2004 Monitoring Study of the Pacific Pocket Mouse (*Perognathus longimembris pacificus*) at Marine Corps Base Camp Pendleton, San Diego County, California

Final Report

Prepared For:
California Department of Fish and Game
South Coast Regional Office
4949 Viewridge Avenue
San Diego, California 92123

Contact: David Mayer

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Prepared by:
William B. Miller and Mark Pavelka
U. S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011

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Abstract

As part of a multi-year demographic population monitoring study of the federally endangered Pacific pocket mouse (*Perognathus longimembris pacificus*) on Marine Corps Base Camp Pendleton, population monitoring was performed during 2004 on two established trapping grids within the Oscar One training area. Between April and September, three primary sampling bouts were implemented on one grid and four primary sampling bouts were implemented on the other. Data was analyzed in program MARK (White and Burnham 1999) using a candidate set of 62 possible closed population models to generate individual trapping bout abundance estimates. Results reveal that the selected monitoring protocol is capable of producing precise abundance estimates with narrow confidence intervals. However, model comparisons reveal there is a high degree of model uncertainty, with support given to models indicating that time, behavior and individual capture heterogeneity all influence animal detection probabilities. Trapping data indicates that breeding activity had just been initiated by April and some female PPM were likely to have bred twice during the 2004 breeding season. The observed overall population trend was an increase in animal abundance between April and June, a moderate decrease in abundance between June and August, and a dramatic decline in abundance in late September. The sharp decline in numbers in late September suggests that animals had already started to enter seasonal dormancy at the time of the last sampling period. Examination of age class information across all sampling periods revealed a bi-modal trend in abundance for adults that was split by a unimodal peak for juveniles during the June sampling period. This is consistent with observations of a similar sized *Perognathus* species elsewhere (O'Farrell et al. 1975), and suggests that individual components or cohorts of the PPM population have brief and distinct periods of activity above ground on an annual basis.

Introduction

The Pacific pocket mouse (*Perognathus longimembris pacificus* "PPM") historically occurred on the immediate coast of southern California from Marina del Rey and El Segundo in Los Angeles County, south to the vicinity of the Mexican border in San Diego County. It's known distribution is restricted to fine grain, sandy substrates within coastal strand, coastal dunes, river alluvium and marine terraces within 4-kilometers of the ocean. In 1993, following a 20-year period during which the subspecies was not detected, PPM were rediscovered at the Dana Point Headlands in Orange County, California. Based on this discovery, the U.S. Fish and Wildlife Service (Service) emergency listed the PPM in February 1994 (59 FR 5306). Upon expiration of the emergency listing, the subspecies was federally listed as endangered on September 29, 1994 (59 FR 49752).

In 1995, PPM were discovered in two general locations on Marine Corps Base Camp Pendleton in northern San Diego County, bringing the total number of known occurrences of this subspecies to three. Survey efforts suggest that of the three occurrences, the largest concentration of PPM is found within the Oscar One training area of Camp Pendleton. In 1996, the United States Marine Corps proposed and the Service authorized, by means of a Biological Opinion (1-6-96-F-35), construction of the Crucible Challenge Course for troop training exercises within Oscar One.

Associated with the construction of the Crucible Challenge Course, the Marine Corps committed to developing and implementing a monitoring program to track the status of the PPM population within Oscar One. However, detailed life history studies have revealed that PPM is fossorial (burrows) with a complex life history that involves the use of torpor to remain dormant during the Fall and Winter (McCloskey 1972, Meserve 1976a, Meserve 1976b). A number of studies that detected PPM also found them at low concentrations (Brylski 1993, McCloskey 1972, Meserve 1976a, Meserve 1976b). Thus, PPM are not detectable for several months of the year and, when they are found, intensive sampling may be necessary to obtain sufficient sample sizes to support statistical abundance estimates for inferring trend.

The Marine Corps has been working in collaboration with the Service to refine sampling methods for use in their monitoring program. The initial strategy has involved development of a sampling methodology of sufficient intensity to obtain statistically robust abundance estimates at chosen locations within Oscar One. Repeated sampling during the period of above-ground animal activity has also been implemented to better understand within season population variability and to obtain estimates of other demographic parameters such as survivorship.

Because the Marine Corps' monitoring commitment involves sampling the Oscar One PPM population every other year, the present study augments the Marine Corps 2003 and 2005 efforts by implementing the same methods during 2004. This will provide important data on over-winter survivorship that can only be obtained by studying the population during consecutive years. Additionally, when combined with Marine Corps data for 2003 and 2005, this effort will provide several consecutive years of demographic data to better understand the life history variables important to PPM population dynamics. It is anticipated that the detailed demographic information collected from these combined efforts will be used to refine a long term monitoring strategy for PPM that can be implemented within Oscar One and elsewhere. This report focuses solely on the 2004 monitoring data which will be incorporated into a larger analysis to be reported elsewhere.

Materials and Methods

Small mammal trapping was performed between April and September of 2004 within historically established trapping grids "A" and "D" within the Oscar One training area at Marine Corps Base Camp Pendleton (See Figure 1). The two trapping grids are approximately 1.5 kilometers from one another and are separated by several dirt and one paved road (MACS Road). The two grids were selected specifically because prior trapping data suggested they support moderate to high densities of PPM. They also are located in slightly different plant communities at different elevations and are sufficiently separated that they might provide a measure of environmental and spatio-temporal variability across the Oscar One PPM population.

Grid A is located east of MACS road along a gentle southwesterly sloping hillside covered with an ecotonal mixture of annual and perennial grasses and forbs that is interspersed with white sage (*Salvia apiana*), deerweed (*Lotus scoparius*), lemonadeberry (*Rhus integrifolia*) and occasional cacti (*Opuntia littoralis* and *O. prolifera*). During Spring months, storksbill (*Erodium* sp.) provides a dense cover over much of this site, with other notable forbs including coastal wall flower (*Erysimum* sp.), croton (*Croton californicus*), slender wreath plan (*Stephanomeria virgata*), and a number of small stature forbs in the Boraginaceae. This area is removed from the Crucible Course obstacles where most military training is focused.

Grid D is located below Grid A, west of MACS Road along a coastal terrace with little topographic relief. This site is also covered with a mixture of annual and perennial grasses, forbs and shrubs, but with less shrub cover than Grid A. Interspersed shrubs include coastal goldenbush (*Isocoma menzesii*), coastal sagebrush (*Artemesia californica*), deerweed (*Lotus scoparius*), buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*) and coyote brush (*Baccharis pilularis*). Large stature annuals to short lived perennials include western ragweed (*Ambrosia psilostachya*), telegraph weed (*Heterotheca grandiflora*), cudweed (*Gnaphalium* sp.) and horseweed (*Conyza canadensis*). A portion of this site appears to remain vernally mesic, which is suggested by the presence of cordgrass (*Spartina* sp.) and rushes (*Juncus* sp.) towards the eastern end of the grid. Grid D is directly adjacent to several Crucible Course obstacles, but military training is restricted to the adjoining roads and obstacles. Therefore, there is little current disturbance to this vegetation community from troop training activites.

Each trapping grid supports a rectangular, 600-trap array (20 x 30 traps) with traps placed at 5 meter intervals. Thus, each trapping grid covers an area of about 1.38 hectares (3.4 acres).

All trapping was done using 9-inch Sherman™ Live Traps with modified shortened doors. Traps were placed in a consistent orientation (i.e. all doors facing the same direction) and traps were baited with a 1: 4 ratio, by weight, of steamed flat rolled oats to white millet. Traps were baited at dusk and their contents checked at midnight and dawn. To prevent against attack of captured animals by ants, bait was emptied from traps each morning, and if ants were discovered convening around a trap at any time, a natural insect powder made of ground pyrethrum flowers (Ecozone® Roach, Ant, Flea, Silverfish Insect Powder) was sprinkled beneath the trap.

For each animal captured, the species, capture location (unique trap station number), animal identity, age, sex, reproductive condition, and capture/recapture status was recorded. Comparison of field observations with the skins and toothwear patterns of PPM specimens housed at the San Diego Natural History Museum led investigators to conclude that PPM subadults could not be reliably discerned from adults in the field based on pelage. Therefore, captured PPM were assigned either a juvenile or adult age class. Depending on capture rates and time availability, morphological measures were also recorded for PPM . Measurements of PPM morphology included hind foot length, ear length at notch, tail length, body length and animal weight.

All PPM were uniquely marked upon initial capture using toe-clipping as the marking methodology. Toe codes involved clipping one to four toes per animal, with a maximum of one digit clipped per appendage. For purposes of inferring capture/recapture status of non-target animals, non-targets were marked beneath the chin with a Sharpie® permanent marker.

A total of four primary sampling bouts were implemented on Grid A and three sampling bouts were implemented on Grid D (See Table 1). Because 2004 represents a continuation of sampling initiated in 2003, and for consistency with reporting elsewhere, these are numbered bouts 4 through 7. The sixth trapping bout was skipped on Grid D. Sampling periods varied in length from four to ten days of consecutive trapping. Midnight and morning trapping data was combined for analysis and PPM populations were assumed to be closed to the effects of births, deaths, immigration and emigration within each primary sampling period. Combined, a total of 25,800 trap nights was performed.

Table 1
2004 PPM Sampling Periods

Grid	Sampling Bout	Sampling Period	No. of Nights Trapping	No. of Trap Nights
A	4	April 9-15	6	3600
	5	June 6-12	6	3600
	6	August 2-8	6	3600
	7	September 20-24	4	2400
D	4	April 2-12	10	6000
	5	June 6-11	5	3000
	7	September 24-30	6	3600
Total No. of Trap Nights				25,800

Data Analysis

Program MARK (White and Burnham 1999) was used to estimate detection probability (p) and abundance (N) for each grid during each primary sampling period. Huggins closed capture models (Huggins 1989, Huggins 1991) were selected because these models can perform better than the classic closed captures model (Otis et al 1978) when low densities and low detection probabilities cause low sample sizes (Grant and Doherty 2006). The Huggins estimator differs from the classic closed model by conditioning population size (N) out of the likelihood function. Thus, the Huggins estimator directly estimates detection probability but calculates population size as a derived parameter.

The candidate model set (Burnham and Anderson 2002) used to estimate detection probability (p) consisted of 62 possible models derived from the eight basic closed capture model types described by Otis et al. (1978)(See Table 2). The eight basic model types estimate detection

Table 2
Candidate Model Set

Model and Model Type
Null Model (M_0)[1]
P(.) = c(.)
Time Models (M_t)
P(t) = c(t)
P(g*t) = c(g*t)
P(sex*t) = c(sex*t)
P(age*t) = c(age*t)
P(g+t) = c(g+t)
P(sex+t) = c(sex+t)
P(age+t) = c(age+t)
Behavior Models (M_b)
P(.), c(.)
P(g), c(g)
P(sex), c(sex)
P(age), c(age)
P(g) = c(g)+b
P(sex) = c(sex)+b
P(age) = c(age)+b
Heterogeneity Models (M_h)
Pi(.), Pa(.) = ca(.) = pb(.)+z = ca(.)+z
Pi(.), Pa(g) = ca(g) = pb(g)+z = cb(g)+z
Pi(.), Pa(sex) = ca(sex) = pb(sex)+z = cb(sex)+z
Pi(.), Pa(age) = ca(age) = pb(age)+z = cb(age)+z
Pi(g), pa(.)=ca(.)=pb(.)+z=cb(.)+z
Pi(g), Pa(g) = ca(g) = pb(g)+z = cb(g)+z
Pi(sex), pa(.)=ca(.)=pb(.)+z=cb(.)+z
Pi(sex), Pa(sex) = ca(sex) = pb(sex)+z = cb(sex)+z
Pi(age), pa(.)=ca(.)=pb(.)+z=cb(.)+z
Pi(age), Pa(age) = ca(age) = pb(age)+z = cb(age)+z
Behavior and Heterogeneity (M_{bh})
Pi(.), Pa(.) = ca(.)+x = pb(.)+z = ca(.)+x +z
Pi(.), Pa(g) = ca(g)+x = pb(g)+z = cb(g)+x+z
Pi(.), Pa(sex) = ca(sex)+x = pb(sex)+z = cb(sex)+x+z
Pi(.), Pa(age) = ca(age)+x = pb(age)+z = cb(age)+x+z
Pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z
Pi(g), Pa(g) = ca(g)+x = pb(g)+z = cb(g)+x+z
Pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z
Pi(sex), Pa(sex) = ca(sex)+x = pb(sex)+z = cb(sex)+x+z

Model and Model Type (Table 2 Continued)
Behavior and Heterogeneity (M_{bh})
Pi(age), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z
Pi(age), Pa(age) = ca(age)+x = pb(age)+z = cb(age)+x+z
Time and Behavior (M_{tb})
P(t) = c(t)+ b
P(g+t)=c(g+t)+b
P(g*t)=c(g*t)+b
P(sex+t)=c(sex+t)+b
P(sex*t)=c(sex*t)+b
P(age+t)=c(age+t)+b
P(age*t)=c(age*t)+b
Time and Heterogeneity Models (M_{th})
Pi(.), Pa(t)=ca(t) =pb(t)+z= cb(t)+z
Pi(.), Pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z
Pi(.), Pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z
Pi(.), Pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z
Pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z
Pi(g), Pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z
Pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z
Pi(sex), Pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z
Pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z
Pi(age), Pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z
Time, Behavior and Heterogeneity (M_{tbh})
Pi(.), Pa(t)=ca(t)+x =pb(t)+z= cb(t)+x+z
Pi(.), Pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z
Pi(.), Pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z
Pi(.), Pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z
Pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z
Pi(g), Pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z
Pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z
Pi(sex), Pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z
Pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z
Pi(age), Pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z

[1] Otis et al. (1978) model notation.

probability by assuming there is no variation in capture probability (i.e. the null model) or by attributing observed variation in capture probabilities to three basic sources (time, behavior and heterogeneity) or combinations of these factors (time and behavior, time and heterogeneity, behavior and heterogeneity, or time, behavior and heterogeneity).

Briefly, the null model (M_0) is the simplest of all models and assumes that all members of the population are equally at risk of capture on any occasion (Otis et al. 1978). The time model (M_t) assumes that all members of the population are equally at risk of capture on a given trapping occasion, but the probability of capture can vary from one occasion to the next (Otis et al. 1978). Thus, the time model estimates independent capture probabilities for each trapping occasion. The influence of weather or other environmental variables on animal behavior are commonly used to explain why capture probability might vary among occasions.

The behavior model (M_b) deals with the failure of the assumption that initial capture does not affect the probability of capture on subsequent occasions. Thus, animals can exhibit a behavioral response to initial capture such as becoming trap “happy” or trap “shy.” This expands the number of estimated parameters to include the likelihood of first capture (p) and the likelihood of recapture (c) (Otis et al. 1978).

The heterogeneity model (M_h) rests on the assumption that there is no difference between trapping occasions and no behavioral response to capture, but each member of the population has its own probability of capture that is independent of other members of the population. Because this form of heterogeneity is not attributable to age or sex or other measurable attributes, in its full form this model is highly parameterized and theoretically leads to the estimation of as many parameters as there are animals in the population (Otis et al. 1978). A recent maximum likelihood approach (e.g. Pledger 1998, Pledger 2000) has reduced the number of estimated parameters for this model type by partitioning animals into a finite number of groups with relatively homogenous capture probabilities, or “mixtures,” estimated as the parameter Π. Because most data sets are only capable of supporting two mixtures (e.g. animals that are easy to detect and those that are hard to detect) (Lukacs 2005), all heterogeneity models used in this analysis were constructed with two mixtures which differed in capture probability by an additive constant on the logit scale. Thus, the parameter Π represents the relative proportions of the two mixtures as the value Π for the first mixture, and 1- Π for the second mixture. Heterogeneity models were implemented in Program MARK using the Huggins Full Closed Captures with Heterogeneity data type.

As suggested above, the other four model types are more complex models that result from all of the possible combinations of the above factors. For example, the time and behavior model (M_{tb}) partitions variability in capture probability according to both time and behavioral effects. Because other studies of mice have selected time and behavior as preferred models, and heterogeneity is expected in almost all natural populations (Chao and Huggins 2005), all eight basic model types were considered reasonable to test.

Program MARK provides flexibility to allow for different mathematical constructions of the basic model types described by Otis et al (1978). For example, models that attribute variation in capture probabilities to time can be constructed that allow one to test for group by time interactions (i.e. capture probability varies freely across time by groups), or capture probability can be allowed to vary through time, but groups are constrained to be different by an additive constant on the logit scale (Lukacs 2005). Because this analysis implemented in program MARK more complex versions of the models presented by Otis et al. (1978), the model notation presented here follows that suggested by Lukacs (2005). This is similar to the notation used for other models in MARK.

Because interaction models generally involve the estimation of a large number of parameters, and there were concerns that sparse data would not support such parameterized models, most models were constructed using an additive structure. However, some of the more simple model types were constructed with both additive and interaction-type structures to see if there was support for group by time interactions. The eight model types were also expanded into the candidate model set by further partitioning variation in detection probability according to various animal groupings. Animals were grouped according to sex, age, sex and age combined (g) or by ignoring these factors and treating all animals similarly (.). Thus, the various groupings resulted in several permutations for most selected model types.

