

PREDICTIONS OF SPECIES TO BE ADDED TO THE NEW YORK STATE CHECKLIST—v. 4.0

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As of the summer of 2010, the *Official Checklist of the Birds of New York State* stood at 475 species. Of those, only about 325 are seen in the state annually, which means that at least 150 species have occurred here as vagrants. At this point, adding a new species to the list is no easy task. A Broad-billed Sandpiper just popped into Jamaica Bay, you say? Certainly a mega-rarity on the continental level, but it's not a new addition. You found the second North American record of Azure Gallinule, and it's in New York? Well, the first happened to be here as well. Western Reef-Heron? Old news. Painted Redstart? Been done. Herald Petrel? Yawn. (Okay, maybe that doesn't warrant a yawn, but it still wouldn't be a first state record.)

Of the six most recent additions to the NYS checklist, one was only the fourth North American record of the species, another was one of only a very few individuals found east of the Mississippi River, and another was the first record of its species for the entire East Coast of North America. Nonetheless, despite the seemingly long odds, it still seems to happen just about every year, and sometimes more than once a year, that a wayward species never before seen in the state, hundreds of miles from home (or at least from where it's supposed to be), runs afoul of an alert New York birder who recognizes it for what it is.

It's a stimulating exercise and a common practice among birders to speculate which new bird species will show up in a certain place, be it a country, state, county, or simply a local patch or park. This speculation has periodically made its way into the pages of *The Kingbird*, in the form of five experienced New York State birders being polled about both the next ten species to be added to the state list and the next five new species to be added to the confirmed breeders list (Able 1983, Levine 1994, Levine 2002). Thinking along those lines, but in an attempt to make it a more inclusive exercise than the previous iterations, a larger sample of New York birders was polled for the same two questions. The individual lists were ordered from most likely to least likely to occur in the respondent's opinion, and a composite list was generated.

There are many considerations to take into account when predicting which birds will be officially added to the checklist; most of these criteria were mentioned by one or more respondents. The most important, and obvious, consideration is that the bird must actually show up in the state. While this in and of itself seems like a simple enough concept, there are several very important factors that affect the likelihood of a species appearing within our borders. Some of the most commonly mentioned are: 1) proximity of the species' normal range to New York State; 2) tendency of the species to wander

(this is often tied to the next factor); 3) whether the species is highly migratory, and how far it migrates; 4) size of the overall population of the species; and 5) noticeable temporal changes in distribution.

With these thoughts in mind it is interesting to ponder that some species which seem to be ideal candidates, according to a couple of these factors, have yet to be recorded with certainty. Carolina Chickadee, for example, breeds mere miles away from the New York State border in some places, and is a common bird with a relatively robust population. While being a good candidate for vagrancy to New York for two of the reasons mentioned above (proximity and population size/commonness), it does not fit the bill in some other respects: it doesn't show a strong tendency to wander outside of its range, and it does not undertake a long distance migration.

Conversely, some species that would not seem like ideal candidates for vagrancy to New York State, if one looks only at the distance of their normal ranges away from New York, have actually become almost annual, and occur within the state in numbers in some years. Two examples are Cave Swallow and Ash-throated Flycatcher, both of which do not "regularly" occur any closer than several hundred miles to the Southwest. These two are good examples of species that undertake long fall migrations and, especially in the last decade or two, have shown quite a tendency to wander in late autumn. Since the detected pattern of their wandering seems to be to the Northeast and during a small window of time (late October through November), it would appear that their long migrations are the principal driving factor of their vagrancy here.

An example of a small population size contributing to a lack of records is the Kirtland's Warbler. While we annually see species that undertake migrations similar to that of the Kirtland's Warbler, its population is so small that it's not just rare in the state, it's unheard of. On the other hand, several arctic-breeding goose populations have skyrocketed over the past decade or more, and we now expect to see Barnacle and Pink-footed Geese in northeastern North America every winter, almost assuredly because there are far more of them around. As for changes in distribution, Eurasian Collared-Dove was an amazing rarity in NYS just 10 years ago, but with its prodigious range expansion it is now seen here almost annually—and has even been proven to breed this year with records of young seen in Monroe County, one of its recent strongholds.

