COASST

COASTAL OBSERVATION AND SEABIRD SURVEY TEAM

Reports 08–09

MAY 2010

Breaking News

Just when we thought things were starting to settle down, what would become COASST's biggest story was lurking just offshore: a tiny alga that would wreak havoc on thousands of scoters on the north coast of Washington and a host of species on the Long Beach Peninsula. Perhaps it was a bit of beached bird payback, since the COASST May–June year yielded only 2488 carcasses (about half as many as 2007–2008).

Humboldt

After last year's Fourth of July fireworks coincided with the beginning of Common Murre fledging from Castle Rock, Sky Loyd and Eileen Cooper were glad to have missed an onslaught of chicks on their beaches–Battery Point North and South: "No wreck. Common Murres fledged late, were not out 'til after the 4th."

August was the month for fledging, at least on some beaches. After making their way through 17 Common Murre chicks on South Spit, Grace and Don Wheeler might have had "beach envy" over Dick Reese's Stamps South August survey just up the road: "no birds, feathers only."

Cindy Moyer, John Emig, Ken Burton and Joelle Peebles at Mad River Park North also had fewer birds than most California COASSTers, but no shortage of cool finds: in December, evidence of the beach being used by beavers; in March, a strange green stain (we've tentatively identified as bile) on the wing of a grebe; and in May, two dead harbor seals and a flock of Turkey Vultures circling overhead.

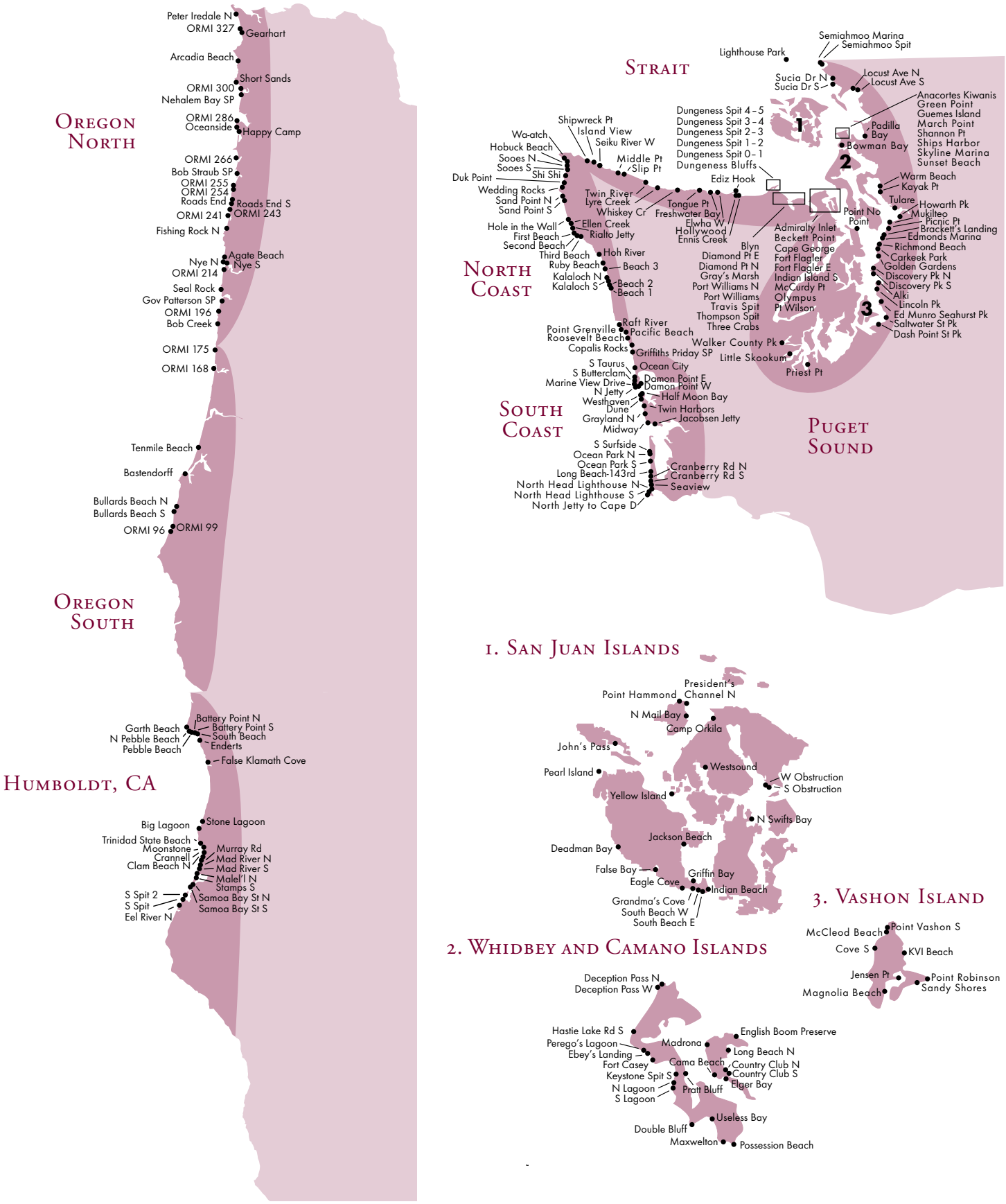
In January on Murray Road Beach, it was a message in a bottle, not a bird find that lead Gary and Lauren Lester to contact Terry Schulz. In COASST's most unique volunteer recruitment story ever, Terry and his wife Kimberly teamed up with Gary to take on Gary's 4th beach, Clam Beach South.

Oregon South

September marked the "retirement" of Dave and Diane Bilderback and Mary Lou Letsom from Oregon Mile 175's power team, which also includes Val Knox, Anne Caples, Cindy, Sean and Sarah Burns, and Bill Hager. "Our last Friday with the whole gang! Oh so many good laughs and walks with such good people," remarked Anne.

An elk—no, Dave Easton emerges from the shadows on Duk Point, North Coast of Washington.

Photo: Courtesy of D. Easton


Oregon North
Peter Iredale N
ORMI 327
Gearhart
Arcadia Beach
Short Sands
ORMI 300
Nehalem Bay SP
ORMI 286
Oceanside
Happy Camp
ORMI 266
Bob Straub SP
ORMI 255
ORMI 254
Roads End
Roads End S
ORMI 241
ORMI 243
Fishing Rock N
Agate Beach
Nye N
Nye S
ORMI 214
Seal Rock
Gov Patterson SP
ORMI 196
Bob Creek
ORMI 175
ORMI 168
Tenmile Beach
Bastendorff
Bullards Beach N
Bullards Beach S
ORMI 96
ORMI 99
Oregon South
Humboldt, CA
Battery Point N
Garth Beach
Battery Point S
N Pebble Beach
South Beach
Pebble Beach
Enderts
False Klamath Cove
Big Lagoon
Stone Lagoon
Trinidad State Beach
Moonstone
Murray Rd
Crannell
Mad River N
Clam Beach N
Mad River S
Malel'l N
Stamps S
S Spit 2
Samoa Bay St N
S Spit
Samoa Bay St S
Eel River N
Strait
Lighthouse Park
Semiahmoo Marina
Semiahmoo Spit
Sucia Dr N
Sucia Dr S
Locust Ave N
Locust Ave S
Anacortes Kiwanis
Green Point
Guemes Island
March Point
Shannon Pt
Ships Harbor
Skyline Marina
Sunset Beach
Padilla Bay
Bowman Bay
Dungeness Spit 4 – 5
Dungeness Spit 3 – 4
Dungeness Spit 2 – 3
Dungeness Spit 1 – 2
Dungeness Spit 0 – 1
Dungeness Bluffs
Ediz Hook
Warm Beach
Kayak Pt
Tulare
Howarth Pk
Mukilteo
Picnic Pt
Brackett's Landing
Edmonds Marina
Richmond Beach
Carkeek Park
Golden Gardens
Discovery Pk N
Discovery Pk S
Alki
Lincoln Pk
Ed Munro Seahurst Pk
Saltwater St Pk
Dash Point St Pk
Point No Point
Admiralty Inlet
Beckett Point
Cape George
Fort Flagler
Fort Flagler E
Indian Island S
McCurdy Pt
Olympus
Pt Wilson
Blyn
Diamond Pt E
Diamond Pt N
Gray's Marsh
Port Williams N
Port Williams
Travis Spit
Thompson Spit
Three Crabs
Walker County Pk
Little Skookum
Priest Pt
Shipwreck Pt
Island View
Seiku River W
Wa-atch
Hobuck Beach
Sooes N
Sooes S
Shi Shi
Duk Point
Wedding Rocks
Sand Point N
Sand Point S
Middle Pt
Slip Pt
Twin River
Lyre Creek
Whiskey Cr
Tongue Pt
Freshwater Bay
Elwha W
Hollywood
Ennis Creek
Hole in the Wall
Ellen Creek
First Beach
Rialto Jetty
Second Beach
Third Beach
Hoh River
Ruby Beach
Beach 3
Kalaloch N
Beach 2
Kalaloch S
Beach 1
North Coast
Point Grenville
Raft River
Roosevelt Beach
Pacific Beach
Copalis Rocks
Griffiths Priday SP
S Taurus
Ocean City
S Butterclam
Damon Point E
Marine View Drive
Damon Point W
N Jetty
Half Moon Bay
Westhaven
Twin Harbors
Dune
Grayland N
Jacobsen Jetty
Midway
South Coast
S Surfside
Ocean Park N
Ocean Park S
Long Beach-143rd
Cranberry Rd N
Cranberry Rd S
North Head Lighthouse N
Seaview
North Head Lighthouse S
North Jetty to Cape D
Puget Sound
1
2
3
1. San Juan Islands
President's
Point Hammond
Channel N
N Mail Bay
Camp Orkila
John's Pass
Pearl Island
Westsound
W Obstruction
S Obstruction
Yellow Island
N Swifts Bay
Jackson Beach
Deadman Bay
False Bay
Griffin Bay
Eagle Cove
Indian Beach
Grandma's Cove
South Beach W
South Beach E
2. Whidbey and Camano Islands
Deception Pass N
Deception Pass W
Hastie Lake Rd S
English Boom Preserve
Perego's Lagoon
Madrona
Long Beach N
Ebey's Landing
Cama Beach
Country Club N
Fort Casey
Country Club S
Keystone Spit S
Elger Bay
N Lagoon
Pratt Bluff
S Lagoon
Double Bluff
Useless Bay
Maxwelton
Possession Beach
3. Vashon Island
McCleod Beach
Point Vashon S
Cove S
KVI Beach
Jensen Pt
Point Robinson
Magnolia Beach
Sandy Shores

As luck would have it, no rarities that month, but come November, Anne found "more live gulls in the past week than ever before."

In October, the Bilderbacks recorded the second incident of a cormorant entangled in a crab snare in Oregon (the first from BJ Byron on an informal walk of Oregon Mile 286 in August, 2007). The snares, which are set using recreational fishing rods, catch crabs attracted to a small bait box, but can also unintentionally snag birds feeding off jettys and piers. Years of COASST data indicate that bycatch in recreational gear is a small but steady source of mortality for cormorants, murres and gulls.

Bill and Jolene Poppe may have found only one bird on their June survey of Tenmile Beach, but they certainly picked up the molt signal: "lots of single feathers reside in the wrack area up and down the beach."

Oregon North

By smell or by size it was hard to miss the male Steller Sea Lion carcass that washed ashore in August on Barbara Linnett's beach, Arcadia. Measuring just over 3 meters (11 ft), these guys are the true heavyweights of the North Pacific, with a slight edge over their close cousin, the California Sea Lion.

Max Smith and Sarah Swanson's lone Long-billed Curlew on Bob Straub Beach in May made our new species list. Relative to other curlews, whimbrels and godwits, Long-billed Curlews are short-distance migrants, with only a two-day commute from wintering locations to inland breeding sites. A tiny Song Sparrow didn't escape the eyes of Jann Luesse, Pat Reynolds and Lori Sinnen on their February survey of Oregon Mile 327, adding yet another new species to our list.

With the Brown Pelican (BRPE) population on the rise and expanding northward, Pacific Northwest COASSTers can expect to find an increase in both beached and live sightings. This year, pelican finds were up 2% over the long-term pattern. Steve Small and Carol Cwiklinski documented their beached BRPE peak in December and January surveys of Oceanside (21 total!), while Rick and Janet Anderson caught the live peak of southward migration on Mile 243 in November: "counted 474 pelicans in 15 minutes!"

South Coast (WA)

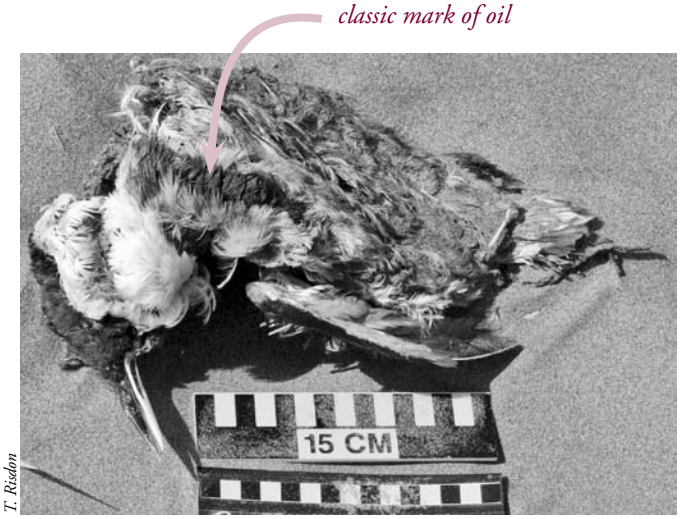
South Butterclam, situated right next to Duck Lake and a labyrinth of freshwater ponds and channels, is the clearing-house for waterfowl finds—Mike and Barbara Patton came upon a Northern Pintail (NOPI) in October and a Northern Shoveler and Greater Scaup (GRSC) in February. In April, Kathy and Brian Linnell matched those with a NOPI and GRSC of their own on Ocean City North Beach. Janice Havrilak completed the waterfowl troika with a set of Gadwall wings found on Damon Point West in February.

