

**SUPPLEMENT 3: Dataset A** (to be uploaded to data repository)

[illegible]

Do repugnant scents increase survival of ground nests? A test with artificial and natural duck nests	Harriman et al.	2007	31
Exclosure fences around nests of imperiled Florida Grasshopper Sparrows reduce rates of predation by mammals	Hewett Ragheb et al.	2019	32
Agri-environmental schemes and active nest protection can increase hatching success of a reintroduced farmland bird species	Homburger et al.	2017	33
Managing predation on ground-nesting birds: The effectiveness of nest exclosures	Isaksson et al.	2007	34
Managing predation on ground-nesting birds: The effectiveness of nest exclosures	Isaksson et al.	2007	34
What preys on piping plover eggs and chicks?	Ivan & Murphy	2005	35
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Experimental removal of introduced hedgehogs improves wader nest success in the Western Isles, Scotland	Jackson	2001	36
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Are nest exclosures an effective tool in plover conservation?	Johnson & Oring	2002	37
The effect of supplemental prey and prescribed fire on success of artificial nests	Jones et al.	2002	38
Nest protectors provide a cost-effective means of increasing breeding success in giant ibis <i>Thaumatibis gigantea</i>	Keo et al.	2009	39
Methods Used to Improve Least Tern and Snowy Plover Nesting Success on Alkaline Flats	Koenen et al.	1996	40
Methods Used to Improve Least Tern and Snowy Plover Nesting Success on Alkaline Flats	Koenen et al.	1996	40
Influence of predation on piping plover, <i>Charadrius melodus</i> , and least tern, <i>Sterna antillarum</i> , productivity along the Missouri River in South Dakota	Kruse et al.	2001	41
Electric fence predator exclosure to enhance duck nesting: a long-term case study in Iowa	LaGrange et al.	1995	42
Reed Parrotbill nest predation by tidal mudflat crabs: Evidence for an ecological trap?	Li et al.	2015	43
Snake slough in birds' nests acts as a nest predator deterrent	Liu & Liang	2021	44
Functions of Snake Sloughs in Bird Nests Vary with Habitats: A Test of the Anti-Predation Hypothesis	Liu et al.	2023	45
Assessing the effectiveness of predator exclosures for plovers	Mabee & Estelle	2000	46
Nest caging as a conservation tool for threatened songbirds	Major et al.	2015	47
Evidence-based decisions on the use of predator exclosures in shorebird conservation	Maslo & Lockwood	2009	48
Evidence-based decisions on the use of predator exclosures in shorebird conservation	Maslo & Lockwood	2009	48
Electric fences reduce mammalian predation on piping plover nests and chicks	Mayer & Ryan	1991	49
Predator exclosures: a technique to reduce predation at piping plover nests	Melvin et al.	1992	50
Evaluation of disruptive camouflage of avian cup-nests	Mulder et al.	2021	51
A plastic device fixed around trees can deter snakes from predating bird nest boxes	Navalpotro et al.	2021	52
Response of predators to western sandpiper nest exclosures	Niehaus et al.	2004	53
Effects of predator exclosures on nesting success of Killdeer	Nol & Brooks	1982	54
Misinformation tactics protect rare birds from problem predators	Norbury et al.	2021	55
Automated broadcast of a predator call did not reduce predation pressure by Sugar Gliders on birds	Owens et al.	2020	56
Automated broadcast of a predator call did not reduce predation pressure by Sugar Gliders on birds	Owens et al.	2020	56
Nest predation management: effects on reproductive success in endangered shorebirds	Pauliny et al.	2008	57
Nest exclosures do not improve Streaked Horned Lark nest success	Pearson et al.	2012	58
The effectiveness and cost efficiency of different predator exclosure designs to increase piping plover ( <i>Charadrius melodus</i> ) nest success and fledging rate in Alberta, Canada	Peters et al.	2023	59
Metal barriers protect near-ground nests from predators	Post & Greenlaw	1989	60
The use of nest protectors for the saffron-cowled blackbird <i>Xanthopsar flavus</i> in Argentina	Pucheta et al.	2018	61
Does human hair attract or deter potential ground nest predators?	Purger et al.	2020	62
Does human hair attract or deter potential ground nest predators?	Purger et al.	2020	62
Avian and river otter predation in a storm-petrel colony	Quinlan	1983	63
Use of predator exclosures to protect piping plover nests	Rimmer & Deblinger	1990	64
Use of fencing to limit terrestrial predator movements into Least Tern colonies	Rimmer & Deblinger	1992	65
Use of small fences to protect ground bird nests from mammalian predators	Sargeant et al.	1974	66
Use of small fences to protect ground bird nests from mammalian predators	Sargeant et al.	1974	66
Protecting prey by deceiving predators: A field experiment testing chemical camouflage and conditioned food aversion	Selonen et al.	2022	67
Protecting prey by deceiving predators: A field experiment testing chemical camouflage and conditioned food aversion	Selonen et al.	2022	67
Potential impact of wild boar ( <i>Sus scrofa</i> ) on pheasant ( <i>Phasianus colchicus</i> ) nesting success	Senserini & Santilli	2016	68

Snowy plover nest survival in Kansas and effective management to counter negative effects of precipitation	Sexson & Farley	2012	69
Effectiveness of lithium chloride induced taste aversions in reducing waterfowl nest predation	Sheaffer & Drobney	1986	70
Effects of management strategies on the reproductive success of Least Terns on dredge spoil in Georgia	Spear et al.	2007	71
Predator exclosures increase nest success but reduce adult survival and increase dispersal distance of Piping Plovers, indicating exclosures should be used with caution	Stantial et al.	2023	72
Photosensitive automated doors to exclude small nocturnal predators from nest boxes	Stojanovic et al.	2019	73
Cover, not caging, influences chronic physiological stress in a ground-nesting bird	Tan et al.	2015	74
Reducing nest predation of ground-nesting birds through conditioned food aversion	Tobajas et al.	2020	75
Effects of supplemental prey, vegetation, and time on success of artificial nests	Vander Lee et al.	1999	76
Case studies of motion-sensing cameras to study clutch survival and fate of real and artificial ground-nests in Australia	Weston et al.	2017	77
Nest sites and conservation of endangered Interior Least Terns <i>Sterna antillarum athalassos</i> on an alkaline flat in the south-central Great Plains (USA)	Winton & Leslie Jr.	2003	78
Breeding ecology and management of snowy plovers in north-central Oklahoma	Winton et al.	2000	79
Small protection plates against marten predation on nest boxes	Yamaguchi et al.	2005	80

