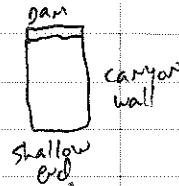


#	SEX	AGE	MASS	CL	PL
---	-----	-----	------	----	----

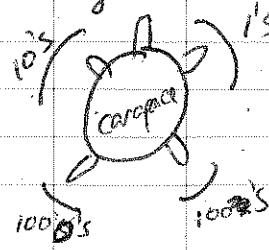
OCT 1994

4 Hog nets set a total of 22 hours
 = 88 trap hours rebaited once
 1st set 1800 13 Oct, rebait 1230 14 Oct, pulled 1600
 we estimate Blackwater Hole is 15 x 25 m



(pool)

lengths are ~~short~~ medium
 widths are greatest (plastron width is)



~~EW PW SH~~ COMMENTS 20 May 1995

noodling around in BW Hole for approx.
 1 hr yields no turtles, possibly
 saw 2 but missed both.
 Did not set traps in BW Hole

20 May 1995

water levels low, in BW Hole, water
 down perhaps 2 feet from Oct '94
 nest. Many puddles upstream are
 dry. grassy area at the shallow
 end of BW Hole is confined to
 ground level, compared to 2-3
 ft height in Oct. Discovered a
 small pool behind BW Hole, on
 the other side of grassy area.
 Found a dead marbled turtle
 put it on a rock to pickle
 up later. When we returned
 something (vulture?) had removed
 the plastron and all the soft
 parts were gone, presumably
 eaten. Saved the shell for museum.
 Much cattle activity at the
 beginning of trail (by the road), compare
 to Oct

June
15 July 1995

145 PM begin straight
to hole

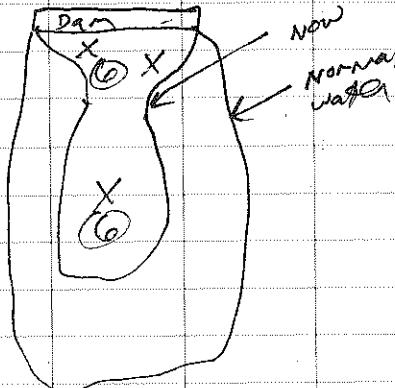
got lost

water in river bed high as I've seen it
water in BW Hole as low as I've seen

Sandy can set traps, H₂O 4 ft
from top of dam, looks like H₂O
was intermittently left out, so maybe
to kill back aquatic veg.

I saw 3 or 4 turtle heads
and caught a short wing by
hand set 3 traps

X = trap



set at
510 pm

caught 12 turtles (see map)

checked traps at 816
which means it's an hour wall
straight up

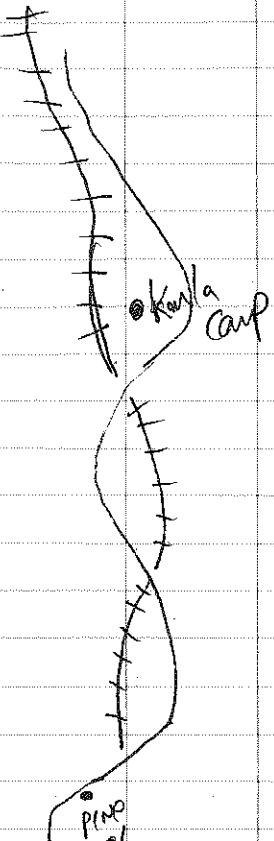
16 June 1995

rained hard for 2 hours last night
water in river bed even higher

44
180
unij (15)

Geronimo trail

Pimp pool
Snag pool
Snag
would be rapids
all pools
on 16 July
1995 made a flowing stream



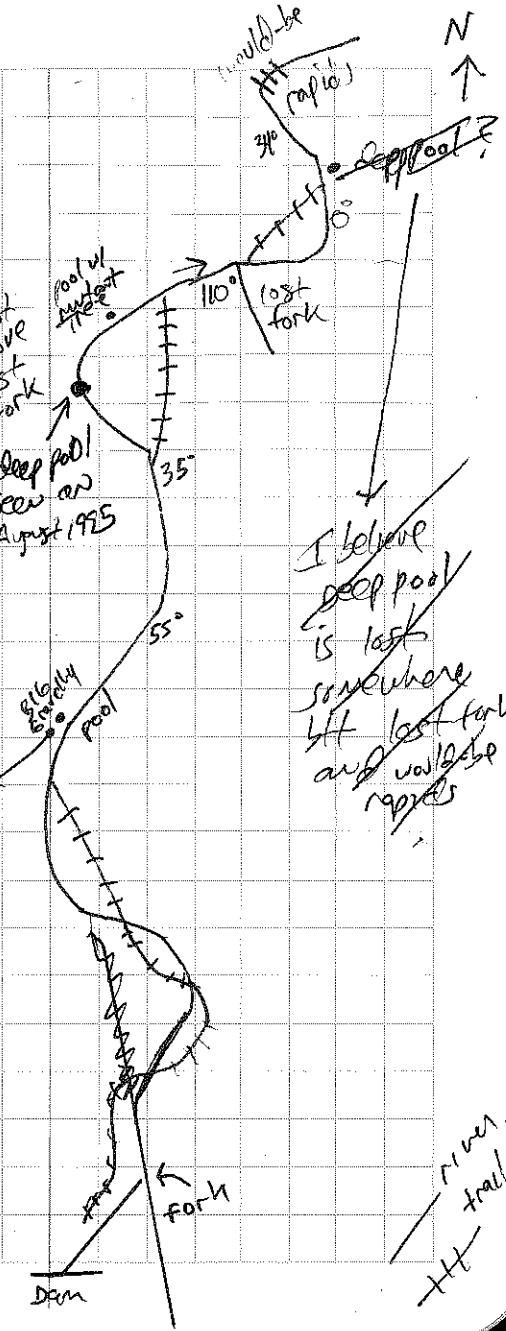
June 1995

would be rapids
is a series
of H's and
rocks and
dams

3 August 1995

last pool
below rapids
is where
I caught
the
Thaumopis
w/ Muy

snags pool
and deep pool
have low water
now



DEC 31, 1995

Collected 5 Anolis sagrei in
Mimi's parents house/yard (held alive)

1324 Mango Isle, Ft. Lauderdale FL 33315
(0.15 miles S of Davie Blvd, 0.3 miles W of SW 9th Ave)

1 Jan, 1996 Given to Billie

Collected 1 A. sagrei, 1 scarlet Kingsnake
and 1 garter snake

behind the office buildings across
the canal from my mom's
picked the lizards
the snake has red thread around
the leg (\approx 100 m E of Powerline Rd
0.3 miles N of McNab Rd
across canal from Cypress Bend
canal)

Collected 5 ^{brown} moles (A. sagrei)
a small, starving juvenile
and a mummified young B. carolinensis
picked the moles and young garter snake

3 moles have tails tied on w/ red
Shirley Bailey - 1301 NW 45th St 33309 Ft. Lauderdale
0.4 miles W of Powerline, 0.3 miles N of Reservoir

3 Jan 1996

1.0 miles South of
on FL Turnpike
♀ - No eggs? DOR
pickled

Pseudonaja spp Osceola Co.
floridana peninsulae

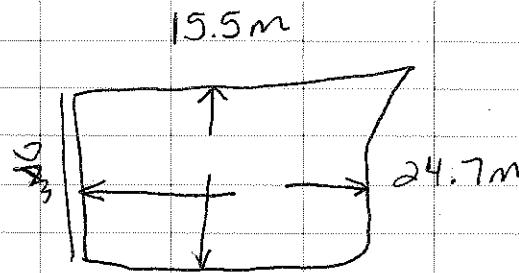
3 August 1996

set 2 hoop in Blackwater Hole
at 10 AM

4 August 1996

checked nets at 10 AM 2 ^{wet} _{specied} ^{5 ANTS}
caught many turtles

1230 PM set one hoop in small
pool below SW Hole



checked nets at 230 PM
caught 1 turtle

water in Canyon is as high or slightly
higher than last June. H₂O in hole
is full.

Set 1 Hoop in Big Gravelly Pool
at (ca) 330 PM checked next
day at 1030 AM, nothing but
bottom of funnel was barely at
H₂O level

Big Gravelly and many other
pools along run are murkier w/
more algae than normal

lots of tadpoles and yellow and
black water beetles

collected 5 yellow/black H₂O beetles
from pools below camp 1 in Blackwater Canyon

caught a true hatchling mud turtle
from pool 100m below camp
released w/o markings

Painted Pts	
Big Gravelly	BG
Deep pool	DP
infant tree	MT
Lost Fork	LF
would-be Rapids	W
Snag pool	SP
Pine pool	PP

5 Aug 1996 Hidalgo Co. NM

collected dead night snails
just off Geronimo Trail ca. 100m
E of turn-off to Blackwater Hole
T32S R21W Sec 17

coll: PAS

24 May 1997

Arrived at Kaila's Camp

(a) 4 PM

SET NETS IN BW HOLE

(a) 5:15 PM

plenty of H₂O in pools and hole

O Kaila's camp

1	199° from O	- 2 very small puddles b/t O & 1
2	256° "	- no puddles
3	231° 30m	- large puddle b/t 2 and 3
4	293°	- small puddle b/t 3 and 4
5	291°	- no puddles
6	234°	"
7	207°	"
8	180°	"
9	188°	"
10	217°	"
11	224°	- tiny puddle b/t 10 & 11
12	224°	- small puddle b/t 11 & 12
13	196°	- no puddles

14	246°	no puddles
15	244°	no puddles
PP	242°	large pool pine is at heading 50m
17	255°	small puddle bft PP and 17
18	180°	no puddles
19	169°	large pool pool is 10 m above 18 plus a few small puddles
SP	192°	snag pool is at heading 50m

25 May 1997

checked nets at 1230 pm

reset nets at 200 pm

water levels are generally low in the pools - many small pools are completely dry - lowered levels in most large pools - rapids are full levels higher than last 2 trips lower than last 2 trips

21	241°	No puddles (at trail switchback)
22	246°	No puddles (foot of would-be rapids)
23	238°	would-be rapids
24	237°	"
25	234°	"
26	235°	5m up from wall of would-be rapids
27	174°	No puddles (No pt. parked)
28	150°	"
29	157°	pt is in middle of large pool at bend no other puddles

30	170°	piece of large pool at beginning of segment
31	187°	tiny pool at pt. 31
32	180°	35m few tiny pools at beginning of segment
33	242°	No pools
34	255°	No pools
35	262°	No pools
36	277°	pt. is 10m down ^{up} from lost fork
37	296°	40m no pools
38	310°	large pool 50m below meadow + a few small pools pt. is at bottom of pool no pt. parked
39	318°	pt. is at large pool immediately above deep pool
40	274°	35m long pool 10m above pt 39
41	211°	No pools
42	209°	"
✓ 43	178°	"
44	189°	"
45	206°	"
46	224°	" several that will fill someday
47	226°	1 tiny puddle + several that will fill
48	249°	3 small pools
86	238°	35m B5 gravelly is at pt. no pt. parked

26 May 1997

checked nets at 1030 AM

walked up canyon (ca) 1 Km

a few pools at 15+ (near the hole)

bft nothing later

	Din	Dis	Comments
50	207°		No pools, several would-be
51	209°		large pool at pt. (several small)
52	221°		pool at pt.
53	183°	35m	No pools
54	145°		"
55	135°		NO pools, several would-be
56	138°	25m	" " "
57	197°		No pools
58	234°		pt. is 10m past dead thug
59	213°		NO pools, maybe a couple would be
60	203°		No pools
61	187°		No pools, pt. in mid of large ^{would} of
62	LF 172° 35m	pt. 15 m from trail of	no pools, sever. would be lost
63	210°		1 pool at ca 25m
64	222°		No pools - some will be
65	208°	no pt.	parts No pools - pt is 14 ft off trail
66	206°	63.5m	pt. is the dam
67	220°	56m	to front edge of back pool

27 May 1997
Noodling - 1 pm - 3:20 PM
in pool 1 mile W of campturnoff on Geronimo Trail

set 2 nets in deep pond w bass
just N of Geronimo trail ca 3 AM

noodled in 4-5 other pools b/w the 2
ponds along the trail - nothing

28 May 1997
checked and fished nets at 8 AM
8 turtles and many sunfish and 1 small bass

Aug 1997

Aug 2 - set one small hoop in
remnant of dry hole - 12:00 PM
hole is reduced to 2 small puddles

checked next day at 10 AM

saw Black-necked garter snake
black-tailed rattle snake
mosquitofish lion
collected 2 huge beetles along
Geronimo trail

pool levels are at or all time high
many places actually flow

collected -

(2 August 1997)

large, live beetle
from camp - PAS, T. watts

Canapace - larger Sonoran mud turtle
Last fork - T. watts collector

(3 August 1997)

large, dead beetle
Geronimo Trail PAS-col
200 m from camp

(4 August 1997)

Canapace - smaller Sonoran mud turtle
Last fork - T. watts col

Both beetles - Sec 17, R 21 W, T 32 S
Coronado National Forest
Hidalgo Co., NM

5 Aug 1997

checked nets at 9 AM nothing
waded for 1 hr in stream
behind Clawton Tank - nothing
Drove home via I-25 / I-40
950 miles 15 1/2 hrs

(except sunfish
and 1 bds)

1 Aug 1997

Left Edmond at 6:30 AM
Billie Welch, Tamara Watts, me
Drove rental car straight through
14 hrs, 850 miles
took I-40 to Amarillo
cut through back roads through Roswell,
Alamogordo, Las Cruces to I-10
Set up camp $\frac{1}{4}$ mile past road
to Blackwater hole - rained in early
AM

2 Aug 1997

Hiked straight up to hole
almost no water in hole
able to set 1 tiny hoop
noodled in afternoon from hole
to Big Gravelly - lots of turtles
in pools - water in pools at all
time high, back to camp in
late afternoon

3 August 1997

Rained in morning - left women in camp
blasted up to hole to check net
11 turtles - measured and blasted
back to car - locked keys in truck
Spent late morning/early afternoon
getting keys - dawn very hot
Eaten by a mountain lion -
women found new pond N of
Geronimo trail down road by
camp. - maybe Clanton pond
noodled from 3PM to 6PM
Pine pool to Lost Fork - very few turtles

4 August 1997

noodled in AM - camp to Pine pool
nothing - Lost Fork to Big Gravelly
a few - pine pool to Lost Fork
almost a flowing stream
past Deep pool \rightarrow $\frac{1}{2}$ to normal
Lost Fork to Big Gravelly - tho high
went to hole - ate lunch - noodled
up canyon past hole - 2 turtles
noodled up wrong way past Lost
Fork - one recapture - blasted back
to camp - set nets in new pond
in late afternoon

25 May 1997

set 2 Hoops in BW Hole 5 PM

Hole full, 1 foot is pretty low

806 AM 26 May 1998

Set 1 fur in pool btt 18 & 19

after exhaustive dredging

would-be rapids reduced to a series
of small pools w/o interconnections

dead tree pool - Only
pool from last fall to drain - all day

checked Hoops around noon

~~checked~~

Set Four Hoops at 115 fm

3 in BW Hole, 1 in pool behind BW Hole

Set 2 fur

1 in pool btt 18 & 19 (24 hr set - no turtles)

1 in Deep Pool 24 hr set - ~~no~~ turtles

27 May 1998

915 AM Set fur in Pool

10 m below mutant-free

958 AM Set fur in Big Gravelly

multiply Sampled pools

times sampled

Pine Pool

1/1

would-be rapids

1/1

pool below mutant tree

1/1

mutant

1/1

Deep

1/1

pool above Deep

1/1

Big Gravelly

1/1

all sampled on 26/27 May - few recaps in sample
possibly analyze probability of same pool recaps

1039 checked Hoops in BW Hole

3 nets 3 turtles

most have refuted 2 turtles

here (two nets) 6 turtles

27 May 27 May

31° 29.89 N 31° 29.88

109° 01.22 W 109° 01.23

5646 ft 5303 ft

Geronimo Sleep Tank - 31° 31.22 N

GPS

109° 00.95 W

5080 ft (± 50)

