

1986

1986 ROUND ISLAND FIELD SEASON REPORT

By

Judy Sherburne

September 1986

Table of Contents

- I. Introduction
- II. Visitor Use
- III. Violations
- IV. Maintenance
- V. Research and Wildlife
 - A. Walrus
 - B. Black-legged Kittiwakes
 - C. Common Murres
 - D. Pelagic Cormorants
 - E. Red Fox
 - F. Whales
 - G. Sea Lions
 - H. Seasonal Notes
 - I. Miscellaneous
- VI Comments and Suggestions
 - A. Violations
 - B. Visitor Use
 - 1. Campground
 - 2. Trails
 - 3. Visitor Limit
 - 4. Ivory Auction
 - 5. User Fee
 - 6. Management Plan
- VII. Bird List
- VIII Wish List
- IX. Inventory
- X. Records and Charts
 - A. Visitors
 - B. Disturbances
 - C. Walrus Count/Monthly Charts
 - D. Round Island Seabird Census
 - E. Fox Records and Locations

INTRODUCTION

The 1986 Round Island field season passed with each month having its own personality. The month of May was characterized by heavy traffic within the two mile limit. Ominously, June began with the sinking of the vessel Puffin and, with this disaster, little island visitation occurred for the remainder of the month. Subsequent with operation of the new Puffin II, July, on the other hand, had rarely a day without visitors. August commenced with storms, stranding visitors coming and going to and from the island for seven days. For all its moods, the season disappointed no visitors--- perhaps most of all the walrus, whose numbers reached a summer peak of over 12,000 animals.

VISITOR USE

The first visitor group arrived on 12 May just two weeks after arriving and opening the sanctuary. These two persons were archaeologists who promptly pointed out that our outhouse was nestled directly in the middle of a round house midden. Several boats from the herring fishery visited the island, though numbers were lower than expected, I suspect, because of an eastward shift of the fisheries towards Cape Pierce. This made a day run to the island too far from the fishery. Don Winkelman made his first trip to the island with visitors on 5 June. It was on the fateful return trip that the Puffin met disaster. The boat slammed into rough water just off Summit Island, cracking amidships. It made it to Boat Cove held together solely by its 5/8" plywood bottom. That night, the Puffin broke up, submerging the outboard, though other onboard gear had been previously salvaged. The Togiak Fisheries vessel Chamai towed the two halves of the Puffin alongside and then hauled it and its crew on board for the return trip to Togiak.

The NOAA vessel Rainier was surveying the area again this year, mapping the ocean floor. A microwave beacon was mounted at the top of Round Island and was occasionally monitored by NOAA crew. The immediate vicinity of the island was being charted so we were in frequent close contact with them and on a few occasions partook of their services. One morning we were offered their assistance as launch "chauffeurs" while we photo-documented the seabird colony for a future census. Another time a crew was sent ashore to give us a hand. One person operated a rock drill and helped re-mount our boat cable while an electronics technician repaired a broken connection in our VHF microphone. A gentleman's agreement was operating in regard to minimizing disturbance to walrus while working nearshore, and for the most part, this was respected. Only once did a NOAA launch crew have to be reminded of their responsibility towards limiting disturbance after they had deliberately steamed

toward a haul-out area, a photographer poised on the bow, causing 20+ walrus to stampede into the water. Otherwise, the exchange and cooperation was always very pleasant.

The Puffin II was launched in early July, and over the month a steady flow of people visited the island. Excluding the NOAA personnel, a total of 74 persons came ashore. Most visitors came via the Puffin II, and almost all were overnights staying anywhere from 2 days to over a week. A total of 194 persons visited the sanctuary this season.

Two tour group operators visited the island in July. Dan Garovich, leading a Victor Emanuel party, arrived with 12 other persons, and Joe Van Os spent a week surveying the island for the possibility of bringing large groups next year. There are several problems associated with large organized groups and since both Emanuel and Van Os will be scheduling 2-3 tours each in 1987, special attention now should be given over to large group management.

The weather this year interfered with many visitors attempting to come and go from the island. Parties were often forced to wait for decent weather in Togiak before crossing over from the mainland and/or extend their stay on the island longer than scheduled. Several parties waited 3 days before weather was calm enough for a trip out, and the departure time of others were delayed as many as 5 days. A one day hold over going or coming was not uncommon. All parties were prepared for such delays in the way of food and provisions, though a few people did not truly expect a delay to occur and became nervous, or even frantic, about possibly upsetting a pre-arranged time schedule, including having to deliver a baby, having to be at work, having to attend a meeting, or just wanting to be on time. As the winds blew and the seas churned, they all became believers. Their time schedules and the weather had no loving relationship this year.

There are two periods during the summer when fishermen frequent the island. Throughout May and as late as early June, Fishermen from the herring fleet make day trips to the island. During the latter part of July and August salmon fishermen can be expected to visit between openings or at the end of their season. There are many times, particularly surrounding the time of the herring fishery, that skippers venture well within the 2-mile limit of the sanctuary. Upon making radio contact or intercepting them via the Zodiac, many claim they are unaware of sanctuary regulations. In that the herring fishery is an unlimited entry and showing growth yearly, it is appropriate to somehow notify newcomers as well as reminding past year's fishermen of existing regulations.

VIOLATIONS

The major period of violations occurred during May and June, coinciding with local fisheries. On 4 May, at separate times, a processor and two seiners approached the beach and/or sent skiffs ashore. One of the seiners stampeded 1500 walrus into the water off Main Beach. A carcass was exposed on the beach as a result of the disturbance and it was suspected the crew on board a skiff salvaged ivory from this carcass. The vessels crew did not respond to radio call. When first sighted, we were at the north end of the island and snow and ice conditions caused much delay in reaching the Zodiac. A minus tide further delayed launching and caused us to miss intercepting this vessel. Soon after, a second vessel, the Miss Michele, approached Main Beach, running off another 400+ walrus. This boat was intercepted. They were sight-seeing and claimed ignorance of sanctuary regulations. Upon warning the crew and explaining the purpose of the regulations, they left the area. Photographs are included. On 17 May, the Cape Spencer ran to Main Beach, disturbing the walrus and forcing 40+ into the water. Again, we made contact after launching the Zodiac. There was a peaceable exchange prior to their departure.

A single vessel decidedly ignored sanctuary restrictions and our urging to leave the vicinity. This vessel, the Miss Blu was anchored off Main beach early on the morning of 9 May. Main Beach was at the time being used by approximately 2700 walrus and risk for disturbance was high. Upon making radio contact, the skipper, John Kristovich, refused to respect our request for him to move offshore, claiming the Miss Blu was seeking shelter from a storm. In fact, they were not anchored in protected waters and seas offshore were by no means too rough for travel. The Department of Public Safety vessel was notified, but during this time they are the herring fishery. We had no legal authority to cite the Miss Blu crew, otherwise they would have been charged with illegal entry within the 2-mile limit.

The most distressing violations are those resulting in severe disturbance to walrus. Records of most disturbances are enclosed in this report. The degree of severity is ranked as mild, moderate and severe, and these are defined as follows:

Mild - walrus noticeable respond to the source of disturbance, but do not move off the beach.

Moderate - walrus move towards or off the beach but do not stampede off the beach.

Severe - walrus stampede into the water.

Further description would estimate, as a proportion, both the degree of disturbance relative to specific haul-out areas and to the entire island. For example, if 200 walrus were hauled out in Boat Cove and 50 of those were seriously disturbed, an assessment of the disturbance could be written up in the following way:

DISTURBANCES

Date	Beach	#of walrus	No	Severity				Total Is. Est.	
				Mild	Mod	Sev.	Unk.	#	% Dist.
6/15	Main	200	0	100	50	50	0	1000	20%

This method of categorizing disturbance gives a more detailed picture for creating a disturbance baseline.

Nearly every day during the local fishery, vessels had to be contacted because they approached too near to the island. In spite of the publicity and formal notification of existing regulations in ADF&G handouts, violations persist from year to year. The implication is clear that some skippers would approach the island with varying regard to walrus and seabirds unless they were contacted by sanctuary personnel. Our presence and effort making this contact is proving to be a very effective way of deflecting boats from entering within the 2-mile limit, almost always resulting in their immediate departure, and thereby minimizing disturbance to walrus.

MAINTENANCE

A number of projects were undertaken and completed during the summer:

1. Deck and cabin treated with preservative stain.
2. Skylight window built and installed, replacing broken window.
3. Restrung and re-anchored steel cable for boat hoist.
4. Trail maintenance.
5. Installed new heating stove in cabin.
6. Built new ice house.
7. Mounted fuel oil drum.
8. Constructed new refrigerator lid.
9. Began collection of study skins of birds representative of Round Island.
10. Began collection of representative plant species on Round Island.

A few words on those projects completed. The new heating stove worked out perfectly. This was a timely order because the old stove was persistently dusting the cabin interior with fine oil before finally failing altogether.

The sod ice house was re-built to hold snug a plywood framed structure, using the old sod walls for insulation. The roof was hinged for ease of loading the ice house with snow at the onset of the season. It was completed excepting installation of foam insulation in the roof.

The boat cable was re-strung this year after a slide dislodged the rock anchoring its southern-most end. The rock rolled down onto the Zodiac, shredding it in every dimension. Only the hardware was salvageable. The 6 hp. outboard was flipped over from its mount on the transom and the throttle arm casing was cracked. Both pulley lines were parted and frayed and, for best operation of the system, need replacing with longer lengths. The cable end was re-mounted at another section of beach as the previous area appears exposed to increasing erosion. Rock bolts were sunk into an outcrop and the cable secured once again. Actually, this was the second time this season the cable failed. Upon arrival, the northern-most end had snapped, requiring restringing with a new section of cable. The entire cable system now appears in good working order.

Maintenance project proposed for the 1987 summer season are:

1. Tar cabin roof or replace roof.
2. Insulate ice house roof.
3. Install thin wood fencing around water tank.
4. Build cook stove shelters in camping area for fire protection.
5. Trail maintenance.
6. Build ventilated storage area under bed.
7. Build outside battery box.
8. Back-haul all useless equipment and 5 gallon cans.
9. Paint cabin floor.
10. Paint stove oil drum.
11. Scotchguard Klepper tent and refinish poles.
12. Dig new outhouse hole.

RESEARCH AND WILDLIFE

Walrus

Walrus censusing was continued daily throughout the summer, tracking yearly and seasonal trends and monitoring use patterns within local haul-out areas. On 29 April, approximately 2000 walruses were hauled onto Main Beach and 12 were in Boat Cove, however, First and Second Beaches were not used for another three weeks.

A 9 to 10 day heavy use/low use/heavy use cycle was obvious with a peak in numbers occurring on 10 June and 19 June. An entire island count revealed approximately 12,400 walruses...an impressive sight. The monthly beach use

charts included in this report give daily numbers from May through August for beaches surveyed daily.

The projected tagging operation slated for 1986 regretfully did not materialize due to lack of funding. A few tagged individuals appeared on the beaches near the cabin. These walrus remain from previous tagging operations on the island and the records can be found within the daily log book. Reinstating such a project would be valuable for monitoring population trends, use patterns, and response to disturbance.

Black-legged Kittiwakes

The reproductive success of black-legged kittiwakes was monitored for the second consecutive year. The study objectives remained as in 1985:

1. Monitoring production.
2. Examining reproductive correlates with colony location and spatial characteristics.
3. Explaining within-colony reproductive variation.
4. Examining predator-prey relationships with nest characteristics.

The same reproductive plots established in 1985 were monitored this year, replicating the sample. However, the number of plots were limited to three, reducing the time lapse between observations and yielding improved information on egg laying and egg loss and, in general, giving more detailed timing of all reproductive events. Within each plot 211, 284 and 265 nests were monitored. A cluster of information was collected at each nest site. These data included arrival time, attendance, nest development, time of egg-laying and clutch size, hatching time, and egg and chick survival. Also, a complete description of nest characteristics were recorded, including the spatial arrangement of nesting kittiwakes and murrelets in the vicinity, vulnerability to fox and raven predation, and edge versus center location within the colony.

Initiation of the 1986 season was hopeful. Egg laying started earlier, with the first egg seen on 31 May, two weeks advanced over 1985. Of the approximately 700 kittiwakes establishing nests during the pre-laying and laying period, 278 laid a clutch of one egg and 286 laid two egg clutches. Laying date and clutch size suggested conditions were superior to the previous year. However, as the hatching period approached, eggs were lost at an accelerated rate.

During late incubation and early hatching, a number of events began to create a picture of why reproduction began to fail. Kittiwake nest attendance began weakening

coincidental to the hatching period for raven chicks. Though kittiwakes do not intensively defend a nest, their presence appears to deter predatory ravens. The coincidence of both events, changing nest attendance patterns and egg hatching, could conceivably accelerate the rate of egg loss. Also, a change of guano color during this time might have been indicative of a dietary change. The stomach contents of 3 kittiwakes confirmed their ingesting of poor quality food items such as terrestrial vegetation. Of the few eggs that survived to hatching, many died in the nest. All in all, this leads me to suspect that their food base collapsed, ultimately causing the reproductive failure. No chicks fledged from the colony.

