WASHINGTON BIRDS

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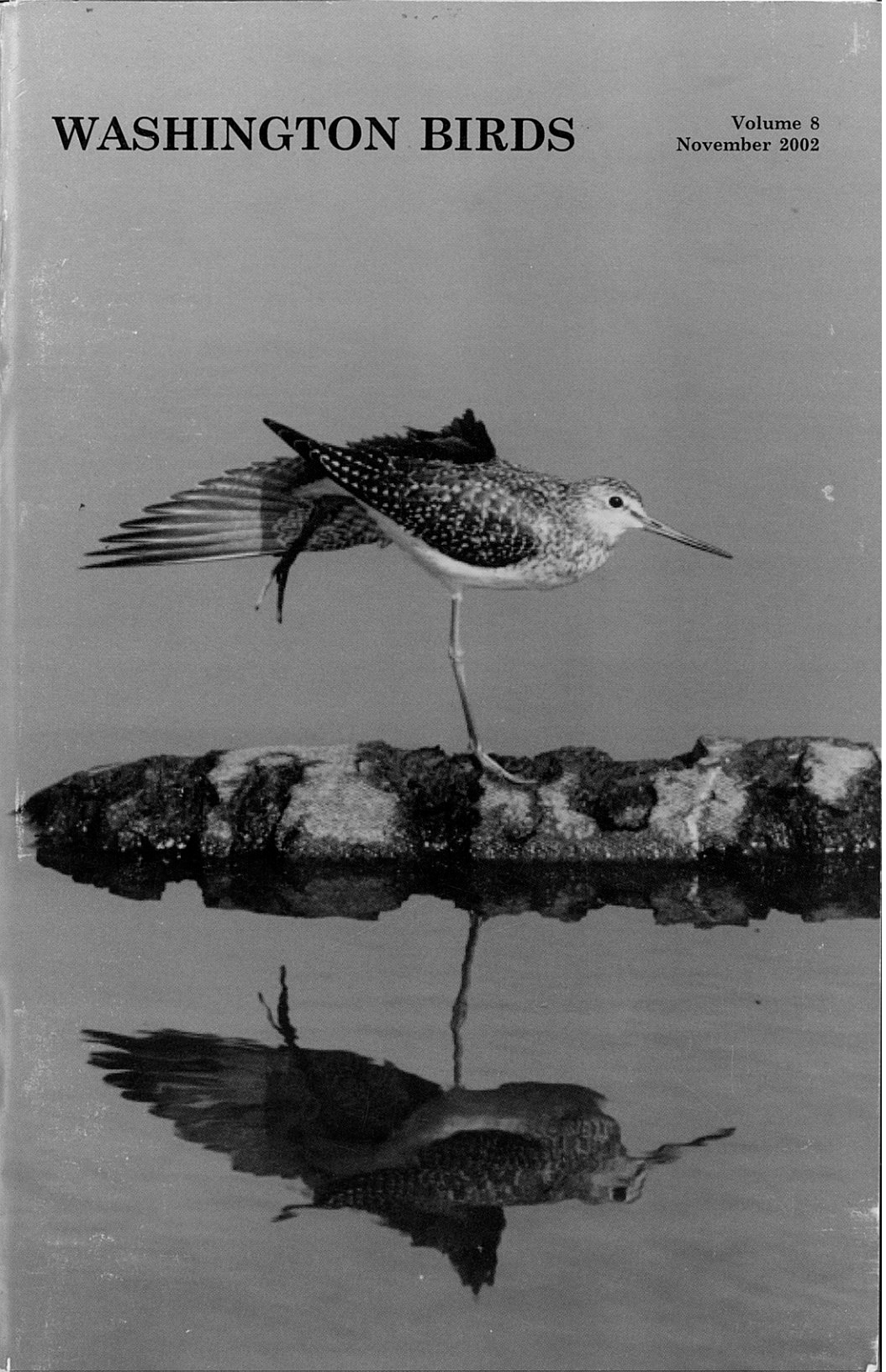

WASHINGTON BIRDS

Journal of the Washington Ornithological Society

Information for Contributors

The purpose of *Washington Birds* is to publish information on birds of Washington state and the Pacific Northwest. Papers of general interest independent of geographic region will also be considered. Subject matter may include but is not limited to geographic and ecological distribution, seasonal status and migration, breeding biology and general natural history, conservation, identification, faunal lists, site guides, field techniques, and reports on current research. Conciseness is encouraged.

Contributors should send typed double-spaced manuscripts (preferably two copies) to the Editor at the address below. Submissions in computer-readable form are deeply appreciated. Consult issues of the journal for all matters of style. English and scientific names of North American birds must follow the most recent edition of the AOU *Check-list* and its supplements. Scientific names of vertebrates must be included. English and scientific names of other animals and plants will be from current checklists. Measurements should be in the metric system. Artwork should be camera-ready and of high quality. For photographic material, original negatives and transparencies are preferable to duplicates or prints and will be returned to the author upon publication.

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Washington Birds 8:1-18 (2002)

FIFTH REPORT OF THE WASHINGTON BIRD RECORDS COMMITTEE

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The Washington Bird Records Committee (WBRC) met three times (8 April 2000, 1 April 2001, and 10 November 2001) since the publication of its previous report (Aanerud and Mattocks 2000). During these meetings the Committee examined 147 reports of 64 review species. Of these, 135 records of 60 species were accepted, and 12 reports of 12 species were not accepted. The 92% acceptance rate is similar to the results of previous meetings (Aanerud and Mattocks 2000). Several changes to the state check-list were the consequence of these meetings and included the addition of Arctic Loon, Wedge-tailed Shearwater, Red-faced Cormorant, White Ibis, Eurasian Kestrel, Little Curlew, Lesser Black-backed Gull, Whiskered Auklet, Eurasian Collared-Dove, Broad-tailed Hummingbird and Mourning Warbler to the state list.

Our most recent report (Aanerud and Mattocks 2000) included a description of the Committee's changes in review criteria. In brief, we stated that "the review list will consist of all species for which there are no more than 20 reliable, documented records for the ten-year period 1990-1999" (Aanerud and Mattocks 2000:8). This review list will not be altered for the next ten years (until 2009) at which time the "20 records" rule will apply to the years 2000-2009. The exception would be any first state records during the ten-year period that are automatically added to the review list.

PROCEDURES AND CONVENTIONS

Procedures for evaluating reports have remained largely unchanged since the formation of the WBRC (Tweit and Paulson 1994). The Committee reviews written descriptions, photographs, videotapes, tape recordings, or specimens to make determinations about the likely validity of reported observations. For the purposes of the Committee's work, and for use in this document, information submitted to the WBRC to support an observation is considered a "report." A "record" is a report that has been accepted by the WBRC. The phylogenetic sequence and nomenclature used below are based on the American Ornithologists' Union check-list of North American birds (AOU 1998). Committee members who voted on the reports described below were: Kevin Aanerud, Bob Boekelheide, Phil Mattocks, Steve Mlodinow, Dennis Paulson, Andy Stepniewski, Bob Sundstrom, and Bill Tweit. The WBRC welcomes reports of review species; the list of review species is indicated (in italics) on the fifth check-list of Washington birds (WBRC 2000). All reports of review

species should be submitted to Washington Bird Records Committee, c/o Phil Mattocks, 5421 Hanson Rd., Ellensburg, Washington, 98926.

Records supported by photographs or videotape are indicated in the text with a "plus sign" (+) next to the initials of the relevant contributor. Contributor's initials are associated with all accepted records, but have been removed from unaccepted reports. A list of contributors is found near the end of this document. To save space, the names of counties associated with reports and records have been abbreviated as follows: AD (Adams), AS (Asotin), BE (Benton), CH (Chelan), CL (Clallam), CK (Clark), CO (Cowlitz), FE (Ferry), FR (Franklin), GT (Grant), GH (Grays Harbor), IS (Island), JE (Jefferson), KG (King), KP (Kitsap), KT (Kittitas), KL (Klickitat), LE (Lewis), OK (Okanogan), PA (Pacific), PO (Pend Oreille), PI (Pierce), SJ (San Juan), SG (Skagit), SM (Skamania), SN (Snohomish), SP (Spokane), ST (Stevens), TH (Thurston), WW (Walla Walla), WC (Whatcom), and YA (Yakima).

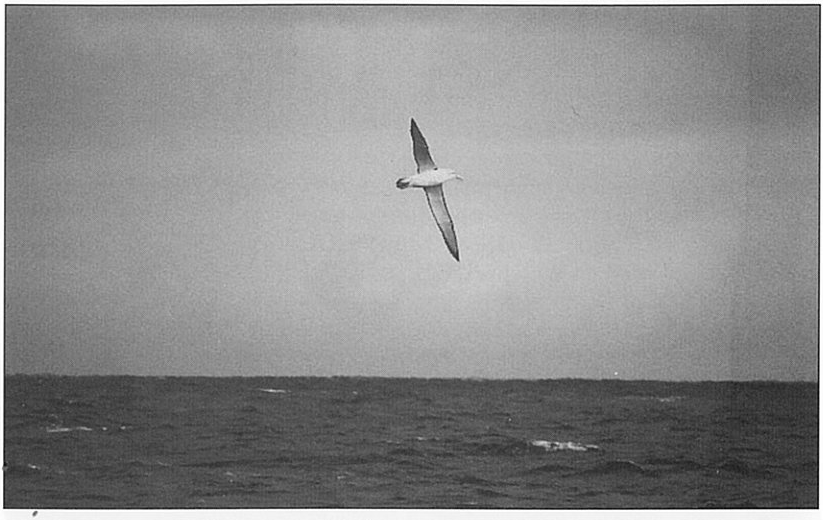
ACCEPTED RECORDS

Arctic Loon (*Gavia arctica*) - The first record for the state was a bird in basic plumage seen and described by many observers at Priest Rapids Lake, YA and GT, on 17 Jan -15 Apr 2000 (KBr, MDe, DGr, RLa, H & JMa, + SMl, ASt, BWo; ARLO-00-1). This is the only interior North American record south of Alaska. Another was at Edmonds, SN, on 29 Jan - 4 Feb 2001 (DBe, AKn; ARLO-01-1). The written descriptions for both records noted all of the useful field marks, separating this species from Pacific Loon (*Gavia pacifica*).

Shy Albatross (*Thalassarche cauta*) - One off Westport, GH, at 46°54' N, 124° 54' W on 22 Jan 2000 (+JPo, BTw; SHAL-00-1), was well photographed and represents the second state record. The status and subspecific identity of North American Shy Albatross records was reviewed by Cole (2000), who suggested that the January 2000 bird in Washington was *T. c. cauta*, as opposed to Washington's first record, which was a specimen of *T. c. steadi*. This distinction is particularly important as several recent authors (e.g. Robertson and Nunn 1998) have suggested that the current Shy Albatross species actually represents several species.

Short-tailed Albatross (*Phoebastria albatrus*) - An all-dark plumaged immature was seen off Westport, GH, at 46° 54' N, 124° 52' W on 27 Jan 2001 (BLa, BTw; STAL-01-1). A subadult was recorded from the Edmonds-to-Kingston Ferry run, SN, on 27 Apr 1997 (DDu; STAL-97-1). The occurrence of any species of albatross in Puget Sound waters should be considered a most unusual event, but despite the rare status of the species, it is perhaps the most likely of the albatrosses to wander near shore. Reports from the nineteenth and early twentieth century indicate that this species may have previously occurred on Washington's interior marine waters before the early to mid-twentieth century population crash (Jewett et al. 1953). There are eight Washington records.

Mottled Petrel (*Pterodroma inexpectata*) - At least ten were reported



Shy Albatross - off Westport (GH), 22 January 2000 (photo by Ryan Shaw)

Shy Albatross - off Westport (GH), 22 January 2000 (photo by Ryan Shaw)

from the Point Brown jetty at Ocean Shores, GH, on 26 Nov 2000 (AKn; MOPE-00-1). There are five records for the state.

Wedge-tailed Shearwater (*Puffinus pacificus*) - A dead bird (a male, specimen UWBM 63735 at the Burke Museum, University of Washington) was collected from Ocean City, GH, on 10 Sep 1999 (WTSH-99-1). This was the first record for Washington. There are only six other North American records north of Mexico (ABA 2002).

Manx Shearwater (*Puffinus puffinus*) - A bird was seen on the Keystone-to-Port Townsend Ferry run, IS, on 3 Jun 99 (GLa, BSu; MASH-99-1). Three birds were reported off Westport, GH, on 10 Jul 1999 (+ MDo, BLa; MASH-99-2). A live bird found in a parking lot in Hoquiam, GH, on 9 Apr 2000 (MASH-00-1) was being rehabilitated by Progressive Animal Welfare Society (PAWS) in Lynwood where it was correctly identified and videotaped (SMl). One was seen from the Point Brown jetty at Ocean Shores, GH, on 13 May 2000 (KAa, PCo; MASH-00-2). Another was three miles west of Kalaloch, JE, on 22 Jun 2000 (GMi; MASH-00-3). One was off Westport, GH, (46° 48.9' N, 124° 55.4' W) on 23 Jun 2000 (MFo; MASH-00-4). Another record, that may have represented a single bird seen on two dates, was from the Point Brown jetty, GH, on 9 Jul 2000, and at Damon Point on 22 Jul 2000 (+SMl; MASH-00-5). A bird was seen from a ferry five miles off Port Angeles, CL, on 22 Jul 2000 (PLe; MASH-00-6). The seventeenth state record was a bird reported two to three miles off Westport, GH, on 24 Mar 2001 (SMl, BTw; MASH-01-1).

Wilson's Storm-Petrel (*Oceanites oceanicus*) - The second state record was observed 30 miles off Westport, GH, on 6 Sep 2001 (RSh, CWr; WISP-01-1).

Red-faced Cormorant (*Phalacrocorax urile*) - An adult in alternate plumage was seen off the mouth of the Elwha River, CL, on 8 May 1999 (SMl, SPi; RFCO-99-1). A full account of this record is found in Mlodinow and Pink (2000). This is the first record for Washington and the contiguous United States.

Snowy Egret (*Egretta thula*) - Seven reports were accepted: one at Rock Island, FR, on 5 Jun 1999 (SAt; SNEG-99-1); one at Sequim, CL, on 25 Jun 1999 (BSu; SNEG-99-2); one near Osoyoos State Park, OK, on 9 Jun 2000 (RFo; SNEG-00-1); one at Potholes (Columbia National Wildlife Refuge), GT, on 17 Jun 2000 (RFo; SNEG-00-2); one along Highway 28, GT, on 13 Jul 2000 (CEa; SNEG-00-3); one at the Walla Walla River mouth, WW, on 9 May 2001 (BTw; SNEG-01-1); and a bird photographed near Everett, SN, on 7 Jul 2001 (+BLf, +NLf; SNEG-01-2). The Committee has accepted twenty-five reports of this species.

White Ibis (*Eudocimus albus*) - A sub-adult, first observed near Bay Center, PA, on 30 Dec 2000 (CHa, TRi; WHIB-00-1), was the first state record of this species. Subsequently, the bird was found near Menlo, PA, and seen by many observers 8-21 Jan 2001 (+RSu). This bird may have been the same sub-adult White Ibis that provided Oregon's first record 15-16 Nov 2000 at Newport Reservoir, Lincoln County (Mlodinow and Tweit 2001). A photograph of the ibis seen in Washington was published in

White Ibis - Bay Center (PA), 30 December 2000 (photo by Ruth Sullivan)

WOSNews 72:1 (2001).

White-faced Ibis (*Plegadis chihi*) - The Committee made a pragmatic decision to deviate from its own rules regarding reports submitted for the White-faced Ibis. This species barely qualified for "review" status in the fifth edition of the check-list (WBRC 2000), based partly on the premise that a single record would include a flock of forty individuals (Aanerud and Mattocks 2000). With large numbers occurring again in Washington in 2000 and 2001, it became clear that the species would not be on the review list after 2009. The time and effort required to collect documentation and review each report was determined to be unnecessary and beyond the scope of the Committee's responsibility. Details provided by Tweit and Flores (in press), articles in *WOSNews* (67:1, 6 [2000] and 76:1, 6 [2002]), and reports published in *North American Birds* provide a more than adequate record and perspective of this species' occurrence in Washington. Conversely, insufficient documentation might mean that the WBRC's records of White-faced Ibis could under-represent the species' numbers in Washington, leading to a false conclusion that the species is rarely reported.

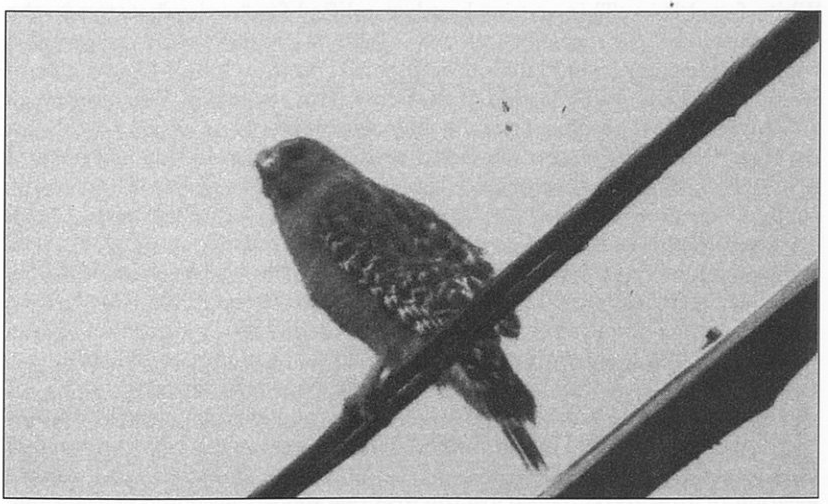
Emperor Goose (*Chen canagica*) - A first-winter bird was seen at Willapa Bay, PA, on 2 Apr 1999 (MPa; EMGO-99-1). A bird seen and videotaped at Port Angeles, CL, on 15 Dec 2000 (+SMl; EMGO-00-1) was still at the same location in July 2002. These are the first two reports accepted by the Committee since the species was added to the review list in 1999.

Tufted Duck (*Aythya fuligula*) - Four reports of this species were accepted by the Committee: a male was at Bingen, KL, on 19 Nov 2000 (CHa; TUDU-00-1); a female was videotaped at Everett, SN, on 6 Dec 2000 (+SMl; TUDU-00-2); a female was also seen at Bingen, KL, on 20 Feb 2001 (TLo; TUDU-01-1); and a male was reported from Tradition Lake, Issaquah, KG, on 24 Feb 2001 (CHa; TUDU-01-2). The Tufted Duck was added to the review list in 1999.