Midway Beach, surveyed by Nancy Fischer and Steve Young, faces the same problem as Janice's beach: erosion. Located at the most rapid erosion site on the US Pacific Coast, the Cape Shoalwater area lost about 124 feet per year between 1890 and 1965. Winter storms wreaked havoc on the dunes this year, creating a precipitous drop-off to the beach, "the access road is essentially gone, so you must walk on top of the dunes for quite a while to get to a spot where you can access the beach!"

After a good, long, three-hour drive to Griffith's Priday State Park in May, Terry Risdon, and Carl and Matt Haynie found two "once-in-a-lifetime" finds on their second survey ever: a Black-footed Albatross and an oiled Common Murre with classic bathtub ring stain.

North Coast (WA)

Dave Easton's survey of Duk Point in August was teeming with life (not something we can say very often on a hunt for beached birds). What caught Dave's eye weren't birds, but a swarm of bugs in the last throes of summer, "thousands of small black kelp flies carpeting the sand around the rocks and logs."



T. Risdon

The Haynie/Risdon team used their CSI skills to spot the classic mark of oil on this Common Murre.

A smorgasbord of alcids lay waiting for Ken and Mary Campbell on their October survey of Sooes North—one each of a Common Murre, Rhinoceros Auklet, Marbled Murrelet and Cassin's Auklet. October also brought five Greater White-fronted Goose finds to the North Coast, two of which were found by the "Sue duo," Sue Shane and Sue Keilman: one on First Beach and one on Second Beach.

Wa-atch Beach also draws dead birds, only Paul and Sally Parker rarely get the chance to count them, "no birds, but did see an eagle flying to its nest right above Wa-atch Point with some type of seabird dangling from its talons!" They did, however, get to count the people and dogs that day, "a family of five and two dogs waded across the mouth of the river from Hobuck Beach to Wa-atch," which local folks know is not so easy to do!

Strait

With birds generally few and far between, the surveys in the Strait and Puget Sound carry a bit more of that element of surprise. This was certainly true for Kathleen and Gus Ninneman on their November survey of Freshwater Bay, "a guy pulled up, jumped out and dumped a pail of (fish) guts in the water." No dead birds found, but live birds would soon get the word about this lunch delivery.

It seems that Hollywood Beach gets its fair share of drama too—it was closed in December due to sewage outflow issues; in February, Jaci Pumphrey reported "no dead birds but just off survey area, I did find a dead boat" (the attached article read, "PA man's second boat runs ashore—owner claims someone pushed the vessel") and a molting female Elephant Seal in April (attached article read, "beached seal moved to Ediz Hook").

Continuing in this craziness, Sharon Cox and Jeanne Pumphrey found a large metal canister on Whiskey Creek in April, inscribed (in French), "Dangerous material. Warning. Contact the police or military." The quick-thinking COASSTers did the right thing and called authorities to remove this military flare casing.

San Juans

After joining COASST in April, Monika Wieland roped in a quick catch—not on her beach, Griffin Bay (on San Juan Island), but in Oregon—her dad Rainer. After two months of Monika's surveys on Griffin Bay and one month of Rainer's at Happy Camp (near Tillamook), they're neck-and-neck for the first bird find.

Robin Donnelly doesn't just jaunt out her front door to her COASST beach, she visits by kayak, careful to look for a good weather window during the winter months. Yet to find a bird, Robin is always on the look-out for (dead) birds, "also surveyed some of Henry Island, Mosquito Pass and Westcott Bay in Jan and Feb."

Stan Wagner found one of the region's two birds this year, a subadult Glaucous-winged Gull in December at President's Channel North. From the sounds of it, Waldron was teeming with life during the summer months: at Clay Point, "a green-brown plankton bloom" was spotted in August by Julie Loyd, who also reported "fingerling salmonids in the shallows" at Point Hammond.

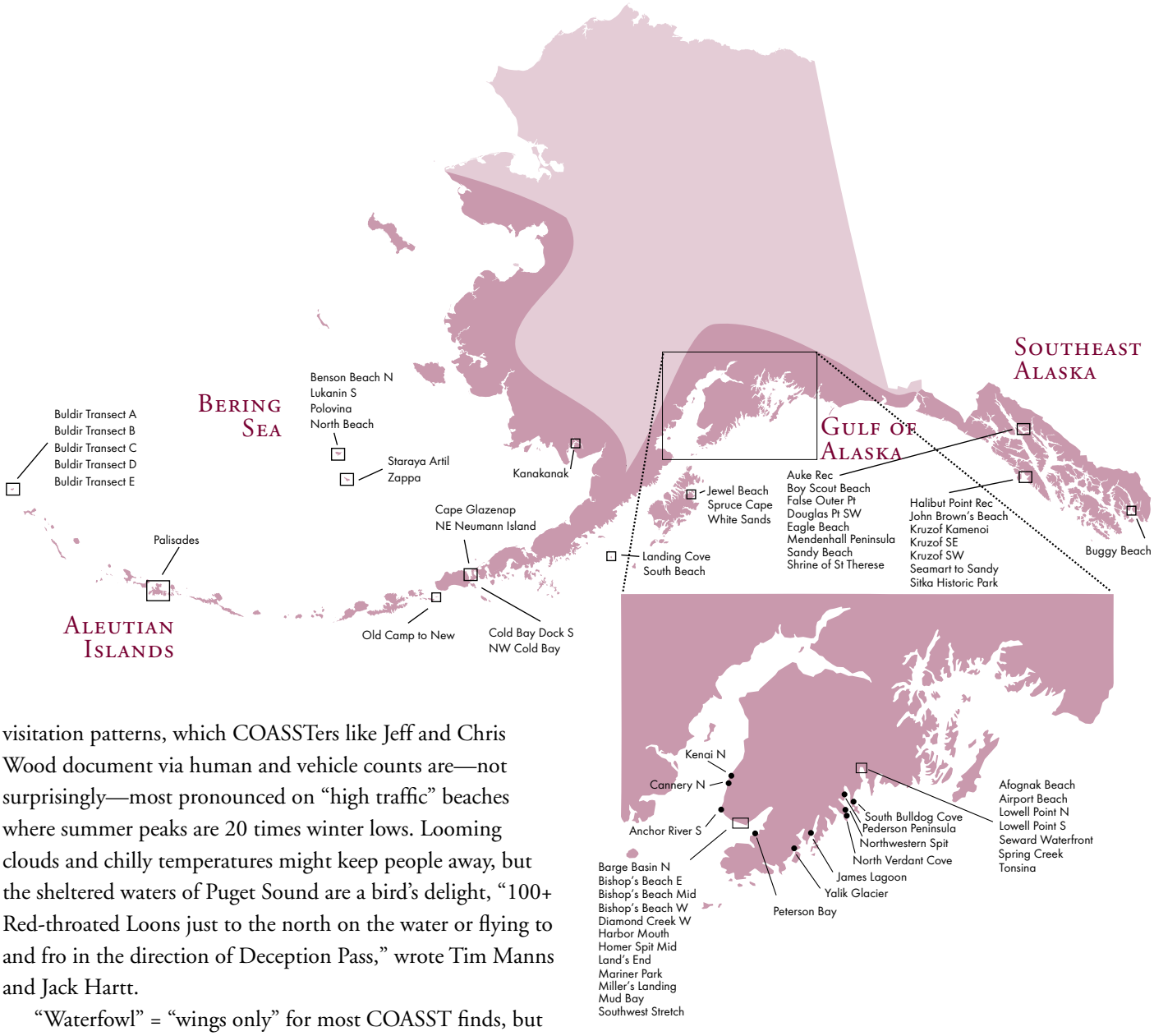
Puget Sound

Tom Richards worked hard this year as a spokesman for COASST in Anacortes, "gave COASST flyers to three people today." Not only that, in October, he and Tim Manns found COASST's only Barred Owl this year. Outcompeting the smaller Spotted Owl, Barred Owls are on the rise in the Pacific Northwest.

On a July survey of Deception Pass North, humans came out ahead of dead birds 159 to zero. Seasonal

J. Pumphrey

Watch where you step! Sharon Cox and Jeanne Pumphrey reported this metal flare casing to the proper authorities for disposal.



visitation patterns, which COASSTers like Jeff and Chris Wood document via human and vehicle counts are—not surprisingly—most pronounced on "high traffic" beaches where summer peaks are 20 times winter lows. Looming clouds and chilly temperatures might keep people away, but the sheltered waters of Puget Sound are a bird's delight, "100+ Red-throated Loons just to the north on the water or flying to and fro in the direction of Deception Pass," wrote Tim Manns and Jack Hartt.

"Waterfowl" = "wings only" for most COASST finds, but in Lee Chavez and Nicole Luce's case, a single head of a male Northern Pintail was found, not a feather more. Not even a single head graced Al Standish's beach, Fort Flagler, but there had certainly been visitors, "two eagle perching sites with extensive feathers. Suspect they are lunching on seabirds."

Southeast Alaska

Like the rest of Southeast Alaska COASSTers, Gary Frietag got skunked in the dead bird department this year, but there was still lots of action on Ketchikan's Buggy Beach—Bald Eagles on the hunt, a Great Blue Heron and a bunch of loafing gulls taking turns cleaning off in a nearby stream.

The same rings true to Pat Harris, on her November survey of Mendenhall Peninsula: "a very vigilant eagle family patrols the survey beach. I suspect beached birds are quickly scavenged." Statewide, COASST found no difference in the persistence of tagged carcasses in Alaska versus the lower 48, but that doesn't count those "pre-finds" snatched by raptors before COASSTers even arrive.

About December, when it stops raining in Juneau, it starts snowing. In February, Pat Watt sent photos of the meter high drifts, "couldn't get through the snow to the beach," and in March, "still too much snow—looked like nothing had melted and more was added since last time."

Instead of big snow drifts, Sue Baxter and Dave Sturdevant had to contend with 30–45 cm deep wrack piles—"large, deep, dense piles compiled entirely of *fucus*," making False Outer Point look like it was in competition for the largest sushi roll prize.

Gulf of Alaska

When it rains it pours—after months of no birds, Christina Whiting and Will Schlein found three on their survey of Barge Basin North in August, including this year's only Surfbird, in near perfect condition. Spring brings the arrival of thousands of Surfbirds to Kachemak Bay and nearby Prince William Sound, the last and most concentrated migration stopover points before birds head inland to breed.

Every season brings a menagerie of "culprits" that disrupt COASST surveys in Alaska—bears, moose, rogue ice chunks, hauled-out seals, cold temps, flooded winter streams. Just ask Jim and Elizabeth Smith, who survey Cold Bay Dock South, "No survey in October. Went to the beach twice and both times a brown bear was on the beach. He can have it!"

Last March, COASST added volcanoes to the list. That's right, the eruption of Mount Redoubt not only disrupted air travel for a few days, but it also covered Frank Vondersaar and Neil Wagner's beach, Bishops Beach West, with 7.5 cm of fine ash. When things steamed up, Kathy East even snapped a few photos from her survey of Cannery Beach, "I happened to see it when it started smoking today, pretty awesome!"

Aleutian Islands

Volcanoes were the "hot topic" of the Aleutians, too. After being dropped off to spend the summer doing seabird colony work on Kasatochi Island, Ray Buchheit and Chris Ford knew they were in for a lot of long days, but those would be cut short in early August. Within days, pre-eruption earthquakes had increased with such intensity that a nearby fishing vessel was the only boat close enough to launch a rescue in time. Ray and Chris escaped just hours before the mountain erupted, burying the refuge cabin under 30 meters of ash and decimating the Crested and Least Auklet colonies.

Kevin Payne and Bob Keller, working on Buldir Island, didn't have to run for their lives this summer, but they did have their hands full covering five beach segments, one of which sported COASST's first female Harlequin Duck in June. The team also checked off two of three Horned Puffins found COASST-wide this year—the other, a wintering bird off the coast of Oregon found by Nathan Breece and Dan Battaglia on Nye South.

Bering Sea

Kristine Sowl and Lucretia Fairchild weren't the only ones checking out what the tide washed in on Cape Glazenap (outside of Cold Bay) in August, "fox, brown bear and wolf made frequent diggings in wrack." But no time to watch—this team has to fit in at least a three-hour survey and three-hour boat ride out and back to their home base. Kristine and Mary Bozza had just enough time in October to check off the fourth and final new species for COASST this year: a Bar-tailed Godwit, just two wings.

Summer seas washed in plenty to keep Claudia Mischler busy—between June and August, Claudia recorded five murres, two fulmars, two Black-legged Kittiwakes and a rare, but intact Crested Auklet (one of seven COASST-wide) across Zappa and Staraya Artil on St. George Island.

Summer marks the arrival of millions of Sooty Shearwaters that make a trans-equatorial migration to feed on readily abundant prey along the ocean shelf. Dustin Jones, Phil Zavadil and Richard Warner documented the shearwater spike on their September survey of North Beach, St. Paul Island (seven finds) just as birds were headed back to the Southern Hemisphere. ■

A beautiful day on Buggy Beach in Ketchikan, Alaska, one of 39 new COASST beaches this year.

Mortality Related to Human Activities: Oiled & Entangled Birds

Entangled birds, always a small percentage of total finds—this year .48%—included the usual suspects (to date: 33 gulls, 23 murres and 9 cormorants) and two new ones, Brown Pelican (a species delisted in February 2009) and the common chicken…

Oiled birds, at .16% of finds this year, included the first loon.