[Set 2 Hoops @ 2:15 PM]
far end of tank } GSTank

Clanton Tank - 31° 31.48 N

GPS

108° 59.90 W

5392 ft elevation

28 May 1998

checked fur in pool below rotant tree
8:17 AM - nothing; 8:30 checked trap
in big Gravelly - nothing
9 AM checked Hoops - 2 in one hoop
4 in other

reset at 9:25 AM - both nets

hiked a long way up above BW Hole
2 or 3 pools have H2O, & then -
no turtles

1:54 PM checked Hoops in Geronimo
Seep Tank

1 - 3 turtles ca. 50 sunfish
2 - 5 turtles ca. 5 sunfish

3:45 set 2 Hoops in Clanton Tank

checked major pools along
Geronimo Trail

29 May 1998

checked nets at 7:30 AM
Caught a bunch
pulled 4 nets - going home

Checked nets at Clanton Tank at 9:40
caught 30 sunfish each net
1 bass
no turtles

sampled a set in creek behind
Clanton Dam - nothing
pretty dry back there

collected beetles along Geronimo
Trail blt turnoff to Clanton and
Geronimo Seep Tank

(12 Aug 1998)

set 3 mD hoops at BW hole
525 PM

(13 Aug 1998)

checked at 835 AM
reset at 1100 AM

water levels at or near all time high
hole levels at 1/2 of bars
many pools flowing at a trickle
rained night of 12 Aug 1998 - a lot!
Loads of Hyla tadpoles (cavarensis?)
Zone-tailed hawks have a fledgling.

collected Dead # 173

50 m above Last fork

13 Aug 1998 on land upside down

No signs of gross injury

No soft parts - ants eating what's
left of soft parts

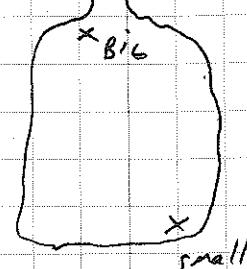
collected dead 2 year old

25 m below last fork
~~w 1/2 m~~ no soft parts

collected Dead # 174 at Big Gravelly
out on rock, no soft parts
ants still active on shell

507 PM

set big hoop and 1 1/2 hoop
at Growing Seep Tarn



officially named Cool Pool
ca. 70 m from
as pool roughly ~~from New Camp to Road~~
marked CP on Rock

Noodled from New Camp to road
and then E to banded wire fence
and west ca. 50m on other side of
road

overcast all day
w/ looming thunderheads

14 AUG 1998

checked nets in Gerino
Sleep Tank at 750 AM

1 turtle in big net - no fish

big net partially collapsed

930 AM checked nets at
BW Hole - caught a bunch
Sunny day, reset about 1030 AM
Hoop 3 under tree

Found Dead juv - unm
BW 1 and 3 ft pool 40 x 41

Collected Don Crotalus at 10x
on road to BW Hole 338?
at 31 mile mark 1027
must have pulled nets there & then at Black
(15 Aug 1998) assume set 1 BIS CCC
1 small

checked nets at Black CCC 10x
820 AM - nothing pulled nets
probably

checked nets at BW Hole
10 AM - caught a bunch

Reset 2 in hole at 1105
1 in pool ca.
1135 behind hole after noodling

Noodled above BW Hole and
wrong way up last fork
water levels reasonably high
one turtle in each

Noodled above Clinton Tank
but did not set nets in the tank
Noodled a bit in Clinton Tank - no turtles

Mapped from Karl's Kamp to Road
labeling pts A, B, C, etc.
cancelled - compass broke

Collected a modest series of
Hyla and Bufo tadpoles from
pools right by camp

Water gentle relative abundance
seems low

Saw 8 black-necked garter snakes
on trip - 5 juveniles, 3 adults

Hyla and Bufo tadpoles everywhere



16 Aug 1997

checked nets at 8:30 AM
pulled

Hoop #2 has been shallow end/
canyon wall

measured water depth and
took pictures of pools

22 May 1999

trace of rain
near base

arrived at BW Canyon ^{baited} ca. 3 pm
fixed up and set 3 hoops
in a greatly reduced ^{comes best} hole
Canyon appears to be
completely dry

checked all major pools from
BW Hole to dam on Geronimo
trail - only water ~~is~~ present
was one pool (20 x 20 m) in
would-be Rapid

Radios appear to work

Audewa stuck <20-30 m range
w/ little directionality
nothing is in flower

didn't see one lizard or
entire cruise of canyon

Zonotrichia hawks not there

No rabbits

very few passerines

a few doves

No moths

No dragonflies at pond

considering a store and
after study of everything's
abundance

lizard censuses

bird counts

aquatic insects in pools

dragonflies

reptiles

moths

saw a 4 inch
centipede - Scolopendra

23 May 1999

checked nets at 9 AM
caught 8 - all recaptures
reset 2 w/ tuna bait
Saw a cowboy on horseback
by the hole
he was looking for 5 lost
cows - tons of cow shit
everywhere, with evidence
that they've been using
the hole a lot

Saw one lizard
saw a few rabbits and
ground squirrels

Saw one zone-tailed hawk

Set 2 nets in Geronimo Deep
Tank at 1130 AM
levels are very low

went to Clanton Tank
levels very low
walked around a little behind tank
Saw a few empty pools - no water

MAPPING

-1	20°	BIG POOL AT 33m
-2	62°	POOL AT 4m
-3	6°	POOL AT 4 m; ADJACENT TO NEW CAMP.
-4	44°	
-5	27°	
-6	85° 30m	DISAPPOINTMENT POOL AT 15m
"	69°	EXTENSIVE POOLS
-7	82°	POOL AT 4m
-8	28° 20m	
-9	1° 20m	POOL AT 20m
"	46° 18m	COOL POOL!
-10	48°	
-11	115° 30m	
	57°	
-12	323° 40m	GERONIMO TRAIL
-13	344° 35m	
-14	288°	
-15	282°	
-16	248° 40m	
-17	234°	5m from GERONIMO TRAIL
-18	292°	10m from G. TRAIL
-19	315°	
-20	310°	
-21	297°	POOL AT 50m.

-22 287 20m

-23 256

-24 258

-25 256

-26 284

-27 286

-28 310

-29 314

-30 318

-31 304 30

CROSSES ROAD (NO POINT PAINTED)

BY TURNOFF TO CLANTON

10M FROM ROAD

MIDDLE OF ROAD AT 25m

10M FROM ROAD

ON ROAD (NO MARK)

BY CAMP GROUND BETWEEN
CLANTON AND GERONIMO
SEEP TANK.

-32 268

-33 274

-34 282

-35 229

LARGE POOL

NEAR TO ROAD

~~CROSS~~

-36 279 40m

LARGE POOL; CROSSES ROAD

-37 315 40m

MIDDLE OF ROAD @ 40m

-38 268 40m

ENDS AT DAM ON
GERONIMO TRAIL

-39 214

-40 206 20m



23 May 1999

Rained 4 times this PM
all short sprinkles
(1 min or less)

found a small pool near Kanta's Camp
(2 m x 0.5 m), under an overhang

Saw a few more lizards

1 Sceloporus magister

so a few Sceloporus

24 May 1999

Saw ca. 10 Cnemidophorus
on way up to tank

Checked Geronimo Seep Tank - 7:45 AM

caught 4 in one net

5 sunfish in other net

rebaited w/ fresh sunfish
in same spots

checked BW Hole 9:40 AM

caught one in each net

rebaited w/ two, in one net
had chunks, no others

also set a small hoop in
pool behind BW Hole

Possible candidates in BW Gyrus

	stripes	spots
benti	yes	yes (adults)
dixoni	yes	yes (adults)
exsanguis	yes	yes
ornatus	yes	no
neomexicanus	yes	few
sonorae	yes	yes
tigris	absent in adults	absent
vinicolor	yes	no

25 May 1999

Checked nets at Seep Tank at
745 AM

Caught 1 turtle / 23 perch in 1 net

1 perch in other net

Rebaited w/ Sardines

#2013 6 yrs J 75g annuli measurements
Left Side 1= 5.8 2= 2.5 3= 2.5 4= 3.1 5= 1.8 6= 2.4

- measured from birth to present

1= 5.4

2= 2.5

3= 2.7

4= 3.2

5= 2.5

6= 2.2

right

side

also attempted
to trace
annuli

checked nets at Blackwater Hole 0945h
caught 4 turtles in 1 net
" 0 " in 2nd net

Rebaited w/ Sardines

checked nets behind BW Hole
Nothing 1000 AM

Rebaited w/ Sardines

#172 8 yrs old ♀ BW H 0945h		LEFT SIDE		RIGHT SIDE	
B1= 6.9 *	2= 6.8	1= 7.7	7.0		
2= 4.0	7.0	2= 3.9	4.6		
3= 3.7	6.0	3= 3.9	6.2		
4= 2.4	4.5	4= 2.3	3.6		
5= 3.0	4.7	5= 3.6	5.3		
6= 1.5	3.2	6= 1.6	2.2		
7= 1.2	2.4	7= 1.4	1.8		
8= 2.6	3.1	8= 2.3	3.0		
* TOTAL = 26.8		* TOTAL = 26.9		38.7	

* = ESTIMATE 38.9

RIGHT COLUMN IS ALONG
THE DIAGONAL

TRANSMITTER #1: RELEASED INTO BW H ON 5-25-99
AT 1030h, 10 BEATS / 10.77 SEC.

25 May 1999

hiked all around BW Hole

located 2 new tanks

one right off Geronimo Trail
west Pass

another nearly due South of
BW Hole (S of Coral)

returned up last fork

which goes way back there

didn't see a single drop of H₂O
all dry - both tanks dry

Last fork dry, behind BW Hole dry

AT 1500h, TRANSMITTER #1 CLICKED AT A
RATE OF 10 CLICKS/1.09 SEC

26 May 1999

checked GSTank at 845 AM

6 perch in one net
nothing in other net

reset both w/ sardines
at other end of tank
(wide end)

checked BWH @ 10:45 am all 3 nets
empty

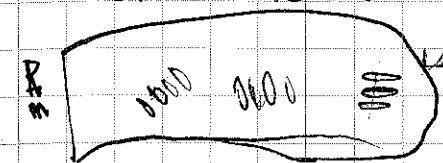
reset w/ Baby Clams

@ 11:26 saw a turtle head poke
out of water @ 400 mm waterdepth

@ 11:04 Cnemidophorus came to
BWH to drink

- nets set @

small one @ south end



10:22

- saw ~~2~~ magister in W/1000
@ BWH, 3 in Canyon

- I checked Cnemidophorus
in canyon, 3 trips

27 May 1999

checked BWH @ 8:25 am

1 turtle in traps 2+3
reset @ 0900h w/ sardines
in same arrangement

Century stalk @ 8:03 am 1780 mm

TURTLE #227 9 yrs old ♀ From BWH

LEFT SIDE	RIGHT SIDE				
1 11.0 *	11.5	11.6	1	11.9	12.2 12.4
2 7.7	7.7	8.2	2	7.5	7.1 7.2
3 2.3	2.9	3.3	3	2.6	3.5 3.9
4 5.1	4.9	4.9	4	5.2	5.2 5.7
5 2.3	2.6	3.0	5	2.5	3.2 3.0
6 3.2	2.8	3.0 ²⁴	6	2.8	2.9 3.0
7 2.1	1.5	1.5	7	1.5	2.9 2.6
8 1.4	1.6	1.6	8	1.9	1.8 1.5
9 1.1	1.7	1.6	9	1.3	1.7 2.1
TOTAL = 38.0, 38.2, 37.9	TOTAL = 38.5, 38.7, 38.6				

water level is @ BWH 900mm
from maximum or from top of
dam to water surface

AT 0915h, TRANSMITTER #1 WAS STILL
IN BWH, AND CLICKED AT 10/16.83 SEC.

ON THE WAY UP THE CANYON, WE SAW NO
LIZARDS, 4 RABBITS AND 1 QUAIL.

10:42 am checked GST, jar missing
South net mysteriously pulled to
shore & laid out, 2 cars were heard
from camp earlier in morning coming
this same direction.

Only 1 perch caught in undisturbed
net.

- nets immediately reset w/ sardines

C 10:30 saw a hawk that was not
a GONE TAILED - maybe A LIGHT-PHASE RED-TAILED.

- saw 2 red dragonflies chasing
each other @ GST

- on hike up canyon this morning
no lizards were out, on hike
↓ canyon 4 striped & 1
checkered Cnemidophorus

- One ♀ & ♂ in separate trees were
seen. THESE trees were marked w/
duct tape, the time & date

- saw Rufous-sided towhee @ GST
while resetting nets.

- FIXED TRANSMITTER #2 TO TURTLE #227

5-28-99

0815h-CHECKED THE TRAPS AT GST. NO TURTLES, BUT ONE NET CONTAINED 8 PERCH, AND THE OTHER NET CONTAINED SIX. WE PULLED THE NETS FOR MEMORIAL DAY WEEKEND. AN OLD MAN WHO WAS CAMPING AT GST SAID THE WATER LEVEL WAS THE LOWEST HE HAD EVER SEEN IT.

TRANSMITTER #2 11:33 am 10/15:47 s

#1 11:35 am 10/13:35 s

checked Buil @ 10:55am, reset nets @ 11:25 w/ sardines in same configuration
CAUGHT 3 TURTLES, HOLD #20 FOR RADIO TRACKING
WATER LEVEL IS 910 mm from maximum
CENTURY PLANT STALK 19.45 mm x 9.20 cm

ALSO KEPT #7 FOR A RADIO TRANSMITTER

Surface area of hole

Sceloporus SVL 105.0 ♂

Clarkii

1 original tail - blue in color

12 regurgitated tail

S. clarkii SVL 95.5 ♀

ON THE WAY UP THE CANYON, WE SAW 1 CHECKERED AND 3 STRIPED Cnemidophorus, 2 Urosaurus, AND 2 S. clarkii. ONE WAS IN AN UNTAGGED TREE, SO WE TAGGED IT. THERE WAS ALSO A MALE Urosaurus IN THE SAME TREE THAT WE CAUGHT & PHOTOGRAPHED.

ON THE WAY DOWN THE CANYON, WE SAW 1 CHECKERED AND 2 STRIPED Cnemidophorus. WE TAGGED ONE MORE S. clarkii TREE CONTAINING A FEMALE. WE NOOSED HER FOR MEASUREMENT, PICTURES, AND IDENTIFICATION. WE ALSO CAUGHT A MALE FROM A PREVIOUSLY MARKED TREE, MEASURED, IDENTIFIED, AND PHOTOGRAPHED. WE ALSO SAW A FEMALE S. clarkii IN HIS TREE SITTING VERY STILL.

AT THE HOLE, WE CAUGHT A JUVENILE LIZARD THAT KEYED OUT AS A MALE Sceloporus poinsettii.

5-29-99

TURTLE #7 10 yr old male from BWLH

LEFT SIDE		RIGHT SIDE		
1 10.3	10.9	11.0	11.4 *	11.5
2 10.3	9.4	10.3	2.84	8.6
3 5.1	4.9	4.8	3.57	5.6
4 3.0	3.6	3.6	4.25	2.6
5 4.6	5.0	4.5	5.41	4.5
6 0.9	1.5	1.2	1.2	1.3
7 1.2	1.2	1.2	1.6	1.8
8 1.5	1.8	1.7	1.2	1.1
9 1.2	0.9	1.0	0.8	0.8
10 0.4	0.6	0.6	10.05	0.5
TOTAL = 36.5 , 36.8 , 36.5		TOTAL = 37.4 , 37.0 , 36.6		

* FIRST ANNULI NOT VISIBLE

LEFT CAMP FOR BWLH AT 0846h.

