

SPECIAL INTERREGIONAL REPORT

Hurricane *Isabel* of 2003

Ricky Davis

Todd M. Day

Marshall J. Iliff

Robert C. Leberman

Steve Kelling

David H. Elder

Introduction

Hurricane *Isabel*—from an ornithological perspective perhaps the most closely studied tropical cyclone ever—originated from a tropical wave that moved westward from the coast of Africa on 1 September 2003. Over the next several days, the wave moved westward and became better organized. By the morning of 6 September, a tropical depression was formed, which became Tropical Storm *Isabel* later the same day. The storm turned west-northwestward on 7 September and intensified into a hurricane. Strengthening continued for the next two days while *Isabel* moved mostly west-northwest to northwest. On 10 September, the storm moved westward and continued in this direction until 13 September, moving along the Azores–Bermuda High. On 11 September, *Isabel* strengthened to a Category 5 hurricane, with maximum sustained winds estimated at 145 knots. After this peak, the

maximum winds remained in the 130–140-knot range until 15 September, a rare duration for such intensity. During this time, *Isabel* displayed a persistent “stadium” eye, some 35–45 nautical miles in diameter, of a size and symmetry more often associated with Pacific typhoons than with Atlantic hurricanes. On 13 September, *Isabel* approached a weakness in the western portion of the Azores–Bermuda High, which allowed the hurricane to turn to the west-northwest, then northwest on 15 September, and finally north-northwestward on 16 September. The latter motion would continue for the rest of *Isabel*’s life as a tropical cyclone, bringing the storm straight toward the southern North Carolina coast.

On 15 September, *Isabel* began to weaken, mostly owing to an increase in vertical wind shear, and the storm lost its “major hurricane” status (Category 3 and above) the following day. As the overall size of the hurri-

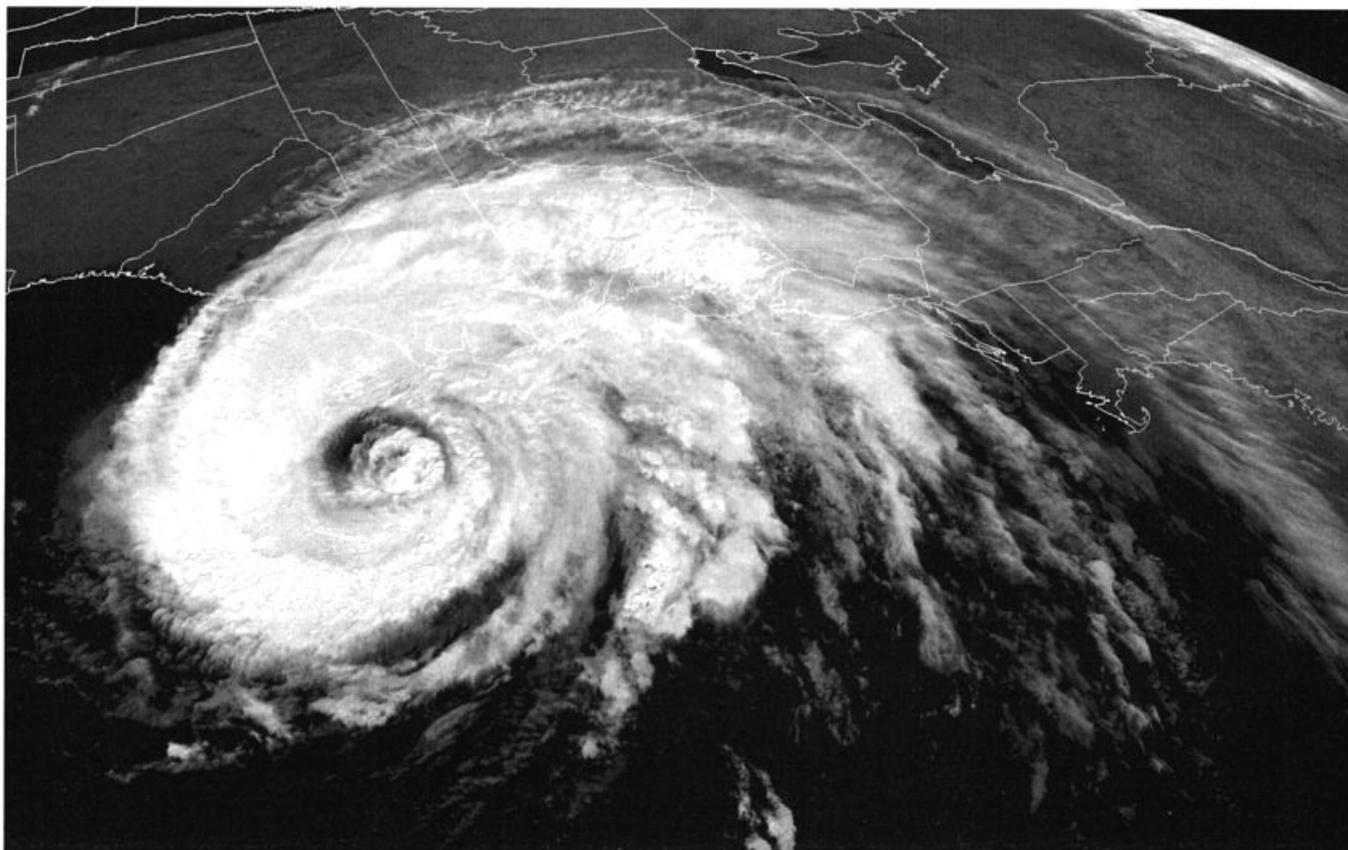


Figure 1. Hurricane *Isabel* makes landfall in North Carolina on the afternoon of 18 September 2003. Satellite image courtesy of the National Oceanographic and Atmospheric Association.

cane increased, it maintained a Category 2 status (85–90-knot maximum winds) for the next two days. With its eye gradually filling, *Isabel* made landfall near Drum Inlet, North Carolina around 1:00 p.m. 18 September as a Category 2 hurricane (Figure 1), then weakened slowly as it moved across eastern North Carolina. It weakened to a tropical storm over central Virginia and lost tropical characteristics as it moved across western Pennsylvania on 19 September. *Isabel* brought tropical-storm conditions to a large area from central North Carolina northward to the eastern Great Lakes and western New England. Extratropical *Isabel* moved northward into Canada and was absorbed into a larger baroclinic system moving eastward across south-central Canada early on 20 September.

