

Report of Fisheries Investigations  
Experimental Control of Undesirable Species

by

Leonard D. Lamb  
Project Leader

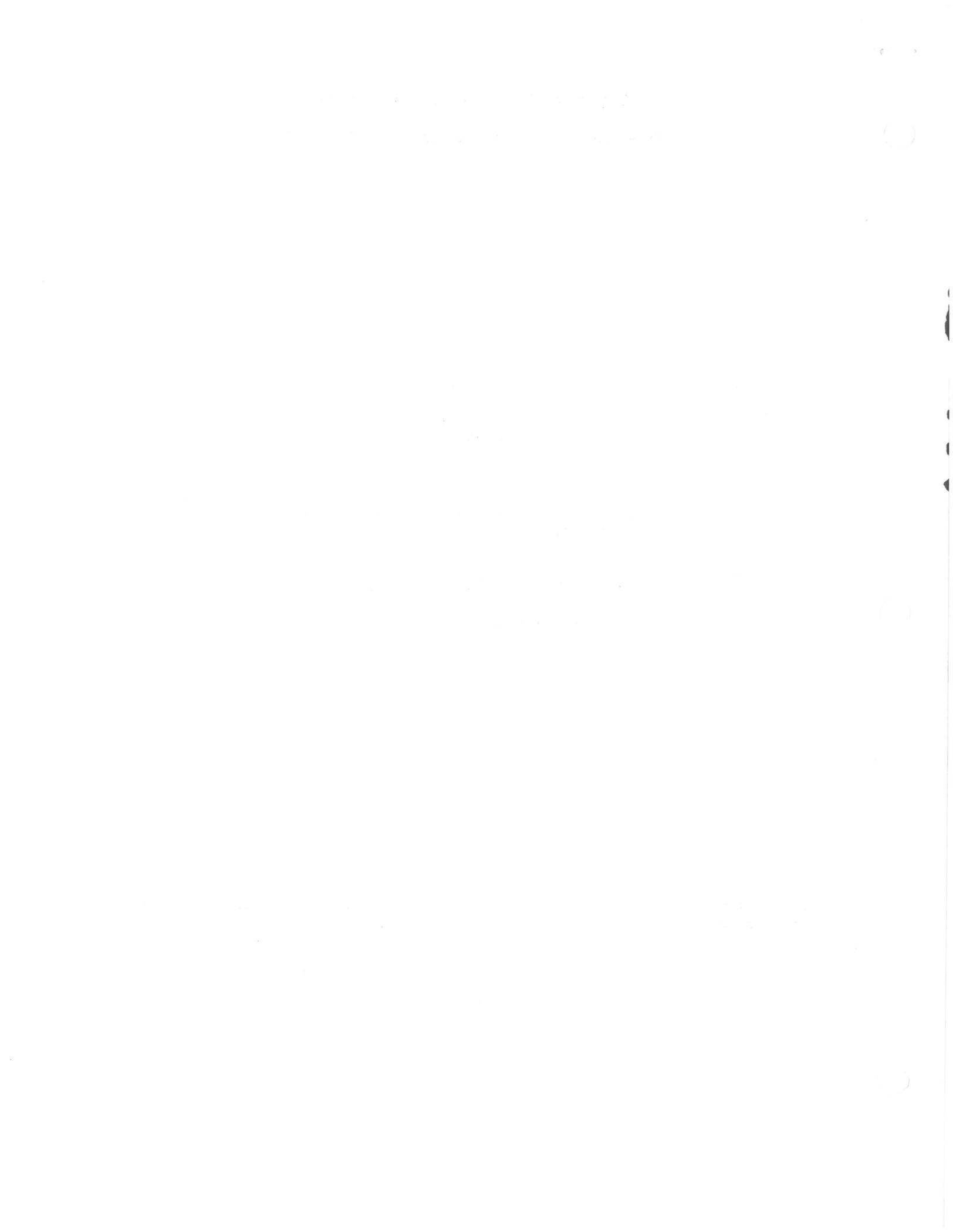
Dingell-Johnson Project F-4-R-5, Job E-5  
November 1, 1957 - October 31, 1958

H. D. Dodgen - Executive Secretary

Texas Game and Fish Commission  
Austin, Texas

Marion Toole  
Coordinator

Kenneth C. Jurgens & William H. Brown  
Assistant Coordinators



## SEGMENT COMPLETION REPORT

State of Texas

Project No. F-4-R-5

Name: Fisheries Investigations and Surveys of  
the Waters of Region 4-B.

Job No. E-5

Title: Experimental Control of Undesirable  
Species in Lakes of Region 4-B.