Common Murres

The productivity of common murres and cormorants was observed daily on a casual basis. At no time during the breeding season did murre numbers appear to reach levels comparable to 1985 at the same ledges. The earliest laying date recognized for murres was 4 June. The earliest fledging occurred in early August. Few fledgling murres were seen on the water, and these were tended by many adults. Three fledgling carcasses were seen washed along the shore. Though in early August many adults were noticed returning to the cliffs with fish, probably sandlance, the year appeared poor for common murres.

Pelagic Cormorants

The pelagic cormorants seem to fair well where the other cliff-nesters fail. Laying first occurred prior to 27 May. However, the range over which eggs and chicks were found in the nests was very broad. Downy chicks were seen in a few nests above Third Beach in mid-August at a time when fledged young were active and on the water.

Red Fox

The red fox population appeared low on the island this year. Observations of fox were recorded and mapped, including information on individual identification of tagged and untagged fox and their activity at the time. Including regularly seen untagged fox, approximately 15 individuals were sighted and only two dens were purported to be active with pupping, the East Cape den and the West Side den. Dens at all other locations showed little or no use, not including the Sea Lion Point den which was not monitored.

In July, the East Cape family moved its denning area to the Cabin den site, a distance of one mile. This move coincided with a time when many photographers were frequenting East Cape, observing the fox pups. Fox will move from natal denning areas, it is thought, as a matter of cleanliness and

minimizing the spread of parasites. However, the possibility of human disturbance may just as well explain a relocation of such a distance. Since that time, the family used all the denning areas; one just behind the cabin in the garden; a second area at the base of the talus slope; and a third area higher up the hillside in holes between the talus rocks.

The 1986 estimate of 14 foxes on Round Island is tentative as the fox tagging operation ceased over two years ago, making identification of individuals more uncertain as the proportion of tagged to untagged animals decreases annually. Of these 14 foxes, 6 were tagged and the remainder were regularly seen fox with some characteristic markings or were unknown as to whether tagged or not.

Whales

Like seasonal clockwork, the gray whales appeared in April in small pods offshore again this year on their northward migration. A 1985 Alpha Helix cruise disclosed some degree of bottom feeding, using side scan sonar techniques. What is visible from shore, however, is lengthy bouts of play behavior involving one or several whales and, commonly, sea lions. The whales loll and roll with each other at the surface, making shallow dives and turns and breaching the surface, while the sea lions somersault and dive around the whales. A number of times brief tag and chase scenes ensued. From a high vantage on the island, whales and sea lions both could be seen attracted to these playful encounters from as far away as a mile, lasting perhaps 10 or 20 minutes or well over an hour. It should be noted that bottom trawling occurred in this area throughout the month of July. As a result, disturbance to the ocean bottom may adversely impact use by whales feeding in this area.

Sea Lions

The eastern-most section of the island was again used as a rookery for approximately 600 northern sea lions. Specifically, the area of East Cape and Third Beach were used, with little or no use of Sea Lion Point. This area has been used over the past three years at least, a shift from earlier years when Sea Lion Point deserved its name as the rookery location. As many as 560 individuals were counted, a peak occurring during June, with numbers decreasing over the remainder of the summer. In extremely poor weather conditions, numbers dove to zero.

Many of the animals were subadult and beta bulls, though a few alpha bulls were scattered throughout the rookery maintaining defended areas. No pups or juveniles were seen. Three tagged individuals were seen in July and the records can be found in the daily log book.

Seasonal Notes

The island received little snow over the 1985-86 winter. Upon arrival on 29 April, large areas were snow free, excepting ice and drifts that collected in the coves and low areas. A number of independent observations came together to build a picture of the season's earliest stages. They are:

- few fox seen
- few small mammals seen or heard
- burnt leaves and dead stems on empetrum and salix species
- no fox seen hunting for small mammals
- ground water supply not flowing until late June

Two consequences of the little snow accumulation might be, first, deeper cold penetration into the ground having plants, and secondly, little or no protective insulation for vegetation and subnivean small mammals. Conceivably, the overall effect could be hard enough on small mammals to cause a drop in their numbers. This is supported by the absence of observations of foxes seen hunting, otherwise typically, tracking, listening, pouncing, and digging for voles. Hunting behavior was noted at nearly every early spring fox sighting in 1985, differing greatly from this year. The following is a possible scenario---poor overwinter conditions for small mammals caused them to suffer a decline in numbers. Small mammals, to some unknown degree, help maintain the overwinter fox population and with few of these prey available the fox population declined. One consideration could be the value of any walrus carcasses as fox food over winter. On 7 May after a survey of the island by boat, a single carcass was located on third beach but it did not appear to have been scavenged.

Miscellaneous

A plant collection was compiled for the second season, with more effort put towards willows this year. The two major plant groups that are absent from the collection are lichens and mosses. This collection has been pressed and is stored in Fairbanks. Dave Murray with the Fairbanks Museum has agreed to help find a student to assume the job of mounting the plants as herbarium specimens. Two herbarium collections of the island will be assembled, one going to the museum and the other to ADF&G.

Another project undertaken this summer was the collection of fresh common murre carcasses and three kittiwakes for lab specimens. These birds were treated and mounted as study skins or museum mounts.

Comments and Suggestions

Violations--- Every day, several times a day during May and early June, offshore vessels have to be contacted because they too closely approach Round Island. Many skippers claim they are unaware of the 2-mile limit because they are referring to an out-of-date Fish and Game handbook or marine charts and references inadequately designating the Sanctuary boundaries. It is these unpermitted entries by fishing boats and spotter planes that account for the majority of serious walrus disturbances. Several motions can be made to better curtail such violations.

Fishermen awareness of Sanctuary restrictions can be improved. Two main references used by especially non-local mariners, are the Coastal Pilot and ocean charts, neither of which acknowledge Round Island as having limited access. A convincing letter of recommendation to Paul Wolff with NOAA in Washington, D.C. would be referred to the correct channels for inclusion within the 1987 Coastal Pilot and on the most recent 1986 oceanographic charts.

In regard to protection, further contact with the fishing community would prove beneficial. A brief notice to herring fishermen, pilots, and fish packers describing the purpose of the sanctuary and the permitting process, as well as making very clear the legal dollars and cents repercussions of noncompliance may discourage illegal entry.

Air space restrictions limiting nonpermitted helicopter, light plane and commercial aircraft would reduce one source of disturbance to walrus and seabirds. I understand this is a difficult process to propell into effect, however, it would be a worthwhile one. In 1985, a DC-3 buzzed the east side of the island approximately 150 feet offshore and a mere 50 feet above the water, and sending the wildlife in every direction. Given the same distance from shore, air traffic is much more disruptive to wildlife than boat traffic and should be limited in a similar way--- a 2-mile distance from shore and a 2000 foot altitude minimum is reasonable.

The process of enforcing regulations protecting wildlife in the sanctuary needs to be clarified and legitimized. The definition of harrassment to walrus should be compatible with the federal definitions and backed by the legal authority of ADF&G personnel. At least one island employee should have the power to cite violators. The State Trooper School in Sitka would provide not only the authority but a good understanding of the legal process.

In the case of violators associated with commercial fishing, the deterrent effect on cited individuals could effectively extend within the fishing community overall. By word of

mouth, ADF&G would give a more firm message concerning their enforcing of regulations. I would expect that of those few people deserving a disturbance citation, most would agreeably settle out of court rather than be constrained by an appearance with the local magistrate. A look into legitimizing the process of securing payment for violation fines out of court could prove to be an expedient way to deal with Round Island violators.

Visitor Use of Campground- The number of visitors on the island is becoming more and more steady from one year to the next. The predictable and increasing use causes some concern for existing conditions and regulations. According to charter bookings for June, had the Puffin been operating, we could have expected of 70 more visitors in that month.

The campground area receives heavy use by overnights, and this causes some habitat destruction. The greatest damage occurs in the immediate vicinity of the tenting areas where people cook and lounge. Areas used by large groups are particularly vulnerable. If campers spread out within the campground, severe localized damage is avoided, but the overall area becomes riddled with unsightly trails and matted areas. An alternative is to specify tenting areas within the campground and develop a minimal system of trails. Perhaps several tent platforms could be built, low, simple and unobtrusive, with shallow wind breaks for cooking. With activities focused upon these platforms, the vegetation would remain intact. As well, they would provide a private flat sleeping area while reducing fire hazard. Several years ago a camper started a grass fire that swept the lower grassland bench and nearly engulfed the cabin. Since that time there has been great concern about the flammable combination of temperamental backpack stoves, acres of tinder dry grass, and windy conditions on the island. An accessory function of a tenting platform and wind break would be to provide a solid cooking surface with wind protection while most importantly, improving fire safety.

Visitor Use Trails- Trail maintenance is a slow continual process having variable degrees of success. Certain areas refuse to stabilize, particularly in steep or draining sections. These areas are not only widening as people avoid the boggy and slick areas, but they are not safe for even the most sure-footed hikers. People regularly slip and fall on the trails in rainy weather, and it is only a matter of time before someone injures himself. The Round Island staff specifically asks people to remain on the trails to avoid erosion, yet when the trails are unsafe, it is easy to understand why they go around sections. For better maintenance of trails ;with the intention of improving safety and minimizing habitat destruction, the Round island staff could build up notoriously poor sections of trail by

installing culverts, wooden walkways, wooden steps, and laying stone.

Visitor Use Limit- Three types of visitors frequent Round island, day visitors, overnigheters and, recently, tour groups or large groups. Given some upper limit of visitors, all groups should be equitably accommodated without threatening exclusive access by any one group. By coincidence, day visitors and overnigheters are fairly segregated in time. In general, day visitors arrive early in the season associated with local fisheries, whereas overnight campers use the island through mid-season corresponding with peak walrus numbers and summer holiday. During the latter part of the season, overnight visitors decrease and in both 1985 and 1986 a surge of day visitors arrived with the closing down of fishing operations. There is, however, a potential conflict between tour groups and all other visitors. Day visitors contribute to the busiest time of the season. These visitors are looking forward to an afternoon of outdoor recreation, relaxation and learning of the wildlife and ecological processes on the island. Often the level of excitement when first arriving precludes their remembering important points concerning safety and island restrictions. Unless individuals remain in a single group it becomes more difficult as numbers increase to adequately monitor their activities.

Overnight visitors are more independent and their experience seems to be of a different nature. They have been attracted to the island from as far away as New York and Europe, yet all share wildlife viewing as their primary objective, and in this they are easily satisfied. The only concern involves certain aspects of camping. The campground is an open rolling area, without facilities and somewhat out of the mainstream of hikers. At times, it serves as a base for 6 or 7 tents and 20 or more people. In spite of its size, there is limited decent sleeping ground, often causing crowded conditions. Whereas some visitors may enjoy the social atmosphere of a campground, others prefer more privacy and have remarked of a sense of infringement. Well spaced tenting platforms would offer the choice of how much privacy a party preferred, as well as minimizing serious injury to the grassland vegetation. This would be particularly appropriate for segregating independent parties from large tour groups. Such large groups, without meaning, dominate the camping area. Several visitors had previously visited McNeil River coincident with large organized groups. They expressed that it was often an uncomfortable arrangement and, if given the choice, would have camped more privately.

It is anticipated that the 1987 season will see increased visitation. Another related problem is sanitation maintenance for campers as numbers increase. Until now, one

new outhouse hole every several years has been adequate. However, this year's experience with just one large group showed that with more use, large groups could rapidly outdistance a single yearly outhouse. Four to seven large groups are tentatively scheduled for July and August next year, and, in light of this, sanitation maintenance should be given serious consideration.

Tour groups pose basically the same situation as any large group, with the added regard to special interests. Many tour group participants are amateur and professional photographers in search of "full-frame, eye-level photos". This is not always possible within the confines of the 50 foot limited access to walrus, and leads to Round Island staff having to repeatedly remind visitors of regulations. In any event, a large group of people at any one time requires careful effort towards insuring that every individual is fully aware of hazardous trails, wildlife restrictions and rules concerning refuse and garbage.

Tour groups and large groups should be limited to a maximum party number, and, as suggested earlier, have a special reserved area within the campground to avoid their having a monopolizing effect on adjacent parties in the camping area. The present visitor limit is three groups of 15 people each, or 45 people per day. This limit was designed to give caretakers a degree of control during times when many people simultaneously requested island access. Though not stated precisely, the 3 groups were, I believe, intended to arrive and depart in succession with no more than 15 people on the island at one time, for a maximum of 45 people over the course of a day. Interpreted literally, there is a 45 visitor maximum, an unmanageable number.

The sanctuary has offered many people an exciting and very special opportunity. I have heard time and time again it referred to as someone's most incredible wildlife experience or most memorable experience of a lifetime. In this way, it offers something immeasurably valuable. There are, however, very real problems associated with allowing increased use towards the existing maximum. These problems are related to habitat disturbance, wildlife disturbance, sanitation maintenance, and safety. Other problems are less tangible and difficult to assess in a practical sense and these pertain to the quality of the visitors experience and the appropriate balance between demands related to wildlife protection, visitor needs, facility maintenance, and research. Though some interests are more important than others, all should be weighed in considering a reasonable visitor use allowance that does not risk sacrifice of sanctuary objectives. I recommend a maximum of 20 visitors at one time, with no greater than 15 overnights or 15 day visitors at one time. This would allow several groups of 15 day visitors to have island access in a single day,

accommodating peak day use periods early in the summer, without excluding campers. Within the 15 person overnighiter limit, a large or tour group limit of 8 persons would still allow use of the campground by several independent parties simultaneously.