Red-shouldered Hawk (*Buteo lineatus*) - One was described from Steigerwald Lake, CK, on 4 Sep 1999 (WCa; RSHA-99-1). A record comes from the usual locality at Ridgefield National Wildlife Refuge, CK, on 2 Dec 1999 (TAv; RSHA-99-2). Two birds in immature plumage were at Ridgefield National Wildlife Refuge, CK, on 28 Nov 2000 - 18 Jan 2001 (TAv, HGi; RSHA-00-2). Single birds in immature plumage were at Spencer Island, SN, from 1 Nov 2000 – 21 Mar 2001 (+SMl; RSHA-00-1), at Nisqually National Wildlife Refuge, TH, on 17-26 Dec 2000 (BSh, +RSu; RSHA-00-3), and on Brady Loop Road, GH, on 8 Feb 2001 (+RSu; RSHA-01-1). Fifteen reports have now been accepted.

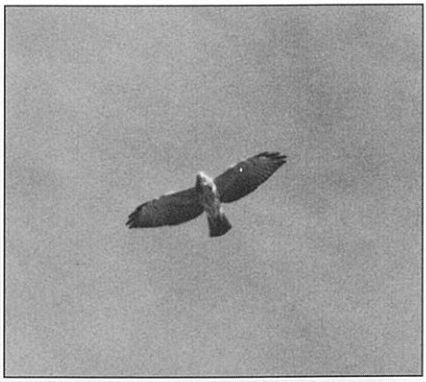
Broad-winged Hawk (*Buteo platypterus*) - The first record to be photographed was at Chelan Ridge, CH, on 14 Sep 1999 (+DHa; BWHA-99-1). The photograph was published in *WOSNews* 66:1 (2000). An immature was seen in Spokane, SP, on 18 Sep 1999 (JAc; BWHA-99-2). A spring migrant was observed soaring over Stanwood, SN, on 11 Apr 2000 (DBe; BWHA-00-1). Another was seen near Joyce, CL, on 4 Jun 2001 (DBe; BWHA-01-1). This species has, in recent years, been noted annually in small numbers as a fall migrant (*WOSNews* 66:1, 4[2000]). There are nine records.

Eurasian Kestrel (*Falco tinnunculus*) - The first state record was a bird in immature plumage captured, banded, photographed, and released on the



Red-shouldered Hawk - Brady Loop Road (GH), 22 July 2001 (photo by Ruth Sullivan)

Samish Flats, SG, and seen by many observers between 31 Oct - 7 Nov 2000 (+BAn, DEm, +SHa, BNe, SMl; EUKE-00-1). It was the second record from western North America south of Alaska and the fifteenth North American record (ABA 2002). A photograph was published in *WOSNews* 64:1 (2000).

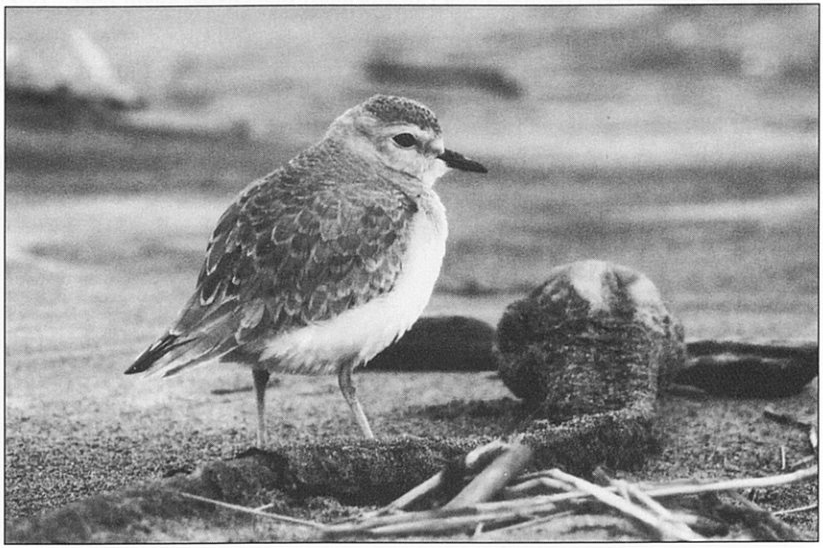


Broad-winged Hawk - Chelan Ridge (CH), 14 September 1999 (photo by Dan Harrington)

Mountain Plover (*Charadrius montanus*) - The third record was at Fort Canby State Park, PA, on 22 Dec 1999 - 26 Jan 2000 (GFr, CHa, EHu, +SMl, +RSu; MOPE-99-1).

Eurasian Dotterel (*Charadrius morinellus*) - One was at Ocean Shores, GH, on 20 Oct - 5 Nov 1999 (+TAv, DEm, CHa, MHo, BNe, + RRg, +RSu; EUDO-99-1). Photographs and a companion article of this third state record were published in *WOSNews* 64:1, 4 (2000).

Upland Sandpiper (*Bartramia longicauda*) - At a surprising locality was a record from Montlake Fill, Seattle, KG, on 18 Aug 1998 (TAv; UPSA-98-1). Another was seen near Ephrata, GT, on 28 May 2000 (LMo, MMo; UPSA-00-1) in bunchgrass habitat. Five reports have been accepted by the Committee since Upland Sandpiper was added to the review list (Tweit and Skriletz 1996).



Mountain Plover - Fort Canby State Park (PA), 26 December 2000 (photo by Ruth Sullivan)

Eurasian Dotterel - Ocean Shores (GH), 22 October 1999 (photo by Ruth Sullivan)

Little Curlew (*Numenius minutus*) - The first state record was at Leadbetter Point, PA, on 6 May 2001 (SMl, RSh; LICU-01-1); see Mlodinow (2002a) for details of this sighting. This was the sixth North American record (ABA 2002).

Bristle-thighed Curlew (*Numenius tahitiensis*) - Two birds were seen on Tatoosh Island, CL, 13-15 May 1998 (TWo, BPa; BTCU-98-5). The wing of one of the birds was subsequently salvaged from a Peregrine Falcon (*Falco peregrinus*) kill and is now in the Burke Museum, University of Washington (UWBM 59322). This sixth record is one of multiple sightings that occurred that spring (Aanerud and Mattocks 2000).

Hudsonian Godwit (*Limosa haemastica*) - Two reports were accepted: one at the Walla Walla River delta, WW, on 1 Sep 1997 (ASt; HUGO-97-1), and one at Tokeland, PA, on 24-28 Sep 1999 (RRm, RSh; HUGO-99-1). There are now fourteen records.

Bar-tailed Godwit (*Limosa lapponica*) - Two adults were at Tokeland, PA, on 1 Aug 1999 (SMl; BTGO-99-1). Another was also at Tokeland, PA, on 14 Jul 2000 (PLe; BTGO-00-1) and accompanied by a second bird on 22 Jul 2000 (+SMl; BTGO-00-2). Three birds were seen and videotaped at Tokeland, PA, on 1-12 Sep 2000 (+SMl; BTGO-00-3). Twenty-three reports have been accepted. Half of the records are from Tokeland where this species is being seen almost annually every late summer or fall in recent years. It is difficult to ascertain exactly how many individual Bar-tailed Godwits stop to join the large flock of Long-billed Curlews (*Numenius americanus*), Whimbrels (*N. phaeopus*), and Marbled Godwits (*Limosa fedoa*) that gather

at Tokeland.

Buff-breasted Sandpiper (*Tryngites subruficollis*) - Two juveniles were at Ocean Shores, GH, on 4 Sep 2001 (RLa; BBSA-01-1). This report is the first to be reviewed and accepted since the Committee added this species to the review list in 1999 (Aanerud and Mattocks 2000). The Committee decided to not review reports of Buff-breasted Sandpipers from the period prior to 1999.

Iceland Gull (*Larus glaucoides*) - The eighth record was an injured adult at Tacoma, PI, on 8-25 Jan 2000 (BLa, +RSu; ICGU-00-1). Photographs were published in *WOSNews* 67:7 (2000).

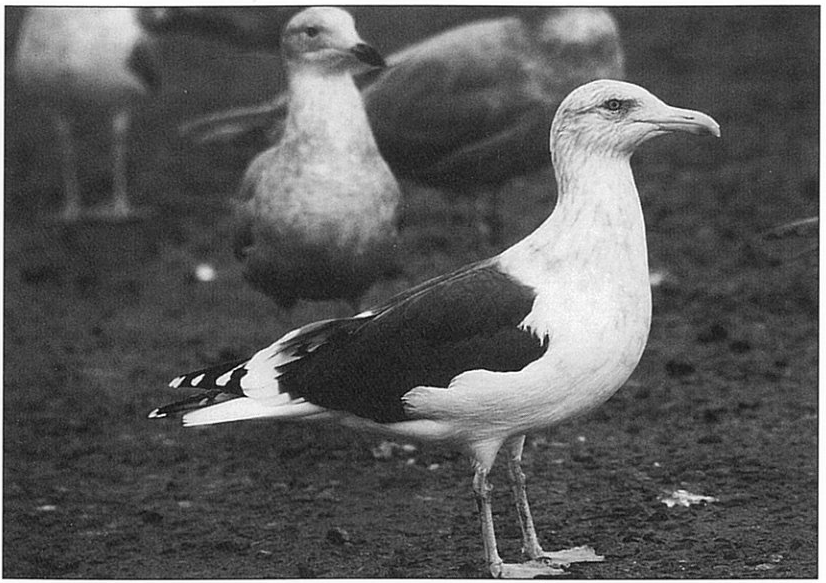
Lesser Black-backed Gull (*Larus fuscus*) - The first state record was found at the Walla Walla River delta, WW, on 6 Feb - 3 Mar 2000 (+ MDe; LBBG-00-1). A second record was seen at two localities - as in the year before, at the Walla Walla River delta, WW, on 29 Dec 2000 – 12 Feb 2001 and at Groves Park, BE, on 8 Jan 2001 (BWo; LBBG-01-1). Most likely this is the same bird returning to winter again in the region. The expansion of this species' range in North America was reviewed by Post and Lewis (1995).

Slaty-backed Gull (*Larus schistisagus*) - The fifth state record was at Tacoma, PI, on 7 Nov 1999 - 6 Feb 2000 (+MDo; SBGU-99-1), and based on plumage descriptions was likely a different bird than the two records from that locality in previous years.

Red-legged Kittiwake (*Rissa brevirostris*) - One report was accepted of an immature seen near shore off the west end of Neah Bay, CL, on 28 Jun - 5 Jul 1999 (TWo; RLKI-99-1). There are five records for the state.

Long-billed Murrelet (*Brachyramphus perdix*) - An alternate-plumaged bird was near the Elwha River mouth, CL, on 16 Aug 1995 (MNi; LBMU-95-2). Two birds were seen together at Ocean Shores, GH, on 6 Aug 1999 (BSh, TSh; LBMU-99-1). There are four state records, all since 1993 (see Skriletz 1996). The occurrence of this Siberian species in North America was reviewed in Mlodinow (1997).

Lesser Black-backed Gull - Walla Walla (WW), 7 February 2000 (photo by Mike Denny)



Slaty-backed Gull - Tacoma (PI), 7 November 1999 (photo by Michael Donahue)

Xantus's Murrelet (*Synthliboramphus hypoleucus*) - Two were photographed off Westport, GH, (124° 58′ W) on 14 Aug 1999 (BTw; XAMU-99-1); both were the more northern subspecies, *S. h. scrippsi*. Another was off Westport, GH, (124° 52′ W) on 26 Aug 2000 (BTw; XAMU-00-1). This species was added to the review list in 1997 (Aanerud and Mattocks 1997). This species may occur more frequently in Washington waters than our records indicate; both *S. h. scrippsi* and *S. h. hypoleucus* have been reported. These records are the third and fourth for the state, respectively.

Parakeet Auklet (*Aethia psittacula*) – A Parakeet Auklet was seen off Westport, GH, (46° 52′N, 124° 52′ W) on 24 Apr 1999 (BTw; PAAU-99-2). This represents the eleventh state record, though several older, likely valid, records exist (Jewett et al. 1953).

Whiskered Auklet (*Aethia pygmaea*) - The first state record was observed at Penn Cove, IS, on 16-17 May 1999 (DDu, SMl, KKn, GTo, RTo; WHAU-99-1). This record was the first in North America south of Alaska (see Mlodinow and Duffy 2000).

Horned Puffin (*Fratercula corniculata*) - One was off Dungeness Spit, CL, on 21 Aug 2000 (ESi; HOPU-00-1). It is the fifteenth record.

Eurasian Collared-Dove (*Streptopelia decaocto*) - The first state record was in Spokane, SP, on 2 Jan 2000 (MHo; EUCO-00-1). The description, which included contrasting darker primaries and undertail coverts, separates this species from Ringed Turtle-Dove (*Streptopelia risoria*) and, with reasonable certainty, any hybrids between the two species. The species is rapidly expanding its range in North America (Romagosa and McEneaney

1999).

White-winged Dove (*Zenaida asiatica*) - Four reports were accepted: one from Cypress Island, IS, on 19 Jul 1997 (KSe; WWDO-97-1); a bird seen near Redmond, KG, on 19 May 1999 (JMe; WWDO-99-1); another on 8 Oct 1999 at Tokeland, PA (IMc, IPo, DWa; WWDO-99-2); and one photographed on Tatoosh Island, CL, on 12 Jun 2000 (+TWo; WWDO-00-1). The first state record was collected in 1907 (Tweit and Skriletz, 1996). This species is undergoing a substantial range expansion in the United States with a concurrent increase in vagrancy.

Northern Hawk Owl (*Surnia ulula*) - A record comes from the southwest corner of Stevens County on 16 Oct 1999 (RRn; NHOW-99-1). A bird was banded and photographed at Chelan Ridge, CH, on 13 Oct 2000 (+BAn; NHOW-00-1). Another was seen a day later on Snow Peak, FE (BFo; NHOW-00-2). One was near Colville, ST, on 16 Oct 1999 (MBr, KKn; NHOW-00-3). Only the second record from west of the Cascades was near Custer, WC, on 30 Dec 2000 - 24 Feb 2001 (+SMl; NHOW-00-4). Fourteen reports have been accepted.

Costa's Hummingbird (*Calypte costae*) - The second state record visited a feeder at Richmond Beach, KG, on 27 Apr - 10 May 2000 (SMl; COHU-00-1).

Broad-tailed Hummingbird (*Selasphorus platycercus*) - The first state record was a female seen at a feeder near Asotin, AS, on 26-28 Aug 2000 (CVa; BTHU-00-1). This species regularly occurs in Idaho very nearby and its appearance in Washington has been expected.

Eastern Phoebe (*Sayornis phoebe*) - Three reports were accepted: one in Washtucna, AD, on 27 May 2000 (DBe; EAPH-00-1); a singing bird at Lake Ozette, CL, on 3 Jun 2000 (SGr; EAPH-00-2); and another seen by many at Leavenworth, CH, on 24 May - 26 Jun 2001 (MDe, +SMl, MRo; EAPH-01-1). Five reports have now been accepted.

Vermilion Flycatcher (*Pyrocephalus rubinus*) - The third state record was an adult female seen on Fir Island, SG, on 23 Oct - 10 Nov 1999 (SMl, RKu, +DMc; VEFL-99-1).

Tropical Kingbird (*Tyrannus melancholicus*) - One of the three Tropical/Couch's Kingbirds seen at Ocean Shores, GH, on 21-26 Oct 2000 (TAv, RSh, WSm; TRKI-00-1) was heard calling, assuring its identity as this species. There are five state records.

Tropical/Couch's Kingbird (*Tyrannus couchii*) - Two of the three Kingbirds at Ocean Shores, GH, on 26 Oct 2000 (TAv; TCKI-00-2) were accepted as a record in this category as vocalizations were not heard. Another was at Tokeland, PA, on 10 Nov 2000 (BSh; TCKI-00-2), representing the seventh accepted report.

Vermilion Flycatcher - Fir Island (SG), 3 November 1999 (photo by Dick McNeely)

Blue-gray Gnatcatcher (*Polioptila caerulea*) - A record comes from Redmond, KG, between 21-25 Oct 1999 (KGi, MHo, SMl; BGGN-99-1). Another was at Point No Point, KP, on 10-11 Nov 1999 (TAv, MRo; BGGN-99-2). The sixth state record was seen in Hood Park, WW, on 23 Sep 2000 (MDe; BGGN-00-1).

Brown Thrasher (*Toxostoma rufum*) - The fourth record for the state was at the Wahluke Slope Wildlife Recreation Area, GT, on 10 Sep 1999 (KAa, SMl; BRTH-99-1).

Yellow Wagtail (*Motacilla flava*) - The second state record was at Ocean Shores, GH, on 14 Sep 2000 (RSi; YLWA-00-1). The occurrence of this species in North America was summarized in Heindel (1999).

Black-backed Wagtail (*Motacilla lugens*) - One was seen on a private dock on the west side of Lake Sammamish, KG, on 26 Nov 2000 (MBa; BBWA-00-1). There are four records of this species.

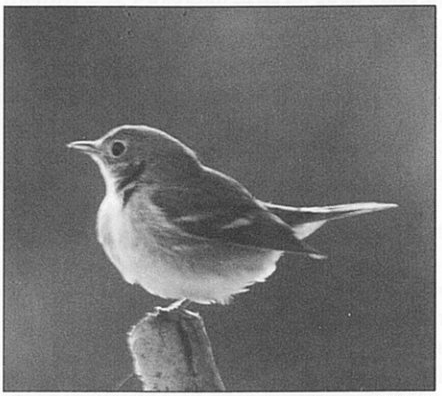
Tennessee Warbler (*Vermivora peregrina*) - The Committee accepted three reports: one at the Skagit Wildlife Management Area, SG, on 7 Sep 1997 (SAt; TEWA-97-1); one at Washtucna, AD, on 24 Apr 1999 (DRo; TEWA-99-1); and one at Graysmarsh, CL, on 1 Sep 2000 (SAt; TEWA-99-2). There are twelve state records.

Northern Parula (*Parula americana*) - An adult male was seen at Vantage, KT, on 1 Sep 2000 (KAa; NOPA-00-1). The ninth state record was another male seen and heard at Lake Ozette, CL, on 2 Jun - 3 Jul 2001 (BBo, GHu; NOPA-01-1).

Chestnut-sided Warbler (*Dendroica pensylvanica*) - Four reports were accepted. A male was photographed from Rattlesnake Mountain, BE, on 27 Jun 1998 (+CCo; CSWA-98-3). Another was photographed near Nile, YA, on 3 Jul 1999 (+MRu; CSWA-99-1). Single birds in immature plumage were seen at College Place, WW, on 19-22 Oct 2000 (+MDe; CSWA-00-1), and at Seattle, KG, on 19 Sep 2001 (KAa; CSWA-01-1). There are now fifteen records.

