METHODS OF TRAPPING BIRDS

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Because of the scarcity of literature on bird-trapping methods, it has seemed proper to assemble the experiences of successful banders of the Western Bird Banding Association. Questionnaires were sent to these members, and the data received in response thereto are presented in the present article. Analysis of these data indicates that baits and methods used in one region are often unsuccessful in another; hence, any method herein recounted may fail in localities other than the one where it has proven successful. All traps mentioned have already been described in some paper on banding, either in publications of the Biological Survey or in the columns of The Condor.

Some banders broadcast bait in a new locality to attract the birds before setting traps. This is not necessary for some birds or in some localities. Some say that if birds become wary, then broadcast feed for a day or two without trapping. Very few banders scatter much feed outside of the trap, and most of them place the feed on the floor of the trap.

Most birds will enter the traps more readily if they are placed under trees, or near standing shrubbery or piles of brush. The latter are always drawing points for birds. Quite often birds will flock to the traps for feed between showers on a rainy day or on the day following a shower. The placing of the trap on a floor and directly on the ground have proven equally successful.

Unless otherwise stated in the text, Warbler and Water traps were used without other bait than water in them. A water drip seems to draw more attention than water in a dish.

Valley Quail. Easily trapped in most any type of trap, but only at irregular intervals. Most successful baits are cracked corn or scratch-feed. Trapped in any locality where found, either in the open or in deep brush, and generally in the early morning.

Mourning Dove. Very few data have been obtained, but some doves were trapped in Colorado at an altitude of 8200 feet by means of Potter, Sparrow, and Drop traps, using wheat for bait.

Sharp-shinned Hawk. One of these was captured in a Water Trap, using a dead bird as bait.

Gila Woodpecker. Captured in the foothills of southern Arizona by means of a Potter Trap baited with cracked corn and bread crumbs.

Jays. Many kinds of jays have been captured at altitudes ranging from sea level to 8200 feet. California Jays are captured mostly around urban communities, in back yards, or in natural growths nearby. Place trap near shrubbery and bait with chicken-feed, broken walnuts, chunks of bread, sunflower seeds, or acorns. I have found scraps of bread very good, while the other baits have been successful in other localities. This jay will enter any of the common traps, and at almost any hour of the day.

Blue-fronted Jays are captured mostly at high altitudes, some as high as 7500 feet. The traps were set near a cabin, both on the ground and on a feeding table, and Potter and Funnel traps were used. Baits used were kitchen scraps, suet, and chick-feed. These jays seemed to visit the traps best in the early morning hours, but some were captured at all times of the day. Suet and fat seemed best when the weather was cold or a storm brewing. Most of the captures were young birds, and there were few repeats. One bander in the mountains was only able to capture them from August 1 to August 25, nothing attracting them after that date.

Long-crested, Woodhouse, and Rocky Mountain jays were captured in the early morning at 8200 feet altitude in Colorado with Drop, Sparrow and Potter traps, by baiting with wheat, meat scraps, or cracked corn. Rocky Mountain and Black-headed jays were captured in British Columbia in House and Figure-4 Drop traps, by baiting with meat, suet, table scraps, feed oats and small raw potatoes. The best catches of Black-headed Jays were made when they were concentrating for migration; of Rocky Mountain Jays, in the cold of spring or fall.

Nutcracker. Captured in cabin yards in the mountains at altitudes of from 7000 to 8200 feet. Traps used were Potter and Funnel set either on ground or on table. Suet and meat scraps were used in winter, and bread in summer. Weather had no effect on their visits.

Blackbirds. The only captures of Brewer Blackbirds reported were in yards or parks in the cities. Sparrow and Potter traps were responsible for most of the captures, but Warbler Traps caught some, when the birds came to drink after eating. Baits used successfully were chick-feed, bread crumbs and walnut meats, and the birds were caught at any time of the day.

Red-winged Blackbirds were captured at 7300 feet altitude by the same methods, but only for short seasonal periods: at one station from February 26 to March 10. Males were captured first, females a month later, and all left as soon as the ice melted on the marshes.