Entangled Birds

Large Immature Gull	Copalis Rocks (WA) [1] Grayland North (WA) [1] Second Beach (WA) [1]
Western Gull	Crannell Beach (CA) [2] Crannell Beach (CA) [2] Mile 168 (OR) [2]
Common Murre	Bob Straub State Pk (OR) [2] Eel River North (CA) [2]
Brown Pelican	Oceanside (OR) [3]
Chicken	Cranberry Rd S. (WA) [4]
Glaucous-winged Gull	Tonsina (AK) [1]
Pelagic Cormorant	Mile 99 (OR) [2]

[1] Hook, [2] Line, [3] Rope, [4] Twine

Oiled Birds

Common Murre	Battery Point N (CA) Griffiths Priday State Pk (WA) Sooes North (WA)
Pacific Loon	Mile 99 (OR)

Opposite photo: G. Freitag

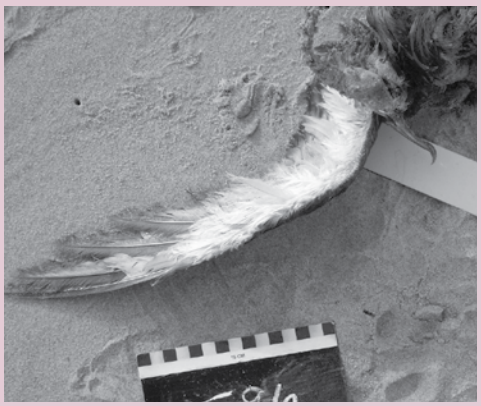
The COASST Quiz

A

J. Dolliver

Found 1/24/09
Pacific Beach
(North Coast, WA)
Bill: 54 mm
Wing: 28 cm
Tarsus: 72 mm

B



V. Knox

Found 5/01/09
Oregon Mile 175
(Oregon South)
Bill: 40 mm
Wing: 29 cm
Tarsus: 58 mmm

C

AMNWR Seasonal Staff

Found 8/2/08
Buldir Island
Transect A
(Aleutian Islands)
Bill: 16 mm
Wing: 14 cm
Tarsus: 31 mm

—answers on page 16

Beached Birds Identified to Species

SPECIES	YR 10 #	YR 10 %	YR 9 %	YR 8 %	YR 7 %	YR 6 %	YR 5 %	YR 4 %	YR 3 %	TOTAL #	TOTAL %
Common Murre [11]	**799**	**35.7**	**26.6**	**19.5**	**28.8**	**47.0**	**17.7**	**24.0**	**23.5**	**5084**	**27.8**
Large Immature Gull	**260**	**11.6**	**9.0**	**10.6**	**10.8**	**13.3**	**7.6**	**10.6**	**18.6**	**1926**	**10.5**
Northern Fulmar	**198**	**8.8**	**30.5**	**9.5**	**12.4**	**8.0**	**57.2**	**23.9**	**8.4**	**4171**	**22.8**
Glaucous-winged Gull	**99**	**4.4**	**3.4**	**6.1**	**2.4**	**3.8**	**2.0**	**3.3**	**4.0**	**650**	**3.6**
Western Gull	**97**	**4.3**	**3.0**	**5.3**	**1.7**	**3.2**	**0.9**	**1.8**	**2.4**	**505**	**2.8**
Brandt's Cormorant [11]	86	3.8	4.4	3.0	3.8	3.3	1.2	1.9	2.4	578	3.2
Brown Pelican	66	2.9	0.5	0.4	0.1	0.4	0.1	0.3	0.2	115	0.6
Sooty Shearwater [13]	**57**	**2.5**	**1.1**	**1.0**	**1.2**	**2.1**	**0.9**	**2.3**	**7.2**	**306**	**1.7**
Rhinoceros Auklet [10]	**44**	**2.0**	**2.2**	**13.2**	**10.3**	**1.5**	**1.0**	**1.4**	**1.8**	**786**	**4.3**
Western Grebe [11]	**44**	**2.0**	**2.7**	**3.4**	**6.5**	**0.8**	**1.0**	**2.7**	**7.2**	**543**	**3.0**
Black-legged Kittiwake	**40**	**1.8**	**0.7**	**2.0**	**0.2**	**0.2**	**0.2**	**0.4**	**2.1**	**155**	**0.8**
Dunlin	31	1.4		0.1	0.1	0.05		0.1	0.2	37	0.2
Cassin's Auklet [10, 11, 12]	**29**	**1.3**	**0.7**	**4.7**	**5.8**	**2.0**	**1.0**	**1.4**	**2.4**	**422**	**2.3**
Pelagic Cormorant	29	1.3	1.7	2.1	1.7	2.7	1.3	2.5	1.3	326	1.8
Surf Scoter	22	1.0	1.0	1.1	0.9	1.1	0.7	1.5	0.5	177	1.0
Black-footed Albatross [13]	20	0.9	0.4	0.5	0.5	0.7	0.2	0.2	1.3	98	0.5
California Gull	19	0.8	0.5	1.1	1.2	0.7	0.5	1.4	2.1	163	0.9
Pigeon Guillemot	16	0.7	0.5	1.0	0.9	1.0	0.5	0.9	0.2	133	0.7
Double-crested Cormorant	14	0.6	0.6	0.5	0.7	0.5	0.6	0.6	0.3	107	0.6
Fork-tailed Storm-Petrel [12]	13	0.6	0.6	1.5	0.6	0.2	0.3	0.1	0.8	106	0.6
Greater White-fronted Goose	13	0.6	0.02		0.03	0.05			0.2	17	0.1
Ancient Murrelet [13]	12	0.5	0.2	0.4	0.2	0.1	0.1	0.3	0.5	48	0.3
Northern Pintail	12	0.5	0.2	0.2	0.2	0.1	0.2	0.2	0.3	43	0.2
White-winged Scoter	12	0.5	1.1	1.3	1.2	1.0	0.5	0.8	1.0	172	0.9
Common Loon [9]	10	0.4	0.7	0.3	0.8	0.4	0.4	0.3	0.5	94	0.5
Pacific Loon	10	0.4	0.7	0.5	0.4	0.3	0.1	0.8	0.6	83	0.5
Parakeet Auklet	10	0.4	0.1	0.2	0.1					22	0.1
Canada Goose	9	0.4	0.3	0.5	0.03	0.3	0.1	0.5	0.3	53	0.3
Short-tailed Shearwater	9	0.4	1.6	0.7	0.8	0.9	0.1	0.4	1.3	152	0.8
Tufted Puffin [10, 11, 12]	9	0.4	0.4	1.0		0.1	0.1		0.5	53	0.3
Snow Goose	8	0.4	0.1	0.3	0.03					18	0.1
Caspian Tern	7	0.3	0.1	0.3	0.3	0.8	0.4	0.8	0.6	69	0.4
Crested Auklet	7	0.3	0.05	0.1						11	0.1
Pink-footed Shearwater [13]	7	0.3	0.02		0.1			0.1		12	0.1
American Crow	6	0.3	0.2	0.3	0.4	0.4	0.3	0.2	1.0	57	0.3
Heermann's Gull [13]	6	0.3	0.3	0.3	0.2	0.3	0.2	0.4	0.3	52	0.3
Herring Gull	6	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.3	27	0.1
Mew Gull	6	0.3	0.2	0.2	0.2		0.04	0.2	0.8	32	0.2
Rock Dove	6	0.3	0.2		0.1	0.05	0.1	0.1		23	0.1
Thick-billed Murre	6	0.3	0.1	0.1						13	0.1
Whimbrel	6	0.3	0.05			0.05		0.1		10	0.1
Bonaparte's Gull	5	0.2	0.05	0.1	0.1		0.04	0.1		13	0.1
Bufflehead	5	0.2	0.1	0.1	0.1	0.3	0.1		0.3	29	0.2
Greater Scaup	5	0.2	0.1	0.2	0.1	0.05	0.1	0.2	0.2	25	0.1
Green-winged Teal	5	0.2	0.2	0.3	0.1	0.1	0.04	0.2		29	0.2
Mallard	5	0.2	0.05	0.5	0.1	0.1	0.3	0.1	0.3	34	0.2

SPECIES	YR 10 #	YR 10 %	YR 9 %	YR 8 %	YR 7 %	YR 6 %	YR 5 %	YR 4 %	YR 3 %	TOTAL #	TOTAL %
Marbled Murrelet [2, 6, 7, 8, 13]	5	0.2	0.3	0.4	0.2	0.1	0.04	0.2	0.6	43	0.2
Red-legged Kittiwake [13]	4	0.2	0.02	0.1	0.03					7	0.04
Leach's Storm-Petrel	3	0.1	0.2	0.1	0.1	0.1	0.1		0.6	26	0.1
Red-necked Grebe	3	0.1	0.1	0.1	0.1		0.2		0.2	17	0.1
American Coot	2	0.1	0.1	0.4	0.03		0.04			19	0.1
Barred Owl	2	0.1	0.02							3	0.02
Brant Goose [12]	2	0.1	0.02	0.1	0.1			0.1	0.2	8	0.04
Common Merganser	2	0.1		0.1		0.05		0.1		5	0.03
Great Blue Heron	2	0.1	0.05	0.1	0.1	0.1	0.04	0.1		14	0.1
Horned Grebe	2	0.1	0.05	0.1			0.1		0.2	9	0.05
Horned Puffin	2	0.1	0.1	2.6	0.1	0.3				68	0.4
Laysan Albatross [13]	2	0.1			0.03					3	0.02
Northwestern Crow	2	0.1	0.1							6	0.03
Red-throated Loon	2	0.1	0.2	0.1	0.2	0.1	0.04	0.2	0.3	27	0.1
Bar-tailed Godwit [13]	1	0.04								1	0.01
Black Oystercatcher [10]	1	0.04		0.1			0.04		0.2	4	0.02
Chicken	1	0.04	0.05			0.05		0.1		5	0.03
Common Eider	1	0.04								1	0.01
Gadwall	1	0.04		0.1						2	0.01
Harlequin Duck [3, 12]	1	0.04								1	0.01
Lesser Scaup	1	0.04						0.1		2	0.01
Long-billed Curlew [10, 13]	1	0.04								1	0.01
Mottled Petrel	1	0.04		0.1	0.1					5	0.03
Northern Shoveler	1	0.04	0.02	0.1	0.1					5	0.03
Red Phalarope	**1**	**0.04**	**0.02**	**0.1**	**1.6**	**0.05**	**0.4**	**10.7**	**0.3**	**221**	**1.2**
Red-necked Phalarope	1	0.04	0.05							3	0.02
Ring-billed Gull	1	0.04	0.02	0.2			0.04	0.1	0.2	10	0.1
Ring-necked Pheasant	1	0.04	0.02	0.1	0.03	0.05				6	0.03
Sanderling [13]	1	0.04			0.03	0.05	0.1	0.1		8	0.04
Song Sparrow	1	0.04								1	0.01
Steller's Jay	1	0.04	0.02							2	0.01
Surfbird [13]	1	0.04				0.05				2	0.01
Varied Thrush	1	0.04	0.1	0.1	0.1	0.3	0.04			16	0.1
Western Sandpiper [13]	1	0.04	0.1		0.03				0.2	7	0.04
TOTAL ID TO SPECIES	**2240**		**4088**	**1920**	**2895**	**2096**	**2733**	**1464**	**622**	**18058**	
TOTAL FINDS	**2488**		**4623**	**2186**	**3094**	**2258**	**2866**	**1568**	**695**	**20094**	
TOTAL SPECIES	**80**		**90**	**80**	**76**	**57**	**61**	**57**	**54**	**124**	

Total finds include all first-found birds. Refinds not included in totals. Note that major species—accounting for greater than 5% in any COASST year—are in bold. Only species found in Year 10 are listed. Cumulative totals for each species are listed in the right-hand darker-shaded columns.

SPECIES OF CONCERN: [1] Federally Endangered, [2] Federally Threatened, [3] Federal Species of Concern, [4] WA State Endangered, [5] OR State Endangered, [6] CA State Endangered, [7] WA State Threatened [8] OR State Threatened, [9] WA State Sensitive, [10] OR State Sensitive, [11] WA State Candidate, [12] CA Species of Concern, [13] 2007 Audubon WatchList

What's Washed In?

Annual Patterns

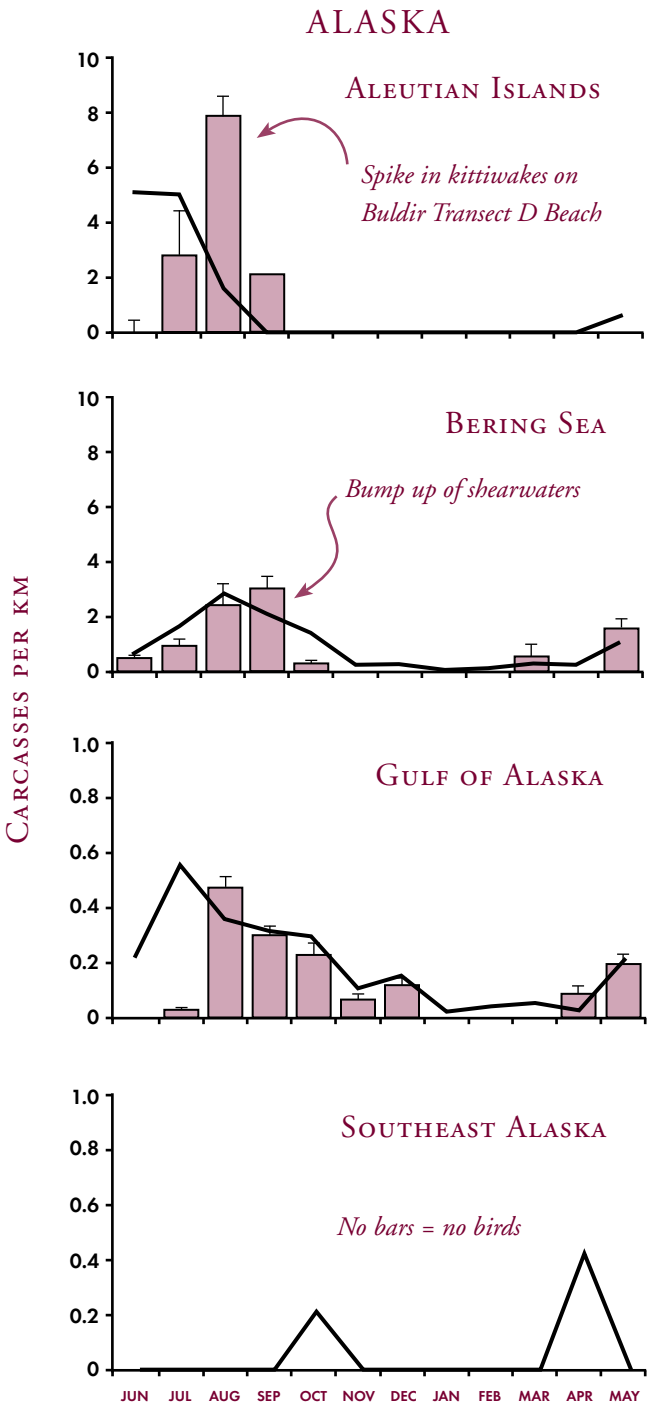
Across the COASST range, from northern California to Alaska, the main story for 2008–09 was similar: a very quiet fall, winter and spring, with few carcasses washing in and no apparent mass beaching events (also known as wrecks). In fact, many of you COASSTers called in wondering if you were doing something wrong because there were so few birds. What's interesting is that you collectively found all of the "correct" species: Common Murres, Large Immature Gulls, and Northern Fulmars, just many fewer of them. This year looks a lot like our long-term species average.