Black-and-white Warbler (*Mniotilta varia*) - A male was at Rattlesnake Mountain, BE, on 3 May 1998 (+BLf, +NLf; BAWA-98-3). A late fall migrant was at Two Rivers County Park, BE, on 26 Nov - 4 Dec 1999 (GHu, DRo; BAWA-99-1). A third report was accepted from Hooper, AD, on 14 May 2001 (BFl; BAWA-01-1). The state has twenty-three records.

Prothonotary Warbler (*Protonataria citrea*) - The first state record was from Richland, BE, on 6 – 9 Sep 1970 (fide BWo;



Chestnut-sided Warbler - College Place (WW), 21 October 2000 (photo by Mike Denny)

PRWA-70-1). The documentation of this record is in a few frames of eight mm film. The species was included in the original "Checklist of Washington Birds" (Feltner et al. 1989) as an unexamined record. This record was first published in American Birds 25 (1): 83 (1971).

Black-and-white Warbler - Rattlesnake Mountain (BE), 3 May 1998 (photo by Bill and Nancy LaFramboise)

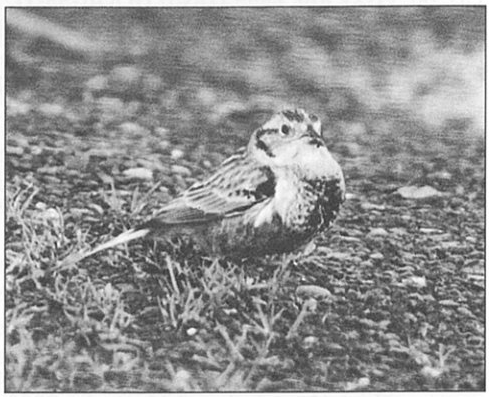
Ovenbird (*Seiurus auro-capillus*) - A bird was on territory near Packwood, LE, on 15 Jun - 1 Jul 2000 (KKn, +PSu, +FFi [vocal recording]; OVEN-00-1). Another was at Vancouver , CK, on 15 Jun 2001 (JJo; OVEN-01-1). A specimen (Slater Museum, University of Puget Sound #23085) was collected when it hit a window at Rainier Beach, KG, on 17 Jun 2001 (fide DPa; OVEN-01-2). There are fifteen records for the state.

Mourning Warbler (*Oporornis philadelphia*) - A female was at Lyons Ferry State Park, FR, on 26 May 2000 (RSh, SMl, BTw; MOWA-00-1). This report was accepted on the merits of carefully noted fieldmarks by observers (see Mlodinow 2002b). This was the first record for the state.

Chestnut-collared Longspur (*Calcarius ornatus*) - The fifth state record was at Hoquiam, GH, on 27 Nov - 2 Dec 1999 (DLn, WSm, +RSu; CCLO-99-1). Photographs were published in *WOSNews* 66:14 (2000).

Rustic Bunting (*Em-beriza rustica*) - The second record of this species was in Leavenworth, CH, on 9-23 Jan 1999 (SMl, +RSu; RUBU-99-1). An article with photographs was published in *WOSNews* 59:1, 5 (1999).

Rose-breasted Grosbeak (*Pheucticus ludocicianus*) - Seven reports were accepted by the Committee: at College Place, WW, on 9-12 Dec 1998 (MDe; RBGR-98-3); at Yakima, YA, on 25 May 1999 (+RRp; RBGR-99-1); at Seattle, KG, on 22-23 Jul 1999 (CCr; RBGR-99-2); at Spokane, SP, on 5 Jun 2000 (JAc; RBGR-00-1); at Anacortes, SG, on 19-23 Jul 2000 (+HHe; RBGR-00-2); at Marrowstone Island, JE, on 24 May 2001 (+PFi; RBGR-



Chestnut-collared Longspur - Hoquiam (GH), 28 November 1999 (photo by Ruth Sullivan)

01-1); and at Leavenworth, CH, on 23 Jun 2001 (MDe; RBGR-01-2). There are now twenty records.

Indigo Bunting (*Passerina cyanea*) - This species was well represented with five more reports accepted, all males: one at Tacoma, PI, on 10-11 May 2000 (DAd; INBU-00-1); one at Nordland, JE, on 18 May 2000 (NWy; INBU-00-2); one at Concrete, SG, on 7 Jun 2000 (+BBr; INBU-00-3); one at Washougal, SM, on 17 May 2001 (WCa; INBU-01-1); and one at Roy, PI, on 10 Jun 2001 (IHo; INBU-01-2). Eleven reports have been accepted.

Tricolored Blackbird (*Agelaius tricolor*) - A male was seen at Othello, AD, on 30 May 1999 (SMl, BTw; TRBL-99-1). Twenty-five adults were at the breeding colony at Wilson Creek, GT, on 8 Jun 2000 (TAv), and at least one male was still present on 2 Jul 2000 (SMl; TRBL-00-1). Two males were near Vancouver Lake, CK, on 25 Nov 2000 (+SMl; TRBL-00-2). Two males and one female were seen at Othello, AD, on 4-6 Apr 2001 (BNo, BSe; TRBL-01-1). At least 12 males in a flock of an estimated 35 birds were photographed at the Wilson Creek colony, AD, on 11-12 Apr 2001 (+PSu; TRBL-01-2). A male was seen from Hale Rd, KL, on 12 May 2001 (SJo; TRBL-01-3). There are eight records for the state including large numbers of birds at Wilson Creek. The species will remain on the review list at least until its residency in Washington is established.

Common Grackle (*Quiscalus quiscula*) - Four records were accepted: one in Richland, BE, on 21 May 1996 (+PPo; COGR-96-1); one in Kennewick, BE, on 25 Oct 1999 (DRo; COGR-99-1); a male at Walla Walla, WW, on 12 May 2001 (MDe; COGR-01-1); and a male at Two Rivers County Park, BE, on 8 Aug 2001 (DRo; COGR-01-2). There are seven records in all.

Great-tailed Grackle (*Quiscalus mexicanus*) - A male at Stanwood, SN, between 7 Jan and 10 Mar 2001 (+RCa, AKn, +SMl; GTGR-01-1) represented the second state record.

Hooded Oriole (*Icterus cucullatus*) - The third and fourth state records were the result of recent Committee actions. An adult male was at Joyce, CL, on 17-21 Jul 1999 (BNo; HOOR-99-1). Another adult male visited a feeder at Bothell, SN, on 13-16 May 2001 (BBe, +SMl, MRu; HOOR-01-1).

Baltimore Oriole (*Icterus galbula*) - The third state record was a male seen near Chelan, CH, on 31 May 2000 (VNe; BAOR-99-1).

Hoary Redpoll (*Carduelis hornemanni*) - A female was near Tonasket, OK, on 22 Dec 1999 (GGe, VNe; HORE-99-1). A male was seen at Winthrop, OK, on 30 Jan 2000 (KBr; HORE-00-1). There are six records of this species, which always presents challenging identification problems.

SUPPLEMENTARY LIST

Blue-headed Vireo (*Vireo solitarius*) - A single-person sight record was accepted from Palouse Falls State Park, FR, on 28 Aug 2000 (SMl; BHVI-00-1). This is the second state record. The previous record is on the Supplementary List (Aanerud and Mattocks 2000).

UNACCEPTED RECORDS

Red-faced Cormorant - A bird was reported from Seattle, KG, on 25 May 1983 (RFCO-83-1). The Committee felt that the observer was not able to note enough detail of the bird to accurately and sufficiently describe this species, especially when its degree of rarity was considered.

Red-shouldered Hawk - A report from Naselle, PA, on 21 May 2001 (RSHA-01-2) was of a hawk seen in flight only. The details of the observation were not convincing to most of the Committee members.

Broad-winged Hawk - The description of a bird seen at Salmo Pass, PO, on 26 Sep 1996 (BWHA-96-1) did not positively separate this species from other possible raptors.

Upland Sandpiper - A report from Goldendale, KL, on 12 May 2001, was not accepted (UPSA-01-1). The described habitat, "flat rocky shoreline" in "well-canopied riparian" on the Little Klickitat River, and its performing of ritual display, seemed unlikely for this species. Some Committee members felt the report more aptly described a Spotted Sandpiper (*Aetitus macularia*).

Kittlitz's Murrelet (*Brachyramphus brevirostris*) - A report from San Juan Island, SJ, on 3 Aug 1998 (KIMU-98-1), was not accepted. The details of a pair in alternate plumage were inconclusive.

Xantus's Murrelet - The description of a bird seen from Edmonds Pier, SN, on 19 Aug 1998 (XAMU-98-1), suggests at least the possibility that it could have been a juvenile Common Murre (*Uria aalge*), and therefore the record was not accepted by most Committee members.

Crested Auklet (*Arthia cristatella*) - Three alternate-plumaged Crested Auklets were reported from a ferry off the San Juan Islands, SJ, in early Sep 1989 (CRAU-89-1). The described details of the observation were insufficient.

Yellow-billed Cuckoo (*Coccyzus americanus*) - The description of a bird seen in Mountlake Terrace, SN, on 11 Jul 2000 (TBCU-00-1), does suggest this species. However, the sighting occurred while the observer was driving and therefore the bird was seen briefly and only in flight. The Committee felt the report was not sufficient enough in detail to warrant acceptance.

Tennessee Warbler - A report from Two Rivers County Park, BE, on 23 Aug 1998 (TEWA-98-2), was not accepted because the Committee felt that similar species, particularly the Warbling Vireo (*Vireo gilvus*), had not been eliminated as possibilities.

Black-and-white Warbler - A bird, heard only, was reported from Trout Lake, KL, on 31 May 2000 (BAWA-00-1). The Committee felt that the description of the song was not conclusive evidence.

Tricolored Blackbird - A photograph of an adult male from Marlin, GT, taken on 11 Apr 2001 (TRBL-01-4), was not accepted. Diagnostic features were not clear enough to separate with certainty from Red-winged Blackbird.

Lawrence's Goldfinch (*Carduelis lawrencei*) - A report from a back yard in Benton City, BE, on 22 May 2000 (LAGO-00-1), was not accepted.

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LITERATURE CITED

Aanerud, K. and P.W. Mattocks, Jr. 1997. Third report of the Washington Bird Records Committee. Washington Birds 6:7-31.

Aanerud, K.R. and P.W. Mattocks, Jr. 2000. Fourth report of the Washington Bird Records Committee. Washington Birds 7:7-24.

ABA (American Birding Association). 2002. ABA checklist: birds of the continental United States and Canada. American Birding Association, Colorado Springs, Colorado.

AOU (American Ornithologists' Union). 1998. Check-list of North American birds (seventh edition). American Ornithologists' Union, Washington, D.C.

Cole, L.W. 2000. A first Shy Albatross, *Thalassarche cauta*, in California and a critical re-examination of northern hemisphere records of the former *Diomedea cauta* complex. North American Birds 54:124-135.

Feltner, T.B., E.S. Hunn, P.W. Mattocks, Jr., D.R. Paulson, J. Skriletz, R.A. Sundstrom, and T.R. Wahl. 1989. Check-list of Washington birds. Washington Birds 1:1-5.

Heindel, M. 1999. The Yellow Wagtail in North America. Birders Journal 8:182-193.

Mlodinow, S.G. 1997. The Long-billed Murrelet (*Brachyramphus perdix*) in North America. Birding 29:461-475.

Mlodinow, S.G. 2002a. A Little Curlew (*Numenius minutus*) at Leadbetter Point: a first Washington record. Washington Birds 8:58-61.

Mlodinow, S.G. 2002b. Mourning Warbler at Lyons Ferry: a first for Washington. Washington Birds 8:54-57.

Mlodinow, S.G. and D. Duffy. 2000. Whiskered Auklet on Whidbey Island: a first record for the contiguous United States. Washington Birds 7:51-55.

Mlodinow, S.G. and S. Pink. 2000. Red-faced Cormorant in Clallam County: a first record for the contiguous United States. Washington Birds 7:46-50.

Mlodinow, S. and B. Tweit. 2001. Regional report: Oregon-Washington. North American Birds 55:93-97.

Post, P.W. and R.H. Lewis. 1995. The Lesser Black-backed Gull in the Americas, part 1. Birding 27:282-290.

Robertson, C.J.R. and G.B. Nunn. 1998. Towards a new taxonomy for albatrosses. Pages 13-19 *in* Robertson, G. and R. Gales (editors). Albatross biology and conservation. Surrey Beatty and Sons, Chipping Norton, Australia.

Romagosa, C.M. and T. McEneaney. 1999. Eurasian Collared-Dove in

North America and the Caribbean. North American Birds 53:348-353.
Skriletz, J. 1996. First Washington record of the "Long-billed" Marbled Murrelet. Washington Birds 5:53-54.
Tweit, B. and B. Flores. In press. White-faced Ibis in Washington in 2001: a significant incursion and attempted breeding. Washington Birds.
Tweit, B. and D.R. Paulson. 1994. First report of the Washington Bird Records Committee. Washington Birds 3:11-41.
Tweit, B. and J. Skriletz. 1996. Second report of the Washington Bird Records Committee. Washington Birds 5:7-28.
Washington Bird Records Committee. 2000. Check-list of Washington birds (fifth edition). Washington Birds 7:1-6.

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SHOREBIRD PASSAGE AT THE MONTLAKE FILL, UNIVERSITY OF WASHINGTON, SEATTLE, 1996-1997

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Each year many shorebird species complete spectacular migrations flying, in some cases, as far as 14,000 km between their wintering grounds in South America and their breeding grounds in Northern Alaska. These birds may fly distances equivalent to that between the Earth and the moon in their life time (Hayman et al. 1986, Paulson 1993).

The presence of "stop-over" wetland sites along the migration routes, which allow birds to rest and feed, is a critical factor that permits successful migration of shorebirds. Famous examples of such wetland sites include Grays Harbor in Washington, Quivira National Wildlife Refuge in Kansas and Delaware Bay on the Atlantic coast, where enormous numbers of shorebirds are present at certain times of the year. Numerous smaller wetlands along migration routes - when considered collectively - make a significant contribution to shorebird biology. One such small wetland area in Seattle is on the campus of the University of Washington bordering Union Bay on Lake Washington, known as the Montlake Fill (the "Fill"). The Fill was created by garbage in-filling about 30 years ago, with several small ponds being made, one of which is permanent. A variety of shorebirds were recorded using the ponds during the 1970's and 80's (Krause 1975, Hunn 1982, Aanerud 1989, Ratoosh 1995). Unfortunately, purple loosestrife (*Lythrum salicaria*), an introduced, highly invasive European species, has since colonized the area, overgrowing the pool edges, and making the ponds unsuitable for most shorebirds. During the summer of 1995 large quantities of loosestrife were removed by a group of volunteers in the hope that migrating shorebirds would again use the ponds.

I decided to systematically monitor shorebird species and numbers at the Montlake Fill ponds for the following two years, for two reasons. First, I wished to ascertain how many birds used the Fill as a stop-over wetland site. Second, I wanted to compare current usage of the ponds with previous surveys (Krause 1975, Aanerud 1989, Ratoosh 1995), to see if the site had recovered after removal of loosestrife.

METHODS

During migration periods - April to May and July to November, 1996-1997 - I checked the Fill nearly every day, totaling 412 visits. Shorebird records from other observers were incorporated into the data set. As far as I am aware, no other wetland site in Washington has been as intensively monitored as the Montlake Fill was during this study.

Each day the total number of each shorebird species was counted and recorded. On some occasions individual birds (or flocks) apparently stayed at the Fill for more than one day; these birds were counted for each day they were present. Thus the final numbers, sometimes described as "bird-day counts," represent the combination of both numbers of birds on each day and the number in days that they used the site. For example, if 3 birds of a particular species were recorded on 3 different dates, the bird-day count for that species was 9.

RESULTS

Eighteen species were recorded during my surveys. The total bird-day count for all species combined during 1996 and 1997 was 2,367, with 933 during 1996 and 1,434 in 1997 (Table 1). More birds were present during the fall period than the spring, reflecting passage of both adult and juvenile birds (Table 1).

Table 1. Total bird-day counts for each shorebird species at the Montlake Fill during 1996 and 1997. A question mark indicates that age determinations were not made and counts were therefore combined under one column.

	Spring		Fall					
	adult		adult		juvenile		Total	
	'96	'97	'96	'97	'96	'97	'96	'97
Semipalmated Plover	1		1				2	
Killdeer	110	160	97?	147?			207	307
Greater Yellowlegs	1	8	5	10	20	19	26	37
Lesser Yellowlegs	2	3	3		4	1	9	4
Solitary Sandpiper		2				1		3
Spotted Sandpiper	9	20	4	16	8	11	21	47
Semipalmated Sandpiper	2				7	3	9	3
Western Sandpiper	17	50	19	49	47	23	83	122
Least Sandpiper	53	238	162	315	159	71	374	624
Baird's Sandpiper					3		3	
Pectoral Sandpiper			1	6	40	13	41	19
Sharp-tailed Sandpiper					2		2	
Dunlin		10						10
Stilt Sandpiper					1	2	1	2
Wilson's Snipe	31 46	33?	21?			64	67	
Long-billed Dowitcher	6	17	46	130	34	21	86	168
Short-billed Dowitcher	4	1		5	1	11	5	17
Wilson's Phalarope		4						4
							933	1434

Species Accounts

Semipalmated Plover (*Charadrius semipalmatus*) – This species was seen only twice, once in spring (late May), and once in fall (mid-July).

Killdeer (*Charadrius vociferous*) – Killdeers were seen regularly through the spring, summer and fall, with 514 bird-day counts. They nested at the Fill on at least 2 occasions during the survey period. Early and late dates were 5 March and 29 October.

Greater Yellowlegs (*Tringa melanoleuca*) – Birds were seen on 63 bird-day counts and were present in both spring and fall. Migration occurred in the first half of April, and from early July to mid-October. Birds were usually seen alone, rarely in flocks, the highest count being a group of 6 on 14 October 1996.

Lesser Yellowlegs (*Tringa flavipes*) – This was a surprisingly uncommon bird, with only 13 bird-day counts. This species was seen during both spring (late April to early May) and fall (early July to late August).

Solitary Sandpiper (*Tringa solitaria*) – This species was seen only 3 times, in spring (mid-May) and fall (mid-August).

Spotted Sandpiper (*Actitis macularia*) – Birds were observed on 68 bird-day counts throughout the period. They may have nested at or near the Fill, as very young birds were seen in July in both years. Early and late dates were 8 May and 5 September.

Semipalmated Sandpiper (*Calidris pusilla*) – Only 10 sightings were made, usually amongst groups of Western Sandpipers. Only one observation was from the spring (mid-May), and in fall the species was observed from mid-July to mid-September.

