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This document is part of a collection that serves two purposes. First it is a public archive for data and documents resulting from evolutionary, ecological, and behavioral research conducted by the Ketterson-Nolan research group. The focus of the research is an abundant North American songbird, the dark-eyed junco, *Junco hyemalis*, and the primary sources of support have been the National Science Foundation and Indiana University. The research was conducted in collaboration with numerous colleagues and students, and the objective of this site is to preserve not only the published products of the research, but also to document the organization and people that led to the published findings. Second it is a repository for the works of Val Nolan Jr., who studied songbirds in addition to the junco: in particular the prairie warbler, *Dendroica discolor*. This site was originally compiled and organized by Eric Snajdr, Nicole Gerlach, and Ellen Ketterson.

Context Statement
This document was generated as part of a long-term biological research project on a songbird, the dark-eyed junco, conducted by the Ketterson/Nolan research group at Indiana University. For more information, please see IUScholarWorks (https://scholarworks.iu.edu/dspace/handle/2022/7911).

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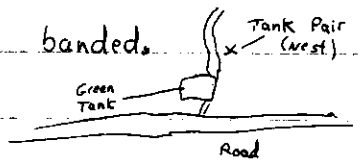
1983
L. Wolf

Journal

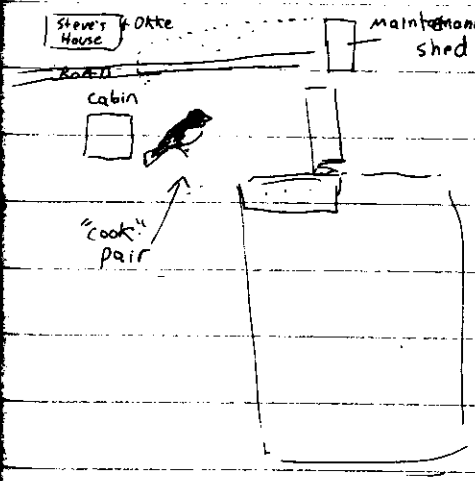
Mountain Lake Biological St., ~5 mi. of Pembroke, Alleghany Mnts, Va. elev.= 3800 ft. Temp.~56°F, 39° last night. Partly cloudy. No wind.

May 17. Val Nolan & I arrived last night. We will attempt to locate as many Breeding juncos as possible. Today, P. Jim Hill showed us a nest W. of the station, near the green tank. There are (4 days old) 3 junco eggs, 1 Cowbird (in a bank)

2 more pairs which we think are seperate pairs on the station grounds. 1 pair hangs out near ~~the~~ cook cabin (where we cook), and juncos have been reported to come into the cabin (cook pair). We've seen another pair (we think) near our cabin (the Burns pair). But, we can't be sure these 3 pairs are different until we get them banded.



Both the cook & Burns pairs did not appear to ~~have~~ be even incubating. This is because we observed, in cook's, seeming non-localization behavior, not centered around same nest site. ♀♀ feeding heavily & rapidly, on dandelion seeds from flowers, primarily. Cook ♂ (I think) was seen feeding on dandelions near Montenance shed ~~of~~ among ♂ goldfinch. ♂ Junco chased ♂ goldfinch away from meadow. Val also saw ♂ goldfinch "courtship feeding" ♀. Early!



I observed cook ♀ for ~ 10 min, stuffing down dandelions. Her ♂ came in then with a high trill-like call, watched her for a minute or 2, flew down to ground (she paid little attention from her voracious feeding). ♂ then flew up in tree, & left area. ♀ left after him.

May 17, cont. This morning Val + I walked ~ 1 mi in on White Pine Rd., looking for pairs of juncos + ♀♀ on nests. We found 2 nests w/ ♀♀ and eggs. All nests had 1 cowbird egg. Other pairs were sighted, but we didn't find nests. ♀ + ♂ behavior seemed to indicate either laying or incubating stages. No nesting material was seen being carried. ♀♀ all feeding alot, ♂♂ often staying nearby her. Once when 1 ♀ went into nest, ♂ flew up in tree ~ 15 ft. + sat there, seeming to watch her + us. A few minutes later we flushed her off nest, under a large moss clump on a bank below the road, almost under ♂.

17:00 - We returned to station following 15:30 - 17:00 main-road (West Virginia Rd) search for nests along the banks. Val (Jim Hill came) went S., I went N (toward MLBS) from the car, which we parked @ the head of White Pine Rd. Val didn't find anything. I branch-scoured the E. bank (uphill) and found (flushed) 1 ♀ off a nest w/ 3 junco, 1 cowbird egg. I also found a nest which had most likely been predated by chipmunks (eastern) - I found 1 whole junco egg exposed on bank, then the nest under moss clump nearby. The nest contained 1 whole cowbird egg. Both eggs were cold. Additionally, I found 1 junco shell fragment about 1 foot away from nest. Driving back to MLBS, we stopped ~ 300yds before the fork in the road because we saw a junco fly accross the road. We searched the stream bank and Jim found an apparently abandoned junco nest. The nest contained only 3 cold cowbird eggs. We saw

5 nests today, every one had at least 1 cowbird egg. @ 17:00 Val & I set up 5 nets around the station to catch station birds. These birds are all relatively tame. They don't appear to be behaving very territorial. We often see 3-4 birds feeding together in the long field, with very little agressiveness. We didn't catch anything. Nets closed ~ 19:30. ♂ still singing in Byers Hall vicinity. Jim Hill said that B-H. cowbirds have only been in this region 15 yrs or so. The juncos seem highly suseptable to them; however, by mid-June, the cowbirds supposedly leave.

May 18 Several new nests found today. I have invented a system to label nests. There are 4 regions so far; W. Virginia Road South = road between the ~~fork~~ hotel & 1st fork in road, W. Virginia Rd. N. = Road to left of fork, beyond station, White Pine Rd., and Station. I will assign numbers to each active nest (includes empty ones w/ known ♀♀ attending it) in order of when I find them, with a sub-heading denoting the region found in. Today I found several nests on ~~W~~ WP road; 2 seemed to be deserted and 2 active (flushed ♀♀). One of these contained pure junco eggs - 4. The 1st nest w/out cowbird eggs. The other had 3 cowbird, 2 juncos. All other nest found w/ eggs contained cowbirds. Many places where I found

1983

May 18 nests w/ eggs (all in uphill or W. bank) had at least 1 cowbird egg. Val found WVS 2 today, ♀ w/ 2 junco hatchlings (day 0) and 1 cowbird egg. We tried to catch ♂, who responded to song playback, but failed (See notes). We also found WVS 3; the ♀ just completing her nest. While watching, a ♂ rushed in and "rapped" her. We don't know if this was a "legal" copulation. I doubt it. Note describe it. This was quite different (w/respect to both bird's behavior) than the 4 copulations I observed with the St A's house birds (near St. nets A + B). We caught 3 juncos in the station nets late this afternoon. ♂♂ will get colors on Left leg, ♀♀ on right. Silver bands on opposite legs.

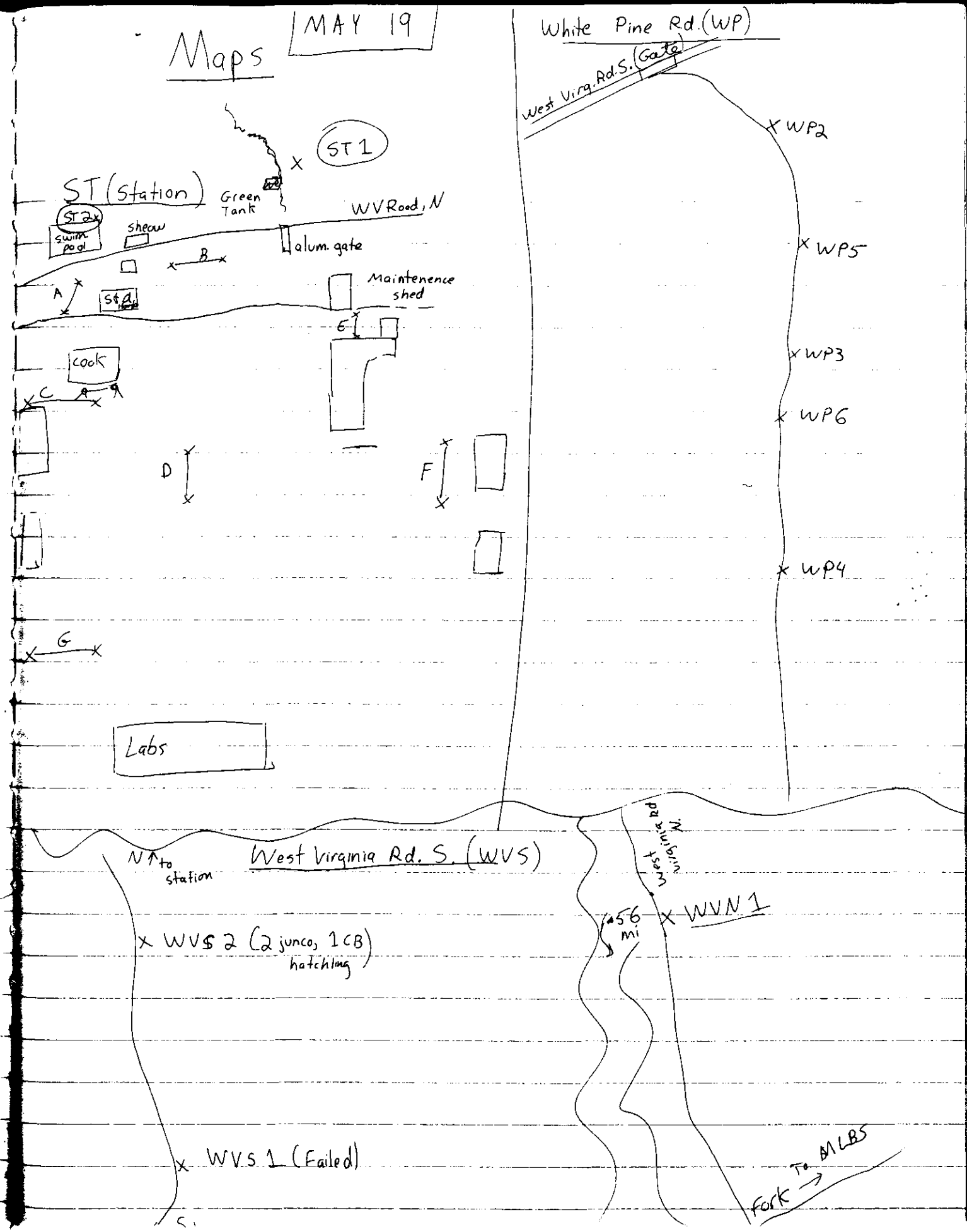
Anothe nest found was W.V. N. 1, just completed. We flushed pair from right there. No eggs.

So, as of today, 10 of 11 nests we've found w/eggs have contained at least 1 cowbird egg.

May 20 No Journal yesterday. Rained all day. Lo ~ 43°F, hi ~ 55°F. We caught 1st experimental ♂ yesterday, May 19, From WVS 2. Nestlings (2 junco, 1 cowbird) were ~ 1½ days old - day 1. He's been eating seed & meal worms. Today we caught & banded WVS 2 ♀, and weighed nestlings. Also caught 2 more juncos at the station yesterday, and banded them. Net C caught them. The ♂ from WVS 2 came in to ♂ playbacks. However, we failed to catch him then, and it was

Maps

MAY 19



ST 1
ST (Station)
Green Tank
WV Road, N
ST 2
swim pool
sheow
alum. gate
B
A
Maintenence shed
E
cook
C
D
F
G
Labs
White Pine Rd. (WP)
West Virg. Rd. S. (Gate)
WP2
WP5
WP3
WP6
WP4
N to station
West Virginia Rd. S. (WVS)
West Virginia Rd N.
.56 mi
WVN 1
WVS 2 (2 junco, 1 CB hatchling)
WVS 1 (Failed)
Fork
To MLBS

1983
L. Wolf

May 19 - Min last night - 43°F. Max = 55°F off & on rain all day. Wind, in gusts. Foggy, cloudy. Val removed cowbird egg from WVS-2.

May 20, con't / Clearer, some clouds. Little-no wind. Max = 73°F, min = 43°F. easier after ♂ began feeding nestlings on day 1.

We also moved nets around the station. A moved to behind maintenance shed, D moved perpendicular to E, Parelell to road. B moved angle. However, we had no luck catching station birds today. There is at least 1 pair unbanded over on the West end (near maint. shed), but they're tough cookies. We do know that ♀ Red/white is mated to 1 Red Left ♂ (a previously banded bird), and Double Blue ♂ and 2-Red Left are also probably a pair. We have seen these pairs together.

Today I went up Spring Road for the 1st time. I found 2 nests, 1 w/ 4 j & 1 CB egg - ♀ on, ♂ present. Also found nest with 1 j egg. Probably laying. Nothing concrete on WVN, except that we saw double green ♂ w/ his mate, an unbanded ♀. He did some fighting with unbanded ♂ on the road - we think his territory extends ~ 150 yds of the road.

We also set up a net in front of WP2 to catch ♂. We Played ♂ song & got both birds in. Caught me (I thought ♂), but it got out. So we left. No luck. We also found a new nest (1 j egg) at a site where we had seen "action" a few days previous. Val found ~~birds~~ ♀ building up WVN.