It's not that the usual patterns weren't there: Alaska had its usual summer peak, albeit a bit later this year than in previous years. The post-breeding peak is apparent in most lower 48 regions and ghosts of the winter and spring peaks did show up, especially in Oregon North and the south outer coast of Washington.

What's Up with Winter?

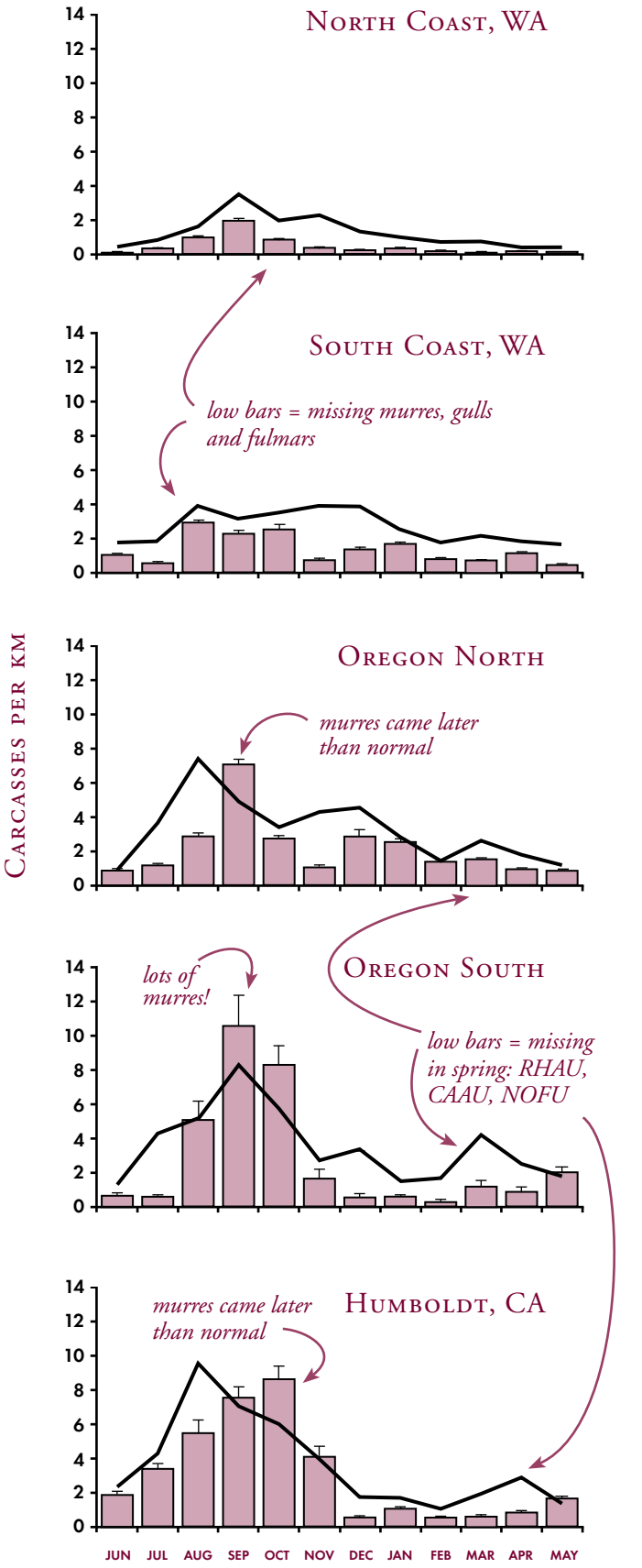
Winter is usually a time when birds, stressed from the breeding season and/or migration, simply can't make it through yet another storm event. As one weather cell after another rolls in from the ocean, pounding the coast with waves and stirring up the nearshore environment such that seabird foragers have difficulty seeing food, or even keeping themselves aloft in buffeting winds, those individuals with only marginal fat levels will find themselves on the short end of the stick, literally starving to death. Winterkill is the single largest cause of marine bird mortality, at least as assessed by beached bird surveys.

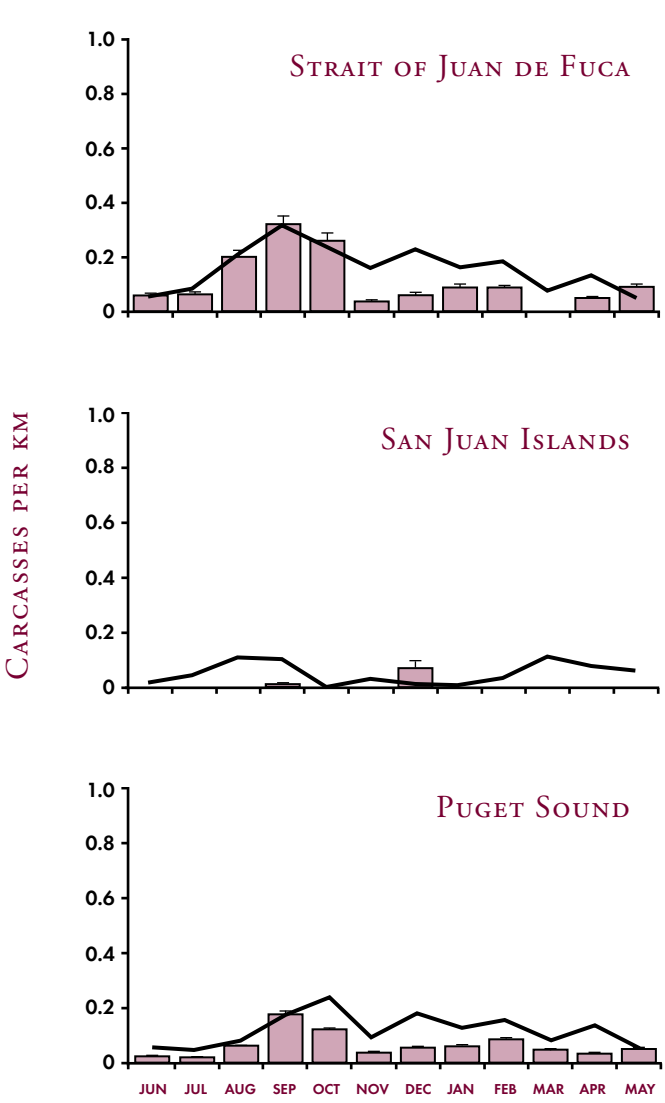
Cees Camphuysen, a seabird biologist from the Netherlands, has spent years researching the causes of death in marine birds. His program is one of the first and oldest beached bird citizen science organizations in the world. In a survey of all known mass beaching events in the North Atlantic through the 1990s, Cees found that more than half occurred during the winter, mostly due to stormy weather and starvation. Betty Ann Schreiber and Joanna Burger, seabird biologists and authors of *Biology of Marine Birds*, devote an entire chapter to weather effects on birds, and describe winterkill as particularly apparent at local scales, where storm events can endanger the lives of hundreds to thousands of marine birds.



Bars represent the average monthly encounter rate on all COASST beaches. (Error bars = standard error) Long-term averages are indicated by the dark line.

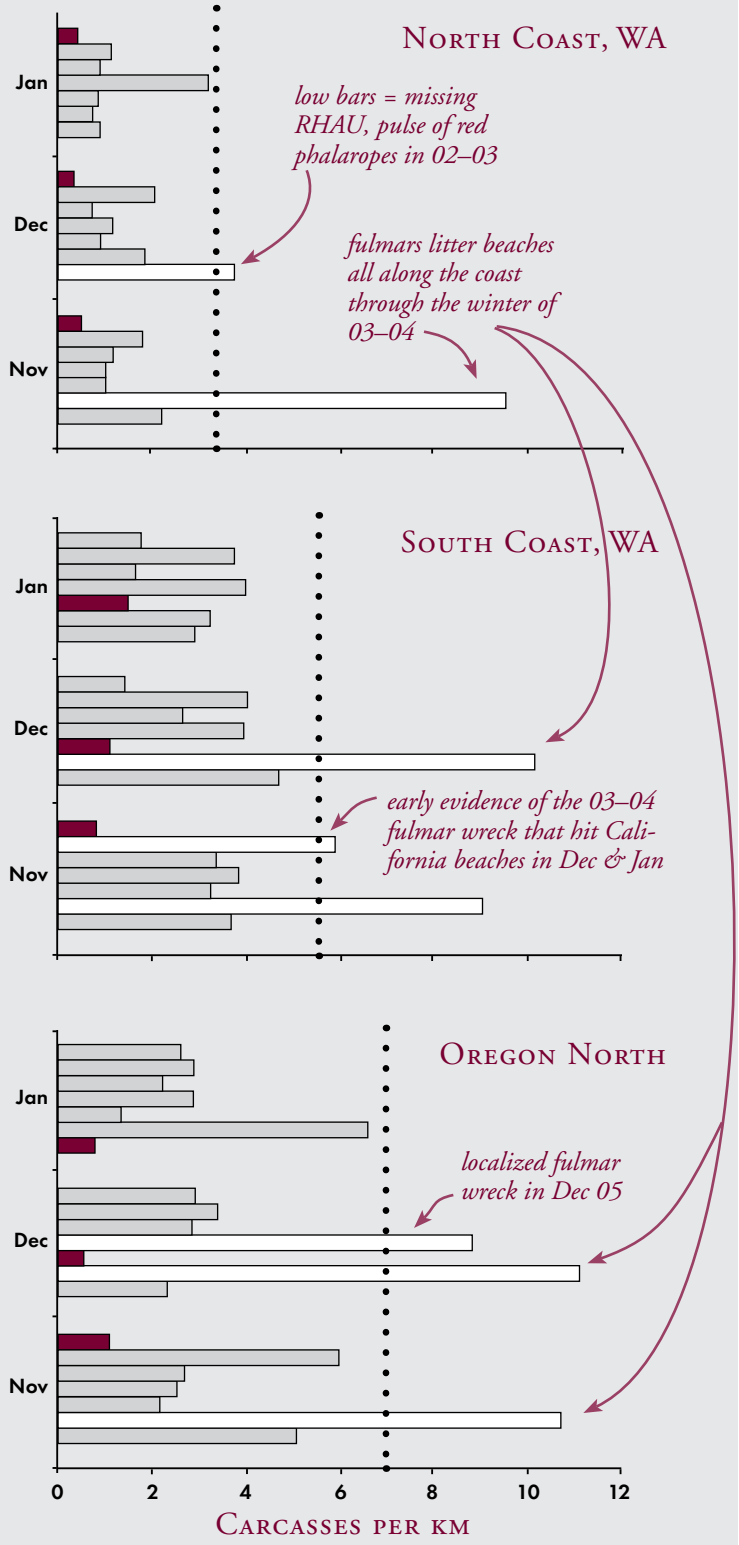
Note the change in the vertical axis scale.





The moral is—expect death in the winter. The COASST data bear this axiom out. In a "normal" year we see elevated numbers of carcasses on our West Coast beaches in November through January, just after the post-breeding pulse of murres has started to decline. Fulmars, Rhinoceros Auklets, and Cassin's Auklets coming south for the winter hit the beaches on a regular basis, occasionally in very large numbers. Large grebes—the Western and Clark's migrating out to the coast from their inland breeding territories—are also regular victims of winter exposure. We've also had big pulses of shorebirds, like 2002, when hundreds of Red Phalaropes literally fluttered down from the skies, exhausted and emaciated, and died on the beaches. The wreck of 31 Dunlin on Cranberry South, on

Winter Wreck Assessment



Each bar is a monthly average, and those extending beyond the dotted line (white bars) are winter wrecks. Maroon bars are especially mild years. Within months, each bar is a year, from 2008–2009 (top) to 2002–2003 (bottom).

the south outer coast of Washington in October this year, is another example.

Graphs of the average carcass encounter rate for the winter months in our three longest-running regions: the north and south outer coasts of Washington, and the north coast of Oregon, show how variable the winterkill signal can be. Within a month, each bar equals one year, from 2008–09 on the top to 2002–03 on the bottom. For each region, we've drawn a dotted line representing the average plus one standard deviation across all years. That means anything above this threshold is something unusually large—a wreck. One thing to note is that this line is in a different place for each region. As you move south, more birds wash up in the winter, so the threshold value in northern Oregon is about twice that of northern Washington.

Another take-home message is that wrecks vary a lot in their duration and geographic scope. Some events are fairly local in space and time—a single month in a single region—while other beachings go on and on, like the 2003–04 winter mass mortality of Northern Fulmars, which actually stretched from British Columbia down to central California and lasted from November through January. But this past winter, it's obvious that nothing was going on. Lowest find years are highlighted in maroon. On average it was one of the quietest years COASST has seen, especially along the north coast of Washington

Fall Preview

After such a low-key COASST year (2008–09), no one was prepared for this past fall. So we're breaking with COASST tradition and getting this to you, even though it technically happened in our 2009–10 year. On the 10th of September, Mary Sue Brancato, our Olympic Coast National Marine Sanctuary coordinator of the north outer coast of Washington and Strait of Juan de Fuca regions, was alerted to an odd event: 127 Surf and White-winged Scoters huddling on Kalaloch Beach. Informed by Li Clinton, Olympic National Park ranger and former COASSTer, Mary Sue quickly realized that something was amiss. Even as COASST was emailing and phoning Washington outer coast COASSTers

to get the latest up-to-date information, calls were starting to come in. Five days later, Joe Gilbertson, a biologist with the Hoh Tribe, reported 233 live and dead scoters at Hoh South. One day later, COASSTers Sue Shane, Sue Keilman and Scott Horton surveyed Third Beach and found 185 beached scoters. The death toll was quickly mounting.

