

Kachemak Bay Shorebird Monitoring Project: 2015 Report



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Cover photo: Large flock of Surfbirds at Homer Spit taken May 2015 by George Matz.

I. Executive Summary

In May 2015, Kachemak Bay Birders (based in Homer, Alaska) completed its seventh consecutive shorebird monitoring project. The main purpose of this citizen science project is to attain a better understanding of the status of shorebird populations in the Kachemak Bay area, particularly during spring migration. We continued to include monitoring at Anchor Point/River and the Kasilof River, which now includes three years of data. By comparing our current Homer Spit data to monitoring data collected by former Homer resident George West, who conducted counts of Homer Spit shorebirds during the 1980s and 1990s, we are able to get a better understanding of population trends. Secondary purposes for this project are: 1) to contribute information that might be useful to others assessing shorebird populations across the entire Pacific Flyway; and 2) to use the monitoring data to help protect Kachemak Bay/Homer Spit shorebird habitat.

Protocol

The monitoring protocol we used was identical to previous years. Between April 16, 2015 and May 26, 2015 we had nine monitoring sessions. In the Homer Spit area we simultaneously monitored five sites for two hours once every five days when the outgoing tide reached 15.0 feet (or at high tide if less). Using these tide conditions provided consistency and optimized shorebird viewing conditions. We also recorded any disturbance to shorebirds. In addition, we received observations from a boat on the south side of Kachemak Bay about the same time. All the data was entered on eBird.

A record number of 49 volunteers participated: 40 in the Homer Spit area, 4 at Anchor Point, and 5 at the Kasilof River. This amounted to 400 hours of volunteer effort at the Homer Spit, 54 hours at the Anchor River, and 24 hours at the Kasilof River (monitoring sessions were two hours except for the Kasilof River which was 1.5 hours) for a total of 478 hours of effort. This does not include travel time or time spent caucusing.

Results

Despite the record mild previous winter, which had us wondering if there would be an earlier shorebird migration, our early spring weather was close to normal and so was the timing of the migration. This year we observed a total of 21 species of shorebirds and counted a total of approximately 8,287 individual shorebirds. The number of shorebird species counted this year is less than our seven year average (24). There were no new species. The total number of individual shorebirds counted this year was also less than average (13,897) and the second least of our seven years of effort.

Migrating shorebirds stopover at the Homer Spit for only a day or two. In order to estimate how many shorebirds might have come and gone between scheduled monitoring sessions, we reviewed daily eBird reports for the Homer Spit during the peak of shorebird migration (May 1-14). Since a lot of birders visit Homer at this time, primarily for the Kachemak Bay Shorebird Festival, eBird offers a reasonable amount of supplemental data that we can use to compare to our monitoring data. From this comparison we determined that our monitoring dates did not hit

the peak of the pulse, but one date was on the shoulder. Adding up the data, it appears that our scheduled monitoring accounts for about one-quarter of the shorebirds that stopped over this year at the Homer Spit.

The top ten taxa seen this year include Western Sandpiper (2,267), Surfbird (2,111), Red-necked Phalarope (1,503 of which 1,500 were seen by boat), Dunlin (826), Black Turnstone (352), LESA/WESA/SESA which is a lumping of *Calidris* species (306), Semipalmated Plover (273), Black-bellied Plover (210), Least Sandpiper (168), and Dowitcher sp. (65). We noted some minor disturbances of shorebird flocks by loose dogs, low-flying aircraft (particularly helicopters), and illegal off-road vehicle traffic on some beaches.

A highlight this year was the large number of Surfbirds seen in the Kachemak Bay area, particularly on the rocks near the entrance to the boat harbor. Based on a count from photos of nearly the entire flock, there were 2,030 shorebirds. Nearly all were Surfbirds with a couple of Black Turnstone. This represents a significant percentage of the entire Surfbird population.

Comparison to past surveys

As in previous years, we compared our data to George West's seven years of shorebird monitoring data (1986, 1989-1994). West saw a total of 23 shorebird species. Over the past seven years of monitoring we have seen 31 species. Perhaps our more intense coverage explains our higher number of species. West's average annual count was 90,326 shorebirds. But comparison of this data to ours requires some adjustment. West monitored daily and our protocol calls for monitoring once every five days. Consequently, the comparison includes is based on every fifth day of West's data. Also, since West's observations were only on the Homer Spit, we need to exclude data from the Beluga Slough and Islands and Islets sites. Based on these adjustments, West's average shorebird count was 18,436. Our adjusted count for this year was 9,402 shorebirds. Our average for six years was 11,115 shorebirds; or 60% of West's.

Anchor and Kasilof Rivers

In addition to the Homer Spit area we also continued shorebird monitoring at the mouths of the Anchor and Kasilof Rivers. The Anchor River is located at the northern edge of Kachemak Bay about 15 miles north of Homer. The volunteers that monitored here followed the same protocol used at the Homer Spit. They reported seeing a total of 19 species of shorebirds. The count this year for the Anchor River was 818.

The Kasilof River empties into Cook Inlet about 60 miles north of Homer. The protocol for this site is to monitor the incoming tide starting when it is about half-way between low and high tide. Monitors at the Kasilof River saw 15 species of shorebirds. On May 16 they saw a Baird's Sandpiper, which is not being included since it wasn't a monitoring date. The total count for the nine scheduled monitoring days was 5,411 shorebirds.

Plans are to continue this effort next year. Since all monitoring is based on volunteer effort, the possibility of agency budget cuts is not a threat to us.

I. Introduction

A. Overview of Kachemak Bay

Kachemak Bay is a unique and biologically rich portion of Alaska’s Cook Inlet. The recent Management Plan for the Kachemak Bay National Estuarine Research Reserve (KBNERR) provides a good overview of this bountiful environment (KBNERR 2012). Excerpts below, with minor edits, emphasize portions that pertain to shorebirds. Note that KBNERR is a conservation designation that does not include actual ownership of land or water or regulatory authority.

The Bay is 63 km (39 mi.) long and 39 km (24 mi.) wide at its entrance between Anchor Point and Point Pogibshi, with more than 515 km (320 mi.) of shoreline. The Homer Spit projects 7.2 km (4.5 mi.) out into the Bay, dividing it into an ‘inner’ and ‘outer’ Bay. The inner Bay is east of Homer Spit to the head of Kachemak Bay, and the outer Bay is west of Homer Spit to the mouth of Kachemak Bay. The Bay is bordered on the north by the rolling hills and bluffs of the Kenai lowlands, and on the south by the Kenai Mountains, with the watershed encompassing more than 2,658 km² (1,026 mi.²).

Kachemak Bay has two State Critical Habitat Areas: Kachemak Bay CHA (926 km² or 226,400 ac.) and Fox River Flats CHA (27 km² or 7,200 ac.). The bay also has parts of two state parks; Kachemak Bay State Park and Kachemak Bay State Wilderness Park.

The climate in the Kachemak Bay watershed is maritime and characterized by a relatively moderate seasonal range of temperatures, high humidity, and ample rain and snow. The Bay and the Pacific Ocean minimize large extremes in the air temperature, resulting in mild winters and cool summers. Annually, the mean Homer temperatures vary from the high of 15°C (60°F) in summer to the low of 5°C (30°F) in winter. Surface

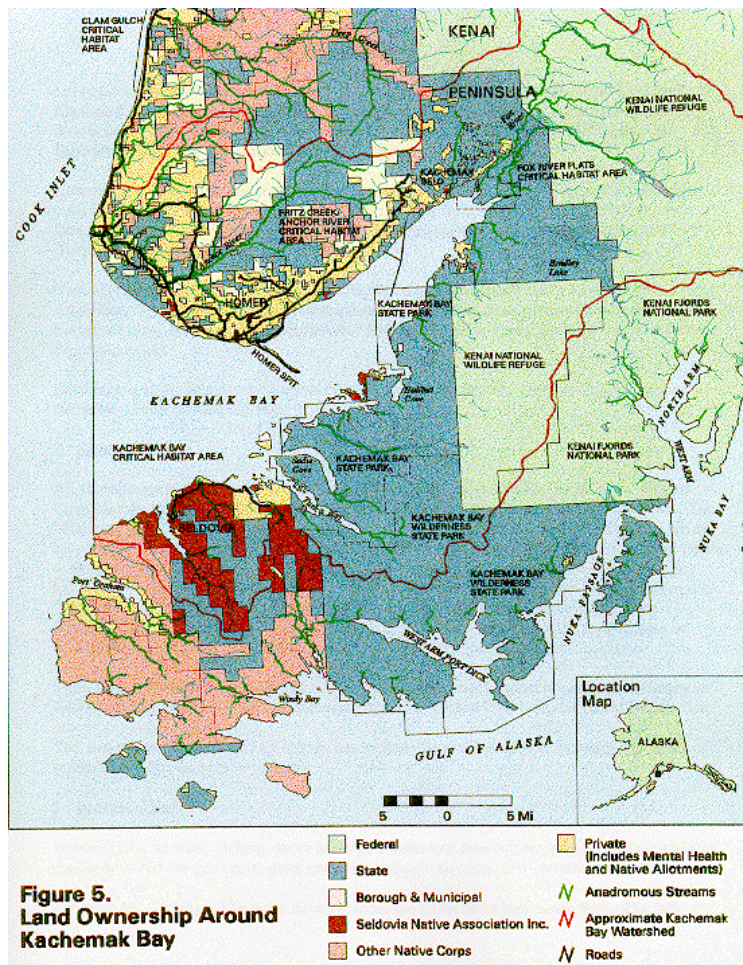


Figure 2. Kachemak Bay Land Ownership

water temperatures in the Bay range between a high of 12.8°C (55°F) in the summer, and a low of -2°C (28°F) in the winter. Most of the 0.7 m (25 in.) of annual precipitation occurs in late summer and fall. The majority of snow falls from November to March.

The head of Kachemak Bay is characterized by extensive tidal flats, braided drainages, and marshlands. The northern shore consists of cliffs composed mostly of sand and clay leading down to shallow mud flats. The southern shoreline consists of hard rock cliffs and deep embayments. Many islands are also found along the southern shore. Several major glacial streams discharge into inner Kachemak Bay: Fox, Martin, Wosnesenski, and Bradley rivers; and Sheep, Battle, Halibut, Portlock and Grewingk Creeks. In addition, several minor nonglacial streams discharge into Kachemak Bay along the southern shore. The northern coast is drier, and only eight small nonglacial streams of limited drainage enter the inner Bay from that side.

Kachemak Bay and the adjacent Cook Inlet are known for their amazing tidal ranges. Kachemak Bay has an 8.7 m (28.5 ft.) tidal range that results from the complex geomorphology of the Gulf of Alaska and adjacent Cook Inlet. Tides in Kachemak Bay and Lower Cook Inlet are semi-diurnal with a significant inequality between successive low waters. This means there are two high tides within a lunar (24 hour 50 minute) day, one of which will generally exceed the other by several feet. The mean diurnal range in Kachemak Bay is 4.7 m (15.4 ft.) at Seldovia. Highest tides exceed 6.9 m (22.5 ft.) and the lowest tides are about -1.8 m (-6.0 ft.).

The Homer Spit is a striking geologic feature of Kachemak Bay, and it also has a dramatic impact on the Bay's circulation. The Spit bisects the Bay into inner and outer zones. These zones differ in freshwater influence and in wave action. The outer Bay is a mixing basin for the cold, saline, nutrient-rich Alaska Coastal Current (ACC) which enters from the southeast via Cook Inlet, and the fresh glacial water that drains from the Bay's tributaries.



Figure 2. Aerial view of Homer Spit

It is an environment typified by high wave energy that receives the full force of swells from across the Inlet. The inner Bay has a lower salinity because the influence of freshwater tributaries is stronger in the semi-contained water found behind the Homer Spit. The inner Bay also remains calmer because the Homer Spit blocks the swells from the Inlet. Water masses from the inner and outer zones of the Bay meet at the end of the Spit during the daily tidal cycle.

From 1500-m (5,000 ft.) high alpine peaks to 176-m (576 ft.) deep sea trenches, Kachemak Bay is home to a diversity of flora and fauna. In Kachemak Bay and its watershed, the following species have been documented: 11 species of marine mammals, 36 species of terrestrial mammals, 244 species of birds, 1 species of amphibian, 120 species of fish, 404 species of marine invertebrates, 125 species of marine algae, and 663 species of vascular plants. There are undoubtedly additional species that have yet to be documented, especially fish, invertebrates, marine algae and plants. Kachemak Bay's varied coastline, numerous freshwater sources, and diverse geomorphology create a microcosm of Southcentral Alaskan habitat types.

Rocky habitats support the most diverse aquatic communities. Invertebrates are most abundant and diverse where currents are high, and least abundant and diverse in slow currents. Jakolof Bay supports the most robust subtidal macroinvertebrate communities known in Southcentral Alaska. Most of the macroinvertebrates are sedentary filter feeders, such as clams. Grazers, such as chitons and sea urchins, are abundant. Abundant predatory macroinvertebrates are primarily sea stars, snails, and hermit crabs.

Invertebrate abundance in sand and mud substrates is strongly influenced by seasonal conditions, and dominance patterns are influenced by tidal exposure. Most invertebrates in sand and mud substrates are deposit or suspension feeders. Many species are more abundant at lower tidal levels; however, species composition does not appear to be affected by tide stage. Mud flats have greater species richness, biomass, and diversity of perennial species than sand beaches and, consequently, attract the highest numbers of shorebirds and ducks.

Kachemak Bay has several populations of clams, including Pacific littlenecks, butter clams, surf clams, various cockles, razor clams, and several *Macoma* (Baltic, stained, chalky, oblique, and bent-nosed). Hard-shelled clams can be found in the lower intertidal region on protected gravel-sand-mud beaches. Soft-shelled clams are usually found in areas of mixed sand and mud, or mud and gravel.

Two hundred forty-four species of birds have been identified on and around Kachemak Bay. Kachemak Bay is the most important marine bird habitat in Lower Cook Inlet, with no comparable areas in Upper Cook Inlet. During winter months over 90% of the marine birds in Lower Cook Inlet are found in Kachemak Bay. Kachemak Bay is also important for avian feeding, nesting, rearing, and migratory staging throughout the year.

In 1996, Kachemak Bay was dedicated as an international site of the Western Hemisphere Shorebird Reserve Network. An international site designation indicates that the site hosts greater than 100,000 shorebirds or 10% of a flyway population.

B. Overview of Anchor River

The Anchor River flows into Cook Inlet about a mile north of Anchor Point, the most northern extent of Kachemak Bay. This area is popular for sport fishing and beach walks. The State of Alaska-owned Anchor River State Recreation Area (SRA) includes 213 acres of forested riparian

habitat, estuary, and campgrounds. In addition, the Kachemak Heritage Land Trust owns about 146 acres of river front property on the lower Anchor River

Between the mouth of the river and Anchor Point is an uninhabited but road accessible barrier beach. This public beach is considered a hotspot by local birders. The intertidal area and estuary behind the barrier beach attract a diversity of migrating shorebirds as well as a few breeding shorebirds.

Shorebird monitoring began at the SRA parking lot where the road ends (lower left hand corner of Figure 2). Monitors walked north on the ocean side to the mouth of the river watching for shorebirds in the intertidal area and then returned on the inland side which is mostly wetlands.

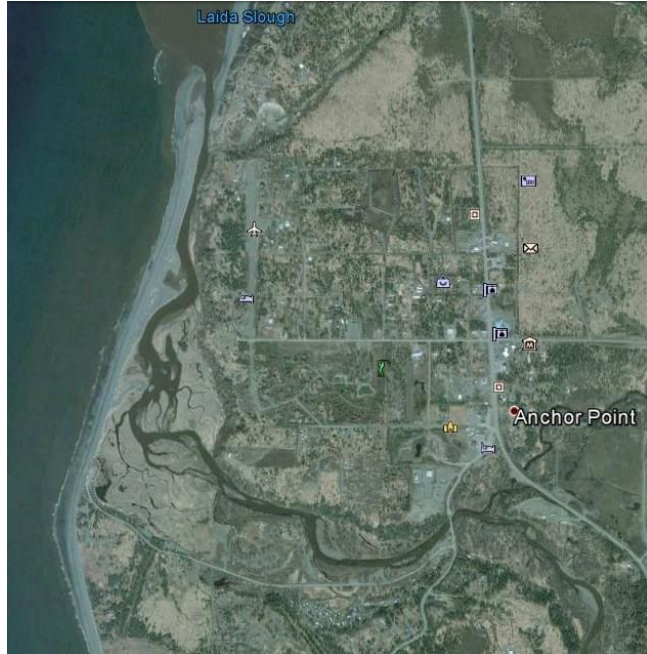


Figure 3. Aerial view of Anchor Point/ River

C. Overview of Kasilof River

The Kasilof River is 62 miles north of Homer. It begins at Tustumena Lake, the largest lake on the Kenai Peninsula, and drains into Cook Inlet. The mouth of the river is owned by the Alaska Department of Natural resources and classified as a Special Use Area

The shorebird survey area is a very rich estuarine delta where the Kasilof River meets Cook Inlet. The inland section of this area is riddled with small ponds and sloughs. These areas provide important stopover feeding areas for migrant waterfowl and shorebirds. They also support a healthy breeding area for waterfowl in the summer months.

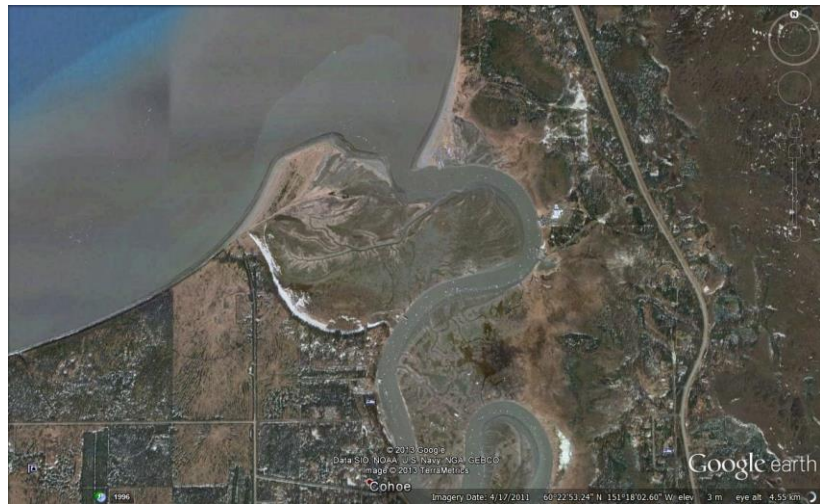


Figure 4. Aerial view of the mouth of Kasilof River

The saltwater mud flats on the north bank of the river are a critical feeding area for wintering Rock Sandpipers and for migrating shorebirds in the spring and fall. At low water the waterline often retreats over one mile out into the Cook Inlet exposing silty, muck laden with small clams and polychaete worms.

The survey area consisted of these mud flats on the north bank of the river. Survey protocol was to be on site at mid-flooding tide and count feeding shorebirds, until the north bank mud flats were covered by water. At this point, the survey was terminated as shorebirds would be forced to move far inland and not available for counting.

D. History of Kachemak Bay Shorebird Monitoring Project

For the past seven years Kachemak Bay Birders (a network of birders who live in the Homer, Alaska area) have been monitoring the spring migration of shorebirds that stopover at Kachemak Bay every year from mid-April to late-May. This effort has focused on the Homer Spit portion of Kachemak Bay because of its easy accessibility and excellent variety of shorebird habitat.

The first year of this project began during the 2008-2009 winter, soon after Kachemak Bay Birders was formed. A committee was set up to draft a strategic plan and seek advice on the selection of proper protocol. We were advised by shorebird biologists to use the International Shorebird Survey (ISS) protocol but found that some modification was needed, primarily because it called for monitoring once every 10 days. While this may be suitable in areas where shorebirds overwinter, it isn't suitable for monitoring the Kachemak Bay spring shorebird migration where some species stay no more than a couple of days at most.

2009 - The project got underway in the spring of 2009. A team of 16 volunteers were assigned sites on or near the Homer Spit. The teams recorded shorebird observations once every five days, starting April 16 and ending May 28. Monitoring times were based on having consistent tide levels. It was decided that the best time for monitoring was when the outgoing tide was approaching 15.0 feet. Also, since this was a team effort rather than individual effort, monitoring was done simultaneously at all but one site which monitored nearby waters by boat. A caucus after each session reviewed observations. A total of 24 species of shorebirds and approximately 7,406 individual birds were observed. Data was entered into eBird-ISS. A report entitled *Kachemak Bay Shorebird Monitoring Project: Report for 2009 Spring Survey* (Matz 2009) gives further explanation on the protocol as well as a presentation and analysis of the data. The report also compared 2009 data to that obtained by George West about two decades earlier. The report included a Kachemak Bay species list, the forms used by observers, data by session for each site, and maps as well as aerial photos of each monitoring site. This report (and all others) is only available in electronic form and can be downloaded from <http://kachemakbaybirders.org/>.

2010 – The second year of monitoring followed a similar protocol. We experienced a slow start with spring migration, perhaps because of abnormally cold weather for the whole region. However, disappointing results were saved by a late surge of Western Sandpipers and Dunlin between May 10 and 15, creating a bimodal distribution in counts for these species. This surge resulted in more birds being observed in 2010 than in 2009. In 2010 we recorded 9,845 shorebirds during the monitoring effort but one less species (23). Nevertheless, the total number

of birds observed for 2009 and 2010 was significantly less than surveys done in the late 1980s and early 1990s.

A concern we had was whether migrating shorebirds were passing through the Homer Spit area between scheduled monitoring dates, thus not being included in our data. To test this possibility we did daily spot checks at Mud Bay for two weeks during the expected peak of the migration. Considering that scheduled monitoring for Mud Bay on May 5 reported 500 Western Sandpipers and spot checking the day before and after reported 1,100 and 700 Western Sandpipers respectively, it did appear that some flocks of shorebirds may be arriving and leaving between scheduled monitoring dates.

