 | 21 | 32 | 12 | 30 | 68 | 195 | 100 | 52 | 76 | 31 | 28 | 22 | 43 | 252 | 100 |
| MIN SIZE | 22 | 30 | 20 | 18 | 15 | 22 | 15 | | 26 | 27 | 39 | 17 | 23 | 23 | 17 | | 24 | 20 | 17 | 27 | 17 | 19 | 17 | |
| MAX SIZE | 82 | 66 | 74 | 60 | 63 | 66 | 82 | | 61 | 77 | 81 | 72 | 70 | 74 | 81 | | 62 | 60 | 73 | 66 | 71 | 75 | 75 | |
| AVG SIZE | 53 | 51 | 45 | 35 | 37 | 44 | 43 | | 43 | 53 | 67 | 52 | 43 | 49 | 51 | | 47 | 43 | 52 | 52 | 51 | 43 | 47 | |
| ST DEV | 16 | 14 | 13 | 10 | 12 | 11 | 14 | | 10 | 14 | 10 | 14 | 12 | 14 | 15 | | 9 | 9 | 16 | 12 | 16 | 14 | 12 | |

## Table 51. Density and Size-Distribution of Owl Limpets within Circular Plots in Fall 1993

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 16 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 2 |
| 18 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 0 | 4 | 2 |
| 19 | 2 | 0 | 1 | 1 | 1 | 0 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 20 | 1 | 2 | 2 | 0 | 0 | 0 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 2 |
| 21 | 1 | 0 | 2 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 22 | 1 | 0 | 2 | 0 | 1 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 4 | 2 |
| 23 | 1 | 0 | 2 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 24 | 1 | 2 | 0 | 0 | 1 | 0 | 4 | 2 | 3 | 0 | 1 | 0 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 25 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 4 | 2 |
| 26 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 1 |
| 27 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 28 | 0 | 1 | 1 | 4 | 1 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2 | 6 | 2 |
| 29 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 |
| 30 | 0 | 1 | 1 | 1 | 1 | 0 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 |
| 31 | 0 | 0 | 3 | 3 | 1 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 5 | 2 |
| 32 | 0 | 0 | 1 | 1 | 1 | 1 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 5 | 2 |
| 33 | 0 | 0 | 2 | 1 | 3 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 6 | 2 |
| 34 | 1 | 0 | 1 | 4 | 1 | 1 | 8 | 3 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 3 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 |
| 35 | 1 | 0 | 1 | 1 | 4 | 1 | 8 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 0 | 0 | 0 | 2 | 7 | 3 |
| 36 | 1 | 0 | 1 | 1 | 2 | 1 | 6 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 1 |
| 37 | 1 | 0 | 1 | 5 | 2 | 0 | 9 | 4 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 2 | 1 | 3 | 0 | 0 | 0 | 1 | 5 | 2 |
| 38 | 0 | 0 | 1 | 1 | 1 | 1 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 2 | 0 | 1 | 1 | 2 | 3 | 9 | 3 |
| 39 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 1 | 4 | 2 | 1 | 0 | 1 | 9 | 3 |
| 40 | 1 | 0 | 3 | 0 | 1 | 0 | 5 | 2 | 2 | 1 | 0 | 0 | 0 | 2 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 |
| 41 | 1 | 0 | 0 | 1 | 2 | 1 | 5 | 2 | 2 | 0 | 1 | 0 | 1 | 1 | 5 | 3 | 0 | 4 | 1 | 0 | 0 | 0 | 5 | 2 |
| 42 | 2 | 1 | 3 | 2 | 3 | 1 | 12 | 5 | 3 | 0 | 0 | 0 | 2 | 2 | 7 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 8 | 3 |
| 43 | 1 | 1 | 2 | 1 | 2 | 1 | 8 | 3 | 0 | 1 | 0 | 0 | 2 | 1 | 4 | 2 | 1 | 4 | 1 | 1 | 0 | 0 | 7 | 3 |
| 44 | 1 | 0 | 1 | 2 | 1 | 0 | 5 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 2 | 1 | 2 | 0 | 2 | 0 | 0 | 5 | 2 |
| 45 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 5 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 |
| 46 | 1 | 1 | 3 | 1 | 2 | 2 | 10 | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 5 | 3 | 1 | 4 | 0 | 0 | 0 | 0 | 5 | 2 |
| 47 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 4 | 2 | 1 | 0 | 1 | 2 | 10 | 4 |
| 48 | 1 | 0 | 2 | 0 | 1 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 2 | 1 | 2 | 0 | 1 | 3 | 2 | 9 | 3 |
| 49 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 5 | 3 | 3 | 3 | 0 | 0 | 0 | 2 | 8 | 3 |
| 50 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 0 | 1 | 0 | 7 | 3 |
| 51 | 2 | 0 | 2 | 1 | 2 | 1 | 8 | 3 | 0 | 0 | 0 | 0 | 2 | 3 | 5 | 3 | 6 | 3 | 1 | 1 | 0 | 1 | 12 | 5 |
| 52 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 4 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 1 |
| 53 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 2 | 0 | 1 | 2 | 1 | 0 | 6 | 2 |
| 54 | 4 | 1 | 1 | 2 | 0 | 0 | 8 | 3 | 4 | 2 | 1 | 1 | 1 | 1 | 10 | 5 | 3 | 0 | 2 | 0 | 0 | 0 | 5 | 2 |
| 55 | 0 | 0 | 3 | 0 | 0 | 1 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 2 | 0 | 1 | 0 | 6 | 2 |
| 56 | 0 | 0 | 2 | 1 | 2 | 0 | 5 | 2 | 2 | 2 | 0 | 1 | 0 | 2 | 7 | 4 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 2 |
| 57 | 2 | 1 | 1 | 0 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2 | 2 | 0 | 0 | 1 | 1 | 1 | 5 | 2 |
| 58 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 1 | 2 | 3 | 1 | 8 | 3 |
| 59 | 2 | 1 | 5 | 0 | 1 | 1 | 10 | 4 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 |
| 60 | 4 | 0 | 0 | 0 | 0 | 1 | 5 | 2 | 2 | 1 | 0 | 0 | 0 | 2 | 5 | 3 | 0 | 0 | 1 | 1 | 0 | 2 | 4 | 2 |
| 61 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 5 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 62 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 3 | 1 | 0 | 2 | 6 | 3 | 0 | 0 | 3 | 2 | 0 | 0 | 5 | 2 |
| 63 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 2 | 0 | 2 | 1 | 0 | 0 | 5 | 2 |
| 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 65 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 66 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 4 | 2 | 0 | 7 | 3 |
| 67 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 68 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 2 |
| 69 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 71 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 1 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 76 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 47 | 17 | 68 | 41 | 51 | 28 | 252 | 100 | 44 | 24 | 31 | 13 | 27 | 52 | 191 | 100 | 73 | 65 | 33 | 25 | 26 | 36 | 258 | 100 |
| MIN SIZE | 19 | 18 | 15 | 19 | 16 | 25 | 15 | | 15 | 16 | 24 | 21 | 16 | 27 | 15 | | 15 | 15 | 17 | 21 | 18 | 22 | 15 | |
| MAX SIZE | 85 | 69 | 76 | 56 | 65 | 71 | 85 | | 61 | 79 | 83 | 75 | 73 | 73 | 83 | | 65 | 58 | 74 | 66 | 68 | 75 | 75 | |
| AVG SIZE | 50 | 38 | 40 | 36 | 40 | 49 | 42 | | 40 | 49 | 67 | 59 | 45 | 50 | 50 | | 40 | 39 | 53 | 54 | 48 | 43 | 44 | |
| ST DEV | 19 | 17 | 16 | 9 | 12 | 12 | 17 | | 14 | 20 | 12 | 14 | 14 | 12 | 17 | | 13 | 10 | 14 | 11 | 15 | 14 | 14 | |