Although the candidate model set consisted of 62 possible models, individual trapping bout data was considered when determining which models to apply to the analysis of each bout's data. In particular, no juvenile animals were detected on either grid during the April and September sampling periods. Therefore, models that tested for differences among age classes or treated each age and sex combination as a separate group were not applied to these bouts. This reduced the candidate model set to 26 possible models for the April and September sampling periods.

Akaike's Information Criterion with a small sample size correction (AIC_c) was used to rank models (Burnham and Anderson 2002). For closely ranking models, model averaged abundance estimates were computed (Burnham and Anderson 2002).

Results

Grid A

Eight rodent species were detected on trapping Grid A between April and September of 2004 (See Table 3). Two species, cactus mouse and desert woodrat were only detected during one trapping bout and in each instance their capture histories represented the detection of just one individual. A third species, house mouse, was captured in trace amounts during three of the four trapping bouts.

Table 3
Total Number of Captures by Species on Grid A

GRID A		Bout				
Common Name	Scientific Name	4	5	6	7	TOTAL
Cactus mouse	*Peromyscus eremicus*		1			1
White-footed deer mouse	*Peromyscus maniculatus*	3	48	38	19	108
Western harvest mouse	*Reithrodontomys mega lotus*	43	309	341	175	868
California pocket mouse	*Chaetodipus californicus*	10	188	163	112	473
San Diego pocket mouse	*Chaetodipus fallax*	2	42	7	1	52
Pocket mouse species	*Chaetodipus* sp.	1	16			17
Pacific pocket mouse	*Perognathus longimembris pacificus*	352	907	986	86	2331
Desert woodrat	*Neotoma lepida*		9			9
House mouse	*Mus musculus*	2		2	3	7
TOTAL		413	1520	1537	396	3866

More commonly detected non-target species included San Diego pocket mouse, California pocket mouse, white-footed deer mouse and western harvest mouse. Because of overlap in the morphological characters used to identify California pocket mouse and San Diego pocket mouse (ear and foot length), field personnel sometimes had difficulty distinguishing these two species from one another and occasionally identified them only to genus. Because of the potential for mis-identification of these two species conclusions regarding their relative abundance or relative population dynamics should be made with caution.

Other than during bout 7, PPM were the most commonly captured animals on the trapping grid. Table 4 details the number of unique PPM, by age and sex class, that were marked and contributed to the capture totals for each trapping bout. Juvenile animals were only detected during the June and August trapping bouts, and pregnant females were only detected during the April, June and August sampling periods. This suggests that animals were just initiating reproduction in April and had probably concluded reproductive activity by September.

Two individual female PPM were documented to be pregnant during both the April and June sampling periods, and one female was reported to be pregnant during both the April and August sampling periods. A fourth female was recorded to be pregnant in April, June and August.

Table 4
Number of Unique PPM Captured on Grid A

	Bout 4	5	6	7
Adult Females	63	35	79	7
Juvenile Females	0	62	3	0
Adult Males	73	43	86	13
Juvenile Males	0	82	5	0
TOTAL INDIVIDUALS	136	222	173	20
TOTAL CAPTURES	352	907	986	86

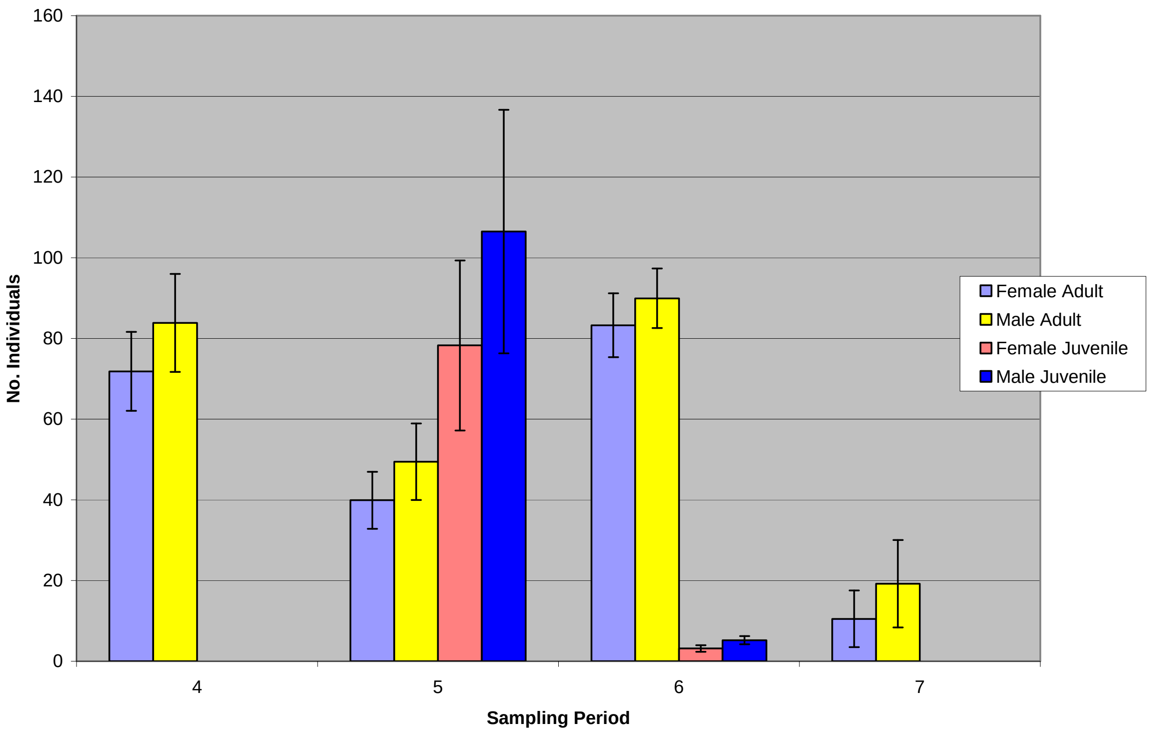
The model that best fit the trapping data for the April trapping period (bout 4) according to AICc values was the simplest time and heterogeneity model that was tested (Π (.), pa(t) = ca(t) = pb(t)+z = cb(t)+z) (See Appendix 1). This model suggests that there are two discernible groupings (i.e. "mixtures") of animals with relatively homogenous capture probabilities irrespective of sex, and capture probability also varies with time. Depending on capture occasion, estimated detection probabilities for the difficult to detect animals ranged between 0.16 and 0.35 (See Appendix 2). Similarly, detection probabilities for the easily detectable animals ranged between 0.57 and 0.79 (See Appendix 2). A majority of the population was comprised of animals that were hard to detect (Π = 0.76, 95 percent confidence interval 0.54 to 0.90).

Based on the model comparisons, three alternative models fell within 2 AICc values of this model suggesting these models fit the April trapping data equally well. The first of these alternative models (Π (sex), pa(t) = ca(t) = pb(t)+z = cb(t)+z) is also a time and heterogeneity model, but it suggests that males and females have different proportions (mixtures) of easy to detect and hard to detect animals. The second alternative model (Π (.), pa(sex+t) = ca(sex+t) = pb(sex+t)+z = cb(sex+t)+z) is also a time and heterogeneity model but it suggests that while males and females have similar mixtures, the probability of an animal's detection varies with sex as well as time. The third model that performed well (Π (.), pa(t) = ca(t)+x = pb(t)+z = cb(t)+x+z) is the simplest of the time, behavior and heterogeneity models that was tested. This model differs from the most preferred model by exhibiting an additive difference between initial capture probability and the probability of recapture.

Because the model comparisons for bout 4 as well as other trapping bouts suggests there is a high degree of model uncertainty, abundance estimates for this and other bouts were generated using model averaging unless otherwise indicated (Appendix 3). The abundance estimate for adult females during bout 4 is 72 (95 percent confidence interval for the weighted average estimate is 62 to 82) (See Figure 2). The abundance estimate for adult males during bout 4 is 84

(95% CI is 72 to 96). As 63 and 73 animals of each sex, respectively, were marked during this sampling period, this suggests that that a majority of PPM on the grid were detected during the six nights of sampling.

Figure 2: Grid A PPM Abundance by Bout



For the June trapping period (bout 5), the presence of juveniles as well as adults of each sex allowed for application of the complete candidate model set. In this instance, the preferred model is a time, behavior and heterogeneity model that uses age to help explain variability in capture probability (Π (age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z) (See Appendix 1). This model suggests the probability of capture and recapture varies with time, that there is an additive difference between the probability of initial capture and the probability of recapture, and that there are different mixtures among age classes. Based on the time of sampling, the probability of initial capture for difficult to detect animals was estimated to vary between 0.08 and 0.20, and their probability of recapture was estimated to vary between 0.20 and 0.33. Similarly, the probability of initial capture for easy to detect animals varied between 0.47 and 0.72 and their probability of recapture varied between 0.72 and 0.83 (Appendix 2). The parameter Π was estimated to be 0.3 (95% CI 0.19 to 0.45) for adults and 0.59 (95% CI 0.45 to 0.72) for juveniles. This indicates that the pattern of detectability for adults and juveniles differed, with a majority of adult animals being behaviorally easier to detect and a majority of juveniles comprising the more difficult to detect grouping.

As with bout 4, the model comparisons revealed some model uncertainty during bout 5, with an alternative time, behavior and heterogeneity model (Π (age), pa(age+t)=ca(age+t)+x = pb(age+t)+z = cb(age+t)+x+z) falling within two AICc values (Appendix 1). This model only differs from the most preferred model through the use of age as well as time to help explain variability in capture and recapture probabilities. The model averaged abundance estimates also were close in value to the number of animals that were marked on the grid during this trapping bout suggesting that a majority of animals on the grid were captured during the six nights of sampling. However, relative to adults there were broader confidence intervals associated with abundance estimates for juvenile animals of each gender (See Figure 2).

For the August trapping period (bout 6) the most preferred model is the simplest of the behavior and heterogeneity models that were tested (Π(.), pa(.)=ca(.)+x=pb(.) +z=cb(.)+x+z) (Appendix 1). This model suggests there are two mixtures of capture probabilities irrespective of sex and age, and there is an additive difference between the probability of initial capture and the probability of recapture. Difficult to detect animals were estimated to have an initial capture probability of 0.30 (95% CI 0.18 to 0.47) and a recapture probability of 0.42 (95% CI 0.28 to 0.58). Easy to detect animals were estimated to have an initial capture probability of 0.79 (95% CI 0.68 to 0.87) and a recapture probability of 0.87 (95% CI 0.79 to 0.91) (Appendix 2). In this instance, a majority of animals fell in the easier to detect grouping (Π =0.64, 95% CI 0.44 to 0.80).

As with the prior bouts, the model comparisons suggest there is a high degree of model uncertainty, with four alternative behavior and heterogeneity models falling within two AICc values of the most preferred model (Appendix 1). These models suggest different mixtures of capture probabilities could exist among the different sexes (Π(sex), pa(.)=ca(.)+x=pb(.) +z=cb(.)+x+z) or different age classes (Π(age), pa(.)=ca(.)+x=pb(.) +z=cb(.)+x+z) or that capture probability varies with sex (Π(.), pa(sex)=ca(sex)+x=pb(sex) +z=cb(sex)+x+z) or age (Π(.), pa(age)=ca(age)+x=pb(age) +z=cb(age)+x+z). All four of the alternative models estimate one more parameter than the most preferred model, and are constructed with a single additive difference that is associated with either sex or age. These models all calculate very similar abundance estimates revealing that the calculated differences in detection probability among the models for each sex and age class is small in magnitude (Appendix 3). A comparison of the calculated detection probabilities among models reveals that the detection probabilities varied across of a range of 0.04, which is well within the 95 percent confidence interval of all of the model estimates.

Compared to bouts 4 and 5, the model averaged abundance estimates for each sex and age class detected during bout 6 fell closest to the number of individuals that were marked during that bout. These abundance estimates also had relatively narrow confidence intervals (Figure 2). This suggests that the six nights of sampling during bout six was also very effective at detecting a majority of animals on the grid.

During the September sampling period (bout 7), extremely low capture rates relative to prior sampling periods led investigators to halt trapping after just four nights. Because only 20 individuals were detected over 2400 trap nights, and no juveniles were detected, it was apparent that PPM on Grid A had started to go into seasonal dormancy prior to the start of the sampling period. Thus, bout 7 had the sparsest data for estimation of model parameters.

Although the candidate model set had already been culled to 26 possible models based on the lack of juveniles, program MARK did a poor job of estimating parameters for most models, and parameter estimates were often unrealistic (e.g. detection probabilities of 10^{-4}) with zero standard errors and/or confidence intervals that were bound by zero and one. Despite the seemingly poor performance of many of the selected models, models with unrealistic or meaningless parameter estimates were sometimes ranked highly in the model comparisons. Further complicating interpretation of the table of model comparisons, highly parameterized time models that did poorly at estimating p values for a number of capture occasions sometimes appeared to generate reasonable derived parameter abundance estimates (i.e. in the vicinity of the actual number of animals detected) with non-zero standard errors.

However, because data sparseness led investigators to have very low confidence in the model based point estimates, particularly for the more complex models incorporating time as a factor, investigators chose to post-hoc delete all models that appeared to generate unrealistic real parameter estimates even if the derived abundance estimates appeared reasonable. This resulted in the elimination of most models that incorporate time as a factor and resulted in the loss of several models that ranked highly in the initial model comparisons

Of the models that were retained, the most preferred model for bout 7 was the simplest of the behavior and heterogeneity models (Π (.), pa(.)=ca(.)+x=pb(.) +z = cb(.)+ x + z) (Appendix 1). No other models fell within 2 AICc units of this model.

This model requires the estimation of 4 parameters and is the same model that was most preferred during the August trapping bout. It suggests there are two mixtures of capture probabilities irrespective of sex and age, and there is also an additive difference between the probability of initial capture and the probability of recapture. It estimated that difficult to detect animals had an initial capture probability of 0.03 (95% CI 0.0 to 0.3) and a recapture probability of 0.24 (95% CI 0.04 to 0.74). Easy to detect animals were estimated to have an initial capture probability of 0.58 (95% CI 0.23 to 0.87) and a recapture probability of 0.94 (95% CI 0.53 to 1.0) (Appendix 2). A majority of animals were estimated to fall within the hard to detect grouping (Π = 0.66, 95% CI 0.27 to 0.91). The derived abundance estimate for adult females was 10 (95% CI 8 to 24) and the abundance estimate for males was 19 (95% CI 14 to 39). However, the broad confidence intervals for estimated detection probabilities, which include probabilities abutting zero and one, and broad confidence intervals surrounding Π reveal that this model has poor precision and may be pushing the limits of what the bout 7 data is capable of supporting.

Because heterogeneity models are not thought to be well supported by closed capture-recapture studies with four or fewer sampling periods, it is worth comparing this model's results with the best ranking model that did not incorporate heterogeneity. The best ranking non-heterogeneity model differed in ranking by 3.2 AICc units and is a simple two parameter behavior model (p(.), c(.)), which estimates independent likelihoods of first capture (p) and recapture (c) that are the same for each sex. This model estimated the probability of initial capture to be 0.46 (95% CI 0.24 to 0.70) and the probability of recapture as 0.75 (95% CI 0.60 to 0.86). The derived abundance estimate for adult females was 8 (95% CI 7 to 13) and the abundance estimate for males was 14 (95% CI 13 to 22). Hence, the better supported behavior and heterogeneity model had broader confidence intervals around the abundance estimate than did the simple behavior model. Figure 2 depicts the weighted model average abundance estimates and associated confidence intervals for adult males and females.

Grid D

Seven rodent species were detected on trapping Grid D between June and September of 2004 (See Table 5). Three species, cactus mouse, San Diego pocket mouse and desert woodrat were only detected during one trapping bout. Only one individual of two of those species, San Diego pocket mouse and desert woodrat was ever detected on the grid. With the exception of house mouse, which was detected on Grid A in trace numbers but not detected on Grid D, the two trapping grids appear to support the same complement of species. However, capture rates reveal that Grid D supports lower numbers of non-target species than Grid A, and some of the species may only reside on Grid D on an intermittent basis.

Table 5
Total Number of Captures by Species on Grid D

GRID D		Bout				
Common Name	Scientific Name	4*	5	6**	7	TOTAL
Cactus mouse	*Peromyscus eremicus*			-	5	5
White-footed deer mouse	*Peromyscus maniculatus*		16	-	6	22
Western harvest mouse	*Reithrodontomys mega lotus*		125	-	46	171
California pocket mouse	*Chaetodipus californicus*		72	-	34	106
San Diego pocket mouse	*Chaetodipus fallax*		1	-		1
Pacific pocket mouse	*Perognathus longimembris pacificus*	734	780	-	80	1594
Desert woodrat	*Neotoma lepida*			-	1	1
TOTAL		734	994	-	172	1900

* Non-target species data for bout 4 has yet to be entered into the computer database.
** Grid D was not trapped during Bout 6.

As on Grid A, PPM were the most frequently captured animals on Grid D. Table 6 details the number of unique PPM by age and sex class that were marked and contributed to the capture totals for each trapping bout.