Between 10 and 25 September, COASSTers and associated volunteers would count more than 1,000 (mostly dead) Surf and White-Winged Scoters between Hole in the Wall and Raft River. That's about three times the total number of those species found throughout the entire COASST range since our program started in 1999.

What happened?!?

Within days of the first report, beach walkers; biologists with the Hoh, Quileute and Quinault Tribes; Olympic National Park rangers; and COASSTers had also noticed large amounts of dingy tan foam covering the beaches and the water. Foam is not uncommon in wavy coastal marine environments. Like soap suds or the milk in your cappuccino, marine foam gets whipped up by physical agitation, in this case courtesy of storm-driven waves. But it's not milk in the water, it's millions and millions of single-celled algae—also known as phytoplankton—breaking apart in the waves and releasing their cell contents to mix with the water. And in this particular case, the culprit was identified by Brian Bill, a marine biologist working in the Marine Biotoxin Group at NOAA's Northwest Fisheries Science Center, as the dinoflagellate *Akashiwo sanguinea*.

Dinoflagellates are one of two common strains of phytoplankton gracing coastal environments worldwide. The other are diatoms (think diatomaceous earth—the stuff swimming pool filters are made of). Small enough to float in the water without being seen by the naked eye, dinoflagellates and diatoms occasionally occur in large numbers. In the normal course of events, most coasts experience a huge increase in diatoms in the spring, when longer days and a build-up of nutrients from winter storms create the perfect growing conditions—the spring bloom. But fast growth means cut-throat competition as nutrients in the water are quickly used up. That's one reason the West Coast is so productive—because spring and summer bring an extra nutrient boost with the start of the upwelling season. In the fall, changing light levels and nutrient

S. Horton

Just a sampling of the 185 Surf Scoters Sue Shane, Sue Keilman and Scott Horton found on Third Beach in September.

concentrations often favor dinoflagellates, and a fall bloom—smaller than in the spring—occurs.

And that's what happened in spades this fall off Washington and northern Oregon: *Akashiwo* bloomed, and bloomed, and *bloomed*. September, October, and well into November, satellite images recorded a massive bloom just off the coast. Satellites can't confirm the exact species, but water samples can, and plenty of those were collected by Mary Sue and co-workers at OCNMS; Anthony Odell and his colleagues at the Olympic Region Harmful Algal Blooms Partnership (ORHAB); Tawnya Peterson, a scientist at the Center for Coastal Marine Observation and Prediction (CMOP) working at the mouth of the Columbia River; and Bill Peterson and colleagues at the Hatfield Marine Science Center NOAA lab sampling off of Newport, Oregon.

Peak cell densities varied over that amount of space and time, often reaching more than a million cells per liter. That's enough to turn the water a shade of rusty brown, echoing the species name *sanguinea*, or blood-red.

Dinoflagellates, like most phytoplankton, have hard, brittle cell casings, or shells, that protect them from the elements. When cells are healthy, it's actually pretty difficult to break them open, even with forces as strong as storm waves. But when the cells become unhealthy, Raphael Kudela, a biologist at the University of California, Santa Cruz, found that they break much more easily. And this is what happened with *Akashiwo*.

After the first two large storm events at the beginning of September, many, many billions of *Akashiwo* cells lost their vigor, broke open in the pounding surf, and released their cell contents into the surrounding water. Those same waves quickly whipped the material into a persistent, sticky foam that layered up to half a meter on the surface and covered beaches along the central outer coast. Dubbed "killer foam" by the press, the *Akashiwo* material coated every floating organism, matting down feathers so that birds could neither fly nor stay dry. Any aquatic bird frequenting this nearshore habitat was a goner.

And in the fall, this region of the outer coast of Washington is exactly where post-breeding Surf and White-winged Scoters come to recover from breeding, molt their flight feathers, and fatten up on the abundant mussels and other shellfish before the onset of winter. Joe Evenson, a seabird biologist with the Washington Department of Fish and Wildlife, has been studying scoters and their migration patterns for years. Leaping into action, Joe and his team conducted an aerial count of aquatic birds along the nearshore between Cape Flattery and Point Grenville on the 18th of September. Of the 13,000 birds seen within half a kilometer from shore, 93% were scoters, and most of these were crowded into the rocky shoreline typical of the central portion of the coastline, just where the foam was thickest.

Back in the main office, COASST Executive Director Julia Parrish began to put together all of the field data in order to estimate the total mortality. Even with *über* effort on the part of so many—Mary Sue and Sue Thomas on Second Beach found and processed 195 scoter carcasses in a single day—our dataset paled over the 76 kilometers of coastline and roughly a month of increased deposition. How to fill in the blanks?

Julia turned to the daily survey project database. For just over two years, 80 COASSTers on six beaches conducted between three and ten contiguous days of surveys every month, giving us a dataset as precious as gold. Why? With this information, the rate at which carcasses arrive, stick around, and eventually disappear can be calculated for each location and time of year. Even more important, we could use these data to estimate the rate at which tagged carcasses are subsequently missed. Not because of sloppy surveying, but more likely because blowing sand can quickly bury freshly deposited carcasses, and uncover them later.

With this information, and the statistical services of Professor Andre Punt at the University of Washington, a credible estimate of the total number of scoters beaching during the September 2010 event could be calculated—almost 6,000 birds. Of course, some carcasses didn't make it to the beach, or beached as live birds only to be driven back into the water by predators. The total mortality was no doubt higher. Asked to testify about the event to the Washington State Senate Committee on Natural Resources, Ocean, and Recreation, Julia put the death toll between 8,000 and 10,000.

J. Dolliver

By the dozens: Barbara Blackie makes her way through murres on Hobuck Beach, Washington, in October—part of the wreck caused by a massive Akashiwo *algal bloom affecting birds from the Columbia River to Cape Flattery.*

All quiet on the western front? Not likely.

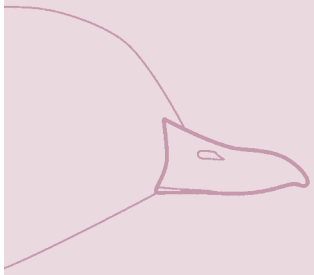
Mary Sue and her ORHAB colleagues continued their water sampling along the Washington coast, and reported that *Akashiwo* numbers were still high. More distressing, Bill Peterson reported increasing *Akashiwo* counts off Newport and Lincoln City. Everyone braced for the worst.

Within a month the foam was back, this time enveloping the south outer coast of Washington between Seaview and South Surfside, and also hitting the northern tip of Washington. Amazingly, the central Washington coast and the northern Oregon shoreline were spared. And although scoters were out of harm's way, murres, loons and grebes were not so lucky. Penelope Chilton, COASST's Research Coordinator, spent eight heart- and back-breaking days on the Long Beach Peninsula, helping COASSTers conduct surveys; interfacing with local, state, and federal fish and wildlife personnel; and being a witness to the chaos. Her photographs would ultimately make it into the news media worldwide.

And although the estimate of carcass deposition was not atypical for this time of year, the count of live distressed birds was—more than 800 were taken from the Long Beach Peninsula to rehabilitation centers in Washington, Oregon, and—eventually—California. Many were too far gone to save.

Altogether, the fall 2009 *Akashiwo* event was the single largest documented kill of seabirds due to a harmful algal bloom anywhere in the world, ever. And what's worse—it's not the first time *Akashiwo* has struck on the West Coast. In 2007, a similar bloom in Monterey Bay left more than 200 carcasses (mostly Northern Fulmars) on the beaches for sister program BeachCOMBERS to count. Hannah Nevins, Coordinator for BeachCOMBERS, said, "we called the *Akashiwo* bloom a "mystery spill" at first because the birds were fowled with some unidentified substance. It wasn't until the samples were analyzed at the state lab that we were able to exclude the possibility of a man-made chemical and instead identified the culprit as a dinoflagellate."

Dave Jessup, Senior Wildlife Veterinarian at the California Department of Fish and Game's Office of Oil Spill and Prevention, took the lead in writing up the Monterey event for scientific publication. In that article, the authors speculated that fall conditions favoring *Akashiwo* and producing consequences for marine birds might become more common. Unfortunately, it appears they were right. ■



COASST at a Glance

Number of beaches this year with no dead birds: 130

Number of volunteers this year: 580

Number of new species found this year: 4

Bar-tailed Godwit
Harlequin Duck
Long-billed Curlew
Song Sparrow

Number of US Fish and Wildlife Service banded birds found this year: 2

Black-footed Albatross—Cranberry S.
Western Gull—Oregon Mile 286

Most surveys with oil present: Cold Bay Dock S., Bering Sea

COASST's only boulder beach: Seamart to Sandy Beach, Southeast Alaska

Region with greatest percentage of sunny surveys: South Oregon—51%

(or at least volunteers that know when to head out to the beach)

Number of bears mentioned on surveys in Alaska: 18

Number of bears mentioned in all other regions: 1

Project Profile: Roughing it in the Aleutian Islands

It's mid May. A flurry of packing and loading is underway: 150 bags of rice, 250 chocolate bars, 100 pounds of potatoes. Batteries—check. Scales and weigh bags—check. COASST guides—check. The Alaska Maritime National Wildlife Refuge boat the *Tiglax̂* (Aleut for "eagle") is days away from its trek up the Aleutian Island chain to drop off this year's seasonal field biologists.

For three months every summer, 15 carefully selected candidates are plucked from the comforts of town to spend the summer on seabird colonies. Conditions are rough and unforgiving, at times foggy for days (or weeks!) on end, but nothing hides the stunning beauty of these intricately woven cliffs that rise straight from the sea. "I don't know of any other islands in North America as remote and untouched as the Aleutians. It's a remarkable place," says Heather Renner, wildlife biologist for the refuge.

Refuge lands that encompass more than 2,500 islands, rocks and spires provide a summer home for an estimated 40 million marine birds (80% of Alaska's seabirds), so the task at hand is not a small one. Lots of daylight hours equals lots of work. "On any given day, crews will check productivity of Crested Auklet crevices, weigh chicks, do a COASST survey, band adult birds and re-sight color-banded birds from previous summers. Long-term monitoring is vital for the management of refuge resources, which are, ultimately, our resources," Heather emphasizes. And we agree!

More information on this and other projects can be found on our website: *http://depts.washington.edu/coasst/involved/learnmore.html.*

H. Renner

Alaska Maritime National Wildlife Refuge's Supervisory Wildlife Biologist Vernon Byrd steps in to secure a skiff on Attu Island.

Answers to the Quiz

A. With a long neck and thin, straight bill, you might be tempted to call it a grebe, but take a closer look at the foot. And did you catch the pale edging on the mantle? It's an immature Pacific Loon.

B. As a "large" wing in the wing table, we're left with loons, kittiwakes, shearwaters, jaegers and fulmars. Only one of these families has a species with a thin, dark, hooked bill and white underwing—Sooty Shearwater, that's right.

C. This one is small enough to be a juvenile murre or Cassin's Auklet, but the pale, upturned bill and white breast lead to only one alcid, a Parakeet Auklet.

G. Gumm

Species Profile: Common Loon

Filling the evening air of early summer with its haunting wail and yodel-like call, the Common Loon has long been an inspiration for stories and legends. The Chippewa believed the cry of the loon was a harbinger of death. Tsimshian mythology describes how Common Loons received their distinctive necklace in return for restoring the sight of a tribal leader.

Dressed up in their breeding best—a dark bill, head and neck setting off a white-striped necklace and matching boldly checked mantle—Common Loons nest along the shoreline of large secluded lakes throughout northern North America and Europe. They lay just two eggs, and both parents vigorously guard the nest and can be seen taking their chicks for a ride. Sensitive to shoreline development and boat disturbance, and dependent on lakes large enough to provide plentiful fish and lots of room for take-off and landing, their breeding range has been restricted northward into Canada as development from Maine to Washington has increased. Alaska's breeding population, however, is large, at 9–13 thousand birds.

Powerful birds built for pursuing small fish, loons have dense bones that act to decrease buoyancy and help them dive to more than 60 meters. With extremely large webbed feet and tarsi as broad and flat as tongue depressors, smelt, herring and sandlance are no match for these fearsome predators. But, what makes them lithe, beautiful swimmers turns loons into cumbersome, awkward creatures on land—with legs located far back on their bodies, loons are unable to walk or even stand. Once airborne, these birds can fly—just under 100 kilometers an hour is their average speed.

Winter finds these birds in the nearshore marine environment of the east, west and gulf coasts, sporting drabber non-breeding plumage—pale gray bill, dark head fading into a pale chin and throat, and few to no spots on the mantle. COASSTers regularly find them all along the coast, from late August to early April. Depending on the year, 5–30, mostly non-breeders, have washed up. During the harmful algal bloom wreck of marine birds along the outer Washington coast (see page 14), more than 30 loons washed in, mostly Red-throated. Oil spills can also have negative impacts—just over 70 loons were recovered along the Washington coast following the December 1988 *Nestucca* oil spill.

In the lower 48, Common Loon populations are small—Washington State has less than 20 known breeding locations, and the species is listed as Sensitive. In addition to development and disturbance, conservation issues include sensitivity to pesticides and heavy metals—most especially lead from recreational fishing sinkers and bio-accumulated mercury from airborne power plant emissions. In an effort to curb the declining numbers of Common Loons, conservation efforts involving scientists and citizens are underway throughout North America. Many wildlife agencies have advocated for the use of non-toxic fishing gear, as well as reducing boat and jet-ski disturbance during the breeding season. Citizens have plenty of opportunities to be involved. More than 60 volunteers contribute their sightings of breeding Common and Pacific Loons to the Alaska Loon and Grebe Watch program annually. And—of course—COASSTers from California to Alaska help to monitor the wintering distribution of this highly recognizable bird.