CENTURY PLANT @ 9:20a 2055 mm

ARRIVED AT BWLH AT 1020h. SAW 4 STRIPEO,
2 CHECKERED, 2 Urosaurus, AND MARKED
ONE NEW ♀ clarkii TREE. ALSO MARKED
THE TREES WITH 10?/1? Urosaurus.

WHEN WE ARRIVED AT BWLH, TWO NETS WERE
~~MISSING~~ PULLED ONTO SHORE, AND ONE NET WAS
MISSING. THE SMALL NET (#3) CONTAINED #166.
HER ~~#3~~ LEFT REAR LEG WAS TWISTED TIGHT IN
THE MESH, AND HER FEMUR WAS SNAPPED IN
TWO. SINCE WE CAUGHT HER YESTERDAY, WE
RELEASED HER WITHOUT MEASURING.

RELEASED TWO RADIO-TAGGED TURTLES,
#7 AND #20.

TRANSMITTERS:

- 1 10/14.04 sec
- 2 10/15.79 sec
- 3 10/15.95 s
- 4 10/16.47 s

SURFACE AREA OF BWLH

1 9.4	9	11.9	17	11.0
2 9.2	10	12.0	18	10.6
3 9.3	11	11.8	19	10.3
4 9.1	12	11.8	20	10.2
5 9.9	13	12.1	21	10.0
6 10.1	14	12.1	22	9.3
7 11.0	15	11.7	23	5.6
8 11.9	16	11.5	24	1.9

$$\theta = 9.6 \text{ m}$$

TWO

RESET NETS @ 11:15 w/ SARDINES, ONE
NET AT EACH END.

SAW 5 S. VIRGATUS ON DAM WALL +
ONE STRIPED CNEMIDOPHORUS

S. CLARKII ♂ SVL 88.9 } FROM THE HIKE
11 ♂ SVL 93.9 } BACK TO CAMP

LEFT BWHT AT 1130h, ARRIVED AT CAMP AT
1245h. ON THE WAY DOWN, WE MARKED TWO
NEW S. CLARKII TREES (SEE ABOVE). WE
ALSO SAW 2 S. VIRGATUS, AND 2 STRIPED AND
2 CHECKERED CNEMIDOPHORUS.

30 MAY, 99

CENTURY 8:40 AM 2000 MM
STALK 2000

CHECKED NETS AT 9:00 AM - NETS
APPARENTLY UNDISTURBED

FOUND MISSING NET IN WATER, NO TURTLES
RESET NETS AT 9:10 AM w/ SARDINES

IN ~~SHADE~~ CONFIGURATION



WATER DEPTH 930 mm FROM MAXIMUM

TRANSMITTERS @ 9:37 am

1 =	10/	16.47 SEC
2 =	10/	15.50
3 =	10/	17.00
4 =	10/	15.22

SAW NO LIZARDS ON THE WAY UP CANYON
DUE TO OVERCAST SKY AND TEMP. OF
65-70° F

LEFT BWHT AT 0933h AND ARRIVED AT
CAMP AT 1010h. ON THE WAY DOWN WE
SAW NO ACTIVE LIZARDS, BUT I DID SEE TWO
~~MARKED~~ S. CLARKII IN A CREVICE IN THE TRUNK
OF A PREVIOUSLY MARKED TREE. PRIOR TO
TODAY, WE HAD SEEN ONLY A SINGLE MALE
IN THAT TREE.

1030h - ATTACHED TRANSMITTER #5 TO
TURTLE #161.

5-31-99

LEFT CAMP AT 0745h, AND ARRIVED AT BWH
AT 0818h. SAW NO ACTIVE LIZARDS.

WATER LEVEL 955 mm FROM MAXIMUM
CHECKED NETS AT 8:25 RESET AT 9:07a
W/ SARDINES IN SAME CONFIGURATION

TURTLE #1813. 3 YRS OLD FROM BWH

LEFT SIDE

0	6.3	7.2	6.5
1	5.8	6.0	5.8
2	8.2	7.5	8.1
3	6.6	6.2	6.4
TOTAL =	^{25.5} 25.5	25.4	26.2

RIGHT SIDE

0	7.0	7.5	7.1
1	6.2	6.1	5.7
2	8.7	7.9	8.0
3	6.6	6.5	6.1
	26.5	26.4	26.0

TURTLE #217 - ACTUALLY NOT MEASURABLE

TRANSMITTERS @ 0900 h

#1 = 10/ 16.68

2 = 10/ 16.03

3 = 10/ 17.23

4 = 10/ 16.86

5 = 10/ 15.94

RESET CENTURY PLANT
2310 MM

ON THE WAY BACK TO CAMP, FROM 0955h
TO 1105h, I SAW ONE CHECKERED Cnemidophorus,
ONE S. virgatus, AND ONE Urosaurus ornatus.

11-JUN-99

CENTURY PLANT STALK Ø310 mm
CHECKED NETS AT 8:20 am
WATER LEVEL IS 960 mm FROM MAXIMUM
RESET NETS AT 8:45 am W/ SARDINES
IN SAME CONFIGURATION

TRANSMITTERS AT 9:50 am

1 = 10/ 17.91 SECONDS @ shallow end west side
2 = 10/ 16.37 DEEP END
3 = 10/ 17.73 EAST SIDE SHALLOW - DEEP END
4 = 10/ 17.31 IN MIDDLE THEN TOWARD DEEP
5 = 10/ 15.50 AT LOWER OF DEEP END BY
DATA LOGGER SE CORNER

#1 & 4 moves away from day's feet
so did #3

MARKED ONE S. virgatus snag this
MORNING DAY SIGHTED LAST NIGHT

WENT TO DOUGLAS FOR A LITTLE FOOD, THEN DRODE TO SKELETON CANYON TO LOOK AT PINE TANK. THE TANK WAS DRY, BUT IF IT EVER FILLS UP IT WILL BE ABOUT 3m DEEP. THE CANYON APPEARED TO HAVE SOME NICE ROCKY POOLS FOR TURTLE HABITATION.

WE SAW SEVERAL LIZARDS THAT WERE SIMILAR IN SIZE AND APPEARANCE TO *S. clarkii*, BUT INHABITED ROCKS RATHER THAN TREES.

ON THE WAY HOME FROM ROAD FORKS, I HIT A COMMON POORWILL, STUNNING IT. WE BROUGHT IT BACK TO CAMP, AND IT WAS GONE IN THE MORNING. SEVERAL HUMMINGBIRDS HAVE ALREADY DISCOVERED OUR FEEDER.

6-2-99

LEFT FOR RWHT @ 9:15 am, SAW CHECKERED CLOACIDOPHORES @ 9:30 am CENTURY PLANT STALK 25.15 mm @ 9:38 AM

UROGANUS ORNATUS ♀

SVL 48.5 mm THROAT PATCH 10.7 mm

MASS 2.8g scales \approx 1 gm off = 2.7g

VENT TO TAIL 51.8MM

reg. tail 39.6 mm

TP = throat patch
V-T = vent to tail

S. spinosus JOSVL 32.4 @ 11:00 am

TP 5.7 V-TAIL 39.5

MASS 1.25g

CHECKED NETS AT 11:05 NM RESET AT 11:24 am w/ SARDINES IN CONFIGURATION ON MAP BELOW WATER LEVEL AT 11:05 ~~was~~ 980 mm from maximum



TRANSMITTERS AT 11:30

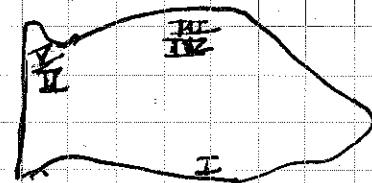
1 = 12.32 Sec.

2 = 16.45

3 = 17.21

4 = 17.46

5 = 15.99



THE POND IS ~~about~~ 60% A on SURFACE

ASIDE FROM THE LIZARDS WE MEASURED, WE SAW A CHECKERED AND 2 STRIPED Coenophorus. WE BROUGHT ONE OF THE STRIPED BACK TO CAMP TO ID.

WE LEFT BWT AT 11:50h, AND ARRIVED BACK AT CAMP AT 13:40h. ON THE WAY DOWN, WE SAW PAIRS OF S. clarkii IN TWO MARKED TREES. WE TRIED TO CATCH ONE OF THE PAIR, BUT WERE UNSUCCESSFUL.

THE ENTIRE DAY THUS FAR (14-91) HAS BEEN VERY WINDY.

C sonorae ♀

SVL 62.6 mm NO THROAT PATCH

V-T 143.5 mm

MASS 5.75 g

- CAUGHT ON TRAIL \approx 100m BELOW BWT
INCLOSED AND KEYED OUT AT CAMP. A
PARTHENOGENIC SPECIES AND IS
AN ADULT.

SET NETS AT GST AT 5:30pm w/
SARDINES

3 June 91

LEFT FOR BWT AT 8:05 am

GENTLY PLANT 2560 mm 8:30 am

ARRIVED AT BWT AT 8:43

WATER LEVEL 990 mm FROM MAX.

CHECKED NETS AT 8:45

RESET NETS AT 9:00am BUT DID NOT
BAIT THEM, WILL WAIT UNTIL EVENING
TRANSMITTERS

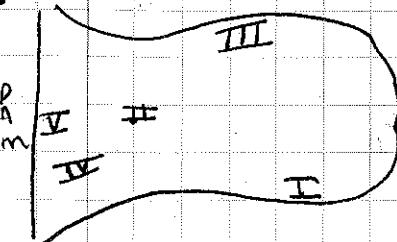
1 = 17.51 sec.

2 = 16.78

3 = 18.03

4 = 17.36

5 = 16.95



2, 4 & 5 WERE TRAPPED IN NETS

SAW 1 SMALL STRIPED AND ONE
CHEQUERED LERMIDOPHORUS.

LEFT BWT AT 9:34 ARRIVED AT CAMP
AT 10:13 SAW ONE STRIPED & ONE
CHEQUERED CACTUS + ONE ♀ S. clarkii
IN A PREVIOUSLY MARKED TREE.

CHECKED NETS AT GST AT 11:00h. NO TURTLES,
BUT 6 PERCH IN ONE NET. THE EMPTY NET
DID NOT HAVE A BAIT JAR IN IT. SAW
A PAIR OF HAIRY WOODPECKERS AT THE GST.

2737

6:50 pm Q Built TRAUSMITTERS

- | | |
|-----------|------------------------|
| 1 = 12.59 | SAME LOCATION |
| 2 = 14.60 | IN CORNER BELOW WILLOW |
| 3 = 12.27 | SAME LOCATION |
| 4 = 14.51 | IN CORNER BELOW WILLOW |
| 5 = 14.63 | IN CORNER BELOW WILLOW |

PROBE OF DATA LOGGER OUT OF WATER,
DEVICE MOVED TO PUT PROBE BACK
IN WATER
AIR TEMP. PROBE FELL FROM WILLOW
TREE PROBABLY DUE TO HIGH WINDS.
WAS REPLACED

PREVIOUSLY THIS AFTERNOON AT 2:30 pm.
B/L MAP #'s 12+13 BOTH ZONG TAKED
HAWKS WERE SEEN OVERHEAD AND
SWOOPED US AS LONG AS WE WERE
IN THE AREA.

PUT SARDINES IN NETS AT 6:45 p.

4 JUNE 79

LEFT FOR BWK @ 7:55 am I IMMED. SAW
A NEW S-clarkii ♀ MARKED TREE.
CONTINUOUS PLANT 2640 mm 8:15 am
CHECKED NETS AT 8' 32 AND RESET
WITHOUT BAIT
WATER LEVEL 1010 mm FROM MAXIMUM
TRANSMITTERS @ 9:05 am

- | | |
|---------|------------------|
| 1 19.00 | SAME LOCATION |
| 2 17.00 | LOG UNDER WILLOW |
| 3 20.20 | SAME LOCATION |
| 4 17.61 | SAME |
| 5 16.11 | SAME |

VERY WINDY LAST NIGHT AND
AGAIN TODAY. SAW ONE STRIPED
LIZARD ON WAY UP TO BWK

WE LEFT BWK AT 0915h AND ARRIVED
BACK AT CAMP AT 1000h. I CAUGHT
A ♀ S. virgatus BY HAND; SHE WAS GRAVID.
I SAW NO OTHER LIZARDS.

CHECKED THE NETS AT GST AT 1015h.
NO TURTLES, AND ONE PERCH. WE PULLED
BOTH NETS AND BROUGHT THEM BOTH TO CAMP.

PAIGE BAITED THE TRAPS AT 1015h. ON THE WAY UP THE CANYON, I FOUND A NEW S. clarkii TREE JUST ABOVE THE WOULD-BE RAPIDS. AT 1755h, I SAW A S. virgatus, AND AT 1805h I SAW A ♀ U. ornatus.

TRANSMITTERS	6:25 PM	LOCATION
1	13.03 SEC.	SAME
2	17.12	SAME
3	13.50	SAME, PROB. NOT IN H2O
4	14.52	UNDER WILLOW AT MID PT OF LOG.
5	15.82	SAME

FOUND BLEACHED OUT TURTLE SHELLS ON MUD OF EAST BANK OF BW14. TOOK TO CAMP FOR MUSEUM COLLECTION.

15 JUN 99

LEFT FOR BW14 @ 7:50

CENTURY PLAT 2770 mm 116
STARTING TO SHOT FLOWER BW2 - 8:15am
CHECKED ADDRESSED NETS AT 8:43 ONLY
ONE TURTLE TRANSMITTER #5 - DID NOT
BAIT THE NETS
LESS POWERFUL, BUT STILL VERY WINDY

WATER LEVEL 1030 mm FROM MAXIMUM
TRANSMITTERS LOCATION 8:50 am

1 19.95 SAME
2 17.63 LOG UNDER WILLOW

3 NO SIGNAL DUE TO LOW BATTERY

4 18.52 SAME
5 18.04 1 METER FROM DAM IN MOBBET
3 m FROM W EDGE

RESET NETS W/ SARDINES AT 9:20 AM
SWITCHING LITTLE NET #3 & LARGE NET

#1



0944h - ONE STRIPED Crotaphytus NEAR THE HOLE. LEFT BW14 AT 0945h AND ARRIVED IN CAMP AT 1032h. PAIGE SAW TWO STRIPED Crotaphytus, AND I SAW 3 S. clarkii IN HOLES OF TAGGED TREES.

16 JUN 99

LEFT FOR BW14 7:45am

8:07am CENTURY PLAT 2770 mm

ARRIVED @ BW14 @ 8:23 AM CHECKED NETS AND DID NOT RESET

WATER LEVEL 1045 mm FROM MAXIMUM
*NO TELEMETRY DUE TO LOW RECEIVER BATTERIES

5:45pm

LEFT BWHT AT 0855h, AND ARRIVED IN CAMP AT 0926h. WE SAW NO LIZARDS ON THE TRAIL GOING UP OR DOWN, BUT WE DID SEE THE JUVENILE S. poosae THAT RESIDES BY THE DAM.

HORNED LIZARD FROM ROAD TO
DOUGLAS ♂ 10:46 am

SVL 87.9
V-T 46.2
BT POSTMENTAL TURNS 12.3
MASS 391 g

FOUND CROSSING GERONIMO'S TRAIL IN
COCHISE CO., AZ, NEAR MILE MARKER 10.

7 JUNE 99

LEFT CAMP AT 1615h.

CENTURY PLANT 300:2740mm

ARRIVED AT BWHT AT 1655h. THREE MEXICAN
MALLARDS WERE AT THE HOLE WHEN WE
ARRIVED.

NETS SET AT 5:00 PM w/ SAEDINES

** SAME ARRANGEMENT

NO TELEMETRY, FORGOT ADAPTER

WATER LEVEL FROM MAXIMUM: 1080mm
STRIPED CNEMI ON DAM

GOT BACK TO CAMP AT 1842h. ON
THE WAY DOWN, PAIGE SAW A STRIPED Cnemidophorus. I SAW A MALE S. virgatus
CHASING A S. scalaris OF UNDETERMINED SEX.