Table 6
Number of Unique PPM Captured on Grid D

Grid D	Bout 4	5	6	7
Adult Females	75	50	-	7
Juvenile Females	0	72	-	0
Adult Males	98	28	-	13
Juvenile Males	0	78	-	0
TOTAL INDIVIDUALS	173	228	-	20
TOTAL CAPTURES	734	780	-	80

Consistent with Grid A, juvenile animals were not detected during the April and September trapping bouts, and PPM capture rates were extremely low during September. Similarly, pregnant females were only detected during the April and June sampling periods. Thus, across Oscar One it appears that animals were initiating reproduction in April and had likely concluded reproduction and started to enter dormancy by the end of September.

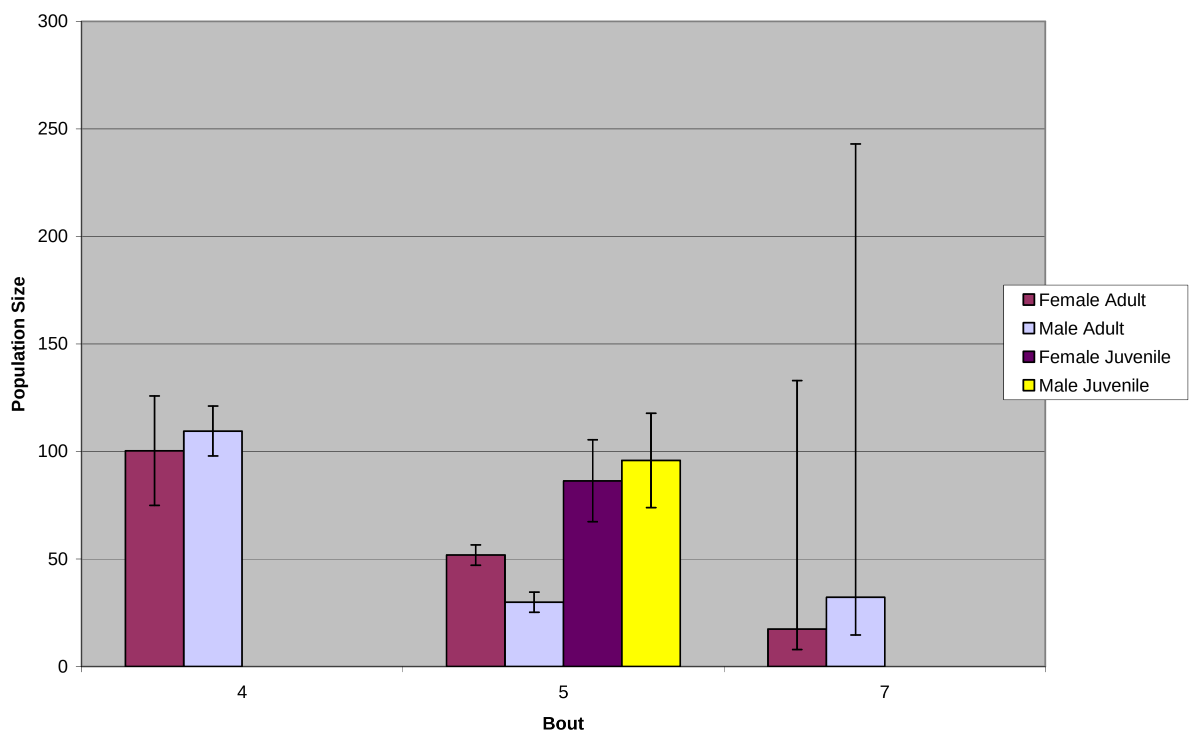
Interestingly, during the first night of trapping in April there was an extremely skewed sex ratio with only one female among 51 PPM that were captured. Consistent with this observation, the model that best fit the trapping data for the April trapping period (bout 4) was a behavior and heterogeneity model that included sex as an explanatory variable [Π (sex),pa(sex)= ca(sex)+x =pb(sex) +z = cb(sex)+ x + z](See Appendix 4). This model suggests there are different proportions of easy to detect and hard to detect animals among the sexes, the different sexes have different detection probabilities, and there is an additive difference between the probability of initial capture and the probability of recapture.

This model estimates that difficult to detect females had an initial capture probability of 0.11 (95% CI 0.07 to 0.18) and a recapture probability of 0.20 (95% CI 0.14 to 0.29). Easy to detect females were estimated to have an initial capture probability of 0.49 (95% CI 0.33 to 0.66) and a recapture probability of 0.65 (95% CI 0.51 to 0.78). Difficult to detect males were estimated to have an initial capture probability of 0.16 (95% CI 0.11 to 0.23) and a recapture probability of 0.28 (95% CI 0.22 to 0.35). Easy to detect males were estimated to have an initial capture probability of 0.59 (95% CI 0.48 to 0.70) and a recapture probability of 0.74 (95% CI 0.66 to 0.81) (Appendix 5). A majority of females fell in the difficult to detect grouping (Π=0.9, 95% CI 0.66 to 0.98) as did a majority of males (Π =0.6, 95% CI 0.45 to 0.73).

One other behavior and heterogeneity model [Π (sex), pa(.)=ca(.)+x=pb(.) +z = cb(.)+ x + z] fell within 2 AICc units of the most preferred model suggesting it supported the data equally well (Appendix 4). This model also suggests that there are different mixtures among the sexes but it differed from the above model through the assumption that males and females have equivalent initial capture and recapture probabilities.

The model averaged abundance estimate for adult females was 100 (95% CI 75 to 126) and for adult males was 109 (95% CI 98 to 121)(Appendix 6, Figure 3). Despite 10 consecutive nights of trapping during this bout, comparison of these estimates with the number of unique animals that were captured (75 females and 98 males) suggests that there were still a number of animals that went undetected.

Figure 3: Grid D PPM Abundance by Bout



The model that best fit the trapping data for the June trapping period (bout 5) was a time and heterogeneity model (Π (age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z) (Appendix 4). This model suggests there are different proportions of hard to detect and easy to detect animals among the age classes and that capture probability varies with both time and age. Depending on capture occasion, this model estimated that difficult to detect adult capture probabilities varied between 0.35 to 0.54. Easy to detect adult capture probabilities varied over time between 0.87 to 0.93. Difficult to detect juvenile capture probabilities were estimated to vary between 0.20 to 0.35 and easy to detect juvenile capture probabilities varied between 0.75 to 0.87 (Appendix 5). A slight majority of adults fell in the difficult to detect grouping (Π=0.54, 95% CI 0.31 to 0.75) while almost one-fourth more juveniles were estimated to be difficult to detect (Π =0.78, 95% CI 0.62 to 0.88).

Among all of the trapping bouts on both grids there appears to be the greatest model uncertainty for this bout's data, with five other candidate models falling within 2 AICc values of the most preferred model (See Appendix 4). Like the most preferred model, three of the alternative models are time and heterogeneity models and the remaining two alternative models are time, behavior and heterogeneity models. Other than differences among initial capture and recapture probabilities, the chief factor that differed among the models was how three animal groupings (age, sex and age combined, or no grouping) were used to explain variability among mixtures or among detection probabilities.

The derived abundance estimates for bout 5 estimated there were 52 adult females (95% CI 47 to 57), 30 adult males (95% CI 25 to 35), 86 juvenile females (95% CI 67 to 105), and 96 juvenile males (95% CI 74 to 118) on the grid (Appendix 6, Figure 3). As 50 and 28 unique adult females and adult males, respectively, were captured on the grid, these estimates closely matched the number of adult animals that were seen. However, as for bout 5 data on grid A, there were broader confidence intervals associated with abundance estimates for juvenile animals of each gender, and the estimates were further from the number of animals that were observed. This reflects the lower detection probabilities and greater proportion of animals with low detection probabilities that were estimated for juvenile animals (Appendix 5).

As on Grid A, very few animals were encountered during the September sampling period (bout 7), resulting in sparse data for estimation of model parameters. Therefore, as described above for Grid A, individual model outputs were reviewed and all models that appeared to generate unrealistic parameter estimates were post-hoc deleted from the model set on the basis that there was insufficient data to support estimation of those parameters.

Interestingly, despite continuation of trapping on Grid D for six days, in contrast to the four days that were implemented on Grid A, none of the heterogeneity models were retained within 2 AICc values of the most preferred behavioral model [p(.), c(.)]. This relatively simple two parameter behavioral model estimated a very low initial capture probability of 0.08 with a broad 95% confidence interval from 0.0 to 0.67. It estimated recapture probability to be 0.62 (95%CI 0.48 to 0.74) (Appendix 5). The broad confidence interval associated with initial capture probability suggests that even the most preferred model performed poorly, which is reflected in the broad confidence intervals associated with the derived abundance estimates for adult males 17 (95% CI 8 to 133) and adult females 32 (95% CI 14 to 243). Because no other models ranked highly, model averaging was not used to generate the derived abundance estimates depicted in Figure 3.

Discussion

This report focuses on a single year of data collected as part of a longer term demographic study of the Pacific pocket mouse population within the Oscar One training area on Marine Corps Base Camp Pendleton. The long term study has a number of goals that include refinement of sampling methods to obtain statistically robust abundance estimates, performing baseline sampling to understand natural population variability, and obtaining estimates of life history variables of importance to population management efforts (e.g. recruitment, survivorship, migration). Because some of these topics are best addressed through analysis of the more comprehensive data set, the following concentrates on closed capture-recapture analysis of 2004 data as well as other conclusions or suggestions that can be drawn from 2004 field observations.

Periods of Activity

Based on studies of a similar sized species of *Perognathus* in the Great Basin, O'Farrell et al. (1975) observed that individual components of the population had brief periods of activity above ground on an annual basis. Once they commenced above ground activities the Great Basin pocket mice (*P. parvus*) were trappable for an average of 60 days during years of adequate food supplies and an average of 90 days during years that food was scarce. However, during productive years, trapping late in the year primarily captured subadults that were produced from late litters, and animals captured earlier in the year had already ceased surface activity (O'Farrell et al. 1975). In laboratory trials, French (1977) observed that PELO stopped foraging even when food was always made available to them, suggesting that mice stay below ground once reproduction is completed and sufficient food stores are accumulated. This pattern of brief periods of above ground activity among components of the population appears consistent with age class data and qualitative observations of PPM on the monitoring grids.

However, as mentioned in the Materials and Methods section, upon capture PPM were only assigned to two age classes because investigators did not feel that subadults could be reliably discerned from adults based on pelage. Since only very young animals were assigned a juvenile age class, animals that were identified as juveniles during earlier trapping bouts were classified as adults during subsequent bouts. From a reproductive perspective this methodology is likely meaningful because *P. longimembris* become sexually mature at 41 days of age and can breed in their natal year during favorable conditions (Brylski 1993; French et al. 1974; Hayden et al. 1966). Observations within Oscar One during 2003 also confirm that PPM will engage in reproductive behavior and give birth within the same year that they are born (USFWS Unpublished data). However, the failure to identify animals as subadults or otherwise indicate that they are young of the year at the time of capture may obscure patterns that may otherwise be evident from more detailed age class information. Future reports will focus closely on individual capture histories to verify that the pattern suggested by O'Farrell et al. (1975) is observable in PPM.

Reproductive Behavior

Other subspecies of *Perognathus longimembris* associated with desert environments are reported to breed only once in the Spring between the months of April and June, though occasionally they may extend the breeding season and produce two litters in a year (Chew and Butterworth 1964; Cramer and Chapman 1990; Flake and Jorgensen 1969; French et al. 1967; Meserve 1972; O'Farrell et al. 1975; Kenagy and Bartholomew 1985). Pregnant females were observed on the grids during the April, June and August sampling periods. Because juvenile animals were not detected in April, it appears that PPM may initiate breeding activity at the same time of year as desert subspecies. Observations of pregnant females during the August sampling period may suggest that the relatively benign coastal climate at Camp Pendleton allows PPM to sustain a longer period of reproductive activity than desert subspecies.

However, on Grid A, several females were observed to be pregnant during more than one sampling period. Gestation for *Perognathus longimembris* is reported to last for 23 days and young are weaned after 30 days (Hayden et al. 1966). Trapping bouts 4, 5 and 6 were spaced about 50 days apart from one another. Based on the timing of the birth of their first litters, it is both possible and likely that these females produced at least two litters during 2004. Thus, as has been observed on occasion for desert subspecies, 2004 may have been a year of high resource availability that allowed some mice to produce more than one litter during that year. Although late reproduction was also observed in 2003 (USFWS Unpublished data), additional population monitoring will be necessary to determine whether this is common or an unusual occurrence for PPM.

Closed Capture-Recapture Analysis

The closed capture-recapture analysis reveals that the 600-trap sampling protocol implemented on Grids A and D was effective at generating closed population abundance estimates with reasonably precise confidence intervals during most trapping periods. In most instances the abundance estimates were also fairly close in value to the number of unique animals that were captured during a sampling period, revealing that the high intensity trapping protocol is effective at capturing a majority, but not all, animals that are present.

Although the statistical models generated reasonably precise abundance estimates, model comparisons revealed there was quite a bit of model uncertainty for most bouts, with several competing models often receiving near equal support. Preferred models included models that combined the effects of time and heterogeneity; behavior and heterogeneity; and time, behavior and heterogeneity. However, model selection varied within grids among bouts and among grids within bouts. This suggests that each of the three factors, time, behavior and heterogeneity, are likely to influence PPM capture probability, but their relative importance may vary with capture occasion and possibly location.

In most instances, models that received near equal support were of the same general type. For instance, the four models that ranked highly in the model comparisons for Bout 6, Grid A were all versions of a behavior and heterogeneity model. In that instance the models differed from one another depending on whether the mixtures were modeled as a function of age or sex or whether age or sex was modeled as an explanatory variable for detection probability. The equal support for these models and a comparison of parameter estimates reveals that the modeled differences were often of little magnitude and had little impact on the derived abundance estimates.

With the exception of the September trapping bout on Grid D, when there were problems with data sparseness, the preferred models invariably provided support for individual heterogeneity in capture probability. This heterogeneity was modeled as two groups, or mixtures, with relatively homogenous detection probabilities; one comprised of individuals that are easy to detect and the other with animals that are hard to detect. Although for most trapping bouts and animal groupings the relative proportion of hard to detect animals was greater than easy to detect animals, there was a greater proportion of easy to detect adults on Grid A during the June trapping bout. Additionally, among all groups there were more easy to detect animals estimated within the population in August.

That initial capture probability was found to vary with time, and the relative proportion of easy to detect and hard to detect animals was found to vary with trapping bout suggests that further analysis of the Oscar One population monitoring data will be needed to optimize survey protocols for PPM.

Population Trends

The within season trend on Grid A was an increase in animal abundance from April to June, a moderate decrease in the population size from June to August, and a sharp decline in the number of animals estimated to be in the population in late September (Figures 2). Grid D exhibited the same pattern with the exception that the August trapping bout was not implemented on Grid D, so there is no information regarding Grid D's population size during that sampling period (Figure 3).

Since PPM go below ground and become dormant during the fall and winter months (McCloskey 1972, Meserve 1976a, Meserve 1976b) , the sharp decline in abundance on both grids in late September is likely attributable to the on-set of seasonal dormancy. If this is the case, then dormant individuals can be regarded as having "temporarily emigrated" (sensu Kendall and Nichols 1995, Kendall et al. 1997) from the population by going below ground. It would then follow that the closed population estimate for September represents that proportion of the population that has remained active above ground and available for capture. Depending on the rate at which animals are entering dormancy, it is also possible that the loss of individuals from the population during the sampling interval could violate the assumption of population closure on which the statistical algorithms are based. Combined with the sparse data obtained during this sampling interval this could have contributed to the instability of many of the statistical models for this trapping bout.

A closer examination of the population trends on the grids between April and June reveals a significant decrease in the number of adults between April and June. Thus, the increase in total abundance on the grids in June is attributable to the appearance of juveniles. Examining the population trends on Grid A between June and August reveals a significant increase in the number of adults in August and the near disappearance of juveniles from the Grid during this interval. This bi-modal trend in abundance for adults and unimodal peak for juveniles is consistent with the observations of O'Farrell et al. (1975) for *P. parvus* in the Great Basin, where animals captured late in the year were primarily subadults that were produced from late litters. As discussed above, since animals were only classified as adults or juveniles at the time of capture, the increase in adults during August appears to be primarily attributable to the maturation of juveniles detected during the prior bout. Thus, it appears likely that, similar to *P. parvus*, individual components of the PPM population exhibit brief periods of activity above ground on an annual basis. This suggests that late season population estimates, in particular, should be regarded as estimates of the number of individuals that remain above ground and available for capture, rather than as a true estimate of the number of animals that reside within the trapping grid.

By extension this may have implications for the interpretation of data on the relative proportions of males and females in the population. For all but one trapping bout on one grid (Bout 5, Grid D), the point estimates for abundance showed slightly fewer females than males in the population (See Figures 2 and 3). However, the confidence intervals associated with these estimates indicate that there is no discernible difference in the ratio of males to females.