The many bird sightings listed in this Special Report must surely relate to the size and strength of *Isabel*, which was only the fifth hurricane in recorded history to sustain Category 5 intensity for 30 hours. Both the Air Force Reserve Hurricane Hunters and the NOAA Hurricane Hunters flew missions into the storm and measured the *strongest wind ever observed* in an Atlantic hurricane: 203 knots (or 234 m.p.h.) at 4500 feet on the afternoon of 13 September. The lowest pressure observed by reconnaissance aircraft was 920 mb 12 September.

More than for any hurricane in the past, birders in the storm's path were prepared, both for the damage to property and infrastructure (the storm track was very well predicted almost a week in advance) and for the inevitable fallout of seabirds and shorebirds that occurs with landfalling Atlantic tropical cyclones. Those birders who were able to venture out safely—and many in North Carolina and Virginia had no such opportunity—discovered thousands of displaced birds, including pelagic seabirds. Many of these were commendably well documented with photographs, field sketches, and notes, and a few specimens were obtained as well. Notably, storm-petrels were studied in the interior, from North Carolina to Ontario, and for the first time in many areas, at least some storm-petrels were convincingly identified to species, with the rarest of the brown species inland—Wilson's Storm-Petrel—identified in interior North Carolina, Virginia, Pennsylvania, New York, and Ontario. One probable Wilson's Storm-Petrel was even noted 20 September on Lake Champlain at Charlotte, Vermont, a potential state first to add to the many listed in the reports below. The proliferation of storm-petrel records was perhaps the most unexpected aspect of *Isabel*, inasmuch as past September storms have produced few storm-petrel records from the continent's interior, and August hurricanes have entrained mostly Leach's Storm-Petrels.

Hurricanes create a special burden for those birders who document their records carefully: it is difficult to photograph and sketch birds and take extensive notes under windy, rainy conditions, and for birders far inland, nearly every seabird sighted requires some sort of documentation in order to be approved and archived. The burden is magnified for regional editors, who must not only compile but also vet these many hundreds of sightings rather quickly—a mountain of material that might not cross a regional editor's desk in 20 years otherwise. The summaries below have been assembled with as much accuracy as possible over the late-fall and winter months, but many reports remain to be reviewed in detail. *All reports digested below may be assumed tentative until approved by respective state and provincial bird records committees.* For observer attributions, refer to the respective regional report. Wind, storm-surge, rainfall, and other measurements below are given in English rather than metric units, as used by the National Oceanographic and Atmospheric Administration (U.S.A.).

—Ed.

Southern Atlantic Region

Ricky Davis

NORTH CAROLINA

Isabel brought hurricane conditions to portions of e. North Carolina and tropical-storm conditions to much of the state. The highest

observed wind on land was sustained at 69 knots, with a gust to 85 knots at near Cape Hatteras on 18 Sep. Elizabeth City reported 64-knot sustained winds, with a gust to 84 knots that day; gusts of 91 knots at Ocracoke and 88 knots at New Bern were also reported. (The wind record from the most seriously affected areas is incomplete, as several observing stations were destroyed or lost power as *Isabel* passed.) The lowest pressures observed on land were 957 mb at Arrowhead Beach and 958 mb in Hobucken. In the North Carolina estuaries, storm-surge values were generally 4–6 feet above normal tide levels over the e. portions of the Pamlico Sound and most of the Albemarle Sound. Values of 6–10 feet above normal tide levels were observed in the w. end of the Pamlico Sound, with a maximum value of 10.5 feet reported on the Neuse R. in Craven County. Rainfall from Hurricane *Isabel* averaged 4–7 inches over large portions of e. North Carolina.

Extensive damage to property limited birders' ability to search for storm-driven seabirds, particularly on the n. Outer Banks, where the storm's fury cut a new temporary inlet between Hatteras and Frisco. Birds noted in North Carolina included six species of tern, two species of storm-petrel, an unidentified shearwater (probably Manx or Audubon's), and 2 White-tailed Tropicbirds (Table 1). Never before have multiple tropicbirds been discovered inland in the Carolinas. South Carolina, to the s. of the storm's landfall point, reported no unusual species associated with the storm. In addition to these sightings, a Cory's Shearwater was found injured at Ocracoke 20 Sep (E. Hanrahan)—noteworthy perhaps for being the only such casualty recorded.



This adult White-tailed Tropicbird, found by George Armistead at the Chesapeake Bay Bridge-Tunnel, Virginia after *Isabel* 19 September 2003, successfully resisted efforts of local Great Black-backed Gulls to dispatch it. This bird was one of four tropicbirds seen following the storm but only the second documented conclusively in Virginia; it furnished species #341 for the bridge-tunnel. Photograph by Edward S. Brinkley.

Table 1. Terns and seabirds associated with the landfall of *Isabel* in North Carolina.

Species	No.	Location	Date	Observer
<i>Puffinus</i> shearwater	1	L. Gaston	19 Sep	EE
Wilson's Storm-Petrel	9	L. Gaston-Roanoke Rapids L.	19 Sep	EE, FE
	1	Goldsboro W.T.P.	19 Sep	ED
Band-rumped Storm-Petrel	1§	Satterwhite Pt., Kerr L.	19 Sep	RT, PT
White-tailed Tropicbird	1	Roanoke Rapids L.	19 Sep	EE
	1*	s. of Smithfield, Johnston	20 Sep	<i>vide</i> CS
Caspian Tern	10	Roanoke Rapids L.	19 Sep	EE
	15	Jordan L.	20 Sep	JR et al.
Royal Tern	1	Goldsboro W.T.P.	18 Sep	ED
	6	Falls L.	19 Sep	DK
	70	Roanoke Rapids L.	19 Sep	EE
	20	L. Gaston	19 Sep	EE
Sandwich Tern	10	Roanoke Rapids L.	19 Sep	EE
	1	Falls L.	19 Sep	WC
	1	Goldsboro W.T.P.	19 Sep	ED
Common Tern	3	Roanoke Rapids L.	19 Sep	EE
	2	Kerr L.	19 Sep	RT, PT
	12	Jordan L.	20 Sep	JR et al.
Arctic Tern	1	Roanoke Rapids L.	19 Sep	EE
Forster's Tern	30	Goldsboro W.T.P.	18 Sep	ED
	20	Roanoke Rapids L.	19 Sep	EE
	3	Jordan L.	20 Sep	JR et al.
Black Skimmer	1	Roanoke Rapids L.	19 Sep	EE

* = specimen recovered

§ = distinct from another of the species seen on the Virginia portion of this lake