In addition to the spot checking, we sought out other shorebird observations at the time, such as list-serve birding reports. The supplemental data resulted in a total of 20 shorebird species being observed on the Homer Spit and approximately 8,600 individual shorebirds. While this supplemental data cannot be directly compared to our scheduled monitoring data, it does give us a more complete picture of the Homer Spit shorebird migration. Our scheduled monitoring dates missed some flocks of migrating shorebirds, but not by an order of magnitude or more.

We were also concerned about the disparity between our 2009 data set and West's data set. Questions that we felt needed to be answered were whether: 1) the ground-based survey results collected in 2009 represent a new "norm" or were they simply a low year, and 2) have shorebirds moved to other areas of the Bay.

To gain insight into question #2, we obtained funding from a U.S. Forest Service Copper River International Migratory Bird Initiative (CRIMBI) grant for an aerial shorebird survey of Kachemak Bay. Concurrent with our ground-based monitoring, four volunteers flew the 320 mile long shoreline of the Bay five times at low elevation, once every three days starting May 1. Identification was by shorebird size, not species. While we couldn't identify species of shorebird, we could clearly distinguish between flocks of shorebirds, gulls and ducks.

Our first flight on the afternoon of May 1 observed only a couple of small flocks (tens) of shorebirds at Homer Spit and other parts of Kachemak Bay. The next morning an email alert reported about a thousand newly arrived sandpipers near the Homer Spit. If these birds had first visited the upper part of the Bay, we would have seen them the previous afternoon. While just one observation, it did indicate that most shorebirds seen at the Homer Spit are not likely the same shorebirds seen in other parts of the Bay.

Our main purpose for doing the aerial surveys was to determine the spatial and temporal number of shorebirds using Kachemak Bay during spring migration. Because of the late migration, our first four aerial surveys resulted in few observations. But the pulse of shorebirds that finally arrived for the last aerial survey indicated that migratory shorebird concentrations were dispersed throughout Kachemak Bay where there were suitable beaches. While the Homer Spit is certainly an attractive area for shorebirds, it is not the only place in the Kachemak Bay area where migrating shorebirds concentrate. However, with the exception of Seldovia Bay where we saw nearly two thousand shorebirds, the flocks were not very large.

One of our objectives in 2010 was to attempt a rough estimate of the number of shorebirds that visit Kachemak Bay and Homer Spit during the spring shorebird migration. Observers estimated that during the aerial surveys there were more shorebirds in other parts of the Bay (3,440) than at the Homer Spit (1,403), but not significantly larger concentrations. Based on our limited information, it appears that about 10,000 shorebirds visited Homer Spit in the spring of 2010 and at least that many visited other parts of Kachemak Bay. Though just a rough estimate at best, this is substantially less than that mentioned in reports from a decades ago which said that 100,000 to 1,000,000 shorebirds stopover in Kachemak Bay during spring migration.

Our online report for 2010, *Kachemak Bay Shorebird Monitoring Project: 2010 Ground and Aerial Survey Report* (Matz 2010), provides an overview of the environmental features of Kachemak Bay, designated conservation areas within the Bay, a brief review of the earlier shorebird studies that were conducted in Kachemak Bay, protocols for both ground-based and aerial monitoring, observation details, trends with comparison to West's data, and public presentations of the data.

2011 - The 2011 project followed the ground-based monitoring protocol used the previous two years. Due to lack of funding, no aerial surveys of the Kachemak Bay shoreline were done this year.

In 2011, between April 14 and May 24, a total of 18 volunteers participated in monitoring four sites on Homer Spit, plus nearby Beluga Slough, and by boat the Islands and Islets on the south side of the Bay. The number of shorebird species observed in 2011 (25) was higher than 2009 (24) or 2010 (23). The total number of individual shorebirds counted in 2011 (16,007) was also higher than 2009 (7,406) or 2010 (9,845). The biggest increase was Western Sandpipers and Dunlin, as well as Red-necked Phalarope, Surfbirds, and Rock Sandpipers (which overwinter at Kachemak Bay). Despite the increase, the 2011 count was still substantially less than that observed by West. Adjusting West's daily counts to match our five day counts, he saw an average of 18,436 individual shorebirds per year during his seven years of survey. Including only the Homer Spit sites and matching dates, we counted 8,858 individual shorebirds in 2011. The adjusted count for 2009 was 4,994 individual birds and in 2010 it was 7,314.

Supplemental monitoring continued in 2011. From daily spot checks on the Homer Spit during the two week peak of migration we were able to establish that we did miss some flocks of sandpipers, but were able to get some estimate as to the amount of leakage. Looking at all the data, the amount of leakage is probably no more than 2-3 times our monitoring count. The report for this year (Matz 2011) provides detailed spreadsheets of the count for each site. A review of our three years of monitoring appeared in a peer reviewed journal, the *Wader Study Group Bulletin* (Matz et al 2012).

2012 - The 2012 project followed the monitoring protocol used in previous years for the Homer Spit area. Weather conditions this spring were ideal despite a severe winter; mild temperatures with no strong storms.

Between April 14 and May 24 a total of 28 volunteers monitored four sites on the Homer Spit, one site at nearby Beluga Slough, and by boat the Islands and Islets on the south side of Kachemak Bay. We observed 27 species of shorebirds and counted a total of approximately

23,972 individual shorebirds. The top 10 species included Western Sandpiper (16,375), Surfbird (2,919), Red-necked Phalarope (1,501 all but one seen by boat), Dunlin (1,205), a lumping of unidentified *Calidris* (844), Black-bellied Plover (354), Dowitcher (153 of which almost all were Short-billed), Semipalmated Plover (142), Least Sandpiper (103), and Pacific Golden Plover (95). There were no significant disturbances from humans, dogs or predators (e.g. raptors).

The number of shorebird species we counted this year was higher than in 2009 (24), 2010 (23), or 2011 (25). Also, the total number of individual shorebirds counted was significantly higher than in 2009 (7,406), 2010 (9,845), or 2011 (16,007). A review of our daily spot check data taken at prime sites during the peak of migration revealed a significant reason; in 2012 the peak of three large pulses of migrating shorebirds occurred on the same day as our monitoring date. In previous years, the relatively short pulse never peaked on a scheduled monitoring date thereby not including in the count a significant percentage of shorebirds that stopped at the Homer Spit.

2013 - The 2013 project followed the monitoring protocol used in previous years for the Homer Spit area. This year we extended our efforts to include monitoring at the nearby Anchor Point/River and the Kasilof River.

Between April 13, 2013 and May 23, 2013 a total of 33 volunteers (including 9 teenagers) monitored four sites on the Homer Spit, one site at nearby Beluga Slough, and by boat the Islands and Islets on the south side of the Bay. We observed 23 species of shorebirds and counted a total of approximately 18,623 individual shorebirds. Top ten taxa seen include Western Sandpiper (7,964), LESA/WESA/SESA which is a lumping of *Calidris* species (5,305), Dunlin (2,548), Surfbird (748), Red-necked Phalarope (703 with all but three seen by boat), Dowitcher *sp.* (344 of which most were probably Short-billed), Black-bellied Plover (221), Pectoral Sandpiper (146), Least Sandpiper (128), and Pacific Golden Plover (96). We noted some minor disturbances of shorebird flocks from loose dogs and low-flying aircraft.

The number of shorebird species we counted this year (23) was less than most previous years; 24 in 2009, 23 in 2010, 25 in 2011, and 27 in 2012. However, this year for the first time we saw Bristle-thighed Curlew, which is considered accidental for Kachemak Bay, on two successive monitoring sessions. The total number of individual shorebirds counted this year (18,623) was above average (15,171) for our five years of effort: 7,406 in 2009, 9,845 in 2010, 16,007 in 2011, and 23,972 in 2012. But it seemed like there were about as many shorebirds this year as last year. A review of our daily spot check data taken at prime sites during the peak of migration revealed that unlike 2012, when three of our scheduled monitoring dates happened to coincide with the peak of a pulse of shorebird arrivals, this year only the shoulder, not the peak, of the largest pulse was during a scheduled monitoring date.

The four volunteers who monitored the Anchor River followed the same protocol that was used at the Homer Spit thereby avoiding any double-counting. They reported seeing a total of 21 species of shorebirds and counted 1,065 individual birds. The top ten taxa were: Western Sandpiper (606), Whimbrel (75), Dunlin (67), yellowlegs *sp.* (45), Greater Yellowlegs (44), Black-bellied Plover (40), LESA/WESA/SESA (29), Lesser Yellowlegs (20), Dowitcher *sp.* (19), and Long-billed Dowitcher (18). Although several Bristle-thighed Curlews were frequently seen at the Anchor River this spring, none were observed during monitoring.

The five volunteers who monitored the Kasilof River used a different protocol. They started when the incoming tide was half way to reaching high tide and not always on the same days as Homer Spit monitors. Nevertheless, with nine monitoring sessions, they had a similar level of effort. They saw a total of 18 species of shorebirds and counted approximately 21,363 individuals. The count for the Kasilof River is high enough to be considered a Western Hemisphere Shorebird Reserve Network Site (WHSRN) of regional importance. The top ten taxa seen were Western Sandpiper (16,950), Dunlin (3,338), Short-billed Dowitcher (620), Least Sandpiper (209), Black-bellied Plover (59), Whimbrel (43), Long-billed Dowitcher (42), Greater Yellowlegs (34), Hudsonian Godwit (25), and Lesser Yellowlegs (8).

2014 – The 2014 project followed the monitoring protocol used in previous years for the Homer Spit area. We continued our efforts to include monitoring at the nearby Anchor Point/River and the Kasilof River.

Between April 17, 2014 and May 27, 2014 a record number of 45 volunteers participated in one or more of the this year's shorebird monitoring sessions: 35 in the Homer Spit area, 5 at Anchor Point (including one who volunteered at both Anchor Point and Beluga Slough), and 6 at the Kasilof River. In nine monitoring sessions we observed 25 species of shorebirds and counted a total of approximately 13,319 individual shorebirds. Top ten taxa seen include Western Sandpiper (4,000), Red-necked Phalarope (3,006 of which 3,000 were seen by boat), Surfbird (2,644), Dunlin (1,530), LESA/WESA/SESA which is a lumping of *Calidris* species (987), Semipalmated Plover (251), Least Sandpiper (195), Black-bellied Plover (114), Pectoral Sandpiper (98), and Black Turnstone (56). We noted some minor disturbances of shorebird flocks by loose dogs and low-flying aircraft, particularly helicopters.

The number of shorebird species we counted this year (25) was the same as the average for all six years of monitoring. One new species seen this year were four Red Phalarope mixed in with a large flock of Red-necked Phalarope at the mouth of the Bay. We also saw a Red Knot, which is only the second time we have observed this late migrant during monitoring. The number of Surfbirds this year was about twice our average. A flock of about 1,500 were seen separate from our monitoring. The total number of individual shorebirds counted this year (13,139) was about average for our six years of effort (14,832). Unlike previous years, when a couple of pulses of migrating shorebirds would arrive at Kachemak Bay, this year there was just one continuous pulse. It appears that the weather, which was benign throughout the migration, may have been a primary factor. Since there was no need for shorebirds to wait out a storm, their stopover seemed to be for no more than a tide or two.

Protocol shorebird monitoring data (once every five days) was compared to daily observations during the peak of shorebird migration (May 1-14). These other sources of data were; 1) daily spot checks on the Homer Spit and 2) daily eBird submissions. Although one of our scheduled monitoring dates was only two days off the peak, based on this data, it appears that scheduled monitoring accounts for about one-quarter of the shorebirds that stopped over at the Homer Spit this year.

In addition to the Homer Spit area we continued shorebird monitoring at the mouths of the Anchor and Kasilof Rivers. At the Anchor River, reported seeing a total of 19 species of

shorebirds. The count this year for the Anchor River amounted 5,476. However, this includes a flock of about 5,000 Red-necked Phalarope that were seen offshore on May 12th.

Monitors at the Kasilof River saw 15 species of shorebirds. On May 16, which was a supplemental day, they saw a Baird's Sandpiper. The total count for the nine scheduled monitoring days was 958 shorebirds. This is considerably less than last year, due primarily to not seeing as many sandpipers. It is speculated that because of the mild weather, many shorebirds did not bother to stopover at the Kasilof River this year. Observations for the Kasilof River were not that much different than the Anchor River if you deduct out the large flock of Red-necked Phalarope seen off-shore of the Anchor River.

III. 2015 Monitoring Protocol

A. ISS Modified Protocol

As in previous years, our shorebird monitoring protocol for 2015 used a modified version of the ISS protocol (www.shorebirdworld.org/). Differences were:

1. Rather than collect data individually from one site, our protocol used a team effort to simultaneously cover five sites on or near Homer Spit. Four sites are actually on Homer Spit and one site (Beluga Slough) was nearby. In addition we obtained observations the same day from a charter boat captain (Karl Stoltzfus) who volunteered to monitor the other side (south) of the Bay during scheduled trips. This site is called Islands and Islets.
2. Based on ISS protocol, monitoring frequency should be once every 10 days. However, migrating shorebirds tend to spend less time at Alaska stopover sites than in the Lower-48. Studies of radio-tagged migrating shorebirds that stage in the Cooper River Delta found these birds stayed only 2 to 4 days (Warnock et al 2005). Other studies of radio-tagged shorebirds migrating through the Yakutat Forelands found that the stopover duration was just one day for 14 out 15 (93.3%) radio-tagged Western Sandpipers and two days for one (6.7%) bird (Andres et al 1998). Considering both the need to monitor more frequently than once every 10 days and to avoid double-counting by monitoring too often, we settled on monitoring once every five days. This also agreed with the level of effort that volunteers were willing to commit; always an important factor with citizen science projects.
3. Monitoring at the mouth of the Anchor River continued for the third year using the same protocol as used on Homer Spit. Monitoring at the same time avoids double-counting.
4. Volunteers who monitored the mouth of the Kasilof River decided that the optimal viewing time to begin monitoring there was at mid-tide on a rising tide. Their monitoring dates this year were the same as the dates used on Homer Spit.
5. The project coordinator, in addition to writing a combined report for each session, gathered the individual site reports and entered each in the ISS portal for eBird.

B. Kachemak Bay Monitoring Sites

Monitoring sites and how the count was conducted (stationary, walking, or by boat) are listed below with a brief description of the primary type of habitat. Our 2009 report on Kachemak Bay Birders web site has aerial photos of each monitoring site.

- Homer Spit
 - ✓ Mud Bay – stationary. Shallow, intertidal area with extensive mudflats protected by the Spit from storm surges.
 - ✓ Mariner’s Park Lagoon – stationary. An upper intertidal area that floods only at higher than average tides.
 - ✓ Mid-spit area including Green Timbers and Louie’s Lagoon – walking. Mostly a grassy upper intertidal area that floods only at high tides.

- ✓ Boat harbor and Lands' End – walking. The rock armor protecting the harbor creates an environment favored by birds such as Surfbirds.
- Beluga Slough – walking. An estuary with a stream that originates from artificially created Beluga Lake.
- Islands and Islets on south side of Kachemak Bay – boat. All these areas are essentially rock outcroppings with little or no beach.
 - ✓ Gull Island
 - ✓ Sixty-foot Rock
 - ✓ Cohen Island
 - ✓ Lancashire Rocks near Neptune Bay

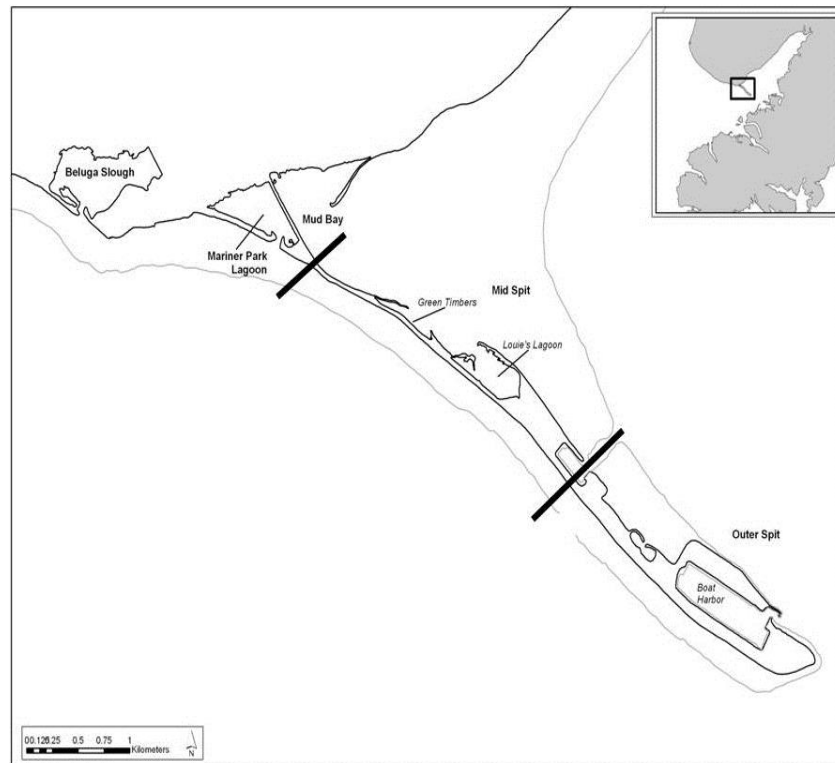


Figure 5. Illustration of Homer Spit shorebird monitoring sites for 2015.

The Anchor River and Kasilof River monitoring sites were described in the Introduction.

C. Monitoring Dates and Times

The most important factor in establishing survey times is the tide. Monitoring is not conducted during higher than average high tides since shorebirds often leave the intertidal area at this time. Conversely, low tides put shorebirds way out of viewing range (more than a mile). Based on our previous experience, the best time to begin monitoring in Kachemak Bay is when the outgoing tide approaches 15.0 feet, or at high tide in cases when high tide doesn't reach this level. Not only do these conditions provide good viewing opportunity but also coincide with shorebird foraging activity. The times used to begin monitoring are based on the quarter hour.

Tide data is taken from the Seldovia District tide tables. The correction factor for Homer is that high tide occurs five minutes later than Seldovia, which is inconsequential for monitoring purposes. The correction time for Anchor Point is plus 29 minutes.

Table 1. 2015 Homer Spit and Anchor River monitoring times and tides

Date	Starting Time		High Tide	
	Time	Tide (ft.)	Time	Tide (ft.)
Thursday, April 16	3:15 PM	15.5	1:34 PM	18.6
Tuesday, April 21	6:45 PM	15.7	5:31 PM	19.1
Sunday, April 26	9:00 AM	13.2	9:06 AM	13.2
Friday, May 1	3:15 PM	15.0	2:06 PM	16.1
Wednesday, May 6	5:45 PM	15.1	5:12 PM	17.5
Monday, May 11	8:15 AM	14.8	8:25 AM	14.8
Saturday, May 16	3:45 PM	15.6	2:13 PM	18.3
Thursday, May 21	7:30 PM	15.4	6:02 PM	17.6
Tuesday, May 26	9:30 AM	12.4	9:35 AM	12.4

Starting times are from http://www.tidesandcurrents.noaa.gov/data_menu.shtml?stn=9455500 Seldovia, AK&type=Tide+Data.

Optimal shorebird viewing conditions for the Kasilof River is different than the Homer Spit. The best time to view shorebirds on the mudflats at the mouth of the river is when the flooding tide is about half way between low tide and high tide. Monitoring sessions on the Kasilof River lasted an hour and a half rather than two hours because shorebirds would often leave the area after the mud flats were flooded. Also, since high tide on the Kasilof River is a few hours later than Kachemak Bay starting times were also later.

Table 2. 2015 Kasilof River monitoring times and tides

Date	Monitoring Times		High Tide		Low Tide	
	Start	Finish	Time	Tide (ft.)	Time	Tide (ft.)
Thursday, April 16	7:00 PM	8:30 PM	3:28 PM	20.5	10:35 PM	-1.2
Tuesday, April 21	4:45 PM	6:15 PM	7:25 PM	21.0	1:59 PM	-4.3
Sunday, April 26	2:45 PM	4:15 PM	11:00 AM	15.1	6:40 PM	3.7
Friday, May 1	7:00 AM	8:30 AM	3:30 AM	18.7	10:49 AM	0.8
Wednesday, May 6	4:15 PM	5:45 PM	7:06 PM	19.4	1:38 PM	-2.6
Monday, May 11	8:30 PM	10:00 PM	11:41 PM	17.2	5:54 PM	1.5
Saturday, May 16	7:30 PM	9:00 PM	4:07 PM	20.2	10:57 PM	-2.9
Thursday, May 21	10:30 AM	11:00 AM	6:55 AM	21.2	2:23 PM	-2.9
Tuesday, May 26	9:00 AM	11:30 AM	11:29 AM	14.3	6:35 AM	5.6

The highest and lowest tides for Kachemak Bay during this year's project were on April 19 and 20 with a high tide of 22.0 feet and a low tide of -5.0 feet; a tidal range of 27.0 feet. The highest tide for the year was on October 29 at 22.8 feet. The lowest tide for the year was -5.0 feet on January 21, April 19 and 20, and October 28.

D. Volunteer Schedule

Table 3 lists the individuals who monitored the Kachemak Bay area this year by date and site.

Table 3. 2015 shorebird monitoring project volunteers.