Ivory Auction - The state budget cutbacks have threatened the Walrus Islands Sanctuary program, like so many others. Several proposals, however, could help recover lost and threatened funding. The first regards the collection and auctioning of beach scavenged ivory. For the past two seasons, ivory has been collected from the beaches by Round Island personnel and sealed by the USFWS. The purpose was to auction the ivory to licensed ivory buyers, then return the profits to helping support operational costs on the island. This is an excellent idea, however, legal questions have tied up the proposal. It now needs in-house support in order to regain momentum.

User Fee- A second proposition is to initiate a permit fee system for helping maintain staffing, logistical and maintenance operations. A fee of, say, \$15.00 per person this year wuld have collected \$3000. As with the auctioned ivory, this money should be specifically ear-marked for the sanctuary to help offset the consequences of funding jeopardy.

Management Plan- In 1981 an operational plan was drafted and reviewed by state and federal managers. The objective was to establish guidelines for directing the Sanctuary compatibly and with approval of local and more broad public interests. This plan has not been formally adopted by ADF&G. The prospect of rapidly increasing visitor use, particularly by large tour groups, raises urgent management questions. These considerations deserve the orientation and perspective of a departmentally supported management plan.

water faucet at cabin joint
2 coleman stove generators, model 425
complete first aid kit
lids for saucepan and 15" skillet
200' 5/8" braided nylon line for vertical pulley
300' 5/8" braided nylon line for horizontal pulley
15 hp. motor
ice cream maker
plug for wash tub (get size from Dave Johnson)

INVENTORY

Refer to Round Island binder for complete inventory

Fuel- 35 gallons of stove oil
1+ 100 lb propane
5 gallons blazo
20 gallons avgas

Food-	yellow corn meal	brown sugar
	popcorn	dried soups
	whole wheat flour	lentils
	brown rice	hot cocoa mix
	white sugar	crackers
	noodles	hot cereal
	salt	walnuts
	pecans	cooking yeast
	"AA" batteries	raisins
	powdered milk	

NEED THESE ITEMS

Electrical tape
Strapping tape
Duck tape
Packing tape
Wooden matches
4" braided nylon line

BIRD LIST

The following is a list of those species seen on Round Island and when they appeared during the 1986 field season. An asterisk refers to a known or suspected breeder.

<u>Species</u>	<u>Date Seen</u>	<u>Species</u>	<u>Date Seen</u>
Common Murre	30 April	Green-winged	17 May
B. L. Kittiwake	"	Teal	"
Bald Eagle	"	*Spotted	18 May
Gray-Crowned	"	Sandpiper	"
Rosy Finch	"	*Short-billed	22 May
Glaucous-winged	"	Dowitcher	"
Gull	"	*Tree Swallow	23 May
Pelagic Cormorant	"	*Peregrine Falcon	"
Parakeet Auklet	"	*Sandhill Crane	"
Harlequin Duck	"	*Marsh Hawk	28 May
Pigeon Guillemot	"	*Crested Auklet	"
Raven	"	*Double-crested	29 May
King Eider	1 May	Cormorant	"
Oldsquaw	3 May	White-crowned	30 May
Short-eared Owl	6 May	Sparrow	"
Wandering Tattler	"	*Pintail	19 June
Rough-legged hawk	"	*Yellow Warbler	"
Redpoll	"	*Orange-crowned	"
Water Pipit	"	Warbler	"
Brant	"	*Wilson's Warbler	"
Tufted Puffin	7 May	*Dunlin	30 July
Lapland Longspur	8 May	*Short-tailed	1 August
Whimbrel	9 May	Shearwater	"
Hermit Thrush	15 May	*Red-necked Grebe	"
<u>Wilson's Snipe</u>	"		
Golden Crowned	"		
Sparrow	"		

WISH LIST

The following is a suggested list of items that either need to replace worn and tired items, or, would make worn and tired things, including people, better operating:

plane
brace and bit
chisel
20 ft. tape
roofing tar 1 gallon
American walnut preservative stain, 3 gallons
insulation, rigid foil-backed, 4 2x4 foot sections
red paint for cabin floor
5/64" drill bit

VISITOR USE

DATE FROM TO	# IN PARTY	ACCESS BY (Plane or Boat)	FROM WHERE	COMMENTS
5/12 - 5/14	2	Helicopter	DNR Anch.	
5/17	10	"Monster" / "Arctic Sun"	Dillingham	
5/18	5	Helicopter	Idaho & Dillingham	
5/20	5+4	Helicopter	Summit Is. Crew	
5/20-5/21	4	"Tadpole"	Kenai	
5/21	4	"Goodnews"	Kodiak	
5/21	6	"Shadowfax"	Kodiak	
5/21	7	Boat	Kodiak	
6/5-6/8	6	"Puffin"	Anc. / Fbks. / Dlg.	
6/18	18	"Ranier"	Seattle (NOAA)	
6/23-6/27	1	Heli. / Plane	Fbks.	
7/4-7/8	13	"Puffin II"	All over lower 48	
7/8-7/12	2	"Puffin II"	Anchorage	
7/8-7/11	2	"Puffin II"	Misouri/Pennsylvania	
7/8-7/12	2	"Puffin II"	San Francisco	
7/11-7/15	1	"Puffin II"	Washington	
7/17	1	"Little Bear"	Kodiak	
7/17	30	"Ranier"	Seattle (NOAA)	
7/12-7/15	4	"Puffin II"	Dillingham	
7/16-7/18	2	"Puffin II"	Anch. / Colorado	
7/18-7/20&24	3	"Puffin II"	Lake Clark/Anchorage	
7/20	4	"Chamai"	Togiak Cannery	
7/24	2	"Puffin II"	Dillingham	
7/25-7/27	1	"Puffin II"	Togiak Cannery	
7/25-7/28	1	"Puffin II"	Oregon	

7/25-7/28	2	"Puffin II"	Utah
7/26	3	"Potential"	Seattle
7/27	12	"Namarado"	Togiak Cannery
7/28	8	"Puffin II"	Togiak Cannery
8/5-8/11	4	"Puffin II"	New Jersey
8/9	4	"Puffin II"	Dillingham
8/11	2	"Puffin II"	Sitka
8/11-8/20	2	Beaver	California
8/15	3	"Vulcan"	Seattle
8/18	2	"Jazz"	Anchorage

DISTURBANCES

DATE	TIME	BEACH	BOAT OR PLANE DESCRIPTION	# WALRUS DISTURBED	SEVERITY
5/4	1830	West	Fish processor seine skiff	50	Suspect severe
5/4	2130	Main	White Hulled glass	1500+	Severe
5/4	2145	Main	"Miss Michelle"	400+	Severe
5/17	1000	Main	"Cape Spencer"	40+	Severe
5/18	1400	Boat C.	Visitor disturb.	30	Moderate
7/20	P. M.	Boat C.	"Puffin II" arr.	150+	Severe
7/21	1330	1st& 2nd	Icicle Helicopter	300+	Severe
8/18	1730	Boat C. 1st	"Jazz"	150+	Severe

ROUND ISLAND 1986 SEABIRD CENSUS

Colony Name Round Island in Bristol Bay, Alaska
Census Date 30 June 1986
Colony Position Approx. 58 degrees, 35 minutes latitude and
160 degrees longitude.
Colony Situation Island approx. 12 miles south of mainland.
Colony Size Approx. 1.0 x 1.5 miles
Observer Judy Sherburne
Species Primarily Black-legged Kittiwakes (*Rissa tridactyl*)
and Common Murres (*Uria aalge*); secondarily
Pelagic Cormorants (*Phalacrocorax pelagicus*),
Tufted Puffins (*Lunda cirrhata*), Horned Puffins
(*Fratercula corniculata*), and Parakeet Auklets
(*Cyclorhynchus psittacula*).
Associations Mixed colony of above species as well as
Pigeon Guillemots (*Cephus columba*) and a few Crested
Auklets (*Aethia cristatella*).

Type of Census- Code 09 - Photographic count by boat using a
Canon AE1 with a 200mm telephoto lens from 100m to 300m
range; lens type is a Vivitar.

Reliability- Code 02 - Data may be better quality than 1985
census as boat used 1985 was a Zodiac, the camera was hand
held and lens was smaller (75mm - 250mm). This year a
tripod was mounted on the deck of a 28 foot launch with an
inboard engine (much quieter than the 25hp outboard used in
1985).

Weather- Code 0 - good conditions.

Wind- Code 1 - Light breeze.

State of Sea- Code 2 - Light sea.

State of Tide- Code 1 - high, one hour before high tide and
one hour after. High tide at 10:54 a.m.

Time of Census- Start time approx. 10:00 a.m. Finish time
approx. 12:15 p.m.

Number of Breeding Birds- To be determined. Murres will be
counted as individuals and Kittiwakes will be counted as
pairs from direct count of blown-up prints or from slides
using either a microscope or a light microscope,
respectively.

Reliability of Count- Code

Population Estimate- Murres _____ Kittiwakes _____

Status of Population- Code 0 - No data.

Phase of Breeding Cycle- Late incubation for murres, and early hatching/late incubation for kittiwakes.

Type of Nest Habitat- Bare rock cliff ledges for both kittiwakes and murres.

Condition of Nesting Habitat- Code 1 - very infrequent to no disturbance.

Disturbance Factors- There are several localized areas that are periodically disturbed by visitors. On this date there was no prior disturbance on the island.

Photography- Entire census was done photographically using 400 ASA Black & White print film. These records will be maintained at the Dillingham ADF&G office/ Game Division.

Special Study- Code 1 - Breeding study, looking at the reproductive success of Black-legged Kittiwakes as correlated with nest site characteristics (ie. vulnerability to predators, location, spatial distribution in relation to both other kittiwakes and murres, etc.).

FOX SIGHTINGS 1986

#1 This fox is not tagged and is seen regularly in vicinity of cabin often in company of #2, another untagged fox. The tagged fox that used this area have not been seen (red/yellow; white/blue; #12 green). Until recently, neither fox were identifiable and so interactions were meaningless except that one does act submissive towards the other. They appear to be using the area from observation point to second beach most regularly. This is roughly the area used by previous residents (above fox). Periodic checks have shown no obvious recent use of cabin den, though a den entrance north and adjacent to drainage is in use by both this fox and #2. A second den area above Rocky Point has been freshly excavated as of 23 May.

Other dens being used recently--- East Cape den is active. West Side den is active. Both being seen used by fox. Hogback den was apparently vacant on 4 May but by 23 May it had recently been dug up. Have not checked the South Bench den, the Crags den or the Sea Lion Point den areas.

#2 This is the other of two untagged fox frequenting the cabin area.

#3 Fox seen at "Periscope Pole" above Main Beach at North end of island. Looked like it could have had tags but didn't get a good look. Date 4 May.

#4 Tagged fox seen at East Cape den on 13 May in company of a second fox (#4a). Tag was green w/white post on back right ear. Both fox using den area before leaving together.

#5 Tagged fox, red right front/green left back and torn left front ear. Seen napping above cliffs on South Bench. Date 23 May.

#6 Fox seen of 25 May. Tagged, with yellow tag with green post on both back ears and red left front. Prowling along cliff edges at Hogback site #1 near Hogback den.

#7 Untagged fox seen near traverse trail, curious but wary. Very bright red coat. Seen on 25 May and suspected this fox may have been seen in area of cabin on 28 May, based on coat color and shy behavior only.

#8 Fox seen resting at west side den on 25 May. Unknown whether it had tags or not.

#9 Another fox seen near West Side den at same time as above #8 fox, but this fox was higher on the slope traversing to north, making the "perking" call. Tags unknown. Date 25 May.

#10 Tagged fox seen on trail above Second Beach. Tag combination, green with yellow posts on back ears. A den was found just above Second Beach below trail north of creek where it was seen earlier in day by visitors.

#11 Untagged fox seen near cabin. Very skittish. Suspect if this is a third untagged fox, it may be same as #7. Date 2 June.

The den above Rocky Point has been recently active, at least dug up. The den at Hogback has shown more recent excavation as of 31 May.

Note On untagged fox using cabin area--- as noted earlier, two untagged fox were regularly seen in vicinity of cabin, both singly and together. Coincident with the appearance of a third bright red fox, these two foxes have been spotted only north of Boat Cove and above Boat Cove. On June 7 two untagged fox were seen fighting and chasing in area of lower camp ground (no I.D.) On 8 June a bright red fox was seen chasing another untagged fox at high speed through Boat cove down onto beach where untagged fox outdistanced "red fox" to north. On several occasions in mid-June in late evening three fox have been heard in area of water tank, with aggression seen and heard. On 25 June a "red fox" was seen above water tank on trail to north. 28 June an untagged fox was seen at Observation Point on bluff and in colony of birds (no positive I.D.) I suspect that "red fox" has displaced these other fox in that as of this date, neither of the untagged duo has been seen anywhere around the cabin which previously was a regular haunt with several sightings per day not uncommon.

