Model (Red means implemented in RMark)	Code	RMark Example	Parameters										
Live Recaptures (CJS)	CJS	?dipper; ?example.data	Phi	p									
Dead Recoveries	Recovery	?brownie	S	r									
Both Live and Dead Encounters -- Burnham	Burnham	?Burnham	S	p	r	F							
Known Fate	Known	?Blackduck	S										
Closed Population Estimation	Closed	?edwards.eberhardt	p	c	f0								
BTO Dead Recoveries and Unknown Ringings	BTO		S										
Robust Design with Closed Population Estimation	Robust	?robust	S	Gamma''	Gamma'	p	c	f0					
Both Live and Dead Encounters -- Barker	Barker		S	p	r	R	R'	F	F'				
Multi-state with Live Recaptures	Multistrata		S	p	Psi								
Brownie et al. Dead Recoveries	Brownie	?brownie	S	f									
Jolly-Seber Lambda -- Burnham	Jolly		Phi	p	Lambda	N							
Huggins Closed Population Estimation	Huggins	?edwards.eberhardt	p	c									
Robust Design with Huggins' Estimator	RDHuggins	?robust	S	Gamma''	Gamma'	p	c						
Pradel Recruitment Only	Pradel		Gamma	p									
Pradel Survival and Seniority	PradSen		Phi	p	Gamma								
Pradel Survival and Lambda	PradLambda		Phi	p	Lambda								
Pradel Survival and Recruitment	PradRec		Phi	p	f								
Barker Live and Dead with Closed Robust Design	RDBarker		S	r	R	R'	Gamma''	Gamma'	F	p	c	f0	
POPAN	POPAN	?dipper	Phi	p	pent	N							
Virtual Population Analysis (VPA)	VPA		M	F									
Multi-state with Live and Dead Encounters	MSLiveDead		S	p	Psi	r							
Closed Captures with Heterogeneity	HetClosed	?edwards.eberhardt	pi	p	f0								
Full Closed Captures with Heterogeneity	FullHet	?edwards.eberhardt	pi	p	c	f0							
Nest Success	Nest	?killdeer; ?mallard	S										
Huggins' Closed Captures with Heterogeneity	HugHet	?edwards.eberhardt	pi	p									
Huggins' Full Closed Captures with Heterogeneity	HugFullHet	?edwards.eberhardt	pi	p	c								
Occupancy Estimation with Detection < 1	Occupancy	?salamander; ?weta	p	Psi									
RD Occupancy Estimation with psi, epsilon.	RDOccupPE	?RDSalamander	Psi	Epsilon	p								
RD Occupancy Estimation with psi, gamma.	RDOccupPG	?RDOccupancy; ?RDSalamander	Psi	Gamma	p								
RD Occupancy Estimation with psi(1), gamma, epsilon.	RDOccupEG	?RDSalamander	Psi	Epsilon	Gamma	p							
Link-Barker Jolly-Seber	LinkBarker		Phi	p	f								
Open Robust Design Multi-state	ORDMS		S	Psi	pent	Phi	p						
Closed Robust Design Multi-state	CRDMS	?crdms	S	Psi	p	c	f0						
Huggins' Closed Robust Design Multi-state	HCRDMS		S	Psi	p	c							
Heterogeneity Closed Robust Design Multi-state	HetRDMS		S	Psi	pi	p	f0						
Full Heterogeneity Closed Robust Design Multi-state	FHetRDMS		S	Psi	pi	p	c	f0					
Huggins' Het. Closed Robust Design Multi-state	HHetRDMS		S	Psi	pi	p							
Huggins' Full Het. Closed Robust Design Multi-state	HFHetRDMS		S	Psi	pi	p	c						
Robust Design with Heterogeneity Estimator	RDHet	?robust	S	Gamma''	Gamma'	pi	p	f0					
Robust Design with Full Heterogeneity Estimator	RDFullHet		S	Gamma''	Gamma'	pi	p	c	f0				
Robust Design with Huggins' Het. Estimator	RDHHet		S	Gamma''	Gamma'	pi	p						