8 JUNE 1999

LEFT CAMP AT 0755h AND GOT TO BWHT AT
0826h. SAW NO LIZARDS, BUT DID SEE 5
RABBITS. SAW MONTEZUMA QUAIL AT 0830h BY DAM.
CHECKED NETS @ 8:40am - RESET ~~10:00~~ 9am
BAITING w/ SARIMES, NETS SET IN SAME
CONFIGURATION.

TRANSMITTERS LOCATION

- | | | |
|---|-------|--------------------|
| 1 | 17.72 | SAME |
| 2 | 15.86 | CORNER |
| 3 | 14.66 | 10 SAME |
| 4 | 16.53 | CORNER |
| 5 | 15.09 | CORNER |

WATER LEVEL @ 9:10 am 1085 mm FROM MAX

* NET #2 DID NOT HAVE A BAIT JAR IN IT
PROPERLY. THE JAR WAS ON THE LIP OF THE FUNNEL.

1028h - SAW ONE RED DRAGONFLY. ALSO, AN HEPATIC TANAGER AND A HAIRY WOODPECKER.

* AT 0845h, I MOVED THE DATA LOGGER IN THE SHALLOW END OF BW/H ABOUT 2M TOWARD THE DAM IN ORDER TO GET THE PROBE UNDER WATER. THIS NEW LOCATION STAYS SHADED LONGER IN THE MORNING THAN THE OLD LOCATION.

1034h - SAW A MALE MONTEZUMA QUAIL JUST ABOVE THE MOSQUITO POOL.

1040h - SAW TWO COATIS AT MOSQUITO POOL.

1045h - NOW TWO RED DRAGONFLIES.

PHOTOGRAPHED BW/H FROM THE USUAL VANTAGE POINT ON THE CLIFF.

1338h - A ROADRUNNER RAN UP THE BACKSIDE OF THE DAM IN PURSUIT OF A LIZARD. THE LIZARD ESCAPED INTO THE WILLOW, AND THE ROADRUNNER WENT UP THE CLIFF FACE.

9 JUNE 1999

LEFT CAMP AT 0715h AND GOT TO BW/H AT 0750h. I SAW 4 RABBITS AND NO LIZARDS. THE QUAIL WERE UNDER THE WILLOW WHEN I ARRIVED.

CHECKED NETS AT 8:20 am
WATER LEVEL 1105 mm FROM MAXIMUM
TRANSMITTER LOCATION
1 18.68 SAME
2 16.72 SAME
3 20.90 SAME
4 UNPLETED PICK UP SIGNAL
5 15.57 SAME
PULLED NETS OUT OF WATER

10 JUNE 1999

NO TRAPS TO CHECK. WATER LEVEL IS 1135 mm AT 0911h.

#243, JUVENILE, 3 YRS OLD, CAUGHT ON LAND BELOW DAM.

	LEFT	RIGHT
NATAL	4.6 4.8	4.7, 4.5
1	6.6, 6.7	6.1, 6.7
2	7.9, 7.8	7.6, 7.6
3	4.9, 4.6	5.2, 5.3
TOTAL	23.2, 23.3,	23.3, 23.2

#189 7 yr old ♂

L		R				
1						
2						
3						
4						
5						
6						
7						
TOTAL	37.8	38.2	38.0	TOTAL	37.8	37.3

* DANE IS GUESSING AT THE LOCATION OF THE NOTCH.

FROM 1200-1400h, PAIGE AND I NOODLED BWH, UNCOVERING 8 TURTLES, ONE OF WHICH HAD NEVER BEEN NOTCHED. HE BECAME #249.

11 JUNE 91

WATER LEVEL 1160 mm FROM MAXIMUM LEFT FOR BWH C 8:10 am ARRIVED P 8:48 am, NO NETS TO CHECK DANE SAW ONE S. clarkii + N ANY BEAR AND DEER TRACKS ALONG TRAIL JUVENILE S. PONSETII AT BWH

TRANSMITTER

+ 17.88

LOCATION
SAME
AT GETASSINE 2m FROM WATER

2 19.15

SAME

3 20.07

SAME; 4m FROM WATER

4 NO SIGNAL

5 14.82

SAME

TRANSMITTER #4 THOUGHT TO BE DYSFUNCTIONAL SINCE WE NOODLED THE HULL AND FOUND IT UNDER THE WILLOW BUT ARE UNABLE TO PICK UP A SIGNAL

FUND SURFACE TREK

0 7.6 11 3.5

1 7.5 12 4.2

2 6.9 13 4.1

3 6.1 14 5.1

4 4.9 15 6.0

5 4.1 16 5.5

6 4.5 17 4.1

7 4.7 18 4.2

8 4.8 19 0

9 5.2

10 4.9

12 JUNE 1999

From 0720h to 0746h, I saw ONE RABBIT AND ONE DEER ON THE TRAIL, NO LIZARDS.

WATER LEVEL = 1190 mm.

TRANSMITTER LOCATION

1	17.71	SAME
2	13.91	SHALLOW END, MIDDLE 4 m FROM DAM
3	19.90	SAME
4	NO SIGNAL	
5	14.16	SAME

13 JUNE 99

WATER LEVEL 1210 mm FROM MAX.
LEFT FOR BWHT AT 7:40 + SAW
NOTHING ALONG TRAIL.

TRANSMITTERS LOCATION @ 8:25 am

1	17.35	SAME
2	13.65	SHALLOW WATER
3	19.32	SAME
4	NO SIGNAL	
5	14.04	SAME

AT ~1800h, IT ACTUALLY STARTED TO RAIN,
SORT OF. DROPS ARE FALLING, THE GROUND

IS VAGUELY MOIST, AND MORE DARK STORM CLOUDS LOOM ON THE HORIZON. AT 1855h, RH = 75%; THE RAIN GAUGES EACH CONTAIN ONE DROP OF RAIN.

14 JUNE 1999

LAST EVENING, 5-6mm OF RAIN FELL.
JUST PRIOR TO SUNRISE, RH = 100%
AT 0734h, THE WATER LEVEL IN BWH = 1215mm
FROM 0655-0730h, I SAW TWO RABBITS, TWO GAMBOL'S QUAIL, AND 4 FLICKERS.

TRANSMITTERS

1 14.83

LOCATION

Moved. Seems to be in shallow, BUT NEAR, dam

2 16.06

CAN'T LOCATE*

3 17.36

Moved into deep area by dam

4 NO SIGNAL

SAME: CORNER UNDER WILLOW

5 13.92

* THE SIGNAL IS VERY WEAK, BUT I BELIEVE THAT #2 IS STILL IN THE HOLE.

ON THE WAY UP, A COUPLE OF THE ROCK POOLS AT PINE POOL ~~HAD~~ CONTAINED A LITTLE STANDING WATER, BUT I PREDICT THAT IT WILL DISAPPEAR IN ONE WARM DAY.

15 JUNE 1999

HIKED FROM 0735-0825h, SAW NO NOTEWORTHY ANIMALS. AT THE HOLE, PAIGE SAW 6 MALLARDS. WATER LEVEL = 1240mm FROM MAX. AT 0830h

TRANSMITTER

1 13.24

LOCATION

SAME

2

WEAK SIGNAL BUT IN POND

3 13.36

SAME

4 NO SIGNAL

DEEP END FAR FROM DAM

5 13.40

SAME

16 JUNE 1999

FROM 0715h-0751h, SAW TWO S. jarrovii AND TWO RABBITS. THREE MEX. MALLARDS AT BWH.

WATER LEVEL = 1275 mm FROM MAX (0805h)

TRANSMITTERS

LOCATION (0815h)

1 13.09 DEEP PART AWAY FROM DAM

2 13.78 WEAK SIGNAL, CANT LOCATE

3 13.43 SAME

4 NO SIGNAL

5 13.63 SAME

HIKING DOWN FROM 0843-0926h, SAW

2 RAVENS, 1 S. virgatus, 1 STRIPED AND 1 CHEQUERED
Enemidophorus.

1600h - TRACE RAIN

2338h - TRACE RAIN

17 JUNE, 1999

LEFT CAMP AT 0701h, GOT TO BWH AT 0735h. SAW 1 RABBIT, AND 2 MONTEZUMA QUAIL NEAR CARLA'S CAMP.

AT 0710h, TRACE RAIN.

TRANSMITTER

LOCATION (0815h)

1 12.22 BURIED IN THE MUD, CA. 4m FROM DAM

2 ~~12.10~~ 13.94 WEAK SIGNAL, BUT I THINK BURIED ON FAR BANK

3 12.16 IN WATER NEAR DAM

5 12.77 IN WATER UNDER WILLOW

0744h, WATER LEVEL = 1310mm FROM MAX

HIKED DOWN FROM 0835-0908h. NO ANIMALS TO REPORT.

18 JUNE 1999

HIKED TO BWH FROM 0703-0741h, AND SAW NO ANIMALS MORE INTERESTING THAN A ROBIN. WATER LEVEL AT 0745h WAS ~~1325~~ 1325 mm BELOW MAXIMUM.

TRANSMITTER	LOCATION (8:00 am)
1 12.78	IN WATER
2 14.43	DRY PART OF BWL
3 12.81	IN WATER
4 NO SIGNAL	
5 13.72	IN CORNER

19 JUNE 1999

WALKED TO BWL FROM 0658-0730h; SAW NO LIZARDS.

AT 0733h, WATER DEPTH IS 1,330 mm FROM MAX.

TRANSMITTER LOCATION (0740h)

1 13.92	IN WATER, NEAR CORNER BY WILLOW
2 16.67	WEAK SIGNAL, IN BWL SOMEWHERE
3 14.75	IN THE WATER NEAR THE MIDDLE OF THE DAM
5 15.55	IN CORNER BY DAM UNDER THE WILLOW

AT 0800h, REMOVED SHALLOW-WATER DATA LOGGER

WALKED DOWN CANYON FROM 0815-0850h. NO

LIZARDS.

1600h-SET TWO NETS AT GST.

1630h- VERY TINY AMOUNT OF RAIN FELL

20 JUNE 1999

WALKED TO BWL FROM 0646-0719h. NO LIZARDS.

0727h. WATER LEVEL WAS 1,360 mm FROM MAX.

0735h

TRANSMITTER LOCATION

1 13.51	BURIED IN MUD \approx 3 1/2 m FROM DAM
2 No. 00	SAME; IN BWL SOMEWHERE
3 14.39	IN CORNER OPPOSITE WILLOW
5 14.91	IN CORNER UNDER WILLOW

CHECKED NETS AT GST @ 9:05 am RESET
AT 9:25 w/ SARDINES. CAUGHT 2 TURTLES.

21 JUNE 1999

WALKED TO BWL FROM 0710-0745h. NO LIZARDS

0748h - WATER DEPTH = 1340 mm

7:25 am TRANSMITTERS LOCATION

1 14.33	IN CORNER UNDER WILLOW
2 16.3	WEAK SIGNAL, IN BWL SOMEWHERE
3 15.71	BURIED IN MUD FAR END OF SHALLOWS
5 15.53	BURIED IN MUD ON EAST BANK

RAIN FROM YESTERDAY ENLARGED SURFACE AREA
OF PUDDLE IN SHALLOWS

0838-0910h - WALKED BACK TO CAMP; SAW 1 S. clarkii
AND 2 S. virgatus.

CHECKED NETS AT GST AT 9:40 am. CAUGHT
TWO TURTLES. RESET NETS AT 9:45 am.
W/ SARDINES.

#2012 GST 4 YR OLD

N	6.5	6.8	7.1	N	6.5	6.6	7.2
1	5.9	6.2	6.2	1	6.7	6.3	6.3
2	4.5	4.5	4.6	2	4.7	5.0	5.0
3	6.3	6.7	7.2	3	7.6	6.9	6.8
4	7.1	7.9	7.8	4	7.1	7.3	7.3

5
TOTAL: 30.5, 30.7, 30.4
TOTAL: 30.5 30.4 30.4

From 1530-1645h, PAGE AND DAY NOODLED
BLACK WATER CANYON. 3 TURTLES WERE
FOUND, AND ALL WERE GIVEN TRANSMITTERS.

22 JUNE 1999

WATER LEVEL = 1375 mm @ 8:35 am
ALL 3 TURTLES W/ NEW TRANSMITTERS
RETURNED ON HIKER UP CANYON

0833 h

TRANSMITTER	LOCATION
1 13.10	BURIED IN MUD 4 m FROM DAM
2	NO SIGNAL
3 13.20	BURIED IN MUD WHERE SHALLOWS WERE
5 13.24	BURIED IN MUD 5 m FROM DAM

MOSQUITO HOLE IS DRY AND PAIGE
NOODLED 3 SMALL POOLS ABOVE IT. FOUND
NO TURTLES.

CHECKED NETS AT ~~GST~~ AT 11:20
AND RESET NETS w/ SARDINES - NO
TURTLES

23 JUNE 99

0740h - DAY CAUGHT A 1-YEAR-OLD TURTLE IN
A SMALL POOL NEAR THE HOT TUB POOL.
WATER LEVEL = 1410 mm

TRANSMITTER	LOCATION
1 13.13	IN MUD WESTSHORE 6 m FROM DAM
2	NO SIGNAL
3 13.13	IN MUD 5 m FROM DAM
5 13.18	IN CORNER UNDER WILLOW
7	CHECKED NETS AT GST 10:30 am
8	NO TURTLES DID NOT RESET

124 JUNE 1999

7:45am WATER LEVEL = 1450 mm

TRANSMITTER LOCATION

- 1 = 12.70 IN MUD, WEST SHORE, 6m FROM DAM
 3 = 12.33 IN MUD, WESTSHORE, 6 m FROM DAM
 5 = 12.85 IN CORNER UNDER WILLOW

25 JUNE, 99

0717h - WATER LEVEL = 1,485 mm

TRANSMITTER LOCATION

- 1 12.36 SAME
 2 NO SIGNAL
 3 11.91 NO LOCATION OUT TO LOW
 5 12.04 BATTERY

26 JUNE 99

0715h - WATER LEVEL = 1,520 mm FROM MAXIMUM

- 1 12.04 SAME LOCATION, 3M FROM DAM
 2 ~~12.25~~ NO SIGNAL 12.25 (FROM TOP OF MOUNTAIN)
 3 11.33 BURIED IN MUD
 5 12.03 BURIED IN MUD

27 JUNE, 99

AT 0755h, THE WATER LEVEL WAS
 1550 mm FROM MAX

TRANSMITTER	LOCATION
1 11.89	BURIED IN MUD-SAME
2 12.165	BURIED, IN LAST FORK *
3 11.66	BURIED IN MUD-SAME
5 12.13	BURIED IN mud-SAME
* LOCATION WAS FLAGGED AND WILL BE MAPPED LATER.	

28 JUNE 99

7:20 am WATER LEVEL 1580 mm

TRANSMITTER LOCATION

- 1 = 11.3 BURIED IN MUD
 3 = 10.53 BURIED IN MUD
 5 = 11.34 BURIED IN MUD

29 JUNE 99

AT 8:21 am WATER LEVEL 1605 mm

TRANSMITTER LOCATION

- 1 11.36 BURIED IN MUD
 3 11.21 BURIED IN MUD
 5 11.52 BURIED IN MUD

Heterodon

MSB # 4777 Hog Nose Snake

FOUND DOR, 17 m N of mile

marker 26 on Highway 338

Hidalgo County 28 June 99

10:24 pm PM Hill, DB Ligon

MSB # 4776 Bull Snake

1/2 m N of Anemis Hwy 338

26 May 99 PM Hill, DB Ligon

FOUND IN PIECES OF DYING

Hidalgo County

DEAD

Kinosternon sonoriense FOUND IN BLACKWATER CANYON IN THE HOT TUB POOL ON 26 JUNE 1999,

DB LIGON (CORONADO NAT'L FOREST, HIDALGO CO., NM)

30 JUNE 99

0815h: WATER LEVEL = 1,630 mm.