## Table 52. Density and Size-Distribution of Owl Limpets within Circular Plots in Spring 1994.

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 16 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 18 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 20 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 21 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 22 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 4 | 2 |
| 23 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 24 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 |
| 25 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26 | 1 | 0 | 1 | 0 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | 2 | 0 | 3 | 1 | 2 | 0 | 8 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 |
| 28 | 1 | 0 | 2 | 0 | 1 | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 29 | 0 | 0 | 3 | 1 | 0 | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 4 | 2 |
| 30 | 2 | 2 | 0 | 3 | 2 | 1 | 10 | 4 | 2 | 1 | 0 | 1 | 1 | 0 | 5 | 3 | 3 | 2 | 0 | 1 | 1 | 0 | 7 | 3 |
| 31 | 0 | 1 | 1 | 4 | 1 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 32 | 0 | 0 | 2 | 4 | 0 | 0 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 5 | 2 |
| 33 | 0 | 1 | 0 | 2 | 4 | 0 | 7 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 1 |
| 34 | 0 | 1 | 3 | 1 | 3 | 0 | 8 | 4 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 35 | 0 | 1 | 1 | 2 | 2 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 6 | 0 | 0 | 0 | 0 | 9 | 4 |
| 36 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 5 | 0 | 0 | 0 | 1 | 6 | 3 |
| 37 | 0 | 0 | 1 | 2 | 2 | 2 | 7 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 5 | 2 |
| 38 | 2 | 0 | 0 | 4 | 5 | 0 | 11 | 5 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 2 | 1 | 0 | 0 | 3 | 6 | 3 |
| 39 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 1 |
| 40 | 1 | 0 | 4 | 0 | 0 | 0 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 2 | 5 | 3 | 2 | 2 | 0 | 0 | 0 | 2 | 6 | 3 |
| 41 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 5 | 2 |
| 42 | 1 | 0 | 1 | 0 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 | 2 | 4 | 1 | 2 | 0 | 0 | 9 | 4 |
| 43 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 2 | 5 | 0 | 1 | 1 | 0 | 9 | 4 |
| 44 | 1 | 1 | 2 | 0 | 4 | 0 | 8 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 4 | 1 | 1 | 0 | 2 | 8 | 4 |
| 45 | 1 | 0 | 0 | 1 | 2 | 1 | 5 | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 5 | 3 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 2 |
| 46 | 0 | 1 | 2 | 0 | 2 | 1 | 6 | 3 | 2 | 1 | 0 | 0 | 2 | 1 | 6 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 |
| 47 | 0 | 0 | 2 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 5 | 2 |
| 48 | 1 | 1 | 1 | 0 | 1 | 1 | 5 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 3 | 2 | 0 | 0 | 1 | 1 | 7 | 3 |
| 49 | 0 | 0 | 0 | 1 | 0 | 3 | 4 | 2 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 2 | 3 | 2 | 2 | 0 | 0 | 0 | 7 | 3 |
| 50 | 0 | 1 | 2 | 0 | 0 | 1 | 4 | 2 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 2 | 1 | 3 | 1 | 3 | 1 | 0 | 9 | 4 |
| 51 | 0 | 0 | 3 | 1 | 2 | 1 | 7 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 |
| 52 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 0 | 2 | 0 | 0 | 1 | 6 | 9 | 5 | 4 | 0 | 0 | 0 | 0 | 1 | 5 | 2 |
| 53 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 1 | 0 | 1 | 1 | 5 | 3 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 |
| 54 | 2 | 1 | 1 | 0 | 0 | 1 | 5 | 2 | 0 | 1 | 0 | 0 | 2 | 0 | 3 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 |
| 55 | 1 | 0 | 2 | 0 | 0 | 2 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 1 | 0 | 3 | 0 | 1 | 6 | 3 |
| 56 | 2 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 4 | 2 | 1 | 0 | 2 | 1 | 2 | 0 | 6 | 3 |
| 57 | 0 | 0 | 0 | 0 | 3 | 1 | 4 | 2 | 1 | 1 | 0 | 1 | 0 | 1 | 4 | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 4 | 2 |
| 58 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 59 | 1 | 1 | 0 | 0 | 1 | 0 | 3 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 5 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 |
| 60 | 1 | 1 | 1 | 0 | 1 | 1 | 5 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 |
| 61 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 62 | 1 | 0 | 1 | 1 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 2 | 0 | 0 | 4 | 2 | 1 | 0 | 7 | 3 |
| 63 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 2 |
| 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 65 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 |
| 66 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 69 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 |
| 70 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 72 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 39 | 16 | 55 | 37 | 49 | 27 | 223 | 100 | 36 | 26 | 29 | 10 | 22 | 43 | 166 | 100 | 47 | 56 | 26 | 30 | 27 | 22 | 208 | 100 |
| MIN SIZE | 20 | 24 | 18 | 15 | 21 | 30 | 15 | | 21 | 19 | 19 | 30 | 21 | 20 | 19 | | 15 | 24 | 27 | 15 | 17 | 32 | 15 | |
| MAX SIZE | 84 | 69 | 74 | 62 | 60 | 70 | 84 | | 60 | 78 | 85 | 72 | 66 | 72 | 85 | | 63 | 57 | 71 | 69 | 69 | 74 | 74 | |
| AVG SIZE | 50 | 44 | 41 | 33 | 40 | 52 | 42 | | 42 | 51 | 64 | 58 | 44 | 46 | 52 | | 39 | 40 | 53 | 51 | 47 | 45 | 44 | |
| ST DEV | 17 | 14 | 13 | 9 | 10 | 10 | 14 | | 10 | 17 | 16 | 13 | 13 | 14 | 16 | | 12 | 8 | 13 | 14 | 17 | 10 | 13 | |