Period Covered:

November 1, 1957 - October 31, 1958

### ABSTRACT:

A trap to replace the floating weir used previously was constructed but proved to be no more successful than the floating weir. It is believed however that this trap may be modified to a point where gar can be taken in it.

A shallow gill net was found to be quite selective on gar when floated at the surface during the warmer months. The gar come to the surface to gulp air and are taken in this net which is only three feet deep. The catch of gill nets eight feet deep was 47.8 percent gar while that of the three foot net was 72.9 percent gar. These net sets were made in the same general location and at the same time.

### OBJECTIVES:

To develop methods of selectively controlling undesirable fish control.

### PROCEDURE:

The floating weir constructed in the previous segment was not successful and was not used in the work covered by this report. A new type of trap was developed, using wooden frames covered with one inch mesh poultry wire and having a removable funnel in one end to facilitate removal of fish. The other end of the trap has two openings, with a baffle between to prevent the escape of gar, but permits other species to regain their liberty at will. This is made possible by the inability of gar to negotiate a right angle turn which other species negotiate without difficulty.

The second experimental development for the control of gar was a shallow gill net to be set at the surface in an effort to take gar as they come up to gulp air. It was hoped that this net would prove rather selective for gar so that the control of this species could be accomplished with little effect on other, more desirable fish.

### RESULTS:

The gar trap did not function as expected but it is believed that better results can be obtained if the trap is properly modified.

The shallow gill net did provide some control on gar and further study is needed to determine the best utilization for this type of net.

Eight months of gill netting with nets eight feet deep and 100 feet long produced 606 fish of which 55.6 percent were gar and 80.8 percent were rough fish (Table 1).

Table 2 presents the comparison between the catch of the shallow gill net and the eight foot gill net. The shallow net was three feet deep. Both nets were 100 feet long and of three inch stretch mesh. The catch of gar in the deep net was 47.8 percent of the total catch while the same species represented 72.9 percent of the total catch of the shallow net. These nets were set in the same general locations as the eight foot nets and at the same time.

Prepared by Leonard D. Lamb  
Project Leader

Approved by

Marion Toole

Date February 5, 1959

Table 1. A Comparison of Fish Taken in Gill Nets Eight Feet Deep With Those Taken in Gill Nets Three Feet Deep, Clear Lake, Leon County, Texas, November 1, 1957 - October 31, 1958.

Type nets Number 100' Nets	100 Feet by 8 Feet				100 Feet by 3 Feet			
	1 1958 July	2 1958 August	1 1958 September	Totals	6 1958 July	8 1958 August	2 1958 September	Totals
Species	No.	%	No.	%	No.	%	No.	%
Alligator gar	20	54.1	13	22.8	5	20.0	38	31.9
Spotted gar	2	5.4	5	8.7	1	4.0	8	6.7
Longnose gar	4	10.8	7	12.3			11	9.2
Gizzard shad	1	2.7	4	7.0			5	4.2
Smallmouth buffalo	4	10.8	5	8.7	12	48.0	21	17.6
River carpsucker	3	8.1	1	1.8	4	16.0	8	6.7
Carp			1	1.8			1	0.9
Channel catfish	1	2.7	16	28.0	3	12.0	20	16.8
Black bullhead								
Striped mullet								
White bass			1	1.8			1	0.9
Largemouth bass	1	2.7	1	1.8			2	1.7
Warmouth								
Redear sunfish								
Bluegill sunfish			1	1.8			1	0.9
White Crayfish	1	2.7	2	3.5				2.5
Totals	37	100	57	100	25	100	119	100
			59	100	69	100	17	100
					155	100		

Table 2. Number and Percentage of Various Species Taken in Gill Nets From Clear Lake, November 1, 1957 - October 31, 1958.

Year Month	1957		1957		1958		1958		1958		1958		1958		1958		Totals	
	No.	%																
Alligator gar	10	16.9	22	23.1	1	7.1	5	8.6	44	38.2	35	36.5	23	18.2	9	21.4	149	24.6
Spotted gar	10	16.9	1	1.1			6	10.5			27	28.1	23	18.2	3	7.1	70	11.5
Longnose gar	7	11.9	16	16.8			2	3.5	53	46.1	14	14.6	23	18.2	3	7.1	118	19.5
Gizzard shad	6	10.2	19	20.0	2	14.3	17	29.3			1	1.0	15	11.9	1	2.4	61	10.1
Smallmouth buffalo	1	1.7									4	4.2	6	4.9	13	31.0	24	4.0
River carpsucker	16	27.1	12	12.6	3	21.6	15	25.9			4	4.2	2	1.6	6	14.3	58	9.6
Carp	1	1.7	2	2.1			1	1.7					1	0.8			5	0.8
Channel catfish			4	4.2			1	1.7	5	4.3	6	6.3	26	20.6	6	14.3	48	7.9
Black bullhead							1	1.7									1	0.2
Striped mullet					1	7.1	1	1.7	1	0.9							3	0.5
White bass					1	7.1	1	1.7					2	1.6	1	2.4	5	0.8
Largemouth bass	2	3.4	2	2.1			1	1.7			1	1.0	1	0.8			7	1.1
Warmouth			5	5.3	1	7.1	1	1.7									7	1.1
Redear sunfish							1	1.7									1	0.2
Bluegill sunfish	1	1.7	8	8.5	1	7.1	5	8.6	11	9.6	3	3.1	2	1.6			32	5.3
White crappie	5	8.5	4	4.2	4	28.6			1	0.9	1	1.0	2	1.6			17	2.8
Totals	59	100	95	100	14	100	58	100	115	100	96	100	126	100	42	100	606	100

