# Evaluation of Two Lures for Furbearer Scent-station Surveys

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*Abstract:* Two odor attractants, Carman's Distant Canine Call (CDCC) and W-U lure, were monitored simultaneously at scent-station transects in 5 units of the Big Thicket National Preserve, Texas. We examined transects for furbearer tracks for 3 consecutive days quarterly from January 1987 through March 1988. Significantly ($X^2 = 26.9$, df = 1, $P < 0.01$) greater numbers of furbearers were attracted to scent stations with CDCC than to those with W-U lure. We recommend CDCC over W-U lure for attracting furbearers to scent stations in Southeastern pine habitats.

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Scent-station surveys have been used for monitoring selected furbearer populations in the Southeast (Sumner and Hill 1980, Johnson and Pelton 1981). An odor stimulus attracts animals to a specific location and scent-station surveys are dependent on the effectiveness of the odor stimulus used (Linhart and Knowlton 1975). Our objective was to compare the effectiveness of 2 different lures in attracting furbearers to scent stations.

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## Methods

The Big Thicket National Preserve (BITH) is comprised of 12 units scattered throughout southeastern Texas in Hardin, Jasper, Jefferson, Liberty, Orange, Polk, and Tyler counties. A variety of pine (*Pinus* spp.), oak (*Quercus* spp.), and other forested habitats occur on BITH (Harcombe and Marks 1979). The 12 units vary in size from 223 to 10,452 ha with a combined area of 34,217 ha. We selected 5 units for our study: Beech Creek (1,993 ha), Big Sandy (5,635 ha), Jack Gore Baygall/Neches Bottom (5,335 ha), Lance Rosier (10,452 ha), and Turkey Creek (3,175 ha).

Furbearer populations on BITH were monitored using scent-station transects (Linhart and Knowlton 1975) as modified by Conner et al. (1983). Scent stations were 1-m diameter circles of sifted soil placed on alternate sides of the road every 0.4 km. The number of stations established in each of the 5 units varied with the size of the unit: Beech Creek Unit, 17 stations; Big Sandy Unit, 18 stations; Lance Rosier Unit, 20 stations; Jack Gore Baygall Unit, 11 stations; and Turkey Creek Unit, 12 stations (Stapper 1989). Two odor attractants were used in scent-station capsules during the study. These were CDCC (Carman's Distant Canine Call, Russ Carman, Milford, Pa.) and W-U lure (developed by R. Teranishi at U.S. Western Region Res. Ctr., W. E. Howard at Univ. Calif., Davis, and coworkers; Fagre et al. 1983). Both substances have been effective in attracting furbearers (Martin and Fagre 1988). The 2 lures were alternated between scent stations along the transects and alternated at each scent station each monitoring period. Plastic gloves were worn when preparing the capsules and when placing them at the scent stations.

Scent stations within all 5 units were examined each morning for 3 consecutive days once every 3 months from January 1987 through March 1988. Visits to the scent stations by furbearers were identified by tracks and sign left in the sifted soil at the scent stations. Discerning between feral dog, coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and red fox (*Vulpes vulpes*) tracks was difficult and considered unreliable. These tracks were grouped based on size into the categories of dog-like or fox-like canids.

For analysis, scent stations were separated by lure used. Visitation rates for furbearers were calculated by dividing the number of stations visited by each species each day by the number of operable scent stations. Those disturbed by wind or rain were excluded.

Daily visitation rates at scent stations by raccoons, opossums, dog-like canids, and fox-like canids were computed by lure used for each study unit each quarter. Means and standard deviations of these indices were calculated for each furbearer group by study unit on a quarterly basis. The 2 lures were compared (Chi-square test for independent samples, Ott 1988) with regard to visitation rates by species, by quarter, and by study unit. We also compared (Wilcoxin sign test, Siegel 1956) the visitation rate at scent stations after 1 day and 3 days to determine if visitations increased or decreased over time for a given lure.

## Results and Discussion

Seventy-eight scent stations provided 844 (72%) operable exposure nights (Beech Creek, 181; Big Sandy, 230; Lance Rosier, 162; Jack Gore Baygall, 138; and Turkey Creek, 133). Tracks of dog-like canids, fox-like canids, raccoons, opossums, bobcats (*Felis rufus*), and spotted skunks (*Spilogale putorious*) were found at scent stations. Dog-like canids, raccoons, and opossums were recorded at scent stations on all 5 units. Fox-like canids were recorded on all but the Turkey Creek Unit, spotted skunks were only recorded on Turkey Creek and Jack Gore Baygall units, and bobcats only on the Beech Creek Unit.

At all 5 units, visitation rates were greater at scent stations using CDCC than ($\bar{X}$ = 0.37, SD = 0.11) than at stations using W-U lure ($\bar{X}$ = 0.19, SD = 0.06). When data for all units were pooled, visitation rates during all quarters were greater at stations using CDCC ($\bar{X}$ = 0.37, SD = 0.09) than at stations using W-U lure ($\bar{X}$ = 0.21, SD = 0.05). When all data were pooled and visitation split into furbearer categories, CDCC ($\bar{X}$'s = 0.07, 0.10, 0.17, and 0.02, respectively) was more attractive to dog-like canids, fox-like canids, raccoons, and opossums than was W-U lure ($\bar{X}$'s = 0.4, 0.4, 0.10, and 0.01, respectively). However, spotted skunk tracks (3 sets) were recorded only at scent stations with W-U lure, and bobcat tracts (1 set) only at scent stations with CDCC. When all data were pooled, significantly, ($X^2$ = 26.9, df = 1, $P < 0.01$) greater numbers of furbearers were attracted to scent stations with CDCC than to those with W-U lure. Martin and Fagre (1988) considered CDCC and W-U lure to be more effective for attracting coyotes (*Canis latrans*) to scent stations and in eliciting capsule pulling and rubbing/rolling behaviors than were Mast's No. 6 (a natural-ingredient, commercially available lure) and Synthetic Fermented Egg (DRC-6503) lures.

Visitation rates did not consistently increase or decrease for either of the lures from 1 day of monitoring to 3 days of monitoring ($P > 0.05$). This may indicate furbearers neither avoided nor were attracted back to a lure after visiting a scent station the first day.

Cost of the 2 lures varied from about 5 cents/scent station for CDCC lure to about $1/scent station for W-U lure. CDCC also was more readily available than W-U lure.

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