Orioles. Both Arizona Hooded and Bullock orioles were captured in yards in city lots, but plenty of shrubbery was a prerequisite. One bander says to have trap set where bird can hop from twig to trap. Most of the birds have been caught in Water Traps, some placed in the open, others under dense shrubbery, on the ground or on elevated platform. However, orioles have been caught with a Potter Trap. The birds seem to come to the traps any time during the day. Another bander reports having captured only immature birds. Baits other than water that have attracted orioles are water-inelon pulp, small grapes, jelly, and oranges when cut open. Where water was used it was allowed to drip into a dish in the bottom of the trap.

Evening and Pine Grosbeaks. Both of these birds were trapped in British Columbia in a clearing in the pine woods. Salt was sprinkled on an exposed dirt bank and was washed in by the rains. The birds were then caught in a Drop Trap placed over this salty ground. Seeds or cereals did not attract these birds, but one bander in Idaho caught many Evening Grosbeaks in spring with sunflower bait. Linnet and Purple Finch. These birds have been trapped in various locations,

Linnet and Purple Finch. These birds have been trapped in various locations, and the methods used by individuals have been different. Traps have been set under bushes, in the open, on the ground, and a short distance above the ground. All kinds of traps such as the Potter, Clover-leaf, Sparrow, Drop, and Warbler have been used successfully by different persons. Some were successful for one person but were not a success when used by another. The early morning seems to be the best time for trapping finches, although some visit the traps in the late afternoon.

The baits used by various banders were bird-seed, chick-feed, broken walnuts, hemp, sunflower seed, oat groats soaked, white bread, and dripping water. Some people have been able to attract finches with water alone.

Cold winters are reported the best for Purple Finches, and sunflower seed the best bait. At one foothill station, water seems to be the only bait that will attract Purple Finches.

Crossbill. The only captures of Crossbills have been from the pine woods of British Columbia. Here, Drop Traps were set over places where there was salt, cement or clay, some being placed on shelves of a cement chimney. The salt baits must be developed, and the catch increases from year to year. Captures were reported only during the winter and early summer.

Rosy Finches. In Colorado, at an altitude of 8200 feet, the Gray-crowned and Hepburn rosy finches were captured during or before storms, in November and December. They fed in flocks on the south-facing hills where the snow had melted. A Drop Trap was used and baited with bird-seed, wheat, and bread crumbs, some being scattered outside the trap. If the trap was placed where the birds happened to alight, they were easy to capture, and the trap would be filled at once. After the storm had passed the Rosy Finches disappeared.

In British Columbia, Rosy Finches were captured only in the spring, when it was wet and cold. All traps used were ground types baited with cereal and canaryseed. **Redpoll.** Reported from British Columbia, where captured only when driven to baited traps by bad spring weather. Ground traps were used, baited with cereal and canary-seed.

Goldfinches. Willow and Green-backed goldfinches were only captured by using water as a bait. Both the Warbler and Potter traps were used, generally with water dripping into the trap in some manner. It is well to set trap near some seeding annuals such as cosmos or coreopsis.

Pine Siskin. In British Columbia these birds were captured in Sparrow Traps set over clay banks that had been salted. The only other bait that they would take was growing garden truck. In Altadena, California, they were captured in Drop Traps that had a spray of water falling into a dish.

Alaska Longspur. The only record of the capture of this species by trapping was furnished by Mr. T. T. McCabe, of British Columbia. In September, 1926, a premature snow storm drove in the longspurs in large numbers. Drop Traps were set in front of them as they advanced, feeding, across a clearing. Sparrow Traps were also used, baited with cereals and bird-seed.

Harris and White-throated Sparrows. Captured along with Gambel Sparrows.

Gambel, Golden-crowned, and Nuttall Sparrows. These birds are all trapped in the same manner, and are the easiest of all the birds to capture. They can be caught in the yard near shrubbery or piles of brush, or at any place where they are seen to flock in numbers. Move traps from time to time as birds are noticed to frequent different places. It is not necessary to scatter feed outside the traps. Baby-chick-feed, scratch-feed, bread crumbs and bird-seed seem to be the best baits. These birds can be captured in all the common kinds of traps indiscriminately, and best when on the ground. They will visit traps early in the morning, again around noon, and then late in afternoon. They will flock into traps on the day following a storm, and even between showers on stormy days.

