AN EVALUATION OF THE NO. 2 VICTOR AND 220 CONIBEAR TRAPS IN COASTAL LOUISIANA

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ABSTRACT

During the 1974-75 trapping season an evaluation of the No. 2 Victor leg-hold trap and the 220 Conibear trap was conducted in nine study areas consisting of fresh and brackish marsh along the Louisiana coast. Twenty-three trappers produced 10,671 trap nights of evaluation with the No. 2 Victor and 7,567 trap nights of evaluation with the 220 Conibear. The No. 2 Victor caught significantly more ($p<.05$) nutria (Myocastor coypus) *in both fresh and brackish marsh study areas. There was no statistical difference ($p>.05$) in the number of muskrat* (Ondatra zibethicus rivalicius) *taken with the two traps. The No. 2 Victor caught significantly more ($p<.05$) non-target animals (birds) than did the No. 2 Victor. The 220 Conibear did not kill trapped nutria consistently, with 9.7 percent of the adults and 10.7 percent of the immature alive in the trap.*

Trapping has held an important place in the history of North America. Early trappers were responsible for exploration and settlement of the continent. Of great importance today is modern trapping and its use as an effective wildlife management tool. Trapping allows fur animal population control by removing the renewable surplus and provides an incentive to maintain and manage habitat for maximum wildlife production.

Trap Evaluation—North America

During the early 1970's the amount of public expression concerning trapping in North America began increasing at an alarming rate. Trapping techniques were said by some to be out of date, ineffective and even cruel. Many governmental agencies, universities, associations and trap manufacturers began spending both time and money examining these questions. In Canada, the Ontario Ministry of Natural Resources, in cooperation with the Ontario Trapper's Association initiated an intensive trap testing and development project in 1973 (Voigt 1974). Plans were formulated to study both new traps and modifications of existing ones. Quick-kill traps were examined as a possible alternative to the standard leg-hold trap, by far the most common trap used in North America at present.

The Conibear trap has proven to be an effective trap in some parts of North America for use on specific animals under certain conditions. Shannon and Novak (1972) reported the inspection of 2,222 leg-holds and 1,124 Conibears showed the efficiency for both traps was similar.

Trap Evaluation—Louisiana

Louisiana leads the nation in wild fur production, generally exceeding two million pelts and worth over $10 million annually to the trappers of the state in recent years. Nutria and muskrat make up over 85 percent of this value and are taken primarily in the coastal marshes of the state using standard leg-hold traps (Lowery 1974).

Because of the continued questioning of trapping techniques, the importance of the Louisiana fur resource, and the need to manage it, it was decided that detailed trap evaluation studies should be conducted to determine if any other types of traps are effective under Louisiana trapping conditions.

Trap evaluation in Louisiana began during the 1972-73 trapping season. Palmisano and Dupuie (1974) reported on a two year study in brackish marsh in coastal Louisiana that showed the No. 2 Victor leg-hold caught significantly more nutria than the single spring 220 Conibear. The Conibear, however, appeared to be superior to the leg-hold for capturing muskrats in flooded marshes.

Several characteristics of the Conibear caused Louisiana trappers to develop a negative attitude toward the trap. It was decided that additional testing of the Conibear should be conducted in different habitat types along the coast. The study would also be used as a

means of exposing trappers to the Conibear in hopes that new techniques might be developed for Louisiana trapping conditions. Also, as modifications of leg-holds or Conibears were attempted by trap manufacturers they would be field tested in Louisiana.

