

**MAINE GAP ANALYSIS VERTEBRATE DATA - PART II:
DISTRIBUTION, HABITAT RELATIONS, AND STATUS OF
BREEDING BIRDS IN MAINE**

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^a - Hunting currently not permitted.

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Introduction

A major component of gap analysis (Scott *et al.* 1993) is the predicted distributions of vertebrates occurring in a state. This is one of two volumes that documents the predicted distributions, habitat relations, and status of terrestrial (i.e., non-fish, non-marine) native vertebrates that regularly breed in Maine during the late 1980s-early 1990s. Regular breeding was defined as known, or likely, to have produced offspring in the state in at least five of the last 10 years (1984-1993). These two volumes detail the data used to define habitat relationships for the 270 vertebrate species that regularly breed in Maine, and are an integral part of the final contract report for Maine Gap Analysis (ME-GAP) (Krohn *et al.* 1998). This volume, Part II, documents the habitat and status information for the 183 species of birds. Part I covers the 17 species of amphibians, 16 reptiles, and 54 species of mammals analyzed in ME-GAP.

It is important to note that these data were assembled to conduct statewide and regional analyses of biodiversity in terms of the presence and absence of species. This information was not intended for estimating abundance or the health or condition of populations. Emphasis was placed on synthesizing information on species-habitat relations from studies conducted in (by order of priority) Maine, New England and eastern Canada, the Great Lakes region, and anywhere in North America within the species' range. We believe the studies from Maine and eastern North America to be reasonably complete, with some exceptions (e.g., habitat relations of raptors are poorly known), but given the rapidly expanding literature on species-habitat relations, we undoubtedly missed some studies, especially more recent ones.

Information Provided

The information is arranged in two volumes (Part I = amphibians, reptiles, and mammals; Part II = breeding birds), with species arranged in taxonomic order. Information for each species is presented on two pages as follows:

First Page

Common and scientific names: Names for birds came from a list maintained by The Nature Conservancy (TNC) (see <http://www.consci.tnc.org/src/zoodata.htm>).

Element code: A unique letter and number code, adapted from TNC.

ME-GAP code: A four letter code used by ME-GAP; developed before **Element codes**.

Order/ Family: Standard taxonomic groupings that show evolutionary relatedness.

Breeding range change: The overall distribution of a species, known as its range, does change. Sometimes these changes are slow, in some cases changes can be rapid. Ranges can expand,

contract, and even vary between expansion and contractions. We used a descriptor as to whether the species breeding range in Maine was increasing, decreasing, stable, or unknown from the mid-1980s through the mid-1990s. Because birds are visible and relatively well studied, a fair amount is known about range changes in birds, although the underlying causes of these changes is often uncertain (e.g., are Northern Cardinals^a expanding their range in Maine because of winter feeding, climate change, or a combination?).

Listing status: Listed as Endangered or Threatened with extinction by the US Fish and Wildlife Service (**F** = Federal), Maine Department of Inland Fisheries and Wildlife (MDIFW) (**S** = State), or both (**F,S**).

Migratory status: Seasonal movements between breeding and wintering ranges are characterized as follow: Neotropical Migrant = nests in Maine, winters in Central and/or South America; US Migrant = nests in Maine, winters in the southern USA; Local Migrant = nests in Maine and winters in a different location in Maine (e.g., nests in freshwater wetlands and winters along the coast); and Resident = nests and winters in generally the same areas within Maine. Some species have more than one status as migratory behavior can differ among individuals within a species.

Game species: This was a “Yes” or “No” depending upon whether or not hunting of the species is allowed.

Population level: This descriptor was an attempt to qualitatively represent a species relative abundance, comparing abundances of species within general groups within Maine (i.e., birds of prey, song birds, water birds). For example, we consider the Great-horned Owl to be “common” relative to other large birds even though their absolute numbers are much lower than, say, Black-capped Chickadees.

Population trend: Population trends (i.e., increasing, decreasing, or stable) are fairly well known for birds, especially game species and those species well sampled by the USGS Biological Resources Division’s Breeding Bird Survey (BBS) (Robbins *et al.* 1986).

Heritage ranks: Originally from TNC, these ranks are used by state Heritage Programs to indicate conservation concern. In Maine, ranks for animals are assigned by the MDIFW (The Maine Natural Areas Program, Department of Conservation, assigns ranks for plants). Ranks represent the level of risk of extinction for each species in terms of rangewide (i.e., global) and statewide distributions. Scores may begin with a **G**, representing a **global** rank, or an **S**, representing a **statewide** code. To these are added “element ranks,” with definitions as follows:

- 1** = Critically imperiled in Maine because of extreme rarity (five or fewer occurrences of very few remaining individuals), or because some aspect of its biology makes it especially vulnerable to extirpation from the state of Maine.

^a - See Species Information for scientific names.

- 2** = Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals), or because of other factors making it vulnerable to further decline.
- 3** = Rare in Maine (on the order of 20-100 occurrences).
- 4** = Apparently secure in Maine.
- 5** = Demonstrably secure in Maine.
- S?** = Element is not yet ranked in the state. [“?” is also used as a qualifier after a numeric rank (i.e., **S1?**) to denote inexactness or uncertainty of the numeric value (status); the “?” always qualifies the character immediately preceding it in the **Srank**.]
- A** = Accidental in Maine, including species that only sporadically breed in Maine.
- B*** = Qualifier that notes the species breeds in Maine.
- E** = An exotic species established in Maine; may be native elsewhere in North America.
- N*** = Qualifier that notes the species does not breed in Maine.
- PB** = Potential breeder in Maine but no occurrences reported.
- U** = Possibly in peril in Maine, but status uncertain; need more information.
- Z** = Regularly passes through Maine but enduring, mappable occurrences cannot be defined; this rank pertains only to migrant animals.

* - Two “**S**-ranks” are given for some species (e.g., S4N,S5B). One rank represents the status of the migratory population that uses Maine for a significant portion of its life history, but does not breed in Maine. The other rank reflects the status of the population that breeds in Maine. Codes are listed in numeric order (i.e., S4B before S5N).

Knowledge: A subjective statement by us as to how adequate we believed available information to be for modeling the habitat relations of a species. A high rank does not imply our overall knowledge of a species is high, only that the information used in this document is reasonably good. Even for the most common species such as the American Crow or Ruffed Grouse, many questions remain about their ecology.

General habitats used: A written description of the habitats used by a species. Special attention was given to including habitats used for breeding (i.e., critical to the species’

survival) and feeding (i.e., critical to the individual's survival).

Specific habitats used: Habitats that were known to be needed for a particular part of a species' life cycle (i.e., cavities to raise young) are mentioned here.

Comments: Included here are notes on those biological issues unique to a species that may relate as to whether or not a species should be included in ME-GAP (e.g., questions as to taxonomic uniqueness, introductions versus re-introductions), and special features of habitat models (i.e., predicted Bald Eagle habitats centered on known nest locations).

Predicted habitat quantities: A table that shows habitat amounts (ha) for the 37 habitats and land cover classes used in ME-GAP, regardless of use (for definitions of habitat and land use classes, see Appendix 1 in Krohn *et al.* [1998]). Habitats that we considered the species to use are shown as a normal font, whereas those habitats we considered unlikely to be used by the species are shown in a smaller italic font. Having areas included in predicted distribution for habitats that were considered unsuitable may seem inappropriate, but consider how the maps were produced. We believe that modeling species at 30 m resolution (the full resolution of the habitat map) would use excessive computer time without helping to improve our understanding of species statewide distributions in Maine. The accuracy of the habitat map increases at coarser resolutions, to a point (Hepinstall *et al.*, In Preparation), our knowledge of the spatial relations of species is not refined enough to warrant such precision, and finally, almost all species we modeled are sufficiently mobile that their home range would include more than one 30 x 30 m cell. We therefore generalized the predicted distributions to 90 x 90 m, reducing the computer time to process species approximately 9-fold. Habitats were rated as to their value to species at 30 m resolution, and only after habitats had been scored as used or unused, the predicted distribution of the species was generalized to 90 m cells. During subsequent analyses conducted to create the tables shown, the predicted distribution grids were overlaid upon the original habitat map. Each 90 x 90 m cell overlaid nine 30 x 30 m cells, including some cell that were *not habitats used by the species*. The algorithms used ensure that the majority of the 9 cells (i.e., a BLOCKMAJORITY command in GRID) are used by the species, but some may not be. The non-used habitats that fall within these 90 m cells yields area estimates for the habitats shown in italics. Most of the areas for habitats shown as non-used are small relative to the quantities of habitat judged used, as expected from an artifact of generalizing the edges of landscape patches. For habitat types that are extremely fragmented, however, the quantity may be large. As an example, the values for individual patches of grasslands in Maine are typically very small. While grassland patches may be small, with much of their relative area near a forest or other used habitat, the total area estimated to be used can be high.

Second Page

This page consists of three maps, two smaller maps showing the range (i.e., general) distribution of a species in Maine (lower right) and the region (upper left), and a page-sized map showing the prediction distribution in Maine (i.e., black = presence, white = absence). General descriptions as to how these predictions were made follow.

Species ranges

Ranges were initially defined by township boundaries using DeGraaf and Rudis (1986) to place the initial line of occupied versus unoccupied geographic areas. Atlas data from Adamus (1987) and observation data from the Maine Department of Inland Fisheries and Wildlife, were used to modify these initial lines. Literature from Maine, as well as atlas data from New Hampshire (Foss 1994), New Brunswick (Erskine 1992), and Quebec (Gauthier and Aubry 1996), were especially useful in determining how range limits from Maine fit into the regional picture. Once the readily available sources of information were exhausted, the range limits from townships were turned into smooth lines. Range maps for each vertebrate species (as well as the habitat relationships information we had synthesized) were sent-out for review. Review comments were incorporated and final range maps stored as raster ARC/INFO grids. The accuracy of our range limits was tested against ranges calculated from BBS data (Boone 1996). Of 80 species with range limits in Maine, 47 had adequate BBS data. The median error between observed and calculated ranges was 8 %; when disagreement (i.e., under and over estimates averaged together) was considered, the error was only 4 % (Boone 1996). Because we realize that range limits are dynamic (Hengeveld 1992), but had no way to map this variation, we tried to capture this variation of a species' range with a statement in **Breeding range change** (see above), and by blurring the range edge in the predicted distributions (see below).

Predicted distributions

Our first task in predicting the distributions of Maine's terrestrial vertebrates was to build a database that defined for each species what habitats were and were not used (i.e., species-habitat relations). The database that was developed considered breeding and feeding habitats and assigned a level of use by each vertebrate species to 47 habitat types. The database was constructed as species-specific matrices based on technical literature (Appendices 1 and 2) and expert review of the species-habitat matrices. As in the case of range delineation, DeGraaf and Rudis (1986) was the starting point for our species-habitat relations database. In addition to relating the occurrence of terrestrial vertebrates to habitats, we also used elevation, hydrology, and National Wetlands Inventory wetland types as ancillary data when appropriate. These data were available in digital form, were statewide coverages, and were variables commonly referred to in species-habitat studies.

The goal of each species-habitat model was to identify areas of Maine where a given vertebrate species had a reasonable chance of occurring. Thus, we selected for the model those habitat considered to be suitable for each species, than where appropriate reduced the habitats potentially used with ancillary data. For example, the Wood Duck uses tree cavities for nest sites although they are essentially a wetland specialist. Thus, forests ≥ 200 m from rivers, lakes, and ponds, and ≥ 50 m from streams, were excluded as potential breeding habitat. An example species-habitat model, in computer form, is shown in Appendix 5 of Krohn *et al.* (1998), and the modeling procedure in general is discussed in more detail in Methods under Predicted Animal Species

Distributions and Species Richness in Krohn *et al.* (1998).

Range limits were defined as lines whereas in reality the abundances of species across a landscape, given the way animal populations reproduce and die, function as an ever changing set of probabilities of occurrences (and not merely as simple “0s” [absent] and “1s” [present]). To keep our predicted vertebrate distributions from having sharp range edges, we blurred the predicted distributions 3 to 50 km from the range limit, depending upon rarity and mobility of species. For example, a rare species with a patchy distribution may have had only a large enough range where 3 km could be blurred. In contrast, more mobile species that were widely distributed across Maine may have their range edges blurred along a 50 km buffer. Habitat patches that were deleted in the buffer (i.e., blurr) zone at the edge of a species’ range were randomly selected, with the selection probability stratified by the quality of the habitat for the species (see Krohn *et al.* 1998).

To test our predicted vertebrate distributions, we compared our results to those obtained from field inventories. We had 10 test sites distributed statewide, five with long-term (>> 10 years), and five with short-term (0 = 5 years) field observations. On the five checklist sites, rates of omission, the percentage of bird species present in field data but not in the ME-GAP predictions, had a median (range) of only 0.7 % (0-3 %). Commission errors, the percentage of species predicted to be present but not occurring in the field data, on the checklist sites were considerably higher, being 34 % (17-70 %). Because commission errors were higher on test sites with short-versus long-term field data, and rates were higher for species with low versus high Likelihood of Occurrence Ranks (Boone and Krohn, In Press), we suspect more of this error to be due to incomplete field inventories (i.e., sites not inventoried long enough, inadequate methods used for some species [e.g., waterbirds, raptors]) and a restrictive definition of “confirmed breeder” on the checklists than to over-prediction of the ME-GAP species-habitat models (although some over-prediction did occur). For additional details on testing the predicted vertebrate occurrences, see Accuracy Assessment under Predicted Animal Distributions and Species Richness in Krohn *et al.* (1998).

Disclaimer

Although these data have been processed successfully on a computer system at the USGS Biological Resources Division (BRD), no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies to individual use of the data and aggregate use with other data. It is strongly recommended that these data are directly acquired from a BRD server (see **Obtaining GAP Data** below) and not indirectly through other sources which may have changed the data in some way. It is also strongly recommended that careful attention be paid to the content of the metadata file associated with these data. The USGS BRD shall not be held liable for improper or incorrect use of the data described and/or contained herein.

These data were compiled with regard to the following standards. Please be aware of the limitations of the data. These data are meant to be used at a scale of 1:100,000 or smaller (such as 1:250,000 or 1:500,000) for the purpose of assessing the conservation status of animals and vegetation types over large geographic regions. The data may or may not have been assessed for statistical accuracy. Data evaluation and improvement may be ongoing. The USGS Biological Resources Division makes no claim as to the data's suitability for other purposes. This is a writable data which may have been altered from the original product if not obtained from a designated data distributor identified above.

Obtaining GAP data

The National Gap Analysis Program has a Gap Analysis home page which can be accessed through the following address: <http://www.gap.uidaho.edu/gap>. ME-GAP data, as well as data from Gap Analysis projects of other states, is available from this web site.

References

Appendix 1 contains the general (i.e., covers multiple species), forest management, and group-specific references used to determine the habitat relations of breeding birds in Maine. Appendix 2 contains the species-specific references used in ME-GAP. Readers can judge for themselves the adequacy of this information for the purposes at hand (i.e., defining status and species-habitat relations) by studying those references cited here for the species, or species groups, of interest.

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COMMON LOON (*Gavia immer*)

Element code: BNBA0103

ME-GAP code: GAIM

Order: Gaviiformes

Family: Gaviidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4S5B,S4S5N

Knowledge: Good

General habitats used: Common Loons are most common on large lakes, rivers, and marshes, but usually only one pair per water body, unless it is very large, with several bays. Although associated with deep, less productive lakes (likely the clear water helps in catching fish), loons and broods tend to feed in the shallow water (1.1 to 2 m). Nests are placed in marshy coves, wetlands at inlets or outlets, deadwaters of streams up to 800 m from lakes, or on lake islands. Subadults summer, and adults winter, along the coast.

Specific habitats used: A long stretch of open water is required by loons to become airborne. Lakes or rivers with minimum human disturbance are selected by Common Loons.

Comments:

Predicted habitat quantities:

COMMON LOON				Total in ha: 565,617	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,562</i>	Fresh emergent	25,528
Abandoned field	579	Heavy partial cut	<i>1,806</i>	Peatland	2,186
Blueberry field	372	Deciduous forest	<i>9,910</i>	Wet meadow	2,913
Grassland	8,314	Decid./Conif. forest	<i>18,010</i>	Salt aquatic bed	1,227
Crops/Ground	1,741	Conif./Decid. forest	<i>41,039</i>	Salt emergent	4,663
Developed lands		Coniferous forest	<i>23,215</i>	Mudflat	1,996
Sparse residential	2,112	Wetlands		Sand shore	152
Dense residential	995	Deciduous forested	<i>4,747</i>	Gravel shore	2,769
Urban/Industrial	47	Coniferous forested	<i>12,971</i>	Rock shore	2,552
Highways/Runways	29	Dead-forested	<i>211</i>	Shallow water	3,958
Forestlands		Decid. shrub-scrub	<i>15,004</i>	Open water	359,966
Clearcut	2,065	Conifer. shrub-scrub	<i>1,487</i>	Other	
Early regeneration	7,191	Dead shrub-scrub	<i>10</i>	Alpine tundra	12
Late regeneration	4,151	Fresh aquatic bed	<i>55</i>	Exposed rock/Talus	72

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PIED-BILLED GREBE (*Podilymbus podiceps*)

Element code: BNCA0201

ME-GAP code: POPO

Order: Podicipediformes

Family: Podicipedidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Pied-billed Grebes inhabit fertile wetlands, heavy vegetated ponds, marshes, marshy inlets, slow moving streams with vegetation, farm ponds, and flooded queries. The type of vegetation present appears not important, only that aquatic or emergent vegetation be present, with a diverse mixture selected. Grebes are rare on ponds that are less than 5 ha (12.4 acres).

Specific habitats used: Some open water is needed by Pied-billed Grebes to take flight, and some vegetation is required for food and cover.

Comments:

Predicted habitat quantities:

PIED-BILLED GREBE				Total in ha: 531,767	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,836</i>	Fresh emergent	26,059
Abandoned field	<i>671</i>	Heavy partial cut	<i>2,230</i>	Peatland	2,296
Blueberry field	<i>411</i>	Deciduous forest	<i>10,906</i>	Wet meadow	7,736
Grassland	<i>9,735</i>	Decid./Conif. forest	<i>19,975</i>	Salt aquatic bed	1,183
Crops/Ground	<i>2,182</i>	Conif./Decid. forest	<i>46,746</i>	Salt emergent	4,629
Developed lands		Coniferous forest	<i>25,752</i>	Mudflat	1,939
Sparse residential	<i>2,203</i>	Wetlands		Sand shore	137
Dense residential	<i>1,046</i>	Deciduous forested	<i>5,490</i>	Gravel shore	917
Urban/Industrial	<i>45</i>	Coniferous forested	<i>14,732</i>	Rock shore	1,289
Highways/Runways	<i>33</i>	Dead-forested	<i>239</i>	Shallow water	4,825
Forestlands		Decid. shrub-scrub	<i>18,713</i>	Open water	300,905
Clearcut	<i>2,453</i>	Conifer. shrub-scrub	<i>1,523</i>	Other	
Early regeneration	<i>7,943</i>	Dead shrub-scrub	<i>10</i>	Alpine tundra	16
Late regeneration	<i>4,828</i>	Fresh aquatic bed	<i>57</i>	Exposed rock/Talus	78

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN BITTERN (*Botaurus lentiginosus*)

Element code: BNGA0102

ME-GAP code: BOLE

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant

Game species: No

Population level: Common

Population trend: Unknown, but probably stable

Heritage ranks: G4 . . S4B

Knowledge: Adequate

General habitats used: American Bitterns are shoreline waders, most common on fresh water marshes that have broad-leaved emergent, and aquatic bed vegetation. Marshes, swamps, or bogs with tall vegetation (esp. cattails) and relatively little human disturbance are used. Although bittern densities are positively related to wetland size, bitterns will use small wetlands. American Bitterns will also occur in drier fields, such as hay fields, and in wet willow or alder thickets.

Specific habitats used: Tall wetland vegetation and low levels of human disturbance are used by American Bitterns.

Comments:

Predicted habitat quantities:

AMERICAN BITTERN				Total in ha: 369,297	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	2,709	Fresh emergent	28,812
Abandoned field	863	Heavy partial cut	3,416	Peatland	2,564
Blueberry field	444	Deciduous forest	16,397	Wet meadow	8,230
Grassland	13,207	Decid./Conif. forest	30,375	Salt aquatic bed	1,164
Crops/Ground	2,848	Conif./Decid. forest	64,270	Salt emergent	4,727
Developed lands		Coniferous forest	31,842	Mudflat	1,939
Sparse residential	2,547	Wetlands		Sand shore	135
Dense residential	1,160	Deciduous forested	7,480	Gravel shore	963
Urban/Industrial	43	Coniferous forested	23,082	Rock shore	1,290
Highways/Runways	41	Dead-forested	382	Shallow water	4,291
Forestlands		Decid. shrub-scrub	24,952	Open water	64,762
Clearcut	3,395	Conifer. shrub-scrub	1,925	Other	
Early regeneration	11,803	Dead shrub-scrub	10	Alpine tundra	44
Late regeneration	7,015	Fresh aquatic bed	66	Exposed rock/Talus	104

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

LEAST BITTERN (*Ixobrychus exilis*)

Element code: BNGA0201

ME-GAP code: IXEX

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US Migrant

Game species: No

Population level: Rare

Population trend: Unknown

Heritage ranks: G5 . . S2B

Knowledge: Best guess

General habitats used: Least Bitterns inhabit densely vegetated marshes, ponds, rivers, swamps, bogs, and slow moving streams with marshy vegetation. Brackish marshes may be used. Dense cattail marshes may be selected. Large cattail marshes may be selected, but wetlands of any size will be used. Least Bitterns nest over water, usually singly but sometimes in small groups. Bitterns may be more common than surveys suggest.

Specific habitats used: Water levels within marshes or ponds must be relatively stable during the nesting season for Least Bitterns to successfully nest. With rapidly changing water levels, nests are flooded.

Comments:

Predicted habitat quantities:

LEAST BITTERN				Total in ha: 77,671	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	497	Fresh emergent	14,588
Abandoned field	296	Heavy partial cut	624	Peatland	343
Blueberry field	235	Deciduous forest	2,389	Wet meadow	419
Grassland	5,781	Decid./Conif. forest	6,212	Salt aquatic bed	2,283
Crops/Ground	829	Conif./Decid. forest	13,741	Salt emergent	5,321
Developed lands		Coniferous forest	4,755	Mudflat	3,403
Sparse residential	719	Wetlands		Sand shore	415
Dense residential	373	Deciduous forested	1,843	Gravel shore	2
Urban/Industrial	20	Coniferous forested	1,882	Rock shore	52
Highways/Runways	10	Dead-forested	90	Shallow water	2,125
Forestlands		Decid. shrub-scrub	3,462	Open water	1,163
Clearcut	945	Conifer. shrub-scrub	143	Other	
Early regeneration	1,116	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	1,517	Fresh aquatic bed	53	Exposed rock/Talus	26

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GREAT BLUE HERON (*Ardea herodias*)

Element code: BNGA0401

ME-GAP code: ARHE

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant; Local migrant

Game species: No

Population level: Common

Population trend: Gradual decline

Heritage ranks: G5 . . S4B

Knowledge: Good

General habitats used: Great Blue Herons are shallow water waders, feeding in wetlands and aquatic habitats, including marshes, streams, ponds, lakes, and bays. In Maine, herons are more likely to use large wetlands than small, and with more open water and vegetation. Herons will also feed in wet meadows or pastures. Herons nest in large trees, often in colonies, up to 30 km from feeding sites. Coastal colonies are more distant from towns and other colonies than might be expected by chance. The coastal colony size (i.e., number of nests) correlates with acres of wetlands within feeding radius.

Specific habitats used: Tall trees are required for nesting by Great Blue Herons. However, nest trees may be distant (# 30 km) from feeding sites.

Comments:

Predicted habitat quantities:

GREAT BLUE HERON				Total in ha: 2,155,649	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	22,087	Fresh emergent	61,052
Abandoned field	5,521	Heavy partial cut	<i>20,143</i>	Peatland	42,276
Blueberry field	<i>1,845</i>	Deciduous forest	117,123	Wet meadow	13,850
Grassland	100,421	Decid./Conif. forest	220,933	Salt aquatic bed	3,178
Crops/Ground	<i>13,273</i>	Conif./Decid. forest	486,565	Salt emergent	6,236
Developed lands		Coniferous forest	271,874	Mudflat	3,340
Sparse residential	<i>11,393</i>	Wetlands		Sand shore	407
Dense residential	<i>2,901</i>	Deciduous forested	63,301	Gravel shore	2,536
Urban/Industrial	<i>109</i>	Coniferous forested	342,286	Rock shore	2,884
Highways/Runways	<i>104</i>	Dead-forested	2,379	Shallow water	12,186
Forestlands		Decid. shrub-scrub	118,897	Open water	<i>60,356</i>
Clearcut	<i>21,384</i>	Conifer. shrub-scrub	13,838	Other	
Early regeneration	<i>63,412</i>	Dead shrub-scrub	40	Alpine tundra	<i>69</i>
Late regeneration	<i>47,063</i>	Fresh aquatic bed	115	Exposed rock/Talus	<i>272</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SNOWY EGRET (*Egretta thula*)

Element code: BNGA0603

ME-GAP code: EGTH

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Rare

Population trend: Gradual increase, due to range expansion

Heritage ranks: G5 . . S3B

Knowledge: Adequate

General habitats used: Snowy Egrets feed along the edges of marshes, meadows, ponds, lakes, and shallow bays and coves. Egrets will sometimes feed in fields and on beaches. These birds are colonial breeders, nesting in trees near feeding sites. Nesting colonies are often associated with existing colonies of other species (e.g., Great Blue Herons).

Specific habitats used: Trees are generally required for nesting colonies of Snowy Egrets.

Comments:

Predicted habitat quantities:

SNOWY EGRET				Total in ha: 93,631	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>168</i>	Fresh emergent	2,084
Abandoned field	81	Heavy partial cut	86	Peatland	164
Blueberry field	<i>1</i>	Deciduous forest	2,610	Wet meadow	279
Grassland	16,443	Decid./Conif. forest	12,019	Salt aquatic bed	902
Crops/Ground	<i>490</i>	Conif./Decid. forest	15,631	Salt emergent	4,616
Developed lands		Coniferous forest	10,561	Mudflat	6,947
Sparse residential	593	Wetlands		Sand shore	110
Dense residential	<i>175</i>	Deciduous forested	4,889	Gravel shore	15
Urban/Industrial	<i>13</i>	Coniferous forested	3,812	Rock shore	138
Highways/Runways	<i>2</i>	Dead-forested	81	Shallow water	625
Forestlands		Decid. shrub-scrub	2,172	Open water	6,994
Clearcut	<i>192</i>	Conifer. shrub-scrub	134	Other	
Early regeneration	<i>261</i>	Dead shrub-scrub	0	Alpine tundra	<i>0</i>
Late regeneration	<i>306</i>	Fresh aquatic bed	11	Exposed rock/Talus	<i>26</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

LITTLE BLUE HERON (*Egretta caerulea*)

Element code: BNGA0604

ME-GAP code: HYCA

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Rare

Population trend: Unknown

Heritage ranks: G5 . . S1B

Knowledge: Best guess

General habitats used: Little Blue Herons nest in small trees or shrubs, usually over or near water. Little Blue Herons feed at the edges of marshes, meadows, ponds, or lakes, and along the vegetated shores of streams. They also will feed in pastures and fields. These herons are more common at sites with fresh or brackish water than salt water.

Specific habitats used:

Comments:

Predicted habitat quantities:

LITTLE BLUE HERON				Total in ha: 67,505	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	352	Fresh emergent	1,323
Abandoned field	0	Heavy partial cut	61	Peatland	254
Blueberry field	2	Deciduous forest	1,128	Wet meadow	125
Grassland	10,101	Decid./Conif. forest	14,118	Salt aquatic bed	107
Crops/Ground	160	Conif./Decid. forest	13,091	Salt emergent	2,163
Developed lands		Coniferous forest	3,617	Mudflat	1,034
Sparse residential	304	Wetlands		Sand shore	83
Dense residential	213	Deciduous forested	8,435	Gravel shore	1
Urban/Industrial	22	Coniferous forested	5,229	Rock shore	2
Highways/Runways	0	Dead-forested	48	Shallow water	428
Forestlands		Decid. shrub-scrub	2,299	Open water	1,682
Clearcut	235	Conifer. shrub-scrub	246	Other	
Early regeneration	461	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	155	Fresh aquatic bed	2	Exposed rock/Talus	23

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CATTLE EGRET (*Bubulcus ibis*)

Element code: BNGA0701

ME-GAP code: ARIB

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Rare

Population trend: Gradual increase, due to range expansion

Heritage ranks: G5 . . S1B

Knowledge: Adequate

General habitats used: Cattle Egrets immigrated naturally to Maine in the early 1980's, but are limited to the extreme southern part of Maine. Egrets feed in wet fields (often associated with cattle), marshes, damp pastures, lawns, and meadows. These colony nesters generally nest on islands containing deciduous or coniferous shrubs and trees that are near, or overhanging, water or wetlands.

Specific habitats used:

Comments: Cattle Egrets moved naturally from Africa to South America, and then moved rapidly northward.

Predicted habitat quantities:

CATTLE EGRET				Total in ha: 130,398	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	835	Fresh emergent	1,437
Abandoned field	0	Heavy partial cut	142	Peatland	259
Blueberry field	20	Deciduous forest	4,875	Wet meadow	141
Grassland	32,730	Decid./Conif. forest	30,049	Salt aquatic bed	163
Crops/Ground	1,291	Conif./Decid. forest	24,193	Salt emergent	1,699
Developed lands		Coniferous forest	6,834	Mudflat	859
Sparse residential	1,762	Wetlands		Sand shore	103
Dense residential	514	Deciduous forested	9,288	Gravel shore	2
Urban/Industrial	84	Coniferous forested	5,448	Rock shore	2
Highways/Runways	0	Dead-forested	58	Shallow water	460
Forestlands		Decid. shrub-scrub	2,431	Open water	2,468
Clearcut	562	Conifer. shrub-scrub	265	Other	
Early regeneration	864	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	477	Fresh aquatic bed	4	Exposed rock/Talus	79

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GREEN HERON (*Butorides virescens*)**Element code:** BNGA0801**ME-GAP code:** BUST**Order:** Ciconiiformes**Family:** Ardeidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** US migrant**Game species:** No**Population level:** Uncommon**Population trend:** Gradual decline**Heritage ranks:** G5 . . S3S4B**Knowledge:** Adequate

General habitats used: Green Herons breed along the forested edges of slow moving streams and ponds, marshes, wooded swamps, wet meadows, and flooded alder thickets. These herons will nest either singly or in small colonies, usually in conifer shrubs, but all types of shrubs may be used. Nests are usually near water, but not always. Submerged logs or tussock patches are used for hunting and perching. Green Herons use larger wetlands than would be expected by chance.

Specific habitats used:**Comments:****Predicted habitat quantities:**

GREEN HERON				Total in ha: 1,344,503	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	7,579	Fresh emergent	27,022
Abandoned field	2,025	Heavy partial cut	6,570	Peatland	17,878
Blueberry field	1,264	Deciduous forest	109,791	Wet meadow	6,838
Grassland	33,180	Decid./Conif. forest	209,870	Salt aquatic bed	6,141
Crops/Ground	4,824	Conif./Decid. forest	443,992	Salt emergent	7,128
Developed lands		Coniferous forest	188,268	Mudflat	16,804
Sparse residential	5,126	Wetlands		Sand shore	1,072
Dense residential	1,524	Deciduous forested	38,145	Gravel shore	265
Urban/Industrial	34	Coniferous forested	107,869	Rock shore	866
Highways/Runways	42	Dead-forested	1,337	Shallow water	4,770
Forestlands		Decid. shrub-scrub	44,830	Open water	9,899
Clearcut	5,877	Conifer. shrub-scrub	4,516	Other	
Early regeneration	11,292	Dead shrub-scrub	15	Alpine tundra	0
Late regeneration	17,669	Fresh aquatic bed	82	Exposed rock/Talus	97

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-CROWNED NIGHT HERON (*Nycticorax nycticorax*)

Element code: BNGA1101

ME-GAP code: NYNY

Order: Ciconiiformes

Family: Ardeidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Uncommon

Population trend: Rapid increase, perhaps from DDT recovery

Heritage ranks: G5 . . S2B

Knowledge: Adequate

General habitats used: Black-crowned Night Herons nest in coniferous or deciduous trees, such as oaks, larches, spruce, cherries, maples, and white pines, usually near water but sometimes well away from it. They also will nest in cattail marshes or among reeds. Black-crowned Night Herons feed in salt or freshwater marshes, estuaries, tidal mud flats, or on streams, ponds, and lakes. Fields and meadows are occasionally used for feeding.

Specific habitats used:

Comments:

Predicted habitat quantities:

BLACK-CROWNED NIGHT-HERON				Total in ha: 518,878	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	3,956	Fresh emergent	8,719
Abandoned field	542	Heavy partial cut	1,890	Peatland	4,004
Blueberry field	362	Deciduous forest	35,178	Wet meadow	1,239
Grassland	14,123	Decid./Conif. forest	91,374	Salt aquatic bed	4,913
Crops/Ground	3,366	Conif./Decid. forest	150,675	Salt emergent	6,292
Developed lands		Coniferous forest	88,662	Mudflat	14,152
Sparse residential	2,709	Wetlands		Sand shore	813
Dense residential	804	Deciduous forested	15,426	Gravel shore	10
Urban/Industrial	28	Coniferous forested	37,189	Rock shore	260
Highways/Runways	11	Dead-forested	557	Shallow water	1,949
Forestlands		Decid. shrub-scrub	14,348	Open water	3,385
Clearcut	1,502	Conifer. shrub-scrub	972	Other	
Early regeneration	4,395	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	4,873	Fresh aquatic bed	74	Exposed rock/Talus	126

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GLOSSY IBIS (*Plegadis falcinellus*)**Element code:** BNGE0201**ME-GAP code:** PLFA**Order:** Ciconiiformes**Family:** Threskiornithidae**Breeding range change:** Expanding**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Uncommon**Population trend:** Stable**Heritage ranks:** G5 . . S2B**Knowledge:** Best guess

General habitats used: Glossy Ibises feed in flooded fields, the shallow water of ponds, in shallow brackish water, or on mud flats. These ibises are colonial nesters, nesting in mixes of shrubs within marshes and swamps. Sometimes the nests are overhanging water.

Specific habitats used:**Comments:****Predicted habitat quantities:**

GLOSSY IBIS				Total in ha: 16,338	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	43	Fresh emergent	549
Abandoned field	0	Heavy partial cut	3	Peatland	109
Blueberry field	0	Deciduous forest	19	Wet meadow	60
Grassland	699	Decid./Conif. forest	855	Salt aquatic bed	113
Crops/Ground	17	Conif./Decid. forest	972	Salt emergent	1,895
Developed lands		Coniferous forest	302	Mudflat	952
Sparse residential	95	Wetlands		Sand shore	91
Dense residential	49	Deciduous forested	3,870	Gravel shore	2
Urban/Industrial	11	Coniferous forested	2,902	Rock shore	6
Highways/Runways	0	Dead-forested	28	Shallow water	215
Forestlands		Decid. shrub-scrub	1,047	Open water	1,175
Clearcut	46	Conifer. shrub-scrub	95	Other	
Early regeneration	99	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	9	Fresh aquatic bed	2	Exposed rock/Talus	6

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CANADA GOOSE (*Branta canadensis*)

Element code: BNJB0503

ME-GAP code: BRCA

Order: Anseriformes

Family: Anatidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, after being introduced

Heritage ranks: G5 . . S4N,S5B

Knowledge: Good

General habitats used: In Maine, Canada Geese generally nest on the ground (rarely in elevated perches) on islands in lakes, lake shores, ponds, and estuaries, usually within 3 m of water. They feed on vegetation and fruits in many habitats, including in salt marshes, fields, pastures, residential areas, and on the submerged vegetation in lakes, ponds, and shallow bays. Heavily forested areas, and small fields, are not used.

Specific habitats used: Canada Geese select isolated nest sites, with grassy areas nearby for raising broods.

Comments: Canada Geese are not native to Maine, although they are to nearby regions. They were introduced into the state in the 1960's as a breeding species by the Maine Department of Inland Fisheries and Wildlife.

Predicted habitat quantities:

CANADA GOOSE				Total in ha: 1,582,193	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	8,805	Fresh emergent	39,095
Abandoned field	8,720	Heavy partial cut	10,869	Peatland	37,891
Blueberry field	2,446	Deciduous forest	53,350	Wet meadow	9,871
Grassland	280,979	Decid./Conif. forest	97,851	Salt aquatic bed	3,350
Crops/Ground	75,360	Conif./Decid. forest	166,389	Salt emergent	5,722
Developed lands		Coniferous forest	85,162	Mudflat	13,555
Sparse residential	34,663	Wetlands		Sand shore	625
Dense residential	6,974	Deciduous forested	39,220	Gravel shore	2,327
Urban/Industrial	353	Coniferous forested	221,068	Rock shore	2,390
Highways/Runways	250	Dead-forested	1,301	Shallow water	10,910
Forestlands		Decid. shrub-scrub	79,645	Open water	186,513
Clearcut	16,691	Conifer. shrub-scrub	10,272	Other	
Early regeneration	44,586	Dead shrub-scrub	54	Alpine tundra	20
Late regeneration	24,277	Fresh aquatic bed	78	Exposed rock/Talus	560

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WOOD DUCK (*Aix sponsa*)**Element code:** BNJB0901**ME-GAP code:** AISP**Order:** Anseriformes**Family:** Anatidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant**Game species:** Yes**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5B**Knowledge:** Good

General habitats used: Wood ducks breed in wooded areas of creeks, swamps, lakes, and beaver ponds. Optimum habitat appears to be areas with about 25% open water (7 to 45 cm deep), with shrubs and emergent vegetation present, and up to 10% coverage of trees. Areas with vegetation overhanging about 60 cm above the water are ideal. Wood Duck use large trees (maples and oak trees are common selection) for cavity nesting, and stumps, tussocks, and muskrat lodges for perches.

Specific habitats used: Large nesting trees 40 cm diameter-at-breast-height or greater, with cavities, and fairly close to water, are required for breeding by Wood Ducks. Areas without large trees may be used if proper size nest boxes are present.

Comments:**Predicted habitat quantities:**

WOOD DUCK				Total in ha: 2,933,033	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	26,786	Fresh emergent	60,251
Abandoned field	4,753	Heavy partial cut	27,937	Peatland	42,813
Blueberry field	2,288	Deciduous forest	210,667	Wet meadow	9,987
Grassland	73,542	Decid./Conif. forest	346,958	Salt aquatic bed	2,790
Crops/Ground	13,913	Conif./Decid. forest	731,285	Salt emergent	2,080
Developed lands		Coniferous forest	399,888	Mudflat	1,620
Sparse residential	13,883	Wetlands		Sand shore	292
Dense residential	3,420	Deciduous forested	60,718	Gravel shore	1,454
Urban/Industrial	80	Coniferous forested	340,549	Rock shore	2,561
Highways/Runways	120	Dead-forested	2,298	Shallow water	11,996
Forestlands		Decid. shrub-scrub	116,119	Open water	230,603
Clearcut	26,024	Conifer. shrub-scrub	13,512	Other	
Early regeneration	83,914	Dead shrub-scrub	54	Alpine tundra	60
Late regeneration	67,449	Fresh aquatic bed	108	Exposed rock/Talus	262

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GREEN-WINGED TEAL (*Anas crecca*)**Element code:** BNJB1001**ME-GAP code:** ANCR**Order:** Anseriformes**Family:** Anatidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Local migrant; US migrant**Game species:** Yes**Population level:** Common**Population trend:** Stable, perhaps a gradual decline**Heritage ranks:** G5 . . S5B**Knowledge:** Adequate

General habitats used: Green-winged Teal feed and take shelter in emergent marshes, sedge meadows, on ponds, lakes, or beaver flowages. They will also feed in mudflats and flooded fields, and sometimes on dry fields. Green-winged Teal usually nest well away from water, on the ground, in patches of dense grass or brush.

Specific habitats used:

Comments: Green-winged Teals are one of our smallest ducks, with very rapid wingbeats in flight.

Predicted habitat quantities:

GREEN-WINGED TEAL				Total in ha: 1,374,854	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	20,450	Fresh emergent	46,229
Abandoned field	5,429	Heavy partial cut	25,756	Peatland	38,833
Blueberry field	1,972	Deciduous forest	40,688	Wet meadow	10,767
Grassland	103,847	Decid./Conif. forest	92,891	Salt aquatic bed	1,497
Crops/Ground	12,293	Conif./Decid. forest	194,024	Salt emergent	2,463
Developed lands		Coniferous forest	104,249	Mudflat	1,343
Sparse residential	9,943	Wetlands		Sand shore	238
Dense residential	2,807	Deciduous forested	44,372	Gravel shore	437
Urban/Industrial	133	Coniferous forested	256,060	Rock shore	497
Highways/Runways	104	Dead-forested	1,589	Shallow water	8,547
Forestlands		Decid. shrub-scrub	93,864	Open water	23,673
Clearcut	31,865	Conifer. shrub-scrub	11,035	Other	
Early regeneration	127,156	Dead shrub-scrub	25	Alpine tundra	45
Late regeneration	59,364	Fresh aquatic bed	81	Exposed rock/Talus	287

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

MALLARD (*Anas platyrhynchos*)

Element code: BNJB1006

ME-GAP code: ANPL

Order: Anseriformes

Family: Anatidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant

Game species: Yes

Population level: Common

Population trend: Stable, perhaps a gradual increase

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: Mallards feed and take shelter on ponds, lakes, streams, rivers, marshes, and swamps with shallow water (< 40 cm); salt water habitat are not used during the breeding season. Most wetland habitats (most often man-made impoundments), grain crops, and meadows are suitable feeding habitats. In general, Mallards tend to be associated with urban areas and farmland. Mallards nest up to 100 m from water, in dense vegetation perhaps 60 cm high, such as in hay fields. Areas with an interspersed of farmland, slow streams, and marshes are ideal.

Specific habitats used: In Maine, mallards are associated with human altered habitats, and are most commonly found on lakes, ponds, and rivers near cities, towns, and extensive agricultural areas.

Comments: Mallards were rare in Maine prior to 1960's and today are common nesting species especially around towns and cities. In fact the Mallard population may be increasing gradually because of winter feeding by residents.

Predicted habitat quantities:

MALLARD				Total in ha: 1,938,827	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>14,916</i>	Fresh emergent	45,125
Abandoned field	9,964	Heavy partial cut	43,467	Peatland	39,059
Blueberry field	7,595	Deciduous forest	<i>72,212</i>	Wet meadow	11,568
Grassland	261,573	Decid./Conif. forest	<i>131,706</i>	Salt aquatic bed	2,676
Crops/Ground	64,236	Conif./Decid. forest	<i>231,562</i>	Salt emergent	5,859
Developed lands		Coniferous forest	<i>114,153</i>	Mudflat	4,569
Sparse residential	35,770	Wetlands		Sand shore	710
Dense residential	23,959	Deciduous forested	43,922	Gravel shore	3,020
Urban/Industrial	688	Coniferous forested	236,121	Rock shore	2,965
Highways/Runways	433	Dead-forested	1,487	Shallow water	8,186
Forestlands		Decid. shrub-scrub	91,077	Open water	260,939
Clearcut	52,777	Conifer. shrub-scrub	10,989	Other	
Early regeneration	67,726	Dead shrub-scrub	60	Alpine tundra	45
Late regeneration	36,849	Fresh aquatic bed	89	Exposed rock/Talus	770

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN BLACK DUCK (*Anas rubripes*)

Element code: BNJB1004

ME-GAP code: ANRU

Order: Anseriformes

Family: Anatidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: Yes

Population level: Abundant

Population trend: Moderate increase

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: American Black Ducks will use a variety of wet areas as brooding habitat, including brushy or wooded wetlands within upland forests, emergent marshes, sluggish streams, beaver flowages, the margins of ponds, and more rarely, slow moving rivers, and brackish water. Areas less disturbed by people are selected. Most American Black Ducks nest close to water, on the ground under dense vegetation, but some individuals may nest up to 1 km from their brooding site.

Specific habitats used:

Comments: Like many duck species, American Black Ducks will interbreed with other species, principally the Mallard. The purity of the genetic pool within the American Black Duck population is debated.

Predicted habitat quantities:

AMERICAN BLACK DUCK				Total in ha: 1,356,826	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>11,176</i>	Fresh emergent	41,978
Abandoned field	7,113	Heavy partial cut	38,354	Peatland	38,072
Blueberry field	6,457	Deciduous forest	<i>41,875</i>	Wet meadow	10,815
Grassland	<i>33,503</i>	Decid./Conif. forest	<i>79,297</i>	Salt aquatic bed	1,876
Crops/Ground	7,396	Conif./Decid. forest	<i>175,117</i>	Salt emergent	5,258
Developed lands		Coniferous forest	<i>97,573</i>	Mudflat	3,886
Sparse residential	<i>6,496</i>	Wetlands		Sand shore	544
Dense residential	2,210	Deciduous forested	38,471	Gravel shore	<i>1,126</i>
Urban/Industrial	92	Coniferous forested	227,721	Rock shore	<i>1,460</i>
Highways/Runways	76	Dead-forested	1,384	Shallow water	7,322
Forestlands		Decid. shrub-scrub	84,304	Open water	252,137
Clearcut	44,984	Conifer. shrub-scrub	10,218	Other	
Early regeneration	<i>51,693</i>	Dead shrub-scrub	39	Alpine tundra	45
Late regeneration	<i>26,512</i>	Fresh aquatic bed	74	Exposed rock/Talus	<i>176</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLUE-WINGED TEAL (*Anas discors*)**Element code:** BNJB1013**ME-GAP code:** ANDI**Order:** Anseriformes**Family:** Anatidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** US migrant**Game species:** Yes**Population level:** Uncommon**Population trend:** Stable, perhaps a gradual increase**Heritage ranks:** G5 . . S4S5B**Knowledge:** Adequate

General habitats used: Blue-winged Teal breed in open, freshwater marshes, in ponds, lakes, slow moving rivers, and sluggish streams. These teal select shorelines and mudflats, areas with emergent vegetation, and meadows with short grasses. Blue-winged Teal usually nest near water, in emergent vegetation, or in grassy areas such as idle hayfields and grazed pastures. Marshes with nearby pastures are selected habitats.

Specific habitats used:**Comments:****Predicted habitat quantities:**

BLUE-WINGED TEAL				Total in ha: 814,793	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	2,012	Fresh emergent	33,865
Abandoned field	7,139	Heavy partial cut	2,715	Peatland	28,006
Blueberry field	5,533	Deciduous forest	8,738	Wet meadow	9,459
Grassland	155,025	Decid./Conif. forest	24,153	Salt aquatic bed	662
Crops/Ground	29,648	Conif./Decid. forest	51,712	Salt emergent	6,129
Developed lands		Coniferous forest	20,027	Mudflat	4,479
Sparse residential	5,025	Wetlands		Sand shore	621
Dense residential	1,703	Deciduous forested	43,337	Gravel shore	288
Urban/Industrial	80	Coniferous forested	149,834	Rock shore	693
Highways/Runways	53	Dead-forested	1,528	Shallow water	5,463
Forestlands		Decid. shrub-scrub	66,254	Open water	124,725
Clearcut	5,035	Conifer. shrub-scrub	6,878	Other	
Early regeneration	7,434	Dead shrub-scrub	19	Alpine tundra	0
Late regeneration	6,255	Fresh aquatic bed	99	Exposed rock/Talus	164

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN WIGEON (*Anas americana*)

Element code: BNJB1018

ME-GAP code: ANAM

Order: Anseriformes

Family: Anatidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Rare

Population trend: Unknown

Heritage ranks: G5 . . S1S2B,S3N

Knowledge: Adequate

General habitats used: American Wigeon feed in large marshes and lakes - areas with shallow water and emergent vegetation. The shorelines of lakes and islands will be used for feeding. American Wigeon will nest up to 400 m from water, on dry ground, in meadows, grasslands, or in open forest. Dense forest is not used for nesting.

Specific habitats used:

Comments: Very few American Wigeons breed in Maine, but each year a few pairs are observed.

Predicted habitat quantities:

AMERICAN WIGEON				Total in ha: 18,132	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	28	Fresh emergent	114
Abandoned field	50	Heavy partial cut	42	Peatland	194
Blueberry field	0	Deciduous forest	213	Wet meadow	40
Grassland	9,139	Decid./Conif. forest	671	Salt aquatic bed	6
Crops/Ground	1,012	Conif./Decid. forest	961	Salt emergent	0
Developed lands		Coniferous forest	174	Mudflat	0
Sparse residential	201	Wetlands		Sand shore	0
Dense residential	46	Deciduous forested	96	Gravel shore	0
Urban/Industrial	0	Coniferous forested	173	Rock shore	0
Highways/Runways	3	Dead-forested	2	Shallow water	28
Forestlands		Decid. shrub-scrub	1,732	Open water	3,036
Clearcut	14	Conifer. shrub-scrub	23	Other	
Early regeneration	77	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	56	Fresh aquatic bed	2	Exposed rock/Talus	0

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RING-NECKED DUCK (*Aythya collaris*)**Element code:** BNJB1104**ME-GAP code:** AYCO**Order:** Anseriformes**Family:** Anatidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant**Game species:** Yes**Population level:** Common**Population trend:** Stable, perhaps a gradual increase**Heritage ranks:** G5 . . S5B**Knowledge:** Good

General habitats used: Ring-necked Ducks select beaver flowages, marshes, bogs, lakes, ponds, and still-waters, especially those near heavily forested areas. Sedge meadows and fresh water marshes with emergent vegetation are selected, as are waterbodies with mud bottoms.

Specific habitats used: Ring-necked Ducks require some open water to take flight.

Comments: Ring-necks are primarily a nesting species of the mid-continental parries. They pioneered into Maine during the 1930's-1950's and today are a common nester on lakes and larger ponds.

Predicted habitat quantities:

RING-NECKED DUCK				Total in ha: 901,954	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	4,445	Fresh emergent	37,795
Abandoned field	1,026	Heavy partial cut	4,877	Peatland	37,268
Blueberry field	642	Deciduous forest	14,966	Wet meadow	9,859
Grassland	15,277	Decid./Conif. forest	35,053	Salt aquatic bed	354
Crops/Ground	3,343	Conif./Decid. forest	94,555	Salt emergent	131
Developed lands		Coniferous forest	60,963	Mudflat	670
Sparse residential	2,812	Wetlands		Sand shore	96
Dense residential	1,055	Deciduous forested	34,707	Gravel shore	2,908
Urban/Industrial	35	Coniferous forested	212,849	Rock shore	2,555
Highways/Runways	35	Dead-forested	1,209	Shallow water	6,703
Forestlands		Decid. shrub-scrub	74,582	Open water	190,361
Clearcut	7,160	Conifer. shrub-scrub	9,736	Other	
Early regeneration	22,156	Dead shrub-scrub	24	Alpine tundra	1
Late regeneration	11,605	Fresh aquatic bed	64	Exposed rock/Talus	75

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON GOLDENEYE (*Bucephala clangula*)

Element code: BNJB1801

ME-GAP code: BUCL

Order: Anseriformes

Family: Anatidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: Yes

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: Common Goldeneyes select ponds or slow flowing rivers and streams within open forests with mature trees. Shallow waterbodies (< 3.7 m) with clear water and vegetation along the shorelines are selected. Common Goldeneyes also occur in forested wetlands and bogs. Goldeneyes are cavity nesters, most often using large hardwoods with existing cavities as nest sites.

Specific habitats used: Common Goldeneyes use large trees (> 50 cm diameter at breast height) or nest boxes for nesting sites, which are near water.

Comments:

Predicted habitat quantities:

COMMON GOLDENEYE				Total in ha: 1,962,278	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>10,090</i>	Fresh emergent	58,706
Abandoned field	<i>1,624</i>	Heavy partial cut	<i>11,333</i>	Peatland	43,168
Blueberry field	<i>726</i>	Deciduous forest	107,907	Wet meadow	<i>4,108</i>
Grassland	<i>16,756</i>	Decid./Conif. forest	191,733	Salt aquatic bed	3,901
Crops/Ground	<i>4,930</i>	Conif./Decid. forest	474,335	Salt emergent	1,017
Developed lands		Coniferous forest	272,572	Mudflat	2,196
Sparse residential	<i>3,867</i>	Wetlands		Sand shore	535
Dense residential	<i>561</i>	Deciduous forested	46,100	Gravel shore	3,344
Urban/Industrial	<i>0</i>	Coniferous forested	347,339	Rock shore	3,971
Highways/Runways	<i>30</i>	Dead-forested	2,351	Shallow water	11,249
Forestlands		Decid. shrub-scrub	116,395	Open water	142,836
Clearcut	<i>9,726</i>	Conifer. shrub-scrub	13,439	Other	
Early regeneration	<i>30,353</i>	Dead shrub-scrub	51	Alpine tundra	<i>40</i>
Late regeneration	<i>24,808</i>	Fresh aquatic bed	99	Exposed rock/Talus	<i>82</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

HOODED MERGANSER (*Lophodytes cucullatus*)

Element code: BNJB2001

ME-GAP code: LOCU

Order: Anseriformes

Family: Anatidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: Yes

Population level: Common

Population trend: Moderate increase

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Hooded Mergansers are most common in lakes and rivers that have clear water, and are surrounded with dense forest. Lakes, ponds, and streams with flooded trees are selected. Hooded Mergansers feed on fish, with wide, deep, fast flowing rivers with cobble-stone bottoms important for feeding broods. These mergansers nest in cavities in trees near their brooding habitats. Wood Duck nest boxes are also used by Hooded Mergansers.

Specific habitats used: Moderately large trees (> 38 cm diameter at breast height) that are near water are required for nesting by Hooded Mergansers. Wood Duck boxes may substitute for large trees. Ponds must have fish present (or a source nearby) to be used by Hooded Mergansers.

Comments:

Predicted habitat quantities:

HOODED MERGANSER				Total in ha: 2,128,382	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	20,495	Fresh emergent	60,182
Abandoned field	2,975	Heavy partial cut	16,846	Peatland	42,634
Blueberry field	1,456	Deciduous forest	92,912	Wet meadow	9,846
Grassland	47,440	Decid./Conif. forest	184,699	Salt aquatic bed	4,750
Crops/Ground	9,709	Conif./Decid. forest	440,785	Salt emergent	6,235
Developed lands		Coniferous forest	261,443	Mudflat	4,919
Sparse residential	8,972	Wetlands		Sand shore	407
Dense residential	2,487	Deciduous forested	60,951	Gravel shore	1,472
Urban/Industrial	70	Coniferous forested	341,277	Rock shore	2,709
Highways/Runways	92	Dead-forested	2,294	Shallow water	12,122
Forestlands		Decid. shrub-scrub	116,542	Open water	240,611
Clearcut	18,408	Conifer. shrub-scrub	13,616	Other	
Early regeneration	57,022	Dead shrub-scrub	45	Alpine tundra	25
Late regeneration	41,637	Fresh aquatic bed	106	Exposed rock/Talus	187

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON MERGANSER (*Mergus merganser*)**Element code:** BNJB2101**ME-GAP code:** MEME**Order:** Anseriformes**Family:** Anatidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Local migrant; US migrant**Game species:** Yes**Population level:** Common**Population trend:** Stable, perhaps a slow increase after DDT**Heritage ranks:** G5 . . S5**Knowledge:** Good

General habitats used: Common Mergansers feed in streams, rivers, ponds, and lakes that have clear water. Shallow waterbodies (< 1.9 m) are selected, but these may be still or rapidly flowing, and streams may be narrow (down to 1.5 m). Common Mergansers generally nest in tree cavities, and select areas that have little human disturbance.

Specific habitats used: Large trees (> 50 cm diameter at breast height) are used for nesting by Common Goldeneyes, although some individuals will nest on the ground.

Comments:**Predicted habitat quantities:**

COMMON MERGANSER				Total in ha: 2,676,182	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	12,686	Fresh emergent	54,532
Abandoned field	1,534	Heavy partial cut	13,726	Peatland	41,503
Blueberry field	804	Deciduous forest	200,397	Wet meadow	13,431
Grassland	12,552	Decid./Conif. forest	302,225	Salt aquatic bed	2,070
Crops/Ground	3,699	Conif./Decid. forest	688,506	Salt emergent	1,350
Developed lands		Coniferous forest	369,891	Mudflat	574
Sparse residential	3,281	Wetlands		Sand shore	36
Dense residential	337	Deciduous forested	41,550	Gravel shore	567
Urban/Industrial	0	Coniferous forested	338,881	Rock shore	885
Highways/Runways	17	Dead-forested	2,060	Shallow water	11,091
Forestlands		Decid. shrub-scrub	108,448	Open water	362,965
Clearcut	10,337	Conifer. shrub-scrub	12,527	Other	
Early regeneration	34,438	Dead shrub-scrub	55	Alpine tundra	23
Late regeneration	29,128	Fresh aquatic bed	56	Exposed rock/Talus	19

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED-BREASTED MERGANSER (*Mergus serrator*)**Element code:** BNJB2102**ME-GAP code:** MESE**Order:** Anseriformes**Family:** Anatidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Local migrant; US migrant**Game species:** Yes**Population level:** Uncommon**Population trend:** Unknown, but probably stable**Heritage ranks:** G5 . . S3B,S5N**Knowledge:** Adequate

General habitats used: Red-breasted Mergansers feed in rivers, streams, ponds, and lakes, and along the shores of coastal islands. Occupied ponds have fish present, and the water is clear enough to allow fish to be spotted. Water bodies with surrounding or overhanging trees are favored. Red-breasted Mergansers nest in a variety of sites, including within low, dense brush, under boulders on coastal islands, and on sand bars; usually within 7.5 meters of water. Nest boxes also may be used. Inland birds move toward the coast after the breeding season.

Specific habitats used: Red-breasted Mergansers require a long stretch of open water, to use as a runway to become airborne.

Comments:**Predicted habitat quantities:**

RED-BREASTED MERGANSER				Total in ha: 392,980	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,118</i>	Fresh emergent	18,912
Abandoned field	1,180	Heavy partial cut	<i>1,268</i>	Peatland	<i>1,818</i>
Blueberry field	<i>271</i>	Deciduous forest	<i>931</i>	Wet meadow	3,216
Grassland	<i>1,240</i>	Decid./Conif. forest	<i>3,459</i>	Salt aquatic bed	14,979
Crops/Ground	<i>294</i>	Conif./Decid. forest	<i>14,835</i>	Salt emergent	1,944
Developed lands		Coniferous forest	<i>15,906</i>	Mudflat	12,824
Sparse residential	<i>924</i>	Wetlands		Sand shore	1,957
Dense residential	<i>72</i>	Deciduous forested	<i>7,740</i>	Gravel shore	2,794
Urban/Industrial	<i>1</i>	Coniferous forested	<i>98,355</i>	Rock shore	3,502
Highways/Runways	<i>6</i>	Dead-forested	<i>696</i>	Shallow water	3,896
Forestlands		Decid. shrub-scrub	<i>32,423</i>	Open water	131,875
Clearcut	<i>1,473</i>	Conifer. shrub-scrub	<i>3,151</i>	Other	
Early regeneration	<i>6,503</i>	Dead shrub-scrub	<i>13</i>	Alpine tundra	<i>0</i>
Late regeneration	<i>3,263</i>	Fresh aquatic bed	<i>50</i>	Exposed rock/Talus	<i>92</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

TURKEY VULTURE (*Cathartes aura*)

Element code: BNKA0201

ME-GAP code: CAAU

Order: Ciconiiformes

Family: Cathartidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Rapid increase, due to range expansion

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Turkey Vultures occur where there is an interspersions of forests and open fields, but otherwise they tend to be habitat generalists using open habitats more frequently than forested areas. Vultures appear most common in deciduous or mixed forests, but will occur within coniferous forests. Openings, such as fields, bogs, and roadways are searched for carrion by vultures. Turkey Vultures are typically cavity nesters, nesting in the broken tops of large trees, but they also will nest on rock ledges, cliffs, and within blow downs or slash piles.

Specific habitats used: Large trees, or large snags, within deciduous forests, are generally required for nesting by Turkey Vultures. Cliffs, ledges, or slash piles may be used if available. Road kills are probably a major food item in Maine.

Comments: Nesting vultures are new to Maine, first being observed during the 1970's-1980's.

Predicted habitat quantities:

TURKEY VULTURE				Total in ha: 1,396,906	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>6,020</i>	Fresh emergent	12,513
Abandoned field	3,083	Heavy partial cut	11,385	Peatland	4,296
Blueberry field	2,471	Deciduous forest	178,216	Wet meadow	2,453
Grassland	218,400	Decid./Conif. forest	291,180	Salt aquatic bed	<i>1,718</i>
Crops/Ground	17,977	Conif./Decid. forest	342,368	Salt emergent	6,316
Developed lands		Coniferous forest	156,834	Mudflat	14,259
Sparse residential	24,781	Wetlands		Sand shore	2,223
Dense residential	2,668	Deciduous forested	26,608	Gravel shore	82
Urban/Industrial	<i>163</i>	Coniferous forested	<i>6,712</i>	Rock shore	1,386
Highways/Runways	214	Dead-forested	567	Shallow water	<i>672</i>
Forestlands		Decid. shrub-scrub	18,980	Open water	<i>4,447</i>
Clearcut	15,599	Conifer. shrub-scrub	2,023	Other	
Early regeneration	<i>6,260</i>	Dead shrub-scrub	11	Alpine tundra	<i>0</i>
Late regeneration	<i>12,007</i>	Fresh aquatic bed	<i>16</i>	Exposed rock/Talus	1,997

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

OSPREY (*Pandion haliaetus*)

Element code: BNKC0101

ME-GAP code: PAHA

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Stable, perhaps a gradual increase

Heritage ranks: G5 . . S5B

Knowledge: Good

General habitats used: Ospreys are most common along the coast, feeding in estuaries and bays, but they will also occur at large lakes, rivers, and the shallows of streams; any waterbody with abundant fish. Ospreys will tolerate human disturbance. This species nests in large dead trees, ledges or dunes, or on man-made structures such as platforms and telephone poles.

Specific habitats used: Elevated nest sites are generally used by nesting Ospreys.

Comments: Ospreys capture fish by spying them from far above, then diving at high speeds. They fold their wings as they splash into the water and capture the fish in their talons.

Predicted habitat quantities:

OSPREY		Total in ha: 3,858,083			
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	41,836	Fresh emergent	60,802
Abandoned field	9,094	Heavy partial cut	<i>34,313</i>	Peatland	<i>17,784</i>
Blueberry field	<i>3,003</i>	Deciduous forest	280,377	Wet meadow	14,726
Grassland	<i>91,756</i>	Decid./Conif. forest	436,243	Salt aquatic bed	18,159
Crops/Ground	<i>17,031</i>	Conif./Decid. forest	857,451	Salt emergent	6,428
Developed lands		Coniferous forest	454,143	Mudflat	<i>10,724</i>
Sparse residential	27,461	Wetlands		Sand shore	<i>2,644</i>
Dense residential	<i>4,432</i>	Deciduous forested	62,007	Gravel shore	<i>1,641</i>
Urban/Industrial	<i>130</i>	Coniferous forested	338,557	Rock shore	<i>4,614</i>
Highways/Runways	<i>194</i>	Dead-forested	2,372	Shallow water	12,296
Forestlands		Decid. shrub-scrub	116,316	Open water	707,308
Clearcut	<i>30,569</i>	Conifer. shrub-scrub	13,485	Other	
Early regeneration	<i>97,202</i>	Dead shrub-scrub	61	Alpine tundra	<i>34</i>
Late regeneration	<i>82,092</i>	Fresh aquatic bed	113	Exposed rock/Talus	<i>685</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BALD EAGLE (*Haliaeetus leucocephalus*)

Element code: BNKC1001

ME-GAP code: HALE

Order: Falconiformes

Family: Accipitridae

Breeding range change: Expanding

Listing status: Threatened (S, F)

Migratory status: Local migrant; Resident

Game species: No

Population level: Uncommon

Population trend: Gradual increase,
after DDT losses

Heritage ranks: G4 . . S4B,S4N

Knowledge: Good

General habitats used: Bald Eagles feed primarily on fish taken from large rivers, lakes, coastal bays, and inlets. Eagles nest in tall, living trees (e.g., white pine, red oak, red maple) that provide a view of the surrounding area. On the coast, areas with a higher than average number of fish species and shallow water were associated with higher densities of Bald Eagles. Inland, warm water lakes are used more frequently than cold water lakes (i.e., lakes supporting bass and perch vs. trout and salmon). Eagles are sensitive to human disturbance, and will avoid heavily disturbed areas.

Specific habitats used: Large trees for nesting and perching, and relatively little human disturbance, are required for Bald Eagles to breed successfully. Sites that are productive, providing a diversity of foods, are selected.

Comments: Predicted distributions based on those habitats used by Eagles within a 0.40 km (0.25 mi) radius of known nest sites.

Predicted habitat quantities:

BALD EAGLE				Total in ha: 107,320	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	396	Fresh emergent	1,635
Abandoned field	415	Heavy partial cut	326	Peatland	370
Blueberry field	166	Deciduous forest	2,321	Wet meadow	923
Grassland	2,704	Decid./Conif. forest	4,163	Salt aquatic bed	3,694
Crops/Ground	460	Conif./Decid. forest	16,208	Salt emergent	680
Developed lands		Coniferous forest	10,826	Mudflat	4,402
Sparse residential	1,285	Wetlands		Sand shore	383
Dense residential	66	Deciduous forested	881	Gravel shore	403
Urban/Industrial	0	Coniferous forested	3,692	Rock shore	784
Highways/Runways	3	Dead-forested	92	Shallow water	192
Forestlands		Decid. shrub-scrub	2,198	Open water	43,649
Clearcut	703	Conifer. shrub-scrub	301	Other	
Early regeneration	1,553	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	1,430	Fresh aquatic bed	12	Exposed rock/Talus	6

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN HARRIER (*Circus cyaneus*)

Element code: BNKC1101

ME-GAP code: CICY

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, perhaps a gradual decline

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Northern Harriers soar low over abandoned fields, wet meadows, moist hayfields, salt and cattail marshes, bogs, and dwarf conifer forests, searching for small mammals. Drier habitats, such as clearcuts and dry fields also may be used. Northern Harriers are ground-nesters, nesting in open areas amongst dense non-forested vegetation, such as shrubs, sedge tussocks, or grasses.

Specific habitats used:

Comments: Northern Harriers are the only large raptors in Maine with strong sexual dimorphism, meaning that the sexes look very different. Male harriers are gray, whereas females are brown. Both have characteristic white rump patches.

Predicted habitat quantities:

NORTHERN HARRIER				Total in ha: 1,090,228	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>10,467</i>	Fresh emergent	32,360
Abandoned field	8,837	Heavy partial cut	48,292	Peatland	29,402
Blueberry field	7,825	Deciduous forest	<i>59,843</i>	Wet meadow	8,211
Grassland	269,269	Decid./Conif. forest	<i>90,829</i>	Salt aquatic bed	671
Crops/Ground	72,608	Conif./Decid. forest	<i>118,764</i>	Salt emergent	516
Developed lands		Coniferous forest	<i>43,107</i>	Mudflat	1,127
Sparse residential	<i>17,220</i>	Wetlands		Sand shore	212
Dense residential	5,817	Deciduous forested	<i>11,026</i>	Gravel shore	2,104
Urban/Industrial	263	Coniferous forested	<i>39,206</i>	Rock shore	1,533
Highways/Runways	245	Dead-forested	<i>337</i>	Shallow water	2,482
Forestlands		Decid. shrub-scrub	62,476	Open water	15,680
Clearcut	52,221	Conifer. shrub-scrub	7,878	Other	
Early regeneration	45,637	Dead shrub-scrub	52	Alpine tundra	18
Late regeneration	23,186	Fresh aquatic bed	26	Exposed rock/Talus	482

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SHARP-SHINNED HAWK (*Accipiter striatus*)

Element code: BNKC1202

ME-GAP code: ACST

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, although not well surveyed

Heritage ranks: G5 . . S2S3N,S3S4B

Knowledge: Adequate

General habitats used: Sharp-shinned Hawks inhabit mixed or coniferous forests that are relatively open. These hawks will hunt along the edges of forests, and in open forests. Sharp-shinned Hawks usually nest in conifer trees, with spruce trees being commonly selected. Sharp-shinned Hawks are excluded from areas with high human disturbance, and so use the brushy margins of forests.

Specific habitats used: Open areas or edges of extensive forests with little human disturbance are required by breeding Sharp-shinned Hawks.

Comments: These hawks are sometimes seen hunting songbirds at backyard bird feeders.

Predicted habitat quantities:

SHARP-SHINNED HAWK				Total in ha: 6,886,089	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	103,778	Fresh emergent	31,697
Abandoned field	16,615	Heavy partial cut	138,531	Peatland	8,767
Blueberry field	6,256	Deciduous forest	1,224,228	Wet meadow	11,751
Grassland	418,313	Decid./Conif. forest	1,249,474	Salt aquatic bed	3,012
Crops/Ground	98,399	Conif./Decid. forest	1,622,246	Salt emergent	1,068
Developed lands		Coniferous forest	700,032	Mudflat	1,442
Sparse residential	42,526	Wetlands		Sand shore	306
Dense residential	10,224	Deciduous forested	35,045	Gravel shore	492
Urban/Industrial	279	Coniferous forested	164,999	Rock shore	1,537
Highways/Runways	407	Dead-forested	1,520	Shallow water	11,121
Forestlands		Decid. shrub-scrub	58,574	Open water	53,460
Clearcut	111,543	Conifer. shrub-scrub	5,567	Other	
Early regeneration	488,126	Dead shrub-scrub	78	Alpine tundra	443
Late regeneration	263,080	Fresh aquatic bed	70	Exposed rock/Talus	1,081

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COOPER'S HAWK (*Accipiter cooperii*)

Element code: BNKC1204

ME-GAP code: ACCO

Order: Falconiformes

Family: Accipitridae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Rare

Population trend: Stable, although not well surveyed

Heritage ranks: G5 . . S3S4B,S3?N

Knowledge: Adequate

General habitats used: Cooper's Hawks nest in mature deciduous and mixed forests, with a well developed under story and ground cover. These hawks will use lowland forests that are dense or open, will nest within the forests near edges, and will hunt within openings (forest openings and agricultural areas) near forest edges. Cooper's Hawks usually nest in deciduous trees, although white pines also are commonly used.

Specific habitats used:

Comments: This species is far less common than the predicted habitat suggests.

Predicted habitat quantities:

COOPER'S HAWK				Total in ha: 5,385,159	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	85,388	Fresh emergent	10,786
Abandoned field	17,248	Heavy partial cut	114,936	Peatland	2,115
Blueberry field	12,435	Deciduous forest	1,017,550	Wet meadow	11,517
Grassland	391,197	Decid./Conif. forest	972,005	Salt aquatic bed	1,552
Crops/Ground	46,496	Conif./Decid. forest	1,374,709	Salt emergent	655
Developed lands		Coniferous forest	569,515	Mudflat	864
Sparse residential	18,908	Wetlands		Sand shore	156
Dense residential	4,236	Deciduous forested	13,621	Gravel shore	158
Urban/Industrial	117	Coniferous forested	47,280	Rock shore	610
Highways/Runways	507	Dead-forested	438	Shallow water	2,101
Forestlands		Decid. shrub-scrub	18,009	Open water	14,261
Clearcut	96,539	Conifer. shrub-scrub	1,810	Other	
Early regeneration	323,362	Dead shrub-scrub	37	Alpine tundra	157
Late regeneration	213,350	Fresh aquatic bed	22	Exposed rock/Talus	514

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN GOSHAWK (*Accipiter gentilis*)

Element code: BNKC1206

ME-GAP code: ACGE

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Rare

Population trend: May be declining,
but uncertain

Heritage ranks: G5 . . S3?B, S3?N

Knowledge: Adequate

General habitats used: Northern Goshawks nest in the interiors of extensive, remote coniferous and mixed forests. Large stands of mature timber are selected, and cool north-facing slopes also may be selected. Goshawks feed with forest interiors, and within small openings, such as over streams and trails. Northern Goshawks usually nest within a deciduous tree, such as beech, birch, or poplar, but sometimes use pine or hemlock.

Specific habitats used: Large forest stands with little human disturbance are used by breeding Northern Goshawks for nesting.

Comments: Northern Goshawks are poorly surveyed using standard methods and are rarer than suggested here by the predicted habitat.