2015 Kachemak Bay Shorebird Monitoring Project										
Volunteer Schedule										
Monitoring Site	Volunteers	Monitoring Dates								
		16-Apr	21-Apr	26-Apr	1-May	6-May	11-May	16-May	21-May	26-May
Mud Bay	Betty Siegel		X	X	X	X		X	X	X
	Jason Sodergen	X	X	X	X	X	X	X	X	X
	Cindy Sisson		X	X	X	X		X	X	
	Scot McEwen		X							
	Cindy Graham	X	X	X	X	X	X			
	Paul Allen	X	X		X					
	Louise Ashmun	X	X			X	X	X	X	
Mariner Park Lagoon	George Matz		X	X	X		X	X	X	X
	Tami Reiser	X	X	X	X	X	X	X	X	X
	David Reiser		X	X		X	X	X	X	X
	Jeannie Woodring			X	X	X	X	X		X
	Paula Robertson	X								
	Joan Frederick		X		X					X
	Carol Harding	X								
Robin Edwards	X									
Mid-Spit	Lani Raymond	X	X	X	X	X	X	X	X	X
	Stan White	X	X	X	X		X	X		X
	Gary Lyon	X	X	X	X	X	X		X	
	Osi Kaspi	X	X		X	X	X	X	X	X
	Carol Harding		X	X	X	X	X	X	X	
	Robin Edwards		X	X	X	X	X			
	Leanna Ballard			X						
	Jack Wiles	X	X	X	X	X	X	X	X	X
	Hal Smith					X		X		
	Susan				X					
Boat Harbor area	BJ Hitchcock	X	X		X		X	X	X	X
	John Hitchcock	X	X							
	Joanne Thordarson	X	X	X		X	X	X	X	X
	Carla Stanley	X		X	X					
	Wayne Stanley	X			X					
	Stan White					X	X			
Beluga Slough	Dale Chorman	X	X	X	X	X	X	X	X	X
	Nancy Lord	X	X	X	X	X	X	X	X	X
	Susan Bunting	X	X	X		X				
	Nolan Bunting	X	X	X		X				
	Landon Bunting	X	X	X						
	Phil Barber	X	X	X	X	X		X		
	Casey Otis					X				
	McLane						X			
	Brodie						X			
	Diane Spence								X	X
Islands & Islets	Karl Stoltzfus		X	X	X	X	X		X	X
Anchor Point	Michelle Micaud	X	X	X	X	X	X	X	X	X
	Michael Craig	X	X	X	X	X	X	X	X	X
	Ken Jones	X	X	X	X	X	X		X	X
	Lori Paulsrud						X			

On most monitoring dates at least two observers, usually having local birding experience, were assigned to each team. This year, a record total of 45 individual volunteers participated in one or more of the monitoring sessions: 35 in the Homer Spit area, 5 at Anchor Point (including one who volunteered at both Anchor Point and Beluga Slough), and 6 at the Kasilof River.

This year's a record number of 49 volunteers participated: 40 in the Homer Spit area, 4 at Anchor Point, and 5 at the Kasilof River. This amounted to 400 hours of volunteer effort at the Homer Spit, 54 hours at the Anchor River, and 24 hours at the Kasilof River (monitoring sessions were two hours except for the Kasilof River which was 1.5 hours) for a total of 478 hours of effort. This does not include travel time or time spent caucusing. Nor does it include the time spent by the project coordinator in collecting data sheets, entering them into eBird, and writing reports. This potential in-kind match has been suggested to assisting agencies.

E. Recording Observations

Appendix A provides a Kachemak Bay shorebird checklist extracted from *Checklist of Birds of Kachemak Bay, Alaska 2011* (CACS 2011). There are 39 species on the list of which 31 species are either common or uncommon at some season of the year (mostly spring and/or fall) and eight are either rare or accidental.

Monitors used a one page form listing common and uncommon shorebirds (Appendix B) to record observations. On this form, they noted the species observed and abundance as well as when they first observed individual birds or flocks and when these birds left the monitoring site. The latter was used to match times with other sites in order to eliminate duplicate counts. Monitors also noted on the form any disturbance to shorebirds by people, dogs, or predators (e.g. raptors).

The coordinator obtained the current weather data for each monitoring period (including temperature, wind speed and direction, cloud cover, and precipitation) from the NOAA Homer Airport web site (<http://weather.noaa.gov/weather/current/PAHO.html>). Weather records are also available for the Homer Harbor but have a shorter history.

Volunteers caucused after each monitoring session to compare notes. If we determined that a flock of shorebirds had been counted at more than one site, a corresponding adjustment was made to the total count record. While the cumulative site counts for each monitoring deducted any double counting, the record for the site did not.

Monitoring data was entered in the ISS eBird database by site. A report for each monitoring session was also posted on Kachemak Bay Birders (birding@kachemakbaybirders.org) and AKBirding (AKBirding@yahoogroups.com) list servers. These reports are included in this report under Appendix D.

IV. 2015 Monitoring Results

A. Homer Spit Area

The 2015 Kachemak Bay Shorebird Monitoring Project observed a total of 21 species of shorebirds and counted a total of approximately 8,287 individual bird's at all six sites in Homer Spit area. Table 4 presents a breakdown of this count by species for the four monitoring sites on Homer Spit, Beluga Slough, and Islands and Islets as well as the total for all six sites. This breakdown allows a more direct comparison with West's data (discussed later).

Table 4. Number of shorebirds seen by species for all 2015 survey dates, Sorted by abundance for all Sites.

	Homer Spit	Beluga	Islands	
SPECIES	Sites	Slough	& Islets	All Sites
Western Sandpiper	2,169	98	-	2,267
Surfbird	1,814	-	297	2,111
Red-necked Phalarope	1	2	1,500	1,503
Dunlin	786	40	-	826
Black Turnstone	28	-	324	352
LESA/WESA/SESA	285	21	-	306
Semipalmated Plover	263	10	-	273
Black-bellied Plover	201	9	-	210
Least Sandpiper	109	59	-	168
Dowitcher sp.	48	17	-	65
Greater Yellowlegs	16	23	-	39
Wandering Tattler	38	-	1	39
Semipalmated Sandpiper	31	2	-	33
Whimbrel	7	21	-	28
Black Oystercatcher	-	-	18	18
Lesser Yellowlegs	4	7	-	11
Pectoral Sandpiper	4	7	-	11
Ruddy Turnstone	6	-	-	6
Rock Sandpiper	-	-	6	6
Yellowlegs sp.	2	3	-	5
Marbled Godwit	4	1	-	5
Pacific Golden Plover	4	-	-	4
Red Knot	1	-	-	1
Total	5,821	320	2,146	8,287

Note: LESA/WESA/SESA lumps Least Sandpipers, Western Sandpipers, and Semipalmated Sandpipers when the observer couldn't identify by species. It likely includes Dunlin as well.

Table 5 provides a breakdown by species and date for all Homer Spit area sites monitored. Cells with red tabs have further information (e.g. weather, tides, and observers) when viewed in Excel. An Excel file of this data is available through the Kachemak Bay Birders web site. Birds other than shorebirds that were observed were noted in the report (see Appendix E) that was sent after

each session to the Kachemak Bay Birders and AK Birding list serves and included in the eBird report.

Table 5. Shorebirds counted by species and date for all six sites during 2015 monitoring.

SPECIES	April		May							Total
	16	21	26	1	6	11	16	21	26	
Semipalmated Plover	-	-	-	16	23	53	96	51	34	273
Killdeer	-	-	-	-	-	-	-	-	-	-
American Golden-Plover	-	-	-	-	-	-	-	-	-	-
Pacific Golden Plover	-	-	-	-	-	2	2	-	-	4
Black-bellied Plover	-	-	32	141	20	13	2	2	-	210
Black Oystercatcher	-	5	-	-	6	2	-	2	3	18
Greater Yellowlegs	1	6	4	3	12	4	4	3	2	39
Lesser Yellowlegs	-	1	-	3	1	4	1	1	-	11
Yellowlegs sp.	-	-	-	-	5	-	-	-	-	5
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-
Whimbrel	-	-	-	3	4	2	19	-	-	28
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-
Marbled Godwit	-	-	-	-	4	-	-	-	1	5
Wandering Tattler	-	-	-	-	1	18	12	8	-	39
Surfbird	-	-	-	118	1,240	663	40	50	-	2,111
Ruddy Turnstone	-	-	-	-	4	-	-	-	2	6
Black Turnstone	-	-	-	-	325	27	-	-	-	352
Western Sandpiper	-	-	1	100	301	1,251	594	20	-	2,267
Least Sandpiper	-	-	-	45	3	28	86	-	6	168
Semipalmated Sandpiper	-	-	-	2	-	-	27	4	-	33
LESA/WESA/SESA	-	-	-	10	94	30	166	6	-	306
Sanderling	-	-	-	-	-	-	-	-	-	-
Pectoral Sandpiper	-	-	-	-	-	6	5	-	-	11
Dunlin	-	-	15	75	122	404	204	5	1	826
Rock Sandpiper	-	4	-	2	-	-	-	-	-	6
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-
Red Knot	-	-	-	-	-	-	-	1	-	1
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-
Dowitcher sp.	-	-	-	4	1	17	37	6	-	65
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-
Red Phalarope	-	-	-	-	-	-	-	-	-	-
Red-necked Phalarope	-	-	-	-	1,500	1	-	1	1	1,503
Total	1	16	52	522	3,666	2,525	1,295	160	50	8,287

No Wilson's Snipe were seen this year, but this shorebird is common in nearby freshwater wetlands.

Again, a large number of Surfbirds were seen, usually on the rocks at the entrance to the boat harbor. I was able to get a good photo of nearly the entire flock against the sky, which enabled a good count. There are 2,030 birds in the photo shown on the cover, nearly all being Surfbirds with a couple of Black Turnstones. This represents a significant percentage of its entire population. Here is what the 2008 *Alaska Shorebird Conservation Plan* says.

Surfbird—The Surfbird has a relatively small population (70,000 birds), more than 75% of which breeds in Alaska (Senner and McCaffery 1997). Most Surfbirds concentrate for a few weeks each spring on traditional staging areas in Prince William Sound, particularly on Montague Island (Norton et al. 1990, Senner and McCaffery 1997, Bishop and Green 2001). Several staging areas were affected by the Exxon Valdez oil spill, which resulted in a significant decline in

herring spawn, a rich food resource for Surfbirds. Oil spills will likely continue to occur in the Sound or in the Gulf of Alaska as long as the production and transportation of petroleum products continue in this region.

Kachemak Bay has a variety of habitats ranging from rocky islets to mud flats, which in turn attracts a variety of shorebird species. Each of the six sites attracts different species and numbers. Figure 6 and Table 6 provide an overview as to the number of shorebirds counted at each site for each monitoring session. Appendix C provides spreadsheets for each site that lists for each monitoring session the shorebird species seen and count as well as who the monitors were and if they saw any disturbances. This information, plus birds seen other than shorebirds, has been entered in eBird.

Figure 6. Number of shorebirds counted during 2015 by date and site.

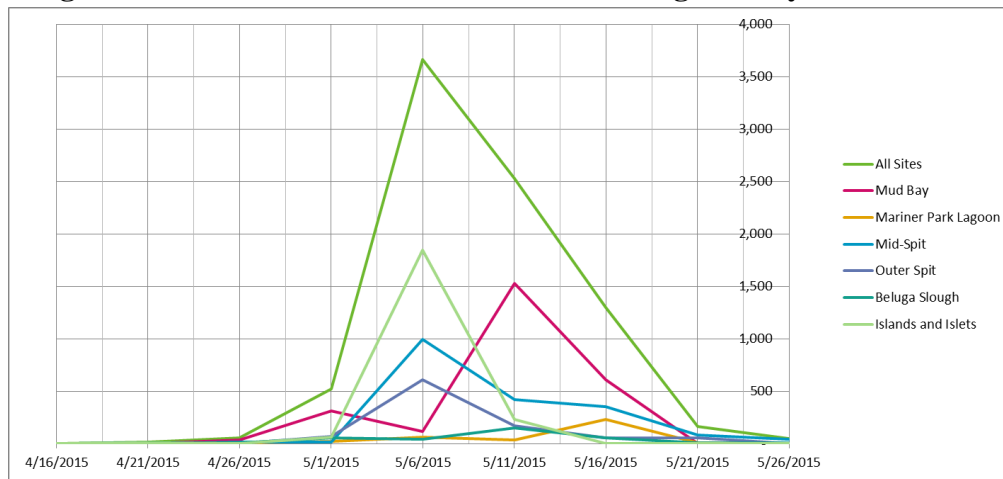


Table 6. Number of shorebirds counted during 2014 by date and site.

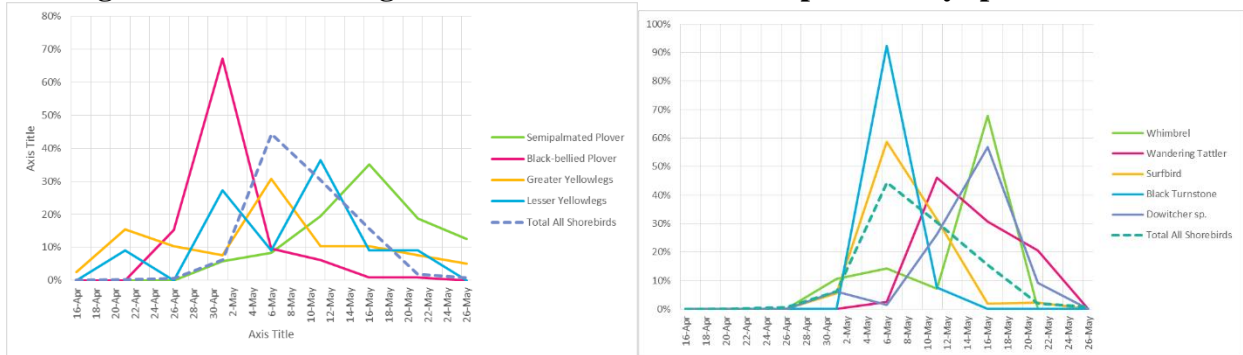
2015 Shorebird Monitoring Project	4/16/2015	4/21/2015	4/26/2015	5/1/2015	5/6/2015	5/11/2015	5/16/2015	5/21/2015	5/26/2015	Total
All Sites	1	16	52	522	3,666	2,525	1,295	160	50	8,287
Mud Bay	-	2	33	314	113	1,527	610	3	2	2,604
Mariner Park Lagoon	1	-	5	19	61	34	229	9	-	358
Mid-Spit	-	-	15	13	991	419	352	82	40	1,912
Outer Spit	-	-	-	65	612	168	52	55	-	952
Beluga Slough	-	5	4	52	43	150	52	9	5	320
Islands and Islets	-	9	-	59	1,846	227	-	2	3	2,146

As expected, each species tends to arrive at a different date. Typically, yellowlegs and plovers are the first wave followed by sandpipers, and then tattlers, etc. However, the first shorebird usually present in Kachemak Bay is the Rock Sandpiper which overwinter here and leave about the time that yellowlegs first arrive. But the last two winters, which have been mild, the presence of Rock Sandpipers has been sporadic and not as abundant as in previous winters. The few that have been around left early, perhaps because of the mild weather.

Figures 7 and 8 illustrate arrival and departure dates for taxa that had a count greater than 10. This data is based on the number of birds seen by species for a monitoring date divided by the

total number of birds of that species counted this year. Using this percentage rather than the actual number of birds allows comparisons on a scale that fits the chart.

Figure 7 & 8. Percentage of shorebird arrivals and departures by species for 2015.



B. Homer Spit Supplemental Monitoring

In our first year of monitoring (2009) it appeared there were times when large flocks of shorebirds (particularly Western Sandpipers and Dunlin) arrived at the Homer Spit after a scheduled monitoring date but left before the next monitoring date, thus not being included in the count. To get a better handle on turn-over rates, in 2010 we monitored Mud Bay daily for shorebirds during the two weeks of peak migration. From this we verified that there were substantial day-to-day variances in shorebird numbers with some coming and going between counts.

In following years, one or two volunteers monitored the Spit nearly every day during the peak of migration. The purpose of these spot checks was to get a snapshot of the overall number of shorebirds in Mud Bay and the mid-Spit area; which accounts for most of the Western Sandpipers, Dunlin, and other sandpipers. But since this data doesn't follow our protocol it can't be added to our monitoring data. Nevertheless, it does assist us in making reasonable estimates as to what we missed. This was demonstrated in 2012 when we had three distinct pulses of shorebirds pass through the area and all three were on scheduled monitoring dates. The result was record high counts. But knowing that the peak of these pulses coincided with scheduled monitoring dates, and that this didn't happen in previous years, we were able to deduce that the increase in count from previous years was not as significant as it might appear (Matz, 2012).

This year, given the growing popularity of eBird, particularly in Homer during the Kachemak Bay Shorebird Festival, we used eBird reports as our source of supplemental data. All shorebird observations from Homer Spit eBird hotspot reports during our monitoring program (April 16-May 26) were downloaded to a spreadsheet. To fit the page, Table 7 below summarizes only observations from May 1-16, which includes 99% of the data as well as any pulses. When it was obvious that there was more than one report for the same birds, only the higher number was used. Dates highlighted by yellow are shorebird monitoring dates.

In several cases eBird filtered out some counts that were high, even though these were accurate estimates. In fact, some of the estimates were based on counts taken from photos. The problem is that the counts exceeded the eBird filter, which appears to be based on arbitrary numbers

which doesn't include our monitoring data. In these cases, our more accurate observation count was substituted. These instances are noted by a red flag in the cell. Comments in cells with red flags can be viewed in an Excel version of this table.

Table 7. Homer Spit eBird reports for shorebirds from May 1-16.

SPECIES	May	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total	
Semipalmated Plover		16					23	25	59	24	3	53	3					116	322
Killdeer																			-
American Golden-Plover									1	5		2						2	10
Pacific Golden Plover					4		20	17	16	52	9	13	4		3			2	281
Black-bellied Plover	141					6	6	2			2	2						2	18
Black Oystercatcher							6	2			2	2						4	51
Greater Yellowlegs	3						12	2	11	10	2	4	3					2	20
Lesser Yellowlegs	3			1			1	2	2	5		4						2	6
Yellowlegs sp.							5		1										-
Spotted Sandpiper																			-
Whimbrel	3						4	5	3	34	21	2	1					19	92
Bristle-thighed Curlew																			-
Bar-tailed Godwit																			-
Hudsonian Godwit							5	2		3								10	10
Marbled Godwit							4	4	1	1								10	10
Wandering Tattler							1				1	18						12	32
Surfbird	118	30		50			1,240	2,030	2,000	1,395	384	663	300					53	8,263
Ruddy Turnstone							4	1	2						1			2	10
Black Turnstone				2	18		325	29	60	76	6	101						32	649
Western Sandpiper	100						301	2,280	3,705	7,056	2,937	1,251	3,215	1,800	140			794	23,579
Least Sandpiper	45						3					28						86	162
Semipalmated Sandpiper	2			3			3	25	250	104	22		1		23			27	460
LESA/WESA/SESA	10						94		15	40		100	500					166	925
Sanderling									2	2								2	4
Pectoral Sandpiper								1	4	6	2	17	18					8	56
Dunlin	75						123	706	556	566	531	404	1,014	600				215	4,790
Rock Sandpiper	2							3	13	2		1							21
Baird's Sandpiper																			-
Red Knot										1	1				1			3	3
Short-billed Dowitcher								1	45	39	25		22					1	133
Long-billed Dowitcher								1	1	21	8		8						39
Dowitcher sp.	4				1		1	11	4	10		17						37	95
Wilson's Snipe				3															3
Red Phalarope								4	6	11	4		2						27
Red-necked Phalarope					20		1,500	650	1,200	500	200	12	40					496	4,618
Total		522	30	-	59	49	3,675	5,801	7,957	9,963	4,168	2,692	5,131	2,400	168	-		2,074	44,689
Total; monitoring dates																			8,963

The totals at the bottom of Table 7 demonstrates that our monitoring dates for this year were not during the peak of the pulse. From May 1-16, our monitoring count was only about 20% of the count on eBird. But the daily eBird count likely included shorebirds that were present on Homer Spit for more than one day, which could amount to substantial double-counting and maybe even some over counting. While we have no way of knowing, we are at least have some idea as to how many shorebirds we missed between monitoring sessions. This information could be used as a correction factor when comparing year-to-year totals.

Another exercise for this report was to compare our monitoring counts with the eBird counts just for the monitoring dates. While this may be essentially the same data in some cases, the comparison, as shown in Table 8 seems reasonably close.

Table 8. Comparing monitoring counts with eBird counts for the same days.