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METHODS AND MATERIALS

The study was conducted during the 1974-75 Louisiana trapping season (December 1-February 28) in several fresh and brackish marsh habitat types along the Louisiana coast. The study areas included Sabine National Wildlife Refuge, Lacassine National Wildlife Refuge, Rockefeller State Wildlife Refuge, Marsh Island State Wildlife Refuge, Salvador Wildlife Management Area, Pointe au Chien Wildlife Management Area, Bohemia Wildlife Management Area, and Miami Corporation and Continental Land Company, both private tracts (Figure 1). Trappers on the nine study areas interested in participating in the study were each given twelve double spring 220 Conibear traps and twelve No. 2 Victor leg-hold traps. The objective of the study was explained to these trappers as a comparison of the

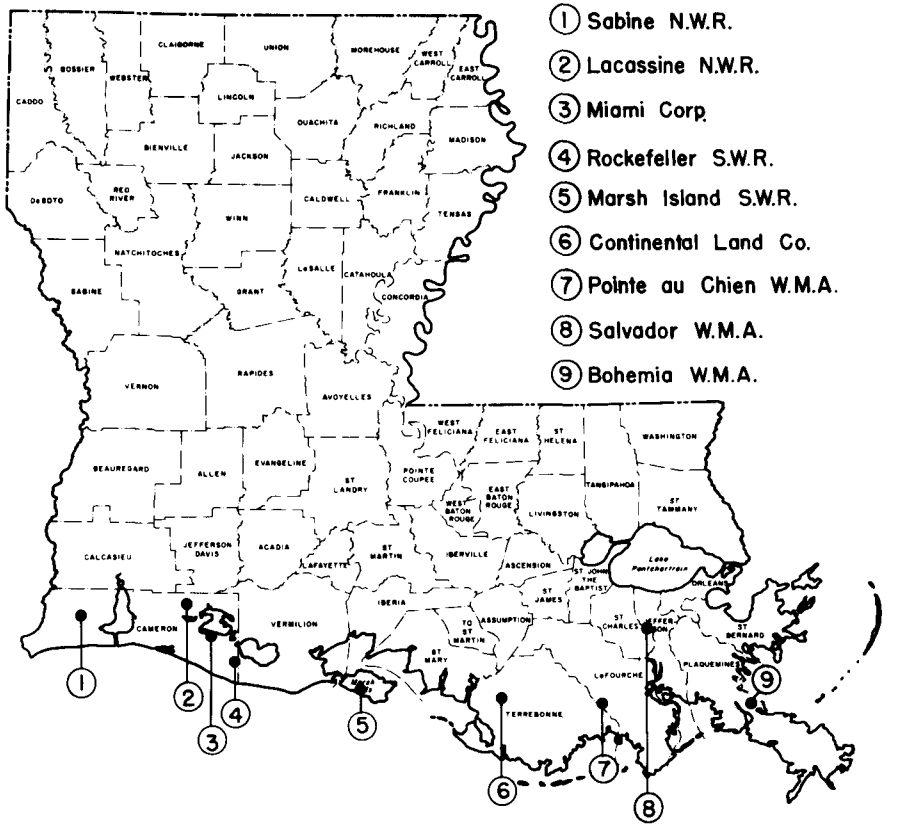

Figure 1. Study Areas

effectiveness of the No. 2 Victor with the 220 Conibear in different marsh types. Various setting techniques for the 220 Conibear trap were demonstrated and the importance of accurate record keeping was explained. It was also explained that animal trails should not be selected or matched with a particular type trap. One trap should be set in each active trail alternating from 220 Conibear to No. 2 Victor until all traps had been set. Traps were checked daily and required data including the following were recorded: date, type trap, number of each type trap set, trap condition (capture, no capture, snapped trap), species captured, animal condition (dead or alive). After a trail failed to produce for several days the trap was moved to a new locoation.

Refuge personnel maintained close contact with trappers during the study. At the completion of the trapping season field data sheets were collected and examined for completeness. After discussion with refuge personnel some trappers were eliminated from the study because of improper procedure. Field data sheets were coded for computer analysis. Paired and unpaired t-tests were used to evaluate the results.

