

The spatfall survey on 18/7/84, 8/8/84 and 9/8/84, along the coast of the Asau harbour indicated 2-3 different spatfalls since the beginning of 1984. Spats were recorded in places as far as 2 km from broodstock. Figure 1 shows spots along the bay in which spats were recorded. Table 1 shows length ranges of spats at each particular spot.

Spot(1) is the wharf. Spats were found imbedded on and between the oysters and barnacles stuck on the wharf cement posts in the sea. (2) is a floating boat buoy, and spats were found on and between the barnacles growing on the buoy. (P) is a steel post stuck in 10 feet water at low tide. The rest of the spots are on rocks. Spats were also recorded on the rafts together with the imported mussels, and on collector ropes.

Spatfall Timing

Spat length ranges and spat growth curve seem to indicate spatfalls in December 1983 - January 1984 and April - July. Thus the pattern seems to be : ~~Spawning~~ spawning in December - January, triggered by natural thermal and salinity stimulation (rains and hot season). This is followed by a period of re-maturing of gonads in the following months until April - June when re-spawning takes place.

The above information is not conclusive though as the growth curve used is that of spats reared in the laboratory in Tahiti.

MUSSEL STOCKS

Asau

The August data collection and general survey of the Asau Mussel Project indicated disappearance of the old broodstock imported from Tahiti in February 1983. Apparent stripping of the mussels from the growing ropes was observed. But these 'stripped' ropes are now being settled with spats (though not fully)

The new mussel stock on two rafts (imported in December 1983) now has an average length of 8.5 cm which is of good marketable size. Meat and gonadal conditions are good.

Safata

The new mussel stocks growth rate (imported in Dec. 1983) is amazingly better than the previous raft trial, having at present a length average of 8.0 cm with length range of 5.5 - 10.5 cm, which is also of good marketable size.

The old mussels have almost all gone (except for some on one growing rope only) while apparent stripping is also evidenced on the new stock.

Recommendations

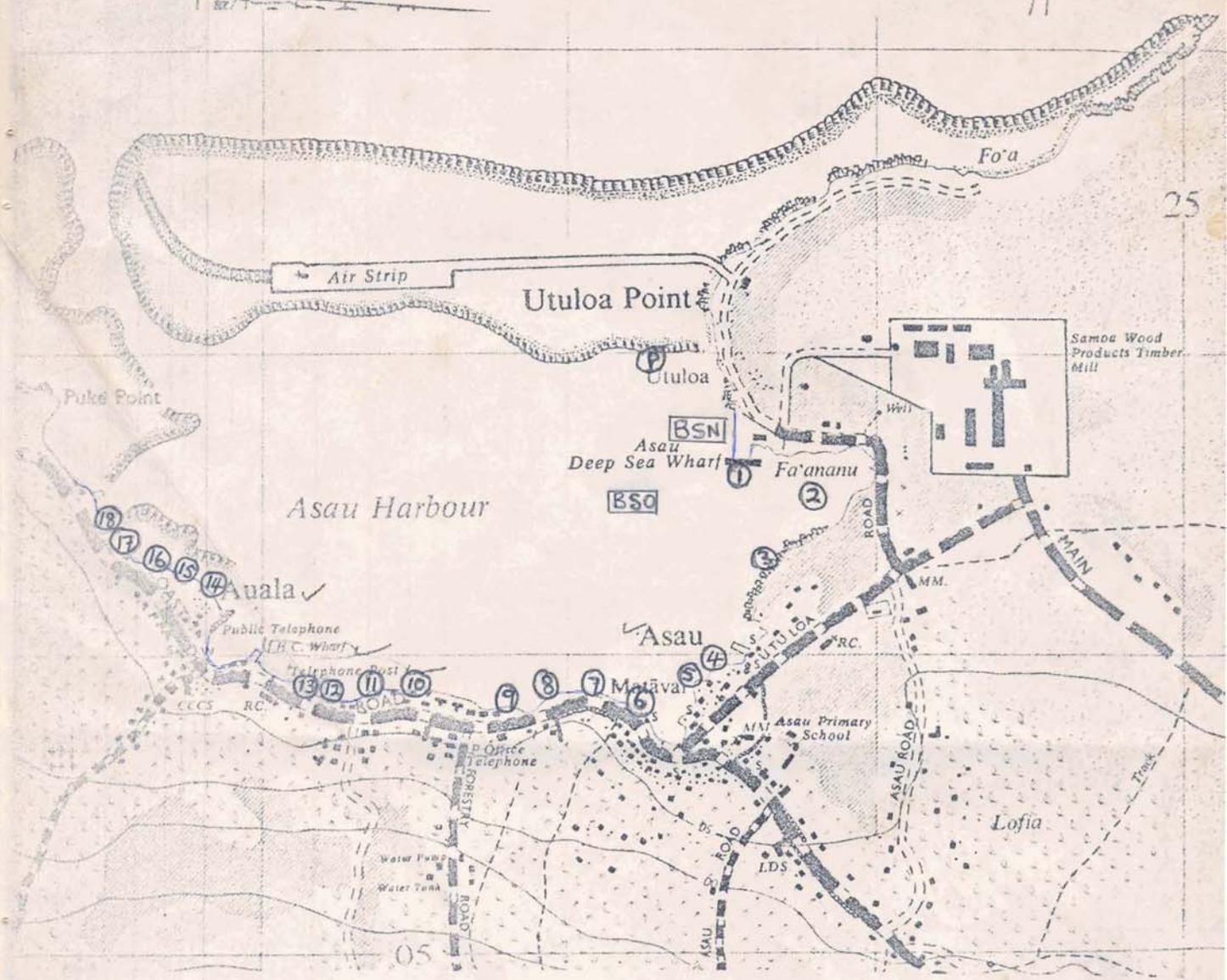
- (1) The present mussel stocks in both sites be left to serve as broodstocks for next year. The spatfalls recorded in Asau were small for transplant into any other area. This was due to small broodstock that spawned (i.e. only the old stock spawned).
- (2) Collector rafts (4-6) be constructed and deployed in Asau before but close to December 1984 awaiting possible spawnings of the new broodstock.
- (3) A Fisheries station (office & housing) be made available at Asau before December 1984 (to keep a close watch on spatfall etc).