Western Sandpiper (*Calidris mauri*) – Observed on 205 bird-day counts, significant numbers of birds were seen in spring (mid-April to mid-May) and fall (early July to mid-September), typically in flocks.

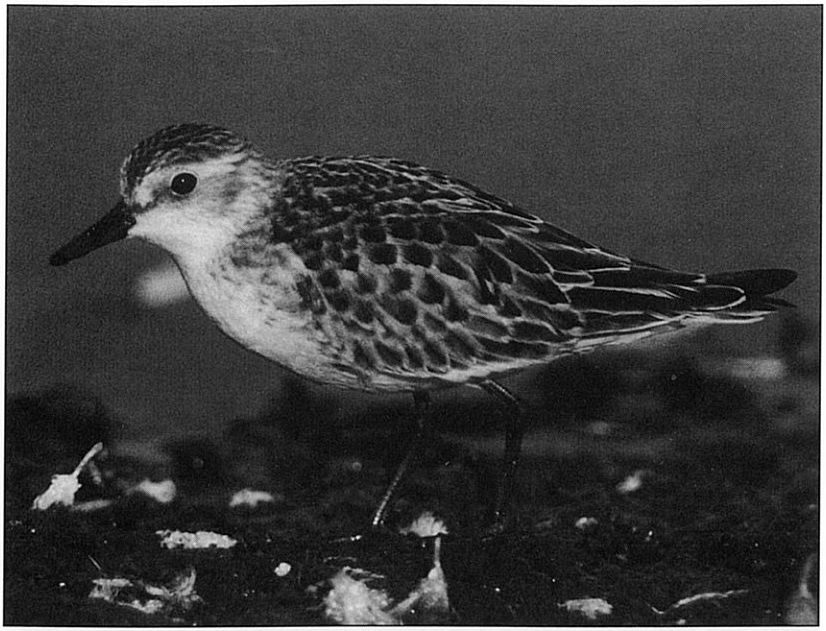
Least Sandpiper (*Calidris minutilla*) – This was the predominant shorebird species using the Fill with 998 bird-day counts. Large numbers of birds were seen in the spring (mid-April to mid-May) and fall (early July to late September). The highest bird-day count, 88, was made on 27 April 1997.

Baird's Sandpiper (*Calidris bairdii*) – This sandpiper was rarely encountered, and only three observations were made, all of birds in juvenile plumage during fall migration, late August to mid-Septmeber.

Pectoral Sandpiper (*Calidris melanotos*) - All 60 bird-day records were from fall migration, late September to mid-October, with 53 juveniles and 7 adults.

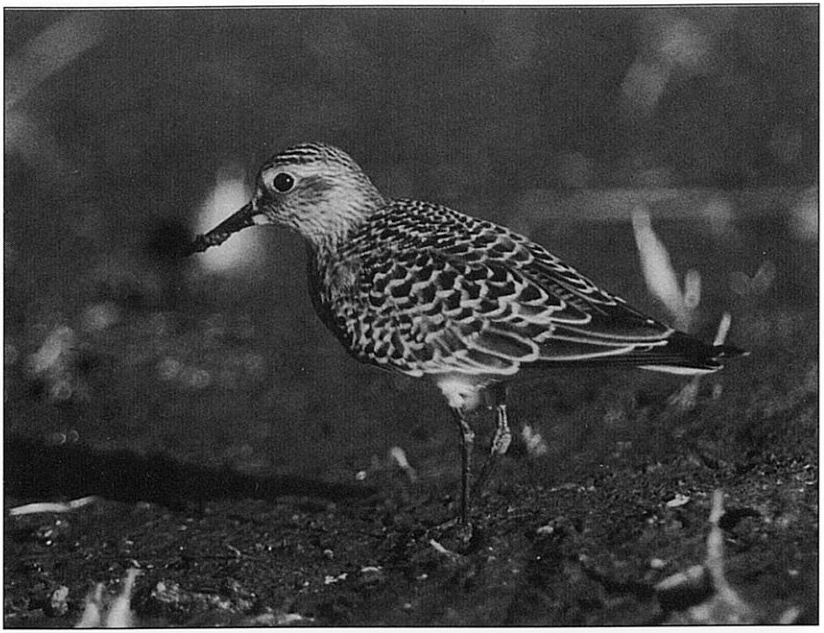
Sharp-tailed Sandpiper (*Calidris acuminata*) – An extremely rare bird at this site, only 2 sightings of 2 different birds were made, in late September and mid-October 1997. These observations were apparently the first and second records for the site and King County (Hunn 1982; K. Aanerud, personal communication).

Dunlin (*Calidris alpina*) – An uncommon bird seen only 5 times during

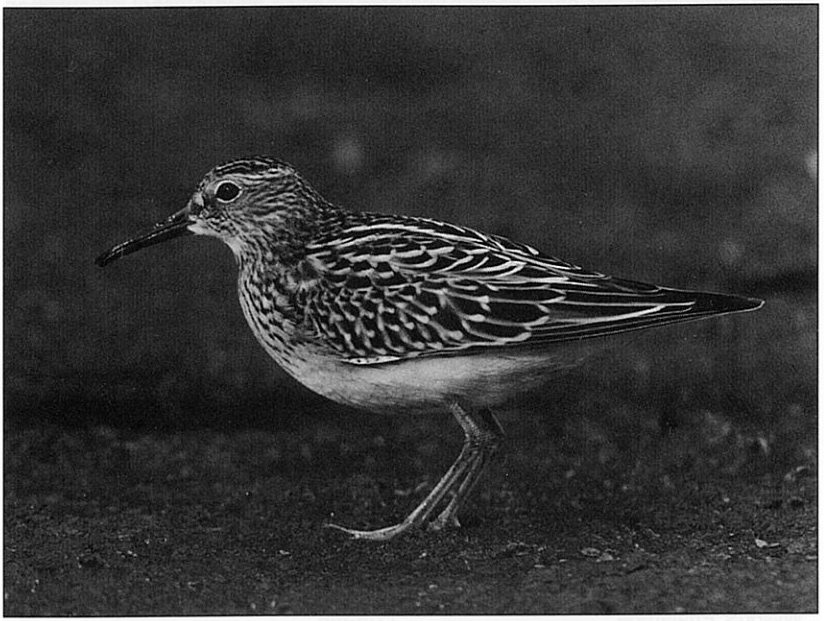


Semipalmated Sandpiper - Montlake Fill, King Co., 12 July 1997 (photo by Paul Munno)

Western Sandpiper - Montlake Fill, King Co., 1 July 1997 (photo by Paul Munno)



Baird's Sandpiper - Montlake Fill, King Co., 31 August 1996 (photo by Paul Munno)



Pectoral Sandpiper - Montlake Fill, King Co., 27 September 1996 (photo by Paul Munno)

spring migration, between early March and late April.

Stilt Sandpiper (*Micropalama himantopus*) – A rarely-seen species, with only 3 fall records from mid- to late August. These were apparently the first records of this species at this site for 8 years.

Wilson's Snipe (*Gallinago delicata*) – This species was seen on 262 bird-day counts from early March to late April and again between mid-September and late October.

Long-billed Dowitcher (*Limnodromus scolopaceus*) – This common species was encountered on 254 bird-day counts. It was present in spring (mid-May), sometimes in large flocks (largest number was 26 birds), and during fall. In fall, adults passed during late July to mid-August, with juveniles 6 weeks later in late September and early October.

Short-billed Dowitcher (*Limnodromus griseus*) – An uncommon species, this dowitcher was seen on only 43 bird-day counts. It was present in spring (mid-April to mid-May) and fall (mid-July to mid-August).

Wilson's Phalarope (*Phalaropus tricolor*) – This species was observed only 4 times, between late May and early June.

Table 2. Early and late dates (day/month) for shorebirds in spring and autumn migration at Montlake Fill during 1996 and 1997. Spotted Sandpiper and Killdeer have single dates for each season, as both species were present all summer. Other single dates indicate lone records for rare species.

	Spring		Fall	
	1996	1997	1996	1997
Semipalmated Plover	31/5	17/7		
Killdeer	5/4	5/3	21/10	29/10
Greater Yellowlegs	15/4	2/4-11/4	29/7-16/10	6/7-26/9
Lesser Yellowlegs	4/5-6/5	24/4-27/4	5/7-25/8	8/8
Solitary Sandpiper		8/5-23/5		16/8
Spotted Sandpiper	8/5	16/5	22/8	5/9
Semipalmated Sandpiper	10/5-12/5		11/8-13/9	11/7-13/7
Western Sandpiper	21/4-11/5	16/4-11/5	3/7-13/9	29/6-12/9
Least Sandpiper	20/4-13/5	17/4-12/5	3/7-25/9	27/6-26/9
Baird's Sandpiper			31/8-11/9	
Pectoral Sandpiper			13/8-25/10	3/9-30/9
Sharp-tailed Sandpiper			29/9-14/10	
Dunlin		5/3-22/4		
Stilt Sandpiper			31/8	17/8-18/8
Wilson's Snipe	1/4-29/4	5/3-13/4	7/9-24/10	12/9-23/10
Long-billed Dowitcher	12/5	9/5-17/5	21/7-25/10	6/7-6/10
Short-billed Dowitcher	15/4-13/5		9/8	11/7-18/8
Wilson's Phalarope		11/5-6/6		

DISCUSSION

The occurrence data indicate different patterns in the timing of the two migrations. The spring migration period was relatively short, lasting about 7 weeks from mid-April to the end of May. In contrast, the period of fall migration was longer, starting at the end of June and not finishing until the end of October, some 20 weeks. Fall migration showed marked differences between species in the timing of migration. For example, Least Sandpipers and Western Sandpipers came through mostly in July and August, whereas Pectoral Sandpipers were noted only during September and October (Figure 1, Table 2). These seasonal patterns of occurrence have been noted previously (Paulson 1993).

Fall migration occurred in two waves, adults first, followed by juveniles. For some species, such as Least Sandpipers and Western Sandpipers, these two waves occurred one after the other, with some overlap (Figure 1). This was not the case with Long-billed Dowitchers, where juveniles appeared eight weeks after the latest adults were observed (Figure 1). Also noticeable was that juvenile Short-billed Dowitchers migrated much earlier than juvenile Long-billed Dowitchers, perhaps reflecting an earlier departure date, and the shorter distance from their breeding grounds (Paulson 1993).

Notable migration of shorebirds was seen at the Fill on certain days both in spring and fall. For example, on 27 April 1997, during a period of extremely wet and windy weather, an estimated 88 Least Sandpipers and 17 Western Sandpipers were present on the ponds. Coincident with this large number of shorebirds was a flock of 210 Greater White-fronted Geese (*Anser albifrons*), which spent the night roosting on Lake Washington. Evidently, conditions were not conducive for migration at that time.

Two species of shorebird, Killdeer and Spotted Sandpiper, either bred or were suspected of breeding at, or very near, the Fill in 1996 and 1997. Displaying birds of both species were seen during the spring migration period, and adults were seen throughout the summer period (late May through June), when no other shorebirds were present. One Killdeer nest was found during 1996 and two during 1997, which produced 4 young in total. In the case of the Spotted Sandpiper, breeding could only be inferred because no nests or recently hatched birds were found. However, juvenile birds accompanied by adults were seen in early July, strongly suggesting that breeding had occurred nearby.

Comparison with previous surveys of this site (Aanerud 1989, Ratoosh 1995), suggests little change in shorebird use of the Fill between the periods before the loosestrife invaded the pools and after it had been removed. Both Aanerud (1989) and Ratoosh (1995) saw more species (23 and 22, respectively), which likely reflects their longer survey times - 9 and 5 years, compared with 2 years in this study. The extra species seen by these authors were all rare visitors to the site, such as American Avocet (*Recurvirostra americana*) and American Golden-Plover (*Pluvialis dominica*). Perhaps more

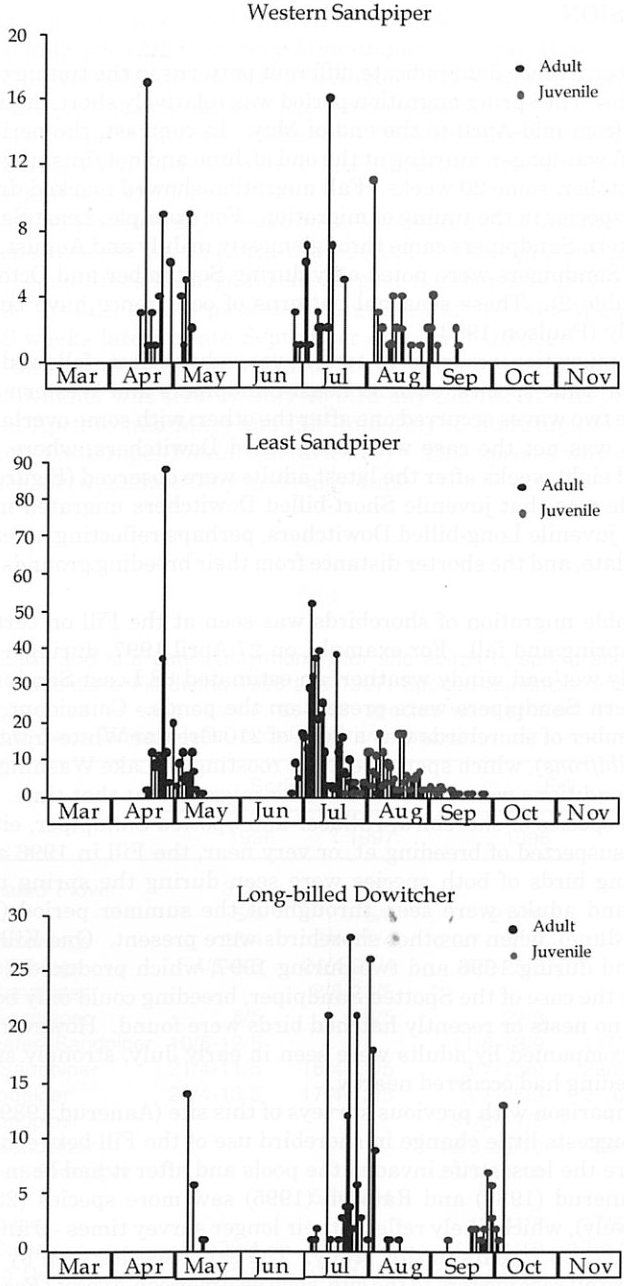


Figure 1. Migration timing of Western Sandpiper, Least Sandpiper, and Long-billed Dowitcher at Montlake Fill during 1996-1997.

significant when considering shorebird ecology, use of the site by common species, such as Least Sandpiper or Western Sandpiper, appeared to have changed little over the years. Thus we can conclude that removal of purple loosestrife from the Montlake Fill pools has rescued the habitat, making it attractive to shorebirds again.

Considering their small size and urban location, it is surprising how many shorebirds used the Montlake Fill ponds. Possibly part of the explanation lies in the fact that the Fill is adjacent to Lake Washington, a large body of water. Birds flying at great height would easily see the lake, and so perhaps use it as a landmark for their migrations. Also important is the fact there are very few freshwater wetland sites in the nearby area, and in King County as a whole (Hunn 1982). The nearest freshwater wetlands to the Fill of any significance are at the sewage ponds in Everett about 40 km to the north, and the Kent Ponds about 35 km to the south.

This survey has shown that the Montlake Fill ponds provided habitat for many migrating shorebirds during 1996 and 1997. Not only were numbers of birds of a wide range of species (18) seen but, on a number of occasions, birds apparently stayed at the Fill for a few days. These two observations suggest the Fill not only has the appropriate landscape to attract migrating shorebirds, but it also has the right habitat to supply food, both critical attributes for good stopover sites for such species. It is striking how such a small group of ponds can be attractive to such a number and diversity of species of shorebirds, supporting the contention that very small wetland sites have a role (albeit minor) to play in shorebird biology and conservation. Considering the rarity of such freshwater wetland sites in King County it is important that they are protected and conserved.

ACKNOWLEDGEMENTS

I would like to thank those people who contributed shorebird records from the Montlake Fill which were included in this article: Kevin Aanerud, Stuart MacKay, Paul Munno, John and Connie Sidles, and Bob Vandenbosch. I also very much appreciate Paul Munno allowing me to use his lovely photographs of shorebirds taken at the Montlake Fill during the survey period in this article. Finally, thanks to all those who, under the inspirational leadership of Stuart MacKay, cleared the purple loosestrife during the summer of 1995, without which we would not have seen and enjoyed shorebirds at the Montlake Fill. I am sure all 2,367 shorebirds counted at the Fill during 1996 and 1997 appreciated your hard work. The manuscript was reviewed by Dennis Paulson and Joe Buchanan.

LITERATURE CITED

Aanerud, K. 1989. Birds observed at Montlake Fill, University of Washington campus, Seattle, Washington, from 1972 to 1989. Washington Birds 1:6-21.

Hayman, P., J. Marchant, and T. Prater. 1986. Shorebirds: an identification guide. Christopher Helm, London, United Kingdom.

Hunn, E. S. 1982. Birding in Seattle and King County. Seattle Audubon Society, Seattle, Washington.

Krause, F. F. 1975. Birds of the University of Washington Campus. Thomas Burke Memorial State Museum, University of Washington, Seattle, Washington.

Paulson, D. 1993. Shorebirds of the Pacific Northwest. University of Washington Press, Seattle, Washington.

Ratoosh, E. 1995. Birds of the Montlake Fill, Seattle, Washington (1979-1983). Washington Birds 4:1-34.

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Washington Birds 8:29-40 (2002)

TRENDS IN NUMBERS OF MARINE BIRDS WINTERING ON BELLINGHAM BAY

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Bellingham Bay, like many other bays and estuaries in Washington, has undergone many changes in the last 150 years. These changes have resulted from shoreline alterations and other physical, chemical and biological factors due to urban run-off, silt deposition, and disposal of urban and industrial waste and by-products. Long-term observations and systematic censuses of marine birds are used here to show changes in local populations.

Edson (1908, 1919, and his unpublished notes) and Jewett et al. (1953) provided qualitative impressions of the status of bird populations associated with the area (see Wahl 1995). In 1978-79 censuses of marine birds were conducted monthly as part of a regional study characterizing seasonal populations in Washington's northern inland marine areas (Marine Ecosystems Analysis Program [MESA]; Wahl et al. 1981). More recently, Nysewander et al. (in press) included Bellingham Bay during aircraft censuses of inland marine waters between 1992 and 1999. From 1967 through 2001 winter birds on the northern part of Bellingham Bay were counted annually during the Christmas Bird Count (CBC). CBC data were used here to look at population trends of selected species in the Bellingham area, focusing primarily on Urbanized Bellingham Bay (UBB; see DuPre 2001), the heavily developed shoreline from Post Point north and west to the cement plant pier (Figure 1).