Unit ID	Continent	Country	Experiment type	Prey common name
1	North America	USA	natural	Piping plover
2A	North America	USA & Canada	natural	Tree swallow
2B	North America	USA & Canada	natural	Carolina chickadee, Black-capped chickadee, Oak titmouse, Juniper titmouse, Tufted titmouse, Black-crested titmouse
2C	North America	USA & Canada	natural	House wren, Carolina wren, Bewick's wren
2D	North America	USA & Canada	natural	Eastern bluebird, Western bluebird
3	North America	Canada	natural	Piping plover
4	Europe	Italy	artificial	NA
6	North America	Canada	natural	Piping plover
6	Europe	Italy	artificial	NA
7	North America	USA	natural	Black-bellied whistling duck
8	Other	Saint Helena	natural	Saint Helena plover
9A	Oceania	Australia	artificial	NA
9B	Oceania	Australia	artificial	NA
10	Europe	Spain	artificial	NA
11	Europe	France	artificial	NA
12A	North America	USA	natural	Northern cardinal, Blue grosbeak, Indigo bunting
12B	North America	USA	natural	Brown thrasher
12C	North America	USA	natural	Eastern towhee
13	North America	USA	artificial	NA
14A	North America	USA	natural	Ring-billed gull
14B	North America	USA	natural	California gull
15	North America	USA	natural	Blue-winged teal, Gadwall, Mallard, Northern shoveler, Northern pintail, Green-winged teal
16	North America	USA	NA	NA, Gadwall, Common pheasant, Cinnamon teal
17	Africa	South Africa	natural	Sociable weaver
18	Oceania	Australia	natural	Eastern yellow robin, Scarlet robin
19	North America	USA	natural	Wilson's plover
20	North America	USA	natural	Piping plover
21A	Europe	Germany	artificial	NA
21B	Europe	Germany	artificial	NA
21C	Europe	Germany	artificial	NA
22	North America	USA	natural	Red-necked phalarope
23	North America	USA	natural	Pectoral sandpiper
24	Africa	South Africa	artificial	NA
25	Europe	Portugal	artificial	NA
26	Oceania	Australia	natural	Glossy black cockatoo
27	North America	USA	natural	Olympic gull
28	North America	USA	natural	Blue-winged teal, Gadwall, Mallard, Northern pintail, Northern shoveler, Green-winged teal, American wigeon
29	North America	USA	natural	Gadwall, Blue-winged teal, Mallard, Northern shoveler, Northern pintail, and "other species".
30	North America	USA	natural	Snowy plover (subsp. nivosus)
31A	North America	Canada	artificial	NA
31B	North America	Canada	artificial	NA
31C	North America	Canada	artificial	NA
31D	North America	Canada	artificial	NA
31E	North America	Canada	artificial	NA
31F	North America	Canada	natural	NA

31G	North America	Canada	natural	NA
32	North America	USA	natural	Grasshopper sparrow (subsp. floridanus)
33	Europe	Switzerland	natural	Grey partridge
34A	Europe	Sweden	natural	Northern lapwing
34B	Europe	Sweden	natural	Common redshank
35A	North America	USA	natural	Piping plover
35B	North America	USA	natural	Piping plover
36A	Europe	UK	natural	Common redshank, Common snipe
36B	Europe	UK	natural	Dunlin, Northern lapwing
37	North America	USA	natural	Killdeer
38	North America	USA	artificial	NA
39	Asia	Cambodia	natural	Giant ibis
40A	North America	USA	natural	Least tern (subsp. athalassos)
40B	North America	USA	natural	Snowy plover
41	North America	USA	natural	Piping plover
42	North America	USA	natural	Blue-winged teal, Mallard
43	Asia	China	artificial	NA
44	Asia	China	artificial	NA
45	Asia	China	artificial	NA
46	North America	USA	natural	Killdeer, Piping plover, Snowy plover
47	Oceania	Australia	artificial	NA
48A	North America	USA	natural	Piping plover
48B	North America	USA	natural	Piping plover
49	North America	USA	natural	Piping plover
50	North America	USA	natural	Piping plover
51	Europe	Netherlands	artificial	NA
52	Europe	Spain	natural	Great tit, Eurasian blue tit
53	North America	USA	natural	Western sandpiper
54	North America	USA	natural	Killdeer
55	Oceania	New Zealand	natural	Double-banded plover, Wrybill, South Island oystercatcher
56A	Oceania	Australia	natural	Tree Martin, Australian Owlet-nightjar, Common starling
56B	Oceania	Australia	artificial	NA
57	Europe	Sweden	natural	Dunlin (subsp. schinzii)
58	North America	USA	natural	Horned lark (subsp. strigata)
59	North America	Canada	natural	Piping plover
60	North America	USA	natural	Seaside sparrow
61	South America	Argentina	natural	Saffron-cowled blackbird
62A	Europe	Hungary	artificial	NA
62B	Europe	Hungary	artificial	NA
63	North America	USA	natural	Fork-tailed storm-petrel
64	North America	USA	natural	Piping plover
65	North America	USA	natural	Least tern
66A	North America	Canada	natural	Northern shoveler
66B	North America	USA	natural	Sharp-tailed grouse, Blue-winged teal, Northern pintail and Northern shoveler
67A	Europe	Finland	artificial	NA
67B	Europe	Finland	artificial	NA
68	Europe	Italy	artificial	NA