1 11.58 ON RIDGE BEHIND BUSH UNDER SMALL PINE

3 11.54 @ SAME LOCATION AS #1

5 11.75 ON RIDGE BEHIND BUSH

11 JULY 99

WATER LEVEL 1,665 mm @ 2:30 pm

TRANSMITTER

1 9.41

3 6.02

5 7.05

LOCATION

SAME

SAME

SAME

12 JULY 99

WATER LEVEL 1,685 mm @ 8:25 am

DAT SAW A MT. LION ON WITHIN UP CANYON NEAR PL. 55.

TRANSMITTER

1 8.10.76

LOCATION @ 8:30 AM

SAME

3 10.50

GRASS, 1 m UPHILL FROM #1

SAME, BURIED UNDER TITAN BUSH

5 11.15

SAME

3 JULY 1999

RAINED 1.2cm IN THE NIGHT

WATER LEVEL = 1,660 mm. AT 0825h.

1 12.16 SAME LOCATION

3 12.11 SAME LOCATION

5 12.61 SAME LOCATION

1600-1700h TRACE AMOUNTS OF RAIN

NOODLED THE CANYON AND CAUGHT 12 TURTLES.

14 JULY 99

9:24 AM WATER LEVEL 1650 mm

TRANSMITTER

LOCATION

1 = 12.04

SAME

3 = 11.79

"

5 = 11.42

"

YESTERDAY, PAIGE SAW @ 3:30 PM

1 BLACK NECKED GARTER SNAKE
ON ROAD \approx 1/10 mile W. OF CAMP

5 JULY, 99

0935H WATER LEVEL = 1,670 mm.

0940H 1 11.32 SAME

3 11.19 SAME

5 10.50 SAME (UNDER A YUCCA)

ROAD CRUISING - JULY 4th, 1999

- SONORAN GOPHER SNAKE 10:20 PM DOR
17.7 m N of Anemis highway 338 #8718

- CROTALUS VENUSTUS 10:35 PM

20.2 m N of Anemis highway 338

NOT YET DEAD IN 8 FT DEEP POOL

COLLECTORS: DB LIGON, PM KITL

MSB #4779. Bufo punctatus. BLACKWATER
CANYON, HIDALGO CO., NM. 9 M. ABOVE POINT 62.

5 JULY, 1999 @ 0915H BY DALE B. LIGON.

7 JULY 1999

THERMONECTUS

1010L CAUGHT 4 YELLOW-SPOTTED BEETLES
IN PINE POOL. PAINTED ~~TEAL~~ ORANGE

11:00 AM - CAUGHT 4 THERMONECTES AND
(BLACK MEANLY)

MARKED BLUE, CAUGHT BLACK SKINNING
BEETLE, ALSO MARKED BLUE - LARVAE
POOL AT FOOT OF WOULD BE RAPIDS.

ONE OF WHICH DIED (THERMONECTUS)

11:30 AM CAUGHT TWO MARKED RED TWO
THERMONECTES AND TWO BLACK MEANLYS
NOODLED WOULD-BE RAPIDS FOR TURTLES
FOUND NONE

MAPPED LAST FORK

	DIS (m)	Dia (°)
Last Fork to A	40	162
A to B	40	158
B to C	25	169
C to D	25	182
D to E	30	160
E to F	40	201

Mapping Cart

F to G	35	232	
G to H	35	272	tiny puddle
H to I	40	200	
I to J	25	169	
J to K	25	199	
K to L	15	230	
L to M			

8 JULY 1999

1205h - WATER LEVEL = 1,725mm

1210h - 1 = 11.13 SAME

3 = 10.90 SAME

5 = 8.39 SAME

FOUND A TURTLE SHELL, #4. FOUND 23 m
ABOVE POINT F IN LAST FORK. IMMEDIATELY
BELOW A BEE HIVE IN A CLIFF WALL. IT WAS
LYING ON ITS BACK ON TOP OF A ROCK.
(CORONADO NAT'L FOREST, HIDALGO CO., NM)

9 JULY 1999

1230h - WATER LEVEL = 1,740mm

1 11.01 SAME

3 10.94 SAME

5 9.34 SAME

SAW A TURTLE IN BWH

10 JULY 1999

1100h - WATER LEVEL = 1,750mm

1105h - 1 10.83 SAME

3 11.16 SAME

5 9.27 SAME

1300h - MIKE O. AND DAY L. WALKED SOUTH
FROM THE CORRAL TO TWO OTHER STOCK TANKS.
AT THE SECOND ONE, ACROSS A FENCE, THERE
WAS A ~~very~~ SMALL POOL OF WATER, ~.25 m²,
AT THE BOTTOM OF THE DAM. IT CONTAINED
THREE TURTLES. ANOTHER TURTLE WAS FOUND
20m BELOW THE DAM, AND ANOTHER 50m ABOVE
THE DAM. NO OTHER POOLS WERE FOUND.

11 JULY 1999

1100h - WATER LEVEL = 1,740mm

1 12.52 SAME

3 12.46 SAME

5 13.37 SAME

12 JULY 99

1200h - WATER LEVEL = 1,760mm

1 11.45 SAME

3 10.83 SAME

5 11.30 SAME

13 JULY 99 1330 - WATER LEVEL = 1,765mm.

1 10.47 WATER DEPTH = 100mm

3 9.87

5 6.94

14 JULY 99 1130h¹ WATER LEVEL = 1,785mm

1140h: 1 10.87 SAME

3 10.36 SAME

5 8.76 SAME

0.2mm RAIN

15 JULY 1999 ~~1000h~~

IN THE NIGHT IT RAINED 2.1cm.

1040h: WATER LEVEL = 1,670mm

1 13.27 SAME

3 13.60 JUST ABOVE THE CLIFF FACE BEHIND THE WILLOW

5 14.04 ON LOWER PORTION OF RIDGE 12m FROM
THE CENTER OF THE DRY HOLE, UNDER
AN OAK.

1330h - 0.3cm RAIN

16 JULY 1999 WALKED TO BATH FROM 0820 - 0850h;
SAW 1 S. virgatus.

0855h - WATER LEVEL = 1,610mm

0900h: 1 13.48sec SAME LOCATION

3 14.53sec SAME LOCATION

5 14.01sec. MOVED ALONG THE SIDE OF
THE RIDGE AWAY FROM THE DAM TO A
POINT UNDER A SHRUB. HIS POSTERIOR IS
EXPOSED.

0945h¹ 1 SAW A Hyla ~~green color~~ NEAR LAST FORK,
HOPPING ON LAND. ALSO, AN ADULT I. cyrtopsis
IN A POOL

1030h SAW AN ADULT I. cyrtopsis 13m ABOVE
PT. 51.

1100h: FOUND A SCAVENGED Bufo punctatus
IN DEEP POOL. THE REMAINS WERE VERY SIMILAR
TO THOSE OF THE Bufo EATEN BY THE TURTLE.

17 JULY 99 1320h - WATER LEVEL = 1,585mm

1 12.15 SAME

2 12.29 MOVED 3m UP RIDGE

3 9.16 MOVED UP TO w/in 5m OF #1.

5 11.15 MOVED 15m UP RIDGE. EXPOSED UNDER A
MANZANITA.

18 July 1999

1330h - 1.4 cm RAIN

1500h - 1.1 cm RAIN

1820h - I ARRIVED AT BWH TO FIND IT FILTED! I

ALSO SAW TWO TURTLES SWIMMING ON THE SURFACE.

1825h - WATER LEVEL = ~10mm FROM MAXIMUM

2115h - COOL POOL IS CURRENTLY ~1/2 THE
SIZE OF BWH!

I SET TWO NETS IN THE SHALLOW END AT 1940h.

19 JULY, 1999 0730h - WATER LEVEL = $\frac{380}{400}$ mm From MAX.

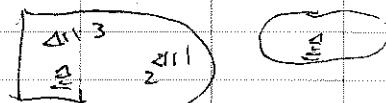
I CAUGHT 2 TURTLES IN EACH NET, AND 1 TURTLE
BY HAND, FOR A TOTAL OF 5 TURTLES. I CAUGHT
ANOTHER TURTLE IN MOSQUITO POOL AND 1 ON LAND
NEAR BWH.

HAYDEN AND LIGON NOODLED ~200m ABOVE BWH,
AND FROM THE DAM DOWN TO POINT 54. WE FOUND
4 TURTLES.

20 JULY 1999 0820h: WATER LEVEL = 200mm.

CAUGHT 5 TURTLES IN TRAP 1, 5 IN MOSQUITO POOLS
2 IN TRAP 2 (SHALLOWS), AND 8 IN TRAP 3
(UNDER THE WILLOW).

WE RESET THE NETS AT 0945h IN THE
SAME LOCATIONS.



1000h - 1300h - NOODLED FROM PT. 54 TO PT. 47;

FOUND 1 TURTLE.

1930h - 2100h: NOODLED FROM THE ROAD TO CAMP
FOUND NO TURTLES.

CAUGHT 1 ♂ TURTLE IN THE RAPIDS
AT 2130h. IT WAS ACTIVE, AND I FOUND
IT W/ A FLASHLIGHT.

21 JULY 1999

AT MIDNIGHT, TRACE RAIN.

RESET THE NETS IN A NEW CONFIG.

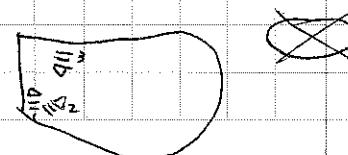
I LOST THE JAR OUT OF TRAP #3,
(huh?)
WATER LEVEL AT 1010h = (9.50mm FROM MAX.)

TODD AND I NOODLED FROM 1015-1250h BETWEEN
POINTS 47 AND 29.

FROM 1500h-1830h WE NOODLED FROM PT. 29 →
PT. 3. WE FOUND 7 TURTLES. WE GOT 0.1cm OF RAIN.

27 JULY 1999 0800h: WATER EVEN w/ TOP OF
DAM, BUT NOT FLOWING OVER.

0810h - PULLED THE NETS - CAUGHT 8 TURTLES
TOTAL. RESET NETS AS FOLLOWS:



0830h - TODD SAW TWO TURTLES IN BWHT BY THE DAM.
AT THE FIRST STOCK TANK S. OF BWHT, WE CAUGHT
23 TURTLES BY HAND. AT THE SECOND STOCK
TANK S. OF BWHT, WE CAUGHT 1 TURTLE. WE
SET A SMALL TRAP IN THE FIRST TANK.

1735h - IT STARTED TO RAIN HARD! AFTER IT
STOPPED (4.3 cm) I WALKED UP TO CHECK THE
DATA LOGGERS AND THE SMALL NET. IT WAS
SUBMERGED, WITH TWO TURTLES IN IT.
WATER WAS FLOWING FAST OVER THE DAM.

[23 JULY 1999] 1045h - WATER FLOWING OVER THE DAM.

1050h: 1 12.42 BWHT

2 11.87 17 m BELOW P3 (69), UNDER A BUSH IN THE H2O

3 12.92 BWHT

5 12.33 BWHT

CAUGHT 14 TURTLES IN THE TRAPS. RESET IN
SAME LOCATIONS.

AT MUD HOLE, CAUGHT 6 TURTLES; 3 NEW.

IN THE AFTERNOON, GOT 0.9 CM OF RAIN, THEN
0.15 CM IN THE EVENING.

[24 JULY, 1999] 0815h - WATER FLOWING OVER THE DAM.
WE CAUGHT 9 TURTLES IN THE NETS.
0910h - RESET NETS IN SAME CONFIG.

1000h - CAUGHT 3 TURTLES AT MUD HOLE. RESET THE
NET AT 1010h.

MAPPED THE CANYON ABOVE BWHT:

PT	BEARING	DISTANCE
72	234°	20m
73	309°	50m
74	272°	30m

World's Hillie?

68

69

70

DIMENSIONS OF MUD HOLE: 33.2m x 42.5m x 0.88m DEEP

[25 JULY, 1999]

1500h - LEFT CAMP TO CHECK NETS.

1555h - CAUGHT 6 TURTLES IN BWHT. PULLED THE
NETS.

[26 JULY, 1999] GOT 1.0 CM RAIN IN THE AFTERNOON.

1900h - RESET NETS, IN SAME CONFIG.

THE DAM HAS A LOT OF H2O FLOWING OVER IT.

2200h - TRACE OF RAIN.

[27 JULY, 1999] WATER FLOWING OVER DAM.

1120 - PULLED NETS, CAUGHT 2 TURTLES.

1145 - RESET NETS.



1315h - SET SMALL NET AT MUD HOLE.

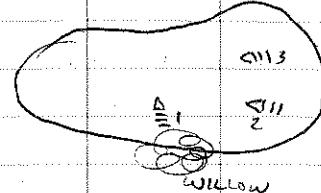
1445h - RECEIVED 0.2 CM RAIN.

28 JULY, 1999 WATER FLOWING OVER DAM

0830L - CHECKED NETS; 1 TURTLE. DID NOT RESET.

0930L - ~~POLE~~ CHECKED NET AT MUD HOLE; CAUGHT 6 TURTLES, 3 NEW.

1010L - IN MUD HOLE, RESET SMALL NET, PLUS TWO LARGE ONES.



29 JULY, 1999 WATER STILL GOING OVER THE DAM.

1010L - CHECKED NETS @ MUD HOLE, CAUGHT 4 TURTLES. RESET IN SAME LOCATIONS.

30 JULY, 1999

100L - ~~POLE~~ CHECKED NETS AT MUD HOLE; CAUGHT 5 TURTLES, INCLUDING #171 FROM BWL!

RESET NETS IN SAME CONFIGURATION.

31 JULY, 1999

1020L - TODD FOUND A NEONATE BY THE DAM. HE ALSO FOUND A DEAD TURTLE w/ TRANSMITTER #1 ON IT.

1210 - CAUGHT 7 TURTLES IN MUD HOLE. RESET IN THE SAME CONFIGURATION.

CAUGHT 2 TURTLES IN THE CANYON BELOW MUD HOLE.

1535L - SET TWO TRAPS IN BWL:



1 AUGUST, 1999

1020L - CAUGHT ANOTHER NEONATE BY THE DAM. CAUGHT NO TURTLES IN BWL, 6 IN MUD HOLE. RESET ALL NETS IN SAME CONFIG.

2 AUGUST 1999

ON THE WAY UP THE CANYON WE SAW SEVERAL NEWLY TRANSFORMED TOADS.

0920L - BWL, CAUGHT NO TURTLES. RESET NETS @ 0950L:



1045L - CHECKED NETS AT MUD HOLE; CAUGHT 9 TURTLES.

1115L - RESET NETS:



IN THE AFTERNOON IT RAINED 0.8cm.

3 August, 1999

REMOVED ALL TRANSMITTERS FROM TURTLES IN THE CANYON. LATER, TODD GOT THE TRANSMITTERS IN THE HOLE USING A MASK AND SNORKEL.

0930h - CHECKED NETS IN BWHT; CAUGHT 1 TURTLE.
REBAITED NETS w/ CHICKEN LIVERS.

1130h - CHECKED NETS IN MUD HOLE, CAUGHT SIX TURTLES. REBAITED w/ CHICKEN LIVERS.

4 August, 1999 IN THE NIGHT, GOT 4.2cm RAIN.
COLLECTED ALL DATA LOGGERS.

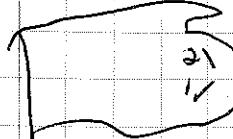
AT BWHT, BOTH NETS WERE SUBMERGED; CAUGHT 2 TURTLES, BOTH ALIVE. REMOVED NETS FOR THE SUMMER.

AT MUD HOLE, ALL NETS SUBMERGED, CAUGHT 8 TURTLES. SOME WERE LISTLESS, BUT RECOVERED.
TOOK NETS BACK TO CAMP.

10 August 1999

TERRY UNANCE MOSQUITOES,
MATTAN John Calder + Paige McGee
Will arrive in camp last
night at 10 pm last night. Canyon
is flowing river. BW & J mosquito
holes are full.