1983
L. Wolf

Ellen arrived - came today.

off & on all day, stopped late afternoon.

May 21 - Rain @ 7:30, for ~1hr at a time. Min. Last night = 53°F. Max =
Today we caught 3 new station birds - ♂ Blue/Red in am., and a pair, which we stripe-banded both. The ♂ hung around after we had caught the ♀, and caught himself in the net because of it. We found ST 3 today - an active nest which we saw being built by Red/white ♀. Also, SP1 failed, and SP2 had 1 more junco egg. We caught the ♀ from WP2 & banded her, but couldn't get the ♂. He sang to playbacks but wouldn't come in, even with the mount. We held ♀ 40 min.s (a long time!) trying for ♂ but no luck. (she was off later - hopefully not deserted.) Late afternoon - early evening when the rain stopped, alot of birds came out on lawns to feed. We also saw the ruffed grouse's nest today, after she flushed off it again. 11 Eggs - how exciting! We found a new nest today, WP 9, the farthest down yet. Val flushed ♀ off downhill bank. Contained 4 junco eggs.

We weighed WVS 2's nestlings. Most of them ~ 1g heavier than yesterday. WVS 3 had 1 junco egg in it today.

WVN 3 = the nest Val saw being built, had 1 CB egg in it today. Others still empty & apparently unvisited.

Blue/Red ♂ has unbanded mate. She was caught in net w/ him, but escaped.

May 22 - MAX = 65°F — Min = 56°F. Rained off & on. Mostly on.

Found new nest today. Ellen & I walked WVS From WVS 2 until we hit WP Gate. Nest = WVS 4 → Had 3 junco nestlings

May 22, cont't

(just hatched today), 1 Junco egg, & 1 CB egg - both unpipped. We weighed young.

Also, WP2 began hatching late this afternoon. 2 young hatched - Val weighed them. We caught an unbanded ♂ @ the station - but we don't know where he belongs. I saw the ♂ of an unbanded pair chase Double Red ♀ into Dave's cabin area from Central field. We also banded ST 1 ♀ today, and determined that her mate was Blue/Red ♂. (See notes). 1 Red Left ♂ & Red/White ♀ pair were feeding around Stove/Okkas today alot. Nothing happening on WVN - 1 CB egg still there. I saw a pair leisurely feeding & copulating ~ 75 yds. W. of failed SP1 nest site. Don't know who they are. SP2 had 3 eggs (j) today - was on when I visited @ ~ 17:00. All's well. No predation.

Caught new unbanded ♂ @ Byers net, late afternoon. Not slow song ♂ - he still sang after thrs.

We considered removing C.B.'s from J. nests, because they're bound to put a greater strain on experimental ♀♀, and this will confound my original question. However, we would also get reduced clutch sizes (such as 2-3 J.s), which could be argued; we could test ♀s ability w/ more or less #'s to feed. However, Ellen figured that it might be best to leave them in @ this stage of the game:

She & Jean Fitzpatrick constructed a sort of continuum for the possible effect of C.B. young on parent Juncos - the C.B.s could either be added strain, or, ~~else~~ deeper result in a sort

May 22, con't

of reproductive catastrophe. Val brought up that perhaps the function of a ♂ is then not so much to help feed, but to ~~gaw~~ guard against, and aid in times of "catastrophies"; ie bad weather - ♂ can bring food while ♀ broods (we observed this @ WVS2 before catching the ♂). One could then view the C.B. syndrome as a sort of catastrophic event, hence the ♂ does his normal thing; being there, doing any extra work necessary. also, but by leaving the CBs in this year, I can still compare R.S., and perhaps the CBs won't be as bad as we think. The one @ ~~WVS2~~ WVS2 is not much bigger than its largest nest mate, and ~~many~~ some of the nests w/ 2 CB eggs have hatched only 1. I can also leave more options open w/ respect to experimental design for subsequent years.

Station birds: Pairs &/or nests

1 Red left ♂ X Red/white Rgt ♀ — seen feeding @ St Lokkas Nest @ Main Gate Feed on main lawn a lot.

Double Blue ♂ X Double Red ♀

Blue/Red ♂ X Double White ♀ — seen feeding @ station lawn - (Maint. shed). Nest @ Green Tank (ST1)

Double Green ♂ X — and Terr. on WVN Rd. - ~ 200 yds from 30yds N. gate to

Stripped pair — seen & caught on st. lawns - ♂ wouldn't leave her

May 23 - I found 2 new nests tody on WP Road - WP10 has 4 junco nestlings, which I guessed to be ~ 3 days old, & Val compared them to the Prarie Warbl. photos (to compare plumage, etc), and agreed (52 hrs. old). Ellen & Val tried to catch ♂ for experimental - we decided that this age was our absolute limit. They caught ♀, but not ♂. So this nest will be a control (4 j. young).

Partially cloudy, some sun - a bit of wind. Very still @ 18:00. (overcast)

May 23, con't

Another new one had 1 J. egg. Ellen found a nest on the station today, too. It was double-blue's, but his mate is not double-red, but unbanded. 3J / 1 CB. I saw the stripped pair, too, right at Burns cabin. We think they hang out over towards the back (S. end) of the little man-made lake. We removed the ♂ from WVS 4 today, and tried to catch the ♀, but without success. She was clever, & flew sideways, parellel to the net until she reached the end, then went up the bank. Val & Gl. We also noticed that the 1st 2 experimental ♀♀ (WP2 and WVS2) are being followed by ♂♂ at their nests. One, at WVS 2, even got on the nest(!) while the ♀ gaped at him. Wow - they are very interested.

Also, WP4 partially hatched today, and there are 3 CBs. ~~eggs~~ I'm sure that this is the nest I found & thought there were 3 CB eggs in, but Val said 3J, /2 CB. But there were 3 white downy, large young in there, & 2 J. eggs, a bit pipped. Probably will hatch tomorrow. Val removed the 2 largest CB to make the nest useful to us. We figured w/ 2 or more CB, we really wouldn't learn anything about our question.

Also, all ST 1 nest hatched

Station — Pairs	Nest
Double blue ♂ X U.B. ♀	Behind dorm S. of Lab. ST4
Blue/Red ♂ X Double white	ST 1
1 Red left ♂ X Red/white ♀	Main Gate ST3
Double-green ♂ X U.B. ♀	
~~Blue-Red~~ Red-Blue / Blue-Red ♂ X Green-Blue / Green-Blue ♀ (striped)	

Cold - overcast, some wind. Cleared some late afternoon—
eve. min - 43
max - 66

May 24 -

We did nest watches this morning - 1000 - 1200. Val did WVS 2, El WVS 4, & I WP2 (all experimentals). I found 2 ♂♂ seemed to be competing for ♀. She ignored them. 1 ♂ was there more - sang alot - right around nest. They would go to nest while she was brooding & she came off as a consequense. Both El & I observed feeding rates ~ 4-5-6 times by ♀ the entire 2 hrs. (WVS 4 = Day 2, WP 2 = Day 2). WVS 2 = Day 6. Val saw ♀ make ~30 feeding trips. We banded WVS 2 nestlings today. Colors

Val & El. caught WVS ♀ today & banded her. Couldn't catch her new ♂♂. I found new nest on SPRING Rd. — SP3. 3 J. eggs. Nest on Flat ground, close to road. Made entirely of woven grass - even roof (!) Those crazy juncos!!

Val caught unbanded ♂ this morning (slow-singer?). Also, I explored road behind man-made lake. Not much there. Val & El. hunted for ~~Red~~ green - ~~Red~~ green ← (1 band off) ♀, who flew out there - they followed.

No predation or nest failures today

Val got up early, went to WP 10, and caught WP 10 ♂!

So, we now have 4 experimental nests. WP 4 all hatched today - Val removed 2 C.B. young, so now there are 2 j, 1 C.B. young. I weighed them today. all nests weighed today.

Val moved some station nets around - we caught Double Red ♀ - her tounge got caught. We had to cut her out. I heard ♂ ruffed grouse drumming today on Spring Rd. ST. 3 nest had ____ eggs today WVN 3 had 2 j, 1 CB egg today. SP 2 ♀ incubating her 4 J

May 25 -

Val & Ellen went to WVS4 to catch & band the 2 ♂♂. Net was set up parellel to the road, accross from nest. ♂ song playback & Live ♂ lure in small cage. 1st ♂ came & hopped around cage, then flew into net. Caught & banded. a 2nd ♂ came after this, hopped around lure. Val went to scare him in, he flew over. Again, & he got caught, but escaped, Val thinks thru hole. No luck. We caught WP4 ♂ today - becomes experimental. WP10 failed this morning. Ellen did nest watch anyway. ♀ had 2 ♂♂, El. saw her trying to bring food to empty nest. a lot @ 1st, then less and less w/in an hr. or so. Moved some station nets around. Caught already banded brds. Val did nestwatch @ ST1 this morning (control). I found 3 new nests today on WVS Rd. South of Wht. Pine Rd. WVS5 - 4 J. eggs, bottom of bank. WVS6 - 2 CB, 1 J. young. Junco young much (~½) smaller than C.B. ~~WVS7~~ WVS7 - 7. Back up hill, ~ 50 yds S. of W.P. Rd. 4 J. eggs. Chalky. Parents chipping.

We caught 1 ♂ from WP10 today & banded him. W/ playback & Live ♂ lure. He zoomed into net. 2nd ♂ came in a few mins later, more slowly, but escaped.

Overcast, Clearer in afternoon. Breezy. 50-60°F.

May 26 - Val & I did nest watches today ~ 10-12. I watched WP4, where her ♂ had been removed just the eve. before. She had no ♂ following. However, @ 1 point she gave a high tonal - note call, & was answered by (?) from the woods. After that she resumed her activities. I suspected that it was some sort of contact note, but no mate was there to return it. Perhaps the answering bird was the neighbor ♂ I heard singing. Val watched WVS2. The ♀ appears to have a "replacement", Val saw something that resembled a copulation

May 26, con't

today. Not for sure whether it was really one or not, but he mounted & she cooperated to an extent. We caught WVS6 ♀ this eve. (Band) but the ♂ was nowhere to be seen for ~ 1 hr. I& also caught & banded WB2 ♀'s replacement ♂. Seem to have sorted themselves out, & I think maybe now there is only 1 ♂ there. No other exciting failures, no new nests. We tried to catch any ♂ from WVS4 @ ~ 19:00, using playback & Live lure, but no one paid attention. We saw some birds a bit away, now & then. But no intense counter singing, inquiry, etc. Will try tomorrow.

We have had no luck trying to catch slow-singing ♂, or finding nests near the station. I am beginning to suspect that few pairs nest centrally, but come to feed; perhaps their nests are scattered in arbitrary places in surroundin areas.

May 27 - Val & El. leave today. Plan & organize.

Nests - Status

WVS	age & status	Plan
2	Day 9 (E) 1 ♂ banded / ♀ ♂ copulates Not	Watch. Catch all @ Fledging. weigh.
3	♀ incubating. 4 J. eggs. 2nd day of Inc.	Exp
4	Day 5 of nestlings (E). ~~Watch~~ 4 J. eggs	Watch -
5	Unknown. over 6 days of incubtn	Failed 5/30
6	Found hatched. Juncs ~ Day 3 today	
~~6~~	CB-~~6~~ Day 4. 1 J. 1 CB.	Control 1 1. ?
7	Unknown-eggs 4 J, 1 CB, over 6 days. → ~~Failed 5/30~~ 29	

May 27

White Pine Rd

Nest	Age & Status	Plan
WP2	Day 5 - nestlings. 2J, 1 CB (E) 1 Replacment R-♂ banded & ♀ banded.	Exp Rep. ♂ fed young 5/30
WP3	Found 5/18. 1st 4 J. egg clutch. ♀ incubating 5/18. Eggs now ~ 9-8 days old	Control
WP4	J Nestlings day 2, CB day 3. (E). Replacment ♂ (?)	Exp
WP5	Found 2 & 2 eggs. Incubation began ~ May 20. Should be 7th - 8th day of incubtn.	Failed 5/30
WP6	Same as WP5	Control
WP7	Incubtn began 5/23. 4 J. eggs. 5th day of Incbtn	
WP8	- Incbn. Not started. Probably has 1 normal J (Last), 1 runt J, & 2 CB eggs. Icbn. Start today (?)	Blk & wte warbler nest
WP9	Found 5/21. ♀ incubating age unknown. Fresh when Found. Age ~ 8 days today.	Control
WP11	Incubtn. began Yesterday. 4 J eggs	Exp

WP10R Found Replacement - was E → Now just watch
She qualifies as a semi-Exp.

