Cal/Ecotox
Exposure Factors for Bell's Vireo (Vireo bellii)*

Endpoint Type	Endpoint Value	Error	Range	Units	Sex	Life Stage	Location	Note	Reference
Age at Fledging, Metamorphosis, Weaning			9-12	d	NR	Fledgling	KS	a	1
Age at Fledging, Metamorphosis, Weaning			10.5-12	d	NR	Fledgling	IN	b	2
Age at Fledging, Metamorphosis, Weaning	review				NR	NR	MEXICO; USA	c	3
Body Weight - Mean			9.6-11.0	g	F	Adult	IN	d	2
Body Weight - Mean			9.1-9.5	g	M	Adult	IN	e	2
Body Weight - Mean			1-1.8	g	NR	Hatchling	IN	f	2
Body Weight - Mean	8.3			g	NR	Nestling	IN	g	2
Clutch or Litter Size	3.39			eggs/clutch	F	Adult	KS	h	1
Clutch or Litter Size	review				NR	NR	MEXICO; USA	i	3
Clutches or Litters per year			1-2	clutches/yr	B	Adult	Santa Barbara; CA	j	4
Clutches or Litters per year			1-2	clutches/yr	B	Adult	KS	k	1
Clutches or Litters per year	review				NR	NR	MEXICO; USA	l	3
Dietary Composition	review				NR	NR	MEXICO; USA	m	3
Dietary Composition	Hemiptera (34.43%), Orthoptera (18.52%), Lepidoptera (20.63%), Coleoptera (15.26%), Hymenoptera (6.44%), other insects and spiders (2.71%), vegetable food (0.7%)				NR	NR	USA	n	5
Duration of Incubation or Gestation	approx. 15		14d, 21 hr - 15 d, 8 hr	d	NR	Embryo	Lab	o	6
Duration of Incubation or Gestation	14			d	NR	Embryo	KS	p	1
Duration of Incubation or Gestation			13 d, 16 hr - 14 d, 2 hr		NR	Embryo	IN	q	2
Duration of Incubation or Gestation	review				NR	NR	MEXICO; USA	r	3
Fledging or Weaning Rate	review					Adult	CA	s	7
Fledging or Weaning Rate			26-32	%	B	Adult	Santa Barbara; CA	t	4
Fledging or Weaning Rate	21			%	B	Adult	CA	u	8
Fledging or Weaning Rate	66			%	F	Adult	Santa Barbara; CA	v	9
Fledging or Weaning Rate	63			%	M	Adult	Santa Barbara; CA	w	9
Fledging or Weaning Rate			85/147 - 91/147	chicks fledged/chicks hatched	NR	Fledgling	Santa Barbara; CA	x	4
Fledging or Weaning Rate	59.9			%	NR	Hatchling	AZ	y	10
Fledging or Weaning Rate	review				NR	NR	MEXICO; USA	z	3
Foraging Distance	up to several hundred yards				B	Adult	Santa Barbara; CA	aa	4
Hatching Success			147/238 to 147/262	eggs hatched/eggs produced	NR	Hatchling	Santa Barbara; CA	ab	4
Hatching Success	84			%	NR	Hatchling	AZ	ac	10
Hatching Success	review				NR	NR	MEXICO; USA	ad	3
Longevity	6 -11			yr-mo	NR	Adult	KS	ae	11
Population Density			43-48	pairs/243 ha	B	Adult	Santa Barbara; CA	af	4
Population Density			3-5	birds/km	M	Adult	CA	ag	8
Population Density	review				NR	Adult	CA	ah	7