For Bout 5 Grid D there were more adult females than adult males detected in the population. However, if different cohorts have different periods of above ground activity, this difference could be attributable to different patterns of survivorship among males and females or could mean that adult males had started to conclude breeding activity by the June sampling period and were beginning to reduce their above ground activity by this time.

Management Recommendations

1. Incorporate the above analysis into a broader analysis of the Oscar One PPM monitoring data that involves the application of both open and closed population statistical abundance and survivorship estimates. This analysis should include an analysis of animal movement data for the purpose of extrapolating animal abundances into population densities.

2. Explore the possibility of implementing more frequent but less intensive population monitoring across the period of activity for PPM to better understand the period of activity for different aged cohorts within the population.

3. Work with the Marine Corps to incorporate a spatially explicit sampling scheme into PPM monitoring programs to better understand the dynamics and status of each PPM population across their entire distribution.

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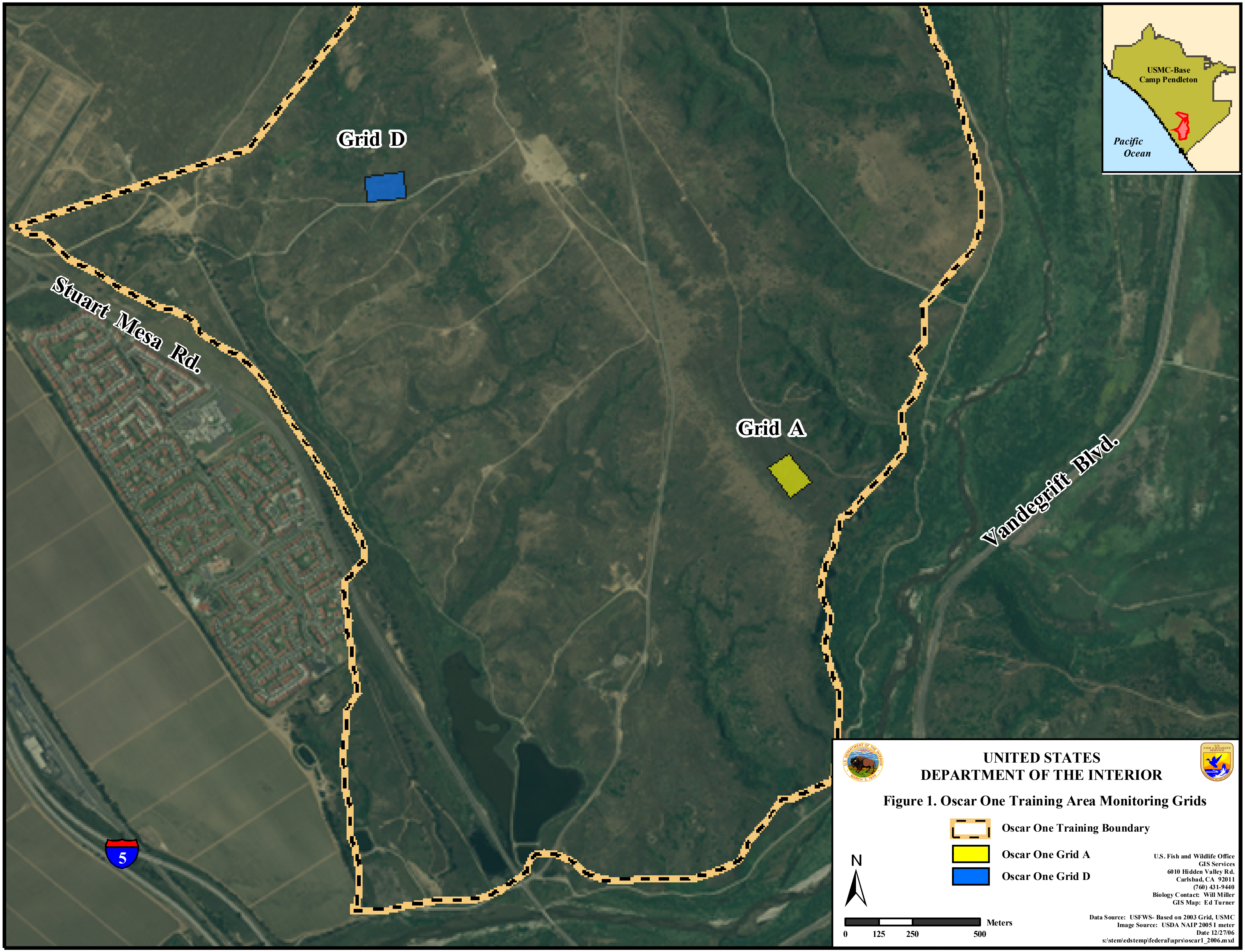

Figure 1. Oscar One Training Area Monitoring Grids

Oscar One Grid A Bout 4 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1041.9223	0	0.34964	1	8	1027.0713
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1043.5008	1.5785	0.1588	0.4542	9	1026.605
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1043.734	1.8117	0.14132	0.4042	9	1026.8381
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1043.789	1.8667	0.13749	0.3932	9	1026.8931
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1045.4118	3.4895	0.06108	0.1747	10	1026.466
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1045.5098	3.5875	0.05816	0.1663	10	1026.564
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1045.719	3.7967	0.05238	0.1498	10	1026.7731
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1047.2794	5.3571	0.02401	0.0687	11	1026.2785
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1049.4246	7.5023	0.00821	0.0235	4	1042.7027
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1051.1537	9.2314	0.00346	0.0099	5	1042.4071
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1051.4467	9.5244	0.00299	0.0086	5	1042.7001
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1052.605	10.6827	0.00167	0.0048	6	1041.8286
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1055.063	13.1407	0.00049	0.0014	3	1050.3608
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1056.8459	14.9236	0.0002	0.0006	4	1050.1241
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1058.5863	16.664	0.00008	0.0002	5	1049.8397
{p(t)=c(t)}	1068.2103	26.288	0	0	6	1057.434
{p(t)=c(t)+b}	1068.2919	26.3696	0	0	7	1055.4808
{p(sex+t)=c(sex+t)+b}	1068.8718	26.9495	0	0	8	1054.0209
{p(t), c(t)}	1069.5441	27.6218	0	0	10	1050.5983
{p(sex+t)=c(sex+t)}	1069.6429	27.7206	0	0	7	1056.8318
{p(sex*t)=c(sex*t)+b}	1073.9889	32.0666	0	0	13	1048.8625
{p(sex*t)=c(sex*t)}	1074.8002	32.8779	0	0	12	1051.7392
{p(sex),c(sex)}	1074.8484	32.9261	0	0	4	1068.1265
{p(.),c(.)}	1078.8512	36.9289	0	0	2	1076.1639
{p(.)=c(.)}	1079.0769	37.1546	0	0	1	1078.3995
{p(sex)=c(sex)+b}	1080.5202	38.5979	0	0	3	1075.818

Oscar One Grid A Bout 5 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1694.0838	0	0.35879	1	10	1624.8443
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	1696.0099	1.9261	0.13696	0.3817	11	1624.7368
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1696.2705	2.1867	0.12023	0.3351	12	1622.961
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	1697.4369	3.3531	0.0671	0.187	10	1628.1974
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	1697.8094	3.7256	0.0557	0.1552	5	1638.6911
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	1697.8376	3.7538	0.05492	0.1531	15	1618.3998
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1698.4513	4.3675	0.04041	0.1126	9	1631.242
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1698.8314	4.7476	0.03341	0.0931	11	1627.5584
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	1699.4111	5.3273	0.025	0.0697	6	1638.2747
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	1699.6248	5.541	0.02247	0.0626	10	1630.3853
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	1699.964	5.8802	0.01897	0.0529	10	1630.7244
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	1700.0129	5.9291	0.01851	0.0516	5	1640.8947
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1700.4694	6.3856	0.01473	0.0411	7	1637.3117
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1701.284	7.2002	0.0098	0.0273	11	1630.0109
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	1703.0654	8.9816	0.00402	0.0112	12	1629.7559
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1703.2516	9.1678	0.00366	0.0102	10	1634.012
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	1703.724	9.6402	0.00289	0.0081	9	1636.5148
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	1703.8253	9.7415	0.00275	0.0077	14	1626.4333
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1703.827	9.7432	0.00275	0.0077	9	1636.6177
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1705.005	10.9212	0.00153	0.0043	6	1643.8686
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1705.35	11.2662	0.00128	0.0036	10	1636.1104
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	1705.9776	11.8938	0.00094	0.0026	5	1646.8594
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1707.025	12.9412	0.00056	0.0016	5	1647.9068
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1707.0316	12.9478	0.00055	0.0015	10	1637.792
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	1707.7655	13.6817	0.00038	0.0011	4	1650.6624
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	1707.8529	13.7691	0.00037	0.001	9	1640.6437
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1708.7781	14.6943	0.00023	0.0006	5	1649.6599
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1708.8871	14.8033	0.00022	0.0006	4	1651.784
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	1709.3977	15.3139	0.00017	0.0005	7	1646.2401
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1709.9667	15.8829	0.00013	0.0004	8	1644.7849
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1710.0108	15.927	0.00012	0.0003	3	1654.9196
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1710.1088	16.025	0.00012	0.0003	9	1642.8996
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1710.4906	16.4068	0.0001	0.0003	5	1651.3723
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	1711.1843	17.1005	0.00007	0.0002	6	1650.0479
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	1711.2717	17.1879	0.00007	0.0002	11	1639.9987
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1711.7307	17.6469	0.00005	0.0001	9	1644.5215

Oscar One Grid A Bout 5 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1711.7667	17.6829	0.00005	0.0001	4	1654.6636
{p(age+t)=c(age+t)+b}	1773.2684	79.1846	0	0	8	1708.0866
{p(g+t)=c(g+t)+b}	1775.4354	81.3516	0	0	10	1706.1958
{p(age*t)=c(age*t)+b}	1778.6457	84.5619	0	0	13	1703.2965
{p(t)=c(t)+b}	1788.8865	94.8027	0	0	7	1725.7289
{p(g*t)=c(g*t)+b}	1789.486	95.4022	0	0	25	1689.4176
{p(sex+t)=c(sex+t)+b}	1790.1612	96.0774	0	0	8	1724.9793
{p(age)=c(age)+b}	1794.5038	100.42	0	0	3	1739.4126
{p(age),c(age)}	1796.396	102.3122	0	0	4	1739.2929
{p(sex*t)=c(sex*t)+b}	1796.8017	102.7179	0	0	13	1721.4525
{p(g)=c(g)+b}	1796.855	102.7712	0	0	5	1737.7368
{p(g),c(g)}	1801.2373	107.1535	0	0	8	1736.0554
{p(.),c(.)}	1813.3268	119.243	0	0	2	1760.2447
{p(age+t)=c(age+t)}	1814.0097	119.9259	0	0	7	1750.852
{p(sex)=c(sex)+b}	1814.2695	120.1857	0	0	3	1759.1784
{p(sex),c(sex)}	1816.1029	122.0191	0	0	4	1758.9998
{p(g+t)=c(g+t)}	1816.3788	122.295	0	0	9	1749.1696
{p(age*t)=c(age*t)}	1820.3323	126.2485	0	0	12	1747.0227
{p(g*t)=c(g*t)}	1831.3531	137.2693	0	0	24	1733.362
{p(.)=c(.)}	1832.9793	138.8955	0	0	1	1781.9033
{p(t)=c(t)}	1834.9532	140.8694	0	0	6	1773.8167
{p(sex+t)=c(sex+t)}	1835.6868	141.603	0	0	7	1772.5292
{p(sex*t)=c(sex*t)}	1841.9712	147.8874	0	0	12	1768.6617

Oscar One Grid A Bout 6 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1197.717	0	0.23029	1	4	1323.7296
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1198.8358	1.1188	0.13162	0.5715	5	1322.8291
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1199.0276	1.3106	0.11959	0.5193	5	1323.0208
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	1199.3632	1.6462	0.10111	0.4391	5	1323.3565
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	1199.7015	1.9845	0.08538	0.3708	5	1323.6947
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1200.8586	3.1416	0.04787	0.2079	6	1322.8285
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	1201.2933	3.5763	0.03852	0.1673	6	1323.2632
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1201.4375	3.7205	0.03584	0.1556	9	1317.3136
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1202.2979	4.5809	0.02331	0.1012	7	1322.2406
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1202.4591	4.7421	0.0215	0.0934	10	1316.2962
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	1202.4999	4.7829	0.02107	0.0915	7	1322.4426
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1202.6429	4.9259	0.01962	0.0852	10	1316.48
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1202.8313	5.1143	0.01785	0.0775	3	1330.8596
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1203.0619	5.3449	0.01591	0.0691	10	1316.899
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	1203.3532	5.6362	0.01375	0.0597	10	1317.1903
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	1203.7132	5.9962	0.01149	0.0499	9	1319.5894
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1204.3216	6.6046	0.00847	0.0368	4	1330.3343
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1204.5023	6.7853	0.00774	0.0336	11	1316.2962
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	1204.8406	7.1236	0.00654	0.0284	4	1330.8533
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	1205.0677	7.3507	0.00584	0.0254	11	1316.8616
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1205.2127	7.4957	0.00543	0.0236	8	1323.124
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	1205.9296	8.2126	0.00379	0.0165	12	1315.6763
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1205.9487	8.2317	0.00376	0.0163	12	1315.6955
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1206.0208	8.3038	0.00362	0.0157	5	1330.0141
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	1206.4071	8.6901	0.00299	0.013	5	1330.4004
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1206.4138	8.6968	0.00298	0.0129	9	1322.29
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1206.7208	9.0038	0.00255	0.0111	9	1322.597
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1206.9174	9.2004	0.00231	0.01	9	1322.7936
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	1207.2423	9.5253	0.00197	0.0086	9	1323.1185
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	1207.255	9.538	0.00195	0.0085	14	1312.8954
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	1207.9348	10.2178	0.00139	0.006	6	1329.9047
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1208.4494	10.7324	0.00108	0.0047	10	1322.2865
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	1208.824	11.107	0.00089	0.0039	10	1322.6611
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	1209.0171	11.3001	0.00081	0.0035	8	1326.9284
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1209.9213	12.2043	0.00052	0.0023	11	1321.7152
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	1210.3728	12.6558	0.00041	0.0018	11	1322.1667

Oscar One Grid A Bout 6 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	1211.4799	13.7629	0.00024	0.001	13	1319.1756
{p(sex+t)=c(sex+t)+b}	1252.3731	54.6561	0	0	8	1370.2844
{p(t)=c(t)+b}	1252.4276	54.7106	0	0	7	1372.3703
{p(age+t)=c(age+t)+b}	1253.7519	56.0349	0	0	8	1371.6633
{p(g+t=c(g+t)+b}	1255.3432	57.6262	0	0	10	1369.1802
{p(age*t)=c(age*t)+b}	1260.7836	63.0666	0	0	13	1368.4792
{p(.),c(.)}	1261.1627	63.4457	0	0	2	1391.2026
{p(sex*t)=c(sex*t)+b}	1261.3117	63.5947	0	0	13	1369.0073
{p(sex)=c(sex)+b}	1261.4801	63.7631	0	0	3	1389.5084
{p(sex),c(sex)}	1262.5239	64.8069	0	0	4	1388.5365
{p(age)=c(age)+b}	1262.7189	65.0019	0	0	3	1390.7472
{p(age),c(age)}	1263.6927	65.9757	0	0	4	1389.7053
{p(g)=c(g)+b}	1265.0179	67.3009	0	0	5	1389.0111
{p(g),c(g)}	1266.8898	69.1728	0	0	8	1384.8012
{p(g*t)=c(g*t)+b}	1273.5631	75.8461	0	0	23	1360.5248
{p(.)=c(.)}	1283.352	85.635	0	0	1	1415.3996
{p(t)=c(t)}	1287.2493	89.5323	0	0	6	1409.2191
{p(sex+t)=c(sex+t)}	1287.7312	90.0142	0	0	7	1407.6738
{p(age+t)=c(age+t)}	1288.9271	91.2101	0	0	7	1408.8698
{p(g+t)=c(g+t)}	1291.481	93.764	0	0	9	1407.3571
{p(age*t)=c(age*t)}	1296.1313	98.4143	0	0	12	1405.878
{p(sex*t)=c(sex*t)}	1296.7813	99.0643	0	0	12	1406.5281
{p(g*t)=c(g*t)}	1314.3023	116.5853	0	0	24	1399.1679

Oscar One Grid A Bout 7 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	97.6318	0	0.47056	1	4	83.321533
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	99.8243	2.1925	0.15722	0.3341	5	83.236555
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	99.8987	2.2669	0.15148	0.3219	5	83.310891
{p(.), c(.)}	100.8658	3.234	0.0934	0.1985	2	90.932933
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	102.1475	4.5157	0.04921	0.1046	6	83.219884
{p(sex)=c(sex)+b}	102.9577	5.3259	0.03282	0.0697	3	90.86493
{p(.)=c(.)}	103.7972	6.1654	0.02157	0.0458	1	95.968968
{p(sex), c(sex)}	105.172	7.5402	0.01085	0.0231	4	90.861727
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	106.3495	8.7177	0.00602	0.0128	7	85.016955
{p(t)=c(t)}	106.6803	9.0485	0.0051	0.0108	4	92.370019
{p(sex+t)=c(sex+t)}	108.8737	11.2419	0.0017	0.0036	5	92.285889
{p(sex*t)=c(sex*t)}	115.6163	17.9845	0.00006	0.0001	8	91.811176