METHODS

CBC data were collected from pre-set areas ("territories"), covered by experienced observers during an annual, single-date count conducted between late December and very early January, irrespective of observation conditions. The CBC includes the northern part of Bellingham Bay, Portage Bay, Lummi Bay, and parts of Hale Passage and Georgia Strait (Figure 1). CBC census points and party assignments, and later MESA census points and coverage, allowed for the separate treatment of data from those areas. Censuses at UBB were conducted over a period of 2-3 hours, over the 32-year span, by the same observer (T.R. Wahl) except on two occasions. Data for most species were from the nearshore area, to about 0.5 nautical miles offshore, an area of <20 m water depth. For analysis, data from CBCs with inadequate coverage or exceptionally severe weather (i.e., winds >80 km/hour) in 1967, 1968, 1971, 1982 and 1986 were not used.

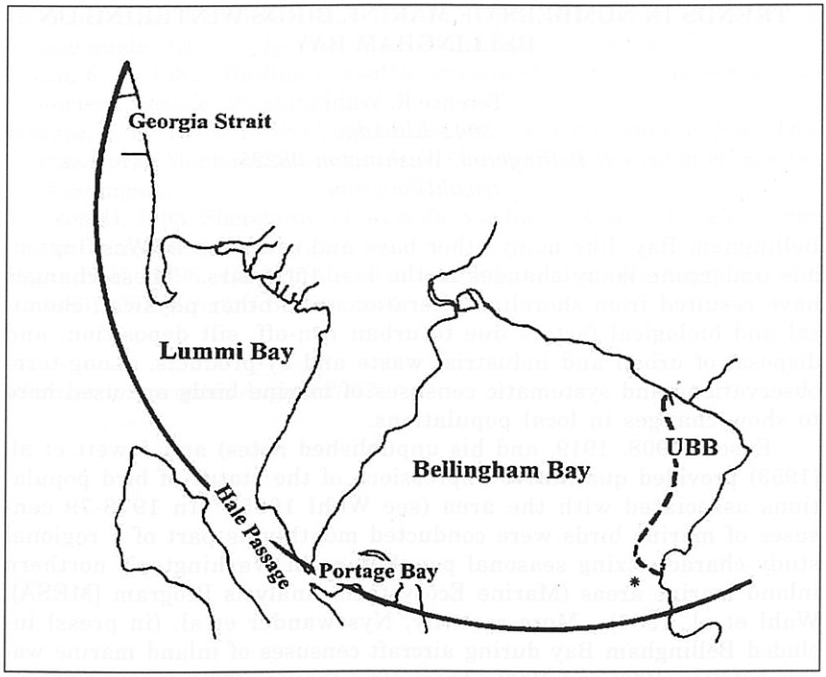


Figure 1. Marine waters within the Bellingham CBC circle.

Data from several CBC surveys collected from small boats or aircraft of areas farther offshore in early years were not used here. Over the years, multiple observers covered various CBC areas outside the UBB survey area.

The species addressed below occur regularly, forage exclusively on fish, shellfish and plankton within the marine ecosystem, are relatively unaffected by tidal stage and winter freeze-ups inland, remain on salt water all winter, and are relatively easily observed from shore. Herons, swans, geese, dabbling ducks, shorebirds and most gulls often feed inland, may be dislocated by hunting, and are not included here. Some families, particularly loons, scaup, scoters, and goldeneyes, had sometimes large numbers unidentifiable to species and their numbers were therefore combined for some analyses and discussion.

RESULTS AND DISCUSSION

Species Experiencing Increases

Population trends from regression analyses (Table 1) and decadal averages (Table 2) indicate increases in numbers of two species. The increase

in Double-crested Cormorants (scientific names of species mentioned in text are presented in Appendix 1) at both UBB (Figure 2) and areas outside included winter numbers of up to 1,200 birds that roosted on the unused cement plant pier at the northwest limit of UBB (see Wahl 1995). Some of these feed outside the CBC at Samish Bay, on fresh water at Lake Whatcom and other inland areas; the species is not as dependent on UBB resources as other cormorants. Double-crested Cormorant numbers have increased in Washington in recent decades (Siegel-Causey and Litvinenko 1993) as they have over North America (e.g. Vermeer and Rankin 1984).

Scoters present during winter in the CBC circle are almost all Surf Scoters. As is the case with the Western Grebe, flocks offshore outside of UBB are sometimes visible and counted from UBB census points during CBCs. This and the likely inclusion at times of distant scoters in large numbers of counts of unidentified "diving ducks" and "ducks" add uncertainty to the apparent increase in the abundance of this species (Table 1,

Table 1. Summary of trends in abundance of marine birds at Urbanized Bellingham Bay (UBB) and other marine areas within the Bellingham-Whatcom County Christmas Bird Count circle. Range and average values are from 23 counts between 1969 and 1999. Trends are indicated by the results of linear regression analysis (* = a significant change at $P < 0.05$, ** = a significant change at $P < 0.01$; other changes were not statistically significant).

	Urbanized Bellingham Bay			Area outside UBB		
Species	range	avg.	trend	range	avg.	trend
Red-throated Loon	1-107	22	-	1-182	40	
Pacific Loon	0-8	2	- *	1-2506	208	
Common Loon	0-19	6	-	9-95	42	+*
Loon species	3-198	45	- **	20-2556	375	
Horned Grebe	3-55	24	- *	28-146	71	
Red-necked Grebe	0-79	28	- **	8-82	27	
Western Grebe	20-21085	6989	-	15-8170	472	
Double-crested Cormorant	3-689	141	+ **	4-401	141	+ **
Brandt's Cormorant	0-85	29		0-70	7	-
Pelagic Cormorant	0-54	12		0-24	10	
Scaup species	0-598	164	- **	236-3826	1602	
Harlequin Duck	0-27	9		0-37	10	+
Long-tailed Duck	0-64	10	- **	9-340	62	+
Scoter species	32-1003	257	+	232-2770	1026	+ **
Goldeneye species	36-540	177	- *	49-532	218	+
Bufflehead	2-106	36	- **	197-1479	666	+
Red-breasted Merganser	3-289	46	- *	15-354	108	+
Bonaparte's Gull	0-106	17	- *	0-511	37	- *
Common Murre	0-758	105	- **	0-806	73	- *
Pigeon Guillemot	0-12	2	-	0-93	12	
Marbled Murrelet	0-65	20	- **	0-278	33	-

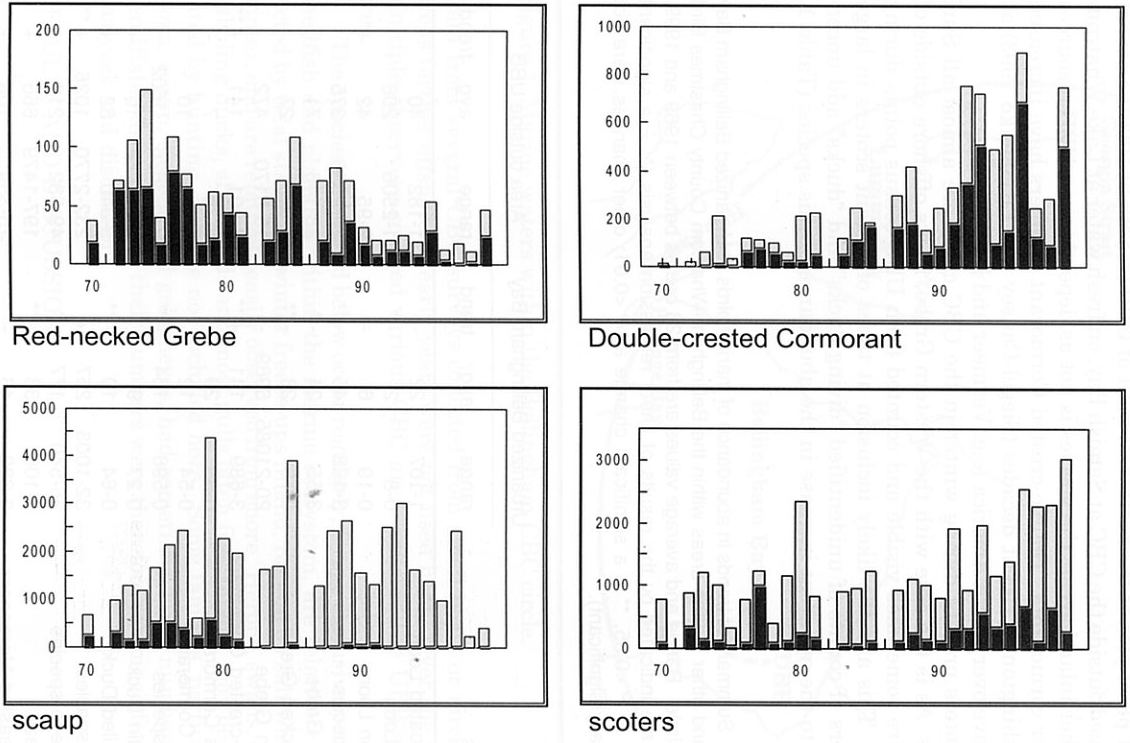


Figure 2. Trends in numbers of selected species on Bellingham Bay CBC, 1970-1999, from UBB (black) and outside UBB (white). Data from 1971, 1982 and 1986 were not used.

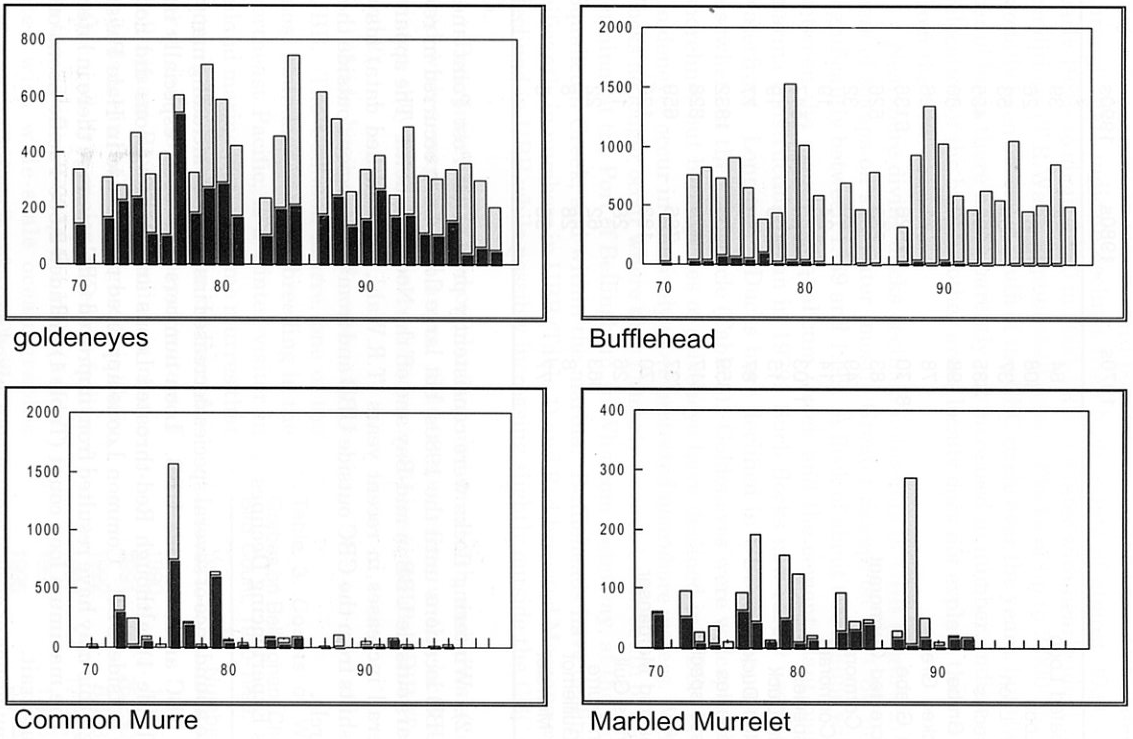


Figure 2 (continued).

Table 2. Average counts of marine birds on the Bellingham CBC by decade. Data used were from nine counts in the 1970s, 8 in the 1980s, and 10 in the 1990s.

Species	1970s	1980s	1990s
Red-throated Loon	64	84	39
Pacific Loon	308	61	26
Common Loon	37	56	53
Loon species	435	303	485
Horned Grebe	98	113	80
Red-necked Grebe	78	71	26
Western Grebe	8170	7526	6136
Double-crested Cormorant	83	233	526
Brandt's Cormorant	49	26	32
Pelagic Cormorant	14	34	19
Scaup species	1703	2228	1547
Harlequin Duck	15	28	19
Long-tailed Duck	87	56	77
Scoter species	859	1154	1832
Goldeneye species	417	479	328
Bufflehead	737	766	659
Red-breasted Merganser	170	183	126
Bonaparte's Gull	126	28	11
Common Murre	363	62	22
Pigeon Guillemot	8	28	8
Marbled Murrelet	77	88	6

Figure 2). Wintering flocks were consistently present off Post Point and other UBB locations until the 1980s, but large flocks have occurred in recent years outside UBB in mid-Bay and off the Nooksack delta. The apparent overall increases in recent years (T.R.Wahl, unpublished data) may reflect shifts from the CBC outside UBB and from other regions outside the CBC circle.

Species Experiencing Declines

The abundance of several species decreased inside UBB, including many also in CBC areas outside UBB. Loon numbers decreased, especially in UBB (Table 1), although Red-throated Loons and Pacific Loons did not change outside UBB. Common Loons appeared to increase in Hale Pass, although this may have resulted from improved CBC coverage there in later years. The maximum loon count (Table 1) included 2,500 Pacific Loons on Georgia Strait.

Populations of grebes have shown mixed patterns of change in the area. Horned Grebes and Red-necked Grebes concentrate in nearshore waters and both have declined significantly inside, but not outside UBB (Figure 2). The decline of mid-bay flocks of Western Grebes is not obvious in some data (Tables 1, 2) but CBC totals (Table 3) show a decline since 1995. CBCs

have included large, mobile flocks often visible 5-6 miles away, well outside UBB nearshore habitat. At one time, the Bellingham Bay population was the largest reported on a CBC in North America and the species was a major component in marine bird populations on the bay. Data from 1955 through 2001 indicate declines from high counts of almost 30,000 in the early 1980s to about 3,500 in 2000-2001, a winter with nearly ideal viewing conditions (T.R.Wahl, unpublished data). Flocks of up to 2,000 have occasionally been observed south of the CBC circle over the years, but the number of birds there has apparently not increased in number, indicating that relocation of the birds to other areas locally does not explain their declines from the CBC area.

Nearshore diving ducks declined noticeably in UBB (Figure 2). Numbers of scaups on salt water (mostly Greater Scaup) on the CBC declined significantly between 1969 and 1999. A flock of about 600 scaups wintered between the mouth of Squalicum Creek and the cement plant pier until marina construction began in 1979. Such flocks now rarely use the UBB waterfront. Long-tailed Ducks have declined in UBB but apparently not elsewhere in the CBC circle (Table 1). Goldeneyes were widespread along shorelines but both species of goldeneye have declined in UBB. Barrow's Goldeneyes occur in relatively more protected nearshore waters. Wintering flocks no longer occur where they formerly were common south of the main terminal at the Port of Bellingham, in Whatcom waterway, at the mouth of Squalicum Creek, and within the marina. Buffleheads have declined significantly in numbers in UBB (Table 1) and Red-breasted Mergansers have declined in UBB while possibly increasing slightly outside the CBC (Table 1).

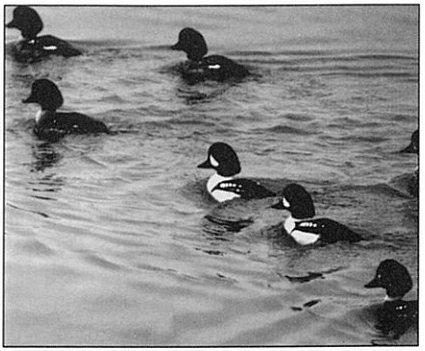
Bonaparte's Gulls feed on plankton and small fish, and are also associated with sewage outfall areas. Seldom numerous in the local area in winter, they have apparently declined inside and outside UBB (Tables 1 and 2).

Alcids have declined, especially in UBB. The Common Murre, one of the most abundant seabirds breeding in the northeast Pacific, is a winter visitor in inland marine waters. Some murres that roost in the Strait of Juan de Fuca disperse daily to feed in deeper waters of Bellingham Bay. The decline in murre abundance in the CBC (Figure 2) is likely influenced by a major breeding failure on the Pacific Coast in the 1990s associated with wide-scale oceanographic events (e.g. El Niño Southern Oscillation [ENSO]; see Wahl and Tweit 2000a). Pigeon Guillemots nest locally, and numbers in inland marine waters are supplemented in winter by birds from as far

Table 3. Counts of Western Grebes on Bellingham Christmas Bird Count, 1990-1999.

Year	Number
1990	1,655
1991	26,230
1992	6,403
1993	17,872
1994	1,463
1995	5,973
1996	596
1997	63
1998	790
1999	315

away as California (Wahl and Tweit 2000b). Birds nested historically under the pier replaced by the Fairhaven Cruise Terminal and the "Taylor Street" dock in the 1980s, and a few birds relocated to nest under the cement plant pier. Winter numbers in UBB have declined (Table 1), but numbers observed in recent years in Hale Pass suggest a shift to that area. The Marbled Murrelet has suffered a well-documented long-term decline over much of their North Pacific range (USFWS 1997). They have declined almost to absence within the UBB (Tables 1 and 2) and noticeably outside the UBB (Figure 2).



Barrow's Goldeneyes, Bellingham Bay (photo by Terry Wahl)

Species Experiencing Little or No Change

Numbers of Brandt's Cormorants, Pelagic Cormorants and Harlequin Ducks have either changed little in UBB or use the area very little. Brandt's Cormorants forage in deeper parts of the bay and roost outside the CBC area (e.g. on Chuckanut and Viti rocks). Their occurrence is therefore somewhat peripheral to UBB, although their abundance has declined nonetheless. The Brandt's Cormorant nests on the outer coast and birds wintering here may be from as far away as California (e. g. Jewett et al. 1953, Hatler et al. 1978). Numbers here may well reflect decreased reproductive success in the 1990s (e.g. Wahl and Tweit 2000a). Pelagic Cormorants breed locally and are associated with rocky shorelines, rather than the primarily estuarine habitat of the Bay. Relatively small numbers are recorded on CBCs (Table 2). Harlequin Ducks occur in UBB, but typically only from about 100 meters south of Post Point to the edge of the CBC about 0.5 mile away. The small populations there and elsewhere in the CBC appear to have not changed in recent years (Table 1). These findings correspond with reports from other observers both inside and outside the CBC circle and from over 40 years of observations by telescope of northern Bellingham Bay, covering much of UBB and most offshore areas within the Bellingham Bay part of the CBC (Wahl 1995, unpublished data).