69	North America	USA	natural	Snowy plover
70	North America	USA	natural	Blue-winged teal, Mallard, Northern pintail, Gadwall, Northern shoveler
71	North America	USA	natural	Least tern (subsp. antillarum)
72	North America	USA	natural	Piping plover
73	Oceania	Australia	natural	Tree martin
74	Oceania	Australia	natural	Red-capped plover
75	Europe	Spain	artificial	NA
76	North America	USA	artificial	NA
77	Oceania	Australia	artificial	NA
78	North America	USA	natural	Least tern (subsp. athalassos)
79	North America	USA	natural	Snowy plover
80	Asia	Japan	natural	Great tit, Varied tit

Prey scientific name	Highest IUCN Status (2023)	Prey family	Nest position	Target
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Tachycineta bicolor	Least Concern	Hirundinidae	cavity	multiple
Poecile carolinensis, Poecile atricapillus, Baeolophus inornatus, Baeolophus ridgwayi, Baeolophus bicolor, Baeolophus atricristatus	Least Concern	Paridae	cavity	multiple
Troglodytes aedon, Thryothorus ludovicianus, Thryomanes bewickii	Least Concern	Troglodytidae	cavity	multiple
Sialia sialis, Sialia mexicana	Least Concern	Turdidae	cavity	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
NA	NA	NA	ground	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
NA	NA	NA	ground	birds
Dendrocygna autumnalis	Least Concern	Anatidae	cavity	multiple
Charadrius sanctaehelenae	Vulnerable	Charadriidae	ground	mammals
NA	NA	NA	elevated	multiple
NA	NA	NA	elevated	mammals
NA	NA	NA	ground	mammals
NA	NA	NA	NA	mammals
Cardinalis cardinalis, Passerina caerulea, Passerina cyanea	Least Concern	Cardinalidae	elevated	mammals
Toxostoma rufum	Least Concern	Mimidae	elevated	mammals
Pipilo erythrophthalmus	Least Concern	Passerellidae	elevated	mammals
NA	NA	NA	ground	mammals
Larus delawarensis	Least Concern	Laridae	ground	mammals
Larus californicus	Least Concern	Laridae	ground	mammals
Spatula discors, Mareca strepera, Anas platyrhynchos, Spatula clypeata, Anas acuta, Anas carolinensis	Least Concern	Anatidae	ground	mammals
NA, Mareca strepera, Phasianus colchicus, Anas cyanoptera	Least Concern	Anatidae, Phasianidae	ground	mammals
Philetairus socius	Least Concern	Ploceidae	elevated	reptiles
Eopsaltria australis, Petroica boodang	Least Concern	Petroicidae	elevated	multiple
Charadrius wilsonia	Least Concern	Charadriidae	ground	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
Phalaropus lobatus	Least Concern	Scolopacidae	ground	multiple
Calidris melanotos	Least Concern	Scolopacidae	ground	multiple
NA	NA	NA	ground	birds
NA	NA	NA	ground	multiple
Calyptorhynchus lathami	Vulnerable	Cacatuidae	cavity	mammals
Larus occidentalis x glaucescens	Least Concern	Laridae	ground	multiple
Spatula discors, Mareca strepera, Anas platyrhynchos, Anas acuta, Spatula clypeata, Anas carolinensis, Mareca americana	Least Concern	Anatidae	ground	mammals
Mareca strepera, Spatula discors, Anas platyrhynchos, Spatula clypeata, Anas acuta	Least Concern	Anatidae	ground	mammals
Charadrius nivosus	Near Threatened	Charadriidae	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
NA	NA	Anatidae	ground	multiple

NA	NA	Anatidae	ground	multiple
Ammodramus savannarum	Least Concern	Passerellidae	ground	mammals
Perdix perdix	Least Concern	Phasianidae	ground	mammals
Vanellus vanellus	Near Threatened	Charadriidae	ground	multiple
Tringa totanus	Least Concern	Scolopacidae	ground	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	mammals
Tringa totanus, Gallinago gallinago	Least Concern	Scolopacidae	ground	mammals
Calidris alpina, Vanellus vanellus	Near Threatened	Charadriidae	ground	mammals
Charadrius vociferus	Least Concern	Charadriidae	ground	multiple
NA	NA	NA	ground	multiple
Thaumatibis gigantea	Critically Endangered	Threskiornithidae	elevated	multiple
Sterna antillarum	Least Concern	Laridae	ground	mammals
Charadrius nivosus	Near Threatened	Charadriidae	ground	mammals
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Spatula discors, Anas platyrhynchos	Least Concern	Anatidae	ground	mammals
NA	NA	NA	elevated	other
NA	NA	NA	cavity	mammals
NA	NA	NA	cavity	mammals
Calidris melanotos, Charadrius melodus, Charadrius vociferus	Near Threatened	Charadriidae	ground	multiple
NA	NA	NA	elevated	birds
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Charadrius melodus	Near Threatened	Charadriidae	ground	mammals
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
NA	NA	NA	elevated	multiple
Parus major, Cyanistes caeruleus	Least Concern	Paridae	cavity	reptiles
Calidris mauri	Least Concern	Scolopacidae	ground	multiple
Charadrius vociferus	Least Concern	Charadriidae	ground	multiple
Charadrius bicinctus, Anarhynchus frontalis, Haematopus finschi	Vulnerable	Charadriidae, Haematopodidae	ground	mammals
Petrochelidon nigricans, Aegothales cristatus, Sturnus vulgaris	Least Concern	Hirundinidae, Aegothelidae, Sturnidae	cavity	mammals
NA	NA	NA	cavity	mammals
Calidris alpina	Least Concern	Scolopacidae	ground	multiple
Eremophila alpestris	Least Concern	Alaudidae	ground	birds
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Ammodramus maritimus	Least Concern	Passerellidae	ground	multiple
Xanthopsar flavus	Endangered	Icteridae	elevated	multiple
NA	NA	NA	ground	mammals
NA	NA	NA	ground	mammals
Hydrobates furcatus	Least Concern	Hydrobatidae	ground	mammals
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Sterna antillarum	Least Concern	Laridae	ground	mammals
Spatula clypeata	Least Concern	Anatidae	ground	mammals
Tympanuchus phasianellus, Spatula discors, Anas acuta, Spatula clypeata	Least Concern	Phasianidae, Anatidae	ground	mammals
NA	NA	NA	ground	mammals
NA	NA	NA	ground	mammals
NA	NA	NA	ground	mammals