Robust Design with Huggins' Full Het. Estimator	RDHFHet		S	Gamma''	Gamma'	pi	p	c					
Barker Live and Dead with Huggins' Robust Design	RDBarkHug		S	r	R	R'	Gamma''	Gamma'	F	p	c		
Barker Live and Dead with Heterogeneity Robust Design	RDBarkHet		S	r	R	R'	Gamma''	Gamma'	F	pi	p	f0	
Barker Live and Dead with Full Het. Robust Design	RDBarkFHet		S	r	R	R'	Gamma''	Gamma'	F	pi	p	c	f0
Barker Live and Dead with Huggins' Het. Robust Design	RDBarkHHet		S	r	R	R'	Gamma''	Gamma'	F	pi	p		
Barker Live and Dead with Huggins' Full Het. Robust Design	RDBarkHFHet		S	r	R	R'	Gamma''	Gamma'	F	pi	p	c	
Lukacs Young Survival from Marked Adults	LYSMA		Phi	p									
Robust Design Pradel Seniority Closed Population Estimation	RDPdGClosed		Phi	Gamma	p	c	f0						
Robust Design Pradel Seniority Huggins' Closed Populations	RDPdGHuggins		Phi	Gamma	p	c							
Robust Design Pradel Seniority Closed Captures with Heterogeneity	RDPdGHet		Phi	Gamma	pi	p	f0						
Robust Design Pradel Seniority Full Closed Captures with Het.	RDPdGFullHet		Phi	Gamma	pi	p	c	f0					
Robust Design Pradel Seniority Huggins' Closed Captures with Het.	RDPdGHugHet		Phi	Gamma	pi	p							
Robust Design Pradel Seniority Huggins' Full Closed Captures with Het.	RDPdGHugFullHet		Phi	Gamma	pi	p	c						
Robust Design Pradel Seniority Closed Population Estimation with mis-identification	RDPdGIDClosed		Phi	Gamma	p	c	alpha	f0					
Robust Design Pradel Seniority Huggins' Closed Populations with mis-identification	RDPdGIDHuggins		Phi	Gamma	p	c	alpha						
Robust Design Pradel Seniority Closed Captures with Heterogeneity and mis-identification	RDPdGIDHet		Phi	Gamma	pi	p	alpha	f0					
Robust Design Pradel Seniority Full Closed Captures with Het. and mis-identification	RDPdGIDFullHet		Phi	Gamma	pi	p	c	alpha	f0				
Robust Design Pradel Seniority Huggins' Closed Captures with Het. and mis-identification	RDPdGIDHugHet		Phi	Gamma	pi	p	alpha						
Robust Design Pradel Seniority Huggins' Full Closed Captures with Het. and mis-identification	RDPdGIDHugFullHet		Phi	Gamma	pi	p	c	alpha					
Robust Design Pradel Lambda Closed Population Estimation	RDPdLClosed		Phi	Lambda	p	c	f0						
Robust Design Pradel Lambda Huggins' Closed Populations	RDPdLHuggins		Phi	Lambda	p	c							
Robust Design Pradel Lambda Closed Captures with Heterogeneity	RDPdLHet		Phi	Lambda	pi	p	f0						
Robust Design Pradel Lambda Full Closed Captures with Het.	RDPdLFullHet		Phi	Lambda	pi	p	c	f0					
Robust Design Pradel Lambda Huggins' Closed Captures with Het.	RDPdLHugHet		Phi	Lambda	pi	p							
Robust Design Pradel Lambda Huggins' Full Closed Captures with Het.	RDPdLHugFullHet		Phi	Lambda	pi	p	c						
Robust Design Pradel Lambda Closed Population Estimation with mis-identification	RDPdLIDClosed		Phi	Lambda	p	c	alpha	f0					
Robust Design Pradel Lambda Huggins' Closed Populations with mis-identification	RDPdLIDHuggins		Phi	Lambda	p	c	alpha						
Robust Design Pradel Lambda Closed Captures with Heterogeneity and mis-identification	RDPdLIDHet		Phi	Lambda	pi	p	alpha	f0					
Robust Design Pradel Lambda Full Closed Captures with Het. and mis-identification	RDPdLIDFullHet		Phi	Lambda	pi	p	c	alpha	f0				