## Table 53. Density and Size-Distribution of Owl Limpets within Circular Plots in Fall 1994

| LENGTH | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 2 |
| 16 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 |
| 18 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 19 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 20 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 21 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 3 | 2 |
| 23 | 0 | 1 | 1 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 24 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 |
| 25 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 2 |
| 26 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 |
| 27 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 28 | 0 | 0 | 0 | 1 | 2 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 29 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 2 |
| 30 | 0 | 0 | 1 | 1 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 4 | 2 |
| 31 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 |
| 32 | 0 | 0 | 1 | 0 | 2 | 1 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 |
| 33 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 |
| 34 | 1 | 0 | 2 | 2 | 1 | 1 | 7 | 4 | 2 | 1 | 1 | 0 | 0 | 1 | 5 | 3 | 2 | 1 | 0 | 0 | 1 | 1 | 5 | 3 |
| 35 | 0 | 0 | 1 | 4 | 1 | 0 | 6 | 3 | 2 | 1 | 0 | 0 | 1 | 2 | 6 | 4 | 4 | 4 | 1 | 0 | 0 | 1 | 10 | 5 |
| 36 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 4 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 2 |
| 37 | 0 | 0 | 3 | 1 | 2 | 0 | 6 | 3 | 1 | 1 | 0 | 0 | 3 | 2 | 7 | 5 | 2 | 1 | 0 | 0 | 1 | 1 | 5 | 3 |
| 38 | 1 | 0 | 0 | 2 | 4 | 1 | 8 | 4 | 1 | 1 | 0 | 1 | 0 | 1 | 4 | 3 | 2 | 1 | 0 | 0 | 0 | 4 | 7 | 4 |
| 39 | 0 | 0 | 4 | 0 | 2 | 0 | 6 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 2 |
| 40 | 1 | 0 | 3 | 1 | 1 | 1 | 7 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 1 | 1 | 3 | 0 | 0 | 0 | 2 | 6 | 3 |
| 41 | 1 | 0 | 1 | 1 | 3 | 0 | 6 | 3 | 2 | 0 | 0 | 0 | 2 | 1 | 5 | 3 | 0 | 8 | 0 | 0 | 0 | 3 | 11 | 6 |
| 42 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 5 | 3 |
| 43 | 0 | 3 | 0 | 1 | 1 | 3 | 8 | 4 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |
| 44 | 1 | 0 | 4 | 1 | 0 | 1 | 7 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 1 | 0 | 2 | 1 | 2 | 8 | 4 |
| 45 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 1 | 6 | 3 |
| 46 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 3 | 2 | 0 | 1 | 0 | 1 | 7 | 4 |
| 47 | 1 | 0 | 2 | 1 | 1 | 0 | 5 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 3 | 2 | 1 | 1 | 0 | 0 | 0 | 4 | 2 |
| 48 | 1 | 3 | 0 | 1 | 0 | 0 | 5 | 3 | 3 | 1 | 0 | 0 | 0 | 3 | 7 | 5 | 1 | 1 | 2 | 0 | 1 | 0 | 5 | 3 |
| 49 | 2 | 0 | 3 | 0 | 1 | 1 | 7 | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 2 | 9 | 5 |
| 50 | 2 | 0 | 2 | 0 | 0 | 4 | 8 | 4 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 0 | 0 | 1 | 0 | 5 | 3 |
| 51 | 0 | 1 | 1 | 1 | 1 | 1 | 5 | 3 | 1 | 0 | 0 | 0 | 2 | 1 | 4 | 3 | 4 | 1 | 1 | 1 | 0 | 1 | 8 | 4 |
| 52 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 1 | 0 | 2 | 1 | 6 | 4 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 2 |
| 53 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | 3 | 0 | 0 | 0 | 1 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 3 | 0 | 2 | 0 | 0 | 1 | 6 | 3 |
| 55 | 2 | 0 | 0 | 0 | 2 | 0 | 4 | 2 | 0 | 1 | 0 | 0 | 2 | 2 | 5 | 3 | 4 | 1 | 1 | 1 | 0 | 0 | 7 | 4 |
| 56 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 57 | 2 | 0 | 2 | 0 | 0 | 0 | 4 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 58 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 59 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 2 |
| 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 2 |
| 61 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |
| 62 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 5 | 3 | 1 | 0 | 1 | 2 | 1 | 0 | 5 | 3 |
| 63 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 64 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 2 |
| 65 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 69 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 32 | 14 | 52 | 24 | 39 | 24 | 185 | 100 | 29 | 24 | 23 | 7 | 24 | 40 | 147 | 100 | 54 | 50 | 21 | 20 | 17 | 37 | 199 | 100 |
| MIN SIZE | 19 | 23 | 16 | 20 | 22 | 17 | 16 | | 29 | 26 | 34 | 38 | 35 | 16 | 16 | | 15 | 15 | 35 | 29 | 22 | 17 | 15 | |
| MAX SIZE | 82 | 63 | 75 | 59 | 61 | 69 | 82 | | 62 | 79 | 84 | 75 | 63 | 75 | 84 | | 62 | 55 | 69 | 67 | 68 | 61 | 69 | |
| AVG SIZE | 53 | 48 | 40 | 39 | 39 | 44 | 43 | | 43 | 51 | 66 | 54 | 48 | 42 | 49 | | 41 | 38 | 53 | 54 | 46 | 37 | 43 | |
| ST DEV | 15 | 11 | 14 | 9 | 9 | 11 | 13 | | 9 | 15 | 12 | 14 | 9 | 16 | 15 | | 11 | 9 | 9 | 9 | 17 | 11 | 12 | |