Charadrius nivosus	Near Threatened	Charadriidae	ground	mammals
Spatula discors, Anas platyrhynchos, Anas acuta, Mareca strepera, Spatula clypeata	Least Concern	Anatidae	ground	multiple
Sterna antillarum	Least Concern	Laridae	ground	mammals
Charadrius melodus	Near Threatened	Charadriidae	ground	multiple
Petrochelidon nigricans	Least Concern	Hirundinidae	cavity	mammals
Charadrius ruficapillus	Least Concern	Charadriidae	ground	multiple
NA	NA	NA	ground	mammals
NA	NA	NA	ground	multiple
NA	NA	NA	ground	multiple
Sterna antillarum	Least Concern	Laridae	ground	mammals
Charadrius nivosus	Near Threatened	Charadriidae	ground	mammals
Parus major, Sittiparus varius	Least Concern	Paridae	cavity	mammals

Intervention	Intervention_Detail	Intervention_Class	Electric	Duration
exclosure	exclosure	physical	NA	3
guard	various guards	physical	NA	3
guard	various guards	physical	NA	3
guard	various guards	physical	NA	3
guard	various guards	physical	NA	3
exclosure	exclosure	physical	NA	18
exclosure	exclosure	physical	NA	1
exclosure	exclosure	physical	NA	2
CTA	CTA (Carbachol)	behavioural	NA	1
guard	guard (conical sheet metal collar)	physical	NA	3
exclosure	exclosures	physical	NA	1
exclosure	exclosure	physical	NA	1
guard	guard (collar)	physical	NA	1
fence	fence	physical	No	1
fence	fence	physical	No	2
fence	electric fence	physical	Yes	4
fence	electric fence	physical	Yes	4
fence	electric fence	physical	Yes	4
CTA	CTA (Pulegone)	behavioural	NA	1
CTA	CTA (Pulegone)	behavioural	NA	1
CTA	CTA (Pulegone)	behavioural	NA	1
DF	DF using chicken eggs	behavioural	NA	1
DF	DF (carp and commercial mink chow)	behavioural	NA	1
guard	guard (plastic film)	physical	NA	7
exclosure	exclosure	physical	NA	1
exclosure	exclosure	physical	NA	2
exclosure	exclosure	physical	NA	2
deterrent	smell deterrent (Hundeschrek)	behavioural	NA	1
deterrent	smell deterrent (Hukinol)	behavioural	NA	1
deterrent	smell deterrent (Hukinol)	behavioural	NA	1
exclosure	exclosure	physical	NA	2
exclosure	exclosure	physical	NA	1
CTA	CTA (Carbachol)	behavioural	NA	1
fence + exclosure	fence + exclosure	physical	NA	1
guard	guard (collar)	physical	NA	2
fence	fence (makeshift - driftwood)	physical	No	1
fence	electric fence + live trapping and translocation	physical	Yes	2
DF	DF (chopped fish offal and sunflower seeds)	behavioural	NA	2
exclosure	exclosure	physical	NA	6
deterrent	smell deterrent (DEER-D-TER)	behavioural	NA	1
deterrent	smell deterrent (human hair)	behavioural	NA	1
deterrent	smell deterrent (worcestershire sauce)	behavioural	NA	1
deterrent	smell deterrent (moth-balls)	behavioural	NA	1
deterrent	smell deterrent (moth-balls)	behavioural	NA	1
deterrent	smell deterrent (moth-balls)	behavioural	NA	1

deterrent	smell deterrent (DEER-D-TER)	behavioural	NA	1
fence	fence	physical	No	4
fence	electric fence	physical	Yes	3
exclosure	exclosure	physical	NA	2
exclosure	exclosure	physical	NA	2
fence + exclosure	exclosure + electric fence (sometimes)	physical	NA	5
fence	electric fence	physical	Yes	5
fence	fence (some electric) + live trapping and translocation	physical	Yes	1
fence	fence (some electric) + live trapping and translocation	physical	Yes	1
exclosure	exclosure	physical	NA	2
DF	DF (dog food)	behavioural	NA	1
guard	guard (collar)	physical	NA	2
fence	electric fence	physical	Yes	4
fence	electric fence	physical	Yes	4
exclosure	exclosure	physical	NA	2
fence	electric fence + some live trapping and translocation	physical	Yes	8
guard	guard (inverted buckets)	physical	NA	1
deterrent	deterrent (snake slough)	behavioural	NA	1
deterrent	deterrent (snake slough)	behavioural	NA	1
exclosure	exclosure	physical	NA	2
exclosure	exclosure	physical	NA	1
exclosure	exclosure	physical	NA	10
exclosure	exclosure (electrified)	physical	NA	10
fence	electric fence	physical	Yes	3
fence	fence (small size exclosure but top was uncovered and therefore a fence)	physical	No	2
other	camouflaged using white spots	behavioural	NA	1
guard	guard (plastic collar)	physical	NA	1
exclosure	exclosure	physical	NA	1
exclosure	exclosure	physical	NA	1
CC	CC (chicken Gallus gallus domesticus, quail Coturnix japonica, and kelp gull Larus dominicanus)	behavioural	NA	2
deterrent	deterrent (predator audio)	behavioural	NA	1
deterrent	deterrent (predator audio)	behavioural	NA	1
exclosure	exclosure	physical	NA	6
exclosure	exclosure	physical	NA	2
exclosure	exclosure	physical	NA	13
exclosure	exclosure	physical	NA	1
exclosure	exclosure	physical	NA	2
deterrent	smell deterrent (human hair)	behavioural	NA	1
fence	fence	physical	No	1
fence	fence	physical	No	1
exclosure	exclosure	physical	NA	3
fence	fence	physical	No	2
fence	fence	physical	No	1
fence	electric fence	physical	Yes	1
CTA	CTA (Thiram)	behavioural	NA	1
CC	CC (duck grease, duck preen gland oil and waterfowl odor)	behavioural	NA	1
fence	electric fence	physical	Yes	1

fence	electric fence	physical	Yes	2
CTA	CTA (LiCl)	behavioural	NA	2
fence	electric fence + diking	physical	Yes	1
exclosure	exclosure	physical	NA	8
other	automated nest box doors	physical	NA	1
exclosure	exclosure	physical	NA	1
CTA	CTA (Thiram)	behavioural	NA	2
DF	DF (details unclear)	behavioural	NA	2
exclosure	exclosure	physical	NA	1
fence	electric fence	physical	Yes	2
fence	electric fence	physical	Yes	2
exclosure	barrier (within nest box)	physical	NA	1