Station

Nst	Age & Status	Plan
ST 1	Day 4-nestlings (C) 3J, 1 CB.	Control water
ST 2	Out	
ST 3	Incubating - 4 J. eggs today - (?) 1st day	
ST 5	1 J, 2 CB - Incubtn began ~ 5/28	~~Exp?~~ → Exp?
WVN 3	- 1- or 2nd day of incubation 4 J. eggs	? Remove CB egg? Yes Exp.
SP 2	5th day of incubtn. 4 J. eggs. Has been incubating since 5/22 - 3rd.	→ Control - for growth rate
SP 3	Probably 4 J. eggs. 3rd day of incubtn	→ ovenbird

May 27 - Sunny, cold last night - 32°, warmed this afternoon ——— Breezy. El + I did nestwatches 10-12 today. I did ST 1 -, Ellen did WVS 4. One ♂ (replacement) was banded, this morning. Val + El left today, took the 4 ♂♂ I did all checks + weighings. The SP3 nest turns out to be ovenbird. I found new nest on WP Road - Young oldish ~ 5 days (?). WP8 had another "runt" egg - she now has 2 ~ 17mm eggs + 2 CB eggs. WP 5 had 3 J/2 CB eggs, but today had only 1 J. egg. Both parents seen. Ugh! Also, we found Red-green striped ♀'s nest. It was the one I found on the S. bank of Lake Reapeld I thought was a song sparrow nest - it had 2 CB eggs 2 days ago. Today it had 1 junco, 2 CB eggs. She was on a ~~1900~~ 2000. I remarked several nestlings toenails today.

Breezy
Sunny am, ~50-55° afternoon
overcast - then some rain after 1800.
Monsoon after dark. Coldish.

May 28

I did 2 nestwatches today. - 0900-1030 w WP2, and 1700-1830 w ~~WVS4~~ WVS2. Neither ♀ ~~nest~~ (both ♂) had much ♂ visitation - it was brief, & not intense. Perhaps these are neighbors who have broods of their own? If that is the case, than we can now test Harry Powers hypothesis, w/out St. Emlen's critisism; these ♂♂ should be w the right hormonal - physiological condition to feed nestlings. If now, they still don't feed our E. ♀'s kids, than this tells us; a) Just because a ♂ is in the potential hormonal state to do so, it is not necessarily true that he'll feed anything, b) This may show some sort of selection against cuckoldry - ♂♂ "know" that this is not their brood. Yet, they all seem to want the territory & /or mating rights to this ♀.

WVS2 ♀ was going crazy this eve. trying to collect enough food for the kids. She seemed to make many trips w/ only small - moderate loads of insects/imagos, etc, rather than spend a bit more time & get larger loads. She was hawking moths, gleaning from large trees & small leaves, ground foraging - U-name it - she did it. Every time she fed, I could hear young yelling.

I refuse to band anyone else before day 7. WP2 Junco will probably die by tomorrow. Tried to catch WVS6 ♂, but he flew over net

1983

May 28 con't, and only visited the nest 1/15 or 20 min-s. Red-Green stripe ♀ is incubating 1J, 2 CB eggs. I think this is her. final #. This nest will be a 1/1. I think that WP2 will have become that. WP5 has (eggs taken) - WVS6 is one now (C).

I also noticed that one nestling in WVS4 (E) has a bad leg - the joint is completely nonfunctional. I'm sure I didn't do this - don't know how it got that way.

May 29 - Rainy & foggy - Not too much rain. PM - almost none. Temp. ~ 55°F - min = 43°F.

Moved Nets around station this morning before 0930. I put 1 S. of Lab, & 1 on edge of Pine Field. I'll try playbacks to catch ♂♂ there. Still trying for Slow Song. Events today; Nest watch @ ST1 1030-12, and ~~ST~~ WVS4 ~~1830~~ 1800-1930. Banded ~~&~~ WVS4 nestlings today, but only a Red band on the one w/ bad leg. also banded the CB @ WVS6, and ST1. WP2 cut young lived - ~~[illegible]~~ it is OK. I put Lt Grn - R on other leg. The CB here was still too small today (14.5g) to band. The wrap on Lt Green - R's leg is hard-dried blood - but the hallux is also caught back in it. I didn't remove it today for fear of cutting the leg. Could try dull edge surgical ~~siscors~~ sisscors. WVS4 ♀ had our Green/Blue ♂ around quite a bit today, mostly just following her. I found the replacement nest of WP10! I saw her nearby, chipping @ me (saw bands). Nest is ~.1 mi N.

May 29, cont

of her failed one, on uphill side of bank.

WP5 now has only 1 CB egg - I don't think she was incubating today. WV57 was predated- partially. ♀ was on, but 1 J. egg was in nest, 1 nearby - intact, & 1 ~5' away, w/ a hole. I replaced intact one. WP12 was eaten → whole nest torn out - overturned. No birds around at all. SHIT - after all that banding, too.

May 30 - Min - 46°F, Max ~ 70°F. Partly cloudy AM, sunny PM. Nice day

Good day! WV52 fledged today. I was able to catch all young plus ma & weigh them. ♀ very light - only ~ 20 g. I did a nest watch ∪ WP2, and one of our B "replacement" ♂♂ fed her young - consistantly! He fed smaller amounts, but what do you expect? WP3 hatched today - I caught & banded the ♀. Perhaps get ♂ tomorrow when he comes to feed. Banded all the ST1 Juncos - a few nests have their last weights today. I also got the bandage off of Grn-L from WP2- it was lose, & I peeled away (unwrapped) some of it, & could slide it off the foot. Looked good - a bit light, but otherwise OK. The hallux was a bit stiff, but I think the guy will get normal use back now. Actually, this bird was always lightest. Oh. WP5 really gone ~ nest was turned over - but CB egg was intact under-

1983

May 30, can't

neath it all. WVS7 I think has been abanded. I have decided to make WP11, WVS3, & WVN3 experimentals- they all have 4 J-eggs. ST5 (1/2 - I will remove 1 CB) & WVS6 are the only 2 nests w/ 1/1. WVS6 is already control- perhaps I should leave them both as controls(?) I would rather not have to catch our banded ♂ (stripes), her mate. Have to ask V & E.

May 31 -

I found 3 new nests today - all being built. I think all of these are the 2nd or 3rd attempt for these ♀s 1st broods. all of them either had known failed 1st broods or else it was evident because the ♂ was right there, & no one else. (ie no fledglings to feed). One is at the Station, down the old W. Virginia Hwy road, which cuts through the Station; ~~and~~ this portion runs N.W. of the lab, near Silvadicon pond, right off the trail. I saw it among the vegetation - it is not complete today- pine needles are used for the 1° lining. Jim Hill had seen a ♀ in the area chipping. The 2nd nest was ~25m N. of WVS1 - I saw ♀ building - ♂ close. Also on bank. The 3rd was WVS7 Replacement - She was looking today, and building later, in the afternoon. Also

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on the bank off the road. How convienient! I counted all nests in prep, active nests, plus the fledglings, and today I have 21 active nests. Not bad, considering all the failures. Banded the junco in WVS6. Oh- this morning I caught slow-song ♂! Also another UB ♂ who lives out WVN. Saw both ♂♂ later. Slow song was pecking this poor bird as it was caught in the net- I chased him in. Nest watch w ST1 and WVS4. The ♀ w WVS4 chipped almost the whole time. I even sat farther away from the nest than normal. She seemed to chip w the ♂'s there, me, or seemed just plain annoyed. WP6 hatched 2 CB's today- I'll have to kill one- Ug. One J. egg was encased in the CB eggshell- I removed it, but as parts of it were stuck on from dried membranes, some of the J. shell chipped off. Membrane intact- I hope the egg survives ♀ moving on it. WVS3 failed today- all eggs gone.

Jean, Jim H. & I used the amp. & cassette w/ chipmonks to try owl catching tonite- we got 1 answer to calls, but no luck. Try again- another spot (:)

June 1 Cold- Clear & some wind- 7° ↓ late afternoon.

Jean let me use her truck to go down to WP Rd today. I caught a ♀ @ the station, in my net S. of Lab, close

~~Reg~~ June 1, cont't

to Double-Blue ♂'s mate's failed nest. Her UB mate stayed close - I should have gotten a small cage to love him in net, but didn't think of it until too late. There are several CB pairs back there - I know where to put nets. I did ♂ playbacks - they sang & came into the vicinity, but no one would come close. This afternoon I caught the ♀ of WP6, & took out 1 CB young. Two of her 3 J. eggs hatched, but not the one that had been encased (too bad). Also caught the ♂ of WVS6 - He got <u>really</u> excited when I played ♂ song - boy - back & forth - swooping around like crazy! It took a while - he bounced out of the net 5 times before I caught him. Also caught ♂ of WVS 5 (hatched ~ 3 days ago), but the ♀ still unbanded. Tomorrow.

<u>June 3</u> Ugh - Rain like crazy this afternoon. Warmish. I tried to catch the ST1 family who fledged today. I used 6m net & playbacks of fledgling screams & caught the ♂ in the square trap. Caught White-L young only, heard CB up in a conifer. I stayed for 2 hrs & couldn't locate any more young <u>or</u> get ♀. At WPRd it poured. I was going to catch WP9 ♀, but it was raining too hard - I didn't weigh the young - it was messy, & I didn't want to chill them. I did weigh WP6 & WB3. Could not

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June 4

I tried to catch ST1 birds, but no luck. Same fledgling seen, & caught ♂ again. Saw Slow Song there (moved net into wood) in response to screams. Also double green ♂. WP2 fledged, couldn't catch them either (!) See notes. It is really hard to get some of these - the parents don't cooperate. The one fledgling I saw w WP2 flew remarkably well. I could not catch it. Banded WP9 ♀, caught w nest. Could not get WVS5 ♀, but banded young here. Getting these birds w fledging is a problem - I can't see young a lot, and parents won't come in to screams. I think I'll have to catch a baby, then try to get parents. Also, the amp. & such may help. WP7 hatched 3 young, 1 egg did not hatch. One kid from WP3 was killed - found in front of nest - probably this morning. WP2 looks ok. our banded ♂ seems to be dominant - he chased other ♂♂ off, and sang near the gate.

June 5

Someone stepped on ST5 nest w/ ♀ in it. All completely squashed. Her stomach was completely empty, which makes me think it happened early this a.m. Everything looked fresh. No luck w/ ST1 today. However Jim Hill helped me catch a few fledglings. No ♀ from WP2, but he noosed Lt green - Lft. Young - we weighed it. WP4 CB fledged today - I set a net in front of the nest which still had 2 juncos - & did scream playbacks.

June 5 cont

She instantly flew into the net. This is a good technique - I'll have to repeat it. & Jim noosed the CB fledgling - we weighed it, too. The song sparrow nest @ the head of WP Road - Jim was looking @ it, & despite my warning poked his finger into it - all the young took off & fledged. None would stay in. So now I know how it happens. I weighed WVS6, and a nestling was gone (Red o Red - R) - only 2 remain. In WP3, where 1 young was killed, the remaining 3 seemed to have grown tremendously - I banded them today - only day 6 - but they were huge. There have been a few nests w/ 1 young removed.

June 6 - Well, today, warm, ~75°F, Sunny - was a complete failure - I tried to catch WP6 ♀, caught ♂. Actually I did noose WP2 Blue - R fledgling. Could not catch WP6 ♀, WP2 ♀, or WVS6 anyone. ~~WP2~~ SP2 hatched yesterday. Missed ♀ w/ butterfly net.

June 7 - Foggy AM - High fog - overcast PM - Good nesting day. Today almost makes up for all the rotten luck I've been having. WVN3 hatched this AM - ♀ was off @ ~1000. I set net off to the side, as it was not possible to put it in front. Played ♂ playbacks, but no response. I just sat for ~15 min writing, and looked up to

June 7, con't

notice that I had caught ♂ in the net!! He is an experimental- I housed him in the basement off the mouse room ("maternity ward"). She was on a 1200. Then, I caught WP6 ♀ (!) - she just went in. also noosed a junco fledgling from WP 4. Then, I went to WV55 as a last attempt to get ♀ banded, using the newly founded young-will-fledge-tomorrow technique, I set a 12m net + did screams. After a few minutes of franticness she flew in! So, I got her weight, etc. Unfortunately, ST 3 failed - checked in eve., and it was completely empty. No birds - SHIT. also saw Slow Song w/ his mate, Green/white O Green/white-R behind wood pile net - He had food - both chipped. I'm sure their nest is there - I looked but couldn't find it. I'll have to spend some time there. It will be worth finding. WP13 is incubating a 3 egg clutch, WV57R a 4, WP10R a 4. WP4 ♀ also had a few UB ♂♂ hanging around her. Oh, Yesterday I watched WV54 family - both are there. I saw Red- Left young. Heard other.

June 8 AKKa came out w/ me today - she helped me move the net to behind WVN3 road, and we caught ♀ am. There was a new ♂ displaying to ♀ when she was on nest (+ following her off) - not singing. I also caught WP11 ♀

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June 8 cont

PM. - off nest. I put net flush up to ground - closed net & went away - came back & opened net while she was on. Amazingly, I could do this - quietly - she didn't flush while I did this. WVS7R failed (0) - all eggs gone. WVS3R - was predated - egg 1 taken, no egg 3. and only egg 11 remained. Also, @ ~ 2000 I found Slow Song & mate's nest. It is behind wood pile area - right near driveway - almost underground. Nest is a cup in the ground, w/ almost a flat leaf overhang as a roof. 3 nestlings, weighed from 5 - 7 g. 3 - 4 days old. I had to move WVSW3 ♂ to the pipercom, as the basement had alot of noise from the workmen, he was flipping out. WVS5 - Did not fledge today - at least 2 young were in, but the parents acted very defensive all around nest.

June 9 Sunny, warm. ~ 75°F. a bit overcast am.