Predicted habitat quantities:

NORTHERN GOSHAWK				Total in ha: 5,865,598	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	63,924	Fresh emergent	25,028
Abandoned field	14,470	Heavy partial cut	114,259	Peatland	6,261
Blueberry field	4,683	Deciduous forest	1,195,809	Wet meadow	5,108
Grassland	383,525	Decid./Conif. forest	1,170,722	Salt aquatic bed	2,679
Crops/Ground	41,368	Conif./Decid. forest	1,489,520	Salt emergent	974
Developed lands		Coniferous forest	636,556	Mudflat	1,287
Sparse residential	34,288	Wetlands		Sand shore	276
Dense residential	8,602	Deciduous forested	29,993	Gravel shore	403
Urban/Industrial	258	Coniferous forested	130,887	Rock shore	1,351
Highways/Runways	239	Dead-forested	1,164	Shallow water	5,834
Forestlands		Decid. shrub-scrub	45,455	Open water	45,234
Clearcut	90,480	Conifer. shrub-scrub	4,460	Other	
Early regeneration	167,384	Dead shrub-scrub	65	Alpine tundra	382
Late regeneration	141,671	Fresh aquatic bed	54	Exposed rock/Talus	943

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED-SHOULDERED HAWK (*Buteo lineatus*)

Element code: BNKC1903

ME-GAP code: BULI

Order: Falconiformes

Family: Accipitridae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Uncommon

Population trend: Moderate decline, but not well surveyed

Heritage ranks: G5 . . S3N,S4B

Knowledge: Adequate

General habitats used: Red-shouldered Hawks are most common in mature, dense, lowland deciduous or mixed forests. Stands with sparse subcanopies are selected. These hawks also will hunt in wetlands, fields, and forest openings. Red-shouldered Hawks nest in tall trees, within mature stands, and generally near water. Forest harvesting and agricultural clearing seem to lead to the Red-tailed Hawks replacing Red-shouldered Hawks.

Specific habitats used: Large trees are used by Red-Shouldered Hawks for nesting.

Comments: This species is far less common than suggested by the predicted habitat.

Predicted habitat quantities:

RED-SHOULDERED HAWK				Total in ha: 5,329,093	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	78,723	Fresh emergent	56,333
Abandoned field	17,642	Heavy partial cut	101,152	Peatland	36,578
Blueberry field	12,328	Deciduous forest	991,421	Wet meadow	13,948
Grassland	396,981	Decid./Conif. forest	928,948	Salt aquatic bed	5,394
Crops/Ground	51,254	Conif./Decid. forest	1,357,166	Salt emergent	2,044
Developed lands		Coniferous forest	557,759	Mudflat	3,907
Sparse residential	18,457	Wetlands		Sand shore	765
Dense residential	4,466	Deciduous forested	62,970	Gravel shore	158
Urban/Industrial	124	Coniferous forested	269,976	Rock shore	581
Highways/Runways	156	Dead-forested	2,139	Shallow water	3,044
Forestlands		Decid. shrub-scrub	106,186	Open water	18,362
Clearcut	88,001	Conifer. shrub-scrub	12,412	Other	
Early regeneration	60,961	Dead shrub-scrub	103	Alpine tundra	66
Late regeneration	68,015	Fresh aquatic bed	110	Exposed rock/Talus	463

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BROAD-WINGED HAWK (*Buteo platypterus*)

Element code: BNKC1905

ME-GAP code: BUPL

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical and US migrant

Game species: No

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Broad-winged Hawks occur most often in extensive, closed deciduous and mixed forests, and they select against open areas. Mature and immature deciduous dominated stands are used. These hawks hunt in deep, shady forests, sometimes over meadows. Broad-winged Hawks nest in large trees (yellow birch may be selected), often in poorly drained sites near water or the edges of clearings, such as along wooded roadsides.

Specific habitats used: Large patches of forest, with an interspersed of openings, are used by Broad-winged Hawks during the breeding season.

Comments:

Predicted habitat quantities:

BROAD-WINGED HAWK				Total in ha: 5,894,989	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	85,153	Fresh emergent	25,461
Abandoned field	14,631	Heavy partial cut	115,992	Peatland	6,520
Blueberry field	4,809	Deciduous forest	1,178,807	Wet meadow	5,202
Grassland	383,487	Decid./Conif. forest	1,160,337	Salt aquatic bed	2,802
Crops/Ground	41,873	Conif./Decid. forest	1,496,072	Salt emergent	1,025
Developed lands		Coniferous forest	644,899	Mudflat	1,965
Sparse residential	34,838	Wetlands		Sand shore	396
Dense residential	8,754	Deciduous forested	30,364	Gravel shore	424
Urban/Industrial	279	Coniferous forested	133,238	Rock shore	1,369
Highways/Runways	235	Dead-forested	1,188	Shallow water	5,924
Forestlands		Decid. shrub-scrub	46,593	Open water	45,579
Clearcut	92,563	Conifer. shrub-scrub	4,562	Other	
Early regeneration	172,344	Dead shrub-scrub	66	Alpine tundra	389
Late regeneration	145,835	Fresh aquatic bed	53	Exposed rock/Talus	961

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED-TAILED HAWK (*Buteo jamaicensis*)

Element code: BNKC1911

ME-GAP code: BUJA

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S3N,S5B

Knowledge: Adequate

General habitats used: Red-tailed Hawks are most common in deciduous and mixed forests, interspersed with pastures, fields, meadows, bogs, or clearcuts. They will also use coniferous stands. These hawks forage in the open areas listed. Red-tailed Hawks generally nest in the tallest trees available, usually in deciduous trees or white pines. Red-tailed Hawks use large trees for hunting perches.

Specific habitats used: Large trees are required by Red-tailed Hawks for nest sites and hunting perches. They hunt mostly in non-forested, relatively open habitats.

Comments:

Predicted habitat quantities:

RED-TAILED HAWK				Total in ha: 6,997,844	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	100,904	Fresh emergent	61,988
Abandoned field	18,010	Heavy partial cut	144,057	Peatland	42,964
Blueberry field	12,632	Deciduous forest	1,255,460	Wet meadow	14,091
Grassland	432,534	Decid./Conif. forest	1,290,862	Salt aquatic bed	<i>1,840</i>
Crops/Ground	101,615	Conif./Decid. forest	1,576,190	Salt emergent	1,211
Developed lands		Coniferous forest	<i>392,115</i>	Mudflat	1,844
Sparse residential	<i>42,493</i>	Wetlands		Sand shore	294
Dense residential	<i>10,694</i>	Deciduous forested	65,625	Gravel shore	<i>643</i>
Urban/Industrial	<i>314</i>	Coniferous forested	335,624	Rock shore	<i>1,238</i>
Highways/Runways	445	Dead-forested	2,420	Shallow water	<i>8,514</i>
Forestlands		Decid. shrub-scrub	121,660	Open water	<i>55,423</i>
Clearcut	113,428	Conifer. shrub-scrub	13,757	Other	
Early regeneration	505,435	Dead shrub-scrub	101	Alpine tundra	<i>163</i>
Late regeneration	270,167	Fresh aquatic bed	<i>68</i>	Exposed rock/Talus	<i>1,018</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GOLDEN EAGLE (*Aquila chrysaetos*)

Element code: BNKC2201

ME-GAP code: AQCH

Order: Falconiformes

Family: Accipitridae

Breeding range change: Stable

Listing status: Threatened (S)

Migratory status: Local migrant; Resident

Game species: No

Population level: Rare

Population trend: Gradual decline,
probably disturbance

Heritage ranks: G5 . . S1B,S1N

Knowledge: Best guess

General habitats used: Golden Eagles nest on the mountain cliffs of Maine, far from human disturbance, and typically associated with coniferous forests (paries and tundra in other areas). They will also nest in large trees. Golden Eagles hunt within open areas, such as bogs, meadows, marshes, pastures, clearcuts, and burns.

Specific habitats used:

Comments: Maine has the only pair of breeding Golden Eagles in the northeast, but this single pair does not appear to be reproducing regularly. Appropriate habitats within townships with historical and current nesting records are shown as potential habitat.

Predicted habitat quantities:

GOLDEN EAGLE				Total in ha: 46,105	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	2,147	Fresh emergent	895
Abandoned field	31	Heavy partial cut	3,585	Peatland	260
Blueberry field	0	Deciduous forest	897	Wet meadow	454
Grassland	5,666	Decid./Conif. forest	1,884	Salt aquatic bed	1
Crops/Ground	177	Conif./Decid. forest	1,994	Salt emergent	0
Developed lands		Coniferous forest	12,382	Mudflat	0
Sparse residential	72	Wetlands		Sand shore	0
Dense residential	62	Deciduous forested	159	Gravel shore	217
Urban/Industrial	0	Coniferous forested	416	Rock shore	10
Highways/Runways	0	Dead-forested	3	Shallow water	36
Forestlands		Decid. shrub-scrub	1,715	Open water	119
Clearcut	1,014	Conifer. shrub-scrub	202	Other	
Early regeneration	8,169	Dead shrub-scrub	2	Alpine tundra	0
Late regeneration	3,535	Fresh aquatic bed	0	Exposed rock/Talus	2

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN KESTREL (*Falco sparverius*)

Element code: BNKD0602

ME-GAP code: FASP

Order: Falconiformes

Family: Falconidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable, not well surveyed

Heritage ranks: G5 . . S3N,S5B

Knowledge: Good

General habitats used: American Kestrels use a variety of open habitats, including agricultural areas, pastures, abandoned fields, meadows, clearcuts, burns, and roadside edges.

American Kestrels are cavity nesters, nesting in a variety of tree species, in areas with low vegetation and scattered trees. Kestrels will also nest in buildings within urban areas, farm buildings, cliffs, and nest boxes.

Specific habitats used: Trees (snags) over 30 cm diameter-at-breast-height, or substitute cavities for nesting sites, are used by American Kestrels during the breeding season.

Comments: American Kestrels may sometimes be seen in clearings hovering in place, preparing to capture an insect or small animal.

Predicted habitat quantities:

AMERICAN KESTREL				Total in ha: 1,663,127	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>19,417</i>	Fresh emergent	35,393
Abandoned field	10,063	Heavy partial cut	62,197	Peatland	30,570
Blueberry field	9,040	Deciduous forest	<i>83,756</i>	Wet meadow	8,806
Grassland	289,877	Decid./Conif. forest	<i>135,766</i>	Salt aquatic bed	1,942
Crops/Ground	79,092	Conif./Decid. forest	<i>167,437</i>	Salt emergent	620
Developed lands		Coniferous forest	<i>68,137</i>	Mudflat	1,282
Sparse residential	37,471	Wetlands		Sand shore	276
Dense residential	6,786	Deciduous forested	<i>13,047</i>	Gravel shore	326
Urban/Industrial	322	Coniferous forested	<i>56,070</i>	Rock shore	450
Highways/Runways	356	Dead-forested	<i>454</i>	Shallow water	<i>3,184</i>
Forestlands		Decid. shrub-scrub	68,489	Open water	<i>18,166</i>
Clearcut	66,558	Conifer. shrub-scrub	8,264	Other	
Early regeneration	319,155	Dead shrub-scrub	58	Alpine tundra	1,510
Late regeneration	57,968	Fresh aquatic bed	66	Exposed rock/Talus	754

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

MERLIN (*Falco columbarius*)

Element code: BNKD0603

ME-GAP code: FACO

Order: Falconiformes

Family: Falconidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Rare

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S3B,SZN

Knowledge: Adequate

General habitats used: Merlins inhabit open mixed or coniferous (and sometimes deciduous) forests, with marshes, pastures, fields, and mudflats nearby. Merlins nest in a variety of sites, including abandoned nests of other species, within cavities in trees, cliff ledges, or on the ground. Nest sites are typically completely or partially enclosed.

Specific habitats used:

Comments: Merlins are more of a boreal and tundra species, and are rare in more southern habitats in Maine.

Predicted habitat quantities:

MERLIN				Total in ha: 2,030,177	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	26,323	Fresh emergent	14,953
Abandoned field	5,037	Heavy partial cut	40,076	Peatland	11,696
Blueberry field	3,069	Deciduous forest	264,266	Wet meadow	2,157
Grassland	46,637	Decid./Conif. forest	357,125	Salt aquatic bed	7,113
Crops/Ground	44,504	Conif./Decid. forest	418,488	Salt emergent	1,070
Developed lands		Coniferous forest	259,110	Mudflat	6,998
Sparse residential	1,995	Wetlands		Sand shore	1,219
Dense residential	275	Deciduous forested	7,288	Gravel shore	177
Urban/Industrial	0	Coniferous forested	112,410	Rock shore	597
Highways/Runways	24	Dead-forested	637	Shallow water	763
Forestlands		Decid. shrub-scrub	28,975	Open water	3,221
Clearcut	34,808	Conifer. shrub-scrub	2,921	Other	
Early regeneration	239,458	Dead shrub-scrub	11	Alpine tundra	13
Late regeneration	86,603	Fresh aquatic bed	29	Exposed rock/Talus	130

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PEREGRINE FALCON (*Falco peregrinus*)

Element code: ME-GAP code: FAPE
Order: Falconiformes **Family:** Falconidae
Breeding range change: Expanding **Listing status:** Endangered (S, F)
Migratory status: US and Neotropical migrant **Game species:** No
Population level: Rare **Population trend:** Gradual increase, in part to re-introductions
Heritage ranks: G4 . . S1S2N,S2B **Knowledge:** Adequate

General habitats used: Peregrine Falcons nest on high, rocky cliffs and bluffs, tall trees, or on man-made structures such as bridges and tall skyscrapers. Nests tend to be overlooking rivers, streams, or lakes, and allow for a wide view. As predators of small birds, Peregrine Falcons will feed over a variety of habitats, including the ocean, agricultural areas, clearcuts, and wetlands.

Specific habitats used: Tall cliffs or other elevated and isolated sites are used by Peregrine Falcons for nesting.

Comments: Peregrine Falcons were extirpated (that is locally extinct) from Maine during the DDT use (1940's-1970). Falcons have been reintroduced by the Department of Inland Fisheries and Wildlife. Because Peregrines may hunt over many habitat types, we included this variety as potential habitats within townships having nesting Peregrines.

Predicted habitat quantities:

PEREGRINE FALCON				Total in ha: 240,378	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	2,245	Fresh emergent	1,682
Abandoned field	460	Heavy partial cut	3,929	Peatland	842
Blueberry field	1,070	Deciduous forest	51,365	Wet meadow	403
Grassland	8,431	Decid./Conif. forest	48,477	Salt aquatic bed	307
Crops/Ground	757	Conif./Decid. forest	47,302	Salt emergent	189
Developed lands		Coniferous forest	29,300	Mudflat	400
Sparse residential	596	Wetlands		Sand shore	33
Dense residential	138	Deciduous forested	2,247	Gravel shore	52
Urban/Industrial	0	Coniferous forested	4,501	Rock shore	42
Highways/Runways	4	Dead-forested	24	Shallow water	550
Forestlands		Decid. shrub-scrub	3,046	Open water	11,215
Clearcut	2,027	Conifer. shrub-scrub	440	Other	
Early regeneration	9,154	Dead shrub-scrub	11	Alpine tundra	1,801
Late regeneration	4,036	Fresh aquatic bed	52	Exposed rock/Talus	3,252

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SPRUCE GROUSE (*Falci pennis canadensis*)

Element code: BNLC0901

ME-GAP code: DECN

Order: Galliformes

Family: Phasianidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Uncommon

Population trend: Stable, may be gradually increasing

Heritage ranks: G5 . . S4S5

Knowledge: Adequate

General habitats used: Spruce Grouse inhabit wet, coniferous forests, such as tamarack swamps, cedar bogs, and black spruce stands, selecting larger patches over small. Ideally these habitats would be interspersed with spruce-fir and northern hardwood forests. Floodplain coniferous forests bordering sluggish streams are frequently used, as are open conifer woodlands and peatlands. More open stands are inhabited in the breeding season than in fall or winter. These grouse also will use mixed forests, blueberry barrens, and burns. Spruce Grouse nest on the ground, in a shallow depression usually with some overhead cover (i.e., low-hanging conifer branches).

Specific habitats used: Large patches of black spruce/tamarack seem to be the key habitats for Spruce Grouse in Maine.

Comments: Hunting of this species is currently not permitted in Maine.

Predicted habitat quantities:

SPRUCE GROUSE				Total in ha: 3,502,976	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	77,344	Fresh emergent	11,503
Abandoned field	2,910	Heavy partial cut	103,087	Peatland	41,858
Blueberry field	10,212	Deciduous forest	48,937	Wet meadow	2,197
Grassland	15,852	Decid./Conif. forest	151,120	Salt aquatic bed	556
Crops/Ground	5,919	Conif./Decid. forest	1,264,668	Salt emergent	160
Developed lands		Coniferous forest	597,685	Mudflat	189
Sparse residential	6,451	Wetlands		Sand shore	30
Dense residential	314	Deciduous forested	7,566	Gravel shore	185
Urban/Industrial	0	Coniferous forested	330,907	Rock shore	275
Highways/Runways	26	Dead-forested	1,852	Shallow water	2,170
Forestlands		Decid. shrub-scrub	104,932	Open water	10,652
Clearcut	22,566	Conifer. shrub-scrub	11,717	Other	
Early regeneration	460,150	Dead shrub-scrub	66	Alpine tundra	122
Late regeneration	208,675	Fresh aquatic bed	5	Exposed rock/Talus	120

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RUFFED GROUSE (*Bonasa umbellus*)**Element code:** BNLC1101**ME-GAP code:** BOUM**Order:** Galliformes**Family:** Phasianidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Resident**Game species:** Yes**Population level:** Common**Population trend:** Stable, but cyclic over many years**Heritage ranks:** G5 . . S5**Knowledge:** Good

General habitats used: Ruffed Grouse are most common in young (brush to pole size), extensive stands of deciduous and mixed forests with an interspersed of openings. These grouse use open areas and brushy habitats, with habitat relations more closely tied to patch age and structure than to shrub species. That said, aspen thickets are selected by grouse, as are birch stands, abandoned orchards, and harvested areas near wetlands. Logging roads and select-cut stands are used by Ruffed Grouse. Ruffed Grouse nest on the ground.

Specific habitats used: Elevated sites such as logs, stumps and boulders, and brushy cover are used by male Ruffed Grouse during the breeding season.

Comments:**Predicted habitat quantities:**

RUFFED GROUSE				Total in ha: 4,457,016	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	75,749	Fresh emergent	20,103
Abandoned field	13,042	Heavy partial cut	113,724	Peatland	5,530
Blueberry field	10,181	Deciduous forest	1,137,950	Wet meadow	9,308
Grassland	366,276	Decid./Conif. forest	997,960	Salt aquatic bed	1,108
Crops/Ground	41,440	Conif./Decid. forest	553,486	Salt emergent	588
Developed lands		Coniferous forest	129,744	Mudflat	716
Sparse residential	44,831	Wetlands		Sand shore	143
Dense residential	8,307	Deciduous forested	21,729	Gravel shore	317
Urban/Industrial	305	Coniferous forested	75,048	Rock shore	737
Highways/Runways	423	Dead-forested	734	Shallow water	4,041
Forestlands		Decid. shrub-scrub	74,161	Open water	27,383
Clearcut	91,049	Conifer. shrub-scrub	8,631	Other	
Early regeneration	429,681	Dead shrub-scrub	78	Alpine tundra	102
Late regeneration	191,531	Fresh aquatic bed	43	Exposed rock/Talus	840

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WILD TURKEY (*Meleagris gallopavo*)

Element code: BNLC1401

ME-GAP code: MEGA

Order: Galliformes

Family: Phasianidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Resident

Game species: Yes

Population level: Uncommon

Population trend: Gradual increase, after re-introductions

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Wild Turkeys are most common in the breeding season where there is an interspersed of habitats, including mast producing forests, open woodlands, and crop fields, grassland, or brushland. Female turkeys select areas with dense understory vegetation, often along field edges and stands. Large conifer trees are used as roost sites. In general, forest type does not appear as important in habitat relations as habitat structure (open and dense) and interspersed (farms and forests).

Specific habitats used: Relatively large trees are required by Wild Turkey for roosting. In Maine (the northern limit of their range) winter food availability determines, in part, breeding distribution. Agricultural sites (e.g., manure spread at dairies) provide winter food for Wild Turkeys.

Comments: Turkeys were native to Maine but extirpated in the 1800's. Thanks to stocking by the Department of Inland Fisheries and Wildlife, this species is becoming increasingly common in southern and central Maine.

Predicted habitat quantities:

WILD TURKEY				Total in ha: 773,834	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	11,696	Fresh emergent	<i>1,342</i>
Abandoned field	1,212	Heavy partial cut	6,487	Peatland	<i>157</i>
Blueberry field	683	Deciduous forest	102,880	Wet meadow	1,160
Grassland	156,778	Decid./Conif. forest	181,312	Salt aquatic bed	<i>149</i>
Crops/Ground	9,936	Conif./Decid. forest	162,000	Salt emergent	358
Developed lands		Coniferous forest	66,404	Mudflat	<i>418</i>
Sparse residential	10,826	Wetlands		Sand shore	<i>42</i>
Dense residential	2,038	Deciduous forested	4,815	Gravel shore	<i>0</i>
Urban/Industrial	137	Coniferous forested	3,084	Rock shore	<i>48</i>
Highways/Runways	49	Dead-forested	66	Shallow water	<i>425</i>
Forestlands		Decid. shrub-scrub	10,566	Open water	<i>1,698</i>
Clearcut	8,422	Conifer. shrub-scrub	1,181	Other	
Early regeneration	10,421	Dead shrub-scrub	9	Alpine tundra	<i>0</i>
Late regeneration	16,807	Fresh aquatic bed	6	Exposed rock/Talus	<i>222</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

VIRGINIA RAIL (*Rallus limicola*)

Element code: BNME0503

ME-GAP code: RALI

Order: Gruiformes

Family: Rallidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: Yes

Population level: Common

Population trend: Moderate decline, but not well surveyed

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Virginia Rails are most common in large sedge or cattail marshes, with an interspersed of emergent vegetation and open water. Wetlands with diverse vegetation, high invertebrate abundances, and low nearby urbanization are selected by these rails. Mudflats in open water within wetlands, beaver flowages, and weedy fields near wetlands are used. Virginia Rails build nests within emergent vegetation, suspended a few centimeters over water, and also will nest in drier areas of marshes.

Specific habitats used:

Comments:

Predicted habitat quantities:

VIRGINIA RAIL				Total in ha: 186,385	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	361	Fresh emergent	32,856
Abandoned field	164	Heavy partial cut	436	Peatland	33,020
Blueberry field	104	Deciduous forest	488	Wet meadow	8,844
Grassland	1,410	Decid./Conif. forest	1,959	Salt aquatic bed	7
Crops/Ground	313	Conif./Decid. forest	7,090	Salt emergent	250
Developed lands		Coniferous forest	4,405	Mudflat	25
Sparse residential	203	Wetlands		Sand shore	6
Dense residential	64	Deciduous forested	1,699	Gravel shore	46
Urban/Industrial	2	Coniferous forested	8,440	Rock shore	35
Highways/Runways	4	Dead-forested	77	Shallow water	5,621
Forestlands		Decid. shrub-scrub	63,317	Open water	3,067
Clearcut	845	Conifer. shrub-scrub	8,497	Other	
Early regeneration	1,642	Dead shrub-scrub	17	Alpine tundra	0
Late regeneration	997	Fresh aquatic bed	63	Exposed rock/Talus	7

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SORA (*Porzana carolina*)

Element code: BNME0802

ME-GAP code: POCR

Order: Gruiformes

Family: Rallidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: Yes

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S4B

Knowledge: Good

General habitats used: Soras are most common on fresh water, fertile wetlands, swamps, bogs, and ponds. Shallow marshes (but deeper than most used by Virginia Rails) with an interspersed of emergent vegetation, flooded herbaceous plants, and open water are good habitat. Soras are less common on scrub-shrub wetlands, and are more common in larger wetlands. Soras will infrequently feed in agricultural areas. Nests are constructed in sedges, suspended over water.

Specific habitats used: Wet habitats with fairly stable water levels during the breeding season are used by nesting Soras.

Comments:

Predicted habitat quantities:

SORA				Total in ha: 201,325	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	670	Fresh emergent	26,012
Abandoned field	262	Heavy partial cut	869	Peatland	27,726
Blueberry field	176	Deciduous forest	1,570	Wet meadow	7,019
Grassland	2,893	Decid./Conif. forest	3,916	Salt aquatic bed	617
Crops/Ground	640	Conif./Decid. forest	12,387	Salt emergent	104
Developed lands		Coniferous forest	6,680	Mudflat	89
Sparse residential	360	Wetlands		Sand shore	21
Dense residential	87	Deciduous forested	4,891	Gravel shore	190
Urban/Industrial	2	Coniferous forested	26,255	Rock shore	107
Highways/Runways	2	Dead-forested	215	Shallow water	4,491
Forestlands		Decid. shrub-scrub	51,271	Open water	8,390
Clearcut	1,444	Conifer. shrub-scrub	6,786	Other	
Early regeneration	3,398	Dead shrub-scrub	7	Alpine tundra	0
Late regeneration	1,716	Fresh aquatic bed	48	Exposed rock/Talus	13

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW RAIL (*Coturnicops noveboracensis*)

Element code: BNME0101

ME-GAP code: CONO

Order: Gruiformes

Family: Rallidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Rare

Population trend: Unknown, not well surveyed

Heritage ranks: G4 . . SPB

Knowledge: Best guess

General habitats used: Yellow Rails inhabit moist, low lying areas with senescent vegetation (sedges and grasses) that are adjacent to flowing third or fourth order streams. Meadows and marshes that are large (> 40 ha) are selected. Yellow Rails build nests that are on bare ground, or within sedges and grasses, often suspended over water.

Specific habitats used:

Comments: Yellow Rails have an interesting call; it can be imitated very well by clicking small stones together. This species is rarer than the predicted habitat suggests.

Predicted habitat quantities:

YELLOW RAIL				Total in ha: 94,851	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	224	Fresh emergent	20,636
Abandoned field	91	Heavy partial cut	324	Peatland	25,658
Blueberry field	85	Deciduous forest	621	Wet meadow	5,651
Grassland	1,004	Decid./Conif. forest	1,544	Salt aquatic bed	612
Crops/Ground	234	Conif./Decid. forest	5,072	Salt emergent	79
Developed lands		Coniferous forest	2,934	Mudflat	82
Sparse residential	152	Wetlands		Sand shore	19
Dense residential	40	Deciduous forested	1,879	Gravel shore	115
Urban/Industrial	2	Coniferous forested	11,942	Rock shore	63
Highways/Runways	0	Dead-forested	118	Shallow water	888
Forestlands		Decid. shrub-scrub	6,972	Open water	4,322
Clearcut	637	Conifer. shrub-scrub	904	Other	
Early regeneration	1,204	Dead shrub-scrub	1	Alpine tundra	0
Late regeneration	698	Fresh aquatic bed	42	Exposed rock/Talus	4

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON MOORHEN (*Gallinula chloropus*)

Element code: BNME1301

ME-GAP code: GACH

Order: Gruiformes

Family: Rallidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: Yes

Population level: Rare

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S2?B

Knowledge: Adequate

General habitats used: Common Moorhens inhabit freshwater marshes, and the margins of lakes, ponds, and rivers, if emergent vegetation is present. Aquatic habitats that are between 30 cm and 90 cm deep, with emergent vegetation in equal proportion to open water, are good habitats for moorhens. In addition, Common Moorhens may occur in willow or alder swamps, sewage treatment lagoons, and mud flats (for feeding).

Specific habitats used:

Comments: Although this species is a game bird in Maine, few are shot.

Predicted habitat quantities:

COMMON MOORHEN				Total in ha: 44,294	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	52	Fresh emergent	7,122
Abandoned field	66	Heavy partial cut	99	Peatland	3,899
Blueberry field	2	Deciduous forest	177	Wet meadow	1,758
Grassland	886	Decid./Conif. forest	654	Salt aquatic bed	288
Crops/Ground	258	Conif./Decid. forest	1,918	Salt emergent	2,932
Developed lands		Coniferous forest	726	Mudflat	4,935
Sparse residential	100	Wetlands		Sand shore	27
Dense residential	23	Deciduous forested	479	Gravel shore	0
Urban/Industrial	4	Coniferous forested	1,275	Rock shore	6
Highways/Runways	3	Dead-forested	21	Shallow water	794
Forestlands		Decid. shrub-scrub	12,878	Open water	743
Clearcut	270	Conifer. shrub-scrub	1,388	Other	
Early regeneration	254	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	241	Fresh aquatic bed	14	Exposed rock/Talus	3

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN COOT (*Fulica americana*)

Element code: BNME1402

ME-GAP code: FUAM

Order: Gruiformes

Family: Rallidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: Yes

Population level: Rare

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S2?B

Knowledge: Adequate

General habitats used: American Coots inhabit aquatic habitats with an interspersion of open water and emergent vegetation (cattails are selected, but sedges and willows also are used). Coots will use marshes, stream margins, rivers, ponds, lakes, sewage treatment lagoons; any aquatic habitat with abundant emergent vegetation. Nests are constructed within emergent vegetation, forming a floating platform.

Specific habitats used:

Comments: Although classifies as a game species in Maine, few are actually taken by hunters.

Predicted habitat quantities:

AMERICAN COOT				Total in ha: 15,950	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	28	Fresh emergent	3,711
Abandoned field	10	Heavy partial cut	19	Peatland	1,153
Blueberry field	1	Deciduous forest	41	Wet meadow	836
Grassland	369	Decid./Conif. forest	262	Salt aquatic bed	126
Crops/Ground	69	Conif./Decid. forest	492	Salt emergent	3,566
Developed lands		Coniferous forest	232	Mudflat	3,042
Sparse residential	73	Wetlands		Sand shore	73
Dense residential	46	Deciduous forested	154	Gravel shore	0
Urban/Industrial	9	Coniferous forested	151	Rock shore	1
Highways/Runways	0	Dead-forested	6	Shallow water	595
Forestlands		Decid. shrub-scrub	220	Open water	415
Clearcut	101	Conifer. shrub-scrub	32	Other	
Early regeneration	42	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	53	Fresh aquatic bed	16	Exposed rock/Talus	5

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

KILLDEER (*Charadrius vociferus*)

Element code: BNNB0309

ME-GAP code: CHVO

Order: Charadriiformes

Family: Charadriidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S3N,S5B

Knowledge: Good

General habitats used: Killdeer occur in somewhat dry, open habitats with sparse vegetation, such as pastures, road margins, and grazed meadows. Clearing within forests have allowed Killdeer to use new areas. Killdeer are not readily disturbed by human activities, and will occur at airports, residential lawns, golf courses, paved and gravel parking lots, cultivated fields, and baseball diamonds. Nests are constructed on the ground, usually within patches of gravel and in gravel pits, and also are placed on flat-roofed buildings (without parapets).

Specific habitats used:

Comments: Killdeer have a characteristic alarm call, screaming “kill deer, kill deer” when a threat approaches.

Predicted habitat quantities:

KILLDEER				Total in ha: 1,492,150	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>18,228</i>	Fresh emergent	<i>7,572</i>
Abandoned field	9,532	Heavy partial cut	<i>62,217</i>	Peatland	<i>2,475</i>
Blueberry field	8,546	Deciduous forest	<i>81,164</i>	Wet meadow	<i>6,657</i>
Grassland	287,317	Decid./Conif. forest	<i>128,498</i>	Salt aquatic bed	<i>3,294</i>
Crops/Ground	79,008	Conif./Decid. forest	<i>139,342</i>	Salt emergent	<i>1,516</i>
Developed lands		Coniferous forest	<i>52,216</i>	Mudflat	<i>16,825</i>
Sparse residential	37,977	Wetlands		Sand shore	<i>1,949</i>
Dense residential	28,096	Deciduous forested	<i>8,522</i>	Gravel shore	<i>2,127</i>
Urban/Industrial	1,396	Coniferous forested	<i>30,722</i>	Rock shore	<i>2,082</i>
Highways/Runways	521	Dead-forested	<i>322</i>	Shallow water	<i>1,766</i>
Forestlands		Decid. shrub-scrub	<i>15,567</i>	Open water	<i>17,315</i>
Clearcut	64,122	Conifer. shrub-scrub	<i>1,431</i>	Other	
Early regeneration	314,048	Dead shrub-scrub	<i>34</i>	Alpine tundra	<i>1,677</i>
Late regeneration	54,264	Fresh aquatic bed	<i>23</i>	Exposed rock/Talus	<i>3,781</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SPOTTED SANDPIPER (*Actitis macularia*)

Element code: BNNF0402

ME-GAP code: ACMA

Order: Charadriiformes

Family: Scolopacidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Good

General habitats used: Spotted Sandpipers occur most commonly along the gravelly margins of streams, rivers, ponds, and lakes. These sandpipers use areas with short dry grasses, such as grazed pastures, fields, and road shoulders. Sometimes these areas are far from water. Barren areas, such as beaches and dunes, may be used. Spotted Sandpipers build nests in grasses or shrubs, and feed in short grasses or the mud along waterbodies.

Specific habitats used:

Comments:

Predicted habitat quantities:

SPOTTED SANDPIPER				Total in ha: 853,226	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>4,511</i>	Fresh emergent	34,971
Abandoned field	6,401	Heavy partial cut	<i>6,126</i>	Peatland	29,269
Blueberry field	6,369	Deciduous forest	<i>26,940</i>	Wet meadow	8,760
Grassland	248,493	Decid./Conif. forest	<i>51,702</i>	Salt aquatic bed	<i>701</i>
Crops/Ground	70,671	Conif./Decid. forest	<i>83,965</i>	Salt emergent	1,584
Developed lands		Coniferous forest	<i>34,864</i>	Mudflat	1,128
Sparse residential	28,698	Wetlands		Sand shore	197
Dense residential	<i>4,924</i>	Deciduous forested	<i>13,866</i>	Gravel shore	2,117
Urban/Industrial	<i>200</i>	Coniferous forested	<i>47,302</i>	Rock shore	1,527
Highways/Runways	<i>297</i>	Dead-forested	<i>501</i>	Shallow water	3,178
Forestlands		Decid. shrub-scrub	69,298	Open water	<i>13,051</i>
Clearcut	<i>8,122</i>	Conifer. shrub-scrub	<i>8,122</i>	Other	
Early regeneration	<i>22,917</i>	Dead shrub-scrub	<i>27</i>	Alpine tundra	104
Late regeneration	<i>11,782</i>	Fresh aquatic bed	<i>37</i>	Exposed rock/Talus	<i>506</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

UPLAND SANDPIPER (*Bartramia longicauda*)

Element code: BNNF0601

ME-GAP code: BALO

Order: Charadriiformes

Family: Scolopacidae

Breeding range change: Unknown

Listing status: Threatened (S)

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Unknown

Heritage ranks: G5 . . S3B

Knowledge: Adequate

General habitats used: Upland Sandpipers are most common in large areas (> 20 ha) with a mixture of short and tall grasses. These sandpipers occur in large pastures and grassy fields, agricultural areas (e.g., clover and alfalfa fields, blueberry barrens), and in urban areas, such as airports and golf courses. Openings within forests are sometimes used. Upland Sandpipers are ground nesters, nesting in grasses, and they are loosely colonial.

Specific habitats used: In eastern Maine, large blueberry fields are the most important habitats for this species, although recent research suggests that they could also be breeding in peatlands and grasslands in northern Maine.

Comments:

Predicted habitat quantities:

UPLAND SANDPIPER				Total in ha: 412,701	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	1,039	Fresh emergent	27,376
Abandoned field	1,149	Heavy partial cut	1,246	Peatland	23,578
Blueberry field	10,071	Deciduous forest	6,323	Wet meadow	7,668
Grassland	215,356	Decid./Conif. forest	12,898	Salt aquatic bed	194
Crops/Ground	4,133	Conif./Decid. forest	15,497	Salt emergent	1,493
Developed lands		Coniferous forest	4,169	Mudflat	229
Sparse residential	4,477	Wetlands		Sand shore	55
Dense residential	1,172	Deciduous forested	2,058	Gravel shore	3
Urban/Industrial	106	Coniferous forested	4,231	Rock shore	75
Highways/Runways	37	Dead-forested	64	Shallow water	539
Forestlands		Decid. shrub-scrub	49,155	Open water	2,104
Clearcut	2,889	Conifer. shrub-scrub	5,277	Other	
Early regeneration	4,498	Dead shrub-scrub	8	Alpine tundra	0
Late regeneration	3,317	Fresh aquatic bed	4	Exposed rock/Talus	211

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON SNIPE (*Gallinago gallinago*)

Element code: BNNF1801

ME-GAP code: GAGA

Order: Charadriiformes

Family: Scolopacidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant; Local migrant

Game species: Yes

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: Common Snipe are common in grazed marshes, with low sparse vegetation and wet organic soils. Bogs, swamps, wet meadows, willow and alder swamps, shrub wetlands, and wet lowlands near streams and rivers are selected by snipe. The edges and shallow portions of deep water marshes will be used by Common Snipe. Large open areas are used by snipe for courtship displays. Nests are constructed on the ground, on tussocks of grass, moss, or sunken logs.

Specific habitats used:

Comments: Some believe snipe hunting to be an aimless chase after a fictitious bird. Common snipe, however, are indeed a type of shorebird, and are a popular quarry with hunters.

Predicted habitat quantities:

COMMON SNIPE				Total in ha: 858,780	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	2,777	Fresh emergent	35,344
Abandoned field	5,160	Heavy partial cut	3,767	Peatland	36,022
Blueberry field	1,754	Deciduous forest	16,032	Wet meadow	8,305
Grassland	221,170	Decid./Conif. forest	31,339	Salt aquatic bed	1,109
Crops/Ground	20,465	Conif./Decid. forest	50,347	Salt emergent	5,426
Developed lands		Coniferous forest	26,921	Mudflat	12,489
Sparse residential	5,906	Wetlands		Sand shore	455
Dense residential	2,366	Deciduous forested	33,472	Gravel shore	2,146
Urban/Industrial	122	Coniferous forested	199,133	Rock shore	1,502
Highways/Runways	74	Dead-forested	1,140	Shallow water	3,172
Forestlands		Decid. shrub-scrub	72,929	Open water	18,216
Clearcut	7,795	Conifer. shrub-scrub	9,620	Other	
Early regeneration	14,646	Dead shrub-scrub	25	Alpine tundra	3
Late regeneration	7,160	Fresh aquatic bed	27	Exposed rock/Talus	444

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN WOODCOCK (*Scolopax minor*)

Element code: BNNF1902

ME-GAP code: SCMI

Order: Charadriiformes

Family: Scolopacidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: Yes

Population level: Common

Population trend: Declining

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: American Woodcock are a brushland species, most common where there is an interspersed of early successional hardwood stands, alder thickets, and clearings such as abandoned farmland or blueberry barrens, and regenerating forest edges. Fertile, moist habitats such as swamps, margins of streams and ponds, and bogs are also used. Abandoned farmlands, with high densities of earthworms and moist, soft soils, are high quality woodcock habitat.

Specific habitats used:

Comments: Compared to 20 years ago, population levels are down and concern over the status of this important migratory game bird is increasing.

Predicted habitat quantities:

AMERICAN WOODCOCK				Total in ha: 1,458,573	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	45,713	Fresh emergent	<i>14,108</i>
Abandoned field	8,857	Heavy partial cut	68,312	Peatland	30,312
Blueberry field	8,281	Deciduous forest	67,777	Wet meadow	8,001
Grassland	45,290	Decid./Conif. forest	121,127	Salt aquatic bed	2,040
Crops/Ground	11,991	Conif./Decid. forest	178,140	Salt emergent	1,128
Developed lands		Coniferous forest	76,328	Mudflat	16,151
Sparse residential	26,279	Wetlands		Sand shore	181
Dense residential	2,402	Deciduous forested	33,016	Gravel shore	252
Urban/Industrial	89	Coniferous forested	59,765	Rock shore	430
Highways/Runways	279	Dead-forested	458	Shallow water	2,556
Forestlands		Decid. shrub-scrub	64,498	Open water	17,360
Clearcut	66,475	Conifer. shrub-scrub	7,587	Other	
Early regeneration	342,709	Dead shrub-scrub	41	Alpine tundra	46
Late regeneration	130,399	Fresh aquatic bed	11	Exposed rock/Talus	183

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

HERRING GULL (*Larus argentatus*)

Element code: BNNM0312

ME-GAP code: LAAR

Order: Charadriiformes

Family: Laridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable, possibly decreasing

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Herring Gulls breed along the main coast and on coastal islands, as well as on islands in lakes and rivers, and occasionally in salt marshes. In these areas, Herring Gulls nest on grassy patches, rock terraces, lakeside cliffs, and the margins of salt marshes. Herring Gulls feed in fields, on lakes, and rivers. They are not disturbed by human activity, and feed in garbage dumps and at fish processing stations, and by fishing boats processing their catch.

Specific habitats used:

Comments: Herring Gulls may be decreasing along Maine’s coastline because of competition with the more aggressive Great Black-backed Gulls. Gulls will feed in the ocean well beyond the edge of the area shown here.

Predicted habitat quantities:

HERRING GULL				Total in ha: 973,616	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>123</i>	Fresh emergent	1,818
Abandoned field	100	Heavy partial cut	<i>109</i>	Peatland	205
Blueberry field	<i>11</i>	Deciduous forest	<i>488</i>	Wet meadow	1,221
Grassland	2,033	Decid./Conif. forest	<i>1,260</i>	Salt aquatic bed	2,573
Crops/Ground	346	Conif./Decid. forest	<i>4,813</i>	Salt emergent	390
Developed lands		Coniferous forest	<i>4,829</i>	Mudflat	1,989
Sparse residential	813	Wetlands		Sand shore	341
Dense residential	92	Deciduous forested	<i>277</i>	Gravel shore	594
Urban/Industrial	31	Coniferous forested	<i>513</i>	Rock shore	1,584
Highways/Runways	2	Dead-forested	<i>17</i>	Shallow water	2,377
Forestlands		Decid. shrub-scrub	<i>1,007</i>	Open water	942,526
Clearcut	<i>141</i>	Conifer. shrub-scrub	<i>92</i>	Other	
Early regeneration	<i>467</i>	Dead shrub-scrub	<i>5</i>	Alpine tundra	<i>0</i>
Late regeneration	<i>404</i>	Fresh aquatic bed	<i>2</i>	Exposed rock/Talus	<i>23</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GREAT BLACK-BACKED GULL (*Larus marinus*)

Element code: BNNM0321

ME-GAP code: LAMA

Order: Charadriiformes

Family: Laridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Common

Population trend: Stable, possibly increasing

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Great Black-backed Gulls nest along the coast and on coastal islands, on islands within lakes and rivers, and rarely on salt marshes. Portions of the coast with steep cliffs and no islands are without gulls. At breeding sites, nests are built in grassy areas, bare patches, rocky outcrops, or on tussocks.

Specific habitats used:

Comments: Gulls breed far out to sea, and the edge shown here is only an arbitrary study area boundary.

Predicted habitat quantities:

GREAT BLACK-BACKED GULL				Total in ha: 685,778	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	58	Fresh emergent	5,364
Abandoned field	154	Heavy partial cut	42	Peatland	81
Blueberry field	72	Deciduous forest	197	Wet meadow	1,214
Grassland	1,123	Decid./Conif. forest	646	Salt aquatic bed	16,607
Crops/Ground	173	Conif./Decid. forest	2,702	Salt emergent	5,556
Developed lands		Coniferous forest	3,076	Mudflat	20,112
Sparse residential	563	Wetlands		Sand shore	2,697
Dense residential	133	Deciduous forested	207	Gravel shore	285
Urban/Industrial	26	Coniferous forested	156	Rock shore	2,104
Highways/Runways	0	Dead-forested	15	Shallow water	1,701
Forestlands		Decid. shrub-scrub	460	Open water	618,160
Clearcut	123	Conifer. shrub-scrub	26	Other	
Early regeneration	274	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	296	Fresh aquatic bed	58	Exposed rock/Talus	1,319

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON TERN (*Sterna hirundo*)**Element code:** BNNM0807**ME-GAP code:** STHI**Order:** Charadriiformes**Family:** Laridae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** US migrant**Game species:** No**Population level:** Common**Population trend:** Stable, to increasing**Heritage ranks:** G5 . . S4B**Knowledge:** Adequate

General habitats used: Common Terns nest on the sandy, gravelly, and grassy shores of coastal and inland islands. Areas with sparse (or no) vegetation are selected for nest sites.

Common Terns feed in shallow fresh or salt water. Sites without shallow water, or with steep cliffs leading to the water's edge, will not support terns. Muddy water also will deter terns from using an area, because fish cannot be readily located.

Specific habitats used:

Comments: Increases in populations on some coastal nesting islands are due to management of Gull populations.

Predicted habitat quantities:

COMMON TERN				Total in ha: 82,716	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	52	Fresh emergent	1,204
Abandoned field	96	Heavy partial cut	46	Peatland	134
Blueberry field	8	Deciduous forest	158	Wet meadow	211
Grassland	751	Decid./Conif. forest	366	Salt aquatic bed	5,744
Crops/Ground	101	Conif./Decid. forest	1,964	Salt emergent	193
Developed lands		Coniferous forest	2,210	Mudflat	539
Sparse residential	224	Wetlands		Sand shore	268
Dense residential	22	Deciduous forested	147	Gravel shore	297
Urban/Industrial	2	Coniferous forested	353	Rock shore	1,403
Highways/Runways	0	Dead-forested	9	Shallow water	1,885
Forestlands		Decid. shrub-scrub	602	Open water	63,194
Clearcut	80	Conifer. shrub-scrub	41	Other	
Early regeneration	224	Dead shrub-scrub	2	Alpine tundra	0
Late regeneration	163	Fresh aquatic bed	10	Exposed rock/Talus	11

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK TERN (*Chlidonias niger*)

Element code: BNNM1002

ME-GAP code: CHNI

Order: Charadriiformes

Family: Laridae

Breeding range change: Unknown

Listing status: Endangered (S)

Migratory status: Neotropical migrant

Game species: No

Population level: Rare

Population trend: Stable, but erratic breeding in Maine

Heritage ranks: G4 . . S2B

Knowledge: Best guess

General habitats used: Black Terns breed in deepwater marshes that have up to 75% of the wetland in emergent vegetation, usually cattails in Maine. Marshes that have a high interspersion of open water (e.g., channels, at 50%) and emergent plants (50%), that are > 25 ha are good Black Tern habitat. Black Terns will use wet meadows, and will inhabit new impoundments for a few years. These terns build nests on floating mats of vegetation, and on muskrat lodges.

Specific habitats used:

Comments: Townships with known colonies shown as range, and the appropriate habitats within the range are shown as potential habitats. On-going research will probably find more colonies of Black Terns in Maine than those shown here.

Predicted habitat quantities:

BLACK TERN				Total in ha: 5,786	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	4	Fresh emergent	862
Abandoned field	8	Heavy partial cut	10	Peatland	559
Blueberry field	0	Deciduous forest	21	Wet meadow	560
Grassland	32	Decid./Conif. forest	44	Salt aquatic bed	0
Crops/Ground	50	Conif./Decid. forest	246	Salt emergent	0
Developed lands		Coniferous forest	162	Mudflat	0
Sparse residential	17	Wetlands		Sand shore	0
Dense residential	2	Deciduous forested	26	Gravel shore	0
Urban/Industrial	0	Coniferous forested	58	Rock shore	0
Highways/Runways	0	Dead-forested	2	Shallow water	85
Forestlands		Decid. shrub-scrub	84	Open water	2,863
Clearcut	23	Conifer. shrub-scrub	17	Other	
Early regeneration	17	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	32	Fresh aquatic bed	1	Exposed rock/Talus	0

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

MOURNING DOVE (*Zenaida macroura*)

Element code: BNPB0404

ME-GAP code: ZEMA

Order: Columbiformes

Family: Columbidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Rapid increase, due to range expansion

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: Mourning Doves inhabit open forests of all types, as well as forest edges, but tend to nest in open crowned conifers and pine plantations. Heavily forested areas are avoided. Doves are common in agricultural and urban areas, including orchards, farmlands, residential areas, and cities. High abundance within urban areas may be related, in part, to increased winter survival at feeding stations. Mourning Doves build nests on the ground, or in buildings, ledges, roof gutters, and trees.

Specific habitats used:

Comments: In the 1960's, this species was uncommon in Maine and today the species breeds as far north as the St. Lawrence River in Quebec. Mourning Doves, as the spelling of their name implies, were named so after their plaintive song.

Predicted habitat quantities:

MOURNING DOVE				Total in ha: 1,831,945	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	46,100	Fresh emergent	9,739
Abandoned field	10,460	Heavy partial cut	70,993	Peatland	3,144
Blueberry field	8,793	Deciduous forest	99,803	Wet meadow	6,998
Grassland	297,738	Decid./Conif. forest	166,726	Salt aquatic bed	3,061
Crops/Ground	82,674	Conif./Decid. forest	202,315	Salt emergent	1,584
Developed lands		Coniferous forest	74,938	Mudflat	16,925
Sparse residential	40,084	Wetlands		Sand shore	1,935
Dense residential	28,321	Deciduous forested	10,478	Gravel shore	197
Urban/Industrial	1,382	Coniferous forested	41,522	Rock shore	574
Highways/Runways	531	Dead-forested	418	Shallow water	2,140
Forestlands		Decid. shrub-scrub	19,736	Open water	17,229
Clearcut	70,365	Conifer. shrub-scrub	1,753	Other	
Early regeneration	354,911	Dead shrub-scrub	43	Alpine tundra	61
Late regeneration	137,447	Fresh aquatic bed	23	Exposed rock/Talus	804

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-BILLED CUCKOO (*Coccyzus erythrophthalmus*)**Element code:** BNRB0201**ME-GAP code:** COER**Order:** Cuculiformes**Family:** Cuculidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Uncommon**Population trend:** Stable, but erratic,
responding to insects**Heritage ranks:** G5 . . S4S5B**Knowledge:** Adequate

General habitats used: Black-billed Cuckoos inhabit open forests (more than Yellow-billed Cuckoos) and forest edges, willow groves, moist thickets, hedgerows, brushy pastures, and the edges of fields. Cuckoos will use roadside shrubby areas, clearcuts, and regenerating areas (although hardwood replacement by conifers decreases habitat quality for Black-billed Cuckoos). Cuckoos nest in shrubs or low in trees. Cuckoo populations tend to vary in response to tent caterpillar densities.

Specific habitats used:**Comments:****Predicted habitat quantities:**

BLACK-BILLED CUCKOO				Total in ha: 6,966,064	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	104,222	Fresh emergent	36,561
Abandoned field	17,026	Heavy partial cut	140,326	Peatland	10,100
Blueberry field	11,869	Deciduous forest	1,238,189	Wet meadow	7,531
Grassland	407,053	Decid./Conif. forest	1,260,387	Salt aquatic bed	2,961
Crops/Ground	48,827	Conif./Decid. forest	1,645,188	Salt emergent	1,087
Developed lands		Coniferous forest	709,090	Mudflat	1,443
Sparse residential	40,762	Wetlands		Sand shore	297
Dense residential	9,533	Deciduous forested	37,557	Gravel shore	572
Urban/Industrial	265	Coniferous forested	178,506	Rock shore	1,582
Highways/Runways	365	Dead-forested	1,488	Shallow water	7,697
Forestlands		Decid. shrub-scrub	105,554	Open water	56,181
Clearcut	111,787	Conifer. shrub-scrub	11,532	Other	
Early regeneration	492,751	Dead shrub-scrub	100	Alpine tundra	441
Late regeneration	266,111	Fresh aquatic bed	60	Exposed rock/Talus	1,064

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW-BILLED CUCKOO (*Coccyzus americanus*)

Element code: BNRB0202

ME-GAP code: COAM

Order: Cuculiformes

Family: Cuculidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but erratic,
responding to insects

Heritage ranks: G5 . . S3?B

Knowledge: Adequate

General habitats used: Yellow-billed Cuckoos occur in dense, low, brushy vegetation. Cuckoos will occur in open woods, shrublands, brushy fields, and streamsides with dense shrubs. Modified habitats, such as clearcuts, regenerating areas, abandoned orchards, pastures, roadsides, and residential areas are used. Nests are constructed in dense vegetation, low in small trees or shrubs. Cuckoo populations can vary depending upon tent caterpillar densities.

Specific habitats used:

Comments:

Predicted habitat quantities:

YELLOW-BILLED CUCKOO				Total in ha: 1,169,750	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	22,663	Fresh emergent	2,641
Abandoned field	10,677	Heavy partial cut	20,569	Peatland	512
Blueberry field	11,724	Deciduous forest	234,465	Wet meadow	539
Grassland	226,881	Decid./Conif. forest	308,351	Salt aquatic bed	761
Crops/Ground	6,576	Conif./Decid. forest	70,722	Salt emergent	510
Developed lands		Coniferous forest	11,581	Mudflat	571
Sparse residential	30,160	Wetlands		Sand shore	119
Dense residential	21,693	Deciduous forested	4,958	Gravel shore	23
Urban/Industrial	326	Coniferous forested	4,220	Rock shore	217
Highways/Runways	141	Dead-forested	90	Shallow water	612
Forestlands		Decid. shrub-scrub	33,577	Open water	2,743
Clearcut	27,246	Conifer. shrub-scrub	407	Other	
Early regeneration	58,146	Dead shrub-scrub	25	Alpine tundra	0
Late regeneration	54,793	Fresh aquatic bed	7	Exposed rock/Talus	501

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GREAT HORNED OWL (*Bubo virginianus*)

Element code: BNSB0501

ME-GAP code: BUVI

Order: Strigiformes

Family: Strigidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Great Horned Owls are most common in large forests of mixed hardwoods (e.g., beech and sugar maple, with scattered hemlock) that are near farmlands. Forests that are far from human populated areas are selected. Forested wetlands near rivers or ponds are used. Great Horned Owls will nest in large cavities, but they are not required; these owls will nest in abandoned open nests of other species (i.e., crows, hawks).

Specific habitats used:

Comments: One of the first species to nest in Maine each year.

Predicted habitat quantities:

GREAT HORNED OWL				Total in ha: 6,933,025	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	93,170	Fresh emergent	40,894
Abandoned field	16,985	Heavy partial cut	126,449	Peatland	17,433
Blueberry field	11,221	Deciduous forest	1,231,066	Wet meadow	13,400
Grassland	432,628	Decid./Conif. forest	1,251,889	Salt aquatic bed	6,465
Crops/Ground	99,746	Conif./Decid. forest	1,654,147	Salt emergent	2,890
Developed lands		Coniferous forest	726,699	Mudflat	18,892
Sparse residential	58,546	Wetlands		Sand shore	2,291
Dense residential	11,517	Deciduous forested	65,335	Gravel shore	2,613
Urban/Industrial	370	Coniferous forested	344,580	Rock shore	3,519
Highways/Runways	539	Dead-forested	2,368	Shallow water	8,618
Forestlands		Decid. shrub-scrub	116,619	Open water	70,242
Clearcut	103,635	Conifer. shrub-scrub	13,439	Other	
Early regeneration	212,370	Dead shrub-scrub	96	Alpine tundra	400
Late regeneration	170,780	Fresh aquatic bed	73	Exposed rock/Talus	1,098

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BARRED OWL (*Strix varia*)

Element code: BNSB1202

ME-GAP code: STVA

Order: Strigiformes

Family: Strigidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Uncommon

Population trend: Unknown; not well surveyed

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Barred Owls are most common in extensive, wet, older (> 80 years), densely forested areas. These owls occur in forested swamps, densely forested stream and pond margins, selecting mixed and oak forests for foraging and nesting, and mixed and coniferous forests for roosting. Barred Owls hunt for small mammals in open areas such as fields, clearcuts, and pastures. These owls nest in tree cavities (occasionally in abandoned nests of other birds or squirrels) and may be limited by cavity densities.

Specific habitats used: Barred Owls regularly uses large (≥ 50 cm dbh) tree cavities for nesting.

Comments: Barred owls have a famous call among bird watchers. It calls repeatedly, “Who cooks for you, who cooks for you all?”

Predicted habitat quantities:

BARRED OWL				Total in ha: 6,738,618	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	92,244	Fresh emergent	39,476
Abandoned field	16,232	Heavy partial cut	124,546	Peatland	42,414
Blueberry field	5,401	Deciduous forest	1,224,411	Wet meadow	7,909
Grassland	404,650	Decid./Conif. forest	1,237,486	Salt aquatic bed	5,482
Crops/Ground	45,912	Conif./Decid. forest	1,625,811	Salt emergent	2,695
Developed lands		Coniferous forest	711,498	Mudflat	18,430
Sparse residential	37,662	Wetlands		Sand shore	2,175
Dense residential	9,667	Deciduous forested	63,632	Gravel shore	626
Urban/Industrial	302	Coniferous forested	344,828	Rock shore	1,795
Highways/Runways	271	Dead-forested	2,247	Shallow water	8,298
Forestlands		Decid. shrub-scrub	115,276	Open water	62,752
Clearcut	101,258	Conifer. shrub-scrub	13,329	Other	
Early regeneration	203,355	Dead shrub-scrub	100	Alpine tundra	386
Late regeneration	164,958	Fresh aquatic bed	66	Exposed rock/Talus	1,041

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

LONG-EARED OWL (*Asio otus*)

Element code: BNSB1301

ME-GAP code: ASOT

Order: Strigiformes

Family: Strigidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S1S3B,SZN

Knowledge: Best guess

General habitats used: Long-eared Owls inhabit a variety of forested areas, including large or small, dense or open, conifer or deciduous stands. That said, these owls are more common in coniferous habitats (pines, cedars, conifer plantations) than deciduous. Long-eared Owls forage in open areas, such as fields, parks, and grassy meadows. These owls nest in dense vegetation, often in abandoned nests of other species.

Specific habitats used:

Comments: Long-eared owls are not usually included in regular surveys conducted , so we know little about their distribution in Maine.

Predicted habitat quantities:

LONG-EARED OWL				Total in ha: 6,815,831	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	93,480	Fresh emergent	40,552
Abandoned field	16,322	Heavy partial cut	124,634	Peatland	42,805
Blueberry field	11,003	Deciduous forest	1,223,366	Wet meadow	13,387
Grassland	419,330	Decid./Conif. forest	1,234,647	Salt aquatic bed	2,989
Crops/Ground	96,535	Conif./Decid. forest	1,629,212	Salt emergent	1,139
Developed lands		Coniferous forest	720,572	Mudflat	2,091
Sparse residential	40,298	Wetlands		Sand shore	410
Dense residential	10,508	Deciduous forested	64,286	Gravel shore	582
Urban/Industrial	312	Coniferous forested	347,360	Rock shore	1,528
Highways/Runways	425	Dead-forested	2,324	Shallow water	8,648
Forestlands		Decid. shrub-scrub	116,543	Open water	59,791
Clearcut	102,440	Conifer. shrub-scrub	13,546	Other	
Early regeneration	207,385	Dead shrub-scrub	97	Alpine tundra	397
Late regeneration	165,779	Fresh aquatic bed	71	Exposed rock/Talus	1,036

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SHORT-EARED OWL (*Asio flammeus*)

Element code: BNSB1304

ME-GAP code: ASFL

Order: Strigiformes

Family: Strigidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but not well surveyed, erratic

Heritage ranks: G5 . . S1BS1N

Knowledge: Best guess

General habitats used: Short-eared Owls inhabit open grassy and barren areas, such as meadows, marshes (fresh or salt), pastures, dunes, and tundra. Sites near water may be selected by these owls. Large open grassy fields with some cover and high densities of small mammalian prey (mainly voles) are good Short-eared Owl habitats. Short-eared Owls nest on the ground, and areas that lack mammalian predators (offshore island) are selected.

Specific habitats used:

Comments: Short-eared Owl populations tend to fluctuate, increasing in years when there are many voles available for food. These owls are rarely included in regular surveys, so little is known about their distribution in Maine.

Predicted habitat quantities:

SHORT-EARED OWL				Total in ha: 514,531	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,990</i>	Fresh emergent	36,611
Abandoned field	8,772	Heavy partial cut	<i>2,990</i>	Peatland	35,614
Blueberry field	859	Deciduous forest	<i>5,427</i>	Wet meadow	8,950
Grassland	130,845	Decid./Conif. forest	<i>9,889</i>	Salt aquatic bed	289
Crops/Ground	68,206	Conif./Decid. forest	<i>18,773</i>	Salt emergent	468
Developed lands		Coniferous forest	<i>8,068</i>	Mudflat	1,526
Sparse residential	4,738	Wetlands		Sand shore	395
Dense residential	618	Deciduous forested	<i>1,736</i>	Gravel shore	2,512
Urban/Industrial	0	Coniferous forested	<i>10,255</i>	Rock shore	2,837
Highways/Runways	176	Dead-forested	<i>74</i>	Shallow water	733
Forestlands		Decid. shrub-scrub	<i>72,035</i>	Open water	3,646
Clearcut	52,904	Conifer. shrub-scrub	<i>8,066</i>	Other	
Early regeneration	9,395	Dead shrub-scrub	<i>16</i>	Alpine tundra	1,776
Late regeneration	3,257	Fresh aquatic bed	<i>5</i>	Exposed rock/Talus	82

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN SAW-WHET OWL (*Aegolius acadicus*)

Element code: BNSB1502

ME-GAP code: AEAC

Order: Strigiformes

Family: Strigidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Uncommon

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S4S5N,S5B

Knowledge: Adequate

General habitats used: Northern Saw-whet Owls use a variety of habitats, but may be classed a species of moist woods. These owls are most common in damp, dense mixed and conifer stands, young thickets of hemlocks and red cedar, bogs, and densely wooded margins of streams and ponds. Altered habitats like residential yards, cemeteries, and clearcuts are favored. Mature mixed stands with snags are used for nesting. Northern Saw-whet Owls nest in cavities, and will use nest boxes.

Specific habitats used: Northern Saw-whet Owls require cavities within trees that are > 30 diameter at breast height for breeding. Nest boxes can provide alternative sites.

Comments: Northern Saw-Whet owls are named for the sound of their call -- like a sawyer sharpening a blade.

Predicted habitat quantities:

NORTHERN SAW-WHET OWL				Total in ha: 6,291,624	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	90,244	Fresh emergent	37,510
Abandoned field	14,406	Heavy partial cut	120,284	Peatland	42,068
Blueberry field	4,765	Deciduous forest	1,180,083	Wet meadow	7,535
Grassland	173,409	Decid./Conif. forest	1,183,435	Salt aquatic bed	2,761
Crops/Ground	30,394	Conif./Decid. forest	1,593,860	Salt emergent	970
Developed lands		Coniferous forest	712,541	Mudflat	1,893
Sparse residential	44,594	Wetlands		Sand shore	365
Dense residential	6,308	Deciduous forested	59,898	Gravel shore	571
Urban/Industrial	134	Coniferous forested	342,922	Rock shore	1,443
Highways/Runways	319	Dead-forested	2,205	Shallow water	7,924
Forestlands		Decid. shrub-scrub	109,927	Open water	55,555
Clearcut	96,665	Conifer. shrub-scrub	12,824	Other	
Early regeneration	193,715	Dead shrub-scrub	74	Alpine tundra	386
Late regeneration	158,951	Fresh aquatic bed	52	Exposed rock/Talus	634

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON NIGHTHAWK (*Chordeiles minor*)

Element code: BNTA0202

ME-GAP code: CHMI

Order: Caprimulgiformes

Family: Caprimulgidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Stable, perhaps
gradually decreasing

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Common Nighthawks inhabit open areas, such as meadows, burns, plowed fields, clearcuts, railroad right-of-ways, and gravelly or rocky barrenlands. As a species that feeds by aerial screening, many types of habitats may be used in feeding. Still, non-forested areas are selected. Common Nighthawks nest in open habitats with gravel (like gravel pits) or bare ground. In urban areas, Common Nighthawks nest on flat, gravel roofs, selecting roofs with parapets. As such roofs become less available, and rubber roof liners being more commonly used in new construction, flat-roofs are not used by nighthawks.

Specific habitats used:

Comments: Common Nighthawk populations may be gradually decreasing from losses of nest sites. These birds regularly “Stoop”, where they fly very high, and drop quickly toward the ground. As they pull up ending their aerial breeding display, their wings make a loud buzz.

Predicted habitat quantities:

COMMON NIGHTHAWK				Total in ha: 2,159,506	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	20,992	Fresh emergent	38,270
Abandoned field	10,259	Heavy partial cut	63,235	Peatland	31,928
Blueberry field	9,134	Deciduous forest	91,711	Wet meadow	10,448
Grassland	299,669	Decid./Conif. forest	149,635	Salt aquatic bed	2,330
Crops/Ground	81,666	Conif./Decid. forest	193,905	Salt emergent	671
Developed lands		Coniferous forest	83,358	Mudflat	1,435
Sparse residential	40,183	Wetlands		Sand shore	307
Dense residential	29,048	Deciduous forested	15,550	Gravel shore	2,971
Urban/Industrial	1,414	Coniferous forested	61,963	Rock shore	2,894
Highways/Runways	552	Dead-forested	555	Shallow water	7,470
Forestlands		Decid. shrub-scrub	74,441	Open water	366,647
Clearcut	67,380	Conifer. shrub-scrub	9,004	Other	
Early regeneration	324,808	Dead shrub-scrub	70	Alpine tundra	1,671
Late regeneration	60,040	Fresh aquatic bed	79	Exposed rock/Talus	3,811

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WHIP-POOR-WILL (*Caprimulgus vociferus*)

Element code: BNTA0707

ME-GAP code: CAVO

Order: Caprimulgiformes

Family: Caprimulgidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Declining or Stable

Heritage ranks: G5 . . S3B

Knowledge: Best guess

General habitats used: Whip-poor-wills inhabit open deciduous and mixed forests interspersed with pastures, abandoned fields, burns, or meadows. As aerial feeders, they will feed over a variety of habitats. Open forest stands with beech, oak, and pine are favored. Mature or grazed woodlands are avoided. Whip-poor-wills nest in open areas, or in bushes on forest edges.

Specific habitats used:

Comments: These birds roost on roads, and are often struck by vehicles. Pesticide use and “Bug Zappers” may be reducing populations of large moths, a primary food source of Whip-poor-wills, leading to declining bird populations.

Predicted habitat quantities:

WHIP-POOR-WILL				Total in ha: 2,289,981	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>22,165</i>	Fresh emergent	41,295
Abandoned field	11,086	Heavy partial cut	56,397	Peatland	35,533
Blueberry field	9,655	Deciduous forest	<i>99,208</i>	Wet meadow	11,226
Grassland	276,035	Decid./Conif. forest	<i>160,346</i>	Salt aquatic bed	2,282
Crops/Ground	45,063	Conif./Decid. forest	<i>254,044</i>	Salt emergent	671
Developed lands		Coniferous forest	<i>114,097</i>	Mudflat	1,354
Sparse residential	22,887	Wetlands		Sand shore	282
Dense residential	7,055	Deciduous forested	41,940	Gravel shore	2,769
Urban/Industrial	318	Coniferous forested	207,491	Rock shore	2,938
Highways/Runways	310	Dead-forested	1,317	Shallow water	7,648
Forestlands		Decid. shrub-scrub	82,123	Open water	342,674
Clearcut	62,874	Conifer. shrub-scrub	10,500	Other	
Early regeneration	245,461	Dead shrub-scrub	78	Alpine tundra	66
Late regeneration	110,064	Fresh aquatic bed	82	Exposed rock/Talus	646

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CHIMNEY SWIFT (*Chaetura pelagica*)**Element code:** BNUA0301**ME-GAP code:** CHPE**Order:** Apodiformes**Family:** Apodidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Moderate decline, due to harvests, pesticides**Heritage ranks:** G5 . . S5B**Knowledge:** Adequate

General habitats used: Chimney Swift are most common within urban habitats, including residential areas, commercial sites, parks, golf courses, and cemeteries. Swifts also will occur in agricultural areas. Swifts originally nested in mature, hollow trees, but now almost all swifts nest in building, chimneys, abandoned wells, and caves.

Specific habitats used: Structures with openings are required by nesting Chimney Swifts.

Comments: Cutting of mature trees, pesticide use and the building of narrower chimneys may be leading to decreasing populations.

Predicted habitat quantities:

CHIMNEY SWIFT				Total in ha: 2,089,561	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>15,470</i>	Fresh emergent	42,958
Abandoned field	10,208	Heavy partial cut	53,712	Peatland	39,155
Blueberry field	8,408	Deciduous forest	79,378	Wet meadow	11,154
Grassland	298,844	Decid./Conif. forest	<i>132,714</i>	Salt aquatic bed	2,340
Crops/Ground	79,985	Conif./Decid. forest	<i>215,741</i>	Salt emergent	707
Developed lands		Coniferous forest	<i>105,511</i>	Mudflat	1,422
Sparse residential	38,626	Wetlands		Sand shore	309
Dense residential	29,154	Deciduous forested	42,324	Gravel shore	3,001
Urban/Industrial	1,420	Coniferous forested	230,212	Rock shore	2,874
Highways/Runways	576	Dead-forested	1,387	Shallow water	8,034
Forestlands		Decid. shrub-scrub	85,116	Open water	368,373
Clearcut	60,656	Conifer. shrub-scrub	10,796	Other	
Early regeneration	70,097	Dead shrub-scrub	70	Alpine tundra	1,469
Late regeneration	36,320	Fresh aquatic bed	86	Exposed rock/Talus	956

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RUBY-THROATED HUMMINGBIRD (*Archilochus colubris*)

Element code: BNUC4501

ME-GAP code: ARCO

Order: Apodiformes

Family: Trochilidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Ruby-throated Hummingbirds tend to occur anywhere there are abundant flowers (usually red), including urban areas (e.g., residential areas, parks, golf courses), orchards, open woodlands, clearcuts, and wetlands. Nests are placed in shrubs or trees, often near streams or wetlands. Ruby-throated Hummingbirds are absent from industrial areas and densely forested areas.

Specific habitats used:

Comments: Ruby-throated Hummingbirds are the smallest bird in Maine, weighing in at about 3 grams -- about the weight of an old copper penny.

Predicted habitat quantities:

RUBY-THROATED HUMMINGBIRD				Total in ha: 7,183,610	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	106,669	Fresh emergent	64,252
Abandoned field	16,247	Heavy partial cut	142,235	Peatland	44,436
Blueberry field	6,235	Deciduous forest	1,227,792	Wet meadow	14,382
Grassland	<i>197,173</i>	Decid./Conif. forest	1,257,113	Salt aquatic bed	2,866
Crops/Ground	<i>37,178</i>	Conif./Decid. forest	1,683,901	Salt emergent	1,203
Developed lands		Coniferous forest	751,438	Mudflat	<i>1,410</i>
Sparse residential	50,505	Wetlands		Sand shore	276
Dense residential	27,739	Deciduous forested	64,563	Gravel shore	735
Urban/Industrial	525	Coniferous forested	372,997	Rock shore	<i>1,579</i>
Highways/Runways	522	Dead-forested	2,489	Shallow water	<i>9,365</i>
Forestlands		Decid. shrub-scrub	124,210	Open water	<i>62,819</i>
Clearcut	115,172	Conifer. shrub-scrub	14,051	Other	
Early regeneration	507,078	Dead shrub-scrub	86	Alpine tundra	427
Late regeneration	272,980	Fresh aquatic bed	59	Exposed rock/Talus	<i>904</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BELTED KINGFISHER (*Ceryle alcyon*)

Element code: BNXD0102

ME-GAP code: CEAL

Order: Coraciiformes

Family: Alcedinidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S3N,S5B

Knowledge: Good

General habitats used: Belted Kingfishers forage for fish in small, clear ponds, lake edges, streams, and rivers. Kingfishers are more dense in streams than ponds, because of increased prey vulnerability, but closed, heavily wooded streams are not frequently used. Brackish aquatic habitats are used, especially shallow, protected bays. These birds are burrow nesters, digging burrows in steep, sandy stream banks and bare road cuts, usually at least 2 meters above water or ground level.

Specific habitats used: Stream banks or road cuts, suitable for excavating a nesting cavity, within 1.6 km of foraging areas are used by Belted Kingfishers during the breeding season.