Treatment	T_Sample
exclosed nests in treatment wetlands	96
nest box fitted with a guard (predominantly cone baffle, stovepipe baffle, hole extender and noel guard)	4175
nest box fitted with a guard (predominantly cone baffle, stovepipe baffle, hole extender and noel guard)	851
nest box fitted with a guard (predominantly cone baffle, stovepipe baffle, hole extender and noel guard)	1470
nest box fitted with a guard (predominantly cone baffle, stovepipe baffle, hole extender and noel guard)	6767
exclosure	183
exclosure	30
exclosure	17
brown coloured eggs after treatment of brown eggs with carbachol during conditioning	20
nest box with guard	44
exclosure	11
exclosure	20
collar	25
fence	43
within ungulate exclusion fence	264
fence + semi-regular non-lethal removal of mammalian predators from within area	104
fence + semi-regular non-lethal removal of mammalian predators from within area	21
fence + semi-regular non-lethal removal of mammalian predators from within area	16
Pulgone treated nests, following CTA using eggs treated with pulegone	256
Pulgone treated nests, following CTA using eggs treated with pulegone	405
Pulgone treated nests, following CTA using eggs treated with pulegone	530
area with supplementary feeding (chicken eggs)	191.5
area with supplementary feeding	96
colony protected with plastic film on tree	840
exclosure	7
exclosure	17
exclosure	41
Hundeschrek treatment on stick at nest	11
Hukinol treatment on stick at nest	11
Hukinol treatment on stick at nest	17
exclosure (years; 2011 & 2012)	90
exclosure	13
post-treatment (eggs previously treated with carbachol)	60
exlosure + surrounding fence	19
collar	79
fence (constructed from small-diameter (2-4cm) driftwood, forming a 30cm high barrier)	10
fence + live trapping and translocation	172
in area provided with supplemental food	609
exclosure (2001 - 2006)	137
1 packet DEER-D-TER	20
1 cup human hair	20
150ml worcestershire sauce	20
4 moth-balls	20
8 moth-balls	20
8 moth-balls	23

1 packet DEER-D-TER	23
fence	88
electric fence (years; 2009-2011)	30
exclosure	37
exclosure	34
electric fence around nesting area + exclosure	913
electric fence around nesting area	65
fence (1998, with some with electric component and non-lethal removal of hedgehogs inside fences)	5
fence (1998, with some with electric component and non-lethal removal of hedgehogs inside fences)	47
exclosure	52
area with supplementary feeding (dog food)	379.5
plastic belt (80cm in height fixed to lower trunk)	24
within electric fence	55
within electric fence	43
exclosure	86
electric fence + live-trapping and translocation	366
inverted bucket below nest	10
nest box with snake slough	24
nest box with snake slough (inside or at entrance)	60
exclosure	39
exclosure	80
exclosure	598
exclosure (electrified)	308
electric fence	54
fence (and symbolic fence 60m away for people)	29
camouflaged using white spots (1.5cm x 1.5cm)	91
nest box with plastic sheet around trunk	40
exclosure	15
exclosure	12
odor preexposure (chicken Gallus gallus domesticus, quail Coturnix japonica, and kelp gull Larus dominicanus)	239
nestbox with predator audio	9
nestbox with predator audio	19
exclosure	25
exclosure	33
exclosure	731
exclosure	42
exclosure (chick stage only)	29
human hair at nest	30
fence	30
fence	25
exclosure	26
fence	167
fence	8
electric fence	7
untreated mallard egg, after CTA (Thiram)	40
untreated mallard egg, after CC	59
electric fence	28

electric fence	63
post-treatment of eggs with LiCl	88
electric fence + disking (1998)	362
exclosure	234.5
nest box with photosensitive trigger mechanism that causes the door to open/close	16
exclosure	26
post-treatment of eggs with Thiram	264
area with supplementary feeding (details unclear)	867.5
exclosure	35
electric fence	49
electric fence	87
nest box with barrier inside (2000)	121