I did a nestwatch from ~ 0845 - 1000 on WVW3. No ♂'s hanging around, but @ ~ 1100 a UB ♂ feeding along the road saw ♀ on nest & stopped to display. He twittered excitedly & flew up above nest & displayed. I looked for ST1 family but could not find them. Only ♂ singing. Perhaps it will be easier later. WVS3R had 5 egg [illegible] 4 plus 1 CB egg today - I found the remains of 1 destroyed egg near the nest. Now she has

June 9

3 eggs total- She was incubating [redacted] today, later on. I saw Both Junco kids of WVS2, heard CB. They now have been out for 11 days. ♀ feeding them all. Saw 1, heard another of WVS4 kids. WVS5 fledged today- I went up hill above nest to locate them, saw both parents there - they chipped @ me for ½ hr - I never saw them feed- Looked around for young, couldn't find any, & left. Also, WP3 fledged today - only day 10. I heard them down the gulley. Jim Hill showed me The Red ♂'s nest on WVN Road- empty, but complete. Maybe a nest tomorrow.

June 10

Red ♂'s nest on WVRd → WVN4- had 1st J. egg today. On boy. Did another AM nestwatch on WVN3 - a good one. I think I-11 do them for the entire pd. Took photos of WVN3 & WP11. It's real interesting - already I can see a difference in the last hatched 4th junco - WVN3's is incredably smaller than the others, whereas WP11-s seems almost to be catching up. I banded WP9 today (got color bands! - however, my silvers are nearly gone) - they turned out to be day 8 - I thought day 7 - I had neglected to enter a day in my records, so it said a day younger. That's good - I thought I was going crazy because they were amazingly mature (even for day 8) - 2 of them tried to

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June 10, cont

escape & run out of my hands - some screaming, but I went very slowly & covered their heads so the did not get tempted to run out as much. One ~~time~~ even "struggled" in the scarf - a place where they always quiet down. I tried to catch WP11 ♂ again, but no luck. Took the net down & used it to do WP3 fledged nest. They were down hill from nest, E; I was able to see ♂ land near a fledgling; the leaves were dry today, so it was difficult to creep up quietly - the kid didn't fly real well (uhew), and mostly flutter-hopped away. It went down to the stream - I tried ~ 2x to noose it & just couldn't get it right - I finally get it. It weighed almost the same as the last nest weight ~ 18.4 g. ♀ was 20.2, from 21.8 from hatching day. Tommorow is day 11 w WP6 - CB still in today, but I'll bet out by then. 2 juncos are a day behind - so I'll get Ma's wt. w nest then. So, I put WP3 young in square trap (Jean's truck), set it & waited a few mins. The parents came & chipped for a bit, then went off to feed the rest. Then I put up 6m net next to cage, & played screams. Both parents came & flew about for a few minutes, finally ♀ went in, bonced out, & got caught in lower shelf. They really

1983

June 10, cont

seemed to have looked around alot, saw their young in the cage, & persisted. I think w/out the real kid there, they just leave because they seem to figure it out (?). WVS3R had 2 CB eggs today (ug), plus her own 2. She is incubating. I should've marked CB egg, but the last one probably won't hatch until 1 day later - I think she began incubating yesterday.
I went back for a last try at WVS5 young. Today I was lucky & flushed one from the hillside just N of nest, but could not noose it, as it would not let me close enough. the spot was very steep & noisy, & I couldn't approach quietly. It flew out horizontally X road, so that the tree it landed in was ~ 30 ft up. I gave up & left.

June 11

Banded WP7 and ST6 today. Both in the 12-14g group. I set 12m net in front of WP6 (CB Fledged gone) to get ♀. Got ♂, and after this, the ♀ would not come in close to screams anymore. She seemed to have really noticed what happened to ♂. I couldn't get her. I put 6m ∪ WPG, played screams & walked away from the net. The parents went after me even though I was not near the nest or screams. When I walked back

1983

June 11, cont't

to net they were both almost caught simultaneously, but ♂ bounced out several times. I did get ♀, & weight. I did nestwatch on WVN3 this am- & saw ♂ CB approach nest, but was repelled away when a ♀ CB came in. This eve. 2 young were taken. Only the youngest & 2nd smallest remain. Hmm. This will mess up my nice comparison & increase the growth rate for the little one. I have a feeling it may have sort of starved if 4 young had remained. As of today, it was ~ ½ the weight of the WP11 youngest, hatched a day behind everyone else.

June 12 - another warm sunny day! Probably ~75 — 80°F !

Nest watch ~ WVN3, am. I watched her w/ 2 young - also summarized feeding visits & rates from all gathered watch data. She fed less today w/ 2 young than yesterday w/ 4. So, I called V & E this am- they said sounded good- I took a nestling of equivitant (maybe even equal) weight from WP11 & put it in WVN3 - now they are 3 & 3.

Jim Dooley loaned me his car- all went well. No one fledged today - day 10, so both WP9 & WP6 juncos should today.

I also found that Double-Red ♀ has fledglings- the family is about 50-70 yds E, up road, from Slow Songs. Probably one of those incredably hidden nests I could never find

June 12. cont+

However, it helps just to know where they are nesting & where the territory is.

June 13 another Sunny, warm ~ 75° F day - Wow!!

So, WP9 fledged, I caught the smallest fledgling, & then could find no more. WP6 still had 2 juncos in. The WP11 - WV3 transfer went well- the transfered nesting is Now the biggest. New nest - N. of WV52 - complete today. The ST6 young threatened to fledge on me while weighing (actually, after), but I managed to quietly put them all back. Looked for ST1 family - not a sole !! Oh! WP2 ♀ was building her new nest today!! Very close to the old. Also, found a wierd nest on WV5 - ⅓ mi. S. of Station. 1 J. egg, 1 CB, & 3 bluish, pointed (relatively) ~~eggs~~ eggs of unknown origin (!). Also found a J. egg intact, lying out on the bank ~ 2 ft. from nest - presumably hers. I flushed a Junco ♀ off, so it's hers, now. Oh, yes, of course. Nest watch @ WV3 - a lot of feeds. More than yesterday, & yesterday was less than day before (only 2 young - today - 3).

June 14 Warm & sunny am. Got overcast PM. Thunderstorm @ ~ 1730 - stayed cool, foggy & overcast until after dark. Temp: ~ am ~ 65 - 70°, late afternoon ~ 55 - 60°F.

1983

June 14, cont

Nestwatch this WVW3 am - she fed some 17 or so ✱/nr. She spent quite alot of time defending her nest + area from chipmunks - I've never seen a single nest so plagued w/ them. Almost every time I watch, it seems that she chases them around at least once! Banded 2 oldest in WVW3 - little one only ~10g, too small. Also banded WP11 (all) young. 3 people from Dave Johnston's bird class approached me @ lunch today + ask about doing nestwatch projects (!!) Les + I had been talking about how I ~~see~~ could scam + get some of them to do this - exactly the same circumstance - that they would need a project + all. Wow! Apparently, their assignment is some sort of a nest study - each student is supposed to "get" their own nest.

Jack (I think its Jack) wants to watch ST1's #2, which had an (1) egg today. Oh, yes - I found it today, very close to ST1 old; same side of bank, etc. It is right next to green tank, though, which has now been turned on. Yech. Anyway, egg = 1 present. I'll have to explain procedures. Lynn also wants to watch the new one (I think) on WV Rd - maybe she's found WVS3R? Anyway, during incubation, an hr or so watch will be very boring. We'll see. Also saw ST1 ♂ feeding white - 2 young - but saw no

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June 14, cont

others. I think they are quite spread out by now. Then, a WPRd, tried to sneak up on WP9 family so I could catch another young. I was not able to get out of the woods (to see), although I was very quiet & slow. The gnats are so bad now that I had to continuously wave something in front of my face to keep them out of my eyes. Either that, ~~and~~ or (sometimes and) hold my hands in front, fingers spread to see. So, it is almost impossible to be still. No luck. I did manage to catch 1 fledgling Junco from WP6 fledged today - finally. It was day 13. I am beginning to think that the CB presence has advantages & disadvantages. I think maybe (a statistically testable hypothesis) that junco nestlings w/ CBs fledge later than those w/out, but it seems like CBs being as big & well-developed as they often are relative to the JOs, may help to keep their nestmates warm. They just have so much biggness, & they all huddle. CBs seem like a big warm hot H_2O bottle compared. Anyway, it was a struggle catching this kid, although it could not really fly. The terrain was very hard for a big human to get through, let alone quietly & slowly. I finally noosed it when it sat in a cedar. Got 9 by putting it in square trap, setting a net there, & waiting. Parents here would still not come in for tape-

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June 14, cont

Also saw the 2 J. young of WP2, simultaneously following their ma + begging for food. ♂ sang 2+ tone song- it's been him all along! On the way up the hill @ ~ 1800. after the storm, I found 2 parent J's chipping madly, looked around + saw 2 ~ 8 day old nestlings lying exposed + miserable- in the ditch. I did not see a 3rd, + stepped on it (DAMN!). Anyway, one seemed to have scabby or bloody bits on top of its head, but both alive + cold. I found the empty nest quite close, + replaced them. How wierd - I have no idea what would have done this!

June 15

Sunny am- ~75°, but humid. PM. began to get overcast- rained some, off + on, but a lot ~ 1730 - 1830. Did a.m. nestwatch on WV13, weighed young + banded youngest. Strangely, Red ♀ Red was the biggest today (did I fuck up? Don't think so! I checked ~3x to see that the nail colors were right!) I photographed white ♀ white w/ Bl-L - youngest- all OK. Then when I tried to quietly lift R-OR out of nest it screamed- really almost fledged when I put it back in- I had to hold it in there a couple of times to calm it down, but then OK. Because of this (wt=16.0)

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June 15, con't

I decided not to handle WP11 young. In fact, I did not visit W.P. Rd today (Ugh!) - I went to Blacksburg during the afternoon, and when I returned, it was pouring. WP1 ♀ needs to be weighed - must be tomorrow also SI6 ♀ - both nests will fledge soon. Also, WVS9 ♀ is Red O white ♀, the gate ♀ (Nov, ex-mate of 1 Red-Left. When I went to check this nest this am, she was on (1 egg), and I flushed her to check the egg. It was a ♂, but I saw her bands. Her ♂ now is the adjacent ♂ N. of WP2. Also, on my way out, I saw 1 Red L singing near gate!! So, perhaps he is advertising - he was alone as far as I could see. I am beginning to think that perhaps there are ♂♂ around who sing & all but are territorial ♂ mateless. If you are, perhaps the best strategy is to stay put on your territory all season & hope that a "divorcee" ♀ will come & settle there in mid-season. Perhaps this was the case. In fact, I've never seen other ♀♀ in that area, but that ♂ has been there a while.

Distant thunderhead

June 16 Sunny most of day - humid ~ 70° F, dropped ~ 65-70 Later.

The 2 junco fledlings & WVS2 have begun to feed themselves - I watched them today - saw both, & Red-R ate

1983

June 16, cont

a big insect from the ground. No CB seen - perhaps is indepndt? WVS2 ♀ does not have a new nest as far as I can tell. WVS4 ♀ is starting one, ~ 20m S. down bank from her old one. 2 kids still OK - the ♂ singing in this territory was Lt Blue o DK Blue o Lt Blue - L; I did not see him feed or chip. WP15 and WP10R both hatched today. I'll have to catch WP15 ♂ tomorrow! The 2nd CB egg in WP15 did not hatch (CB probably hatched yesterday) - I took it & gave it to Jim Hill. There is something funny going on w/ ST 1-II ~ Jack had marked the CB egg a ~ 0830 - said he saw ♀ in there laying egg # 2 a 06-0730 ish. This means that when he left the nest a 0730 junco eggs # 1 & 2 were in there & when he returned after breakfast a 0830, the CB ♀ had come in, removed egg # 2, & laid hers. The egg I had marked # 1 remained. Hmm. Also, she laid a 3rd today, but by this afternoon it had been removed - now only 1 J, 1 CB egg remain. Tried to catch WP7 ♀ today - 1 young was out, another ran out of nest during netting - only caught ♂. As in WP6, she would not come in after this, so I'll have to change my technique tommorrow. Also, One J egg has been predated from WVS3R, so now only 1 J, 2 CB eggs remain.

June 17 Warm, humid & sunny, am, Poured in afternoon ~ 14 - 1700. I could not weigh or catch during this time.

1983

WVN30♂ - Charlottesville

June 17, con't

This morning I did a nestwatch @ WVN3 - a ♂ was really excited, singing, displaying, chasing another ♂. I get the feeling that he was not a neighbor, but perhaps an unmated ♂ - he seemed quite committed to taking over this territory & ♀. Also caught 1 fledgling from ST6, almost caught another but it hopped away quickly and I lost it. Tried to catch WP15 ♂ w/ playbacks @ ~ 1900, but he only sang, did not come in. John Bell came & helped. Did not want to catch ♀ - too late. did not weigh. Tried to catch fledgling from WP7, but we could not locate 1, and after the sun went down, it was very hard to see.

WVN3 ♂, held since day 0, was taken to Charlottesville & released today - Left here @ 1400, by Steve Martindale. ST1 - II had 2 junco eggs today - today is the 4th day of egg laying. Either she laid 4 eggs (1 removed by CB, & one predated/taken), or she skipped a day of laying (day 2? when CB egg appeared) - don't know the possibilities. Glen Woolfenden spoke tonight - we had an informal discussion afterwards in library. Stressed the importance of long-term studies - knowing the dynamics of individuals in the community = thus giving real life-table sort of info. - eg. ~~mort~~ average mortality of breeders @ different ages, hence V_x (Reprod. value).