COASST People

Volunteers

This year, COASSTers capped off the daily survey project, an incredible effort of more than 80 people on six beaches, who donated almost 1,000 hours over three years, found 401 birds of more than 30 species, and resampled their marked carcasses 2,828 times. Special thanks to "Olli" Ollikainen's "Bird Brains" and the Oregon Mile 286 team who never missed a survey in their 10-day-a-month sequence between August 2007 and June 2009.

We literally closed a chapter this year as our new Alaska guide was sent off for printing. *Beached Birds: A COASST Guide to Alaska* includes photos from 30 volunteers, who, over the years, have had some pretty spectacular shots of rare species—a Red-necked Phalarope photographed by Iris Stober, a Parasitic Jaeger photographed by Connie Owston and a Pomarine and Long-tailed Jaeger with credit to new COASSTer Ken Stenek from Shishmaref, Alaska (where rare birds are the norm).

Staff

In addition to her usual talks, trainings and workshops, Executive Director Julia Parrish pulled out her sketchbook, adding nine new drawings to the newly revised field guide foot key.

M. Wieland

As always, staff made their rounds across COASST's many regions. Penelope scored her first trip to the Great White North for a training in Kodiak and socials in Kenai and Homer (sunniest day in May, we're told). Jane had another Alaska first—a trip to the Pribilof Islands, for Bering Sea Days. In the spirit of the children's story, *If You Give A Mouse A Cookie*, if you give Mary Sue and Janet a free weekend, they'll go out to Hobuck Beach, and then they'll ask if any of you want to come along (16 said yes this year), and then… well, you know how it goes. Janet, who also manages the Olympic Coast Discovery Center, signed on with COASST this year to help coordinate strait and north coast of Washington beaches with Mary Sue.

Interns

Each year, University of Washington student interns contribute 1,200 hours of time in support of the COASST program. This year, we recognize the following students who have helped in the office:

Biology

Edwin Choi
Jessie Dougher*
Raymond Estrada
James Maveety*
Breanna Moore
Nathan Schmidt*
Shaylon Stolk (Amherst College)
Aline Tran
Liz Warfield*

Program on the Environment

Chelsey Funis*

Environmental Science and Resource Management

Grace King*
Laura Peot (University of Kentucky)
Julie Simmons*, *Cum Laude*

Aquatic and Fishery Sciences

Katie Dowell
Sean Rohan
Erin Tomaras

* Graduated in 2009

Up close and personal, Rainer Wieland photographs a fulmar on Happy Camp North Beach, Oregon.

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Carmela Alexander	13.2	3.0	19.8
Peter Alexander	17.6	3.7	26.4
Candace Allen	8.9	1.7	12.5
AMNWR Seasonal Staff	26.6	3.0	20.9
Mark Anderson	0.8	0.2	1.5
Janet Anderson	6.0	0.9	6.4
Rick Anderson	6.0	0.9	6.4
Hope Anderson	1.9	1.5	2.2
Doris Anderson	3.9	6.0	1.6
Jerry Anderson	3.9	6.0	1.6
Andy Anderson-Smith	2.1	1.5	1.3
Nancy Andrich	6.0	1.8	5.1
Jo Ann Roberts	29.3	94.1	12.1
Ed Ansorg	4.3	3.3	5.0
Elizabeth Arch	23.3	6.1	20.4
Steve Arch	23.3	6.1	20.4
Ken Arzarian	12.3	9.5	24.0
Bonnie Ashelman	3.3	3.3	1.7
Arthur Ayres	1.0	0.7	2.2
Bill Baccus	4.1	13.5	5.0
Sophie Barimo	4.9	4.2	2.6
Susan Barimo	4.9	4.2	2.6
John Barimo	5.1	4.3	2.9
Dan Battaglia	14.4	11.7	8.6
Susan Baxter	8.8	2.7	4.3
Pete Berg	2.5	0.8	2.2
Elizabeth Berg	16.2	5.0	13.2
Carol Bernthal	1.3	0.2	4.1
Chrys Bertolotto	2.8	1.6	6.0
Linda Bierma	12.4	3.7	17.5
Dave Bilderback	44.0	18.7	30.8
Diane Bilderback	44.0	18.7	30.8
Diane Birsner	3.2	4.0	4.0
Barbara Blackie	4.0	6.0	1.2
Wendy Blair	0.9	0.5	1.5
Max Blair	17.1	2.1	12.0
Paul Blake	28.9	3.0	36.8
Alice Blandin	22.6	2.0	15.6
Bill Blandin	22.6	2.0	15.6
Bent Blichfeldt	14.2	3.6	4.5
Miriam Bobkoff	8.6	8.5	6.8
Heath Bohlmann	6.2	2.8	8.8
Lee Bowen	19.0	13.5	24.7
Ed Bowlby	4.4	4.0	2.0
Jane Boyden	17.7	6.7	16.0
Mary Bozza	9.1	13.9	8.5
Mary Sue Brancato	33.4	28.0	14.0
Kim Bredensteiner	0.9	0.8	1.4
Nathan Breece	10.4	5.2	6.7
Carolyn Breece	11.8	8.7	6.7
Martha Briscoe	2.3	1.0	2.4
Jeanette Brown	3.5	1.7	2.0
Stephen Brown	13.2	3.4	11.0
Janet Bruening	14.2	20.0	22.1
Jeanne Budlong	1.8		1.4
Janis Burger	6.7	4.0	2.0
Ryan Burner	1.8	2.3	1.3
Sarah Burns	8.5	2.2	5.1
Dennis Burns	2.0	2.3	1.0
Helga Burns	2.0	2.3	1.0
Sean Burns	10.5	2.8	6.8

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Cindy Burns	20.5	6.5	15.3
Ken Burton	1.4	1.3	2.0
Gerry Busch	9.5	2.4	14.4
Lindsay Busch	9.5	2.4	14.4
Rick Bush	31.0	2.8	21.8
Kathy Bush	31.0	4.3	20.3
Coleman Byrnes	58.8	85.0	70.1
B.J. Byron	28.4	8.5	28.8
Barbara Campbell	23.1	10.3	30.0
Ken Campbell	33.2	54.5	24.0
Mary Campbell	33.2	54.5	24.0
Trice Caniglia	3.8	0.9	2.0
Anne Caples	20.5	6.5	15.3
Ricki Carlson	11.9	1.0	12.0
Ann Carlson	7.2	4.0	5.6
Dana Casey	2.0	0.5	0.7
Chris Cassidy	1.0	0.7	0.5
Joe Ceriani	35.3	20.0	24.0
Lee Chavez	9.8	7.7	14.0
Penelope Chilton	29.2	58.3	29.4
Joan Christy	15.3	1.8	11.0
Susan Clark	30.3	8.7	39.3
Debra Clausen	12.3	1.1	35.2
Margie Cochrane	3.5	1.0	4.8
Jane Comerford	3.3	0.3	3.2
Kathleen Confer	23.7	11.0	17.6
Steve Confer	23.7	11.0	17.6
Roger Contor	21.5	16.2	22.0
Susan Contor	21.5	16.2	22.0
Eileen Cooper	10.3	1.5	11.7
Liz Cosko	2.0	0.7	1.7
Michael Courtney	3.8	6.0	3.3
Laura Cowan	1.2	0.3	1.5
Peggy Cowan	9.5	3.0	16.5
Deb Cox	1.3	4.0	1.4
Sharon Cox	6.3	6.0	12.0
Marty Crowley	2.3	2.4	3.4
Elizabeth Cumming-O'Berry	18.3	5.2	13.6
Carol Cwiklinski	43.8	19.9	36.0
Mary Daniels-Lee	1.7	0.5	1.2
David Daniels-Lee	4.6	1.0	3.6
Cory Dazey	1.5	1.0	1.2
Ed deCastro	3.2	0.3	2.7
Lucas DeCicco	4.0	6.4	10.0
Juana Del Handy	7.0	2.8	6.6
Bill Dengler	22.2	18.0	7.2
Sandy Dengler	22.2	18.0	7.2
Kim Des Rochers	17.7	18.8	15.0
Genie Devine	2.1	3.0	2.3
Michael Dick	3.4	20.0	3.4
Pam Dick	39.0	20.8	25.3
Tasha DiMarzio	8.8	11.4	1.8
Paul Dinnel	12.8	7.7	26.4
Tina Dinzl-Pederson	5.4	0.3	4.8
Linda Doerflinger	5.9	3.3	4.0
Jane Dolliver	30.8	26.8	29.1
Tom Donnelly	2.0	1.0	1.2
Robin Donnelly	18.5	16.3	10.8
Bruce Dotterrer	0.4	0.8	0.5
Sherri Dougan	6.4	1.4	6.0
Ciel Downing	9.5	5.0	9.6

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Jack Doyle	3.1	0.8	2.0
Laura Doyle	9.0	3.3	6.0
Brie Drummond	6.0		7.8
Clarence Dubpernell	2.0	2.0	3.4
Sandy Dubpernell	33.8	32.1	61.2
Patrick East	1.8	0.7	2.0
Kathy East	9.1	4.4	14.0
Dave Easton	39.3	20.5	28.1
Dalene Edgar	31.0	5.0	16.9
Don Edgar	28.6	5.0	16.9
Brent Edwards	2.5	1.3	0.4
Susan Ehler	13.6	1.8	8.1
Kaci Elder	1.3	0.1	0.4
Dixon Elder	0.9	0.7	2.2
Mark Elliott	6.3	1.1	4.8
Nick Elliott	3.0	8.0	2.5
Ann Elliott	28.8	41.2	34.5
Martha Ellul	24.1	3.0	32.0
John Emig	3.7	3.7	6.0
Joyce Epler	13.9	16.5	59.4
John Epler	14.6	17.3	62.1
Raymond Estrada	6.1	5.8	3.0
Lucretia Fairchild	17.9	25.2	13.6
Phil Faulkner	2.0	0.4	1.0
Rebekka Federer	10.2	1.9	9.9
Shirley Fedora	5.3	3.0	2.4
Don Fermer	1.9	1.7	2.0
Melissa Fielding	6.7	0.8	6.0
Mike Fielding	6.7	0.8	6.0
Sheila Fiepke	1.5	0.8	2.4
Field Trip	78.2	100.3	47.3
Peter Fineo	11.0	2.8	10.2
Nancy Fischer	15.3	10.3	11.6
Sarah Fivgas	1.6	1.3	2.0
Lin Folsom	6.5	0.9	3.6
Gail Fontaine	1.5	0.3	1.2
Burton Foote	22.5	30.4	18.9
Rose Forbes	22.7	6.3	21.0
Rick Foster	9.5	2.0	4.0
Andrea Fowler	4.7	3.5	5.7
Zeke Fowler	4.7	3.5	5.7
Gary Freitag	10.6	8.8	6.9
Ellie Friars	10.5	1.1	22.0
John Friars	10.5	1.1	22.0
Marilyn Friedrich	29.5	3.3	45.0
Ron Frisch	21.7	0.1	30.0
Jane Frost	1.5	0.5	1.6
Chelsey Funis	2.8	3.7	3.2
Sue Gabriel	17.7	1.7	16.0
Varian Gacek	11.8	6.8	14.4
Rebecca Gamboa	1.5	0.7	1.0
Finn Gatewood	19.2	5.0	13.0
Carol Gatewood	14.5	6.0	24.0
Sharon Gearhart	4.8	7.8	3.6
Derek Gill	1.5	0.5	0.7
Sue Gilleland	20.3	13.5	26.7
John Ging	1.4	0.7	0.5
Linda Ging	4.7	1.7	2.1
Dave Gittleman	3.9	2.0	3.0
Karen Gittleman	3.9	2.0	3.0
Tom Golding	22.7	6.3	21.0

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Marie Granshaw	16.1	8.0	28.8
Matt Gray	5.3	2.8	2.1
John Green	11.1		12.8
Margaret Green	11.1		12.8
Phil Green	9.1		9.6
Rhoda Green	7.5	5.7	12.0
Scott Gremel	2.2	0.5	2.4
Carol Griswold	9.6	6.2	7.8
Nona Groesbeck	6.0	6.5	6.4
Richard Groesbeck	13.2	16.9	16.0
Cheryl Grovette	2.2	0.7	2.0
Guest	73.1	46.6	56.0
Kathy Gunther	2.8	1.0	1.5
Lynn Hadley	3.3	3.8	3.2
Bill Hager	6.5	2.0	5.1
Meg Hahr	8.1	35.8	15.4
Macy Hallin	4.7	1.3	6.4
Mary Hamann	12.0	24.0	10.4
Kim Handley	10.7	1.0	1.8
Lisa Harkins	1.2	1.5	1.3
Gary Harmon	5.0	7.0	4.1
Sandra Harold	0.8	0.7	0.8
Betty Harris	1.4	1.0	1.5
Patricia Harris	11.7	8.0	5.5
Scott Harris	5.5	8.0	2.0
Bea Harrison	5.3	2.0	3.0
Jim Harrison	5.3	2.0	3.0
Jack Hartt	2.3	1.9	3.5
Jon Harwood	1.8	0.3	2.0
Ian Haskins	1.8	5.9	3.9
John Hatch	17.9	2.1	9.0
Janice Havrilak	54.6	9.3	48.7
Lynne Hawley	1.1	0.2	1.0
John Haxton	8.5	3.1	11.2
Carl Haynie	4.8	11.5	5.4
Matt Haynie	5.6	11.5	6.6
Jill Hein	28.3	26.4	51.0
Andrea Hepburn	3.3	1.0	1.6
Connie Herzig	18.3	58.5	23.1
Tom Herzig	18.3	58.5	23.1
Barb Holler	1.4	0.3	1.7
Karin Holser	19.1	12.3	21.6
Rayna Holtz	34.5	2.0	18.0
Scott Horton	11.9	11.3	14.5
Nate Hunter	1.9	3.0	3.0
Pamela Hunter	13.9	16.5	16.5
John Hunter	15.0	18.0	18.0
Pattie Hutchins	13.2	7.5	7.0
Nick Iannelli	1.3	4.5	4.8
Jon Ihde	7.2	0.3	6.0
LaVonna Ihde	7.2	0.3	6.0
Ruth Iversen	1.0	0.5	0.6
Jeanne Iverson	21.1	20.7	7.2
JoAnn Jackson	10.8	5.8	13.2
Jeff Jacobsen	3.7	2.3	4.0
Ruth Jenkins	1.5	7.0	2.5
Merrill Jensen	18.8	8.7	25.4
Caroline Jezierski	0.4	2.0	0.7
Adrian Johanson	1.0	0.5	1.6
Damien Johanson	1.0	0.5	1.6
Keith Johanson	5.7	2.5	8.0