Set 2 nets in BWHT @ 12pm
baited w/ sardines in soy
bean oil



11 August 1999

checked nets and reset at 11:00 am. baited w/ sardines in soybean oil
rodded canyon from 11:00am until 1:30 pm

12 August 1999

checked & reset nets @ 11:15am
baited w/ sardines in soy
bean oil in same place.
No turtles found. VM saw
a water snake in BWHT.
rodded from 12:45-
in BW Canyon.

13 August 1999

FOUNDED western Rattlesnake
34 miles S of Anemis on Hwy
338. DOR pickled in formalin
Checked & reset nets @ 1:30 pm
same place w/ sardines

14 August 1999

Pulled nets at 10:00am
caught 4 turtles
received light rain last
night

12 May 2000

JAY LIGON & CARLY PERRY

ARRIVED AT CAMP AT AROUND 1730h. WE HIKED UP TO
BUSH WITH 2 NETS, BUT WATER LEVEL WAS TOO LOW
TO SET THEM. THE WATER IN BUSH CONSISTS OF
A $\frac{1}{2}$ CIRCLE ~2M RADIUS (~6-8 m² SA). WE
SAW AT LEAST TWO TURTLES IN THE WATER.

THE CANYON BED WAS COMPLETELY DEVOID OF WATER.

13 May 2000

0900h - GST AND CLANTON ARE BOTH PRETTY
LOW. COWS HAVE TRAMPLED CLANTON AND TURNED
IT INTO A BIG SHIT HOLE.

1100h - NOODLED 6 TURTLES IN BWH; 3 M, 2 F, 1 J.
WATER LEVEL WAS 56.5 INCHES BELOW THE TOP
OF THE DAM.

1600h - SET TWO TRAPS IN GST

14 May 2000

0900h - CHECKED TRAPS IN GST. BOTH CONTAINED
SEVERAL FISH, AND ONE CONTAINED AN UNMARKED
MALE TURTLE. THE TURTLE WAS REMOVED TO BE
TAKEN TO OSU.

AT 1000h, WE HIKED UP TO MUD HOLE. THERE WAS WATER,
AND WE CAUGHT ~15 TURTLES BY HAND. CARLY STAYED AT
MUD HOLE WHILE I HIKED OVER (SOUTH) TO MAVERICK SP. I
CAUGHT AND RETAINED 7 TURTLES. I ALSO SAW A LARGE
Masticophis bilineatus. MAVERICK SP. HAD A REALLY COOL
FISH COMMUNITY, INCLUDING 1 BIG CATFISH (~10IN.) AND
A BUNCH OF MINNOWS (sp?), ONE OF WHICH WAS ALBINO!

14 MAY, 2000 (cont.)

THE HIKE BACK WAS EXCRUCIATING, AND I THINK CARLY GOT A TOUCH OF HEAT STROKE.

AT MUD HOLE, CARLY CAUGHT 15 TURTLES BY HAND. 6 WERE CAUGHT ON LAND AS THEY LEFT THE WATER. IT APPEARED THAT OUR DISTURBANCE CAUSED THEM TO LEAVE.

26 JULY, 2000

DAREN RIEDLE AND I ARRIVED AT CAMP AT 1630h. WE HIKED UP TO BWH WITH NETS, BUT THE HOLE WAS VERY OVERGROWN, AND THERE WAS JUST A TINY POOL BY THE DAM, FAR TOO SMALL FOR A NET. WE FOUND TWO TURTLE SHELLS, ONE RIGHT BY THE WATER UNDER THE WILLOW AND ONE ON THE LEDGE BELOW THE DAM. ONE OF THEM HAD 31 NOTCHED IN IT, BUT THE POSTERIOR WAS MISSING SO ID IS NOT CERTAIN. DURING OUR HIKE DOWN WE SAW 4 HATCHLINGS AND 6 ADULT K. sonoriense, 4 T. cytopis, 1 Holbrookia maculata, 3 S. clarkii, 3 S. virgatus, 1 Crotaphytus, AND THE ZONE-TAILED HAWKS, AND A Crotalus molossus.

THE CANYON POOLS CONTAINED WATER, AND ON OUR WAY DOWN WE FOUND A FEW TURTLES BETWEEN THE DAM AND PT. GL.

A WOMAN IN ANIMAS SAID THAT THERE RECENTLY HAD BEEN SOME SMALL SHOWERS, AND THAT 3 WKS AGO A BIG STORM HAD FLOODED THE VALLEY.

27 JULY, 2000

IN THE MORNING WE NOODLED FROM LAST FORK TO LOST FORK. WE CAUGHT SEVERAL NEW CAPTURES, AND WE CAUGHT TWO JUVENILES THAT HAD BEEN MARKED AS HATCHLINGS LAST YEAR!

AT NOON WE DROVE TO HEREFORD TO VISIT FIFE.

28 JULY, 2000

WE NOODLED FROM 6800h-1100h, FROM LOST FORK TO THE ROAD. WE FOUND JUST 4 TURTLES. WE ALSO SAW 3 I. scutopsis AND SEVERAL S. virgatus. WE ALSO SPOTTED A PAIR OF MONTEZUMA QUAIL JUST ABOVE THE RAPIDS.

AT 1730h WE WALKED TO BUSH. I NOODLED

THE HOLE, WHICH HAD A SURFACE AREA \approx 4.5 m². THERE WERE NO TURTLES AT ALL! WE FOUND TWO HATCHLINGS IN A SMALL POOL ABOVE MOSQUITO POOL. ON THE WAY DOWN I MEASURED THE DEPTH OF ALL THE PRIMARY POOLS.

AT 2130h WE DROVE TO GST, WHERE WE SAW SEVERAL RANIDS AS THEY JUMPED INTO THE WATER. NONE CHIRPED SO I'M NOT SURE THAT THEY WERE BULLFROGS.

29 JULY, 2000

AT AROUND 0230h IT STARTED TO RAIN MODERATELY. NOW, AT 0930h THIS RAIN CONTINUES, AND I WOULD ESTIMATE THAT $\sim \frac{1}{3}$ cm HAS FALLEN.

THE RAIN STOPPED AT 1100h, ~~but~~ BUT WATER LEVELS IN THE CANYON REMAINED UNCHANGED. WE HIKED UP TO BWH, IN WHICH WE CAUGHT 5 HATCHLING TURTLES. WE THEN HIKED TO MUD HOLE AND FOUND IT COMPLETELY DEVOID OF WATER.

NEXT, WE HIKED BACK TO SOUTH HOLE AND DOWN TO MAVERICK SPRING. WE CAUGHT ABOUT 25 TURTLES, ONE OF WHICH WAS A RECAPTURE, AND ABOUT HALF OF WHICH WERE HATCHLINGS.

WE SAW SEVERAL SNAKES ON OUR HIKE; WE SAW 2 C. molossus AT BWH, SEVERAL

I. cyclopis AND A M. bilineatus AT MAVERICK SPRING.

MILLER CANYON HAD FAIRLY EXTENSIVE POOLS ALONG ITS LENGTH, AND THE SUBSTRATE WAS VERY SIMILAR TO THAT IN BW CANYON. I SUSPECT THAT MILLER CANYON SUPPORTS A VERY HEALTHY TURTLE POPULATION.

MUD HOLE WAS COMPLETELY DRY, BUT UNLIKE LAST YEAR WAS FILLED WITH VERY ~~TALL~~ DENJE GRASS. NO SIGN OF TURTLES ANYWHERE.

WATER DEPTHS FROM 7/29/00:

BWH = 12 cm

BT = 26 cm

BG = 32 cm

DP = 86 cm

MT = 48 cm

WALL = 25 cm

SNAG = 45 cm

DINE = 38 cm

NOTE: THE TURTLE SHELL FOUND UNDER THE WILLOW WAS THAT OF NO. 165.

THE SHELL BELOW THE DAM WAS FROM NO. 213 (PROBABLY). BOTH FOUND BY TDB LIGON AND JD RIDDLE

23 May 2001

set nets in BW Hole
2 small hoops - baited w/
Kipper Snacks ca. 5 PM

Water levels low
Set several pools hold the
hole pretty full

24 May 2001

checked nets ca. 930 AM
Set 1 small hoop / 2 med hoops
baited w/ Kipper Snacks

ca. 1130 AM

Set 1 hoop in Mosquito pool
ca 3:30 PM

searched in vain for Mud Hole
in early afternoon

PM noodled and walked upper
canyon (BW Hole to Nuttart tree pool)

puddles - 2 tiny pools just above
Big Gravelly, Big Gravelly, 1 tiny
pool just below Big Gravelly

pool just above Deep Pool,
Deep Pool, Nuttart tree pool
pool just below Nuttart tree pool

caught 1 turtle from noodling all
of these

Nathan Calder and me are on
this trip

Zone-tailed hawks are absent
hawk seen from the high ~~ridge~~
ridge above BW Hole has fled

25 May 2001

checked nets ca. 9 AM

hiked to mud hole

1. $31^{\circ} 29.12' N$
 $109^{\circ} 01.51' W$ 5781 ft. elev
2. $31^{\circ} 29.13' N$
 $109^{\circ} 01.50' W$ 5781 ft. elev

Set 1 small hoop w/ Kipper Snack bait
ca. 1230 PM - hawk opposite the
willow

noodled all around margin of Mud Hole
no turtles

teeming w/ insects, esp. blue
damsel flies w/ white males

Mud Hole depth 3 inches above
my belly button

Mud Hole
appears full

10 ducks at Mud Hole

1317 hrs - began walk from
Mud Hole to BW Hole

Lost - 31 29.12 N mud
109 01.51 W

31 29.46
109 01.12 W 1st pos

31 29.89
109 01.22 BW Hole

31 29.61
109 01.15 2nd pos

26 May 2001

checked nets in BW Hole ca. 830 AM
wood hedge (the corral)

31° 29.54' N

109° 01.47' W

5825 ft elev

checked nets in Mud Hole
ca. 11 AM - caught 2

trail from corral to Mud Hole
runs nearly due S and is
nearly continuous

Set 2 small hoops in Mud Hole
ca. 1 PM - baited w/ sardines

may have heard a zonotailed hawk
yesterday

set 1 med hoop in BW Hole
ca. 2 PM baited w/ sardines

4 PM - went to set a net in
Black Hole, but hole was bone dry

saw 3 turkeys on the way
1 gobbler and 2 hens

27 May 2001

checked net at 9 AM
pulled - caught 1 turtle
flat hasn't been seen since
1994

heard a whippoorwill night before
last

saw red-tailed hawk yesterday

may have heard zone-tailed hawks
today

checked nets at Mud Hole ca 11 AM
pulled

12 ducks on Mud Hole

1 pool w/ water above BW Hole
4 turtles in it

caught a Masticophis bilineatus -
at that pool ca. 1 m long

water depths

Big Gravelly 9 cm obviously lower
than beginning of trip

Deep Pool 72 cm

Mutant Tree pool 15 cm

would-be Rapids dry

Snag Pool dry

Pine Pool 10 cm

pool above would-be (ca. Pt 31)
has about 1 liter of H₂O in it

Big pool along cliff wall 5 ft
3rd pool and five pool has
H2O - noodled - no fish

Heard a zone-tailed hawk
in the usual spot, cried 4
times but did not fly - so,
I'd say they are there but
very quiescent

5 August 2001

Arrived in NW Canyon
ca. 6 PM - H2O levels
high, perhaps as high as
I've seen

Marie, Spider, and I are
on trip

6 Aug 2001

Set 4 small loops in BW Hole
Set 1 in fire at shallow end of pond
baits w/ Sardines ca. 11 AM

H2O spilling over spillway
pools filled and flowing

Noodled to Last Fork from
BW Hole - down near continuous
stream w/ flow w/ places

Noodled from camp to Geronimo
Trail - nearly a continuous
stream w/ flow nearly all the way

7 Aug 2001

checked nets ca. 11 AM
reset 2 in BW Hole
2 in Mosquito Hole
ca. 1 PM

noodled from Last fork to Dead Tree
pool - continuous water
caught 2 sand snake

Many of the tadpoles we caught appear to be Hyla

I today found a nearly intact 2 year-old turtle shell, on land - resembles what Day Ligon describes as a raw predation (one plastral scute missing, viscera picked clean) - Dead Thing Pool

Saw 2 red-tail hawks today
heard one zone-tailed hawk yesterday

saw diamond-backed rattlesnake
and family of skunks on road to Douglas

Noodled would-be-Rapids
except 20 m by wall

checked nets at 1 PM
reset all 4 in shallow end
of BW Hole at 2 PM
water w/ sandies

Raining all day, drizzle
overcast

Saw a Vanaguan Quail

Saw a scorpion
no zone-tailed hawks

(9 August 2001)

water depths

pool max-depth

Big Gravelly 52 cm

Deep Pool 110 cm

Motmot Tree Bed 54 cm

checked and pulled nets
2 PM

Noodled 50m above and below
Big Gravelly

hiked up toward pass and found
a very nice campsite, very steep
caught a mud turtle there
got the shit stung out of us by nettles
Saw a large bullsnake
Saw a bunch of Spiny Lizards

9 August 2002

more pool

Arrived in SW Canyon ca. 1230PM

not much H₂O on road to camp

Tons of H₂O by I-10 Turnoff

lots of rain in area w.

imminent threat of T-Storms.

Hiked up to hole

medium H₂O levels in pools

saw Flicker - Sonoran whipsnake
Zone-tailed hawk

dead turtle upside down rock

beside Pine Pool #2 1/2?

BW Hole completely dry

little H₂O in puddles on other
side of dam - noodled 2 hatchlings

2 or 3

~~1/4~~ of large Scolecophylus magister?

on dam

Hiked up to mud hole

deep H₂O in hole that is
roughly circular w/ 20 m diameter

saw a real obvious bear print at
edge of mud hole ca. 5 inches across

canyon bit bw hole and turnoff
to mud hole has a bunch of pools

while threat of thunderstorms was
very strong - no rain fell in camp
tonight

10 August 2002

Noodled Pine Pool to Swamp Pool

head of would-be rapids to pools above
Deep Pool - caught 14 more hatchlings
and 2 year-old

Saw 2 juvenile garter snakes in
a pool

Black CC is dry

Set 3 medium hoops in Geronimo
Serp Tank

Set 2 small hoops in Mud Hole

hard rain last night

2 ducks in Mud Hole

11 August 2002

heard coyotes from camp this morning

nets in GST are gone - stakes
in place - rangers or thefts?

Justin Congdon, Melissa Cameron
came to visit, in AM - the 4
of us hiked up canyon.