Two other extremely important factors are weather and the geography of New York. Again, Ash-throated Flycatcher and Cave Swallow can serve as good examples, as their autumn vagrancy is undoubtedly augmented by weather patterns, so that a strong southwesterly air flow will lead to greater numbers of them turning up in the state. The likelihood of different vagrant species occurring in the state changes throughout the year. While this late autumn window is best for the two southwestern long-distance migrants mentioned above, spring and late summer are the best time for southern vagrants, as we tend to see adults overshooting their spring migrations from April-June, and then wandering juveniles, or adults undergoing post-breeding dispersal from July until their migration starts. This temporal change in the probability of occurrence of different species also means that different weather patterns are

more advantageous for vagrants depending on the time of year. While a strong south wind in the spring can lead to overshoots like Fulvous Whistling-Duck or Gray Kingbird, that same wind in the fall or winter is not likely to turn up many rarities. When looking for seabirds such as shearwaters on the coast from the spring through fall, a strong easterly component to the wind always offers the best chance if given a choice. Of course, different weather patterns will prove more advantageous for different areas of the state due to New York's size and interesting geography.

The unique shape of New York State gives it an ideal situation to collect vagrants from several different directions. Northern New York is at a high enough latitude to annually attract most of the northern specialties of eastern North America, such as Bohemian Waxwing and Pine Grosbeak, and it attracts straying Northern Hawk-Owls relatively frequently. New York stretches far enough north that these species are annual or semi-annual despite the natural barriers of the St. Lawrence River and Lake Ontario. However, while Lake Ontario acts as something of a barrier to birds coming from the north, it also creates a migratory funnel along its southern and eastern shores, which produces Swainson's Hawks annually in the spring as well as interesting vagrant passerines annually. New York stretches far enough to the west that Western Meadowlark and Brewer's Blackbird are not unexpected there. Some large lakes in central New York, notably the larger Finger Lakes but also Lakes Oneida and Onondaga, have proven to be excellent traps for vagrants as well. As we go south, the Hudson River Valley has a solid history of turning up rarities, especially around land masses that protrude out into the river, such as Piermont Pier and Croton Point, the former of which produced the famous adult Ivory Gull in February 2007. Vagrant hummingbird reports for downstate seem to be clustered around the Hudson River as well, with Lenoir Preserve in Yonkers and Fort Tryon and Battery Parks in Manhattan being good spots to look for these.

The most productive area hands down, however, for vagrants in New York State is Long Island. It stretches much farther east than any other part of the State, is also at the southern tip of the state, and, of course, happens to have an extensive border with the Atlantic Ocean. Of the last eight first state records, six have come from this comparatively small piece of land and the waters surrounding it. (One of the remaining two was in Manhattan, the next closest place to Long Island in New York). Any bird getting pushed from the west over land will come to its last landfall before the un-crossable Atlantic Ocean here, and any bird coming from over the ocean to the east or southeast will encounter Long Island first. Also, many of the birds following the coast down from farther north are reluctant to continue south beyond Long Island over water, preferring instead to turn west and pass along its shores before leaving New York, giving birders ample opportunity to find them.

Of course, just because a bird is within the friendly confines of our fine state doesn't mean it will be added to the state list. Making it here against long odds is only half the battle. Equally important is that some lucky observer stumbles across it. There are undoubtedly dozens, and probably hundreds, of vagrants that pass through New York State every year without making their way

onto the permanent record, for the simple reason that nobody ever sees them. Perhaps a small portion of these can be attributed to misidentification of a rarity as a more common species (this is where the experience and awareness of the observer certainly come into play); however, this portion of misidentified birds is probably very small compared to the number that are simply never encountered by a birder or other alert observer. As you read this, it is likely that, somewhere in New York State, multiple species that are on the NYS Avian Records Committee review list are going undetected, quite possibly some that have never before been recorded in New York.

Thus, in predicting the next species to be added to the New York State checklist one must go beyond asking which species are most likely to find their way here. One must also consider strongly what areas receive the most birding coverage; a vagrant likely to wind up in a New York City park stands a much greater chance of being found (i.e., Scott's Oriole) than one that is more likely to show up in a farm field upstate, say for a random example, in Yates County, where the birding population is smaller and the ground to cover is larger. (Who knows how many McCown's Longspurs or Sprague's Pipits have passed through upstate New York, either in large flocks of more common field species, or even singly?) New York waters have undoubtedly hosted a number of species of pelagic birds that are not on the New York State list simply by virtue of there being an effective 0% coverage of the deeper waters. While it is undisputedly a great trap for migrants and vagrants alike, one of the reasons *Kingbird* Region 10 (Long Island and New York City) has had such a high percentage of first state records is certainly because of its limited suitable habitat which is covered by more birders than any other area in the state, especially compared to where extensive available habitat can be far too overwhelming to be covered by the much smaller numbers of birders in those areas.