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Anita Johnason	1.0	0.5	1.6
Gary Johnson	2.3	0.5	4.0
Dick Johnson	9.4	1.3	16.0
Mary Johnson	14.6	3.5	18.0
Scott Johnson	10.5	3.9	4.0
Ingri Johnson	13.7	4.2	11.0
Bert Johnstone	34.1	8.0	38.4
Marilyn Jones	23.8	6.1	24.4
Dustin Jones	14.5	8.3	29.0
Penelope Juttner	8.0	1.8	14.9
Mike Kaill	24.0	38.5	23.1
Carl Kalb	2.1	0.5	1.7
Mark Kansteiner	4.9	2.0	4.0
Sue Keilman	56.6	34.0	48.2
Barbara Keithly	2.0	1.0	0.8
Jennifer Kelley	1.3	1.0	1.4
Meghan Kelly	0.4	0.8	0.5
Colleen Kelly	4.8	2.0	4.0
Jim Kerr	5.9	5.8	4.7
Matthias Kerschbaum	0.9	0.3	0.3
Phyllis Kind	32.3	10.5	33.6
Amber King	2.0	0.7	1.9
Grace King	7.7	7.0	6.7
Ryan Kingsbery	4.5	3.5	6.3
Valerie Knox	24.5	8.2	18.7
Gary Korb	15.4	4.2	4.8
Tamara Krall	9.0	13.3	6.0
Bradley Krall	18.6	32.3	14.4
Jan Kummet	2.4	1.0	1.5
Yvonne Kuperberg	21.5	1.3	12.0
Linda LaMay	9.2	1.3	17.6
Mac LaMay	12.7	1.8	24.2
Laurie Lamm	5.7	4.0	2.2
Jim Lamont	14.2	15.7	13.2
Janet Lamont	17.8	22.4	17.7
Barbra Landi	3.2	1.3	4.0
Audrey Lara	2.9	6.0	3.2
Frank Lara	2.9	6.0	3.2
Laurie Lawrence	1.6	0.8	1.0
Peter Lawrence	5.5	7.5	4.0
Don Leak	4.0	1.5	3.6
Joyce Leak	4.3	1.5	3.6
Amy Lester	9.8	1.6	12.3
Lauren Lester	12.5	2.0	14.1
Gary Lester	23.3	3.8	28.5
Bev Leyman	4.2	11.0	3.0
Larry Leyman	6.7	18.5	5.5
Brian Linnell	7.3	17.0	3.2
Kathy Linnell	16.5	49.8	9.6
Barbara Linnett	15.3	0.2	8.0
Peter Linton	52.0	18.3	33.0
Tina Lipman	10.3	8.0	4.0
Sky Lloyd	29.1	3.5	27.3
Robina Loken	1.8	1.1	2.2
Lorenzo Lopez	8.2	26.3	9.5
Mary Lou Letsom	6.5	2.3	5.1
Whitney Lowe	1.8	2.0	1.3
Camilla Loyd	4.0	0.7	4.0
David Loyd	3.1	1.0	6.0
Julia Loyd	44.2	6.0	36.0
Nicole Luce	9.7	7.8	14.0

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Jann Luesse	17.5	22.8	14.4
Sanny Lustig	5.0	4.0	4.8
Kathy Maas	8.8	5.2	2.9
Pat MacRobbie	7.8	13.9	8.1
Stuart MacRobbie	7.8	13.9	8.1
Barb Mallon	17.9	2.1	9.0
Charlotte Maloney	1.4	2.0	1.7
Jim Maloney	1.4	2.0	1.7
Timothy Manns	14.0	9.1	9.8
Vicki Mansfield	34.6	4.7	54.0
Jerry Marinovich	1.9	0.8	1.0
Bill Marks	2.2	0.3	1.4
Jane Marks	21.0	5.5	21.2
Jerry Marsh	13.2	4.0	12.0
Mary Marsh	14.8	4.5	15.3
Debbie Marshall	9.1	1.8	4.0
Dian Martin	0.5	1.5	1.1
Lani Marvick	8.3	2.8	24.5
Dian Mastin	1.3	1.3	1.1
Lisa Matlock	9.6	8.8	9.0
Barb Matter	15.0	6.0	12.8
Mike McAllister	3.9	3.3	2.6
Kate McClain	7.4	1.3	3.2
Pat McClintick	5.8	1.0	3.6
Russ McClintick	7.9	1.7	6.0
Mo McClintock	6.0		7.8
Kenny McCoy	2.7	1.7	3.3
Judith McDougall	6.7	0.8	6.0
Gary McDowell	10.6	0.9	20.0
Mary McDowell	10.6	0.9	20.0
Melissa McDowell	13.5	1.3	10.4
Brooke McFarland	7.4	4.6	7.0
Vicki McNeil	10.8	6.3	22.0
Paul Melovidov	4.7	2.5	9.0
Tracie Merrill	3.4	2.1	1.5
Sharon Metcalf	3.5	1.1	7.7
Michelle Michaud	15.5	9.0	9.0
Anne Middleton	7.8	0.4	5.0
Katlin Miller	0.8	1.8	2.0
Bobbye Miller	9.2	2.2	6.0
John Miller	2.0	4.0	1.4
Marilyn Miller	2.5	4.0	1.0
Christopher Millow	0.5	0.5	1.2
Claudia Mischler	6.7	4.7	8.1
Gary Montesano	9.0	2.6	7.0
Dianna Moore	22.7	3.7	13.6
Kareen Moriarty-Kalvin	2.4	0.2	1.3
Elizabeth Moundalexis	3.2	0.3	2.7
Cindy Moyer	22.6	16.7	26.0
Jim Mraz	24.8	6.3	16.0
Patricia Muchmore	1.7	3.9	1.8
Ariel Muldoon	11.1	9.2	6.7
Janet Mullen	4.3	2.5	8.5
Robert Mullen	4.3	2.5	8.5
Michael Murphy	1.5	0.2	1.4
Bree Murphy	2.6	1.0	3.0
Susan Murphy	15.3	3.2	14.0
Carolyn Murphy	11.5	3.5	26.0
Lorre Myers	9.3	16.8	7.2
Sue Nattinger	87.1	116.0	100.9
Sharon Nelson	80.5		120.0

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Vic Nelson	150.0		223.5
Isabelle Nelson	2.3	0.7	2.3
Ethel Nelson	2.6	0.8	2.0
Pete Nelson	5.1	1.2	4.6
Pat Ness	7.3	4.0	2.0
Steve Ness	18.6	18.5	18.0
Wade Newbegin	18.4	3.5	16.0
Nancy Newman	21.5	9.0	19.2
Darlene Nichols	3.1	18.0	1.2
Griffin Nickerson	1.5	0.1	1.0
Kathleen Nickerson	2.3	0.3	2.0
Gus Ninneman	8.0	2.5	7.0
Kathleen Ninneman	7.1	3.0	7.0
John Noland	6.7	3.5	4.8
Rod Norvell	46.8	19.1	48.6
Chuck O'Clair	11.0	18.2	4.2
Janet Oja	11.2	21.8	17.0
Eric Ollikainen	1.2	0.5	1.6
Carolyn Ollikainen	61.7	23.8	67.2
Robert Ollikainen	106.4	38.0	120.0
Heidi Olson	15.7	24.6	21.6
Tim Olson	15.7	24.6	21.6
Margaret Owens	7.3	4.0	2.0
Connie Owston	7.2	1.4	7.5
Pete Owston	14.9	4.0	16.0
Andy Palmer	4.7	1.0	12.3
Bill Palmer	2.0	1.0	0.8
Aaron Parker	3.7	0.2	2.0
Paul Parker	29.6	8.9	19.4
Sally Parker	29.6	8.9	19.4
Doug Parkinson	7.2	3.3	6.0
Dan Pascucci	0.5	0.3	1.0
Mike Patterson	1.3		1.6
Barbara Patton	18.1	2.0	15.6
Mike Patton	73.3	10.3	70.8
Joelle Pebbles	1.3	1.3	2.0
Rod Pelson	10.6	4.3	12.8
Sheila Pera	14.5	1.7	12.6
Thomas Perry	2.1	0.4	2.4
Vicki Perry	6.3	1.1	4.8
Kris Phillips	1.0	3.8	1.7
Jolene Poppe	2.5	5.5	4.8
Bill Poppe	15.3	24.5	17.6
George Power	38.1	7.2	38.8
Rosaleen Power	38.1	7.2	38.8
David Pratt	2.1	7.2	5.3
Pat Pritchard	2.0	0.3	1.0
Jaci Pumphrey	4.6	4.0	2.4
Jeanne Pumphrey	14.0	12.0	26.4
Janet Raffensperger	1.3	0.2	1.6
Paul Raffensperger	10.0	3.8	9.6
Daniel Ravenel	7.3	4.6	9.2
Dick Reese	28.4	14.0	11.6
Lauren Reinalda	11.7	11.3	8.1
Bruce René	4.2	0.8	1.7
Cari René	4.2	0.8	1.7
Patrick Reynolds	17.5	31.7	16.0
Tom Richards	18.5	6.8	11.2
Rich Ridenhour	5.4	3.3	4.0
Terry Risdon	5.6	11.5	6.6
William Ritchie	27.0	44.0	17.6

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Jim Roberts	29.3	94.1	12.1
Linda Robertson	9.0	7.3	3.0
Betsy Robins	16.8	4.8	7.0
Holly Robinson	4.5	0.3	12.8
Glenn Rogge	1.2	1.0	1.2
Judy Rost	3.9	2.0	3.0
Ina Rowley	8.3	2.8	24.5
Cathy Ruland	5.0	1.0	2.4
Jessica Ryan	10.2	7.7	11.0
Karla Sabin	0.8	0.5	0.3
Maura Santora	2.3	0.5	2.0
Ashley Saupe	1.3	1.0	0.6
Will Schlein	2.3	0.3	2.0
Dave Schmalz	3.2	4.0	4.0
Kristine Schmidt	5.5	2.1	6.0
Nathan Schmidt	4.6	2.8	5.4
Pat Schoen	4.1	9.0	5.1
Michael Schrimpf	3.7	3.8	2.4
Lindsey Schromen-Wawrin	1.6	0.2	1.7
Michael Scott	13.8	4.3	12.8
Bette Seaman	7.4	1.8	9.6
Justine Sears	2.6	2.0	1.1
Heather Severy	3.2	3.2	1.0
Mary Shackelford	5.0	0.3	3.0
Sue Shane	31.8	13.0	24.8
Traudl Sharp	8.0	2.3	5.8
Tom Sharp	12.8	5.8	8.7
Julie Simmons	3.4	6.0	1.9
Nan Simpson	1.0	0.7	0.5
Lori Sinnen	18.1	32.3	16.0
John Skinner	4.4	8.7	1.8
Julie Skopal	12.6	16.0	9.5
Laura Slater	0.3	0.2	0.6
Leslie Slater	2.4	1.4	1.0
Mark Smaalders	10.5	9.9	7.5
Steve Small	17.8	6.3	10.6
Elizabeth Smith	3.2	0.5	7.0
Jim Smith	9.8	1.4	15.4
Max Smith	29.4	90.0	38.4
Randy Smith	3.5	1.2	7.7
Richard Smith	27.3	19.7	32.0
Linda Songer	5.8	6.8	6.0
Kristine Sowl	29.0	30.7	28.5
Nanci Spear	1.0	0.3	1.5
Peggy Speer	36.3	7.3	35.2
Caroline Spehar	12.8	17.2	4.8
Katie Spellman	2.0	1.0	1.0
Ann Spiers	3.0		2.2
Gayla Spratt-Nuffer	9.8	18.2	10.3
Al Standish	13.5	11.3	22.0
Ann Stark	4.7	0.7	8.4
Doug Stark	11.6	1.5	18.9
Latresha Starling	78.6	3.6	59.8
Sumer Starling	78.2	3.6	59.8
Arlene Stebbins	15.8	6.0	19.2
Carol Steele	12.2	1.4	11.2
Pete Steen	11.8	4.5	14.4
Wendy Steffensen	1.0	2.0	2.0
Jesse Stewart	9.4	1.3	16.0
Shaylon Stolk	0.9	0.5	1.5
Linda Story	4.5	3.8	6.0