#12 Tagged fox (green tags w/white posts on backs of both ears), 28 June, 1900 hrs., at East Cape den. Earlier, an untagged fox had been seen nearby. The tagged fox dashed up the hill past the observer and returned a few minutes later carrying a young (still alive) bird. The tagged fox went to a hole where two pups appeared. One pup got the bird and moved away from the hole. The other pup kept going in and out of the hole as if caution and curiosity about the observer were both factors. The adult (tagged fox) showed no concern when the observer was only 30-40 feet away. It finally lay down on the ridge just above the den and appeared to be dozing. This is same fox as observation #4. Pups looked fluffy and alert.

#13 1 July - Two pups again seen at East Cape den. One of pups barked (sound more like a wildcat) at observer for several minutes after one pup had gone into hole, then second pup went into hole.

#14 4 July - Same fox as observations #4 and #12 seen at East Cape den. Parent to pups in observations #12 and #13.

Has green tags (back of both ears) with white posts. After fox noticed observer, it picked up a dead horned puffin that was lying in den area and disappeared up the hill. Returned in a few minutes. Lay down briefly near observer, then went back up hill and disappeared. Pups not seen.

#15 6 July - Same fox as observations #4, #12, & #14. Black no. on green left ear tag is 65, on right green eartag is probably 66. Four pups seen today playing with each other and with tagged parent. East Cape den.

#16 9 July - Very tame, seemed small. fox above traverse trail. No eartags. Fox approached observer to within 10 feet, scratched himself (it was a male) rolled over, stretched, and yawned.

#17 12 July - For the past four days there has been many sightings of "red" red fox in vicinity of camp group and Boat Cove, after a number of weeks of not seeing any fox. As well, fresh scats and scent markings have flagged its return into this area. (Same as #11 fox?).

#18 15 July - Tagged fox (backs of both ears have white tags w/dark blue posts) on rocks at Boat Cove. Left ear tag may have #13, but not a sure thing. Fox curled up on rock for a few minutes, then moved away to the east. It had come from west side of Boat Cove.

#19 15 July - Tagged fox (backs of both ears have green tags with white posts). Same fox as observations #4, #12, #14 and #15. Seen on main trail between outhouse and icehouse carrying a dead murre in its mouth.

#20 23 July - Adult and pup seen near garden. 24 July - pup seen playing in garden, entering hole under shed. At same time, fox with long winter coat ("red"?) seen curled up at old cabin den.

#21 23 July - Tagged fox seen up above water tank on hill, curled up napping. Back ears green for both with left #59. Saw white posts, but believe instead this was yess (confirmed, faded yellow tag) as I.D. #59 matched color combination.

#22 26 July - Adult fox with 4 pups that has been seen around cabin and garden (observation #20) is a tagged fox (backs of both ears have green tags with white posts: left ear, #65; right ear #66). This is the same family that was earlier at East Cape den (observations #4, #12, #14, #15, #19). The family is now using den in rocks on slope above cabin with frequent visits to garden area right behind cabin.

#23 27 July - Two untagged fox seen in same area of Traverse Trail, although not in company of each other. Seen around 1630 in afternoon, both returning up towards ridgeline above. No peculiar markings noticeable.

#24 At #5 13 August - Saw fox w/red eartags and yellow posts (from rear) at this location. Stayed close until I started decent towards Sea Lion Point.

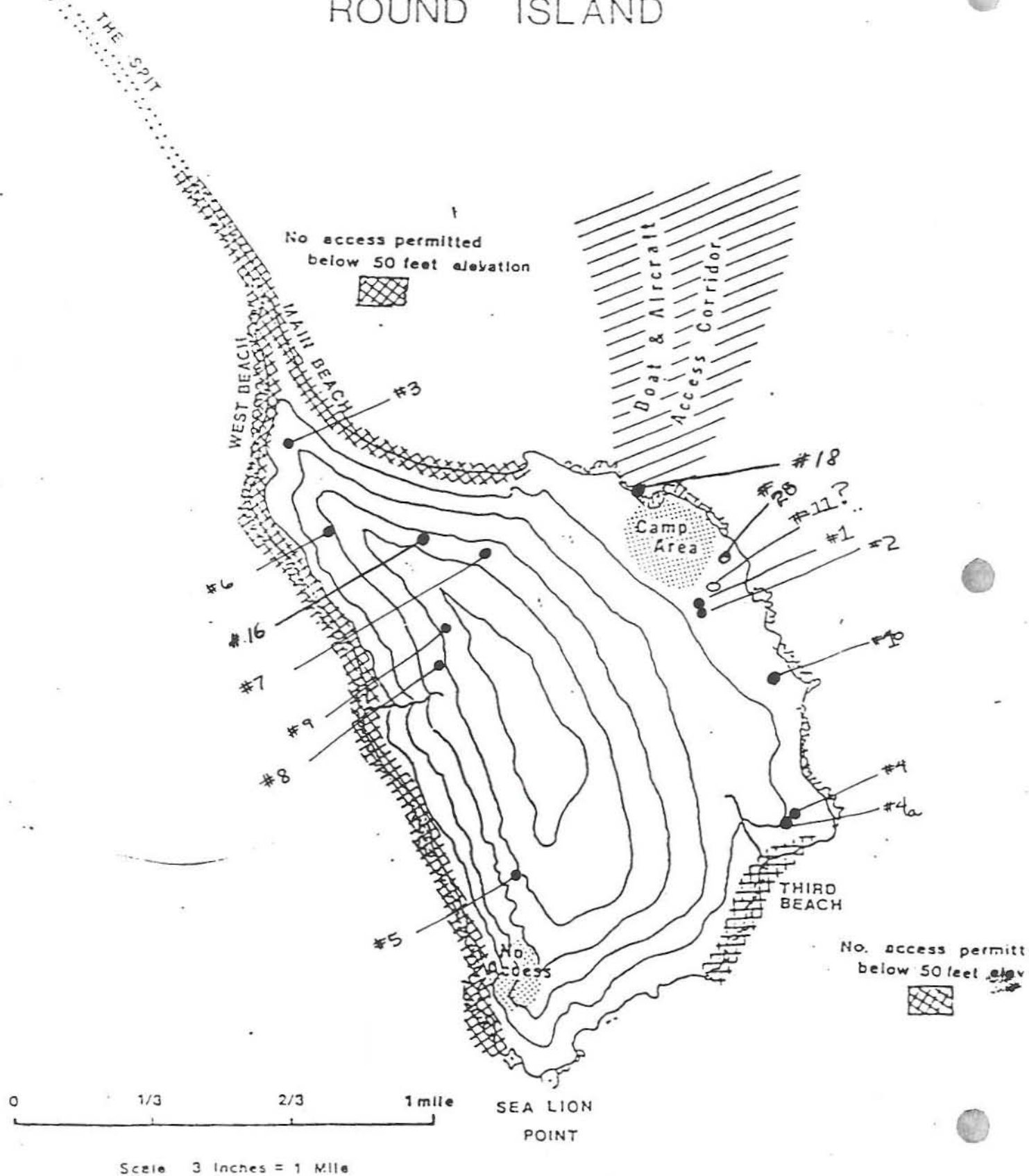
#25 Sitting on point at Beach 2/2'; from rear, fox has two green ear tags with yellow posts.

#26 Tagged fox seen on west side. Green tag with red post bask and split ear on right back (same as #5).

#27 22 August - Tagged fox (red w/red posts on both ears) observed below cabin on bluff. Very friendly and approachable. Right back ear #16? investigated garden den site thoroughly, sniffing all the holes and sticking head inside.

Fox Sighting 1986

ROUND ISLAND



BY

DATE

SUBJECT

SHEET NO.

OF

CHKD. BY

DATE

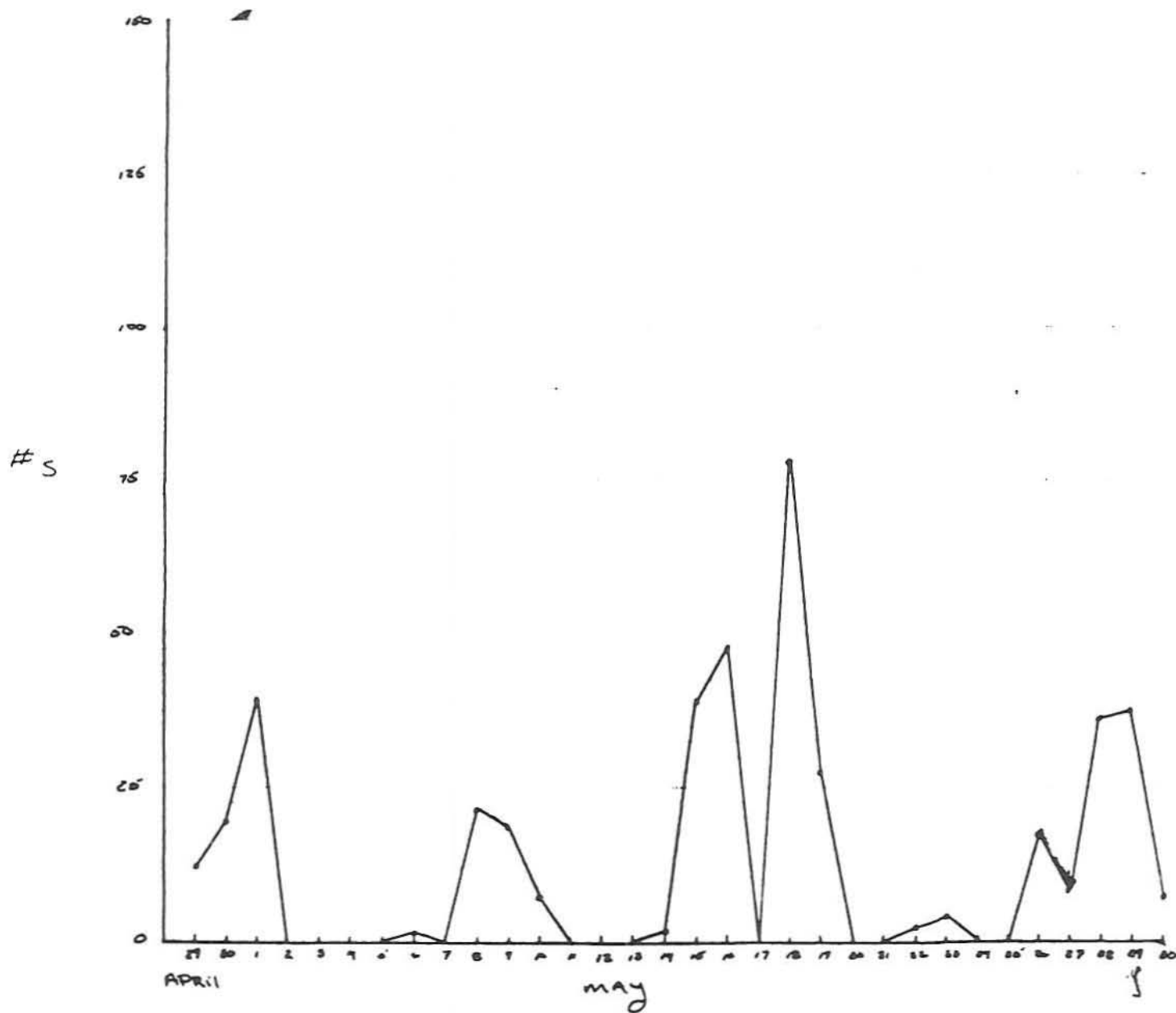
JOB NO.