Comments:

Predicted habitat quantities:

BELTED KINGFISHER				Total in ha: 1,537,227	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	6,359	Fresh emergent	35,812
Abandoned field	1,942	Heavy partial cut	7,220	Peatland	10,488
Blueberry field	840	Deciduous forest	28,020	Wet meadow	4,672
Grassland	31,143	Decid./Conif. forest	58,400	Salt aquatic bed	15,023
Crops/Ground	7,181	Conif./Decid. forest	134,124	Salt emergent	5,822
Developed lands		Coniferous forest	80,300	Mudflat	19,662
Sparse residential	20,999	Wetlands		Sand shore	2,413
Dense residential	2,707	Deciduous forested	34,255	Gravel shore	3,054
Urban/Industrial	149	Coniferous forested	201,447	Rock shore	4,282
Highways/Runways	252	Dead-forested	1,211	Shallow water	6,066
Forestlands		Decid. shrub-scrub	39,866	Open water	711,121
Clearcut	9,515	Conifer. shrub-scrub	4,044	Other	
Early regeneration	31,285	Dead shrub-scrub	16	Alpine tundra	50
Late regeneration	17,213	Fresh aquatic bed	72	Exposed rock/Talus	201

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW-BELLIED SAPSUCKER (*Sphyrapicus varius*)

Element code: BNYF0501

ME-GAP code: SPVA

Order: Piciformes

Family: Picidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Yellow-bellied Sapsuckers occur in moist forests near water, such as in swampy areas. Forests selected are usually mixed deciduous-coniferous, including birches, maples, poplars, and pines, but aspen and apples appear favored. Stands that are interspersed with small clearings are selected. Yellow-bellied Sapsuckers nest in cavities, which they may excavate themselves, in trees.

Specific habitats used: Trees with a minimum diameter-at-breast-height of 25 cm are used by Yellow-bellied Sapsuckers during the breeding season.

Comments:

Predicted habitat quantities:

YELLOW-BELLIED SAPSUCKER				Total in ha: 6,850,950	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	100,078	Fresh emergent	<i>16,010</i>
Abandoned field	17,182	Heavy partial cut	142,932	Peatland	44,652
Blueberry field	2,636	Deciduous forest	1,243,782	Wet meadow	<i>3,123</i>
Grassland	<i>70,846</i>	Decid./Conif. forest	1,230,894	Salt aquatic bed	<i>1,713</i>
Crops/Ground	<i>15,916</i>	Conif./Decid. forest	1,673,447	Salt emergent	426
Developed lands		Coniferous forest	747,841	Mudflat	687
Sparse residential	52,922	Wetlands		Sand shore	<i>147</i>
Dense residential	<i>1,977</i>	Deciduous forested	54,991	Gravel shore	<i>254</i>
Urban/Industrial	2	Coniferous forested	368,980	Rock shore	<i>659</i>
Highways/Runways	<i>207</i>	Dead-forested	2,491	Shallow water	<i>3,001</i>
Forestlands		Decid. shrub-scrub	122,744	Open water	<i>17,980</i>
Clearcut	116,118	Conifer. shrub-scrub	13,905	Other	
Early regeneration	511,377	Dead shrub-scrub	89	Alpine tundra	<i>150</i>
Late regeneration	270,514	Fresh aquatic bed	<i>19</i>	Exposed rock/Talus	<i>260</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

DOWNY WOODPECKER (*Picoides pubescens*)

Element code: BNYF0703

ME-GAP code: PIPU

Order: Piciformes

Family: Picidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: Downy Woodpeckers are most common in mixed and deciduous, bottomland forests with many dead trees. They will occur in open forests, orchards, young clearcuts, forest edges, riparian areas, and urban areas, such as parks and cemeteries. Downy Woodpeckers nest in open forests, almost always in deciduous trees, and feed on the lower branches and trunks of trees, with oaks and elms selected.

Specific habitats used: Trees greater than 15 cm diameter-at-breast-height are favored for cavities for nesting Downy Woodpeckers.

Comments: Downy Woodpeckers show little fear of humans, and can often be approached closely.

Predicted habitat quantities:

DOWNY WOODPECKER				Total in ha: 5,631,510	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	84,963	Fresh emergent	32,438
Abandoned field	14,401	Heavy partial cut	120,439	Peatland	14,552
Blueberry field	4,748	Deciduous forest	1,162,092	Wet meadow	6,525
Grassland	167,365	Decid./Conif. forest	1,143,083	Salt aquatic bed	1,361
Crops/Ground	29,750	Conif./Decid. forest	1,422,318	Salt emergent	765
Developed lands		Coniferous forest	334,300	Mudflat	862
Sparse residential	42,974	Wetlands		Sand shore	128
Dense residential	26,370	Deciduous forested	56,867	Gravel shore	416
Urban/Industrial	508	Coniferous forested	295,614	Rock shore	938
Highways/Runways	479	Dead-forested	2,028	Shallow water	6,165
Forestlands		Decid. shrub-scrub	101,104	Open water	42,482
Clearcut	91,457	Conifer. shrub-scrub	11,387	Other	
Early regeneration	198,168	Dead shrub-scrub	73	Alpine tundra	110
Late regeneration	213,587	Fresh aquatic bed	40	Exposed rock/Talus	655

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

HAIRY WOODPECKER (*Picoides villosus*)**Element code:** BNYF0704**ME-GAP code:** PIVI**Order:** Piciformes**Family:** Picidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Resident**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5**Knowledge:** Good

General habitats used: Hairy Woodpeckers use forests with any mixture of tree species, selecting for somewhat dense habitats, with mature living and dead trees. Very dense forests or savanna-like stands are avoided. These woodpeckers will occur in wooded swamps, moist bottomland near rivers, and in drier sites, such as orchards. Hairy Woodpeckers nest in cavities within trees, and glean bark for insects such as wood boring beetles.

Specific habitats used: Trees with a diameter-at-breast-height of more than 25 cm are used by Hairy Woodpeckers during the breeding season.

Comments:**Predicted habitat quantities:**

HAIRY WOODPECKER				Total in ha: 6,137,065	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	88,041	Fresh emergent	36,407
Abandoned field	13,947	Heavy partial cut	119,204	Peatland	16,227
Blueberry field	4,517	Deciduous forest	1,163,382	Wet meadow	7,277
Grassland	167,395	Decid./Conif. forest	1,153,180	Salt aquatic bed	2,628
Crops/Ground	28,556	Conif./Decid. forest	1,562,456	Salt emergent	912
Developed lands		Coniferous forest	704,620	Mudflat	1,172
Sparse residential	43,231	Wetlands		Sand shore	247
Dense residential	6,001	Deciduous forested	58,769	Gravel shore	529
Urban/Industrial	113	Coniferous forested	333,061	Rock shore	1,387
Highways/Runways	301	Dead-forested	2,177	Shallow water	7,446
Forestlands		Decid. shrub-scrub	107,063	Open water	52,980
Clearcut	95,525	Conifer. shrub-scrub	12,378	Other	
Early regeneration	189,773	Dead shrub-scrub	71	Alpine tundra	387
Late regeneration	155,062	Fresh aquatic bed	48	Exposed rock/Talus	598

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

THREE-TOED WOODPECKER (*Picoides tridactylus*)

Element code: BNYF0708

ME-GAP code: PITR

Order: Piciformes

Family: Picidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Rare

Population trend: Unknown

Heritage ranks: G5 . . S3

Knowledge: Best guess

General habitats used: Three-toed Woodpeckers inhabit dense, coniferous forests, including cedar or tamarack swamps, as well as upland sites. Stands that have large proportion of dead or dying trees, from burns, disease, beaver flooding, or spruce budworm, are selected. These woodpeckers will occur in clearcuts and sparsely wooded swamps, but generally remain in dense woods. Three-toed Woodpeckers nest in cavities within live or dead trees.

Specific habitats used: Trees with a minimum diameter-at-breast-height of 30 cm are used by Three-toed Woodpeckers during breeding season.

Comments: The Three-toed Woodpecker and Black-backed Woodpecker are the only Maine Woodpeckers to have three toes, most woodpeckers have four.

Predicted habitat quantities:

THREE-TOED WOODPECKER				Total in ha: 2,897,147	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	61,016	Fresh emergent	7,775
Abandoned field	<i>1,213</i>	Heavy partial cut	91,583	Peatland	4,067
Blueberry field	<i>148</i>	Deciduous forest	46,600	Wet meadow	1,511
Grassland	<i>10,877</i>	Decid./Conif. forest	138,823	Salt aquatic bed	341
Crops/Ground	<i>4,124</i>	Conif./Decid. forest	1,000,682	Salt emergent	11
Developed lands		Coniferous forest	520,941	Mudflat	15
Sparse residential	<i>4,277</i>	Wetlands		Sand shore	3
Dense residential	<i>180</i>	Deciduous forested	5,349	Gravel shore	139
Urban/Industrial	<i>0</i>	Coniferous forested	289,371	Rock shore	196
Highways/Runways	<i>13</i>	Dead-forested	1,178	Shallow water	1,586
Forestlands		Decid. shrub-scrub	16,895	Open water	7,731
Clearcut	76,443	Conifer. shrub-scrub	9,224	Other	
Early regeneration	421,060	Dead shrub-scrub	57	Alpine tundra	128
Late regeneration	173,496	Fresh aquatic bed	2	Exposed rock/Talus	91

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-BACKED WOODPECKER (*Picoides arcticus*)

Element code: BNYF0709

ME-GAP code: PIAR

Order: Piciformes

Family: Picidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G5 . . S4

Knowledge: Adequate

General habitats used: Black-backed Woodpeckers inhabit coniferous and mixed forests, especially wet forests that are near recently burned, flooded, or harvested forests. Recently flooded beaver flowages within coniferous stands are ideal Black-backed Woodpecker habitats. Spruce-fir and tamarack stands are selected, if dead trees are present. Black-backed Woodpeckers often nest in cavities within dead trees, and probe and drill bark to forage.

Specific habitats used: Trees with a minimum diameter-at-breast-height of 30 cm are used by Black-backed Woodpeckers during the nesting season.

Comments:

Predicted habitat quantities:

BLACK-BACKED WOODPECKER				Total in ha: 3,793,654	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	70,037	Fresh emergent	8,373
Abandoned field	9,240	Heavy partial cut	87,820	Peatland	4,734
Blueberry field	1,928	Deciduous forest	109,517	Wet meadow	1,559
Grassland	13,119	Decid./Conif. forest	700,593	Salt aquatic bed	733
Crops/Ground	5,681	Conif./Decid. forest	1,130,540	Salt emergent	193
Developed lands		Coniferous forest	580,320	Mudflat	207
Sparse residential	6,826	Wetlands		Sand shore	49
Dense residential	249	Deciduous forested	5,779	Gravel shore	147
Urban/Industrial	0	Coniferous forested	291,244	Rock shore	373
Highways/Runways	15	Dead-forested	1,473	Shallow water	1,673
Forestlands		Decid. shrub-scrub	17,566	Open water	8,182
Clearcut	83,094	Conifer. shrub-scrub	9,043	Other	
Early regeneration	445,414	Dead shrub-scrub	44	Alpine tundra	116
Late regeneration	197,539	Fresh aquatic bed	6	Exposed rock/Talus	229

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN FLICKER (*Colaptes auratus*)

Element code: BNYF1002

ME-GAP code: COAU

Order: Piciformes

Family: Picidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable to gradual decline

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: Northern Flickers use more open habitats than other woodpeckers in Maine. Flickers inhabit open coniferous, mixed, and deciduous forests, and readily move into pastures, forest openings, clearcuts, meadows, and lawns to forage. Very open areas may support some flickers, but nest and roost sites (e.g., apples, maples, white pines, utility poles) must be present. Flickers nest in cavities, often in snags near clearcuts or other forest edges. These woodpeckers will glean bark, but also will feed on the ground, probing the soil.

Specific habitats used: Trees with a minimum diameter-at-breast-height of 30 cm are used by Northern Flickers during the nesting season.

Comments:

Predicted habitat quantities:

NORTHERN FLICKER				Total in ha: 6,894,539	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	93,578	Fresh emergent	<i>41,090</i>
Abandoned field	16,849	Heavy partial cut	125,102	Peatland	<i>17,728</i>
Blueberry field	11,200	Deciduous forest	1,217,784	Wet meadow	13,355
Grassland	432,978	Decid./Conif. forest	1,243,067	Salt aquatic bed	<i>3,216</i>
Crops/Ground	100,493	Conif./Decid. forest	1,652,251	Salt emergent	<i>1,238</i>
Developed lands		Coniferous forest	726,862	Mudflat	2,184
Sparse residential	58,903	Wetlands		Sand shore	446
Dense residential	32,191	Deciduous forested	65,292	Gravel shore	<i>600</i>
Urban/Industrial	771	Coniferous forested	348,041	Rock shore	<i>1,577</i>
Highways/Runways	706	Dead-forested	2,415	Shallow water	<i>8,704</i>
Forestlands		Decid. shrub-scrub	115,856	Open water	<i>61,633</i>
Clearcut	103,382	Conifer. shrub-scrub	13,226	Other	
Early regeneration	<i>210,865</i>	Dead shrub-scrub	99	Alpine tundra	<i>403</i>
Late regeneration	<i>169,122</i>	Fresh aquatic bed	73	Exposed rock/Talus	<i>1,258</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PILEATED WOODPECKER (*Dryocopus pileatus*)

Element code: BNYF1202

ME-GAP code: DRPI

Order: Piciformes

Family: Picidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Uncommon

Population trend: Stable, perhaps gradual decline from cutting

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Pileated Woodpeckers are most common in mature bottomland forests (often near water), with large trees and snags present. Mixed forests, with dense canopies, are selected. Younger stands may be used by Pileated Woodpeckers, if fallen logs and older logs are present. Forest stands that are interspersed with farmland or residential areas are good Pileated Woodpecker habitat. These woodpeckers usually nest in relatively large dead trees, using the same tree (but a different cavity) each year.

Specific habitats used: Dead or dying trees at least 36 cm diameter-at-breast-height within dense mature forest are used by Pileated Woodpeckers for nesting and rearing of young.

Comments: Pileated Woodpeckers can often be identified in flight; crow sized birds flapping then gliding forming shallow U-shaped flight paths.

Predicted habitat quantities:

PILEATED WOODPECKER				Total in ha: 6,139,984	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	89,194	Fresh emergent	36,473
Abandoned field	13,875	Heavy partial cut	83,193	Peatland	16,176
Blueberry field	4,411	Deciduous forest	1,164,865	Wet meadow	7,228
Grassland	158,932	Decid./Conif. forest	1,173,866	Salt aquatic bed	2,415
Crops/Ground	26,562	Conif./Decid. forest	1,581,696	Salt emergent	860
Developed lands		Coniferous forest	696,560	Mudflat	1,077
Sparse residential	25,856	Wetlands		Sand shore	220
Dense residential	4,915	Deciduous forested	58,929	Gravel shore	524
Urban/Industrial	53	Coniferous forested	333,153	Rock shore	1,373
Highways/Runways	187	Dead-forested	2,233	Shallow water	7,365
Forestlands		Decid. shrub-scrub	107,921	Open water	52,128
Clearcut	55,078	Conifer. shrub-scrub	12,419	Other	
Early regeneration	198,491	Dead shrub-scrub	71	Alpine tundra	374
Late regeneration	220,686	Fresh aquatic bed	51	Exposed rock/Talus	570

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

OLIVE-SIDED FLYCATCHER (*Contopus cooperi*)**Element code:** BPAE3201**ME-GAP code:** COBO**Order:** Passeriformes**Family:** Tyrannidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Rare**Population trend:** Stable to slightly declining**Heritage ranks:** G5 . . S4B**Knowledge:** Adequate

General habitats used: Olive-sided Flycatchers occur in moist coniferous forests, such as spruce, white pine, fir, and hemlock forests, sometimes mixed with deciduous trees. These flycatchers tend to inhabit the edges of forest patches, along forest clearings, clearcuts, bogs, riparian areas, burns, or beaver flowages. Areas with patches of dead trees are selected. Nests are typically constructed in conifers, near water.

Specific habitats used:**Comments:****Predicted habitat quantities:**

OLIVE-SIDED FLYCATCHER				Total in ha: 5,220,438	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	88,795	Fresh emergent	31,451
Abandoned field	7,887	Heavy partial cut	111,536	Peatland	41,147
Blueberry field	4,221	Deciduous forest	392,669	Wet meadow	6,102
Grassland	125,923	Decid./Conif. forest	960,170	Salt aquatic bed	2,527
Crops/Ground	24,279	Conif./Decid. forest	1,479,850	Salt emergent	849
Developed lands		Coniferous forest	703,108	Mudflat	1,768
Sparse residential	24,675	Wetlands		Sand shore	321
Dense residential	4,435	Deciduous forested	31,436	Gravel shore	2,327
Urban/Industrial	66	Coniferous forested	335,202	Rock shore	2,590
Highways/Runways	159	Dead-forested	2,125	Shallow water	6,920
Forestlands		Decid. shrub-scrub	62,420	Open water	47,084
Clearcut	99,359	Conifer. shrub-scrub	11,630	Other	
Early regeneration	439,116	Dead shrub-scrub	76	Alpine tundra	392
Late regeneration	167,216	Fresh aquatic bed	41	Exposed rock/Talus	565

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EASTERN WOOD-PEWEE (*Contopus virens*)

Element code: BPAE3206

ME-GAP code: COVR

Order: Passeriformes

Family: Tyrannidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4B

Knowledge: Good

General habitats used: Eastern Wood-pewees are most common along the edges of deciduous and mixed forests. Although Wood-pewees may occur in coniferous stands, deciduous stands (especially oaks) are preferred. Wood-pewees forage along the edges of openings, such as around farm woodlots, low density residential areas, ponds, streams, orchards, roads, hedgerows, and parks. They hawk insects, and glean leaves and bark.

Specific habitats used:

Comments: Eastern Wood-pewees are named for their song, a slow plaintive “Pewee, Pewee.”

Predicted habitat quantities:

EASTERN WOOD-PEWEE				Total in ha: 6,307,679	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	97,354	Fresh emergent	36,920
Abandoned field	15,632	Heavy partial cut	136,980	Peatland	41,757
Blueberry field	5,884	Deciduous forest	1,211,481	Wet meadow	12,740
Grassland	<i>180,534</i>	Decid./Conif. forest	1,215,117	Salt aquatic bed	<i>1,582</i>
Crops/Ground	<i>33,179</i>	Conif./Decid. forest	1,485,489	Salt emergent	823
Developed lands		Coniferous forest	<i>364,909</i>	Mudflat	1,614
Sparse residential	45,847	Wetlands		Sand shore	245
Dense residential	6,212	Deciduous forested	59,810	Gravel shore	2,343
Urban/Industrial	<i>134</i>	Coniferous forested	322,941	Rock shore	2,365
Highways/Runways	<i>347</i>	Dead-forested	2,307	Shallow water	10,962
Forestlands		Decid. shrub-scrub	108,896	Open water	48,652
Clearcut	106,364	Conifer. shrub-scrub	12,557	Other	
Early regeneration	481,651	Dead shrub-scrub	76	Alpine tundra	<i>148</i>
Late regeneration	253,171	Fresh aquatic bed	52	Exposed rock/Talus	<i>604</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW-BELLIED FLYCATCHER (*Empidonax flaviventris*)**Element code:** BPAE3301**ME-GAP code:** EMFL**Order:** Passeriformes**Family:** Tyrannidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Rapid increase, possibly artifact of methods**Heritage ranks:** G5 . . S4S5B**Knowledge:** Good

General habitats used: Yellow-bellied Flycatchers occur in wet, swampy thickets of coniferous vegetation, such as in wet eastern hemlock patches on the sides of mountains, black spruce swamps, tamarack bogs, and alder swamps. These flycatchers will inhabit wet, mixed forests if less than one-third of the vegetation is deciduous. Successional forest stages are adequate habitat for Yellow-bellied Flycatchers, if shrubs and herbs are not too dense.

Specific habitats used:**Comments:****Predicted habitat quantities:**

YELLOW-BELLIED FLYCATCHER				Total in ha: 2,939,784	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	65,237	Fresh emergent	11,059
Abandoned field	2,110	Heavy partial cut	15,697	Peatland	43,389
Blueberry field	927	Deciduous forest	36,067	Wet meadow	2,100
Grassland	13,707	Decid./Conif. forest	124,128	Salt aquatic bed	899
Crops/Ground	4,481	Conif./Decid. forest	1,346,879	Salt emergent	164
Developed lands		Coniferous forest	657,038	Mudflat	206
Sparse residential	5,286	Wetlands		Sand shore	75
Dense residential	311	Deciduous forested	38,494	Gravel shore	153
Urban/Industrial	0	Coniferous forested	335,321	Rock shore	329
Highways/Runways	22	Dead-forested	2,118	Shallow water	10,141
Forestlands		Decid. shrub-scrub	106,261	Open water	11,157
Clearcut	14,173	Conifer. shrub-scrub	12,604	Other	
Early regeneration	36,498	Dead shrub-scrub	66	Alpine tundra	109
Late regeneration	42,455	Fresh aquatic bed	11	Exposed rock/Talus	114

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

ALDER FLYCATCHER (*Empidonax alnorum*)

Element code: BPAE3303

ME-GAP code: EMAL

Order: Passeriformes

Family: Tyrannidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S4S5B

Knowledge: Adequate

General habitats used: Alder Flycatchers inhabit moderately tall, dense swamps with alder, willow, or elders present. Swampy thickets interspersed with open, marshy areas are selected, with the edges of thickets used most. Alder Flycatchers will forage in open areas, such as in sedge or rush marshes, shrub wetlands, and beaver flowages. Although these flycatchers may nest in drier habitats, typically nests are built close to the ground in marsh or swamp habitats.

Specific habitats used:

Comments:

Predicted habitat quantities:

ALDER FLYCATCHER				Total in ha: 1,354,598	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>11,828</i>	Fresh emergent	42,135
Abandoned field	7,907	Heavy partial cut	34,959	Peatland	37,611
Blueberry field	2,232	Deciduous forest	<i>53,123</i>	Wet meadow	9,943
Grassland	200,831	Decid./Conif. forest	<i>101,005</i>	Salt aquatic bed	1,682
Crops/Ground	<i>19,390</i>	Conif./Decid. forest	<i>185,336</i>	Salt emergent	1,609
Developed lands		Coniferous forest	<i>95,118</i>	Mudflat	1,304
Sparse residential	<i>13,912</i>	Wetlands		Sand shore	254
Dense residential	4,533	Deciduous forested	41,097	Gravel shore	2,192
Urban/Industrial	239	Coniferous forested	230,573	Rock shore	1,662
Highways/Runways	<i>121</i>	Dead-forested	1,392	Shallow water	7,804
Forestlands		Decid. shrub-scrub	86,131	Open water	<i>21,028</i>
Clearcut	44,425	Conifer. shrub-scrub	10,519	Other	
Early regeneration	<i>53,185</i>	Dead shrub-scrub	43	Alpine tundra	43
Late regeneration	<i>28,911</i>	Fresh aquatic bed	80	Exposed rock/Talus	<i>441</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WILLOW FLYCATCHER (*Empidonax traillii*)**Element code:** BPAE3304**ME-GAP code:** EMTR**Order:** Passeriformes**Family:** Tyrannidae**Breeding range change:** Expanding**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S3?B**Knowledge:** Adequate

General habitats used: Willow Flycatchers occur in open moist to dry habitats, with deciduous shrubs. Brushy habitats, such as clearcuts, hedgerows, forest edges, pasture margins, and wetland edges are selected. These flycatchers use habitats that are more open and drier than those used by Alder Flycatchers. Willow Flycatchers nest in shrubs.

Specific habitats used:**Comments:****Predicted habitat quantities:**

WILLOW FLYCATCHER				Total in ha: 1,114,800	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	18,684	Fresh emergent	17,282
Abandoned field	9,364	Heavy partial cut	15,682	Peatland	10,954
Blueberry field	1,978	Deciduous forest	196,676	Wet meadow	3,593
Grassland	221,417	Decid./Conif. forest	278,099	Salt aquatic bed	4,010
Crops/Ground	6,179	Conif./Decid. forest	69,690	Salt emergent	1,782
Developed lands		Coniferous forest	13,992	Mudflat	3,183
Sparse residential	26,062	Wetlands		Sand shore	659
Dense residential	2,471	Deciduous forested	30,248	Gravel shore	130
Urban/Industrial	141	Coniferous forested	44,292	Rock shore	674
Highways/Runways	105	Dead-forested	821	Shallow water	3,338
Forestlands		Decid. shrub-scrub	29,247	Open water	4,435
Clearcut	20,312	Conifer. shrub-scrub	2,668	Other	
Early regeneration	35,314	Dead shrub-scrub	23	Alpine tundra	0
Late regeneration	40,851	Fresh aquatic bed	74	Exposed rock/Talus	371

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

LEAST FLYCATCHER (*Empidonax minimus*)

Element code: BPAE3307

ME-GAP code: EMMI

Order: Passeriformes

Family: Tyrannidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Least Flycatchers inhabit forest edges, usually associated with deciduous and mixed stands, but also the edges of coniferous stands. The forest type appears to not be critical, only that early successional vegetation is present. Shrubs surrounding ponds, streams, burns, beaver flowages, bogs, roadsides, clearcuts, pastures, and parks. Least Flycatchers construct nests in deciduous trees and shrubs, such as apples, oaks, and willows.

Specific habitats used:

Comments:

Predicted habitat quantities:

LEAST FLYCATCHER				Total in ha: 3,693,359	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	35,827	Fresh emergent	17,105
Abandoned field	11,632	Heavy partial cut	89,699	Peatland	30,193
Blueberry field	9,136	Deciduous forest	1,071,266	Wet meadow	3,793
Grassland	367,337	Decid./Conif. forest	898,666	Salt aquatic bed	958
Crops/Ground	88,035	Conif./Decid. forest	447,623	Salt emergent	566
Developed lands		Coniferous forest	91,602	Mudflat	680
Sparse residential	42,799	Wetlands		Sand shore	133
Dense residential	8,644	Deciduous forested	43,230	Gravel shore	267
Urban/Industrial	331	Coniferous forested	60,138	Rock shore	599
Highways/Runways	332	Dead-forested	1,189	Shallow water	3,502
Forestlands		Decid. shrub-scrub	69,245	Open water	24,889
Clearcut	73,553	Conifer. shrub-scrub	8,410	Other	
Early regeneration	116,894	Dead shrub-scrub	68	Alpine tundra	62
Late regeneration	74,160	Fresh aquatic bed	41	Exposed rock/Talus	752

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EASTERN PHOEBE (*Sayornis phoebe*)

Element code: BPAE3502

ME-GAP code: SAPH

Order: Passeriformes

Family: Tyrannidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Stable to slightly declining

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Eastern Phoebes may occur in a variety of habitats, from open fields to dense woodland, including agricultural and suburban areas (but not high density urban or industrial areas). Phoebes tend to occur near streams. Whether sites are occupied may be determined by nest site availability, because they nest on natural rock ledges, bridges, rafters, culverts, and even under porches (eves of houses). Regardless, Eastern Phoebes are flexible in their placement of nests.

Specific habitats used: Nest sites, such as ledges or structures, are required by breeding Eastern Phoebes.

Comments: Eastern Phoebes are named for their call “Phoebe, Phoebe.”

Predicted habitat quantities:

EASTERN PHOEBE				Total in ha: 7,862,630	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	111,434	Fresh emergent	68,399
Abandoned field	18,999	Heavy partial cut	149,032	Peatland	45,771
Blueberry field	12,857	Deciduous forest	1,270,470	Wet meadow	15,400
Grassland	456,748	Decid./Conif. forest	1,329,513	Salt aquatic bed	4,504
Crops/Ground	107,141	Conif./Decid. forest	1,760,365	Salt emergent	2,582
Developed lands		Coniferous forest	772,699	Mudflat	2,575
Sparse residential	64,714	Wetlands		Sand shore	514
Dense residential	33,208	Deciduous forested	70,711	Gravel shore	2,654
Urban/Industrial	796	Coniferous forested	382,953	Rock shore	3,116
Highways/Runways	735	Dead-forested	2,664	Shallow water	14,025
Forestlands		Decid. shrub-scrub	132,436	Open water	71,488
Clearcut	123,110	Conifer. shrub-scrub	15,055	Other	
Early regeneration	525,870	Dead shrub-scrub	111	Alpine tundra	650
Late regeneration	285,003	Fresh aquatic bed	124	Exposed rock/Talus	4,203

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GREAT CRESTED FLYCATCHER (*Myiarchus crinitus*)

Element code: BPAE4307

ME-GAP code: MYCR

Order: Passeriformes

Family: Tyrannidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Common

Population trend: Gradual increase

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Great Crested Flycatchers inhabit a variety of forested habitats, especially those with dead trees. These flycatchers are most common in mature stands of deciduous and mixed trees, including swamps, long abandoned farms, bottomland near streams, and treed suburban areas. Great Crested Flycatchers use clearings within forests extensively. They nest in cavities within trees, often in abandoned woodpecker holes, and will use nest boxes.

Specific habitats used: Trees large enough to have cavities suitable for Great Crested Flycatchers (or nest boxes) are used for nesting.

Comments:

Predicted habitat quantities:

GREAT CRESTED FLYCATCHER				Total in ha: 4,970,669	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	88,727	Fresh emergent	60,614
Abandoned field	15,500	Heavy partial cut	39,641	Peatland	41,171
Blueberry field	2,009	Deciduous forest	1,207,064	Wet meadow	14,544
Grassland	76,068	Decid./Conif. forest	1,199,804	Salt aquatic bed	4,687
Crops/Ground	13,072	Conif./Decid. forest	1,531,353	Salt emergent	2,722
Developed lands		Coniferous forest	142,864	Mudflat	3,627
Sparse residential	52,345	Wetlands		Sand shore	680
Dense residential	30,507	Deciduous forested	64,288	Gravel shore	2,916
Urban/Industrial	228	Coniferous forested	54,932	Rock shore	3,370
Highways/Runways	323	Dead-forested	2,407	Shallow water	12,407
Forestlands		Decid. shrub-scrub	118,484	Open water	16,912
Clearcut	21,434	Conifer. shrub-scrub	13,063	Other	
Early regeneration	65,486	Dead shrub-scrub	73	Alpine tundra	70
Late regeneration	66,804	Fresh aquatic bed	120	Exposed rock/Talus	356

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EASTERN KINGBIRD (*Tyrannus tyrannus*)

Element code: BPAE5206

ME-GAP code: TYTY

Order: Passeriformes

Family: Tyrannidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable to Moderate decrease

Heritage ranks: G5 . . S4S5B

Knowledge: Good

General habitats used: Eastern Kingbirds are closely associated with edges between forested areas and others. Kingbirds occur near the borders of burns, wetlands, pastures, orchards, rivers, lakes, and along hedgerows and roadsides. Forest edges, with some scattered tall trees overhanging streams or pond margins are good kingbird habitat. Eastern Kingbirds often nest in deciduous trees, such as apples, and feed by hawking insects, and gleaning fruit (even fish are sometimes eaten).

Specific habitats used: Eastern Kingbirds use large trees as hunting perches, as they watch for insects.

Comments:

Predicted habitat quantities:

EASTERN KINGBIRD				Total in ha: 2,592,757	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	54,359	Fresh emergent	47,328
Abandoned field	11,878	Heavy partial cut	78,173	Peatland	39,794
Blueberry field	9,628	Deciduous forest	<i>121,987</i>	Wet meadow	10,985
Grassland	310,952	Decid./Conif. forest	<i>216,311</i>	Salt aquatic bed	2,170
Crops/Ground	83,945	Conif./Decid. forest	<i>323,876</i>	Salt emergent	1,758
Developed lands		Coniferous forest	<i>147,047</i>	Mudflat	1,511
Sparse residential	42,133	Wetlands		Sand shore	300
Dense residential	7,893	Deciduous forested	45,150	Gravel shore	2,279
Urban/Industrial	352	Coniferous forested	262,148	Rock shore	1,840
Highways/Runways	411	Dead-forested	1,593	Shallow water	8,676
Forestlands		Decid. shrub-scrub	95,490	Open water	<i>27,601</i>
Clearcut	80,043	Conifer. shrub-scrub	11,323	Other	
Early regeneration	387,364	Dead shrub-scrub	71	Alpine tundra	<i>112</i>
Late regeneration	155,488	Fresh aquatic bed	83	Exposed rock/Talus	<i>705</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

HORNED LARK (*Eremophila alpestris*)

Element code: BPAT0201

ME-GAP code: ERAL

Order: Passeriformes

Family: Alaudidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Uncommon

Population trend: Stable, slightly decreasing

Heritage ranks: G5 . . S3B,S3S4N

Knowledge: Adequate

General habitats used: Horned Larks are closely associated with sparsely vegetated habitats. They are most common in agricultural lands (especially plowed fields), and also occur in meadows, bogs, clearcuts, heavily burned areas, coastal beaches, and in open urban areas (airports, golf courses, parks, large parking areas). Horned Larks nest on the ground, usually on bare soil or gravel.

Specific habitats used:

Comments: Horned Lark populations may be gradually declining from pesticide use and forest regrowth.

Predicted habitat quantities:

HORNED LARK				Total in ha: 770,006	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	6,796	Fresh emergent	3,995
Abandoned field	3,322	Heavy partial cut	42,290	Peatland	1,106
Blueberry field	6,737	Deciduous forest	50,892	Wet meadow	5,812
Grassland	265,379	Decid./Conif. forest	73,917	Salt aquatic bed	744
Crops/Ground	71,926	Conif./Decid. forest	79,046	Salt emergent	322
Developed lands		Coniferous forest	21,761	Mudflat	1,064
Sparse residential	32,043	Wetlands		Sand shore	224
Dense residential	6,509	Deciduous forested	5,573	Gravel shore	1,899
Urban/Industrial	943	Coniferous forested	9,325	Rock shore	1,445
Highways/Runways	346	Dead-forested	160	Shallow water	1,020
Forestlands		Decid. shrub-scrub	8,299	Open water	8,764
Clearcut	11,417	Conifer. shrub-scrub	826	Other	
Early regeneration	28,011	Dead shrub-scrub	25	Alpine tundra	1,451
Late regeneration	15,942	Fresh aquatic bed	20	Exposed rock/Talus	659

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PURPLE MARTIN (*Progne subis*)

Element code: BPAU0101

ME-GAP code: PRSU

Order: Passeriformes

Family: Hirundinidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Declining (causes unknown)

Heritage ranks: G5 . . S3B

Knowledge: Good

General habitats used: Purple Martins occur in open areas, breeding in the yards, golf courses, parks, meadows, swamps, and agricultural fields that boarder water. Martins will hawk insects over open areas, and will skim the surface of water for insects. Although Purple Martins originally nested in natural tree cavities, today they nest almost exclusively in nest boxes, for which they compete with European Starlings, House Finches, and House Sparrows.

Specific habitats used: Nest boxes (usually large multi-roomed nest boxes) are apparently required for Purple Martins to breed in numbers in an area.

Comments:

Predicted habitat quantities:

PURPLE MARTIN				Total in ha: 937,632	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>3,847</i>	Fresh emergent	17,764
Abandoned field	11,450	Heavy partial cut	25,567	Peatland	4,578
Blueberry field	10,443	Deciduous forest	<i>19,060</i>	Wet meadow	4,758
Grassland	305,478	Decid./Conif. forest	<i>37,057</i>	Salt aquatic bed	5,102
Crops/Ground	56,928	Conif./Decid. forest	<i>61,106</i>	Salt emergent	2,350
Developed lands		Coniferous forest	22,972	Mudflat	4,567
Sparse residential	45,362	Wetlands		Sand shore	745
Dense residential	26,994	Deciduous forested	<i>5,602</i>	Gravel shore	187
Urban/Industrial	396	Coniferous forested	<i>9,752</i>	Rock shore	799
Highways/Runways	565	Dead-forested	<i>211</i>	Shallow water	4,840
Forestlands		Decid. shrub-scrub	29,324	Open water	155,356
Clearcut	38,433	Conifer. shrub-scrub	2,438	Other	
Early regeneration	<i>12,719</i>	Dead shrub-scrub	18	Alpine tundra	0
Late regeneration	<i>10,367</i>	Fresh aquatic bed	48	Exposed rock/Talus	<i>449</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

TREE SWALLOW (*Tachycineta bicolor*)

Element code: BPAU0301

ME-GAP code: TABI

Order: Passeriformes

Family: Hirundinidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Abundant

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S5B

Knowledge: Good

General habitats used: Tree Swallows favor nesting sites within cavities in standing dead trees, in ponds or slow moving rivers. Beaver flowages with flooded forest are good habitat for swallows. These swallows will occur in open forests, farmlands, low density residential areas, and meadows, if lakes, ponds, streams, or rivers are nearby. Tree Swallows feed over open water, hawking and skimming the surface of the water for insects.

Specific habitats used: Trees with a minimum diameter-at-breast-height of 25 cm (or nest boxes) are readily used by Tree Swallows for nesting.

Comments:

Predicted habitat quantities:

TREE SWALLOW				Total in ha: 6,681,861	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>73,139</i>	Fresh emergent	29,613
Abandoned field	17,046	Heavy partial cut	123,143	Peatland	6,358
Blueberry field	11,391	Deciduous forest	1,228,395	Wet meadow	6,768
Grassland	431,633	Decid./Conif. forest	1,242,009	Salt aquatic bed	5,094
Crops/Ground	100,020	Conif./Decid. forest	1,634,970	Salt emergent	1,976
Developed lands		Coniferous forest	714,187	Mudflat	2,904
Sparse residential	59,112	Wetlands		Sand shore	523
Dense residential	<i>12,415</i>	Deciduous forested	29,380	Gravel shore	859
Urban/Industrial	<i>437</i>	Coniferous forested	117,224	Rock shore	2,262
Highways/Runways	563	Dead-forested	1,017	Shallow water	12,425
Forestlands		Decid. shrub-scrub	48,572	Open water	294,703
Clearcut	97,680	Conifer. shrub-scrub	3,907	Other	
Early regeneration	<i>204,632</i>	Dead shrub-scrub	91	Alpine tundra	442
Late regeneration	<i>165,772</i>	Fresh aquatic bed	58	Exposed rock/Talus	<i>1,142</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN ROUGH-WINGED SWALLOW (*Stelgidopteryx serripennis*)

Element code: BPAU0701

ME-GAP code: STSE

Order: Passeriformes

Family: Hirundinidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Moderate decline, but not well surveyed

Heritage ranks: G5 . . S3S4B

Knowledge: Adequate

General habitats used: Northern Rough-winged Swallows are closely associated with aquatic habitats for foraging. Streams are good foraging habitat for these swallows. Northern Rough-winged Swallows will nest and sometimes feed in open habitats, such as farmland and low density residential areas. These swallows nest in cavities in stream banks (in abandoned Belted Kingfisher nests, often), on rock ledges, or buildings.

Specific habitats used: Suitable nesting sites (e.g., stream banks, buildings) must be available for Northern Rough-winged Swallows to occupy an area.

Comments:

Predicted habitat quantities:

NORTHERN ROUGH-WINGED SWALLOW				Total in ha: 1,126,045	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	3,563	Fresh emergent	38,314
Abandoned field	13,094	Heavy partial cut	5,130	Peatland	24,090
Blueberry field	10,689	Deciduous forest	21,732	Wet meadow	10,199
Grassland	309,308	Decid./Conif. forest	40,843	Salt aquatic bed	5,852
Crops/Ground	36,009	Conif./Decid. forest	58,997	Salt emergent	6,918
Developed lands		Coniferous forest	21,275	Mudflat	9,966
Sparse residential	40,104	Wetlands		Sand shore	1,522
Dense residential	28,561	Deciduous forested	7,348	Gravel shore	972
Urban/Industrial	369	Coniferous forested	13,036	Rock shore	1,067
Highways/Runways	637	Dead-forested	261	Shallow water	7,241
Forestlands		Decid. shrub-scrub	69,012	Open water	252,131
Clearcut	52,136	Conifer. shrub-scrub	7,996	Other	
Early regeneration	14,467	Dead shrub-scrub	73	Alpine tundra	2
Late regeneration	10,893	Fresh aquatic bed	104	Exposed rock/Talus	2,133

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BANK SWALLOW (*Riparia riparia*)

Element code: BPAU0801

ME-GAP code: RIRI

Order: Passeriformes

Family: Hirundinidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S5B

Knowledge: Good

General habitats used: Bank Swallows forage over water (especially large streams and rivers) and open agricultural and residential areas. Pastures and cropland are selected for foraging. Bank Swallows nest in burrows dug into the banks of streams, along roadcuts, or the walls of sand or gravel pits. Banks selected for nests must be relatively high and steep. Scarcity of nest sites may be limiting swallow populations.

Specific habitats used: Nest sites (i.e., stream banks, roadcuts, etc.) near open lands and water are required by Bank Swallows.

Comments:

Predicted habitat quantities:

BANK SWALLOW				Total in ha: 1,445,715	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>12,400</i>	Fresh emergent	15,477
Abandoned field	9,445	Heavy partial cut	49,810	Peatland	3,221
Blueberry field	8,183	Deciduous forest	<i>74,972</i>	Wet meadow	3,864
Grassland	286,733	Decid./Conif. forest	<i>117,582</i>	Salt aquatic bed	2,779
Crops/Ground	78,553	Conif./Decid. forest	<i>170,034</i>	Salt emergent	1,268
Developed lands		Coniferous forest	<i>69,484</i>	Mudflat	1,933
Sparse residential	36,308	Wetlands		Sand shore	326
Dense residential	7,982	Deciduous forested	<i>10,388</i>	Gravel shore	638
Urban/Industrial	401	Coniferous forested	<i>27,209</i>	Rock shore	1,277
Highways/Runways	380	Dead-forested	<i>376</i>	Shallow water	10,055
Forestlands		Decid. shrub-scrub	27,140	Open water	278,071
Clearcut	52,947	Conifer. shrub-scrub	1,946	Other	
Early regeneration	52,959	Dead shrub-scrub	50	Alpine tundra	232
Late regeneration	27,887	Fresh aquatic bed	35	Exposed rock/Talus	3,370

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CLIFF SWALLOW (*Petrochelidon pyrrhonota*)

Element code: BPAU0901

ME-GAP code: HIPY

Order: Passeriformes

Family: Hirundinidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Moderate decline, but
not well surveyed

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Cliff Swallows forage over residential areas, parks, farmland, pastures, open forests, and over running water. These swallows may feed high over suitable habitats. Today, nests of Cliff Swallows are almost entirely constructed on man-made structures. Nests are built of mud, adhered to the outside, vertical walls (or eaves) of buildings and bridges. In general, these swallows nest on the outside of buildings, and Barn Swallows on the inside. Cliff Swallows compete with House Sparrows for nest sites.

Specific habitats used: Buildings or other structures with somewhat rough siding are used by Cliff Swallows for nest sites.

Comments:

Predicted habitat quantities:

CLIFF SWALLOW				Total in ha: 1,254,806	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>8,675</i>	Fresh emergent	35,138
Abandoned field	9,321	Heavy partial cut	<i>12,252</i>	Peatland	30,746
Blueberry field	8,142	Deciduous forest	<i>55,109</i>	Wet meadow	9,844
Grassland	286,404	Decid./Conif. forest	<i>91,548</i>	Salt aquatic bed	2,974
Crops/Ground	78,512	Conif./Decid. forest	<i>133,783</i>	Salt emergent	1,095
Developed lands		Coniferous forest	<i>56,945</i>	Mudflat	18,445
Sparse residential	36,039	Wetlands		Sand shore	311
Dense residential	<i>8,031</i>	Deciduous forested	<i>13,292</i>	Gravel shore	2,905
Urban/Industrial	1,008	Coniferous forested	<i>43,154</i>	Rock shore	2,850
Highways/Runways	374	Dead-forested	<i>433</i>	Shallow water	6,682
Forestlands		Decid. shrub-scrub	<i>67,966</i>	Open water	110,876
Clearcut	51,109	Conifer. shrub-scrub	<i>8,601</i>	Other	
Early regeneration	<i>40,916</i>	Dead shrub-scrub	<i>63</i>	Alpine tundra	28
Late regeneration	<i>20,583</i>	Fresh aquatic bed	<i>78</i>	Exposed rock/Talus	573

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BARN SWALLOW (*Hirundo rustica*)

Element code: BPAU0903

ME-GAP code: HIRU

Order: Passeriformes

Family: Hirundinidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Gradual decline, but not well surveyed

Heritage ranks: G5 . . S4B

Knowledge: Good

General habitats used: Barn Swallows forage over open water (rivers, ponds, and lakes), agricultural areas, clearcuts, and open residential areas, such as parks and golf courses. Today, Barn Swallows rarely nest in natural sites (e.g., rock crevices, caves), but nest as colonies with their nests on bridges, in culverts, and inside barns and other open buildings.

Specific habitats used: Man-made structures are commonly used as a substrate for nest construction by Barn Swallows.

Comments: Because Barn swallows are a migratory species, they are protected under federal statutes. Barn Swallow nests should not be destroyed.

Predicted habitat quantities:

BARN SWALLOW				Total in ha: 1,463,474	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>10,919</i>	Fresh emergent	8,277
Abandoned field	9,078	Heavy partial cut	48,460	Peatland	2,635
Blueberry field	8,058	Deciduous forest	<i>67,220</i>	Wet meadow	2,460
Grassland	283,493	Decid./Conif. forest	<i>102,204</i>	Salt aquatic bed	2,747
Crops/Ground	78,162	Conif./Decid. forest	<i>138,438</i>	Salt emergent	809
Developed lands		Coniferous forest	55,698	Mudflat	1,911
Sparse residential	36,205	Wetlands		Sand shore	324
Dense residential	27,906	Deciduous forested	<i>6,311</i>	Gravel shore	582
Urban/Industrial	783	Coniferous forested	<i>12,860</i>	Rock shore	1,256
Highways/Runways	534	Dead-forested	<i>183</i>	Shallow water	9,685
Forestlands		Decid. shrub-scrub	11,803	Open water	411,610
Clearcut	50,453	Conifer. shrub-scrub	1,197	Other	
Early regeneration	46,373	Dead shrub-scrub	54	Alpine tundra	29
Late regeneration	23,999	Fresh aquatic bed	23	Exposed rock/Talus	735

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GRAY JAY (*Perisoreus canadensis*)

Element code: BPAV0101

ME-GAP code: PECA

Order: Passeriformes

Family: Corvidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Gray Jays inhabit dry or wet coniferous forests, and mixed coniferous-deciduous forests. Extensive deciduous forests are not used by Gray Jays. Spruce-fir forests, cedar bogs, and black-spruce and tamarack swamps may contain Gray Jays. These jays typically nest in conifers.

Specific habitats used:

Comments:

Predicted habitat quantities:

GRAY JAY				Total in ha: 2,097,809	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	12,424	Fresh emergent	5,576
Abandoned field	1,431	Heavy partial cut	62,732	Peatland	31,230
Blueberry field	922	Deciduous forest	21,263	Wet meadow	1,005
Grassland	7,221	Decid./Conif. forest	81,992	Salt aquatic bed	656
Crops/Ground	2,727	Conif./Decid. forest	917,687	Salt emergent	136
Developed lands		Coniferous forest	499,993	Mudflat	1,436
Sparse residential	20,109	Wetlands		Sand shore	216
Dense residential	271	Deciduous forested	17,683	Gravel shore	122
Urban/Industrial	0	Coniferous forested	258,176	Rock shore	246
Highways/Runways	21	Dead-forested	1,247	Shallow water	1,182
Forestlands		Decid. shrub-scrub	12,331	Open water	5,787
Clearcut	61,366	Conifer. shrub-scrub	7,159	Other	
Early regeneration	34,013	Dead shrub-scrub	27	Alpine tundra	60
Late regeneration	29,252	Fresh aquatic bed	2	Exposed rock/Talus	107

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLUE JAY (*Cyanocitta cristata*)

Element code: BPAV0202

ME-GAP code: CYCR

Order: Passeriformes

Family: Corvidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: Blue Jays tend to select open, mixed forests. Regardless, jays use a wide variety of habitats, including open coniferous and deciduous forests (selecting oaks, beech, and hickory), residential areas, parks, golf courses, cropland and farmland. Blue Jays most often nest in coniferous trees, including within patches of conifers in mixed stands. Deciduous trees and shrubs also are used as nest substrates.

Specific habitats used:

Comments: The colorful Blue-Jay can often be seen as stashing nuts away for winter use. It is for this reason that some theorize that the northern movement of oaks after the last ice age can be correlated with the northern movement of Blue Jays at that time.

Predicted habitat quantities:

BLUE JAY				Total in ha: 6,811,184	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	101,124	Fresh emergent	<i>39,411</i>
Abandoned field	15,147	Heavy partial cut	136,068	Peatland	<i>17,617</i>
Blueberry field	5,620	Deciduous forest	1,195,624	Wet meadow	<i>7,793</i>
Grassland	<i>181,839</i>	Decid./Conif. forest	1,213,286	Salt aquatic bed	<i>3,953</i>
Crops/Ground	<i>33,466</i>	Conif./Decid. forest	1,624,410	Salt emergent	<i>1,727</i>
Developed lands		Coniferous forest	721,920	Mudflat	<i>2,754</i>
Sparse residential	46,954	Wetlands		Sand shore	<i>496</i>
Dense residential	27,138	Deciduous forested	61,401	Gravel shore	<i>623</i>
Urban/Industrial	506	Coniferous forested	354,305	Rock shore	<i>1,639</i>
Highways/Runways	488	Dead-forested	2,310	Shallow water	<i>8,042</i>
Forestlands		Decid. shrub-scrub	114,165	Open water	<i>58,672</i>
Clearcut	<i>72,905</i>	Conifer. shrub-scrub	12,686	Other	
Early regeneration	485,371	Dead shrub-scrub	81	Alpine tundra	<i>410</i>
Late regeneration	260,325	Fresh aquatic bed	49	Exposed rock/Talus	<i>862</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN CROW (*Corvus brachyrhynchos*)

Element code: BPAV1001

ME-GAP code: COBR

Order: Passeriformes

Family: Corvidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: American Crows inhabit open forests of all types, and along the edges of closed forests. Crows forage in open habitats interspersed with these forests, such as cropland, pastures, clearcuts, bogs, marshes, parks, and residential areas. American Crows will search along highways and smaller roads, looking for carrion. Crows select conifers to build nests in, but will readily use deciduous trees.

Specific habitats used:

Comments:

Predicted habitat quantities:

AMERICAN CROW				Total in ha: 7,811,515	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	109,644	Fresh emergent	67,317
Abandoned field	18,831	Heavy partial cut	147,953	Peatland	45,229
Blueberry field	12,752	Deciduous forest	1,268,821	Wet meadow	15,050
Grassland	455,265	Decid./Conif. forest	1,326,058	Salt aquatic bed	3,314
Crops/Ground	106,739	Conif./Decid. forest	1,753,572	Salt emergent	1,441
Developed lands		Coniferous forest	767,047	Mudflat	1,726
Sparse residential	64,067	Wetlands		Sand shore	352
Dense residential	32,954	Deciduous forested	70,083	Gravel shore	778
Urban/Industrial	763	Coniferous forested	380,314	Rock shore	1,730
Highways/Runways	735	Dead-forested	2,616	Shallow water	10,161
Forestlands		Decid. shrub-scrub	130,967	Open water	69,025
Clearcut	122,410	Conifer. shrub-scrub	14,786	Other	
Early regeneration	523,693	Dead shrub-scrub	108	Alpine tundra	442
Late regeneration	283,336	Fresh aquatic bed	79	Exposed rock/Talus	1,358

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON RAVEN (*Corvus corax*)**Element code:** BPAV1011**ME-GAP code:** COCO**Order:** Passeriformes**Family:** Corvidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Resident; Local migrant**Game species:** No**Population level:** Common**Population trend:** Stable to slowly increasing**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Common Ravens inhabit open, remote, coniferous, deciduous, or mixed forests. Like crows, ravens use open habitats that are interspersed with forests, such as marshes and clearcuts, but use agricultural areas and urban sites less than crows. Ravens nest on cliffs, ledges, tall trees, or abandoned buildings, and may fly up to 3 km from the nest to feed. Ravens feed on small or large carrion from roads, winter kill sites, at seabird colonies, and garbage dumps.

Specific habitats used:**Comments:****Predicted habitat quantities:**

COMMON RAVEN				Total in ha: 7,661,157	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	107,516	Fresh emergent	66,645
Abandoned field	18,574	Heavy partial cut	144,617	Peatland	45,081
Blueberry field	7,288	Deciduous forest	1,241,482	Wet meadow	14,895
Grassland	448,530	Decid./Conif. forest	1,289,821	Salt aquatic bed	3,426
Crops/Ground	106,717	Conif./Decid. forest	1,723,543	Salt emergent	1,428
Developed lands		Coniferous forest	762,881	Mudflat	2,349
Sparse residential	63,170	Wetlands		Sand shore	467
Dense residential	12,237	Deciduous forested	69,026	Gravel shore	2,624
Urban/Industrial	391	Coniferous forested	377,209	Rock shore	3,002
Highways/Runways	565	Dead-forested	2,583	Shallow water	9,917
Forestlands		Decid. shrub-scrub	129,346	Open water	68,525
Clearcut	120,592	Conifer. shrub-scrub	14,692	Other	
Early regeneration	518,376	Dead shrub-scrub	107	Alpine tundra	608
Late regeneration	278,884	Fresh aquatic bed	78	Exposed rock/Talus	3,965

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-CAPPED CHICKADEE (*Parus atricapillus*)

Element code: BPAW0101

ME-GAP code: PAAT

Order: Passeriformes

Family: Paridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Abundant

Population trend: Moderate increase,
maybe winter feeding

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: Black-capped Chickadees use any type of forest (e.g., coniferous, deciduous, mixed), but appear to select mixed forests. Areas near stream and bottomland are used, as are uplands with birches present. Chickadees tend to breed in dense forest, often in dead, decaying stubs of tree limbs, such as in mature maples. They feed in more open forests, residential areas, and hedgerows.

Specific habitats used: Whether or not sites are used for breeding may be determined by the availability of cavities for use as communal roosting sites in winter.

Comments: Black-capped chickadees have the familiar song heard during most months in Maine, with one long plaintive “fee-bee” followed by two short notes.

Predicted habitat quantities:

BLACK-CAPPED CHICKADEE				Total in ha: 6,875,462	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	102,047	Fresh emergent	40,277
Abandoned field	15,132	Heavy partial cut	137,442	Peatland	43,290
Blueberry field	5,704	Deciduous forest	1,195,182	Wet meadow	7,963
Grassland	182,814	Decid./Conif. forest	1,215,472	Salt aquatic bed	2,728
Crops/Ground	33,876	Conif./Decid. forest	1,631,058	Salt emergent	978
Developed lands		Coniferous forest	727,244	Mudflat	1,319
Sparse residential	47,845	Wetlands		Sand shore	258
Dense residential	27,136	Deciduous forested	62,279	Gravel shore	606
Urban/Industrial	505	Coniferous forested	363,685	Rock shore	1,473
Highways/Runways	484	Dead-forested	2,358	Shallow water	8,314
Forestlands		Decid. shrub-scrub	116,357	Open water	56,498
Clearcut	74,364	Conifer. shrub-scrub	13,178	Other	
Early regeneration	491,451	Dead shrub-scrub	82	Alpine tundra	411
Late regeneration	264,745	Fresh aquatic bed	49	Exposed rock/Talus	861

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BOREAL CHICKADEE (*Parus hudsonicus*)

Element code: BPAW0106

ME-GAP code: PAHU

Order: Passeriformes

Family: Paridae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Common

Population trend: Stable, to declining

Heritage ranks: G5 . . S4

Knowledge: Adequate

General habitats used: Boreal Chickadees inhabit moist, dense northern coniferous forests, such as tamarack and black spruce bogs, or cedar swamps. They will also occur in drier coniferous forests (especially spruce forests), and in mixed habitats. Boreal Chickadees nest in cavities that they may excavate in decaying limbs or trunks of trees (with wood texture more important in selection than tree species).

Specific habitats used:

Comments:

Predicted habitat quantities:

BOREAL CHICKADEE				Total in ha: 2,971,653	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	53,808	Fresh emergent	8,614
Abandoned field	1,464	Heavy partial cut	15,868	Peatland	34,692
Blueberry field	1,168	Deciduous forest	87,278	Wet meadow	1,611
Grassland	11,300	Decid./Conif. forest	625,229	Salt aquatic bed	943
Crops/Ground	4,210	Conif./Decid. forest	1,058,220	Salt emergent	189
Developed lands		Coniferous forest	549,921	Mudflat	228
Sparse residential	22,077	Wetlands		Sand shore	69
Dense residential	339	Deciduous forested	5,019	Gravel shore	160
Urban/Industrial	0	Coniferous forested	282,343	Rock shore	413
Highways/Runways	24	Dead-forested	1,417	Shallow water	1,797
Forestlands		Decid. shrub-scrub	76,700	Open water	9,589
Clearcut	15,135	Conifer. shrub-scrub	9,157	Other	
Early regeneration	48,862	Dead shrub-scrub	40	Alpine tundra	101
Late regeneration	43,488	Fresh aquatic bed	8	Exposed rock/Talus	172

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

TUFTED TITMOUSE (*Parus bicolor*)**Element code:** BPAW0111**ME-GAP code:** PABI**Order:** Passeriformes**Family:** Paridae**Breeding range change:** Expanding**Listing status:** Not listed**Migratory status:** Resident**Game species:** No**Population level:** Uncommon**Population trend:** Gradual increase**Heritage ranks:** G5 . . S4**Knowledge:** Adequate

General habitats used: Tufted Titmice occur in fertile bottomlands, occurring most often in moist deciduous stands, but also using coniferous and mixed forests. Forested wetlands, parks, cemeteries, orchards, and residential areas are used. Sites near water appear to be selected by Tufted Titmice. Titmice nest in trees in abandoned cavities excavated by other species, usually in mixed forests.

Specific habitats used: Tufted Titmice nest in cavities within trees at least 20 cm diameter-at-breast-height.

Comments:**Predicted habitat quantities:**

TUFTED TITMOUSE				Total in ha: 1,265,810	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	18,592	Fresh emergent	2,443
Abandoned field	3,639	Heavy partial cut	6,219	Peatland	711
Blueberry field	227	Deciduous forest	211,441	Wet meadow	434
Grassland	43,312	Decid./Conif. forest	292,836	Salt aquatic bed	716
Crops/Ground	4,554	Conif./Decid. forest	367,149	Salt emergent	356
Developed lands		Coniferous forest	149,868	Mudflat	501
Sparse residential	23,561	Wetlands		Sand shore	108
Dense residential	20,942	Deciduous forested	29,911	Gravel shore	4
Urban/Industrial	199	Coniferous forested	40,165	Rock shore	145
Highways/Runways	164	Dead-forested	629	Shallow water	497
Forestlands		Decid. shrub-scrub	19,285	Open water	4,365
Clearcut	3,249	Conifer. shrub-scrub	2,392	Other	
Early regeneration	4,666	Dead shrub-scrub	20	Alpine tundra	0
Late regeneration	12,200	Fresh aquatic bed	10	Exposed rock/Talus	303

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED-BREASTED NUTHATCH (*Sitta canadensis*)**Element code:** BPAZ0101**ME-GAP code:** SICA**Order:** Passeriformes**Family:** Sittidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Local migrant; Resident**Game species:** No**Population level:** Common**Population trend:** Increasing**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Red-breasted Nuthatches inhabit coniferous forests in the breeding season, and less frequently mixed forests. Mature stands (with ample cone production) are selected by Red-breasted Nuthatches. These Nuthatches tend to forage on the foliage of trees, whereas White-Breasted Nuthatches forage on the trunks. Red-breasted Nuthatches nest in cavities in decaying hardwood or softwood trees. They usually excavate a cavity, but may use an abandoned site of another species, or nest box.

Specific habitats used: Decaying trees (or limbs) with a minimum diameter-at-breast-height of 30 cm are used by breeding Red-breasted Nuthatches.

Comments: Nuthatches have a remarkably loud song for their size; a loud nasal “Hank.”

Predicted habitat quantities:

RED-BREASTED NUTHATCH				Total in ha: 4,424,943	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	71,141	Fresh emergent	27,113
Abandoned field	11,715	Heavy partial cut	53,778	Peatland	13,672
Blueberry field	3,557	Deciduous forest	345,275	Wet meadow	5,214
Grassland	118,764	Decid./Conif. forest	883,279	Salt aquatic bed	2,476
Crops/Ground	21,618	Conif./Decid. forest	1,404,044	Salt emergent	817
Developed lands		Coniferous forest	666,554	Mudflat	1,094
Sparse residential	38,666	Wetlands		Sand shore	236
Dense residential	4,739	Deciduous forested	28,395	Gravel shore	388
Urban/Industrial	92	Coniferous forested	304,664	Rock shore	1,197
Highways/Runways	262	Dead-forested	1,934	Shallow water	6,002
Forestlands		Decid. shrub-scrub	53,362	Open water	42,162
Clearcut	41,767	Conifer. shrub-scrub	10,623	Other	
Early regeneration	135,884	Dead shrub-scrub	63	Alpine tundra	347
Late regeneration	123,524	Fresh aquatic bed	38	Exposed rock/Talus	485

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WHITE-BREASTED NUTHATCH (*Sitta carolinensis*)**Element code:** BPAZ0102**ME-GAP code:** SICR**Order:** Passeriformes**Family:** Sittidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Resident**Game species:** No**Population level:** Common**Population trend:** Gradual increase**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: White-breasted Nuthatches occur in mature deciduous and mixed forests, and may also sometimes occur in coniferous stands. More open or disturbed areas with large trees, such as orchards, parks, cemeteries, and residential areas may be used by White-breasted Nuthatches. These nuthatches forage along the trunks of trees, and nest in cavities in live or dead tree limbs and trunks.

Specific habitats used: Trees with a minimum diameter-at-breast-height of 30 cm are used by White-breasted Nuthatches for nest sites.

Comments:**Predicted habitat quantities:**

WHITE-BREASTED NUTHATCH				Total in ha: 4,715,420	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	71,947	Fresh emergent	23,655
Abandoned field	12,199	Heavy partial cut	67,334	Peatland	5,570
Blueberry field	3,976	Deciduous forest	1,118,055	Wet meadow	5,080
Grassland	145,688	Decid./Conif. forest	1,069,677	Salt aquatic bed	1,165
Crops/Ground	23,920	Conif./Decid. forest	1,290,553	Salt emergent	660
Developed lands		Coniferous forest	265,991	Mudflat	724
Sparse residential	37,996	Wetlands		Sand shore	100
Dense residential	4,945	Deciduous forested	49,684	Gravel shore	322
Urban/Industrial	95	Coniferous forested	96,280	Rock shore	829
Highways/Runways	275	Dead-forested	1,709	Shallow water	4,602
Forestlands		Decid. shrub-scrub	81,042	Open water	36,325
Clearcut	39,672	Conifer. shrub-scrub	3,947	Other	
Early regeneration	130,230	Dead shrub-scrub	52	Alpine tundra	102
Late regeneration	120,544	Fresh aquatic bed	38	Exposed rock/Talus	433

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BROWN CREEPER (*Certhia americana*)

Element code: BPBA0101

ME-GAP code: CEAM

Order: Passeriformes

Family: Certhiidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable to Declining

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Brown Creepers are most common in the interiors of relatively large stands of moist dense forest, such as in forested swamps. All types of forest are used, but coniferous and mixed forests may be selected. Brown Creepers probe the flaking bark of large trees for insects, and nest under large flakes of bark (and sometime cavities) of dead trees.

Specific habitats used: Brown Creepers use trees with a minimum diameter-at-breast-height of 25 cm, nesting under bark and within cavities.

Comments:

Predicted habitat quantities:

BROWN CREEPER				Total in ha: 6,065,148	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	84,577	Fresh emergent	36,017
Abandoned field	8,765	Heavy partial cut	80,373	Peatland	16,393
Blueberry field	3,799	Deciduous forest	1,175,402	Wet meadow	7,184
Grassland	168,721	Decid./Conif. forest	1,172,038	Salt aquatic bed	2,560
Crops/Ground	27,957	Conif./Decid. forest	1,567,783	Salt emergent	880
Developed lands		Coniferous forest	700,531	Mudflat	1,102
Sparse residential	42,049	Wetlands		Sand shore	234
Dense residential	5,986	Deciduous forested	59,966	Gravel shore	518
Urban/Industrial	105	Coniferous forested	335,466	Rock shore	1,386
Highways/Runways	306	Dead-forested	2,147	Shallow water	7,486
Forestlands		Decid. shrub-scrub	106,339	Open water	54,081
Clearcut	53,625	Conifer. shrub-scrub	12,315	Other	
Early regeneration	175,615	Dead shrub-scrub	66	Alpine tundra	379
Late regeneration	152,334	Fresh aquatic bed	52	Exposed rock/Talus	612

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

HOUSE WREN (*Troglodytes aedon*)

Element code: BPBG0901

ME-GAP code: TRAE

Order: Passeriformes

Family: Troglodytidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G5 . . S4S5B

Knowledge: Adequate

General habitats used: House Wrens inhabit open forests (or small openings in more dense forests), harvest sites, brushy areas, farmland, and residential areas. Open deciduous and mixed forests are used by these wrens, but they are most common near residential areas with nearby vegetation, hedgerows and edges of agricultural areas, and orchards. House Wrens are cavity nesters, and will nest in a variety of settings.

Specific habitats used: House Wrens select cavities within trees that have a minimum diameter-at-breast-height of 25 cm, but are likely not limited by cavity availability because of their generalist nature.

Comments:

Predicted habitat quantities:

HOUSE WREN				Total in ha: 4,236,584	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	74,126	Fresh emergent	10,826
Abandoned field	18,044	Heavy partial cut	99,572	Peatland	2,011
Blueberry field	12,740	Deciduous forest	827,458	Wet meadow	2,305
Grassland	370,902	Decid./Conif. forest	821,068	Salt aquatic bed	946
Crops/Ground	16,407	Conif./Decid. forest	1,127,659	Salt emergent	677
Developed lands		Coniferous forest	105,377	Mudflat	754
Sparse residential	50,898	Wetlands		Sand shore	131
Dense residential	31,162	Deciduous forested	58,036	Gravel shore	81
Urban/Industrial	327	Coniferous forested	32,933	Rock shore	262
Highways/Runways	718	Dead-forested	1,830	Shallow water	1,790
Forestlands		Decid. shrub-scrub	83,209	Open water	11,887
Clearcut	76,967	Conifer. shrub-scrub	1,696	Other	
Early regeneration	216,732	Dead shrub-scrub	90	Alpine tundra	0
Late regeneration	176,316	Fresh aquatic bed	23	Exposed rock/Talus	625

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WINTER WREN (*Troglodytes troglodytes*)

Element code: BPBG0905

ME-GAP code: TRTR

Order: Passeriformes

Family: Troglodytidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant; Local migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4N,S5B

Knowledge: Adequate

General habitats used: Winter Wrens are most common in the interiors of moist, dense coniferous and mixed forests, usually close to streams, ponds, lakes, swamps, or bogs. Sites selected typically include dense thickets of vegetation, such as logging slash piles, regenerating harvests (up to about 15 years past cutting), or dense low conifers that occur at bogs. Winter Wrens nest in cavities or crevices within trees and brush piles.

Specific habitats used:

Comments: Winter Wrens have a very high, beautiful song that may be difficult for some people to hear.

Predicted habitat quantities:

WINTER WREN				Total in ha: 5,684,145	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	96,576	Fresh emergent	60,588
Abandoned field	14,741	Heavy partial cut	123,536	Peatland	43,408
Blueberry field	5,600	Deciduous forest	412,190	Wet meadow	8,317
Grassland	140,014	Decid./Conif. forest	995,766	Salt aquatic bed	2,547
Crops/Ground	27,835	Conif./Decid. forest	1,556,325	Salt emergent	1,064
Developed lands		Coniferous forest	729,234	Mudflat	1,235
Sparse residential	27,801	Wetlands		Sand shore	236
Dense residential	4,790	Deciduous forested	37,446	Gravel shore	668
Urban/Industrial	58	Coniferous forested	360,655	Rock shore	1,414
Highways/Runways	182	Dead-forested	2,359	Shallow water	8,306
Forestlands		Decid. shrub-scrub	117,589	Open water	53,551
Clearcut	106,672	Conifer. shrub-scrub	13,324	Other	
Early regeneration	477,850	Dead shrub-scrub	78	Alpine tundra	393
Late regeneration	251,174	Fresh aquatic bed	45	Exposed rock/Talus	579

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

MARSH WREN (*Cistothorus palustris*)

Element code: BPBG1002

ME-GAP code: CIPA

Order: Passeriformes

Family: Troglodytidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4B

Knowledge: Good

General habitats used: Marsh Wrens inhabit large permanent wetlands with emergent vegetation present, such as cattails, bulrushes, loosestrife, sedges, and rushes. Freshwater wetlands are selected, but brackish wetlands may be used. Marsh Wrens may be found along the margins of slow moving rivers, ponds, and lakes. Wetlands smaller than 0.4 hectares are rarely used by these wrens.

Specific habitats used:

Comments:

Predicted habitat quantities:

MARSH WREN				Total in ha: 111,108	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	178	Fresh emergent	20,478
Abandoned field	190	Heavy partial cut	244	Peatland	17,818
Blueberry field	150	Deciduous forest	316	Wet meadow	5,537
Grassland	1,669	Decid./Conif. forest	1,422	Salt aquatic bed	15
Crops/Ground	359	Conif./Decid. forest	5,204	Salt emergent	5,177
Developed lands		Coniferous forest	1,699	Mudflat	248
Sparse residential	208	Wetlands		Sand shore	16
Dense residential	100	Deciduous forested	1,200	Gravel shore	1
Urban/Industrial	2	Coniferous forested	2,625	Rock shore	13
Highways/Runways	5	Dead-forested	67	Shallow water	2,160
Forestlands		Decid. shrub-scrub	36,960	Open water	1,166
Clearcut	590	Conifer. shrub-scrub	3,929	Other	
Early regeneration	685	Dead shrub-scrub	1	Alpine tundra	0
Late regeneration	670	Fresh aquatic bed	4	Exposed rock/Talus	6

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SEDGE WREN (*Cistothorus platensis*)

Element code: BPBG1001

ME-GAP code: CIPL

Order: Passeriformes

Family: Troglodytidae

Breeding range change: Unknown

Listing status: Endangered (S)

Migratory status: US migrant

Game species: No

Population level: Rare

Population trend: Unknown

Heritage ranks: G5 . . S1B

Knowledge: Adequate

General habitats used: Sedge Wrens occur in tall, dense patches of sedges within moist meadows, pastures, and hayfields. Areas with standing water, such as deep cattail marshes, are not used, but the edges of swampy areas can be. Coastal marshes, and the margins of ponds and open-water wetlands are selected by Sedge Wrens. These wrens build nests low in clumps of sedges and grasses.

Specific habitats used:

Comments: Trends are difficult to determine for Sedge Wrens because of their rarity and their manner of frequently abandoning nest sites and establishing other distant nest sites. Because nesting areas are established and abandoned often, we could not represent their range with observations. Predicted habitats are over-estimating habitat actually occupied.

Predicted habitat quantities:

SEDGE WREN			Total in ha: 56,693		
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	79	Fresh emergent	21,337
Abandoned field	83	Heavy partial cut	126	Peatland	18,747
Blueberry field	84	Deciduous forest	161	Wet meadow	6,366
Grassland	745	Decid./Conif. forest	582	Salt aquatic bed	7
Crops/Ground	144	Conif./Decid. forest	2,347	Salt emergent	4
Developed lands		Coniferous forest	943	Mudflat	17
Sparse residential	99	Wetlands		Sand shore	3
Dense residential	55	Deciduous forested	395	Gravel shore	3
Urban/Industrial	0	Coniferous forested	1,315	Rock shore	4
Highways/Runways	2	Dead-forested	24	Shallow water	175
Forestlands		Decid. shrub-scrub	1,120	Open water	659
Clearcut	289	Conifer. shrub-scrub	105	Other	
Early regeneration	307	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	361	Fresh aquatic bed	2	Exposed rock/Talus	2

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CAROLINA WREN (*Thryothorus ludovicianus*)

Element code: BPBG0613

ME-GAP code: THLU

Order: Passeriformes

Family: Troglodytidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Rare

Population trend: Unknown

Heritage ranks: G5 . . S1B?,S1N?

Knowledge: Adequate

General habitats used: Carolina Wrens are most common in moist areas with brushy vegetation, such as along the margins of streams and ponds, in brushy clearings, within clearcuts and regenerating areas, and in residential areas. The northern limit of the range of Carolina Wrens varies depending upon the severity of the past winter.

Specific habitats used:

Comments: Carolina Wrens only recently began nesting regularly in Maine.

