Reproductive Success of the American Oystercatcher in Texas



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OBJECTIVE

 Estimate nest survival and brood survival of American Oystercatchers in Texas using Program MARK





Surveys & Trapping









Parameters

- Island Size (IS)
- Distance to Mainland (DM)
- Foraging Habitat (FH)
- Year
- Coastal Region
- Nest/Brood Age
- Linear Time Trend (T)
- Quadratic Time Trend (TT)





Nest Locations

Bay Island:301Barrier Island:8Mainland:28

<u>Bay</u>	# of Nests
Aransas Bay	20
Bastrop Bay	6
Carancahua Bay	2
Chocolate Bay	5
Corpus Christi Bay	4
Dickinson Bay	20
Drum Bay	10
East Galveston Bay	1
East Matagorda Bay	24
Galveston Bay	6
Lavaca Bay	10
Matagorda Bay	1
Mesquite Bay	46
Moses Lake	1
Nueces Bay	13
Redfish Bay	9
St. Charles Bay	14
Sundown Bay	3
Swan Lake	24
Tres Palacios Bay	4
West Galveston Bay	114

Nest Initiation



Initiation Date (1 week periods)



Year	Breeding Pairs	Nest Attempts	Successful Nests	% Successful Nests
2011	40	50	28	56%
2012	95	148	44	30%
2013	92	139	54	39%
Total		337	126	37%

Nest Survival

- All acceptable models included:
 - Linear Time Trend
 - Nest Age
- All parameters in acceptable models showed a negative relationship with survival
 - Linear Time Trend (-)
 - Nest Age (-)
 - Island Size (-)
 - Foraging Habitat (-)
- Overall probability of a nest surviving to hatch was .35

Nest Failure





n = 5

n = 25

n = 181

Brood Survival

Year	Successful Nests	Successful Broods	% Successful Broods	Productivity (F/pair)
2011	28	25	89%	0.80
2012	44	25	57%	0.29
2013	54	26	48%	0.38
Total	126	76	63%	0.49

Brood Survival

- Top model included:
 - Year
 - Coast
 - Linear Time Trend
 - Brood Age
- No other parameters were included in acceptable models
- Linear Time Trend had a negative relationship with survival
- Brood Age had a positive relationship with survival
- Overall probability of brood survival to fledge was .615

Brood Failure



n = 1

n = 1

n = 5

n = 38

Conclusions

Nest Survival

- Declines as season progresses
- Declines with increasing island size
- Declines with nest age
- Declines with increased foraging habitat





- Brood Survival
 - Year
 - Coast
 - Declines as season progresses
 - Increases with brood age





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Questions?