Walking toward a flock, I have made some of the birds drift into a trap, then I have taken out the birds caught, and by circling around worked the flock back to the trap, and have successfully repeated the procedure several times.

Chipping Sparrow. These have been captured near a school building in a town, and near a mountain cabin surrounded by pines. Bread crumbs, chick-feed, and kitchen scraps were all very good, and can be used in Drop, False-bottom and Triptreadle traps. Birds visited traps at any time of the day, but only when weather was fair.

Juncos. Sierra, Point Pinos, Thurber, and Shufeldt juncos can be caught in both the mountains and in the city, wherever they are noticed to be present, mountain meadows being especially favorable. Chick-feed, cracked corn, bread crumbs and bird-seed are all good baits for the Potter, Funnel, and Drop traps, and juncos will also visit Water Traps which have a drip inside. In the mountains they come to the baited traps after mid-August, and were captured in winter, even in the high mountains of California and Colorado, when there was snow on the ground and the food was scarce. In British Columbia they were caught during migration.

Song and Lincoln Sparrows. These birds are captured around homes and in cañons where there is plenty of underbrush. Set any of the common traps near cover and bait with bread crumbs, scratch-feed, or bird-seed. One bander reports catching them only when millet seed was used. They will visit traps during any period of the day. They are intelligent and soon learn how to get in and out of the Funnel and Sparrow traps without being caught.

Fox Sparrow. Birds of this species were reported from British Columbia as being caught only during migration. Potter and Funnel traps were used, baited with bird-seed. In the mountains elsewhere, Fox Sparrows were caught in Potter and Sparrow traps baited with cracked corn and bread crumbs.

Around the San Francisco Bay region, these birds were caught by setting any of the common ground traps under thick underbrush, and baiting with chick-feed. They were captured usually in the early morning hours; very few in the evening. They repeated frequently, one having been caught during three successive years of trapping.

Brown Towhee. These can be captured in gardens or in the wild wherever they are to be found. Traps give best results if placed on the ground near cover. The

birds seem to vary seasonally, as to number captured. They will go into any of the traps when baited with bread crumbs, chick-feed, rolled oats, or most any kind of bait, and can be expected at any hour of the day.

Spotted Towhee. Same as for Brown Towhee, except that they possibly frequent more dense growths than the latter.

Green-tailed Towhee. These birds were trapped in mountain environments, and are reported up to an altitude of 8200 feet. Traps generally were set near brush, and successful baits were chick-feed, cracked corn, bread crumbs, and bird-seed. Reports from the San Bernardino Mountains show them being captured from July to September only, and traps were set in the shade of small pines. Both the Potter and Sparrow traps were used. At an altitude of 8200 feet in Colorado, the trapping was very effective in winter during storms, but, in the San Bernardino Mountains of California, poor results were obtained during storms.

Black-headed Grosbeak. This Grosbeak has been captured in the city and in semi-settled regions. All ground traps and the Water Trap have been successfully used for capturing it, and best results have been obtained when the traps were set on the ground. The following baits have all been used with success: Water, sunflower seed, bread, oranges (cut open), and watermelon. The birds seem to visit traps at any time during the day.

Western Tanager. Reported as taken in Pasadena, California, with a Potter Trap set five feet above the ground near shrubbery, and with a Water Trap placed on the ground. Both traps had water dripping into them and were also baited with feed as for Linnets. It was, therefore, not determined just which of the baits attracted the tanagers.

This bird was also taken in the mountains at 10,000 feet altitude by means of a Potter Trap baited with scraps of bread, bits of fruit and lumps of brown sugar. It was only taken during fair weather.

Cedar Waxwing. Waxwings were captured by two banders, once by each, and the captures, according to the banders' own statements, seem to have been by mere luck.

Near Redlands, California, a catch was made by setting a Drop Trap over a small pool that remained from a dried-up stream. At first only one or two came down, and then the whole flock. Just one catch was made.

The other report was from Claremont, California, where the trap was set over a dish of water near walnut trees where birds alighted. They were only caught at one time, although they have visited the spot since.