Predicted habitat quantities:

CAROLINA WREN				Total in ha: 74,948	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	1,850	Fresh emergent	177
Abandoned field	0	Heavy partial cut	353	Peatland	21
Blueberry field	5	Deciduous forest	2,900	Wet meadow	19
Grassland	4,073	Decid./Conif. forest	25,320	Salt aquatic bed	21
Crops/Ground	60	Conif./Decid. forest	19,810	Salt emergent	71
Developed lands		Coniferous forest	1,225	Mudflat	13
Sparse residential	1,427	Wetlands		Sand shore	13
Dense residential	233	Deciduous forested	7,207	Gravel shore	0
Urban/Industrial	19	Coniferous forested	3,703	Rock shore	0
Highways/Runways	0	Dead-forested	44	Shallow water	61
Forestlands		Decid. shrub-scrub	1,769	Open water	111
Clearcut	1,379	Conifer. shrub-scrub	164	Other	
Early regeneration	1,712	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	1,183	Fresh aquatic bed	0	Exposed rock/Talus	4

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GOLDEN-CROWNED KINGLET (*Regulus satrapa*)**Element code:** BPBJ0501**ME-GAP code:** RESA**Order:** Passeriformes**Family:** Regulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant; Local migrant**Game species:** No**Population level:** Common**Population trend:** Stable, responsive to insect outbreaks**Heritage ranks:** G5 . . S5B,S5N**Knowledge:** Adequate

General habitats used: Golden-crowned Kinglets use moist, dark areas of coniferous forest (usually mature spruce stands). Spruce plantation may be used, but young stands are not; trees in good Golden-crowned Kinglet habitat are over 15 cm and 10 to 20 m in height. Open spruce forests are used, but these kinglets also will use dense spruce stands, pine, hemlock, fir, and tamarack stands, as well as coniferous forested wetlands.

Specific habitats used:**Comments:****Predicted habitat quantities:**

GOLDEN-CROWNED KINGLET				Total in ha: 2,866,055	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	67,789	Fresh emergent	7,981
Abandoned field	2,044	Heavy partial cut	16,329	Peatland	4,703
Blueberry field	731	Deciduous forest	41,655	Wet meadow	1,442
Grassland	14,746	Decid./Conif. forest	132,261	Salt aquatic bed	1,002
Crops/Ground	4,201	Conif./Decid. forest	1,405,575	Salt emergent	181
Developed lands		Coniferous forest	688,858	Mudflat	253
Sparse residential	5,715	Wetlands		Sand shore	86
Dense residential	353	Deciduous forested	6,513	Gravel shore	108
Urban/Industrial	0	Coniferous forested	331,297	Rock shore	313
Highways/Runways	21	Dead-forested	2,076	Shallow water	1,401
Forestlands		Decid. shrub-scrub	16,036	Open water	8,681
Clearcut	12,659	Conifer. shrub-scrub	12,123	Other	
Early regeneration	34,607	Dead shrub-scrub	13	Alpine tundra	105
Late regeneration	44,080	Fresh aquatic bed	7	Exposed rock/Talus	109

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RUBY-CROWNED KINGLET (*Regulus calendula*)**Element code:** BPBJ0502**ME-GAP code:** RECA**Order:** Passeriformes**Family:** Regulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant; Local migrant**Game species:** No**Population level:** Common**Population trend:** Slowly increasing**Heritage ranks:** G5 . . S4N,S5B**Knowledge:** Adequate

General habitats used: Ruby-crowned Kinglets occur in moist coniferous stands, such as spruce, fir, or pine stands, cedar, black spruce, and tamarack bogs. These kinglets also will inhabit mixed stands, and more open habitats, such as forest edges and the margins of streams. Ruby-crowned Kinglets construct nests in coniferous trees (usually spruce).

Specific habitats used:**Comments:****Predicted habitat quantities:**

RUBY-CROWNED KINGLET				Total in ha: 3,814,390	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	77,085	Fresh emergent	8,657
Abandoned field	2,628	Heavy partial cut	25,488	Peatland	4,952
Blueberry field	1,029	Deciduous forest	137,213	Wet meadow	1,618
Grassland	20,603	Decid./Conif. forest	896,355	Salt aquatic bed	1,069
Crops/Ground	6,236	Conif./Decid. forest	1,442,744	Salt emergent	170
Developed lands		Coniferous forest	671,679	Mudflat	224
Sparse residential	6,892	Wetlands		Sand shore	88
Dense residential	463	Deciduous forested	7,680	Gravel shore	126
Urban/Industrial	0	Coniferous forested	331,365	Rock shore	377
Highways/Runways	42	Dead-forested	2,073	Shallow water	1,554
Forestlands		Decid. shrub-scrub	17,202	Open water	9,510
Clearcut	16,752	Conifer. shrub-scrub	12,003	Other	
Early regeneration	52,490	Dead shrub-scrub	55	Alpine tundra	108
Late regeneration	57,681	Fresh aquatic bed	11	Exposed rock/Talus	168

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLUE-GRAY GNATCATCHER (*Polioptila caerulea*)

Element code: BPBJ0801

ME-GAP code: POCA

Order: Passeriformes

Family: Silviidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Rare

Population trend: Stable

Heritage ranks: G5 . . S2S3

Knowledge: Adequate

General habitats used: Blue-gray Gnatcatchers inhabit moist, open forests, and the edges of denser forest stands. Gnatcatchers are associated with the brushy habitats of floodplain mixed, oak, and pine forests. The brushy edges of streams and ponds are selected by Blue-gray Gnatcatchers. Gnatcatchers nest in tall trees, either deciduous or coniferous species.

Specific habitats used:

Comments:

Predicted habitat quantities:

BLUE-GRAY GNATCATCHER				Total in ha: 314,696	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	9,174	Fresh emergent	543
Abandoned field	53	Heavy partial cut	888	Peatland	112
Blueberry field	48	Deciduous forest	49,451	Wet meadow	75
Grassland	11,372	Decid./Conif. forest	109,622	Salt aquatic bed	13
Crops/Ground	114	Conif./Decid. forest	81,799	Salt emergent	62
Developed lands		Coniferous forest	5,766	Mudflat	15
Sparse residential	3,080	Wetlands		Sand shore	8
Dense residential	613	Deciduous forested	17,861	Gravel shore	0
Urban/Industrial	23	Coniferous forested	11,722	Rock shore	0
Highways/Runways	0	Dead-forested	151	Shallow water	173
Forestlands		Decid. shrub-scrub	7,153	Open water	483
Clearcut	718	Conifer. shrub-scrub	718	Other	
Early regeneration	1,460	Dead shrub-scrub	3	Alpine tundra	0
Late regeneration	1,409	Fresh aquatic bed	1	Exposed rock/Talus	17

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EASTERN BLUEBIRD (*Sialia sialis*)**Element code:** BPBJ1501**ME-GAP code:** SISI**Order:** Passeriformes**Family:** Turdidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant; Local migrant**Game species:** No**Population level:** Uncommon**Population trend:** Stable, slowly increasing**Heritage ranks:** G5 . . S4B**Knowledge:** Adequate

General habitats used: Eastern Bluebirds are most common in open field and forest habitats around farmland, hedgerows, grassy residential areas, roadside brushy areas, pastures, and hayfields. Openings from fires or timber harvesting are used. Open wet areas may be used by Eastern Bluebirds, such as bogs, beaver flowages, and swamps. Bluebirds are cavity nesters, and compete with European Starlings, House Sparrows, Tree Swallows and Wrens for nest sites. Bird boxes when located in large grassy fields are often used.

Specific habitats used: Nest cavities in trees or nest boxes must be present for breeding Eastern Bluebirds to occur in an area.

Comments: Nest boxes seen along grassy fields, mounted on posts, are usually intended for use by Eastern Bluebirds.

Predicted habitat quantities:

EASTERN BLUEBIRD				Total in ha: 2,057,091	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>22,554</i>	Fresh emergent	42,515
Abandoned field	10,207	Heavy partial cut	65,063	Peatland	38,697
Blueberry field	9,032	Deciduous forest	<i>91,201</i>	Wet meadow	9,891
Grassland	285,993	Decid./Conif. forest	<i>155,853</i>	Salt aquatic bed	942
Crops/Ground	<i>31,532</i>	Conif./Decid. forest	<i>225,638</i>	Salt emergent	710
Developed lands		Coniferous forest	<i>110,979</i>	Mudflat	1,330
Sparse residential	37,110	Wetlands		Sand shore	252
Dense residential	27,265	Deciduous forested	42,151	Gravel shore	381
Urban/Industrial	727	Coniferous forested	244,970	Rock shore	406
Highways/Runways	407	Dead-forested	1,413	Shallow water	4,394
Forestlands		Decid. shrub-scrub	87,033	Open water	22,116
Clearcut	72,636	Conifer. shrub-scrub	10,681	Other	
Early regeneration	337,960	Dead shrub-scrub	69	Alpine tundra	53
Late regeneration	<i>64,108</i>	Fresh aquatic bed	32	Exposed rock/Talus	789

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

VEERY (*Catharus fuscescens*)

Element code: BPBJ1808

ME-GAP code: CAFU

Order: Passeriformes

Family: Turdidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Veerys occur in moist, low forested areas with dense understories of shrubs or ferns. The interiors of deciduous and mixed bottomland regenerating forests and open forests with dense vegetation are selected. Coniferous forests may occasionally be used, especially hemlock stands. Veerys are often associated with streams and ponds, but water is not required to be nearby. Veerys nest on the ground among dense shrubs or ferns, or in low branches of shrubs and trees.

Specific habitats used:

Comments: Veerys and other woodland thrushes have beautiful voices. They can actually produce two notes at once.

Predicted habitat quantities:

VEERY				Total in ha: 5,479,733	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	81,467	Fresh emergent	31,814
Abandoned field	14,308	Heavy partial cut	77,900	Peatland	39,991
Blueberry field	4,553	Deciduous forest	1,158,840	Wet meadow	6,405
Grassland	159,036	Decid./Conif. forest	1,132,711	Salt aquatic bed	1,311
Crops/Ground	27,529	Conif./Decid. forest	1,412,419	Salt emergent	715
Developed lands		Coniferous forest	328,183	Mudflat	882
Sparse residential	41,468	Wetlands		Sand shore	116
Dense residential	5,472	Deciduous forested	55,219	Gravel shore	402
Urban/Industrial	101	Coniferous forested	303,379	Rock shore	927
Highways/Runways	306	Dead-forested	2,000	Shallow water	6,237
Forestlands		Decid. shrub-scrub	98,461	Open water	42,117
Clearcut	48,602	Conifer. shrub-scrub	11,782	Other	
Early regeneration	178,580	Dead shrub-scrub	62	Alpine tundra	104
Late regeneration	205,831	Fresh aquatic bed	41	Exposed rock/Talus	463

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BICKNELL'S THRUSH (*Catharus bicknelli*)

Element code: BPBJ1812

ME-GAP code: CAMI

Order: Passeriformes

Family: Turdidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G4 . . S3B

Knowledge: Adequate

General habitats used: Bicknell's Thrushes usually occur in dense, stunted growths of spruce near the tops of mountains (above 915 m). Sites with these thrushes are typically covered with sphagnum moss or other herbaceous material. Young or mature stands of densely growing coniferous trees and snags are used. Bicknell's Thrushes also will use mixed or deciduous stands high on mountains.

Specific habitats used:

Comments: Bicknell's Thrush is one of the few vertebrate species that is endemic to the northeastern U.S.A. and eastern Canada. Forests above 915 m were modeled as potential habitats.

Predicted habitat quantities:

BICKNELL'S THRUSH				Total in ha: 20,799	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	1,929	Fresh emergent	2
Abandoned field	15	Heavy partial cut	237	Peatland	2
Blueberry field	0	Deciduous forest	147	Wet meadow	0
Grassland	8	Decid./Conif. forest	1,166	Salt aquatic bed	1
Crops/Ground	0	Conif./Decid. forest	2,918	Salt emergent	0
Developed lands		Coniferous forest	9,819	Mudflat	0
Sparse residential	15	Wetlands		Sand shore	0
Dense residential	0	Deciduous forested	0	Gravel shore	0
Urban/Industrial	0	Coniferous forested	1	Rock shore	0
Highways/Runways	0	Dead-forested	0	Shallow water	9
Forestlands		Decid. shrub-scrub	0	Open water	85
Clearcut	114	Conifer. shrub-scrub	0	Other	
Early regeneration	724	Dead shrub-scrub	0	Alpine tundra	1,619
Late regeneration	1,831	Fresh aquatic bed	0	Exposed rock/Talus	160

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SWAINSON'S THRUSH (*Catharus ustulatus*)

Element code: BPBJ1810

ME-GAP code: CAUS

Order: Passeriformes

Family: Turdidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Moderate decline,
perhaps forest cutting

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Swainson's Thrushes inhabit low, moist forests with a high percentage of coniferous trees. Mature, closed forests of spruce and balsam fir are selected by Swainson's Thrushes, with undisturbed sites favored. These thrushes are associated with streams and ponds, but use forest interiors rather than the stream margins. Swainson's Thrushes nest on the lower limbs of shrubs or trees.

Specific habitats used:

Comments:

Predicted habitat quantities:

SWAINSON'S THRUSH				Total in ha: 4,239,765	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	77,893	Fresh emergent	11,287
Abandoned field	2,468	Heavy partial cut	31,970	Peatland	41,421
Blueberry field	1,823	Deciduous forest	122,651	Wet meadow	2,098
Grassland	16,405	Decid./Conif. forest	794,661	Salt aquatic bed	893
Crops/Ground	7,118	Conif./Decid. forest	1,274,776	Salt emergent	207
Developed lands		Coniferous forest	622,522	Mudflat	263
Sparse residential	30,070	Wetlands		Sand shore	75
Dense residential	492	Deciduous forested	31,413	Gravel shore	197
Urban/Industrial	0	Coniferous forested	328,695	Rock shore	436
Highways/Runways	53	Dead-forested	1,795	Shallow water	2,186
Forestlands		Decid. shrub-scrub	98,732	Open water	11,095
Clearcut	24,300	Conifer. shrub-scrub	11,224	Other	
Early regeneration	469,320	Dead shrub-scrub	56	Alpine tundra	122
Late regeneration	220,807	Fresh aquatic bed	10	Exposed rock/Talus	231

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

HERMIT THRUSH (*Catharus guttatus*)**Element code:** BPBJ1811**ME-GAP code:** CAGU**Order:** Passeriformes**Family:** Turdidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant; Local migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S4B,S4N**Knowledge:** Adequate

General habitats used: Hermit Thrushes inhabit large, open coniferous and mixed forests, with cool, moist, mixed stands being selected. Hermit Thrushes may occur in less dense forest than Swainson's Thrushes, and may occur in forested bogs, harvested areas, powerline right-of-ways, pastures, hedgerows, and the margins of ponds and streams. In general, they occur in disturbed areas associated with forest edges. Hermit thrushes nest on the ground or sometimes in low shrubs.

Specific habitats used:**Comments:****Predicted habitat quantities:**

HERMIT THRUSH				Total in ha: 6,049,811	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	97,730	Fresh emergent	40,764
Abandoned field	16,126	Heavy partial cut	124,330	Peatland	43,347
Blueberry field	6,271	Deciduous forest	442,723	Wet meadow	7,998
Grassland	385,626	Decid./Conif. forest	1,043,919	Salt aquatic bed	2,981
Crops/Ground	48,244	Conif./Decid. forest	1,578,407	Salt emergent	1,133
Developed lands		Coniferous forest	719,448	Mudflat	1,533
Sparse residential	55,483	Wetlands		Sand shore	318
Dense residential	9,957	Deciduous forested	63,728	Gravel shore	582
Urban/Industrial	325	Coniferous forested	358,004	Rock shore	1,460
Highways/Runways	354	Dead-forested	2,296	Shallow water	8,321
Forestlands		Decid. shrub-scrub	118,177	Open water	55,326
Clearcut	70,528	Conifer. shrub-scrub	13,371	Other	
Early regeneration	473,660	Dead shrub-scrub	104	Alpine tundra	387
Late regeneration	255,781	Fresh aquatic bed	60	Exposed rock/Talus	1,013

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WOOD THRUSH (*Hylocichla mustelina*)**Element code:** BPBJ1901**ME-GAP code:** HYMU**Order:** Passeriformes**Family:** Turdidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S4B**Knowledge:** Adequate

General habitats used: Wood Thrushes are most common in cool, moist, tall (> 12 m) deciduous and mixed forests, often associated with streams, ponds, swamps, or rivers. Sites these thrushes occupy tend to be drier than those with Veerys, and running water is not required for Wood Thrushes to breed. Wood Thrushes use forests with thick vegetation, such as regenerating stands and brushy lots within residential areas. These thrushes nest in trees or shrubs, and feed on the ground.

Specific habitats used:**Comments:****Predicted habitat quantities:**

WOOD THRUSH				Total in ha: 6,033,089	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	93,690	Fresh emergent	34,389
Abandoned field	9,719	Heavy partial cut	130,999	Peatland	15,352
Blueberry field	5,029	Deciduous forest	1,179,417	Wet meadow	6,831
Grassland	167,650	Decid./Conif. forest	1,177,616	Salt aquatic bed	1,334
Crops/Ground	30,688	Conif./Decid. forest	1,458,515	Salt emergent	727
Developed lands		Coniferous forest	353,697	Mudflat	808
Sparse residential	42,666	Wetlands		Sand shore	108
Dense residential	5,686	Deciduous forested	56,977	Gravel shore	442
Urban/Industrial	102	Coniferous forested	315,428	Rock shore	983
Highways/Runways	301	Dead-forested	2,112	Shallow water	6,537
Forestlands		Decid. shrub-scrub	105,915	Open water	43,957
Clearcut	65,082	Conifer. shrub-scrub	11,917	Other	
Early regeneration	462,553	Dead shrub-scrub	75	Alpine tundra	141
Late regeneration	245,069	Fresh aquatic bed	41	Exposed rock/Talus	539

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN ROBIN (*Turdus migratorius*)

Element code: BPBJ2017

ME-GAP code: TUMI

Order: Passeriformes

Family: Turdidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Abundant

Population trend: Stable

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: American Robins are most common in residential areas within a mosaic of open woodland and farmland. Robins forage in short-grass lawns, plowed fields, forest roads, hayfields, orchards, and gardens. They also will occur in open forests and cleared areas. Large residential trees and trees within open forests are used as perches by robins, and they will nest in apple trees, white pines, and maples, for example. A variety forest types are used for nesting, except dense coniferous forests.

Specific habitats used:

Comments: Robins are familiar to almost everyone, but their voice may not be. Robins sing often with whistled notes sounding something like “Cherry-up, Cherry-oh, Cheery-oh, Cheery-up”.

Predicted habitat quantities:

AMERICAN ROBIN						Total in ha: 7,755,266
Habitat	ha	Habitat	ha	Habitat	ha	
Agricultural lands		Light partial cut	111,398	Fresh emergent	45,852	
Abandoned field	19,072	Heavy partial cut	149,973	Peatland	45,096	
Blueberry field	12,721	Deciduous forest	1,268,793	Wet meadow	14,237	
Grassland	454,370	Decid./Conif. forest	1,324,676	Salt aquatic bed	3,332	
Crops/Ground	107,850	Conif./Decid. forest	1,740,040	Salt emergent	1,294	
Developed lands		Coniferous forest	754,649	Mudflat	2,330	
Sparse residential	63,954	Wetlands		Sand shore	459	
Dense residential	33,293	Deciduous forested	69,231	Gravel shore	680	
Urban/Industrial	1,416	Coniferous forested	377,381	Rock shore	1,699	
Highways/Runways	729	Dead-forested	2,574	Shallow water	9,627	
Forestlands		Decid. shrub-scrub	126,822	Open water	65,601	
Clearcut	121,466	Conifer. shrub-scrub	14,324	Other		
Early regeneration	524,616	Dead shrub-scrub	109	Alpine tundra	430	
Late regeneration	283,734	Fresh aquatic bed	72	Exposed rock/Talus	1,365	

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GRAY CATBIRD (*Dumetella carolinensis*)

Element code: BPBK0101

ME-GAP code: DUCA

Order: Passeriformes

Family: Mimidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S4B

Knowledge: Good

General habitats used: Gray Catbirds inhabit dense shrubs and vines that border streams, ponds, wetlands, and swamps. Dry sites with thickets present also are used, such as open deciduous and mixed forests, clearcuts, parks, cemeteries, golf courses, and gardens. Shrubs around buildings are likely places to locate Gray Catbirds; the species of shrubs is not important, only that they are dense and near edges. Catbirds nest in shrubs under a deciduous overstory, nesting in hawthorns, grape, and multiflora rose, for example.

Specific habitats used:

Comments: Gray Catbirds are named for one phrase of their varied songs, which sounds like the meow of a cat.

Predicted habitat quantities:

GRAY CATBIRD				Total in ha: 7,693,172	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	110,010	Fresh emergent	44,705
Abandoned field	18,475	Heavy partial cut	146,678	Peatland	44,717
Blueberry field	12,480	Deciduous forest	1,263,277	Wet meadow	8,957
Grassland	451,228	Decid./Conif. forest	1,312,545	Salt aquatic bed	3,278
Crops/Ground	105,727	Conif./Decid. forest	1,728,717	Salt emergent	1,248
Developed lands		Coniferous forest	759,088	Mudflat	1,695
Sparse residential	63,414	Wetlands		Sand shore	346
Dense residential	33,005	Deciduous forested	67,795	Gravel shore	654
Urban/Industrial	758	Coniferous forested	375,595	Rock shore	1,664
Highways/Runways	742	Dead-forested	2,484	Shallow water	9,378
Forestlands		Decid. shrub-scrub	123,675	Open water	63,873
Clearcut	121,042	Conifer. shrub-scrub	13,957	Other	
Early regeneration	520,049	Dead shrub-scrub	109	Alpine tundra	440
Late regeneration	279,959	Fresh aquatic bed	70	Exposed rock/Talus	1,337

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN MOCKINGBIRD (*Mimus polyglottus*)

Element code: BPBK0301

ME-GAP code: MIPO

Order: Passeriformes

Family: Mimidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Slight increase

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Northern Mockingbirds inhabit brushy, open areas, usually associated with urban sites. Edges of forests, hedgerows, roadside brush, pastures with some shrubs present, and parks are good habitat for mockingbirds. In general, sites with a few trees, dense vegetation, and edible fruits are selected. Northern Mockingbirds nest in shrubs, vine tangles, or low trees.

Specific habitats used:

Comments:

Predicted habitat quantities:

NORTHERN MOCKINGBIRD				Total in ha: 1,296,787	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	50,226	Fresh emergent	5,227
Abandoned field	13,854	Heavy partial cut	66,571	Peatland	1,086
Blueberry field	11,198	Deciduous forest	30,280	Wet meadow	10,942
Grassland	355,203	Decid./Conif. forest	52,223	Salt aquatic bed	534
Crops/Ground	49,849	Conif./Decid. forest	67,352	Salt emergent	315
Developed lands		Coniferous forest	18,015	Mudflat	338
Sparse residential	50,674	Wetlands		Sand shore	97
Dense residential	30,094	Deciduous forested	4,631	Gravel shore	36
Urban/Industrial	325	Coniferous forested	11,385	Rock shore	198
Highways/Runways	654	Dead-forested	117	Shallow water	1,072
Forestlands		Decid. shrub-scrub	80,055	Open water	4,717
Clearcut	63,122	Conifer. shrub-scrub	9,338	Other	
Early regeneration	184,689	Dead shrub-scrub	82	Alpine tundra	7
Late regeneration	121,818	Fresh aquatic bed	9	Exposed rock/Talus	453

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BROWN THRASHER (*Toxostoma rufum*)

Element code: BPBK0601

ME-GAP code: TORU

Order: Passeriformes

Family: Mimidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Declining

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Brown Thrashers occur in shrubs, thickets, and hedgerows that border pastures, hay fields, roadsides, and small forest openings. Shrubby sites near residential areas, cemeteries, parks, and golf courses may be used by thrashers. Forest edges are selected over forest interiors, and sites within high mountains are not used. Brown Thrashers nest on the ground or in shrubs, and occasionally in low trees.

Specific habitats used:

Comments: Brown Thrasher populations are gradually declining, perhaps because of farmland abandonment. Many of the small farms of 50 years ago have regrown into young forests unattractive to Brown Thrashers. Brown Thrashers use many phrases in their songs and the phrases are always given in pairs.

Predicted habitat quantities:

BROWN THRASHER				Total in ha: 1,235,980	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	7,857	Fresh emergent	5,182
Abandoned field	13,825	Heavy partial cut	69,402	Peatland	1,039
Blueberry field	11,178	Deciduous forest	28,534	Wet meadow	10,920
Grassland	334,248	Decid./Conif. forest	48,589	Salt aquatic bed	521
Crops/Ground	39,667	Conif./Decid. forest	61,466	Salt emergent	311
Developed lands		Coniferous forest	15,433	Mudflat	339
Sparse residential	47,621	Wetlands		Sand shore	100
Dense residential	29,626	Deciduous forested	4,315	Gravel shore	38
Urban/Industrial	325	Coniferous forested	10,673	Rock shore	188
Highways/Runways	656	Dead-forested	118	Shallow water	1,017
Forestlands		Decid. shrub-scrub	76,225	Open water	4,582
Clearcut	67,696	Conifer. shrub-scrub	8,992	Other	
Early regeneration	204,549	Dead shrub-scrub	72	Alpine tundra	1
Late regeneration	130,203	Fresh aquatic bed	6	Exposed rock/Talus	467

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN PIPIT (*Anthus rubescens*)

Element code: BPBM0205

ME-GAP code: ANSP

Order: Passeriformes

Family: Motacillidae

Breeding range change: Stable

Listing status: Endangered (S)

Migratory status: Neotropical migrant

Game species: No

Population level: Rare

Population trend: Stable

Heritage ranks: G5 . . S1B,S3N

Knowledge: Adequate

General habitats used: In Maine, American Pipits only inhabit a restricted area near the summit of Katahdin Mountain. Maine pipits are associated with alpine meadows on sloping ground, above the tree line. In general, breeding habitats are alpine and arctic tundra, with America Pipits nesting on the ground, on a mossy hummock or in a cavity in a rock pile.

Specific habitats used:

Comments:

Predicted habitat quantities:

AMERICAN PIPIT				Total in ha: 980	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	1	Fresh emergent	0
Abandoned field	0	Heavy partial cut	0	Peatland	0
Blueberry field	0	Deciduous forest	0	Wet meadow	0
Grassland	0	Decid./Conif. forest	3	Salt aquatic bed	0
Crops/Ground	0	Conif./Decid. forest	23	Salt emergent	0
Developed lands		Coniferous forest	88	Mudflat	0
Sparse residential	0	Wetlands		Sand shore	0
Dense residential	0	Deciduous forested	0	Gravel shore	0
Urban/Industrial	0	Coniferous forested	0	Rock shore	0
Highways/Runways	0	Dead-forested	0	Shallow water	1
Forestlands		Decid. shrub-scrub	0	Open water	0
Clearcut	2	Conifer. shrub-scrub	0	Other	
Early regeneration	2	Dead shrub-scrub	0	Alpine tundra	772
Late regeneration	0	Fresh aquatic bed	0	Exposed rock/Talus	87

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CEDAR WAXWING (*Bombycilla cedrorum*)

Element code: BPBN0102

ME-GAP code: BOCE

Order: Passeriformes

Family: Bombycillidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S3S5N,S5B

Knowledge: Good

General habitats used: Cedar Waxwings nest in open young deciduous and coniferous forests, residential trees, hedgerows, clearcuts, roadsides, streamsides, gardens, and the edges of pastures and hayfields. Brushy sites within open areas that are near water are used by Cedar Waxwings. These waxwings will nest in coniferous or deciduous trees, with dense coniferous thickets (such as cedar) are heavily used.

Specific habitats used:

Comments:

Predicted habitat quantities:

CEDAR WAXWING				Total in ha: 7,231,528	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	107,766	Fresh emergent	59,844
Abandoned field	17,936	Heavy partial cut	143,355	Peatland	36,804
Blueberry field	12,430	Deciduous forest	1,252,744	Wet meadow	13,717
Grassland	426,845	Decid./Conif. forest	1,287,693	Salt aquatic bed	3,165
Crops/Ground	<i>54,148</i>	Conif./Decid. forest	1,672,450	Salt emergent	1,373
Developed lands		Coniferous forest	716,782	Mudflat	1,669
Sparse residential	59,770	Wetlands		Sand shore	339
Dense residential	31,405	Deciduous forested	40,391	Gravel shore	714
Urban/Industrial	731	Coniferous forested	191,481	Rock shore	1,648
Highways/Runways	563	Dead-forested	1,627	Shallow water	8,801
Forestlands		Decid. shrub-scrub	113,291	Open water	61,844
Clearcut	115,606	Conifer. shrub-scrub	12,508	Other	
Early regeneration	504,909	Dead shrub-scrub	104	Alpine tundra	430
Late regeneration	275,279	Fresh aquatic bed	68	Exposed rock/Talus	1,298

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLUE-HEADED VIREO (*Vireo solitarius*)

Element code: BPBW0116

ME-GAP code: VISO

Order: Passeriformes

Family: Vireonidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable to slightly increasing

Heritage ranks: G5 . . . S5B

Knowledge: Adequate

General habitats used: Blue-headed Vireos are forest generalist, but are most common in closed canopy mixed forests, and appear to require some conifers in the overstory for breeding. Spruce, pines, and hemlock stands are selected by Blue-headed Vireos. Forest stands with gaps in the overstory and thick understories are good habitat for this species. Similarly, forest edges may be used by vireos. Blue-headed Vireos typically nest in conifers.

Specific habitats used:

Comments: This vireo is also known as the Solitary Vireo.

Predicted habitat quantities:

BLUE-HEADED VIREO				Total in ha: 6,660,536	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	101,343	Fresh emergent	34,319
Abandoned field	14,836	Heavy partial cut	135,827	Peatland	15,853
Blueberry field	5,412	Deciduous forest	1,193,461	Wet meadow	6,655
Grassland	173,807	Decid./Conif. forest	1,209,443	Salt aquatic bed	2,683
Crops/Ground	31,498	Conif./Decid. forest	1,607,591	Salt emergent	921
Developed lands		Coniferous forest	712,985	Mudflat	1,204
Sparse residential	46,140	Wetlands		Sand shore	249
Dense residential	6,166	Deciduous forested	58,079	Gravel shore	515
Urban/Industrial	102	Coniferous forested	341,804	Rock shore	1,415
Highways/Runways	305	Dead-forested	2,268	Shallow water	7,335
Forestlands		Decid. shrub-scrub	67,855	Open water	50,993
Clearcut	71,425	Conifer. shrub-scrub	11,713	Other	
Early regeneration	484,071	Dead shrub-scrub	79	Alpine tundra	407
Late regeneration	261,064	Fresh aquatic bed	47	Exposed rock/Talus	666

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW-THROATED VIREO (*Vireo flavifrons*)**Element code:** BPBW0117**ME-GAP code:** VIFL**Order:** Passeriformes**Family:** Vireonidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Rare**Population trend:** Gradual increase**Heritage ranks:** G5 . . S3B**Knowledge:** Best guess

General habitats used: Yellow-throated Vireos inhabit open deciduous forests, especially those with spreading crowns, such as with oaks and maples. Woodland edges that border streams, roadsides, or open fields are used. Forested wetlands may be used by Yellow-throated Vireos, especially sites with some dead trees present. The expansion of suburban areas, with their large deciduous trees lining the streets, may have increased populations of these vireos.

Specific habitats used:**Comments:****Predicted habitat quantities:**

YELLOW-THROATED VIREO				Total in ha: 594,808	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>4,006</i>	Fresh emergent	<i>906</i>
Abandoned field	511	Heavy partial cut	<i>2,565</i>	Peatland	<i>144</i>
Blueberry field	<i>45</i>	Deciduous forest	141,701	Wet meadow	<i>161</i>
Grassland	21,597	Decid./Conif. forest	188,480	Salt aquatic bed	28
Crops/Ground	764	Conif./Decid. forest	142,602	Salt emergent	<i>105</i>
Developed lands		Coniferous forest	<i>11,974</i>	Mudflat	<i>45</i>
Sparse residential	6,636	Wetlands		Sand shore	<i>12</i>
Dense residential	15,292	Deciduous forested	22,086	Gravel shore	<i>1</i>
Urban/Industrial	<i>196</i>	Coniferous forested	17,498	Rock shore	<i>4</i>
Highways/Runways	28	Dead-forested	206	Shallow water	<i>252</i>
Forestlands		Decid. shrub-scrub	9,654	Open water	<i>1,276</i>
Clearcut	<i>967</i>	Conifer. shrub-scrub	<i>187</i>	Other	
Early regeneration	2,215	Dead shrub-scrub	13	Alpine tundra	<i>0</i>
Late regeneration	2,484	Fresh aquatic bed	<i>1</i>	Exposed rock/Talus	<i>166</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WARBLING VIREO (*Vireo gilvus*)**Element code:** BPBW0121**ME-GAP code:** VIGI**Order:** Passeriformes**Family:** Vireonidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Uncommon**Population trend:** Stable**Heritage ranks:** G5 . . S4B**Knowledge:** Adequate

General habitats used: Warbling Vireos breed in open deciduous forests with tall, mature trees. Inland valleys and river bottoms forested with American elm, silver maple, and poplars are favored. Warbling Vireos inhabit roadsides and residential areas, if large deciduous trees with open canopies are present. These vireos nest high in trees, and feed heavily on caterpillars.

Specific habitats used:**Comments:****Predicted habitat quantities:**

WARBLING VIREO				Total in ha: 3,830,284	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	67,585	Fresh emergent	16,907
Abandoned field	10,471	Heavy partial cut	67,391	Peatland	4,789
Blueberry field	3,558	Deciduous forest	1,087,437	Wet meadow	3,622
Grassland	128,963	Decid./Conif. forest	930,633	Salt aquatic bed	707
Crops/Ground	22,352	Conif./Decid. forest	485,044	Salt emergent	411
Developed lands		Coniferous forest	109,298	Mudflat	450
Sparse residential	33,559	Wetlands		Sand shore	71
Dense residential	24,722	Deciduous forested	41,636	Gravel shore	282
Urban/Industrial	484	Coniferous forested	66,350	Rock shore	600
Highways/Runways	405	Dead-forested	1,229	Shallow water	3,181
Forestlands		Decid. shrub-scrub	68,862	Open water	23,249
Clearcut	43,838	Conifer. shrub-scrub	2,935	Other	
Early regeneration	400,622	Dead shrub-scrub	51	Alpine tundra	85
Late regeneration	177,876	Fresh aquatic bed	28	Exposed rock/Talus	599

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PHILADELPHIA VIREO (*Vireo philadelphicus*)

Element code: BPBW0123

ME-GAP code: VIPH

Order: Passeriformes

Family: Vireonidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Rapid increase, possibly due to forest cutting

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Philadelphia Vireos inhabit young forests, with deciduous and mixed forested selected over coniferous. White ash and yellow birch appear to be selected by this species. Brushy areas associated with forest edges, burns, and harvested areas are used. Moist habitats near streams, and with nearby openings are good Philadelphia Vireo habitat. Nests are built low in deciduous trees, or in shrubs.

Specific habitats used:

Comments:

Predicted habitat quantities:

PHILADELPHIA VIREO				Total in ha: 3,707,869	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	63,319	Fresh emergent	6,406
Abandoned field	2,986	Heavy partial cut	98,954	Peatland	1,389
Blueberry field	56	Deciduous forest	880,270	Wet meadow	1,376
Grassland	16,845	Decid./Conif. forest	821,613	Salt aquatic bed	89
Crops/Ground	5,525	Conif./Decid. forest	903,655	Salt emergent	0
Developed lands		Coniferous forest	84,382	Mudflat	2
Sparse residential	3,706	Wetlands		Sand shore	0
Dense residential	293	Deciduous forested	22,879	Gravel shore	143
Urban/Industrial	0	Coniferous forested	33,191	Rock shore	228
Highways/Runways	11	Dead-forested	1,059	Shallow water	1,367
Forestlands		Decid. shrub-scrub	67,907	Open water	7,428
Clearcut	73,022	Conifer. shrub-scrub	7,957	Other	
Early regeneration	428,021	Dead shrub-scrub	53	Alpine tundra	54
Late regeneration	173,625	Fresh aquatic bed	4	Exposed rock/Talus	54

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED-EYED VIREO (*Vireo olivaceus*)**Element code:** BPBW0124**ME-GAP code:** VIOL**Order:** Passeriformes**Family:** Vireonidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Abundant**Population trend:** Stable**Heritage ranks:** G5 . . . S5B**Knowledge:** Good

General habitats used: Red-eyed Vireos are most common in moderate age, moist deciduous forests, but the species uses a variety of habitats. To be occupied, an area must have underbrush present, and have deciduous trees (> 25%) in the canopy. Forests with a continuous canopy and tall trees present are used. Urban sites may be used by Red-eyed Vireos, including residential areas with tree-lined streets, parks, and woodlots. These vireos nest in deciduous sapling trees, or shrubs.

Specific habitats used:**Comments:****Predicted habitat quantities:**

RED-EYED VIREO				Total in ha: 6,088,961	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	93,891	Fresh emergent	34,657
Abandoned field	14,697	Heavy partial cut	131,745	Peatland	15,576
Blueberry field	5,565	Deciduous forest	1,181,598	Wet meadow	6,883
Grassland	173,867	Decid./Conif. forest	1,181,869	Salt aquatic bed	1,399
Crops/Ground	32,096	Conif./Decid. forest	1,463,116	Salt emergent	788
Developed lands		Coniferous forest	354,795	Mudflat	890
Sparse residential	44,398	Wetlands		Sand shore	122
Dense residential	26,624	Deciduous forested	57,363	Gravel shore	454
Urban/Industrial	505	Coniferous forested	315,925	Rock shore	1,008
Highways/Runways	602	Dead-forested	2,128	Shallow water	6,623
Forestlands		Decid. shrub-scrub	106,356	Open water	44,572
Clearcut	65,847	Conifer. shrub-scrub	11,701	Other	
Early regeneration	465,165	Dead shrub-scrub	72	Alpine tundra	141
Late regeneration	245,153	Fresh aquatic bed	41	Exposed rock/Talus	727

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLUE-WINGED WARBLER (*Vermivora pinus*)

Element code: BPBX0102

ME-GAP code: VEPI

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Rare

Population trend: Stable

Heritage ranks: G5 . . S1B

Knowledge: Best guess

General habitats used: Blue-winged Warblers are most closely associated with abandoned farmland. Selected sites typically have saplings (> 3 m), have other scattered shrubs, and are wet, such as wet farmland and the borders of forested wetlands or stream edges. Blue-winged Warbler range is expanding to the north, and tend to replace Golden-winged Warblers where their ranges overlap.

Specific habitats used:

Comments:

Predicted habitat quantities:

BLUE-WINGED WARBLER				Total in ha:	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	307	Fresh emergent	16
Abandoned field	0	Heavy partial cut	59	Peatland	2
Blueberry field	0	Deciduous forest	8	Wet meadow	2
Grassland	238	Decid./Conif. forest	341	Salt aquatic bed	8
Crops/Ground	5	Conif./Decid. forest	420	Salt emergent	6
Developed lands		Coniferous forest	89	Mudflat	1
Sparse residential	586	Wetlands		Sand shore	3
Dense residential	26	Deciduous forested	2,074	Gravel shore	0
Urban/Industrial	6	Coniferous forested	1,363	Rock shore	0
Highways/Runways	0	Dead-forested	21	Shallow water	4
Forestlands		Decid. shrub-scrub	505	Open water	10
Clearcut	327	Conifer. shrub-scrub	23	Other	
Early regeneration	437	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	58	Fresh aquatic bed	0	Exposed rock/Talus	0

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

TENNESSEE WARBLER (*Vermivora peregrina*)

Element code: BPBX0104

ME-GAP code: VEPE

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Declining

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Tennessee Warblers are best classed as forest birds, but they are associated with grassy forest openings and edges. Openings with scattered young deciduous trees, such as alder and willow thickets, bogs, harvested areas, burns, and the edges of polesize stands are used. In general, any forest type may be used, but deciduous trees are most heavily used. Tennessee Warblers nest on the ground, using shrubs as cover, and forage in terminal leaves of trees, taking many caterpillars.

Specific habitats used:

Comments: Tennessee Warbler populations respond strongly to insect outbreaks, taking advantage of a super-abundant resource.

Predicted habitat quantities:

TENNESSEE WARBLER				Total in ha: 5,692,792	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	86,659	Fresh emergent	<i>14,050</i>
Abandoned field	13,295	Heavy partial cut	122,334	Peatland	41,449
Blueberry field	11,234	Deciduous forest	960,072	Wet meadow	2,783
Grassland	149,581	Decid./Conif. forest	961,210	Salt aquatic bed	<i>1,123</i>
Crops/Ground	<i>14,979</i>	Conif./Decid. forest	1,328,552	Salt emergent	<i>302</i>
Developed lands		Coniferous forest	614,826	Mudflat	<i>389</i>
Sparse residential	33,716	Wetlands		Sand shore	<i>75</i>
Dense residential	<i>1,196</i>	Deciduous forested	34,556	Gravel shore	<i>254</i>
Urban/Industrial	<i>0</i>	Coniferous forested	335,463	Rock shore	<i>561</i>
Highways/Runways	<i>84</i>	Dead-forested	1,847	Shallow water	<i>2,818</i>
Forestlands		Decid. shrub-scrub	103,430	Open water	<i>14,742</i>
Clearcut	98,630	Conifer. shrub-scrub	11,871	Other	
Early regeneration	498,549	Dead shrub-scrub	79	Alpine tundra	<i>157</i>
Late regeneration	231,656	Fresh aquatic bed	<i>11</i>	Exposed rock/Talus	<i>257</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NASHVILLE WARBLER (*Vermivora ruficapilla*)

Element code: BPBX0106

ME-GAP code: VERU

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Nashville Warblers inhabit young coniferous, mixed, or deciduous forests, selecting wet stands of conifers, such as tamarack bogs and spruce-sphagnum moss bogs. Closed-canopy forests are avoided; Nashville Warblers use clearings with brushy vegetation or saplings, forest edges, regenerating clearcuts, and overgrown, abandoned farmland. Nashville Warblers nest on the ground in these habitats, under herbaceous cover.

Specific habitats used:

Comments:

Predicted habitat quantities:

NASHVILLE WARBLER				Total in ha: 7,592,449	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	110,812	Fresh emergent	<i>44,509</i>
Abandoned field	17,787	Heavy partial cut	147,657	Peatland	44,151
Blueberry field	6,896	Deciduous forest	1,263,572	Wet meadow	8,844
Grassland	431,036	Decid./Conif. forest	1,314,035	Salt aquatic bed	3,216
Crops/Ground	54,640	Conif./Decid. forest	1,732,937	Salt emergent	1,200
Developed lands		Coniferous forest	760,260	Mudflat	1,617
Sparse residential	60,254	Wetlands		Sand shore	334
Dense residential	11,049	Deciduous forested	67,595	Gravel shore	654
Urban/Industrial	337	Coniferous forested	374,448	Rock shore	1,671
Highways/Runways	407	Dead-forested	2,486	Shallow water	9,312
Forestlands		Decid. shrub-scrub	123,223	Open water	63,598
Clearcut	120,490	Conifer. shrub-scrub	14,068	Other	
Early regeneration	517,055	Dead shrub-scrub	109	Alpine tundra	441
Late regeneration	280,535	Fresh aquatic bed	69	Exposed rock/Talus	1,146

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN PARULA (*Parula americana*)

Element code: BPBX0201

ME-GAP code: PAAM

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Northern Parulas inhabit mature forests (most often conifers), often near streams or rivers. Spruce and hemlock stands, with some interspersed tall deciduous trees appear selected. Parulas use bearded lichens (*Usnea* spp) in nests, and glean branches and foliage for insects. Although bearded lichen is not required by breeding Northern Parulas, they are strongly associated with the lichen in the northern portion of their breeding range.

Specific habitats used:

Comments:

Predicted habitat quantities:

NORTHERN PARULA				Total in ha: 5,453,950	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	84,745	Fresh emergent	13,098
Abandoned field	3,992	Heavy partial cut	39,819	Peatland	43,746
Blueberry field	1,501	Deciduous forest	1,119,416	Wet meadow	2,528
Grassland	45,060	Decid./Conif. forest	1,082,482	Salt aquatic bed	1,304
Crops/Ground	10,530	Conif./Decid. forest	1,544,255	Salt emergent	336
Developed lands		Coniferous forest	703,547	Mudflat	525
Sparse residential	44,411	Wetlands		Sand shore	115
Dense residential	1,357	Deciduous forested	45,276	Gravel shore	199
Urban/Industrial	2	Coniferous forested	349,006	Rock shore	502
Highways/Runways	159	Dead-forested	2,341	Shallow water	2,494
Forestlands		Decid. shrub-scrub	113,301	Open water	15,173
Clearcut	23,676	Conifer. shrub-scrub	12,857	Other	
Early regeneration	72,072	Dead shrub-scrub	66	Alpine tundra	130
Late regeneration	73,712	Fresh aquatic bed	17	Exposed rock/Talus	198

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW WARBLER (*Dendroica petechia*)**Element code:** BPBX0301**ME-GAP code:** DEPE**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . . S5**Knowledge:** Good

General habitats used: Yellow Warblers inhabit areas with dense shrubs and small trees, such as gardens, farms, parks, roadsides, and abandoned fields. These warblers are associated with edges, using forest edges or very large openings, shrubs along the margins of streams, ponds, and marshes. Yellow Warblers nest in a variety of sites, in shrubs or trees.

Specific habitats used:**Comments:****Predicted habitat quantities:**

YELLOW WARBLER				Total in ha: 1,473,256	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	44,546	Fresh emergent	34,491
Abandoned field	8,496	Heavy partial cut	68,735	Peatland	30,644
Blueberry field	2,906	Deciduous forest	69,123	Wet meadow	8,550
Grassland	48,653	Decid./Conif. forest	121,839	Salt aquatic bed	529
Crops/Ground	13,273	Conif./Decid. forest	177,699	Salt emergent	405
Developed lands		Coniferous forest	74,887	Mudflat	412
Sparse residential	26,380	Wetlands		Sand shore	74
Dense residential	22,828	Deciduous forested	10,512	Gravel shore	313
Urban/Industrial	471	Coniferous forested	60,978	Rock shore	310
Highways/Runways	331	Dead-forested	463	Shallow water	2,906
Forestlands		Decid. shrub-scrub	66,544	Open water	15,917
Clearcut	69,023	Conifer. shrub-scrub	8,007	Other	
Early regeneration	349,506	Dead shrub-scrub	41	Alpine tundra	48
Late regeneration	133,046	Fresh aquatic bed	11	Exposed rock/Talus	361

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CHESTNUT-SIDED WARBLER (*Dendroica pensylvanica*)**Element code:** BPBX0302**ME-GAP code:** DEPN**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Chestnut-sided Warblers are associated with edge habitats, being most common along the edges of early successional deciduous stands. These warblers will occur along roadsides in shrubs or vines, within clearcuts, regenerating areas, burns, powerline corridors, and residential areas. Closed canopy forest interiors are not used by Chestnut-sided Warblers. This species nests in shrubs, vines, or low in young trees.

Specific habitats used:**Comments:****Predicted habitat quantities:**

CHESTNUT-SIDED WARBLER				Total in ha: 2,801,289	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	54,136	Fresh emergent	37,748
Abandoned field	9,661	Heavy partial cut	90,551	Peatland	31,300
Blueberry field	3,338	Deciduous forest	861,531	Wet meadow	9,294
Grassland	86,533	Decid./Conif. forest	356,405	Salt aquatic bed	622
Crops/Ground	17,647	Conif./Decid. forest	281,390	Salt emergent	460
Developed lands		Coniferous forest	90,717	Mudflat	449
Sparse residential	29,833	Wetlands		Sand shore	79
Dense residential	23,958	Deciduous forested	37,336	Gravel shore	369
Urban/Industrial	487	Coniferous forested	69,739	Rock shore	423
Highways/Runways	365	Dead-forested	588	Shallow water	3,575
Forestlands		Decid. shrub-scrub	72,314	Open water	21,834
Clearcut	77,345	Conifer. shrub-scrub	8,535	Other	
Early regeneration	371,545	Dead shrub-scrub	44	Alpine tundra	80
Late regeneration	150,589	Fresh aquatic bed	19	Exposed rock/Talus	450

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

MAGNOLIA WARBLER (*Dendroica magnolia*)**Element code:** BPBX0303**ME-GAP code:** DEMA**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Magnolia Warblers inhabit coniferous shrubs and saplings. Small stands of dense, young spruce or hemlock are selected, such as in forested bogs, swamps, clearcuts with residual conifers, spruce plantations, regenerating areas in conifers, and abandoned farmland. Edges and open interiors of larger stands may be used by these warblers. Apparently stands with some balsam fir present are selected over pure spruce or hemlock stands. Magnolia Warblers typically nest in these same young conifers.

Specific habitats used:**Comments:****Predicted habitat quantities:**

MAGNOLIA WARBLER				Total in ha: 5,530,763	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	93,774	Fresh emergent	37,661
Abandoned field	14,472	Heavy partial cut	116,310	Peatland	43,086
Blueberry field	5,363	Deciduous forest	401,067	Wet meadow	7,364
Grassland	142,588	Decid./Conif. forest	978,281	Salt aquatic bed	2,651
Crops/Ground	28,817	Conif./Decid. forest	1,530,344	Salt emergent	900
Developed lands		Coniferous forest	714,597	Mudflat	1,251
Sparse residential	44,895	Wetlands		Sand shore	253
Dense residential	5,541	Deciduous forested	35,375	Gravel shore	553
Urban/Industrial	97	Coniferous forested	356,373	Rock shore	1,368
Highways/Runways	289	Dead-forested	2,257	Shallow water	7,701
Forestlands		Decid. shrub-scrub	112,405	Open water	50,771
Clearcut	65,401	Conifer. shrub-scrub	12,835	Other	
Early regeneration	466,652	Dead shrub-scrub	81	Alpine tundra	380
Late regeneration	248,385	Fresh aquatic bed	42	Exposed rock/Talus	582

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CAPE MAY WARBLER (*Dendroica tigrina*)**Element code:** BPBX0304**ME-GAP code:** DETI**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable, but responsive to insect outbreaks**Heritage ranks:** G5 . . S4S5B**Knowledge:** Adequate

General habitats used: Cape May Warblers inhabit open, mature, coniferous and mixed forests, selecting stands with many tall spruces. These warblers are rare in the forest interior, and glean caterpillars off twigs and leaves near the tops of trees, hawking above them, and using the edges of more dense stands. Cape May Warblers are more common in spruce stands than balsam fir stands. Nests are constructed near the top of tall spruce trees. Cape May Warbler populations are related to spruce budworm densities.

Specific habitats used:**Comments:****Predicted habitat quantities:**

CAPE MAY WARBLER				Total in ha: 2,437,639	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	54,690	Fresh emergent	6,204
Abandoned field	9,167	Heavy partial cut	13,197	Peatland	3,820
Blueberry field	1,129	Deciduous forest	27,562	Wet meadow	1,140
Grassland	7,306	Decid./Conif. forest	100,845	Salt aquatic bed	548
Crops/Ground	2,933	Conif./Decid. forest	1,078,186	Salt emergent	148
Developed lands		Coniferous forest	558,895	Mudflat	154
Sparse residential	22,746	Wetlands		Sand shore	41
Dense residential	311	Deciduous forested	4,180	Gravel shore	113
Urban/Industrial	0	Coniferous forested	292,480	Rock shore	252
Highways/Runways	23	Dead-forested	1,450	Shallow water	1,192
Forestlands		Decid. shrub-scrub	13,068	Open water	6,307
Clearcut	11,516	Conifer. shrub-scrub	9,438	Other	
Early regeneration	43,400	Dead shrub-scrub	7	Alpine tundra	100
Late regeneration	165,033	Fresh aquatic bed	2	Exposed rock/Talus	54

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-THROATED BLUE WARBLER (*Dendroica caerulescens*)

Element code: BPBX0305

ME-GAP code: DECA

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Black-throated Blue Warblers inhabit the interiors of deciduous and mixed forests that are mature and have a dense understory. These warblers forage in the shrubs and subcanopy of these moist, dark forests, and along the edges of associated openings. Pole-sized forests \$ 15 years old may be used by these warblers. Black-throated Blue Warblers nest low in deciduous or coniferous trees and shrubs.

Specific habitats used:

Comments:

Predicted habitat quantities:

BLACK-THROATED BLUE WARBLER				Total in ha: 5,199,674	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	73,199	Fresh emergent	29,640
Abandoned field	13,018	Heavy partial cut	72,344	Peatland	13,580
Blueberry field	4,169	Deciduous forest	1,151,993	Wet meadow	5,971
Grassland	154,975	Decid./Conif. forest	1,113,764	Salt aquatic bed	1,226
Crops/Ground	26,075	Conif./Decid. forest	1,360,835	Salt emergent	694
Developed lands		Coniferous forest	312,326	Mudflat	752
Sparse residential	39,445	Wetlands		Sand shore	107
Dense residential	5,239	Deciduous forested	53,626	Gravel shore	360
Urban/Industrial	103	Coniferous forested	287,616	Rock shore	877
Highways/Runways	303	Dead-forested	1,941	Shallow water	5,647
Forestlands		Decid. shrub-scrub	96,349	Open water	39,820
Clearcut	44,520	Conifer. shrub-scrub	6,106	Other	
Early regeneration	150,483	Dead shrub-scrub	61	Alpine tundra	100
Late regeneration	131,913	Fresh aquatic bed	41	Exposed rock/Talus	459

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

YELLOW-RUMPED WARBLER (*Dendroica coronata*)

Element code: BPBX0306

ME-GAP code: DECO

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant; Local migrant

Game species: No

Population level: Common

Population trend: Slow increase, perhaps
conifer regeneration

Heritage ranks: G5 . . S4N,S5B

Knowledge: Good

General habitats used: Yellow-rumped Warblers are most common in coniferous forests that are near water or bogs. Spruce and balsam fir stands are used by these warblers, as are edges of other coniferous stands. Mixed forests may be used, but conifers must be present (such as hemlocks and white pines within northern hardwood forests). Yellow-rumped Warblers typically nest in coniferous trees.

Specific habitats used:

Comments:

Predicted habitat quantities:

YELLOW-RUMPED WARBLER				Total in ha: 4,705,510	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	79,754	Fresh emergent	29,330
Abandoned field	7,784	Heavy partial cut	60,075	Peatland	14,388
Blueberry field	3,384	Deciduous forest	358,295	Wet meadow	5,553
Grassland	129,000	Decid./Conif. forest	914,259	Salt aquatic bed	2,460
Crops/Ground	24,478	Conif./Decid. forest	1,440,238	Salt emergent	858
Developed lands		Coniferous forest	667,877	Mudflat	1,118
Sparse residential	39,880	Wetlands		Sand shore	237
Dense residential	25,830	Deciduous forested	54,280	Gravel shore	420
Urban/Industrial	497	Coniferous forested	312,749	Rock shore	1,198
Highways/Runways	433	Dead-forested	2,006	Shallow water	6,274
Forestlands		Decid. shrub-scrub	57,863	Open water	44,123
Clearcut	45,703	Conifer. shrub-scrub	10,969	Other	
Early regeneration	165,470	Dead shrub-scrub	69	Alpine tundra	339
Late regeneration	197,590	Fresh aquatic bed	41	Exposed rock/Talus	685

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-THROATED GREEN WARBLER (*Dendroica virens*)**Element code:** BPBX0310**ME-GAP code:** DEVI**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical and US migrant**Game species:** No**Population level:** Common**Population trend:** Moderate increase, may-be conifer growth**Heritage ranks:** G5 . . S5B**Knowledge:** Adequate

General habitats used: Black-throated Green Warblers are most common in mature, closed canopy stands of eastern hemlock, but also will occur in balsam fir, spruce (including plantations), pine, cedar, or mixed forests. In general, rich, moist stands with trees larger than pole size are heavily used. Black-throated Green Warblers nest and forage high in trees, usually conifers in Maine. The species may be area sensitive, meaning that small patches of appropriate habitat are unsuitable.

Specific habitats used:**Comments:****Predicted habitat quantities:**

BLACK-THROATED GREEN WARBLER				Total in ha: 5,854,132	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	80,857	Fresh emergent	34,710
Abandoned field	13,087	Heavy partial cut	74,023	Peatland	15,919
Blueberry field	4,187	Deciduous forest	1,140,832	Wet meadow	6,900
Grassland	159,456	Decid./Conif. forest	1,123,381	Salt aquatic bed	2,502
Crops/Ground	26,756	Conif./Decid. forest	1,515,984	Salt emergent	874
Developed lands		Coniferous forest	678,232	Mudflat	1,110
Sparse residential	41,555	Wetlands		Sand shore	236
Dense residential	5,723	Deciduous forested	58,143	Gravel shore	502
Urban/Industrial	104	Coniferous forested	329,180	Rock shore	1,327
Highways/Runways	296	Dead-forested	2,117	Shallow water	7,095
Forestlands		Decid. shrub-scrub	104,411	Open water	50,595
Clearcut	51,532	Conifer. shrub-scrub	12,025	Other	
Early regeneration	166,223	Dead shrub-scrub	64	Alpine tundra	369
Late regeneration	143,200	Fresh aquatic bed	47	Exposed rock/Talus	579

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACKBURNIAN WARBLER (*Dendroica fusca*)**Element code:** BPBX0312**ME-GAP code:** DEFS**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Slow increase, perhaps recovery from DDT**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Blackburnian Warblers are most common in large, fertile, mature stands of tall eastern hemlock, with bearded lichen for nest material. Stands of balsam fir also are heavily used. Blackburnian Warblers will forage in deciduous trees, if a large conifer (or a clump of conifers) are present for nest sites. Occasionally these warblers may nest in deciduous trees, but more typically they build nests high in spruces, hemlocks, or firs.

Specific habitats used:**Comments:****Predicted habitat quantities:**

BLACKBURNIAN WARBLER				Total in ha: 5,623,558	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	81,042	Fresh emergent	28,770
Abandoned field	7,093	Heavy partial cut	72,684	Peatland	14,009
Blueberry field	3,157	Deciduous forest	1,134,582	Wet meadow	5,591
Grassland	140,973	Decid./Conif. forest	1,111,596	Salt aquatic bed	2,245
Crops/Ground	22,307	Conif./Decid. forest	1,479,601	Salt emergent	773
Developed lands		Coniferous forest	662,882	Mudflat	950
Sparse residential	22,347	Wetlands		Sand shore	192
Dense residential	4,385	Deciduous forested	53,754	Gravel shore	415
Urban/Industrial	46	Coniferous forested	309,107	Rock shore	1,232
Highways/Runways	164	Dead-forested	2,009	Shallow water	6,283
Forestlands		Decid. shrub-scrub	56,949	Open water	44,937
Clearcut	47,489	Conifer. shrub-scrub	10,922	Other	
Early regeneration	156,825	Dead shrub-scrub	64	Alpine tundra	364
Late regeneration	137,235	Fresh aquatic bed	45	Exposed rock/Talus	540

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PINE WARBLER (*Dendroica pinus*)

Element code: BPBX0317

ME-GAP code: DEPI

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Increasing

Heritage ranks: G5 . . S5

Knowledge: Adequate

General habitats used: Pine Warblers inhabit large or small stands of pine trees, especially with pitch pine, but other species (in Maine, jack, red, white, and prince's pines) also are used. Pine plantation may be used by this species, and occasionally Pine Warblers will occur within deciduous stands that have a few clustered pines present.

Specific habitats used:

Comments:

Predicted habitat quantities:

PINE WARBLER				Total in ha: 1,732,333	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>11,435</i>	Fresh emergent	<i>4,388</i>
Abandoned field	2,275	Heavy partial cut	<i>10,360</i>	Peatland	<i>2,188</i>
Blueberry field	844	Deciduous forest	<i>26,786</i>	Wet meadow	<i>774</i>
Grassland	20,196	Decid./Conif. forest	<i>80,972</i>	Salt aquatic bed	<i>808</i>
Crops/Ground	3,566	Conif./Decid. forest	<i>926,789</i>	Salt emergent	<i>286</i>
Developed lands		Coniferous forest	<i>370,892</i>	Mudflat	<i>377</i>
Sparse residential	39,884	Wetlands		Sand shore	<i>107</i>
Dense residential	1,302	Deciduous forested	<i>5,600</i>	Gravel shore	<i>18</i>
Urban/Industrial	20	Coniferous forested	<i>161,200</i>	Rock shore	<i>165</i>
Highways/Runways	114	Dead-forested	<i>1,594</i>	Shallow water	<i>643</i>
Forestlands		Decid. shrub-scrub	<i>7,678</i>	Open water	<i>5,237</i>
Clearcut	5,767	Conifer. shrub-scrub	<i>974</i>	Other	
Early regeneration	12,425	Dead shrub-scrub	<i>13</i>	Alpine tundra	<i>1</i>
Late regeneration	26,562	Fresh aquatic bed	<i>7</i>	Exposed rock/Talus	<i>84</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PRAIRIE WARBLER (*Dendroica discolor*)

Element code: BPBX0319

ME-GAP code: DEDI

Order: Passeriformes

Family: Parulidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Neotropical and US migrant

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Prairie Warblers inhabit dry, open areas with brush and scattered trees. Burned sites, perhaps ten years after the burn, with scattered pitch pine, scrub oak, cedars, hawthorns, or crab apples are good Prairie Warbler habitat. Harvested areas, abandoned fields, and dry brushy pastures are occupied by these warblers. Prairie Warblers nest in shrubs, and forage in foliage, on the ground, and in the air.

Specific habitats used:

Comments: This species' population may have recently begun to decline in Southern Maine as old fields revert back to forests or are transformed into housing developments.

Predicted habitat quantities:

PRAIRIE WARBLER				Total in ha: 164,782	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	4,866	Fresh emergent	347
Abandoned field	3	Heavy partial cut	940	Peatland	553
Blueberry field	440	Deciduous forest	2,990	Wet meadow	223
Grassland	58,863	Decid./Conif. forest	57,678	Salt aquatic bed	53
Crops/Ground	1,087	Conif./Decid. forest	9,315	Salt emergent	119
Developed lands		Coniferous forest	1,450	Mudflat	219
Sparse residential	3,361	Wetlands		Sand shore	86
Dense residential	805	Deciduous forested	1,921	Gravel shore	0
Urban/Industrial	126	Coniferous forested	7,833	Rock shore	5
Highways/Runways	0	Dead-forested	6	Shallow water	135
Forestlands		Decid. shrub-scrub	603	Open water	211
Clearcut	2,889	Conifer. shrub-scrub	52	Other	
Early regeneration	3,144	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	4,297	Fresh aquatic bed	1	Exposed rock/Talus	161

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PALM WARBLER (*Dendroica palmarum*)

Element code: BPBX0321

ME-GAP code: DEPA

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but difficult to monitor

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Palm Warblers breed most commonly in sphagnum bogs and other wet sites with scattered shrubs and trees, such as black spruce swamps. Within these sites, Palm Warblers nest on drier ridges, or on low branches of shrubs and trees. Palm Warblers also will nest in drier habitats, such as open barrenlands with scattered trees, and upland spruce forests.

Specific habitats used:

Comments: Investigations in the state and provinces bordering Maine confirm the unusual range shown here.

Predicted habitat quantities:

PALM WARBLER				Total in ha: 565,074	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>2,330</i>	Fresh emergent	<i>4,425</i>
Abandoned field	<i>578</i>	Heavy partial cut	<i>2,612</i>	Peatland	<i>38,979</i>
Blueberry field	<i>8,891</i>	Deciduous forest	<i>2,934</i>	Wet meadow	<i>868</i>
Grassland	<i>2,718</i>	Decid./Conif. forest	<i>7,797</i>	Salt aquatic bed	<i>37</i>
Crops/Ground	<i>1,038</i>	Conif./Decid. forest	<i>25,506</i>	Salt emergent	<i>19</i>
Developed lands		Coniferous forest	<i>21,392</i>	Mudflat	<i>38</i>
Sparse residential	<i>921</i>	Wetlands		Sand shore	<i>6</i>
Dense residential	<i>79</i>	Deciduous forested	<i>2,142</i>	Gravel shore	<i>51</i>
Urban/Industrial	<i>0</i>	Coniferous forested	<i>258,294</i>	Rock shore	<i>45</i>
Highways/Runways	<i>9</i>	Dead-forested	<i>1,340</i>	Shallow water	<i>907</i>
Forestlands		Decid. shrub-scrub	<i>84,445</i>	Open water	<i>3,150</i>
Clearcut	<i>68,019</i>	Conifer. shrub-scrub	<i>10,334</i>	Other	
Early regeneration	<i>10,988</i>	Dead shrub-scrub	<i>35</i>	Alpine tundra	<i>1</i>
Late regeneration	<i>4,143</i>	Fresh aquatic bed	<i>1</i>	Exposed rock/Talus	<i>4</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BAY-BREASTED WARBLER (*Dendroica castanea*)**Element code:** BPBX0322**ME-GAP code:** DECS**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable, but increases
in insect outbreaks**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Bay-breasted Warblers are most common in stands of dense spruce and balsam fir, with intermixed deciduous trees. Early successional stages of coniferous growth are heavily used, as are the edges and openings of more mature coniferous stands. Forest edges near streams, ponds, and rivers are used by Bay-breasted Warblers. Although these warblers are most common in mixed forests, they only nest in coniferous trees. Bay-breasted Warblers feed heavily on spruce budworms, and the species' population level varies in response to budworm outbreaks.

Specific habitats used:**Comments:****Predicted habitat quantities:**

BAY-BREASTED WARBLER				Total in ha: 3,834,555	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	74,156	Fresh emergent	8,946
Abandoned field	11,559	Heavy partial cut	101,010	Peatland	4,844
Blueberry field	1,481	Deciduous forest	130,997	Wet meadow	1,665
Grassland	17,816	Decid./Conif. forest	842,354	Salt aquatic bed	1,123
Crops/Ground	5,707	Conif./Decid. forest	1,334,381	Salt emergent	204
Developed lands		Coniferous forest	625,896	Mudflat	253
Sparse residential	6,458	Wetlands		Sand shore	101
Dense residential	406	Deciduous forested	6,898	Gravel shore	139
Urban/Industrial	0	Coniferous forested	322,716	Rock shore	454
Highways/Runways	27	Dead-forested	1,761	Shallow water	1,673
Forestlands		Decid. shrub-scrub	18,236	Open water	9,474
Clearcut	19,630	Conifer. shrub-scrub	10,933	Other	
Early regeneration	69,051	Dead shrub-scrub	62	Alpine tundra	103
Late regeneration	203,862	Fresh aquatic bed	8	Exposed rock/Talus	168

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACKPOLL WARBLER (*Dendroica striata*)

Element code: BPBX0323

ME-GAP code: DEST

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Moderate increase, perhaps conifer growth

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Blackpoll Warblers inhabit dense, low, cool, coniferous forests, such as krumholtz stands of spruce at high elevation or on the coast. These warblers also use moist stands of non-stunted spruce, mixed forests, forest edges, alder and willow thickets, harvested areas, and burns. Blackpoll Warblers typically nest on the low limbs of stunted conifers, but also commonly nest on moist ground.

Specific habitats used:

Comments:

Predicted habitat quantities:

BLACKPOLL WARBLER				Total in ha: 3,414,472	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	51,195	Fresh emergent	6,543
Abandoned field	1,087	Heavy partial cut	78,977	Peatland	16,105
Blueberry field	506	Deciduous forest	598,751	Wet meadow	1,086
Grassland	11,751	Decid./Conif. forest	641,558	Salt aquatic bed	970
Crops/Ground	4,968	Conif./Decid. forest	727,166	Salt emergent	112
Developed lands		Coniferous forest	436,657	Mudflat	181
Sparse residential	11,053	Wetlands		Sand shore	96
Dense residential	347	Deciduous forested	12,815	Gravel shore	190
Urban/Industrial	0	Coniferous forested	185,395	Rock shore	494
Highways/Runways	10	Dead-forested	847	Shallow water	1,520
Forestlands		Decid. shrub-scrub	49,066	Open water	7,126
Clearcut	56,600	Conifer. shrub-scrub	5,342	Other	
Early regeneration	360,415	Dead shrub-scrub	43	Alpine tundra	128
Late regeneration	145,150	Fresh aquatic bed	4	Exposed rock/Talus	219

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BLACK-AND-WHITE WARBLER (*Mniotilta varia*)

Element code: BPBX0501

ME-GAP code: MNVA

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical and US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: Black-and-white Warblers occur in the interiors of extensive deciduous and mixed forests, selecting mature and mid-successional stands. Wet and moist habitats, such as forests within ravines and forested wetlands, are used by these warblers. In addition, Black-and-white Warblers may occur in drier habitats, such as on hillsides. These warblers nest on the ground, under a stump or ledge for cover, and they feed by gleaning bark in chickadee fashion.

Specific habitats used:

Comments:

Predicted habitat quantities:

BLACK-AND-WHITE WARBLER						Total in ha: 4,876,050
Habitat	ha	Habitat	ha	Habitat	ha	
Agricultural lands		Light partial cut	73,757	Fresh emergent	23,876	
Abandoned field	12,656	Heavy partial cut	108,338	Peatland	5,482	
Blueberry field	4,173	Deciduous forest	1,156,610	Wet meadow	5,131	
Grassland	151,121	Decid./Conif. forest	1,105,622	Salt aquatic bed	1,161	
Crops/Ground	24,524	Conif./Decid. forest	1,307,393	Salt emergent	662	
Developed lands		Coniferous forest	266,876	Mudflat	725	
Sparse residential	37,369	Wetlands		Sand shore	100	
Dense residential	5,037	Deciduous forested	49,196	Gravel shore	323	
Urban/Industrial	95	Coniferous forested	96,942	Rock shore	853	
Highways/Runways	279	Dead-forested	1,645	Shallow water	4,651	
Forestlands		Decid. shrub-scrub	79,981	Open water	36,748	
Clearcut	43,431	Conifer. shrub-scrub	3,937	Other		
Early regeneration	140,770	Dead shrub-scrub	57	Alpine tundra	102	
Late regeneration	125,944	Fresh aquatic bed	38	Exposed rock/Talus	445	

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN REDSTART (*Setophaga ruticilla*)

Element code: BPBX0601

ME-GAP code: SERU

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: American Redstart use many habitats, but are most common in extensive mid-successional, moist deciduous forests. However, redstarts may be common in mixed forests, and will use coniferous stands if alders and other understory trees and shrubs are present. American Redstarts are somewhat area sensitive, using the interiors of forests, but may also use the forest edges and shade trees in residential areas. Restarts nest low in trees or in shrubs, and forage by gleaning branches and foliage, and by flycatching.

Specific habitats used:

Comments:

Predicted habitat quantities:

AMERICAN REDSTART				Total in ha: 6,320,279	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	98,291	Fresh emergent	36,000
Abandoned field	15,260	Heavy partial cut	140,173	Peatland	15,871
Blueberry field	5,867	Deciduous forest	1,215,173	Wet meadow	7,192
Grassland	184,988	Decid./Conif. forest	1,222,544	Salt aquatic bed	1,464
Crops/Ground	34,257	Conif./Decid. forest	1,497,766	Salt emergent	816
Developed lands		Coniferous forest	366,310	Mudflat	927
Sparse residential	46,560	Wetlands		Sand shore	133
Dense residential	27,188	Deciduous forested	59,676	Gravel shore	471
Urban/Industrial	514	Coniferous forested	321,714	Rock shore	1,054
Highways/Runways	518	Dead-forested	2,214	Shallow water	6,932
Forestlands		Decid. shrub-scrub	108,479	Open water	46,032
Clearcut	105,935	Conifer. shrub-scrub	12,237	Other	
Early regeneration	479,944	Dead shrub-scrub	79	Alpine tundra	147
Late regeneration	256,754	Fresh aquatic bed	42	Exposed rock/Talus	756

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

OVENBIRD (*Seiurus aurocapillus*)

Element code: BPBX1001

ME-GAP code: SEAU

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical and US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5

Knowledge: Good

General habitats used: Ovenbirds are most common in the interiors of extensive, mature, closed-canopy deciduous and mixed forests. Coniferous stands in Maine typically have enough deciduous trees and shrubs to support some Ovenbirds. Stands occupied may be wet or dry, but have little understory, a thick layer of dropped leaves on the ground, and rocks or logs for cover. Ovenbirds nest on the ground and feed by scratching about the leaf layer.

Specific habitats used:

Comments: Ovenbirds may not occur, or breed successfully if they do occur, in small patches of forested habitat.