## Table 54. Density and Size-Distribution of Owl Limpets within Circular Plots in Spring 1995.

| | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 18 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 20 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 4 | 2 |
| 21 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 2 |
| 22 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 0 | 0 | 1 | 1 | 2 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 |
| 24 | 2 | 0 | 2 | 0 | 1 | 0 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 25 | 0 | 0 | 1 | 2 | 1 | 0 | 4 | 2 | 2 | 0 | 1 | 0 | 0 | 1 | 4 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 2 |
| 26 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 27 | 1 | 2 | 0 | 3 | 0 | 0 | 6 | 3 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 28 | 1 | 0 | 3 | 2 | 1 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 29 | 1 | 1 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 2 |
| 30 | 2 | 0 | 2 | 2 | 1 | 0 | 7 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 1 | 2 | 0 | 1 | 1 | 0 | 5 | 3 |
| 31 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 5 | 3 |
| 32 | 2 | 1 | 3 | 3 | 1 | 0 | 10 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 2 |
| 33 | 1 | 1 | 1 | 1 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 1 | 6 | 3 |
| 34 | 0 | 0 | 1 | 4 | 2 | 1 | 8 | 4 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 5 | 0 | 0 | 0 | 2 | 10 | 5 |
| 35 | 1 | 0 | 0 | 3 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 |
| 36 | 1 | 1 | 0 | 3 | 2 | 1 | 8 | 4 | 1 | 2 | 0 | 1 | 1 | 0 | 5 | 3 | 1 | 1 | 1 | 0 | 1 | 0 | 4 | 2 |
| 37 | 0 | 0 | 1 | 0 | 2 | 0 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 2 |
| 38 | 1 | 0 | 1 | 1 | 2 | 0 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 3 | 5 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 39 | 1 | 0 | 1 | 5 | 4 | 0 | 11 | 5 | 2 | 0 | 0 | 1 | 0 | 1 | 4 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 6 | 3 |
| 40 | 1 | 0 | 1 | 0 | 2 | 2 | 6 | 3 | 0 | 0 | 0 | 1 | 0 | 2 | 3 | 2 | 3 | 11 | 0 | 0 | 0 | 5 | 19 | 10 |
| 41 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 2 |
| 42 | 0 | 1 | 3 | 1 | 2 | 1 | 8 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 3 | 1 | 1 | 0 | 2 | 9 | 5 |
| 43 | 0 | 0 | 3 | 2 | 2 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | 1 | 6 | 3 |
| 44 | 0 | 0 | 1 | 0 | 3 | 0 | 4 | 2 | 2 | 1 | 0 | 0 | 1 | 3 | 7 | 5 | 1 | 7 | 0 | 0 | 0 | 0 | 8 | 4 |
| 45 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 3 | 5 | 3 | 0 | 0 | 0 | 2 | 10 | 5 |
| 46 | 3 | 0 | 1 | 1 | 1 | 0 | 6 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 47 | 1 | 0 | 0 | 1 | 1 | 1 | 4 | 2 | 3 | 1 | 0 | 0 | 2 | 0 | 6 | 4 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 2 |
| 48 | 0 | 3 | 0 | 0 | 1 | 1 | 5 | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 5 | 3 | 1 | 1 | 1 | 1 | 0 | 0 | 4 | 2 |
| 49 | 0 | 0 | 2 | 0 | 0 | 3 | 5 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 3 | 1 | 0 | 0 | 1 | 1 | 0 | 3 | 2 |
| 50 | 3 | 1 | 1 | 0 | 1 | 2 | 8 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 51 | 4 | 0 | 2 | 0 | 0 | 0 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 3 | 2 | 3 | 0 | 0 | 2 | 0 | 7 | 4 |
| 52 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 4 | 3 | 5 | 1 | 3 | 3 | 0 | 0 | 12 | 6 |
| 53 | 1 | 2 | 4 | 0 | 1 | 1 | 9 | 4 | 0 | 2 | 0 | 0 | 2 | 1 | 5 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 2 |
| 54 | 0 | 1 | 1 | 0 | 1 | 2 | 5 | 2 | 0 | 1 | 0 | 0 | 3 | 3 | 7 | 5 | 1 | 1 | 0 | 0 | 0 | 2 | 4 | 2 |
| 55 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 56 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 2 | 0 | 0 | 2 | 6 | 3 |
| 57 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 2 | 5 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 58 | 0 | 1 | 0 | 1 | 0 | 1 | 3 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 |
| 59 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 1 |
| 60 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 2 |
| 61 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 62 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 2 |
| 63 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | 2 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 65 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 3 | 0 | 0 | 2 | 6 | 4 | 0 | 0 | 2 | 2 | 0 | 0 | 4 | 2 |
| 66 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 43 | 22 | 50 | 44 | 40 | 25 | 224 | 100 | 28 | 23 | 24 | 6 | 20 | 49 | 150 | 100 | 51 | 66 | 22 | 20 | 12 | 25 | 196 | 100 |
| MIN SIZE | 22 | 18 | 20 | 17 | 23 | 18 | 17 | | 20 | 24 | 25 | 36 | 18 | 15 | 15 | | 17 | 17 | 25 | 30 | 30 | 15 | 15 | |
| MAX SIZE | 82 | 64 | 75 | 58 | 62 | 65 | 82 | | 59 | 80 | 84 | 57 | 62 | 73 | 84 | | 57 | 54 | 65 | 66 | 68 | 56 | 68 | |
| AVG SIZE | 47 | 43 | 41 | 33 | 41 | 50 | 42 | | 40 | 53 | 60 | 45 | 48 | 44 | 48 | | 40 | 37 | 50 | 53 | 50 | 39 | 42 | |
| ST DEV | 15 | 13 | 12 | 8 | 10 | 11 | 13 | | 10 | 13 | 16 | 8 | 11 | 15 | 15 | | 10 | 9 | 13 | 9 | 12 | 11 | 12 | |