Noodled Big Gravelly and pools above
and below SW Hole - caught a bunch
including several hatchlings

collected a 2-year-old coquí in a pool
H2O levels in pools normal
throughout canyon - saw 2 hatchling
black-necked water snakes in a pool

Congdon and I hiked to Mud Hole
caught 6, reset nets

Drove to Lord'sburg in late afternoon

saw 2 roadrunners

2 ornate box turtles

2 jack rabbits on way back

Congdon says large Sceloporus is jani
small one is virgatus

12 AUGUST 2002

Appears to have been
/ a ridge-nosed
rattlesnake

saw a small (ca. 12 inches) rattlesnake
5 buttons on rattle, yellow eyes
light brown w/ white bars bordered
in black, black spots on sides
last inch of tail solid colored and
almost black, head plain brown
upper-most edge of Bullsnake plain

saw another rattlesnake, ca. 3 ft.
black-tailed, yellow w/ black blotches
10 m above Big Gravelly w/ white
much more patterned than above snake
resembled a Sullsnake (Marie almost
ped on it.) - Description of al. - clearly
a black-tailed rattlesnake

Depth at Mud Hole - 40.6 cm

Noodled Big Gravelly to Lost Fork

hiked up to mud hole - pulled nets

collected an intact shell of a
mud turtle - see data sheet

walked 100 m behind mud hole
no water in lots of would-be pools
noodled East Fork to pt. J

H₂O depths

Mud Hole - 40-6 cm
Black CCC - 0 ..
FW Hole - 0
Big Gravelly - 52 cm
Deep Pool - 78 cm
Motorcycle Tree Pool - 41 cm
Would Be Rapids - 49 cm
Swag Pool - 38 cm
Pine Pool - 39 cm
cool Pool - 30 cm

noodled first switchback to Germino
trail - caught 7 turtles, including
5 hatchlings
H₂O present throughout but drying
rapidly
young hatchlings in H₂O a few cm
deep

13 AUGUST 2002

noodled Would-Be Rapids
caught ca. 10

noodled ^{below} Pine Pool to first switchback
packed and left camp ca. 1 PM

ate a hell of a good Chile cheeseburger
at Panther Tracks Cafe
hours M-F until 6 PM

SPR unossing ovules	# cc	SEX	SVL	TAIL	WING	HEAD L	HEAD W	HEAD DEPTH	Comments
Gon.	+ G	M	55.1	65.2	37.8	11.4	8.1	5.7	Bright green without pattern
Gon.	+ G	M	55.1	65.2	37.8	11.4	8.1	5.7	Vibrant blue ventrum
Gon.	+ G	M	55.1	65.2	37.8	11.4	8.1	5.7	100% dorsal surface tail not examined
SVL	1-6	M	94.2	96.1	62.0	15.2	8.1	7.2	Light blue patch on either side of throat 3.9
SVL	1-7	M	94.2	96.1	62.0	15.2	8.1	7.2	light blue patch on either side of throat
SVL	1-7	F	56.0	73.9	42.5	11.4	9.1	5.6	Spots on back 4.8
SVL	1-7	F	56.0	73.9	42.5	11.4	9.1	5.6	throat patch green w/ flecks of blue bordered by orange 1/2 way up came off
SVL	1-7	M	50.4	86.5	31.7	10.6	9.1	7.0	No ventral color
SVL	1-7	M	50.4	86.5	31.7	10.6	9.1	7.0	Same code as 1-7
SVL	2-6	F	52.0	58.9	31.8	9.1	7.0	4.4	
SVL	2-6	F	52.0	58.9	31.8	9.1	7.0	4.4	

* Many red mites under scales

Caught 2 *Sceloporus jarrovii*
on the spiceway at BW Hole

LIZ #1	SEX	SVL	TL	HLimb	Head/Length
1-6	M	99.1	129.8	66.0	22.4

Head width	Head depth	MASS (g)	Color code
19.2	11.0	23.5	

LIZ #2	SEX	SVL	TL	HLimb	Head/Length
1-7	F	90.3	90.2	54.3	18.5

Head width	Head depth	MASS (g)	Color code
16.3	8.9	26.2	YY

14 May 2003

arrived at SW Hole around Noon
Canyon
hiked to SW Hole ca. 3 PM
hole is nearly full - set 1 net
at 2 small nets - bait w/ Sardines
Dead cow left BW Hole and
Mosquito Pool

Nathan caught several lizards
which we marked and
measured
previous
see ~~opposite~~ pg

some mud in Big Gravelly
Sand no other water in canyon

No Zone-tailed Hawks

15 May 2003

hiked up to BW Hole ca 8 AM
checked nets - caught 4
re-set red and small hoop
carried other small net up to
Mud Hole - Mud Hole nearly dry
puddle 6 inches deep maybe 5 m diameter

Noodling puddle yields 1 unrn ♂

Hiked back to BW Hole
checked 2 nets (ca. 3 hrs after setting)
no turtles

Set small hoop in Mosquito Pool
ca. 2 pm

walked canyon bed from would-be
rapids to switchback above Pine Pool
would-be rapids empty except
for a puddle 10 cm across and
2 cm deep

Snag Pool Empty

Pool below Snag Pool had ca. 4 m²
of water 20 cm deep - no turtles

Last fork to SW Hole - no th2o

Happy Birthday Mom!

SPP	#	cc	set	SL	TL	HLMS	HDL	head w	head D	mass	Comments
D O	2-7		M	52.9	89.1	37.0	10.8	8.3	5.0	3.4	Mud Hole
DUCK											blue chin w/ green borders
DO	1-8		F	48.7	47.9						
GY											
SV	1-8		F?	65.6	77.6	44.5	13.0	9.8	6.0	9.1	BW Hole
SV	Y/O		F?	55.8	67.7	43.1	11.6	9.1	5.2	5.0	light blue patches of throat - spots on breast
SV	1-9		F?	52.9	51.2	39.9	11.4	9.5	5.2	4.4	BW Hole light blue naturally blue missing 10 spots
SJ	8Y										SC hole
SJ	1-8		F	73.7	97.0	46.0	14.6	12.3	6.5	12.5	1/2 way up hill - no spots
SJ	00										

[16 May 2003]

Turkeys gobbling near camp in AM.
hiked up to BW Hole in Early AM
heard at least 1 Zone-tailed hawk
in usual spot near Pine Pool
saw a Deer, Mexican mallards
in BW Hole - 2 days
caught 1 turtle in 2 nets in
BW Hole
2 turtles in 1 net in Mosquito Hole

~~Ridge Hole~~

~~31° 30.23 N~~

~~109° 01.73 W~~

~~Elev. 15225~~

hiked up to Mud Hole, then on to South Hole

saw Phainopepla douglassi
on way to Mud Hole

couldn't find S Hole but may have found Miller Canyon which is about a mile over a huge mountain - good landmark is barbed-wire fence

drove to Road Forks
saw 8 deer on road

collected 10 Dol Mastigophis bilineatus
0.1 miles ~~from~~ W of Eastern
Range boundary of Nat'l Forest
on Geronimo Trail

Talked to 2 ranch hands from Gray Ranch - they said it was very wet a month ago, but that we should do a rain dance now

17 May 2003

Noodled up to Big Gravelly from camp

pool ~~below~~ pine pool has water
pool below Snag Pool " "
Mutant Tree pool has ca. 5 cu water

Deep pool has water
small pool below Big Gravelly has water
Big Gravelly has water
noodled down to road from camp
no water

saw Zone-tailed hawk again

Arrived at BW Hole

small net was out of water
on shore - Sandie cow had a hole in it and was generally beaten up ~~a bit~~
~~coating mud or something~~

1 turtle in net appeared fine

2 turtles in medium hoop
nothing in ~~mosquito~~ mosquito pool

noodled 2 puddles at base of BW Hole
no turtles

so, turtle caught there on wed.
is some ~~unseen~~
~~one~~

Spp	sex	SVL	mark	color pattern
VO	♂	52	1-9	blue belly green throat blue
"	♀ ♂	46	1-10	blue belly green throat blue throat (less extensive coloration than 1-9)
VO	♂	52	2-8	blue belly green throat bordered by orange

Onosaurus chix

green green bordered blue or
by orange green borders blue
1 " 1 "

BW Hole 44 cm below dam
small leak at the saddle rocks
at Spillway corner

Big Gravelly 17 cm
Deep Pool 53 cm

11 May 2004

arrived in SW Canyon ca. 3 pm
Hiked to SW Hole RAS & MEB
Set 1 red Hoop net ca. 5 pm

plenty of pools have H₂O
Hole near full
Mosquito pool full

San Harlequin Quail
lots of lizards
hummingbird

caught a turtle

2 dead cows off last fork and Hole
1 at hole was there last May
other 1/2 way up trail to hole
new this year

12 May 2004

checked net ca. 10 AM
caught 10

reset red hoop same place
set 2 small hoops
1 in Mosquito Pool
1 in SW Hole

no flooding - NO H₂O from pool
spillway to B15 Gravelly
except -

pools at base of Spillway
one tiny pool 20 m below spillway
a few small pools 60 m above B15

B15 Gravelly full and full of turtles
would be rapid
more flooding - Big Gravelly to ~~mosquito pool~~

small pool w/ turtles just below B15 Gravelly
Deep Pool, pool above Deep Pool
Mutant Tree pool, pool below Mutant tree
pool ~~13~~ - only pools w/ H₂O
btt last fork and would be rapid
lots of turtles

Pine Pool 3X so far
no turtles

12 May 2004

Noodled camp to Geronimo Trail

No turtles

Very few pools

nothing deeper than a few inches

Small pool ca. 1 m across

ca. 6 inches deep

No black/red spotted turtles

in pools

lots of mosquito larvae in
pools at base of spillway

lots of flowers in flower - took many
photos

Remember Charlie Parker
sent me an e-mail, or Tom/Reb
saying BW Canyon/Hole were
bone dry

13 May 2004

Noodled would-be rapids in morning

very little H2O - 5 turtles

ca. 6 tiny pools, none deeper than
6-8 inches

checked nets in BW Hole - caught
a bunch

Hiked up to NW Hole - wow!
caught 23 turtles by noodling
very small, shallow hole
max depth 29 cm
approx. area 10 x 20 m

Saw at least 1 we couldn't catch
includes a migrant from BW Hole
and a migrant from South Hole
returned all to hole at area

W/N 10 m. - 1 turtle off hole (#1046)

~~#1047~~ other deserters: #1052, #1027,
all three left pond from same pt.
and headed uphill at 60° (away from pond)

Set 1 med hoop and 2 small hoops
in BW Hole

13 May 2004

Tons of water scattered
but no black/orange diving beetles
no snakes yet this trip
lots of lizards but no big Sclerophrys
on spillway
pool levels low - major pools only
dicks in Mud Hole - a pair
lots of butterflies, some (not many)
dragonflies - a lot pink ones

14 May 2004

Hiked the canyon from camp
to base of would-be rapids
4 pools have H₂O

1. tiny pool by Konka's camp
noodled - no turtles
2. larger pool by first switchback
3. pool b/t Pine Pool and Sway Pool
4. Sway Pool

will noodle the last 3 later

14 May 2004

checked nets in SW Hole ca. 10 AM
pulled nets

noodled above Mosquito Pool to Hello Hill
2 pools around pt. 70
1 turtle in each

noodled pool at base of dam - 1 little guy
water depths

SW Hole from top of spillway 35 cm

BIG Gravelly 39 cm

Deep Pool 48 cm

Mutant Tree Pool 24 cm

Would-Be Rapid 13 cm

Sway Pool

Pine Pool 16 cm

Cool Pool - ca. 6 inches

noodled last fork to 75m beyond pt I
1 pool - 1 turtle - rest dry

Would-Be Rapid drying rapidly - 1 pool
that yielded a turtle is now gone

6 August 2004

Arrived in camp ca. 1 PM
no, Maine Spider, Bmont, Cerrito

Canyon has H₂O - high level
tarn almost dry - ca. 20 m², 0.5m deep

Nocolled tarn, nearly dry mosquito pool
pools at base of dam
a few pools 50 m S of Big Gravelly
and pools N of camp - very little H₂O
caught 19 turtles 5th camp and
 Geromino trail

may have seen a ♀ magnificat hummingbird

rained on us a bit

met Matt Goode and hung out a while

no bufo tadpoles yet

August 2004

nocolled Pine Pool to Gray Pool
would be rapids, Big Gravelly

50 m below Last Fork
Saw a mud turtle capture and
kill a Sander Swallow

Disturbed by us before eating
skid around neck of snake stripped
off, went around neck and lower
jaw of snake ripped up

from start to finish ca. 2 minutes
both measured, neither colubrid (but)

both put back into pool
Shallow water, shiny battle
turtle shell visible above water
Swallow wrapped around turtle
and writhed a bunch, but
clearly no match for turtle
lots of tadpoles in pool, plus
2 other turtles beneath a
nice rock

7 August 2004

Hiked up to Mud Hole - completely dry
found a turtle shell

Roaded pools above Mosquito pool
one series of 3 pools w/ turtles

collected garter snake that
had been killed by turtle
if was still in pool - several
hours after being killed

rain threat all day but no rain

Pools contained large light-colored tadpoles
(Hyla ?), but no frogs, also no
little toads hopping around

Saw 3 garter snakes today
2 two-tailed snakes

8 August 2004

Noctked and repainted points
starting at top of would-be rapids
one large pool and a few small
pools b/w would-be rapids c/w
Lost Fork

Mutant Tree Pool and pool below
are down considerably in H2O

Deep Pool is nearly dry
pool above Deep Pool is dry

Water Depths

Mutant Tree pool	26 cm
Deep pool	17 cm
BIG Gravelly	38 cm
Dead Thig pool	8 cm
BW Hole	38 cm
Pine Pool	33 cm
Snag Pool	31 cm
would-be rapids	38 cm

tiny puddle b/w Deep pool and
pools below BIG Gravelly

(8 August 2004)

a few pools b/t b/g Gravelly
and pt. 52

a few pools b/t pt. 52 and Last Fork

pool where garter snake was cooter
had reduced visibly in depth

1 pool up Last Fork

a couple of pools b/t last fork and
fw hole

went for a swim in Geronimo
Sump Tank - water levels low there
picked up a dead turtle

rodded a bit in pools along
Geronimo Trail on way back
caught 4 turtles

Rained a bit in late afternoon

(9 August 2004)

1 small pool b/t pts. 2 and 3
nothing b/t pt. 3 and fw pool

1 good pool near pt. 18

repainted all pts. b/t new camp
and Last Fork

Drove over to Black CCC tank
plenty of H2O - thousands of tadpoles
(spadefoot?) in tank - some leach-like
invertebrates swimming in them
walked around in tank and five
of us hung around for ca. 1/2 hour
but saw no sign of turtles

went to Douglas - saw

deer, jackrabbits, cottontails, hawk
dead western Diamondback

Saw horned lizard near camp

(10 August 2004)

Saw Troy Best and the Auburn crew
hiked up Turtle Canyon (ca. 1500m)
narrow, shady, many nice would-be
pools, several pools
caught 8 turtles, 2 recaps from
BW Canyon

Saw Justin Carpenter and Dick Van
Loosen Sels

Caught a (me) turtle in a
tiny (1m^2) puddle (#311)
floating in pool was the head
and wings of a songbird
turtle head bird got on its
face and hand

(11 August 2004)

woke up and hiked the mountain
w of camp - all the way to the peak

Waded from Geronimo Trail by
camp to dam on Geronimo Trail
only puddles had already been
waded - 3 puddles

packed and drove to Las Cucar

Saw Roadrunner, Don western
Diamondback.

large centipede in camp under
feet

fresh cat-looking poop in
streambed near camp

16 May 2005

arrived in Black Water Canyon
ca 1 pm - PAS & MEB

Hiked to BW Hole

water levels in pools low
but all major pools appear to
have fish

No H2O from Last Fork to
BW Hole but water in pools
at base of dam, BW Hole,
and reservoir pool

wooded BW Hole and caught
8 - 3 sunning in H2O which is
pretty clear, I stepped on, 4 right
together at the H2O's edge, bunch
of mud/litter, clustered at the
end away from the dam, by
the trail, in the corner

Set one Medium Net

Crew appear to be nesting in
tree by normal nest spot
it entered a cavity

There's a whole bunch of
garbage along the trail - Sardine
Cans, tuna can, broken cans, +P (complete
w/ slot) - labels on cans in Spanish
Debris by would-be rapids,
Bullshuttle Ranch, and sprawled
elsewhere - illegals?