Robust Design Pradel Lambda Huggins' Closed Captures with Het. and mis-identification	RDPdLIDHugHet		Phi	Lambda	pi	p	alpha					
Robust Design Pradel Lambda Huggins' Full Closed Captures with Het. and mis-identification	RDPdLIDHugFullHet		Phi	Lambda	pi	p	c	alpha				
Robust Design Pradel Recruitment Closed Population Estimation	RDPdfClosed		Phi	f	p	c	f0					
Robust Design Pradel Recruitment Huggins' Closed Populations	RDPdfHuggins		Phi	f	p	c						
Robust Design Pradel Recruitment Closed Captures with Heterogeneity	RDPdfHet		Phi	f	pi	p	f0					
Robust Design Pradel Recruitment Full Closed Captures with Het.	RDPdfFullHet		Phi	f	pi	p	c	f0				
Robust Design Pradel Recruitment Huggins' Closed Captures with Het.	RDPdfHugHet		Phi	f	pi	p						
Robust Design Pradel Recruitment Huggins' Full Closed Captures with Het.	RDPdfHugFullHet		Phi	f	pi	p	c					
Robust Design Pradel Recruitment Closed Population Estimation with mis-identification	RDPdfIDClosed		Phi	f	p	c	alpha	f0				
Robust Design Pradel Recruitment Huggins' Closed Populations with mis-identification	RDPdfIDHuggins		Phi	f	p	c	alpha					
Robust Design Pradel Recruitment Closed Captures with Heterogeneity and mis-identification	RDPdfIDHet		Phi	f	pi	p	alpha	f0				
Robust Design Pradel Recruitment Full Closed Captures with Het. and mis-identification	RDPdfIDFullHet		Phi	f	pi	p	c	alpha	f0			
Robust Design Pradel Recruitment Huggins' Closed Captures with Het. and mis-identification	RDPdfIDHugHet		Phi	f	pi	p	alpha					
Robust Design Pradel Recruitment Huggins' Full Closed Captures with Het. and mis-identification	RDPdfIDHugFullHet		Phi	f	pi	p	c	alpha				
Open Robust Design Pradel Multi-state	ORDPdMS		S	Psi	Gamma	pent	Phi	p				
Huggins Closed Robust Design Multi-state with State Probabilities	CRDMSOHug		S	Psi	Omega	p	c					
Huggins Heterogeneity Closed Robust Design Multi-state with State Probabilities	CRDMSOHet		S	Psi	Omega	pi	p					
Huggins Full Heterogeneity Closed Robust Design Multi-state with State Probabilities	CRDMSOFHet		S	Psi	Omega	pi	p	c				
Occupancy Heterogeneity Estimation with Detection < 1	OccupHet	?salamander	pi	p	Psi							
RD Occupancy Heterogeneity Estimation with psi, epsilon	RDOccupHetPE		Psi	Epsilon	pi	p						
RD Occupancy Heterogeneity Estimation with psi, gamma	RDOccupHetPG		Psi	Gamma	pi	p						
RD Occupancy Heterogeneity Estimation with psi(1), gamma, epsilon	RDOccupHetEG		Psi	Epsilon	Gamma	pi	p					
Occupancy Estimation Royle/Nichols Poisson Abundance	OccupRNPoisson	?Donovan.7	r	Lambda								
Occupancy Estimation Royle/Nichols Negative Binomial Abundance	OccupRNNegBin	?Donovan.7	r	Lambda	VarAdd							
Two species Occupancy Estimation	2SpecOccup		PsiAB	PsiA	PsiB	pA	pB	rAB	rAb	raB		
Logit-Normal Mark Resight	LogitNormalMR	?LogitNormalMR	p	sigma	N							
Poisson Mark Resight with Robust Design	PoissonMR	?PoissonMR, ?Poisson_twoMR	alpha	sigma	U	Phi	Gamma''	Gamma'				
Multiple-State Occupancy Estimation	MSOccupancy	?NicholsMSOccupancy	Psi1	Psi2	p1	p2	Delta					