Predicted habitat quantities:

OVENBIRD		Total in ha: 5,831,259			
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	82,945	Fresh emergent	34,252
Abandoned field	8,081	Heavy partial cut	73,780	Peatland	15,661
Blueberry field	3,644	Deciduous forest	1,138,601	Wet meadow	6,776
Grassland	156,811	Decid./Conif. forest	1,120,682	Salt aquatic bed	2,478
Crops/Ground	26,325	Conif./Decid. forest	1,513,245	Salt emergent	847
Developed lands		Coniferous forest	680,909	Mudflat	1,064
Sparse residential	41,233	Wetlands		Sand shore	228
Dense residential	5,642	Deciduous forested	57,021	Gravel shore	490
Urban/Industrial	104	Coniferous forested	326,646	Rock shore	1,307
Highways/Runways	291	Dead-forested	2,081	Shallow water	7,002
Forestlands		Decid. shrub-scrub	104,509	Open water	50,370
Clearcut	51,271	Conifer. shrub-scrub	7,093	Other	
Early regeneration	166,199	Dead shrub-scrub	66	Alpine tundra	369
Late regeneration	142,609	Fresh aquatic bed	49	Exposed rock/Talus	574

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN WATERTHRUSH (*Seiurus noveboracensis*)**Element code:** BPBX1002**ME-GAP code:** SENO**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Northern Waterthrushes inhabit forested wetlands and bogs, often those associated with coniferous forests. These waterthrushes also will use shrubby wet areas on the margins of streams, ponds, and rivers, such as alder and willow thickets. In general, Northern Waterthrushes use areas near shallow stagnant or slow moving water. These waterthrushes nest on the ground and within cavities, and are ground gleaners.

Specific habitats used:**Comments:****Predicted habitat quantities:**

NORTHERN WATERTHRUSH				Total in ha: 3,425,761	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	35,390	Fresh emergent	39,381
Abandoned field	5,776	Heavy partial cut	38,498	Peatland	41,558
Blueberry field	2,583	Deciduous forest	363,439	Wet meadow	8,053
Grassland	96,161	Decid./Conif. forest	523,106	Salt aquatic bed	2,380
Crops/Ground	16,660	Conif./Decid. forest	949,823	Salt emergent	1,891
Developed lands		Coniferous forest	480,210	Mudflat	2,131
Sparse residential	16,694	Wetlands		Sand shore	689
Dense residential	3,485	Deciduous forested	58,750	Gravel shore	2,409
Urban/Industrial	53	Coniferous forested	335,980	Rock shore	2,680
Highways/Runways	138	Dead-forested	2,210	Shallow water	10,609
Forestlands		Decid. shrub-scrub	108,840	Open water	42,972
Clearcut	30,961	Conifer. shrub-scrub	12,665	Other	
Early regeneration	102,146	Dead shrub-scrub	52	Alpine tundra	127
Late regeneration	86,846	Fresh aquatic bed	62	Exposed rock/Talus	353

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

LOUISIANA WATERTHRUSH (*Seiurus motacilla*)

Element code: BPBX1003

ME-GAP code: SEMO

Order: Passeriformes

Family: Parulidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G5 . . S2B

Knowledge: Adequate

General habitats used: Louisiana Waterthrushes are most common along fast flowing streams passing through the interiors of fertile, bottomland, deciduous forests. Sites with a thick understory, many trees, and rocks are selected. Swamps and forested wetlands, and the meadows associated with wooded streams are also used by this species. Less commonly, Louisiana Waterthrushes will occur in upland deciduous forests. These waterthrushes nest in ground cavities near streams, and forage by ground-gleaning.

Specific habitats used:

Comments:

Predicted habitat quantities:

LOUISIANA WATERTHRUSH				Total in ha: 141,856	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,024</i>	Fresh emergent	<i>1,065</i>
Abandoned field	<i>15</i>	Heavy partial cut	<i>452</i>	Peatland	965
Blueberry field	<i>16</i>	Deciduous forest	17,856	Wet meadow	<i>178</i>
Grassland	<i>7,410</i>	Decid./Conif. forest	48,188	Salt aquatic bed	<i>19</i>
Crops/Ground	<i>152</i>	Conif./Decid. forest	<i>12,295</i>	Salt emergent	<i>415</i>
Developed lands		Coniferous forest	<i>2,675</i>	Mudflat	2,417
Sparse residential	298	Wetlands		Sand shore	168
Dense residential	415	Deciduous forested	19,006	Gravel shore	38
Urban/Industrial	28	Coniferous forested	13,920	Rock shore	16
Highways/Runways	0	Dead-forested	164	Shallow water	855
Forestlands		Decid. shrub-scrub	8,335	Open water	<i>708</i>
Clearcut	<i>418</i>	Conifer. shrub-scrub	879	Other	
Early regeneration	<i>695</i>	Dead shrub-scrub	3	Alpine tundra	<i>0</i>
Late regeneration	<i>756</i>	Fresh aquatic bed	<i>0</i>	Exposed rock/Talus	<i>15</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

MOURNING WARBLER (*Oporornis philadelphia*)**Element code:** BPBX1103**ME-GAP code:** OPPH**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5**Knowledge:** Adequate

General habitats used: Mourning Warblers inhabit wet or dry open brushy areas associated with young forests (especially aspen and birch stands), forest edges, clearcuts, regenerating areas, burns, industrial corridors, swamps, bogs, marsh margins, and abandoned pastures. Areas with dense woody and herbaceous vegetation are selected, such as slash piles within clearcuts. Mourning Warblers typically nest on the ground, and forage by ground gleaning.

Specific habitats used:**Comments:****Predicted habitat quantities:**

MOURNING WARBLER				Total in ha: 1,674,980	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	64,252	Fresh emergent	7,117
Abandoned field	12,178	Heavy partial cut	99,851	Peatland	42,406
Blueberry field	<i>1,304</i>	Deciduous forest	<i>24,208</i>	Wet meadow	<i>1,352</i>
Grassland	<i>14,316</i>	Decid./Conif. forest	<i>53,312</i>	Salt aquatic bed	<i>186</i>
Crops/Ground	<i>5,315</i>	Conif./Decid. forest	<i>84,600</i>	Salt emergent	<i>75</i>
Developed lands		Coniferous forest	<i>41,082</i>	Mudflat	<i>126</i>
Sparse residential	35,234	Wetlands		Sand shore	<i>23</i>
Dense residential	<i>629</i>	Deciduous forested	<i>37,650</i>	Gravel shore	<i>107</i>
Urban/Industrial	<i>0</i>	Coniferous forested	<i>310,684</i>	Rock shore	<i>117</i>
Highways/Runways	<i>94</i>	Dead-forested	<i>1,939</i>	Shallow water	<i>1,399</i>
Forestlands		Decid. shrub-scrub	<i>101,233</i>	Open water	<i>5,329</i>
Clearcut	89,312	Conifer. shrub-scrub	<i>11,797</i>	Other	
Early regeneration	439,233	Dead shrub-scrub	<i>69</i>	Alpine tundra	<i>20</i>
Late regeneration	188,358	Fresh aquatic bed	<i>1</i>	Exposed rock/Talus	<i>72</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON YELLOWTHROAT (*Geothlypis trichas*)

Element code: BPBX1201

ME-GAP code: GETR

Order: Passeriformes

Family: Parulidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Abundant

Population trend: Gradual decline

Heritage ranks: G5 . . S4S5B

Knowledge: Good

General habitats used: Common Yellowthroats are most common in wet habitats, such as cattail marshes, alder swamps, wet meadows, stream margins, and other areas of thick herbaceous vegetation, shrubs, and small trees. Yellowthroats also will inhabit drier brushy sites, such as open forests, clearcuts, regenerating stands, roadside brush, abandoned farmland, hedgerows, and industrial corridors. This species is more common in smaller openings than larger. Yellowthroats nest among weeds and grasses, and forage in low shrubs and on the ground.

Specific habitats used:

Comments:

Predicted habitat quantities:

COMMON YELLOWTHROAT				Total in ha: 7,730,572	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	112,363	Fresh emergent	67,258
Abandoned field	18,393	Heavy partial cut	150,757	Peatland	45,102
Blueberry field	7,417	Deciduous forest	1,268,838	Wet meadow	15,025
Grassland	437,874	Decid./Conif. forest	1,324,207	Salt aquatic bed	3,404
Crops/Ground	56,368	Conif./Decid. forest	1,754,538	Salt emergent	1,444
Developed lands		Coniferous forest	769,611	Mudflat	2,310
Sparse residential	62,883	Wetlands		Sand shore	457
Dense residential	11,512	Deciduous forested	69,893	Gravel shore	799
Urban/Industrial	361	Coniferous forested	382,582	Rock shore	1,744
Highways/Runways	538	Dead-forested	2,628	Shallow water	10,139
Forestlands		Decid. shrub-scrub	130,047	Open water	68,409
Clearcut	123,603	Conifer. shrub-scrub	14,734	Other	
Early regeneration	526,496	Dead shrub-scrub	106	Alpine tundra	447
Late regeneration	287,024	Fresh aquatic bed	80	Exposed rock/Talus	1,180

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WILSON'S WARBLER (*Wilsonia pusilla*)**Element code:** BPBX1602**ME-GAP code:** WIPU**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Uncommon**Population trend:** Stable**Heritage ranks:** G5 . . S3S4B**Knowledge:** Adequate

General habitats used: Wilson's Warblers inhabit wet, brushy areas, such as swamps, stream and pond margins, bogs, peatlands, and wet meadows. Alder and willow thickets with thick sphagnum moss mats are heavily used by Wilson's Warblers. Drier habitats, such as abandoned farmland and cleared areas, may occasionally be used. These warblers nest on the ground, using sphagnum as part of the nesting material, and they forage by flycatching.

Specific habitats used:**Comments:****Predicted habitat quantities:**

WILSON'S WARBLER				Total in ha: 1,559,418	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	58,676	Fresh emergent	44,650
Abandoned field	9,607	Heavy partial cut	82,494	Peatland	40,963
Blueberry field	<i>1,284</i>	Deciduous forest	<i>19,634</i>	Wet meadow	10,431
Grassland	<i>7,148</i>	Decid./Conif. forest	<i>48,075</i>	Salt aquatic bed	<i>153</i>
Crops/Ground	<i>3,758</i>	Conif./Decid. forest	<i>76,591</i>	Salt emergent	395
Developed lands		Coniferous forest	<i>40,001</i>	Mudflat	<i>150</i>
Sparse residential	<i>3,205</i>	Wetlands		Sand shore	26
Dense residential	<i>264</i>	Deciduous forested	28,328	Gravel shore	<i>129</i>
Urban/Industrial	<i>0</i>	Coniferous forested	291,398	Rock shore	<i>133</i>
Highways/Runways	<i>19</i>	Dead-forested	1,628	Shallow water	<i>1,685</i>
Forestlands		Decid. shrub-scrub	93,210	Open water	<i>6,270</i>
Clearcut	78,790	Conifer. shrub-scrub	10,776	Other	
Early regeneration	426,737	Dead shrub-scrub	52	Alpine tundra	20
Late regeneration	172,664	Fresh aquatic bed	2	Exposed rock/Talus	69

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CANADA WARBLER (*Wilsonia canadensis*)**Element code:** BPBX1603**ME-GAP code:** WICA**Order:** Passeriformes**Family:** Parulidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Neotropical migrant**Game species:** No**Population level:** Common**Population trend:** Stable, responsive to insect outbreaks**Heritage ranks:** G5 . . . S4B**Knowledge:** Adequate

General habitats used: Canada Warblers are most common in moist, mixed forests, with interspersed small openings with thick herbaceous vegetation. These warblers are more closely associated with deciduous forests than coniferous, but may occur in any forest type. Inhabited sites include cedar, alder, or willow thickets, burns with deciduous regeneration, and regenerating forest harvest. Canada Warblers usually nest on the ground amid cover, and forage by flycatching and ground gleaning.

Specific habitats used:**Comments:****Predicted habitat quantities:**

CANADA WARBLER				Total in ha: 7,027,192	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	105,120	Fresh emergent	41,337
Abandoned field	16,061	Heavy partial cut	139,152	Peatland	43,485
Blueberry field	5,954	Deciduous forest	1,226,378	Wet meadow	8,227
Grassland	191,482	Decid./Conif. forest	1,258,183	Salt aquatic bed	2,914
Crops/Ground	35,169	Conif./Decid. forest	1,677,378	Salt emergent	1,025
Developed lands		Coniferous forest	742,074	Mudflat	1,980
Sparse residential	48,615	Wetlands		Sand shore	378
Dense residential	6,785	Deciduous forested	62,769	Gravel shore	639
Urban/Industrial	127	Coniferous forested	364,733	Rock shore	1,558
Highways/Runways	333	Dead-forested	2,351	Shallow water	8,554
Forestlands		Decid. shrub-scrub	116,649	Open water	59,483
Clearcut	75,928	Conifer. shrub-scrub	13,244	Other	
Early regeneration	496,542	Dead shrub-scrub	89	Alpine tundra	424
Late regeneration	271,295	Fresh aquatic bed	53	Exposed rock/Talus	723

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SCARLET TANAGER (*Piranga olivacea*)

Element code: BPBX4504

ME-GAP code: PIOL

Order: Passeriformes

Family: Thraupidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Scarlet Tanagers inhabit the interiors of mature stands of a variety of forest types, with deciduous and mixed forests being used most commonly. Pine, oak, red maple, and hickory forests are selected by Scarlet Tanagers. Although most common in extensive mature stands, tanagers will use any mature trees, such as in parks, cemeteries, and the shade trees that line residential streets. Scarlet Tanagers nest and feed in trees.

Specific habitats used:

Comments:

Predicted habitat quantities:

SCARLET TANAGER				Total in ha: 5,924,468	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	84,155	Fresh emergent	35,088
Abandoned field	8,333	Heavy partial cut	75,656	Peatland	15,872
Blueberry field	3,643	Deciduous forest	1,141,697	Wet meadow	6,966
Grassland	161,529	Decid./Conif. forest	1,128,622	Salt aquatic bed	2,546
Crops/Ground	27,411	Conif./Decid. forest	1,533,952	Salt emergent	894
Developed lands		Coniferous forest	694,535	Mudflat	1,134
Sparse residential	41,747	Wetlands		Sand shore	235
Dense residential	26,421	Deciduous forested	57,738	Gravel shore	514
Urban/Industrial	507	Coniferous forested	327,411	Rock shore	1,347
Highways/Runways	458	Dead-forested	2,129	Shallow water	7,303
Forestlands		Decid. shrub-scrub	106,399	Open water	52,414
Clearcut	51,582	Conifer. shrub-scrub	12,025	Other	
Early regeneration	167,764	Dead shrub-scrub	70	Alpine tundra	377
Late regeneration	145,172	Fresh aquatic bed	51	Exposed rock/Talus	770

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NORTHERN CARDINAL (*Cardinalis cardinalis*)

Element code: BPBX6001

ME-GAP code: CACA

Order: Passeriformes

Family: Cardinalidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Resident

Game species: No

Population level: Uncommon

Population trend: Moderate increase

Heritage ranks: G5 . . S4

Knowledge: Good

General habitats used: Northern Cardinals occur in brushy habitats associated with forest edges, open forests, brushy fields, harvested sites, and forested wetlands with brush or vines. Northern Cardinals also are adapted to urban settings (with winter feeding stations determining, in part, residence during the breeding season), and occur in gardens, parks, and residential areas. Cardinals nest in shrubs and forage along the ground.

Specific habitats used:

Comments: The northern spread of this species' range is probably associated with backyard bird feeders. In Maine, cardinals apparently become first established in towns and cities before pioneering into forestland habitats.

Predicted habitat quantities:

NORTHERN CARDINAL				Total in ha: 1,720,975	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	23,683	Fresh emergent	2,944
Abandoned field	7,693	Heavy partial cut	26,209	Peatland	910
Blueberry field	1,228	Deciduous forest	339,885	Wet meadow	488
Grassland	51,041	Decid./Conif. forest	373,637	Salt aquatic bed	757
Crops/Ground	5,005	Conif./Decid. forest	436,086	Salt emergent	407
Developed lands		Coniferous forest	188,186	Mudflat	497
Sparse residential	25,763	Wetlands		Sand shore	105
Dense residential	21,805	Deciduous forested	33,910	Gravel shore	12
Urban/Industrial	207	Coniferous forested	45,716	Rock shore	223
Highways/Runways	144	Dead-forested	766	Shallow water	606
Forestlands		Decid. shrub-scrub	26,395	Open water	4,511
Clearcut	19,461	Conifer. shrub-scrub	2,635	Other	
Early regeneration	32,501	Dead shrub-scrub	34	Alpine tundra	0
Late regeneration	47,165	Fresh aquatic bed	14	Exposed rock/Talus	347

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

ROSE-BREASTED GROSBEAK (*Pheucticus ludovicianus*)

Element code: BPBX6103

ME-GAP code: PHLU

Order: Passeriformes

Family: Cardinalidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Moderate decrease,
perhaps due to cutting

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Rose-breasted Grosbeaks inhabit the edges and openings of mixed and deciduous forests. Mature forest interiors are avoided by this species. These grosbeaks occur along the edges of streams, ponds, and swamps, roadside thickets, clearcut edges, old orchards, parks, abandoned farmland, pastures with brushy edges, and residential areas. Rose-breasted Grosbeaks nest in shrubs, and forage along the ground and in shrubs.

Specific habitats used:

Comments:

Predicted habitat quantities:

ROSE-BREASTED GROSBEAK				Total in ha: 7,090,091	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	106,884	Fresh emergent	41,678
Abandoned field	16,056	Heavy partial cut	143,697	Peatland	18,132
Blueberry field	6,070	Deciduous forest	1,232,989	Wet meadow	8,290
Grassland	194,748	Decid./Conif. forest	1,267,568	Salt aquatic bed	2,785
Crops/Ground	35,642	Conif./Decid. forest	1,685,143	Salt emergent	985
Developed lands		Coniferous forest	741,637	Mudflat	1,268
Sparse residential	48,538	Wetlands		Sand shore	261
Dense residential	6,782	Deciduous forested	63,412	Gravel shore	627
Urban/Industrial	117	Coniferous forested	363,553	Rock shore	1,552
Highways/Runways	338	Dead-forested	2,432	Shallow water	8,375
Forestlands		Decid. shrub-scrub	118,942	Open water	57,996
Clearcut	117,094	Conifer. shrub-scrub	13,350	Other	
Early regeneration	509,635	Dead shrub-scrub	86	Alpine tundra	420
Late regeneration	272,242	Fresh aquatic bed	53	Exposed rock/Talus	715

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

INDIGO BUNTING (*Passerina cyanea*)

Element code: BPBX6403

ME-GAP code: PACY

Order: Passeriformes

Family: Cardinalidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: Neotropical and US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S5B

Knowledge: Adequate

General habitats used: Indigo Buntings inhabit shrubby areas, such as forested edges, thickets, roadside edges, active and abandoned farmland, utility corridors, and brushy margins of rivers, ponds, and lakes. Closed-canopy forests are avoided by these buntings. Scattered trees or utility wires are used as perches. Indigo Buntings have expanded their range in northern New England, apparently because of their use of clearcut and regenerating areas.

Specific habitats used:

Comments:

Predicted habitat quantities:

INDIGO BUNTING				Total in ha: 1,417,085	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	50,093	Fresh emergent	42,154
Abandoned field	14,177	Heavy partial cut	71,780	Peatland	28,971
Blueberry field	11,383	Deciduous forest	32,651	Wet meadow	11,173
Grassland	360,133	Decid./Conif. forest	58,604	Salt aquatic bed	620
Crops/Ground	58,100	Conif./Decid. forest	76,875	Salt emergent	304
Developed lands		Coniferous forest	19,864	Mudflat	2,867
Sparse residential	49,534	Wetlands		Sand shore	619
Dense residential	3,200	Deciduous forested	5,479	Gravel shore	41
Urban/Industrial	144	Coniferous forested	14,484	Rock shore	185
Highways/Runways	514	Dead-forested	165	Shallow water	1,341
Forestlands		Decid. shrub-scrub	80,771	Open water	5,583
Clearcut	68,029	Conifer. shrub-scrub	9,007	Other	
Early regeneration	203,721	Dead shrub-scrub	72	Alpine tundra	0
Late regeneration	134,114	Fresh aquatic bed	9	Exposed rock/Talus	326

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EASTERN TOWHEE (*Pipilo erythrophthalmus*)

Element code: BPBX7403

ME-GAP code: PIER

Order: Passeriformes

Family: Emberizidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Gradual decline

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Eastern Towhees occur in dry, dense, brushy habitats, such as at forest edges, hedgerows, utility corridors, roadside shrubs, clearcuts, brushy hillsides, and overgrown pastures. Forests (mainly deciduous) with dense understories may be used by Eastern Towhees. Agricultural fields without brush are avoided by towhees. These birds nest in shrubs close to the ground, and forage in the duff on the ground.

Specific habitats used:

Comments: Eastern Towhee population declines are likely due to southern Maine and southern New England brushland habitats reverting to forests. This species is also known as the Rufous Sided Towhee.

Predicted habitat quantities:

EASTERN TOWHEE				Total in ha: 2,407,297	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	40,910	Fresh emergent	4,039
Abandoned field	11,244	Heavy partial cut	52,478	Peatland	722
Blueberry field	9,650	Deciduous forest	500,676	Wet meadow	714
Grassland	327,852	Decid./Conif. forest	517,972	Salt aquatic bed	704
Crops/Ground	10,398	Conif./Decid. forest	610,039	Salt emergent	521
Developed lands		Coniferous forest	55,810	Mudflat	580
Sparse residential	37,262	Wetlands		Sand shore	96
Dense residential	3,585	Deciduous forested	8,137	Gravel shore	30
Urban/Industrial	140	Coniferous forested	11,406	Rock shore	197
Highways/Runways	184	Dead-forested	184	Shallow water	740
Forestlands		Decid. shrub-scrub	6,811	Open water	5,084
Clearcut	35,680	Conifer. shrub-scrub	750	Other	
Early regeneration	71,628	Dead shrub-scrub	25	Alpine tundra	0
Late regeneration	80,624	Fresh aquatic bed	15	Exposed rock/Talus	409

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

CHIPPING SPARROW (*Spizella passerina*)

Element code: BPBX9402

ME-GAP code: SPPA

Order: Passeriformes

Family: Emberizidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Stable

Heritage ranks: G5 . . S3N,S5B

Knowledge: Good

General habitats used: Chipping Sparrows are most common in residential areas, selecting places with wide lawns, shrubs, and scattered trees, such as parks, gardens, cemeteries, lawns, and golf courses. Chipping Sparrows also use non-urban habitats that are open with brush and trees, such as forest clearings and edges, open forests, the margins of streams and ponds, clearcuts, and regenerating areas. These sparrows nest in shrubs and are ground-gleaners, feeding on weed seeds.

Specific habitats used:

Comments:

Predicted habitat quantities:

CHIPPING SPARROW				Total in ha: 7,558,368	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	110,437	Fresh emergent	43,597
Abandoned field	18,221	Heavy partial cut	146,906	Peatland	43,866
Blueberry field	12,363	Deciduous forest	1,261,226	Wet meadow	13,722
Grassland	430,273	Decid./Conif. forest	1,305,798	Salt aquatic bed	3,315
Crops/Ground	55,080	Conif./Decid. forest	1,712,475	Salt emergent	1,250
Developed lands		Coniferous forest	754,309	Mudflat	2,311
Sparse residential	60,722	Wetlands		Sand shore	453
Dense residential	31,678	Deciduous forested	43,554	Gravel shore	663
Urban/Industrial	749	Coniferous forested	367,934	Rock shore	1,668
Highways/Runways	675	Dead-forested	1,833	Shallow water	9,249
Forestlands		Decid. shrub-scrub	122,717	Open water	62,394
Clearcut	119,981	Conifer. shrub-scrub	13,985	Other	
Early regeneration	521,036	Dead shrub-scrub	109	Alpine tundra	436
Late regeneration	281,994	Fresh aquatic bed	67	Exposed rock/Talus	1,322

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

FIELD SPARROW (*Spizella pusilla*)**Element code:** BPBX9405**ME-GAP code:** SPPU**Order:** Passeriformes**Family:** Emberizidae**Breeding range change:** Unknown**Listing status:** Not listed**Migratory status:** US migrant**Game species:** No**Population level:** Uncommon**Population trend:** Moderate decline,
maybe farmland loss**Heritage ranks:** G5 . . S3S4B**Knowledge:** Adequate

General habitats used: Field Sparrows inhabit shrubby areas, avoiding both closed forests and open areas, such as meadows, urban sites, and plowed fields. Larger grassy sites with interspersed shrubs are selected. These sparrows will use abandoned farmland, forest edges, clearcuts, and weedy fields with scattered brush. Field Sparrows will nest on the ground or low in shrubs, and are ground gleaners.

Specific habitats used:**Comments:****Predicted habitat quantities:**

FIELD SPARROW				Total in ha: 654,747	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	3,723	Fresh emergent	1,798
Abandoned field	11,867	Heavy partial cut	30,991	Peatland	399
Blueberry field	1,356	Deciduous forest	16,561	Wet meadow	323
Grassland	281,483	Decid./Conif. forest	26,817	Salt aquatic bed	522
Crops/Ground	6,253	Conif./Decid. forest	37,121	Salt emergent	284
Developed lands		Coniferous forest	7,724	Mudflat	2,811
Sparse residential	36,013	Wetlands		Sand shore	597
Dense residential	2,428	Deciduous forested	2,270	Gravel shore	16
Urban/Industrial	137	Coniferous forested	3,342	Rock shore	139
Highways/Runways	135	Dead-forested	42	Shallow water	333
Forestlands		Decid. shrub-scrub	3,046	Open water	1,568
Clearcut	36,019	Conifer. shrub-scrub	414	Other	
Early regeneration	71,036	Dead shrub-scrub	19	Alpine tundra	0
Late regeneration	66,877	Fresh aquatic bed	2	Exposed rock/Talus	283

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

VESPER SPARROW (*Pooecetes gramineus*)

Element code: BPBX9501

ME-GAP code: POGR

Order: Passeriformes

Family: Emberizidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G5 . . S3S4B

Knowledge: Adequate

General habitats used: Vesper Sparrows occur in areas with short grass and scattered shrubs, such as meadows, roadsides, old pastures, burns, grain fields, blueberry fields, hayfields, cornfields, and clearcuts. Vesper Sparrows use the scattered trees and shrubs in these sites as perches. Vesper Sparrows are more common in larger than smaller fields. These sparrows are ground nesters, placing nests near grass tussocks. Farm loss has reduced habitat for Vesper Sparrows, and methods of farming used today cut fields too often to allow high production by Vesper Sparrows.

Specific habitats used:

Comments:

Predicted habitat quantities:

VESPER SPARROW				Total in ha: 678,607	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,826</i>	Fresh emergent	<i>2,083</i>
Abandoned field	9,523	Heavy partial cut	<i>2,139</i>	Peatland	<i>1,818</i>
Blueberry field	10,137	Deciduous forest	<i>10,096</i>	Wet meadow	<i>476</i>
Grassland	289,223	Decid./Conif. forest	<i>21,561</i>	Salt aquatic bed	<i>266</i>
Crops/Ground	71,179	Conif./Decid. forest	<i>26,291</i>	Salt emergent	<i>197</i>
Developed lands		Coniferous forest	<i>8,985</i>	Mudflat	<i>178</i>
Sparse residential	7,198	Wetlands		Sand shore	<i>46</i>
Dense residential	2,108	Deciduous forested	<i>34,898</i>	Gravel shore	<i>5</i>
Urban/Industrial	113	Coniferous forested	<i>125,607</i>	Rock shore	<i>97</i>
Highways/Runways	229	Dead-forested	<i>1,207</i>	Shallow water	<i>417</i>
Forestlands		Decid. shrub-scrub	<i>4,422</i>	Open water	<i>1,627</i>
Clearcut	31,272	Conifer. shrub-scrub	<i>529</i>	Other	
Early regeneration	8,282	Dead shrub-scrub	<i>15</i>	Alpine tundra	<i>0</i>
Late regeneration	4,299	Fresh aquatic bed	<i>4</i>	Exposed rock/Talus	<i>253</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SAVANNAH SPARROW (*Passerculus sandwichensis*)

Element code: BPBX9901

ME-GAP code: PASA

Order: Passeriformes

Family: Emberizidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Stable

Heritage ranks: G5 . . S4S5N

Knowledge: Adequate

General habitats used: Savannah Sparrows inhabit areas with moderately short grasses, being more common in larger fields than small. Sites may be dry or moist sites may be occupied. These sparrows may be found in meadows, bogs, salt marshes and grassy offshore islands, grasslands, cultivated fields, pastures, and hayfields. Areas with dense clumps of grasses are selected for nesting, with these tufts used for cover.

Specific habitats used:

Comments:

Predicted habitat quantities:

SAVANNAH SPARROW				Total in ha: 791,308	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	5,898	Fresh emergent	25,868
Abandoned field	7,511	Heavy partial cut	8,960	Peatland	27,142
Blueberry field	1,856	Deciduous forest	41,963	Wet meadow	6,745
Grassland	258,406	Decid./Conif. forest	66,604	Salt aquatic bed	507
Crops/Ground	70,272	Conif./Decid. forest	77,434	Salt emergent	434
Developed lands		Coniferous forest	27,025	Mudflat	419
Sparse residential	15,719	Wetlands		Sand shore	95
Dense residential	5,211	Deciduous forested	7,182	Gravel shore	155
Urban/Industrial	241	Coniferous forested	21,931	Rock shore	186
Highways/Runways	219	Dead-forested	242	Shallow water	1,649
Forestlands		Decid. shrub-scrub	14,131	Open water	9,091
Clearcut	45,503	Conifer. shrub-scrub	1,742	Other	
Early regeneration	27,211	Dead shrub-scrub	23	Alpine tundra	16
Late regeneration	13,253	Fresh aquatic bed	23	Exposed rock/Talus	441

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

GRASSHOPPER SPARROW (*Ammodramus savannarum*)

Element code: BPBXA002

ME-GAP code: AMSA

Order: Passeriformes

Family: Emberizidae

Breeding range change: Expanding

Listing status: Endangered (S)

Migratory status: US and Neotropical migrant

Game species: No

Population level: Rare

Population trend: Stable, but difficult to survey

Heritage ranks: G5 . . S1B

Knowledge: Good

General habitats used: Grasshopper Sparrows inhabit grassy areas interspersed with patches of bare ground and less than 35% covered by shrubs. These sparrows are most common in large cultivated fields of orchard grass, and other bunch-forming grasses, especially if forbs are present. The species also will inhabit alfalfa, clovers, hayfields, pastures, and in Maine, blueberry barrens. Grasshopper Sparrows nest in grasses (with mowing reducing breeding densities) and forage in grasses or on open ground.

Specific habitats used: Grasshopper Sparrows require tall singing perches at breeding sites.

Comments:

Predicted habitat quantities:

GRASSHOPPER SPARROW				Total in ha: 123,272	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	386	Fresh emergent	355
Abandoned field	75	Heavy partial cut	170	Peatland	15
Blueberry field	505	Deciduous forest	2,138	Wet meadow	29
Grassland	95,940	Decid./Conif. forest	6,444	Salt aquatic bed	49
Crops/Ground	5,502	Conif./Decid. forest	4,079	Salt emergent	94
Developed lands		Coniferous forest	1,090	Mudflat	55
Sparse residential	1,560	Wetlands		Sand shore	27
Dense residential	998	Deciduous forested	614	Gravel shore	0
Urban/Industrial	106	Coniferous forested	249	Rock shore	21
Highways/Runways	20	Dead-forested	3	Shallow water	104
Forestlands		Decid. shrub-scrub	471	Open water	304
Clearcut	586	Conifer. shrub-scrub	90	Other	
Early regeneration	448	Dead shrub-scrub	1	Alpine tundra	0
Late regeneration	561	Fresh aquatic bed	2	Exposed rock/Talus	178

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SALTMARSH SHARP-TAILED SPARROW (*Ammodramus caudacutus*)

Element code: BPBXA005

ME-GAP code: AMCA

Order: Passeriformes

Family: Emberizidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but not well surveyed

Heritage ranks: G4 . . S3B

Knowledge: Good

General habitats used: Saltmarsh Sharp-tailed Sparrows inhabit brackish and saltwater marshes, and wet meadows. Occupied marshes are most commonly along the coast, but also may be along major rivers. Saltmarsh Sharp-tailed Sparrows construct nests in wetland vegetation (e.g., sedges) sometimes suspended over water.

Specific habitats used:

Comments:

Predicted habitat quantities:

SALTMARSH SHARP-TAILED SPARROW				Total in ha:	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	4	Fresh emergent	729
Abandoned field	0	Heavy partial cut	1	Peatland	1
Blueberry field	0	Deciduous forest	1	Wet meadow	81
Grassland	151	Decid./Conif. forest	66	Salt aquatic bed	3
Crops/Ground	2	Conif./Decid. forest	79	Salt emergent	2,516
Developed lands		Coniferous forest	35	Mudflat	123
Sparse residential	43	Wetlands		Sand shore	3
Dense residential	17	Deciduous forested	32	Gravel shore	0
Urban/Industrial	1	Coniferous forested	11	Rock shore	0
Highways/Runways	0	Dead-forested	0	Shallow water	3
Forestlands		Decid. shrub-scrub	20	Open water	78
Clearcut	11	Conifer. shrub-scrub	0	Other	
Early regeneration	14	Dead shrub-scrub	0	Alpine tundra	0
Late regeneration	2	Fresh aquatic bed	0	Exposed rock/Talus	3

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

NELSON'S SHARP-TAILED SPARROW (*Ammodramus nelsoni*)

Element code: BPBXA007

ME-GAP code: AMNE

Order: Passeriformes

Family: Emberizidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S3S4B

Knowledge: Good

General habitats used: Nelson's Sharp-tailed Sparrows inhabit brackish and saltwater marshes, and wet meadows. Occupied marshes are most commonly along the coast, but also may be along major rivers. Sharp-tailed Sparrows construct nests in wetland vegetation (e.g., sedges) sometimes suspended over water.

Specific habitats used:

Comments: This species was recently split taxonomically from the Saltmarsh Sharp-tailed Sparrow into its own species.

Predicted habitat quantities:

NELSON'S SHARP-TAILED SPARROW				Total in ha:		8,592
Habitat	ha	Habitat	ha	Habitat	ha	
Agricultural lands		Light partial cut	6	Fresh emergent		3,208
Abandoned field	32	Heavy partial cut	15	Peatland		18
Blueberry field	47	Deciduous forest	23	Wet meadow		532
Grassland	168	Decid./Conif. forest	108	Salt aquatic bed		11
Crops/Ground	20	Conif./Decid. forest	425	Salt emergent		3,013
Developed lands		Coniferous forest	207	Mudflat		143
Sparse residential	38	Wetlands		Sand shore		12
Dense residential	9	Deciduous forested	45	Gravel shore		0
Urban/Industrial	0	Coniferous forested	61	Rock shore		6
Highways/Runways	0	Dead-forested	1	Shallow water		23
Forestlands		Decid. shrub-scrub	115	Open water		148
Clearcut	43	Conifer. shrub-scrub	6	Other		
Early regeneration	66	Dead shrub-scrub	0	Alpine tundra		0
Late regeneration	40	Fresh aquatic bed	2	Exposed rock/Talus		2

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

FOX SPARROW (*Passerella iliaca*)

Element code: BPBXA201

ME-GAP code: PAIL

Order: Passeriformes

Family: Emberizidae

Breeding range change: Expanding

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Unknown

Heritage ranks: G5 . . S2B,S2N?

Knowledge: Best guess

General habitats used: Fox Sparrows are most common in thickets of dense, damp deciduous shrubs, such as alders and willows. Young coniferous stands also may be used, such as regenerating harvested areas and krumholtz sites. Forest edges, openings, the margins of streams and ponds, and clearcuts are used by Fox Sparrows. Fox Sparrows typically nest on the ground, and will nest in trees early in the breeding season.

Specific habitats used:

Comments:

Predicted habitat quantities:

FOX SPARROW				Total in ha: 1,998,822	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	30,262	Fresh emergent	3,716
Abandoned field	248	Heavy partial cut	43,171	Peatland	1,968
Blueberry field	0	Deciduous forest	310,238	Wet meadow	603
Grassland	4,836	Decid./Conif. forest	413,941	Salt aquatic bed	110
Crops/Ground	3,384	Conif./Decid. forest	405,433	Salt emergent	0
Developed lands		Coniferous forest	227,378	Mudflat	2
Sparse residential	1,593	Wetlands		Sand shore	0
Dense residential	84	Deciduous forested	6,386	Gravel shore	164
Urban/Industrial	0	Coniferous forested	113,046	Rock shore	212
Highways/Runways	0	Dead-forested	484	Shallow water	818
Forestlands		Decid. shrub-scrub	28,563	Open water	3,929
Clearcut	35,131	Conifer. shrub-scrub	2,937	Other	
Early regeneration	268,176	Dead shrub-scrub	7	Alpine tundra	73
Late regeneration	91,876	Fresh aquatic bed	0	Exposed rock/Talus	51

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SONG SPARROW (*Melospiza melodia*)

Element code: BPBXA301

ME-GAP code: MEML

Order: Passeriformes

Family: Emberizidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Abundant

Population trend: Stable to a moderate decline

Heritage ranks: G5 . . S4N,S4S5B

Knowledge: Good

General habitats used: Song Sparrows inhabit moist, brushy areas with abundant sunlight, often near water. This includes many types of habitats, such as abandoned pastures, swamps, forest edges and openings (including very small openings), the margins of streams, rivers, and ponds, farmland, hedgerows, and residential areas. Song Sparrows typically nest on the ground, and sometimes in shrubs.

Specific habitats used: Song Sparrows use tall perches to sing from during the breeding season.

Comments:

Predicted habitat quantities:

SONG SPARROW				Total in ha: 7,760,445	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	111,858	Fresh emergent	68,368
Abandoned field	18,906	Heavy partial cut	149,102	Peatland	45,490
Blueberry field	13,035	Deciduous forest	1,269,008	Wet meadow	15,065
Grassland	447,065	Decid./Conif. forest	1,325,245	Salt aquatic bed	3,293
Crops/Ground	58,389	Conif./Decid. forest	1,754,591	Salt emergent	1,473
Developed lands		Coniferous forest	768,496	Mudflat	1,746
Sparse residential	63,214	Wetlands		Sand shore	352
Dense residential	32,752	Deciduous forested	70,292	Gravel shore	787
Urban/Industrial	765	Coniferous forested	380,183	Rock shore	1,721
Highways/Runways	612	Dead-forested	2,613	Shallow water	10,253
Forestlands		Decid. shrub-scrub	130,158	Open water	68,857
Clearcut	122,453	Conifer. shrub-scrub	14,665	Other	
Early regeneration	523,206	Dead shrub-scrub	112	Alpine tundra	443
Late regeneration	284,423	Fresh aquatic bed	79	Exposed rock/Talus	1,375

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

LINCOLN'S SPARROW (*Melospiza lincolnii*)

Element code: BPBXA302

ME-GAP code: MELI

Order: Passeriformes

Family: Emberizidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Uncommon

Population trend: Stable to slow decline

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Lincoln's Sparrows occur in dry or wet brushy areas with scattered trees. Occupied sites include alder and willow thickets, shrubby areas along streams and around ponds and lakes, bogs, abandoned fields, hillsides with poor soils and sparse vegetation, burns, clearcuts, and regenerating areas. Lincoln's Sparrows build nests on the ground, amid grass tussocks or sedges, and forage by ground-gleaning.

Specific habitats used:

Comments:

Predicted habitat quantities:

LINCOLN'S SPARROW				Total in ha: 1,359,048	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>11,195</i>	Fresh emergent	<i>5,917</i>
Abandoned field	8,265	Heavy partial cut	74,688	Peatland	37,176
Blueberry field	<i>1,234</i>	Deciduous forest	<i>16,653</i>	Wet meadow	8,706
Grassland	6,697	Decid./Conif. forest	<i>41,111</i>	Salt aquatic bed	<i>139</i>
Crops/Ground	3,436	Conif./Decid. forest	63,394	Salt emergent	73
Developed lands		Coniferous forest	34,832	Mudflat	1,273
Sparse residential	20,817	Wetlands		Sand shore	124
Dense residential	318	Deciduous forested	20,913	Gravel shore	117
Urban/Industrial	0	Coniferous forested	265,328	Rock shore	98
Highways/Runways	24	Dead-forested	1,324	Shallow water	1,282
Forestlands		Decid. shrub-scrub	79,115	Open water	4,729
Clearcut	71,155	Conifer. shrub-scrub	9,245	Other	
Early regeneration	413,202	Dead shrub-scrub	36	Alpine tundra	20
Late regeneration	156,349	Fresh aquatic bed	2	Exposed rock/Talus	61

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

SWAMP SPARROW (*Melospiza georgiana*)

Element code: BPBXA303

ME-GAP code: MEGO

Order: Passeriformes

Family: Emberizidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant; Local migrant

Game species: No

Population level: Common

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Swamp Sparrows occur in wetlands with tall emergent vegetation and brush. Swamps, marshes, bogs, and the flooded margins of streams and ponds are used by Swamp Sparrows. Saturated soils or standing water are key to habitat for these sparrows. In addition, they select wetlands with mixed vegetation rather than pure cattail marshes. Freshwater sites are better habitat for Swamp Sparrows than salt marshes, but both are used. Nests are often constructed over water.

Specific habitats used:

Comments:

Predicted habitat quantities:

SWAMP SPARROW				Total in ha: 274,464	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>1,472</i>	Fresh emergent	27,789
Abandoned field	<i>730</i>	Heavy partial cut	<i>1,810</i>	Peatland	28,015
Blueberry field	<i>454</i>	Deciduous forest	<i>3,843</i>	Wet meadow	7,143
Grassland	<i>7,286</i>	Decid./Conif. forest	<i>9,605</i>	Salt aquatic bed	2,132
Crops/Ground	<i>1,467</i>	Conif./Decid. forest	<i>28,416</i>	Salt emergent	5,001
Developed lands		Coniferous forest	<i>15,842</i>	Mudflat	12,676
Sparse residential	<i>1,134</i>	Wetlands		Sand shore	99
Dense residential	<i>316</i>	Deciduous forested	<i>5,219</i>	Gravel shore	229
Urban/Industrial	<i>21</i>	Coniferous forested	<i>27,012</i>	Rock shore	236
Highways/Runways	<i>11</i>	Dead-forested	<i>196</i>	Shallow water	<i>1,500</i>
Forestlands		Decid. shrub-scrub	<i>53,347</i>	Open water	<i>10,042</i>
Clearcut	<i>2,864</i>	Conifer. shrub-scrub	<i>6,904</i>	Other	
Early regeneration	<i>7,549</i>	Dead shrub-scrub	<i>10</i>	Alpine tundra	<i>0</i>
Late regeneration	<i>4,021</i>	Fresh aquatic bed	<i>45</i>	Exposed rock/Talus	<i>32</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WHITE-THROATED SPARROW (*Zonotrichia albicollis*)**Element code:** BPBXA402**ME-GAP code:** ZOAL**Order:** Passeriformes**Family:** Emberizidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Local migrant; US migrant**Game species:** No**Population level:** Common**Population trend:** Slight decline**Heritage ranks:** G5 . . S4S5B,S4S5N**Knowledge:** Good

General habitats used: White-throated Sparrows are most common along the edges and openings of forests (coniferous forests may be selected) where shrubs and a thick understory occur. Wet or moist sites are often used by White-throated Sparrows, such as beaver flowages, wetlands, bogs, the shrubby margins of streams and ponds. Clearcuts and regenerating areas are used by White-throated Sparrows. These sparrows nest on the ground, using clumps of grass or ferns as cover.

Specific habitats used:**Comments:****Predicted habitat quantities:**

WHITE-THROATED SPARROW				Total in ha: 7,137,771	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	108,015	Fresh emergent	42,988
Abandoned field	16,540	Heavy partial cut	142,643	Peatland	44,365
Blueberry field	6,171	Deciduous forest	1,228,767	Wet meadow	8,522
Grassland	194,018	Decid./Conif. forest	1,259,753	Salt aquatic bed	2,972
Crops/Ground	36,353	Conif./Decid. forest	1,689,637	Salt emergent	1,043
Developed lands		Coniferous forest	752,014	Mudflat	2,001
Sparse residential	50,119	Wetlands		Sand shore	383
Dense residential	6,773	Deciduous forested	64,242	Gravel shore	662
Urban/Industrial	134	Coniferous forested	374,121	Rock shore	1,582
Highways/Runways	358	Dead-forested	2,421	Shallow water	8,844
Forestlands		Decid. shrub-scrub	120,781	Open water	59,906
Clearcut	116,966	Conifer. shrub-scrub	13,539	Other	
Early regeneration	504,076	Dead shrub-scrub	83	Alpine tundra	428
Late regeneration	275,775	Fresh aquatic bed	55	Exposed rock/Talus	721

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

DARK-EYED JUNCO (*Junco hyemalis*)**Element code:** BPBXA502**ME-GAP code:** JUHY**Order:** Passeriformes**Family:** Emberizidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** Local migrant; Resident**Game species:** No**Population level:** Common**Population trend:** Stable**Heritage ranks:** G5 . . S5B,S5N**Knowledge:** Adequate

General habitats used: Dark-eyed Juncos are most common in coniferous and mixed forest openings and edges, although any type of open forest may be used. Cool, moist (but not wet) sites are heavily used, such as the borders of streams and ponds, hedgerows, shrubby clearcuts and regenerating areas (including spruce plantations), and the drier margins of wetlands. Juncos nest on the ground amid weeds and grasses, and sometimes low in shrubs and trees.

Specific habitats used:**Comments:****Predicted habitat quantities:**

DARK-EYED JUNCO				Total in ha: 7,535,062	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	110,189	Fresh emergent	42,808
Abandoned field	18,670	Heavy partial cut	149,065	Peatland	18,329
Blueberry field	12,565	Deciduous forest	1,261,116	Wet meadow	8,473
Grassland	433,679	Decid./Conif. forest	1,305,586	Salt aquatic bed	3,363
Crops/Ground	55,636	Conif./Decid. forest	1,721,645	Salt emergent	1,267
Developed lands		Coniferous forest	756,077	Mudflat	2,279
Sparse residential	62,121	Wetlands		Sand shore	459
Dense residential	31,624	Deciduous forested	43,273	Gravel shore	657
Urban/Industrial	758	Coniferous forested	363,766	Rock shore	1,680
Highways/Runways	592	Dead-forested	1,804	Shallow water	8,869
Forestlands		Decid. shrub-scrub	120,337	Open water	61,122
Clearcut	120,474	Conifer. shrub-scrub	13,645	Other	
Early regeneration	518,956	Dead shrub-scrub	110	Alpine tundra	442
Late regeneration	282,242	Fresh aquatic bed	64	Exposed rock/Talus	1,319

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BOBOLINK (*Dolichonyx oryzivorus*)

Element code: BPBXA901

ME-GAP code: DOOR

Order: Passeriformes

Family: Icteridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Stable, perhaps decline from farm loss

Heritage ranks: G5 . . S4B

Knowledge: Adequate

General habitats used: Bobolinks occur in large, open hay fields, moist meadows, weedy fields, and the drier portions of marshes. Apparently grassy fields with a low percentage of cover in alfalfa or clover are selected over pure grasslands. Grain fields will be used for feeding by Bobolinks. These birds nest on the ground, in dense grasses or amongst weeds. Bobolinks sing in flight, so singing perches are not a required habitat component. Hay being cut from fields too early in the breeding season, and simple farm abandonment, are decreasing Bobolink habitat.

Specific habitats used:

Comments: This grassland species is declining in Maine, as well as New England in general. Habitat loss (i.e., loss of pastures, hayfields, and abandoned farmlands in early successional stages) is probably the cause.

Predicted habitat quantities:

BOBOLINK				Total in ha: 691,521	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	5,489	Fresh emergent	25,556
Abandoned field	7,143	Heavy partial cut	8,373	Peatland	27,083
Blueberry field	1,758	Deciduous forest	38,865	Wet meadow	6,625
Grassland	241,948	Decid./Conif. forest	59,895	Salt aquatic bed	464
Crops/Ground	20,246	Conif./Decid. forest	70,187	Salt emergent	426
Developed lands		Coniferous forest	25,551	Mudflat	411
Sparse residential	13,280	Wetlands		Sand shore	88
Dense residential	4,410	Deciduous forested	6,640	Gravel shore	153
Urban/Industrial	227	Coniferous forested	20,849	Rock shore	169
Highways/Runways	179	Dead-forested	215	Shallow water	1,582
Forestlands		Decid. shrub-scrub	13,287	Open water	8,108
Clearcut	44,369	Conifer. shrub-scrub	1,675	Other	
Early regeneration	23,923	Dead shrub-scrub	23	Alpine tundra	15
Late regeneration	11,858	Fresh aquatic bed	21	Exposed rock/Talus	428

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED-WINGED BLACKBIRD (*Agelaius phoeniceus*)

Element code: BPBXB001

ME-GAP code: AGPH

Order: Passeriformes

Family: Icteridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US and Neotropical migrant

Game species: No

Population level: Abundant

Population trend: Stable, but not well surveyed

Heritage ranks: G5 . . S4S5B,S4S5N

Knowledge: Good

General habitats used: Red-winged Blackbirds are most common in freshwater marshes with cattails, sedges, and bulrushes, with scattered shrubs. Other habitats used for breeding or feeding include swamps, wet margins of rivers, streams, ponds, and lakes, alder and willow thickets, fields (plowed or hayfields), and orchards. Red-winged Blackbirds nest in emergent vegetation, shrubs, or trees, close to or above water.

Specific habitats used:

Comments:

Predicted habitat quantities:

RED-WINGED BLACKBIRD				Total in ha: 1,082,368	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>5,166</i>	Fresh emergent	37,418
Abandoned field	5,519	Heavy partial cut	<i>6,320</i>	Peatland	37,186
Blueberry field	<i>1,852</i>	Deciduous forest	<i>23,587</i>	Wet meadow	8,848
Grassland	235,680	Decid./Conif. forest	<i>50,586</i>	Salt aquatic bed	2,689
Crops/Ground	67,205	Conif./Decid. forest	<i>97,842</i>	Salt emergent	5,671
Developed lands		Coniferous forest	<i>56,647</i>	Mudflat	13,363
Sparse residential	8,274	Wetlands		Sand shore	568
Dense residential	3,000	Deciduous forested	37,893	Gravel shore	318
Urban/Industrial	152	Coniferous forested	216,428	Rock shore	416
Highways/Runways	91	Dead-forested	1,221	Shallow water	2,921
Forestlands		Decid. shrub-scrub	77,738	Open water	16,347
Clearcut	9,786	Conifer. shrub-scrub	9,951	Other	
Early regeneration	27,491	Dead shrub-scrub	29	Alpine tundra	4
Late regeneration	13,627	Fresh aquatic bed	69	Exposed rock/Talus	463

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EASTERN MEADOWLARK (*Sturnella magna*)

Element code: BPBXB202

ME-GAP code: STMA

Order: Passeriformes

Family: Icteridae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Local migrant; Resident

Game species: No

Population level: Uncommon

Population trend: Moderate decline,
probably farm loss

Heritage ranks: G5 . . S3S4B

Knowledge: Adequate

General habitats used: Eastern Meadowlarks inhabit various types of grassland, including grazed and ungrazed pastures, fallow fields, hayfields, and grassy meadows. Having scattered shrubs for perches may improve habitat for these birds, but sites without nearby shrubs are selected. This species may be area sensitive, selecting large pastures. Eastern Meadowlarks are ground nesters, placing nests in dense vegetation.

Specific habitats used:

Comments:

Predicted habitat quantities:

EASTERN MEADOWLARK				Total in ha: 765,281	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	2,291	Fresh emergent	39,748
Abandoned field	12,649	Heavy partial cut	3,260	Peatland	30,396
Blueberry field	10,324	Deciduous forest	15,115	Wet meadow	10,777
Grassland	360,324	Decid./Conif. forest	26,119	Salt aquatic bed	364
Crops/Ground	73,231	Conif./Decid. forest	27,733	Salt emergent	1,552
Developed lands		Coniferous forest	7,494	Mudflat	346
Sparse residential	48,406	Wetlands		Sand shore	93
Dense residential	2,780	Deciduous forested	2,734	Gravel shore	17
Urban/Industrial	131	Coniferous forested	5,722	Rock shore	117
Highways/Runways	173	Dead-forested	70	Shallow water	721
Forestlands		Decid. shrub-scrub	5,902	Open water	2,855
Clearcut	55,739	Conifer. shrub-scrub	683	Other	
Early regeneration	10,856	Dead shrub-scrub	19	Alpine tundra	0
Late regeneration	6,259	Fresh aquatic bed	6	Exposed rock/Talus	275

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RUSTY BLACKBIRD (*Euphagus carolinus*)

Element code: BPBXB501

ME-GAP code: EUCA

Order: Passeriformes

Family: Icteridae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Uncommon

Population trend: Stable, perhaps a gradual decline

Heritage ranks: G5 . . S3N,S3S4B

Knowledge: Adequate

General habitats used: Rusty Blackbirds are most common in cool forested wetlands, spruce bogs, newly formed beaver flowages, and alder swales. Wooded margins of streams, rivers, ponds, and lakes are used by these birds, as are forested islands in lakes and rivers. Nonforested wetlands with boreal forests nearby may be used by Rusty Blackbirds. This species most often nests in young coniferous trees. Clearcutting around swamps encourages establishment of Common Grackles, which can exclude Rusty Blackbirds.

Specific habitats used:

Comments:

Predicted habitat quantities:

RUSTY BLACKBIRD						Total in ha: 1,433,371
Habitat	ha	Habitat	ha	Habitat	ha	
Agricultural lands		Light partial cut	6,833	Fresh emergent	5,810	
Abandoned field	334	Heavy partial cut	6,025	Peatland	23,684	
Blueberry field	171	Deciduous forest	25,311	Wet meadow	1,081	
Grassland	4,824	Decid./Conif. forest	217,670	Salt aquatic bed	264	
Crops/Ground	1,733	Conif./Decid. forest	466,213	Salt emergent	47	
Developed lands		Coniferous forest	298,918	Mudflat	1,292	
Sparse residential	1,243	Wetlands		Sand shore	32	
Dense residential	51	Deciduous forested	14,833	Gravel shore	2,605	
Urban/Industrial	0	Coniferous forested	233,929	Rock shore	2,441	
Highways/Runways	0	Dead-forested	951	Shallow water	1,389	
Forestlands		Decid. shrub-scrub	55,301	Open water	7,166	
Clearcut	6,296	Conifer. shrub-scrub	7,036	Other		
Early regeneration	23,302	Dead shrub-scrub	32	Alpine tundra	18	
Late regeneration	16,527	Fresh aquatic bed	2	Exposed rock/Talus	9	

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

COMMON GRACKLE (*Quiscalus quiscula*)**Element code:** BPBXB607**ME-GAP code:** QUQU**Order:** Passeriformes**Family:** Icteridae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant**Game species:** No**Population level:** Abundant**Population trend:** Stable**Heritage ranks:** G5 . . S4N,S5B**Knowledge:** Good

General habitats used: Common Grackles are a gregarious species, occurring in agricultural areas, abandoned farms, meadows, marshes, open forests, and forest edges. In general, these birds select sites with scattered trees and bushes, and often with homes nearby. Grackles most often nest in coniferous stands (cedar, white pine, and spruce, with cedar being selected), often in colonies. Common Grackles also will nest in deciduous trees and shrubs, and occasionally in cavities, cattails, and bird houses.

Specific habitats used:**Comments:****Predicted habitat quantities:**

COMMON GRACKLE				Total in ha: 5,142,658	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	84,897	Fresh emergent	62,569
Abandoned field	16,221	Heavy partial cut	105,654	Peatland	44,201
Blueberry field	11,467	Deciduous forest	227,489	Wet meadow	13,687
Grassland	368,468	Decid./Conif. forest	488,105	Salt aquatic bed	3,171
Crops/Ground	95,627	Conif./Decid. forest	1,405,327	Salt emergent	1,302
Developed lands		Coniferous forest	715,964	Mudflat	2,215
Sparse residential	57,568	Wetlands		Sand shore	458
Dense residential	30,946	Deciduous forested	60,134	Gravel shore	693
Urban/Industrial	765	Coniferous forested	356,515	Rock shore	1,361
Highways/Runways	663	Dead-forested	2,302	Shallow water	8,750
Forestlands		Decid. shrub-scrub	122,117	Open water	56,367
Clearcut	102,518	Conifer. shrub-scrub	13,684	Other	
Early regeneration	450,277	Dead shrub-scrub	95	Alpine tundra	398
Late regeneration	229,514	Fresh aquatic bed	61	Exposed rock/Talus	1,103

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BROWN-HEADED COWBIRD (*Molothrus ater*)

Element code: BPBXB703

ME-GAP code: MOAT

Order: Passeriformes

Family: Icteridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Moderate decline,
probably farm loss

Heritage ranks: G5 . . S4N,S4S5B

Knowledge: Good

General habitats used: Brown-headed Cowbirds are most common in open areas, such as agricultural lands, forest edges, open forests, and suburban areas. Cowbirds are ground feeders, feeding in pastures and fields, often in flocks with other gregarious species (e.g., Common Grackles, Red-winged Blackbirds). Brown-headed Cowbirds do not build nests; they parasitize other species' nests. In New Brunswick, 37 species incubated cowbird eggs, typically those species nesting in open forests and edges, agricultural areas, and other habitats associated with residential areas.

Specific habitats used:

Comments: Originally a species of the prairie associated with bison, in eastern habitats this pioneer species is commonly associated with dairy cows and beef cattle.

Predicted habitat quantities:

BROWN-HEADED COWBIRD				Total in ha: 2,263,432	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>28,941</i>	Fresh emergent	<i>21,757</i>
Abandoned field	11,188	Heavy partial cut	<i>72,356</i>	Peatland	<i>12,724</i>
Blueberry field	9,201	Deciduous forest	<i>105,050</i>	Wet meadow	<i>9,355</i>
Grassland	301,181	Decid./Conif. forest	<i>183,655</i>	Salt aquatic bed	<i>1,019</i>
Crops/Ground	81,814	Conif./Decid. forest	<i>265,080</i>	Salt emergent	<i>497</i>
Developed lands		Coniferous forest	<i>117,687</i>	Mudflat	<i>1,227</i>
Sparse residential	40,296	Wetlands		Sand shore	<i>143</i>
Dense residential	7,201	Deciduous forested	<i>41,676</i>	Gravel shore	<i>279</i>
Urban/Industrial	329	Coniferous forested	<i>240,931</i>	Rock shore	<i>417</i>
Highways/Runways	383	Dead-forested	<i>1,426</i>	Shallow water	<i>3,852</i>
Forestlands		Decid. shrub-scrub	<i>82,379</i>	Open water	<i>20,862</i>
Clearcut	74,524	Conifer. shrub-scrub	<i>9,888</i>	Other	
Early regeneration	371,914	Dead shrub-scrub	<i>67</i>	Alpine tundra	<i>56</i>
Late regeneration	143,437	Fresh aquatic bed	<i>32</i>	Exposed rock/Talus	<i>606</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

BALTIMORE ORIOLE (*Icterus galbula*)

Element code: BPBXB919

ME-GAP code: ICGA

Order: Passeriformes

Family: Icteridae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Neotropical migrant

Game species: No

Population level: Common

Population trend: Moderate increase,
perhaps planted elms

Heritage ranks: G5 . . S2S3N,S5B

Knowledge: Good

General habitats used: Baltimore Orioles inhabit areas with large, scattered trees. These orioles will occur in hedgerows of farms, abandoned farmland, orchards, open deciduous forests, forest edges, rural roadsides, but most commonly in residential areas. In towns, shade trees along streets, parks, cemeteries, and golf courses are used. Elm trees were selected by Baltimore Orioles, until that tree species' decline, mature ornamental willows now appear to be favored.

Specific habitats used: In Maine the highest densities of this species occurs along rivers and the coast, and in low density residential areas.

Comments: Northern Orioles recently regained their older common name, Baltimore Oriole.

Predicted habitat quantities:

BALTIMORE ORIOLE						Total in ha: 4,721,745
Habitat	ha	Habitat	ha	Habitat	ha	
Agricultural lands		Light partial cut	48,716	Fresh emergent	23,514	
Abandoned field	12,546	Heavy partial cut	65,659	Peatland	5,774	
Blueberry field	3,998	Deciduous forest	1,137,819	Wet meadow	5,044	
Grassland	152,379	Decid./Conif. forest	1,082,127	Salt aquatic bed	1,166	
Crops/Ground	25,078	Conif./Decid. forest	1,278,309	Salt emergent	697	
Developed lands		Coniferous forest	258,733	Mudflat	768	
Sparse residential	36,895	Wetlands		Sand shore	106	
Dense residential	25,700	Deciduous forested	49,663	Gravel shore	329	
Urban/Industrial	498	Coniferous forested	95,358	Rock shore	840	
Highways/Runways	448	Dead-forested	1,611	Shallow water	4,653	
Forestlands		Decid. shrub-scrub	78,730	Open water	36,557	
Clearcut	37,699	Conifer. shrub-scrub	8,958	Other		
Early regeneration	125,011	Dead shrub-scrub	53	Alpine tundra	96	
Late regeneration	115,558	Fresh aquatic bed	37	Exposed rock/Talus	620	

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PINE GROSBEAK (*Pinicola enucleator*)

Element code: BPBY0301

ME-GAP code: PIEN

Order: Passeriformes

Family: Fringillidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: US migrant; Local migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but poorly surveyed

Heritage ranks: G5 . . S3?B,S3S5N

Knowledge: Adequate

General habitats used: Pine Grosbeaks are irregular inhabitants of coniferous forests. These grosbeaks are most associated with forest edges, openings, and open forest stands. In Maine, higher elevation spruce-fir forests are heavily used by this species. Nests are constructed of moss, twigs, and grass low in spruce trees or shrubs.

Specific habitats used:

Comments:

Predicted habitat quantities:

PINE GROSBEAK				Total in ha: 1,913,401	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	36,983	Fresh emergent	4,470
Abandoned field	141	Heavy partial cut	52,396	Peatland	15,725
Blueberry field	0	Deciduous forest	28,663	Wet meadow	802
Grassland	5,650	Decid./Conif. forest	96,335	Salt aquatic bed	268
Crops/Ground	2,595	Conif./Decid. forest	590,146	Salt emergent	0
Developed lands		Coniferous forest	367,036	Mudflat	2
Sparse residential	1,267	Wetlands		Sand shore	0
Dense residential	79	Deciduous forested	2,584	Gravel shore	125
Urban/Industrial	0	Coniferous forested	194,002	Rock shore	171
Highways/Runways	0	Dead-forested	696	Shallow water	1,094
Forestlands		Decid. shrub-scrub	10,776	Open water	4,747
Clearcut	51,724	Conifer. shrub-scrub	4,891	Other	
Early regeneration	325,945	Dead shrub-scrub	16	Alpine tundra	1,804
Late regeneration	112,112	Fresh aquatic bed	1	Exposed rock/Talus	155

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PURPLE FINCH (*Carpodacus purpureus*)

Element code: BPBY0402

ME-GAP code: CAPU

Order: Passeriformes

Family: Fringillidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: US migrant

Game species: No

Population level: Common

Population trend: Moderate decline

Heritage ranks: G5 . . S4N,S5B

Knowledge: Good

General habitats used: Purple Finches inhabit open coniferous forests, forest edges, and other sites with conifer trees present. Sites used by Purple Finches include conifer plantations, treed borders of streams, forested wetlands and bogs, open mixed forests, abandoned farms with conifers, parks, golf courses, and residential areas with conifers present. Purple Finches nest high in spruces and other conifers.

Specific habitats used:

Comments:

Predicted habitat quantities:

PURPLE FINCH				Total in ha: 5,503,149	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	92,822	Fresh emergent	37,176
Abandoned field	14,416	Heavy partial cut	117,133	Peatland	42,633
Blueberry field	5,323	Deciduous forest	<i>401,165</i>	Wet meadow	7,259
Grassland	<i>141,977</i>	Decid./Conif. forest	977,426	Salt aquatic bed	2,628
Crops/Ground	<i>28,612</i>	Conif./Decid. forest	1,525,532	Salt emergent	897
Developed lands		Coniferous forest	710,121	Mudflat	<i>1,251</i>
Sparse residential	44,335	Wetlands		Sand shore	251
Dense residential	5,505	Deciduous forested	35,178	Gravel shore	548
Urban/Industrial	96	Coniferous forested	354,827	Rock shore	1,359
Highways/Runways	284	Dead-forested	2,212	Shallow water	7,592
Forestlands		Decid. shrub-scrub	110,716	Open water	50,247
Clearcut	<i>64,623</i>	Conifer. shrub-scrub	12,625	Other	
Early regeneration	460,352	Dead shrub-scrub	78	Alpine tundra	377
Late regeneration	244,949	Fresh aquatic bed	<i>41</i>	Exposed rock/Talus	581

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

RED CROSSBILL (*Loxia curvirostra*)**Element code:** BPBY0501**ME-GAP code:** LXCUC**Order:** Passeriformes**Family:** Fringillidae**Breeding range change:** Stable**Listing status:** Not listed**Migratory status:** US migrant; Local migrant**Game species:** No**Population level:** Uncommon**Population trend:** Stable, but eruptive**Heritage ranks:** G5 . . S3S4B,S3S4N**Knowledge:** Adequate

General habitats used: Red Crossbills are closely associated with mature conifer (pines, hemlock, spruces) forests. Larger and older conifer trees produce more cones, and more seeds (the primary food of this species), than younger trees. Regardless, cone production varies from year to year, and this species' populations vary in response. As forest habitats are fragmented and older trees are removed, crossbill populations decline.

Specific habitats used:**Comments:****Predicted habitat quantities:**

RED CROSSBILL				Total in ha: 2,983,903	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>31,843</i>	Fresh emergent	<i>22,529</i>
Abandoned field	<i>5,108</i>	Heavy partial cut	<i>29,495</i>	Peatland	<i>12,685</i>
Blueberry field	<i>2,140</i>	Deciduous forest	<i>121,168</i>	Wet meadow	<i>4,208</i>
Grassland	<i>65,570</i>	Decid./Conif. forest	<i>294,418</i>	Salt aquatic bed	<i>2,195</i>
Crops/Ground	<i>13,956</i>	Conif./Decid. forest	<i>1,139,898</i>	Salt emergent	<i>615</i>
Developed lands		Coniferous forest	<i>606,651</i>	Mudflat	<i>900</i>
Sparse residential	<i>31,660</i>	Wetlands		Sand shore	<i>214</i>
Dense residential	<i>3,143</i>	Deciduous forested	<i>20,185</i>	Gravel shore	<i>311</i>
Urban/Industrial	<i>71</i>	Coniferous forested	<i>288,269</i>	Rock shore	<i>903</i>
Highways/Runways	<i>207</i>	Dead-forested	<i>1,661</i>	Shallow water	<i>4,866</i>
Forestlands		Decid. shrub-scrub	<i>44,925</i>	Open water	<i>33,200</i>
Clearcut	<i>27,356</i>	Conifer. shrub-scrub	<i>9,702</i>	Other	
Early regeneration	<i>81,308</i>	Dead shrub-scrub	<i>48</i>	Alpine tundra	<i>322</i>
Late regeneration	<i>81,856</i>	Fresh aquatic bed	<i>24</i>	Exposed rock/Talus	<i>292</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

WHITE-WINGED CROSSBILL (*Loxia leucoptera*)

Element code: BPBY0502

ME-GAP code: LOLE

Order: Passeriformes

Family: Fringillidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Uncommon

Population trend: Stable, but eruptive and not well surveyed

Heritage ranks: G5 . . S3S4B,S3S4N

Knowledge: Adequate

General habitats used: White-winged Crossbills are closely associated with coniferous forests, feeding on the seeds of spruces, tamarack, and balsam fir. These crossbills may breed any month of the year. Larger and older conifer trees produce more cones, and more seeds, than younger trees. Therefore, harvesting of larger trees may reduce population rebounds in White-winged Crossbills, and fragmentation of habitats may reduce populations overall.

Specific habitats used:

Comments:

Predicted habitat quantities:

WHITE-WINGED CROSSBILL				Total in ha: 2,867,194	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>15,754</i>	Fresh emergent	<i>8,067</i>
Abandoned field	<i>2,185</i>	Heavy partial cut	<i>14,647</i>	Peatland	<i>4,700</i>
Blueberry field	<i>855</i>	Deciduous forest	<i>44,584</i>	Wet meadow	<i>1,428</i>
Grassland	<i>19,098</i>	Decid./Conif. forest	<i>129,773</i>	Salt aquatic bed	<i>1,105</i>
Crops/Ground	<i>5,241</i>	Conif./Decid. forest	<i>1,420,369</i>	Salt emergent	<i>203</i>
Developed lands		Coniferous forest	<i>682,794</i>	Mudflat	<i>309</i>
Sparse residential	<i>43,077</i>	Wetlands		Sand shore	<i>107</i>
Dense residential	<i>797</i>	Deciduous forested	<i>6,644</i>	Gravel shore	<i>109</i>
Urban/Industrial	<i>0</i>	Coniferous forested	<i>340,607</i>	Rock shore	<i>356</i>
Highways/Runways	<i>113</i>	Dead-forested	<i>2,124</i>	Shallow water	<i>1,407</i>
Forestlands		Decid. shrub-scrub	<i>16,527</i>	Open water	<i>8,764</i>
Clearcut	<i>12,235</i>	Conifer. shrub-scrub	<i>12,358</i>	Other	
Early regeneration	<i>31,317</i>	Dead shrub-scrub	<i>70</i>	Alpine tundra	<i>100</i>
Late regeneration	<i>39,258</i>	Fresh aquatic bed	<i>7</i>	Exposed rock/Talus	<i>108</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

PINE SISKIN (*Carduelis pinus*)

Element code: BPBY0603

ME-GAP code: CAPI

Order: Passeriformes

Family: Fringillidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Uncommon

Population trend: Stable, with wide fluctuations

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Pine Siskins occur in coniferous forests of various ages. Somewhat open stands and stand edges are used. Pine Siskins may occur in hemlock, pine, tamarack, and spruce stands, conifer plantations, brushy forest edges, conifers in residential areas, and alder thickets. Pine Siskins nest in coniferous trees, and glean the ground and branches for food.

Specific habitats used:

Comments:

Predicted habitat quantities:

PINE SISKIN				Total in ha: 4,590,730	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	72,029	Fresh emergent	33,293
Abandoned field	7,254	Heavy partial cut	54,864	Peatland	41,248
Blueberry field	3,351	Deciduous forest	348,027	Wet meadow	6,519
Grassland	124,561	Decid./Conif. forest	890,235	Salt aquatic bed	2,365
Crops/Ground	22,872	Conif./Decid. forest	1,411,211	Salt emergent	826
Developed lands		Coniferous forest	663,941	Mudflat	1,086
Sparse residential	38,908	Wetlands		Sand shore	223
Dense residential	5,093	Deciduous forested	55,722	Gravel shore	471
Urban/Industrial	102	Coniferous forested	325,106	Rock shore	1,200
Highways/Runways	278	Dead-forested	2,023	Shallow water	6,836
Forestlands		Decid. shrub-scrub	102,872	Open water	46,826
Clearcut	43,486	Conifer. shrub-scrub	12,070	Other	
Early regeneration	140,857	Dead shrub-scrub	64	Alpine tundra	336
Late regeneration	124,034	Fresh aquatic bed	41	Exposed rock/Talus	501

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

AMERICAN GOLDFINCH (*Carduelis tristis*)

Element code: BPBY0611

ME-GAP code: CATR

Order: Passeriformes

Family: Fringillidae

Breeding range change: Stable

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Common

Population trend: Moderate increase

Heritage ranks: G5 . . S5B,S5N

Knowledge: Good

General habitats used: American Goldfinches breed in a variety of wet and dry, weedy habitats that have scattered trees. These birds may occur in brushy and weedy fields, abandoned farms, pastures, marshes, swamps, and sparse residential areas. Forest edges and the trees scattered through rural sites may be used by American Goldfinches. Goldfinches feed heavily on Canada Thistle, and on other composites, and construct nests in trees and shrubs.