Middle Atlantic Region

Todd M. Day and Marshall J. Iliff

The passage of Hurricane *Isabel* through the Coastal Plain, Piedmont, and nw. mountains of the Region 19 Sep brought sustained winds of 60 knots and gusts to at least 93 knots (Gwynns I., VA) into the s. Chesapeake Bay area, where severe flooding was widespread in coastal areas and along rivers. Storm surges of 3–5 feet above normal tide levels were observed over the central portions of the Chesapeake Bay and 5–6 feet over the s. portion of the Bay. The storm here could be compared only to the "Chesapeake-Potomac Hurricane" of 21–24 Aug 1933, which tracked through the w. Bay 23 Aug and caused flooding some 9.8 feet above mean high water in Norfolk (about 7.9 feet during *Isabel* in Norfolk, just under the Mar 1962 "Ash Wednesday" storm levels). With *Isabel*, surge values of 6–8 feet above normal levels were observed in the

upper reaches of the Bay near Annapolis and Baltimore, Maryland and in most of the main rivers draining into the Chesapeake Bay. Even higher surges occurred at the heads of the rivers, with values of 8.5 feet above normal levels at the Richmond City locks along the James R. in Virginia and nearly 8 feet along the Potomac R. in the District of Columbia. Water levels exceeded previous record levels established in the 1933 hurricane in Washington, D.C., Baltimore, and Annapolis. Farther n. along the Eastern Shore of both states, surge values ranged from 4 to 6 feet. The rising waters prevented many observers from gaining access to observation points in coastal areas.

Though the top winds measured in the Region were still under those of the 1933 storm (76 knots) and of *Hazel* of 1954 (68 knots, gusts to 113), the wind field of *Isabel* was greater than that of the 1933 storm, and its track farther to the west—entering Virginia at Emporia, exiting in w. Maryland—meant that the damage to trees and structures was tremendous, the costliest storm in Virginia's history by far. Many veteran hurricane-birders contended with downed trees, power outages, and damaged homes and were unable to leave blocked neighborhoods

for several days, especially in the e. Tidewater of Virginia.

Birds associated with this storm were in keeping with those of hurricanes past, particularly *Fran* and *Bertha* of 1996, whose tracks were w. and e. of *Isabel*'s, respectively, but there were some distinctions in species entrained, probably owing to the later date, daytime landfall, and different history of *Isabel*. Most notable among the distinctions were the comparative lack of Sooty Terns in *Isabel*, though they have been widespread in storms with similar tracks, such as *Fran* of 1996 and *David* of 1979. Bridled Tern, by contrast, was recorded in record-breaking numbers. *Isabel* was also above average for Roseate Tern and Black Skimmer. Black-capped Petrel was present in small numbers at the C.B.B.T. but nowhere in the interior (unlike in *Fran*), whereas storm-petrels were extremely numerous in *Isabel* but almost absent in *Fran*. Reasons for such distinctions between storms are not obvious.

VIRGINIA

Rainfall from Hurricane *Isabel* averaged 4–7 inches over large portions of e. and cen. Virginia and Maryland. Rainfall totals of 8–12 inches with locally higher amounts occurred in the n. Shenandoah Valley. Upper Sherando, Virginia reported a total of 20.2 inches. Lesser amounts in the 2- to 4-inch range occurred elsewhere over e. Virginia and on the Delmarva Peninsula, where the impact of the storm was much less than on the mainland, except for low-lying Bay islands (such as Tangier and Smith) and marsh-side communities, such as Oyster, Northampton.

Isabel's wide wind-field, much greater than those of the more compact hurricanes of 1996–1999, probably explains the presence of several tropicbirds in the storm, a genus not seen in the numerous hurricanes of 1996–1999. A White-tailed Tropicbird was present in the morning and afternoon at C.B.B.T.'s Chesapeake Channel 19 Sep (acc. GLA; ph. BLS; ph. ESB, vt. RLAN, GP, BP, TMD, IAT, IR, RKa, RKo, JBr), and Allen Bryan watched an ad. tropicbird, apparently this species, flying southeastward across I-95 in Richmond at 8:30 a.m. the same day. A possible tropicbird was reported in Frederick, VA 19 Sep (R&AS). Virginia has only one other substantiated record of this species, a wrecked ad. (*) at Staunton during Hurricane *Hazel* 15 Oct 1954, and there are two other records from the state's offshore waters. Other birds from the C.B.B.T. 19–20 Sep are noted in Table 2 (BLS, GLA, GP, BP, ESB, RLAN, DLH, GW, IR, RKa, RKo, JBr, RR, HFD, Darryl & Charlie Smith et al.). Most noteworthy were the large numbers of storm-petrels on both 19 and 20 Sep, which appeared to be quite exhausted, and the very

Table 2. Birds recorded from Chesapeake Bay Bridge-Tunnel after Hurricane Isabel.

Species	19 Sep	20 Sep
White-tailed Tropicbird	1	0
Black-capped Petrel	5	4
Cory's Shearwater	12	2
Wilson's Storm-Petrel	56+	20+
Leach's Storm-Petrel	15+	20+
Band-rumped Storm-Petrel	17+	7+
Leach's/Band-rumped Storm-Petrel	38+	25+
Parasitic Jaeger	3	0
Pomarine Jaeger	2	0
unidentified jaeger	1	1
Bridled Tern	130	9
Sooty Tern	1	0
Sooty/Bridled Tern	3	0
Black Tern	3	1
Caspian Tern	75	12
Royal Tern	180	35
Sandwich Tern	150	20
Forster's Tern	250	100
Common Tern	400	40
Black Skimmer	6	22
unidentified phalarope	4	0

large numbers of Bridled Terns 19 Sep, many of which were seen riding abundant storm-flotsam along Bay tidelines in the Chesapeake Channel.

Brian Patteson located a grounded light-morph *Herald* (Trinidad) Petrel on the bridge at John H. Kerr Res. and Dam, *Mecklenburg* 19 Sep (acc.; ph. BP), which he brought back to the C.B.B.T. to release later that day (m. ob.); the reservoir has one other record of the species, also a light morph (6 Sep 1996, *Fran*), and 3 others were recorded during *Bertha* of 1996 and *Bonnie* of 1998 between Virginia and North Carolina. Unlike after *Fran*, no other gadfly petrels were found on the lake following *Isabel*'s passage, possibly because the storm center passed to the e. of Kerr dam.

