Model (Red means implemented in RMark)	Code	RMark Example	Parameters										
Live Recaptures (CJS)	Live	?dipper; ?example.data	Phi	p									
Dead Recoveries	Dead	?brownie	S	r									
Both Live and Dead Encounters -- Burnham	Both		S	p	r	F							
Known Fate	Known	?Blackduck	S										
Closed Population Estimation	Closed	?edwards.eberhardt	p	c	N								
BTO Dead Recoveries and Unknown Ringings	BTO		S										
Robust Design with Closed Population Estimation	Robust	?robust	S	Gamma''	Gamma'	p	c	N					
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	N	
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	N								
Full Closed Captures with Heterogeneity	FullHet	?edwards.eberhardt	pi	p	c	N							
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	N						
Huggins' Closed Robust Design Multi-state	HCRDMS		S	Psi	p	c							
Heterogeneity Closed Robust Design Multi-state	HetRDMS		S	Psi	pi	p	N						
Full Heterogeneity Closed Robust Design Multi-state	FHetRDMS		S	Psi	pi	p	c	N					
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	N					
Robust Design with Full Heterogeneity Estimator	RDFullHet		S	Gamma''	Gamma'	pi	p	c	N				
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	N	
Barker Live and Dead with Full Het. Robust Design	RDBarkFHet		S	r	R	R'	Gamma''	Gamma'	F	pi	p	c	N
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	N						
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	N						
Robust Design Pradel Seniority Full Closed Captures with Het.	RDPdGFullHet		Phi	Gamma	pi	p	c	N					
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 Lambda Closed Population Estimation	RDPdLClosed		Phi	Lambda	p	c	N						
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	N						
Robust Design Pradel Lambda Full Closed Captures with Het.	RDPdLFullHet		Phi	Lambda	pi	p	c	N					
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 Recruitment Closed Population Estimation	RDPdfClosed		Phi	f	p	c	N						
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	N						
Robust Design Pradel Recruitment Full Closed Captures with Het.	RDPdfFullHet		Phi	f	pi	p	c	N					
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						
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		Psi	Delta	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		p	c	ptilde							
Density estimation with Huggins heterogeneity pi and p	DensityHet		pi	p	ptilde							
Density estimation with Huggins full heterogeneity pi, p and c	DensityFHet		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