Coverage is one of the major reasons that Cayuga Lake has such a disproportionately high number of rarities found in comparison to the other neighboring Finger Lakes. If a Magnificent Frigatebird had been winging south over Seneca Lake in the autumn of 2008, it is unlikely that it ever would have been found, especially if it didn't last until the next day like that unfortunate Cayuga Lake individual. In fact, we can't say that one DIDN'T do just that. This illustrates another important point: the longer a bird stays around, the higher the likelihood that it will be detected. That new record for the New York checklist needs to be found before it continues on its already wayward journey (not easy for birds that simply fly over and give you very little time with which to view them), or before it dies. The latter point was borne out in the occurrence of the state's first Hammond's Flycatcher, which became lunch for a Merlin barely 24 hours after being found, as well as the recent Thick-billed Murre at Hempstead Lake State Park (Nassau County) which lasted only a couple of days before dying of starvation.

Finally, an important consideration to be taken into account is whether or not a bird, once seen, will actually be added to the checklist. The modern NYS checklist had its beginnings with John Bull's milestone work, *Birds of New York* (1974) and has been a major responsibility of the New York State Avian

Records Committee (NYSARC) since its inception in 1977. For a new species to be added to the list, documentation must be submitted to NYSARC and the committee must vote to accept it. Thorough documentation is an absolute necessity for any mega-rarity, and especially for a potential first state record. There are almost certainly some species that have shown up in the state and have been seen by one or more competent observers yet are not on the state list. This is generally due to some failure in documentation, or at the very least, documentation not reaching the threshold for a new first state record. While it is certainly true that there are a number of accurate reports that haven't been accepted, there are few, if any, accepted reports that aren't accurate. This applied level of stringency is even more pronounced on first state records and documentation of these birds must be especially accurate and thorough.

Because of this acceptance factor, species that are especially difficult to identify (e.g., Carolina Chickadee and Lesser Nighthawk), or whose occurrences tend to be brief (e.g., many seabirds and migrating raptors—Ferruginous Hawk comes to mind), were probably under-represented among the predictions. The possibility of hybridization presents another hurdle, and this factor probably helps explain why Glaucous-winged Gull, to take just one example, didn't get more support from respondents.

METHODS

I solicited lists from 42 currently or formerly active New York State birders. Twenty-four people responded with lists of ten potential new additions to the NYS checklist: John Askildsen, Shawn Billerman, Shane Blodgett, Mike Bochnik, Brent Bomkamp, P. A. Buckley, Tom Burke, Mike Cooper, Willie, D'Anna, Jacob Drucker, Andrew Farnsworth, Corey Finger, Bob Gochfeld, Doug Gochfeld, Dave Klauber, Bob Kurtz, Heydi Lopes, Shai Mitra, Bob Paxton, Jim Pawlicki, Sean Sime, Bob Spahn, Dick Veit, and Scott Whittle. Of these, 18 also contributed lists of five potential new breeding species: John Askildsen, Shawn Billerman, Brent Bomkamp, P. A. Buckley, Tom Burke, Mike Cooper, Willie, D'Anna, Jacob Drucker, Andrew Farnsworth, Bob Gochfeld, Doug Gochfeld, Bob Kurtz, Shai Mitra, Bob Paxton, Sean Sime, Bob Spahn, and Dick Veit.

Two species, Trumpeter Swan and Mitred Parakeet, were disallowed. Although they may be added to the NYS checklist in the future, the naturalization of introduced populations is far from the focus of this exercise. In the same vein, subspecies that might be elevated to full species status weren't considered eligible if they have already occurred in the state (e.g., "Western" Willet). Black-bellied Whistling-Duck, Band-tailed Pigeon, Common Ground-Dove, and Hermit Warbler were allowed on the lists because requests for lists went out before the recent records of these species occurred or became known. Similarly, Mississippi Kite and Eurasian Collared-Dove were allowed on lists predicting the next five breeding species because lists were solicited before breeding was confirmed in summer 2010.

RESULTS

Collectively, the 24 lists of ten potential additions to the state list included 78 species, and the 18 lists of five potential new breeders included 33 species. For the purposes of presentation here, the popularity of each species was assessed by (a) counting the number of lists on which it was included; (b) summing the ranks assigned by each contributor who chose it, with ten (or five, for new breeders) being the rank assigned to the species considered most likely; and (c) computing the product of (a) and (b). The resulting index provided a means of balancing the counts and the rank-sums, so that species chosen on a larger number of lists, but at somewhat lower ranks, would not necessarily be ranked lower than a species chosen at very high rank on a smaller number of lists.