Other species associated with the hurricane were in keeping with recent storms, with the startling exception of the scads of storm-petrels detected inland, very much in contrast to *Bertha* and *Fran* of 1996. One of the first birds of the storm in fact was a Band-rumped Storm-Petrel seen overhead at Sunset Beach, *Northampton* 18 Sep (GLA), the harbinger of more to come in this area

(Table 2). Inland, a Band-rumped Storm-Petrel was carefully identified by experienced observers at Kerr Res. 19 Sep (BP, Russ & Patricia Tyndall, CMS), the first for the state's Piedmont, with another at L. Anna the same day (GW). A Band-rumped Storm-Petrel and 2 Wilson's Storm-Petrels were near Hunting Cr., *Fairfax* 19 Sep (Robert Hilton, Lisa Shannon et al.), and 2 more Wilson's Storm-Petrels were at Swift Creek Res. that day (Paul Bedell), the latter the first from Virginia's Piedmont. Single Leach's Storm-Petrels, likewise the first for the Piedmont, were at Airlie Res., *Fauquier* 19 Sep (Mike Day, TMD, ICT, SH, DMD, GJ) and L. Anna (GW), and another likely Leach's was between Front Royal and Luray in the mts. (R&AS). Unidentified storm-petrels thought not to be Leach's were at Swift Creek Res. (3; HFD) and L. Frederick, *Frederick* (one; William Leigh). An unidentified *Oceanodroma* was at Belvoir Road Pond, *Fauquier* 19 Sep (Bob Abrams, Joan Boudreau). Observers at C.B.B.T. commented extensively on the difficulty of separating Leach's and Band-rumped when in states of extreme feather wear and exhaustion, when both distinctive flight characters and differences in plumage were obscured or erased.

Terns rarely linger after a storm's passage, and widely separated groups of observers (Boatwright; Rottenborn; Bryan; Elisa Enders) all described birds as flying strongly to the southeast early in the morning of 19 Sep. Only a handful of Bridled Terns remained around the Bay mouth 20 Sep, with 2 on 21 Sep (WTP); other exceptions were a Royal Tern at Beaverdam Res., *Loudoun* and a Black Skimmer at Harrison Road pond, *Fauquier* 20–21 Sep (both KG, m. ob.).

Other interior larids 19 Sep not digested in Table 3 included a Great Black-backed Gull at Shenandoah River S.P. (*vide* R&AS), 10 Laughing Gulls in a pond n. of Weyer's Cave, *Augusta* (Harry & Beth Lumadue), 43 along the Dry R., *Rockingham* (Mike Shank), 11 at Airlie Res., where one Black, 10 Common, and 3 Sandwich Terns were also found (TMD, SH, GJ, ICT, DMD), 3 Forster's Terns at Clayton L., *Pulaski* (Brian Kane), and a Black Skimmer with 33 Laughing Gulls n. of Mt. Crawford, *Rockingham* (Polly & Fred Scott, Tom & Nita Lord, John M. Irvine, WTP). Another Black Skimmer was at L. Althone, *Fauquier* 19 Sep (ph. TMD, SH, GJ, DMD, ICT). Nine Laughing Gulls appeared after a frontal passage 27 Sep at South Holston L., *Washington*, almost certainly wandering wails from the storm (J. W. Coffey, Rack Cross). A Bridled Tern at Eclipse on the Nansemond R. in Suffolk 18 Sep may have been the same bird as found possum-killed 20 Sep (*; acc. Les Willis, BP); 2 dark-

backed *Sterna* were seen dead at C.B.B.T. but were unrecoverable (RLAk, ESB). Other instances of mortality were not recorded, other than several dozen Clapper Rails on s. *Northampton* beaches on the Bayside 20–25 Sep (m. ob.).

In addition to the species noted in Table 3, there were four reports of single Roseate Terns: one at Cape Charles Harbor in a large storm-roost 18 Sep (ph. ESB), one at L. Orange, *Orange* 19 Sep with 3 Forster's Terns (George & Rosemarie Harris), one at the *Augusta* S.T.P. 20 Sep with 2 Forster's Terns (Allen Larner), and one in *Amherst* 19 Sep (Mike Boatwright), the latter among 130+ other larids, most unidentified. Away from the Atlantic coastline, this species is a true rarity, and it is hoped that documentation on this and other "review species" will be received by the Virginia committee.

Shorebirds are frequently grounded or entrained by hurricanes. During storm passage 18 Sep, Armistead et al. observed 24 American Oystercatchers, 10 Sanderlings, 38 Willets, 38 Pectoral, 3 Least, 24 Western, one Spotted, and 16 White-rumped Sandpipers, plus 65 unidentified sandpipers, 18 Lesser Yellowlegs, 11 Marbled and 3 Hudsonian Godwits, one Piping, 200 Black-bellied, and 19 Semipalmated Plovers, 3 American Golden-Plovers, one Whimbrel, and 3 Wilson's Snipe at Sunset Beach, mostly birds flying north on hurricane-force se. winds. Hundreds of shorebirds flying s. into the wind at C.B.B.T. 19 Sep included ca. 40 Semipalmated Plovers, 400 Lesser Yellowlegs, 30 White-rumped Sandpipers, 1200+ "peep" (Semipalmated, Western, and Least Sandpipers), and 270 Pectoral Sandpipers, as well as a few Willets, American Oystercatchers, Sanderlings, Ruddy Turnstones, and a Whimbrel 20 Sep. First-rate finds were a Willet (JBB, SCR, GW, Chuck van Scoyoc) and a Red-necked Phalarope (SCR) at L. Anna 19 Sep, with 2 Red-neckeds at Airlie Res. (TMD, SH, GJ, ICT, DMD) and another phalarope at L. Frederick the same day (R&AS). Also noted were 150 Pectoral, 40 Least, and 40 Semipalmated Sandpipers in nw. Virginia 19 Sep (R&AS) and single Marbled Godwits at C.B.B.T. and L. Manassas 19 Sep (ph. TMD, DMD, GJ, SH, ICT).

While many birds hunker down during storm passage, others clearly fly with or around in the storm. Observers on the Eastern Shore who watched from safe havens saw dozens of Tricolored Herons (33 at Sunset Beach alone), smaller numbers of Glossy and White Ibis, Great and Cattle Egrets, Tree and Barn Swallows, Merlins, Ospreys, American Kestrels, Chimney Swifts, Belted Kingfishers, and American Black Ducks moving in or with the heaviest afternoon winds of 18 Sep.

Table 3. Larids noted during and after Hurricane Isabel in Virginia.