RESULTS AND DISCUSSION

A total of 23 trappers participated in this study. Fourteen of these trappers were located in brackish marsh, while the remaining nine were operating in fresh marsh. It was decided that the data produced by these trappers were reliable and that they had given both traps an equal chance. In general, the 220 Conibear was concealed no more or no less than the No. 2 Victor in a normal set, which usually involves simply placing the trap in an active trail. No traps were baited during the study. All trappers combined produced 877 total nights of evaluation (10,671 trap nights) with the No. 2 Victor, and 725 total nights of evaluation (7,567 trap nights) with 220 Conibear (trigger top position, standard set).

Nutria

The No. 2 Victor caught significantly more ($p<.05$)[1] nutria than the 220 Conibear in the brackish marsh study areas (Table 1). Palmisano and Dupuie (1974) reported the same findings. In brackish marsh, active trails on man-made spoils along heavily vegetated canal banks were best-adapted to the 220 Conibear.

The No. 2 Victor caught significantly more ($p<.01$) nutria than the 220 Conibear in the fresh marsh study areas (Table 1). Trappers in the fresh marsh areas had more difficulty finding suitable places to use the 220 Conibear. In some areas with floating marsh the 220 Conibear could not be used efficiently, trap comparisons had to be limited to natural or man-made spoils along canals and bayous. Both the No. 2 Victor and the 220 Conibear produced twice as many nutria in fresh marshes as they did in brackish marshes. This was a result of a higher nutria density and carrying capacity in fresh marsh than brackish.

The number of fur animals of other species captured in addition to nutria was relatively small making statistical evaluation impossible in several cases (Table 2).

Muskrat

A paired t-test showed no difference ($p>.05$) between the number of muskrats captured with a No. 2 Victor and a 220 Conibear in either fresh or brackish marsh. The only two trappers with a fairly large muskrat catch did appear to do better with the 220 Conibear than with the No. 2 Victor. Palmisano and Dupuie (1974) found that the 220 Conibear produced more muskrats per 100 trap nights than the No. 2 Victor. The 220 Conibear is not actually designed for muskrats.

Raccoons

There was no difference ($p>.05$) in the comparison of the two traps in capturing raccoons in fresh marsh (possibly because of the small number captured), however, the No. 2 Victor caught more ($p<.05$) raccoons than the 220 Conibear in brackish marsh. Palmisano and Dupuie (1974) found the same results. Several trappers reported that track signs indicated that quite often the raccoon side stepped the 220 Conibear.

[1] Directional alternate hypotheses (one-tailed test) were used with all t-tests.

Table 1. Number of nutria captures per 100 trap nights, by trap type and study area.

STUDY AREAS	*Trapper No.*	*Nutria captures per 100 trap nights*	
BRACKISH MARSH		No. 2 Victor	220 Conibear
Pointe au Chien	1	7.16	7.02
Bohemia	4	35.92	24.51
Bohemia	5	10.62	18.33
Marsh Island	6	11.69	9.22
Sabine	11	10.54	7.75
Sabine	12	15.87	1.98
Sabine	13	4.17	11.86
Sabine	14	8.63	9.06
Rockefeller	16	4.40	5.32
Rockefeller	17	3.24	1.39
Rockefeller	18	11.69	5.91
Rockefeller	19	36.19	22.38
Rockefeller	20	5.72	3.35
Rockefeller	21	16.33	8.00
Average		13.01	9.72
FRESH MARSH			
Salvador	2	39.42	24.78
Salvador	3	26.67	28.72
Miami	7	17.71	—
Lacassine	8	20.82	11.50
Lacassine	9	12.47	9.09
Lacassine	10	16.67	13.89
Continental	22	16.67	3.33
Continental	23	66.67	38.57
Continental	24	26.19	16.67
Average		27.03	16.28
Average Both Marsh Types		18.50	12.29

Mink and River Otter

The number of mink (*Mustela vison*) captured was so small that a meaningful comparison was impossible. All nine river otter (*Lutra canadensis*) caught during the study were taken with the 220 Conibear. Additional research is warranted using the 220 Conibear for mink and river otter trapping.