Grid A Bout 4 Real Parameter Estimates
Model: pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z

Index	Group	Label	Estimate	SE	LCI	UCI
1		pi	0.764913	0.091903	0.544404	0.898578
2		pi	0.764913	0.091903	0.544404	0.898578
3		pi	0.764913	0.091903	0.544404	0.898578
4		pi	0.764913	0.091903	0.544404	0.898578
5	Female Adult Mixture A	p	0.346127	0.059828	0.239717	0.470538
6	Female Adult Mixture A	p	0.28091	0.054263	0.187481	0.398088
7	Female Adult Mixture A	p	0.156807	0.03814	0.09556	0.246605
8	Female Adult Mixture A	p	0.249585	0.050952	0.163279	0.361786
9	Female Adult Mixture A	p	0.173212	0.040768	0.107073	0.267946
10	Female Adult Mixture A	p	0.28091	0.054263	0.187481	0.398088
11	Female Adult Mixture B	p	0.789319	0.067314	0.628887	0.892276
12	Female Adult Mixture B	p	0.734385	0.07905	0.555444	0.859516
13	Female Adult Mixture B	p	0.568259	0.099643	0.372552	0.744746
14	Female Adult Mixture B	p	0.701847	0.084878	0.515272	0.839041
15	Female Adult Mixture B	p	0.597221	0.097694	0.400805	0.766725
16	Female Adult Mixture B	p	0.734385	0.07905	0.555444	0.859516
17	Female Juvenile Mixture A	p	0.346127	0.059828	0.239717	0.470538
18	Female Juvenile Mixture A	p	0.28091	0.054263	0.187481	0.398088
19	Female Juvenile Mixture A	p	0.156807	0.03814	0.09556	0.246605
20	Female Juvenile Mixture A	p	0.249585	0.050952	0.163279	0.361786
21	Female Juvenile Mixture A	p	0.173212	0.040768	0.107073	0.267946
22	Female Juvenile Mixture A	p	0.28091	0.054263	0.187481	0.398088
23	Female Juvenile Mixture B	p	0.789319	0.067314	0.628887	0.892276
24	Female Juvenile Mixture B	p	0.734385	0.07905	0.555444	0.859516
25	Female Juvenile Mixture B	p	0.568259	0.099643	0.372552	0.744746
26	Female Juvenile Mixture B	p	0.701847	0.084878	0.515272	0.839041
27	Female Juvenile Mixture B	p	0.597221	0.097694	0.400805	0.766725
28	Female Juvenile Mixture B	p	0.734385	0.07905	0.555444	0.859516
29	Male Adult Mixture A	p	0.346127	0.059828	0.239717	0.470538
30	Male Adult Mixture A	p	0.28091	0.054263	0.187481	0.398088
31	Male Adult Mixture A	p	0.156807	0.03814	0.09556	0.246605
32	Male Adult Mixture A	p	0.249585	0.050952	0.163279	0.361786
33	Male Adult Mixture A	p	0.173212	0.040768	0.107073	0.267946
34	Male Adult Mixture A	p	0.28091	0.054263	0.187481	0.398088
35	Male Adult Mixture B	p	0.789319	0.067314	0.628887	0.892276
36	Male Adult Mixture B	p	0.734385	0.07905	0.555444	0.859516
37	Male Adult Mixture B	p	0.568259	0.099643	0.372552	0.744746
38	Male Adult Mixture B	p	0.701847	0.084878	0.515272	0.839041
39	Male Adult Mixture B	p	0.597221	0.097694	0.400805	0.766725
40	Male Adult Mixture B	p	0.734385	0.07905	0.555444	0.859516
41	Male Juvenile Mixture A	p	0.346127	0.059828	0.239717	0.470538
42	Male Juvenile Mixture A	p	0.28091	0.054263	0.187481	0.398088
43	Male Juvenile Mixture A	p	0.156807	0.03814	0.09556	0.246605
44	Male Juvenile Mixture A	p	0.249585	0.050952	0.163279	0.361786
45	Male Juvenile Mixture A	p	0.173212	0.040768	0.107073	0.267946
46	Male Juvenile Mixture A	p	0.28091	0.054263	0.187481	0.398088
47	Male Juvenile Mixture B	p	0.789319	0.067314	0.628887	0.892276
48	Male Juvenile Mixture B	p	0.734385	0.07905	0.555444	0.859516
49	Male Juvenile Mixture B	p	0.568259	0.099643	0.372552	0.744746
50	Male Juvenile Mixture B	p	0.701847	0.084878	0.515272	0.839041
51	Male Juvenile Mixture B	p	0.597221	0.097694	0.400805	0.766725

Grid A Bout 4 Real Parameter Estimates
Model: pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z

Index	Group	Label	Estimate	SE	LCI	UCI
52	Male Juvenile Mixture B	p	0.734385	0.07905	0.555444	0.859516
53	Female Adult Mixture A	c	0.28091	0.054263	0.187481	0.398088
54	Female Adult Mixture A	c	0.156807	0.03814	0.09556	0.246605
55	Female Adult Mixture A	c	0.249585	0.050952	0.163279	0.361786
56	Female Adult Mixture A	c	0.173212	0.040768	0.107073	0.267946
57	Female Adult Mixture A	c	0.28091	0.054263	0.187481	0.398088
58	Female Adult Mixture B	c	0.734385	0.07905	0.555444	0.859516
59	Female Adult Mixture B	c	0.568259	0.099643	0.372552	0.744746
60	Female Adult Mixture B	c	0.701847	0.084878	0.515272	0.839041
61	Female Adult Mixture B	c	0.597221	0.097694	0.400805	0.766725
62	Female Adult Mixture B	c	0.734385	0.07905	0.555444	0.859516
63	Female Juvenile Mixture A	c	0.28091	0.054263	0.187481	0.398088
64	Female Juvenile Mixture A	c	0.156807	0.03814	0.09556	0.246605
65	Female Juvenile Mixture A	c	0.249585	0.050952	0.163279	0.361786
66	Female Juvenile Mixture A	c	0.173212	0.040768	0.107073	0.267946
67	Female Juvenile Mixture A	c	0.28091	0.054263	0.187481	0.398088
68	Female Juvenile Mixture B	c	0.734385	0.07905	0.555444	0.859516
69	Female Juvenile Mixture B	c	0.568259	0.099643	0.372552	0.744746
70	Female Juvenile Mixture B	c	0.701847	0.084878	0.515272	0.839041
71	Female Juvenile Mixture B	c	0.597221	0.097694	0.400805	0.766725
72	Female Juvenile Mixture B	c	0.734385	0.07905	0.555444	0.859516
73	Male Adult Mixture A	c	0.28091	0.054263	0.187481	0.398088
74	Male Adult Mixture A	c	0.156807	0.03814	0.09556	0.246605
75	Male Adult Mixture A	c	0.249585	0.050952	0.163279	0.361786
76	Male Adult Mixture A	c	0.173212	0.040768	0.107073	0.267946
77	Male Adult Mixture A	c	0.28091	0.054263	0.187481	0.398088
78	Male Adult Mixture B	c	0.734385	0.07905	0.555444	0.859516
79	Male Adult Mixture B	c	0.568259	0.099643	0.372552	0.744746
80	Male Adult Mixture B	c	0.701847	0.084878	0.515272	0.839041
81	Male Adult Mixture B	c	0.597221	0.097694	0.400805	0.766725
82	Male Adult Mixture B	c	0.734385	0.07905	0.555444	0.859516
83	Male Juvenile Mixture A	c	0.28091	0.054263	0.187481	0.398088
84	Male Juvenile Mixture A	c	0.156807	0.03814	0.09556	0.246605
85	Male Juvenile Mixture A	c	0.249585	0.050952	0.163279	0.361786
86	Male Juvenile Mixture A	c	0.173212	0.040768	0.107073	0.267946
87	Male Juvenile Mixture A	c	0.28091	0.054263	0.187481	0.398088
88	Male Juvenile Mixture B	c	0.734385	0.07905	0.555444	0.859516
89	Male Juvenile Mixture B	c	0.568259	0.099643	0.372552	0.744746
90	Male Juvenile Mixture B	c	0.701847	0.084878	0.515272	0.839041
91	Male Juvenile Mixture B	c	0.597221	0.097694	0.400805	0.766725
92	Male Juvenile Mixture B	c	0.734385	0.07905	0.555444	0.859516

Grid A Bout 5 Real Parameter Estimates
Model: pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
1		pi	0.303734	0.067841	0.188722	0.449963
2		pi	0.593237	0.071679	0.448967	0.723036
3		pi	0.303734	0.067841	0.188722	0.449963
4		pi	0.593237	0.071679	0.448967	0.723036
5	Female Adult Mixture A	p	0.195611	0.052762	0.111929	0.319357
6	Female Adult Mixture A	p	0.130903	0.054274	0.055827	0.277288
7	Female Adult Mixture A	p	0.14445	0.067223	0.054944	0.329006
8	Female Adult Mixture A	p	0.140533	0.069502	0.050273	0.335584
9	Female Adult Mixture A	p	0.079865	0.043686	0.026356	0.217717
10	Female Adult Mixture A	p	0.107993	0.05772	0.036061	0.281506
11	Female Adult Mixture B	p	0.715721	0.055457	0.596069	0.811159
12	Female Adult Mixture B	p	0.609282	0.101311	0.403759	0.78218
13	Female Adult Mixture B	p	0.636102	0.115342	0.396957	0.822756
14	Female Adult Mixture B	p	0.628649	0.124209	0.373691	0.827678
15	Female Adult Mixture B	p	0.473302	0.136334	0.235267	0.724126
16	Female Adult Mixture B	p	0.556233	0.137119	0.296735	0.788293
17	Female Juvenile Mixture A	p	0.195611	0.052762	0.111929	0.319357
18	Female Juvenile Mixture A	p	0.130903	0.054274	0.055827	0.277288
19	Female Juvenile Mixture A	p	0.14445	0.067223	0.054944	0.329006
20	Female Juvenile Mixture A	p	0.140533	0.069502	0.050273	0.335584
21	Female Juvenile Mixture A	p	0.079865	0.043686	0.026356	0.217717
22	Female Juvenile Mixture A	p	0.107993	0.05772	0.036061	0.281506
23	Female Juvenile Mixture B	p	0.715721	0.055457	0.596069	0.811159
24	Female Juvenile Mixture B	p	0.609282	0.101311	0.403759	0.78218
25	Female Juvenile Mixture B	p	0.636102	0.115342	0.396957	0.822756
26	Female Juvenile Mixture B	p	0.628649	0.124209	0.373691	0.827678
27	Female Juvenile Mixture B	p	0.473302	0.136334	0.235267	0.724126
28	Female Juvenile Mixture B	p	0.556233	0.137119	0.296735	0.788293
29	Male Adult Mixture A	p	0.195611	0.052762	0.111929	0.319357
30	Male Adult Mixture A	p	0.130903	0.054274	0.055827	0.277288
31	Male Adult Mixture A	p	0.14445	0.067223	0.054944	0.329006
32	Male Adult Mixture A	p	0.140533	0.069502	0.050273	0.335584
33	Male Adult Mixture A	p	0.079865	0.043686	0.026356	0.217717
34	Male Adult Mixture A	p	0.107993	0.05772	0.036061	0.281506
35	Male Adult Mixture B	p	0.715721	0.055457	0.596069	0.811159
36	Male Adult Mixture B	p	0.609282	0.101311	0.403759	0.78218
37	Male Adult Mixture B	p	0.636102	0.115342	0.396957	0.822756
38	Male Adult Mixture B	p	0.628649	0.124209	0.373691	0.827678
39	Male Adult Mixture B	p	0.473302	0.136334	0.235267	0.724126
40	Male Adult Mixture B	p	0.556233	0.137119	0.296735	0.788293
41	Male Juvenile Mixture A	p	0.195611	0.052762	0.111929	0.319357
42	Male Juvenile Mixture A	p	0.130903	0.054274	0.055827	0.277288
43	Male Juvenile Mixture A	p	0.14445	0.067223	0.054944	0.329006
44	Male Juvenile Mixture A	p	0.140533	0.069502	0.050273	0.335584
45	Male Juvenile Mixture A	p	0.079865	0.043686	0.026356	0.217717
46	Male Juvenile Mixture A	p	0.107993	0.05772	0.036061	0.281506
47	Male Juvenile Mixture B	p	0.715721	0.055457	0.596069	0.811159
48	Male Juvenile Mixture B	p	0.609282	0.101311	0.403759	0.78218
49	Male Juvenile Mixture B	p	0.636102	0.115342	0.396957	0.822756
50	Male Juvenile Mixture B	p	0.628649	0.124209	0.373691	0.827678
51	Male Juvenile Mixture B	p	0.473302	0.136334	0.235267	0.724126

Grid A Bout 5 Real Parameter Estimates
Model: pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
52	Male Juvenile Mixture B	p	0.556233	0.137119	0.296735	0.788293
53	Female Adult Mixture A	c	0.302819	0.057379	0.203169	0.42526
54	Female Adult Mixture A	c	0.327455	0.055811	0.228566	0.444477
55	Female Adult Mixture A	c	0.320433	0.054425	0.224148	0.434895
56	Female Adult Mixture A	c	0.200192	0.041409	0.131017	0.293552
57	Female Adult Mixture A	c	0.25878	0.048516	0.175365	0.364343
58	Female Adult Mixture B	c	0.818079	0.035279	0.738611	0.877397
59	Female Adult Mixture B	c	0.834461	0.029448	0.768478	0.884465
60	Female Adult Mixture B	c	0.829984	0.029346	0.764571	0.880073
61	Female Adult Mixture B	c	0.721557	0.040874	0.634935	0.794284
62	Female Adult Mixture B	c	0.783296	0.034928	0.707168	0.843998
63	Female Juvenile Mixture A	c	0.302819	0.057379	0.203169	0.42526
64	Female Juvenile Mixture A	c	0.327455	0.055811	0.228566	0.444477
65	Female Juvenile Mixture A	c	0.320433	0.054425	0.224148	0.434895
66	Female Juvenile Mixture A	c	0.200192	0.041409	0.131017	0.293552
67	Female Juvenile Mixture A	c	0.25878	0.048516	0.175365	0.364343
68	Female Juvenile Mixture B	c	0.818079	0.035279	0.738611	0.877397
69	Female Juvenile Mixture B	c	0.834461	0.029448	0.768478	0.884465
70	Female Juvenile Mixture B	c	0.829984	0.029346	0.764571	0.880073
71	Female Juvenile Mixture B	c	0.721557	0.040874	0.634935	0.794284
72	Female Juvenile Mixture B	c	0.783296	0.034928	0.707168	0.843998
73	Male Adult Mixture A	c	0.302819	0.057379	0.203169	0.42526
74	Male Adult Mixture A	c	0.327455	0.055811	0.228566	0.444477
75	Male Adult Mixture A	c	0.320433	0.054425	0.224148	0.434895
76	Male Adult Mixture A	c	0.200192	0.041409	0.131017	0.293552
77	Male Adult Mixture A	c	0.25878	0.048516	0.175365	0.364343
78	Male Adult Mixture B	c	0.818079	0.035279	0.738611	0.877397
79	Male Adult Mixture B	c	0.834461	0.029448	0.768478	0.884465
80	Male Adult Mixture B	c	0.829984	0.029346	0.764571	0.880073
81	Male Adult Mixture B	c	0.721557	0.040874	0.634935	0.794284
82	Male Adult Mixture B	c	0.783296	0.034928	0.707168	0.843998
83	Male Juvenile Mixture A	c	0.302819	0.057379	0.203169	0.42526
84	Male Juvenile Mixture A	c	0.327455	0.055811	0.228566	0.444477
85	Male Juvenile Mixture A	c	0.320433	0.054425	0.224148	0.434895
86	Male Juvenile Mixture A	c	0.200192	0.041409	0.131017	0.293552
87	Male Juvenile Mixture A	c	0.25878	0.048516	0.175365	0.364343
88	Male Juvenile Mixture B	c	0.818079	0.035279	0.738611	0.877397
89	Male Juvenile Mixture B	c	0.834461	0.029448	0.768478	0.884465
90	Male Juvenile Mixture B	c	0.829984	0.029346	0.764571	0.880073
91	Male Juvenile Mixture B	c	0.721557	0.040874	0.634935	0.794284
92	Male Juvenile Mixture B	c	0.783296	0.034928	0.707168	0.843998