Location code	A	B	C	D	E	F	G	H	I	J
SPECIES										
Parasitic Jaeger	2 juv.†	0	0	0	0	0	0	0	0	0
Herring Gull	4	0	0	0	✓	300	0	0	0	0
Great Black-backed Gull	4	0	0	0	35	45	0	0	0	0
Lesser Black-backed Gull	1	0	0	0	0	0	0	0	0	0
Laughing Gull	310	40	0	131	250	5000	14	"lots"	50	25
Ring-billed Gull	13	1	0	1	✓	14	0	0	0	0
Sabine's Gull	1 juv. †	0	0	0	0	0	0	0	0	0
Caspian Tern	5	2	2	0	2	51	0	2	1	2
Royal Tern	52	3	2	0	12	90	0	0	2	10
Forster's Tern	23	100	20	0	46	290	0	0	0	30
Common Tern	275	20	5	0	132	55	0	45	2	50
Arctic Tern	1†	1	0	0	0	0	0	0	0	0
Sandwich Tern	2	1	0	0	15	6	0	2	0	1
Least Tern	1	0	2	0	0	0	0	0	0	0
white tern sp.	0	0	75	0	✓	0	0	0	0	10
Sooty Tern	0	0	0	0	7	0	0	0	0	0
Bridled Tern	0	0	0	0	3	1	0	0	0	0
Black Tern	12	0	0	0	0	0	0	1	0	0
Black Skimmer	4†	0	0	1	23	32	1	2	2	1
dark tern sp.	1	0	2	0	3	0	0	0	0	0

LOCATION KEY:

- A = L. Anna, Spotsylvania & Louisa (†SCR; GW, JBB, Chuck van Scoyoc; Allen Bryan; Brenda Tekin)
- B = L. Frederick, Frederick (R&AS)
- C = Swift Creek Res., Chesterfield (HFD; Paul Bedell)
- D = Front Royal to the e. edge of Luray, Warren (R&AS)
- E = Sunset Beach, Northampton (18 Sep: GLA, BLS, RKO, RKa)
- F = Cape Charles, Cheriton, and Oyster, all Northampton (18 Sep: ESB, SWH)
- G = Stuarts Draft S.T.P., Augusta (John Spahr)
- H = L. Manassas, Prince William (TMD, ICT, SH, GJ, DMD)
- I = Mill Creek L., Amherst (Mike Boatwright; Myrna Patteson)
- J = John H. Kerr Res. and Dam, Mecklenburg (BP, Russ & Patricia Tyndall)

† = photographs by SCR acc. by the Virginia Avian Records Committee in Category 1

✓ = present in numbers but numbers not counted

produced a flyby Arctic Tern (MH) and a cooperative, perched Roseate Tern (MH, JLS, MLH), as well as a single Sandwich Tern. Sandy Point S.P. had a Black Skimmer 19 Sep (HLW, LMD).

Eastern Shore • A Bay-watch at the e. end of the Bay Bridge, Queen Anne's (DCz, MAT) produced a steady southbound stream of Royal and Common Terns that held Maryland's first Sooty Tern of Isabel, a southbound ad. bird. Also there were an ad. Pomarine Jaeger (county first, as was Sooty Tern) and a Red-necked Phalarope. The only other Sooty Tern in the storm was a southbound juv. (†WGE) at Tolchester Beach, for Kent's first, that same afternoon. Two Black Skimmers (ad., juv.) were at Eastern Neck N.W.R. the following day, another county first (†WGE, NLM). Vying with the Arctic and Roseate Terns above for the rarest bird of the storm in Maryland, a juv. light Long-tailed Jaeger seen well at Blackwalnut Pt., Talbot (†GLA) during the afternoon represents only the 4th well-documented state record, although there have been about 10 total reports, including one previous record away from the Atlantic, an ad. in Frederick following Fran. A single Sandwich Tern at Rigby's Folly was new (#263) for H.T. Armistead's champion yard list.

Inland • In addition to the storm-petrels mentioned above, Abrams had a Black Skimmer near the Memorial Bridge, D.C., along with 3 Wilson's Storm-Petrels and one Band-rumped Storm-Petrel; the extent to which these may have overlapped with Hunting Cr., VA storm-petrels is unknown. In the upper Chesapeake Bay section, a Parasitic Jaeger was reported on the C&D Canal, Cecil 19 Sep (Gary Griffith), an unidentified jaeger was seen in the Northeast R., Cecil (Chris Starling), and a Parasitic was seen flying over Turkey Pt., Cecil 24 Sep (Chris Starling). On the Potomac R. in Charles, Jett and Brewer were rewarded at Aqualand Marina with first county records of Black Skimmer (2) and Sanderling (both ph. GMJ, GB). Another juv. Black Skimmer was found at a highway drainage pond near Hickory, Harford 20 Sep (G. Futral, MB, MH, v. o.). Black Hill Res., Montgomery produced just 2 Common Terns (DCz, MAT), and efforts in inland Carroll were unproductive (RFR). In w. Maryland, Kiddy, Churchill, and Cameron made a circuit of Allegany on the morning of 19 Sep. They were probably closest to the storm's track and the location of the eye at dawn. At Rocky Gap in the morning, they found Allegany's first Red Phalarope (ph. RK, JBC, CC), along with a Sanderling, 8 Forster's Terns, and a Black Tern. Later in the day, North Branch

MARYLAND & DISTRICT OF COLUMBIA

Winds associated with Isabel in Maryland and D.C. were less intense than those measured in Virginia. At Thomas Pt., sustained winds of 42 knots, with a gust to 58 knots, were measured on the morning of 19 Sep, while Reagan National Airport reported 39-knot sustained winds with a gust to 50 knots the same day. Rainfall amounts ranged from scarcely an inch at Ocean City to 10 inches in w. Maryland.

In contrast to Virginia, Maryland observers struggled to find the right locations for connecting with hurricane birds. The state has fewer reservoirs and no viewing points that compare to the C.B.B.T. Additionally, flood tides prevented access to some of the more prominent Bay peninsulas including (but not limited to) Tilghman I., Hooper I., and Point Lookout S.P. Because the storm passed to the n. of the

state during the night, prevailing winds at dawn were westerly and presumably pinned birds against Maryland's Eastern Shore. Thus, Western Shore Bay-watches did not yield as many storm-related bird sightings as the same efforts had during Fran of 1996, and the few accessible locales visited on the Eastern Shore were far more productive. Tern counts suggested that in fact most storm-blown birds were moving down the e. half of the Bay (as in Bertha of 1996). No tubenoses or rare pelecaniforms were noted in Maryland during the storm. Some Black Terns were seen in the storm (not mentioned below), and a high, late count of 8 in Kent 21 Sep (WGE, NLM et al.) could have been related to Isabel.

Western Shore • A Bay-watch from North Beach and Chesapeake Beach, Calvert 19 Sep

(RK, JBC, CC) held a Forster's, a Black (ph. RK et al.), and 6 Common Terns (ph. RK et al.), a Stilt and 2 White-rumped Sandpipers, and a Laughing Gull (ph. RK et al.). Another 4 Laughing Gulls were at Terminus, Cumberland, *Alleghany* (ph. RK). These represent the first confirmed Laughing Gulls for the three w. Maryland counties.