FIG 1.

SPATFALL SURVEY

Dates : 18/7/84, 8/8/84 & 9/8/84.

Magnetic Declination



BSN - New Broodstock

BSO - Old Broodstock - all gone by 8/8/84

O - spots where spats were recorded in the surveys.

8/8/84

(8)
3.0
2.5
1.9
2.9

(9) 3.0

(10)
3.0
2.8
2.4
3.0
2.2
2.0
3.4
2.3
1.6
1.5
2.4
2.6
2.5
2.4
3.7

(11) *
4.9 2.6
4.9 2.5
1.8 2.5
2.4 2.3
2.4 1.9
1.6 1.8
4.5 2.1
2.6 2.3
1.5 3.3
1.1 2.1
2.4 3.1
1.6
2.6

(12) 3.5

(13)
3.3
5.4
2.1

(14)
1.5
1.2
2.9
3.0
2.4
1.0
1.3
2.0
2.2
3.0

(15)
2.0
3.1
2.4
1.4
3.0
2.0

(16)
2.0
2.5
2.3
4.0
1.0
2.7
2.4
2.0
1.9
2.1
2.9
2.5
1.7
2.1
1.9
2.4

(17)
2.0
3.0
1.5
2.1
1.7

(18)
4.0
2.3
2.1
2.3

Past (19)
5.0
4.9
3.5
2.1
1.5
1.7
2.4

+ others but to
- deep to mess

* exposed at low tide

18/7/84 Refer to Map of Asau ^{for} Spots Corresponding to Nos.

①

0.7	0.4	1.0	0.9	0.4
0.5	1.4	0.5	0.5	0.2
0.6	1.2	1.3	0.6	0.2
0.6	2.2	0.7	1.5	0.9
0.8	1.5	1.1	1.2	0.5
1.0	0.9	1.0	0.8	
0.8	1.6	1.1	1.1	
0.8	0.4	1.7	0.4	
1.4	1.4	1.0	0.7	
1.1	1.2	1.2	0.5	
0.8	1.7	1.1	0.7	
0.7	0.6	1.5	0.4	
0.6	0.4	1.2	1.0	
0.4	2.9	0.7	1.3	
0.5	0.3	0.9	1.0	
1.5	1.2	0.6	0.7	
0.6	0.9	0.6	3.3	
1.5	1.3	0.7	1.2	
1.7	4.9	1.5	1.0	
1.9	1.5	1.0	3.4	
2.2	1.1	0.6	0.7	
1.9	1.3	2.1	3.2	
1.5	3.0	1.1	0.7	
1.3	1.2	1.4	1.3	
2.0	1.0	0.8	3.3	
1.0	1.7	0.7	3.4	

②

4.0	1.6	1.5
4.5	2.6	1.4
4.0	3.3	1.4
4.5	0.5	0.9
4.4	1.5	2.9
4.6	0.8	3.5
3.6	1.0	1.0
4.7	1.1	0.4
4.4	1.7	0.3
4.5	0.4	0.3
3.5	1.0	
4.7	1.0	
3.3	0.9	
3.0	0.6	
3.5	0.7	
3.8	0.7	
1.2	0.9	
3.3	3.3	
1.5	1.7	
0.9	1.5	
4.2	2.9	
0.9	1.3	
1.8	3.0	
2.0	2.0	
3.5	0.6	
3.0	1.7	

③

1.3

④

0.8
3.2
3.5
3.0
1.9

8/2/84

⑤

3.2
4.4
1.5
2.6

⑥

3.7

⑦

3.7	*	2.4
6.5		2.2
4.8		2.3
2.8		
1.9		
2.6		
3.0		
1.9		