Little Egret was the clear favorite among potential new species, being included on 16 of 24 lists and receiving a rank-sum of 125. No other species was listed on more than 11 lists or received a rank-sum greater than 77. Table 1 presents the 21 species deemed most likely to be added to the NYS checklist, including all species named on four or more lists, and it specifies the rank, if any, assigned to each of these species by each contributor. Table 2 lists 56 additional species that were named, along with the number of lists, rank-sum, and index for each.

Mississippi Kite, Eurasian Collared-Dove, and Royal Tern led the way among potential new breeders, being named on 12-13 of the 18 lists, and receiving rank-sums of 45-55. No other species was included on more than four lists or received a rank-sum over 13. Table 3 presents the 15 species deemed NYS' most likely new breeders, including all species listed on two or more lists.

As might be expected, the lists varied greatly in terms of their degree of conformity with the overall set. Among the lists of ten new species, four lists included as few as four of the 21 species ranked highest overall, and all included at least one species not among the top 21. Among the lists of five new breeders, some included as few as two or three of the 15 highest ranked species, whereas five consisted exclusively of species in the top 15.

It was very interesting to note the different themes among many of the respondents, often correlated with where and how they approach birding, but also dependent on other factors including where they were from originally, and their age. Avid seabirders tended to be more confident that the next, if not the next few, new species would come from the scantily birded vastness of the Atlantic Ocean. Although most of the non-seabirds on the lists were species from the West, respondents with European origins or leanings were much more likely to look east. Respondents who have been birding for a shorter period of time seemed to favor some species without long histories of vagrancy, but with a recent sighting or two in the Northeast (read: Brown-chested Martin), more so than some of the people who have gone through this exercise before. Those people who scour the October and November gardens famous for pulling in vagrant hummingbirds predictably listed several hummingbird species, whereas one respondent deliberately excluded all hummingbirds in favor of species more likely to be detected away from feeders and gardens.

Table 1. Predicted additions to the New York State Checklist. Species are listed in descending order by the product of # and sum, where # is the number of votes each species received, out of 24 total, and sum = the sum of the ranks assigned to these votes, with 10 being the highest.

Species	JAs	SBI	SBI	MB	BB	PAB	TB	MC	VD	JDr	AFa	CFi	BGo	DGo	DKl	BKu	HLo	SMi	BPa	JPa	SSi	BSp	DVe	Wh	#	sum
Little Egret	4	3		9	8	10		10	3		10		3	9		9	10	9			10	8	10		16	125
Allen's Hummingbird	10	10	6	4	6	6			5			10							5				9	6	11	77
Tropical Kingbird	2	6					10	8	1		7					8	2	8						10	10	62
Black-ch. Hummingbird		9		5	7	7	7		6				10				7				8				9	66
Green Violet-Ear						9		3		3	8				5	3	6			8		4	6		10	55
Yellow-legged Gull			1			4	6		10	9						6		10	6			6			9	58
Black-bell. Whistling Duc	9		8	10	10				8				5				4		10						8	64
Hermit Warbler	8	7	10	3	2		3												2		6				8	41
European Golden-Plover			2		3					6		8		5	4		9							2	8	39
Violet-green Swallow							4	5	2					7			8	7		6					7	39
Lesser Sand-Plover		2						2			9			6	3	5				5		1			8	33
Common Ground-Dove		5	9	6										8			5				9				6	42
Brown-chested Martin			4		9							4			2					4		5			6	28
Carolina Chickadee	7							4		10			1									9			5	31
Black-browed Albatross												6	7		10				9						4	32
Kirtland's Warbler							1		9					10						10					4	30
Snowy Plover								6	7	4						10									4	27
Gray Flycatcher			3		5	8																	8		4	24
Band-tailed Pigeon		1		7	4															7					4	19
Clark's Grebe			7			3	8																	1	4	19
Fea's Petrel						2									7			6			3				4	18
conformity	6	8	9	7	9	8	7	7	9	5	4	4	5	6	6	6	8	5	5	6	5	6	4	4		

Table 2. Other species predicted to occur in New York State.