Occupancy Estimation Royle Poisson Counts	OccupRPoisson	?Donovan.8	r	Lambda								
Occupancy Estimation Royle Negative Binomial Counts	OccupRNegBin	?Donovan.8	r	Lambda	VarAdd							
Open Robust Design Multi-state with State Probabilities	ORDMSState		S	Psi	Omega	pent	Phi	p				
Immigration-Emigration Logit-Normal Mark Resight	IELogitNormalMR	?IELogitNormalMR	p	sigma	Nbar	alpha	Nstar					
Robust Design Multi-state Closed with Mis-classification	RDMSMisClass		S	Psi	pi	Omega	p	Delta				
Robust Design Multi-state Closed with 2 Mis-classifications	RDMS2MisClass		S	Psi	pi	Omega	p	Delta				
Multi-scale occupancy estimation	MultScalOcc	?larksparrow	Psi	Theta	p							
Robust Design Multiple-State Occupancy Estimation Conditional Binomial	RDMSOccRepro		Phi0	Psi	R	p	Delta					
Robust Design Multiple-State Occupancy Estimation General	RDMSOccupancy		Phi0	Psi	p							
Robust Design Multi-state Open with Mis-classification	RDMSOpenMisClass		S	Psi	pi	Omega	p	Delta	pent	Phi		
Density estimation with Huggins p and c	Densitypc	?Density	p	c	ptilde							
Density estimation with Huggins heterogeneity pi and p	DensityHet	?Density	pi	p	ptilde							
Density estimation with Huggins full heterogeneity pi, p and c	DensityFHet	?Density	pi	p	c	ptilde						
Cormack-Jolly-Seber model with Pledger mixtures	CJSMixture		pi	Phi	p							
Pradel Survival and Seniority with Pledger mixtures	PradSenMix		Phi	pi	p	Gamma						
Pradel Survival and Lambda with Pledger mixtures	PradLambdaMix		Phi	pi	p	Lambda						
Pradel Survival and Recruitment with Pledger mixtures	PradelRecMix		Phi	pi	p	f						
Link-Barker Survival and Recruitment with Pledger mixtures	LinkBarkMix		Phi	pi	p	f						
Cormack-Jolly-Seber model with Random Effects	CJSRandom		sigmaphi	Phi	sigmap	p						
Link-Barker Survival and Recruitment with Random Effects	LinkBarkRan		sigmaphi	Phi	sigmap	p	sigmaf	f				
Two species Conditional Occupancy Estimation	2SpecConOccup		PsiA	PsiBA	PsiBa	pA	pB	rA	rBA	rBa		
Burnham Live and Dead Encounters with Random Effects	BurnhamLDRE		sigmaS	S	sigmap	p	sigmar	r	sigmaF	F		
Pledger Mixture Dead Recoveries (Seber)	PMDead	?brownie	pi	S	r							
Random Effects Dead Recoveries (Seber)	REDead	?brownie	SigmaS	S	sigmar	r						
Robust Design Two species Gamma Epsilon Conditional Occupancy Estimation	RD2SpGEConOcc											
Robust Design Multi-state Open with State Uncertainty and Seasonal Effects	RDMSOpenMCSeas		S	Psi	pi	Omega	p	Delta	pent	d	alpha	c
Occupancy with correlated detections	OccClus											
Occupancy with relaxed closure	OccRelClos		p	Psi	pent	d						
Huggins' p and c with Random Effects	HugginsRE		p	c	sigmap							
Robust Design with Huggins' p and c with Random Effects	RDHugginsRE		S	Gamma''	Gamma'	sigmap	p	c				
Closed Robust Design Multi-state Huggins' p and c with Random Effects	HRECRDMS											
Robust Design Pradel Seniority Huggins' p and c with Random Effects	RDPDGHUGRE											
Robust Design Pradel Lambda Huggins' p and c with Random Effects	RDPDLHUGRE											
Robust Design Pradel f Huggins' p and c with Random Effects	RDPDFHUGRE											