Vireos and Warblers. Captures of most of the western vireos and warblers have been made near city homes with both the Warbler and Potter traps baited with a spray of water from bottom or a drip from top. The birds were captured either when traps were set on the ground or when about five feet above. Best results were obtained on cool, foggy mornings.

Most of the Audubon Warblers have been captured by means of the Water Trap, with water dripping into it or being sprayed into a dish. However, one bander reports having captured them in a drop trap baited with bread crumbs.

Long-tailed Chat. The only chats reported were by the Micheners in Pasadena, California, who caught three in a Warbler Trap, and three in a Potter Trap. The kind of bait which the birds took was undetermined.

Western Mockingbird. Easily captured where the species is common. A trap set near a pile of brush or shrubbery, where birds are seen to alight, will soon capture some of them. Some have been caught by means of the Water Trap, but mockingbirds will go into nearly any of the traps. Good baits consist of chickfeed, pieces of bread, cut oranges, walnuts, raisins, grapes, mountain ash berries, or a dripping faucet inside a trap. Young mockingbirds are much more easily trapped than the older birds.

Thrashers. For any of the western thrashers, the trap must be set under or near dense shrubbery. Any of the common traps baited with chick-feed, bread, seeds, cracked corn or small seeded raisins will catch them.

House and Vigors Wrens. Captured with traps and bait as set for Gambel Sparrows.

Nuthatches. Pigmy and Red-breasted nuthatches were only reported as cap-

tured from 10,000 feet altitude in California and 8,200 feet in Colorado. In California Slender-billed Nuthatches were captured on a feeding table in Pasadena, with Potter Traps and with a Tree Trap operated with a string. For nuthatches, the Tree Trap is open at the top, but for creepers it should be open at the bottom. Suet, bread crumbs and cracked nuts were used as bait, and the nuthatches were only caught when natural food was scarce. The Pigmy and Red-breasted were captured from December to May, and the Slender-billed from December to August. In Colorado nuthatches were caught in Drop and Sparrow traps with suet as bait.

Plain Titmouse and Mountain Chickadee. Birds of this family were captured in the Potter Traps baited with sunflower seed, nut meats and bread. They were reported as being very fond of piñon nuts. Best results were obtained with the trap on a platform. Two of the Plain Tits were captured by the writer in Potter Traps set on the ground baited with chick-feed.

The Plain Titmouse has been reported as being caught at an altitude of 7300 feet, but only when snow was on the ground. Potter and Funnel traps were set on a feeding table, baited with dried bread, suet, bacon and ham scraps, oatmeal and chick-feed. The bread was often soaked in grease. The fatty foods were taken on cold days, and the starchy ones on the warmer days. Captures were only made from December to May, when natural food was scarce.

Bush-tit. Bush-tits were caught in Water Traps with dripping water. A trap must trip very easily to react under the light weight of these birds.

Wren-tit. Easily caught by setting trap close to brush that the birds frequent. Any of the ground traps are good when baited with fine ground corn, chick-feed or bread crumbs. These birds are good repeaters.

Kinglets. Only reported as having been caught at Buena Park, California, in Water Traps.

Townsend Solitaire. No one has reported the capture of this bird, although attempts have been made with various kinds of baits and traps.

Thrushes. Dwarf Hermit and Russet-backed thrushes are easily captured where present, by placing trap near or under shrubbery that the birds are frequenting. Best results are obtained if trap is hidden. Use any of the common traps, baited with chick-feed, raisins, small grapes, strawberries, or bread crumbs. Water Traps are also used successfully. The thrushes most frequently visit the traps in the late afternoon.

In British Columbia, the Varied Thrush has been caught in Potter, House and Sparrow traps, baited with cereals, but only in the severe weather of spring and fall when snow was on the ground.

Western Robin. The only successful results have been obtained in the mountains, and these were with the Potter and Funnel traps, either set on the ground or on a feeding table. In the San Bernardino Mountains the birds captured were immature, were caught only from August 1 to 25, and the traps were baited with kitchen scraps. From the Sierra Nevada, the birds were reported as being captured from March until August, in traps baited with fruit, dead grubs, and bread crumbs.

Most banders report that all traps at all times have been completely ignored by the robins.

Berkeley, California, September 12, 1929.