

Discard-ban policies can help improve our understanding of the ecological role of food availability to seabirds

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Supplementary material

Table S1. – Seabird species identified as scavengers of fishery discards according to reviewed studies and number of studies considering each ecological effect derived from seabird-discard interactions.

Species	Ecological effects															
	Diet	Foraging Ecology	Energy req.	Bycatch	Competition	Reproduction	Population dynamics	Body condition	Pollutants	Predatory interactions	Migration patterns	Parasitism	Survival	Ecosystem level	Resilience	Dispersal
<i>Alca torda</i>	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Alle alle</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Anous minutus</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Anous stolidus</i>	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Ardea alba</i>	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Ardenna gravis</i>	1	5	0	4	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ardenna grisea</i>	2	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ardenna tenuirostris</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Calonectris borealis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Calonectris diomedea</i>	3	11	2	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Catharacta antarctica</i>	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0
<i>Catharacta skua</i>	12	7	3	0	2	1	0	1	1	1	0	0	0	0	0	0
<i>Cathartes aura</i>	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Chionis alba</i>	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chlidonias hybridus</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
<i>Chlidonias niger</i>	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chroicocephalus cirrocephalus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chroicocephalus maculipennis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chroicocephalus novaehollandiae</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chroicocephalus ridibundus</i>	4	8	3	0	2	0	0	0	0	0	1	0	0	0	0	0
<i>Coragyps atratus</i>	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Daption capense</i>	1	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diomedea amsterdamensis</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diomedea dabbenena</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diomedea epomophora</i>	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diomedea exulans</i>	2	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Diomedea sanfordi</i>	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Egretta caerulea</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Egretta thula</i>	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Fratercula arctica</i>	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Fregata ariel</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fregata magnificens</i>	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Fregata minor</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fregetta tropica</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Fulmarus glacialis</i>	10	6	6	1	4	0	0	0	0	1	0	0	0	0	0	0
<i>Fulmarus glacialisoides</i>	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Gelochelidon nilotica</i>	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
<i>Halobaena caerulea</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Hydrobates pelagicus</i>	2	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Hydroprogne caspia</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Ichthyaelus audouinii</i>	8	11	2	1	3	2	1	1	2	1	0	1	2	0	1	1
<i>Ichthyaelus melanocephalus</i>	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Larus argentatus</i>	11	7	4	0	4	0	3	1	0	0	0	1	0	0	0	0
<i>Larus atlanticus</i>	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Larus canus</i>	3	5	2	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Larus dominicanus</i>	4	10	0	7	2	0	0	0	0	0	0	0	0	0	0	0
<i>Larus fuscus</i>	11	13	3	1	3	1	0	0	0	0	0	0	0	0	0	0
<i>Larus genei</i>	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Larus hyperboreus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Larus marinus</i>	4	6	2	0	3	0	2	1	0	0	0	0	0	0	0	0
<i>Larus michahellis</i>	6	8	2	1	3	1	0	0	1	1	0	1	0	0	0	0
<i>Larus minutus</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Larus pacificus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Larus sabini</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Leucocarbo atriceps</i>	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0
<i>Leucophaeus atricilla</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Macronectes giganteus</i>	1	5	0	6	0	0	0	0	0	0	0	0	0	0	0	0
<i>Macronectes halli</i>	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0
<i>Morus bassanus</i>	10	12	2	1	3	0	0	1	0	0	1	0	0	0	0	0
<i>Morus capensis</i>	5	5	3	1	0	3	0	1	0	0	0	0	0	0	0	0
<i>Morus serrator</i>	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Oceanites oceanicus</i>	1	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0
<i>Oceanodroma leucorhoa</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Onychoprion anaethetus</i>	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Pachyptila belcheri</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pagodroma nivea</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pelecanus occidentalis</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Phalacrocorax aristotelis</i>	2	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0

Table S1 (Cont.). – Seabird species identified as scavengers of fishery discards according to reviewed studies and number of studies considering each ecological effect derived from seabird-discard interactions.

Species	Diet	ForagingEcology	Energyreq.	Bycatch	Competition	Reproduction	Populationdynamics	Bodycondition	Pollutants	Predatoryinteractions	Migrationpatterns	Parasitism	Survival	Ecosystemlevel	Resilience	Dispersal
<i>Phalacrocorax brasilianus</i>	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Phalacrocorax carbo</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Phalacrocorax olivaceus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Phoebetria fusca</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Phoebetria palpebrata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Procellaria aequinoctialis</i>	0	7	0	6	0	0	0	0	1	0	0	0	0	0	0	0
<i>Procellaria conspicillata</i>	1	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0
<i>Procellaria westlandica</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
<i>Pterodroma macroptera</i>	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pterodroma mollis</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Puffinus assimilis</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Puffinus mauretanicus</i>	4	8	1	1	0	2	0	0	0	0	0	0	0	0	0	0
<i>Puffinus puffinus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Puffinus yelkouan</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pygoscelis antarcticus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pygoscelis papua</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Rissa tridactyla</i>	5	7	3	1	1	1	0	0	0	2	0	0	0	0	0	0
<i>Spheniscus magellanicus</i>	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0
<i>Stercorarius parasiticus</i>	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Stercorarius pomarinus</i>	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sterna dougallii</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sterna hirundinacea</i>	0	6	0	5	2	0	0	0	0	0	0	0	0	0	0	0
<i>Sterna hirundo</i>	3	9	3	1	0	0	0	0	2	0	0	0	0	0	0	0
<i>Sterna paradisaea</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sterna sumatrana</i>	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Sterna vittata</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sternula alfibrons</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
<i>Sula dactylatra</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sula leucogaster</i>	1	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0
<i>Sula sula</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalassarche bulleri</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalassarche cauta</i>	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalassarche chlororhynchos</i>	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalassarche chrysostoma</i>	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalassarche melanophrys</i>	6	14	1	9	1	1	0	0	0	0	0	0	0	0	0	0
<i>Thalassarche steadi</i>	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalasseus acufilavidus</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalasseus bengalensis</i>	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
<i>Thalasseus bergii</i>	1	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0
<i>Thalasseus maximus</i>	2	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0
<i>Thalasseus sandvicensis</i>	4	10	2	2	2	0	0	0	1	0	0	0	0	0	0	0
<i>Uria aalge</i>	4	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0
<i>Uria lombia</i>	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0