Comparisons to Results of Other Censuses

Data from MESA benchmark surveys in 1978-79 (Wahl et al. 1981) were used by Nysewander et al. (in press) to determine trends in populations. They compared data where possible from replicate aerial surveys, though there were differences in aircraft used and census frequency. In addition, during the MESA study bays and estuarine areas like Bellingham

Bay were more thoroughly surveyed from shore. The MESA shore surveys used the same census points as the CBC counts but were done monthly (5 times in winter 1978-79) and, similarly, took 2-3 hours to systematically survey the UBB area. They also were done under relatively good observation conditions and, unlike CBC counts, rescheduled if necessary.

In spite of differences in effort and census methods, some trends shown by Nysewander et al. (in press) agree with those here, particularly in UBB. Nysewander et al. suggested greater declines in Western Grebe numbers in northern inland marine waters than to the south. Though long-term Bellingham CBC data (Tables 1 and 2) do not show large changes, the late-1990s decline in UBB (Table 3) is consistent with significant and widespread declines in Greater Puget Sound shown by Nysewander et al. (in press). Bellingham CBC counts of Pigeon Guillemots within UBB appear to support the trend shown by Nysewander et al. (in press).

The results of my analyses of scoter numbers were not in agreement with the sizable declines noted by Nysewander et al. (in press), likely reflecting relocation of flocks from recently impoverished feeding areas outside the count circle (e.g. Cherry Point) to the northern UBB/Nooksack delta area and also possibly due to differences in census methods. And, although CBC numbers outside UBB agree with trends reported by Nysewander et al. (in press), the UBB declines in goldeneyes and Buffleheads are counter to their increases. This is apparently true also for Red-breasted Mergansers, although Nysewander et al. (in press) combined merganser species in their analyses.

Bellingham CBC coverage has been very consistent, though necessarily done under varying conditions. In effect, except for observations of Western Grebe and occasional scoter flocks visible from great distances, the area of Bellingham Bay offshore from UBB (Figure 1) was not covered by shore censuses used here. Though some species occur in small numbers (see Table 1), the prevalence of long-term declines is evident. These results correspond closely with other waterfront observations and frequent observations by telescope from a residence on northwest UBB from 1955-2001 (T.R. Wahl, unpublished data) and with reports from observers along the shoreline and on boats in recent years. It is almost certain that the declines indicated by the data from UBB in particular are real population decreases rather than shifts by these species to other areas. Some switching to other areas may occur in the short-term, but this strategy will not likely prevail in the long-term as other suitable habitats are normally already at carrying capacity.

Other Species

Several other noticeable waterfront species are associated, to some degree, with freshwater and inland habitats. Populations of the Canada Goose have increased from near-absence in the 1970s to pest status. Hooded Mergansers and Common Mergansers move from fresh water to salt water

during winter freezes. The former apparently did not change in numbers, but the latter, which often occurs in big numbers at the Nooksack delta and along the lower river, sometimes in flocks along the northwestern UBB, apparently declined in abundance in the 1990s throughout the CBC area. American Coots essentially have disappeared since marina construction. Dunlins forage in intertidal areas at the Nooksack delta, Portage Bay and Lummi Bay. Historically, flocks of several thousand have roosted on log booms in UBB, and with elimination of most of these, many now roost at the breakwaters near the marina area where they are subject to disturbance.

General Discussion

A combination of factors likely influenced the changes in abundance noted above. These include long-term, cumulative factors affecting habitat and food supplies such as pollution from urban and farm sources; historical discharge from pulp mill operations, shipyards, lumber mills, garbage dumps and many other sources around a long-time industrial waterfront; sewage disposal; removal of log raft roosts used by shorebirds, gulls and terns; on-going and increasing silt deposition ([Tim] Wahl 2001; Higgins 2002) from creeks and the Nooksack River, partly the result of logging runoff; dredging and disposal of spoils (which briefly provides food items for gulls); and gillnet fishing (which years ago had the season extended and now overlaps with the fall influx of wintering Western Grebes).

Some localized changes resulted from construction of the Squalicum Marina in the late 1970s. These included elimination of intertidal areas by landfills, relocation of the mouth of Squalicum Creek, and disposal of dredge spoils on subtidal and intertidal areas to the northwest. In recent decades further changes have included the huge increase, encouraged by new waterfront parks and public access, of kayaking, personal watercraft operation, wind-surfing, some boating activities and dog-running disturbance. Although the potential influences of these activities on bird populations have not been quantified, they may increase energy expenditure and consequent food intake requirements (e.g. due to increased flushing rates, reduced length of resting periods, etc.).

Differences in trends of some species between UBB and the CBC area indicate that UBB declines may be local, likely reflecting decreased productivity of marine waters and declines in food supplies. This requires further study. Other large-scale factors likely affecting overall numbers in UBB and the CBC area include regional or range-wide trends in populations affected by conditions in the Pacific Ocean, the Arctic, and in inland North America where a number of these species nest. Finally, there are both long-term climate change and short-term events like ENSO oceanographic cycles (see Wahl and Tweit 2000a, Nysewander et al. in press) that can affect even a local area like Bellingham Bay.

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A number of observers, especially David Seymour, Fredrick Sears, Clark Blake, Dick McNeely, Bert Webber, Sue Webber, and Jim Duemmel, reported observations inside and adjacent to the study area over the years and are due thanks. Dave Nysewander and Joe Buchanan made helpful review criticisms.

LITERATURE CITED

Edson, J.M. 1908. Birds of the Bellingham Bay region. Auk 25:425-39.

Edson, J.M. 1919. Birds of the Bellingham Bay region. Washington State Normal School Exch. 2:1-8.

DuPre, R. 2001. A critical assessment of the Bellingham Bay cleanup project. Pages 1, 16-17 *in* Whatcom Watch (February).

Hatler, D.F., R.W. Campbell and A. Dorst. 1978. Birds of Pacific Rim National Park. British Columbia Provincial Museum Occasional Paper No. 20, Victoria, British Columbia, Canada.

Higgins, S. 2002. Bathymetric change analysis of Bellingham Bay. Unpublished manuscript. Western Washington University, Bellingham, Washington.

Jewett, S.A., W.P Taylor, W.T. Shaw and J.W. Aldrich. 1953. Birds of Washington state. University of Washington Press, Seattle, Washington.

Nysewander, D.R., J.R. Evenson, B.L. Murphie, and T.A. Cyra. In press. Report of marine bird and marine mammal component, Puget Sound Ambient Monitoring Program, from July 1992 to December 1999 period. Washington Department of Fish and Wildlife, Olympia, Washington.

Siegel-Causey, D. and N.M. Litvinenko. 1993. Status, ecology, and conservation of shags and cormorants of the temperate North Pacific. Pages 122-130 *in* Vermeer, K., K.T. Briggs, K.H. Morgan, and D. Siegel-Causey (editors). The status, ecology and conservation of marine birds of the North Pacific. Canadian Wildlife Service Special Publications, Ottawa, Ontario, Canada.

U. S. Fish and Wildlife Service. 1997. Final recovery plan for the Marbled Murrelet. Portland, Oregon.

Vermeer, K. and L. Rankin. 1984. Population trends in nesting Double-crested and Pelagic cormorants in Canada. Murrelet 65:1-9.

Wahl, T.R. 1995. Birds of Whatcom County. T.R. Wahl, Bellingham, Washington.

Wahl, T.R., S.M. Speich, D.A. Manuwal, K.V. Hirsch, and C. Miller. 1981. Marine bird populations of the Strait of Juan de Fuca, Strait of Georgia and adjacent waters in 1978 and 1979. U.S. Environmental Protection Agency, DOC/EPA interagency Energy/Environment R&D Program Report EPA/600/f-81/156.

Wahl, T.R. and B. Tweit. 2000a. Seabird abundances off Washington, 1972-1998. Western Birds 31:69-88.

Wahl, T.R. and B .Tweit. 2000b. Where do Pigeon Guillemots from California go for the winter? Western Birds 31:202-206.

Wahl, T. [Tim]. 2001. Channel changes of the Lummi River. Unpublished report for the Lummi Natural Resources Department. Bellingham, Washington.

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Appendix 1. Common and scientific names of species mentioned in text.

Common Name	Scientific Name
Red-throated Loon	Gavia stellata
Pacific Loon	Gavia pacifica
Common Loon	Gavia immer
Horned Grebe	Podiceps auritus
Red-necked Grebe	Podiceps grisegena
Western Grebe	Aechmophorus occidentalis
Brandt's Cormorant	Phalacrocorax penicillatus
Double-crested Cormorant	Phalacrocorax auritus
Pelagic Cormorant	Phalacrocorax pelagicus
Canada Goose	Branta canadensis
Greater Scaup	Aythya marila
Harlequin Duck	Histrionicus histrionicus
Long-tailed Duck	Clangula hyemalis
Bufflehead	Bucephala albeola
Barrow's Goldeneye	Bucephala islandica
Hooded Merganser	Lophodytes cucullatus
Common Merganser	Mergus merganser
Red-breasted Merganser	Mergus serrator
American Coot	Fulica americana
Dunlin	Calidris alpina
Bonaparte's Gull	Larus philadelphia
Common Murre	Uria aalge
Pigeon Guillemot	Cepphus columba
Marbled Murrelet	Brachyramphus marmoratus

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MORPHOLOGY, AGE AND SEX RATIOS, AND MOLT CHARACTERISTICS OF SOME SPRING MIGRANT DUNLINS AND WESTERN SANDPIPERS IN COASTAL WASHINGTON

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The Dunlin (*Calidris alpina pacifica*) and Western Sandpiper (*C. mauri*) are the most abundant shorebird species in western Washington during winter and spring (Buchanan and Evenson 1997, Evenson and Buchanan 1997). A considerable amount of research has been conducted on these species at Pacific Flyway wintering and migratory stopover sites, including research on their population structure (Page et al. 1972, Page 1974, Buchanan et al. 1986, Butler et al. 1987, Ruiz et al. 1989, Shepherd et al. 2001), molt (Page 1974, Senner et al. 1981), body mass or lipid deposition (Kaiser and Gillingham 1981, McEwan and Whitehead 1984, Buchanan et al. 1985, Butler et al. 1987, Buchanan et al. 1996), and various morphological characteristics such as bill and wing length (Page and Fearis 1971, Senner et al. 1981, Brennan et al. 1984).

Both Dunlins and Western Sandpipers are sexually dimorphic with females being larger (e.g. body mass, bill length, wing length) than males (Page and Fearis 1971, Page 1974, Brennan et al. 1984). Although many of the differences in morphology have been reported, the published measures of tarsus length for both species are based on relatively small sample sizes (Prater et al. 1977, Warnock and Gill 1996).

Information on population structure, morphological attributes and molt of the Dunlin and Western Sandpiper is valuable because these measures vary seasonally as a function of the timing of migration. In this paper, I provide information on the population structure, morphological features such as bill, wing and tarsus length, and generally describe the extent of molt of Dunlins and Western Sandpipers from a sample of birds obtained on a single date during spring migration on the Washington coast.

METHODS

On 20 April 1997, a speeding motorist drove through a flock of shorebirds roosting on the beach near Ocean Park, on Long Beach Peninsula, instantly killing at least 468 shorebirds in what may have been the largest mortality event of its kind ever reported in the United States. Enforcement officials responding to the incident collected parts of, or intact carcasses of, 340 Western Sandpipers and 113 Dunlins. The birds were stored in a

freezer and used as evidence in a trial that resulted in the conviction of the motorist.

The carcasses were thawed, each bird was individually marked and body measurements and descriptions of new alternate plumage were recorded. I measured exposed culmen and tarsus length (see Baldwin et al. 1931) using dial calipers capable of measuring to the nearest 0.1 mm. Wing chord was measured as the length of the unflattened wing (to the nearest 1 mm). I described the amount of prealternate plumage on the backs of both species and the bellies of Dunlins as none, light (<10%), moderate (10-50%), and heavy (>50%). I also noted the presence of alternate tertial feathers on Western Sandpipers. I was able to determine age (using Prater et al. 1977) for only a small proportion of the Dunlins and none of the Western Sandpipers. I was unable to determine sex upon dissection for most birds because many were in very poor condition due to the physical trauma resulting from the vehicle collision (Appendix 1).

Statistical Analysis

Both Dunlins and Western Sandpipers are monochromatic (i.e., there are no plumage differences among females and males), so efforts to identify sex require an assessment of the slight degree of sexual size dimorphism exhibited by both species. Using a discriminant function model originally developed to identify the sex of wintering Dunlins in western Washington (Brennan et al. 1984), I examined a small sample of Dunlins for which I was able to identify sex upon dissection and record measures for exposed culmen, wing chord and body mass. The model correctly identified 12 of 13 (92.3%) female Dunlins, but only 6 of 11 (54.5%) males, perhaps because the model incorporated body mass, a morphological value of uncertain reliability in this sample (e.g. it appeared that even some of the intact carcasses had lost mass due to the degree of physical trauma and the amount of time elapsed before the birds were frozen). Because the classification rate for males was low, I examined the overall distribution of bill lengths, the most significant morphological attribute in the sex identification model (Brennan et al. 1984), and found in a sample of 35 Dunlins of known sex that 88% of the birds with bills ≥38.5 mm were females, and 87% with bills ≤ 37.9 mm were males. I used these values to identify the sex of birds for which sex could not otherwise be determined. Birds with bill lengths between these values were not classified.

Similar sex determination models are lacking for the Western Sandpiper (Wilson 1994), and for this reason I followed Page and Fearis (1971) and considered birds with a bill length ≥24.8 mm to be females and birds with a bill length ≤24.2 mm to be males. As with the procedure described for Dunlins, a small number (<10%) of Western Sandpipers were misclassified, including a smaller number of birds (<5%) with intermediate bill lengths that were considered unclassified and were not used in analyses. Based on the samples

above, I used two-sample *t*-tests to evaluate sexual differences in tarsometatarsus length and chi-square (χ^2) tests (Zar 1984) to determine (a) whether the proportions of females and males differed from a 1:1 sex ratio in both species, and (b) whether the proportions of second-year and older Dunlins differed from unity.

I conducted three analyses to characterize the advancement of prealternate molt. I first compared the proportions of female and male Dunlins exhibiting three plumage conditions (no alternate plumage, >10% alternate plumage, and >50% alternate plumage) using the maximum-likelihood ratio chi-square test (G-test; Zar 1984). Next, to compare the extent of alternate plumage on the belly of female and male Dunlins I used a G-test to determine whether the proportions of birds exhibiting none/light or moderate/extensive alternate plumage on the belly differed according to sex. Finally, I used the G-test to determine whether there were differences, among female and male Western Sandpipers undergoing molt of the tertial feathers, in the proportion of birds exhibiting low, moderate, or high degrees of alternate plumage. Western Sandpipers exhibiting light or no alternate plumage and Dunlins exhibiting moderate or extensive amounts of alternate plumage were combined to single categories due to small sample sizes.

RESULTS AND DISCUSSION

Sex Ratios

I was able to classify the sex of 103 of the Dunlins. There were more males (57%) than females (43%) in the sample, for a sex ratio of 1.3:1. The proportions of females and males, however, did not differ from a balanced (i.e., 1:1) sex ratio ($\chi^2 = 1.09$, degrees of freedom [*df*] = 1, $P = 0.296$).

Based on data from central coastal California, and assuming a 1:1 sex ratio in the overall population, Page (1974) hypothesized that female and male Dunlins were spatially or ecologically segregated over the winter range. Subsequent data from wintering populations in western Washington (Buchanan et al. 1986) and southwestern British Columbia (Shepherd et al. 2001) supported this hypothesis (i.e., there tend to be more males than females in these areas). Similarly, sex ratios during spring migration were skewed in favor of males at Bolinas Lagoon, California (Page 1974). On the south-central coast of Alaska, however, Senner et al. (1981) reported an equal abundance of males and females in spring. These findings suggest that the composition of the population changes spatially and/or temporally due to slight differences in the timing of migration among the sexes, until the birds arrive at coastal Alaskan stopover sites. Shepherd et al. (2001) hypothesized the presence of two partially overlapping winter populations of Dunlins along the west coast of North America, each with a cline in the distribution of sex ratios such that males outnumbered females in the northern part of each range (i.e., males were more abundant in western Washington and southwestern British Columbia in the northern popula-

tion and in central coastal California in the southern population). Differences in the migration timing of females and males from these two hypothesized wintering populations would have the potential to greatly influence observed sex ratios along the Pacific Flyway. Additional information is needed to document and better understand the timing of migration among the sexes.

I was able to classify the sex of 302 Western Sandpipers. There were many more males (76%) than females (24%), resulting in a sex ratio of 3.1:1 in favor of males. These proportions differed significantly from a 1:1 ratio ($\chi^2 = 44.37$, $df = 1$, $P < 0.0001$). Such unbalanced sex ratios were previously noted in coastal British Columbia (Butler et al. 1987) and central coastal California (Page et al. 1972) although sex ratios shifted over the course of the spring migration and eventually favored females in both localities. Senner et al. (1981) also noted an unbalanced sex ratio on the south-central coast of Alaska. Although Holmes (1966b) reported that males arrived on the breeding grounds prior to females, it is possible that this earlier arrival represented only the earlier departure from coastal Alaskan staging areas by males and not an earlier migration per se. Females winter further south than males (Page et al. 1972) and it appears that males are more abundant along the west coast of North America during migration until late April or early May when additional females join the earlier migrants somewhere along the Pacific Flyway.

Age Ratios

I was able to determine the age of 54 adult (24 female, 30 male) and 9 second-year (3 female, 6 male) Dunlins. The resulting age ratio was skewed significantly in favor of adults ($\chi^2 = 30.73$, $df = 1$, $P < 0.001$). The wintering population in western Washington contains far more adult than younger-aged birds (73% of females and 71% of males; Buchanan et al. 1986). The greater scarcity of younger-aged birds in spring (the present study) than in winter (Buchanan et al. 1986) may reflect a greater cumulative overwinter mortality of younger birds as was demonstrated by Kus et al. (1984) in California, spatial or temporal differences among age classes in migration behavior, or the spurious effects of a small sample size.