Eastern Highlands & Upper Ohio River Valley Region

Robert C. Leberman

PENNSYLVANIA

Hurricane *Isabel* goes down in Pennsylvania history as its most remarkable bird-hurricane to date: never before has the fallout of seabirds and coastal birds associated with such an event been so well tracked by birders in the state. Before, during, and after the storm, a virtual army of birders was afield and in nearly constant contact with one another by cell phone and via the Internet. The result was the documentation of storm-tossed species in numbers and variety without precedent in the Region. In addition to documented reports of Cory's Shearwater, three species of storm-petrel, American Oystercatchers, unprecedented numbers of phalaropes, jaegers, several Sabine's Gulls, Royal, Arctic, and Sooty Terns, and Black Skimmer, there were unconfirmed reports of Magnificent Frigatebird, Bridled Tern, and Brown Noddy. For an essentially landlocked state, the reports were simply overwhelming, although the weather presented few difficulties: rainfall was moderate, and the highest wind gust was clocked at 52 knots in Middletown 19 Sep.

Pelagic seabirds and coastal species

In this category are included only those seabirds and littoral species certain to have been entrained either at the coast or offshore. A Cory's Shearwater was observed at Bellefonte, *Centre* 19 Sep, and what was probably the same bird appeared the next day at nearby Bald Eagle S.P., where it subsequently was found grounded and taken to a rehabilitation center (*vide* GG, m. ob.). Another grounded Cory's Shearwater, found at McClure, *Mifflin* 21 Sep, survived rehabilitation and was later released (Tammy Evans, *vide* DH). There is only one previous record of Cory's Shearwater docu-

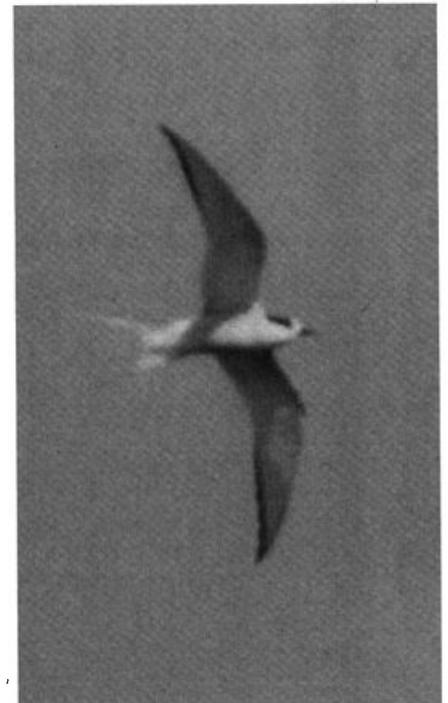


A Hurricane *Isabel* victim, this Black-capped Petrel was found near Syracuse University, Syracuse, New York on 24 September 2003. A passerby saw it fly out of a bush and into the path of a van along a busy street in downtown Syracuse. It was taken to a veterinarian but did not survive. The specimen is now at the Cornell University Museum of Vertebrates. Photograph by Jean Soprano.

mented for the state. Storm-petrels, too, are almost unknown from Pennsylvania, but *Isabel* provided two sightings of Wilson's Storm-Petrels, the first for Pennsylvania in approximately 100 years: one was on the Susquehanna R. at Fort Hunter, *Lancaster* 19 Sep (E. Chubb), the other at Rose Valley L., *Lycoming* on the 19th (D. Ferry). A Leach's Storm-Petrel appeared at Yellow Creek S.P. on the 19th (RH, MH, PH, M. Fialkovich), and at least one was at Bald Eagle S.P. the same day (S. Braun, R. Boyle, GG). Even more exceptional, at least one Band-rumped Storm-Petrel was at Bellefonte, PA on the 19th (ML, P. Miller); what perhaps was the same bird was found at nearby Bald Eagle S.P. that evening (GG, DG) and again the next day (J. Horn, m. ob.). An unidentified storm-petrel was seen at Ft. Hunter, *Dauphin* 20 Sep (D. Hoffman).

There were 4 Sooty Terns reported 19 Sep: 2 at the Conejohela Flats, *Lancaster* (EW, JHo, RW), one on the Delaware R. at Philadelphia near the airport (A. Guarente), and one at Nockamixon S.P., *Bucks* (BE). A Royal Tern on the Susquehanna R. upstream from Conejohela Flats was new for *Lancaster* 20 Sep (DFa, JHe, ph.). A Least Tern at Marysville, *Dauphin*, PA 19 Sep (D. Colyer) was surely related to the storm and probably entrained from the coast. Single Black Skimmers at Long Arm Res., *York* 20 Sep (B. Pugliese) and Shawnee L., *Bedford* the same day (E. Richards) were hurricane waifs. More exotic still were single American Oystercatchers at Nockamixon S.P. 19 Sep (BE, E. Harding, D. Birchler) and in the Pennsylvania

mts. at Dunnings Creek Wetlands, *Bedford* 19 Sep (TD). Laughing Gulls were almost too numerous to mention, but noteworthy were birds seen well inland in *Bedford* (3 birds), *Centre* (6), *Somerset* (3), *Warren/McKean* (4),



The most widespread and numerous of the seabirds displaced by hurricanes are usually the terns. This Arctic Tern at Lake Nockamixon, Bucks County, Pennsylvania 23 September 2003 was one of few ever so documented in the state. Its connection to the hurricane's passage is virtually certain, although several other records of the species in Pennsylvania show no such connection, including several in fall 2003. Photograph by Alan Brady.



Perhaps the least expected (or most unprecedented) aspect of Hurricane Isabel from an ornithological perspective was the large number of Wilson's Storm-Petrels documented from interior sites. This bird at Ithaca, New York 21 September 2003 (main image) was one of at least 38 reported from interior sites: 10 in North Carolina, four in Virginia (plus 60+ on the Bay), three in Washington, D. C., two in Pennsylvania, 13 in upstate New York, one in Vermont, and five or more in Ontario. This is twice the total of all interior records known from 1842 through 2002. The inset photograph—of a Wilson's Storm-Petrel being devoured by a Ring-billed Gull—was taken at Fairhaven State Park, Cayuga County, New York 21 September. Wilson's were also seen being attacked by Bonaparte's Gulls in upstate New York and Merlins over the Chesapeake Bay. Photographs by Kevin McGowan and Jay McGowan (main) and Gerard Phillips (inset).

plus singles in *Montour* and *Clarion/Venango*.