Rank	Species	#	sum	index
22	Neotropic Cormorant	3	19	57
23	Virginia's Warbler	3	19	57
24	Brown Noddy	3	18	54
25	Lesser Goldfinch	3	16	48
26	McCown's Longspur	3	14	42
27	Bean Goose	2	17	34
28	Shiny Cowbird	3	11	33
29	European Storm-Petrel	3	10	30
30	Kelp Gull	2	15	30
31	Masked Booby	2	14	28
32	Arctic Loon	2	13	26
33	Macaronesian Shearwater (<i>baroli</i>)	3	8	24
34	Great-tailed Grackle	3	7	21
35	Ferruginous Hawk	3	6	18
36	Variegated Flycatcher	3	6	18
37	Sprague's Pipit	2	9	18
38	Garganey	2	8	16
39	Mediterranean Gull	2	8	16
40	Prairie Falcon	2	8	16
41	Western Wood-Pewee	2	8	16
42	Broad-tailed Hummingbird	2	7	14
43	Cape Verde Shearwater	2	5	10
44	Bristle-thighed Curlew	1	9	9
45	Chaffinch	1	9	9
46	Gray Heron	2	4	8
47	Common Redshank	1	8	8
48	Long-toed Stint	1	8	8
49	Bermuda Petrel (Cahow)	1	7	7
50	Glaucous-winged Gull	1	7	7
51	Greater Sand-Plover	1	7	7
52	Phainopepla	1	7	7
53	Groove-billed Ani	1	6	6
54	Bronzed Cowbird	1	5	5
55	Brown-Crested Flycatcher	1	5	5
56	Bulwer's Petrel	1	5	5
57	Dusky Flycatcher	1	5	5
58	Sulphur-bellied Flycatcher	1	5	5
59	Yellow Wagtail	1	5	5
60	Elegant Tern	1	4	4
61	Eurasian Kestrel	1	4	4
62	Steller's Eider	1	4	4
63	White Wagtail	1	4	4
64	Common Greenshank	1	3	3
65	Hooded Oriole	1	3	3
66	Mottled Duck	1	3	3
67	Common Black Hawk	1	2	2
68	Cordilleran Flycatcher	1	2	2
69	Great Knot	1	2	2
70	Lesser Nighthawk	1	2	2
71	Masked Duck	1	2	2
72	Wood Pigeon	1	2	2
73	Black Swift	1	1	1
74	Black-throated Sparrow	1	1	1
75	Chiffchaff	1	1	1
76	Limpkin	1	1	1
77	Southern Lapwing	1	1	1

Table 3. Predicted new breeding species for New York State. Species are listed in descending order by the product of # and sum, where # is the number of votes each species received, out of 18 total, and sum = the sum of the ranks assigned to these votes, with 5 being the highest.

Species	JAs	SBi	BBö	PAB	TBU	MCo	WDA	JDr	AFa	BGo	DGo	BKu	SMi	JPa	BPa	SSi	BSp	DVe	#	sum
Mississippi Kite	5	5	3	5			4			5	3	5	4		5	5	5	1	13	55
Eurasian Collared-Dove		4	4	3		4	5	4	5	3	4	4		5	2		3		13	50
Royal Tern	4	3	5		5	3					5	3	5	1	3	3		5	12	45
White-faced Ibis				4					3					2	4				4	13
Lesser Black-backed Gull	1					5		3			2								4	11
Red-necked Grebe			1				2							3		2			4	8
Yellow Rail		2			4											4			3	10
Carolina Chickadee	3					1		5											3	9
Black-necked Stilt		1							1					4					3	6
Nelson's Sparrow							1						3		1				3	5
Brown Pelican										4	1								2	5
American Pipit				2	3														2	5
Scissor-tailed Flycatcher												2					3		2	5
Pine Grosbeak				1				2											2	3
Manx Shearwater					1								1						2	2
conformity	4	5	4	5	4	4	4	4	3	3	5	4	4	5	5	4	2	3		

Table 4. Other species predicted to breed in New York State.

Rank	Species	#	sum
16	Arctic Tern	1	4
17	Brewer's Blackbird	1	4
18	Little Egret	1	4
19	Eared Grebe	1	3
20	Yellow-headed Blackbird	1	2
21	Lark Sparrow	1	2
22	Great Cormorant	1	2
23	Eurasian Wigeon	1	2
24	Sandwich Tern	1	2
25	Common Redpoll	1	2
26	Swainson's Warbler	1	2
27	Solitary Sandpiper	1	2
28	Boreal Owl	1	2
29	Greater Scaup	1	1
30	Little Gull	1	1
31	Orange-crowned Warbler	1	1
32	Northern Gannet	1	1
33	Swallow-tailed Kite	1	1

So, in view of all the fore-going, one might ask, what's the single best way to predict New York's next new species? In short, there isn't one. With all the variables listed above, chance plays as big a factor as anything else. At least two of the most recent first state records are unlikely to have been on anybody's Next 10 list before they appeared, and several others would have been on only a handful of lists at the most. So, as you mull over these lists, realize that the next new bird for New York State is probably present somewhere in the state right now. In fact, there might even be one right in your neighborhood. Hey, there's only one way for you to find out....

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