WAIRUS

BOAT COVE + ROCKY POINT

INCLUDES ANIMALS IN THE WATER

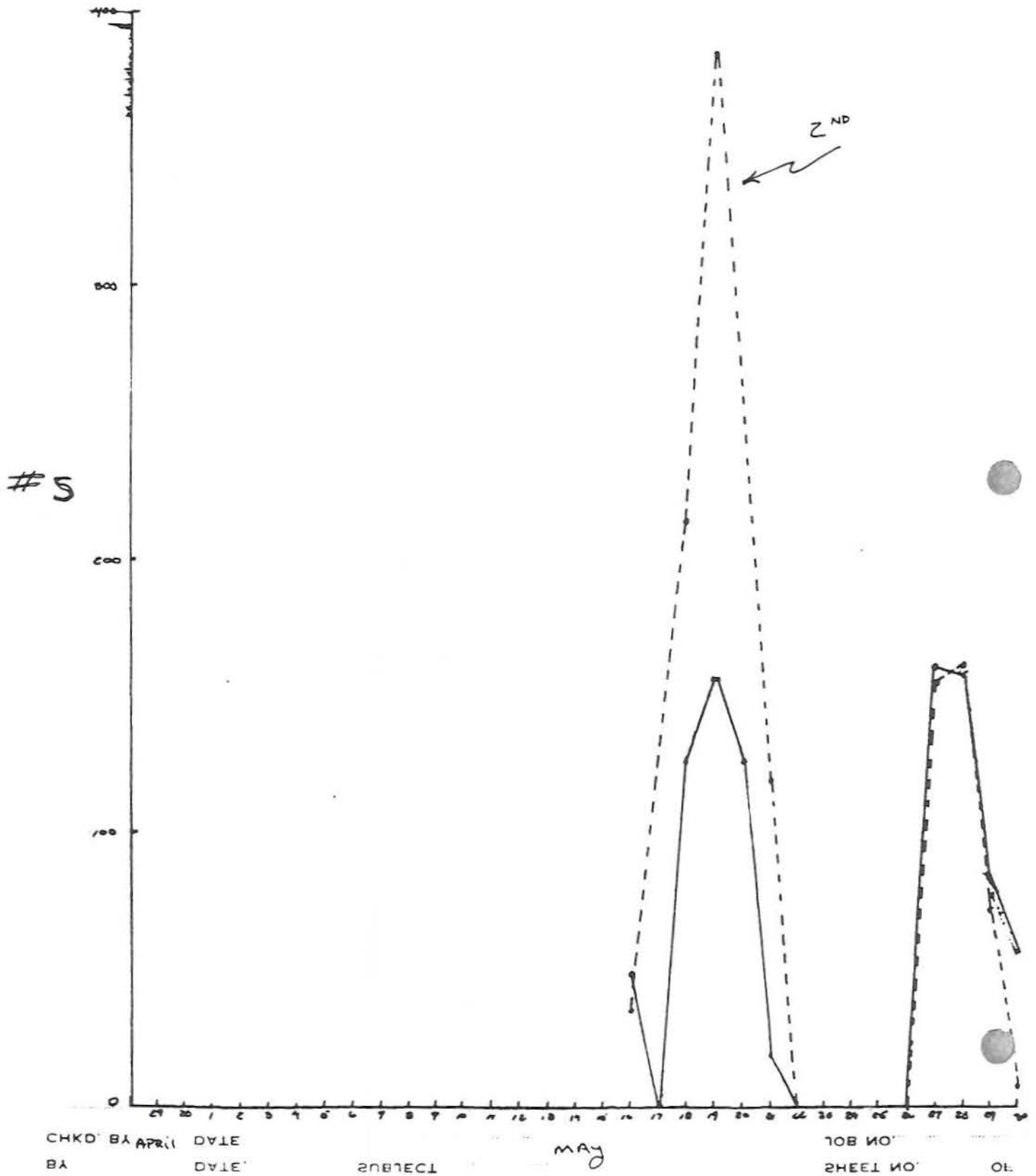
MAY 86



WAIROS

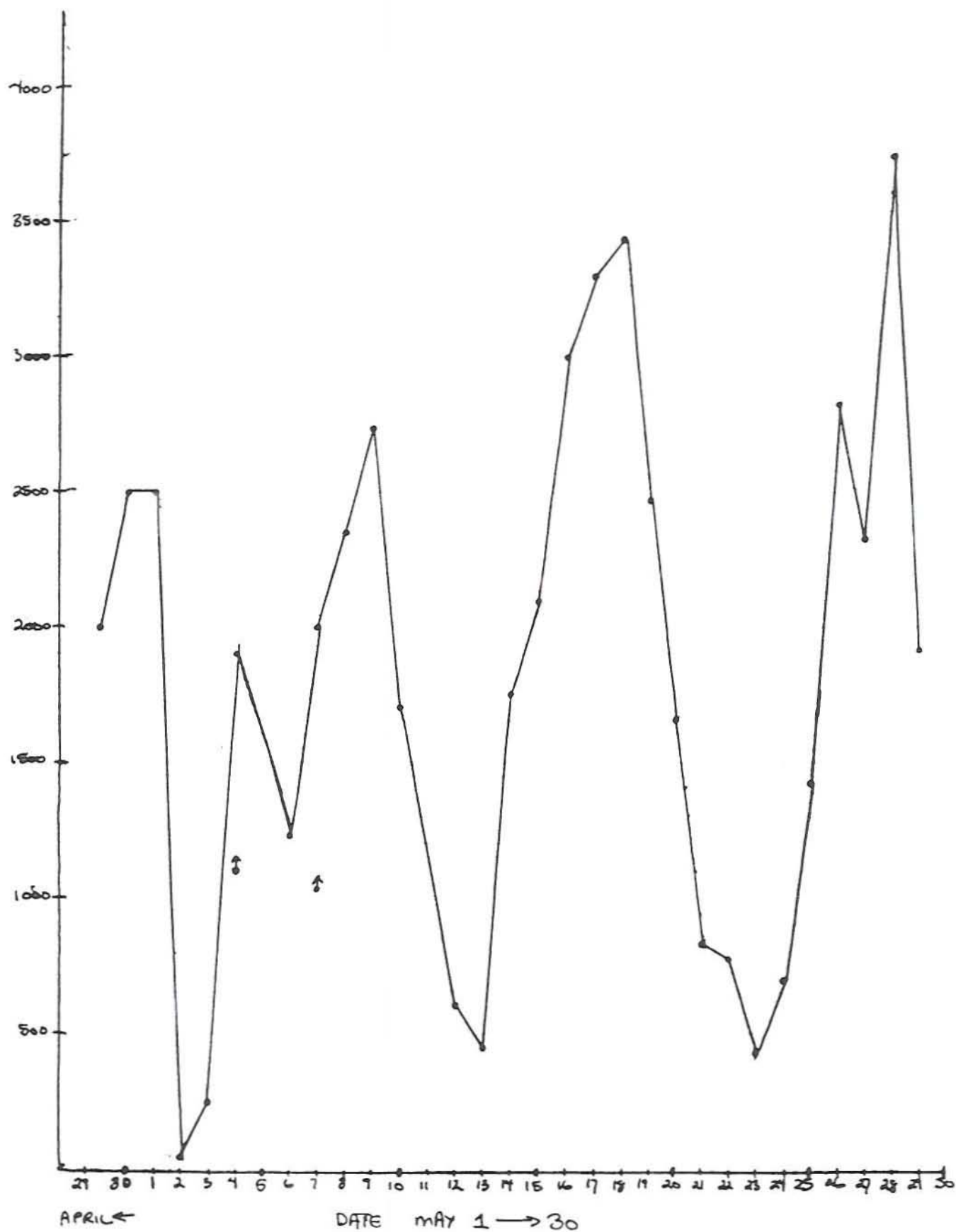
1ST BEACH — MAY BG

2ND BEACH - - - -

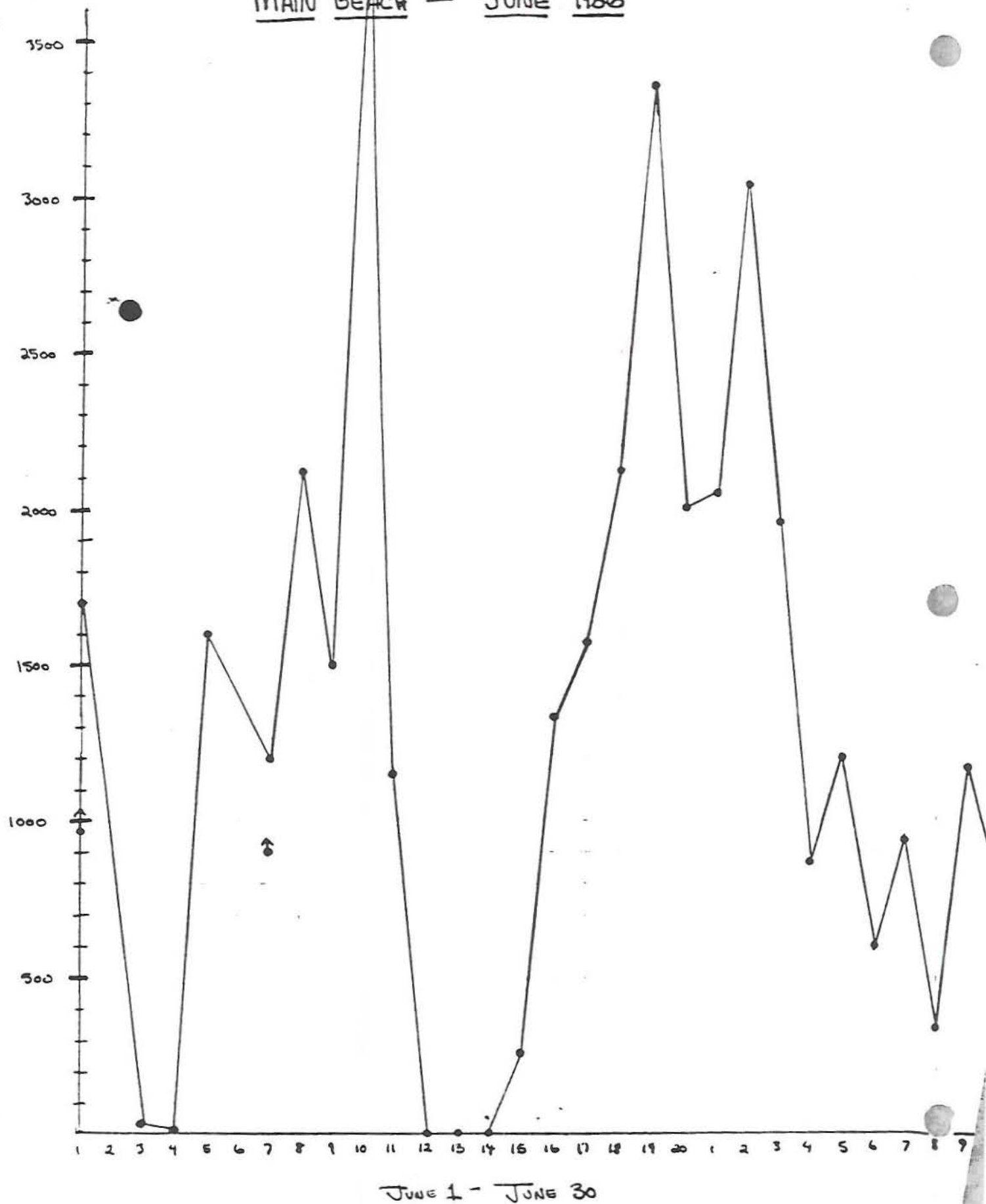


MAIN BEACH - MAY 1986