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~ 65-70°F

June 18 Overcast am ~ 25% sun - Rained ~ 17-1800.

Went down to WPine Rd. in Jim's car this am @ ~ 0830 - was able to catch WP15 ♂ and ♀. ♂ flew into net 1st while I weighed young, then later I flushed ♀ in from her nest (approached from bank). WP13 had hatched a few days ago - shit. I was planning on making it an experimental. Young are ~ 5-6g today, probably day 3. Caught WP11 ♀ to weigh her - Young are 11 & 10 day today - still in. Also caught ♂ (all w/ screams), & banded him. I think that WV13 was predated - perhaps last Night. When I visited the nest @ ~ 1030, it was empty and I found the youngest dead in front of nest. There was silence - no ♀ - I looked around for ~ 20 min.s & saw no one. Hmm. According to "ideal growing conditions" - 2 parents, as in WP11, WV13 should not have fledged - hmm. Also, I've discovered that WV59 is Really WVS2-II ! The ♀ is WVS2 - her bands are S-L, Red O-S-R, whereas Gate ♀'s were S-L Red O white-R ! I thought I saw white, but it was silver!! Her young are now independent I am sure - they were feeding themselves 2 days ago - she is incubating 4 eggs(?) today. WVS4 ♀'s new nest is complete today. See field notebook for preliminary computations & comparisons of experimental vs control "lag time" - time that ♀ begins new nest - for details.

1983

June 18, cont

WP2 had 2nd J. egg but also a CB egg. The new J. egg had a chip in it - I think from the CB ♀. Also could not get anything from WP7 (!) It rained when I went there - heavily. Saw all 3 young & parents from WP3 - YaY - WP4 ♀ is beginning to build her new nest. John & I walked around The Pond @ dusk - it was wonderful - we even saw spring peepers - Hyla crucifer - up close, singing! It was cool. A cloud came over the lake & made things dissappear for a while.

June 19 - Overcast am - partly ~50% cloudy PM - Rained moderately ~1400 - 1500. 65 - 70°F

Caught Largest fledgling from WP11 (all fledged today) - @ ~ 1030. It took me an hour & ½ to find one, then noose it. It was ~ 40 yds away from nest. Another young I saw but could not find to catch, was only ~ 10 yds from nest. Saw WP2 young Juncos - with ♀ & foster dad - young were feeding themselves - still begging, but not getting much from the adults - although both "parents" were with them. WVS2 ♀ incubating today - No sign of 1st brood kids. WP16 hatched today - Tommorow I will try to get ♂ & make it an experimental. Parents acted wierd John said he would help me fix the old fungus beetle cage in pine field to use as an aviary. This would be nice. Went back to WVN3 - still no one there. WVS4 - II = nest complete, but no egg yet. Perhaps tomorrow. Went swimming in Mountain Lake

June 19, cont

for the 1st time this afternoon - it was actually nice 0

OH - of course - I saw WP15 ♀ w/ UB ♂ this afternoon - the ♂ was holding food in bill. I did not see him feed but he looked like he would have - ♀ was chipping @ me - ♂ was not - but he was "with her" - I think after a few minutes he flew down into the gulley - heard twitter & a song from there. Later in the afternoon an UB ♂ was there - silent - no food. I have a suspision that the food ♂ perhaps was a neighbor w/ his own nest that has young (unlike WP2 ♂ "repl." - who really stuck around all the time) - just a guess, but its just a feeling; Probably because it is so fast (2 days post-removal), and I have not seen any ♀ harrassment of ♂♂ yet - he seems aware of young, in addition to ♀. The WP3 pair were up near the road today - chipping. I think she may be starting a nest nearby(?) - did not find one. No nest @ WP4 - the one I found is either old or abandoned.

June 20

I went down to W.P.Rd. this morning to catch WP16 ♂, and the nest had failed. Ugh. The entire thing was torn out. I wonder if that conspicuous behavior of the adults had anything to do with it. Tried to catch ♀ &/or ♂ of WP13 - No luck. I guess I might have to wait until fledging. WP2-11 ♀ incubating today -

1983

June 20, cont

WVS3R - 2 CB hatched - I removed the 2nd unhatchd CB egg. Found WP5b - new nest, just X Rd. from WP5 - don't know whether it is the same birds (♀) - 4 j. eggs. Checked WVN3 area, still nothing. Found New - WP3 - II in moss stage. a junco had attempted to build a nest up under the overhang of D. Johnston's cabin - Mary Pat reported to me 1 day ago she saw this, and today D.J. showed it to me. See notes. I think she gave it up.

June 21 Foggy early am - overcast ~ 85% of day - no rain. ~ 60-70° F. Some wind pm.

I fixed up the beetle enclosure in Pine field (John helped yesterday - today I finished up) - put in WP15 ♂. The wierd nest in the rafters belongs to double-red ♀ - saw her there w/ a fledgling today - the nest is far from abandoned - rather, it was restocked - a huge clump of material was stuffing the boards. Steve & Akkas's nest is Red o white ♀ & 1 Red Left. 3 eggs. WVS8 hatched - 3 eggs/4 - today, as did WP5b. I want both for experimentals; tried to catch ♂ of WVS8 a~ 1830 - but could not. Tommorow. Saw UB pair today between WP15 & WP7 - they copulated - were real excited - hopefully she'll build a nest there. No ♂ @ WP15 today - I wonder.... WVS9 has been parasitized by a CB - she took both J. eggs (presumably WVS9 ♀

June 21, cont

laid egg 2 this am) - and left 1 CB. Junco in WVS3R Hatched today. We had a summer solstice jam in the Rec. room - played guitars & weird percussion "instruments" - also ping pong. Did not see WP4 ♀ - I have a suspician she is incubating somewhere. Found for sure WP3-II nest - she almost finished building it today.

June 22 Rained like crazy last night - drizzle this am - foggy. Went to town am - It was overcast PM, Rained a bit ~ 1730.

Terrible day - John & Elaine drove down w/me to try & catch WVS8 ♂ & WP5b ♂. We only caugh both ♀♀. WP17 failed. Found new nest on WVS - between WVS2 & 4. 4 J. eggs. Very close to old nest in same type of position - I think it is her 2nd brood. I've heard fledglings there. Banded WP13 today.

June 23 Sunny. Got up to ~ 75° or so. Little wind.

Borrowed Jim O:s car & drove down the hill this am w/ the ♂ from WP15 to use as a lure. I was able to catch WVS8 ♂ w/ live ♂ & playbacks; could not get WP5b ♂. He would not really respond - sort of ignored the whole thing. WP13 was predated - parents came to nest & chipped, so I

1983

June 24, cont

volleyball court yesterday- I found a complete, empty nest in the stone wall this am. In fact, ST6 ♀ came over & chipped @ me. Also, I walked up WVRd- N.- into tripple- Red's territory, & there I found the families of Double Green ♂ & ST6. Double Green has fairly old fledglings- they are quite ~~apt~~ adept at feeding themselves, but were hanging around w/ him. (Maybe 2½ - 3 weeks post- fledging?) I think I saw one of these kids w/ D. Green's mate, an UB ♀, earlier, on the W. edge of the volleyball court. ST6's young were mainly low- Slow- song "displaced" (aggressive short chase) Double- Green- The ST6 parents were also seen driving away (just personal space vicinity) D. Green's kids. In all the confusion, Tripple-Red ♂ was silently sitting in tree, ~ 15 ft up- tail- spreading- I'm sure he was quite perturbed. However, it was all display; the kids seemed oblivious to whose land they were trespassing; the owner seemed semi- tolerant- perhaps too much energy involved in attempting to exclude all those birds from your terr. Saw Striped ♂ sing from ~ 40 ft up in tree near Burns. No ♀ seen. Saw the Silvatica pond ♂ - UB - do similar - for ~ 15-20 min.s. WVS8 had only Bl-R in nest today - ? Grackles? I took Bl-R from WPSb & put it in WVS8; so now she has 2. Found "the real WP14" today. I saw the ♂ fly up, then flushed the ♀. This nest has only 2 young- hatched today ~ 2.5- 3 gm.s @ ~600. Therefore, if these nests don't fail, I'll have a control w/ 2 young, & an exp- erimental w/ 2. Les also thought the pairwise comparison was

June 24, cont

more valuable to have then taking ♂ WP14 & having 2 experimentals w/ 2 young (increased sample size of exp.s). Went swimming in M. Lake today w/ John, Mary Pat, & Jeff. Ah, the life. I-m going to try to catch Silvatica pond ♂. The CB in WP15 fledged - I couldn't find it today. Found new nest just N. of WP4 - it may be WP4-II empty-complete. WP3-II has egg 1, and the nest near WVS1 I found yesterday is still empty.

June 25 Sunny, windy am & later PM. ~75°F.

I did a short (~ 1½ hr) nestwatch on WP15 this am, basically to see if ♂ was feeding. UB ♂ came in when ♀ chipped, & one time helped her mob a chipmunk, but I did not see him feed, or collect food. He went off N, to what looked like the next territory - & sang some. ♀ was exceedingly nervous. I was ~20yds away from nest, & down behind bank; she chipped all the time. I think because of CB out, but we never found it - or heard it. Caught WP15 ♀ PM w/ screams - tried to do same w/ WP10R ♀, but she would not come in. Nor would ♂. (So much for my perfect pair) WP14 failed - No birds. Found what I think is WP17R, X Rd from old, on downhill bank, and ~ 20 ft. N. Also, the nest near WVS1 has junco egg in it this am - ♀ came & chipped; and ~ 50yds N. of WP Rd. gate, I busted a ♀ off an empty (new?) nest. Double-Red ♀ w/ Station has egg 1 today (ST7), and ST6-II has J. egg 1, plus a CB egg. WP2-II I discovered today had 2 CB eggs in addition to

1983

June 25, cont.

the 4 juncos. That was rediculous- No normal-sized junco can properly incubate 6 eggs - I removed 1 CB egg. I think the same ♀ laid them both.

June 26 - Sunny- windy - a bit of haze at times. Warm ~ 75° F.

Went down to WP Rd. am - Neither WP15 nor WP10R fledged. Did not see ♂ @ WP15, or CB ♀ Saw Green-R. fledgling almost every time I passed by WP2, foraging in area. Also saw ♀ + ♂ of WP2 - together. Found 3 active new nests between WP Rd. & WV56 ~ also - one of these is WV56-II. another in prep nest - could be another WV57, but it was ~ 3/4 done. Nest near (N) WP Rd. entrance still empty, as is WP4-II(?) and WP17R. Eggs #2 of ST6-II and ST7. Also, ST3R hatched 2 young today, 3rd egg unhatched. I tried to catch UB ♂ that visits WP15, but he was not around. Also tried to catch WV516 ♀, but there was so much wind in the road, I think she probably saw it. One (♀, ♂?) bounced out - never again. They did their weekly Sunday dinner out @ the little volleyball court - although I marked the spot where the nest is, people were all over - ♀ absent. I hunted around more for replacement & II nests on WP Rd; did not find anything new. Have not seen WP4 ♀ in a long time.

June 27 Sunny, windy. ~ 77°F

WP15 fledged, WP10R did not. I could not find WP15 young. Looked all around for ~ 1 hr. at 2

1983

June 27, cont

different times. Banded juncos of WVSBR, WVS8, WVS16, and WP5b. Also caught ♀ and ♂ at WVS16. I think there may have been 2 ♂♂ there - there was chasing when I played song. ST7 had laid a new egg, but it somehow was broken, and empty shell was found on ground. ~~ST6-II~~ ST6-II laid egg 3.

June 28 ~ 50% overcast - windy & humid am - 75°

Rained ~ 1400 - cooled somewhat. Rained off & on until eve. Partly sunny pm.

Well, it was a lag-day, at least in the afternoon. Morning proved productive, as I went to WP Rd & caught 1 young & ♀ of WP10R. Still can't find WP15 family. WP5b failed sometime this PM - I saw the parents feed in the am. - but did not have time to weigh them then. ST6-II had apparently only 1 j. egg left yesterday afternoon, & this morning was empty - I found a Tamius scat - fresh - in the nest. Hmm. ST7 had only 1 egg - the 4th. I found shell remains of egg 1 on porch below nest. WVS12 had its 1st junco egg, and I also found WP4-II - for sure (0) saw the ♀ there - she chipped. Went up WVN to look around did not see anyone or find nests. I finally copied Hostetlers paper - JJ Murray told me that he was a mier ___? (like Amish) - a German ultra-conservative - sinful cult-religion.

June 28, cont

Pretty wierd. Some "officials" from other Biol. stations (Woods Hole) & the chairman of the Dept. @ U.Va. came to evaluate the station. Hmm.

Hostetler reported a "lag" in the nesting in the population between about mid-June to early July, & alledgedly due to time between 1st & 2nd broods. This lag seems to be occurring - starting today, and is ~ 2 weeks later. This may make sense, if the entire patterns of this season are really 2 weeks later. The lag, I suppose, is ~ 4 nests have young over 8 days - 2 just fledged and a few of the new ones are beginning to hatch - ST3-II ST2-II, WVS2-II - everyone is either incubating or building. Maybe this is the end of the lag, actually, but for me, it's a break. However, I don't think this inbetween brood idea of Hostetlers is correct, at least not this year. Since nests fail all the time, there are always many nests in all different stages due to renesting anywhere from a few days to a few weeks later.