Specific habitats used:

Comments:

Predicted habitat quantities:

AMERICAN GOLDFINCH				Total in ha: 1,668,060	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	<i>19,788</i>	Fresh emergent	35,060
Abandoned field	9,841	Heavy partial cut	64,939	Peatland	30,763
Blueberry field	8,931	Deciduous forest	<i>84,575</i>	Wet meadow	8,725
Grassland	288,931	Decid./Conif. forest	<i>136,666</i>	Salt aquatic bed	825
Crops/Ground	78,644	Conif./Decid. forest	<i>167,055</i>	Salt emergent	567
Developed lands		Coniferous forest	<i>66,483</i>	Mudflat	<i>602</i>
Sparse residential	37,789	Wetlands		Sand shore	<i>131</i>
Dense residential	<i>6,714</i>	Deciduous forested	<i>13,116</i>	Gravel shore	<i>311</i>
Urban/Industrial	306	Coniferous forested	56,828	Rock shore	369
Highways/Runways	366	Dead-forested	<i>459</i>	Shallow water	<i>3,178</i>
Forestlands		Decid. shrub-scrub	69,499	Open water	<i>18,013</i>
Clearcut	68,870	Conifer. shrub-scrub	8,345	Other	
Early regeneration	323,928	Dead shrub-scrub	62	Alpine tundra	53
Late regeneration	<i>56,722</i>	Fresh aquatic bed	28	Exposed rock/Talus	<i>576</i>

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

EVENING GROSBEAK (*Coccothraustes vespertinus*)

Element code: BPBY0902

ME-GAP code: COVE

Order: Passeriformes

Family: Fringillidae

Breeding range change: Unknown

Listing status: Not listed

Migratory status: Resident; Local migrant

Game species: No

Population level: Common

Population trend: Stable, but respond to insect outbreaks

Heritage ranks: G5 . . S5B,S5N

Knowledge: Adequate

General habitats used: Evening Grosbeaks occur in coniferous forests, such as spruce, hemlock, and pine forests. These grosbeaks also will sometimes feed and nest in deciduous trees, such as box elder, maples, sumacs, and apples. Evening Grosbeaks typically build nests in coniferous trees, and forage for seeds, buds, and insects. Grosbeak populations increase when spruce budworm outbreaks occur.

Specific habitats used:

Comments:

Predicted habitat quantities:

EVENING GROSBEAK				Total in ha: 4,110,025	
Habitat	ha	Habitat	ha	Habitat	ha
Agricultural lands		Light partial cut	83,027	Fresh emergent	9,842
Abandoned field	3,119	Heavy partial cut	26,413	Peatland	5,170
Blueberry field	1,199	Deciduous forest	152,120	Wet meadow	1,810
Grassland	30,656	Decid./Conif. forest	972,820	Salt aquatic bed	1,213
Crops/Ground	8,208	Conif./Decid. forest	1,523,965	Salt emergent	207
Developed lands		Coniferous forest	705,642	Mudflat	296
Sparse residential	43,820	Wetlands		Sand shore	108
Dense residential	983	Deciduous forested	8,443	Gravel shore	139
Urban/Industrial	0	Coniferous forested	347,017	Rock shore	410
Highways/Runways	133	Dead-forested	2,210	Shallow water	1,783
Forestlands		Decid. shrub-scrub	19,329	Open water	11,004
Clearcut	19,259	Conifer. shrub-scrub	12,580	Other	
Early regeneration	55,201	Dead shrub-scrub	75	Alpine tundra	111
Late regeneration	61,529	Fresh aquatic bed	11	Exposed rock/Talus	173

For definitions of field contents see the Introduction. Items in *italics* in the table of habitat quantities show habitats not used by the species, but included in the predicted distribution because of generalization (see the Introduction for details).

Appendix 1. General, forest management, and group-specific literature reviewed for determining the habitat relations of breeding birds in Maine.

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Appendix 2. References for individual species used to determine habitat relations of breeding birds in Maine.

Loon, Grebe

Common Loon (<i>Gavia immer</i>)	A2-6
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	A2-7

Wading birds

American Bittern (<i>Botaurus lentiginosus</i>)	A2-7
Least Bittern (<i>Ixobrychus exilis</i>)	A2-7
Great Blue Heron (<i>Ardea herodias</i>)	A2-7
Snowy Egret (<i>Egretta thula</i>)	A2-7
Little Blue Heron (<i>Hydranassa caerulea</i>)	A2-8
Cattle Egret (<i>Bubulcus ibis</i>)	A2-8
Green Heron (<i>Butorides virescens</i>)	A2-8
Black-crowned Night Heron (<i>Nycticorax nycticorax</i>)	A2-8
Glossy Ibis (<i>Plegadis falcinellis</i>)	A2-8

Waterfowl

Canada Goose (<i>Branta canadensis</i>)	A2-8
Wood Duck (<i>Aix sponsa</i>)	A2-9
Green-winged Teal (<i>Anas crecca</i>)	A2-9
Mallard (<i>Anas platyrhynchos</i>)	A2-9
American Black Duck (<i>Anas rubripes</i>)	A2-10
Blue-winged Teal (<i>Anas discors</i>)	A2-10
American Wigeon (<i>Anas americana</i>)	A2-11
Ring-necked Duck (<i>Aythya collaris</i>)	A2-11
Common Goldeneye (<i>Bucephala clangula</i>)	A2-11
Hooded Merganser (<i>Lophodytes cucullatus</i>)	A2-12
Common Merganser (<i>Mergus merganser</i>)	A2-12
Red-breasted Merganser (<i>Mergus serrator</i>)	A2-12

Vulture, Eagles, Hawks, Falcons

Turkey Vulture (<i>Cathartes aura</i>)	A2-12
Osprey (<i>Pandion haliaetus</i>)	A2-12
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	A2-12
Northern Harrier (<i>Circus cyaneus</i>)	A2-13
Sharp-shinned Hawk (<i>Accipiter striatus</i>)	A2-13
Cooper's Hawk (<i>Accipiter cooperii</i>)	A2-13
Northern Goshawk (<i>Accipiter gentilis</i>)	A2-13
Red-shouldered Hawk (<i>Buteo lineatus</i>)	A2-13
Broad-winged Hawk (<i>Buteo platypterus</i>)	A2-14

Red-tailed Hawk (<i>Buteo jamaicensis</i>)	A2-14
Golden Eagle (<i>Aquila chrysaetos</i>)	A2-14
American Kestrel (<i>Falco sparverius</i>)	A2-14
Merlin (<i>Falco columbarius</i>)	A2-15
Peregrine Falcon (<i>Falco peregrinus</i>)	A2-15
Gamebirds	
Spruce Grouse ^a (<i>Dendragapus canadensis</i>)	A2-15
Ruffed Grouse (<i>Bonasa umbellus</i>)	A2-15
Wild Turkey (<i>Meleagris gallopavo</i>)	A2-16
Rails, Coots	
Virginia Rail (<i>Rallus limicola</i>)	A2-16
Sora (<i>Porzana carolina</i>)	A2-16
Yellow Rail (<i>Coturnicops noveboracensis</i>)	A2-16
Common Moorhen (<i>Gallinula chloropus</i>)	A2-16
American Coot (<i>Fulica americana</i>)	A2-17
Shorebirds	
Killdeer (<i>Charadrius vociferus</i>)	A2-17
Spotted Sandpiper (<i>Actitis macularia</i>)	A2-17
Upland Sandpiper (<i>Bartramia longicauda</i>)	A2-17
Common Snipe (<i>Gallinago gallinago</i>)	A2-17
American Woodcock (<i>Scolopax minor</i>)	A2-18
Inland Gulls and Terns	
Herring Gull (<i>Larus argentatus</i>)	A2-18
Great Black-backed Gull (<i>Larus marinus</i>)	A2-19
Common Tern (<i>Sterna hirundo</i>)	A2-19
Black Tern (<i>Chlidonias niger</i>)	A2-19
Dove	
Mourning Dove (<i>Zenaida macroura</i>)	A2-19
Cuckoos	
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	A2-19
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	A2-20

a - Not hunted; season closed.

Owls, Nightjars

Great Horned Owl (<i>Bubo virginianus</i>)	A2-20
Barred Owl (<i>Strix varia</i>)	A2-20
Long-eared Owl (<i>Asio otus</i>)	A2-20
Short-eared Owl (<i>Asio flammeus</i>)	A2-20
Northern Saw-whet Owl (<i>Aegolius acadicus</i>)	A2-20
Common Nighthawk (<i>Chordeiles minor</i>)	A2-21
Whip-poor-will (<i>Caprimulgus vociferus</i>)	A2-21

Swift, Hummingbird

Chimney Swift (<i>Chaetura pelagica</i>)	A2-21
Ruby-throated Hummingbird (<i>Archilochus colubris</i>)	A2-21

Kingfisher

Belted Kingfisher (<i>Ceryle alcyon</i>)	A2-21
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Woodpeckers

Yellow-bellied Sapsucker (<i>Sphyrapicus varius</i>)	A2-22
Downy Woodpecker (<i>Picoides pubescens</i>)	A2-22
Hairy Woodpecker (<i>Picoides villosus</i>)	A2-22
Three-toed Woodpecker (<i>Picoides tridactylus</i>)	A2-22
Black-backed Woodpecker (<i>Picoides arcticus</i>)	A2-22
Northern Flicker (<i>Colaptes auratus</i>)	A2-23
Pileated Woodpecker (<i>Dryocopus pileatus</i>)	A2-23

Flycatchers, Lark, Swallows

Olive-sided Flycatcher (<i>Contopus borealis</i>)	A2-23
Eastern Wood-pewee (<i>Contopus virens</i>)	A2-23
Yellow-bellied Flycatcher (<i>Empidonax flaviventris</i>)	A2-23
Alder Flycatcher (<i>Empidonax alnorum</i>)	A2-24
Willow Flycatcher (<i>Empidonax traillii</i>)	A2-24
Least Flycatcher (<i>Empidonax minimus</i>)	A2-24
Eastern Phoebe (<i>Sayornis phoebe</i>)	A2-24
Great Crested Flycatcher (<i>Myiarchus crinitus</i>)	A2-25
Eastern Kingbird (<i>Tyrannus tyrannus</i>)	A2-25
Horned Lark (<i>Eremophila alpestris</i>)	A2-25
Purple Martin (<i>Progne subis</i>)	A2-25
Tree Swallow (<i>Tachycineta bicolor</i>)	A2-26
Northern Rough-winged Swallow (<i>Stelgidopteryx serripennis</i>)	A2-26
Bank Swallow (<i>Riparia riparia</i>)	A2-26

Cliff Swallow (<i>Hirundo pyrrhonata</i>)	A2-26
Barn Swallow (<i>Hirundo rustica</i>)	A2-26

Jays, Crows

Gray Jay (<i>Perisoreus canadensis</i>)	A2-27
Blue Jay (<i>Cyanocitta cristata</i>)	A2-27
American Crow (<i>Corvus brachyrhynchos</i>)	A2-27
Common Raven (<i>Corvus corax</i>)	A2-27

Chickadees, Titmouse, Nuthatches

Black-capped Chickadee (<i>Parus atricapillus</i>)	A2-27
Boreal Chickadee (<i>Parus hudsonicus</i>)	A2-28
Tufted Titmouse (<i>Parus bicolor</i>)	A2-28
Red-breasted Nuthatch (<i>Sitta canadensis</i>)	A2-28
White-breasted Nuthatch (<i>Sitta carolinensis</i>)	A2-28
Brown Creeper (<i>Certhia americana</i>)	A2-28

Wrens

House Wren (<i>Troglodytes aedon</i>)	A2-29
Winter Wren (<i>Troglodytes troglodytes</i>)	A2-29
Marsh Wren (<i>Cistothorus palustris</i>)	A2-29
Sedge Wren (<i>Cistothorus platensis</i>)	A2-29
Carolina Wren (<i>Thryothorus ludovicianus</i>)	A2-29

Kinglets, Thrushes

Golden-crowned Kinglet (<i>Regulus satrapa</i>)	A2-29
Ruby-crowned Kinglet (<i>Regulus calendula</i>)	A2-30
Blue-gray Gnatcatcher (<i>Polioptila caerulea</i>)	A2-30
Eastern Bluebird (<i>Sialia sialia</i>)	A2-30
Veery (<i>Catharus fuscescens</i>)	A2-30
Bicknell's Thrush (<i>Catharus bicknelli</i>)	A2-30
Swainson's Thrush (<i>Catharus ustulatus</i>)	A2-31
Hermit Thrush (<i>Catharus guttatus</i>)	A2-31
Wood Thrush (<i>Hylocichla mustelina</i>)	A2-31
American Robin (<i>Turdus migratorius</i>)	A2-31
Gray Catbird (<i>Dumetella carolinensis</i>)	A2-32
Northern Mockingbird (<i>Mimus polyglottus</i>)	A2-32
Brown Thrasher (<i>Toxostoma rufum</i>)	A2-32

Pipit

American Pipit (<i>Anthus rubescens</i>)	A2-32
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Waxwing

Cedar Waxwing (<i>Bombycilla cedrorum</i>)	A2-32
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Vireos

Blue-headed Vireo (<i>Vireo solitarius</i>)	A2-33
Yellow-throated Vireo (<i>Vireo flavifrons</i>)	A2-33
Warbling Vireo (<i>Vireo gilvus</i>)	A2-33
Philadelphia Vireo (<i>Vireo philadelphicus</i>)	A2-33
Red-eyed Vireo (<i>Vireo olivaceus</i>)	A2-33

Warblers

Blue-winged Warbler (<i>Vermivora pinus</i>)	A2-34
Tennessee Warbler (<i>Vermivora peregrina</i>)	A2-34
Nashville Warbler (<i>Vermivora ruficapilla</i>)	A2-34
Northern Parula (<i>Parula americana</i>)	A2-34
Yellow Warbler (<i>Dendroica petechia</i>)	A2-35
Chestnut-sided Warbler (<i>Dendroica pensylvanica</i>)	A2-35
Magnolia Warbler (<i>Dendroica magnolia</i>)	A2-35
Cape May Warbler (<i>Dendroica tigrina</i>)	A2-35
Black-throated Blue Warbler (<i>Dendroica caerulescens</i>)	A2-36
Yellow-rumped Warbler (<i>Dendroica coronata</i>)	A2-36
Black-throated Green Warbler (<i>Dendroica virens</i>)	A2-36
Blackburnian Warbler (<i>Dendroica fusca</i>)	A2-36
Pine Warbler (<i>Dendroica pinus</i>)	A2-37
Prairie Warbler (<i>Dendroica discolor</i>)	A2-37
Palm Warbler (<i>Dendroica palmarum</i>)	A2-37
Bay-breasted Warbler (<i>Dendroica castanea</i>)	A2-37
Blackpoll Warbler (<i>Dendroica striata</i>)	A2-38
Black-and-white Warbler (<i>Mniotilta varia</i>)	A2-38
American redstart (<i>Setophaga ruticilla</i>)	A2-38
Ovenbird (<i>Seiurus aurocapillus</i>)	A2-38
Northern Waterthrush (<i>Seiurus noveboracensis</i>)	A2-39
Louisiana Waterthrush (<i>Seiurus motacilla</i>)	A2-39
Mourning Warbler (<i>Oporornis philadelphia</i>)	A2-39
Common Yellowthroat (<i>Geothlypis trichas</i>)	A2-39
Wilson's Warbler (<i>Wilsonia pusilla</i>)	A2-39
Canada Warbler (<i>Wilsonia canadensis</i>)	A2-40
Scarlet Tanager (<i>Piranga olivacea</i>)	A2-40
Northern Cardinal (<i>Cardinalis cardinalis</i>)	A2-40

Grosbeak, Bunting, Towhee

Rose-breasted Grosbeak (<i>Pheucticus ludovicianus</i>)	A2-40
Indigo Bunting (<i>Passerina cyanea</i>)	A2-40

Eastern Towhee (<i>Pipilo erythrophthalmus</i>)	A2-41
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Sparrows

Chipping Sparrow (<i>Spizella passerina</i>)	A2-41
Field Sparrow (<i>Spizella pusilla</i>)	A2-41
Vesper Sparrow (<i>Pooecetes gramineus</i>)	A2-41
Savannah Sparrow (<i>Passerculus sandwichensis</i>)	A2-42
Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	A2-42
Saltmarsh Sharp-tailed Sparrow (<i>Ammodramus caudacutus</i>)	A2-42
Nelson’s Sharp-tailed Sparrow (<i>Ammodramus nelsoni</i>)	A2-42
Fox Sparrow (<i>Passerella iliaca</i>)	A2-43
Song Sparrow (<i>Melospiza melodia</i>)	A2-43
Lincoln’s Sparrow (<i>Melospiza lincolnii</i>)	A2-43
Swamp Sparrow (<i>Melospiza georgiana</i>)	A2-43
White-throated Sparrow (<i>Zonotrichia albicollis</i>)	A2-43
Dark-eyed Junco (<i>Junco hyemalis</i>)	A2-44
Bobolink (<i>Dolichonyx oryzivorus</i>)	A2-44

Blackbirds and Oriole

Red-winged Blackbird (<i>Agelaius phoeniceus</i>)	A2-44
Eastern Meadowlark (<i>Sturnella magna</i>)	A2-44
Rusty Blackbird (<i>Euphagus carolinus</i>)	A2-44
Common Grackle (<i>Quiscalus quiscula</i>)	A2-45
Brown-headed Cowbird (<i>Molothrus ater</i>)	A2-45
Baltimore Oriole (<i>Icterus galbula</i>)	A2-45

Finches

Pine Grosbeak (<i>Pinicola enucleator</i>)	A2-45
Purple Finch (<i>Carpodacus purpureus</i>)	A2-46
Red Crossbill (<i>Loxia curvirostra</i>)	A2-46
White-winged Crossbill (<i>Loxia leucoptera</i>)	A2-46
Pine Siskin (<i>Carduelis pinus</i>)	A2-46
American Goldfinch (<i>Carduelis tristis</i>)	A2-47
Evening Grosbeak (<i>Coccothraustes vespertinus</i>)	A2-47

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DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Eastern Towhee (*Pipilo erythrophthalmus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Hagan, J.M., III. 1993. Decline of the Rufous-sided Towhee in the eastern United States. *Auk* 110:863-874.

Chipping Sparrow (*Spizella passerina*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Field Sparrow (*Spizella pusilla*)

Best, L.B. 1977. Territory quality and mating success in the Field Sparrow (*Spizella pusilla*). *Condor* 79:192-204.

Brauning, D.W. 1992. Atlas of breeding birds in Pennsylvania. University of Pittsburgh Press, Pittsburgh, Pennsylvania. 484 pp.

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Vesper Sparrow (*Pooecetes gramineus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Vickery, P.D., M.L. Hunter, Jr., and S.M. Melvin. 1994. Effects of habitat area on the distribution of grassland birds in Maine. *Conservation Biology* 8:1087-1097.

Savannah Sparrow (*Passerculus sandwichensis*)

Dixon, C.L. 1978. Breeding biology of the Savannah Sparrow on Kent Island. *Auk* 95:235-246.

Vickery, P.D., M.L. Hunter, Jr., and S.M. Melvin. 1994. Effects of habitat area on the distribution of grassland birds in Maine. *Conservation Biology* 8:1087-1097.

Wheelwright, N.T., G. Trussell, J.P. Devine, and R. Anderson. 1994. Sexual dimorphism and population sex ratios in juvenile Savannah Sparrows. *Journal of Field Ornithology*

65:520-529.

Wiens, J.A. 1973. Interterritorial habitat variation in Grasshopper and Savannah Sparrows. *Ecology* 54:879-883.

Grasshopper Sparrow (*Ammodramus savannarum*)

Smith, R.L. 1963. Some ecological notes on the Grasshopper Sparrow. *Wilson Bulletin* 75:159-165.

Vickery, P.D., M.L. Hunter, Jr., and S.M. Melvin. 1994. Effects of habitat area on the distribution of grassland birds in Maine. *Conservation Biology* 8:1,087-1,097.

Wiens, J.A. 1973. Interterritorial habitat variation in Grasshopper and Savannah Sparrows. *Ecology* 54:879-883.

Saltmarsh Sharp-tailed Sparrow (*Ammodramus caudacutus*)

Ouellet, R. 1996. Sharp-tailed Sparrow. Pages 994-997. In Gauthier, J. and Y. Aubry (editors). The breeding birds of Quebec: atlas of the breeding birds of southern Quebec. Province of Quebec Society for the Protection of Birds and the Canadian Wildlife Service, Montreal, Quebec, Canada. 1,302 pp.

Rising, J.D. and J.C. Avise. 1993. Application of genealogical-concordance principles to the taxonomy and evolutionary history of the Sharp-tailed Sparrow (*Ammodramus caudacutus*). *Auk* 110:844-856.

Nelson's Sharp-tailed Sparrow (*Ammodramus nelsoni*)

Ouellet, R. 1996. Sharp-tailed Sparrow. Pages 994-997. In Gauthier, J. and Y. Aubry (editors). The breeding birds of Quebec: atlas of the breeding birds of southern Quebec. Province of Quebec Society for the Protection of Birds and the Canadian Wildlife Service, Montreal, Quebec, Canada. 1,302 pp.

Fox Sparrow (*Passerella iliaca*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Song Sparrow (*Melospiza melodia*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Greenburg, R. 1988. Water as a habitat cue for breeding Swamp and Song Sparrows. *Condor* 90:420-427.

Lincoln's Sparrow (*Melospiza lincolni*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Swamp Sparrow (*Melospiza georgiana*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Greenburg, R. 1988. Water as a habitat cue for breeding Swamp and Song Sparrows. *Condor* 90:420-427.

White-throated Sparrow (*Zonotrichia albicollis*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Dark-eyed Junco (*Junco hyemalis*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the

Crown and Nova Scotia Museum. 270 pp.

Bobolink (*Dolichonyx oryzivorus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Red-winged Blackbird (*Agelaius phoeniceus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Eastern Meadowlark (*Sturnella magna*)

Brauning, D.W. 1992. Atlas of breeding birds in Pennsylvania. University of Pittsburgh Press, Pittsburgh, Pennsylvania. 484 pp.

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Rusty Blackbird (*Euphagus carolinus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Common Grackle (*Quiscalus quiscula*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and

distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Maxwell, G.R., Jr., J.M. Nocilly, and R.I. Shearer. 1976. Observations at a cavity nest of a Common Grackle and an analysis of grackle nest sites. *Wilson Bulletin* 88:505-507.

Brown-headed Cowbird (*Molothrus ater*)

Coher, D.R., and D.E. Capen. 1995. Landscape-level habitat use by Brown-headed Cowbirds in Vermont. *Journal of Wildlife Management* 59:631-637.

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Baltimore Oriole (*Icterus galbula*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Pine Grosbeak (*Pinicola enucleator*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Purple Finch (*Carpodacus purpureus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Red Crossbill (*Loxia curvirostra*)

Benkman, C.W. 1993. Logging, conifers, and the conservation of Crossbills. *Conservation Biology* 7:473-479.

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Lawrence, L.D.K. 1949. The Red Crossbill at Pimisi Bay, Ontario. *Canadian Field-Naturalist* 63:147-160.

White-winged Crossbill (*Loxia leucoptera*)

Benkman, C.W. 1993. Logging, conifers, and the conservation of Crossbills. *Conservation Biology* 7:473-479.

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Pine Siskin (*Carduelis pinus*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

Weaver, R.L. and F.H. West. 1943. Notes on the breeding of the Pine Siskin. *Auk* 60:492-504.

American Goldfinch (*Carduelis tristis*)

DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Nickell, W.P. 1951. Studies of habitats, territory, and nests of the eastern Goldfinch. *Auk* 68:447-470.

Stokes, A.W. 1950. Breeding behavior of the Goldfinch. *Wilson Bulletin* 62:106-127.

Evening Grosbeak (*Coccothraustes vespertinus*)

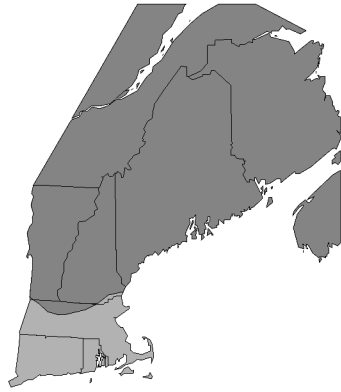
DeGraaf, R.M. and D.D. Rudis. 1986. New England wildlife: habitat, natural history, and distribution. USDA Forest Service, Northeastern (NE) Forest Experiment Station General Technical Report NE-108. 491 pp.

Erskine, A.J. 1992. Atlas of breeding birds of the Maritime Provinces. Co-published by the Crown and Nova Scotia Museum. 270 pp.

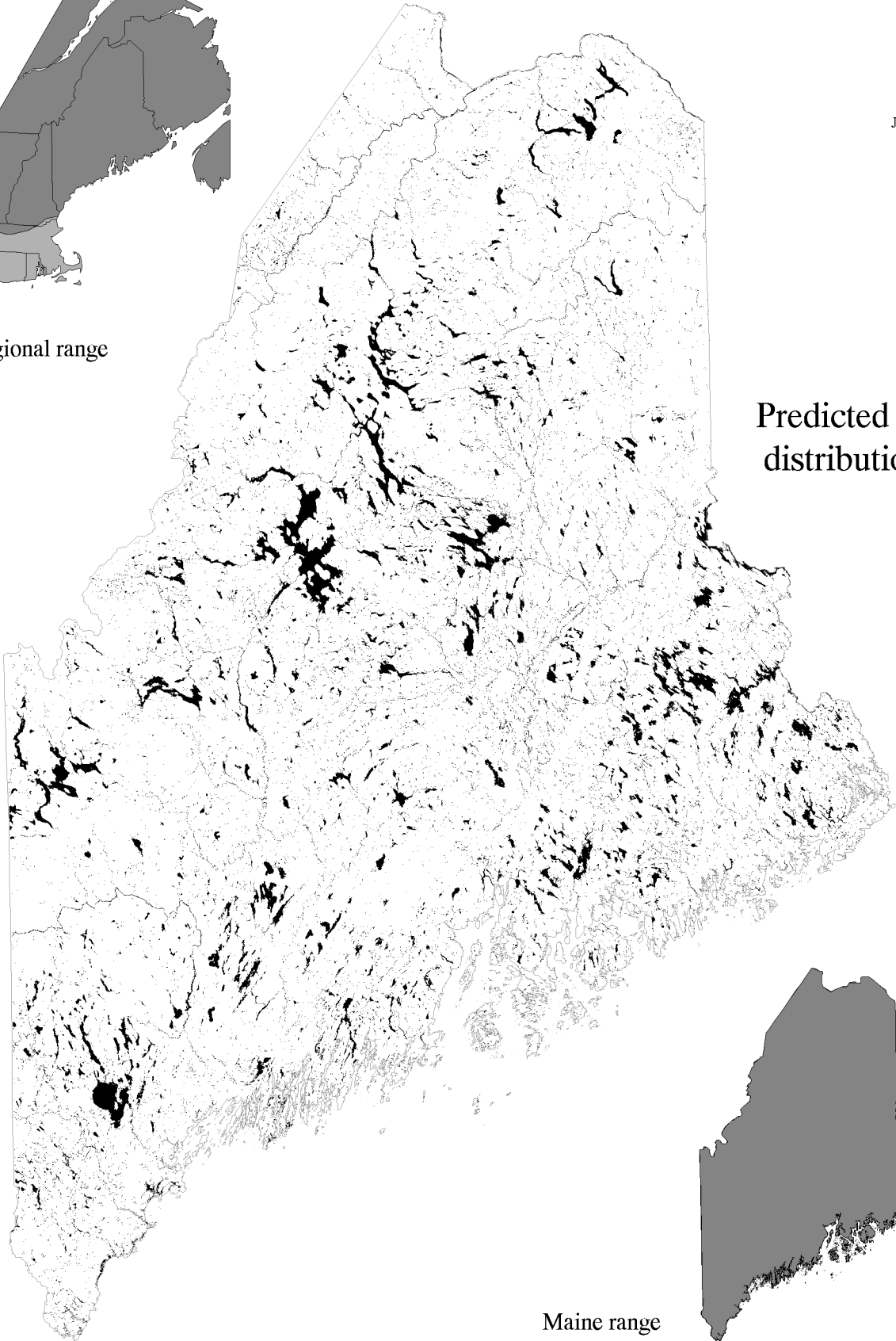
Appendix 3: Predicted Distribution Maps for Birds of Maine