## Table 55. Density and Size-Distribution of Owl Limpets within Circular Plots in Fall 1995.

| | AREA I PLOTS (# OF LIMPETS) | | | | | | | | AREA II PLOTS (# OF LIMPETS) | | | | | | | | AREA III PLOTS (# OF LIMPETS) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH | BOULDER | | | CLIFF | | | | | BOULDER | | | CLIFF | | | | | BOULDER | | | | | CLIFF | | |
| (MM) | 282 | 283 | 284 | 277 | 279 | 280 | ALL | % | 239 | 240 | 241 | 242 | 243 | 266 | ALL | % | 11 | 18 | 19 | 21 | 26 | 13 | ALL | % |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 17 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 1 |
| 18 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 19 | 1 | 0 | 1 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 21 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 22 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 | 1 | 0 | 3 | 1 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 |
| 24 | 1 | 0 | 2 | 1 | 1 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 4 | 2 |
| 26 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 27 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 28 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 29 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 0 | 2 | 0 | 0 | 0 | 3 | 5 | 3 |
| 31 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 2 |
| 32 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 33 | 0 | 0 | 1 | 3 | 2 | 0 | 6 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 6 | 3 |
| 34 | 1 | 0 | 2 | 2 | 2 | 0 | 7 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 35 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 2 |
| 36 | 0 | 0 | 2 | 2 | 3 | 0 | 7 | 3 | 1 | 0 | 1 | 0 | 0 | 2 | 4 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 3 | 2 |
| 37 | 0 | 0 | 0 | 2 | 1 | 0 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 1 | 0 | 4 | 2 |
| 38 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 |
| 39 | 0 | 4 | 2 | 3 | 0 | 0 | 9 | 4 | 0 | 1 | 1 | 0 | 0 | 1 | 3 | 2 | 2 | 1 | 0 | 0 | 1 | 1 | 5 | 3 |
| 40 | 1 | 1 | 2 | 3 | 1 | 0 | 8 | 3 | 0 | 2 | 0 | 0 | 2 | 0 | 4 | 3 | 4 | 2 | 1 | 0 | 0 | 4 | 11 | 6 |
| 41 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 6 | 3 |
| 42 | 1 | 1 | 1 | 0 | 3 | 2 | 8 | 3 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 3 | 0 | 6 | 1 | 0 | 1 | 0 | 8 | 4 |
| 43 | 4 | 0 | 1 | 1 | 4 | 0 | 10 | 4 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 0 | 5 | 0 | 0 | 0 | 1 | 6 | 3 |
| 44 | 1 | 0 | 0 | 1 | 3 | 0 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 4 | 2 |
| 45 | 2 | 1 | 0 | 0 | 3 | 0 | 6 | 3 | 1 | 2 | 0 | 0 | 1 | 0 | 4 | 3 | 3 | 2 | 0 | 0 | 0 | 2 | 7 | 4 |
| 46 | 0 | 0 | 4 | 0 | 3 | 0 | 7 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 1 | 4 | 1 | 0 | 0 | 1 | 7 | 4 |
| 47 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 3 | 2 | 1 | 1 | 0 | 4 | 11 | 6 |
| 48 | 0 | 0 | 2 | 1 | 2 | 1 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 | 2 | 0 | 0 | 1 | 0 | 7 | 4 |
| 49 | 2 | 1 | 5 | 0 | 1 | 1 | 10 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 3 | 2 |
| 50 | 0 | 0 | 2 | 0 | 2 | 2 | 6 | 3 | 1 | 2 | 0 | 0 | 1 | 1 | 5 | 4 | 1 | 1 | 0 | 1 | 1 | 1 | 5 | 3 |
| 51 | 2 | 0 | 1 | 0 | 2 | 1 | 6 | 3 | 2 | 0 | 0 | 0 | 1 | 1 | 4 | 3 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 52 | 2 | 1 | 2 | 0 | 1 | 2 | 8 | 3 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 2 |
| 53 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 1 | 0 | 2 | 0 | 0 | 2 | 1 | 5 | 4 | 1 | 2 | 0 | 1 | 1 | 0 | 5 | 3 |
| 54 | 0 | 2 | 0 | 0 | 2 | 3 | 7 | 3 | 1 | 1 | 0 | 1 | 1 | 1 | 5 | 4 | 3 | 2 | 1 | 0 | 0 | 0 | 6 | 3 |
| 55 | 3 | 1 | 2 | 0 | 3 | 2 | 11 | 5 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 5 | 3 |
| 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 2 | 1 | 2 | 2 | 0 | 0 | 7 | 4 |
| 57 | 1 | 1 | 2 | 0 | 1 | 1 | 6 | 3 | 2 | 1 | 1 | 0 | 1 | 0 | 5 | 4 | 0 | 1 | 1 | 0 | 2 | 0 | 4 | 2 |
| 58 | 0 | 1 | 3 | 0 | 0 | 2 | 6 | 3 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 1 |
| 59 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 2 |
| 60 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 61 | 1 | 0 | 0 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 3 | 2 |
| 62 | 3 | 0 | 1 | 1 | 0 | 0 | 5 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 2 |
| 63 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | 3 | 0 | 1 | 0 | 1 | 1 | 6 | 3 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 65 | 3 | 1 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 3 | 0 | 1 | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 3 | 2 |
| 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 68 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL # | 48 | 19 | 55 | 41 | 47 | 26 | 236 | 100 | 27 | 23 | 20 | 3 | 21 | 40 | 134 | 100 | 42 | 55 | 22 | 15 | 12 | 32 | 178 | 100 |
| MIN SIZE | 17 | 22 | 18 | 19 | 24 | 42 | 17 | | 17 | 29 | 36 | 54 | 30 | 19 | 17 | | 16 | 17 | 17 | 47 | 25 | 16 | 16 | |
| MAX SIZE | 85 | 65 | 74 | 62 | 64 | 79 | 85 | | 62 | 74 | 81 | 60 | 65 | 72 | 81 | | 59 | 57 | 67 | 68 | 60 | 62 | 68 | |
| AVG SIZE | 51 | 49 | 43 | 34 | 44 | 56 | 45 | | 44 | 51 | 64 | 56 | 49 | 46 | 50 | | 43 | 41 | 51 | 57 | 47 | 38 | 44 | |
| ST DEV | 17 | 11 | 14 | 8 | 9 | 8 | 14 | | 11 | 14 | 11 | 3 | 9 | 14 | 14 | | 9 | 9 | 13 | 7 | 11 | 12 | 11 | |

**Table 56. Intertidal Cover along Line Transects in Spring 1990.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 7 | 0 | 3 | 20 | 0 | 10 | 43 | 44 | 44 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 78 | 96 | 87 | 13 | 36 | 25 | 31 | 36 | 34 |
| SURF GRASS | 10 | 0 | 5 | 50 | 56 | 53 | 9 | 11 | 10 |
| AGGREGATING ANEMONE | 0 | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| OTHER BIOTA | 1 | 0 | 0 | 2 | 0 | 1 | 11 | 0 | 5 |
| BARE SUBSTRATE | 4 | 1 | 3 | 15 | 8 | 11 | 5 | 9 | 7 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 12 | 6 | 17 | 19 | 18 | 76 | 34 | 55 |
| SARGASSUM WEED | 0 | 0 | 0 | 2 | 9 | 6 | 0 | 0 | 0 |
| RED ALGAL TURF | 86 | 59 | 73 | 5 | 16 | 11 | 22 | 35 | 28 |
| SURF GRASS | 0 | 5 | 2 | 64 | 51 | 57 | 1 | 21 | 11 |
| AGGREGATING ANEMONE | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 1 |
| BARE SUBSTRATE | 13 | 24 | 18 | 12 | 2 | 7 | 1 | 9 | 5 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 3 | 0 | 2 | 47 | 61 | 54 |
| SARGASSUM WEED | 0 | 0 | 0 | 3 | 3 | 3 | 0 | 0 | 0 |
| RED ALGAL TURF | 86 | 94 | 90 | 22 | 28 | 25 | 35 | 33 | 34 |
| SURF GRASS | 7 | 0 | 4 | 66 | 54 | 60 | 8 | 0 | 4 |
| AGGREGATING ANEMONE | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 2 |
| BARE SUBSTRATE | 4 | 4 | 4 | 6 | 13 | 9 | 7 | 6 | 6 |

**Table 57. Intertidal Cover along Line Transects in Fall 1990.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 1 | 0 | 1 | 29 | 33 | 31 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 67 | 96 | 81 | 8 | 38 | 23 | 22 | 51 | 36 |
| SURF GRASS | 28 | 0 | 14 | 88 | 57 | 72 | 27 | 4 | 16 |
| AGGREGATING ANEMONE | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 8 |
| BARE SUBSTRATE | 4 | 3 | 4 | 3 | 5 | 4 | 7 | 11 | 9 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 6 | 3 | 1 | 14 | 8 | 52 | 32 | 42 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 79 | 71 | 75 | 16 | 17 | 16 | 30 | 34 | 32 |
| SURF GRASS | 2 | 7 | 5 | 78 | 61 | 69 | 13 | 21 | 17 |
| AGGREGATING ANEMONE | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 3 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 3 | 2 | 4 | 2 | 3 |
| BARE SUBSTRATE | 18 | 16 | 17 | 5 | 5 | 5 | 1 | 5 | 3 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 7 | 0 | 4 | 28 | 44 | 36 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 |
| RED ALGAL TURF | 76 | 84 | 80 | 14 | 17 | 15 | 45 | 49 | 47 |
| SURF GRASS | 8 | 0 | 4 | 76 | 67 | 72 | 14 | 0 | 7 |
| AGGREGATING ANEMONE | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 3 | 3 |
| BARE SUBSTRATE | 14 | 15 | 14 | 3 | 11 | 7 | 10 | 4 | 7 |