Occupancy Estimation with Detection < 1 and Random Effects	OccupancyRE		sigmap	p	Psi							
Robust Design Occupancy Estimation with psi, epsilon and Random Effects	RDOccupREPE											

Robust Design Occupancy Estimation with psi, gamma and Random Effects	RDOccupREPG											
Robust Design Occupancy Estimation with psi(1), gamma, epsilon and Random Effects	RDOccupREEG											
Known Fate with Random Effects	KnownRE											
Occupancy Estimation with false positive identifications	OccupancyFP											
Robust Design Occupancy Estimation with psi(1), gamma, epsilon and false positives.	RDOccupFPEG											
UnIdLogitNormalMR: Unidentified Marks Logit-Normal Mark Resight	UnIdLogitNormalMR		p	sigma	N	r						
UnIdIELogitNormalMR: Unidentified Marks Immigration-Emigration Logit-Normal Mark Resight	UnIdIELogitNormalMR		p	sigma	Nbar	alpha	Nstar	r				
UnIdPoissonMR: Unidentified Marks Poisson Mark Resight with Robust Design	UnIdPoissonMR		alpha	sigma	U	Phi	Gamma''	Gamma'	r			
Density estimation with Huggins' p and c with Random Effects	DensityRanpc	?Density	sigmap	p	c	ptilde						
Barker Live and Dead with Robust Design Huggins' p and c with Random Effects	RDBarkHRE											
Robust Design Pradel Full Likelihood p and c with lambda from ratio of N's	RDPdNClosed											
Robust Design Pradel Huggins' p and c with lambda from ratio of N's	RDPdNHuggins											
Robust Design Pradel Full Likelihood Heterogeneity pi and p with lambda from ratio of N's	RDPdNHet											
Robust Design Pradel Full Likelihood Heterogeneity pi, p, and c with lambda from ratio of N's	RDPdNFullHet											
Robust Design Pradel Huggins' Heterogeneity pi and p with lambda from ratio of N's	RDPdNHugHet											
Robust Design Pradel Huggins' Heterogeneity pi, p, and c with lambda from ratio of N's	RDPdNHugFullHet											
Robust Design Pradel Huggins' p and c with Random Effects with lambda from ratio of N's	RDPdNHUGRE											
Robust Design Occupancy Estimation with relaxed closure	RDOCCURELCLOS											
Zero-inflated Unidentified Marks Poisson Mark Resight with Robust Design within primaries	ZiUnIdPoissonMRwithin		alpha	sigma	U	Phi	Gamma''	Gamma'	r	w	g	
Poisson Mark Resight with Robust Design across primaries	PoissonMRacross		alpha	sigma	U	Phi	Gamma''	Gamma'				
Unidentified Marks Poisson Mark Resight with Robust Design across primaries	UnIdPoissonMRacross		alpha	sigma	U	Phi	Gamma''	Gamma'	r			
Zero-inflated Unidentified Marks Poisson Mark Resight with Robust Design across primaries	ZiUnIdPoissonMRacross		alpha	sigma	alpha	sigma	U	Phi	Gamma''	Gamma'	g	
Robust Design Multi-scale occupancy estimation	RDMultScalOcc	?RDMultScalOcc	Psi	Epsilon	Gamma	Theta	p					
Barker Multi-state Joint Live and Dead Encounters and Resightings	MSBarker											
Multi-species Occupancy Model	NSpeciesOcc	?NSpeciesOcc	f	p								
Hidden Markov Model	HidMarkov		S	p	Psi	pi	Delta					
Barker Multi-state Joint Live and Dead Encounters and Resightings with multiple uncertain events	MSUncBarker											