Grid A Bout 6 Real Parameter Estimates
Model: pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
1		pi	0.639052	0.09688	0.437344	0.801303
2		pi	0.639052	0.09688	0.437344	0.801303
3		pi	0.639052	0.09688	0.437344	0.801303
4		pi	0.639052	0.09688	0.437344	0.801303
5	Female Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
6	Female Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
7	Female Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
8	Female Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
9	Female Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
10	Female Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
11	Female Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
12	Female Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
13	Female Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
14	Female Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
15	Female Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
16	Female Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
17	Female Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
18	Female Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
19	Female Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
20	Female Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
21	Female Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
22	Female Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
23	Female Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
24	Female Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
25	Female Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
26	Female Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
27	Female Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
28	Female Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
29	Male Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
30	Male Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
31	Male Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
32	Male Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
33	Male Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
34	Male Adult Mixture A	p	0.790654	0.049453	0.677711	0.87152
35	Male Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
36	Male Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
37	Male Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
38	Male Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
39	Male Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
40	Male Adult Mixture B	p	0.301907	0.075284	0.176775	0.465526
41	Male Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
42	Male Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
43	Male Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
44	Male Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
45	Male Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
46	Male Juvenile Mixture A	p	0.790654	0.049453	0.677711	0.87152
47	Male Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
48	Male Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
49	Male Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
50	Male Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
51	Male Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526

Grid A Bout 6 Real Parameter Estimates
Model: pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
52	Male Juvenile Mixture B	p	0.301907	0.075284	0.176775	0.465526
53	Female Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
54	Female Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
55	Female Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
56	Female Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
57	Female Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
58	Female Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
59	Female Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
60	Female Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
61	Female Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
62	Female Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
63	Female Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
64	Female Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
65	Female Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
66	Female Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
67	Female Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
68	Female Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
69	Female Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
70	Female Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
71	Female Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
72	Female Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
73	Male Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
74	Male Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
75	Male Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
76	Male Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
77	Male Adult Mixture A	c	0.865061	0.030667	0.792991	0.914738
78	Male Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
79	Male Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
80	Male Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
81	Male Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
82	Male Adult Mixture B	c	0.423328	0.079136	0.279993	0.580845
83	Male Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
84	Male Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
85	Male Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
86	Male Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
87	Male Juvenile Mixture A	c	0.865061	0.030667	0.792991	0.914738
88	Male Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
89	Male Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
90	Male Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
91	Male Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845
92	Male Juvenile Mixture B	c	0.423328	0.079136	0.279993	0.580845

Grid A Bout 7 Real Parameter Estimates
Model: pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
1		pi	0.661771	0.188254	0.273433	0.910493
2		pi	0.661771	0.188254	0.273433	0.910493
3		pi	0.661771	0.188254	0.273433	0.910493
4		pi	0.661771	0.188254	0.273433	0.910493
5	Female Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
6	Female Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
7	Female Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
8	Female Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
9	Female Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
10	Female Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
11	Female Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
12	Female Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
13	Female Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
14	Female Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
15	Female Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
16	Female Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
17	Female Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
18	Female Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
19	Female Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
20	Female Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
21	Male Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
22	Male Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
23	Male Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
24	Male Adult Mixture A	p	0.582485	0.193642	0.226595	0.869166
25	Male Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
26	Male Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
27	Male Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
28	Male Adult Mixture B	p	0.026087	0.035952	0.00167	0.300201
29	Male Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
30	Male Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
31	Male Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
32	Male Juvenile Mixture A	p	0.582485	0.193642	0.226595	0.869166
33	Male Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
34	Male Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
35	Male Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
36	Male Juvenile Mixture B	p	0.026087	0.035952	0.00167	0.300201
37	Female Adult Mixture A	c	0.944004	0.072732	0.531965	0.996017
38	Female Adult Mixture A	c	0.944004	0.072732	0.531965	0.996017
39	Female Adult Mixture A	c	0.944004	0.072732	0.531965	0.996017
40	Female Adult Mixture B	c	0.244525	0.20552	0.035278	0.74126
41	Female Adult Mixture B	c	0.244525	0.20552	0.035278	0.74126
42	Female Adult Mixture B	c	0.244525	0.20552	0.035278	0.74126
43	Female Juvenile Mixture A	c	0.944004	0.072732	0.531965	0.996017
44	Female Juvenile Mixture A	c	0.944004	0.072732	0.531965	0.996017
45	Female Juvenile Mixture A	c	0.944004	0.072732	0.531965	0.996017
46	Female Juvenile Mixture B	c	0.244525	0.20552	0.035278	0.74126
47	Female Juvenile Mixture B	c	0.244525	0.20552	0.035278	0.74126
48	Female Juvenile Mixture B	c	0.244525	0.20552	0.035278	0.74126
49	Male Adult Mixture A	c	0.944004	0.072732	0.531965	0.996017
50	Male Adult Mixture A	c	0.944004	0.072732	0.531965	0.996017
51	Male Adult Mixture A	c	0.944004	0.072732	0.531965	0.996017

Grid A Bout 7 Real Parameter Estimates
Model: pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
52	Male Adult Mixture B	c	0.244525	0.20552	0.035278	0.74126
53	Male Adult Mixture B	c	0.244525	0.20552	0.035278	0.74126
54	Male Adult Mixture B	c	0.244525	0.20552	0.035278	0.74126
55	Male Juvenile Mixture A	c	0.944004	0.072732	0.531965	0.996017
56	Male Juvenile Mixture A	c	0.944004	0.072732	0.531965	0.996017
57	Male Juvenile Mixture A	c	0.944004	0.072732	0.531965	0.996017
58	Male Juvenile Mixture B	c	0.244525	0.20552	0.035278	0.74126
59	Male Juvenile Mixture B	c	0.244525	0.20552	0.035278	0.74126
60	Male Juvenile Mixture B	c	0.244525	0.20552	0.035278	0.74126

Grid A : Bout 4

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Females			
Model	Weight	Estimate	Standard Error
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.34964	72.87282	4.3805110
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.15880	72.13322	4.1947579
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.14133	71.97019	4.5026717
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.13749	70.45749	5.9606311
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.06108	70.14324	5.7499113
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.05816	72.59249	4.9120245
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.05238	70.55036	6.3086961
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.02401	70.17135	5.4053738
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00821	67.41952	2.8699667
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00346	67.15627	2.7709262
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00299	67.37609	2.9720850
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00167	68.02913	3.3858346
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00049	73.19180	4.4826103
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00020	72.26682	4.6075899
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00008	72.93895	5.0515877
Weighted Average		71.83712	4.8019921
Unconditional SE			4.9954455

95% CI for Weighted Average Estimate is 62.0460460 to 81.6281923
Percent of Variation Attributable to Model Variation is 7.60%

Adult Males			
Model	Weight	Estimate	Standard Error
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.34964	84.43994	4.8645270
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.15880	84.65854	4.9616328
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.14133	85.91228	6.2525438
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.13749	81.64122	6.7948062
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.06108	82.06159	7.1906811
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.05816	83.85695	5.9176007
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.05238	83.43795	10.0118685
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.02401	79.71430	6.8333768
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00821	78.12104	3.1920491
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00346	78.19865	3.2377826
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00299	78.21712	3.7371160
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00167	76.63229	2.9290084
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00049	84.80955	4.9800867
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00020	86.31226	6.3741946
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00008	84.14291	5.9921531
Weighted Average		83.84819	5.8362045
Unconditional SE			6.2046674

95% CI for Weighted Average Estimate is 71.6870431 to 96.0093393
Percent of Variation Attributable to Model Variation is 11.52%

Grid A : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Females			
Model	Weight	Estimate	Standard Error
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.35879	40.25737	3.4091607
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.13696	40.21517	3.3554194
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.12023	40.20538	3.5842000
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.06710	39.08517	2.7744564
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.05570	37.64061	1.9293800
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.05492	40.88936	3.7089489
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.04041	36.84299	1.4975452
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.03341	43.73704	4.3248093
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.02500	37.89832	2.0681899
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.02247	43.16798	4.5005742
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.01897	37.12067	1.6692401
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.01851	37.14004	1.6785582
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.01473	37.57128	2.0024092
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00980	36.78202	1.5315006
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00402	44.38894	5.0601054
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00366	43.98372	4.5959303
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00289	37.85914	2.1707916
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00275	37.82836	2.1556452
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00275	46.02671	5.5222508
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00153	40.63190	2.9882951
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00128	46.98896	5.7684441
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00094	38.45258	2.4492159
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00056	39.38901	2.4997345
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00055	39.37492	2.4952783
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00038	37.22790	1.7940580
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00037	37.20496	1.7820271
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00023	39.50153	2.6528137
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00022	40.05323	2.8835471
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00017	39.28930	2.9925193
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00013	38.41744	2.1265144
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00012	38.45565	2.1408322
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00012	38.08591	2.0041449
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00010	41.06046	3.5484266
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00007	37.80968	2.2431441
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00007	37.79644	2.2364771
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00005	39.05562	2.6761578
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00005	39.08780	2.6876551
Weighted Average		39.88485	3.1624465
Unconditional SE			3.6112385

95% CI for Weighted Average Estimate is 32.8068185 to 46.9628733

Percent of Variation Attributable to Model Variation is 23.31%

Grid A : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Juvenile Females			
Model	Weight	Estimate	Standard Error
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.35879	82.85723	10.9948649
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.13696	81.35736	11.8524406
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.12023	80.51640	9.0598987
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.06710	72.76962	5.2799608
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.05570	71.74762	4.6374402
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.05492	69.28803	5.6348468
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.04041	68.66640	3.1983027
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.03341	77.47704	6.6160747
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.02500	70.52778	4.5927845
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.02247	84.85418	8.9193716
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.01897	67.78695	3.1402552
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.01851	67.84204	3.1650206
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.01473	71.01074	4.3737545
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00980	68.18485	3.0733921
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00402	85.75332	9.4202836
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00366	77.91401	7.1312091
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00289	63.80213	1.6560495
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00275	63.79169	1.6545912
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00275	81.53302	8.7107560
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00153	71.97651	4.3688813
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00128	83.23758	9.0785571
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00094	73.72638	5.0848963
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00056	69.77482	3.5858401
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00055	69.74985	3.5794530
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00038	70.23088	3.8978844
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00037	70.11227	3.8607338
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00023	69.97413	3.8910786
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00022	70.95144	4.2648865
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00017	75.42441	5.9524458
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00013	68.05376	3.0106511
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00012	68.12144	3.0320420
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00012	67.46648	2.8310975
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00010	72.73568	5.4585008
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00007	72.08829	4.9740297
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00007	72.05184	4.9813881
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00005	69.18425	4.0359846
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00005	69.24124	4.0532077
Weighted Average		78.24823	8.5904497
Unconditional SE			10.7402856

95% CI for Weighted Average Estimate is 57.1972672 to 99.2991869

Percent of Variation Attributable to Model Variation is 36.03%

Grid A : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Males			
Model	Weight	Estimate	Standard Error
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.35879	49.45905	3.9805218
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.13696	49.40721	3.9129568
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.12023	50.58814	4.6088661
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.06710	48.17536	3.2351050
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.05570	46.24418	2.1957312
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.05492	51.23729	4.6924688
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.04041	45.26425	1.6852955
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.03341	59.47409	7.7997194
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.02500	46.56079	2.3611391
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.02247	53.03495	5.2672495
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.01897	45.60539	1.8905290
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.01851	45.62920	1.9013370
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.01473	46.69820	2.4968919
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00980	45.53397	1.8617405
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00402	52.18935	5.1354532
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00366	59.47253	7.6506349
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00289	46.40307	2.4178821
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00275	46.35428	2.3953423
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00275	56.54710	6.4774332
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00153	50.54883	3.8925603
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00128	55.87720	6.2164518
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00094	47.24174	2.8265034
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00056	47.96970	2.7629773
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00055	47.91008	2.7414110
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00038	45.73714	2.0476148
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00037	45.70895	2.0334811
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00023	50.50404	3.8899259
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00022	49.20826	3.3055131
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00017	47.05883	2.8609629
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00013	47.19857	2.4025339
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00012	47.24552	2.4189987
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00012	47.96096	2.7412687
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00010	49.09298	3.2744100
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00007	45.72803	2.1473847
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00007	45.70881	2.1382267
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00005	47.09242	2.3835224
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00005	47.14091	2.4004973
Weighted Average		49.42142	3.85256
Unconditional SE			4.82841

95% CI for Weighted Average Estimate is 39.9577413 to 58.8850994

Percent of Variation Attributable to Model Variation is 36.34%

Grid A : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Juvenile Males			
Model	Weight	Estimate	Standard Error
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.35879	109.58536	14.1267822
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.13696	107.60167	15.3262489
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.12023	116.62759	17.5760540
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.06710	97.90514	7.5949181
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.05570	94.89201	5.7276446
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.05492	112.82366	15.2227322
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.04041	90.81685	3.8396689
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.03341	113.41571	13.4841680
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.02500	93.27868	5.7235258
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.02247	112.22650	11.2167208
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.01897	89.65371	3.8144496
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.01851	89.72657	3.8464603
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.01473	97.04681	6.8521041
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00980	92.02537	4.3943733
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00402	111.94884	11.5297518
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00366	113.41272	13.1700826
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00289	92.24755	4.8682646
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00275	92.12710	4.8212639
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00275	107.83400	11.0348078
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00153	96.39544	6.3049847
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00128	106.55653	10.5636252
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00094	97.50909	6.2672926
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00056	91.47711	4.2629476
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00055	91.36340	4.2270384
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00038	92.88600	4.7538374
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00037	92.72913	4.7073053
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00023	96.31003	6.3073658
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00022	93.83900	5.2389492
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00017	96.95343	6.2719641
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00013	90.00658	3.6083248
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00012	90.09610	3.6347712
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00012	91.46043	4.2138829
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.00010	93.61917	5.1921822
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00007	92.36582	4.6563508
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00007	92.20505	4.6031992
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00005	89.80416	3.5927858
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00005	89.89662	3.6198777
Weighted Average		106.48563	12.4298799
Unconditional SE			15.3795156

95% CI for Weighted Average Estimate is 76.3417764 to 136.6294777

Percent of Variation Attributable to Model Variation is 34.68%

Grid A : Bout 6

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Females			
Model	Weight	Estimate	Standard Error
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.23029	82.44881	2.5601571
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.13162	82.90982	2.8991536
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.11959	83.20242	3.0072629
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.10111	82.46617	2.5692436
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.08538	82.49262	2.5941849
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.04787	82.93742	3.1134870
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.03852	82.34316	2.5417356
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.03584	86.84674	6.4689387
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02331	83.23244	3.2459423
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.02150	88.55942	8.0595905
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.02107	83.86548	3.3501884
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.01962	88.14526	7.0647110
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.01785	80.67293	1.5308898
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01591	87.01997	6.6820777
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.01375	87.17823	6.6625294
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.01149	83.76264	3.6350809
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00847	81.03291	1.7834338
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00774	88.55888	8.0678458
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00654	80.68231	1.5417441
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.00584	86.82256	6.7712811
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00543	80.63902	1.5109277
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00379	89.42076	7.0991884
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00376	89.07414	8.0994966
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00362	80.83148	1.7954248
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00299	80.60877	1.5084620
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00298	80.83835	1.6627530
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00255	80.99701	1.7639147
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00231	80.64359	1.5137426
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00197	80.64770	1.5206417
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00195	89.31482	7.4231398
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00139	81.34291	1.9972603
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00108	80.79973	1.7712729
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00089	80.57647	1.4880984
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00081	81.11047	2.1650312
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00052	81.00780	1.8439677
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00041	81.29923	1.9726581
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00024	81.07624	2.1296635
Weighted Average		83.26350	3.2602748
Unconditional SE			4.0329453

95% CI for Weighted Average Estimate is 75.3589261 to 91.1680718

Percent of Variation Attributable to Model Variation is 34.65%

Grid A : Bout 6

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Juvenile Females			
Model	Weight	Estimate	Standard Error
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.23029	3.13097	0.3754282
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.13162	3.14847	0.4025242
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.11959	3.15959	0.4180119
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.10111	3.08592	0.3072408
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.08538	3.10732	0.3588127
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.04787	3.14952	0.4061931
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.03852	3.09901	0.3351351
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.03584	3.29798	0.6127656
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02331	3.13576	0.4092542
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.02150	3.36302	0.6965360
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.02107	3.07518	0.2999461
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.01962	3.34729	0.6668966
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.01785	3.06353	0.2564966
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01591	3.19056	0.4931626
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.01375	3.22566	0.5610929
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.01149	3.07659	0.3087569
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00847	3.07720	0.2841922
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00774	3.36300	0.6966561
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00654	3.05765	0.2544036
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.00584	3.19453	0.5005196
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00543	3.06224	0.2537955
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00379	3.15153	0.4550826
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00376	3.30377	0.6888600
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00362	3.06955	0.2703861
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00299	3.05475	0.2435389
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00298	3.06981	0.2696471
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00255	3.07584	0.2815799
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00231	3.04196	0.2095968
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00197	3.05678	0.2523195
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00195	3.14864	0.4626950
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00139	3.04066	0.2133232
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00108	3.06834	0.2679015
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00089	3.05404	0.2418908
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00081	3.04202	0.2196962
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00052	3.06743	0.2735392
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00041	3.04000	0.2114396
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00024	3.04123	0.2173922
Weighted Average		3.14443	0.3975028
Unconditional SE			0.4145275