VOLUNTEER*	SURVEY HRS	TRAVEL HRS	KM
Eftin Strong	9.7	29.5	6.6
Ingrid Strong	9.7	29.5	6.6
Laurie Stuart	7.2	5.2	8.0
Dave Sturdevant	7.8	2.3	3.6
Kim Sundberg	10.0	0.8	19.2
Sarah Swanson	29.4	90.0	38.4
Chris Szymoniak	1.0	1.0	1.6
Brenda Taylor	13.2	5.6	15.3
Phil Taylor	13.2	5.6	15.3
Greg Thomson	3.3	4.4	8.0
Dan Thorington	17.9	8.0	41.6
Marcia Thorniley	2.2	0.7	2.0
Annie Thorp	3.8	6.0	3.3
Doris Tieder	4.0	3.2	4.4
John Tieder	9.7	7.3	10.2
William Tiederman	2.2	5.8	2.7
Debbie Tobin	1.4	0.3	1.0
Bob Toby	16.5	5.5	17.6
Marcia Toby	16.5	5.5	17.6
Jim Todd	20.4	33.0	42.0
Floyd Tomkins	6.4	2.3	6.0
Emily Tompkins	5.4	2.7	3.3
Tanya Treat	1.0	0.1	1.0
Chris Trella	2.1	7.2	5.3
Judy Trieber	0.6	0.3	0.3
Dan Tupper	5.3	6.6	8.0
Patty Tupper	5.3	6.6	8.0
Kelley Turner	6.8	3.0	9.6
Anneka van Doorninck	15.0		21.6
Wolter van Doorninck	48.8		72.0
Barbara VanderWerf	2.0	0.5	1.7
Chet Vincent	11.6	9.0	13.5
Dee Vixie	7.3	9.3	5.3
Carol Volk	15.4	4.2	4.8
Frank Vondersaar	11.4	4.3	12.0
Neil Wagner	9.2	3.2	9.6
Stan Wagner	22.8	8.8	19.2
Darlene Wahl	12.3	9.5	24.0
Becky Wanless	7.4	2.2	19.6
Elizabeth Warfield	3.1	6.4	2.6
Richard Warner	2.5	1.0	3.0
Hank Warren	23.5	17.7	24.0
Raedell Warren	23.5	17.7	24.0
John Warrick	1.5	7.0	2.5
Greg Waters	0.3	1.0	1.2
Elizabeth Watkins	2.0	1.0	1.6
Pat Watt	5.0	7.2	5.4
Dick Weisbrod	2.1	6.0	3.3
Patricia Went	12.2	1.4	11.2
Josh Wentz	0.8	1.8	1.4
Don Wester	8.4	18.0	11.7
Linda Wester	8.4	18.0	11.7
Don Wheeler	33.6	8.0	13.2
Grace Wheeler	36.6	9.0	15.4
Patricia Wherry	2.6	2.0	1.1
Christina Whiting	11.7	2.0	14.0
Monika Wieland	1.5	2.0	1.5
Rainer Wieland	1.5	5.7	1.5
Vera Wieland	1.0	5.0	1.0
Carolyn Wilcox	2.5		1.7
Don Wilkin	8.6	2.5	11.9
Wendy Williams	46.7	24.0	20.8
Kitty Willis	1.0	0.3	2.8
Caren Willoughby	4.4	2.0	3.0
Brian Wilson	12.6	16.0	9.5
Pam Winstanley	13.6	3.5	16.0
Peter Witschi	14.9	18.0	13.2
Elise Wolfe	6.4	4.0	4.6
Kathleen Wolgemuth	27.3	3.9	15.2
Evan Wood	0.9	0.3	1.5
Christine Wood	13.4	4.6	10.0
Jeff Wood	14.3	4.9	13.3
Jen Wright	0.6	0.3	0.8
Ami Wright	10.8	7.7	5.4
Randy York	9.9	1.3	16.0
Pat Young	7.8	0.4	5.0
Steve Young	12.0	7.0	10.0
Darrell Yount	6.3	20.5	7.5
Jan Yount	13.6	40.3	18.0
Samantha Zacharof	4.9	3.6	12.0
Sue Zalokar	8.3	6.8	10.4
Phillip Zavadil	5.8	2.8	10.0
Kay Zeleny	16.1	8.0	28.8
Merrie Ziady	13.0	4.2	14.4
Jon Ziady	20.8	6.7	22.4
George Ziminsky	15.9	6.8	14.6
TOTALS	**7308**	**4448**	**6787**

* Volunteer effort June 2008–May 2009

Remembrances

Bent Blichfeldt

Born in Copenhagen, Denmark, Bent came to the United States to work at Boeing as a structural engineer. And with engineering precision, he never missed a survey in six years of volunteering for COASST—a demonstration of his commitment, generosity and love of nature, which also saw him scuba diving, camping, hiking, boating, and birding.

Donald Stuart "Stu" MacRobbie

A psychiatrist by training, Stu retired to Sequim with wife Pat, and quickly became a champion for environmental issues on the Olympic Peninsula. We will remember Stu for his wit and wisdom, and the countless hours he donated to COASST. "COASST is truly the most exciting learning experience I have discovered since microscopic anatomy in med school! Pat and I are with the program 100%."

Volunteer Spotlight

Jann Luesse, Lori Sinnen, Pat Reynolds—Oregon Mile 327

At a COASST social, Lori and Pat get greeted with, "oh *you're* the ones that find all the *cool* birds!" This story begins in 2002, when Jann, Lori, Pat (and previously Mike, Debbie and Jim) first put their new ID skills to work. Lori explains, "the possibility of learning to identify birds by their feet really intrigued me—I'd avoided science my whole life because I couldn't understand it."

But there's been no shortage of feet to practice on over the years, from the Black-footed Albatross (one of *two*, one banded in the Hawaiian Islands chain) to the tiniest of birds—a single Western Sandpiper and a couple of Fork-tailed and Leach's Storm-petrels. Either way, Pat always looks forward to the chance to examine the pelagic species up close, "I'm still surprised at how small storm-petrels are—love the graceful, slim curve of their bills and the rich color of their plumage." Lori and Pat travel from Portland, which tends to wrack up the travel hours, but for Lori, "any chance to walk the Oregon coast is worth a trip from Portland or farther."

With the beach just outside her doorstep, Jann's feet touch the sand every day, and COASST has given her a totally new way to look at something she sees daily. "I've learned so much from participating in the program. Now I know that high numbers of dead birds, especially chicks, are not always an indicator of doom." Communicating to the public that death is a part of life, and not all death is "bad," is important. "It's very reassuring to many concerned people I talk to on the beach," adds Jann, "what a great way to spend a day."

Courtesy of J. Luesse

From left, Jann, Lori, Pat, (Tom and Gretel—joining for the Coastal Cleanup) out for a sunny, but chilly, survey.

Courtesy of G. Lester

Out surveying Moonstone Beach, Lauren, Amy and Gary pause with pooch Lizzy for a family photo.

Gary, Lauren and Amy Lester—Murray Road and Crannell Beach

As the saying goes, "A family that does science together stays together." Well… that's how the saying goes in the Lester household, anyway. Gary, a consulting botanist and wildlife biologist, and Lauren, a seasonal field botanist who works with Gary, are also avid birders. Since the 1970s, they have been active in citizen science projects, including the Audubon Christmas Bird Count, Snowy Plover nesting surveys and shorebird migration surveys, to name a few. Not surprising that their college-bound middle daughter Amy has taken an interest in citizen science as well. She enjoys "the science and community aspects of beach surveying and spending time with my dad."

Trained in 2008, the Lester family took on two beaches, Murray Road and Crannell Beach along the Clam Beach stretch in Arcata, California. It wasn't long before their reputation for rare live bird sightings was expanded to a passion for interesting beach-bound discoveries. Since their first survey, Gary, Lauren and Amy have found two dead Harbor Seals, six California Sea Lions, one deer, one cow, a bicycle, a shopping cart, two messages in bottles, and one Long-nosed Lancetfish,

the latter earning Lauren a front-page photo in the *Times-Standard*. And, that's not counting the 165 beached birds they've found!

"COASST surveys allow us (and our eager Labrador Retriever Lizzy) to get out regularly on our beaches. We're lucky to have such spectacular coastal resources at our back door," says Gary. But their commitment and enthusiasm doesn't stop at simply getting out on the beach. In the past year, the Lesters have recruited and trained three new COASSTers, making Gary, Lauren, and Amy responsible for two new sites. Go team!

Ultimately, notes Lauren, COASST surveys create a sense of community among citizens who want to be "in tune with the coastal processes at their beaches."

Kristine Sowl, Lucretia Fairchild, Audrey Bohl, Gary Titus—Cape Glazenap, NE Neumann Island

Does your COASST pre-survey checklist include waders, life jacket, marine radio, flares, shot gun, first-aid kit and peanut butter and jelly sandwiches? Probably not (except for the sandwich), which, as Audrey describes, "always taste better when you are doing a COASST survey."

For this survey team based in Cold Bay, Alaska, there's never a dull moment. "Even trying to find Cape Glazenap in thick fog is difficult," remarks Kristine. "We've been alerted by a snorting sound that a bear was less than 100 feet away."

Kristine, who initiated surveys within Izembek National Wildlife Refuge back in 2006, found out about COASST in a Marine Mammal Stranding Network meeting in Homer. "The program was well developed and something I could easily implement," she recalls, "and it fit well with the Refuge's mission to assess ecosystems and provide an oil spill baseline."

A. Bohl

Kristine and seasonal staff, Andy and Ryan (barefoot, and holding the bear gun), investigate a bird find on Neumann Island.

With lots of sand to cover, Lucretia, Audrey and Gary were recruited by Kristine and picked up the baton after she left in 2009, continuing the pursuit of all things beached: birds, including a Red-legged Kittiwake in May, glass balls (they're actually quite common), walrus vertebrae, a coconut, sea otters, and HUGE piles of kelp. Their work has sprouted two new beaches, Trout Creek and Cold Bay-Dock South, with help from Jim, Elizabeth, Mandy and Chase (who runs the only bar in town at the Bearfoot Inn). Everyone agrees with Mandy, "each time we prepare to go out to do a survey, there is a sense of anticipation of a good find."

Courtesy of A. Bohl

left: All systems go—Audrey, ready to take off in Izembek National Wildlife Refuge's Super Cub airplane.

right: Coconut! In the Bering Sea?! Lucretia measures up to this cool find.

A. Bohl

COASSTers at a Glance

Most birds in one survey: 41
(*Latresha and Sumer Starling, Cranberry S.*)

Most surveys: 148
(*Vic Nelson, Point No Point*)

Most amount of time spent in the rain while surveying: 15.6 hours
(*Mike Patton, S. Butterclam*)

Most people seen on one survey: 280
(Chelsey Funis, Alki Beach)

Most dogs seen on one survey: 26
(*Wendy Williams, Agate Beach*)

Longest survey: 8 hours
(*Peggy Speer, Oregon Mile 196*)

Shortest survey: 5 minutes
Tie: (*Eagle Cove, Bill Tiederman and Dick Weisbrod)* and
(*West Obstruction, Larry and Bev Leyman*)

Coldest survey: 10°F
(*Kristine Sowl, NW Cold Bay*)

Warmest survey: 90°F
(*Rayna Holtz and Yvonne Kuperberg, Cove South*)

Most beaches surveyed: 7
(*Rod Norvell—Dungeness Spit, Miles 0–5; Kalaloch N; Kalaloch S*)

Partner Profile: Shaun Walbridge/NCEAS

Late at night, hours past when most COASSTers have turned out the lights, Shaun Walbridge is working away. On a black screen, a flashing cursor moves up, down and through a slew of white letters—it's computer code, an intricate language of commands and formulas that form the backbone of the COASST website.

After graduating from the University of California, Santa Barbara with a BS degree in Physical Geography, Shaun scored his job as the GIS Analyst for the Center for Ecological Analysis and Synthesis (NCEAS). At NCEAS, ecologists from all over the world come together to "crunch" data and look for patterns. Working at the Center involves some pretty large data sets, but that's about where the similarities with COASST end. On any given day, he might be connecting 15 different people in four time zones on a virtual workspace, querying a database of global climate fluctuation, or tweaking a model exploring how landscape plays a role in plant genetics.

In fact, that's how Shaun met Julia, COASST's Executive Director, who came to NCEAS on her sabbatical in 2002. Always in motion, no matter the project, Julia was quick to introduce Shaun to COASST. "I think some of the first words out of her mouth were something like how about we put these skills to work for citizen science?" And so began a myriad of changes and improvements to coasst.org—find-a-beach map function, a completely new data entry system, updated beach stats by region and COASST top ten graphs.

"Probably the biggest challenge for me is keeping the broader community of COASST in mind; how should we display COASST results? how can we streamline data entry? how does the COASST site look on older computers?" As everyone knows, COASST volunteers aren't shy about giving feedback. It's Shaun who turns these comments into website reality. For volunteers that have been with COASST long enough to remember the old site, there's no comparison.

Above: Shaun takes a break from the office to hang with the birds—just a little trim off the top, Paulo. *Courtesy of S. Walbridge*

COASST Funding

At the start of a summer, when nearly all economic forecasts predicted doom and gloom, COASST pulled through, with continued support from agency and foundation partnerships, to meet an annual budget of $200,000. COASST volunteers matched every penny and then some with an additional $228,000 in volunteer time.

Sponsors, large and small, all contribute to COASST's success. This year, Andrea Fowler made contributions to COASST through the volunteer time-matching program of Microsoft. Many employers offer matching time and/or gift programs to encourage employees to contribute to charitable organizations like COASST.

Donations to COASST through the University of Washington Foundation are tax deductible: *http://depts.washington.edu/coasst/involved/giving.html*

COASST would like to thank the sponsors who provided support during 2008–2009:

Operational Support

Lowell A. and Frankie L. Wakefield Endowed Professorship
NOAA Fisheries
UW Program on the Environment

Special Projects

National Fish and Wildlife Foundation
North Pacific Research Board
Washington Department of Fish and Wildlife
World Wildlife Fund

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Alaska Maritime National Wildlife Refuge
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Olympic Coast National Marine Sanctuary
UW School of Aquatic & Fishery Sciences

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Grace and Don Wheeler
Linda Hageman
Tom and Connie Herzig

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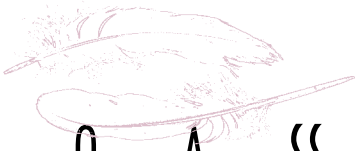
June 2008–May 2009

FUNDING SOURCES	
University of Washington	34%
In-kind	29%
Foundations	21%
Agencies	14%
Earned Income	1%
Private/Corporate Donations	1%

EXPENSES	
Volunteer Training, Communication & Public Outreach	33%
Special Projects	32%
Data Verification & Analysis	20%
Program Management	10%
Fundraising	5%

E. Wagner



COASST Reports 08-09

Coastal Observation and Seabird Survey Team
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020

COASST Mission

The Coastal Observation and Seabird Survey Team (COASST) is a citizen science project focused on the coastal areas of the North Pacific. COASST believes citizens of coastal communities are essential scientific partners in monitoring marine ecosystem health. By collaborating with citizens, natural resource management agencies and environmental organizations, COASST works to translate long-term monitoring into effective marine conservation solutions.

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