Morphology

Female Dunlins had longer bills and wing chords than males (Table 1). These differences, based on larger sample sizes, were previously documented in Washington (Brennan et al. 1984) and California (Page 1974). I also found that there were no differences among the sexes in the length of the tarsometatarsus (Table 1). Females were slightly heavier than males (54.1 g ± 0.89, range = 49.8 - 58.9 g, $n = 13$, versus 52.1 g ± 1.0, range = 46.4 - 55.9 g; $n = 10$). These

masses were comparable to values reported from central coastal California (Page 1972), western Washington (Buchanan et al. 1996) and southwestern British Columbia (McEwan and Whitehead 1984) in April and at some western Washington sites during winter (Buchanan et al. 1985). The early spring masses were much lower than would be expected later in the migration period (Pienkowski et al. 1979, Warnock and Gill 1996).

Female Western Sandpipers had longer bills and wing chords than males (Table 1). The differences I noted in bill and wing length were previously reported (Page and Fearis 1971, Cartar 1984, Butler et al. 1987). I also found that there was a significant difference between the sexes in the length of the tarsometatarsus (Table 1). Use of a larger sample of bill, wing, and tarsometatarsus measurements from birds of known sex may eventually enable the development of a better model for identifying the sex of Western Sandpipers.

Prealternate Molt

The extent of alternate plumage on both the back and belly differed substantially among female and male Dunlins. Fewer females exhibited moderate/extensive alternate plumage on the back, and more females exhibited no alternate plumage, compared to males; the overall differences among sexes in the extent of alternate plumage were significant ($G = 7.29$, $df = 2$, $P < 0.026$; Table 2). Similarly, more females exhibited no alternate

Table 1. Morphological attributes (in mm) of female and male Dunlins and Western Sandpipers (of known sex, unless indicated otherwise) from coastal Washington on 20 April 1997.

	Female				Male			
	Mean	SE	range	n	Mean	SE	range	n
Dunlin								
culmen	40.3	0.41	36.8-43.4	18	36.9	0.27	35.1-38.7	17
wing chord	121.2	0.46	118-125	18	118.9	0.73	113-123	17
tarsometatarsus	27.7	0.19	26.1-29.0	18	27.1	0.24	25.7-29.2	17
Western Sandpiper								
culmen	26.8	0.77	23.6-28.7	6	22.5	0.25	20.6-23.2	14
wing chord	98.3	1.09	94-101	6	94.4	0.57	92-100	15
tarsometatarsus	24.3	0.42	22.8-25.3	6	22.5	0.22	21.1-23.6	15
tarsometatarsus[a,b]	24.1	0.08	22.4-25.4	62	22.5	0.05	20.8-24.2	199

[a] Sex identification based on bill length only.

[b] Differences between females and males were significant ($t = 6.96$, $P < 0.001$).

plumage or had replaced only a small amount of belly feathers and fewer of them exhibited moderate or extensive alternate plumage, compared to males ($G = 13.33$, $df = 1$, $P < 0.00026$).

There is little information available on the molt of Dunlins in this region. Page (1974) found few birds with growing or new alternate tertial feathers and none with growing or new alternate rectrices during March and April in central coastal California. Holmes (1966a) found that most Dunlins in coastal California in mid- to late-April had completed the prealternate molt. Examination of Holmes' data (his Figure 3) indicates that 18% of the Dunlins after 15 April had completed only about one-half of the prealternate molt. Holmes (1966a) reported no differences among age classes in the timing or sequence of prealternate molt of Dunlins in coastal California.

There is little documentation of sex-related differences in the timing of prealternate molt in Dunlins. In fact, sex-based differences in the timing of prealternate molt have been reported for very few species (Jenni and Winkler 1994; C. Thompson, personal communication). I found only two references to a possible difference among the sexes in the timing or extent of prealternate molt in Dunlins. Dwight (1900:382) stated that the "... incompleteness of the prenuptial [= first prealternate] moult, especially in females, is shown by a scattering of winter feathers found on summer birds." This statement does not necessarily explain the molt pattern I observed because it refers to a final pre-alternate condition whereas the birds in my sample may not

Table 2. Molt condition of female and male Dunlins and Western Sandpipers from coastal Washington on 20 April 1997.

	Amount of Molt[a]			
	None	Light	Moderate	Heavy
Western Sandpiper				
Female	2 (3.9%)	8 (15.7%)	23 (45.1%)	18 (35.3%)
Male	1 (0.8%)	20 (15.6%)	62 (48.4%)	45 (35.2%)
Dunlin				
Female (back)	14 (37.8%)	19 (51.4%)	1 (2.7%)	3 (8.1%)
Male (back)	7 (17.1%)	21 (51.2%)	9 (22.0%)	4 (9.8%)
Female (belly)	9 (29.0%)	16 (51.6%)	2 (6.5%)	4 (12.9%)
Male (belly)	4 (11.4%)	9 (25.7%)	15 (42.9%)	7 (20.0%)

[a] See text for description of plumage categories.

have completed molt. The distinction is that the female Dunlins referenced by Dwight (1900) exhibited a slightly less *extensive* prealternate molt whereas the female spring migrants in Washington exhibited a less advanced molt that may have reflected either a less *extensive* molt or a more *delayed* molt, compared to that of males. Stiefel and Scheufler (1989) reported that male Dunlins begin the prealternate molt before females, but did not indicate whether this difference in timing also resulted in differences in the extent of prealternate molt.

It is not clear why female Dunlins in Washington would exhibit less advanced molt than males at the same location and time during migration. A possible explanation is that males, who typically arrive on the breeding grounds prior to females (Holmes 1966b), may be more successful in obtaining a territory or mate if they are in full alternate plumage at the beginning of courtship; this explanation would be logical if the female's plumage condition during courtship was less important than that of the male. It is not clear why this explanation would suffice for the Dunlin but not for the Western Sandpiper, a species in which males similarly arrive on the breeding grounds prior to females (Wilson 1994) but which showed no sexual difference in advancement of prealternate molt (see below). Another possible explanation is that the onset or rate of molt in female Dunlins was delayed for some reason, perhaps due to differing behavior patterns and/or site quality on the wintering grounds (Ruiz et al. 1989) or early in the migration period. It is uncertain however, whether sex-based responses to ecological conditions would be uniformly significant enough over a broad geographic area to influence the process of molt to the extent noted in the present study. Additionally, the sample sizes upon which these observations of molt differences were based were rather small. Research is needed to test these or other hypotheses that might explain the observed differences in molt.

The extent of alternate plumage was nearly identical among female and male Western Sandpipers (Table 2). Because there were no differences among the sexes ($G = 0.30$, $df = 2$, $P = 0.86$), I combined the data and found that most Western Sandpipers exhibited a moderate (47.5%) or heavy (35.2%) degree of molt. Only 17.3% of the Western Sandpipers showed no alternate plumage or light alternate plumage. Of the 55 sandpipers with new alternate tertial feathers, most exhibited extensive (62.6%) or moderate (32.7%) alternate body plumage. Data interpretation is difficult due to the dearth of information on the prealternate molt of Western Sandpipers during spring migration. Page (1974) found that over 85% of the migrant Western Sandpipers in central coastal California had grown or were growing new tertial feathers in April. It appears from my data that the extent of molt in either sex was about the same at this time during spring migration.

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LITERATURE CITED

Baldwin, S.P., H.C. Oberholser, and L.G. Worley. 1931. Measurements of birds. Cleveland Museum of Natural History, Ohio.

Brennan, L.A., J.B. Buchanan, C.T. Schick, S.G. Herman, and T.M. Johnson. 1984. Sex determination of Dunlins in winter plumage. Journal of Field Ornithology 55:343-348.

Brennan, L.A., J.B. Buchanan, C.T. Schick, and S.G. Herman. 1991. Estimating sex ratios with discriminant function analysis: the influence of probability cutpoints and sample size. Journal of Field Ornithology 62:357-366.

Buchanan, J.B. 1992. Winter abundance of shorebirds at coastal beaches of Washington. Washington Birds 2:12-19.

Buchanan, J.B., L.A. Brennan, C.T. Schick, M.A. Finger, T.M. Johnson, and S.G. Herman. 1985. Dunlin weight changes in relation to food habits and available prey. Journal of Field Ornithology 56:265-272.

Buchanan, J.B., L.A. Brennan, C.T. Schick, and S.G. Herman. 1996. Body mass and lipid levels of shorebirds collected in western Washington. Northwestern Naturalist 77:51-54.

Buchanan, J.B., L.A. Brennan, C.T. Schick, S.G. Herman, and T.M. Johnson. 1986. Age and sex composition of wintering Dunlin populations in western Washington. Wader Study Group Bulletin 46:37-41.

Buchanan, J.B. and J.R. Evenson. 1997. Abundance and migration of shorebirds at Willapa Bay, Washington. Western Birds 28:158-168.

Butler, R.W., G.W. Kaiser, and G.E.J. Smith. 1987. Migration chronology, length of stay, sex ratio, and weight of Western Sandpipers (*Calidris mauri*) on the south coast of British Columbia. Journal of Field Ornithology 58:103-111.

Cartar, R.V. 1984. A morphometric comparison of Western and Semipalmated sandpipers. Wilson Bulletin 96:277-286.

Dwight, J., Jr. 1900. The moult of the North American shore birds (Limicolae). Auk 17:368-385.

Evenson, J.R. and J.B. Buchanan. 1997. Seasonal abundance of shorebirds at Puget Sound estuaries. Washington Birds 6:34-62.

Holmes, R.T. 1966a. Molt cycle of the Red-backed Sandpiper (*Calidris alpina*) in western North America. Auk 83:517-533.

Holmes, R.T. 1966b. Breeding ecology and annual cycle adaptations of the

Red-backed Sandpiper (*Calidris alpina*) in northern Alaska. Condor 68:3-46.

Jenni, L. and R. Winkler. 1994. Moult and ageing in European passerines. Academic Press, New York, New York.

Kaiser, G.W. and M. Gillingham. 1981. Some notes on seasonal fluctuations in the weight of Dunlin *Calidris alpina* on the Fraser River delta, British Columbia. Wader Study Group Bulletin 31:46-48.

Kus, B.E., P. Ashman, G.W. Page, and L.E. Stenzel. 1984. Age-related mortality in a wintering population of Dunlin. Auk 101:69-73.

McEwan, E.H. and P.M. Whitehead. 1984. Seasonal changes in body weight and composition of Dunlin (*Calidris alpina*). Canadian Journal of Zoology 62:154-156.

Page, G. 1974. Age, sex, molt and migration of Dunlins at Bolinas Lagoon. Western Birds 5:1-12.

Page, G. and B. Fearis. 1971. Sexing Western Sandpipers by bill length. Bird-Banding 42:297-298.

Page, G., B. Fearis, and R.M. Jurek. 1972. Age and sex composition of Western Sandpipers on Bolinas Lagoon. California Birds 3:79-86.

Paulson, D. 1993. Shorebirds of the Pacific Northwest. University of Washington Press, Seattle, Washington.

Pienkowski, M.W., C.S. Lloyd, and C.D.T. Minton. 1979. Seasonal and migrational weight changes in Dunlins. Bird Study 26:134-148.

Prater, A. J., J. H. Marchant, and J. Vuorinen. 1977. Guide to the identification and ageing of Holarctic waders. Guide 17, British Trust for Ornithology, Tring, United Kingdom.

Ruiz, G.M., P.G. Conners, S.E. Griffin, and F.A. Pitelka. 1989. Structure of a wintering Dunlin population. Condor 91:562-570.

Senner, S.E., G.C. West, and D.W. Norton. 1981. The spring migration of Western Sandpipers and Dunlins in southcentral Alaska: numbers, timing, and sex ratios. Journal of Field Ornithology 52:271-284.

Shepherd, P.C.F., D.B. Lank, B.D. Smith, N. Warnock, G.W. Kaiser, and T.D. Williams. 2001. Sex ratios of Dunlins wintering at two latitudes on the Pacific coast. Condor 103:352-360.

Stiefel, A. and H. Scheufler. 1989. Der Alpenstrandlaufer. Die Neue Brehm-Bucherei, A. Ziemsen Verlag, Wittenberg, Germany.

Warnock, N.D. and R.E. Gill. 1996. Dunlin *Calidris alpina*. Pages 1-24 *in* Poole, A. and F. Gill (editors). The Birds of North America, No. 203. The Academy of Natural Sciences, Philadelphia, Pennsylvania, and the American Ornithologists' Union, Washington, D.C.

Wilson, W.H. 1994. Western Sandpiper *Calidris mauri*. Pages 1-20 *in* Poole, A. and F. Gill (editors). The Birds of North America, No. 90. The Academy of Natural Sciences, Philadelphia, Pennsylvania, and the American Ornithologists' Union, Washington, D.C.

Zar, J. H. 1984. Biostatistical analysis (second edition). Prentice Hall, Inc., Englewood Cliffs, New Jersey.

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Appendix 1. Summary of trauma conditions exhibited by Dunlins (n = 113) and Western Sandpipers (n = 340) killed in collision[a] with a vehicle on beach near Ocean Park, Long Beach Peninsula, Pacific County, Washington, on 20 April 1997.

	Dunlin		Western Sandpiper	
Type of Trauma	n	(%)	n	(%)
No external sign of trauma	5	4.4	14	4.1
Fractures to head or neck	55	48.7	184	54.1
Fractures to either or both wings	67	59.3	175	51.5
Fractures to either leg[b]	88	77.9	242	71.1
Body injuries[c]	102	90.3	296	87.1
Multiple injuries[d]	100	88.5	292	85.9
Complete amount of trauma unknown[e]	4	3.5	22	6.5

[a] Although the speed of the vehicle at the moment of impact was not known, testimony at the trial suggests that it was likely >100 km/hr.
[b] Fractures of the tibia and/or tarsometatarsus.
[c] Most body injuries consisted of massive lacerations and/or severe compression of the body.
[d] Presence of more than one of the physical injuries noted in the table.
[e] The full extent of trauma was unknown because only the heads of the birds were recovered.

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COOPERATIVE CAPTURE OF A BONAPARTE'S GULL BY TWO PEREGRINE FALCONS

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Peregrine Falcons (*Falco peregrinus*) are known to prey on a wide range of species throughout their distribution (Ratcliffe 1993). In the San Juan Islands, Washington, they are known to prey upon the Bonaparte's Gull (*Larus philadelphia*) (Anderson 1995, 1996, 2000). Reports of hunting behavior indicate that most hunting flights, except those over the open ocean, seldom exceed five minutes, and may include a number of capture attempts (Cresswell 1996). In this paper, I describe both a cooperative hunt by a pair of Peregrine Falcons that lasted at least 15 minutes, and the defensive tactics employed by a Bonaparte's Gull during the chase.

On 27 March 1998, while traversing Burrows Bay in Skagit County, Washington, by boat, I observed a dramatic chase of a Bonaparte's Gull by a pair of Peregrine Falcons. The chase was in progress when I entered the area at 14:30 and continued until approximately 14:45. During that time, in what appeared to be cooperative behavior, the falcons took turns in pursuing the gull over an area approximately 500 meters in diameter. Attacks on the gull consisted of a series of stoops, some from heights of 50 meters, followed by a rapid tail chasing in horizontal flight. The attacks occurred at an average rate of approximately one each minute.

The gull attempted to escape during brief pauses in the falcons' attacks by using fast and weaving flight near the water's surface; the gull called continuously during these maneuvers. As a falcon approached at high speed, the gull would drop to the water at the instant before potential capture, landing in the water, but not submerging, as the falcon passed overhead. Immediately, the gull would resume flight, often in a different direction and sometimes shaking water from its body. Each falcon attacked in rapid succession and the gull was nearly constantly under attack by one or the other of the falcons. After approximately 10 minutes, the male falcon flew a short distance away and the female continued the attack alone. At no time did either falcon leave the area or land.

At approximately 15 minutes into the chase, the Bonaparte's Gull was becoming fatigued after about twelve attacks by the falcons, and was slower to resume flight after a successful dodge into the water. As the gull lifted off the surface of the water, the female falcon swerved and caught it above the water. Following capture, both falcons flew north to a bluff, the hapless gull in the female's talons. There the two falcons landed in a large

tree, approximately fifty meters tall. The male settled a couple of meters below the female as she began to pluck and eat the gull, making her location additionally visible with a shower of white feathers on the cliff. After about 15 minutes, the male falcon approached by hopping/flapping up the branches, and finally reached for the prey. This evoked a call from the female, followed by her flight a short distance to another tree. The male followed, but landed in the top of the tree, where he remained. At no time did the male share in the take.

One of the interesting aspects of this predator-prey interaction was the length of the hunt itself and the number of attacks, or "capture attempts," made on the gull. According to Cresswell (1996), although Peregrine Falcon attacks are on occasion greater than five minutes in length, with some beginning at a distance of more than 500 meters from the intended prey, most are attacks made over a short distance with a mean of 1.8 attacks per hunt. Cresswell (1996) also found that this phenomenon is particularly true when an attack is carried out on a flock. The hunt I observed was remarkable, then, for both the great number of capture attempts and the length of time it lasted.

Hunting involves a trade-off of energetic gain from prey capture, and expenditure in the attack itself. The strategies undertaken by Peregrine Falcons undoubtedly reflect this balance. Thus, the willingness to continue the attack on the Bonaparte's Gull may demonstrate an advantage to cooperation. The alternation of swoops at the gull provided an energetic advantage to the falcons and, by tiring the prey, may have been a factor in their persistence and ultimate success.

Although perhaps not apparent, the Bonaparte's Gull was not defenseless, and in this long chase the gull persistently employed several defensive tactics. The gull swerved often and dropped repeatedly to the water, which enabled brief respites and rapid change in direction. Peregrines appear to be reluctant to pull heavy prey from deep water, as observed in a capture of a Black-bellied Plover (*Pluvialis squatarola*) where a Peregrine Falcon made 75 swoops at a swimming bird before binding to it and lifting it from the surface of the water (Horne and Short 1989). On the other hand, peregrines regularly take seabird prey from the water along the west coast of North America (Dekker and Bogaert 1997).

The Bonaparte's Gull called almost continuously throughout the chase by the two falcons. Vocalizing in response to predation threat is common among birds (see Oro 1996), but in this case the potential benefit of this behavior, perhaps of attracting other gulls, was not clear as there were no other gulls in the vicinity.

Gulls typically do not constitute the greatest part of a peregrine's diet in this region (Anderson 1995, 2000). Peregrine Falcons often use a surprise strategy that includes a swoop or low flight over water or land that originates at a great distance (Cresswell 1996). The attack on the Bonaparte's Gull may have been an opportunistic surprise attack at a single gull away from land. In the San Juan Islands, however, potential prey species that fly along shore or cross open water between islands are vulnerable to attack and predation by Peregrine Falcons. Consequently,

although the hunt I saw may have involved surprise, this tactic is likely a regular feature of hunting behavior by Peregrine Falcons in this area.

