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Archipelagos often harbour taxa that are endemic and vulnerable to disturbance. Conservation planning and research for these areas depend fundamentally on accurate and current taxonomic inventories. Although basic ecological information is in its infancy, the temperate rainforest islands of coastal British Columbia are undergoing rapid human-caused modification, particularly logging. We report herein new mammal records for these islands as determined by prey remains in the faeces of Wolves (*Canis lupus*), the area's apex mammalian terrestrial predator. Of particular interest is our detection of Marten (*Martes americana*) on islands previously inventoried and island occupancy by Moose (*Alces alces*), which have apparently migrated recently to coastal British Columbia. Remains in faeces provided valuable new species occurrence information, but more extensive and focused inventories are required to generate predictions of island occupancy by mammals based on biotic and abiotic landscape features.

Key Words: Wolves, *Canis lupus,* conservation, distribution, faeces, inventories, islands, mammals, archipelago, British Columbia.

Oceanic archipelagos often harbour taxa that are endemic, highly vulnerable to disturbance, and prone to extinction (Burkey 1995; Alcover et al. 1998). Sensible land-use planning often is constrained by a paucity of data on the distribution and abundance of organisms (Soulé and Kohm 1989), which may be particularly severe on islands. Biotic inventories provide critical information for conservation planning but frequently are not conducted because of time, financial, or other constraints (Kremen 1994). Due to accelerating rates of habitat loss, species inventories may be the foundation by which to measure the extent of human influences on extinction-prone biotas (Cook et al. 2001). Conversely, in poorly studied systems facing imminent disturbance, inventories may instigate timely conservation strategies and identify important areas for conservation research.

The numerous islands constituting British Columbia's coastal archipelago are nearly pristine yet face increasing pressure from development, particularly logging (Darimont and Paquet 2000*, 2002). Although earlier distribution reports have been valuable (McCabe and Cowen 1945; Cowen and Guiguet 1975; Craig 1990*, Nagorsen 1990), a paucity of fundamental ecological information still remains (such as complete mammal community records) for British Columbia's islands. In contrast, mammalian distribution on the adjacent Alexander Archipelago of Southeast Alaska has been well described (MacDonald and Cook 1996) and notable patterns of biogeography (e.g., Conroy et al 1999) and endemism (e.g., Cook and MacDonald 2001; Fleming and Cook 2002; Small et al. 2003) have emerged.

Accounts of mammal occurrence on islands are not always systematic but often dynamic, reflecting iterative coalescence of various collection records, accounts, and personal observations (e.g., MacDonald and Cook 1996). We extend this process here by benefiting from the foraging habits of coastal British Columbia's apex mammalian predator, the Wolf (*Canis lupus*), which has a wide potential niche.

During summers 2000 and 2001, we collected Wolf faeces along British Columbia's coast between the Kshwan Valley (55 º37'N, 129 º48'W) in the north and the Koeye River (51°46'N, 127°53'W) in the south (Figure 1). Our study area and sampling procedures are well described elsewhere (Darimont and Paquet 2000*, 2002; Darimont et al. 2004). Herein we identify mammalian prey occurring in faeces collected on islands only. We compared hair in faeces with voucher samples and also used dichotomous keys (Mathiak 1938; Mayer 1952; Stains 1958; Price 2003*). We compared these records of prey remains on islands with existing information regarding mammal occurrence for the British Columbia archipelago (McCabe and Cowen 1945; Cowen and Guiguet 1975; Craig 1990*, Nagorsen 1990) and herein report differences.

Wolves may deposit faeces from prey items consumed on other landmasses, but we consider this potential bias negligible. Although not well described, esti-