**Table 58. Intertidal Cover along Line Transects in Spring 1991.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 2 | 0 | 1 | 13 | 16 | 14 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 81 | 94 | 88 | 12 | 39 | 26 | 51 | 80 | 66 |
| SURF GRASS | 17 | 0 | 8 | 82 | 58 | 70 | 12 | 4 | 8 |
| AGGREGATING ANEMONE | 0 | 4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 1 | 0 | 0 | 24 | 0 | 12 |
| BARE SUBSTRATE | 2 | 3 | 2 | 4 | 2 | 3 | 0 | 0 | 0 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 4 | 17 | 10 | 16 | 6 | 11 |
| SARGASSUM WEED | 0 | 1 | 0 | 1 | 11 | 6 | 0 | 0 | 0 |
| RED ALGAL TURF | 92 | 56 | 74 | 8 | 13 | 10 | 74 | 53 | 64 |
| SURF GRASS | 0 | 7 | 4 | 84 | 40 | 62 | 9 | 39 | 24 |
| AGGREGATING ANEMONE | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 3 | 2 | 3 | 12 | 8 | 0 | 0 | 0 |
| BARE SUBSTRATE | 7 | 33 | 20 | 0 | 7 | 4 | 0 | 3 | 2 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 6 | 5 | 6 | 22 | 21 | 22 |
| SARGASSUM WEED | 2 | 0 | 1 | 0 | 1 | 0 | 6 | 22 | 14 |
| RED ALGAL TURF | 79 | 95 | 87 | 13 | 20 | 16 | 43 | 22 | 32 |
| SURF GRASS | 6 | 0 | 3 | 69 | 46 | 58 | 12 | 2 | 7 |
| AGGREGATING ANEMONE | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 8 | 5 |
| BARE SUBSTRATE | 11 | 2 | 6 | 12 | 27 | 20 | 16 | 26 | 21 |

**Table 59. Intertidal Cover along Line Transects in Fall 1991.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 3 | 0 | 1 | 17 | 2 | 10 | 64 | 43 | 54 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 |
| RED ALGAL TURF | 69 | 97 | 83 | 3 | 30 | 17 | 4 | 38 | 21 |
| SURF GRASS | 28 | 0 | 14 | 75 | 67 | 71 | 19 | 19 | 19 |
| AGGREGATING ANEMONE | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 4 |
| BARE SUBSTRATE | 0 | 1 | 1 | 4 | 1 | 3 | 1 | 0 | 1 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 2 | 0 | 1 | 4 | 30 | 17 | 31 | 27 | 29 |
| SARGASSUM WEED | 0 | 2 | 1 | 0 | 0 | 0 | 13 | 0 | 6 |
| RED ALGAL TURF | 63 | 79 | 71 | 2 | 14 | 8 | 24 | 21 | 23 |
| SURF GRASS | 0 | 16 | 8 | 94 | 47 | 70 | 25 | 52 | 38 |
| AGGREGATING ANEMONE | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 9 | 5 | 7 | 0 | 4 |
| BARE SUBSTRATE | 34 | 4 | 19 | 0 | 0 | 0 | 0 | 0 | 0 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 7 | 0 | 4 | 23 | 28 | 25 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 6 | 3 | 1 | 7 | 4 |
| RED ALGAL TURF | 86 | 71 | 79 | 18 | 15 | 16 | 47 | 41 | 44 |
| SURF GRASS | 11 | 0 | 6 | 74 | 66 | 70 | 17 | 11 | 14 |
| AGGREGATING ANEMONE | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 11 | 11 |
| BARE SUBSTRATE | 0 | 27 | 14 | 1 | 13 | 7 | 2 | 2 | 2 |

**Table 60. Intertidal Cover along Line Transects in Spring 1992.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 1 | 0 | 0 | 81 | 21 | 51 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 66 | 95 | 81 | 9 | 33 | 21 | 16 | 40 | 28 |
| SURF GRASS | 34 | 0 | 17 | 91 | 67 | 79 | 3 | 36 | 20 |
| AGGREGATING ANEMONE | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BARE SUBSTRATE | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 3 | 1 | 6 | 20 | 13 | 35 | 25 | 30 |
| SARGASSUM WEED | 0 | 5 | 3 | 0 | 5 | 3 | 0 | 0 | 0 |
| RED ALGAL TURF | 96 | 62 | 79 | 7 | 10 | 9 | 23 | 17 | 20 |
| SURF GRASS | 0 | 23 | 11 | 87 | 56 | 72 | 36 | 58 | 47 |
| AGGREGATING ANEMONE | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 9 | 4 | 7 | 0 | 3 |
| BARE SUBSTRATE | 2 | 8 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 4 | 5 | 4 | 32 | 48 | 40 |
| SARGASSUM WEED | 0 | 0 | 0 | 7 | 8 | 8 | 5 | 11 | 8 |
| RED ALGAL TURF | 90 | 99 | 94 | 16 | 37 | 26 | 49 | 39 | 44 |
| SURF GRASS | 6 | 0 | 3 | 73 | 49 | 61 | 10 | 0 | 5 |
| AGGREGATING ANEMONE | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 3 |
| BARE SUBSTRATE | 3 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |

**Table 61. Intertidal Cover along Line Transects in June 1992.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 9 | 0 | 5 | 11 | 1 | 6 | 54 | 33 | 43 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 65 | 98 | 81 | 5 | 29 | 17 | 7 | 39 | 23 |
| SURF GRASS | 25 | 0 | 13 | 85 | 69 | 77 | 11 | 28 | 20 |
| AGGREGATING ANEMONE | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 1 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 14 |
| BARE SUBSTRATE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 16 | 8 | 4 | 28 | 16 | 48 | 47 | 48 |
| SARGASSUM WEED | 1 | 5 | 3 | 0 | 6 | 3 | 0 | 0 | 0 |
| RED ALGAL TURF | 93 | 51 | 72 | 4 | 7 | 6 | 14 | 8 | 11 |
| SURF GRASS | 1 | 23 | 12 | 93 | 55 | 74 | 13 | 44 | 29 |
| AGGREGATING ANEMONE | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 2 | 1 | 0 | 2 | 1 | 24 | 1 | 12 |
| BARE SUBSTRATE | 1 | 3 | 2 | 0 | 2 | 1 | 0 | 0 | 0 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 2 | 2 | 2 | 42 | 58 | 50 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 4 | 2 | 6 | 9 | 7 |
| RED ALGAL TURF | 89 | 99 | 94 | 13 | 26 | 19 | 34 | 15 | 24 |
| SURF GRASS | 8 | 0 | 4 | 85 | 68 | 76 | 10 | 13 | 11 |
| AGGREGATING ANEMONE | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 5 | 6 |
| BARE SUBSTRATE | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 2 |