Non-Target Animals

During the study a total of 57 other mammals and 127 birds were captured. Of the mammals identified, 76 percent were eastern cottontail (*Sylvilagus floridanus*) or swamp rabbit (*S. aquaticus*), 20 percent were Virginia opossum (*Didelphis virginiana*), actually a usable fur animal, and 4 percent were miscellaneous animals including nine-banded armadillo (*Dasypus novemcinctus*), white-tailed deer (*Odocoileus virginianus*) and one dog (*Canis familiaris*). The armadillo, white-tailed deer and dog were all captured with the 220 Conibear trap. The identified birds included 61 percent rails (*Rallidae*), 19 percent American coot (*Fulica americana*), 15 percent ducks [mallard (*Anas platyrhynchos*), gadwall (*A. strepera*), mottled duck (*A. fulvigula*), American wigeon (*A. americana*), canvasback (*Aythya valisineria*), and lesser scaup (*A. affinis*)], and 5 percent miscellaneous including purple gallinules (*Porthyrula martinica*). The capture rate per 100 trap nights for non-target mammals with all trappers combined was .23 for No. 2 Victor and .38 for 220 Conibear. The capture rate per 100 trap nights for non-target birds with all

trappers combined was .38 for the No. 2 Victor and 1.80 for the 220 Conibear. Only non-target birds were statistically analyzed (Table 2). These tests indicated no difference ($p>.05$) between capture rates of birds when comparing the No. 2 Victor and 220 Conibear in fresh marsh, however, in brackish marsh the 220 Conibear captured significantly more ($p<.05$) birds than did the No. 2 Victor. This difference in marsh types may be due to the higher density of non-target birds present in the brackish environment.

Adult—Immature Capture

The No. 2 Victor and the 220 Conibear were compared in terms of percentage adults and immatures captured. Immature were those animals considered undersized and of no commercial value. A summation of these statistical tests is presented in Table 3. Results indicated with nutria, muskrats and non-target animals there was no difference ($p>.05$) in the percentage of adults or immatures captured with the No. 2 Victor as compared to the 220 Conibear.

Table 2. Number of muskrat, raccoon, mink, otter and non-target animals captured per 100 trap nights, by trap type and marsh type.

Trapper No.	*Captures per 100 trap nights*	
MUSKRAT	No. 2 Victor	220 Conibear
Fresh Marsh		
7	0.00	15.25
9	0.00	0.91
2	0.64	0.00
3	0.56	0.00
Brackish Marsh		
1	3.37	3.16
5	0.14	0.83
11	0.00	0.10
18	0.57	0.20
20	1.29	0.00
Average	0.73	2.27
RACCOON		
Fresh Marsh		
24	0.00	1.39
7	0.78	0.00
8	0.00	0.27
10	2.78	2.38
3	1.11	0.00
Brackish Marsh		
1	0.42	0.00
5	0.51	0.00
6	0.87	0.00
11	0.19	0.10
12	0.11	0.00
14	0.30	0.12
16	0.69	0.69
18	2.49	0.00
19	0.95	1.43
20	1.66	0.79
Average	0.86	0.48
MINK		
Fresh Marsh		
7	1.04	1.69

Table 2. (Continued) Number of muskrat, raccoon, mink, otter and non-target animals captured per 100 trap nights, by trap type and marsh type.

Trapper No.	*Captures per 100 trap nights*	
Brackish Marsh		
5	0.07	0.00
11	0.29	0.20
12	0.00	0.00
18	0.00	0.39
20	0.00	0.20
Average	0.23	0.41
OTTER		
Brackish Marsh		
5	0.00	0.50
6	0.00	0.71
11	0.00	0.20
13	0.00	0.73
Average	0.00	0.54
NON-TARGET (BIRDS-DUCK)		
Fresh Marsh		
7	0.52	0.00
10	0.62	5.16
2	0.96	0.00
3	0.00	1.06
Brackish Marsh		
1	0.56	0.00
5	0.07	0.17
6	0.43	1.42
11	0.00	1.08
12	0.11	0.00
16	0.23	0.69
17	0.00	1.85
18	0.38	0.98
19	0.00	5.24
20	1.48	7.50
Average	0.38	1.80