SITE : Homer Spit and Adjacent Waters																							
Combined Totals for Six Sites																							
SPECIES	16-Apr	16-Apr	21-Apr	21-Apr	26-Apr	26-Apr	1-May	1-May	6-May	6-May	11-May	11-May	16-May	16-May	21-May	21-May	26-May	26-May	Total	Total			
	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird	Data Input	eBird			
Semipalmated Plover	-	-	-	-	-	-	16	16	23	23	53	53	96	116	51	51	34	35	273	294			
Killdeer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
American Golden-Plover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Pacific Golden Plover	-	-	-	-	-	-	-	-	-	2	2	2	2	-	-	-	-	-	4	4			
Black-bellied Plover	-	-	-	-	32	32	141	141	20	20	13	13	2	2	2	2	-	1	210	211			
Black Oystercatcher	-	-	5	5	-	2	-	6	6	2	2	-	-	2	2	3	3	3	18	18			
Greater Yellowlegs	1	1	6	6	4	4	3	3	12	12	4	4	4	4	3	3	2	4	39	41			
Lesser Yellowlegs	-	-	1	-	-	-	3	3	1	1	4	4	1	2	1	1	-	-	11	11			
Yellowlegs sp.	-	-	-	-	-	-	-	-	5	5	-	-	-	-	-	-	-	-	5	5			
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Whimbrel	-	-	-	-	-	-	3	3	4	4	2	2	19	19	-	-	-	-	28	28			
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	5			
Marbled Godwit	-	-	-	-	-	-	-	-	4	4	-	-	-	-	-	-	1	-	5	4			
Wandering Tattler	-	-	-	-	-	-	-	-	1	1	18	18	12	12	8	8	-	-	39	39			
Surfbird	-	-	-	-	-	-	118	118	1,240	1,240	663	663	40	53	50	50	-	-	2,111	2,124			
Ruddy Turnstone	-	-	-	-	-	-	-	-	4	4	-	-	-	2	-	-	2	2	6	8			
Black Turnstone	-	-	-	-	-	-	-	-	325	25	27	101	-	32	-	-	-	-	352	158			
Western Sandpiper	-	-	-	-	1	1	100	100	301	301	1,251	1,251	594	794	20	20	-	-	2,267	2,467			
Least Sandpiper	-	-	-	-	-	-	45	45	3	3	28	28	86	86	-	-	6	6	168	168			
Semipalmated Sandpiper	-	-	-	-	-	-	2	2	-	3	-	-	27	27	4	4	-	-	33	36			
LESA/WESA/SESA	-	-	-	-	-	-	10	10	94	94	30	100	166	166	6	6	-	-	306	376			
Sanderling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Pectoral Sandpiper	-	-	-	-	-	-	-	-	-	6	17	5	8	-	-	-	-	-	11	25			
Dunlin	-	-	-	-	15	15	75	75	122	123	404	404	204	215	5	5	1	1	826	838			
Rock Sandpiper	-	-	4	4	-	-	2	-	-	-	-	1	-	-	-	-	-	-	6	5			
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Red Knot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1			
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1			
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Dowitcher sp.	-	-	-	-	-	-	4	4	1	1	17	17	37	37	6	6	-	-	65	65			
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Red Phalarope	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Red-necked Phalarope	-	-	-	-	-	-	-	-	1,500	80	1	12	-	496	1	1	1	76	1,503	665			
Total	1	1	16	15	52	54	522	520	3,666	1,955	2,525	2,692	1,295	2,074	160	158	50	128	8,287	7,597			
Total; Monitoring May 1-16																							

Effort was made to obtain similar eBird data for the Anchor River and Kasilof River, but there were too few submissions to come up with anything useful.

C. Anchor River

This is our third year of monitoring the Anchor River. Table 9 shows 19 species were observed and 818 individual shorebirds counted.

Table 9. Anchor River shorebird diversity and abundance during 2015.

#	SPECIES	April				May				Total	
		16	21	26	1	6	11	16	21		26
1	Semipalmated Plover	-	-	-	-	2	4	11	-	-	17
2	American Golden-Plover	-	-	-	-	-	-	-	2	-	2
3	Pacific Golden Plover	-	-	-	-	4	3	-	1	-	8
4	Black-bellied Plover	-	9	4	19	6	1	1	-	-	40
5	Greater Yellowlegs	1	8	3	9	10	2	3	4	2	42
6	Lesser Yellowlegs	-	-	-	-	-	-	-	2	-	2
7	Spotted Sandpiper	-	-	-	-	1	-	-	2	3	6
8	Whimbrel	-	-	-	-	-	-	-	2	-	2
9	Wandering Tattler	-	-	-	-	-	-	-	2	3	5
10	Surfbird	-	-	-	-	-	1	-	-	-	1
11	Western Sandpiper	-	-	-	-	16	169	19	-	-	204
12	Least Sandpiper	-	-	-	-	9	5	10	-	-	24
13	Semipalmated Sandpiper	-	-	-	-	-	2	1	-	-	3
	LESA/WESA/SESA	-	-	1	-	3	-	10	-	-	14
14	Dunlin	-	2	-	-	2	11	9	-	-	24
15	Rock Sandpiper	-	1	-	-	-	-	-	-	-	1
16	Short-billed Dowitcher	-	-	-	1	1	2	-	1	-	5
17	Long-billed Dowitcher	-	-	-	-	-	1	-	2	-	3
18	Dowitcher sp.	-	-	-	-	-	2	1	10	2	15
19	Red-necked Phalarope	-	-	-	-	400	-	-	-	-	400
	Total	1	20	8	33	453	200	65	28	10	818

The mouth of the Anchor River is a high energy beach with limited mud flats which doesn't attract large flocks of sandpipers like Mud Bay on Homer Spit. But it does have a lot of diversity and provides a more complete picture of the Kenai Peninsula spring shorebird migration.

D. Kasilof River

This was also the third year for monitoring the Kasilof River. A total of 16 species were observed with a total count of 5,412 shorebirds. This data gives us perspective on species less common in Kachemak Bay, such as the Hudsonian Godwit which breed close by.

Table 10. Kasilof River shorebird diversity and abundance during 2015.

	17-Apr	21-Apr	26-Apr	1-May	6-May	11-May	15-May	16-May	21-May	26-May		
	11:45-13:15	15:40-17:10	20:30-22:00	12:15-13:45	15:20-16:50	19:30-21:00	11:30-13:00	12:20-13:50	16:00-17:30	07:30-09:00		
Surveyor(s)	TB	TB	TB, LB	TB, LB	KT	TB, LB	LB, DB	LB, EB	TB, DB	TB	Totals	Species
Semipalmated Plover						7	3				10	1
Killdeer												
American Golden-Plover												
Pacific Golden Plover					7						7	1
Black-bellied Plover		4	6	20	4		3	3		1	41	1
Black Oystercatcher												
Greater Yellowlegs	1		7	1	1	1	2	3	1	1	18	1
Lesser Yellowlegs						2	2		2	6	12	1
Yellowlegs sp.												
Spotted Sandpiper												
Whimbrel					2		3		3	1	9	1
Bar-tailed Godwit												
Hudsonian Godwit					4	5	3				12	1
Marbled Godwit												
Wandering Tattler												
Surfbird												
Ruddy Turnstone												
Black Turnstone												
Western Sandpiper				32	300	1,800	1,100	1,400	2		4634	1
Least Sandpiper												
Semipalmated Sandpiper								1			1	1
LESA/WESA/SESA												
Sanderling									1		1	1
Pectoral Sandpiper							2				2	1
Dunlin		1	2	18	8	200	100	115	15		459	1
Rock Sandpiper												
Baird's Sandpiper								1			1	1
Red Knot								2			2	1
Short-billed Dowitcher				4	22	52	50	60	7	3	198	1
Long-billed Dowitcher												
Dowitcher sp.												
Wilson's Snipe				1		2			1	1	5	1
Red-necked Phalarope												
Total	1	5	15	76	348	2069	1268	1585	32	13	5412	16

Observers: KT = Ken Tarbox, LB = Laura Burke, DB = Damien Burke, EB = Eve Burke, TB = Toby Burke

Monitors at the Kasilof River followed a slightly different protocol. Because the mud flats that attract foraging shorebirds are covered by the high tide, causing shorebirds to leave the area, monitoring begins when the rising tide reaches the half-way point between high and low tide. Monitoring on the Kasilof River occurs the same day as Kachemak Bay. However, their effort

included an extra day (May 15) in order to provide supplemental data on a day that the pulse peaked.

E. Weather Effects

As illustrated by NOAA climate data from the Homer Airport, this spring weather was not an issue for migrating shorebirds. The weather was consistently warmer than normal throughout the migration.

Table 11. Comparison on spring 2015 Homer weather with average weather.

Homer	April 2014	April Normal	May 2014	May Normal
Average high temperature	48.5°F	44°F	56.8°F	52°F
Average low temperature	35.3°F	30°F	42.6°F	37°F
Average temperature	41.9°F	37°F	49.7°F	44°F
Total Precipitation	3.92 inch	1.06 inch	.33 inch	0.83 inch
Source: www.usclimatedata.com				

F. Disturbance

Our observations include noting any disturbances to shorebirds from raptors, people with dogs, aircraft, etc. Aircraft is a particular issue since the Homer Airport was built in a wetland near the base of the Spit. But not that many planes (no large jets) actually use the airport, so there doesn't seem to be that much disturbance to birds by planes. Small planes tend have a predictable flight pattern but helicopters are more erratic, which seems to make birds more wary. Also, the whoop-whoop noise of a helicopter seems to have a more disturbing effect on birds than the noise from small planes.

Another disturbance that often occurs in the Homer area is flushing of birds by dogs that are not on a leash. Kachemak Bay Birders makes an effort every spring to inform the public that unlike the gulls resting on the beach, shorebirds may have just completed a several hundred mile flight and need rest. In addition, the Alaska Maritime NWR posts signs on its property at Beluga Slough stating that during migration, dogs need to be on a leash.

Raptors also disturb shorebirds. Bald Eagles often cruise up and down the beach, but shorebirds do not seem to consider eagles much of a threat. Merlin's are another matter. When large flocks of sandpipers are present, there is often a Merlin or two in the area which definitely gets the attention of shorebirds, often causing them to flush. After being flushed, the flocks generally return to feeding in the intertidal area.

This year at Beluga Slough/Bishops Beach, illegal vehicle traffic in the intertidal area and the dunes was an issue. There were many complaints, which the Homer City Council is still addressing via an updated beach policy.

V. Trends

A. Comparing 2015 to Previous Years

Both the number of species of shorebirds as well as the count were less this year than recent years, despite the mild weather. Table 12 illustrates the trend using data for all the Homer Spit sites. Some of this difference might be due to having a higher percentage of shorebirds arrive and leave between scheduled count dates, thereby not being included.

Table 12. Annual shorebird count by species and sorted by average abundance.

2009-2015 Kachemak Bay Shorebird Count									
Sorted by average abundance									
# of Sp.	Species	2009	2010	2011	2012	2013	2014	2015	Average
1	Western Sandpiper	3,229	4,996	4,100	16,375	7,964	4,000	2,267	6,133
2	Red-necked Phalarope	1,630	1,500	5,152	1,501	703	3,006	1,503	2,142
	LESA/WESA/SESA	104	803	3,336	844	5,305	987	306	1,669
3	Surfbird	292	110	574	2,919	748	2,644	2,111	1,343
4	Dunlin	1,097	561	1,283	1,205	2,548	1,530	826	1,293
5	Black-bellied Plover	179	315	282	354	221	114	210	239
6	Semipalmated Plover	194	203	197	142	92	251	273	193
7	Least Sandpiper	136	245	219	103	128	195	168	171
8	Black Turnstone	81	373	121	71	21	56	352	154
9	Rock Sandpiper	141	405	482	6	4	6	6	150
	Dowitcher sp.	99	82	57	76	344	49	65	110
10	Greater Yellowlegs	24	36	59	68	90	24	39	49
11	Short-billed Dowitcher	125	-	33	76	18	15	-	38
12	Pacific Golden Plover	5	42	5	95	96	17	4	38
13	Pectoral Sandpiper	-	7	-	1	146	98	11	38
14	Wandering Tattler	13	56	30	18	62	39	39	37
15	Whimbrel	10	22	27	28	65	26	28	29
16	Semipalmated Sandpiper	1	5	3	34	-	13	33	13
17	Long-billed Dowitcher	-	-	15	1	22	36	-	11
18	Black Oystercatcher	11	11	13	8	2	8	18	10
19	Lesser Yellowlegs	-	26	3	15	9	4	11	10
20	Marbled Godwit	3	12	1	7	-	8	5	5
21	Ruddy Turnstone	1	10	1	2	9	2	6	4
	Yellowlegs sp.	2	18	-	2	2	-	5	4
22	Hudsonian Godwit	18	-	2	-	3	3	-	4
23	Sanderling	-	1	8	8	-	2	-	3
24	American Golden-Plover	3	1	1	1	10	-	-	2
25	Bar-tailed Godwit	3	-	-	4	6	-	-	2
26	Wilson's Snipe	1	5	1	1	-	-	-	1
27	Baird's Sandpiper	1	-	-	6	-	-	-	1
28	Bristle-thighed Curlew	-	-	-	-	5	-	-	1
29	Red Phalarope	-	-	-	-	-	5	-	1
30	Spotted Sandpiper	3	-	-	1	-	-	-	1
31	Red Knot	-	-	2	-	-	1	1	1
	Total Individuals	7,406	9,845	16,007	23,972	18,623	13,139	8,287	13,897
	Total Species	24	23	25	27	23	25	21	24

B. Comparing data from the Anchor and Kasilof Rivers.

Now that we have three years of data from the Anchor and Kasilof Rivers, we can start looking at what trends may be apparent at these sites. Other than the 5,000 Red-necked Phalaropes seen flying by in 2014, nothing really stands out.

Table 13. Species and counts for the Anchor River 2013-2015.

SITE : Anchor River					
#	SPECIES	2013	2014	2015	Average
1	Semipalmated Plover	14	13	17	15
2	American Golden-Plover	-	-	2	1
3	Pacific Golden Plover	10	1	8	6
4	Black-bellied Plover	40	48	40	43
	Plover sp.	15		-	5
5	Black Oystercatcher	1	-	-	0.3
6	Greater Yellowlegs	44	39	42	42
7	Lesser Yellowlegs	20	20	2	14
	Yellowlegs sp.	45	-	-	15
8	Spotted Sandpiper	-	-	6	2
9	Whimbrel	75	29	2	35
10	Hudsonian Godwit	1	-	-	0.3
11	Marbled Godwit	1	-	-	0.3
12	Wandering Tattler	1	1	5	2
13	Surfbird	-	-	1	0.3
14	Ruddy Turnstone	1	-	-	0.3
15	Black Turnstone	3	20	-	8
16	Western Sandpiper	606	135	204	315
17	Least Sandpiper	10	28	24	21
18	Semipalmated Sandpiper	8	6	3	6
	LESA/WESA/SESA	29	32	14	25
19	Pectoral Sandpiper	3	9	-	4
20	Dunlin	67	27	24	39
21	Rock Sandpiper	16	22	1	13
22	Red Knot	-	3	-	1
23	Short-billed Dowitcher	15	27	5	16
24	Long-billed Dowitcher	18	7	3	9
	Dowitcher sp.	19	8	15	14
25	Wilson's Snipe	3	1	-	1
26	Red-necked Phalarope	-	5,000	400	1,800
	Total Individuals	1,065	5,476	818	2,453
	Total Species	21	19	18	19

The Kasilof River observations from 2013 to 2015 have about the same diversity, but considerable differences in terms of count. It is not clear yet what may explain this. It has been

suggested that favorable weather conditions might entice migrating shorebirds to go past the Kasilof River and on to their breeding grounds.

Table 14. Species and counts for the Kasilof River 2013-2015.

SITE : Kasilof River					
#	SPECIES	2013	2014	2015	Average
1	Semipalmated Plover	6	3	10	6
2	American Golden-Plover	5	-	-	2
3	Pacific Golden Plover	1	2	7	3
4	Black-bellied Plover	59	19	40	39
5	Greater Yellowlegs	34	16	17	22
6	Lesser Yellowlegs	8	16	6	10
7	Whimbrel	43	58	8	36
8	Bar-tailed Godwit	1	-	-	0.3
9	Hudsonian Godwit	25	8	12	15
10	Marbled Godwit	-	2	-	1
11	Western Sandpiper	16,950	588	4,634	7,391
12	Least Sandpiper	209	5	-	71
13	Semipalmated Sandpiper	8	-	1	3
14	Sanderling	-	-	1	0
15	Pectoral Sandpiper	7	2	2	4
16	Dunlin	3,338	60	459	1,286
17	Baird's Sandpiper	1	-	-	0.3
18	Red Knot	-	-	2	1
19	Short-billed Dowitcher	620	174	195	330
20	Long-billed Dowitcher	42	-	-	14
	Dowitcher sp.	3	-	-	1
21	Wilson's Snipe	3	3	4	3
22	Red-necked Phalarope	-	2	-	1
	Total Individuals	21,363	958	5,398	9,240
	Total Species	19	15	15	16

C. Volunteer Participation

Table 15 presents an overview of volunteer effort for each site (including the Anchor and Kasilof Rivers) by individual monitor and by their level of participation for all seven years of shorebird monitoring. This volunteer effort could be used as in-kind match for grants, but no agency or organization has yet to take advantage of this opportunity.

Table 15. Monitoring Session Participation 2009-2015.

Shorebird Monitoring Participation									
Number of monitoring sessions participated in by year.									
Volunteer	2009	2010	2011	2012	2013	2014	2015	Total	
1 Aaron Lang			4	3		1		8	
2 Angie Doroff		1						1	
3 Bette Seaman				5	3	1		9	
4 Betty Siegel	9	9	8	8	9	9	7	59	
5 Beverly Kirtch						1		1	
6 BJ Hitchcock				9	7	7	7	30	
7 Brodie							1	1	
8 Bruce Bezon				2				2	
9 Bruce Machpail	1							1	
10 Carla Stanley	5		7	7		6	3	28	
11 Carol Harding	7			6	6	6	8	33	
12 Casey Otis							1	1	
13 Cindy Sisson							6	6	
14 Cindy Graham							6	6	
15 Connie Tarbox					4	1		5	
16 Dale Chorman				3	6	7	9	25	
17 Damien Burke							1	1	
18 David Reiser							7	7	
19 Devry Garity					6	3		9	
20 Diane Spence					1	2	2	5	
21 Duane Howe	9	6						15	
22 Erick Paulsrud				1	5	8		14	
23 Ethan Benedetti					1			1	
24 Eve Burke							1	1	
25 Gary Lyon	4	6	8	8	8	9	7	50	
26 George Kirtch					1	1		2	
27 George Matz	9	9	9	9	9	9	7	61	
28 Glenn Seaman					6	1		7	
29 Griffin Downey					5	3		8	
30 Hal Smith							1	2	3
31 Hoxie Parks						1		1	
32 Ingrid Harrald	6							6	
33 Iris Downey					1			1	
34 Jack Wiles				6	7		9	22	
35 Jason Sodergren	7	8	8	6	7	9	9	54	
36 Jay Mason Davis						2		2	
37 Jeannie Woodring					5	6	6	17	
38 Jessica Ryan		1						1	
39 Joan Frederick							3	3	
40 Joanne Thordarson				4	8	9	8	29	
41 Joel Vos						1		1	
42 John Hitchcock						1	2	3	
43 Karl Stolzlius	8	7	8	7	3	8	7	48	
44 Kathy Eagle			2					2	
45 Ken Castner						3		3	
46 Ken Jones							8	8	
47 Ken Tarbox					5	4	1	10	
48 Kim Cooney/Donohue	7	7	2	5				21	
49 Kyra Wagner	1	1		2				4	
50 Landon Bunting					5	6	3	14	
51 Lani Raymond	9	8	7	8	9	9	9	59	
52 Laura Burke					3	2	4	9	
53 Leanna Ballard							1	1	
54 Lee Post		5	1	1				7	
55 Linda Gorman				1				1	
56 Lori Paulsrud				1	6	8	1	16	
57 Louise Ashman							6	6	
58 McLane							1	1	
59 Michael Craig		8	8	9	9	6	9	49	
60 Michelle Michaud	7	9	6	6	7		9	44	
61 Nancy Lord				7	6	8	9	30	
62 Nancy Wrockledge		1		1				2	
63 Neal Wagner	9	8		6				23	
64 Nina Daley		8	2					10	
65 Nolan Bunting					7	6	4	17	
66 Osi Kaspi					6	6	8	20	
67 Owen Meyer			1		1	3		5	
68 Paul Allen							3	3	
69 Paula Robertson					1	2	1	4	
70 Phil Barber							6	6	
71 Phil Cowan		3	5					8	
72 Rachel Lord	3							3	
73 Rebecca Siegel					1			1	
74 Robin Edwards							6	6	
75 Scot McEwen							1	1	
76 Sharon Baur	1	2	5	3	2	3		16	
77 Stacey Buckelew					1	5		6	
78 Stan White					9	8	9	26	
79 Stuart Fety						1		1	
80 Susan							1	1	
81 Susan Bunting					5	3	4	12	
82 Susan McLane						4		4	
83 Tami Reiser							9	9	
84 Toby Burke					4	5	6	15	
85 Ty Gates						4		4	
86 Victoria Wilson Winne		8	3		2			13	
87 Wayne Stanley	1			7			2	10	
88 Zach Nelson					1			1	
Total	103	115	94	141	198	209	240	1100	

Over seven years of monitoring, a total of 88 volunteers have participated in one or more monitoring sessions. With the exception of the Kasilof River effort, each session last two hours and nearly all volunteers stay through the entire session. In addition, most volunteers attend the caucus afterwards, which can last from one-half to one hour.

Another indirect benefit of our monitoring program is that many volunteers are now better at shore bird identification. Volunteers who are comfortable with shorebird identification are needed to help out at the shorebird festival and provide assistance on various field trips. Also, knowledgeable volunteers are more prone to speak up for shorebird conservation when there are local threats.

D. Comparing Recent Data to West's Data

As in previous years, this year's report compares the Kachemak Bay Shorebird Monitoring Project data to George West's shorebird monitoring data from two decades ago. Not all of West's years of monitoring are useful for comparison purposes. Observations in 1987 and 1988 were not consistent. Also, after 1994 West's data included observations by a variety of local birders which didn't follow any protocol. Consequently, only the years 1986 and 1989-1994 are being used for comparison. This is consistent with West's presentation of his shorebird data (West 1996).

The protocol used by West is reasonably similar to the Kachemak Bay Birders protocol. West says "Estimates, or actual counts when possible, of all shorebirds encountered in Mud Bay, Mariner Park Lagoon, and along the north side of the Homer Spit were made daily at or just after high tide from 22 April to 18 May (West 1996)." However, West's shorebird counts were done daily and the protocol followed by Kachemak Bay Birders is to monitor once every five days. Therefore, adjustments to the data are needed for relevant comparisons. To provide a more direct match, the only West data being used in the comparison below is for the six dates that match our 2009 monitoring dates. As mentioned earlier, our monitoring dates advance by one day every year to avoid conflict with the shorebird festival so the dates from 2010 - 2013 don't exactly match the West dates. Also, West didn't monitor Beluga Slough or the south side of Kachemak Bay, therefore only our data from sites on Homer Spit are used for comparison.