**Table 62. Intertidal Cover along Line Transects in Fall 1992.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 2 | 0 | 1 | 45 | 20 | 33 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 67 | 99 | 83 | 6 | 18 | 12 | 10 | 28 | 19 |
| SURF GRASS | 33 | 0 | 16 | 92 | 80 | 86 | 29 | 52 | 40 |
| AGGREGATING ANEMONE | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 6 |
| BARE SUBSTRATE | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 2 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 8 | 4 | 7 | 20 | 13 | 47 | 15 | 31 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 |
| RED ALGAL TURF | 68 | 47 | 58 | 1 | 10 | 5 | 17 | 21 | 19 |
| SURF GRASS | 4 | 25 | 14 | 92 | 63 | 78 | 36 | 62 | 49 |
| AGGREGATING ANEMONE | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| OTHER BIOTA | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| BARE SUBSTRATE | 26 | 20 | 23 | 0 | 3 | 1 | 0 | 2 | 1 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 2 | 2 | 2 | 17 | 28 | 23 |
| SARGASSUM WEED | 0 | 0 | 0 | 2 | 0 | 1 | 2 | 7 | 4 |
| RED ALGAL TURF | 87 | 95 | 91 | 10 | 19 | 15 | 53 | 36 | 44 |
| SURF GRASS | 12 | 0 | 6 | 80 | 75 | 77 | 17 | 18 | 17 |
| AGGREGATING ANEMONE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 11 | 9 |
| BARE SUBSTRATE | 1 | 5 | 3 | 6 | 5 | 5 | 5 | 1 | 3 |

**Table 63. Intertidal Cover along Line Transects in Spring 1993.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 10 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 71 | 96 | 84 | 4 | 23 | 13 | 26 | 60 | 43 |
| SURF GRASS | 29 | 0 | 14 | 95 | 75 | 85 | 29 | 32 | 31 |
| AGGREGATING ANEMONE | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 4 |
| BARE SUBSTRATE | 0 | 2 | 1 | 1 | 2 | 2 | 21 | 5 | 13 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 3 | 2 | 2 | 1 | 1 | 43 | 3 | 23 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 96 | 64 | 80 | 9 | 19 | 14 | 20 | 29 | 25 |
| SURF GRASS | 0 | 17 | 8 | 87 | 66 | 77 | 33 | 64 | 48 |
| AGGREGATING ANEMONE | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 1 | 8 | 4 | 5 | 0 | 2 |
| BARE SUBSTRATE | 3 | 16 | 9 | 2 | 5 | 4 | 0 | 4 | 2 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 1 | 6 | 4 | 10 | 8 | 9 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 6 | 3 | 9 | 18 | 14 |
| RED ALGAL TURF | 86 | 100 | 93 | 25 | 36 | 30 | 54 | 48 | 51 |
| SURF GRASS | 7 | 0 | 3 | 63 | 42 | 53 | 18 | 6 | 12 |
| AGGREGATING ANEMONE | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 3 | 2 | 4 | 16 | 10 |
| BARE SUBSTRATE | 5 | 0 | 3 | 10 | 7 | 8 | 5 | 4 | 4 |

**Table 64. Intertidal Cover along Line Transects in Fall 1993.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 7 | 0 | 4 | 1 | 0 | 0 | 17 | 6 | 11 |
| SARGASSUM WEED | 2 | 0 | 1 | 0 | 0 | 0 | 22 | 0 | 11 |
| RED ALGAL TURF | 60 | 99 | 79 | 1 | 13 | 7 | 20 | 27 | 23 |
| SURF GRASS | 32 | 0 | 16 | 96 | 85 | 90 | 21 | 68 | 45 |
| AGGREGATING ANEMONE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 1 | 0 | 0 | 1 | 0 | 15 | 0 | 7 |
| BARE SUBSTRATE | 0 | 1 | 0 | 3 | 1 | 2 | 6 | 0 | 3 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 3 | 2 | 0 | 7 | 3 | 8 | 12 | 10 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 92 | 66 | 79 | 0 | 14 | 7 | 1 | 12 | 6 |
| SURF GRASS | 8 | 29 | 19 | 99 | 71 | 85 | 70 | 76 | 73 |
| AGGREGATING ANEMONE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 1 | 9 | 5 | 22 | 0 | 11 |
| BARE SUBSTRATE | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 2 | 4 |
| SARGASSUM WEED | 0 | 0 | 0 | 10 | 1 | 6 | 2 | 1 | 1 |
| RED ALGAL TURF | 83 | 99 | 91 | 26 | 22 | 24 | 57 | 49 | 53 |
| SURF GRASS | 15 | 0 | 7 | 54 | 72 | 63 | 24 | 23 | 23 |
| AGGREGATING ANEMONE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 2 | 0 | 1 | 9 | 24 | 16 |
| BARE SUBSTRATE | 2 | 1 | 1 | 8 | 4 | 6 | 2 | 2 | 2 |

**Table 65. Intertidal Cover along Line Transects in Spring 1994.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 13 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 63 | 99 | 81 | 4 | 21 | 12 | 22 | 43 | 33 |
| SURF GRASS | 37 | 0 | 18 | 96 | 79 | 87 | 41 | 57 | 49 |
| AGGREGATING ANEMONE | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 3 |
| BARE SUBSTRATE | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 2 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 1 | 1 | 1 | 6 | 3 | 2 | 5 | 3 |
| SARGASSUM WEED | 0 | 3 | 1 | 0 | 5 | 2 | 0 | 0 | 0 |
| RED ALGAL TURF | 95 | 66 | 81 | 5 | 26 | 16 | 3 | 23 | 13 |
| SURF GRASS | 3 | 24 | 14 | 94 | 63 | 79 | 88 | 68 | 78 |
| AGGREGATING ANEMONE | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 3 |
| BARE SUBSTRATE | 0 | 5 | 3 | 0 | 0 | 0 | 1 | 4 | 2 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 5 | 6 |
| SARGASSUM WEED | 3 | 0 | 1 | 29 | 24 | 26 | 12 | 24 | 18 |
| RED ALGAL TURF | 90 | 99 | 94 | 27 | 32 | 29 | 54 | 51 | 53 |
| SURF GRASS | 3 | 0 | 1 | 39 | 43 | 41 | 26 | 17 | 22 |
| AGGREGATING ANEMONE | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 |
| BARE SUBSTRATE | 2 | 0 | 1 | 5 | 1 | 3 | 1 | 0 | 0 |