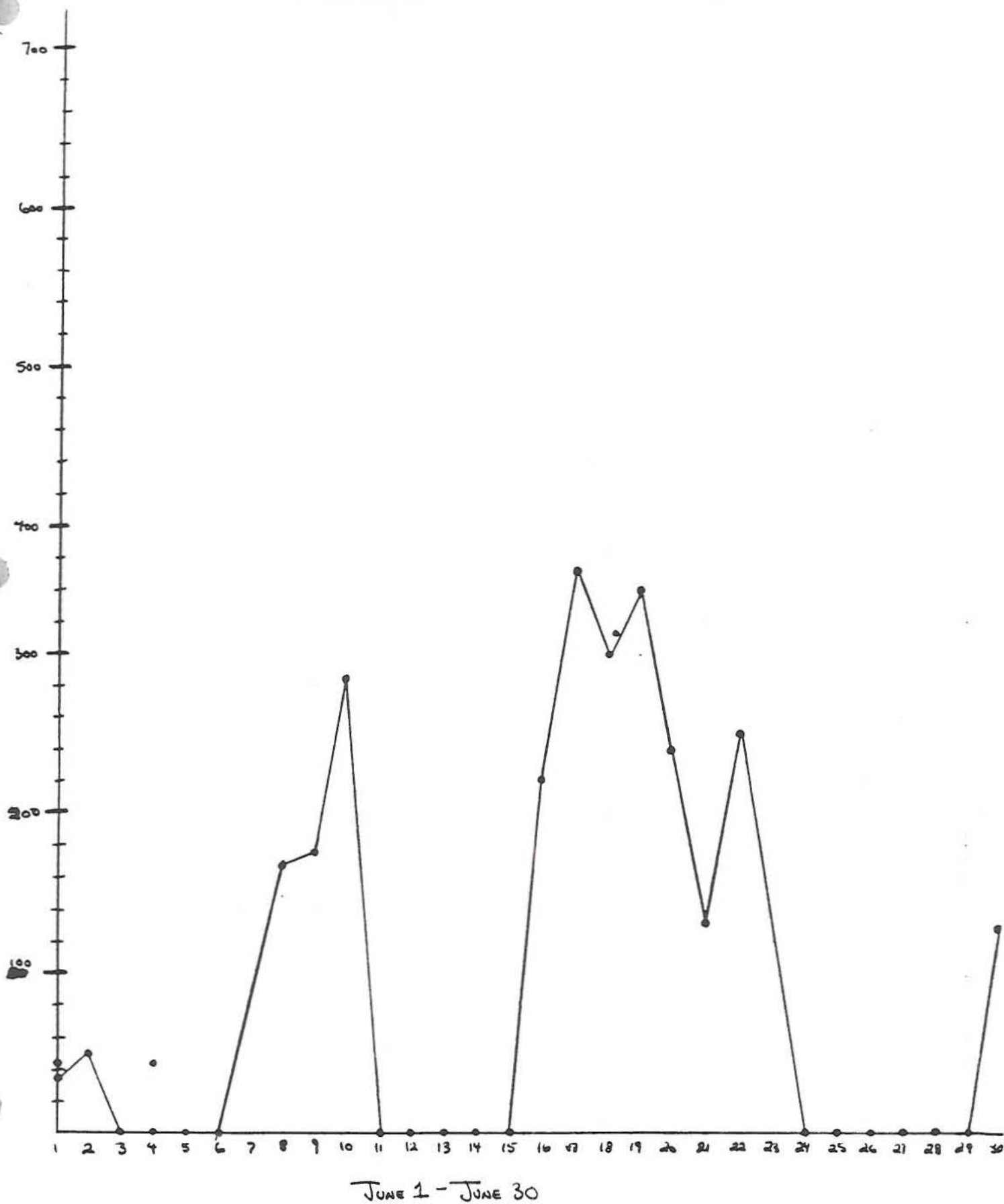
AND END
OF APRIL



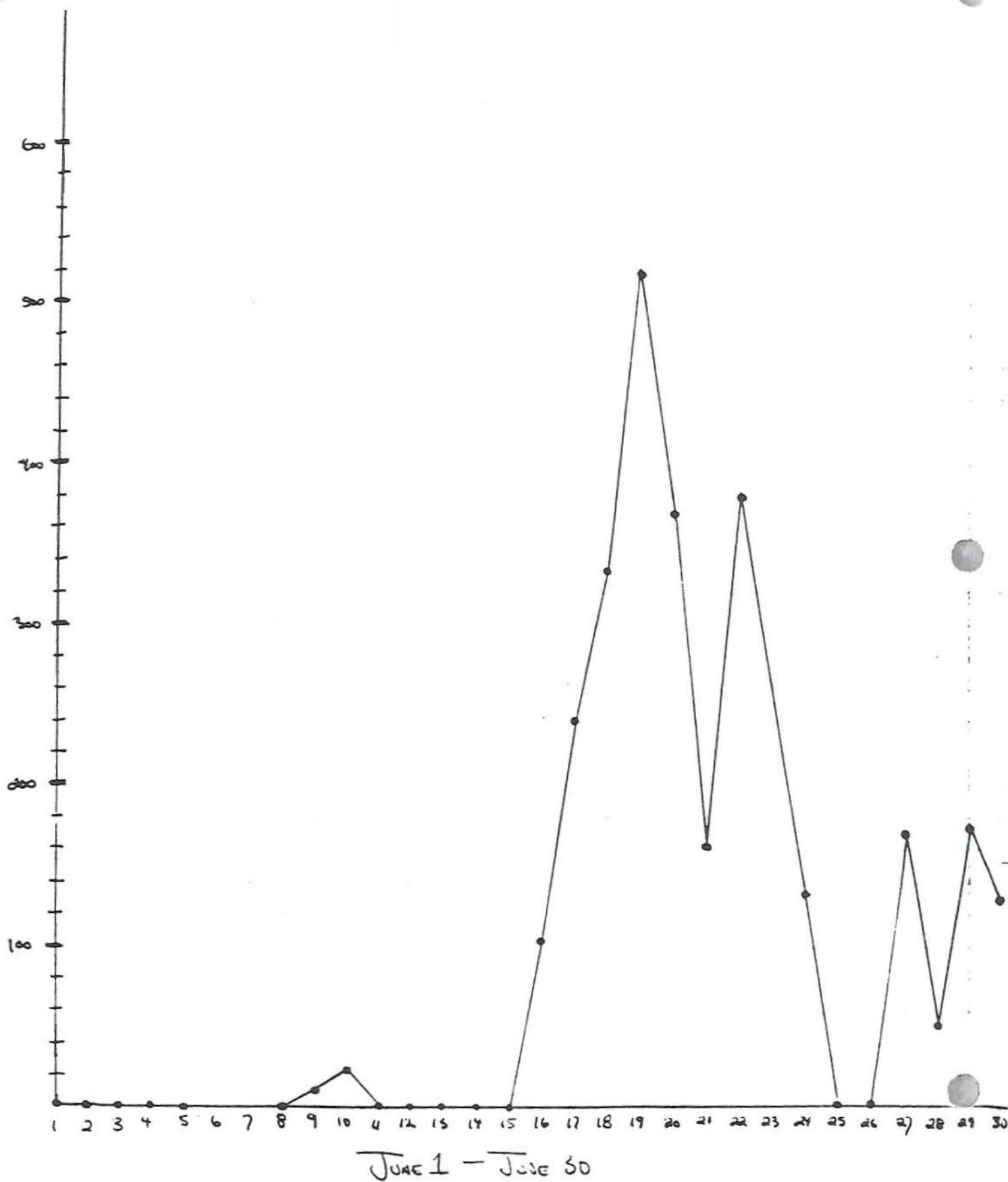
MAIN BEACH — JUNE 1986



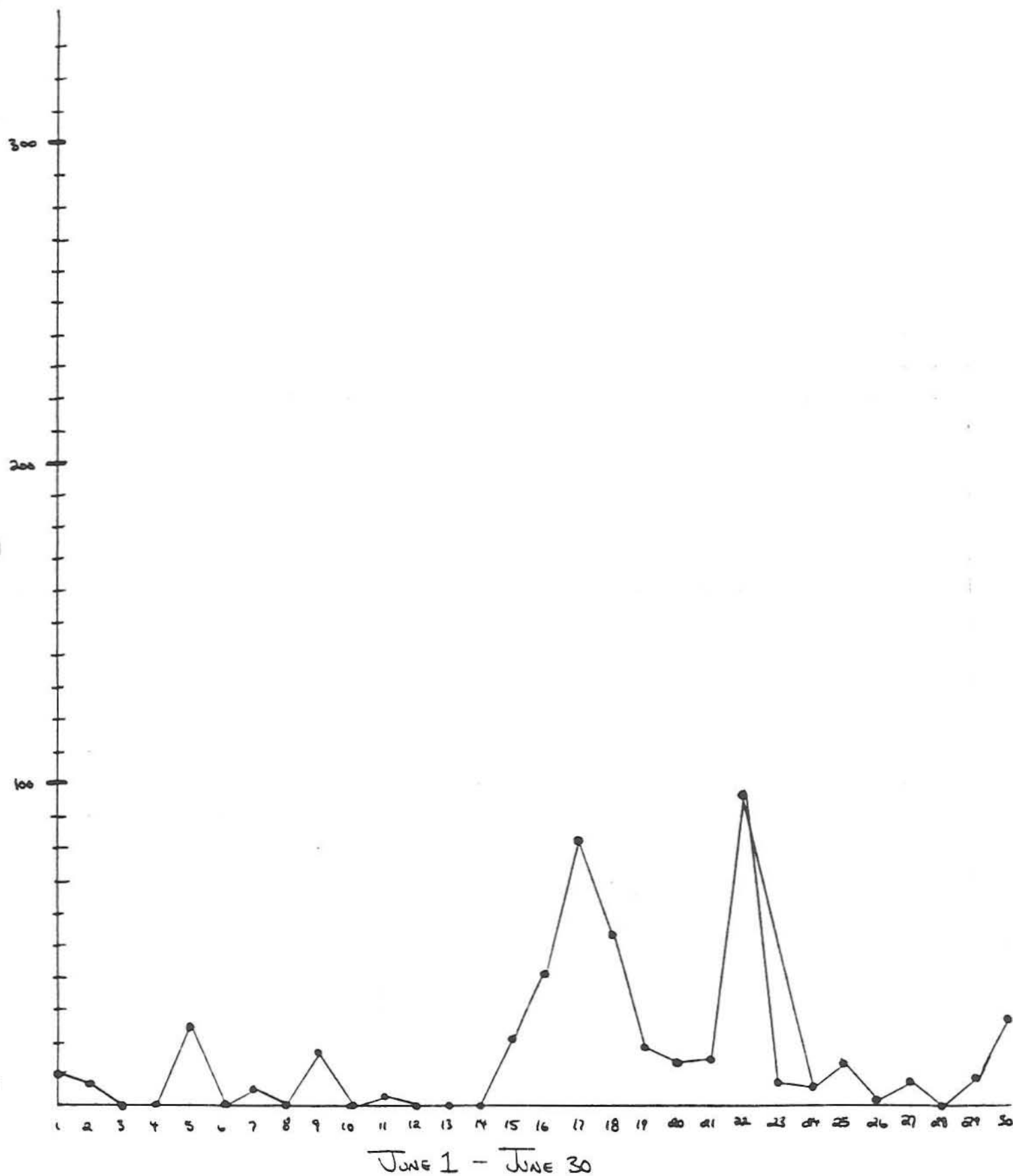
FIRST BEACH — JUNE 1986



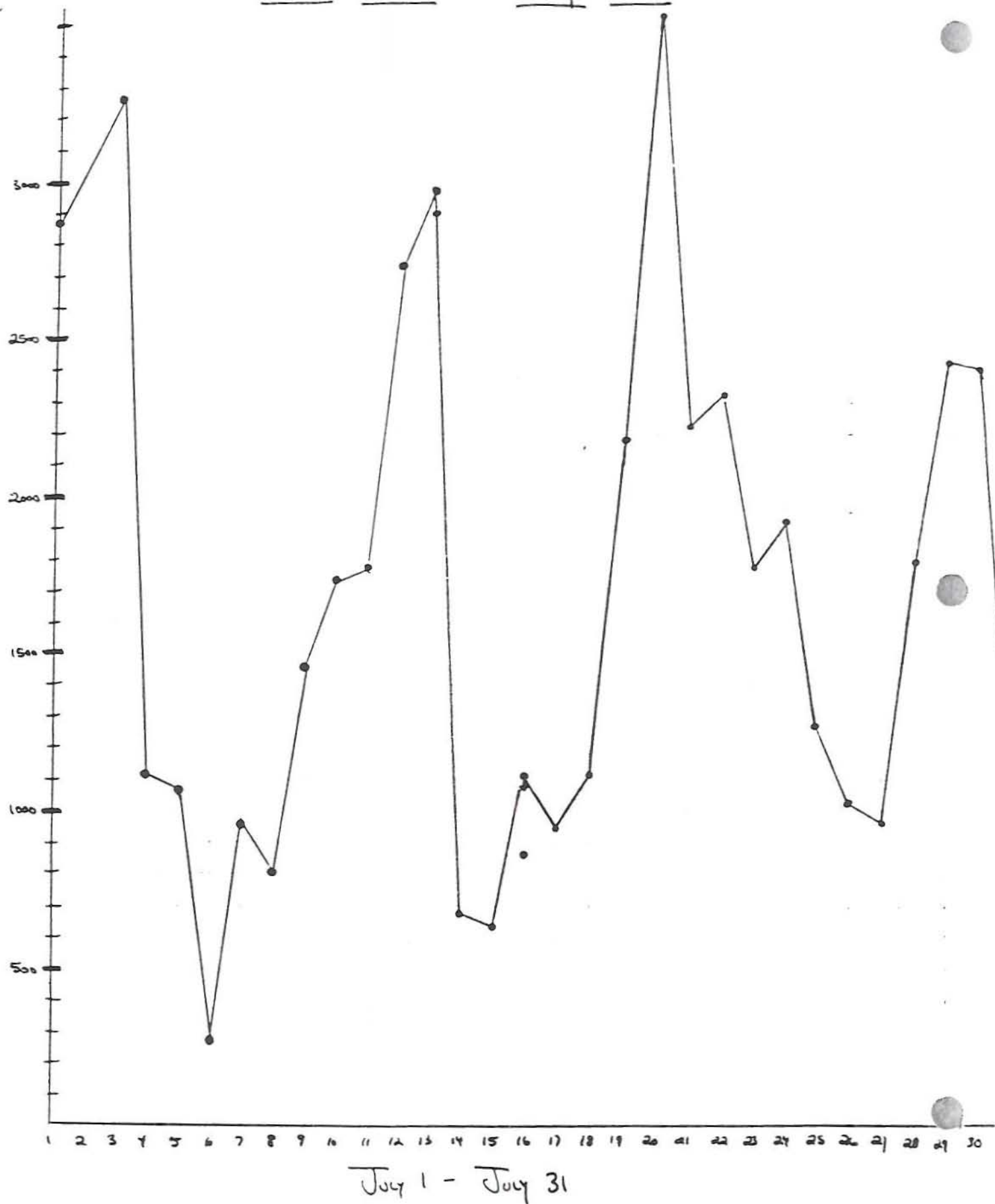
SECOND BEACH — JUNE 1986



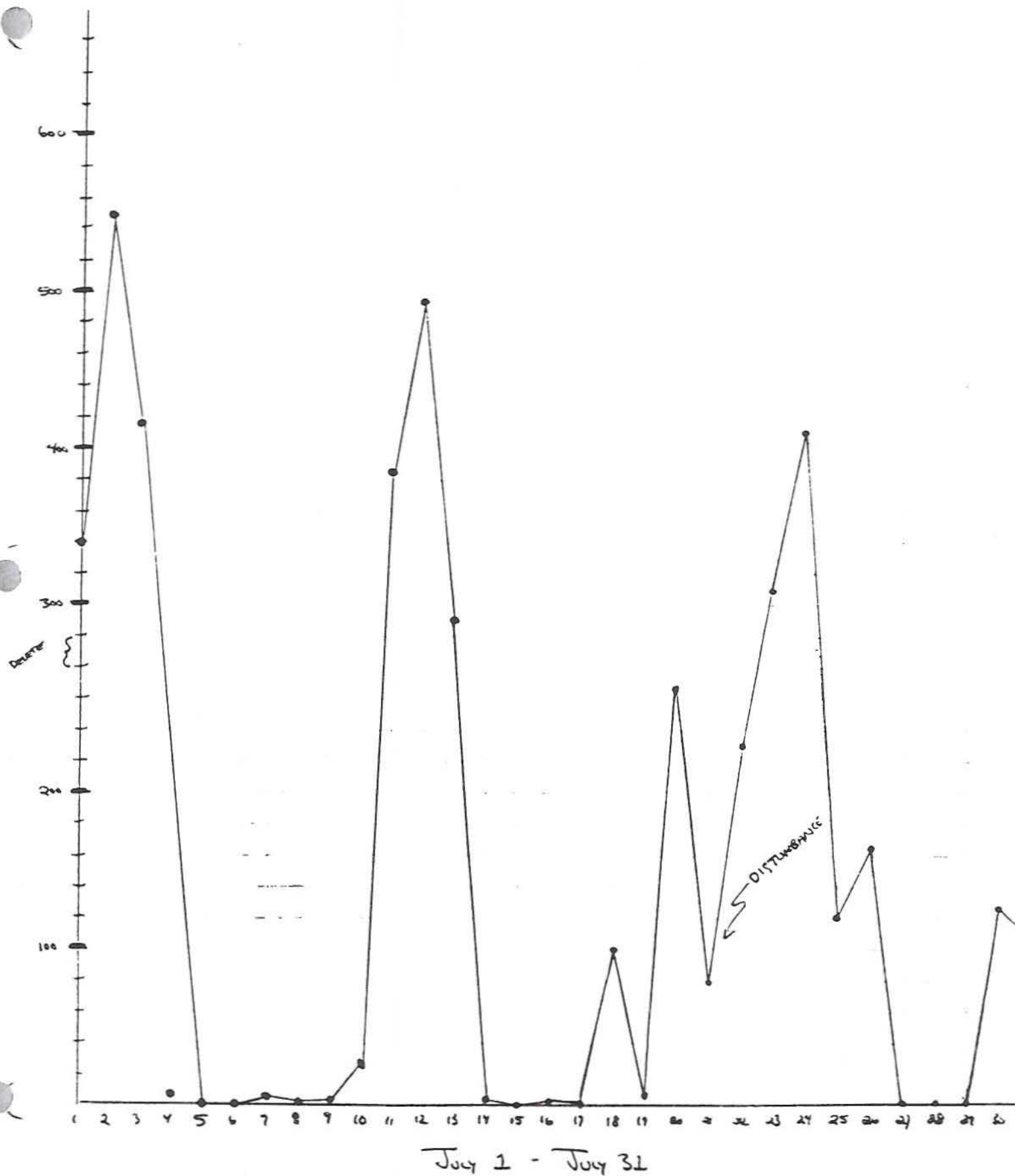