Table 16 compares by species the seven years of West's data to the seven years of our shorebird monitoring. As can be seen at the bottom of the table, when comparing comparable sets of data, the number of individual shorebirds counted over the past seven years is about 60% of the number seen by West. Although the trend is decreasing populations, there are some species that appear to be more numerous now.

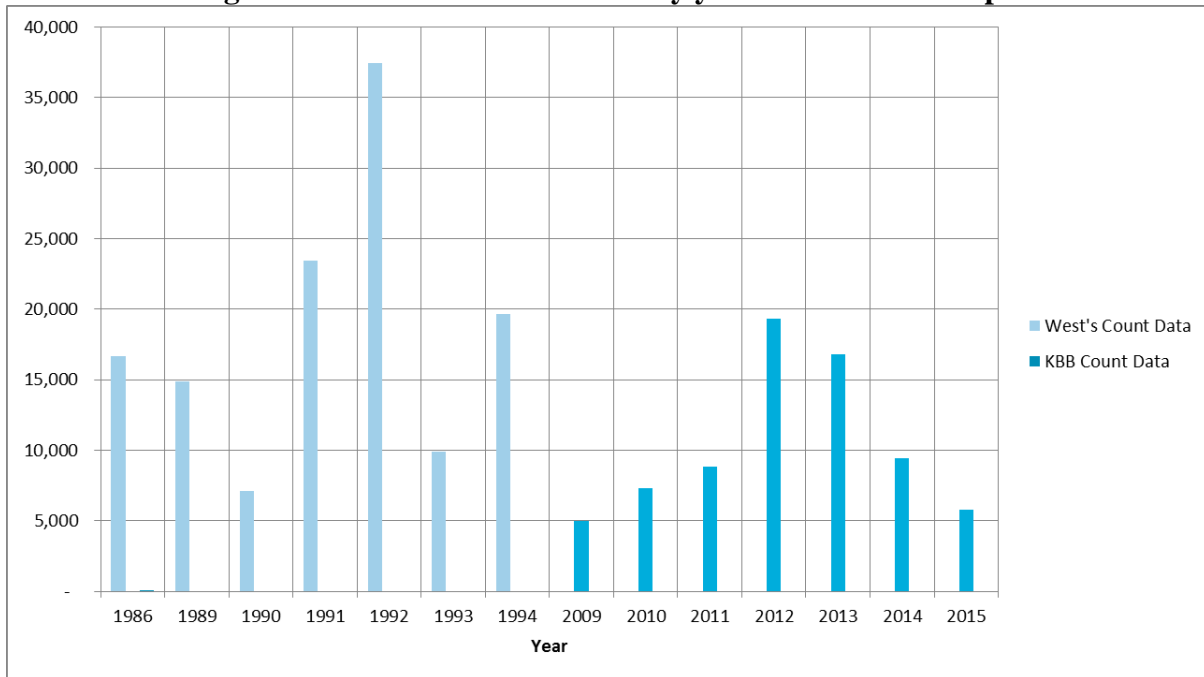
The reasons for the decline with some species of shorebird is uncertain. But we don't think that local change is a factor. While the boat harbor area of the Homer Spit has seen more development over the years, much of the intertidal area used by shorebirds has not changed much since the 1964 earthquake and most is protected by some sort of conservation status. Although the upland forest areas on the Kenai Peninsula have been seriously impacted by a spruce bark beetle epidemic in the 1990s, this should have effect on shorebird habitat. In essence, any decline seems to be population wide rather than locally induced.

Table 16. Comparison of six days of West shorebird monitoring data to six comparable days of Kachemak Bay Birders data for similar survey sites.

SPECIES	1986	1989	1990	1991	1992	1993	1994	Homer	Homer	Homer	Homer	Homer	Homer	Homer
								Spit Sites	Spit Sites	Spit Sites	Spit Sites	Spit Sites	Spit Sites	Spit Sites
								2009	2010	2011	2012	2013	2014	2015
Semipalmated Plover	6	8	1	9	27	22	28	159	158	142	118	86	203	231
American Golden-Plover			5	26	9		1	3			1	2	-	-
Pacific Golden Plover							7	4	39	2	90	89	15	4
Black-bellied Plover	275	1	86	52	244	51	79	170	307	241	351	204	107	201
Black Oystercatcher									1				-	-
Greater Yellowlegs					17	4		7	13	19	44	18	6	13
Lesser Yellowlegs									20	3	3	3	4	3
Yellowlegs spp.									3	2	2	2	-	2
Whimbrel				1	9	1		2	6	14	11	59	19	7
Bar-tailed Godwit				1	2			3			4	3	-	-
Hudsonian Godwit							1	18		2			-	-
Marbled Godwit		4		1	1		2	3	10	1	7		4	4
Wandering Tattler				5	2	1	2	3	37	20	7	61	36	38
Surf-bird	1,000	75	3,015	602	10,010	1,200	830	69	39	238	541	280	2,386	1,814
Ruddy Turnstone	1		3		7	1	8		6		1	8	2	4
Black Turnstone	600	451	1,812	766	1,730	500	262	46	294	89	27	8	49	28
Western Sandpiper	14,000	12,025	2,010	20,510	20,725	7,200	17,469	3,071	4,935	3,908	16,040	7,732	3,834	2,169
Least Sandpiper	50			2	21	2	20	121	195	168	100	74	112	103
Semipalmated Sandpiper								1	4	3	33		12	31
LESA/WESA/SESA								103	640	2,987	617	5,272	987	285
Sanderling									1	8	8		2	-
Pectoral Sandpiper	2			1	1						1	139	90	4
Dunlin	130	1,760	133	1,219	3,271	562	642	1,091	535	938	1,157	2,431	1,480	785
Rock Sandpiper					7	2						1	6	-
Baird's Sandpiper								1			6		-	-
Red Knot						1	2						1	1
Short-billed Dowitcher	600	525	58	183	1,354	325	175	22		32	63	16	3	-
Long-billed Dowitcher											1	19	-	-
Dowitcher spp.								97	71	42	75	304	43	48
Wilson's Snipe													-	-
Red-necked Phalarope				100			100			1			1	1
Other; Bristle-thighed Curlew												5	-	-
Total	16,664	14,849	7,123	23,478	37,437	9,872	19,628	4,994	7,314	8,858	19,309	16,815	9,402	5,776
West Average	18,436													
KBB Average	11,115													

Figure 9 graphically presents total shorebird count by West and the current project.

Figure 9. Total shorebird counts by year for the Homer Spit



VI. Other Activities

A. Outreach

The information obtained as a result of the 2013 Kachemak Bay Shorebird Monitoring Project was reported to local birders via the Kachemak Bay Birders (birding@kachemakbaybirders.org) list-serve and the AKBirding (AKBirding@yahogroups.com) list-serve. The data was also entered in eBird under the ISS portal, listing observations for each site and date. Copies of the reports appear in

VII. Future Efforts

Plans are to continue the Kachemak Bay Shorebird Monitoring Project in 2016 using the same protocol as in previous years.

VIII. Acknowledgements

The Kachemak Bay Shorebird Monitoring Project is a citizen science effort that could not exist without strong volunteer support. A list of our 88 volunteers over the past seven years is included in Table 15. In addition, we want to thank the Islands and Ocean Visitors Center who provided us with meeting facilities for our caucus after monitoring sessions. We also had the support of the Alaska Maritime National Wildlife Refuge and the Kachemak Bay Research Reserve, both based in Homer. Again, a special thanks to Richard Lanctot, PhD who is the Alaska Region Shorebird Coordinator, for the US Fish and Wildlife Service. Rick continues to provide us with important advice and assistance.

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X. Appendices

Appendix A: Checklist of Birds of Kachemak Bay, Alaska: Shorebird Checklist.

Appendix B: Kachemak Bay Shorebird Project Monitoring Report Form.

Appendix C: Observation Data for Kachemak Bay Sites.

Appendix D: Email reports to birding list-serves.

Appendix A

Birds of Kachemak Bay, Alaska: Shorebird Checklist

This checklist was derived from the *Checklist of Birds of Kachemak Bay, Alaska 2011* published by the Center for Alaskan Coastal Studies (www.akcoastalstudies.org). It covers all watersheds draining into Kachemak Bay (the area between Anchor Point and Point Pogibshi) as well as the Anchor River drainage.

Abundance

C - Common: Easily found in small to large numbers in appropriate habitat.

U - Uncommon: Occasionally, but not always, found in small number with some effort in appropriate habitat.

R - Rare: Occurs in very small numbers or in very limited number of sites and may not be found every year or even with concentrated effort. There are more than a few records of these species in appropriate habitats.

A - Accidental: Represents an exceptional occurrence of birds outside their normal range that might not be repeated again for decades.

Status

r - resident

b - confirmed breeder

s - summer resident

w - winter resident

m - migrant, passing through on way to summer or winter grounds, may only be found in narrow periods of time

v - visitor, not on normal migration route, may stay for one day or all season i - introduced

Sp - spring: March - May

Su - summer: June - Aug.

F - fall: Sept. - Nov.

W - winter: Dec. - Feb.

Species	Sp	Su	F	W	Status
Black-bellied Plover	C	C	C	A	m
American Golden-plover	U	R	U	-	m
Pacific Golden-plover	C	R	U	-	m
Semipalmated Plover	C	C	C	-	smb
Killdeer	R	R	-	-	v
Black Oystercatcher	C	C	U	U	sb
Greater Yellowlegs	C	C	C	-	sb
Lesser Yellowlegs	U	U	U	-	sb
Solitary Sandpiper	R	U	R	-	sb
Wandering Tattler	C	C	C	-	s
Spotted Sandpiper	C	C	C	-	sb
Whimbrel	C	C	C	-	sm
Bristle-thighed Curlew	A	-	-	-	m
Hudsonian Godwit	U	R	-	-	m
Bar-tailed Godwit	U	A	R	-	m
Marbled Godwit	U	R	A	-	m
Ruddy Turnstone	U	R	R	-	m
Black Turnstone	C	U	U	-	m
Surfbird	C	C	C	-	sm
Red Knot	U	R	R	-	m
Sanderling	U	U	U	R	m
Semipalmated Sandpiper	U	R	U	-	m
Western Sandpiper	C	C	C	-	m
Red-necked Stint	A	A	-	-	v
Temminck's Stint	A	-	-	-	v
Least Sandpiper	C	C	U	-	smb
Baird's Sandpiper	R	R	U	-	m
Pectoral Sandpiper	C	U	C	-	m
Sharp-tailed Sandpiper	-	-	U	-	m
Rock Sandpiper	C	R	U	C	w
Dunlin	C	U	U	R	m
Stilt Sandpiper	-	-	R	-	m
Ruff	A	-	-	-	v
Short-billed Dowitcher	C	C	U	-	m
Long-billed Dowitcher	U	U	U	-	sm
Jack Snipe	-	-	A	-	v
Wilson's Snipe	C	C	C	R	sb
Red-necked Phalarope	C	C	C	-	sb
Red Phalarope	A	A	A	-	V

**Kachemak Bay Birders
2015 Shorebird Monitoring Project**

Site:
Date:
Distance Covered:
Disturbance:

Time Started:
Time Ended:

Monitor #1
Monitor #2
Monitor #3
Monitor #4

Name of Species	Estimate	Actual Count	Total Count & Estimate	Time Observed	Time Left Site
Semipalmated Plover					
Killdeer					
American Golden-Plover					
Pacific Golden Plover					
Black-bellied Plover					
Black Oystercatcher					
Greater Yellowlegs					
Lesser Yellowlegs					
Yellowlegs sp.					
Spotted Sandpiper					
Whimbrel					
Bristle-thighed Curlew					
Bar-tailed Godwit					
Hudsonian Godwit					
Marbled Godwit					
Wandering Tattler					
Surfbird					
Ruddy Turnstone					
Black Turnstone					
Western Sandpiper					
Least Sandpiper					
Semipalmated Sandpiper					
LESA/WESA/SESA					
Sanderling					
Pectoral Sandpiper					
Dunlin					
Rock Sandpiper					
Baird's Sandpiper					
Red Knot					
Short-billed Dowitcher					
Long-billed Dowitcher					
Dowitcher sp.					
Wilson's Snipe					
Red-necked Phalarope					

Appendix C

Note: Cells with Comments (red flags) have information that can only be viewed in Excel. For the Excel version of these spreadsheets go to <http://kachemakbaybirders.org/>

2015 Shorebird Monitoring Project											
SITE : Mud Bay											
Stationary Count											
SPECIES	April			May			16	21	26	Total	
	16	21	26	1	6	11					
Semipalmated Plover	-	-	-	3	2	9	50	2	1	67	
Killdeer	-	-	-	-	-	-	-	-	-	-	
American Golden-Plover	-	-	-	-	-	-	-	-	-	-	
Pacific Golden Plover	-	-	-	-	-	-	-	-	-	-	
Black-bellied Plover	-	-	25	120	12	3	2	-	-	162	
Black Oystercatcher	-	-	-	-	-	-	-	-	-	-	
Greater Yellowlegs	-	1	-	-	-	2	-	-	1	4	
Lesser Yellowlegs	-	1	-	-	-	-	-	-	-	1	
Yellowlegs sp.	-	-	-	-	2	-	-	-	-	2	
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-	
Whimbrel	-	-	-	3	1	-	2	-	-	6	
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-	
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-	
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-	
Marbled Godwit	-	-	-	-	4	-	-	-	-	4	
Wandering Tattler	-	-	-	-	-	-	-	-	-	-	
Surfbird	-	-	-	-	-	-	-	-	-	-	
Ruddy Turnstone	-	-	-	-	-	-	-	-	-	-	
Black Turnstone	-	-	-	-	-	-	-	-	-	-	
Western Sandpiper	-	-	1	100	68	1,125	420	-	-	1,714	
Least Sandpiper	-	-	-	9	-	7	2	-	-	18	
Semipalmated Sandpiper	-	-	-	-	-	-	-	-	-	-	
LESA/WESA/SESA	-	-	-	-	22	-	-	-	-	22	
Sanderling	-	-	-	-	-	-	-	-	-	-	
Pectoral Sandpiper	-	-	-	-	-	-	-	-	-	-	
Dunlin	-	-	7	75	2	375	100	-	-	559	
Rock Sandpiper	-	-	-	-	-	-	-	-	-	-	
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-	
Red Knot	-	-	-	-	-	-	-	-	-	-	
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Dowitcher sp.	-	-	-	4	-	6	34	-	-	44	
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-	
Red Phalarope	-	-	-	-	-	-	-	-	-	-	
Red-necked Phalarope	-	-	-	-	-	-	-	1	-	1	
Total	-	2	33	314	113	1,527	610	3	2	2,604	

2015 Shorebird Monitoring Project										
SITE : Mariner Park Lagoon										
Stationary Count										
SPECIES	April			May						Total
	16	21	26	1	6	11	16	21	26	
Semipalmated Plover	-	-	-	2	6	-	-	6	-	14
Killdeer	-	-	-	-	-	-	-	-	-	-
American Golden-Plover	-	-	-	-	-	-	-	-	-	-
Pacific Golden Plover	-	-	-	-	-	-	-	-	-	-
Black-bellied Plover	-	-	5	3	-	-	-	-	-	8
Black Oystercatcher	-	-	-	-	-	-	-	-	-	-
Greater Yellowlegs	1	-	-	1	7	-	2	1	-	12
Lesser Yellowlegs	-	-	-	3	-	-	-	-	-	3
Yellowlegs sp.	-	-	-	-	-	-	-	-	-	-
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-
Whimbrel	-	-	-	-	-	-	-	-	-	-
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-
Marbled Godwit	-	-	-	-	-	-	-	-	-	-
Wandering Tattler	-	-	-	-	-	-	-	-	-	-
Surfbird	-	-	-	-	-	-	-	-	-	-
Ruddy Turnstone	-	-	-	-	-	-	-	-	-	-
Black Turnstone	-	-	-	-	-	-	-	-	-	-
Western Sandpiper	-	-	-	-	-	-	-	-	-	-
Least Sandpiper	-	-	-	-	-	-	75	-	-	75
Semipalmated Sandpiper	-	-	-	-	-	-	-	-	-	-
LESA/WESA/SESA	-	-	-	10	48	30	150	2	-	240
Sanderling	-	-	-	-	-	-	-	-	-	-
Pectoral Sandpiper	-	-	-	-	-	4	-	-	-	4
Dunlin	-	-	-	-	-	-	2	-	-	2
Rock Sandpiper	-	-	-	-	-	-	-	-	-	-
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-
Red Knot	-	-	-	-	-	-	-	-	-	-
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-
Dowitcher sp.	-	-	-	-	-	-	-	-	-	-
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-
Red Phalarope	-	-	-	-	-	-	-	-	-	-
Red-necked Phalarope	-	-	-	-	-	-	-	-	-	-
Total	1	-	5	19	61	34	229	9	-	358

2015 Shorebird Monitoring Project										
SITE : Mid-Spit										
Travelling Count										
SPECIES	April			May						Total
	16	21	26	1	6	11	16	21	26	
Semipalmated Plover	-	-	-	6	15	41	46	42	31	181
Killdeer	-	-	-	-	-	-	-	-	-	-
American Golden-Plover	-	-	-	-	-	-	-	-	-	-
Pacific Golden Plover	-	-	-	-	-	2	2	-	-	4
Black-bellied Plover	-	-	7	7	7	10	-	2	-	33
Black Oystercatcher	-	-	-	-	-	-	-	-	-	-
Greater Yellowlegs	-	-	-	-	-	-	-	-	-	-
Lesser Yellowlegs	-	-	-	-	-	-	-	-	-	-
Yellowlegs sp.	-	-	-	-	-	-	-	-	-	-
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-
Whimbrel	-	-	-	-	-	-	1	-	-	1
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-
Marbled Godwit	-	-	-	-	-	-	-	-	-	-
Wandering Tattler	-	-	-	-	-	3	-	-	-	3
Surfbird	-	-	-	-	600	312	-	3	-	915
Ruddy Turnstone	-	-	-	-	3	-	-	-	2	5
Black Turnstone	-	-	-	-	15	-	-	-	-	15
Western Sandpiper	-	-	-	-	213	48	174	20	-	455
Least Sandpiper	-	-	-	-	3	2	5	-	6	16
Semipalmated Sandpiper	-	-	-	-	-	-	27	4	-	31
LESA/WESA/SESA	-	-	-	-	15	-	4	4	-	23
Sanderling	-	-	-	-	-	-	-	-	-	-
Pectoral Sandpiper	-	-	-	-	-	-	-	-	-	-
Dunlin	-	-	8	-	120	1	90	5	1	225
Rock Sandpiper	-	-	-	-	-	-	-	-	-	-
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-
Red Knot	-	-	-	-	-	-	-	1	-	1
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-
Dowitcher sp.	-	-	-	-	-	-	3	1	-	4
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-
Red Phalarope	-	-	-	-	-	-	-	-	-	-
Red-necked Phalarope	-	-	-	-	-	-	-	-	-	-
Total	-	-	15	13	991	419	352	82	40	1,912

2015 Shorebird Monitoring Project											
SITE : Outer Spit											
Travelling Count											
SPECIES	April			May						Total	
	16	21	26	1	6	11	16	21	26		
Semipalmated Plover	-	-	-	1	-	-	-	-	-	-	1
Killdeer	-	-	-	-	-	-	-	-	-	-	-
American Golden-Plover	-	-	-	-	-	-	-	-	-	-	-
Pacific Golden Plover	-	-	-	-	-	-	-	-	-	-	-
Black-bellied Plover	-	-	-	3	-	-	-	-	-	-	3
Black Oystercatcher	-	-	-	-	-	-	-	-	-	-	-
Greater Yellowlegs	-	-	-	-	-	-	-	-	-	-	-
Lesser Yellowlegs	-	-	-	-	-	-	-	-	-	-	-
Yellowlegs sp.	-	-	-	-	-	-	-	-	-	-	-
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-	-
Whimbrel	-	-	-	-	-	-	-	-	-	-	-
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-	-
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-	-
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-	-
Marbled Godwit	-	-	-	-	-	-	-	-	-	-	-
Wandering Tattler	-	-	-	-	1	14	12	8	-	-	35
Surfbird	-	-	-	61	600	151	40	47	-	-	899
Ruddy Turnstone	-	-	-	-	1	-	-	-	-	-	1
Black Turnstone	-	-	-	-	10	3	-	-	-	-	13
Western Sandpiper	-	-	-	-	-	-	-	-	-	-	-
Least Sandpiper	-	-	-	-	-	-	-	-	-	-	-
Semipalmated Sandpiper	-	-	-	-	-	-	-	-	-	-	-
LESA/WESA/SESA	-	-	-	-	-	-	-	-	-	-	-
Sanderling	-	-	-	-	-	-	-	-	-	-	-
Pectoral Sandpiper	-	-	-	-	-	-	-	-	-	-	-
Dunlin	-	-	-	-	-	-	-	-	-	-	-
Rock Sandpiper	-	-	-	-	-	-	-	-	-	-	-
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-	-
Red Knot	-	-	-	-	-	-	-	-	-	-	-
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	-
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	-
Dowitcher sp.	-	-	-	-	-	-	-	-	-	-	-
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-	-
Red Phalarope	-	-	-	-	-	-	-	-	-	-	-
Red-necked Phalarope	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	65	612	168	52	55	-	-	952