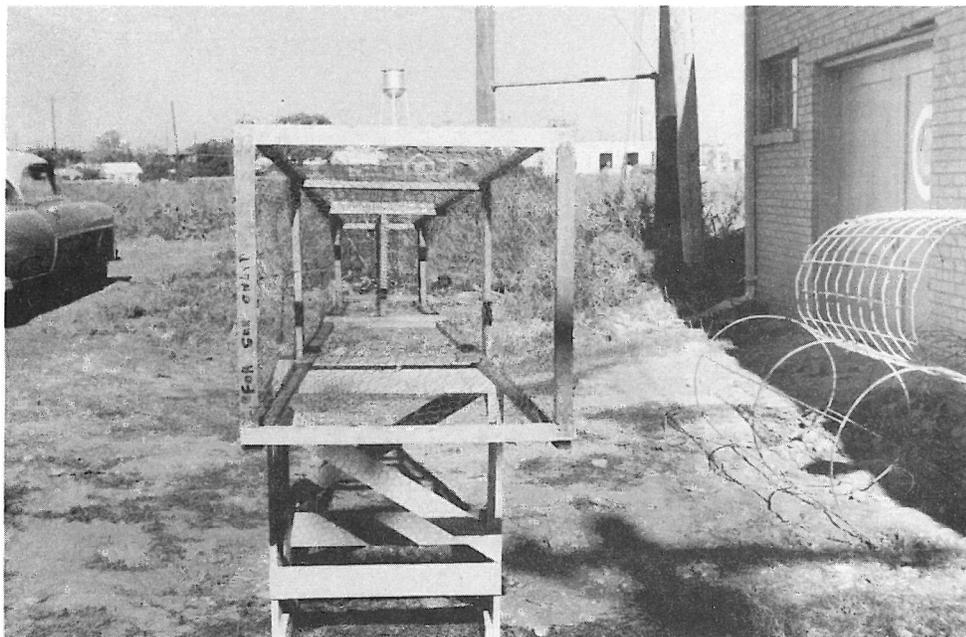


Figure 1. Front view of gar trap with throat in place.

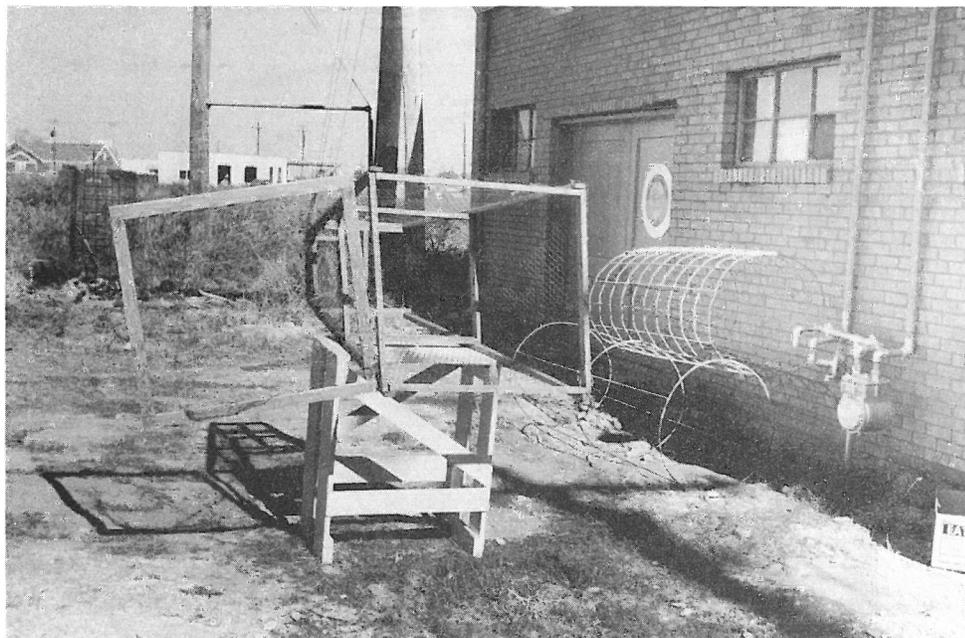


Figure 2. Front view of gar trap with throat in open position to show how fish may be removed.