BoAT CoE - JUNE 1986



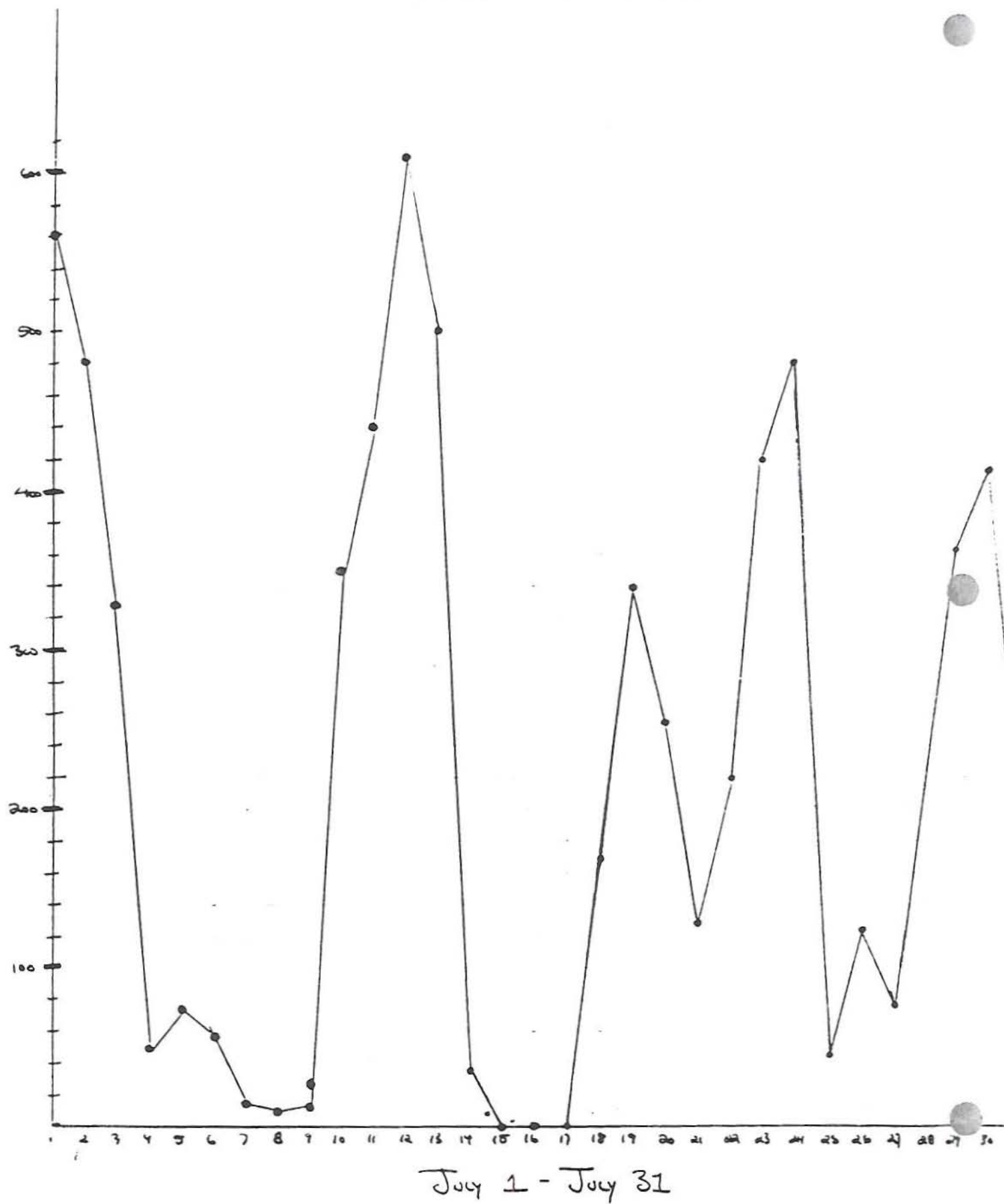
MAIN BEACH — JULY 1986



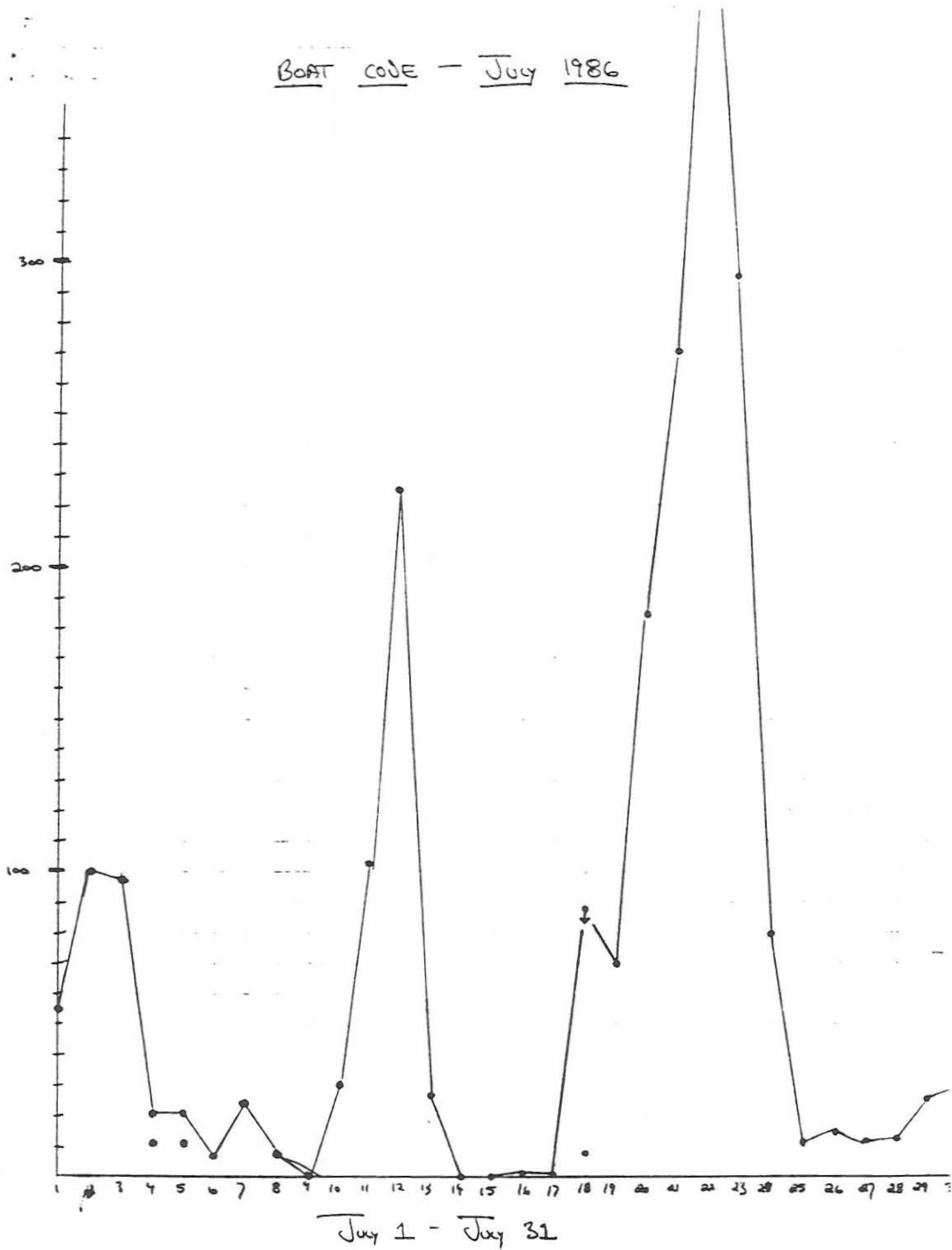
FIRST BEACH - JULY 1986



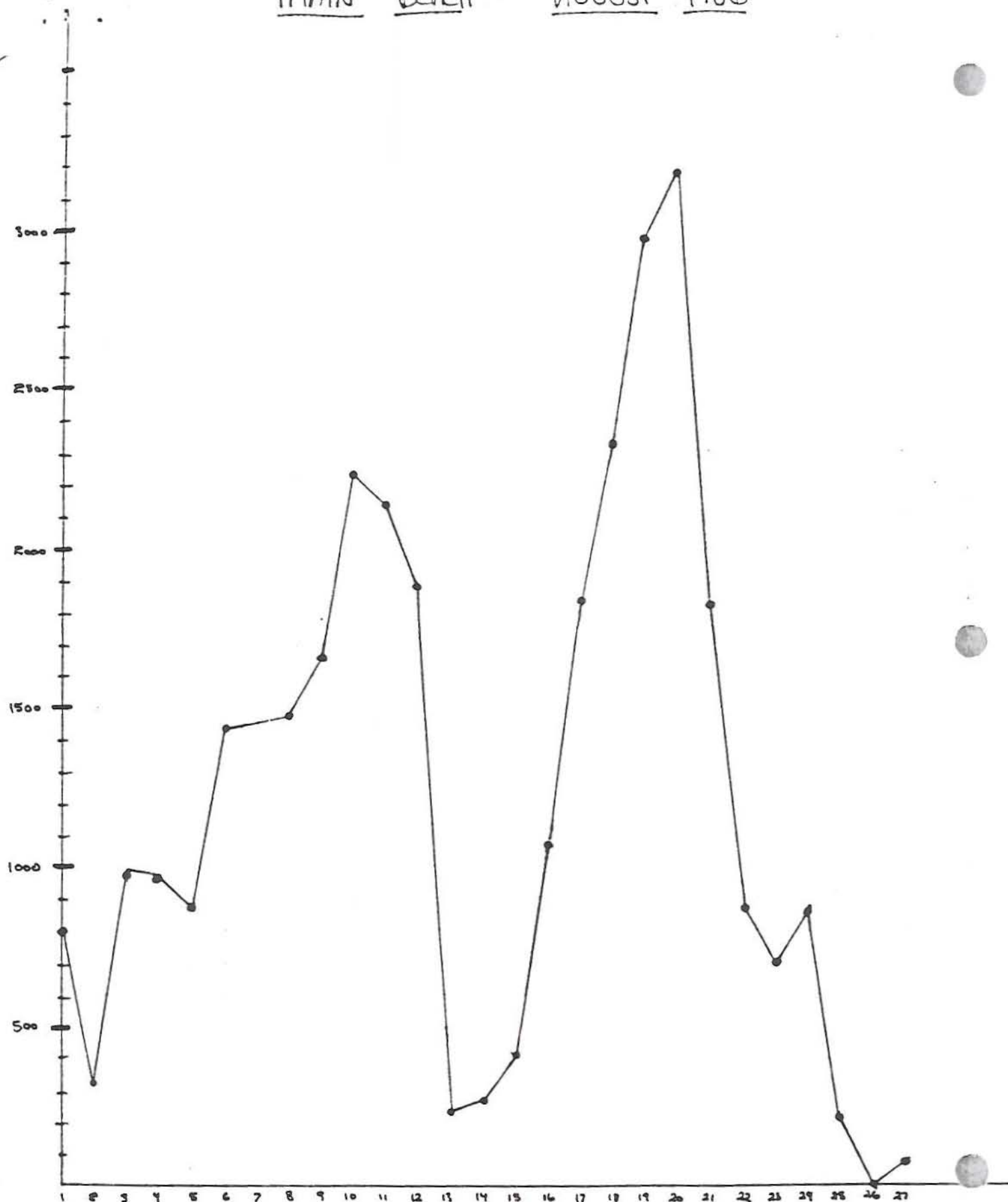
SECOND BEACH - JULY 1986



BOAT CODE - July 1986

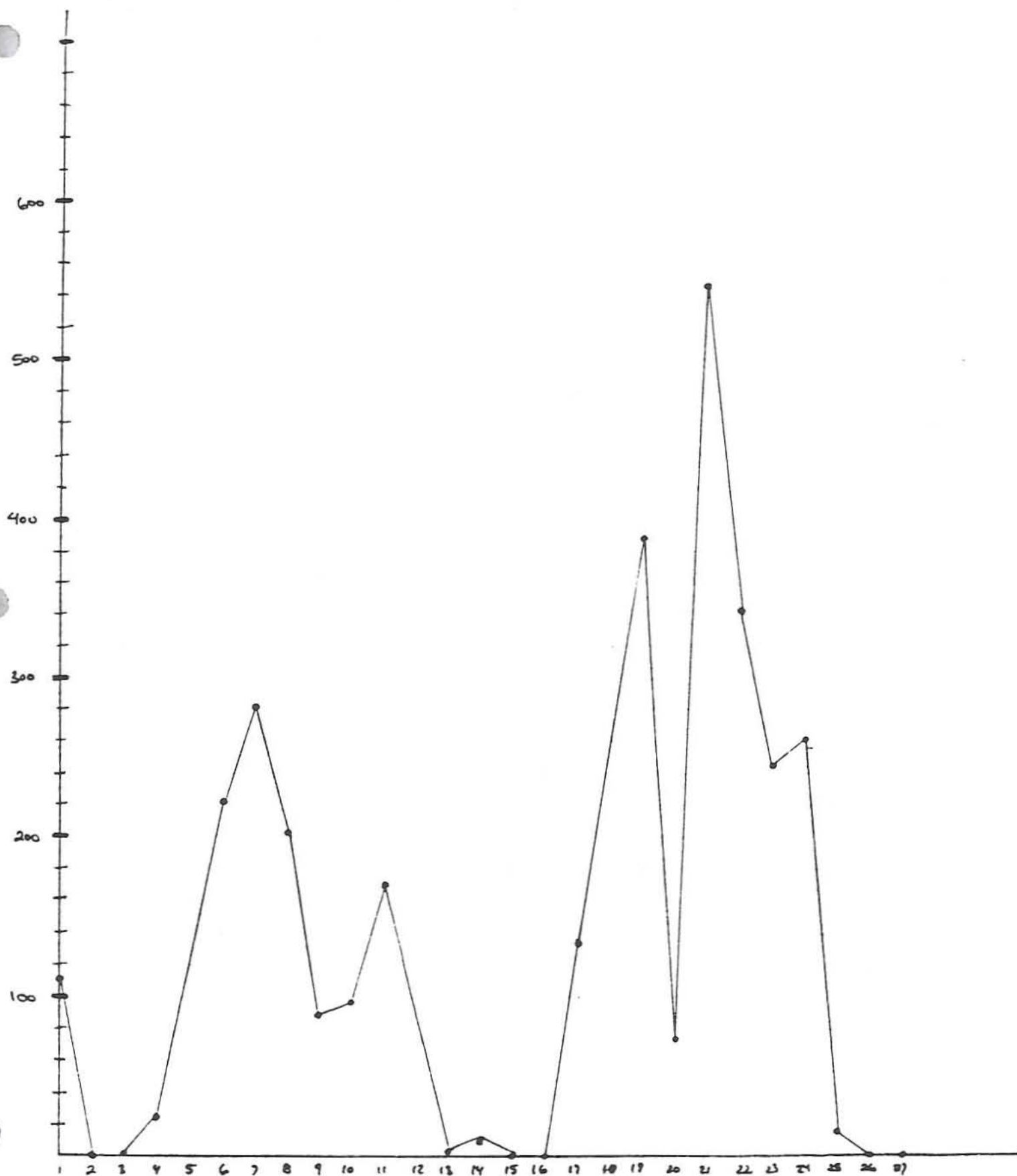