Endpoint Type	Endpoint Value	Error	Range	Units	Sex	Life Stage	Location	Note	Reference
Survival/ Mortality	48/312			birds returning/birds banded	B	Juvenile	Santa Barbara; CA	ai	9
Territory Size			0.2-1.6	ha	B	Adult	Santa Barbara; CA	aj	4
Territory Size			0.26-3.1	ac	B	Adult	KS	ak	1
Territory Size			2-3	ac	B	Adult	IN	al	2
Territory Size	review				NR	NR	MEXICO; USA	am	3
Time of Mating/ Laying	May 25, 26 (first clutch); June 10, 17 (second clutch)				B	Adult	IN	an	2
Time of Mating/ Laying	review				NR	NR	MEXICO; USA	ao	3
Time of Migration or Dispersal	mid Jul to early Sep				B	Both Adult and Juv.	Santa Barbara; CA	ap	4
Time of Migration or Dispersal	review				NR	NR	MEXICO; USA	aq	3
Time of Molt	review				NR	NR	MEXICO; USA	ar	3

Notes

a	period from hatching to leaving nest; N=8 birds; spring; Lawrence
b	period from hatching to leaving nestd; N=6 birds; spring; Bloomington
c	N=NR
d	N=4 birds; Condition=feeding young; spring; Bloomington
e	N=3 birds; Condition=feeding young; spring; Bloomington
f	N=3 birds; Age=day of hatch; spring; Bloomington
g	mean body weight; N=3 birds; Age=6-7 d post-hatch; spring; Bloomington
h	mean clutch size (over 2 years); N=33 records; spring; Lawrence
i	N=NR
j	annual clutch numbers per pair observed over 2 years; N=43-48 pairs (2 yrs); spring; Gibraltar Reservoir
k	number of broods raised in one nesting season; N=9 pairs; spring; Lawrence; All successful pairs attempted second broods (outcome unkown).
l	N=NR
m	N=NR
n	percent occurrence of food items in stomachs; N=52 stomachs; May-Aug
o	incubation period up to time of pipping; N=8 eggs; Eggs were collected after 0-6 days of natural incubation and artificially incubated.
p	N=NR; spring; Lawrence
q	N=3 eggs; spring; Bloomington
r	N=NR
s	reproductive success data; N=NR
t	percent of nesting pairs that successfully raised at least one young (range over two years); N=43-48 pairs (2 yrs); spring; Gibraltar Reservoir
u	percent of active nests that fledged at least one young; N=14 nests; various CA locations; Seventy-nine percent of nests failed due to predation or brown-headed cowbird nest parasitism.
v	percent of birds that successfully fledged one young; N=98 birds; Gibraltar Reservoir
w	percent of birds that successfully fledged one young; N=98 birds; Gibraltar Reservoir
x	range in proportions of total chicks fledging vs. total chicks hatched (for two years); N=147 eggs hatched (2 yrs); spring; Gibraltar Reservoir
y	percent of eggs producing fledglings of total eggs laid; N=24 nests, 70 eggs; Apr-Aug; upper Santa Cruz River
z	N=NR
aa	maximum observed distance travelled by birds from the nest; N=32 pairs (1 yr); spring; Gibraltar Reservoir
ab	range in proportions of total eggs hatching vs. total eggs laid (for two years); N=238-262 eggs (two yrs); spring; Gibraltar Reservoir
ac	percent of eggs hatched of total number laid; N=24 nests, 70 eggs; Apr-Aug; upper Santa Cruz River
ad	N=NR
ae	age of oldest identified banded individual; N=NR
af	range of nesting density over two years; N=43-48 pairs (2 yrs); spring; Gibraltar Reservoir

ag	number of singing males per linear km of suitable habitat; N=8 survey sites; various CA locations
ah	historical and recent population data; N=NR
ai	proportion of young banded as nestlings or fledglings returning to study area in subsequent yrs; N=312 birds; Gibraltar Reservoir
aj	nesting territory size; N=43-48 pairs (2 yrs); spring; Gibraltar Reservoir
ak	range in sizes of areas used by nesting pairs; N=9 pairs; spring; Lawrence
al	nesting territory size; N=5 pairs; spring; Bloomington
am	N=NR
an	initiation dates of first and second clutches; N=2 nests; spring; Bloomington
ao	N=NR
ap	period of departure from the breeding area by migrants; N=NR; spring; Gibraltar Reservoir
aq	N=NR
ar	N=NR

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