June 29 Warm, humid - rained last night & this am. ~75°F cooled afternoon - late - 65°(?) Some rain in afternoon, mostly not. I went to town in the morning. Weighed pm - Eggs 1 & 2 hatched this am in WVS2-II; and as I was weighing @ 1314, a 3rd was hatching. Junco from egg # 2 hatched in

June 29, con't

ST1-II - the other not. I found the new nest of the Rain nest pair - She has 4 ~~CB~~, 1 CB egg. If I make her an experimental, I'll remove CB egg. Replacement nests WP13 & WP4-II were complete today, and WVS12 has 4 j. eggs - this is another possibility. Also, WVS13 has 3 j, 1 CB today - The other possible expnt.ls are WVS14 (3 juncos) and WP13 - a long way to go!

I heard the 2 WP13 juncos today, near the chopped tree area; waited ~ 20 mins & tried to find them, but I could not. ♀ was very secretive - I did not once see her, or any movement there, even though I could hear them & knew I was close. Saw all 3 young of WP11. They've been out 11 days.

June 30 - In a cloud all day. Very foggy. Lifted some in late morning but overcast. Foggy pm. No rain per se. Warmish ~ 70°F.

Not a lot happened today. Tried all am to catch ♂♂ w WVS3R & WVS2-II. No luck. WVS2-II ♂ responded more to songs, but I think he saw the net, as it was windy, & he almost flew into it 2x but backed out. The CB w WVS3R fledged, and when John & I went to WVS16 early pm, the CB

1983

June 30, can't (the giant) was perched on rim of nest - ready to hop out. I decided to grab it & weigh - I assumed it was about ready to fledge - Oh well - if not - too bad. It weighed 29.5 g - more than some I've caught @ fledging, but less than 1 (31 or so g.) on day 12. This was day 10 for this CB. Went up to bald Nob - there certainly are a lot of juncos there! Found a nest on the way up containing 3 j, 1 CB egg. However this CB egg was just about junco sized - the only way I knew it was a CB was because the pigmentation pattern was too uniform & sharp. WP13R had 1 egg today - not WP4-II. Saw WP7 family, the 4th egg in WVS2-II was unhatched this morning, but gone pm. Unfortunately, I did not look carefully this am at the remaining egg. Was it intact? The possibility remains that the unhatched egg yesterday actually hatched today, and the one I saw hatching yesterday never made it out & died & was there fore removed. I think this because the new nestling weighed only 2.77 g this pm, whereas the 2 hatched yesterday were ~ 4 - ~~4.7~~ g. The 2.7 weight bracket is unquestionably 1st day weight. Egg # 1 in ST1-II still unhatched. ST7 is really deserted.

1993

WP15 ♂ to Roanoke

July 3, can't

territory back there, & seems to spend a lot of time elsewhere - scoping out the scene - perhaps? I also get the impression that he is unmated - who knows? Heres my hypothesis: Most ♂♂ own & defend terrs. some get ♀♀, some don't. The unmated ♂♂ hold onto their terrs by spending a bit of time singing, but frequently leave & check out the local scene. Mated ♂♂ do it, too, but perhaps less so. If an unmated ♂ finds an opportunity - eg. a ♂-less ♀, he'll move right in - either to her terr (if she's nesting) or else perhaps bring her back to his (as in the case of WP10R, or perhaps even WV&W3 ♀?) If he is already mated neighbor, I think he doesn't spend too much time on her - maybe some, but his 1° focus is his 1° mate. It seems as though the ♂♂ who "get" the experimental ♀♀ are unmated, possibly because they are willing to invest more time guarding her, etc.

I took WP15 ♂ to Roanoke today and released him near the airport @ 1825. He flew E. into a field, landed for a few mins, then flew N, to some brush. We had to leave. Also, saw Tripple-Red ♂ & Double-green ♂ sing on their terrs - low. Looked for nests - No luck!

1983

July 4 Hot am ~75°F - breezy - mostly sunny. ~1600 got overcast & thunderstormed. Torrential rain for ~40 min.s - rained off & on until eve. Cooled - 70°F.

Egg 1 in WP18 today. WP14-II failed. WP13R incubating. Found new nest - ST8 w Horton Pond. 2 CB, 4 juncos about 2 → 0 days. CB's already 2x the size of the juncos. Saw all 3 WP9 young. Went up WVN - nothing happening, but WVN3 ♂ sings, & saw UB ♀ feeding (in Doubleyren's area). Looked for the 2 station nests - no luck. I think Silvatica Pond ♂ is Blue/Red-L. I found out that WVS4 ♀'s mate is white o ~~Red~~ o white - one of her ~~orgg~~ organal replacements. Saw WVS5 ♀ for the 1st time today - couldn't find nest. It may be way down hill. WVS11 hatched 4 young. WVS4-II hatched CB only, and WVS6-II hatched only 1 junco.

July 5 Overcast am - some wind. Rained ~1540 for ~½ hr, but not as heavily as the past 2 days. a bit of cloud break & sun ~1900 - 1930. ~65°F.

Caught & banded ST8 ♀ this am & also ~~WVS11~~ WVS11 ♀ this eve. when I weighed ST8 young, all were there, but the youngest had lost wt! (2.15g yesterday; today 1.8). The WVS2 pair are building a nest very close to the one that just failed, but ~10ft - up in a striped maple. Oh boy. I'll not be able to get to it if it "works."

1983

July 5, con't

Saw WVS11 ♂ - he is banded - Lt Blue O Dk Bl O Lt Blue!
Saw WP10R parents, but could not see young. I was in the vicinity. Caught WVS11 ♀ & banded her ~ 1900.

July 6 - Overcast am - windy - clouds blew off - ~ 50% sun PM. Windy all day. Cool ~ 60°F.

All 3 young in ST3R - still in. Caught & Banded ♂ @ ST8 this am - he flew right into my net. The smallest young junco here was gone today - presumably starved & removed. Also, the smallest young junco in WP2-II had lost wt. today - w/ 4 juncos & 1 CB. Hmm. WVS15 failed - I think just before I arrived - a chipmonk ran from the nest area as I approached, and parents were chipping prior to my arrival. WVS17 also failed Shit I guess WP13R will be the next experimental - If it succeeds. Found gate ♂ @ WP Rd w/ a mate - building a nest in bank today. Oh boy. The tree-nest that WVS2 was building fell through - I could not find a new one. Craig found ST6 ♀'s new nest (!) up ~ 5 ft. in a hemlock, right on the W. side of Lange ! Jim Dooley can watch the nest from the window ~ 4 eggs.

July 7 Cool ~ 65° F - mostly sunny & windy, some ~ 15% cloudy PM - Still could not catch WVS15 birds.
Found WVS2-IIR, also a new in prep nest @ ½-way ♂'s

July 7, cont

terr. at WP2-II: The smallest nestling was gone today - starved. As I weighed + banded, Lt Blue-R. from 1st brood came over + made high noises - ♂ fed it. These 2 kids still hang around. Can't find WP10R family or WP15 - are they dead?. Saw a grey fox ~ 1700, ~ ¼ mi S. of WPRd, on WV Rd. It looked as though it was commng up a known Path to X Rd, but I was standing in it. Couldve had den up on bank - I explored a hole ~ right size, surrounded by rocks. Potential predator - Urocyon cinereoargenteus.

July 8 - 43°F last night - all sunny today - cool am, but warmed to ~ 75°F pm.

I spent almost the entire morning catching ST3R family. They had not fledged by ~ 0800, but by ~ 0930 they were all out. They went into the dense berry tangle nearby - I had a horrible time finding them. Finally I caught them by flushing them from cover. ST8 and WP2-II Failed. Found WP7-II (pretty sure that was her), and the new nest from ½ way down WV Rd. is active - saw pair. Caught WVS15 parents this eve, ~ 1930. I used a live chipmunk lure in a cage - it worked like magic! Oh - also saw WVS7 pair building a new nest. I have the feeling that the WVS14 birds were WVS7 mes - as the

1983

July 8, cont

timing is right for them to be rebuilding. Also, I removed the CB egg from WVS13, as it should hatch ~4-5 days before WP13R, and will become the next (last?) experimental. It may be interesting to see who her mate is - hopefully it is not WVS8's new ♂ - I don't think so - they are fairly far apart. However, it may be possible that if I remove the WVS13 ♂, then the next "available" ♂ may be WVS8 replacing ♂. Also, it is getting so late in the season that anyone who raises a clutch at this point will probably not have enough time left for a 2nd anyway, even with ♂ help.

WVS2-IR complete. Used cracked corn & stale saltine crackers for chipmunk bait. Caught 2 this (late) afternoon, between ~ 1615 & 1900.

An idea about "nestling quality" - although some evidence has supported the "Lackian theory" that heavier fledglings → mean better survivorship, many have not (Ipswich sparrows, for one). It could be possible that smaller fledglings produce viable, but smaller adults (the data is there from these annual return of young studies - if they recaptured) → Smith, Baptista - Ipswich sparrow person - - - . If this is the case, we might infer a disadvantage of smallness not so much as surviving per se as a juv., but perhaps the smaller birds are lower on

July 5, cont't

the social hierchy, hence in times of shortages or prolonged fasting, these birds may be subject to greater mortality, due to exclusion to feeding by more dominant flock members (perhaps if only intra-sexual). Climatic catastrophines & variability may be important here: if a small birds 1st winter is mild, perhaps survivorship would equal that of larger birds. Maybe, though, if any subsequent winter is bad---. Maybe selection happens during winters, & relates to social status. Does size in ♂♂ correlate w/ terr. holding power? probably not in juncos.

July 9 - sunny - a bit windy - cool am - warmed pm.

WVS12 - 3 eggs hatched, and all 3 of WP3 hatched. Saw ♀, UB ♂, & 1 young of WVS8 - ♂ acted as if he fed (?). WVS6 - II & WP15 - II failed. Found WVS7 pair building a new nest near Sang Sparrow nest ~ ¾ done. ST1 - II fledged today - CB am, junco PM. Also, saw the CB of WP15 N. of nest, begging obnoxiously, w/ the ♀ feeding, plus UB ♂ chipping - did not see him feed, but he really acted as if he were. CB Flew strong. No junco young (?)

July 10 - Mostly sunny ~ 25% overcast, some wind ~ 75° warmest - late PM.

Caught ST1-II birds this a.m. 1st caught junco fledgling

1983

July 10, cont

It was relatively easy. The parents were really difficult to catch in the net ♀ a chipmunk skin plus scream playbacks did the trick on ♀. This chipmunk method is quite effective ♀ Also, I used the skin in front of nest w WVS12 this late afternoon & caught both parents simultaneously ♀ I banded WVS11, but one of them I squeezed the aluminum band in. it collapsed & squeezed its leg. I pulled apart the worst, but could not get whole band off. So I left it - not squeezing, but ~⅓ open. Will fix tomorrow — meanwhile the bruise can heal somewhat. In WVS1-II, the CB had evidently pushed R-R junco out of the nest, as it was taking up most of the space, & R-L was the only remaining j, and was ~⅓ pushed out. R-R was nowhere to be found, Oh. and in WVS11, Bl-L was dead in nest - I think starved. It was lighter than the rest, although it could've died last nite. However, it was the smallest & all. Saw a WPZ juv. from 1st brood hanging out in WP2 territory.

July 11

Sunny - cool am - warm ~ 75° PM. Nice.

Saw ST8 Pair this am up the stream in wood. No nest, though.

Oh yes. The captive ♂, WVS8, sang this morning ~ 0.840. No other juncos around. WVS2 ♀ incubating 3 eggs today. I got the messed up band off of the WVS11 - nestling w/ my needlenosed pliers. Put a silver on Left only. A lot of activity for some reason

July 11, con't

today; I went swimming until ~ 1700, then went down WP Rd. Saw Red o Blue ♂, who is the "intruder" from WVS8, in WPZ area, sort of courting (chase & accompany) an UB ♀. He gets around!! Also, the gate pair ♀ is resuming work on the nest I had seen - she stopped working on it for a while - that is unusual for her to return to it. Saw WP15 "family" - ♀ unrelated to CB, ♂ as well, but not even if it was a junco - I'm pretty sure ♂ feeds CB. 3 ♂♂ were having a dispute w WP5b today; the ♀ was beginning a nest ~ 30 yds s. of her old, and this site is apparently on the boarder or in the next ♂'s terr. Found her in prep nest, & the ♂♂ were going w it the whole 15 or so min-s I was there.

July 12 - Sunny & warm. Little wind. ~ 75° F.

I weighed WVS11 Young - Day 8 - they were mellow. WVS13 hatched 2 young today, which I did not weigh because I thought I would come back ~ 1800 & catch, then weigh. However, Elaine had the truck until ~ 1900, & I did not want to risk keeping parents (♀) off & not feeding that late. Will do it in early morning. Egg 1 in WVS7R3. I saw all sorts of weird things on WP Rd - banded birds who seemed not to belong where I saw them - but I think I probably saw it wrong. WP10R family seen - all 4 young OK. They fledged 6/28,

1983

July 12, cont't

which makes them 2 weeks (14 days) out of nest. Did not see them eat, but they looked fairly mature. Saw what looked like Red o Blue o Red ♀ w/ new WP2 ♂ today, at WP2. But this seems too unlikely, as that is WP5b ♀, and her nest, from yesterday, was ~ ¾ completed. Also saw (thought I did) what looked like Red o white o Red ♀ @ WP2, w/ UB ♂ - should've been WP4 ♀, but those colors are WP10 ♀ - No way! Saw her feeding her kids where she belongs. Hmm.