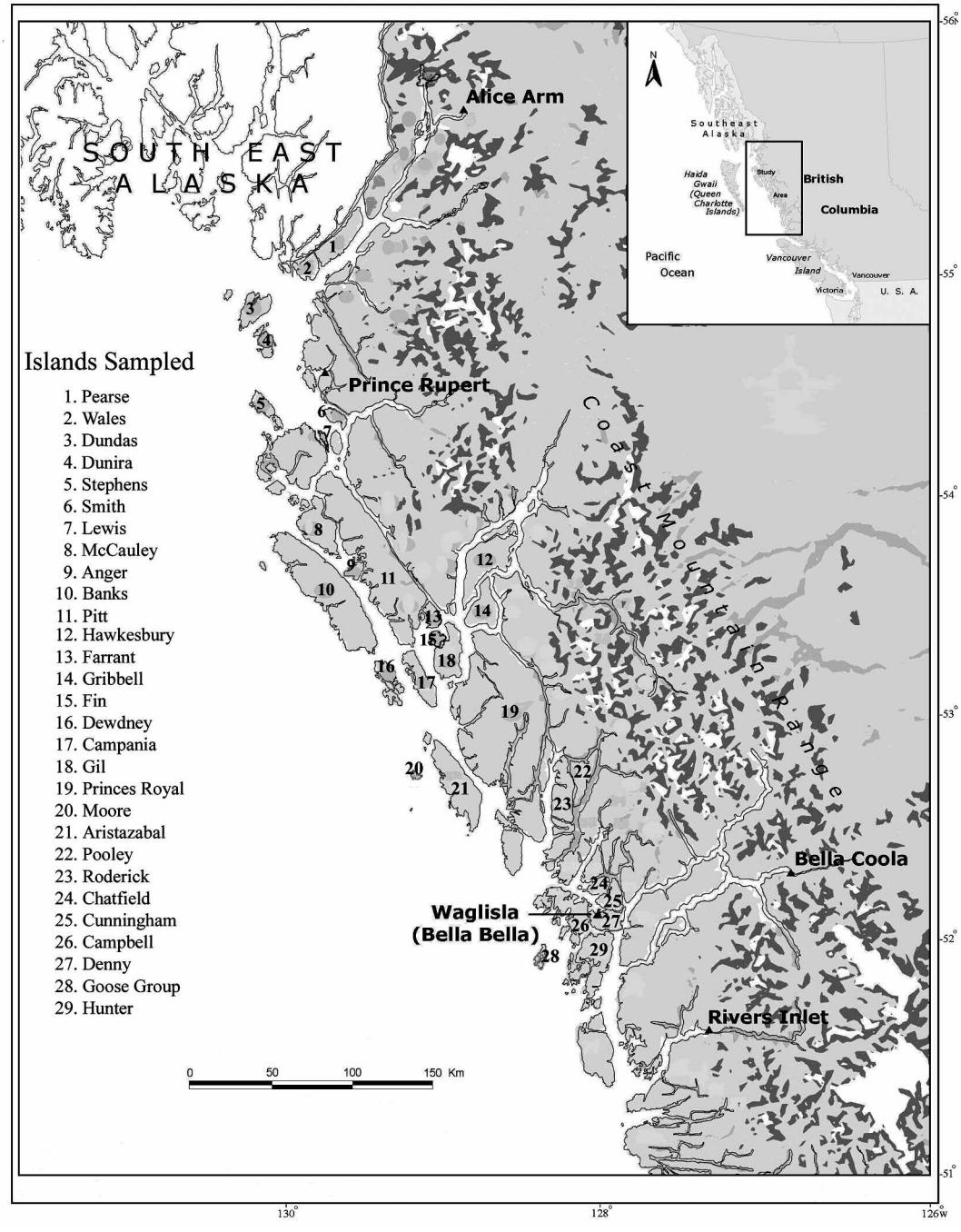

FIGURE 1. Study area and islands surveyed for mammal occurrence in British Columbia's coastal archipelago during summers 2000 and 2001.

mates of typical "gastric emptying times" in wild and captive wolves are rapid, ranging from 8 to 56 hours (Floyd et al. 1978; Weaver 1993; Kreeger et al. 1997; Peterson and Cuicci 2003). Weaver (1993) noted an average of four defecations/day in wolves fed *ad libitum*. Moreover, wolves typically rest after feeding and limit travel for several days thereafter (Mech 1966; Peterson 1977; Hayes et al. 2000; Peterson and Cuicci 2003). Finally, 65% of mammals we identified on each island were found in two or more scats.