Control	C_Sample	Bin_Rat	Success	Failure	TS	TF
unexclosed nests in treatment wetlands	124	rate	incubation	failure	70.08	25.92
nest box without guard	2599	rate	nesting	predation	3580.103755	594.8962451
nest box without guard	840	rate	nesting	predation	648.9745059	202.0254941
nest box without guard	1008	rate	nesting	predation	1219.16087	250.8391304
nest box without guard	4538	rate	nesting	predation	5770.810474	996.1895257
no enclosure	301	binary	incubation	failure	118	65
no enclosure	39	binary	days	predation	10	20
no enclosure	25	binary	incubation	failure	11	6
blue coloured eggs after no conditioning	20	binary	days	predation	2	18
nest box without guard	13	binary	incubation	failure	34	10
no enclosure	11	binary	incubation	failure	3	8
no enclosure	20	binary	days	predation	10	10
no collar	25	binary	days	predation	2	23
no fence	43	binary	days	predation	21.5	21.5
outside ungulate exclusion fence	264	binary	days	predation	102.96	161.04
no fence	141	binary	nesting	failure	41	63
no fence	25	binary	nesting	failure	5	16
no fence	57	binary	nesting	failure	7	9
untreated nest, following CTA using eggs treated with pulegone	256	binary	days	predation	14.77	241.23
untreated nest, following CTA using eggs treated with pulegone	240	binary	days	predation	261.45	143.55
untreated nest, following CTA using eggs treated with pulegone	365	binary	days	predation	383.85	146.15
area without supplementary feeding	191.5	rate	incubation	failure	23.79716522	167.7028348
area without supplementary feeding	79	rate	incubation	failure	64.128	31.872
colony not protected with plastic film on tree	1066	binary	nesting	predation	770	70
no enclosure	20	binary	nesting	failure	6	1
no enclosure	87	binary	incubation	failure	NA	NA
no enclosure	63	binary	incubation	failure	31	10
untreated stick at nest	10	binary	days	predation	2	9
untreated stick at nest	10	binary	days	predation	1	10
untreated stick at nest	17	binary	days	predation	0	17
no enclosure (years; 2010, 2013)	91	binary	incubation	failure	77	13
no enclosure	39	rate	incubation	failure	8.717582852	4.282417148
no prior treatment	60	binary	days	predation	5	55
no enclosure or fence	24	binary	days	failure	11.9206	7.0794
no collar	25	binary	nesting	failure	33.5	45.5
no fence / screen	54	binary	incubation	failure	5	5
no fence	542	binary	incubation	failure	65.48383522	106.5161648
in area without supplemental food	399	rate	incubation	failure	249.69	359.31
no enclosure (on beach only)	133	rate	incubation	failure	84.529	52.471
100ml marsh water	20	binary	days	predation	10	10
100ml marsh water	20	binary	days	predation	11	9
100ml marsh water	20	binary	days	predation	8	12
100ml marsh water	20	binary	days	predation	13	7
100ml marsh water	20	binary	days	predation	14	6
100ml marsh water	24	binary	days	predation	0	23



100ml marsh water	24	binary	days	predation	4	19
no fence	94	binary	nesting	failure	51	37
no electric fence	91	binary	incubation	failure	NA	NA
no enclosure	153	rate	incubation	failure	27.343	9.657
no enclosure	32	rate	incubation	failure	31.416	2.584
no electric fence around nesting area or enclosure	310	rate	nesting	failure	666.49	246.51
no electric fence around nesting area	310	rate	nesting	failure	42.9	22.1
unfenced (1998)	8	binary	incubation	failure	2	3
unfenced (1998)	45	binary	incubation	failure	30	17
no enclosure	53	binary	incubation	failure	20	32
area without supplementary feeding	379.5	binary	days	predation	142.692	236.808
no plastic belt	28	rate	incubation	failure	21.6	2.4
outside of electric fence but within 2km	109	binary	incubation	failure	28	27
outside of electric fence but within 2km	100	binary	incubation	failure	30	13
no enclosure	122	binary	incubation	failure	53	33
no fence (some live trapping but only ermine translocated + translocated skunks, raccoons and opossums were relocated from inside to outside fences)	429	rate	nesting	failure	126.63	239.37
no bucket	10	binary	days	predation	9	1
nest box with cotton cloth	24	binary	days	predation	9	15
nest box without treatment	40	binary	days	predation	47	13
no enclosure	40	binary	incubation	failure	21	18
no enclosure	80	binary	days	predation	68.8	11.2
no enclosure	624	binary	incubation	failure	369.38	228.62
no enclosure	624	binary	incubation	failure	143.05	164.95
no fence	234	rate	incubation	failure	32.4	21.6
no fences	24	binary	incubation	failure	26	3
not camouflaged with white spots (paired with treated nest)	91	binary	days	predation	66	25
nest box only	74	binary	nesting	failure	39	1
no enclosure	107	rate	incubation	failure	12.14591802	2.854081977
no enclosure	17	binary	incubation	failure	4	8
no odor preexposure	231	binary	incubation	failure	135	104
nestbox without audio	5	binary	nesting	predation	1	8
nestbox without audio	19	binary	days	predation	16	3
no enclosure	60	binary	incubation	failure	20	5
no enclosure	31	binary	nesting	failure	16	17
no enclosure	89	binary	incubation	failure	587	144
no enclosure	34	binary	nesting	failure	20	22
no enclosure (chick stage only)	28	binary	other	failure	20	9
no human hair at nest	30	binary	days	predation	16	14
no fence	30	binary	days	predation	23	7
no fence	204	binary	nesting	failure	17	8
no enclosure	18	binary	incubation	predation	24	2
no fence	60	binary	incubation	predation	166	1
no fence	22	binary	incubation	failure	5	3
no fence	9	binary	incubation	failure	5	2
untreated mallard egg, no conditioning	56	binary	days	predation	23.11	16.89
untreated mallard egg, no conditioning	56	binary	days	predation	37.13	21.87
no fence	43	binary	days	failure	4	24

no fence	254	rate	incubation	failure	62.34345424	0.65654576
no prior treatment of eggs	45	rate	incubation	failure	6.848	81.152
disking only (1994 - 97)	1418	binary	incubation	failure	176	186
no exclosure	234.5	rate	incubation	failure	142.7145393	91.78546067
nest box only	31	binary	nesting	failure	12	4
no exclosure	44	binary	incubation	failure	25	1
no prior treatment of eggs	300	binary	days	predation	58	206
area without supplementary feeding	867.5	rate	days	predation	427.1676251	440.3323749
no exclosure	35	binary	days	predation	18	17
no fence	184	binary	incubation	failure	10	39
no fence	328	binary	incubation	failure	37.97	49.03
nest box with no barrier inside(1999)	106	binary	nesting	failure	53	68