July 13 - Hot, sun & hazy. ~ 80° F - winds. Not too strong. Egg 1 in ST8R today -, Egg 2 in WVS7R3 -. No eggs in completed Gate nest (WP18) or WP5bR. Tried am & pm to get ♂ @ WVS13, he would not go near enough to nest to see stuffed chipmunk. He seemed to show minimal interest in it. Caught ♀ @ WVS4-II, w/ stuffed C.M. & scream playbacks. WVS15 - failed.

July 14 - Sunny & hazy PM, very hot ~80°F. Some breeze.

Went to catch WVS13 ♂ w/ Live Tamius this am. Caught him ~ 1130. I almost gave up - this is one of the least emotional juncos I've seen - he reacts very matter of factly to everything. Even when I put him

July 14, con't

in the aviary, he was calmer than the old ♂. I think a Peromyscus is getting into the aviary & eating the mealworms & food, & has been for ~ 1 week. They're all gone in the morning when I feed, & food + petry dish are scattered around. I set 3 Sherman traps baited w/ Crisco this eve. - Jean Fitzgerald told me that this happened when beetles were housed there - they trapped it & removed it. No more for the rest of the season. Also, WVN3 ♂ has a new UB ♀ ! They were feeding in the road together this am & all. Hmm! I wonder where she came from? Nest WP5bR and WP2-IIR still empty; ST6-IIR Failed, and WP3-II had only 1 nestling today. CB in WVS4-II fledged today. I saw the youngest kid of WP10R for sure today, following maj Also saw a flock of juv.s, from at least 3 different broods - one UB, one from WP11 one (I think) WP9. All in gulley of WP13 area. ~ 8 birds I could see.

July 15

OK- Caught the Peromyscus, we'll see. WVS11 fledged today - I caught heaviest kid, & both parents. The fledgling was not very strong. WVS12 failed, and I banded the one

1983

July 15, con't

remaining Kid in WP3-II. New in prep nest (WVS18?) complete & empty, and Gate nest & WP5bZ both still empty. Also WP2 new nest complete & empty.

July 16 Sunny - hot & hazy. ~85°F. Some breeze pm.

Saw ♀ WVS3R feed CB near old nest, ♂ sang. Found new nest - in bank w/ 1 egg, ~ ½-way ♂ terr (WVS18). No egg in the other WVS18 (top of hill from WP Rd) & none in WP2 new, but egg 1 in WP18 (gate) & WP5bR. CB egg in WP7-II only hatched. WP3-II failed - Young gone. Found nest of ♀ I think is WVS6, X Rd in downhill bank from old WVS16 nest. Hmm. Also, saw WVS8 ♀, and one kid - Blue/Red - the smaller one - only. I am fairly sure now that only one is alive. UB ♂ there - No feeds or anything. I also think I saw Red o Blue ♂, but it could have been a mistake - I saw it only 1 x, in ~ 12 min.s. If it was him, he was not important, as he left.

Some of the birds I have seen lately have these dark plumage patches on their ventors - as if the white outer part of these feathers are worn or dissheveled. Molt yet? Not in most of them, but there is evidence for some.

Les & Jannis & I discussed the experimental design of my project the other day - they both thought I should eliminate the CB factor completely, & thus have a

WVS3 ♂ Driven & released
~~Lynchville~~ Lynchburg, Va.

July 16, cont

cleaner setup, & hopefully less confusion in the data, so that the main question may be more clearly addressed. I must say, in terms of "good science", I agree. One could do direct comparisons of 1, 2, 3 & some 4 junco broods, & increase the sample sizes for each class, as there will be the dissappearence of CB & 2, CB & 1, No CB & 2, etc..

July 17 Hot again - 80's - windy - hazy. Overcast ~ 4pm - it rained for a few minutes ~1640. Cooled to ~ 65-70°. this eve @ ~ 2000, & thundershowers @ ~ 2030-2100.

Ok - The experimental ♂ from WVS8 was taken to be released at a point 3 hrs east of here - by Karen on her way to the coast. I'll have to write her later to find out exactly where. He weighed 22.4g this am; he had gained 1.55g since I caught him. That's nice. WP7-II failed. Eggs 2 in both WP18 & WP5bR, but not in WVS18. Saw WP11 pair - could not follow them thru wood, but ♀ seemed to be incubation-feeding. I completed my stand for the bird food in the aviary. We'll see if it works tomorrow. Saw a UB "replacement" ♂ @ WVS13 this afternoon. ♀ called him when I came. Saw ST3R - Parents (heard young) around Scheaw, & X Road from there, too.

Some preliminary summarizing of all

1983

July 17, cont

nests that are ~~ed~~over in some way, not including current alive, unfledged ones, I get 51 nests found that had at least eggs. So far, 39 of these hatched, & 22 of these fledged. That is 56.4% of hatched broods fledged & 43.1% of all nests w/eggs fledged - at least 1 yonng. The 1 young includes CB's - but only 1 nest fledged only a CB w/out any juncos.

July 18 am - sunny, breezy, some haze → got ~ 40% overcast. and ~ 1930 became completely overcast & rained lightly off & on for the next ~ hr. 70-75° F.

Went down White Pine road this am. Nothing spectacular. No new nests or interesting sightings. Saw WP7 pair - forage. Egg 1 ~ WP2-IIR and in WVS19 - now the nest ~ top of hill from the Lake. ♀ was on when I passed by ~ ~1000. WP18 & WP5bR ♀♀ incubating 3 eggs. No CB eggs now. I think the adults have left. I see juv. CB's here & there - mostly solitary, but today saw 2 together. ~~WVS~~ WVN3 pair seen this afternoon - she excited & twittering - I saw them eating fruit from tree. I followed her around for ~ 20 mins, but she sat in a tree OOS in the end - I don't think she was in a hurry to return to a nest (?). Did a nest watch ~ WVS13 ~ 1830-1930, & banded young. No ♂ fed, or was visable during watch, but when I was banding, one came in & chipped w/ ♀ for a short time. Hmm. The Jean Fitzgerald mouseproof feeding platform seems

1983

July 18, cont

to be working wonderfully in the aviary - Meal worms still around this am. Oh - I saw WP6 ♂ today (!) - he sang some & displayed w an UB juv.

July 19 warm ~ 75-80° = ~ 50%-60% overcast - sunnier am - clouded up pm; rained a bit then.

Tried to catch 2° ♂♂ w WVS13 this am. I used live ♂, amp, the works. No one even responded to the song playback here - Grr - which actually tells me something. In contrast to the early season removals, the later ones don't seem to be as quickly replaced by unmated ♂♂ - presumably it is the unmated ones which come in & spend the most time & investment in taking over the deserted ♀♀ and/or their territories. It appears that now, the ♂♂ that show up are neighbors - perhaps (in one case known) mated, & if a ♂ sings on WVS13, they don't try to defend it, as it is not worth their time - which is better used invested in a stable, sure bet w/ their 1° mate. Anyway, I moved net to WVS7 terr, & tried to catch ♂ there, to see if he was visiting WVS13. He saw the net, but the ♀ got caught (net was not in front of nest) - I banded her. She had a weird cut on her foot (see notes) when I took her out of the net, and later that day was not on the nest & eggs were cold. Hmm. Saw lightest kid from WP9 in a juv. flock this pm. Could not find WVS8 family.

1983

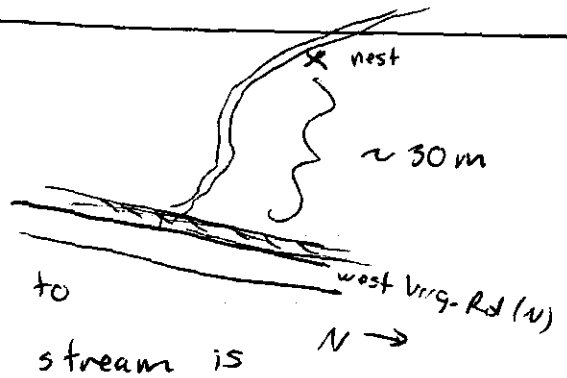
July 19, cont

and the nest I called WVS 18 seems deserted - still has 1 egg, plus the leaf I put in yesterday. No new nests, or failed, other than perhaps WVS:ZR3. I've been seeing ST6 ♂ (Sl. Sng) w/ the kids all around the Stn; he sings behind & in front of Laing - his old haunts - always when kids are near. Also ST3R family hangs around schoow & that area. ♂♂ seem to do a lot of singing around their fledglings - perhaps some imprinting thing happens @ this stage. Is the song "directed" @ the young, or other juncos as a terr. defense - to defend food or it from other juncos?

July 20 am - overcast & windy, hot. Rain threatened, but never came. PM - cleared, & ~ 1730 got overcast again. Mor still. ~ 80-85°F.

went to Blacksburg w/ John Bell to take care of his dead (transmission) truck - & run errans, From ~ 1330 - 1630. This morning I found the nest of WVN3 ♂ & his new UB mate(?). It is ~ 60 yds? S. of old - in an area which used to be S. of his terr. I know there once was a ♂ who held that area, but I had never before seen a ♀ or nest, & I had searched the banks as follows; There is a small stream that runs perpendicular to the road to the N.W., w/ banks ranging from 0 to ~ 3 ft. high, & medium-tall grass, not many trees immediately surrounding it. Today, however, I heard a ♂

5♂♂ Released from Bloomington, IN - 7/22



July 20, cont

singing here off the road, I went in to search the banks. The stream is now only mud.

Saw an UB♂ w/ WV513 ♀, & he sang. WV573 ♀ on - all OK & WV519 ♀ is not banded.

July 21 - OK. humid today - am ~ 50% overcast & windy - 75-80°F. PM less wind - more overcast ~ 85°F.

Did nestwatch this am on WV513 - UB♂ w/ her for ~ ½ time. No feeding. Saw WV58 ♀ in gulley w/ an UB♂ & a bunch of UB juv.s. Did not see hers. Dave, Louise & I hiked to the Cascades today - that's all the fieldwork I did.

July 22 Hot this am - overcast & rained a bit. Cooled off, from ~ 60 - 73°F, windy most of day & overcast, cleared ~ 1900.

Well - WV513 fledged today, in the afternoon. I tend to think that something forced it early, as it is a day early, and the bird kid I caught was very easy to hand-catch & could not fly. I only saw one, but that doesn't necessarily mean that I was taken while the other fledged.

1953

July 22, con't

Could not find new nests of WVS5 - or 17. Caught ♀ & one young w WVS13. I think there were 3 young in WVS11 today, & I saw all 3 of ST3R kids, id'ed the bands.

July 23 - Oh boy - an incredable thunderstorm last night - it went on all night. Today, some breeze, cleared am, got hot ~80°F. a bit hazy. Right now, w 2230, it is again pouring rain & some thunder. Cooled ~ 65°F.

WVS2-IIR - still unhatched. WVS20 sitting on only 2 eggs. Saw all kids of WVS11. a lot of activity today - I went down WPRd - saw several pairs & trios (2♂♂) of UB birds, 1 pair nest-building w WP4 (found nest), saw another w WP14 behaving as though they were either looking or building. Hmm. Perhaps the rain stimulates it.

I'm beginning to try to summarize the growth data today - I think log transformation of the $\bar{x}$ wt.s for each day of each nest will give me good ammo. for a regression - to compare experimentals w/ controls.

July 24 - another emongus storm last night - Lots of rain.

This am overcast & windy, ~ 70% overcast pm - then w ~ 1750 cleared. wind died a bit. ~ 70-75°F.

OK. WVS2-IIR was all hatched today - I think, however, they (3/4) hatched yesterday pm. I checked them

July 24, cont

only in the morning. Caught ♂ here & banded - ♀ was caught, too, & I weighed her. She actually gained wt. since the beginning of her 1st nest. found Double Blue & Red's nest today - it's under Reed, up ~ 3 ft. Young - I think ~~72d~~ ~ day 7 - 4 of them. I banded them. The WP4 pair (new pair) almost completed nest today; WP7 pair seen starting another, close to old WP7, and WVS3 ♀ also building in a "tree" this eve - ~ 8 ft. up in Rhododendrons. Boy - all this activity! a response to rain? I now have 10 nests, 9 incubating, 1 hatched plus 3 being built. Wow! This is like spring again! Should I stay or should I go?

July 25 - overcast - cold ~ 60-65° F. Partly sunny - Unsuccessful attempt to catch WVS7 ♂ w/ stuffed chipmunk & playbacks. Grr. Saw all 3 ST3R young - they're eating now. New WP4 nest complete, but WP7-IR not worked on. No failures, but WVS7R3 did not hatch yet - it is the 12th day of incubation. Called Val & El, also Leah. EM

July 26 - Cool am ~ 63-65°, sunny, w/ haze, but cleared & warmed ~ 75° p.m.