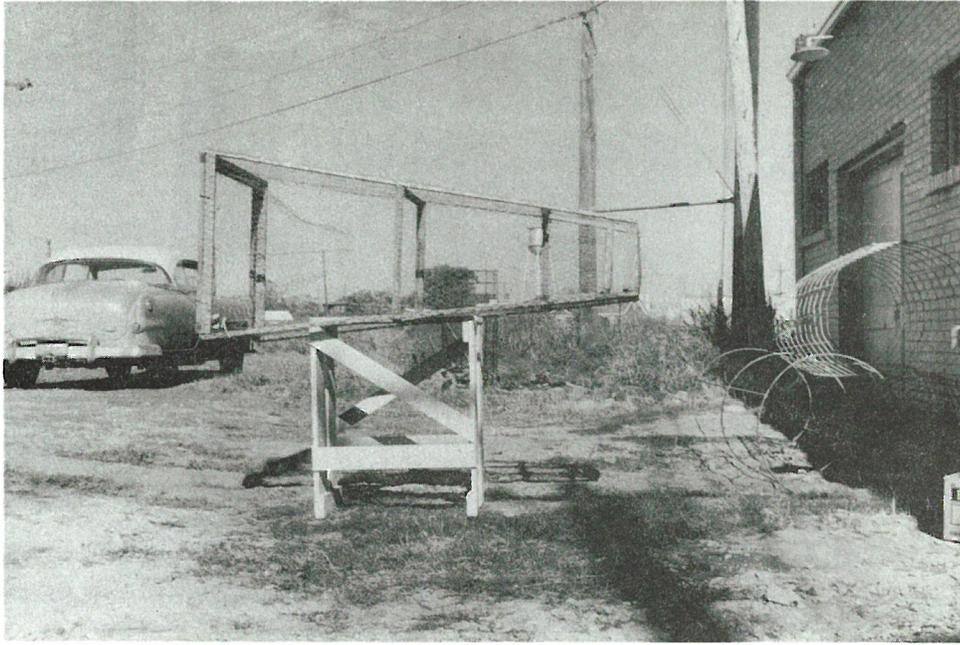


Figure 3. Side view of gar trap showing throat and escape opening for fish other than gar.

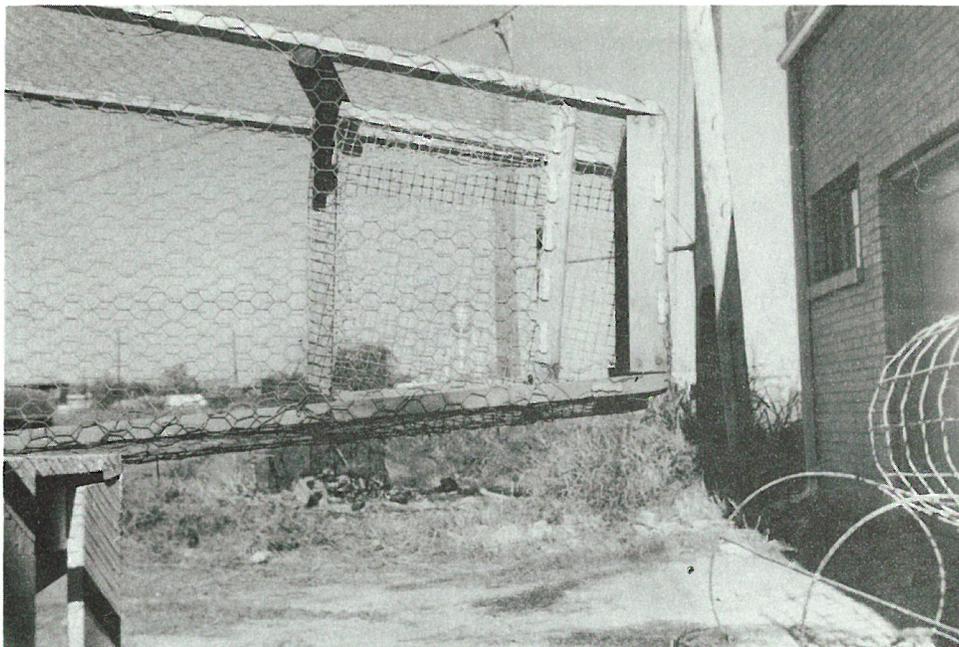


Figure 4. Side view of escape opening showing baffle that prevents exit of gar by requiring a sharp turn that gar are unable to execute.