Potential or probable grounded overland migrants

Associated with the turbulent low pressure, winds, and rain of *Isabel* were many shorebirds, gulls, and terns, many of which could well have been entrained hundreds, even thousands of miles away but which also could simply have been storm-grounded while in overland migration. A flock of 23 Black-bellied Plovers at Bellefonte, *Centre* 19 Sep (ML) was unusual there. Five Long-billed Dowitchers inland in the Pennsylvania mts. at Yellow Creek S.P. 19 Sep (MH) were clearly hurricane-related, and *Isabel* dropped off unprecedented numbers of Red-necked Phalaropes in Pennsylvania that day: at Bald Eagle S.P., one flock contained 38 birds (ML), a flock of at least 21 was spotted at Pymatuning Res. in *Crawford* (JM), and smaller numbers were reported from *Lancaster*, *Somerset*, and *Clarion/Venango*. Also unprecedented in Pennsylvania, 15 Red Phalaropes were seen along the Susquehanna R. at Marysville, *Dauphin* 19 Sep (DH), and one was at Bald Eagle S.P. 20 Sep (W. Laubsher, D. Rocky, DFa).

There were four reports of Pomarine Jaeger 19 Sep: one along the Susquehanna R. at Marysville (D. Bogar), another a few km. s. at Conejohela Flats (JHe, RMi), an ad. at Muddy Run Fisherman's Park, *Lancaster* (B. & F. Haas), and farther w., in the mts., one at L. Somerset (R. Gallardy, m. ob.). A Long-tailed Jaeger was found well inland at Allegheny Res., *Warren* 19 Sep (JF), while single Sabine's Gulls were at Yellow Creek S.P. (MH), Conejohela Flats (JHo),

Allegheny Res. (JF), all 19 Sep, and at Bald Eagle S.P. on the 20th (m. ob.). An Arctic Tern at Bald Eagle S.P. 19 Sep (ML, JHo, RW) could well have been brought in from pelagic waters, but there were other Arctic Tern records this fall in the Region not associated with the storm.

Hudson-Delaware Region

Steve Kelling

Throughout the Hudson-Delaware region, observers watched the progress of *Isabel* carefully as it made landfall to the south and proceeded northward into the Region by the afternoon of 19 Sep. On that day, observers were stationed along the state's Atlantic coast, on the Great Lakes' and Finger Lakes' shorelines, as well as at other inland reservoirs and lakes. Though the Region's 3 Black-capped Petrels in New York were almost expected—in light of the species' presence in the Great Lakes region

after *Hugo* of 1989 and especially *Fran* of 1996—quite unexpected were some 13 Wilson's Storm-Petrels at six different locations upstate, where there are only four prior records, dating from 1875, 1933, and 1938. Likewise, 4 or more Sooty Terns near Rochester were par for the course, but a reported Bridled Tern in that area would be much rarer: the species has no history in the state's interior after hurricanes, and indeed there are few reports for anywhere in the continent's deep interior.

DELAWARE

Delaware's geography, lacking in prominent capes with east-west orientation or other features such as large reservoirs that might corral hurricane-borne sea-

birds, means that the state rarely records such waifs. There were no reports of birds indubitably tied to *Isabel*, and only a few probably connected to the storm's passage: an Audubon's Shearwater 20 Sep at Cape Henlopen S. P., *Sussex* (Eric Braun, FR, Anthony Gonzon), a Sandwich Tern at Indian R. Inlet, *Kent* 20 Sep (AE), and a Red Phalarope at New Castle Docks, *New Castle* the same day (AE). A Brown Pelican at New Castle Docks 19 Sep (Colin Campbell) was possibly also tied to the storm.

NEW JERSEY

As New Jersey saw only moderate tropical-storm-force easterly winds (to 35–40 knots) 18–19 Sep as a result of *Isabel's* passage to the south and west, seabird sightings were limited to 19 Sep on the s. coast, where the storm's only certain Manx Shearwater, Northern Gannet, and Black-legged Kittiwake were seen, along with high numbers of Sandwich and Roseate Terns (Table 4; compiled by Michael O'Brien, m. ob.). The flocks of shorebirds seen passing along the Delaware Bay from Cape May were equally impressive: counts of hundreds of peep, several hundred Pectoral Sandpipers, and even a Baird's Sandpiper were made. Storm surges in Delaware Bay were generally 3–4 feet at the mouth of the bay and 5–6.5 feet at the head of the bay and along the Delaware R. below Philadelphia.

NEW YORK

Although most of New York state experienced comparatively moderate weather during *Isabel's* decay into a tropical, then an extratropical depression 19 Sep, the number of birds recorded as a result of the storm—both pelagic species and overland migrants—was without precedent for some areas, particularly the Finger Lakes and the s. shores of L. Ontario from Oswego to Hamlin Beach (Table 5). Birds almost certain to have come from Atlantic coastal or pelagic zones into upstate included Black-capped Petrel, Wilson's Storm-Petrel, at least one possible Band-rumped Storm-Petrel, Bridled and Sooty Terns, Black Skimmer, and (very probably) Laughing Gulls. One shearwater on the coast was the only one recorded (Table 5), along with a few Sandwich Terns. In addition, unusual records of

Table 4. Totals from seawatch at Sunset Beach, Cape May, New Jersey 19 September.

Manx Shearwater	2
Audubon's Shearwater	1
Manx/Audubon's Shearwater	1
Wilson's Storm-Petrel	1
Band-rumped Storm-Petrel	1
Band-rumped/Leach's Storm-Petrel	3
Northern Gannet	3
Red-necked Phalarope	2
Pomarine Jaeger	15
Parasitic Jaeger	9
Parasitic/Long-tailed Jaeger	1
Black-legged Kittiwake	1
Sandwich Tern	34
Roseate Tern	16
Arctic Tern	1
Black Tern	6
Bridled Tern	5
Sooty Tern	2

Table 5. Hurricane-associated birds from New York state 19–24 September.