MAIN BEACH - AUGUST 1986



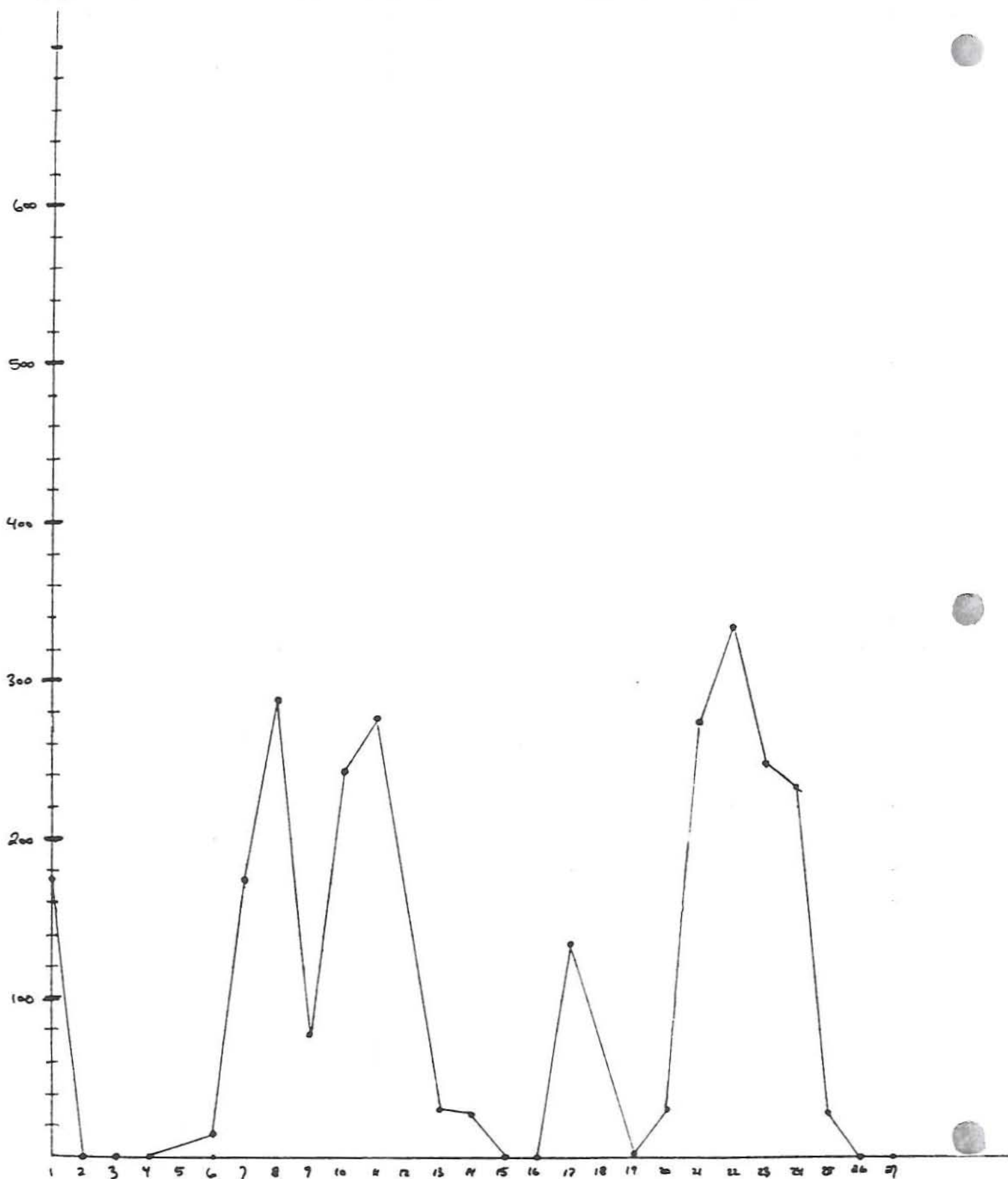
August 1 - August 27

FIRST BEACH - AUGUST 1986



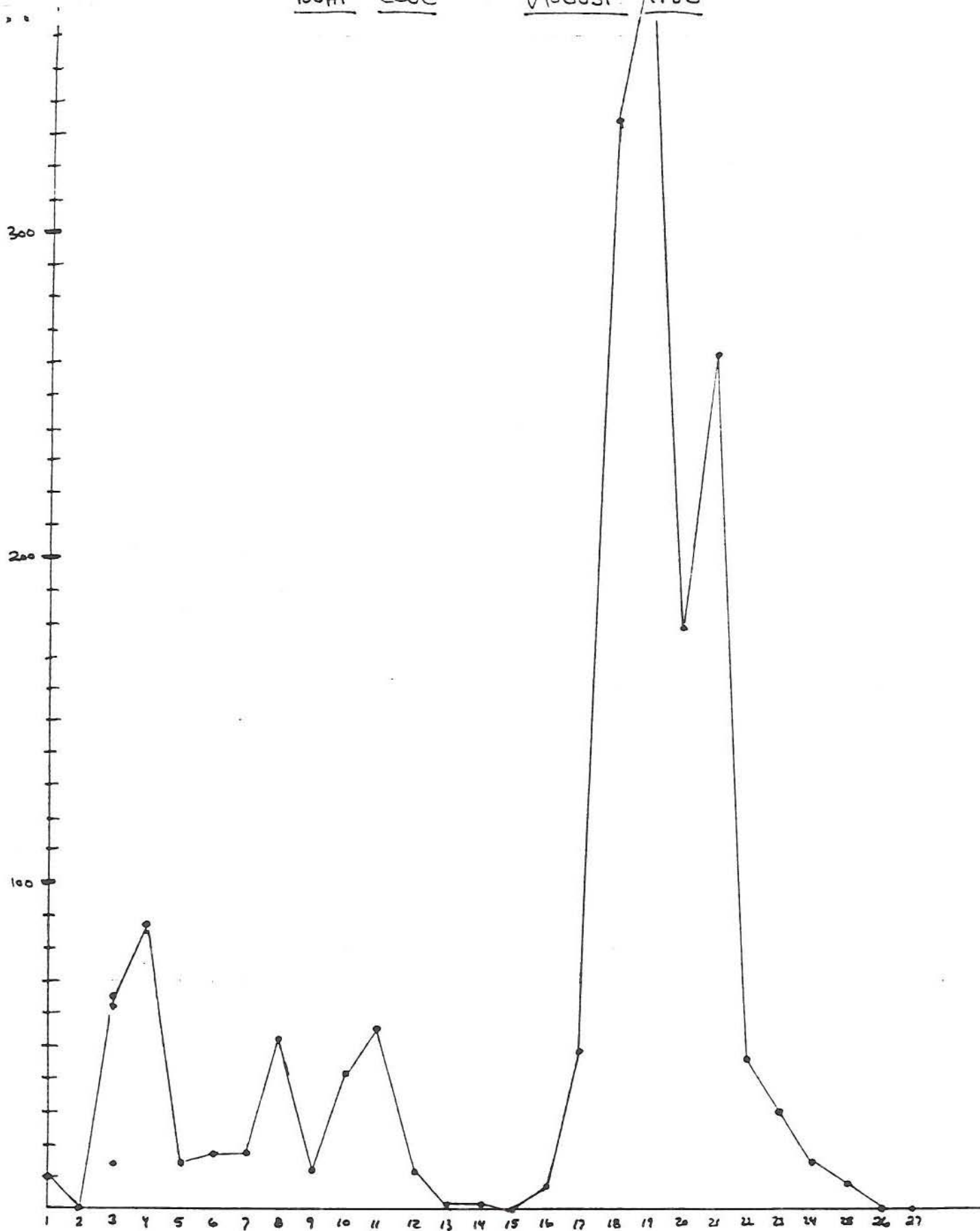
August 1 - August 27

SECOND BEACH — AUGUST 1986



August 1 — August 27

BOAT COVE - AUGUST 1986



AUGUST 1 - AUGUST 27