CS	CF	OR	zval	pval
71.92	52.08	NA	NA	NA
2088.90037	510.0996299	NA	NA	NA
581.1015723	258.8984277	NA	NA	NA
737.2316369	270.7683631	NA	NA	NA
3573.657198	964.3428018	NA	NA	NA
102	199	NA	NA	NA
1	38	NA	NA	NA
8	17	NA	NA	NA
2	18	NA	NA	NA
6	7	NA	NA	NA
3	8	NA	NA	NA
6	14	NA	NA	NA
0	25	NA	NA	NA
8.6	34.4	NA	NA	NA
84.48	179.52	NA	NA	NA
67	74	NA	NA	NA
8	17	NA	NA	NA
24	33	NA	NA	NA
22.78	233.22	NA	NA	NA
156.45	83.55	NA	NA	NA
258.7	106.3	NA	NA	NA
52.09424614	139.4057539	NA	NA	NA
43.45	35.55	NA	NA	NA
826	240	NA	NA	NA
4	16	NA	NA	NA
NA	NA	34.84	NA	0.001
36	27	NA	NA	NA
0	10	NA	NA	NA
0	10	NA	NA	NA
0	17	NA	NA	NA
36	55	NA	NA	NA
0.025851517	38.97414848	NA	NA	NA
0	60	NA	NA	NA
2.8656	21.1344	NA	NA	NA
5.65	19.35	NA	NA	NA
12	42	NA	NA	NA
33.42638812	508.5736119	NA	NA	NA
115.71	283.29	NA	NA	NA
2.128	130.872	NA	NA	NA
13	7	NA	NA	NA
13	7	NA	NA	NA
13	7	NA	NA	NA
13	7	NA	NA	NA
13	7	NA	NA	NA
7	17	NA	NA	NA

7	17	NA	NA	NA
33	61	NA	NA	NA
NA	NA	2.754316	2.96	0.003
61.047	91.953	NA	NA	NA
13.216	18.784	NA	NA	NA
99.2	210.8	NA	NA	NA
99.2	210.8	NA	NA	NA
1	7	NA	NA	NA
23	22	NA	NA	NA
7	46	NA	NA	NA
170.3955	209.1045	NA	NA	NA
17.164	10.836	NA	NA	NA
44	65	NA	NA	NA
38	62	NA	NA	NA
42	80	NA	NA	NA
60.06	368.94	NA	NA	NA
5	5	NA	NA	NA
1	23	NA	NA	NA
32	8	NA	NA	NA
21	19	NA	NA	NA
3.2	76.8	NA	NA	NA
105.3	518.7	NA	NA	NA
105.3	518.7	NA	NA	NA
81.9	152.1	NA	NA	NA
4	20	NA	NA	NA
67	24	NA	NA	NA
59	15	NA	NA	NA
45.40249001	61.59750999	NA	NA	NA
5	12	NA	NA	NA
98	133	NA	NA	NA
1	4	NA	NA	NA
13	6	NA	NA	NA
34	26	NA	NA	NA
16	15	NA	NA	NA
41	48	NA	NA	NA
2	32	NA	NA	NA
10	18	NA	NA	NA
18	12	NA	NA	NA
18	12	NA	NA	NA
49	155	NA	NA	NA
6	12	NA	NA	NA
28	32	NA	NA	NA
5	17	NA	NA	NA
2	7	NA	NA	NA
15.11	40.89	NA	NA	NA
15.11	40.89	NA	NA	NA
4	39	NA	NA	NA

249.9315484	4.068451621	NA	NA	NA
5.958	39.042	NA	NA	NA
506	912	NA	NA	NA
88.35634451	146.1436555	NA	NA	NA
5	26	NA	NA	NA
3	41	NA	NA	NA
55	245	NA	NA	NA
155.2376445	712.2623555	NA	NA	NA
2	33	NA	NA	NA
60	124	NA	NA	NA
142.24	185.76	NA	NA	NA
31	75	NA	NA	NA

Comments
We only included nests within treatment wetlands for comparability.
Data extracted using WebPlotDigitizer v4.6. Large scale study using information from citizen science program.Target predators assumed to be 'multiple'. Species not presented separately in Figure 3 were not included in analysis.
Data extracted using WebPlotDigitizer v4.6. Large scale study using information from citizen science program.Target predators assumed to be 'multiple'. Species not presented separately in Figure 3 were not included in analysis.
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Data extracted using WebPlotDigitizer v4.6. Large scale study using information from citizen science program.Target predators assumed to be 'multiple'. Species not presented separately in Figure 3 were not included in analysis.
Exclosures first used in 1988. The earliest nesting attempt per pair were used each year. If this failed, the second nest attempt was instead used in the analysis. Target predators assumed to be 'multiple'.
NA
NA
Post-treatment period assumed to be 12 days also. Each nest contained a single egg.
Vandalism and study were included as additional causes of failure.
NA
NA
NA
Period over which predation measured was not specified (assumed to be measured over a number of days).
NA
Cardinal species also reported separately. Treatment also involved non-lethal removal of predators from inside fence.
Treatment also involved non-lethal removal of predators from inside fence.
Treatment also involved non-lethal removal of predators from inside fence.
Data extracted using WebPlotDigitizer v4.6 from Figure 2 & 3 using the full 16 day period. We combined the values for colonial and solitary nesters.
Due to lack of significant difference between the 3 groups treated with pulegone across experiment 1 & 2, we combined these. Success period was classified as "days" as not all nests were required to survive to hatch.
Due to lack of significant difference between the 3 groups treated with pulegone across experiment 1 & 2, we combined these. Success period was classified as "days" as not all nests were required to survive to hatch.
Data combined from Experiment 1 & 2. Treatment & control samples assumed to make up equal % of total sample size. Success definition assumed to be hatching. We used the incubation period of BW teals (44% of sample).
We excluded results from June as the definition of nest success was variable within this period. This study combines natural and artificial nests, and therefore Experiment type was NA.
Most data found in supplementary materials. We considered "predated" a failure and all others success, due to incompatibility of "fully fledged" data with other studies.
NA
Note: log odds ratio listed as 34.84 and therefore assumed to be an odds ratio. p-value is <0.001 and therefore, 0.001 was used as conservative estimate. Treatment sample appears to be 17 based on the details provided.
We combined success and mixed-fate and considered these nests successful for consistency with other studies.
The natural nest component was excluded as control/treatment sample size and the period on which the DSR was based could not be reliably determined.
The natural nest component was excluded as control/treatment sample size and the period on which the DSR was based could not be reliably determined.
The natural nest component was excluded as control/treatment sample size and the period on which the DSR was based could not be reliably determined.
Study authors excluded from analysis nests where the fate was unknown or destroyed by flooding.
Details of control are somewhat unclear; may include those that failed prior to the application of exclosures and was done at a different time to treatment.
Post-treatment sample sizes were determined from Section 2.1 "Post-treatment, we provisioned a further 20 artificial nests each containing two untreated quail eggs at each of the six sites."
Study authors used the Kaplan-meier method for survival.
NA
This study uses a very simple design for exclusion fencing. Target predators assumed to be 'multiple'.
Data extracted using WebPlotDigitizer v4.6. Only pretoxicant period used (1980 & 1981). Data combined from both years and all four sites. Nests abandoned due to research activities were excluded by the study authors.
Used mayfield nest success.
NA
Data extracted using WebPlotDigitizer v 4.6. It was unclear whether the 7 nests excluded due to flooding were from the treatment or control (and therefore the original sample size was used)
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Data extracted using WebPlotDigitizer v 4.6. It was unclear how many nests from the treatment and control were excluded due to abandonment (and therefore the original sample size was used). Species of duck not specified.