95% CI for Weighted Average Estimate is 2.3319524 to 3.9569003

Percent of Variation Attributable to Model Variation is 8.05%

Grid A : Bout 6

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Males			
Model	Weight	Estimate	Standard Error
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.23029	89.66709	2.6773317
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.13162	89.24016	2.4605258
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.11959	88.98558	2.4705660
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.10111	89.68555	2.6869181
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.08538	89.71368	2.7135202
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.04787	89.22084	2.5777982
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.03852	89.55475	2.6588660
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.03584	94.34337	6.8360366
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02331	89.54675	2.7734590
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.02150	93.66956	6.2525138
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.02107	89.27877	2.6473808
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.01962	92.97135	6.2138252
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.01785	87.77882	1.5920758
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01591	94.52756	7.0630326
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.01375	94.69584	7.0412118
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.01149	89.10201	2.5853264
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00847	87.42963	1.4629817
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00774	93.66725	6.5229315
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00654	87.78879	1.6036689
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.00584	94.31765	7.1595518
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00543	87.74276	1.5711247
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00379	93.80285	6.2637735
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00376	94.13865	6.3332063
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00362	87.61091	1.5865471
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00299	87.71059	1.5691192
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00298	87.54219	1.4656274
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00255	87.40017	1.4423865
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00231	87.74761	1.5740835
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00197	87.75199	1.5814926
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00195	93.32388	6.5311982
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00139	87.53769	1.5411394
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00108	87.57114	1.5594524
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00089	87.67625	1.5477103
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00081	87.51012	1.5284482
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00052	87.71013	1.6360075
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00041	87.50215	1.5156425
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00024	87.47662	1.5049140
Weighted Average		89.93462	3.0716646
Unconditional SE			3.7662768

95% CI for Weighted Average Estimate is 82.5527145 to 97.3165197

Percent of Variation Attributable to Model Variation is 33.48%

Grid A : Bout 6

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Juvenile Males			
Model	Weight	Estimate	Standard Error
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.23029	5.21828	0.4895359
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.13162	5.19287	0.4580763
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.11959	5.17771	0.4412499
{pi(age), pa(.)=ca(.)+x=pb(.)+x=cb(.)+x+z}	0.10111	5.14321	0.4049791
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.08538	5.17887	0.4838577
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.04787	5.19172	0.4590889
{pi(age), pa(age)=ca(age)+x=pb(age)+x=cb(age)+x+z}	0.03852	5.16502	0.4453584
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.03584	5.49663	0.8240346
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02331	5.05141	0.3119729
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.02150	5.45652	0.7791419
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.02107	5.37664	0.7811817
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.01962	5.41496	0.7479667
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.01785	5.10588	0.3326691
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01591	5.31761	0.6711137
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.01375	5.37610	0.7777688
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.01149	5.00911	0.0968297
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00847	5.08510	0.2982899
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.00774	5.45638	0.7868606
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00654	5.09608	0.3383773
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.00584	5.32421	0.6824461
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00543	5.10374	0.3291365
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00379	5.71020	1.1480673
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.00376	5.12173	0.6028241
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00362	5.09589	0.3175339
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00299	5.09125	0.3206444
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00298	5.09180	0.3090769
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00255	5.08334	0.2950604
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00231	5.06994	0.2734059
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00197	5.09463	0.3355060
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00195	5.05744	0.2657783
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00139	5.21636	0.5720545
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00108	5.09352	0.3133927
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.00089	5.09007	0.3184398
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00081	5.00181	0.0426733
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.00052	5.02473	0.1857712
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00041	5.21439	0.5698623
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.00024	5.00169	0.0412042
Weighted Average		5.21194	0.4909107
Unconditional SE			0.5199887

95% CI for Weighted Average Estimate is 4.1927638 to 6.2311194

Percent of Variation Attributable to Model Variation is 10.87%

Grid A : Bout 7

Estimates only for data type Huggins Closed Population Estimation

Adult Females			
Model	Weight	Estimate	Standard Error
{p(.), c(.)}	0.56437	7.64386	1.0633811
{p(sex)=c(sex)+b}	0.19830	7.78651	1.3576758
{p(.)=c(.)}	0.13032	7.10312	0.3304637
{p(sex), c(sex)}	0.06554	7.84005	1.7368119
{p(t)=c(t)}	0.03083	7.08618	0.3013454
{p(sex+t)=c(sex+t)}	0.01030	7.11157	0.3584535
{p(sex*t)=c(sex*t)}	0.00035	7.10702	0.3514265
Weighted Average		7.59167	1.0393550
Unconditional SE			1.1288608

95% CI for Weighted Average Estimate is 5.3791065 to 9.8042409
Percent of Variation Attributable to Model Variation is 15.23%

Adult Males			
Model	Weight	Estimate	Standard Error
{p(.), c(.)}	0.56437	14.19574	1.6675845
{p(sex)=c(sex)+b}	0.19830	14.06824	1.6045657
{p(.)=c(.)}	0.13032	13.19222	0.4591289
{p(sex), c(sex)}	0.06554	14.03259	1.6792978
{p(t)=c(t)}	0.03083	13.16025	0.4177772
{p(sex+t)=c(sex+t)}	0.01030	13.13857	0.3929662
{p(sex*t)=c(sex*t)}	0.00035	13.13701	0.3911965
Weighted Average		13.98580	1.4462626
Unconditional SE			1.5608848

95% CI for Weighted Average Estimate is 10.9264706 to 17.0451390
Percent of Variation Attributable to Model Variation is 14.15%

Grid A : Bout 7

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Females			
Model	Weight	Estimate	Standard Error
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.56389	10.36120	3.2603472
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.18841	10.72956	3.7824962
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.18153	10.59102	4.1159958
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.05897	10.47441	4.0690166
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00721	8.39490	2.0147572
Weighted Average		10.46481	3.5527465
Unconditional SE			3.5810050

95% CI for Weighted Average Estimate is 3.4460399 to 17.4835795
Percent of Variation Attributable to Model Variation is 1.57%

Adult Males			
Model	Weight	Estimate	Standard Error
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.56389	19.24223	5.3612082
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(s	0.18841	19.16136	5.4181442
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+	0.18153	18.97474	5.7719147
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb	0.05897	19.57460	6.6106699
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=	0.00721	15.41569	3.4751755
Weighted Average		19.17043	5.5065625
Unconditional SE			5.5291283

95% CI for Weighted Average Estimate is 8.3333407 to 30.0075237
Percent of Variation Attributable to Model Variation is 0.81%

Oscar One Grid D Bout 4 Model Comparisons

	A	B	C	D	E	F	G
1	Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
2	{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	2022.5859	0	0.35396	1	6	1849.2198
3	{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	2022.7005	0.1146	0.33424	0.9443	5	1851.3484
4	{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	2025.023	2.4371	0.10465	0.2957	5	1853.6708
5	{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	2025.6906	3.1047	0.07495	0.2117	15	1834.0925
6	{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	2025.7666	3.1807	0.07216	0.2039	14	1836.2037
7	{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+z}	2028.1442	5.5583	0.02198	0.0621	14	1838.5814
8	{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	2028.3307	5.7448	0.02002	0.0566	13	1840.8008
9	{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	2028.8215	6.2356	0.01566	0.0442	14	1839.2587
10	{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	2033.6052	11.0193	0.00143	0.004	13	1846.0753
11	{pi(sex), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	2035.6331	13.0472	0.00052	0.0015	4	1866.2925
12	{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	2036.2172	13.6313	0.00039	0.0011	5	1864.8651
13	{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	2040.7468	18.1609	0.00004	0.0001	4	1871.4063
14	{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	2047.9315	25.3456	0	0	4	1878.591
15	{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	2050.2582	27.6723	0	0	13	1862.7283
16	{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	2059.3737	36.7878	0	0	12	1873.8743
17	{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	2066.7518	44.1659	0	0	3	1899.4207
18	{p(sex*t)=c(sex*t)+b}	2088.4591	65.8732	0	0	21	1884.5993
19	{p(sex), c(sex)}	2114.548	91.9621	0	0	4	1945.2075
20	{p(sex+t)=c(sex+t)+b}	2123.8108	101.2249	0	0	12	1938.3114
21	{p(sex)=c(sex)+b}	2124.1085	101.5226	0	0	3	1956.7774
22	{p(sex*t)=c(sex*t)}	2127.2353	104.6494	0	0	20	1925.4251
23	{p(sex+t)=c(sex+t)}	2158.5683	135.9824	0	0	11	1975.0969
24	{p(t)=c(t)+b}	2165.3917	142.8058	0	0	11	1981.9204
25	{p(.) c(.) PIM}	2183.4481	160.8622	0	0	2	2018.1239
26	{p(.), c(.)}	2183.4481	160.8622	0	0	2	2018.1239
27	{p(t)=c(t)}	2244.7961	222.2102	0	0	10	2063.3505
28	{p(.)=c(.)}	2247.2408	224.6549	0	0	1	2083.9213

Oscar One Grid D Bout 5 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	1438.8427	0	0.2037	1	9	1583.1198
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	1439.4127	0.57	0.15319	0.752	13	1575.5258
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1439.4926	0.6499	0.14719	0.7226	8	1585.8018
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	1440.5338	1.6911	0.08745	0.4293	14	1574.5969
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	1440.6778	1.8351	0.08138	0.3995	8	1586.9869
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	1440.841	1.9983	0.075	0.3682	10	1583.0826
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1441.0266	2.1839	0.06835	0.3355	9	1585.3037
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1442.3944	3.5517	0.03449	0.1693	10	1584.6359
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	1442.4803	3.6376	0.03304	0.1622	9	1586.7574
{pi(age), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1443.2096	4.3669	0.02295	0.1127	5	1595.5931
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	1443.8958	5.0531	0.01628	0.0799	10	1586.1373
{pi(age), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	1443.9226	5.0799	0.01607	0.0789	6	1594.2849
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1443.9984	5.1557	0.01547	0.0759	11	1584.2009
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	1444.9851	6.1424	0.00944	0.0463	5	1597.3686
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	1445.6267	6.784	0.00685	0.0336	11	1585.8292
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	1446.0203	7.1776	0.00563	0.0276	10	1588.2618
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1446.0997	7.257	0.00541	0.0266	7	1594.4372
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	1446.2791	7.4364	0.00495	0.0243	5	1598.6626
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	1446.6948	7.8521	0.00402	0.0197	9	1590.9719
{pi(age), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1446.8784	8.0357	0.00366	0.018	4	1601.2797
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	1447.9993	9.1566	0.00209	0.0103	4	1602.4005
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	1448.003	9.1603	0.00209	0.0103	7	1596.3406
{pi(g), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1449.758	10.9153	0.00087	0.0043	6	1600.1204
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	1451.1844	12.3417	0.00043	0.0021	6	1601.5467
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1467.7128	28.8701	0	0	7	1616.0503
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1469.0987	30.256	0	0	9	1613.3759
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	1469.2484	30.4057	0	0	8	1615.5575
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	1469.6545	30.8118	0	0	8	1615.9636
{pi(.), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1469.7188	30.8761	0	0	8	1616.028
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1470.0626	31.2199	0	0	10	1612.3041
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	1471.2762	32.4335	0	0	9	1615.5533
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	1471.6508	32.8081	0	0	9	1615.9279
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1472.7126	33.8699	0	0	4	1627.1138
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1474.3267	35.484	0	0	5	1626.7103
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	1474.5794	35.7367	0	0	5	1626.9629
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1475.151	36.3083	0	0	3	1631.5663

Oscar One Grid D Bout 5 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	1475.4512	36.6085	0	0	6	1625.8136
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1476.3986	37.5559	0	0	5	1628.7821
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	1476.697	37.8543	0	0	4	1631.0983
{pi(sex), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	1477.0724	38.2297	0	0	4	1631.4736
{p(age+t)=c(age+t)+b}	1497.087	58.2443	0	0	7	1645.4245
{p(g+t)=c(g+t)+b}	1499.0956	60.2529	0	0	9	1643.3727
{p(age)=c(age)+b}	1500.2958	61.4531	0	0	3	1656.7111
{p(g)=c(g)+b}	1502.0148	63.1721	0	0	5	1654.3983
{p(age), c(age)}	1502.126	63.2833	0	0	4	1656.5272
{p(age*t)=c(age*t)+b}	1504.0464	65.2037	0	0	11	1644.2489
{p(age+t)=c(age+t)}	1505.2662	66.4235	0	0	6	1655.6285
{p(g+t)=c(g+t)}	1506.718	67.8753	0	0	8	1653.0271
{p(g)=c(g)}	1507.5782	68.7355	0	0	8	1653.8874
{p(age*t)=c(age*t)}	1513.0212	74.1785	0	0	10	1655.2627
{p(g*t)=c(g*t)+b}	1513.806	74.9633	0	0	21	1633.4159
{p(g*t)=c(g*t)}	1522.991	84.1483	0	0	20	1644.6768
{p(t)=c(t)+b}	1550.2103	111.3676	0	0	6	1700.5726
{p(sex+t)=c(sex+t)+b}	1551.6035	112.7608	0	0	7	1699.941
{p(sex*t)=c(sex*t)+b}	1554.1069	115.2642	0	0	11	1694.3093
{p(.), c(.)}	1554.8506	116.0079	0	0	2	1713.2765
{p(sex)=c(sex)+b}	1556.3909	117.5482	0	0	3	1712.8062
{p(sex), c(sex)}	1557.9297	119.087	0	0	4	1712.331
{p(t)=c(t)}	1562.3272	123.4845	0	0	5	1714.7107
{p(sex+t)=c(sex+t)_}	1563.9734	125.1307	0	0	6	1714.3357
{p(.)=c(.)}	1566.9181	128.0754	0	0	1	1727.3511
{p(sex*t)=c(sex*t)}	1567.0273	128.1846	0	0	10	1709.2688

Oscar One Grid D Bout 7 Model Comparisons

Model	AICc	Delta AICc	AICc Weights	Model Likelihood	Num. Par	Deviance
{p(.),c(.)}	148.4876	0	0.51219	1	2	124.7451
{p(sex)=c(sex)+b}	150.4845	1.9969	0.18872	0.3685	3	124.63769
{pi(.), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	151.7234	3.2358	0.10157	0.1983	8	114.78617
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	152.065	3.5774	0.08563	0.1672	9	112.78869
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	152.8865	4.3989	0.05678	0.1109	9	113.61021
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	153.5416	5.054	0.04092	0.0799	10	111.88335
{p(t)=c(t)}	156.9905	8.5029	0.0073	0.0143	6	124.60718
{p(sex+t)=c(sex+t)}	157.3992	8.9116	0.00595	0.0116	7	122.75925
{p(sex*t)=c(sex*t)}	163.0911	14.6035	0.00035	0.0007	12	116.53532
{pi(.), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	163.9509	15.4633	0.00022	0.0004	3	138.10405
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	164.1186	15.631	0.00021	0.0004	4	136.13084
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	165.8805	17.3929	0.00009	0.0002	5	135.71429
{p(.)=c(.)}	165.9739	17.4863	0.00008	0.0002	1	144.30004

Grid D Bout 4 Real Parameter Estimates
Model:pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
1		pi	0.903308	0.069991	0.66014	0.978228
2		pi	0.903308	0.069991	0.66014	0.978228
3		pi	0.604212	0.071632	0.459078	0.733049
4		pi	0.604212	0.071632	0.459078	0.733049
5	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
6	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
7	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
8	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
9	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
10	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
11	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
12	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
13	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
14	Female Adult Mixture A	p	0.114837	0.028386	0.069811	0.183184
15	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
16	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
17	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
18	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
19	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
20	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
21	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
22	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
23	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
24	Female Adult Mixture B	p	0.49091	0.086494	0.32856	0.655199
25	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
26	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
27	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
28	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
29	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
30	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
31	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
32	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
33	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
34	Female Juvenile Mixture A	p	0.114837	0.028386	0.069811	0.183184
35	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
36	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
37	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
38	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
39	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
40	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
41	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
42	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
43	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
44	Female Juvenile Mixture B	p	0.49091	0.086494	0.32856	0.655199
45	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
46	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
47	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
48	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
49	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
50	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
51	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324

Grid D Bout 4 Real Parameter Estimates
Model:pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
52	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
53	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
54	Male Adult Mixture A	p	0.164611	0.030464	0.113194	0.23324
55	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
56	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
57	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
58	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
59	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
60	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
61	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
62	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
63	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
64	Male Adult Mixture B	p	0.594254	0.055745	0.482116	0.697353
65	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
66	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
67	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
68	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
69	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
70	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
71	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
72	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
73	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
74	Male Juvenile Mixture A	p	0.164611	0.030464	0.113194	0.23324
75	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
76	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
77	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
78	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
79	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
80	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
81	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
82	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
83	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
84	Male Juvenile Mixture B	p	0.594254	0.055745	0.482116	0.697353
85	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
86	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
87	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
88	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
89	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
90	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
91	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
92	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
93	Female Adult Mixture A	c	0.202817	0.037356	0.139238	0.285789
94	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
95	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
96	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
97	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
98	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
99	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
100	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
101	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902
102	Female Adult Mixture B	c	0.654101	0.07115	0.505187	0.777902