2015 Shorebird Monitoring Project											
SITE : Beluga Slough											
Travelling Count											
SPECIES	April			May						Total	
	16	21	26	1	6	11	16	21	26		
Semipalmated Plover	-	-	-	4	-	3	-	1	2	10	
Killdeer	-	-	-	-	-	-	-	-	-	-	
American Golden-Plover	-	-	-	-	-	-	-	-	-	-	
Pacific Golden Plover	-	-	-	-	-	-	-	-	-	-	
Black-bellied Plover	-	-	-	8	1	-	-	-	-	9	
Black Oystercatcher	-	-	-	-	-	-	-	-	-	-	
Greater Yellowlegs	-	5	4	2	5	2	2	2	1	23	
Lesser Yellowlegs	-	-	-	-	1	4	1	1	-	7	
Yellowlegs sp.	-	-	-	-	3	-	-	-	-	3	
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-	
Whimbrel	-	-	-	-	3	2	16	-	-	21	
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-	
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-	
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-	
Marbled Godwit	-	-	-	-	-	-	-	-	1	1	
Wandering Tattler	-	-	-	-	-	-	-	-	-	-	
Surfbird	-	-	-	-	-	-	-	-	-	-	
Ruddy Turnstone	-	-	-	-	-	-	-	-	-	-	
Black Turnstone	-	-	-	-	-	-	-	-	-	-	
Western Sandpiper	-	-	-	-	20	78	-	-	-	98	
Least Sandpiper	-	-	-	36	-	19	4	-	-	59	
Semipalmated Sandpiper	-	-	-	2	-	-	-	-	-	2	
LESA/WESA/SESA	-	-	-	-	9	-	12	-	-	21	
Sanderling	-	-	-	-	-	-	-	-	-	-	
Pectoral Sandpiper	-	-	-	-	-	2	5	-	-	7	
Dunlin	-	-	-	-	-	28	12	-	-	40	
Rock Sandpiper	-	-	-	-	-	-	-	-	-	-	
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-	
Red Knot	-	-	-	-	-	-	-	-	-	-	
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Dowitcher sp.	-	-	-	-	1	11	-	5	-	17	
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-	
Red Phalarope	-	-	-	-	-	-	-	-	-	-	
Red-necked Phalarope	-	-	-	-	-	1	-	-	1	2	
Total	-	5	4	52	43	150	52	9	5	320	

2015 Shorebird Monitoring Project											
SITE : Islands and Islets											
Travelling Count											
SPECIES	April			May						Total	
	16	21	26	1	6	11	16	21	26		
Semipalmated Plover	-	-	-	-	-	-	-	-	-	-	-
Killdeer	-	-	-	-	-	-	-	-	-	-	-
American Golden-Plover	-	-	-	-	-	-	-	-	-	-	-
Pacific Golden Plover	-	-	-	-	-	-	-	-	-	-	-
Black-bellied Plover	-	-	-	-	-	-	-	-	-	-	-
Black Oystercatcher	-	5	-	-	6	2	-	2	3	18	
Greater Yellowlegs	-	-	-	-	-	-	-	-	-	-	
Lesser Yellowlegs	-	-	-	-	-	-	-	-	-	-	
Yellowlegs sp.	-	-	-	-	-	-	-	-	-	-	
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-	
Whimbrel	-	-	-	-	-	-	-	-	-	-	
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-	
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-	
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-	
Marbled Godwit	-	-	-	-	-	-	-	-	-	-	
Wandering Tattler	-	-	-	-	-	1	-	-	-	1	
Surfbird	-	-	-	57	40	200	-	-	-	297	
Ruddy Turnstone	-	-	-	-	-	-	-	-	-	-	
Black Turnstone	-	-	-	-	300	24	-	-	-	324	
Western Sandpiper	-	-	-	-	-	-	-	-	-	-	
Least Sandpiper	-	-	-	-	-	-	-	-	-	-	
Semipalmated Sandpiper	-	-	-	-	-	-	-	-	-	-	
LESA/WESA/SESA	-	-	-	-	-	-	-	-	-	-	
Sanderling	-	-	-	-	-	-	-	-	-	-	
Pectoral Sandpiper	-	-	-	-	-	-	-	-	-	-	
Dunlin	-	-	-	-	-	-	-	-	-	-	
Rock Sandpiper	-	4	-	2	-	-	-	-	-	6	
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-	
Red Knot	-	-	-	-	-	-	-	-	-	-	
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Dowitcher sp.	-	-	-	-	-	-	-	-	-	-	
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-	
Red Phalarope	-	-	-	-	-	-	-	-	-	-	
Red-necked Phalarope	-	-	-	-	1,500	-	-	-	-	1,500	
Total	-	9	-	59	1,846	227	-	2	3	2,146	

2015 Shorebird Monitoring Project											
SITE : Homer Spit (all 4 sites)											
Combined Total											
	April			May							
SPECIES	16	21	26	1	6	11	16	21	26	Total	
Semipalmated Plover	-	-	-	12	23	50	96	50	32	263	
Killdeer	-	-	-	-	-	-	-	-	-	-	
American Golden-Plover	-	-	-	-	-	-	-	-	-	-	
Pacific Golden Plover	-	-	-	-	-	2	2	-	-	4	
Black-bellied Plover	-	-	32	133	19	13	2	2	-	201	
Black Oystercatcher	-	-	-	-	-	-	-	-	-	-	
Greater Yellowlegs	1	1	-	1	7	2	2	1	1	16	
Lesser Yellowlegs	-	1	-	3	-	-	-	-	-	4	
Yellowlegs sp.	-	-	-	-	2	-	-	-	-	2	
Spotted Sandpiper	-	-	-	-	-	-	-	-	-	-	
Whimbrel	-	-	-	3	1	-	3	-	-	7	
Bristle-thighed Curlew	-	-	-	-	-	-	-	-	-	-	
Bar-tailed Godwit	-	-	-	-	-	-	-	-	-	-	
Hudsonian Godwit	-	-	-	-	-	-	-	-	-	-	
Marbled Godwit	-	-	-	-	4	-	-	-	-	4	
Wandering Tattler	-	-	-	-	1	17	12	8	-	38	
Surfbird	-	-	-	61	1,200	463	40	50	-	1,814	
Ruddy Turnstone	-	-	-	-	4	-	-	-	2	6	
Black Turnstone	-	-	-	-	25	3	-	-	-	28	
Western Sandpiper	-	-	1	100	281	1,173	594	20	-	2,169	
Least Sandpiper	-	-	-	9	3	9	82	-	6	109	
Semipalmated Sandpiper	-	-	-	-	-	-	27	4	-	31	
LESA/WESA/SESA	-	-	-	10	85	30	154	6	-	285	
Sanderling	-	-	-	-	-	-	-	-	-	-	
Pectoral Sandpiper	-	-	-	-	-	4	-	-	-	4	
Dunlin	-	-	15	75	122	376	192	5	1	786	
Rock Sandpiper	-	-	-	-	-	-	-	-	-	-	
Baird's Sandpiper	-	-	-	-	-	-	-	-	-	-	
Red Knot	-	-	-	-	-	-	-	1	-	1	
Short-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Long-billed Dowitcher	-	-	-	-	-	-	-	-	-	-	
Dowitcher sp.	-	-	-	4	-	6	37	1	-	48	
Wilson's Snipe	-	-	-	-	-	-	-	-	-	-	
Red Phalarope	-	-	-	-	-	-	-	-	-	-	
Red-necked Phalarope	-	-	-	-	-	-	-	1	-	1	
Total	1	2	48	411	1,777	2,148	1,243	149	42	5,821	

Appendix D

Kachemak Bay Shorebird Monitoring Project Session #2

On Tuesday, April 21st the Kachemak Bay Birders had its second shorebird monitoring session for this season. This is our seventh consecutive season. Thirty-one volunteers made observations for two hours (6:45-8:45 pm) at six sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, and the Outer Spit (boat harbor area), nearby Beluga Slough, and the Islands and Islets on the south side of the Bay. In addition, a team of four Keen Eye Birders monitored the mouth of the Kasilof River.

The return to more normal weather (tug of war between winter and spring) the past couple of weeks may have tempered the migration fever. So far the progression of species arrivals hasn't been that much different than normal despite Homer having the warmest winter on record. At the Homer Airport, the NOAA report (<http://w1.weather.gov/obhistory/PAHO.html>) said that at 6:53 pm the temperature was 42° F, wind was from the SE at 13 mph with gusts at 26 mph, skies were mostly cloudy, and the barometric pressure was 29.88. At 8:53 pm the temperature was 43°, the wind was from the E at 7 mph, skies were still mostly cloudy and the barometric pressure was 29.87. It had snowed the previous night and there were a few flakes in the air this afternoon. Some say that Homer always has a few flakes in the air.

The only shorebirds seen this session in the Homer Spit area were 1 each GREATER and LESSER YELLOWLEGS at Mud Bay and 5 GREATER YELLOWLEGS at Beluga Slough. Across the Bay Karl saw 4 ROCK SANDPIPERS on Gull Island and 5 BLACK OYSTERCATCHERS on Cohen Island. At the Anchor River, observers saw 9 BLACK-BELLIED PLOVERS, 8 GREATER YELLOWLEGS, 1 PECTORAL SANDPIPER, and 2 DUNLIN. Keen Eye Birders saw 4 BLACK-BELLIED PLOVERS and 1 DUNLIN.

Other birds seen are as follows:

At mid-Spit, observers saw NORTHERN PINTAILS, MALLARDS, MEW GULLS, GLAUCOUS-WINGED GULLS, and BALD EAGLES.

Mariner Park had only 3 NORTHERN PINTAILS fly over.

Two teams covering the mid-Spit area saw, collectively, 4 HARLEQUIN DUCKS, 6 MALLARDS, 1 NORTHERN PINTAIL, 1 LONG-TAILED DUCK, 6 WHITE-WINGED SCOTERS, 6 BALD EAGLES, 9 RED-BREASTED MERGANSERS, and a huge flock of about 600 GLAUCOUS-WINGED GULLS that headed over to Gull Island (of course) for the night. They also saw 1 sea otter.

Despite no shorebirds, there were a lot of birds at the Outer Spit. Seen were 16 HARLEQUIN DUCKS, 10 GOLDENEYES, 6 BLACK SCOTERS, 7 WHITE-WINGED SCOTERS, 6 LONG-TAILED DUCKS, 15 RED-BREASTED MERGANSERS, 2 RED-NECKED GREBE, 1

COMMON MURRE, 3 COMMON LOONS, 20 CORMORANTS, 30 BLACK-LEGGED KITTIWAKES, GULLS, and 4 BALD EAGLES. In addition, they saw some sea otters and harbor seals.

Beluga Slough once again had a good variety of birds. There were 25 MALLARDS, 36 NORTHERN PINTAILS, 60 AMERICAN WIDGEON, 1 EURASIAN WIDGEON, 6 GREEN-WINGED TEAL, 6 BUFFLEHEAD, 4 COMMON GOLDENEYE, and about 100 GLAUCOUS-WINGED GULLS. In the Bay were 32 HORNED GREBE, 48 SURF SCOTER, and 1 WHITE-WINGED SCOTER. At Beluga Lake there were 2 NORTHERN SHOVELERS, 1 COMMON MERGANSER, and 1 SCAUP. There were also about 60 NORTHWESTERN CROWS and 2 VARIED THRUSH were heard. They also noted cars on the beach. As some of you know, an issue lately in Homer is the Parks and Recreation Commission efforts to keep vehicles from illegally going east of the Bishop's Beach parking lot and out of Beluga Slough. This not only disturbs birds that are foraging and resting, but the barrier dunes and in some cases endangers those walking the beach. Check online the local papers (Homer News and Homer Tribune) if you want more information.

The Kasilof River crew, which has different tides and optimal shorebird viewing conditions, monitored from 3:40 to 5:10 pm. They reported mostly cloudy conditions, temperature of 39 °F, and a wind of 10-12 mph. Besides shorebirds, they also saw; 6 GREATER WHITE-FRONTED GOOSE, 95 SNOW GOOSE, 8 CACKLING GOOSE (*taverneri*), 7 MALLARD, 9 NORTHERN PINTAIL, 70 GREATER SCAUP, 1 LONG-TAILED DUCK, 5 SURF SCOTER, 1 RED-NECKED GREBE, 3 BALD EAGLE, 90 MEW GULL, 300 HERRING GULL (hybrids), 5 GLAUCOUS-WINGED GULL, and 1 GRAY JAY.

Next report in 5 days.

George,

Kachemak Bay Shorebird Monitoring Project Session #3

On Sunday, April 26th the Kachemak Bay Birders had its third shorebird monitoring session for this season. This is our seventh consecutive year of monitoring. Twenty-nine volunteers made observations for two hours (9:00 – 11:00 am) at five sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), and nearby Beluga Slough. No report from the Islands and Islets on the south side of the Bay. In addition, a team of four Keen Eye Birders monitored the mouth of the Kasilof River. They reported that high winds kept them from monitoring on the morning tide, but monitored from 8:30-11:00 pm on the second incoming tide

Spring is prevailing in the annual winter:spring tug-of-war. And the migration seems to have stepped up a notch. At the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) at 8:53 am the temperature was 46° F, wind was from the E at a gentle 3 mph, skies were overcast, and

the barometric pressure was 29.60 inches. At 10:53 am the temperature was 49° F, the wind was from the E at 9 mph, skies were still overcast and the barometric pressure was 29.58. At the Kasilof River the temperature was 47°F, winds were calm and it was cloudy. If I were a bird I would make some distance under these balmy conditions.

More shorebirds were seen this session. At the Homer Spit area there were 20 BLACK-BELLIED PLOVERS as well as 1 WESTERN SANDPIPER AND 7 DUNLIN. The first arrival of the latter two is a sign that migration is well underway. Mariner Park Lagoon (across the Spit Road from Mud Bay) had 5 BLACK-BELLIED PLOVERS at 9:00, but they all flew over to Mud Bay at 9:02. We speculate that these birds just landed. The mid-Spit area had 7 BLACK-BELLIED PLOVERS AND 8 DUNLIN. Beluga Slough had 4 GREATER YELLOWLEGS. The Anchor River had 4 BLACK-BELLIED PLOVERS, 3 GREATER YELLOWLEGS, and 1 unidentified sandpiper. At the Kasilof River there were 6 BLACK-BELLIED PLOVERS, 7 GREATER YELLOWLEGS, and 2 DUNLIN.

Other birds seen are as follows:

At Mud Bay, observers saw 1 SANDHILL CRANE, 6 BONAPARTE'S GULLS, NW CROWS, RAVENS, BALD EAGLES, NORTHERN PINTAILS, MALLARDS, MEW GULLS, and GLAUCOUS-WINGED GULLS.

Highlights for Mariner Park Lagoon were spotting an active BALD EAGLE nest at the NW corner of the lagoon (which should be a great viewing opportunity during the Shorebird Festival) and what seemed to be the arrival of the 2 SANDHILL CRANES who nest there every year. They also saw a flock of 25 LAPLAND LONGSPURS, 14 MEW GULLS, 2 HERRING GULLS, 2 juvenile BALD EAGLES, 5 NORTHERN PINTAILS, 2 MALLARDS, 7 GREEN-WINGED TEAL, 3 NW CROWS, and 2 COMMON REDPOLL.

Two teams covering the mid-Spit area saw, collectively, 13 BALD EAGLES feeding on a dead sea otter. They also saw many GLAUCOUS-WINGED GULLS, 10 MEW GULLS, 2 MALLARD, 10 NORTHERN PINTAIL, 16 COMMON LOONS, 10 BLACK SCOTERS, 5 WHITE-WINGED SCOTERS, 1 MARBLED MURRELET, 1 PACIFIC LOON, 2 COMMON MURRE, 4 HORNED GREBES, 8 RED-BREASTED MERGANSERS, as well as 50 harbor seals and 12 sea otters.

At the Outer Spit there was 1 RED-NECKED GREBE, 1 PIGEON GUILLEMOT, 2 SONG SPARROWS, 11 PELAGIC CORMORANT, 3 HERRING GULL with 1 hybrid, 150 GLAUCOUS-WINGED GULLS, 300 BLACK-LEGGED KITTIWAKE, 12 RED-BREASTED MERGANSERS, 9 HARLEQUIN, 17 WHITE-WINGED SCOTERS, 21 BALD EAGLES, 7 ROCK PIGEONS, and a dozen NW CROWS.

Beluga Slough had 24 MALLARDS, 12 BUFFLEHEAD, 100 GREEN-WINGED TEAL, 60 MEW GULLS, 8 NORTHERN PINTAIL, 3 GLAUCOUS-WINGED GULLS, 6 AMERICAN WIDGEON, 15 NW CROWS, 1 GADWALL, 4 BALD EAGLE, 2 COMMON GOLDENEYE, 1 COMMON REDPOLL, 5, SANDHILL CRANES, 8 NORTHERN SHOEVELERS, 6 LAPLAND LONSPURS, 36 GREATER-WHITE-FRONTED GEESE, 4 CACKLING GEESE,

1 VARIED THRUSH, and 1 SONG SPARROW. On the Bay (Bishops Beach) there were 30 HORNED GREBE, 2 HARLEQUIN, 24 WHITE-WINDED SCOTER, 3 BLACK SCOTER, 100 SURF SCOTER, 6 RED-NECKED GREBE, 12, COMMON LOON, 2 RED-BREASTED MERGANSER and 1 PACIFIC LOON. They also saw a sea lion in the Bay.

At the Anchor River observers saw 3 AMERICAN PIPIT, 2 BONAPARTE'S GULL, and lots of GREEN-WINGED TEAL as well as AMERICAN WIDGEON.

The Kasilof River crew, 75 GREATER WHITE-FRONTED GOOSE, 3 CANADA GEESE, 10 MALLARD, 30 NORTHERN PINTAIL, 1 AMERICAN WIDGEON, 2 NORTHERN SHOVELERS, 45 GREATER CSAUP, 4 SURF SCOTERS, 4 RED-BREASTED MERGANSERS, 20 BALD EAGLES, 2 NORTHERN HARRIER, 50 SANDHILL CRANES, 1 COMMON MURRE, 15 BONAPARTE'S GULLS, 70 MEW GULLS, 400 HERRING GULL (hybrid), 5 GLAUCOUS-WINGED GULLS, 4 BLACK-BILLED MAGPIE, 1 RUBY-CROWNED KINGLET, and 1 COMMON REDPOLL.

Next report in 5 days.

George,

Kachemak Bay Shorebird Monitoring Project Session #4

On Friday, May 1st the Kachemak Bay Birders had its fourth shorebird monitoring session for this season. This is our seventh consecutive year of monitoring. Twenty-seven volunteers made observations for two hours (3:15 – 5:15 pm) at six sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), nearby Beluga Slough and the Islands and Islets on the south side of the Bay. In addition, a team of three Keen Eye Birders monitored the mouth of the Kasilof River from 12:15-1:45.

At the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) at 2:53 pm the temperature was 48° F, wind was from the W at 13 mph, skies were mostly cloudy, and the barometric pressure was 29.99 inches. At 4:53 pm the temperature was 50° F, the wind was from the W at 10 mph, skies were partly cloudy, and the barometric pressure was 29.99. At the Kasilof River the weather was similar with a temperature of 50°F, winds WNW at 5 mph and partly cloudy skies.

The shorebird migration is well underway with species and numbers increasing daily. As usual, plovers are leading the way. SEMIPALMATED PLOVERS were seen at most sites including Mud Bay (3), Mariner Park Lagoon (2), mid-Spit (6), Outer Spit (1), and Beluga Slough (4). BLACK-BELLIED PLOVERS were widespread and numerous; Mud Bay (120), Mariner Park Lagoon (3), mid-Spit (7), Beluga Slough (8), Outer Spit (3), Anchor River (19), and the Kasilof River (20). Anchor River also saw PACIFIC GOLDEN-PLOVER (4).

GREATER YELLOWLEGS were at Mariner Park Lagoon (1), Beluga Slough (2), Anchor River (9), and the Kasilof River (1). Mariner Park Lagoon also had LESSER YELLOWLEGS (3). WHIMBRELS (3) were at Mud Bay.

SURFBIRDS were at the harbor entrance at the Outer Spit (61) and Gull Island (57). Gull Island also had ROCK SANDPIPERS (2).

Sandpipers are increasing. Mariner Park Lagoon had about 10 that were too far away to identify. Mud Bay had WESTERN SANDPIPERS (100) as well as the Kasilof River (32). Both also had DUNLIN; Mud Bay (75) and the Kasilof (18). Mud Bay had LEAST SANDPIPERS (9) as did Beluga Slough (36) which also had SEMIPALMATED SANDPIPERS (2).

DOWITCHER'S have arrived and were seen at Mud Bay (4). SHORT-BILLED DOWITCHERS were seen at the Anchor River (1) and the Kasilof River (4). The Kasilof also had 1 WILSON'S SNIPE.

Disturbances included a PEREGRINE FALCON that scattered shorebirds at Mud Bay. At Beluga Slough numerous vehicles were on the barrier dune (which is illegal) and off-leash dogs were present.

Shoot first and ask questions later; that's our motto when it comes to difficult identifications. In other words, if you are studying a questionable bird, try and get a decent photo before it flies away. Asking questions later is a lot more definitive if there is a photo, even a fuzzy picture.

We just had a good example of this. During our second session on April 21 the Anchor River team saw what they thought was a PECTORAL SANDPIPER and recorded it as such. Michelle Michaud was able to get a photo and entered the observation on eBird. Although we usually have Pectoral Sandpipers each spring, they normally arrive a little later in the migration. Because this was an early sighting, it was flagged by eBird. For those of you who don't know, eBird has filters for each species which flags observations that are outside the date range when a species is normally seen in a certain area. This improves the accuracy of the database without having to review each submission. A review of the out-of-focus photo by reviewers determined that it was a ROCK SANDPIPER instead of a PECTROAL SANDPIPER. So now our record will be changed. Because digital photos are so easy to take now, and to transmit to others, that has become the standard for reporting unusual sightings. Each team should have at least one camera with them.