SPECIES	No.	DATE	LOCATION	COUNTY	OBSERVERS
Black capped Petrel	2	21 Sep	Fairhaven S. P.	Cayuga	GP, BP, KM
Black capped Petrel	1	26 Sep	Syracuse	Oneida	*Cornell Lab of Ornithology
Wilson's Storm Petrel	5	19 Sep	Chautauqua L.	Chautauqua	K. Vanstrom, WD; 2 there on the 20th
Wilson's Storm Petrel	2	20 Sep	s. Cayuga L.	Tompkins	W. Hutcheson, m. ob.
Wilson's Storm Petrel	3	20 Sep	Riis Park	Queens	P. Shen
Wilson's Storm Petrel	3	21 Sep	Fairhaven S. P.	Cayuga	GP, BP, KM
Wilson's Storm Petrel	1	19 Sep	Woodlawn Beach S. P.	Erie	K. Fox
Wilson's Storm Petrel	1	20 Sep	Woodlawn Beach S. P.	Erie	MM, WD
Wilson's Storm Petrel	1	20 Sep	Athol Springs	Erie	K. Fox
Wilson's Storm Petrel	1	21 Sep	L. Champlain	Essex	Ted Murin
storm-petrel (Band rumped?)	1	21 Sep	s. Cayuga L.	Tompkins	C. Marantz, T. Lenz, P. Hosner, m. ob.
unidentified shearwater	1	19 Sep	Riis Park	Queens	P. Shen
Laughing Gull	1	19 Sep	Hamlin Beach	Monroe	WS, m. ob.
Laughing Gull	1	20 Sep	Lansing, Myer's Pt.	Tompkins	J. Wells
Laughing Gull	1	21 Sep	Fairhaven S. P.	Cayuga	KM
Laughing Gull	1	21 Sep	Hamlin Beach	Monroe	WS, MT
Bridled Tern	1	19 Sep	Shinnecock Inlet	Suffolk	P. A. Buckley T. Lauro
Bridled Tern	1	19 Sep	Hamlin Beach	Monroe	DT, J. Barry (imm.)
Bridled Tern	1	20 Sep	Hamlin Beach	Monroe	RS, DS (imm.)
Bridled Tern	1	23 Sep	Hamlin Beach	Monroe	WS, J. Bounds (imm.)
Sooty Tern	2	19 Sep	Shinnecock Inlet	Suffolk	P. A. Buckley, T. Lauro
Sooty Tern	1	19 Sep	Hamlin Beach	Monroe	DT, J. Barry et al. (juv.)
Sooty Tern	3	21 Sep	Pt. Breeze	Monroe	DT (all ads.)
Sooty Tern	1	23 Sep	Hamlin Beach	Monroe	RS, WS, J. Bounds (juv.)
Sooty/Bridled Tern	1	19 Sep	Riis Park	Queens	P. Shen, m. ob.
Black Skimmer	1	20 Sep	Oswego Harbor	Oswego	KM, GP, m. ob.

Table 6. Charadriiforms noted inland in New York during the passage of Isabel 19–20 September.

SPECIES	No.	DATE	LOCATION	COUNTY	OBSERVERS
Parasitic Jaeger	1	20 Sep	Cayuga L.	Tompkins	J. & K. Confer, C. Spagnoli
Pomarine Jaeger	1	19 Sep	Hamlin Beach	Monroe	DT, J. Barry, m. ob.
Common Tern	3	19 Sep	Cayuga L.	Tompkins	P. Hosner, T. Lenz, K. Rosenberg, m. ob.
Arctic Tern	1	19 Sep	Cayuga L.	Tompkins	P. Hosner, T. Lenz, K. Rosenberg, m. ob.
Arctic Tern	2	20 Sep	Hamlin Beach	Monroe	DT (ads.)
Red necked Phalarope	8	19 Sep	Cayuga L.	Tompkins	P. Hosner, T. Lenz, K. Rosenberg, m. ob.
Red necked Phalarope	1	19 Sep	Montezuma NWR	Cayuga	J. Fitzpatrick, SK, C. Marantz, m. ob.
Red necked Phalarope	1	20 Sep	Derby Hill	Oswego	fide BP
Red necked Phalarope	4	21 Sep	Fairhaven S. P.	Cayuga	GP, BP, KM, m. ob.
Red necked Phalarope	2	19 Sep	Buffalo	Erie	MM
Red necked Phalarope	5	20 Sep	Batavia	Genesee	J. Skelly
Red necked Phalarope	1	20 Sep	Hamlin Beach	Monroe	DT
Red Phalarope	5	19 Sep	Cayuga L.	Tompkins	P. Hosner, T. Lenz, K. Rosenberg, m. ob.
Red Phalarope	2	20 Sep	Derby Hill	Cayuga	fide BP

phalaropes, terns, jaegers, and allies were made in some upstate areas, birds that could have been entrained from coastal or pelagic areas but that also could have been grounded by the storm while on overland migration (Table 6). A Whimbrel and a Brown Pelican (see the main regional report) are less certainly included in the latter category.

Ontario Region

David H. Elder

Hurricane Isabel—only an extratropical depression by the time it reached Canada—nevertheless carried a number of interesting birds when it reached s. Ontario 19–20 Sep. The storm's gale-force winds were initially easterly on 19 Sep, but as the storm passed and winds shifted to the west-southwest later that evening and through the next few days, the e. end of L. Erie produced significant sightings of terns and tubenoses, though apparently far fewer of the latter than seen in Fran of 1996.

At Crystal Beach, Ridgeway, a probable Black-capped Petrel was seen 21 Sep, the first of the storm's birds, along with a possible Greater Shearwater (J. Lamey; no details received as yet). At Fort Erie the next morning, a distant bird could only be identified as a gadfly petrel (AW). Later in the day, several observers had good views of a Black-capped Petrel in the same area, likely the same bird (DB et al.). Another one or 2 Black-capped Petrels were observed 23 Sep at Waverly Beach (WD'A et al., m. ob.), and a dead one was found along the same beach the same day (Innis Miline, BH, EH). Individual Wilson's Storm-Petrels were seen off Van Wagners Beach at Hamilton 19 Sep (BW) and 22 Sep (DRS, AW), with singles 27 Sep off the Tip of Long Pt. (L.P.B.O.) and at Crescent Beach (A. Adamo). A dead one was found along Van Wagners Beach 27 Sep (JO, JH, JHe, BS), and another dead bird was found on a residential driveway near John E. Pierce P.P. 23 Sep (B, M&GP). Unidentified single storm-petrels were seen 19 and 22 Sep at Port Bruce (DAM).

Almost certainly carried in by Isabel, an imm. Least Tern was found at Crystal Beach 22 Sep (BH, SH), and a Sooty Tern was watched off the Tip of P.P.N.P. the same day (DJM, RJC et al.)—a first record for the Pelee area if accepted by the O.R.B.C. A possible Sooty Tern was reported from Crystal Beach, Ridgeway 21 Sep (J. Lamey; no details as yet) as well. In addition to these terns, lakewatchers saw small numbers of Pomarine and Parasitic Jaegers, all likely local birds. ☺