Adult—Immature Alive

One claimed advantage of the Conibear over the leg-hold trap is its killing ability. The percentage of adult and immature animals alive in the traps was examined. The results for nutria, muskrats and non-target animals (birds) showed more ($p<.01$, ($p<.05$, ($p<.01$) respectively, animals alive in the No. 2 Victor than in the 220 Conibear (Table 3). Results from his study, however, indicated that the 220 Conibear does not kill consistently, in the case of nutria 9.7 percent of the adults were alive in the trap when the trapper arrived and with immature animals 10.7 percent were alive (Table 4). With many fur animal species a kill is desirable, however, this is not necessarily true with nutria trapping in Louisiana. The study indicated that 16 to 18 percent (Table 4) of the nutria captured during the study were immature and undersize. Most professional trappers in Louisiana release immature, undersize nutria to be captured later in the season or during the following season. Preliminary results from captivity studies indicate a high survival rate of immature leg-hold trapped nutria. Additional research in this area is planned. In coastal Louisiana, traps are run daily and shortly after daylight. Chabreck (1962) reported nutria activity peaked in the evening and early morning hours. This would suggest that most nutria are captured

Table 3. Statistical test for comparison of percentage adult and immature captured and percentage adult and immature alive for No. 2 Victor and 220 Conibear.

Species, Age & Condition	*Test*	*T Statistic*	*Degrees Freedom*	*Significance*
Nutria				
Percentage				
Adult Captured	No. 2 Victor vs Conibear	.95	2170	NS
Adult Alive	No. 2 Victor vs Conibear	41.11	2170	.01
Immature Captured	No. 2 Victor vs Conibear	- .95	2170	NS
Immature Alive	No. 2. Victor vs Conibear	29.43	2170	.01
Muskrat				
Percentage				
Adult Captured	No. 2 Victor vs Conibear	- .99	65	NS
Adult Alive	No. 2 Victor vs Conibear	1.78	65	.05
Immature Captured	No. 2 Victor vs Conibear	.99	65	NS
Immature Alive	No. 2 Victor vs Conibear	2.16	65	.05
Non-Target (Birds-Duck)				
Percentage				
Adult Captured	No. 2 Victor vs Conibear	- .25	116	NS
Adult Alive	No. 2 Victor vs Conibear	5.58	116	.01
Immature Captured*				
Immature Alive*				

*Sample inadequate for efficient statistical analysis.

in the evening or early morning hours, thus, the time most nutria remain in the trap is minimized. An average of 69 percent of the immature nutria taken in the No. 2 Victor were alive and most could be released. Approximately 10.7 percent of the immatures taken in the 220 Conibear were alive but very few, if any, could be released and expected to survive. The majority of the animals alive in the 220 Conibear were caught by the back portion of the body. Positioning of the animal in the trap at the time of impact appeared to be extremely important.

In the case of non-target birds the data showed all birds alive in the No. 2 Victor. Some birds captured in the No. 2 Victor experienced leg damage, however, many could be released unharmed. In the case of the Conibear, only 11 percent were alive in the trap when the trapper arrived (Table 4).

Snaps

Another measure of trap efficiency is the number of snaps (traps sprung without a capture) for each type trap per 100 trap night efforts (Table 5). There was no difference ($p>.05$) between the number of snaps with the No. 2 Victor as compared to the 220 Conibear in fresh marsh, but in brackish marsh the No. 2 Victor had approximately three (3) times more ($p<.01$) snaps than did the 220 Conibear. A snapped trap requires time for resetting and naturally affects the total time spent checking traps in the field.

SUMMARY AND CONCLUSIONS

Twenty-three trappers located in nine study areas produced 10,671 trap nights of evaluation with the No. 2 Victor and 7,567 trap nights of evaluation with the 220 Conibear.