I might add that a couple of years ago Gary Lyon saw what he thought might be two Bristle-thighed Curlew at Louie's Lagoon. That would be really rare and obviously in need of review. Despite the miserable weather conditions (wet snow) he was able to get a few shots. When we looked at his photos, we agreed and were able to confirm his call with additional sightings and photos.

Other birds seen include:

At Mud Bay there were 2 SANDHILL CRANES, numerous MEW and GLAUCOUS-WINGED GULLS, BALD EAGLE, GREEN-WINGED TEAL, and NORTHERN PINTAIL.

Mariner Park had 2 adult and 1 juvenile SANDHILL CRANE and then 2 more arrived who left. Waterfowl included 6 MALLARDS, 4 NORTHERN PINTAIL, and 2 GREEN-WINGED TEAL. There were also 2 BALD EAGLES on a nest as well as 2 COMMON RAVENS.

The Mid-Spit area had 300 GLAUCOUS-WINGED GULLS, 2 MEW GULLS, 3 BALD EAGLES, and 2 COMMON RAVENS.

The Outer Spit (boat harbor) had HARLEQUIN DUCKS, SCAUP, 1 BLACK SCOTER, 1 COMMON LOON, 14 PELAGIC CORMORANTS, 300-500 BLACK-LEGGED KITTIWAKES, 50 GLAUCOUS-WINGED GULLS, 7 ROCK PIGEONS, 2 SONG SPARROWS, 6 NW CROWS, and 6 BALD EAGLES.

Beluga Slough saw 10 MALLARDS, 15 NORTHERN PINTAILS, 8 GREEN-WINGED TEAL, 10 AMERICAN WIDGEON, 23 GREATER WHITE-FRONTED GEESE, 10 CACKLING GEESE, 2 CANADA GEESE, 5 BUFFLEHEADS, 4 NORTHERN SHOVELERS, 90 MEW GULLS, 12 ROCK PIGEON, 1 BALD EAGLE, 3 NW CROW, 2 SANDHILL CRANES, 2 COMMON MERGANSERS. 12 LAPLAND LONGSPURS.

At the Anchor River they saw 2 NORTHERN SHOVELERS, MALLARDS, NORTHERN PINTAILS, AMERICAN WIDGEON, GREEN-WINGED TEAL, HARLEQUIN DUCKS, 26 GREATER WHITE-FRONTED GEESE, 2 CACKLING GEESE, 1 GLAUCOUS GULL, 2 BONAPARTE'S GULLS, and numerous LAPLAND LONGSPURS.

At the Kasilof River they saw 60 GREATER WHITE-FRONTED GEESE, 2 CANADA GEESE (*parvipes*), 20 CACKLING GEESE (*minima*), 15 NORTHERN PINTAILS, 2 GREEN-WINGED TEAL, 24 GREATER SCAUP, 1 LONG-TAILED DUCK, 13 SURF SCOTERS, 1 RED-BREASTED MERGANSER, 3 BALD EAGLE, 8 SANDHILL CRANE, 30 MEW GULL, 400 HERRING GULL (hybrids), 7 GLAUCOUS-WINGED GULL, 2 ARCTIC TERN, 1 BELTED KINGFISHER, 1 NW CROW, 2 BLACK-BILLED MAGPIE, 2 BOREAL CHICKADEE, 1 RUBY-CROWNED KINGLET, 3 AMERICAN PIPIT, 1 LAPLAND LONGSPUR, 1 DARK-EYED JUNCO, and 3 COMMON REDPOLL.

Next report in 5 days.

George

Kachemak Bay Shorebird Monitoring Project
Session #5

On Wednesday, May 6, 2015 the Kachemak Bay Birders had its fifth shorebird monitoring session for this season. This is our seventh consecutive year of monitoring. Twenty-eight

volunteers made observations for two hours (5:45 – 7:45 pm) at six sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), nearby Beluga Slough and the Islands and Islets on the south side of the Bay. In addition a team of Keen Eye Birders monitored the mouth of the Kasilof River from 3:20- 4:40 pm.

At the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) at 5:53 pm the temperature was 52° F, wind was from the E at 17 mph with gusts to 25 mph, skies were mostly cloudy, and the barometric pressure was 29.90 inches. At 7:53 pm the temperature was 50° F, the wind was from the E at 18 mph with gusts to 26 mph, skies were overcast, and the barometric pressure was 29.89. Neither the Anchor River nor the Kasilof River were as windy. At the Kasilof, the air temperature was 52° F, wind was less than 5 knots out of the NE, showers, cloudy, and there was an incoming tide.

The shorebird migration of sandpipers seems to have stalled a bit, possibly because of the weather. There has been a slight increase in sandpiper numbers, but not anything yet that amounts to a pulse. Perhaps Wednesday's strong tailwind from the E will bring in some more shorebirds overnight. But Surfbirds and Red-necked Phalaropes may be near their peak.

Shorebird report:

SEMIPALMATED PLOVERS were seen at Mud Bay (2), Mariner Park Lagoon (6), mid-Spit (15), and Anchor River (2). BLACK-BELLIED PLOVERS may have peaked. Last session there were 180 and this session we saw only 30; Mud Bay (12), mid-Spit (7), Beluga Slough (1), Anchor River (6), and the Kasilof River (4). The Kasilof River also saw PACIFIC GOLDEN-PLOVER (7).

As usual, the only BLACK OYSTERCATCHER was seen on the other side of the Bay with 4 on Gull Island and 2 on Cohen Island. A WANDERING TATTLER was seen at the harbor.

GREATER YELLOWLEGS were at Mariner Park Lagoon (7), Beluga Slough (5), Anchor River (10), and the Kasilof River (1). Mud Bay reported YELLOWLEGS (2) and Beluga Slough (3). The Anchor River saw a SPOTTED SANDPIPER (1).

WHIMBREL were seen at Mud Bay (1), Beluga Slough (3), and Kasilof River (2). Mud Bay reported MARBLED GODWITS (4) and the Kasilof River reported HUDSONIAN GODWITS (4).

RUDDY TURNSTONES were seen with 3 at Mid-Spit and 1 at the Outer Spit. Also BLACK TURNSTONES with 15 at Mid-Spit, 10 at the Outer Spit, and 300 on Gull Island. The big news is SURFBIRDS. At Gull Island there were 40. The Mid-Spit and Outer Spit monitors each estimated 600, which was the same flock flying between the two sites. However, the day before Karl, who had some biologists onboard, estimated that about 3,000 were on the rocks on both sides of the harbor entrance. Today (Thursday) during low tide I saw a huge flock of Surfbirds foraging on the west side of the Spit across from the ice rink. I was able to get a number of photos. The best photo has nearly the whole flock against the sky when they lifted off, so nearly

each bird is distinct. I have attached the photo for the KBB list and added it to my file for the AKBirding list. I would like to solicit estimates as to how many Surfbirds there are. I would also like to know if there is any way to scan this photo to get an automated count. Send me an email if you have an estimate or know of a way to scan the photo.

Large numbers of sandpipers have yet to arrive. The WESTERN SANDPIPER count last session for the Homer Spit area was 100 and it's 301 for this session; not much change. Mud Bay had 68, Mid-Spit had 213, and Beluga Slough had 20. The Anchor River had 16 and the Kasilof River had 300. Last session Homer Spit area had 75 DUNLIN and this session there were had 122 with 2 at Mud Bay and 120 at Mid-Spit; again, not much of a pulse. The Anchor River had 2 DUNLIN and the Kasilof River had 8. Other sandpiper reports include LEAST SANDPIPERS at Mid-Spit (3) and Anchor River (9). Lumping of *Calidris* had 22 at Mud Bay, 48 at Mariner Park Lagoon, 15 at Mid-Spit, 9 at Beluga Slough, 3 and at Anchor River. But there may be change soon. As stated above, it was postulated that the very windy conditions yesterday evening may blow in some shorebirds the next day. Today, there were about 2,000 WESTERN SANDPIPERS and about 50 DUNLIN at Mud Bay.

Dowitcher's have yet to appear in any significant numbers. SHORT-BILLED DOWITCHERS were seen at the Anchor River (1) and the Kasilof River (22). Beluga Slough reported a Dowitcher sp.

RED-NECKED PHALAROPE are another interesting story. From south side of the Bay, Karl reported 1,500 on Wednesday morning and 500 in the afternoon. The Anchor River team, monitoring in late afternoon said they saw a continuous stream of Red-necked Phalarope pass by off shore. They estimated that there were at least 1,000. Last year the Anchor River monitors also saw Red-neck Phalarope leave Kachemak Bay during the May12th session.

Once again disturbances included dog's off-leash (despite signs) and vehicles driving on the Beluga Slough berm where they are not allowed. Also, a MERLIN was zipping through the flock of shorebirds at Mud Bay and the Mid-Spit.

Other birds seen include:

At Mud Bay there were the usual gulls and waterfowl as well as a MERLIN.

Mariner Park had SANDHILL CRANES (2), MALLARDS (4), NORTHERN PINTAIL, NORTHERN SHOEVLER, BALD EAGLES on a nest, and NW CROWS.

The Mid-Spit area had BALD EAGLES (4), MEW GULLS (2), and MERLIN (1).

The Outer Spit (boat harbor) had COMMON MURRE (50), PIGEON GUILLEMOT (1), SURF SCOTER (2), WHITE-WINGED SCOTER (1), BLACK SCOTER (1), ROCK PIGEON (6), NORTHERN PINTAIL (12), HARLEQUIN (2), BALD EAGLE (9), RED-NECKED GREBE (3), and PELAGIC CORMORANT (12).

Beluga Slough saw LAPLAND LONGSPUR (1), AMERICAN ROBIN (1), SANDHILL CRANE (1), GLAUCOUS-WINGED GULL (6), EURASIAN WIDGEON, (2), GREEN-WINGED TEAL (10), AMERICAN WIDGEON (60), NORTHERN SHOVELER (8), MALLARD (5), NORTHERN PINTAIL (10), BRANDT (1), MEW GULLS (70), NW CROW (5), and BALD EAGLE (1). On the Bay they saw RED-NECKED GREBE (15), HORNED GREBE (3), PIGEON GUILLEMOT (2), BLACK SCOTER (24), SURF SCOTER (12), WHITE-WINGED SCOTER (24), COMMON LOON (1), and LONG-TAILED DUCK (1).

At the Anchor River they saw GADWALL, GREATER WHITE-FRONTED GEESE, CACKLING GEESE, usual ducks grebes, and loons, LAPLAND LONGSPURS, BALD EAGLES, NORTHERN HARRIER and possibly a PEREGRINE FALCON.

At the Kasilof River they saw 5 GREATER WHITE-FRONTED GEESE, 2 NORTHERN PINTAILS, 10 NORTHERN SHOVELER, 42 GREATER SCAUP, 4 BALD EAGLE, 30 MEW GULL, 6 HERRING GULL, and 1 BLACK-BILLED MAGPIE

Next report in 5 days.

George

Kachemak Bay Shorebird Monitoring Project Session #6

On Monday, May 11, 2015 the Kachemak Bay Birders had its sixth shorebird monitoring session for this season. This is our seventh consecutive year of monitoring. Twenty-five volunteers made observations for two hours (8:15 – 9:15 am) at six sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), nearby Beluga Slough and the Islands and Islets on the south side of the Bay. In addition two Keen Eye Birders monitored the mouth of the Kasilof River from 7:30-9:00 pm.

At the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) at 7:53 am the temperature was 49° F, wind was from the E at 5 mph, skies were mostly cloudy, and the barometric pressure was 29.94 inches. At 9:53 am the temperature was 50° F, the wind was from the SE at 3 mph, skies were still overcast, and the barometric pressure increased to 29.96. At the Kasilof River the temperature was 47°F, winds were calm and there was a 40% cloud cover. Good migrating conditions.

To summarize, the peak of the spring shorebird migration is defiantly here. Fortunately, it coincided with the Kachemak Bay Shorebird Festival last weekend. The weather was decent and everyone had good views of Homer's shorebirds. The highlight was a RED KNOT at Mariner Park Lagoon and Mud Bay – which unfortunately we didn't see while monitoring on Monday. Last session (Wednesday) we reported few sandpipers (*Calidris*). But the very next day the count at Mud Bay jumped to about 2,000. Jason Sodergren, who monitors Mud Bay and was

also the guide there during the festival, said that Friday there were about 1,600 peeps. Saturday morning had 1,500 which dropped to about 1,000 in the afternoon as some shorebirds moved on. Overnight arrivals on Sunday increased the count to about 1,500.

As reported last time, plovers, except for the Semiplumbed Plovers that nest in the upper tidal areas, continue to decline. This year there doesn't seem to be as many Yellowlegs or Dowitchers. But it may be too soon to reach conclusions. Minutes ago I got a report from Gary Lyon that he saw 14 Yellowlegs and 36 Dowitchers at Beluga Lake Monday night.

Large numbers of Surfbirds are still around. It appears as if Kachemak Bay may be one of the most populous staging areas in the world for Surfbirds. The Red-necked as Phalarope that also stage out on the Bay seem to have moved on.

In my last report I mentioned that I got several photos of a large flock of Surfbirds west of Homer Spit. The photo I attached had mostly the sky in the background, making it easier to attempt a count. I asked if anyone had any automated method for doing a count. Getting no answer I came up with a citizen science approach (i.e., not costing anything) to count the Surfbirds. At first I tried to circle a certain number of birds and then count the circles. But that didn't really work well. So then I copied the photo on to some notebook paper, which gave me clearly distinguishable rows of birds. It was relatively easy to count the number of birds in each row, enter the number in the margin, and then add up the column. When I did that I came up with a fairly accurate count of 2,030 Surfbirds. This is considerably higher than the 600 that others had guessed. I was going to attach the photo, but it's a 1.8 MB file. So rather than clog everyone's inboxes I thought it might be better to just let others know about it and send a request if interested. If you want the photo and data, email me and I'll send you a copy.

I think what may be significant about this photo is that it represents a couple percent of the entire Surfbird population. Here is what the 2008 *Alaska Shorebird Conservation Plan* says about that.

Surfbird—The Surfbird has a relatively small population (70,000 birds), more than 75% of which breeds in Alaska (Senner and McCaffery 1997). Most Surfbirds concentrate for a few weeks each spring on traditional staging areas in Prince William Sound, particularly on Montague Island (Norton et al. 1990, Senner and McCaffery 1997, Bishop and Green 2001). Several staging areas were affected by the Exxon Valdez oil spill, which resulted in a significant decline in herring spawn, a rich food resource for Surfbirds. Oil spills will likely continue to occur in the Sound or in the Gulf of Alaska as long as the production and transportation of petroleum products continue in this region.

My understanding is that Surfbird staging off of Montague Island have yet to recover (or have the herring). Given the large number of Surfbirds that we now see each spring in Kachemak Bay, I'm wondering if at least some of the Surfbirds that use to stage in Prince William Sound are now staging in Kachemak Bay. Also, an intriguing question is should/could we seek WHSRN status for the rocks at the harbor entrance (not natural habitat) where Surfbirds roost. WHSRN criteria for a site of regional importance is that the site attract at least 20,000 shorebirds annually or at least 1% of the biogeographic population. The latter clearly applies to the

entrance to the Homer Harbor. Establishing this importance might be useful in defining mitigation plans if the harbor is expanded, which is often brought up locally.

While I am on the subject of counting, Carol Griswold asked me during the shorebird festival for apps on counting birds. I have a demo program called Wildlife Counts that flashes a variety of animals on your screen for a few seconds and asks you to enter your count. The program compares your answer to the actual count and calculates a percent error. It's a pretty neat exercise.

Another alternative is to Google "Training Resources for Citizen Scientists: Estimating Shorebird Flock Sizes." This is a 2011 project by Bird Studies Canada. They began working with shorebird specialists from Alaska to Peru on a hemisphere-wide project to investigate factors affecting the distribution and abundance of shorebirds on their wintering grounds and at migration stopovers, focusing on Western Sandpiper and Dunlin. It includes a number of photos of shorebird flocks.

Shorebird report:

SEMIPALMATED PLOVERS were seen at Mud Bay (9), Mid-Spit (37), Beluga Slough (3), Anchor River (4), and Kasilof River (7). Many in the Mid-Spit area appear to be nesting. Some BLACK-BELLIED PLOVERS are still around; Mud Bay (3), Mid-Spit (8), and Anchor River (1). PACIFIC GOLDEN-PLOVER were at Mid-Spit (2).

BLACK OYSTERCATCHERS were at Cohen Island (2).

GREATER YELLOWLEGS were at Mud Bay (2), Beluga Slough (2), Anchor River (2), and Kasilof River (1). LESSER YELLOWLEGS (4) were at Beluga Slough and Kasilof River (2). WANDERING TATTLER were seen at Mid-Spit (3), around the boat harbor at the Outer Spit (14), Gull Island. (1)

Yesterday there was a big flock of WHIMBREL, but today the only ones seen were at Beluga Slough (2). The Kasilof River had HUDSONIAN GODWITS (5), which breed nearby.

The Mid-Spit area reported a small flock (12) of SURFBIRDS, but saw a flock of at least 300 the Outer Spit site that weren't seen by the observers there. But the Outer Spit did see 150 plus 1. Out on the Bay there were 200 at Moosehead Point (200), and the Anchor River had (1). BLACK TURNSTONES, which often mingle with Surfbirds, were at the Outer Spit (3), and 60' Rock (24). While we usually see Surfbirds at the boat harbor, it is obvious that they are also on the islands and islets on the south side of the Bay and maybe going back and forth to feed and/or rest.

WESTERN SANDPIPERS are still abundant at Mud Bay (1,125), Mid-Spit (48), Beluga Slough (78), Anchor River (169), and Kasilof River (1,800). LEAST SANDPIPERS were observed at Mud Bay (7), Mid-Spit (2), Beluga Slough (19), and Anchor River (5). Anchor River had SEMIPALMATED SANDPIPERS (2). DUNLIN were at Mud Bay (375), Mid-Spit (1), Beluga Slough (28), Anchor River (11), and Kasilof River (200). Mariner Park Lagoon had 30 peeps that

landed at a distance and left within minutes. The late arriving PECTORAL SANDPIPER was seen at Mariner Park Lagoon (4), and Beluga Slough (2).

DOWITCHERS were seen at Mud Bay (6), Beluga Slough (11), and Anchor River (2). Anchor River had a better view of some birds and reported SHORT-BILLED DOWITCHER (2) and LONG-BILLED DOWITCHER (1).

No RED-NECKED PHALAROPES were reported out on the water but 1 did show up at Beluga Slough. The Kasilof River had WILSON'S SNIPE (2).

Toby Burke and Ken Tarbox also decided to check out the Kenai River flats, which is not a monitoring site (at least for now). They saw some amazing numbers of shorebirds including 700 SHORT-BILLED DOWITCHERS, 400 PECTORAL SANDPIPERS, and 800 LEAST SANDPIPERS, plus others. No mention about Western's or Dunlin, but there must have been some.

Disturbances included aircraft from the airport, an unleashed dog at Mid-Spit. This time there were only two trucks on the berm at Beluga Slough, which is illegal.

Other birds seen include:

At Mud Bay there NORTHERN PINTAIL, NORTHERN SHOVELER, MEW GULL, and GLAUCOUS-WINGED GULL.

Mariner Park had GREEN-WINGED TEAL (4), AMERICAN WIGEON (2), NORTHERN PINTAIL, (2), MALLARD (2), SANDHILL CRANES (2) on a nest, BALD EAGLE on a nest, FOX SPARROW (1), AMERICAN ROBIN (2), and NW CROW (5).

The Mid-Spit area had ARCTIC TERNS (25), MARBLED MURRELET (1), COMMON LOON (2), BALD EAGLE (2), and a raft of about 100 sea otters.

The Outer Spit (boat harbor) had SURF SCOTERS (2), HARLQUIN (5), RED-NECKED GREBE (2), CORMORANT (4), BLACK-LEGGED KITTIWAKES (X), ROCK DOVES (8), NW CROWS (2), SONG SPARROW (4).

Beluga Slough saw GREATER WHITE-FRONTED GOOSE (13), CACKLING GOOSE (7), NORTHERN PINTAIL (3), AMERICAN WIGEON (15), NORTHERN SHOVELER (6), GREEN-WINED TEAL (5), COMMON MERGANSER (1), MALLARD (6), HARLEQUIN (6), RED-NECKED GREBE (1), COMMON LOON (1), SANDHILL CRANE (3), BALD EAGLE (2), BELTED KINGFISHER (1), AMERICAN ROBIN, LAPLAND LONGSPUR (8), ROCK PIGEON (3), VIOLTER-GREEN SWALLOW (10), HERMIT THRUSH, SAVANNAH SPARROW (1), SONG SPARROW (1), LINCOLN'S SPARROW), FOX SPARROW, ORANGE-CROWNED WARBLER.

At the Anchor River they saw 5 species of gulls, our first shearwaters of the season (2 species), a couple of Alcid species, 10 duck species (including Gadwall), and to make things even more

exciting, we 3 Steller's Sea Lions 5 species of gulls, our first shearwaters of the season (2 species), a couple of Alcid species, 10 duck species (including Gadwall), and to make things even more exciting, we 3 Steller's Sea Lions. .

At the Kasilof River they saw 3 TRUMPETER SWAN, 2 CANADA GEESE (*parvipes*), 2 CACKLING GEESE (*taverneri*), 12 NORTHERN PINTAIL, 2 GREEN-WINGED TEAL, 2 MALLARD, 54 GREATER SCAUP, 3 RED-BREASTED MERGANSERS, 7 BALD EAGLE, 2 SANDHILL CRANE, 2 BONAPARTE'S GULL, 20 MEW GULL, 600 HERRING GULL (hybrids), 10 GLAUCOUS-WINGED GULL, 10 ARCTIC TERN, 1 BLACK-BILLED MAGPIE, 1 RUBY-CROWNED KINGLET, 1 AMERICAN ROBIN, and 1 DARK-EYED JUNCO.