Common Loon

GAIM
June 1998



Regional range



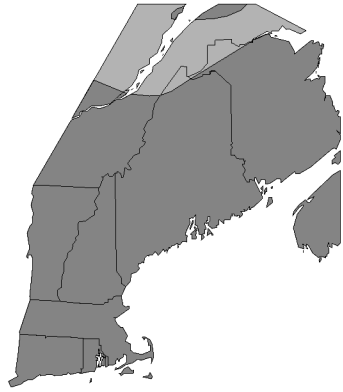
Predicted
distribution



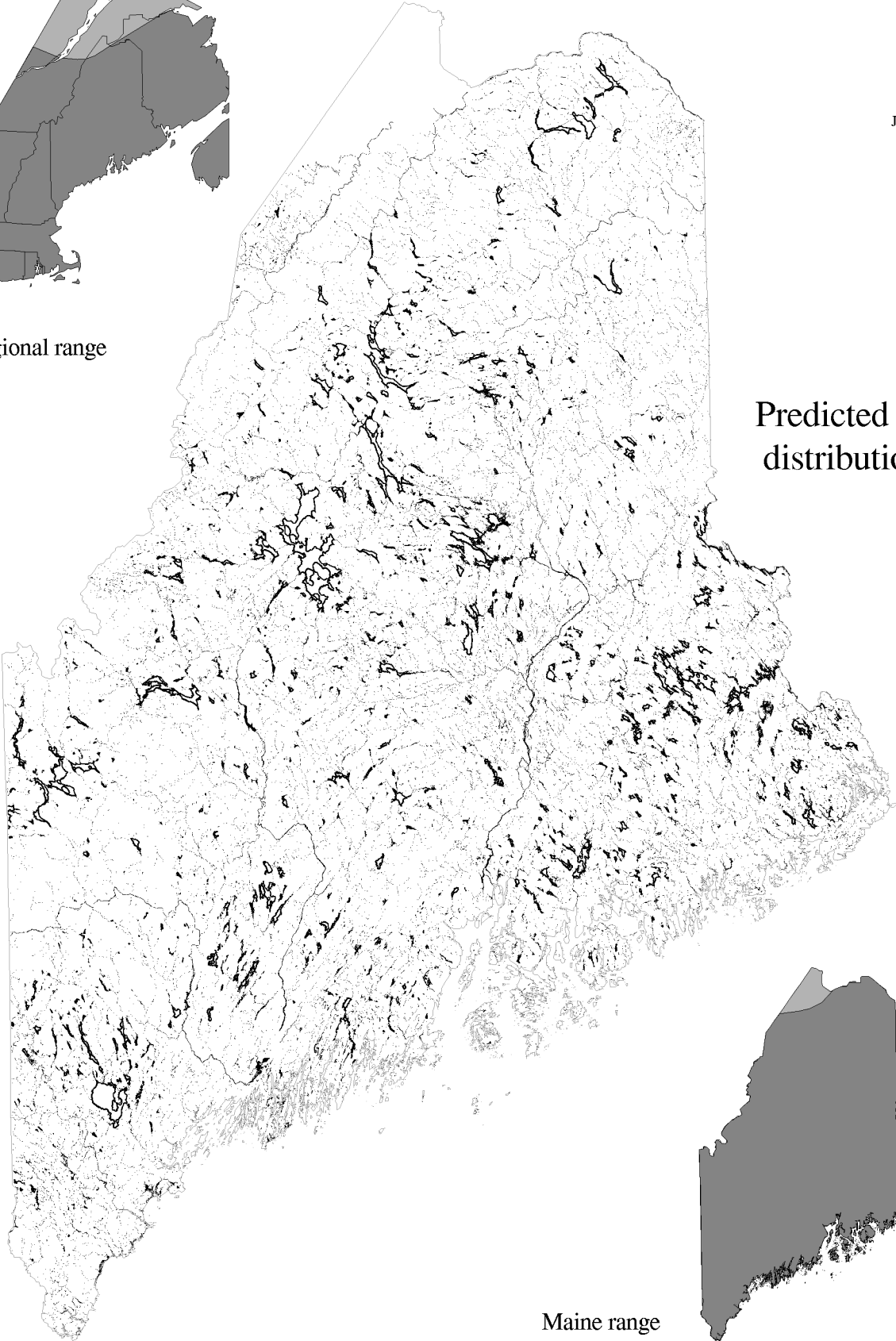
Maine range

Pied-billed Grebe

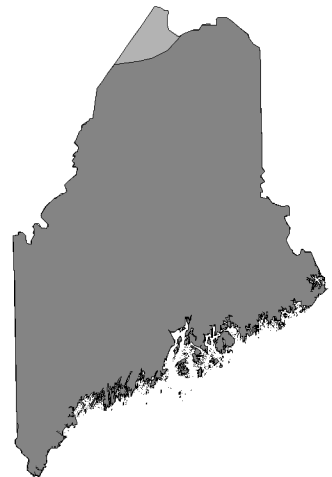
POPO
June 1998



Regional range



Predicted
distribution



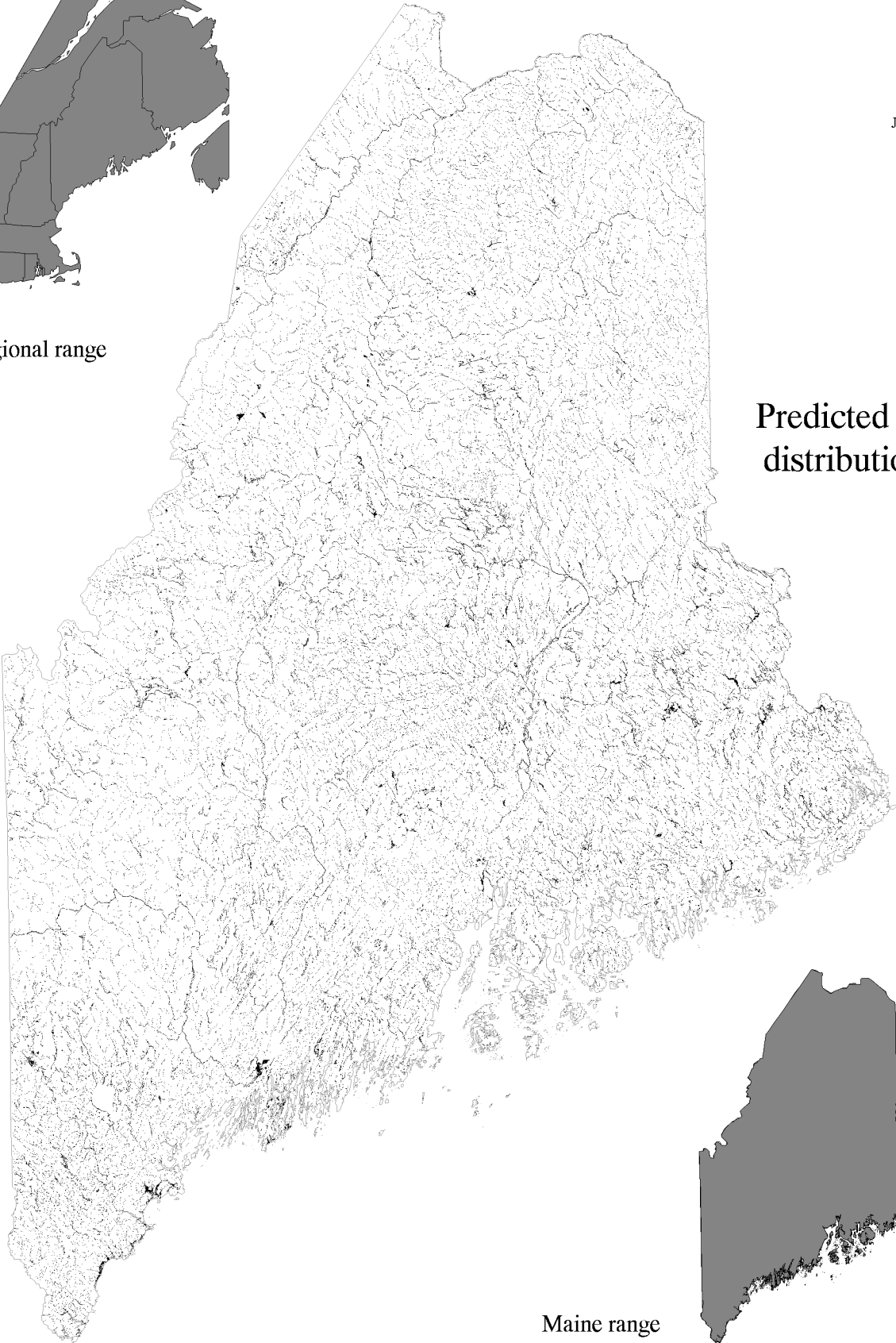
Maine range

American Bittern

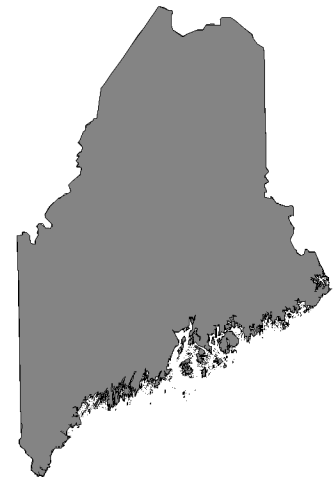
BOLE
June 1998



Regional range



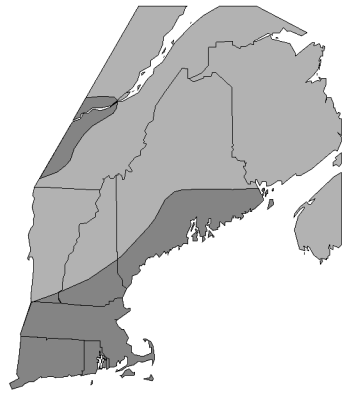
Predicted
distribution



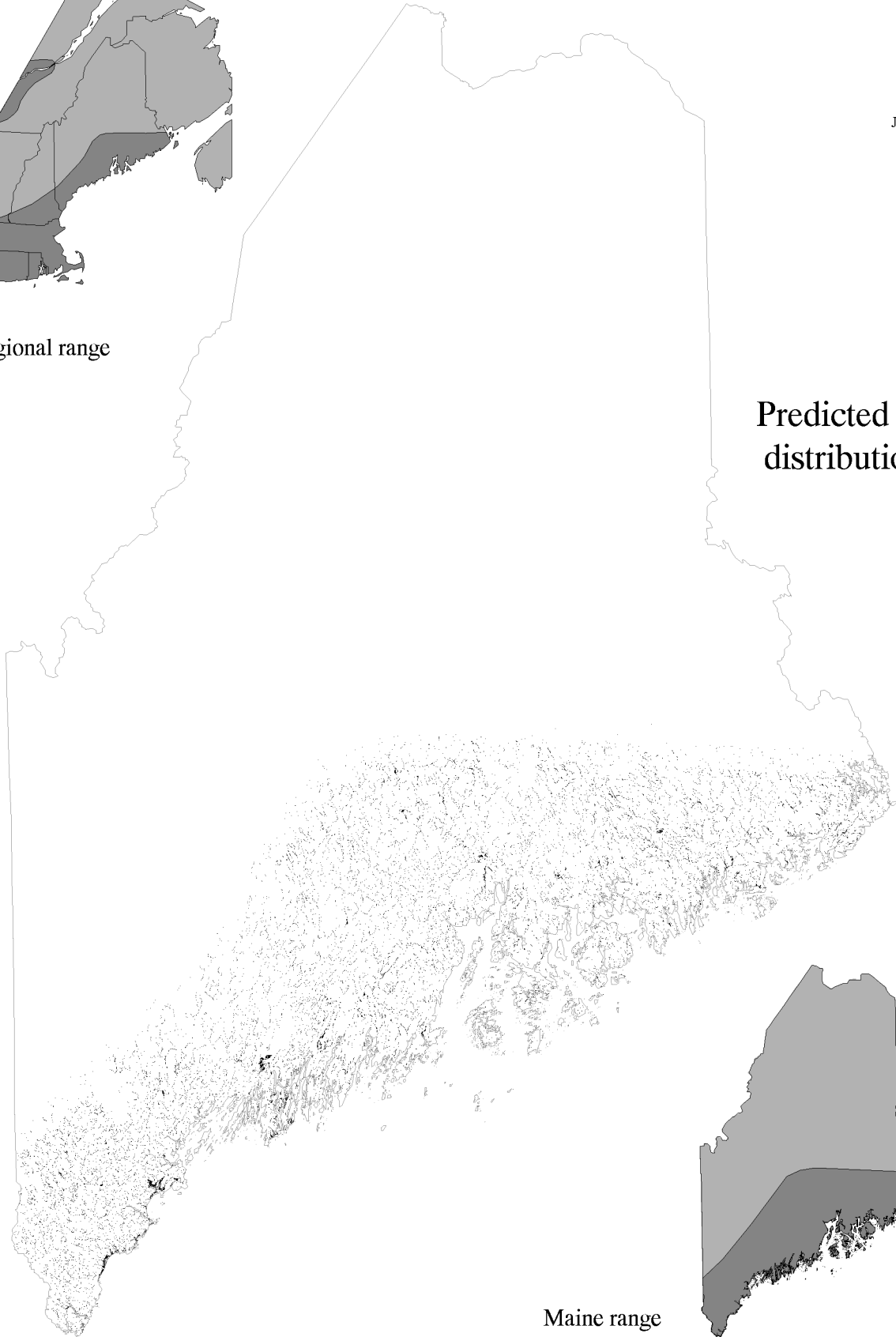
Maine range

Least Bittern

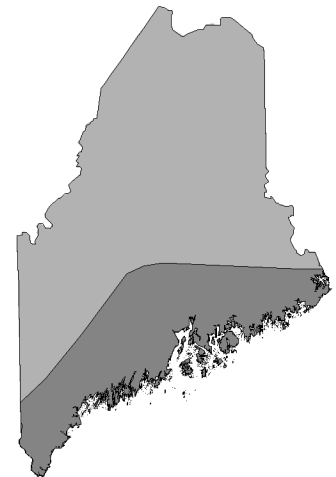
IXEX
June 1998



Regional range



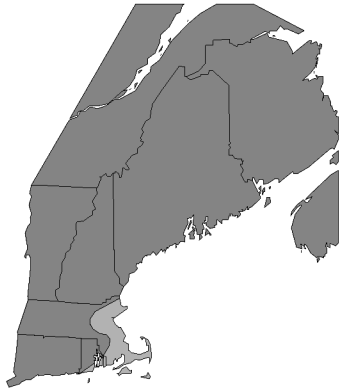
Predicted
distribution



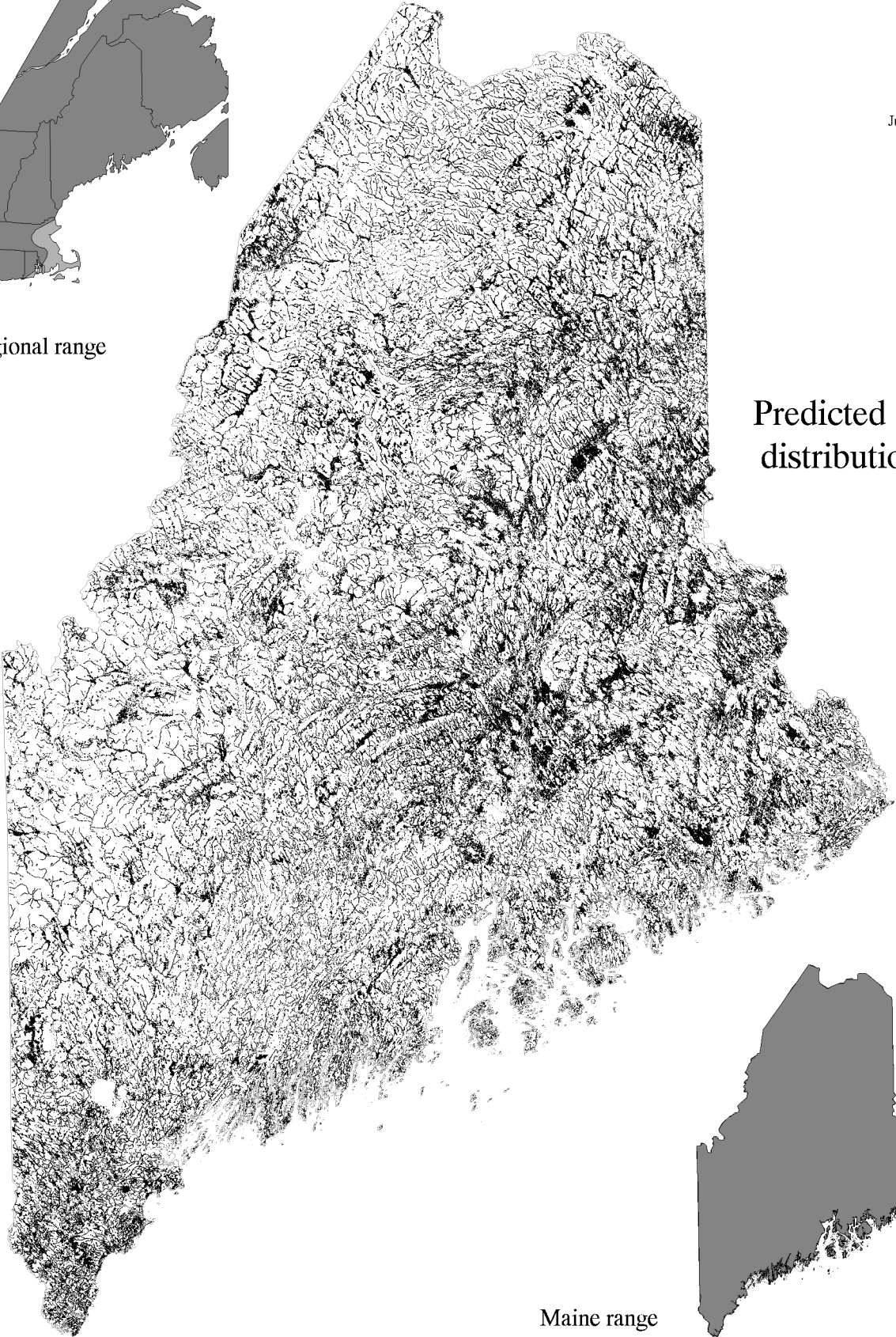
Maine range

Great Blue Heron

ARHE
June 1998



Regional range



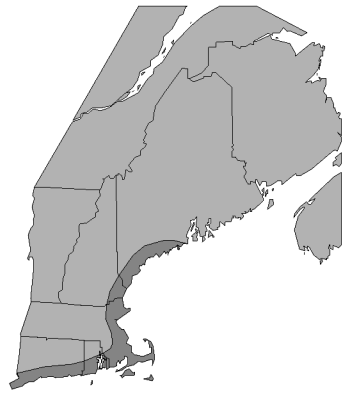
Predicted
distribution



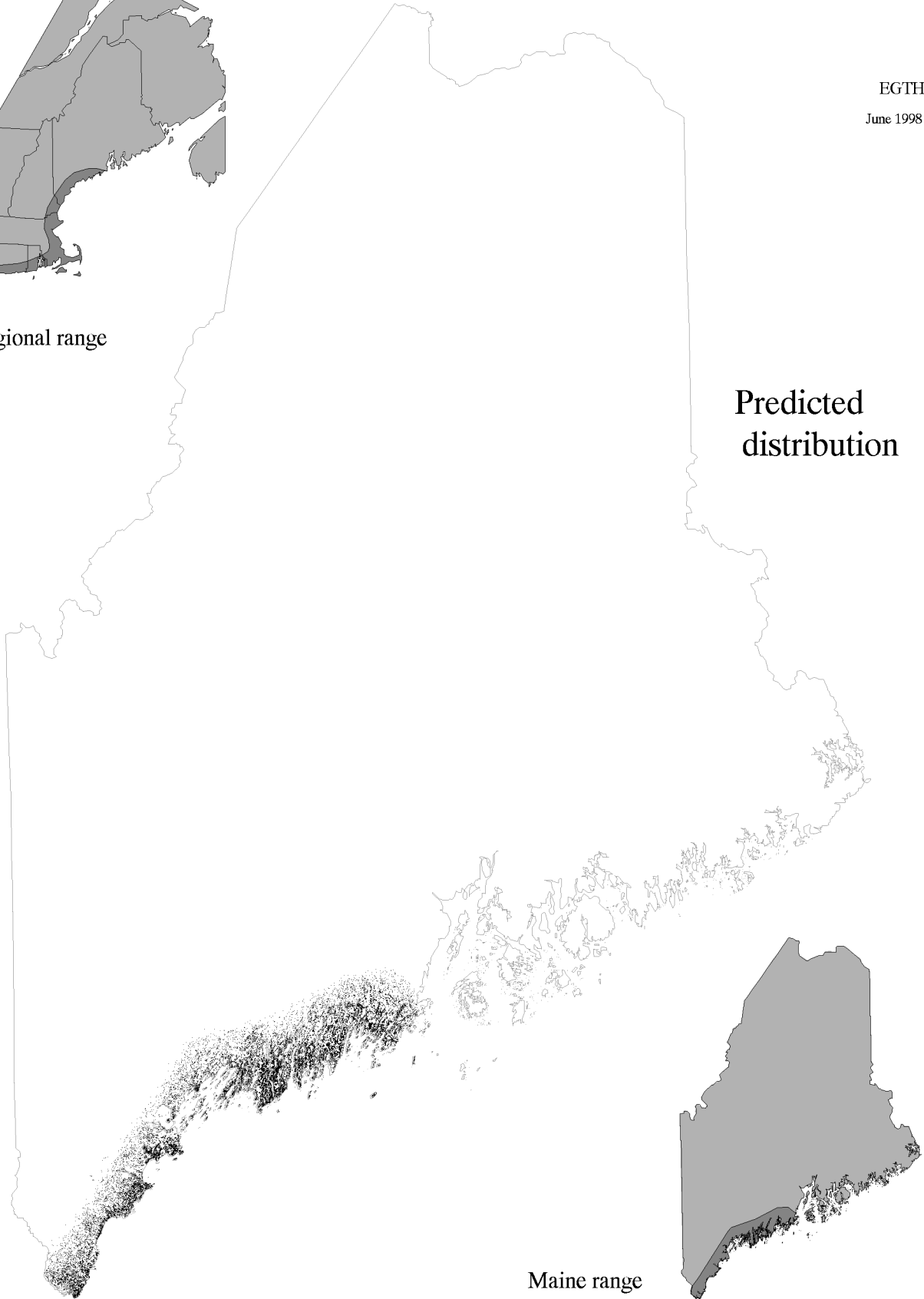
Maine range

Snowy Egret

EGTH
June 1998



Regional range

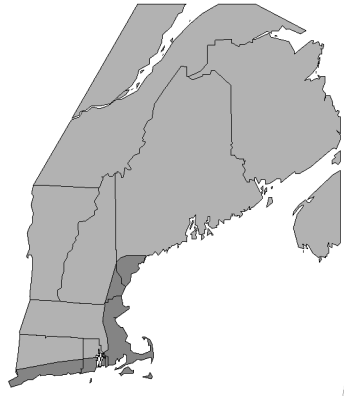


Predicted
distribution

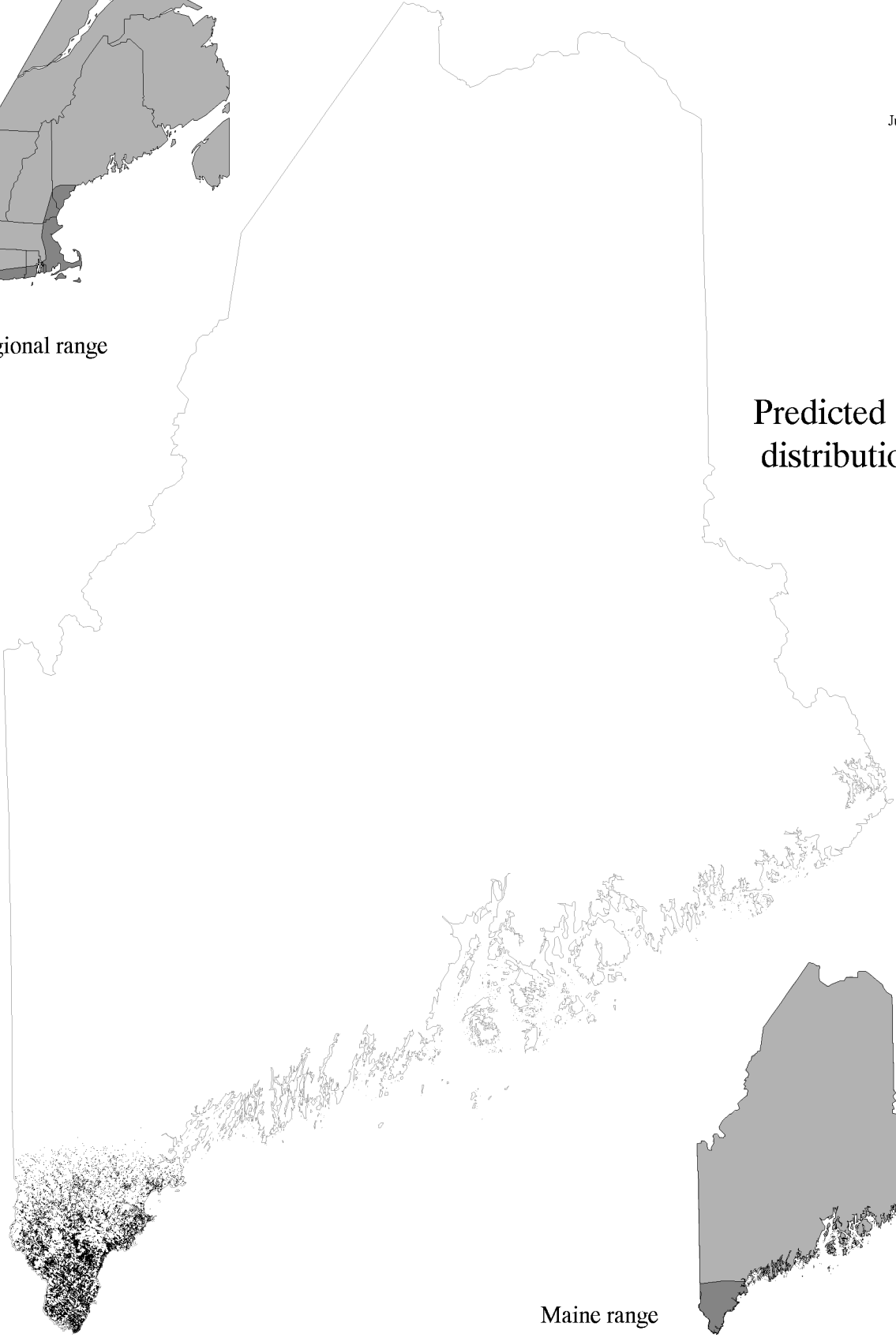
Maine range

Little Blue Heron

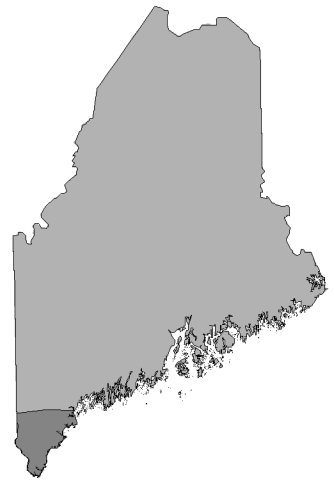
HYCA
June 1998



Regional range



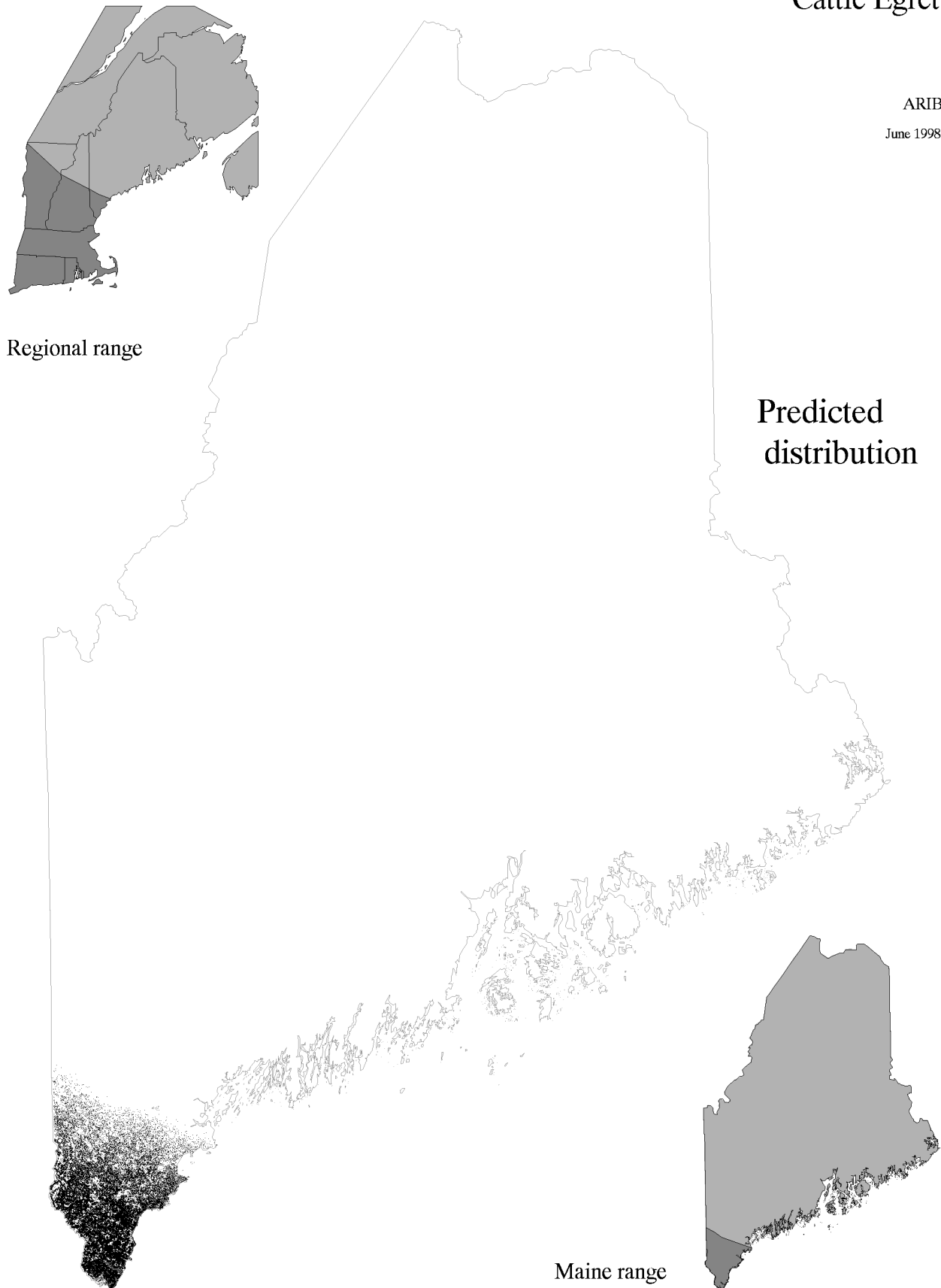
Predicted
distribution



Maine range

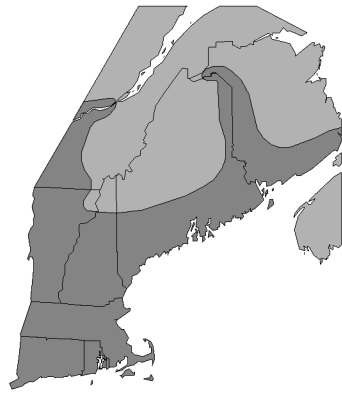
Cattle Egret

ARIB
June 1998

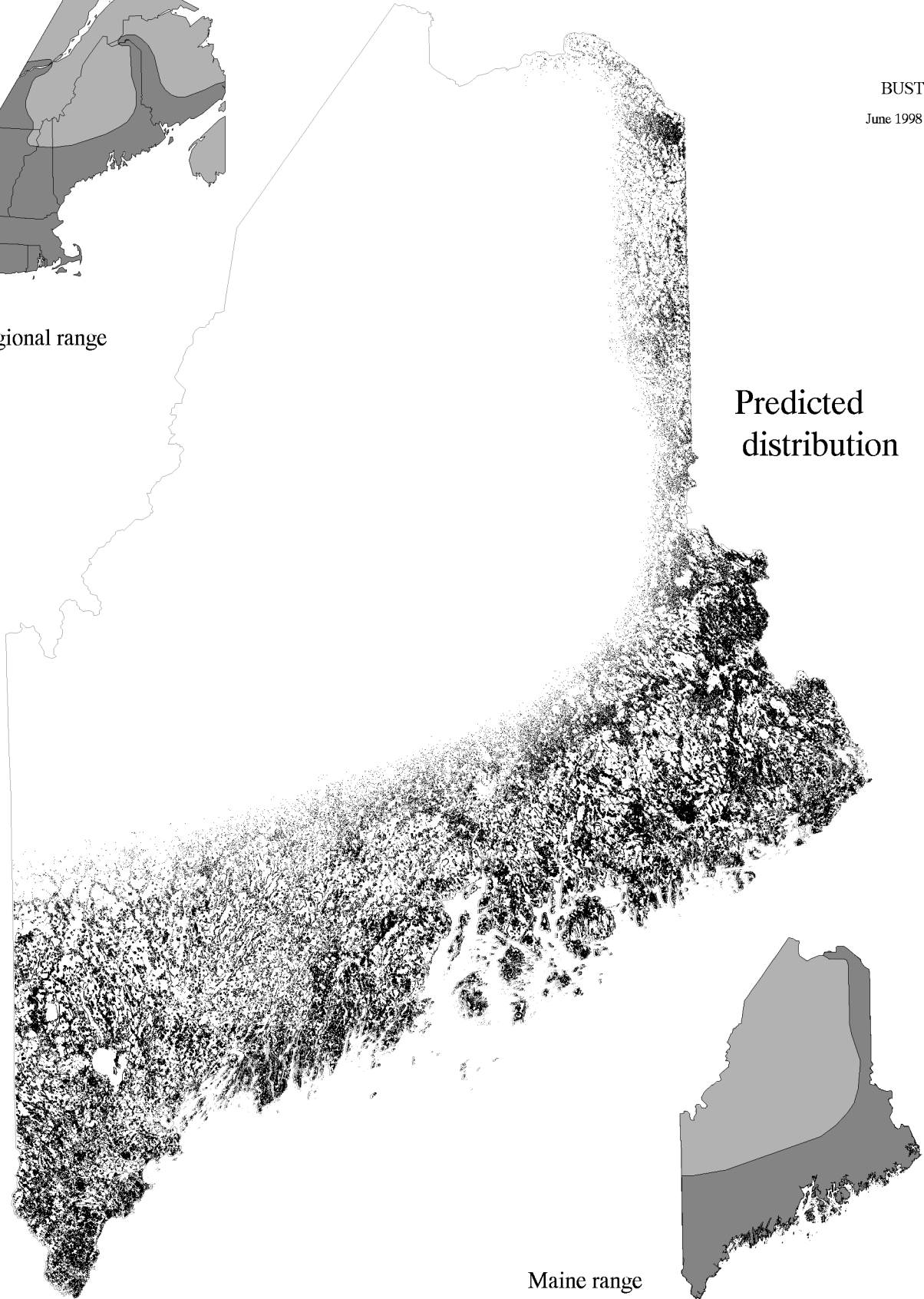


Green Heron

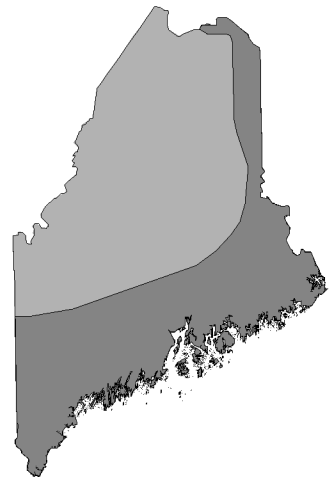
BUST
June 1998



Regional range



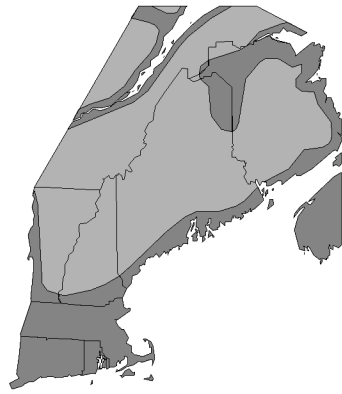
Predicted
distribution



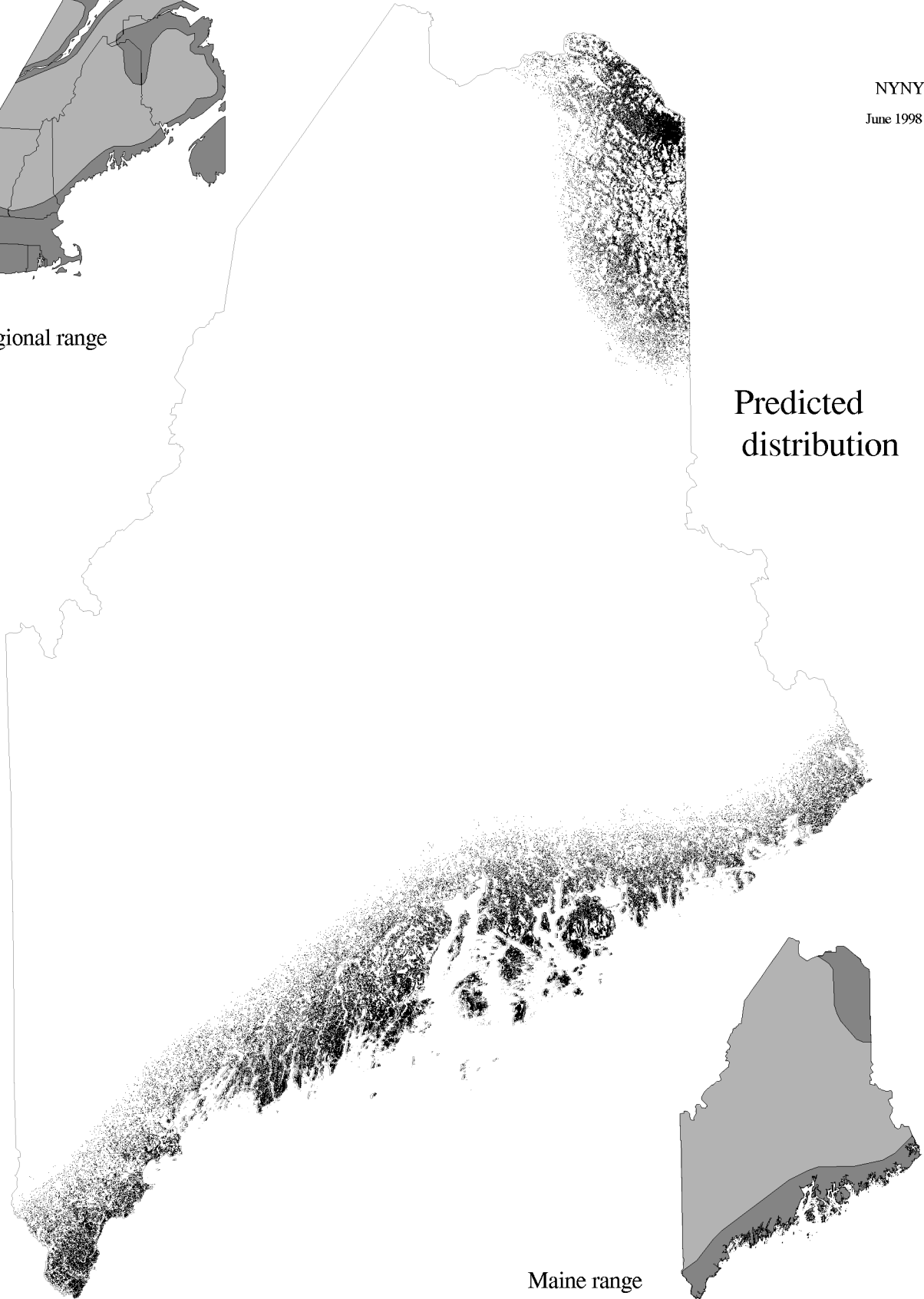
Maine range

Black-crowned Night Heron

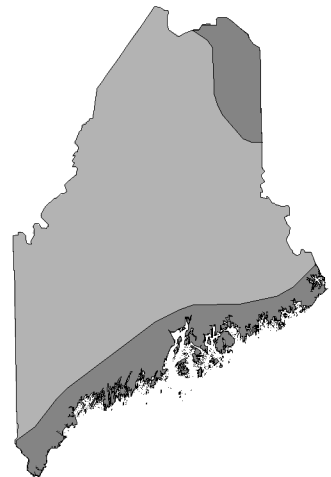
NYNY
June 1998



Regional range



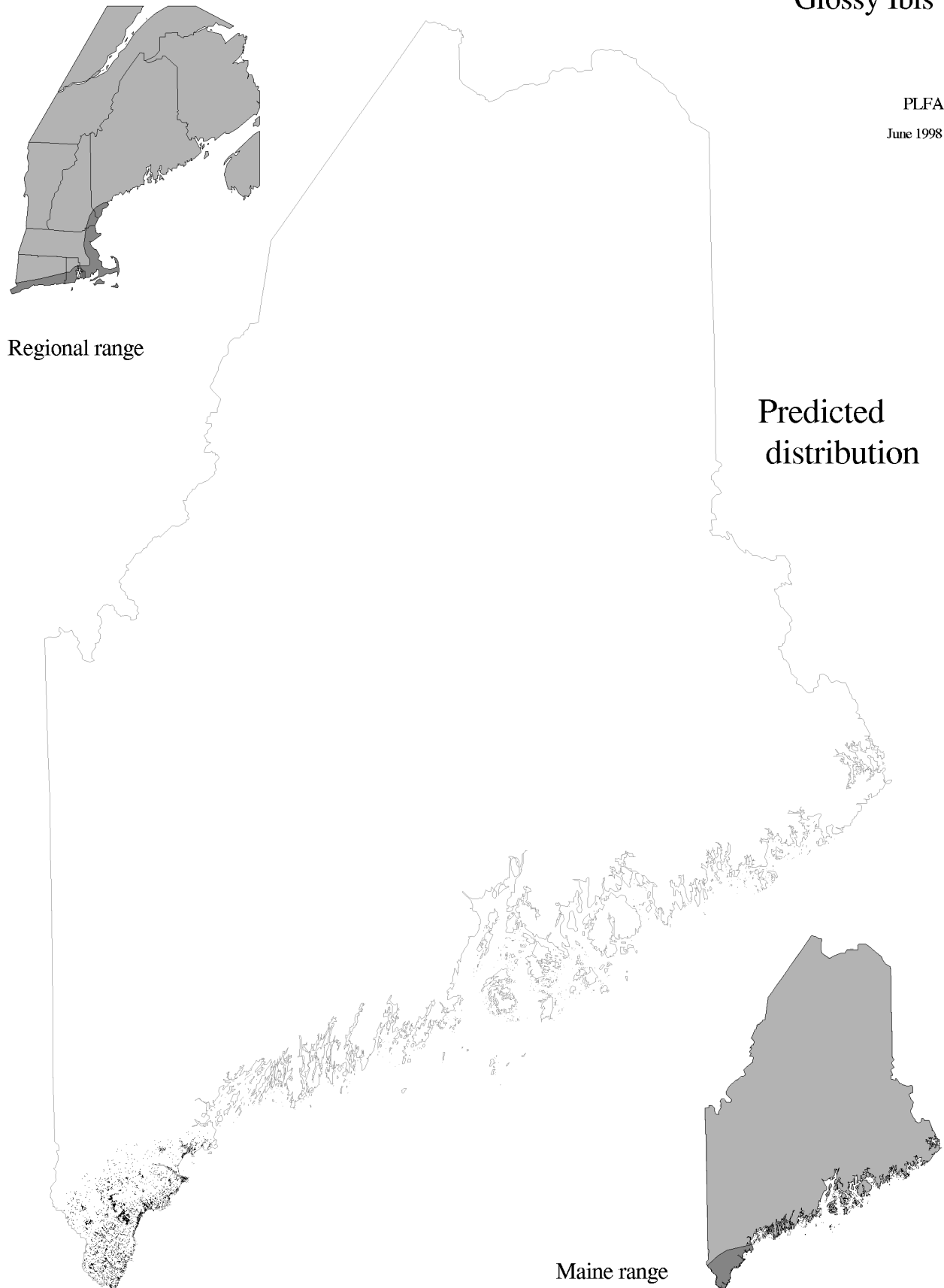
Predicted
distribution



Maine range

Glossy Ibis

PLFA
June 1998



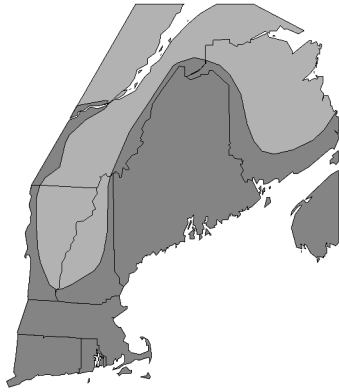
Regional range

Predicted
distribution

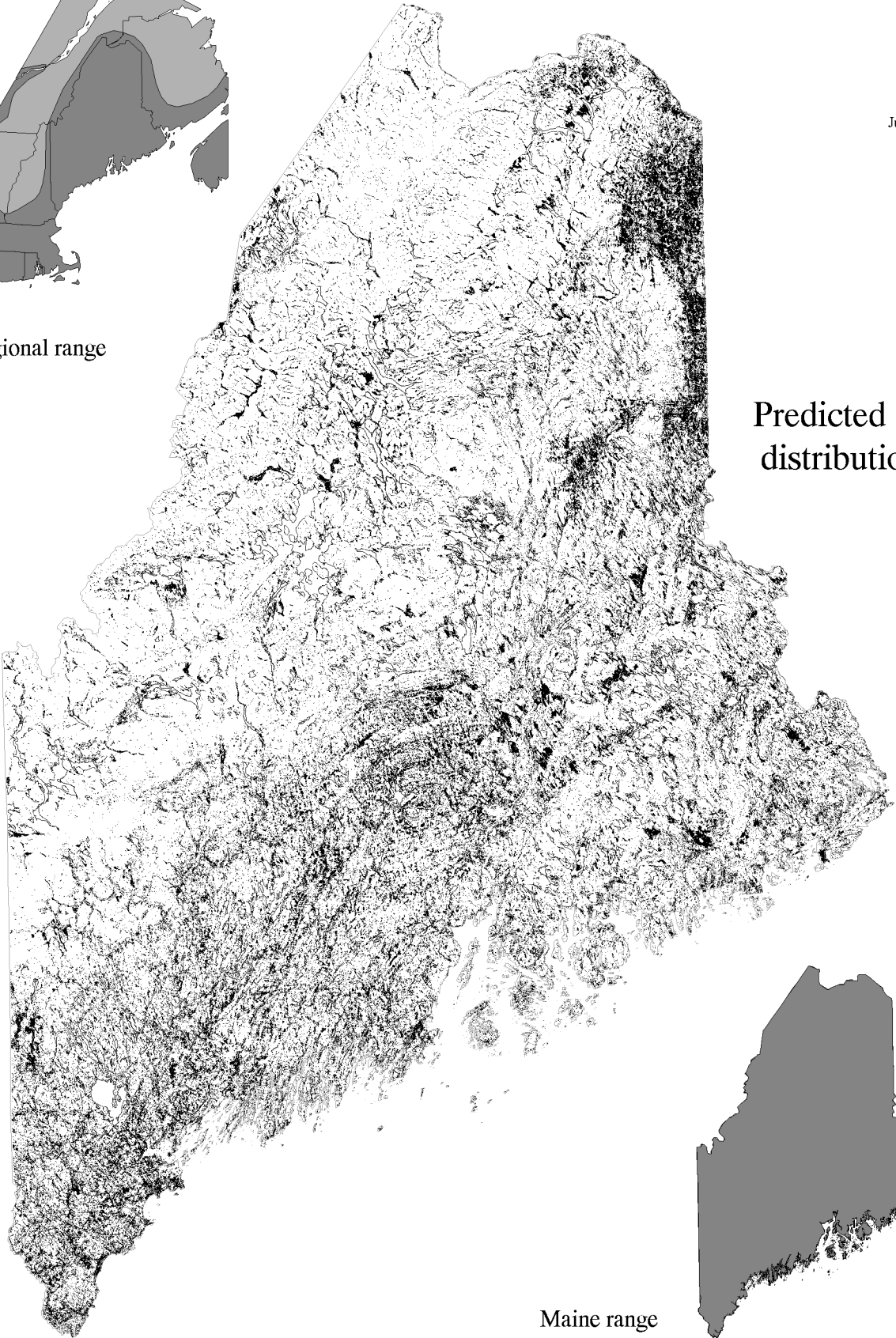
Maine range

Canada Goose

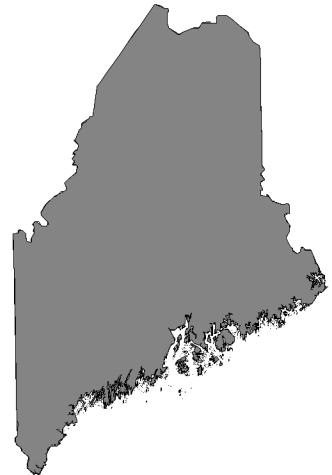
BRCA
June 1998



Regional range



Predicted
distribution

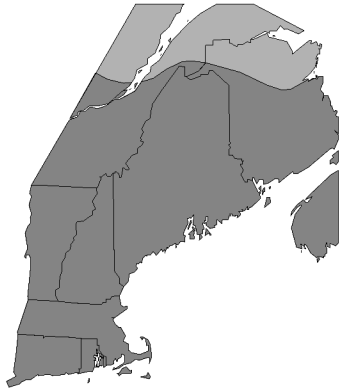


Maine range

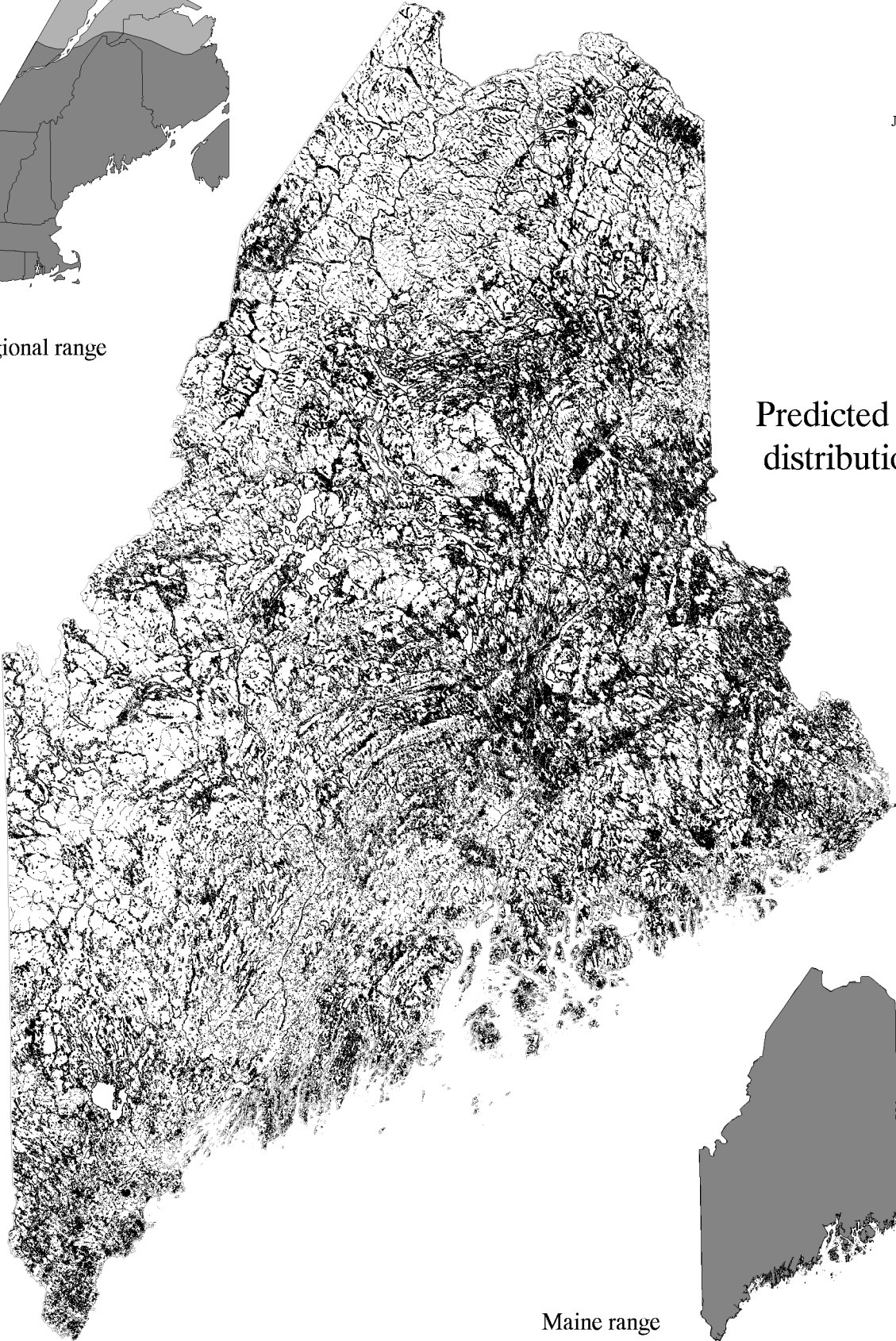
Wood Duck

AISP

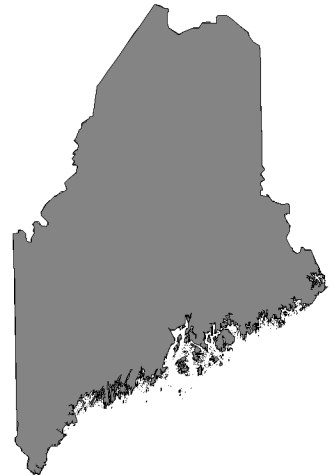
June 1998



Regional range



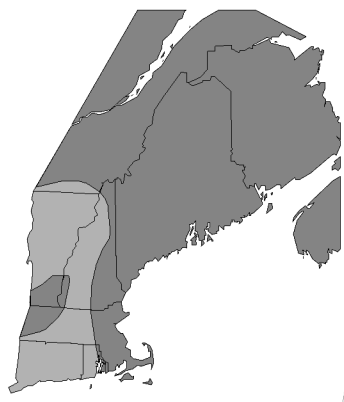
Predicted distribution



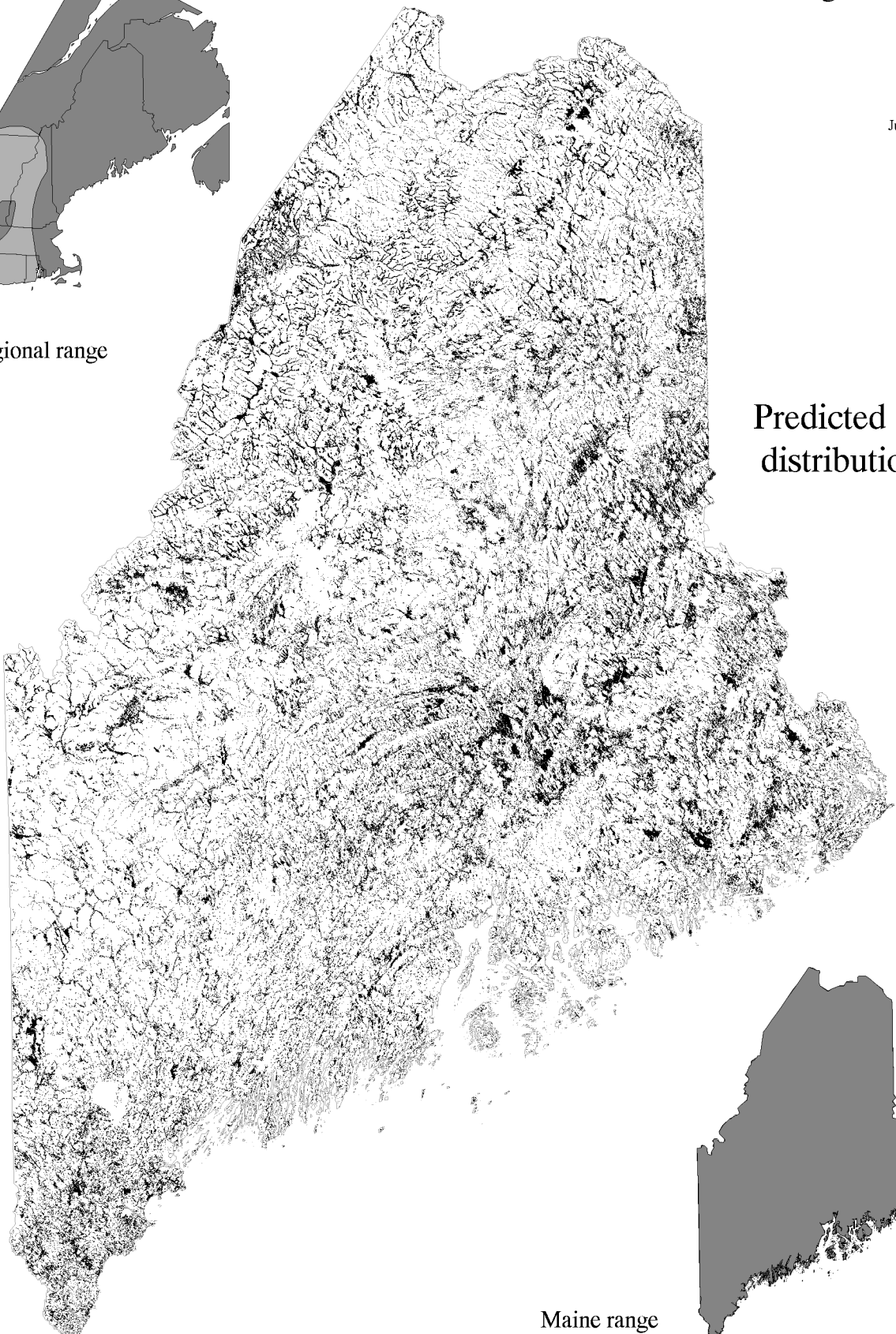
Maine range

Green-winged Teal

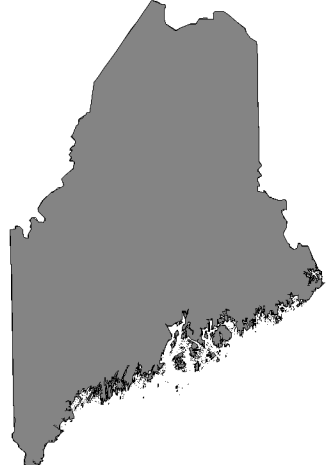
ANCR
June 1998



Regional range



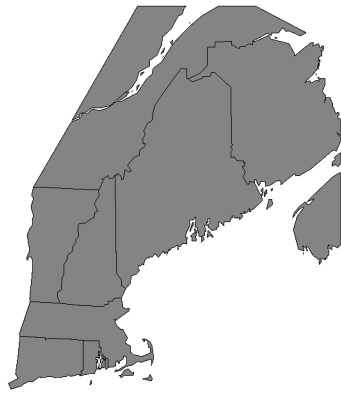
Predicted distribution



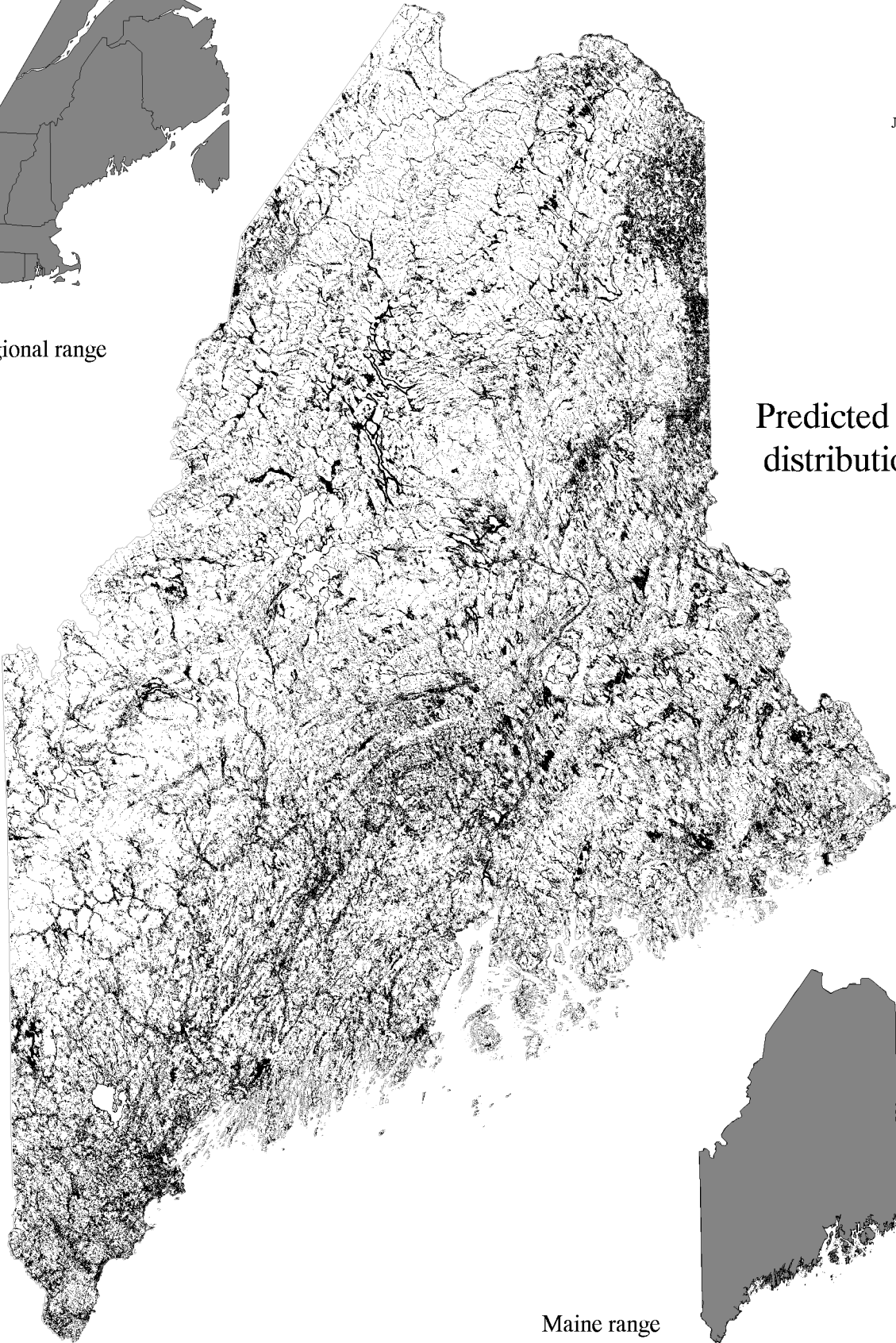
Maine range

Mallard

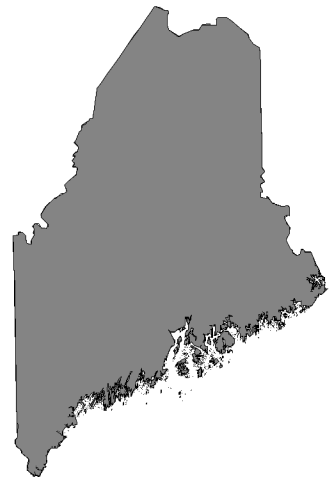
ANPL
June 1998



Regional range



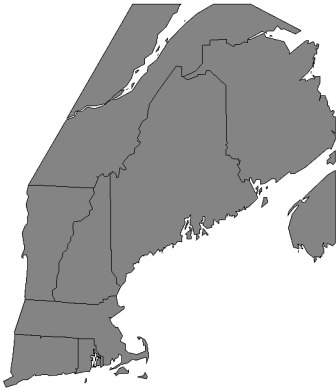
Predicted
distribution



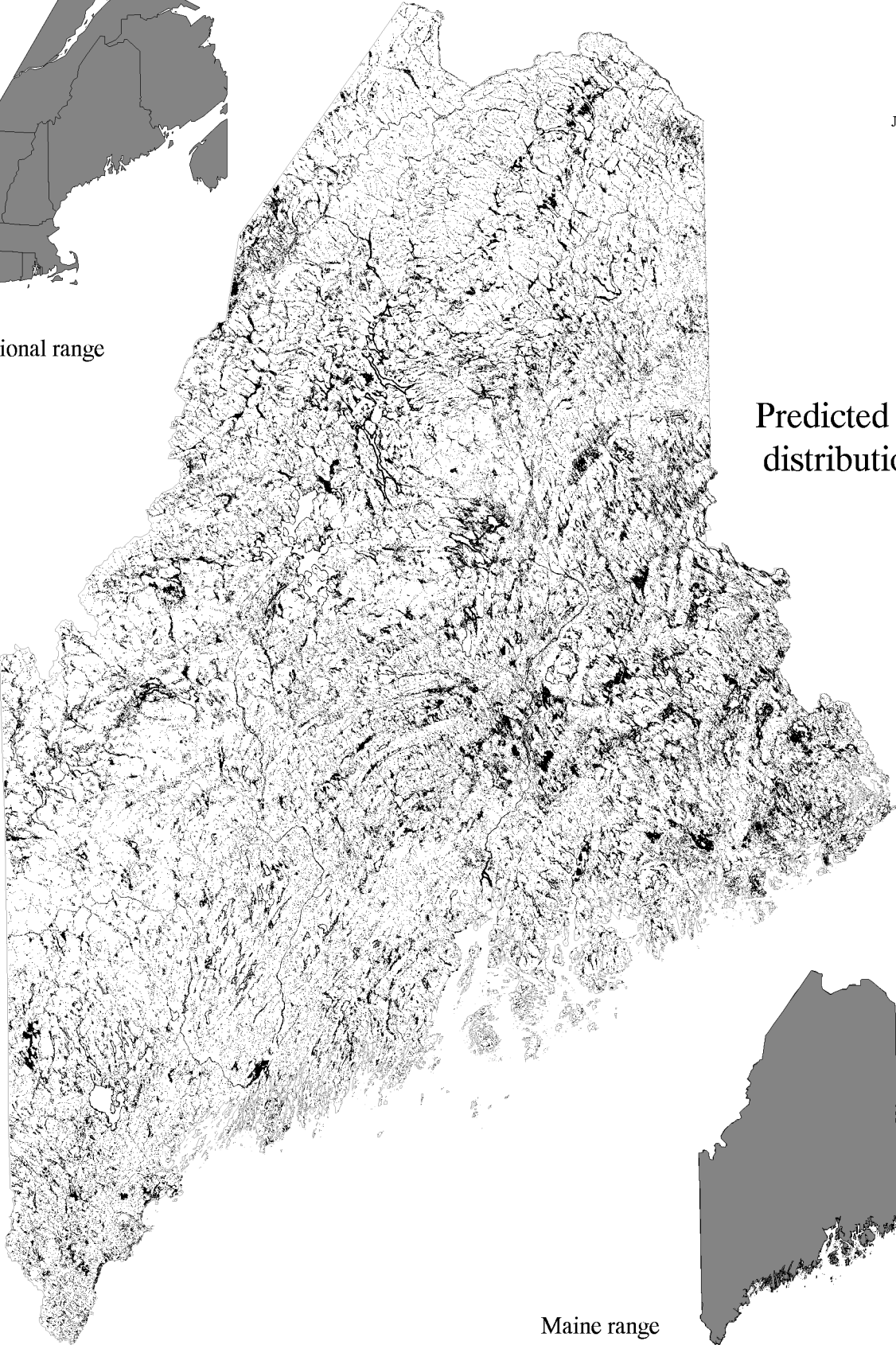
Maine range

American Black Duck

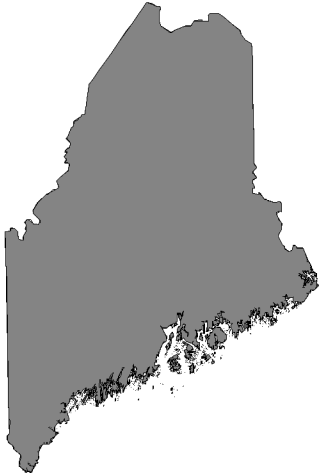
ANRU
June 1998



Regional range



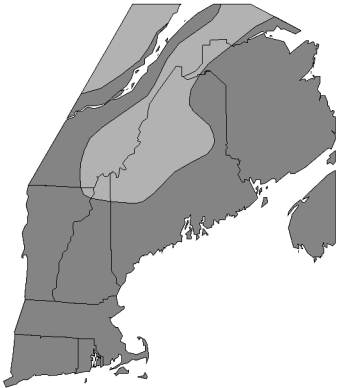
Predicted
distribution



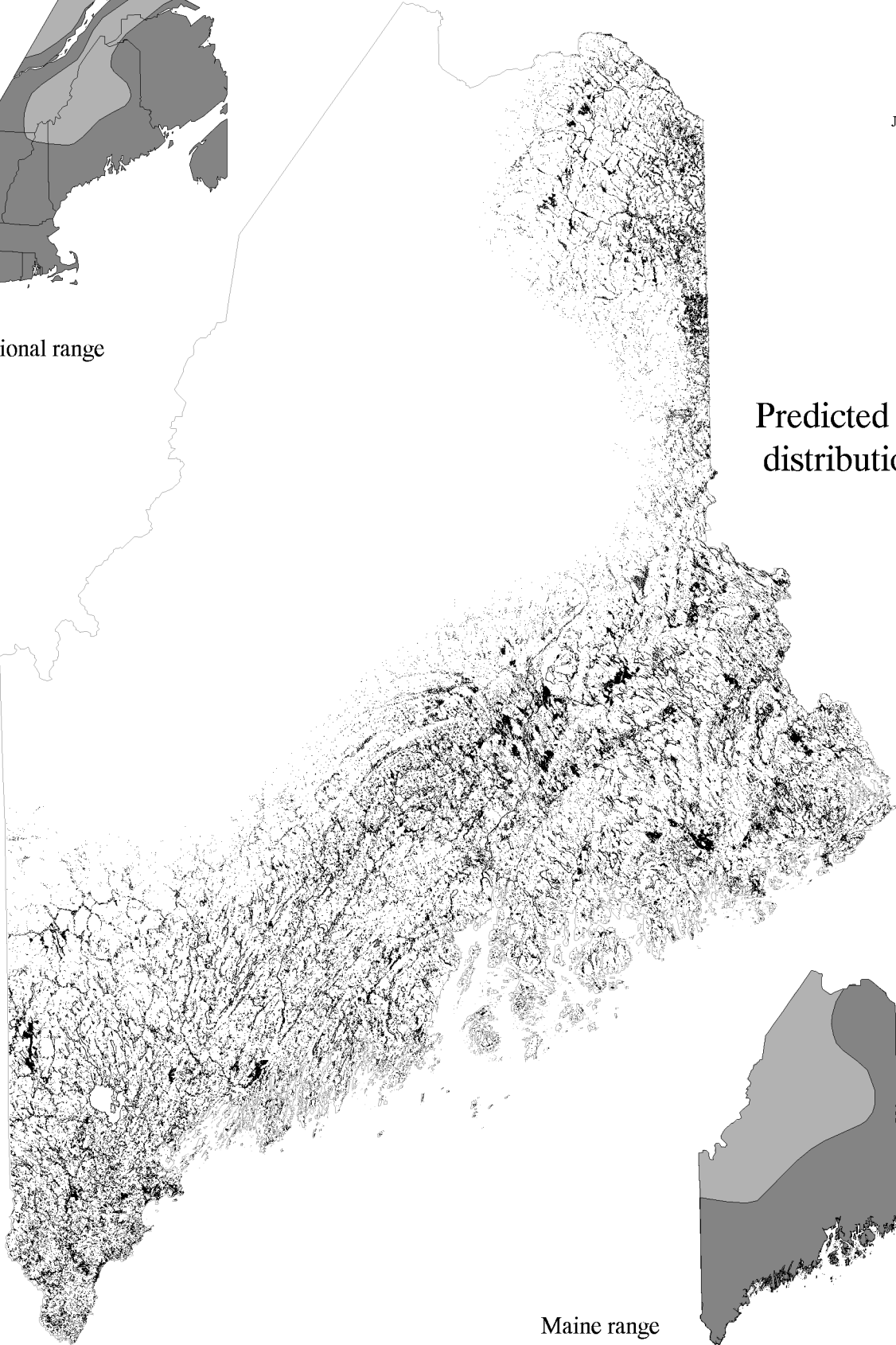
Maine range

Blue-winged Teal

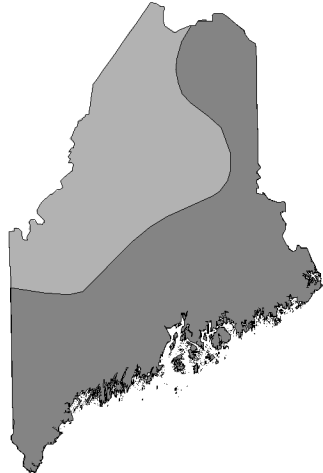
ANDI
June 1998



Regional range



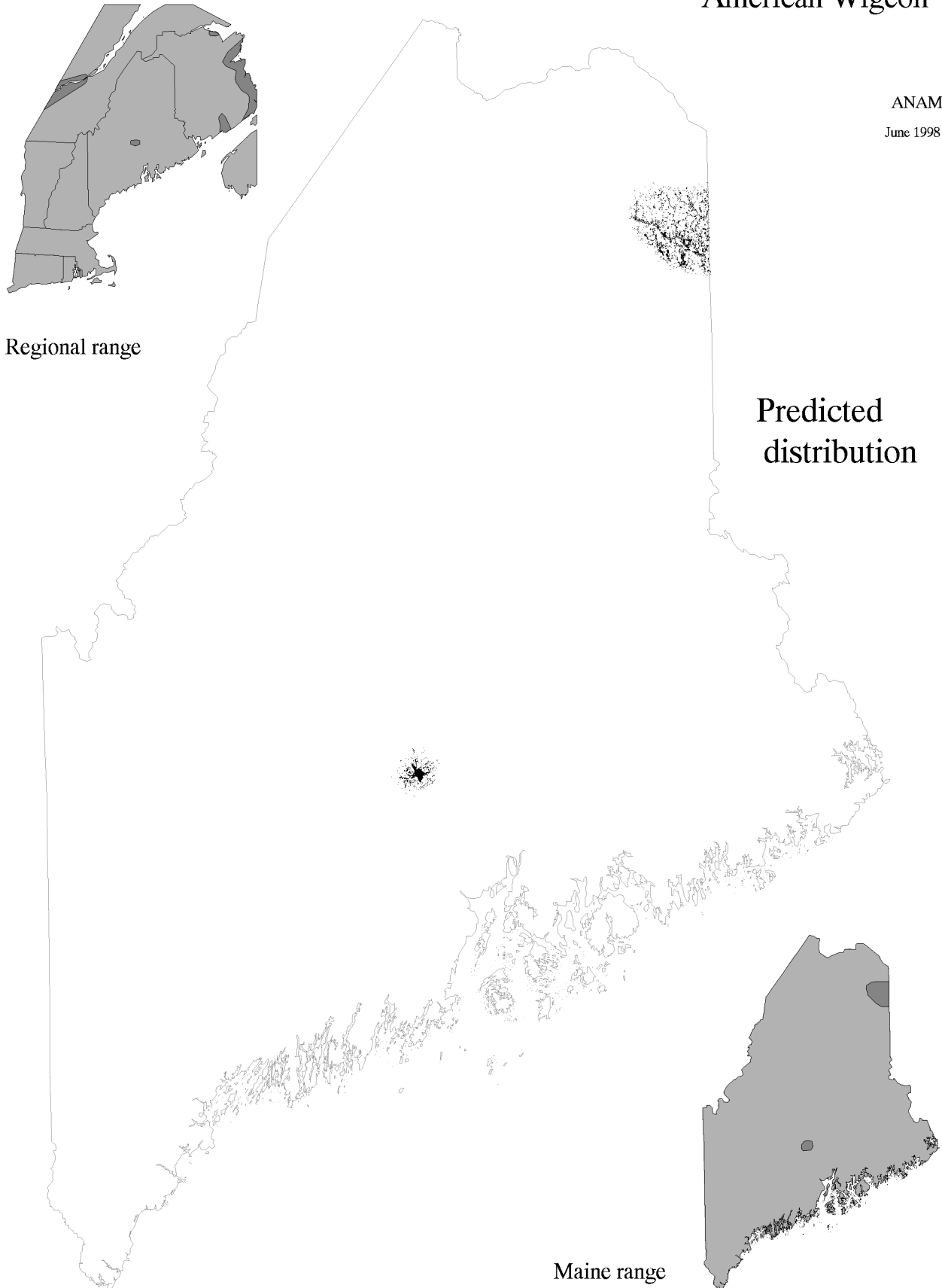
Predicted distribution



Maine range

American Wigeon

ANAM
June 1998



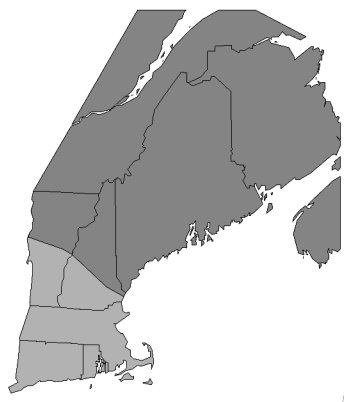
Regional range

Predicted
distribution

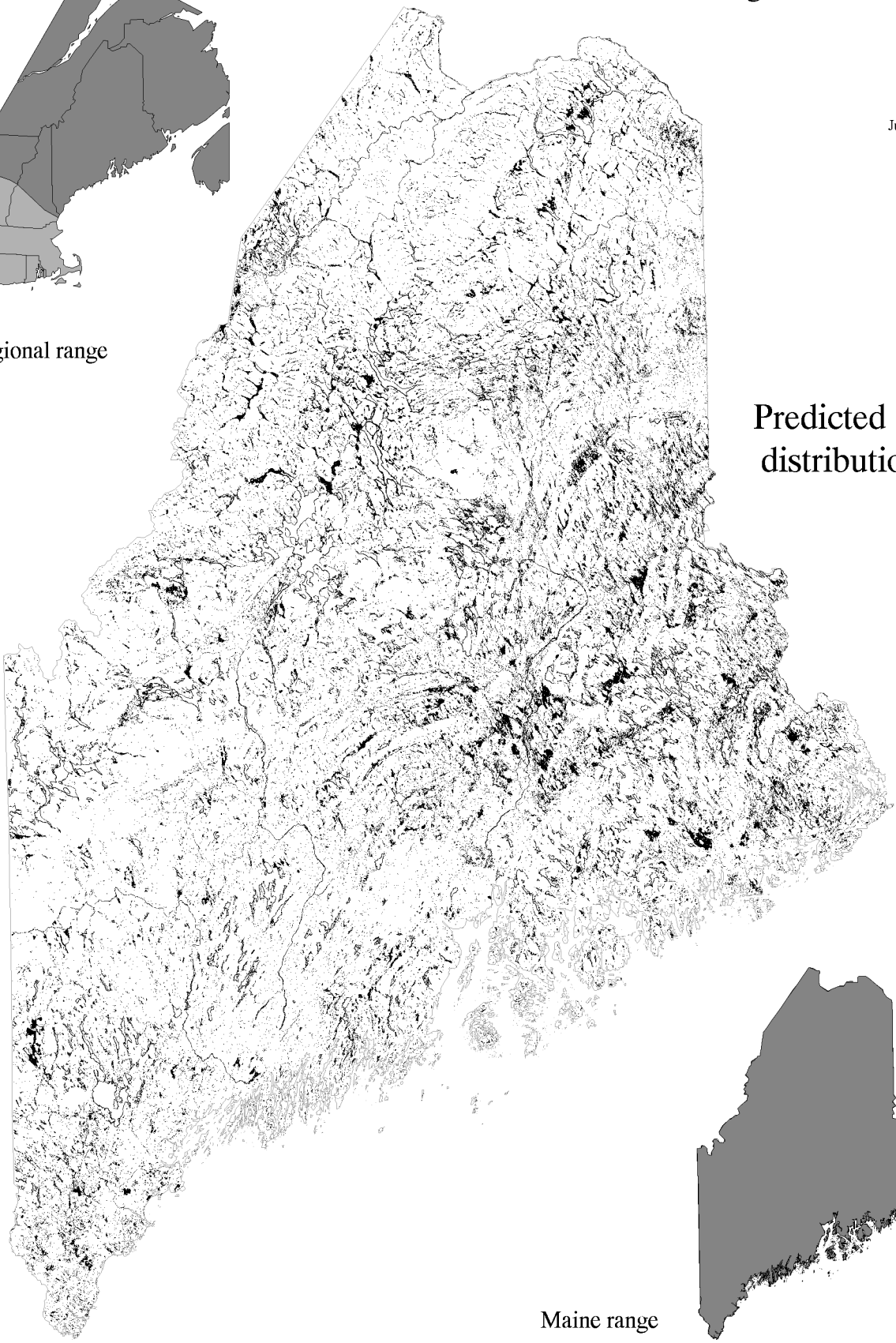
Maine range

Ring-necked Duck

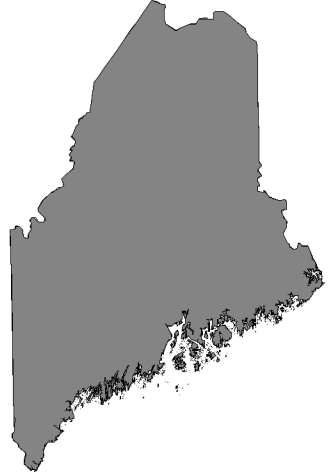
AYCO
June 1998



Regional range



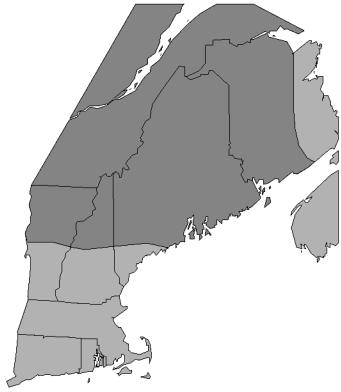
Predicted distribution



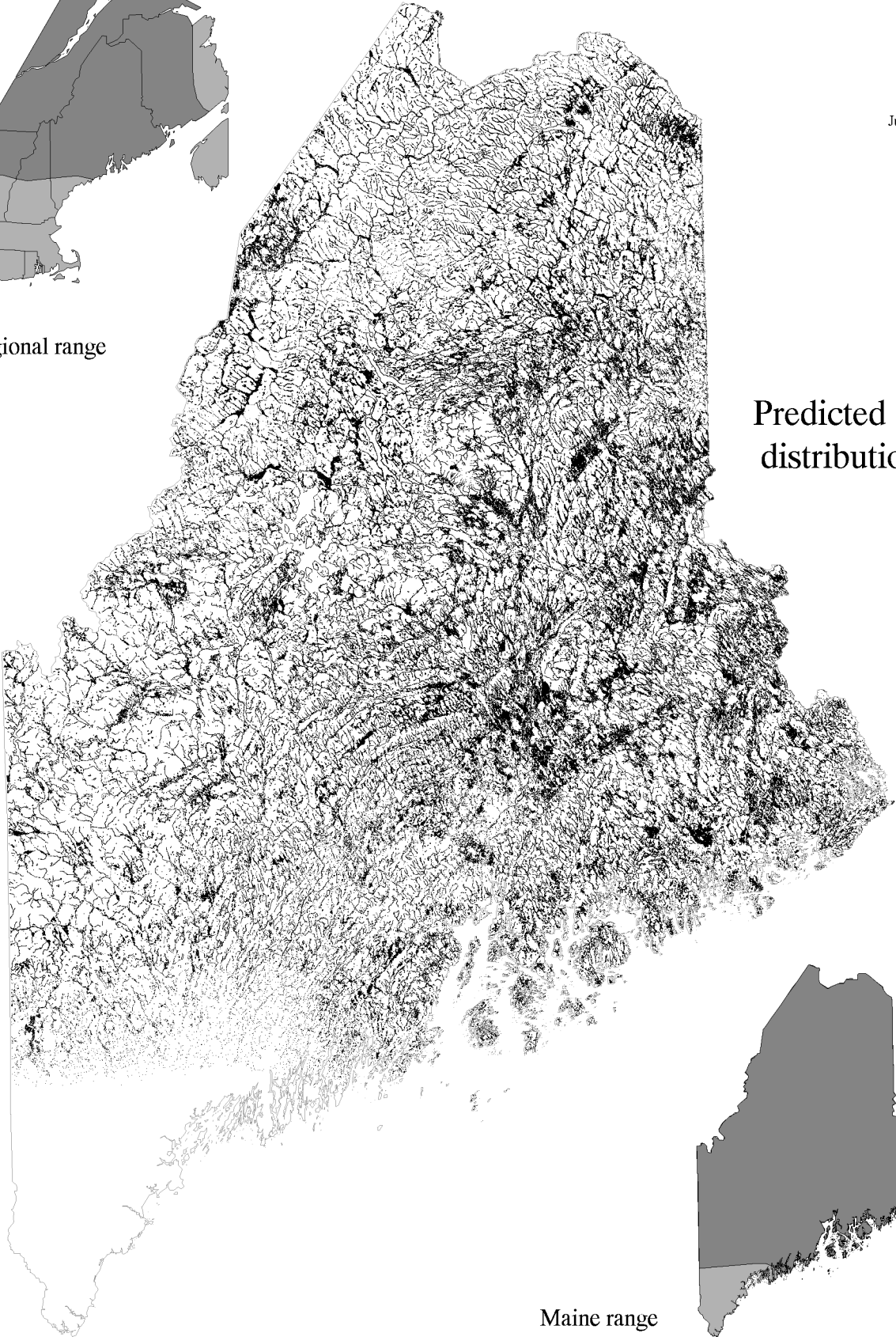
Maine range

Common Goldeneye

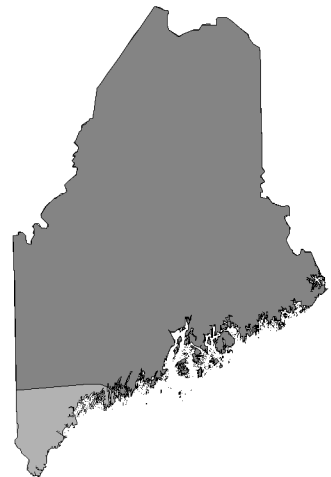
BUCL
June 1998



Regional range



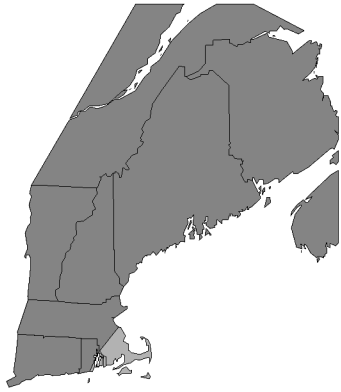
Predicted
distribution



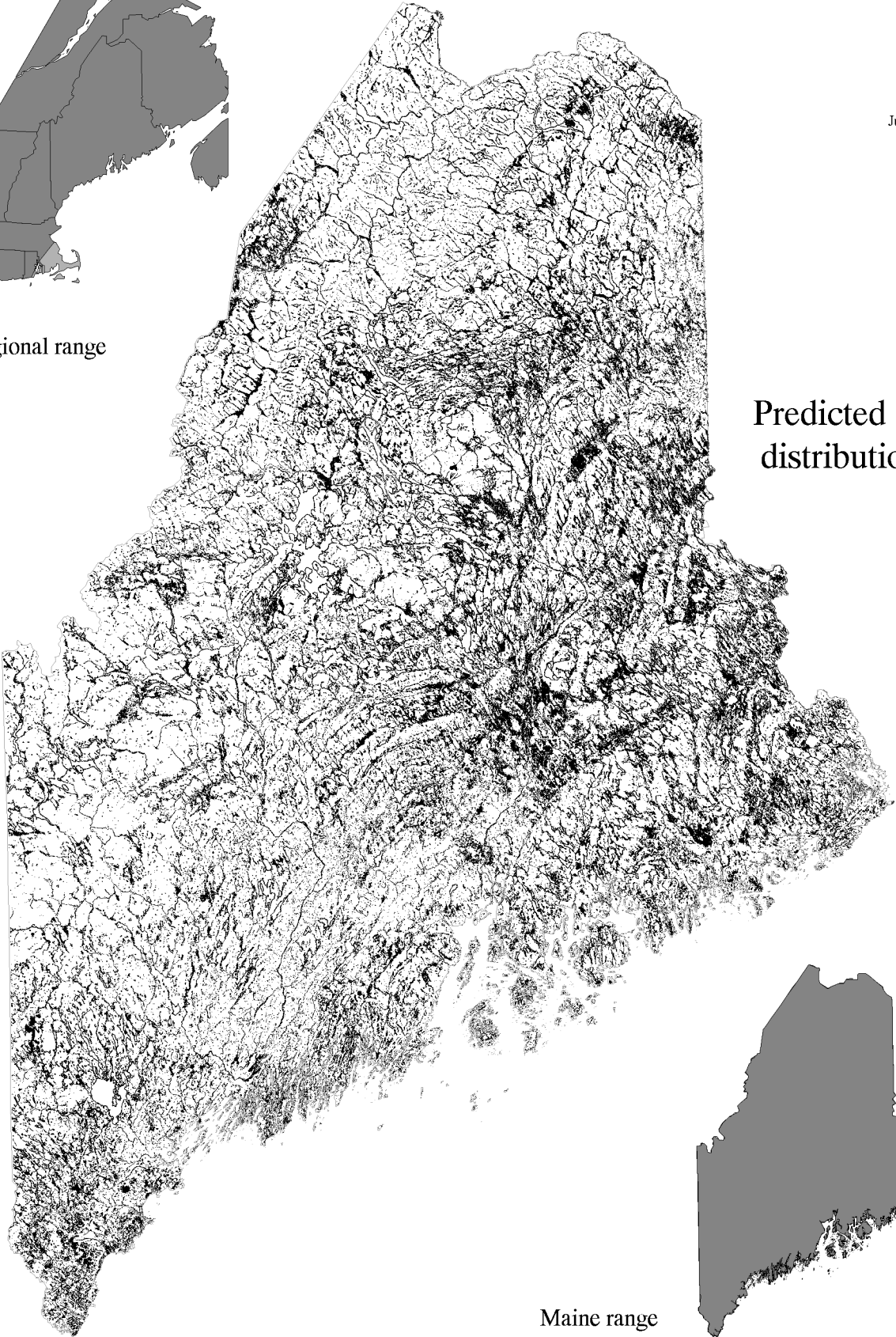
Maine range

Hooded Merganser

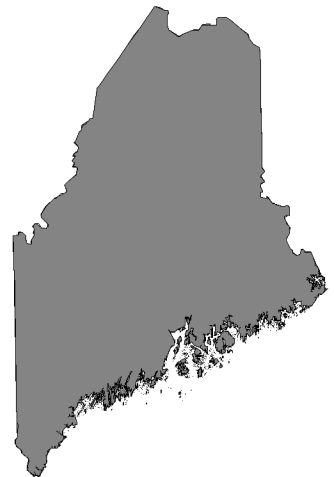
LOCU
June 1998



Regional range



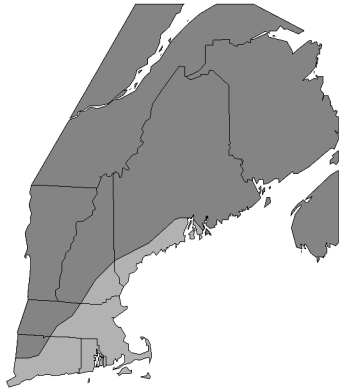
Predicted
distribution