Data extracted using WebPlotDigitizer v 4.6. It was unclear how many nests from the treatment and control were excluded due to abandonment (and therefore the original sample size was used). Species of duck not specified.
We excluded "collected" nests from the sample. We excluded nests from "The Ranch" as the treatment nests here were subject to an additional electric fence to prevent livestock access.
Unclear how exactly hatching success is defined. Target predators assumed to be mammals.
NA
NA
Exclosures only sometimes included an additional fence.
NA
We only used data from 1998 for both control and treatment. Some live trapping and translocation of predators included as part of treatment.
Data for 2 species also reported separately. We only used data from 1998 for both control and treatment. Some live trapping and translocation of predators included as part of treatment.
NA
Sample size of treatment and control are assumed to have an equal share of the total sample size.
NA
We only included nests with known outcomes (Table 2).
We only included nests with known outcomes (Table 2).
NA
Species also reported separately. Some live trapping and translocation of predators included as part of treatment.
We excluded the inland part of the study as it this was more of a control to test if other predators were to blame for nest failures.
Data extracted using WebPlotDigitizer v 4.6. We combined data from: anti-predator & vision experiements. We excluded: olfactory experiment (testing underlying mechanisms) & slough length experiment (no suitable control).
We considered only the control group as a control (not the EC group) and pooled results from HNU and GCF study sites. Results from DLS were excluded, as actual survival numbers after 12 days could not be determined.
Data for 3 species reported separately.
NA
Data extracted using WebPlotDigitizer v 4.6. Measurement of success as a binary outcome was assumed.
Data extracted using WebPlotDigitizer v 4.6. Measurement of success as a binary outcome was assumed.
Sample size determined from average numbers of nests in control / treatment beaches (1st paragraph of results and discussion) and the number of control / treatment beaches in Table 1.
Study authors excluded flooded nests and included 8 nests destroyed during laying in the control group. Treatment also included a symbolic fence to prevent access by people.
Target predators assumed to be 'multiple'.
NA
Exclosures were only up for 13 days and did not always last the full duration of nests. Study authors did not include nests that failed due to birds not accepting exclosures.
Definition of nest success assumed. Study duration assumed based on methods section.
We combined 2016 and 2017 years from Table S3.
NA
NA
Trampling by livestock is mentioned as an additional risk.
NA
We combined results for all three exclosure sizes.
Definition of nest success assumed.
Only measures survival over the nestling stage.
NA
NA
NA
Study authors included nests that failed before treatment in control group. We excluded these nests from our analysis.
Only 1990 - 1991 used for control.
NA
We assumed duration based on study unit 51A. We removed Mallards from the control group for better comparability with the treatment group.
Data extracted using WebPlotDigitizer v4.6 from Figure 3a and represent modelled averages. Each artificial nest appears to have 1 mallard egg for post-treatment.
Data extracted using WebPlotDigitizer v4.6 from Figure 3a and represent modelled averages. Each artificial nest appears to have 1 mallard egg for post-treatment.
This study is more about testing the role of wild boar as a predator rather than increasing nest success. The study duration is assumed to be 1 year based on the methods described.

Data extracted using WebPlotDigitizer v 4.6.
Multiple predators assumed based on discussion.
Both control and treatment groups also underwent vegetation disking.
Target predators assumed to be multiple. Sample size of treatment and control are assumed to have an equal share of the total sample size
NA
Study authors excluded abandoned and flooded nests.
We combined results from both study sites (La Nava and Los Pilones). Only a binomial response of predated or not predated was used.
Data extracted using WebPlotDigitizer v4.6 from Figure 1 Kaplan-Meier survival curves. We combined results from both years. Sample size of treatment and control are assumed to have an equal share of the total sample size
NA
NA
NA
We included this as an enclosure as it attempts to prevent access from all angles.





Figure 4
Table 2
Table 1
1st paragraph of section 3.1
1st paragraph of section 3.1
1st paragraph of Results
1st paragraph of Results
Table 5
Table 5
Table 2
1st paragraph of Results.
Table 1
Table 2
Table 2
Abstract & page 483
Table 1
Under heading "Predation and survival rates of artificial nests"
Figure 2 & Figure 3
Figure 5, "Number at risk"
Table 2
Under heading "Efficacy of nest caging"
Table 2
Table 2
Table 1
1st paragraph of Results and Discussion
1st paragraph of Results
Table 2
1st paragraph of Results
Table 1
Table S3
1st paragraph of Results
1st paragraph of Results
Results section
Results section
Table S2
Final paragraph
Consequences & Discussion
1st paragraph of Results
1st paragraph of Results
Table 1
Table 1 & "Treated vs. untreated nests."
Table 1
Table 1
Table 1
Figure 3a
Figure 3a
Figure 1

Figure 4
Results, last paragraph
Table 1
1st paragraph of results.
Table 1
1st paragraph of Results
Table S1 and Table S2
Figure 1
In results for Case study 3
Table 1
Table 1
Abstract & Figure 2