Next exciting report in 5 days. The bad thing about spring migration is that it comes to an end. The good thing is that there will be another next year – or we hope so. It's all up to us.

George

Kachemak Bay Shorebird Monitoring Project Session #7

On Saturday, May 16, 2015 the Kachemak Bay Birders had its seventh shorebird monitoring session for this season. This is our seventh consecutive year of monitoring. Twenty-two volunteers made observations for two hours (3:45 – 5:45 pm) at five sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), and nearby Beluga Slough. No report this time from Islands and Islets on the south side of the Bay. In addition two Keen Eye Birders monitored the mouth of the Kasilof River from 12:20-1:50 pm.

At the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) at 3:53 pm the temperature was 58° F, wind was from the S at 9 mph, skies were partly cloudy, and the barometric pressure was 30.18 inches. At 5:53 pm the temperature was 53° F, the wind was from the SW 9 mph, skies were partly cloudy, and the barometric held at 30.18 inches. At the Kasilof River the temperature was 55°F, winds were N at 5 mph, and there was 50% cloud cover.

Shorebird report:

SEMIPALMATED PLOVERS abundant at Mud Bay (50), Mid-Spit (46), and Anchor River (11). Most of these birds are probably breeders instead of migrants. Some BLACK-BELLIED PLOVERS are still around; Mud Bay (2), Anchor River (1), and Kasilof River (3). PACIFIC GOLDEN-PLOVER were at Mid-Spit (2).

GREATER YELLOWLEGS were at Mariner Park Lagoon (2 that attempted mating, maybe successful, who knows), Beluga Slough (2), Anchor River (3), and Kasilof River (3). LESSER YELLOWLEGS were at Beluga Slough (1). WANDERING TATTLER were seen around the

boat harbor at the Outer Spit (12). One of these birds had a blue tag on its wing. Anyone know its origin?

WHIMBRELS were seen at Mud Bay (2), Mid-Spit (1), and Beluga Slough (16).

The large flock of SURFBIRDS have moved on but some were still at the Outer Spit (40).

WESTERN SANDPIPERS are still arriving and seen at Mud Bay (420), Mid-Spit (174), Anchor River (19), and a large flock at the Kasilof River (1,400). LEAST SANDPIPERS were observed at Mud Bay (2), Mariner Park Lagoon (75), Mid-Spit (5), Beluga Slough (4), and Anchor River (10). A large flock of mostly SEMIPALMATED SANDPIPERS were seen and photographed (see attachment) at Mid-Spit (27), as well as Anchor River (1), and Kasilof River (1). DUNLIN were at Mud Bay (100), Mariner Park Lagoon (2), Mid-Spit (81), Beluga Slough (12), Anchor River (9), and Kasilof River (115). Mariner Park Lagoon had about 150 sandpipers that took off in a few minutes. The Mid-Spit also had 4 unidentified sandpipers, Beluga Slough had 12, and Anchor River had 10. The Kasilof River saw 2 RED KNOTS, perhaps the ones that were at the Homer Spit a few days earlier.

DOWITCHERS were seen at Mud Bay (34), Mid-Spit (3), Anchor River (1) and Kasilof River (60).

Disturbances included a lot of heavy equipment activity at the Barge Basin that seemed to scatter birds. At Beluga Slough there were 8 vehicles on the berm, and 1 off-leash dog.

Other birds seen include:

At Mud Bay there NORTHERN PINTAIL, NORTHERN SHOVELER, NORTHERN HARRIER, BALD EAGLE, SANDHILL CRANE, MEW GULL, GLAUCOUS-WINGED GULL, and NW CROW.

Mariner Park had GREEN-WINGED TEAL, AMERICAN WIGEON, NORTHERN PINTAIL, SANDHILL CRANES (2) on a nest, BALD EAGLE on a nest, AMERICAN ROBIN, and NW CROW.

The Mid-Spit area had GLAUCOUS-WINGED GULLS (24), BALD EAGLES (2), and BRANT (4).

The Outer Spit (boat harbor) had COMMON LOON, BLACK-LEGGED KITTIWAKES, GLAUCOUS-WINGED GULLS, BALD EAGLE, NW CROWS, SONG SPARROW.

Beluga Slough saw SANDHILL CRANE (3), GOLDEN-CROWNED SPARROW (5), ORANGE-CROWNED WARBLER (2), BOREAL CHICKADEE (2), COMMON REDPOLL (1), CACKLING GEESE, (9), AMERICAN WIGEON (80), ROCK PIGEON (2), MALLARD (24), NORTHERN SHOVELERS (50), GREEN-WINGED TEAL (12), LAPLAND LONGSPUR (3), AMERICAN PIPIT (3), NORTHERN PINTAIL (6), TERN (1), BELTED

KINGFISHER (2), MEW GULL (1), NW CROWS (5), VIOLET GREEN SWALLOW (12), TREE SWALLOW(12).

At the Anchor River they ORANGE-CROWNED WARBLERS, A GLAUCOUS-WINGED GULL mating with a HERRING GULL, and 2 dozen BALD EAGLES feeding on fish waste at the tractor launch.

At the Kasilof River they 22 GREATER WHITE-FRONTED GEESE, 54 CANADA GEESE (*parvipes*), 10 CACKLING GEESE, 11 NORTHERN INTAIL, 7 AMERICAN WIGEON, 2 GREEN-WINGED TEAL, 63 GREATER SCAUP, 6 SURF SCOTERS, 2 RED-BREASTED MERGANSERS, 2 BALD EAGLE, 1 SANDHILL CRANE, 20 MEW GULL, 400 HERRING GULL (hybrids), 40 GLAUCOUS-WINGED GULL, 5 ARCTIC TERN, 3 BLACK-BILLED MAGPIE, 1 HORNED LARK, 2 YELLOW-RUMPED WARBLERS, 1 ORANGE-CROWNED WARBLER, 1 SAVANNAH SPARROW, 1 LINCOLN'S SPARROW, 2 DARK-EYED JUNCO.

Next report in a day or two. Due to two out of town trips I had since the last session, this report was a bit late.

Kachemak Bay Shorebird Monitoring Project Session #8

On Thursday, May 21, 2015 the Kachemak Bay Birders had its eighth shorebird monitoring session for this season. This is our seventh consecutive year of monitoring. Twenty-one volunteers made observations for two hours (7:30 – 9:30 pm) at six sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), nearby Beluga Slough and the Islands and Islets on the south side of the Bay. Two Keen Eye Birders at the Kasilof River observed birds from 4:00 – 5:30 pm.

The weather was very windy in Kachemak Bay, but not at the Kasilof River. At the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) at 7:53 pm the temperature was 52° F, wind was from the W at 16 mph with gusts to 26 mph, skies were fair, and the barometric pressure was 30.20 inches. At 9:53 pm the temperature was 51° F, the wind was from the W 8 mph, skies were mostly cloudy, and the barometric held at 30.21 inches. It should be noted that the winds at the airport under these conditions tend not to be as strong as those out on the Spit. At the Kasilof River the temperature was 50° F, winds were SW at only 5 mph, and there was 60% cloud cover.

Shorebird report:

There was still a trickle of migrating shorebirds passing through. Also some late migrants have showed up. The big news is that another RED KNOT was seen and photographed at Mid-Spit. Also, a SANDERLING was seen at the Kasilof River. More detailed reports follow.

SEMIPALMATED PLOVERS are breeding and scattered through the upper tidal area. Reports came from Mud Bay (2), Mariner Park Lagoon (6), Mid-Spit (42), and Beluga Slough (1). BLACK-BELLIED PLOVERS were only at Mid-Spit (2). The Anchor River reported PACIFIC GOLDEN-PLOVER (1) as well as a male and female AMERICAN GOLDEN-PLOVER (FOS for the Kenai Peninsula according to eBird). The latter is generally not a Pacific Flyway migrant and uncommon for the Kachemak Bay area. Observers were not able to get a photo but noted that the underparts were totally black.

BLACK OYSTERCATCHERS (2) were seen on Cohen Island where they usually nest.

GREATER YELLOWLEGS were at Mariner Park Lagoon (1), Beluga Slough (2), Anchor River (4), and Kasilof River (1). LESSER YELLOWLEGS were at Beluga Slough (1), Anchor River (2), and Kasilof River (2). WANDERING TATTLER were seen around the boat harbor at the Outer Spit (8), and Anchor River (2).

WHIMBRELS were seen at only the Anchor River (2 which were FOS for this site), and Kasilof River (3).

There are still some SURFBIRDS around with reports from Mid-Spit (3) and the Outer Harbor (47).

A few late arriving WESTERN SANDPIPERS were reported at Mid-Spit (20) and the Kasilof River (2). SEMIPALMATED SANDPIPERS were reported at Mid-Spit (4). DUNLIN were at Mid-Spit (5) and Kasilof River (15). LESA/WESA/SESA (i.e. *Calidris*) were reported by Mariner Park Lagoon (2) and Mid-Spit (4). There was a RED KNOT seen and photographed at Mid-Spit and a SANDERLING, was seen at the Kasilof River. A SPOTTED SANDPIPER was at the Anchor River.

DOWITCHERS sp. were reported at Mid-Spit (1), Beluga Slough (5), and Anchor River (10). SHORT-BILLED DOWITCHERS were picked out by Anchor River (1), and Kasilof River (7). The Anchor River also had a LONG-BILLED DOWITCHER (1).

The Kasilof River had WILSON'S SNIPE (1). Mud Bay had RED-NECKED PHALAROPE (1).

Disturbances included the typical dogs and vehicles on the beach and partying that occurs on Memorial Day weekend. At Beluga Slough tire tracks were seen across the slough to the island. Apparently, someone is trying to make a point.

Other birds seen include:

At Mud Bay there were NORTHERN PINTAIL, NORTHERN SHOVELER, NORTHERN HARRIER, BALD EAGLE, SANDHILL CRANE, MEW GULL, and SWALLOWS.

Mariner Park had GREEN-WINGED TEAL (4), AMERICAN WIGEON (2), NORTHERN PINTAIL (2), MALLARD (2), SANDHILL CRANES (2) on a nest, BALD EAGLE on a nest, AMERICAN ROBIN (1), FOX SPARROW (1), and NW CROW (2).

The Mid-Spit area had BLACK-LEGGED KITTIWAKE (100), and WHITE-WINGED SCOTER (20).

The Outer Spit (boat harbor) had COMMON LOON (1), RED-NECKED GREBE, PELAGIC CORMORANTS (5), BLACK-LEGGED KITTIWAKES (x), GLAUCOUS-WINGED GULLS (x), BALD EAGLE (5), NW CROWS, and SONG SPARROW (3).

Beluga Slough saw AMERICAN WIGEON (60), MALLARDS (6), NORTHERN PINTAIL (5), NORTHERN SHOVELER (4), GREEN-WINGED TEAL, (7), SANDHILL CRANE (2), BALD EAGLE (1), HERMIT THRUSH (3), AMERICAN ROBIN (1), YELLOW-RUMPED WARBLER (1), ORANGE-CROWNED WARBLER (2), SWALLOWS, GOLDEN-CROWNED SPARROW (1), FOX SPARROW (2), BELTED KINGFISHER (1) and NW CROW (4). On Beluga Lake there were BUFFLEHEAD (2), and SCAUP (20).

At the Anchor River they saw TUFTED PUFFIN (FOS), PEREGRINE FALCON, RED-BREASTED MERGANSERS, BALD EAGLES, NW CROW, and SAVANNAH SPARROW. Offshore were large numbers of SHEARWATERS, LOONS, GREBES, and SEADUCKS as well as a humpback whale.

At the Kasilof River 25 GREATER WHITE-FRONTED GEESE, 12 CANADA GEESE (*parvipes*), 40 CACKLING GEESE (10 *taverneri*, 30 *minima*), 7 NORTHERN PINTAIL, 2 AMERICAN WIGEON, 2 GREEN-WINGED TEAL, 70 GREATER SCAUP, 3 BALD EAGLE, 3 SANDHILL CRANE, 20 MEW GULL, 800 HERRING GULL (hybrids), 10 GLAUCOUS-WINGED GULL, 5 ARCTIC TERN, 2 ALEUTIAN TERN, 1 RUBY-CROWNED KINGLET, 1 YELLOW-RUMPED WARBLER, 1 ORANGE-CROWNED WARBLER, 3 SAVANNAH SPARROW, 1 WHITE-CROWNED SPARROW, 1 WHITE-WINGED CROSSBILL, 2 COMMON REDPOLL.

All this data is entered in eBird using the ISS portal. Data from the Kachemak Bay area (including the Anchor River) is entered via the Kachemak Bay Birders account. Keen Eye Birders use their personal account.

Next and last report for this year in five days.

George

Kachemak Bay Shorebird Monitoring Project
Session #9

On Tuesday, May 26, 2015 the Kachemak Bay Birders had its ninth and final shorebird monitoring session for this year. This is our seventh consecutive year of monitoring. Twenty volunteers made observations for two hours (9:30 – 11:30 am) at six sites in the Homer Spit area as well as Anchor Point/River. Sites in the Spit area include Mud Bay, Mariner Park Lagoon, Mid-Spit, the Outer Spit (boat harbor area), nearby Beluga Slough and the Islands and Islets on the south side of the Bay. One Keen Eye Birders at the Kasilof River observed birds from 7:30 – 9:00 am.

Summer is here; at least Homer-style. Tuesday at 9:53 am at the Homer Airport (<http://w1.weather.gov/obhistory/PAHO.html>) the temperature was 53° F, wind was from the W at 5 mph, a few clouds were around, and the barometric pressure was 30.18 inches. At 11:53 am the temperature was 54° F, the wind was from the W 9 mph, skies were fair, and the barometric was climbing at 30.19 inches. At the Kasilof River the temperature was 43° F, wind was from the S at 43°F, and there was 60% cloud cover.

Shorebird report:

Spring migration is over for this year. There were a few stragglers, the most unusual being 2 RUDDY TURNSTONES at Mid-Spit, 1 MARBLED GODWIT at Beluga Slough, and 1 WHIMBREL as well as 1 BLACK-BELLIED PLOVER at the Kasilof River. Following is a more detailed account.

A SEMIPALMATED PLOVER was heard at Mud Bay, 31 were seen at Mid-Spit, and 11 were at Beluga Slough. The only other plovers were 1 BLACK-BELLIED PLOVER at the Kasilof River.

GREATER YELLOWLEGS were at Mud Bay (1), Beluga Slough (1), Anchor River (2), and Kasilof River (1). LESSER YELLOWLEGS were only at the Kasilof River (6). One MARBLED GODWIT was at Beluga Slough.

BLACK OYSTERCATCHERS (3) were seen at Cohen Island.

Three SPOTTED SANDPIPERS were seen at the Anchor River, which are common there along the riverbank. They also saw 3 WANDERING TATTLER. The only WHIMBREL was at the Kasilof River. Observers at Mid-Spit saw 2 RUDDY TURNSTONE as well as 1 procrastinator DUNLIN, and 6 LEAST SANDPIPER.

The only dowitchers were 2 sp. at the Anchor River and 3 SHORT-BILLED DOWITCHERS at the Kasilof River. There was 1 WILSON'S SNIPE at the Kasilof. A lone RED-NECKED PHALAROPE was at Beluga Slough. But since this species nests in the area, it may not be a migrant.

Correction. The Tuesday (May 12) after the shorebird festival I reported a “big pulse” of 8,000 shorebirds at Mud Bay and 3,500 there the next day. I took several photos of the bay on both days and have finally had time to stitch them together and attempt a hand count. The count I now have for Mud Bay for Tuesday is 4,032 and 2,038 for Wednesday. While the photos for both

days didn't get all the shorebirds, nor could I count those far away, I think I overestimated and have corrected my eBird report accordingly. What may have contributed to my overestimate is that there is often a double image for birds standing in the water. There will be the bird as well as its reflection on the water. But this can be adjusted for with a hand count of a blown up photo.

Nevertheless, this was probably the biggest pulse for this season. We use this supplemental data to try and get some idea as to how many shorebirds might have come and gone between the five day interval in our scheduled monitoring. For example, at Mud Bay on May 6th we recorded 92 sandpipers, on May 11th there were 1,500, and on May 16th there were 522. These counts without the supplemental data would amount to a significant undercount of shorebirds that stopped over at Kachemak Bay this spring. With the supplemental data we can get a rough estimate of the undercount.

I should also point out that the supplemental data gives us a more accurate comparison of year-to-year data. One year there were three big pulses of sandpipers and each pulse occurred on a monitoring day. But the year before, all the pulses came between monitoring dates. Obviously, just looking at the monitoring data would not give as accurate a picture of the shorebird migrations as monitoring with supplemental data.

This may lead to a question as to why not monitor every day? The answer is that this is a citizen science project, and unlike agency projects that are limited by budgets, citizen science projects are limited by the number of volunteers who participate. While daily monitoring might improve data, none of our volunteers have the time to participate at this level. When we first established our protocol we decided that monitoring about once every five days was doable.

Disturbances, besides the usual off-leash dogs and off-road vehicles, included the King of Norway and, by coincidence, the first cruise ship of the season with lots of tourists walking around the harbor probably thinking the line of gift shops is this quaint town of Homer. Very few tourists seemed to be actually in downtown Homer. The King of Norway's party arrived toward the end of our monitoring session. His party swooped in just over the trees in four stealth Black Hawk helicopters with a gunner at the door. It kind of took us by surprise. We dropped our binoculars. Actually, the helicopters were so quiet that they didn't disturb the birds. Couldn't they all be that way?

Other birds seen include:

At Mud Bay there were NORTHERN PINTAIL, 2 SANDHILL CRANES with a flock of 11 that flew overhead and landed at Mariner Park Lagoon, GLAUCOUS-WINGED GULLS, NW CROW, HERMIT THRUSH, GOLDEN-CROWNED SPARROW, and SAVANNAH SPARROW.

Mariner Park had GREEN-WINGED TEAL (2), AMERICAN WIGEON (2), NORTHERN PINTAIL (2), CACKLING GEESE (9), BALD EAGLE on a nest, NW CROW (4), AMERICAN ROBIN (1), HERMIT THRUSH (1), FOX SPARROW (1), SAVANNAH SPARROW (1), and VIOLET GREEN SWALLOW (2). What was interesting was watching the interplay between the two SANDHILL CRANES who are nesting at the lagoon and a flock of 10 cranes that

arrived who were obviously nonbreeders and appeared to be juveniles. These youngsters weren't very welcomed. Also, while all this is going on four crows kept edging up the where the nest is. It was an example of how vigilance is needed in nature.

The Mid-Spit area had GULLS, SAVANNAH SPARROW, AMERICAN ROBIN, and VIOLTER-GREEN SWALLOWS. They also found and reported a dead sea otter.

The Outer Spit (boat harbor) had COMMON LOON (1), RED-NECKED GREBE (1), BLACK-KITTIWAKES (x), GLAUCOUS-WINGED GULLS (x), ROCK PIGEON (6), BALD EAGLE (6), NW CROWS (6), TREE SWALLOW (2), and SONG SPARROW (3).

Beluga Slough saw AMERICAN WIGEON, MALLARDS, NORTHERN PINTAIL, NORTHERN SHOVELER, GREEN-WINGED TEAL, SANDHILL CRANE (2), BALD EAGLE, HERMIT THRUSH, AMERICAN ROBIN, ORANGE-CROWNED WARBLER, VIOLET- GREEN SWALLOWS, TREE SWALLOWS, BANK SWALLOWS, GOLDEN-CROWNED SPARROW, SAVANNAH SPARROW, SONG SPARROW, BELTED KINGFISHER (1), BLACK-BILLED MAGPIE (2), and NW CROW (4).

The Anchor River didn't note anything other than the usual assortment of gulls, ducks, etc.

At the Kasilof River there were 3 TRUMPETER SWANS, 5 CANADE GEESE (*parvipes*), 5 NORTHERN PINTAIL, 55 GREATER SCAUP, 3 LONG-TAILED DUCK, 12 BALD EAGLE, 1 NORTHERN HARRIER, 4 BLACK-LEGGED KITTIWAKE, 20 MEW GULL, 1,000 HERRING GULL (hybrids), 10 GLAUCOUS-WINGED GULL, 10 ARCTIC TERN, 1 BLACK-BILLED MAGPIE, 1 NW CROW, 2 RUBY-CROWNED KINGLET, 1 AMERICAN ROBIN, 1 ORANG-CROWNED WARBLER, 10 SAVANNAH SPARROW, 4 LINCOLN SPARROW, 1 DARK-EYED JUNCO, 3 COMMON REDPOLL, 3 PINE SISKIN.

Once again, we have had a successful shorebird monitoring project for this year with good volunteer support and lots of interesting observations, We continue to learn more about shorebirds in the Kachemak Bay area and apply our knowledge not only locally, but contribute to Pacific Flyway efforts.

I want to thanks a host of volunteers. Attached is the schedule of volunteers we had listing them by name and what site they monitored at.

I would like to end this final report for this year with a funny. Last week the Anchor River team reported on their form a pair of American Golden-Plovers. Seeing that this species is fairly rare for the Kachemak Bay area, I called Michael Craig to make sure that this entry was in the right row. He assure me that it was and described the birds, pointing out that they had black underparts. So I after I typed this in, I noticed that my Spell Check had changed "black underparts" to "black underpants". Now that would really be rare. In reading over this report, the Spell Check did it again. It corrected my "dead sea otter" to Dead Sea otter". Now I don't even know if the Dead Sea has any otters.

Keep on birding. It's good for you and them.