TABLE 1. Mammal species identified in Wolf (*Canis lupus*) faeces collected on 29 islands in British Columbia's coastal archipelago during 2000 and 2001. Shown only are mammals not previously recorded in McCabe and Cowen (1945), Cowen and Guiguet (1975); Craig (1990*), or Nagorsen (1990). Species are as follows: Mule Deer (*Odocoileus hemionus sitkensis*); Pine Marten (*Martes americana*); Mink (*Mustela vison*); River Otter (*Lontra canadensis*); Weasel (*Mustela erminea*); Black Bear (*Ursus americanus*); Moose (*Alces alces*); Beaver (*Castor canadensis*). Sampling site codes match those in Figure 1. Islands previously inventoried for mammal occurrence indicated by asterisk.

Island	Area	Mammals Detected							
	(km^2)	Deer	Marten	Mink	R. Otter	Weasel	B. Bear	Moose	Beaver
1. Pearse	226	X	X		X		X		
2. Wales	97	X				X			
3. Dundas	160			X	X	X			X
4. Dunira	22					X			
5. Stephens	78								
6. Smith	51	X							
7. Lewis	7	X							
8. McCauley*	273								
9. Anger	51	X							
10. Banks*	1024		X						
11. Pitt*	1349							X	
12. Hawkesbury	322	X	X	X			X		X
13. Farrant	50	X	X						
14. Gribbell	207	X							X
15. Fin	13	X							
16. Dewdney	37	X			X				
17. Campania*	157								
18. Gil	238	X	X	X	X		X		
19. Princess Royal*	2295		X						
20. Moore*	5								
21. Aristazabal*	451		X						
22. Pooley	162	X	X	X		X	X		X
23. Roderick	239	X			X	X			
24. Chatfield*	48								
25. Cunningham	115	X							
26. Campbell	145								
27. Denny	127	X	X	X					
28. Goose*	24	X							
29. Hunter*	399								

Early distribution reports (above) collectively inventoried 10 of 29 islands surveyed in this study. Of particular note are our new accounts for Pine Marten (*Martes americana*) on Banks, Princess Royal, and Aristazabal Island (Figure 1), which previous studies did not detect. MacDonald and Cook (1996) reported (non-introduced) occupancy of Marten on nine Southeast Alaskan islands, adjacent to British Columbia's coast. Conroy et al. (1999) commented on their absence there from relatively small islands (< 232 km^2). In British Columbia, we identified Marten on four islands smaller than 232 km^2, including one as small as 50 km^2 (Table 1). These differences, however, may reflect island isolation (i.e., distance from other landmasses). Conroy et al. (1999) found that isolation (not size) best predicts species occurrence in coastal Alaska. Finally, the distributions of animals that are trapped commercially, such as Marten, may also reflect introductions and harvest pressure.

Also notable is the presence of Moose (*Alces alces*) on Pitt Island. Moose have not been reported previously on islands of British Columbia and are thought to range only in localised areas of major mainland rivers and the heads of inlets (Nagorsen 1990; Shackleton 1999; Blood 2000; but see Darimont et al. 2005). Mammals documented on islands not previously surveyed included other representatives of Cervidae and Mustelidae, as well as Ursidae and Castoridae (Table 1).

Data from faeces present potential biases and opportunity. One limitation, and a function of our limited sampling and the dietary niche of Wolves, is a lack of data on other taxa (e.g., Fisher, *Martes pennanti*), and especially smaller rodents. The Deer Mouse (*Peromyscus maniculatus*), for example, was absent from our samples. This species occurs on coastal islands and has been the subject of pioneering work on insularity in the region (McCabe and Cowen 1945), and continues to be a model organism elsewhere (e.g., Vucetich et al. 2001). Our "facts from faeces" approach, however, increases the breadth of valuable information available from analysing "waste" from animals (Putman 1984; Kohn and Wayne 1997).

New mammalian records for coastal British Columbia have scientific value and utility in conservation debate and land-use planning. As data accumulate, we hope to present a coherent explanation as to what biotic and abiotic conditions predict mammalian diversity on British Columbia's islands. Moreover, we agree wholeheartedly with MacDonald and Cook (1996) that, "the most distressing issue regarding our lack of knowledge for this vast area [coastal temperate rainforests] is that planners and policy makers are generating management decisions with great uncertainty. This is especially disconcerting given the accelerating rate of human-induced change occurring within the region's ecological systems".

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