WVS7R3 hatched today. I spent the morning getting

1983

WVS5 ♂ back

July 26, cont

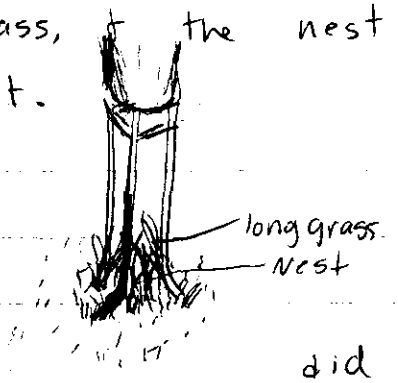
a live chipmunk + drove to the nest - did everything, but ♂ would not come in. Tried w it & hr. I mapped WVRd nests today - 15 paces = 12m, then added on additional paces. Talked to Joe Travis today about growth data - very helpful - he told me that Rickleffs was his undergrad. advisor - and they've just co-authored a paper on the stuff. He thought my idea of using the growth of the individual young I caught when fledged (or ± if >1) for fledgling, w/ comparisons was the best alternative - it is probably the least biased, at least for comparative (control-expt'l.) purposes.

July 27 Cool & Sunny am (~60-65°F), warmed PM ~70-75. about 90% sunny. Small breeze.

Caught Double-Red this am to weigh. WVN3N + BJBR hatched 2/3 today, in both cases. Also, caught & banded ♀ of WVN3N. Did mapping of nests on WVRd, S., and analyzed data. Graphed growth of Expt'l. & control nests, treated as groups. ♀ in WP4N - wds on 2 eggs. It took WVS5 ♂ only 12 days to come back. Maybe Karen released him closer than 3 hrs (?).

1983

July 28 - Cool am ~ 65°, warmed to ~ 75-77°F pm. Mostly sunny ~ 10% overcast, breezy-a bit, later afternoon. Well, not too much. Oh, Steve Hulbert found ST3 ♀'s new nest (I didn't know she had one!) It is under the rain gauge - next to the weather station. This, again is the only spot among open short-grass with longish grass, & the nest. 4 eggs, is right down in the center of it.



Also found what I think is WP10-II, 12.8 m. S. of WP10R, on downhill bank. I am not sure of the bands I saw on the ♀, though. They did not look Red o white O Red. 4 eggs. ♀ 2 of 3 eggs in WVS6-IIR hatched, and all 3 of ST8R & WVN3N also hatched. No failures in a long time! ST7R - still in this morning. Should be fledged tomorrow. Tried once again to trap WVS7 ♂ @ ~ 1830, but he came in only 1 ce - it got late & I left. Ugh.

July 30 Warm-pleasent - Sunny, w/ ~ 5-10% overcast pm. ~ 75°F.

No journal yesterday - I did not do much - went to town @ ~1600. WP5bR hatched eggs # 1 & 2 yesterday, but today only 1 nestling remained in the nest. All else OK; WP18 hatched all 3 today, & I caught ♂ banded ♀ - could not get ♂. I banded WVS2-IIR today. Heard a ♂ @ WVS8 (xRd) sing.

1983

July 30, con't

Looked all around for WVS13 ♀ + young - no sign. But I did see a juv. flock in gully X from there, + saw Double-green trid from WP3 brood #1. No ♂ seen w WVS6-IIR - I still don't know whether or not she is mated to the same ♂. WP10-II still not hatched.

July 31 - Warm - mostly ~20% overcast. sunny - very little breeze ~ 75°F.

No failures today - WP5bR kid OK. I caught ♂ w WP18. also caught 5 juv.s who were foraging in the area + came in for screams. 1 escaped, one died in my hand, + 3 were banded + released.

Aug. 1 Rained all morning + last night. Stopped PM - stayed cloudy + foggy. ~ 60-65 am, 65-70 pm

WVS19 + WP2-IIR hatched. Caught ♂ w WVS19, Not ♀. a lot of activity on WPRd ~ 1700. Saw WP9 pair, ♀ chipped w me, I think WP4 ♀ + new mate (UB), and WP11 pair. WP4 pair chipped, too - but I found no indication of nest or fledglings. Banded WVS7R3 young. Lost my scale

August 2 Hazy ~ 50% overcast, warm ~ 70-75°F.

Banded WVN3N + ST8R today. No failures. Caught ♀ w WVS19 (Yay!) - tried for WP2-♀, but no response. Did not find WVS13 family. Saw WVS8 ♂ - in his terr. Did not see a ♀ w/ him.

1983

Aug 3 - Warm ~ 70-80°F. 50% overcast ~ still.

Well. WVS2-II R - empty today. I found Lt Blue-R (the biggest) dead in front of nest - cold. ♀ was bringing it food. I skinned it, and found a lot of blood had gone down the back of its head & neck - looked as if it had been hit hard in the head - car? There was food in its esophagus. Parents acted as if no other young were here - I followed them for ~ 1 hr. & saw no indication of more kids (?) Tomorrow I'll find out. I did, however, catch ♀. Banded WVS6-II R today - still have not seen ♂. Could not catch ♀ to weigh w WP2-II R I caught ♂. They don't defend their nest at all. when I come, ♀ leaves silently, & doesn't come back until I leave. WP10-II Hatched - I think early this am - they looked like they could be 1 day old, but weights were 2.1g - 3.1g - not really enough to be day 1. Saw WP7 pair among at least 1 UB ♂ & several juvs. I had the impression they were sort of flocking; although the UB ♂ chipped w me some. Is it possible WP15 ♀ is nesting here? Is it also possible that they chip w you when not nesting? a partner / flock warning signal? I also saw at least 8 adult that I could not really I.D. - looked like a Ork Purple :— WP15 ♂ is Pink/Yellow o Ork purple-L - could be.

Some tabulation

WVS3 ♀ - 1st egg of brood 1 - 6/6, Presumed 1st egg of 2nd cluten - 7/26 = 51 days = clutch interval

WP10 ♀ 6/2 - 1st, calculate back - (2nd) hatched ~~7~~ 3/3, assume 13 days incubation (late nests did this). so 1st egg, 2nd clutch → 7/18; interval = 47 days

1983

August 4 - ~ 50% overcast - 70-75° F Rained last night(?)
Well, looked for WVS2-IR family- pretty quiet. Saw nothing in field. Saw 2, and I'm pretty sure 3 of WVS11 kids- still chasing parents - only saw ♂ today. However, I would bet they know how to eat by now. Banded the kid w WP5bR - tried to catch ♂ there, w/out luck.
WVS6-IIR - had only 1 nestling today - the youngest one. I think maybe it was @ the bottom of the pile, & whatever got the other 2, missed it. Did not go to WP10-II or the 2 nests (WVN3W, STBR) N. of station today. Saw WP7 ♂ (+ one of their 1st brood kids) in gulley w WP15 area, among several juv.s plus other (~ 2 or so) adults - I am ~ 3/4 convinced that they are beginning to flock, as even the adults were making flock-call noises - twittering calmly & feeding "normally" ie - w/out urgency, but also not too leisurly. WVS13 has not materialized! what a disappointment!
Blueberries - 2 blackberries ripe today.

August 5 - Overcast a.m; cleared somewhat PM - ~ 70% sun. a bit windy. 70-75° F

Talked to Steve's animal behavior class this a.m- for ½ hr. They came out on the rounds w/ me - it was actually quite fun. Caught ♀ to weigh @ WVS7R3, Not ♂. 2-white-R young fledged while I played screams & such. Hmm. It weighed 17.1g - could not fly. Probably ~1g or so too light. WVS20 hatched 2 eggs today. Also caught ♂ @ WP5bR, & banded him. Karen wrote me today (Yay!) & she released ♂ in Lynchburg Va ~ 3hrs. drive away. I think we

1983 Released WVS13 ♂
from aviary @ Station

August 5, con't
heard him sing there this ~~am~~ p.m. Only 1 kid (the smallest!) left from WP10-II brood.

August 6 - ~ 60% sunny - some overcast - nice - 70-75°F.
Released WVS13 ♂ from aviary this amotte weighed 21.3 today, & was 21.2g when caught - 7/14. This was a morning wt, tho. WVS6IIR failed, Nest empty - Saw parents down Rd. 3rd egg in WVS20 hatched. Saw WVS12 pair right above WVS19 nest - ♀ had grass (for nest?) in her bill - they looked sort of excited. Saw WVS2-II pair - behind WVS2-II site in wood. I am fairly convinced now that the whole brood failed.
WP18 Young pretty heavy @ day 7. one ran out of nest, but went back O.K. ~~Oden~~ Did not see ♂ @ WP10-II.

ST [illegible]

[illegible] STs II [illegible] interval?
[illegible] 8/7, [illegible] egg
laid [illegible] 7/27 (26) - 4 eggs - 7/23
1st egg [illegible] 6/13 (hatched 6/26)
[illegible] ~~[illegible] days~~

41 days

18
17
41

Data analysis 8/83

SPSS ANOVA File name - JUCO

4 dependent variables

1) Fledgling wt = $\bar{x}$ wt. of fledged young I caught / brood, on fledging day. If caught after fledging day, I extrapolated back on the graph I plotted, & estimated the wght for that day.

2) Female wt. loss during a nest interval. Most of these data include ♀♀ weighed on or w/in 2 days of hatching, but a few (3) are ♀♀'s weighed @ hatching of Broods which failed, & not weighed @ hatching of renest; then weighed @ day 10-13 of nest - @ fledging time. I have assumed, in the 3 exceptional cases, that ♀♀ would not lose wt. between the time of nest failure & renest hatching; in fact they should gain it back (wvs 2 ♀ wged more @ 2nd brood beginning, than 1st). Females who were weighed @ beginning of 1st successful brood, end of 2nd, but not beginning of 2nd, were excluded from analysis. 2 lost over 10%, 1 ~ 6%.

1 wged ~ 9 days incubation

3) Clutch interval - # of days between laying of 1st egg of 1st successful brood & 1st egg of 2nd clutch.

4) Survivorship of each brood from fledging to "independence". I define Indep. as about ~ 2½ weeks, when I had seen young feed themselves - & I assume that, although the kids hang around the parents for a while after that, I

presume that they could survive after this point w/ out the folks.

CB - 1/2 = Presence or absence of CB

Male - 1/2 = " " " " ♂

Clutchsize - 1, 2, 3, 4 (Juncos only)

Date - 1/2 - 1 = early, ~~be2~~ hatched before 6/30

2 = late, hatched after 6/30.

Keep in mind that I was not able to follow the young to independence on many late nests - Date should probably be split into increments of 4, or used as a regression variable with growth (rate?)

3) 2nd Date analysis - I devided all 25 hatching dates up into 4 chronological classes. Starting from 5/17, every 18 days was a class. 5/17 - 6/3 was #1, 6/4 - 6/21 was #2, 6/22 - 7/9 #3, and 7/10 - 7/27 was #4.

Numbers 1, 2, 3 or 4 were entered in "date" column.

4) A 5th Dependent variable, # of young / ♀ raised to independence - ~~done~~ for each Seperate Statement

File name: GROWTH

Variables = age. This averages all $\bar{x}$ brood wt.s for each age. 1st 8 cases = Expmtls.

Remember: In asynchronous hatching broods (which by chance, due to the fact that most expmtls caught early in season) later hatched young grew faster than older sibs. Can test this. However, I think the later-hatched young's growth rate may influence the $\bar{x}$ brood growth rate. Also, $\bar{x}$ brood wt.s for each age in asynchronous broods were calculated by using the wt.s of the 2 or 3 early, plus the wt. the next day for the similar-aged one (1-day later). So not the $\bar{x}$'s in these broods were taken on 2 seperate days.

Added T-Tests - for each day, testing:
1) w♂, w/out, 2) w/CB, w/out.
♂ - 1 = w/out, 2 = with ♂

New date classes for this nest data:
5/17 - 8/3 = hatching date increment for which I took 3 or more days growth data on all nests in the 39. 79 days, total. So, I'll use 80 days as total season-long hatching increment; 5/16 - 8/3
20 days / class.

Mountain Lake Biological station - May - August 1983

BIRD SPECIES LIST

May 17

1) common flicker
2) Least flycatcher
3) Eastern phoebe
4) Northern raven
5) E. Blue jay
6) Tufted titmouse
7) Carolina / Black-capped chickadee
8) white-breasted nut hatch
9) American robin
10) ~~[illegible]~~ white-throated sparrow
11) ~~[illegible]~~ Solitary vireo
12) Black-throated green warbler
13) Black-throated blue "
14) ovenbird
15) Canada warbler
16) Louisiana waterthrush (~~[illegible]~~)
17) Brown-headed cowbird
18) Common grackle
19) Scarlet Tanager
20) Dark-eyed junco
21) ~~[illegible]~~ Rose-breasted grosbeak
22) Rufus-sided towhee
23) Chipping sparrow
24) Song sparrow (~~[illegible]~~)
25) American goldfinch
26) Veery
27) Chimney swift
28) Turkey vulture
29) Red-shouldered hawk
30) Red-eyed vireo
31) Indigo bunting
32) Chestnut-sided warbler
33) Blackburnian warbler
34) Brown creeper
35) Hairy woodpecker
36) Barred owl
37) Broad-winged hawk
38) Ruffed grouse
39) Eastern bluebird
40) Catbird (val)
41) Wood thrush
42) Black + White warbler
43) N. Parula warbler
44) Cedar Waxwing
45) American Redstart
46) Great-crested flycatcher
47) Chestnut sided warbler