The No. 2 Victor caught 1.34 times as many ($p<.05$) nutria in brackish marsh as did the 220 Conibear. In fresh marsh areas the No. 2 Victor caught 1.50 times as many ($p<.01$) nutria as did the 220 Conibear.

There was no difference ($p>.05$) in the number of muskrat captured with the No. 2 Victor or the 220 Conibear in fresh or brackish marsh.

In fresh marsh there was no difference ($p>.05$) in the number of raccoons caught with the No. 2 Victor as compared to the 220 Conibear, but in brackish marsh the No. 2 Victor captured significantly more ($p<.05$) raccoons than did the 220 Conibear.

A comparison between traps could not be made for mink because of the small number captured. All river otter captured during the study were taken with the 220 Conibear.

In brackish marsh the 220 Conibear caught significantly more ($p<.05$) non-target animals (birds) than did the No. 2 Victor.

Table 4. The percentage of adults and immature captured and alive, by species and trap type.

Species	*Age & Condition*	*Percentage*	
		No. 2 Victor	220 Conibear
Nutria	Adult Captured	83.49	81.59
	Immature Captured	16.51	18.41
	Adult Alive	91.97	9.74
	Immature Alive	69.66	10.79
Muskrat	Adult Captured	84.62	100.00
	Immature Captured	15.38	0.00
	Adult Alive	45.45	17.86
	Immature Alive	33.33	0.00
Raccoon	Adult Captured	79.66	60.00
	Immature Captured	20.34	40.00
	Adult Alive	80.85	25.00
	Immature Alive	100.00	12.50
Mink	Adult Captured	100.00	100.00
	Immature Captured	0.00	0.00
	Adult Alive	87.50	14.29
	Immature Alive	-	-
Otter	Adult Captured	-	100.00
	Adult Alive	-	11.11
Non-Target	Adult Captured	96.00	100.00
	Immature Captured	4.00	0.00
	Adult Alive	100.00	10.75
	Immature Alive	0.00	0.00

This study showed that the 220 Conibear did not kill trapped animals consistently.

In brackish marsh the No. 2 Victor had three times more snaps than did the 220 Conibear.

Advantages—*220 Conibear*

The 220 Conibear was most effective in active trails on heavily vegetated natural or man-made spoils along bayous and canals. This trap may prove to be very effective for trapping river otter in coastal Louisiana. The relatively low number of snaps with the 220 Conibear as compared to the No. 2 Victor may reduce the time required in checking traps.

Disadvantages—*220 Conibear*

The 220 Conibear could not be used efficiently in floating marsh. Also, this trap did not allow the common practice of releasing undersize nutria. In brackish marsh the 220 Conibear captured more non-target animals than the No. 2 Victor.

This trap can be a useful alternative for certain situations in coastal trapping. However, this study showed that the 220 Conibear cannot be used as a more efficient replacement for the standard leg-hold trap in coastal Louisiana.

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Table 5. Number of snaps* per 100 trap nights, by trap type and marsh type.

Trapper No.	*Snaps per 100 trap nights*	
FRESH MARSH	No. 2 Victor	220 Conibear
22	0.00	5.00
23	20.24	32,86
24	9.52	8.33
7	13.02	6.78
8	6.83	1.34
9	4.07	3.33
10	11.73	1.19
2	15.38	2.65
3	15.56	3.19
Average	10.70	7.19
BRACKISH MARSH		
1	5.62	1.40
4	16.50	4.90
5	23.63	18.83
6	10.39	0.00
11	1.82	1.76
12	14.61	0.00
13	6.75	3.15
14	7.23	0.36
16	6.25	0.46
17	3.24	0.93
18	6.70	0.79
19	10.48	2.86
20	5.54	1.78
21	6.67	4.33
Average	9.00	2.97
Average Both Marsh Types	9.64	4.62

*Snaps - traps sprung without a capture.

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