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LITERATURE CITED

Anderson, C.M. 1995. The San Juan peregrine project. A report on the 1994 and 1995 breeding seasons. Falcon Research Group. Bow, Washington.

Anderson, C.M. 1996. The San Juan peregrine project. A report on the 1996 breeding season. Falcon Research Group. Bow, Washington.

Anderson, C.M. 2000. The San Juan peregrine project. A report on the 1999 breeding season. Falcon Research Group. Bow, Washington.

Cresswell, W. 1996. Surprise as a winter hunting strategy in Sparrowhawks (*Accipiter niscus*), peregrines (*Falco peregrinus*), and Merlins (*F. columbarius*). Ibis 138:684-692.

Dekker, D. 1980. Hunting success rates, foraging habits, and prey selection of Peregrine Falcons migrating through central Alberta. Canadian Field-Naturalist 94:371-382.

Dekker, D. and L. Bogaert. 1997. Over-ocean hunting by Peregrine Falcons in British Columbia. Journal of Raptor Research 31:381-383.

Horne, J.F.M. and S. Lester. 1989. Peregrine Falcon takes Black-bellied Plover from sea off Kenya. Journal of Raptor Research 23:181-182.

Oro, D. 1996. Are migrating Peregrine Falcons (*Falco peregrinus*) a threat to breeding Audouins' Gull (*Larus audouinii*) at the Ebro Delta? Colonial Waterbirds 19:270-272.

Ratcliffe, D. 1993. The Peregrine Falcon (second edition). T and AD Poyser, London, United Kingdom.

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MOURNING WARBLER (*Oporornis philadelphia*) AT LYONS FERRY: A FIRST FOR WASHINGTON

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On the morning of 26 May 2001, Bill Tweit, Bob Flores, Ryan Shaw, Casey Beachell, and I were spending a pleasant and toasty-warm day birding in eastern Adams and Franklin Counties. Just after mid-day, we went to Lyons Ferry State Park in Franklin County. Despite the human activity and the heat, there were a fair number of migrants in the day-use area. After working through the picnic area, Ryan and Bill paused in the shade while Bob and I headed out a dike to a heavily vegetated island. Casey was back near the car.

When Bob and I reached the first trees, we were looking down a short grassy slope at an older Russian olive tree. In some bare dirt at the base of the tree, an *Oporornis* hopped about. I looked at it not too carefully, and on determining its genus, said "There *are* some birds here. Look, there's a Mac." Bob looked down and replied, "That bird has no eye-ring." "What?" "That bird has no eye-ring!" With excitement and anxiety I peered back at the bird and saw that, indeed, it had no eye-ring. We watched it hop around, sometimes cocking its tail. The undertail coverts were long - not quite to the tail tip, as that of a Connecticut Warbler (*Oporornis agilis*) often appear, but a good 3/4 of the way out. After a minute or so, Bob went back up on the dike and beckoned to our comrades. Bill and Ryan arrived post-haste, and after about 30 minutes of frustrating searching, Bill relocated the bird where it had originally been found. We sat down and waited for it to reappear. And it did - about 3 or 4 more times, allowing everyone to identify it as a Mourning Warbler (*Oporornis philadelphia*) to their satisfaction. This sighting of a Mourning Warbler was accepted by the Washington Bird Records Committee (Aanerud 2002).

DESCRIPTION

In shape and size, the bird appeared similar to a MacGillivray's Warbler (*Oporornis tolmiei*), though no direct comparisons were made. The bird mostly stayed in dense cover from ground level to about one meter up. Occasionally, it would hop out into an area of bare dirt that was protected by the low drooping branches of the Russian olive. It was then that our best looks occurred. The bird would occasionally cock its tail. The legs were bright pink. The bill was two toned, pink and dusky, and was relatively thick for a

warbler (similar to that of an adult female MacGillivray's Warbler).

The head and upper chest formed a medium gray hood. The throat was pale whitish-gray fading into the medium gray on the upper chest. Except once, no hint of an eye-ring was present. One time, with the bird at just the right angle with a clear view (perhaps in a small patch of sunlight), a very thin virtually complete pale eye-ring was visible. It seemed to be broken anteriorly. This eye-ring was more complete than that of MacGillivray's Warbler and was much thinner than the eye-ring of either a MacGillivray's Warbler or Connecticut Warbler. The bird also had a faint pale supercilium that extended from the lores to behind the eye.

The belly/undertail coverts were bright lemon yellow with some dingy olive on the flanks. The undertail coverts extended well beyond the halfway point of the tail. Notably, during our attempt to relocate the bird, I found a male MacGillivray's Warbler, and that bird had distinctly shorter undertail covert projection onto the tail. The back of the Mourning Warbler was olive and the wings and tail were plain.

The call was a single note that was distinctly different from that of the MacGillivray's Warbler we had encountered before and after the Mourning Warbler. I'd describe the call as sharper. Bill described it as flatter. More to the point, when we listened to Cornell's warbler tape, we all agreed that the call matched the Mourning Warbler's favorably and did not sound like that of a MacGillivray's Warbler.

Overall, we had the bird in view for four minutes over a two-hour period. Mostly, the distance was about ten meters. The sun was high in the sky, and the bird was viewed in shadow and dappled sunlight. The above description is based on documentation from the author, Bill Tweit, and Ryan Shaw.

VAGRANCY IN MOURNING WARBLER

The Mourning Warbler breeds primarily in eastern North America, but the nesting range extends westward, in the southern portions of the continent's taiga belt, to northeastern British Columbia (Dunn and Garrett 1997). This species was not found in British Columbia until the late 1960s or early 1970s and may be a recent colonizer of that province (Weber 1976, Pitocchelli 1993, Campbell et al. 2001). Most vagrant Mourning Warblers in western North America have been found in California during fall, with September being the peak month, but individuals have been found as far northwest as Fairbanks and Middleton Island, Alaska (Dunn and Garrett 1997). Closer to Washington, there are two fall records from Oregon: Malheur National Wildlife Refuge on 26 September 1982, and Corvallis on 4 September 1983 (Gilligan et al. 1994). Also, British Columbia has two fall records of vagrants, both from coastal areas: Rocky Point on 1 September 1995, and Sea Island on 26 October 1998 (Bowling 1996, Toochin 1999). In eastern North America, peak fall migration at Washington's latitude occurs from late August through mid-September (Tufts 1986, Janssen 1987).

Spring/summer vagrants have occurred much less frequently in western North America, though amazingly, a singing male was reported from Malheur National Wildlife Refuge, Oregon, on the same day we found the bird at Lyons Ferry (Mlodinow et al. 2001). Through 1998, California had only 15 spring/summer records of Mourning Warbler spanning 16 May to 1 July, with a peak 22 May to 7 June (files of the California Bird Records Committee). Oregon has two previous spring/summer records, one from the eastern portion of the state and one from west: Brothers on 3 June 1990, and Oakridge on 12 July 1984 (Gilligan et al. 1994). British Columbia also has two records of vagrants from this time period, again one coastal and one interior: Spillimacheen River on 8 June 1996, and Harrison Mills on 3 July 1983 (Kautesk 1983, Campbell et al. 2001). There are no records from any season from Idaho or western Montana. In eastern North America, peak spring migration at Washington's latitude is during late May and early June (Tufts 1986, Janssen 1987).

IDENTIFICATION

This bird's incomplete eye-ring, mid-length undertail coverts, and supraloral stripe eliminated Connecticut Warbler. Adult female Mourning Warblers are best separated from adult female MacGillivray's Warbler by the following characteristics: call, eye-ring pattern, and undertail covert length (Pyle and Henderson 1990, Dunn and Garrett 1997). Though call notes are very difficult to describe with words, we certainly could hear the difference in the field and our instincts were reaffirmed upon listening to taped calls. The very thin, nearly complete eye-ring was typical for Mourning Warbler and incorrect for MacGillivray's Warbler. Similarly, the undertail covert extension onto the tail suited Mourning Warbler but not MacGillivray's Warbler. This suite of marks clinched this bird's identification as a Mourning Warbler.

ACKNOWLEDGMENTS

First and foremost, a big thank you to Bob Flores for his careful scrutiny – keep on questioning my identifications, Bob. Also, many thanks are extended to Bill Tweit and Paul Lehman for reviewing this manuscript and making many helpful comments.

LITERATURE CITED

Aanerud, K. 2002. Fifth report of the Washington Bird Records Committee. Washington Birds 8:1-18.

Bowling, J. 1996. Autumn migration: British Columbia/Yukon region. Field Notes 50:99-105.

Campbell, R.W., N.K. Dawe, I. McTaggert-Cowan, J.M. Cooper, G.W. Kaiser, A.C. Stewart, and M.C.E. McNall. 2001. The Birds of British Co-

lumbia, vol. 4. University of British Columbia Press, Vancouver, British Columbia, Canada.
Dunn, J.L. and K.L. Garrett. 1997. A Field Guide to Warblers of North America. Houghton Mifflin Company, Boston, Massachusetts.
Gilligan, J., M. Smith, D. Rogers, and A. Contreras. 1994. Birds of Oregon. Cinclus Publications, McMinnville, Oregon.
Janssen, R.B. 1987. Birds in Minnesota. University of Minnesota Press, Minneapolis, Minnesota.
Kautesk, B. 1983. Mourning Warbler near Harrison Mills: first record for southwestern B.C. Discovery 12:107.
Mlodinow, S., G. Lillie, and B. Tweit. 2001. Spring migration: Oregon-Washington region. North American Birds 55:347-351.
Pitocchelli, J. 1993. Mourning Warbler (*Oporornis philadelphia*). Pages 1-16 *in* Poole, A. and F. Gill (editors). The Birds of North America, No.72. The Academy of Natural Sciences, Philadelphia, Pennsylvania, and the American Ornithologists' Union, Washington, D.C.
Pyle, P. and P. Henderson. 1990. On separating female and immature *Oporornis* warblers in fall. Birding 22:222-229.
Toochin, R. 1999. A Mourning Warbler on Sea Island: a first Vancouver record. Discovery 28:18-21.
Tufts, R.W. 1986. Birds of Nova Scotia (third edition). Nimbus Publishing, Ltd., Halifax, Nova Scotia, Canada.
Weber, W.C. 1976. Mourning Warbler and Northern Oriole in northeastern British Columbia. Murrelet 57:68-69.

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A LITTLE CURLEW (*Numenius minutus*) AT LEADBETTER POINT: A FIRST WASHINGTON RECORD

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On the morning of 6 May 2001, Ryan Shaw and I followed the rising tide out to the tip of Leadbetter Point, in Pacific County, Washington. We were rewarded by almost 100,000 shorebirds swarming over the shrinking mudflats on the point's bayside. The sandy tip was reached near high tide, just after noon. We then headed back along the beach surveying roosting flocks of Western Sandpipers (*Calidris mauri*), Dunlin (*Calidris alpina*), and dowitchers (*Limnodromus* sp.) along the way.

At about 14:00, we were walking on the hard sand at water's edge with the bright sun to our right (west). We heard a vaguely Whimbrel-like call that was, nonetheless, quite unfamiliar. We looked up and saw three birds ahead (south) and to our left (east), and therefore in excellent light. Two were Dunlin-sized, and one was bigger. I got my binoculars quickly on the larger bird, immediately realizing it was not a Whimbrel (*Numenius phaeopus*). The bill was about the length of the head, perhaps a bit longer, and almost straight. "A Little Curlew", I yelled. Ryan shouted agreement. We both quickly planted our scopes and got the bird in view as it continued northwards along the shore. It reiterated its distinct call three or four more times. We had the bird in our scopes just as it passed us (closest approach 20-30 meters), and our scope views lasted 20-40 seconds.

DESCRIPTION

Upon first view, it was readily apparent that this bird was not a Whimbrel. Beyond its distinctive voice, the bill shape and size were different. We realized that our time was limited, and rather than trying to briefly (and therefore uncertainly) note all marks, we independently made the decision to carefully observe those characteristics that seemed important for identification and were clearly visible. Our attention was most focused on the bill and underwing pattern (and call). The upperparts were not as easily viewed, especially when the bird was close and almost overhead. We were also conservative about what we included in our final description, given below. We both thought we recalled head stripes, but neither of us was absolutely certain that, in the exciting aftermath, this recollection was accurate or our mind's eyes filling in the gaps of what was clearly seen.

The Little Curlew (*Numenius minutus*) we observed was a medium-to-large shorebird, appearing distinctly smaller than a Whimbrel, but larger than a golden-plover. The body shape was typical for a curlew, but the bill

was not. Most importantly, it was about the length of the head, or a bit longer. The bill also appeared slender as compared with a Whimbrel and was slightly downcurved.

The upperparts were brown throughout, without any white on the upper surface of the wing, rump, or tail. The mantle appeared warmer or more golden than that of a Whimbrel. The flanks had some dark barring. There were some chest markings and a warm coloration to the chest, both contrasting with a paler and whiter belly. The underwings were two-toned, with the underwing coverts contrasting with the under side of the primaries. The under side of the primaries were gray and lacked any barring or notching, whereas the underwing coverts were brownish with some markings (the precise nature and extent of which were not noted). Also, on the downstroke the spread primaries showed a bit of a pale flash, vaguely reminiscent (but much less distinct) of a jaeger.

The call was Whimbrel-like in cadence, but it was not as sharp or ringing. The call was a three to four note "tee-tee-tee," a bit higher than a Whimbrel and slightly slurred. What we heard closely matched tape recordings of Little Curlew and written descriptions of the call.

IDENTIFICATION

First, nothing noted on the Leadbetter bird eliminated Eskimo Curlew (*Numenius borealis*), but that species is probably extinct (AOU 1998). The most similar species, excepting Eskimo Curlew, are Upland Sandpiper (*Bartramia longicauda*) and Whimbrel. Upland Sandpiper was eliminated by underwing pattern, bill shape and call. In that species, the underwings are more uniform with barring on the under side of the primaries (see Hayman et al. 1986). Also, the bill should not look decurved, and the call would have been different. The Whimbrel was eliminated by bill shape and size, call, underwing pattern, and body size. Whimbrels have longer, more curved bills, lack two-toned underwings, have a distinctively different call, and are larger.

The flash seen on the under side of the primaries may well have been due to translucence through the unmarked primaries. This appearance of a pale area on the under side of the primaries is evident in Rosair and Cottridge (1995; plate 103b), and is shown in National Geographic Society (1999). The University of Washington Burke Museum has one Little Curlew specimen, an adult collected during July. The under side of its primaries were plain gray, contrasting with the mottled warm brown wing coverts.

WORLD RANGE AND NORTH AMERICAN RECORDS

The Little Curlew breeds in burned forested areas of north-central Siberia and winters primarily in Australia and New Guinea, with most migrants following a path through eastern China, Japan, and the Philippines (Rosair and Cottridge 1995). In Japan spring migration occurs from

15 April to 16 June with peak numbers seemingly at the very end of April (Brazil 1991). The world population is approximately 200,000 (Watkins 1993). Vagrant records in the Eastern Hemisphere have come from Great Britain (2 records, August/September), Norway (1 record, July), and Seychelles (Rosair and Cottridge 1995, Mitchell and Young 1997).

There are five prior records of Little Curlew from North America, four from California and one from Alaska. Amazingly, three of the California records came from Santa Barbara County: a juvenile near Santa Maria, between 16 September and 14 October 1984 (Lehman and Dunn 1985); a likely juvenile at Guadalupe on 23-24 September 1988 (Lehman 1994); and an adult at Santa Maria River mouth on 4-20 August 1993 (Lehman 1994). The remaining California record was an adult at Carmel on 6-28 September 1994 (*National Audubon Society Field Notes* 49:97). Though these four records probably involve different individuals, some may pertain to the same bird. Finally, the Alaskan record was from Gambell, St. Lawrence Island, on 7-8 June 1989 (Gibson and Kessel 1992).

This sighting of a Little Curlew was accepted by the Washington Bird Records Committee (Aanerud 2002).

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Many thanks to Bill Tweit for his insights and suggestions, leading to many improvements in this manuscript; also, thanks to Colin Bradshaw and an anonymous reviewer, who offered useful commentary. Thanks to the Burke Museum for access to its excellent specimen collection. And finally, thanks to Ryan Shaw for his observational skills and the luck he brings.

LITERATURE CITED

Aanerud, K. 2002. Fifth report of the Washington Bird Records Committee. Washington Birds 8:1-18.

AOU (American Ornithologists' Union). 1998. Check-list of North American birds (seventh edition). American Ornithologists' Union, Washington, D.C.

Brazil, M.A. 1991. The birds of Japan. Smithsonian Institution Press, Washington, D.C.

Gibson, D.D. and B. Kessel. 1992. Seventy-four new avian taxa documented in Alaska 1976-1991. Condor 94:454-467.

Hayman, P., J. Marchant, and T. Prater. 1986. Shorebirds. Houghton Mifflin Company, Boston, Massachusetts.

Lehman, P.E. 1994. The birds of Santa Barbara County, California. Vertebrate Museum, University of California at Santa Barbara, Santa Barbara, California.

Lehman, P. and J.L. Dunn. 1985. First record of Little Curlew for North America. American Birds 39:247-250.

Mitchell, D. and S. Young. 1997. Photographic handbook of the rare birds of

Britain and Europe. New Holland Publishers Ltd., London, England.
National Geographic Society. 1999. Field guide to the birds of North America (third edition). National Geographic Society, Washington, D.C.
Rosair, D. and D. Cottridge. 1995. Photographic guide to the waders of the world. Hamlyn Ltd., London, England.
Watkins, D. 1993. A national plan for shorebird conservation in Australia. Report to World Wide Fund for Nature. Prepared by Australasian Wader Studies Group.

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ERRATUM

Two errors were noted in our recent paper on Snowy Plovers (Richardson et al. 2000. A new Snowy Plover nesting area in Washington: Midway Beach, Pacific County. Washington Birds 7:25-35.). A scale was omitted in Figure 3. Readers should note that the map is overlaid with a 1-km grid. Also, text was omitted from the Survey Method paragraph beginning on page 27. The first half of this paragraph is presented below, with the text missing from the original paper indicated in italics.

Midway Beach was typically surveyed by a single observer, but a second observer was often present in July and August 1998. Routinely, the observer(s) began walking at the Midway Beach Road access, continued south beyond Warrenton Cannery Road to the Cape Shoalwater *bluff, then returned past Midway Beach Road before departing. This route sometimes was reversed. Observers concentrated on the relatively narrow* strand of sparsely-vegetated dry sand between the foredune and the broad, featureless bench.

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Cover photo of Greater Yellowlegs at Montlake Fill, Seattle, King County, by Paul Munno