Met a guy, Bret _____
who is working w/ Matt Good
Down fire ecology/land
conservation stuff - he's
camping by Black Ck sign

17 May 2005

Hiked up to BW Hole
wooded pool by ft. 18 (2 turtles)
and greatly reduced S. Gravelly (nothing)
Caught 6 in med hoop Z BW Hole
+ 1 stepped on Red Hoop

17 May 2005

No zone-tailed hawks

Hiked up to Mud Hole - more mud than I've ever seen

Set 2 small nets

Noodled periphery - 4 turtles

white-tailed

3 mule deer came down to Mud Hole for a drink - they saw us and checked us out for a minute then left w/o drinking

big ears / white tails

Noodled Hello Hill to mosquito pool
(small pool yielded 3 turtles)

Noodled Mosquito Pool - 2 turtles

check hoop in SW Hole - nothing
ca. 3 hours after resiting

Noodled would-be-Rapids

(small pool ca. 10 cm deep)
no turtles

We are finding lots of turtles
buried in veg/mud at the edge mosquito pool
Shallow enough for breathing - Mud Hole, SW Hole

18 May 2005

The west is Bewick's shore
and it has a nest

Heard one zone-tailed hawk this AM

checked net in BW Hole - 7 turtles resited

Hiked to Mud Hole and checked nets
6 turtles - pulled nets and
eventually resit in BW Hole
(so, 2 small, 1 red in SW Hole)

Hiked to Miller Canyon - mostly dry
Hiked east in canyon, found South Hole
a few puddles ^{immediately} above and below
the tank - tank completely dry
lots of dried up white algae in
this film in many places along
canyon

Noodled and caught 3 min-turtles
all in puddles above tank

Hike back was brutal

checked medium hoop in BW Hole -
caught 2 (ca. 5 hours set)

(18 May 2005)

Pine Pool is now dry - had ca.
10 cm of H₂O on 16 May

Birds we may have seen

American Robin - SW Hole
Scott's Oriole - b/t Mosquito pool/Hell Hill
flock of jays - near Pine Pool
hummingbird - near camp
woodpecker

DID see ravens several times
by would-be rapids

DID see Ducke in SW Hole

19 May 2005 Water Depths

BW Hole: top of dam to water = 53cm
Big Gravelly = 16 cm (no H₂O above)
one small pool 50m below B.G.

Deep Pool = 29cm (No H₂O above)

Mutant Tree Pool = 10cm

Would-be Rapids = 8 cm
(single pool) (no H₂O above)

Swag Pool dry
Pool by pt. 18 = 38 cm

Pine Pool dry

Pool by pt. 3 = 44 cm (no H₂O above)
no water to camp

Pools measured twice

Pool by pt. 18 → 2 ft x 60' Otrunk

pool below by Gravelly → 0", 1-ft x 60'

B.G. → 0, 0

Would-be's → 0, 0

19 May 2005

Hiked to SW Hole - caught lots of turtles
Saw violet, green Swallow at SW Hole
Saw a whip snake near SW Hole
but couldn't catch
Heard a zone-tailed hawk near
Deep Pool and another in usual spot
Saw millions of Peter Cottontails on trip
Tons of H2O boatmen in SW Hole
wren nest may be fledging
saw bunches of wrens in our trap
(at least 4 at one time) and saws of
even looked 140 - but they are still
feeding something
ant colony in captivity is doing well
ant colony in trail by Carla's Camp is
doing well - they have both been
there for years

Hiked up Last Fork about 200 m
1 small puddle ca. 10 cm - no turtles
plenty of Sabase w/ Mexican labels
Hiked SW Canyon - several major pools
are dry (Deathys, pool above Deep Pool,

Ave Pool

pool below Mustard Tree, pool by
Bull's Valle Plain, Sway Pool)

others had reduced H₂O - see water levels
2 pages back

Hiked from Camp to pt. -23
(1st switchback W of Camp)
only H2O was ca. 3 cm in Cool Pool

20 May 2005

saw hepatic tanager
at camp

Hiked up to ~~last~~ SW Hole
pulled nests - caught a bunch

Wooded Geronimo trail except
for 2nd Switchblade - all the
way to dam on trail

4 paddles → 2 tiny
1 big by pt. -29 → 2 turtles
1 huge just above dam

also wooded 2 small pools
bit rain and GST toward

20 May 2005

Noodled 500 paces up
turtle canyon - 1 tiny
pool - no turtles

Saw Zone-tailed hawk on
Geronimo Trail 3/4 Cladonuroff
and G Stark

6 August 2005

Arrived at BW Canyon ca. 2 PM

saw pronghorns, jackrabbit
2 roadrunners, a few ground squirrels
on the way here

saw red-tailed hawk on Geronimo
trail in forest

water levels at all-time (for me)
high - pools everywhere, many connected

water trickling over dam of completely
full BW Hole

Set 2 small nets in BW Hole
difficult to set because of hard ground

Noodled pine pool and ass. pools
Noodled from BW Hole ca. 1/2 way
to Last Fork

10 turtles in those 2 places

Spider caught a garter snake

Some trash on trail but not like May

Zone-tail hawk pair very active

Both ant colonies seen fine

Cloudy night

Spider, me, and Marie are here

7 August 2005

several Hummingbirds
in camp this AM

Hiked to BW Hole - caught 12
set 1 med and 2 small loops

Noodled from pools above Big Gravelly
to 1/2 way up last fork to BW Hole
(completed that run) - caught 2

noodled would-be rapids - caught ca. 10

No way we'll noodle the canyon

While noodling a troop of at least
10 people filed by along trail
beside would-be rapids - when
they saw us they almost ran back up
the trail and into the woods

They were moving N (toward Gemma
Trail)! Hard to imagine they were
anything except illegal aliens

Even though we noodled for
another hour they didn't appear
to continue down trail - though
they may have snuck around us
(we did hear Zone-tailed hawks
screeching at something big tree)

1/2-ass noodled from camp to road
no turtles
Saw praying mantis.

Found a headless hatchling floating in
a pool near last fork - freshly dead
and intact except for head
seems like a beetle predation event

Saw red-tailed hawk near would-be rapids
saw 2 dead centipedes in pools this trip

Garter snakes and 1/2ards seen rare
No bear shit on trail, no rabbits
huge bee hive in base of tree near
upper end of trail by would-be rapids

bis Sceloporus at dam at BW Hole
Tons of dragonflies, damselflies nothing
at BW Hole

Saw a bat last night

Rained 2X today - more than sprinkles
Thunder clouds w/ thunder in evening

8 August 2005.

Water Depths

B15 Gravelly 69 cm
Deep pool 99 cm
Mutant Tree 52 cm
would be half ~~52~~ 52 cm (52 cm)

Snap Pool 72 cm

Pine Pool 41 cm

BW Hole - trickles over dam

Steady rain for several hours last night - H₂O levels noticeably higher

Now - everup - violet thunder and lightning w/ sporadic raindrops it seems like it may rain like hell

checked nets this AM - caught 5 set 1 small net in Mosquito Pool 1 small, 1 med. in BW Hole

loodled from above B15 Gravelly to below Mutant Tree Pool (so, Mutant Tree Pool to BW Hole is done) and that may be about all we can do

The Canyon is down near a shallow stream - TD says there is not a 50 m stretch w/o H₂O

loodling is noted - we could use 10 rods

Sonic boom this AM as we were walking by Pine Pool - zonotailed hawk flew at us TD hit and freaked out, swooping w/in 5 ft and sooth screeching louder than normal

saw a rabbit, several tarantula hawk large light brown moth ca. 3" long Bee flies all over camp

hiked up to rocks above camp
somethy had dug out several
bedding spots under large rocks,
big enough for a medium mammal
but not a cougar

several large boulders appear
ready to fall off the rock pile

much new Mexican trash
along trail that wasnt there
yesterday

9 August 2005

some rain last night -
several hours not pouring
but not sprinkling

pulled nets

wooded half-hourly up
pools behind Mosquito Pool

saw a squirrel - gray squirrel
brownish/white tail like

Border Patrol/ helicopter
flew turtle canyon and
BW Canyon

Canyon is even fuller today

going home - can almost
smell green-chile cheeseburgers
on the grill at Road-forles
Cafe

117 May 2006

BW Hole nearly dry (ca. 10m²).
PAS, MCB, BDS noodled BW Hole &
Mosquito Pool (dried but damp). Found
several turtles. Later sat away
from hole & observed 5 leave
the water after ca. 30 min (eventually)

① end of dam by willow (3) went up
② went up hill to East Fork (a little
towards mosquito pool
above (soop) the
After 3)

17 May 2006

1047, 149, 157, 2 unID

~~149~~ caught heading towards mos. pool

1047 went up hill 30m above dam

157 went straight up hill by willow tree and was not caught in initial netting

-304 caught in dry crevice by mosquito pool near fallen willow, caught this turtle in bw hole. Did not see turtle leave.

Found this turtle following 149 to mos. pool
149 followed ~~to~~ 4 found wedged under rock by willow at Mosquito pool

Arrived at camp about noon

me, MARIE, Brian

hiked up to SW Hole

Canyon is dry - no H2O seen

Hole is ca. 10 m² - saw some neat turtle

stuff noted above - upshot is

6/9 adult mud turtles vacated hole after netting

also saw several spp of bird

and several very cute ground squirrels.

drinking from hole puddle

few *Crotaphytus* and 1 *Sceloporus*,

(a big one) one walked up

lots of Mexican trash - but maybe less
than last time

upper 1/3 of canyon has recently burned
looks like a well-managed controlled burn

Bullock's Oriole at Hole appears to be of Northern Oriole
no Zone-tailed hawks, 2 hummingbirds at SW Hole

Saw night hawks and bats around camp
Camp wrens are back - 2 at west hole
in AM - camp ants doing fine, as
are ants by Carla's camp

2 yearling mud turtles wedged from
dry Mosquito Pool - both were about
2 cm under damp mud of hole
both well alert and moving after
discovered

saw Cassin's or House Finch at SW Hole
and at would-be rapids

18 May 2006

Noodled BW Hole caught
8 adults - 1 recap from yesterday
released into H₂O at 9:13 AM
939 #254 out walking
toward shallow end
along East Fork Hill

#240 a. #50 straight
up by willow onto East Fork Hill

#394 ~~ss.~~ 1010 found by
measuring area at BW Hole
(first one that moved that way)

#1102 |
#1105 → w/w 10 minutes
of returning turtles
UNM to Mud Hole

Mud Hole - pool 15 m long, 10 m wide
ca. 2 ft deep at deepest

Noodled 9 turtles - several clearly
evaded us by swimming in middle
heads sticking up all around

Turtles immediately left Mud Hole
once we stopped making noise
w/w 10 minutes, 2 we had just
marked, one we had never marked
all headed North - same direction
as last time

a few raindrops, clouds, and thunder

Bunn extends ~~to~~ all the way
to Mud Hole and up the hill
toward S hole - vast burned
area - entire ridge leading up
to magnificent western view
is burned

Back at Blackwater Hole we
saw #1027 (one of yesterdays)
turtles out in the open around
dry Mosquito Pool, then we
saw an unrec. juv. 1010 east
(after of dry pool) at base of
dawn, also out in open but
trying to burrow in leaves -
further running in all 3 pools
at base of dawn (all 3 dry) revealed lots
of live flies (all 3 dry) of insects

18 May 2006

heard ^{one} zonotailed hawk this AM

may have seen 3 Mexican Jays
~~mountain bluebirds~~ at
Mud Hole - all together, perhaps another
this AM in camp

Ornate abundant at BW Hole and
Mud Hole

Saw a canyon treefrog at BW Hole

few lizards see

2 urosaurus at Mud Hole
very little else

Rained in PM filled several little
rock pools around Pine Pool,
rained in camp a bit

Killdeer (several)
and ducks (4) at
Mud Hole

19 May 2006

hiked straight up to Mud Hole

Saw a frog which was probably
a RANA, under rock at H₂O edge
leapt into H₂O, at least 1 m jump
big frog - not a treefrog or Bufo

about the same effort, no heads mocking us today
Noodled 2 turtles - 1 UNM, 1 painted
yesterday but not a leaven

Saw Vermillion flycatcher * clearly
red finches

P. Indigo Bunting or Blue Grosbeak
yellow-rumped warbler (probably)
Mockingbird

Killdeer
oriole

bridled titmouse * clearly
plus at least 3 little curly things
Ducks

birds seen at Mud Hole today

frog lurking near H₂O edge, diving under
when disturbed, took one for off pictures

19 May 2006

almost certainly a Rana

watched a turtle move around rocky end of Mud hole - Marie thinks ~~that~~ it was hunting birds. Marie caught the turtle sitting in water ca. 0.5 m from edge. Turtle was unmarked. Turtle was marked 1108.

set small traps in Mud Hole for ca. 3 hrs - nothing Brian saw 3 frogs; maybe as many as 5 all appeared to be adults - leopard frogs hiked to Maverick Spring - saw black-tailed rattlesnake at Maverick Spring - estimated we saw no H2O, a little at Maverick Spring (^{just enough} to wade) saw 2 dead foxes - 1 at Maverick Spring are in Miller Canyon - both in areas that will be wet there will be a lot of puddles in areas we walked turtles are not coping - I shot total thirty suggests maybe nothing to eat in drying holes, heard a zone-tailed hawk at Maverick Spring

20 May 2006) Marie caught bullsnake in camp car 3 ft long

Drove to Cloverdale, which is one abandoned building, drove until road appeared to end at a ranch mostly scale roads were private, doesn't look promising.

Black ccc empty

Cerrillos seep tank low but plenty of H2O
no pools seen anywhere else

hiked up to BW Hole - caught 1 turtle, a migrant from Mud Hole, that was first caught in ~~so~~ Miller Canyon

H2O is 147 cm below base of BW Hole
noticed by less H2O than when we came

walked BW Canyon from BW Hole to Camp - Not one drop of H2O

we all have blisters on our feet

we can indeed smell green-chile cheeseburgers all the way at Road forks

Thanks little book, you have been a worn and faithful friend

water was knee deep in mud hole

CURVE TABLES

HOW TO USE CURVE TABLES

Table I. contains Tangents and Externals to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of curve.

To find Deg. of Curve, having the Central Angle and Tangent:

Divide Tan. opposite the given Central Angle by the given Tangent.

To find Deg. of Curve, having the Central Angle and External:

Divide Ext. opposite the given Central Angle by the given External.

To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = $23^\circ 20'$ to the R. at Station 542+72.

Ext. in Tab. I opposite $23^\circ 20' = 120.87$
 $120.87 \div 12 = 10.07$. Say a 10° Curve.

Tan. in Tab. I opp. $23^\circ 20' = 1183.1$
 $1183.1 \div 10 = 118.31$.

Correction for A. $23^\circ 20'$ for a 10° Cur. = 0.16
 $118.31 + 0.16 = 118.47$ = corrected Tangent.

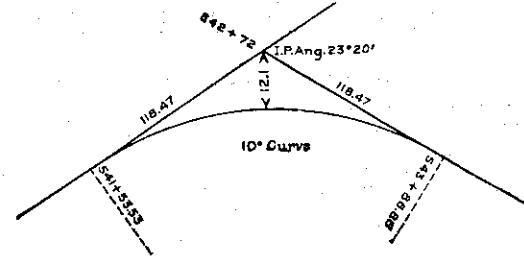
(If corrected Ext. is required find in same way)
 Ang. $23^\circ 20' = 23.33^\circ \div 10 = 2.3333$ = L. C.

$2^\circ 19\frac{1}{2}'$ = def. for sta.	542	I. P. = sta.	542+72
$4^\circ 49\frac{1}{2}'$ = " "	+50	Tan. =	1 . 18.47
$7^\circ 19\frac{1}{2}'$ = " "	543	B. C. = sta.	541+53.53
$9^\circ 49\frac{1}{2}'$ = " "	+50	L. C. =	2 . 33.33
$11^\circ 40'$ = " "	543+	86.86	E. C. = Sta. 543+86.86

$$100 - 53.53 = 46.47 \times 3' (\text{def. for 1 ft. of } 10^\circ \text{ Cur.}) = 139.41' = 2^\circ 19\frac{1}{2}' = \text{def. for sta. 542.}$$

Def. for 50 ft. = $2^\circ 30'$ for a 10° Curve.

Def. for 36.86 ft. = $1^\circ 50\frac{1}{2}'$ for a 10° Curve.



You got a knuckle for breaking
 lovers' wills
 you put 'em in their place
 leave me alone
 forget my face
 express your hate for men
 some other way
 maybe buy a gun
 shoot a few
 maybe sit down w/ your spouse
 and tell him what you do
 maybe teach your kids
 everything you know
 tell you son that men are worthless
 things that should not be born
 # or take your girl
 buy her some high heels
 teach her how to stomp out
 men's desires in perfect time
 maybe start a club
 (I don't know
 The Lonely Hearted Housewives
 Hatred Show
 Is back
 Get on own your own pretty
 NO pools seen anywhere else