Grid D Bout 4 Real Parameter Estimates
Model:pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
103	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
104	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
105	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
106	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
107	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
108	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
109	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
110	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
111	Female Juvenile Mixture A	c	0.202817	0.037356	0.139238	0.285789
112	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
113	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
114	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
115	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
116	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
117	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
118	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
119	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
120	Female Juvenile Mixture B	c	0.654101	0.07115	0.505187	0.777902
121	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
122	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
123	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
124	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
125	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
126	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
127	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
128	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
129	Male Adult Mixture A	c	0.278717	0.034217	0.216796	0.350411
130	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
131	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
132	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
133	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
134	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
135	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
136	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
137	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
138	Male Adult Mixture B	c	0.741745	0.036876	0.663237	0.80727
139	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
140	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
141	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
142	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
143	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
144	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
145	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
146	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
147	Male Juvenile Mixture A	c	0.278717	0.034217	0.216796	0.350411
148	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
149	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
150	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
151	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
152	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
153	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727

Grid D Bout 4 Real Parameter Estimates

Model:pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z

Index	Group	Label	Estimate	SE	LCI	UCI
154	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
155	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727
156	Male Juvenile Mixture B	c	0.741745	0.036876	0.663237	0.80727

Grid D Bout 5 Real Parameter Estimates
Model: pi(age), pa(age+t)=cb(age+t)=pb(age+t)+z=cb(age+t)+z

Index	Group	Label	Estimate	SE	LCI	UCI
1		pi	0.539005	0.11861	0.314479	0.748746
2		pi	0.775523	0.065653	0.622599	0.878567
3		pi	0.539005	0.11861	0.314479	0.748746
4		pi	0.775523	0.065653	0.622599	0.878567
5	Female Adult Mixture A	p	0.349599	0.076029	0.218203	0.508641
6	Female Adult Mixture A	p	0.54163	0.081544	0.382994	0.692253
7	Female Adult Mixture A	p	0.449502	0.081702	0.299469	0.609323
8	Female Adult Mixture A	p	0.459928	0.081935	0.308497	0.619138
9	Female Adult Mixture A	p	0.490959	0.082244	0.336	0.647676
10	Female Adult Mixture B	p	0.865024	0.055721	0.715506	0.942299
11	Female Adult Mixture B	p	0.933725	0.029749	0.845943	0.97308
12	Female Adult Mixture B	p	0.906851	0.040538	0.791697	0.961446
13	Female Adult Mixture B	p	0.910343	0.039178	0.798508	0.962983
14	Female Adult Mixture B	p	0.919996	0.035352	0.817708	0.967191
15	Female Juvenile Mixture A	p	0.197904	0.037825	0.133949	0.282437
16	Female Juvenile Mixture A	p	0.351663	0.052112	0.257363	0.459153
17	Female Juvenile Mixture A	p	0.272629	0.04597	0.192214	0.371227
18	Female Juvenile Mixture A	p	0.281046	0.046733	0.198994	0.380846
19	Female Juvenile Mixture A	p	0.306866	0.048903	0.220038	0.409948
20	Female Juvenile Mixture B	p	0.746308	0.076001	0.572546	0.86597
21	Female Juvenile Mixture B	p	0.866079	0.046952	0.745225	0.934633
22	Female Juvenile Mixture B	p	0.817147	0.060404	0.669248	0.908002
23	Female Juvenile Mixture B	p	0.823346	0.058813	0.678447	0.91147
24	Female Juvenile Mixture B	p	0.840727	0.054171	0.704898	0.92104
25	Male Adult Mixture A	p	0.349599	0.076029	0.218203	0.508641
26	Male Adult Mixture A	p	0.54163	0.081544	0.382994	0.692253
27	Male Adult Mixture A	p	0.449502	0.081702	0.299469	0.609323
28	Male Adult Mixture A	p	0.459928	0.081935	0.308497	0.619138
29	Male Adult Mixture A	p	0.490959	0.082244	0.336	0.647676
30	Male Adult Mixture B	p	0.865024	0.055721	0.715506	0.942299
31	Male Adult Mixture B	p	0.933725	0.029749	0.845943	0.97308
32	Male Adult Mixture B	p	0.906851	0.040538	0.791697	0.961446
33	Male Adult Mixture B	p	0.910343	0.039178	0.798508	0.962983
34	Male Adult Mixture B	p	0.919996	0.035352	0.817708	0.967191
35	Male Juvenile Mixture A	p	0.197904	0.037825	0.133949	0.282437
36	Male Juvenile Mixture A	p	0.351663	0.052112	0.257363	0.459153
37	Male Juvenile Mixture A	p	0.272629	0.04597	0.192214	0.371227
38	Male Juvenile Mixture A	p	0.281046	0.046733	0.198994	0.380846
39	Male Juvenile Mixture A	p	0.306866	0.048903	0.220038	0.409948
40	Male Juvenile Mixture B	p	0.746308	0.076001	0.572546	0.86597
41	Male Juvenile Mixture B	p	0.866079	0.046952	0.745225	0.934633
42	Male Juvenile Mixture B	p	0.817147	0.060404	0.669248	0.908002
43	Male Juvenile Mixture B	p	0.823346	0.058813	0.678447	0.91147
44	Male Juvenile Mixture B	p	0.840727	0.054171	0.704898	0.92104
45	Female Adult Mixture A	c	0.54163	0.081544	0.382994	0.692253
46	Female Adult Mixture A	c	0.449502	0.081702	0.299469	0.609323
47	Female Adult Mixture A	c	0.459928	0.081935	0.308497	0.619138
48	Female Adult Mixture A	c	0.490959	0.082244	0.336	0.647676
49	Female Adult Mixture B	c	0.933725	0.029749	0.845943	0.97308
50	Female Adult Mixture B	c	0.906851	0.040538	0.791697	0.961446
51	Female Adult Mixture B	c	0.910343	0.039178	0.798508	0.962983

Grid D Bout 5 Real Parameter Estimates
Model: pi(age), pa(age+t)=cb(age+t)=pb(age+t)+z=cb(age+t)+z

Index	Group	Label	Estimate	SE	LCI	UCI
52	Female Adult Mixture B	c	0.919996	0.035352	0.817708	0.967191
53	Female Juvenile Mixture A	c	0.351663	0.052112	0.257363	0.459153
54	Female Juvenile Mixture A	c	0.272629	0.04597	0.192214	0.371227
55	Female Juvenile Mixture A	c	0.281046	0.046733	0.198994	0.380846
56	Female Juvenile Mixture A	c	0.306866	0.048903	0.220038	0.409948
57	Female Juvenile Mixture B	c	0.866079	0.046952	0.745225	0.934633
58	Female Juvenile Mixture B	c	0.817147	0.060404	0.669248	0.908002
59	Female Juvenile Mixture B	c	0.823346	0.058813	0.678447	0.91147
60	Female Juvenile Mixture B	c	0.840727	0.054171	0.704898	0.92104
61	Male Adult Mixture A	c	0.54163	0.081544	0.382994	0.692253
62	Male Adult Mixture A	c	0.449502	0.081702	0.299469	0.609323
63	Male Adult Mixture A	c	0.459928	0.081935	0.308497	0.619138
64	Male Adult Mixture A	c	0.490959	0.082244	0.336	0.647676
65	Male Adult Mixture B	c	0.933725	0.029749	0.845943	0.97308
66	Male Adult Mixture B	c	0.906851	0.040538	0.791697	0.961446
67	Male Adult Mixture B	c	0.910343	0.039178	0.798508	0.962983
68	Male Adult Mixture B	c	0.919996	0.035352	0.817708	0.967191
69	Male Juvenile Mixture A	c	0.351663	0.052112	0.257363	0.459153
70	Male Juvenile Mixture A	c	0.272629	0.04597	0.192214	0.371227
71	Male Juvenile Mixture A	c	0.281046	0.046733	0.198994	0.380846
72	Male Juvenile Mixture A	c	0.306866	0.048903	0.220038	0.409948
73	Male Juvenile Mixture B	c	0.866079	0.046952	0.745225	0.934633
74	Male Juvenile Mixture B	c	0.817147	0.060404	0.669248	0.908002
75	Male Juvenile Mixture B	c	0.823346	0.058813	0.678447	0.91147
76	Male Juvenile Mixture B	c	0.840727	0.054171	0.704898	0.92104

Grid D Bout 7 Real Parameter Estimates
Model: p(.), c(.)

Index	Label	Estimate	SE	LCI	UCI
1	p	0.082503	0.120952	0.003909	0.673269
2	c	0.618182	0.06551	0.484468	0.736106

Grid D : Bout 4

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Females			
Model	Weight	Estimate	Standard Error
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.35396	102.29706	11.9756342
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.33424	95.46975	8.2979243
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.10465	115.70078	12.6966105
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.07495	100.44478	13.4560506
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.07216	93.68496	9.5675463
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+z}	0.02198	117.43765	15.0934084
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.02002	83.53099	3.7244910
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.01566	86.53353	5.8087293
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00143	100.47206	8.6500372
{pi(sex), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00052	83.74828	3.7863979
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00039	86.61553	5.8216154
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00004	100.48129	8.5248745
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00000	92.78825	7.1649186
Weighted Average		100.34923	10.5542057
Unconditional SE			13.0085872

95% CI for Weighted Average Estimate is 74.8523971 to 125.8460591
Percent of Variation Attributable to Model Variation is 34.18%

Adult Males			
Model	Weight	Estimate	Standard Error
{pi(sex), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.35396	108.56328	5.2995473
{pi(sex), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.33424	111.68949	5.7321182
{pi(.), pa(sex)=ca(sex)+x=pb(sex)+z=cb(sex)+x+z}	0.10465	108.52887	5.3190568
{pi(sex), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+x+z}	0.07495	107.75955	6.0912273
{pi(sex), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.07216	110.56673	6.6264680
{pi(.), pa(sex+t)=ca(sex+t)+x=pb(sex+t)+z=cb(sex+t)+z}	0.02198	109.41783	7.1292767
{pi(sex), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.02002	103.60093	2.7414793
{pi(sex), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.01566	101.74702	2.4491597
{pi(.), pa(sex+t)=ca(sex+t)=pb(sex+t)+z=cb(sex+t)+z}	0.00143	101.26561	2.2371403
{pi(sex), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00052	103.71832	2.7743540
{pi(sex), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00039	101.87757	2.5086687
{pi(.), pa(sex)=ca(sex)=pb(sex)+z=cb(sex)+z}	0.00004	101.38801	2.2924666
{pi(.), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00000	120.53178	8.6563451
Weighted Average		109.48573	5.5387035
Unconditional SE			5.9420060

95% CI for Weighted Average Estimate is 97.8394029 to 121.1320666
Percent of Variation Attributable to Model Variation is 13.11%

Grid D : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Females			
Model	Weight	Estimate	Standard Error
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.20370	51.24641	1.3273822
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.15319	50.71068	0.9518243
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.14719	53.03331	1.9619688
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.08745	50.36444	0.6981769
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.08138	50.79474	0.9779334
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.07500	51.41842	1.7341457
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.06835	55.04775	4.7445715
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.03449	52.81735	1.9650425
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.03304	51.14464	1.5002076
{pi(age), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02295	55.29704	3.0443389
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.01628	50.59936	0.8551239
{pi(age), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.01607	52.43120	2.2522954
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01547	54.37233	4.0237693
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00944	51.71160	1.6421759
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00685	50.93829	1.3537009
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00563	51.24541	1.3827914
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00541	54.68450	2.9743011
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00495	51.27751	1.3487075
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00402	50.73279	0.9673919
{pi(age), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00366	53.08321	1.9820059
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00209	50.82165	0.9961841
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00209	51.33398	1.4520956
{pi(g), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00087	52.85560	1.9855252
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00043	50.62033	0.8720461
Weighted Average		51.81295	1.6732410
Unconditional SE			2.4166104

95% CI for Weighted Average Estimate is 47.0763980 to 56.5495109

Percent of Variation Attributable to Model Variation is 52.06%

Grid D : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Juvenile Females			
Model	Weight	Estimate	Standard Error
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.20370	84.33103	4.9665452
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.15319	86.91588	6.1539876
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.14719	83.19347	4.5163438
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.08745	80.71267	6.3665690
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.08138	86.96580	5.9167374
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.07500	85.71418	9.3188742
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.06835	92.74855	21.5190420
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.03449	84.65916	5.1913601
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.03304	90.92229	11.6340562
{pi(age), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02295	94.52899	9.8445668
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.01628	87.88521	6.6637209
{pi(age), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.01607	92.99951	8.8960763
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01547	94.12805	21.8241195
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00944	96.45580	9.6469788
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00685	93.44444	14.1885282
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00563	95.00416	10.2518568
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00541	97.08172	11.0739178
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00495	84.57029	5.0320536
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00402	87.25908	6.2529260
{pi(age), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00366	83.45048	4.5860868
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00209	87.22934	5.9882554
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00209	98.99908	11.3152060
{pi(g), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00087	84.95963	5.2848030
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00043	88.22054	6.7574670
Weighted Average		86.30310	7.6220645
Unconditional SE			9.7143840

95% CI for Weighted Average Estimate is 67.2629091 to 105.3432945

Percent of Variation Attributable to Model Variation is 38.44%

Grid D : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Adult Males			
Model	Weight	Estimate	Standard Error
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.20370	28.69799	0.9312990
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.15319	31.98298	3.1352354
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.14719	29.69865	1.4141769
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.08745	30.82469	2.8919358
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.08138	28.44505	0.7062918
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.07500	28.79431	1.1412665
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.06835	30.82674	2.9032339
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.03449	29.99687	1.6335684
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.03304	28.64100	0.9971413
{pi(age), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02295	30.96634	2.0856434
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.01628	28.73826	1.0506198
{pi(age), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.01607	29.36147	1.4896366
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01547	31.26201	3.4058047
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00944	28.95850	1.1321984
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00685	29.07766	1.5374374
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00563	32.95877	3.5000431
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00541	31.57487	2.5515882
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00495	28.71541	0.9451266
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00402	32.09105	3.1677551
{pi(age), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00366	29.72660	1.4277532
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00209	28.46012	0.7190217
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00209	29.47565	1.7015587
{pi(g), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00087	30.03262	1.6528352
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00043	28.75198	1.0610378
Weighted Average		29.87697	1.7877464
Unconditional SE			2.3840033

95% CI for Weighted Average Estimate is 25.2043283 to 34.5496212

Percent of Variation Attributable to Model Variation is 43.77%

Grid D : Bout 5

Estimates only for data type Huggins' Full Closed Captures with Heterogeneity

Juvenile Males			
Model	Weight	Estimate	Standard Error
{pi(age), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.20370	91.35862	5.2578597
{pi(g), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.15319	103.13193	9.3541338
{pi(age), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.14719	90.12626	4.7718914
{pi(g), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.08745	99.91220	9.2544843
{pi(.), pa(age+t)=ca(age+t)=pb(age+t)+z=cb(age+t)+z}	0.08138	94.21296	6.2812107
{pi(age), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.07500	92.85703	10.0221825
{pi(age), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.06835	100.47760	23.2604857
{pi(g), pa(t)=ca(t)=pb(t)+z=cb(t)+z}	0.03449	90.11465	4.7342050
{pi(.), pa(age+t)=ca(age+t)+x=pb(age+t)+z=cb(age+t)+x+z}	0.03304	98.49915	12.5176889
{pi(age), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.02295	102.40640	10.5390148
{pi(.), pa(g+t)=ca(g+t)=pb(g+t)+z=cb(g+t)+z}	0.01628	92.73987	7.8937485
{pi(age), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.01607	100.74947	9.5095253
{pi(g), pa(t)=ca(t)+x=pb(t)+z=cb(t)+x+z}	0.01547	99.16076	20.6307853
{pi(.), pa(age)=ca(age)+x=pb(age)+z=cb(age)+x+z}	0.00944	104.49378	10.3084164
{pi(.), pa(g+t)=ca(g+t)+x=pb(g+t)+z=cb(g+t)+x+z}	0.00685	96.79848	12.6709484
{pi(g), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00563	105.29220	10.4447466
{pi(g), pa(.)=ca(.)+x=pb(.)+z=cb(.)+x+z}	0.00541	101.82161	10.0680090
{pi(age), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00495	91.61781	5.3277318
{pi(g), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00402	103.08933	9.4051921
{pi(age), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00366	90.40469	4.8461833
{pi(.), pa(age)=ca(age)=pb(age)+z=cb(age)+z}	0.00209	94.49846	6.3575998
{pi(.), pa(g)=ca(g)+x=pb(g)+z=cb(g)+x+z}	0.00209	101.19703	11.4369012
{pi(g), pa(.)=ca(.)=pb(.)+z=cb(.)+z}	0.00087	90.39867	4.8079385
{pi(.), pa(g)=ca(g)=pb(g)+z=cb(g)+z}	0.00043	92.85780	7.9560581
Weighted Average		95.80556	8.7117196
Unconditional SE			11.1905984

95% CI for Weighted Average Estimate is 73.8719855 to 117.7391312

Percent of Variation Attributable to Model Variation is 39.40%

Grid D : Bout 7

Estimates only for data type Huggins' Full Closed Captures

Adult Females			
Model	Weight	Estimate	Standard Error
{p(.),c(.)}	-	17.349309	20.911063

95% CI for Estimate is 7.8502525 to 132.9722

Adult Males			
Model	Weight	Estimate	Standard Error
{p(.),c(.)}	-	32.220146	38.305518

95% CI for Estimate is 14.606043 to 243.015