**Table 66. Intertidal Cover along Line Transects in Fall 1994.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 6 |
| SARGASSUM WEED | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| RED ALGAL TURF | 59 | 100 | 79 | 1 | 16 | 9 | 13 | 9 | 11 |
| SURF GRASS | 40 | 0 | 20 | 97 | 84 | 91 | 31 | 91 | 61 |
| AGGREGATING ANEMONE | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 1 | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 22 |
| BARE SUBSTRATE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | 0 |
| SARGASSUM WEED | 0 | 4 | 2 | 2 | 0 | 1 | 0 | 0 | 0 |
| RED ALGAL TURF | 92 | 69 | 80 | 0 | 17 | 8 | 2 | 25 | 13 |
| SURF GRASS | 7 | 24 | 15 | 96 | 66 | 81 | 87 | 75 | 81 |
| AGGREGATING ANEMONE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 3 | 13 | 8 | 12 | 0 | 6 |
| BARE SUBSTRATE | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SARGASSUM WEED | 0 | 0 | 0 | 17 | 5 | 11 | 0 | 2 | 1 |
| RED ALGAL TURF | 81 | 99 | 90 | 28 | 24 | 26 | 49 | 51 | 50 |
| SURF GRASS | 2 | 0 | 1 | 42 | 64 | 53 | 28 | 27 | 27 |
| AGGREGATING ANEMONE | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 1 | 0 | 0 | 18 | 19 | 19 |
| BARE SUBSTRATE | 16 | 1 | 8 | 13 | 7 | 10 | 6 | 2 | 4 |

**Table 67. Intertidal Cover along Line Transects in Spring 1995.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 2 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 71 | 97 | 84 | 12 | 29 | 21 | 27 | 54 | 41 |
| SURF GRASS | 27 | 0 | 13 | 69 | 66 | 68 | 39 | 40 | 40 |
| AGGREGATING ANEMONE | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 3 | 0 | 1 | 15 | 0 | 8 |
| BARE SUBSTRATE | 2 | 2 | 2 | 16 | 4 | 10 | 14 | 6 | 10 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SARGASSUM WEED | 0 | 5 | 3 | 1 | 6 | 4 | 0 | 0 | 0 |
| RED ALGAL TURF | 95 | 71 | 83 | 9 | 39 | 24 | 9 | 39 | 24 |
| SURF GRASS | 3 | 11 | 7 | 70 | 46 | 58 | 83 | 52 | 67 |
| AGGREGATING ANEMONE | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 2 | 1 | 2 | 5 | 0 | 2 |
| BARE SUBSTRATE | 1 | 12 | 7 | 18 | 8 | 13 | 4 | 9 | 6 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SARGASSUM WEED | 4 | 0 | 2 | 27 | 13 | 20 | 5 | 11 | 8 |
| RED ALGAL TURF | 87 | 100 | 93 | 23 | 25 | 24 | 54 | 56 | 55 |
| SURF GRASS | 0 | 0 | 0 | 26 | 28 | 27 | 22 | 19 | 20 |
| AGGREGATING ANEMONE | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 4 | 5 |
| BARE SUBSTRATE | 7 | 0 | 3 | 24 | 34 | 29 | 13 | 10 | 11 |

**Table 68. Intertidal Cover along Line Transects in Fall 1995.**

| CABR AREA I | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 210 | 237 | AVG | 211 | 238 | AVG | 212 | 236 | AVG |
| FEATHER BOA KELP | 3 | 0 | 2 | 2 | 0 | 1 | 33 | 0 | 16 |
| SARGASSUM WEED | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 |
| RED ALGAL TURF | 58 | 98 | 78 | 13 | 21 | 17 | 12 | 5 | 8 |
| SURF GRASS | 39 | 0 | 19 | 82 | 78 | 80 | 33 | 94 | 63 |
| AGGREGATING ANEMONE | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 11 |
| BARE SUBSTRATE | 0 | 1 | 0 | 1 | 1 | 1 | 2 | 2 | 2 |

| CABR AREA II | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 244 | 270 | AVG | 267 | 271 | AVG | 268 | 272 | AVG |
| FEATHER BOA KELP | 0 | 3 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| SARGASSUM WEED | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RED ALGAL TURF | 96 | 60 | 78 | 2 | 7 | 5 | 1 | 33 | 17 |
| SURF GRASS | 3 | 34 | 18 | 96 | 93 | 95 | 93 | 64 | 79 |
| AGGREGATING ANEMONE | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | 0 | 0 | 2 | 0 | 1 | 5 | 0 | 3 |
| BARE SUBSTRATE | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 2 | 1 |

| CABR AREA III | LINE TRANSECTS (% COVER) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | TURF ZONE | | | GRASS ZONE | | | KELP ZONE | | |
| TAXA | 1 | 8 | AVG | 5 | 7 | AVG | 2 | 4 | AVG |
| FEATHER BOA KELP | 0 | | 0 | 4 | 6 | 5 | 12 | 3 | 7 |
| SARGASSUM WEED | 0 | | 0 | 7 | 6 | 6 | 0 | 0 | 0 |
| RED ALGAL TURF | 86 | | 86 | 7 | 16 | 12 | 42 | 34 | 38 |
| SURF GRASS | 7 | | 7 | 75 | 48 | 61 | 24 | 43 | 33 |
| AGGREGATING ANEMONE | 1 | | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER BIOTA | 0 | | 0 | 0 | 0 | 0 | 14 | 11 | 12 |
| BARE SUBSTRATE | 6 | | 6 | 8 | 25 | 16 | 8 | 10 | 9 |

**Table 69. Abalone and Sea Star Abundance Data.**
Number of abalone and sea stars observed during timed searches (~30 min. duration) for 13 seasonal surveys at 3 sites.

| | Area I | | | | | Area II | | | | | Area III | | | | | All Areas | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Abalone | | Sea Stars | | | Abalone | | Sea Stars | | | Abalone | | Sea Stars | | | Abalone | | Sea Stars | | |
| DATE | Black | Green | Ochre | Blue | Bat | Black | Green | Ochre | Blue | Bat | Black | Green | Ochre | Blue | Bat | Black | Green | Ochre | Blue | Bat |
| S90 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 1 | 15 |
| F90 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 1 | 24 |
| S91 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 1 | - | 0 | 0 | 0 | 1 | 0 |
| F91 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 17 |
| S92 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 24 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 2 | 45 |
| J92 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 | 1 | 17 |
| F92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 8 |
| S93 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 |
| F93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| S94 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 5 | 0 | 2 | 0 | 1 | 5 | 0 | 3 | 1 | 3 | 10 |
| F94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 7 | 0 | 2 | 0 | 0 | 10 |
| S95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 |
| F95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 3 |

S=Spring F=Fall



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