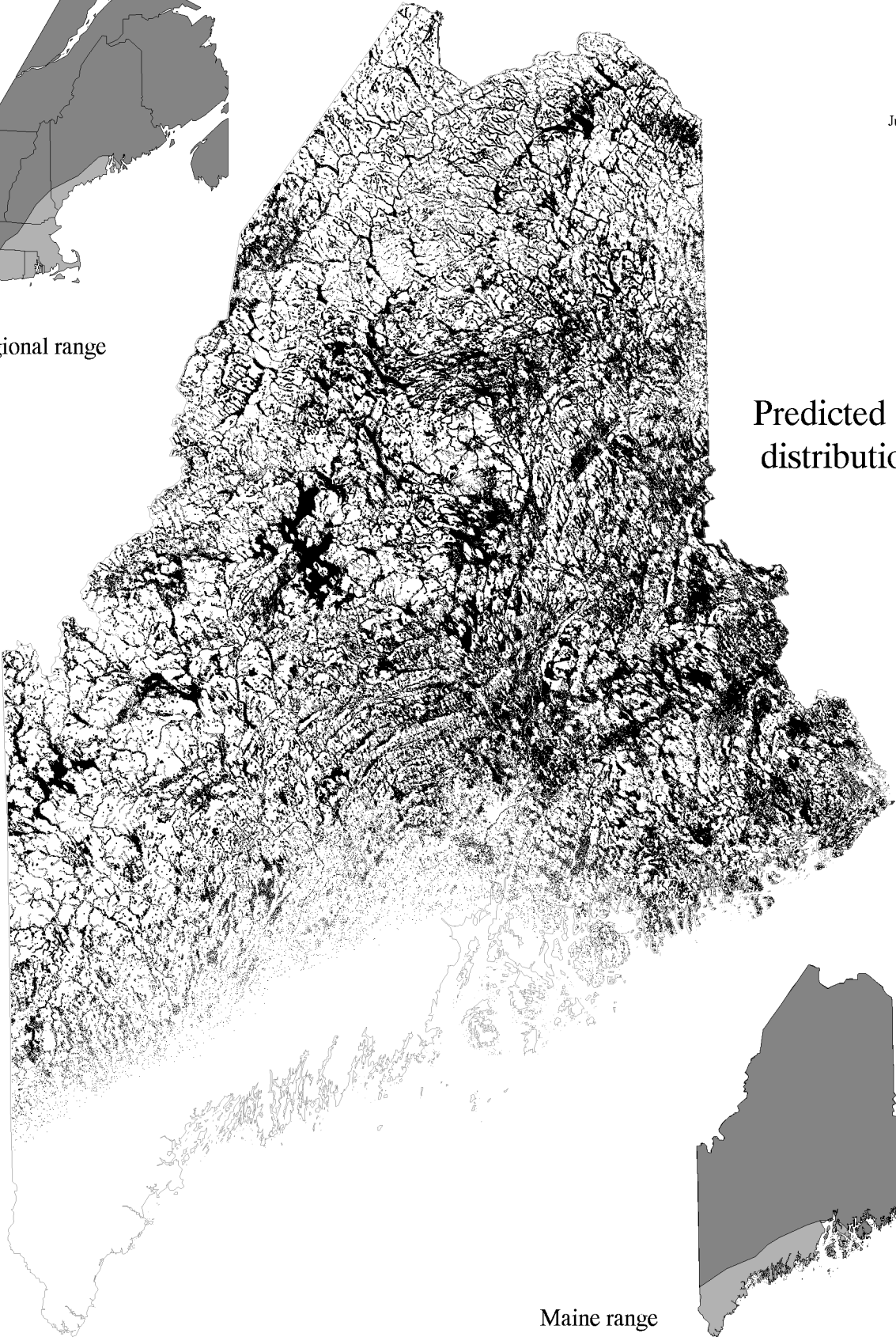
Maine range

Common Merganser

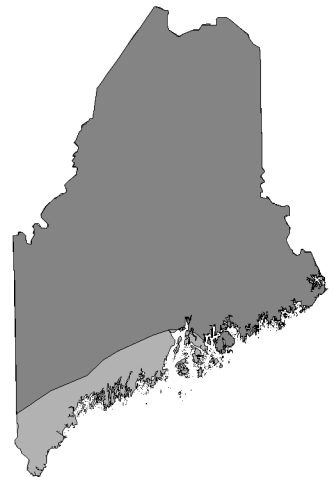
MEME
June 1998



Regional range



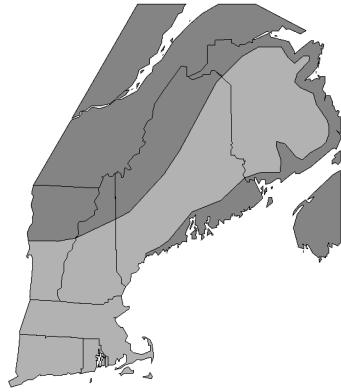
Predicted
distribution



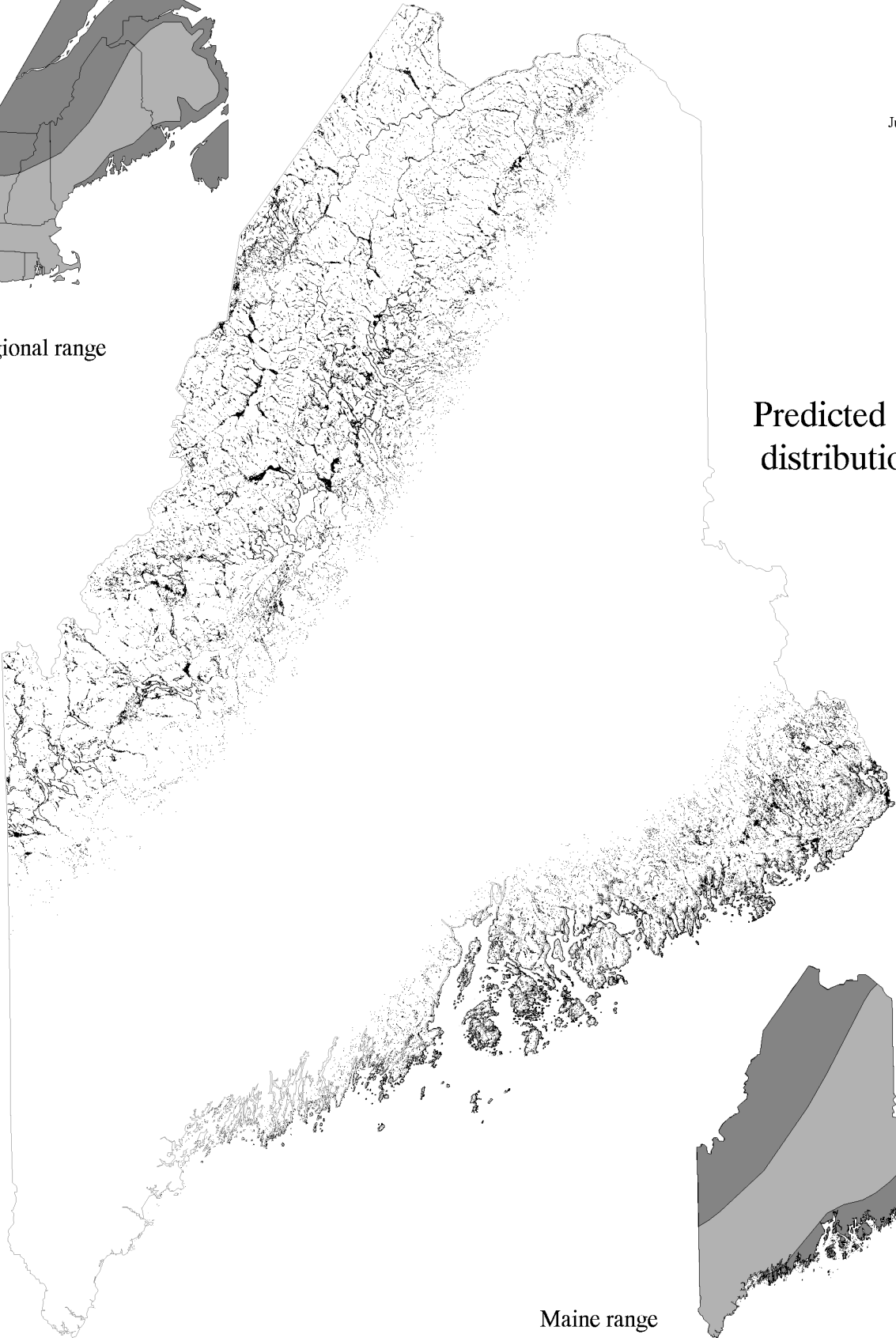
Maine range

Red-breasted Merganser

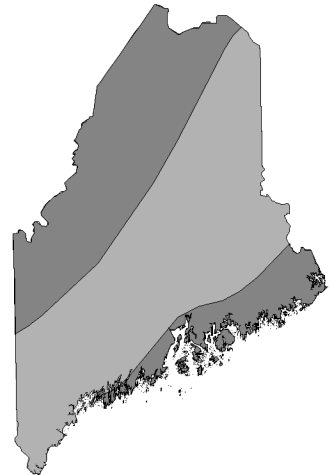
MESE
June 1998



Regional range



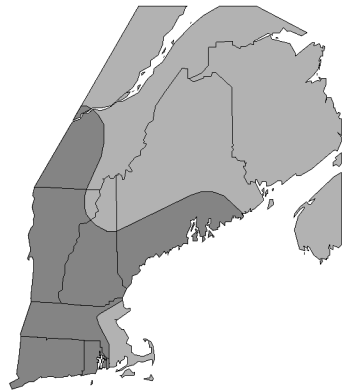
Predicted
distribution



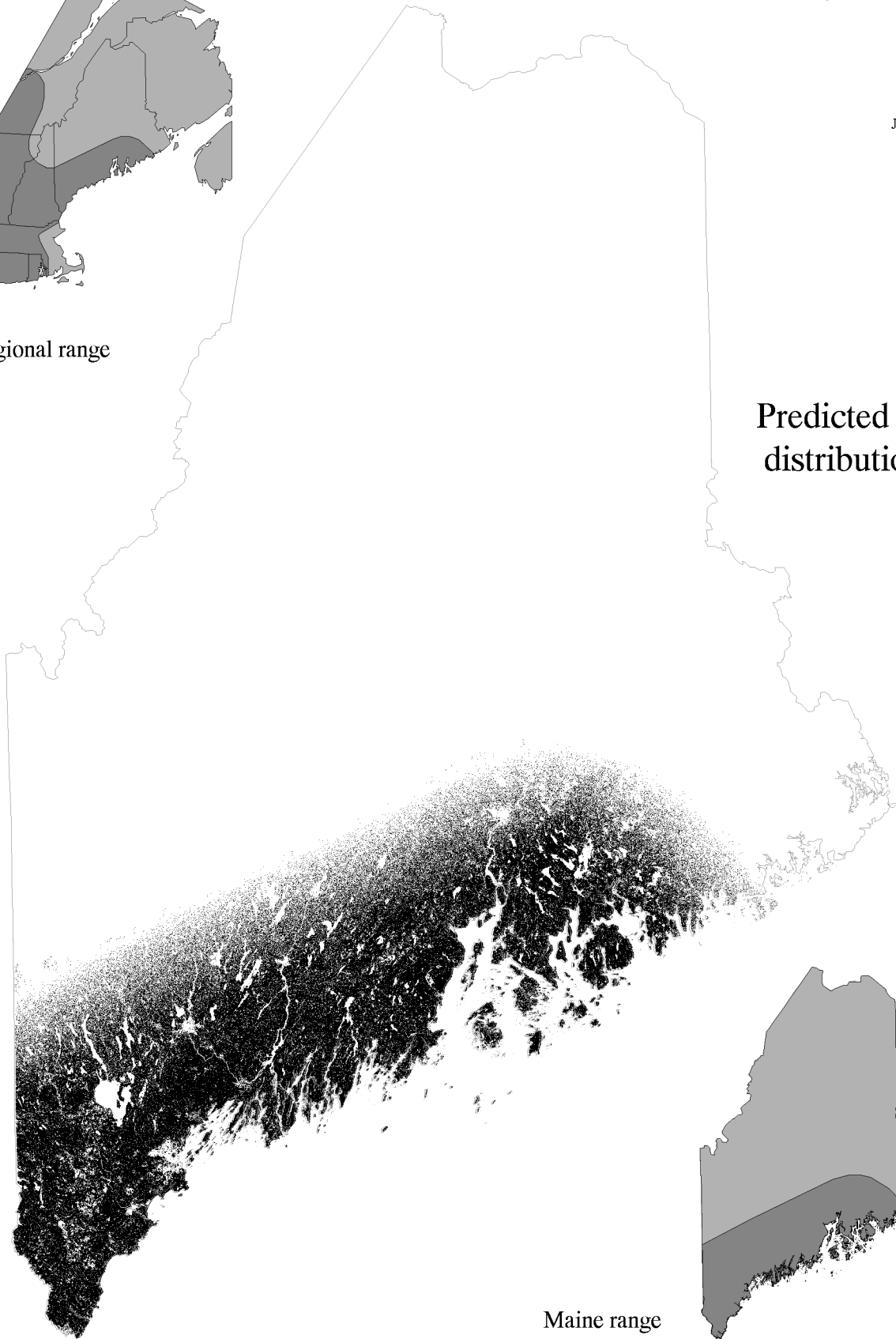
Maine range

Turkey Vulture

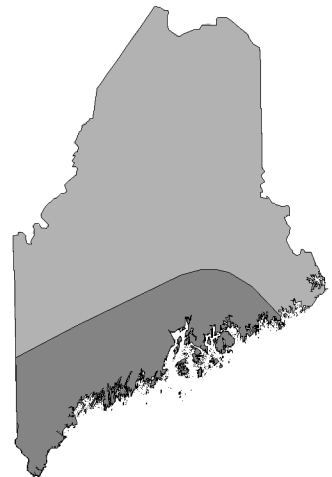
CAAU
June 1998



Regional range



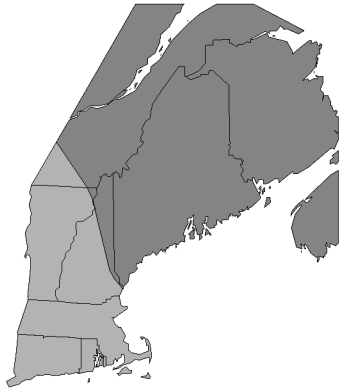
Predicted
distribution



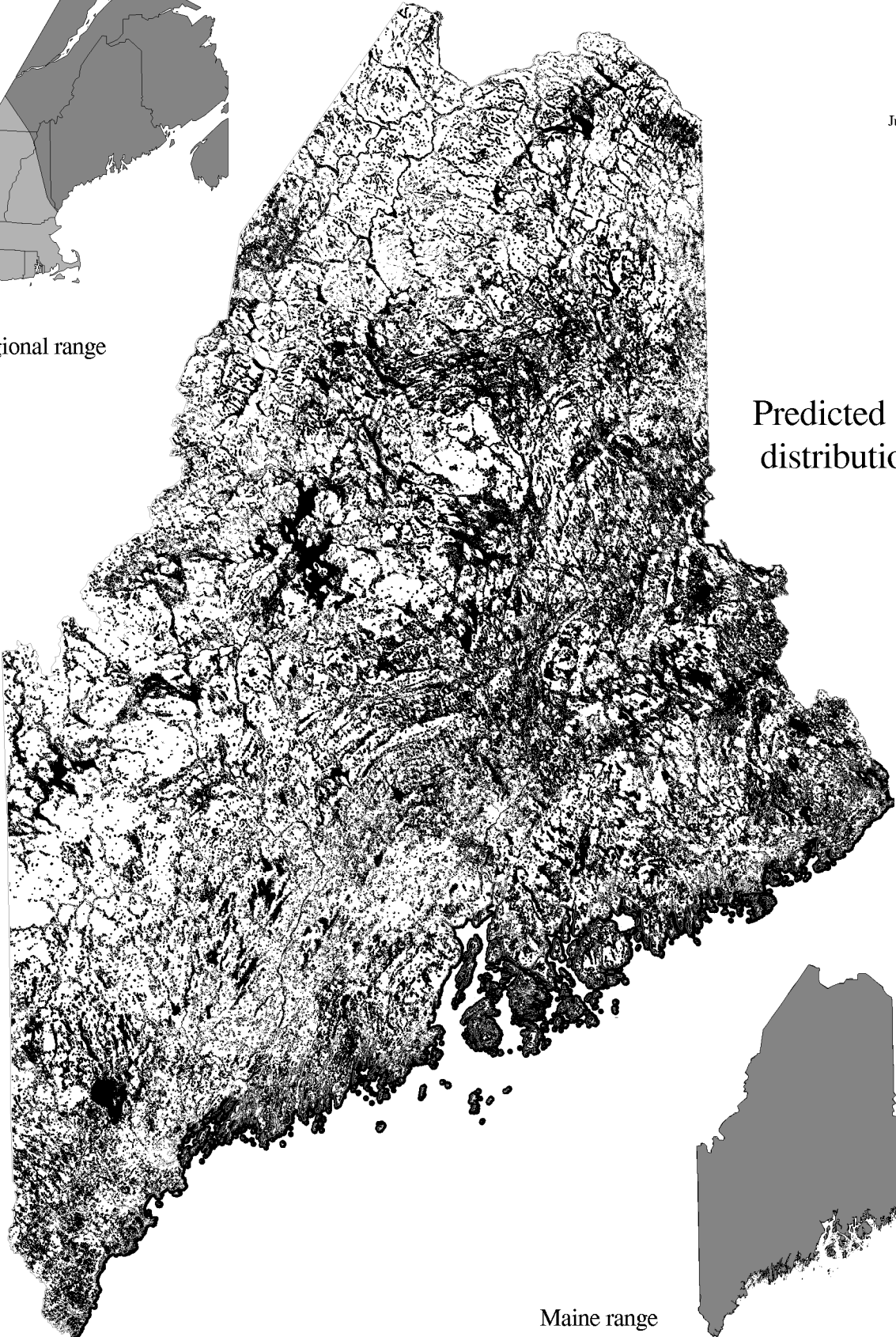
Maine range

Osprey

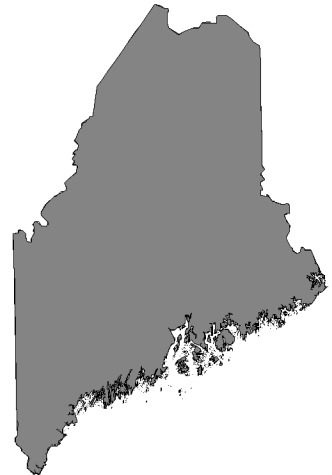
PAHA
June 1998



Regional range



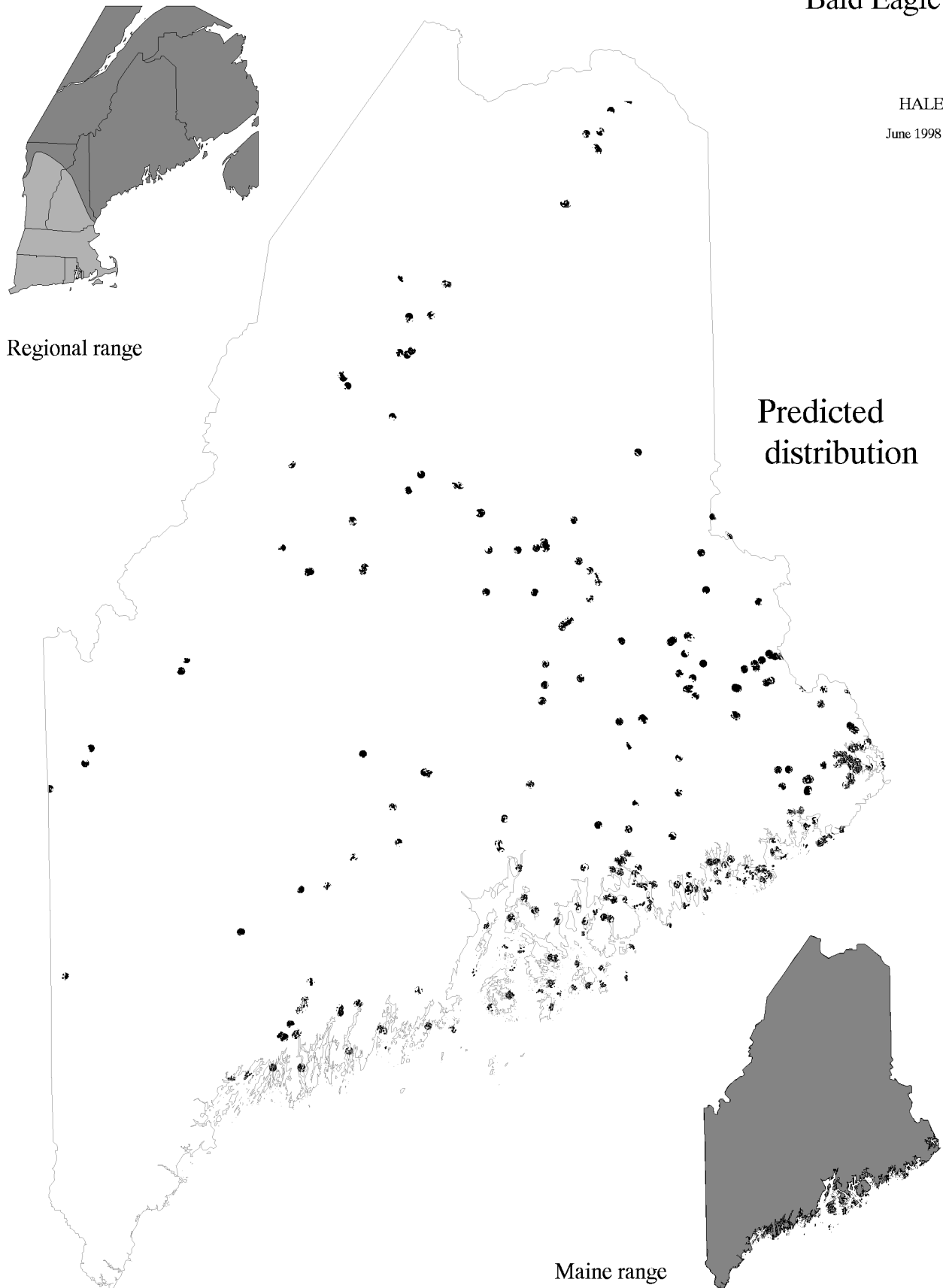
Predicted
distribution



Maine range

Bald Eagle

HALE
June 1998

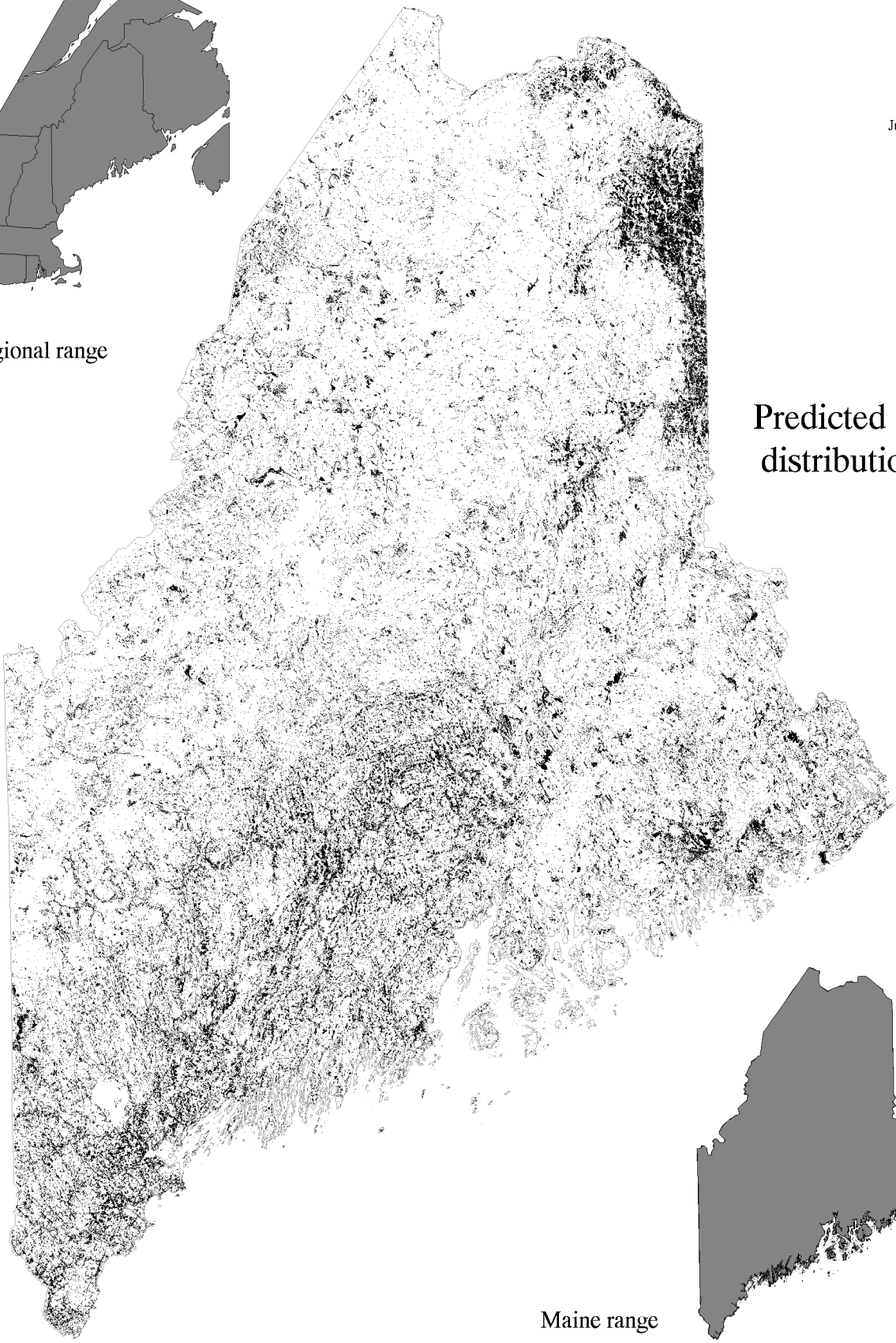


Northern Harrier

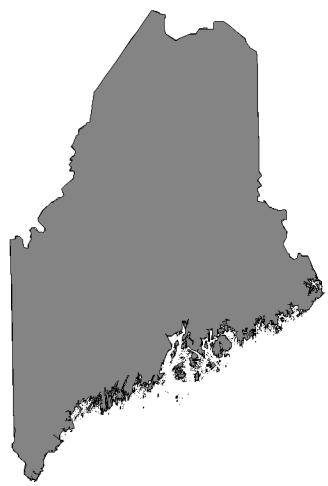
CICY
June 1998



Regional range



Predicted
distribution



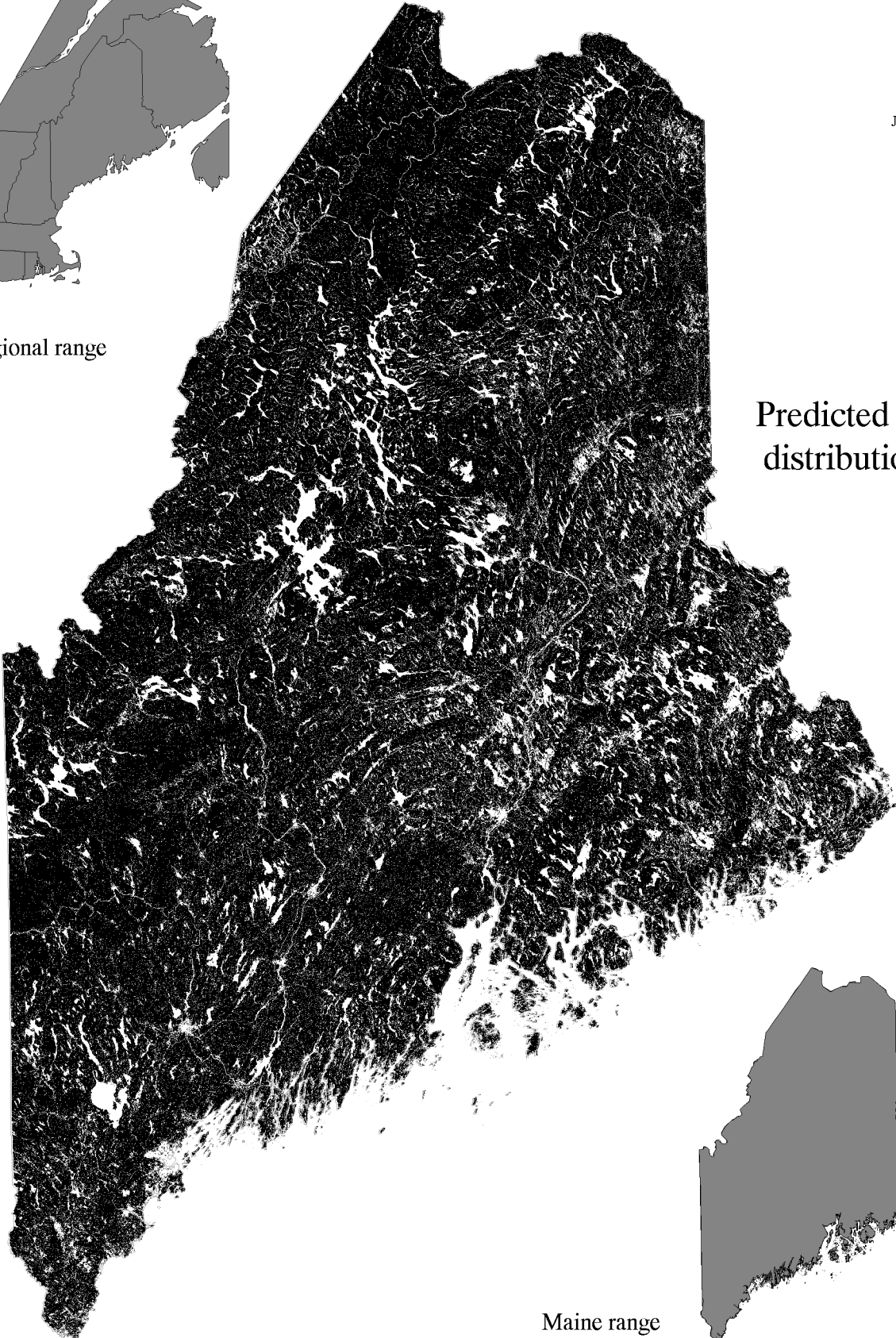
Maine range

Sharp-shinned Hawk

ACST
June 1998



Regional range



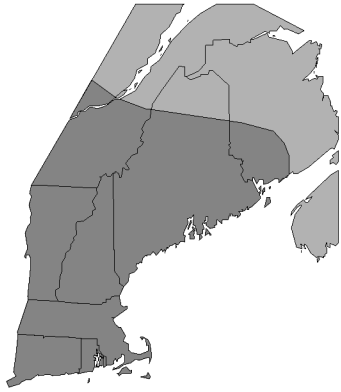
Predicted
distribution



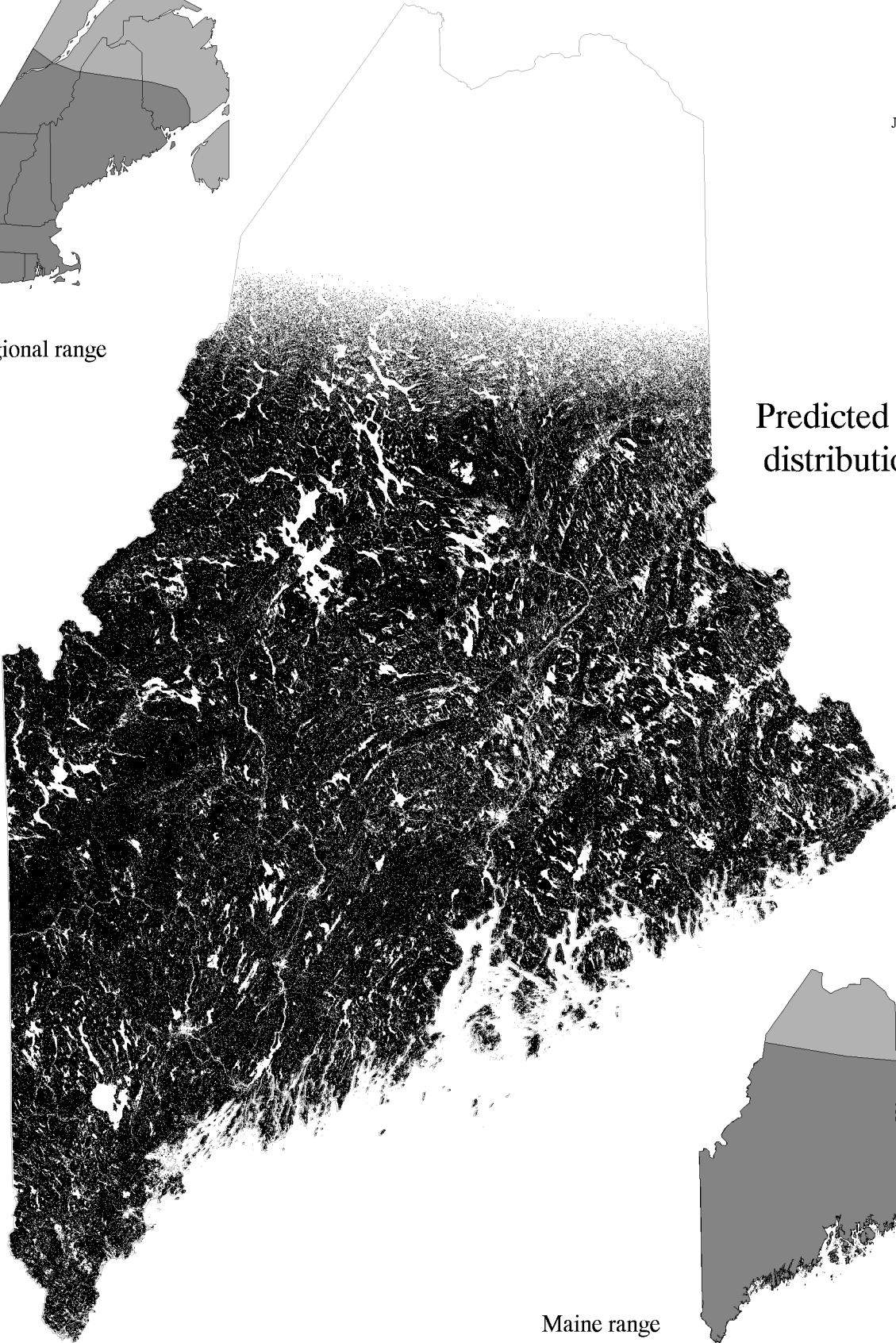
Maine range

Cooper's Hawk

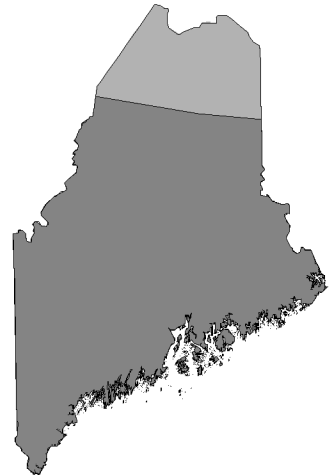
ACCO
June 1998



Regional range



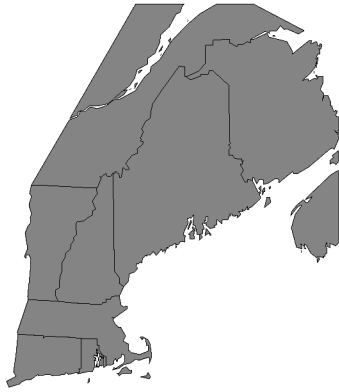
Predicted
distribution



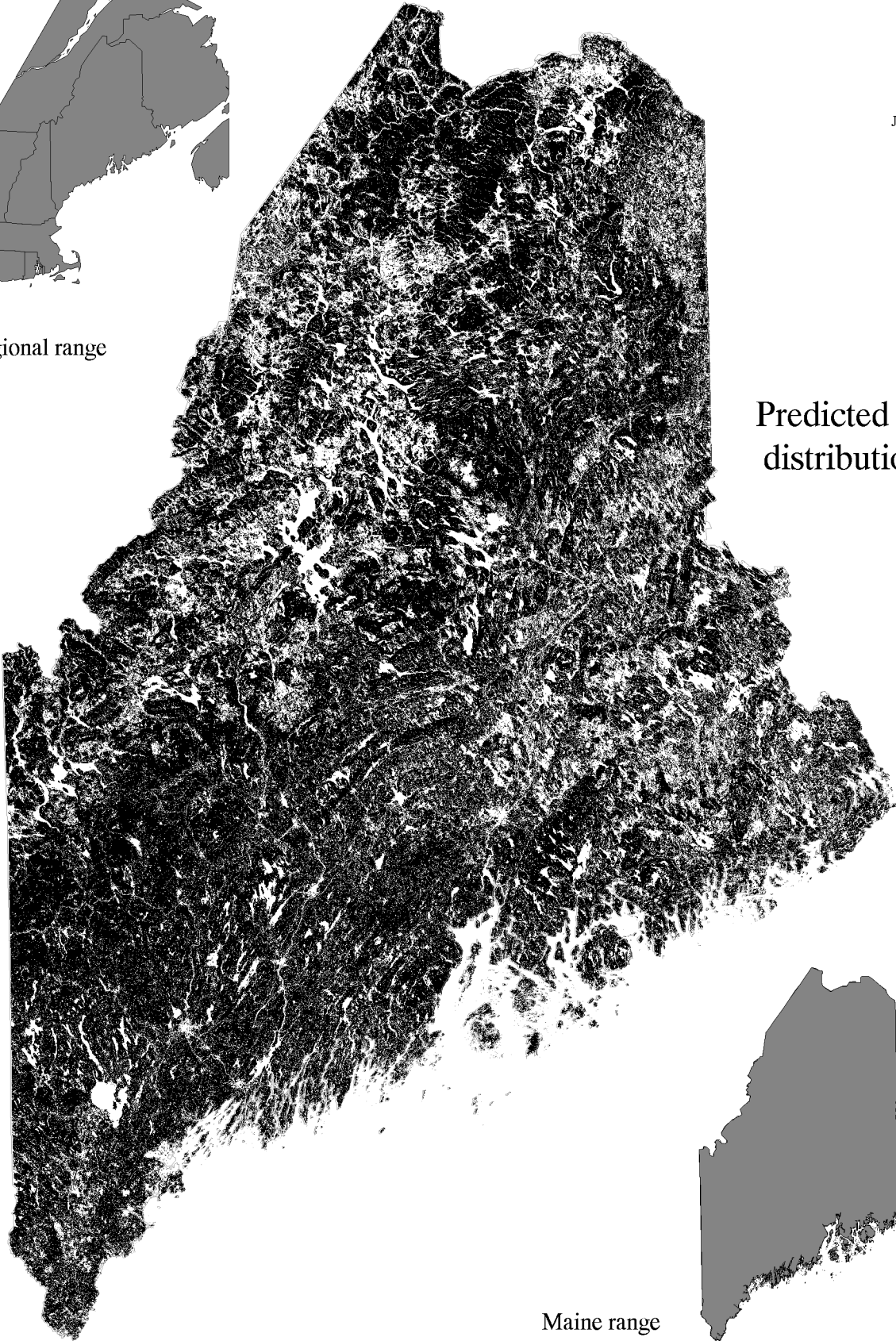
Maine range

Northern Goshawk

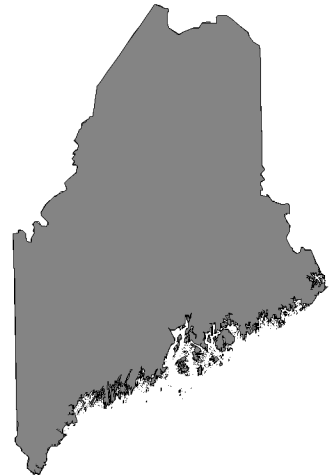
ACGE
June 1998



Regional range



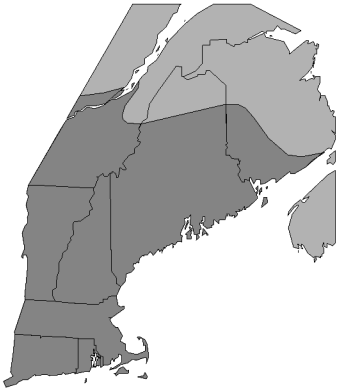
Predicted
distribution



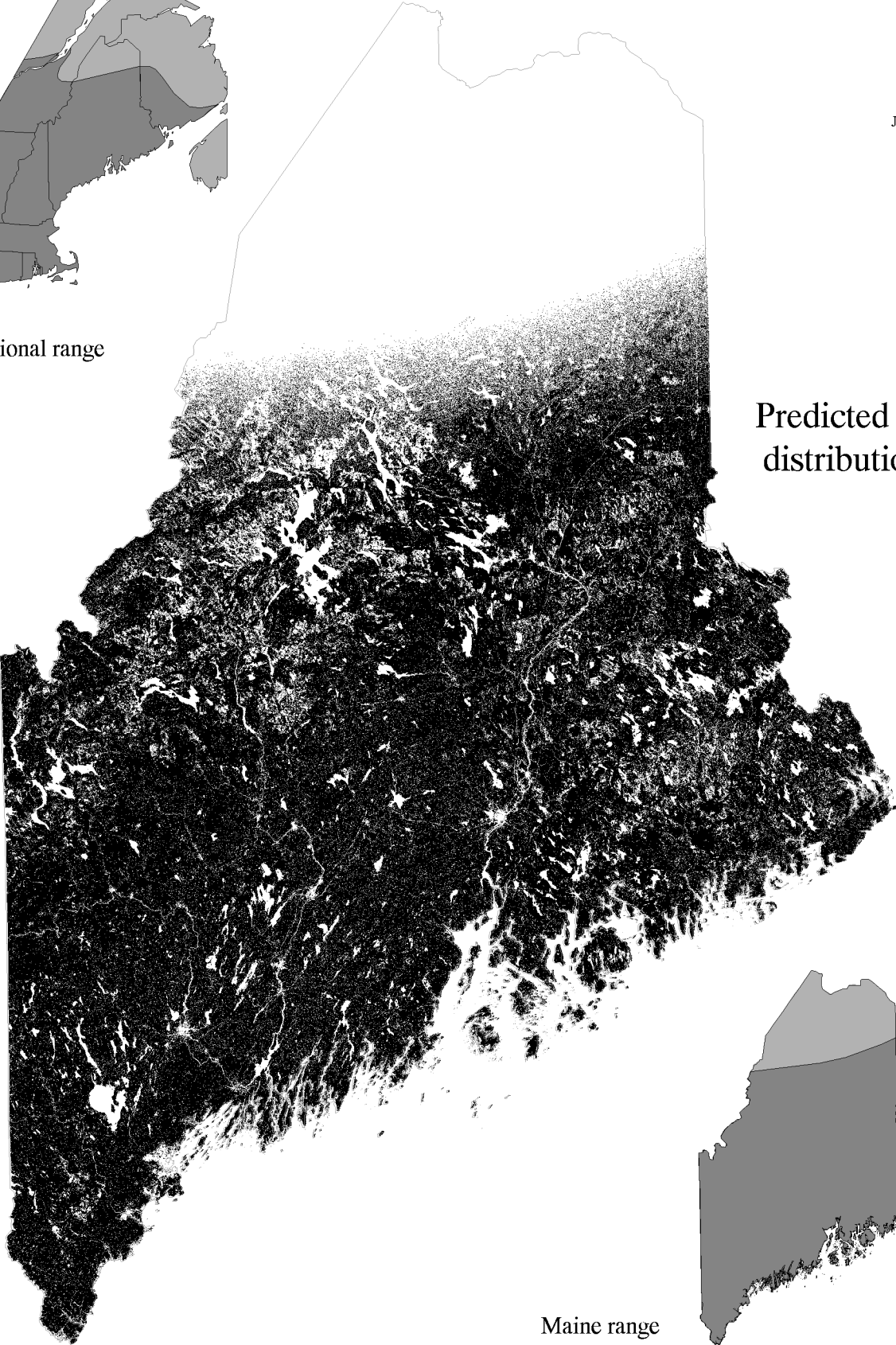
Maine range

Red-shouldered Hawk

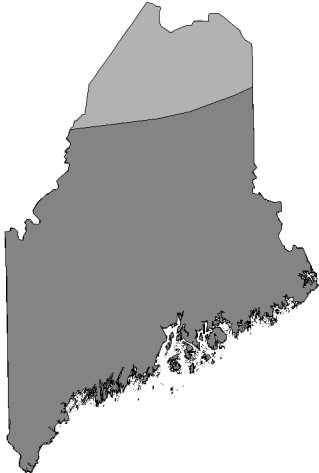
BULI
June 1998



Regional range



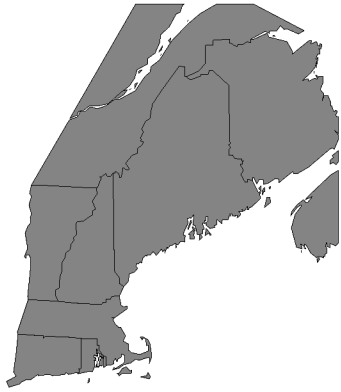
Predicted distribution



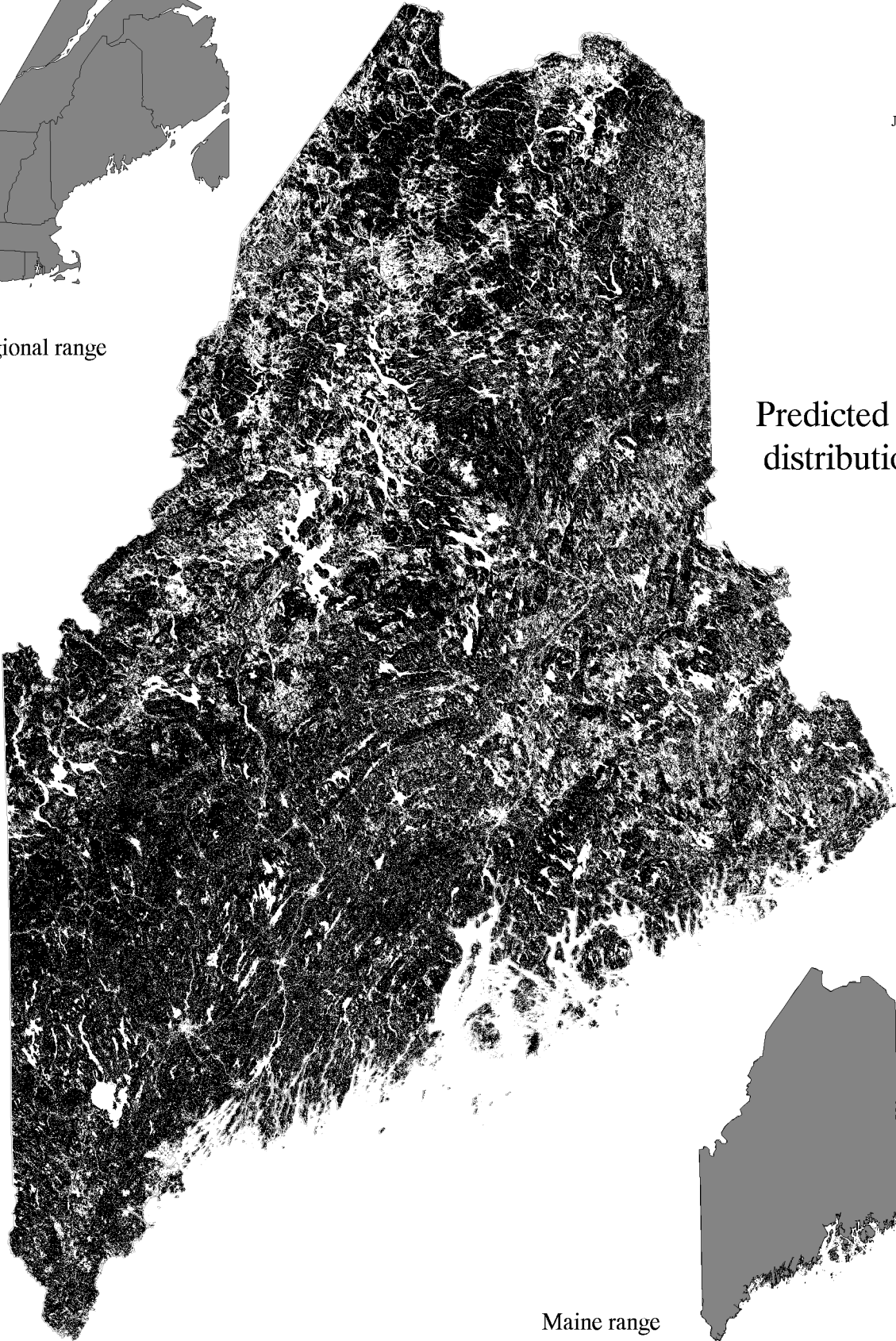
Maine range

Broad-winged Hawk

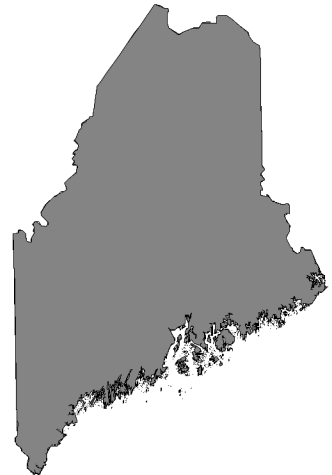
BUPL
June 1998



Regional range



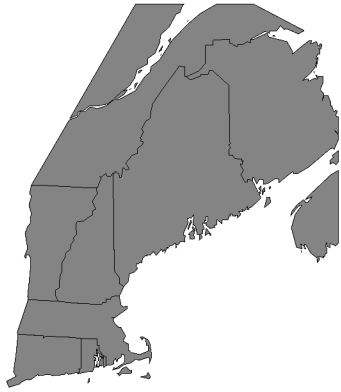
Predicted
distribution



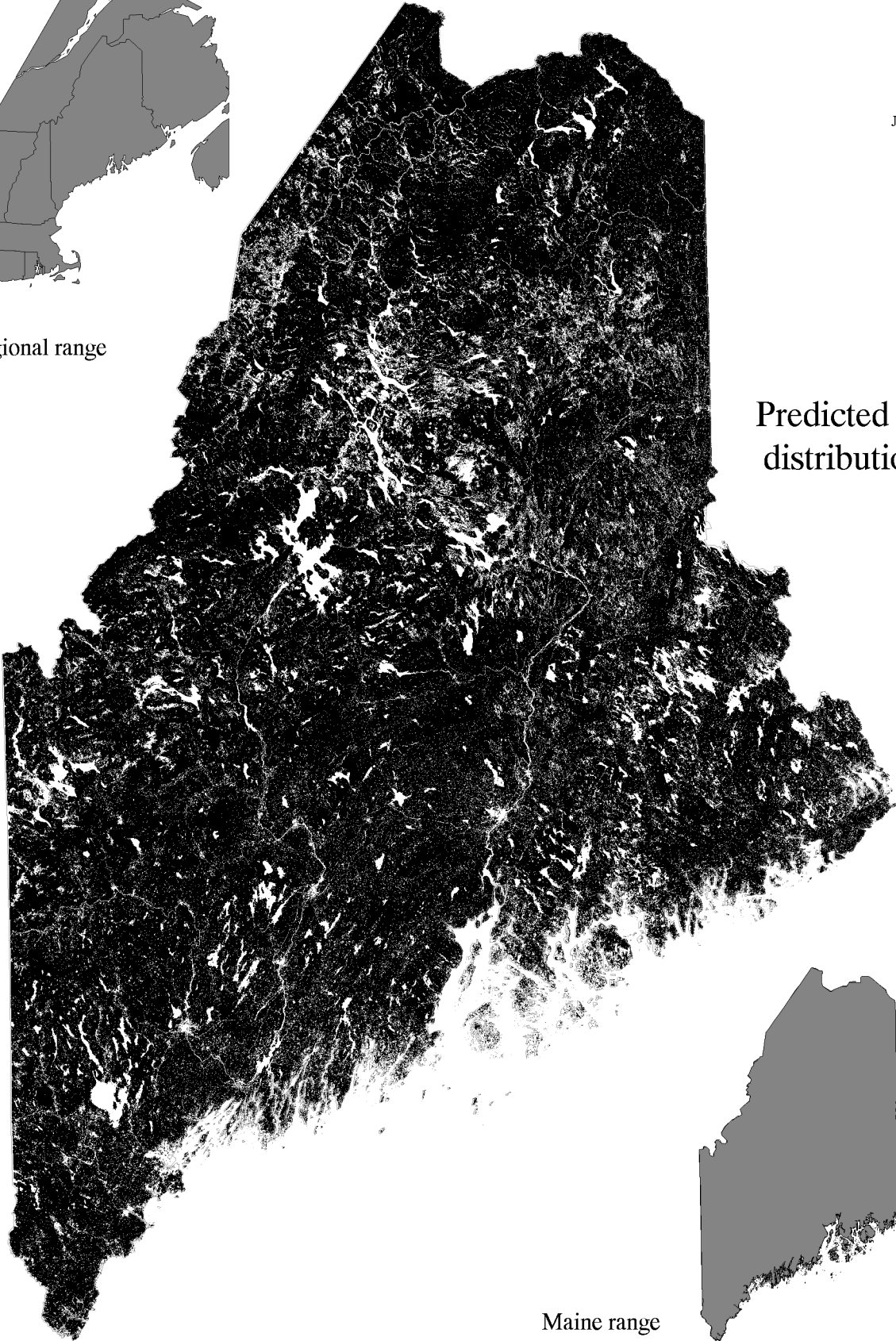
Maine range

Red-tailed Hawk

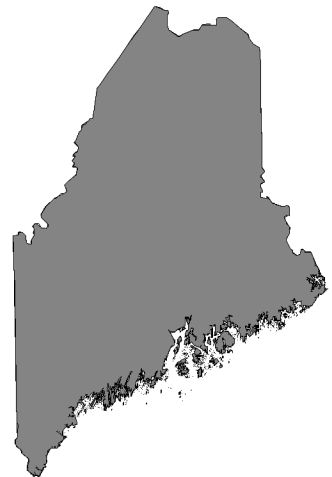
BUJA
June 1998



Regional range



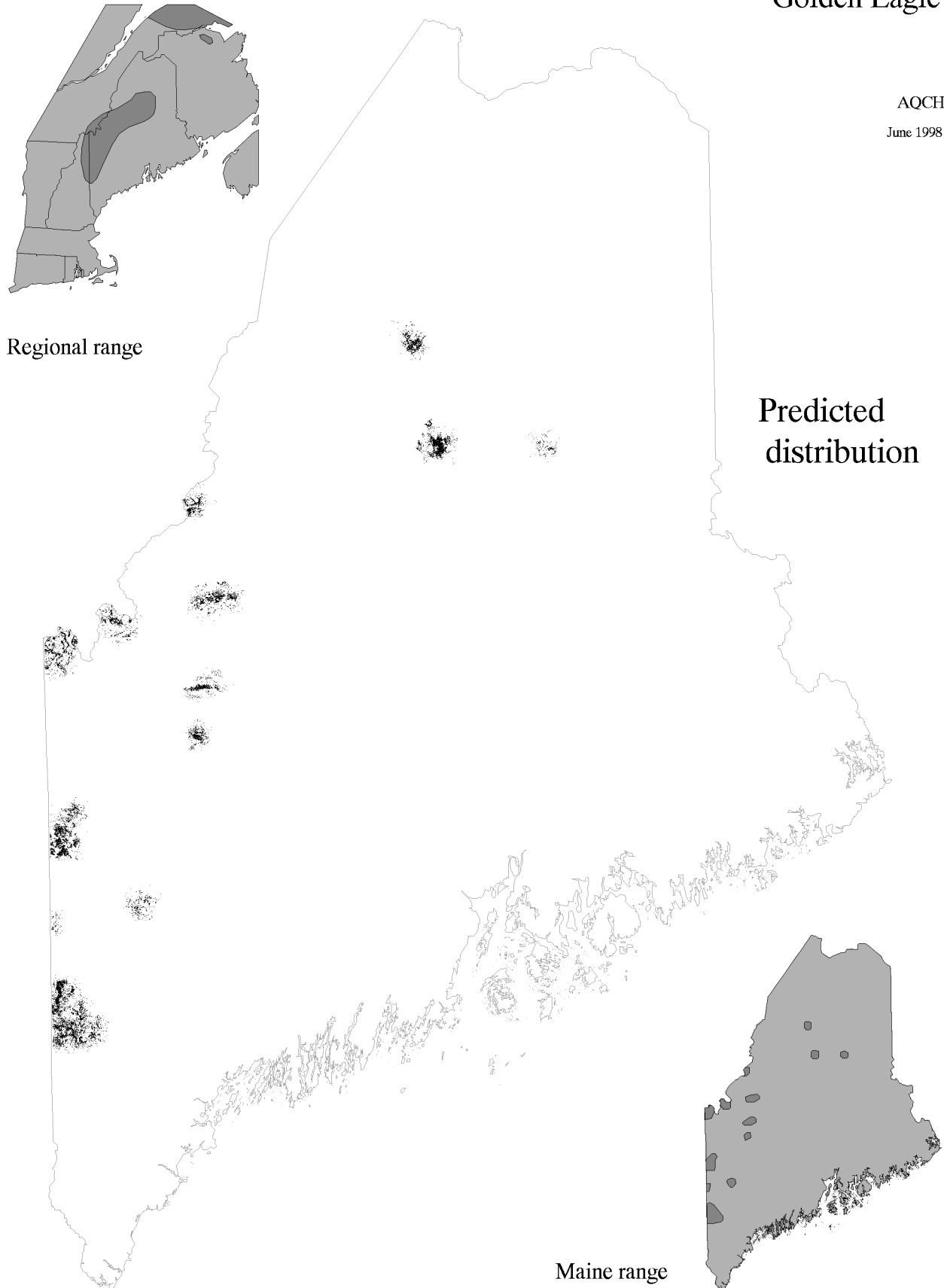
Predicted
distribution



Maine range

Golden Eagle

AQCH
June 1998



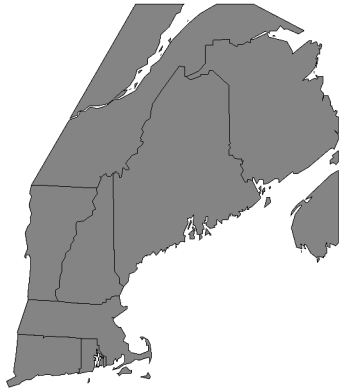
Regional range

Predicted
distribution

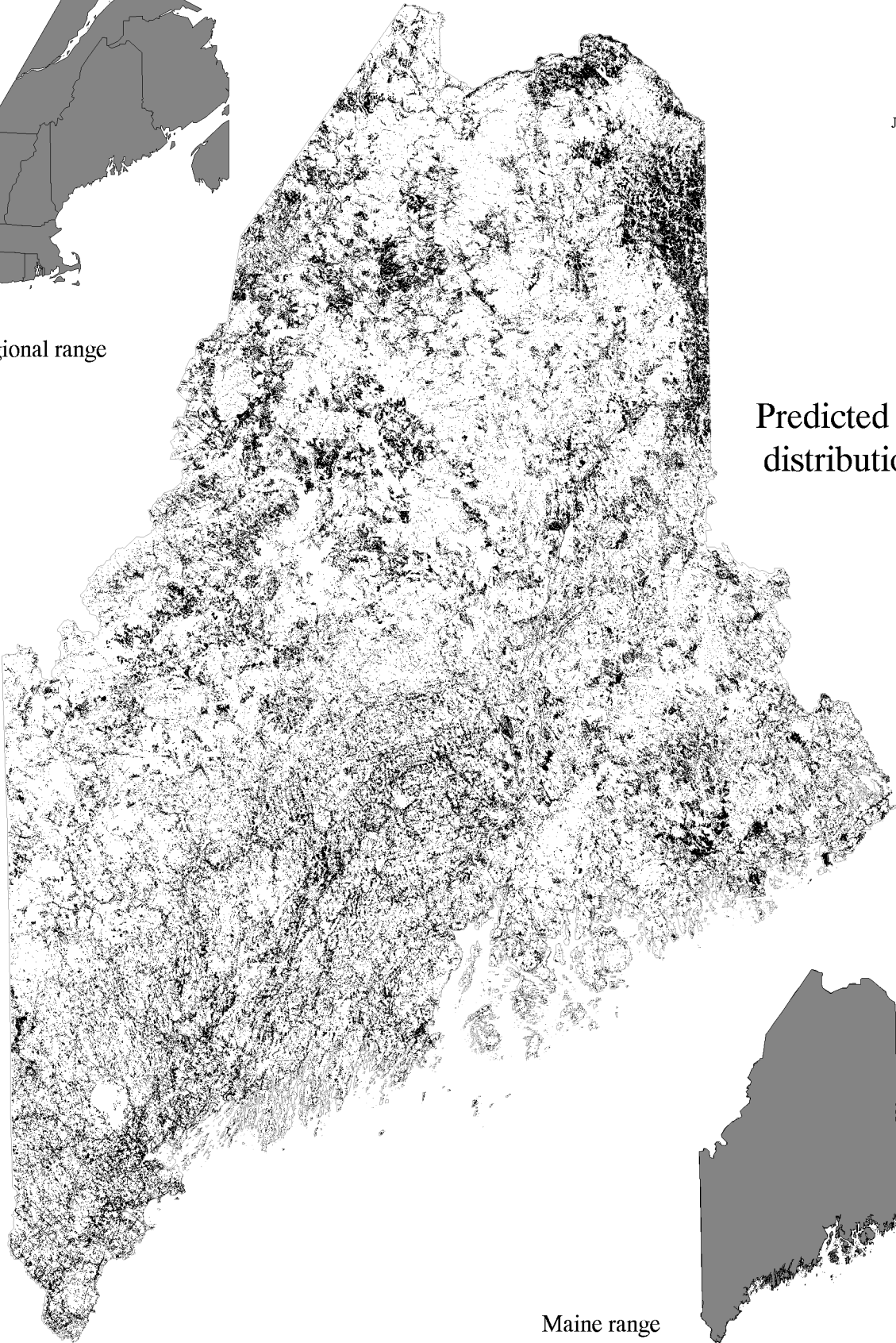
Maine range

American Kestrel

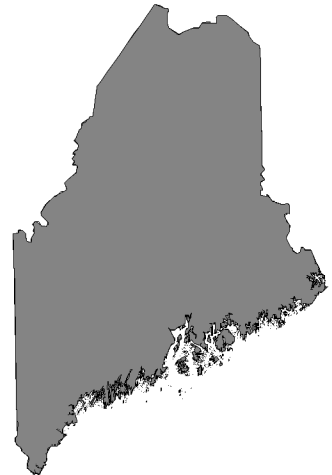
FASP
June 1998



Regional range



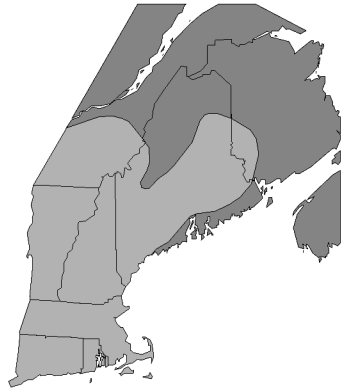
Predicted
distribution



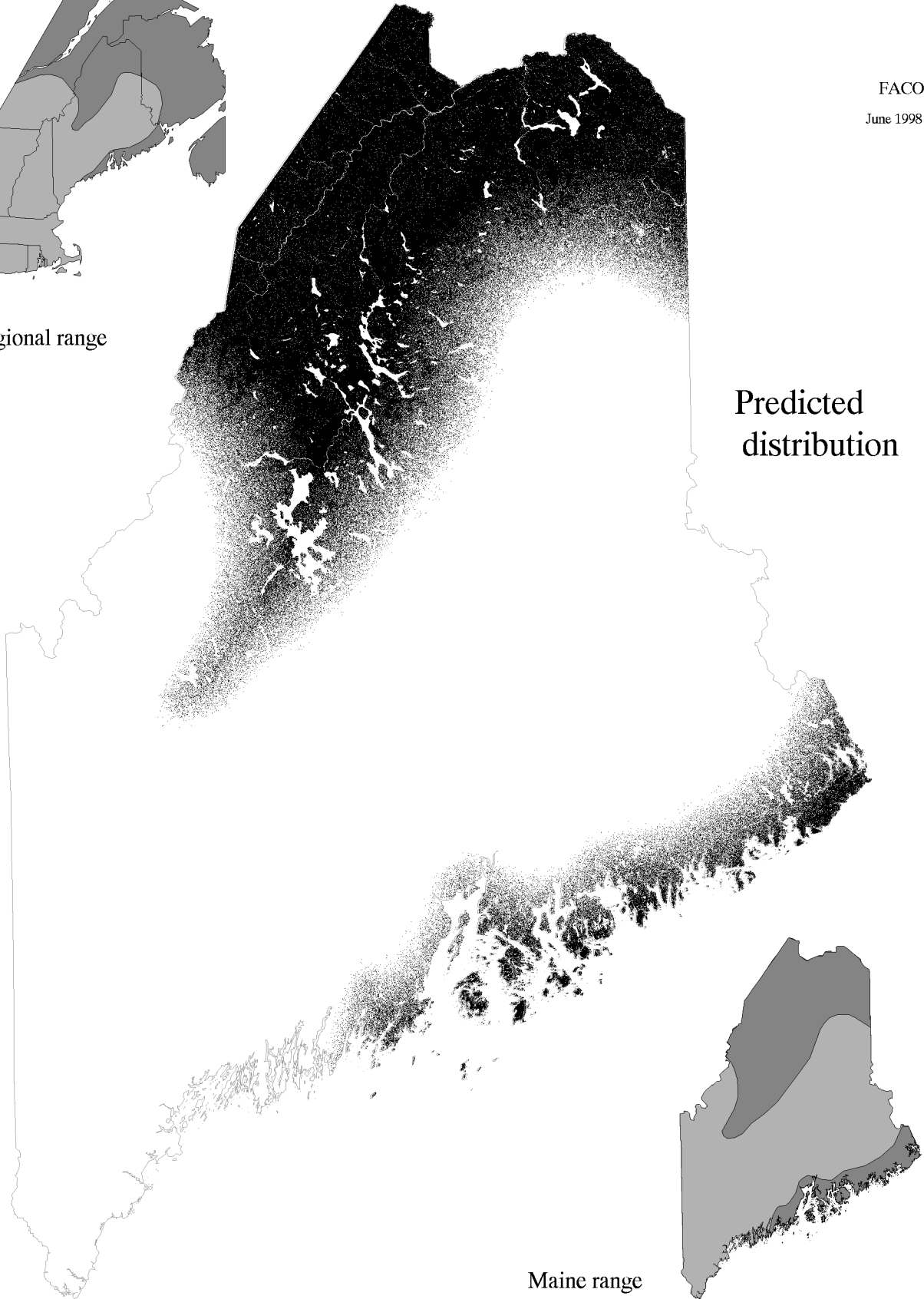
Maine range

Merlin

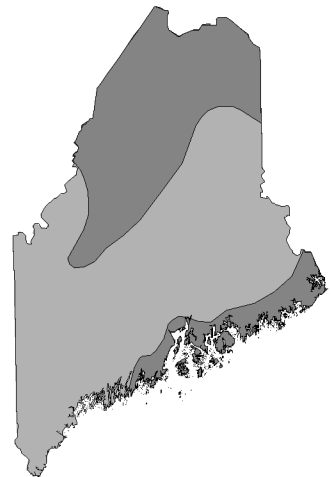
FACO
June 1998



Regional range



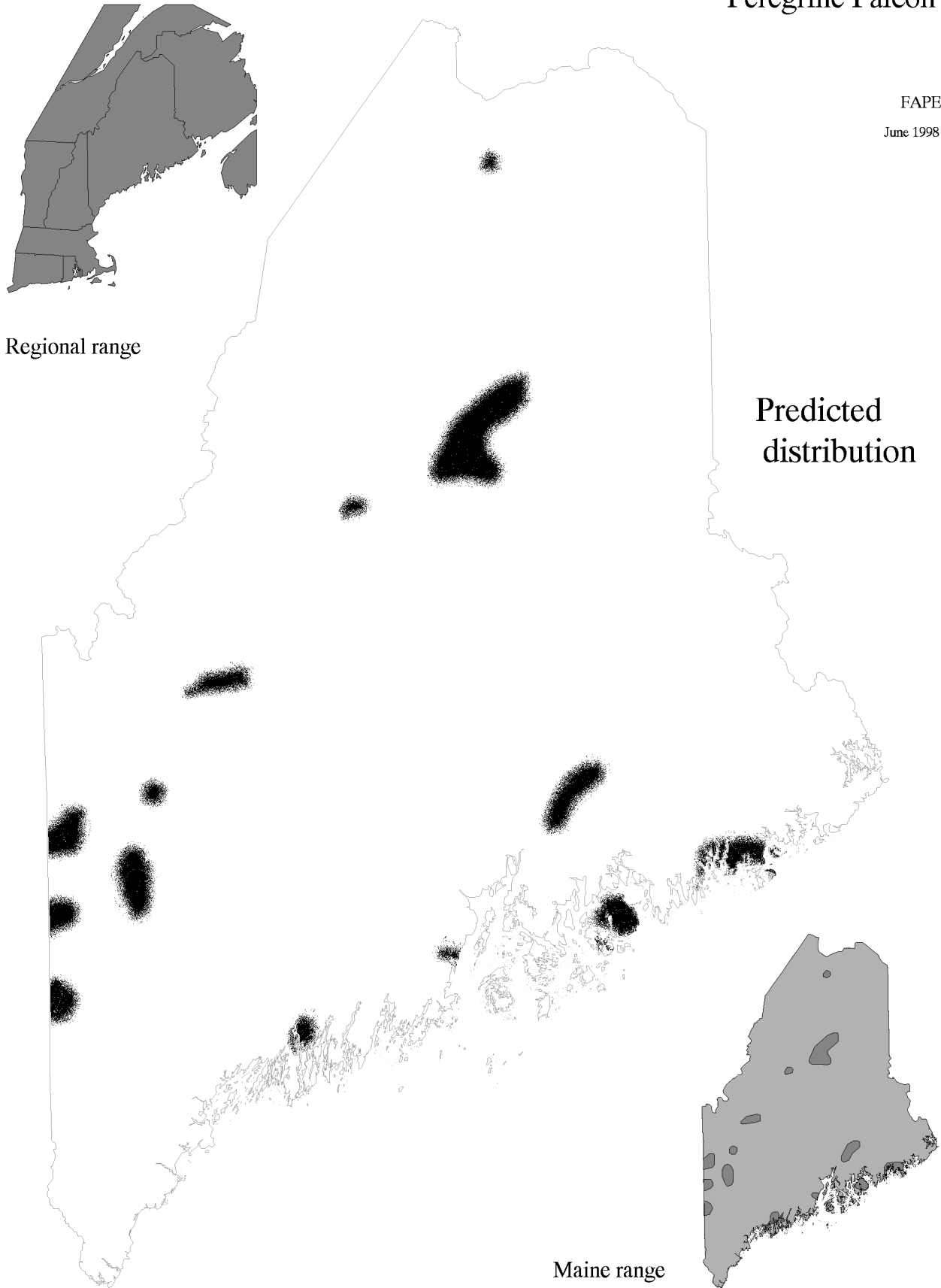
Predicted
distribution



Maine range

Peregrine Falcon

FAPE
June 1998



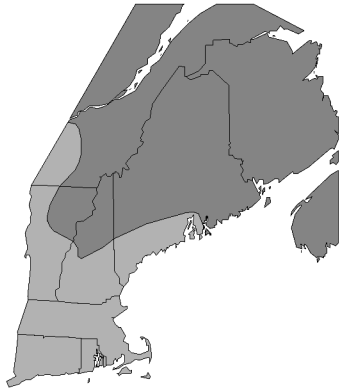
Regional range

Predicted
distribution

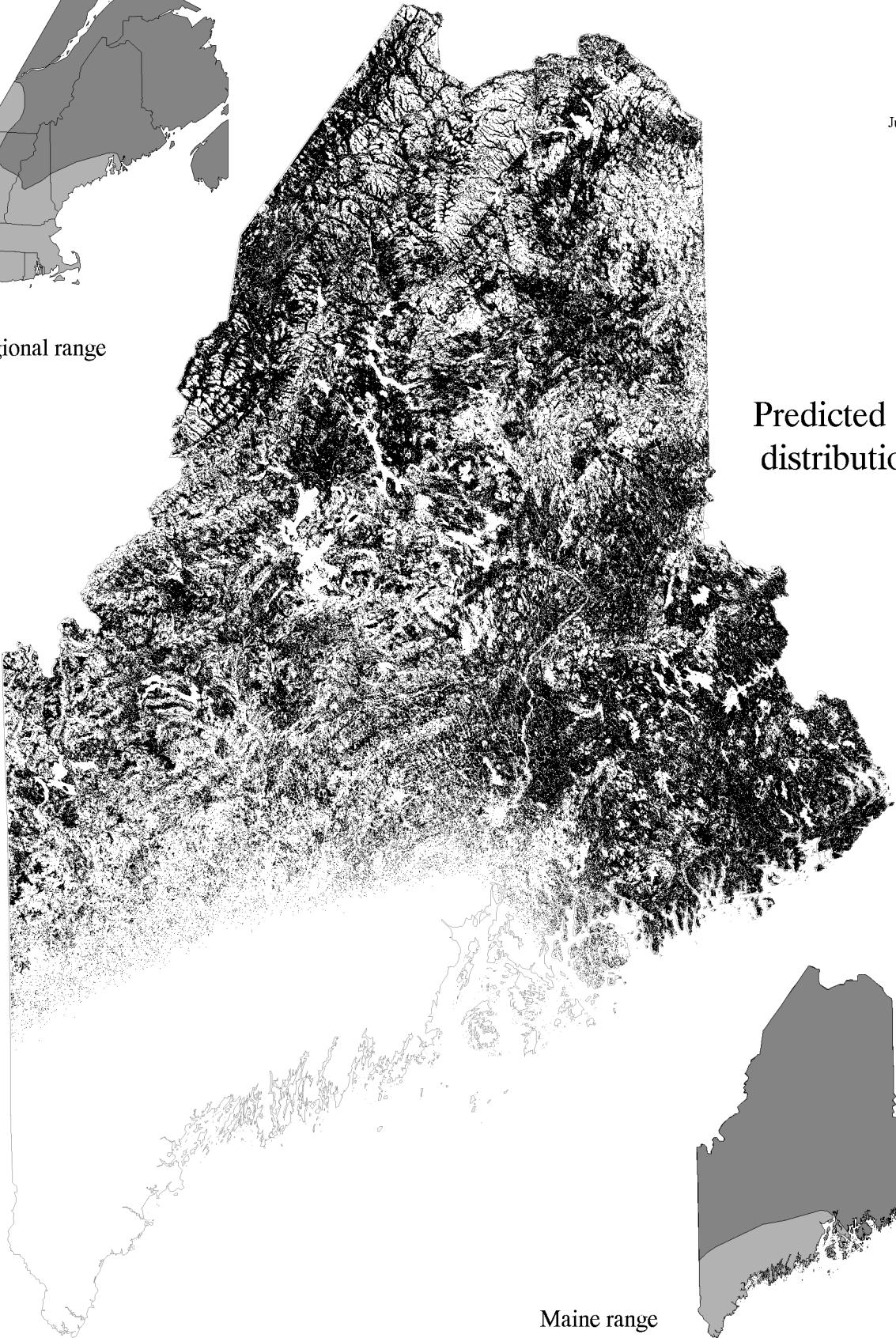
Maine range

Spruce Grouse

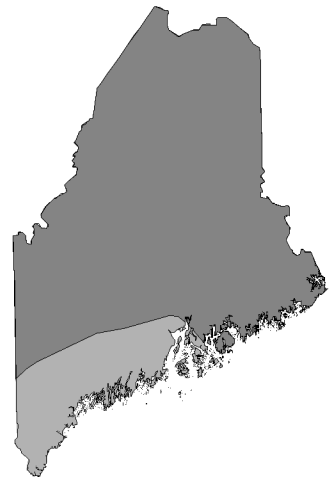
DECN
June 1998



Regional range



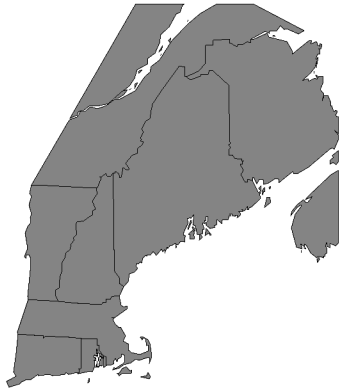
Predicted
distribution



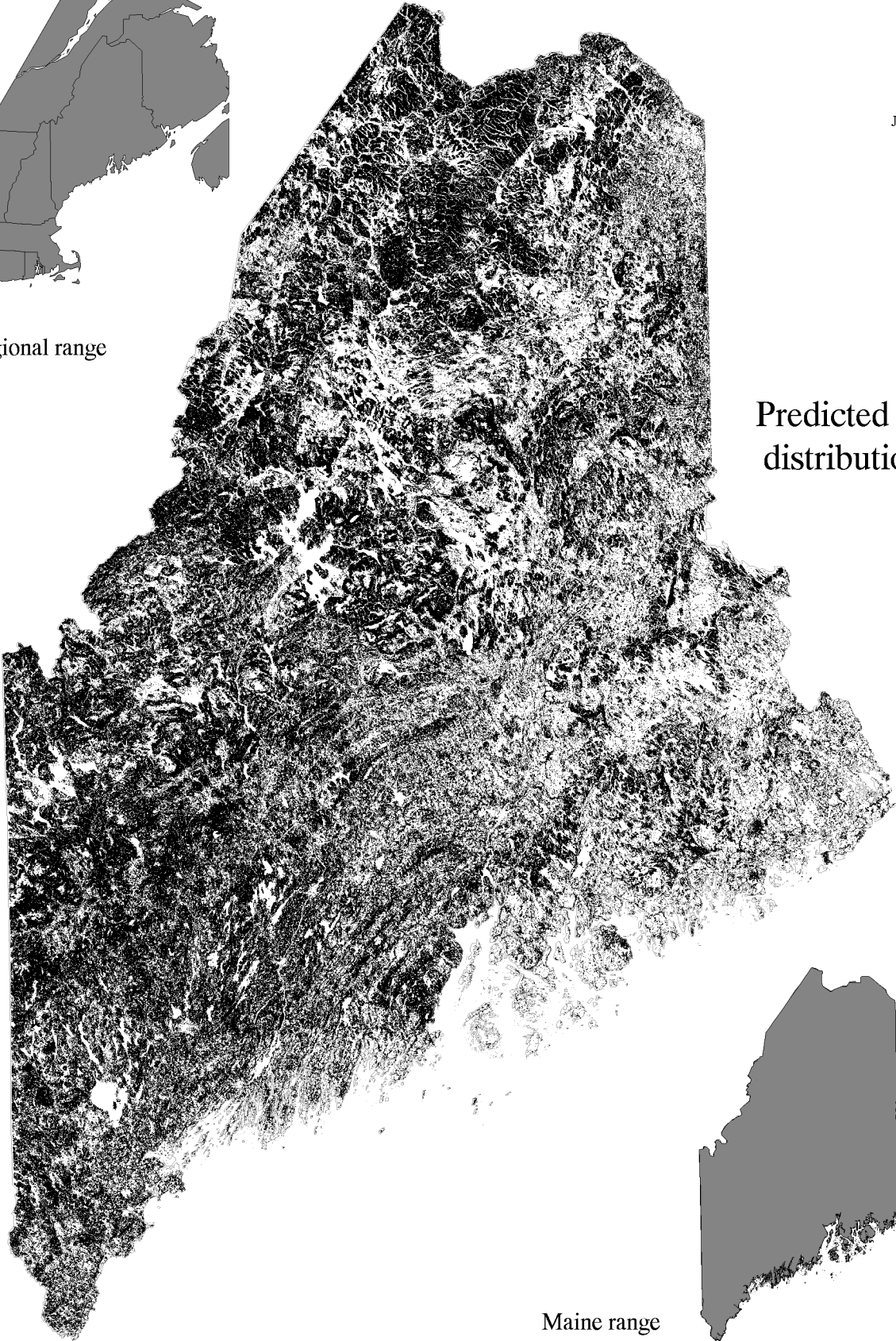
Maine range

Ruffed Grouse

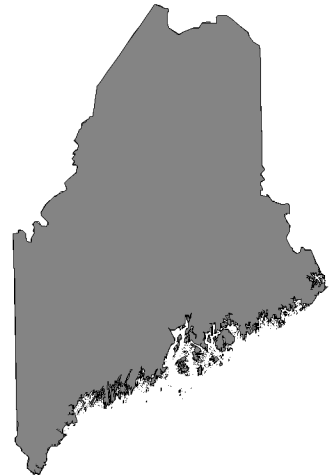
BOUM
June 1998



Regional range



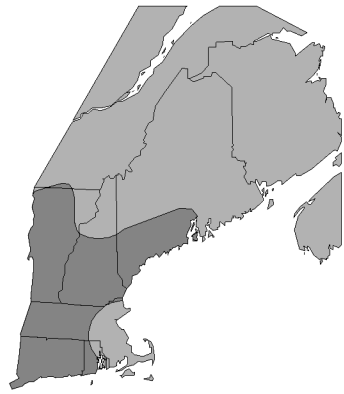
Predicted
distribution



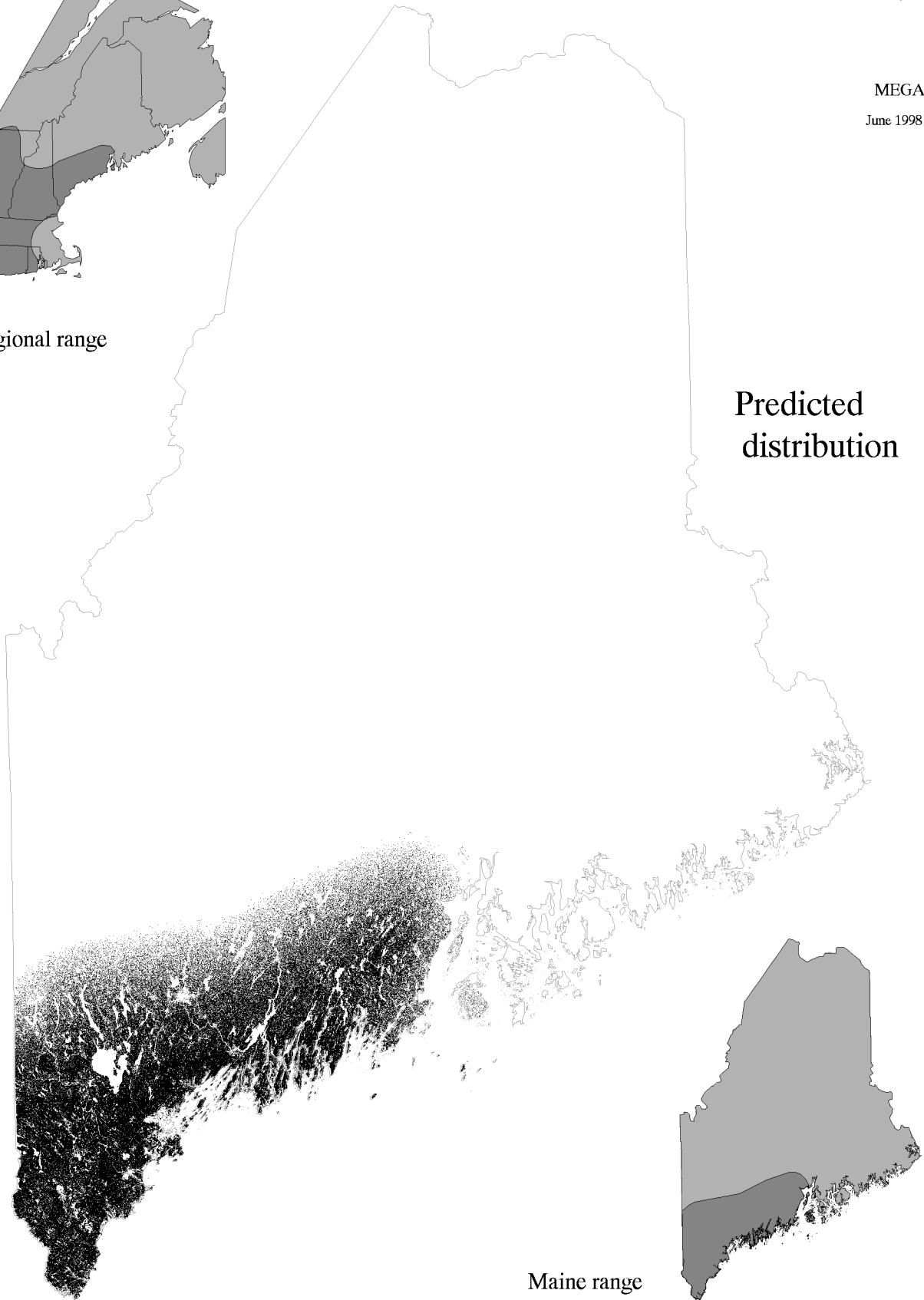
Maine range

Wild Turkey

MEGA
June 1998



Regional range

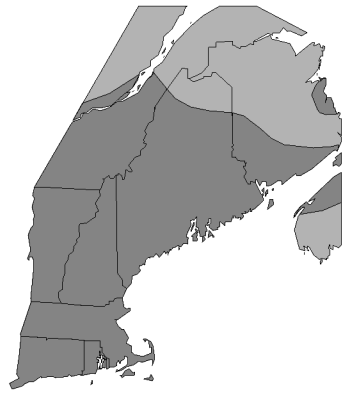


Predicted
distribution

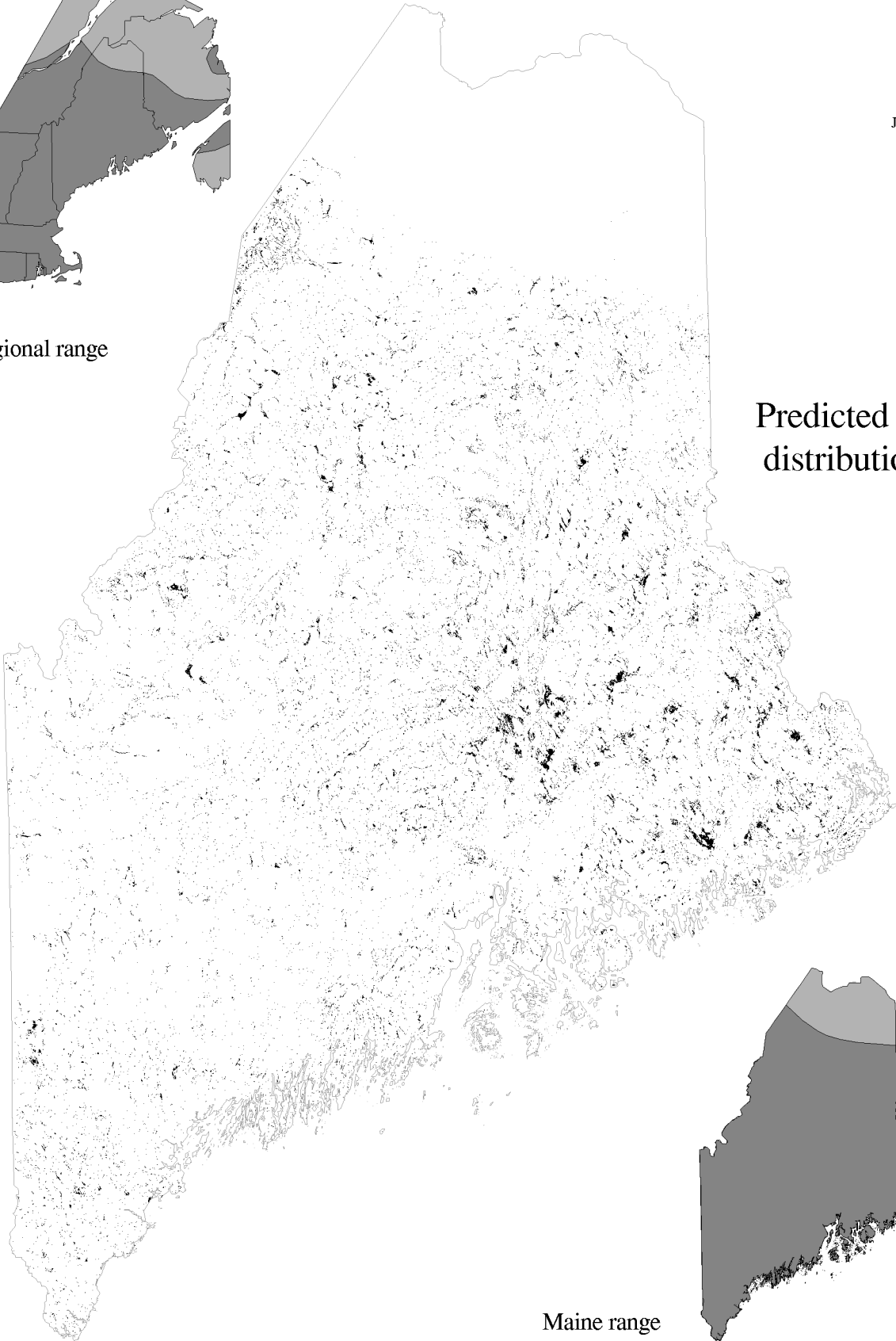
Maine range

Virginia Rail

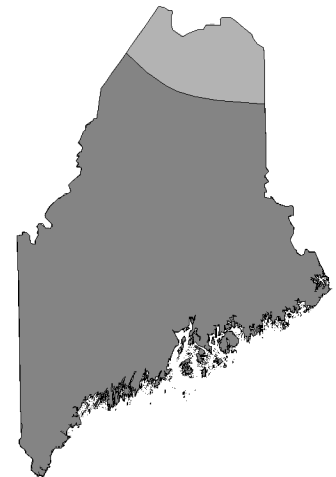
RALI
June 1998



Regional range



Predicted
distribution



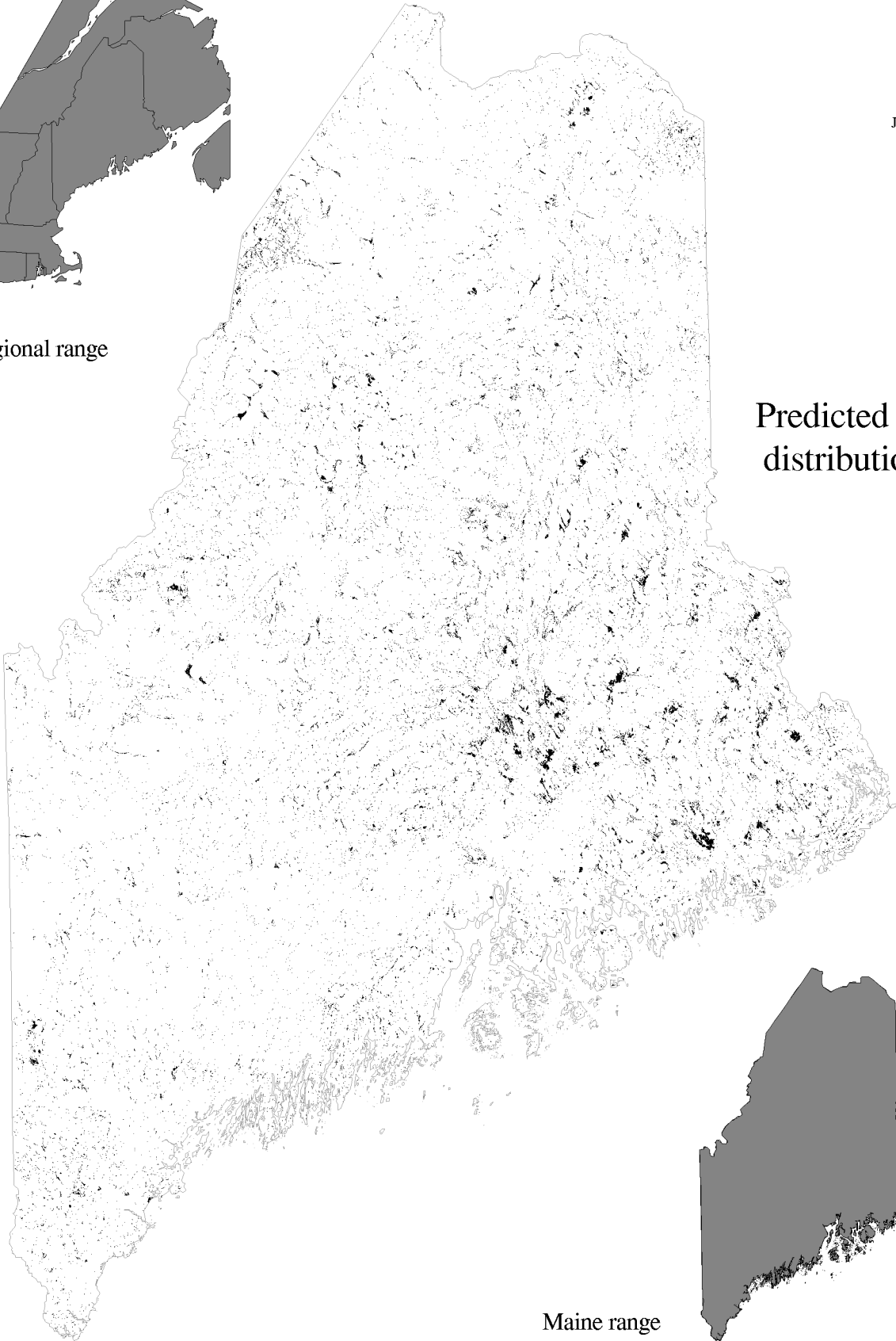
Maine range

Sora

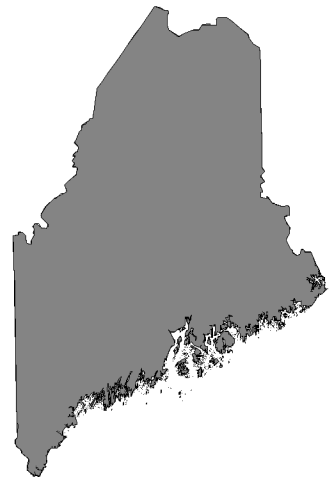
POCR
June 1998



Regional range



Predicted
distribution



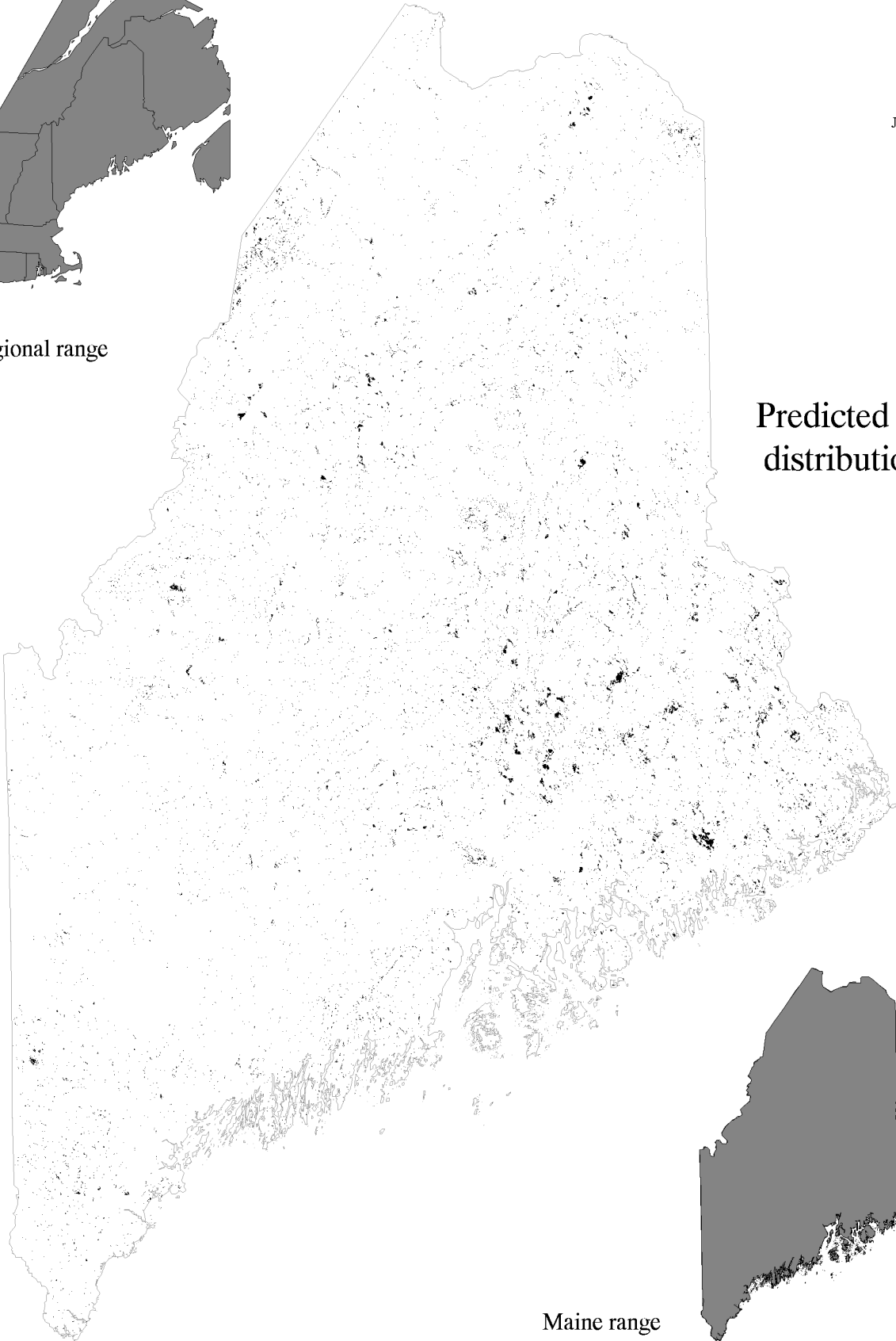
Maine range

Yellow Rail

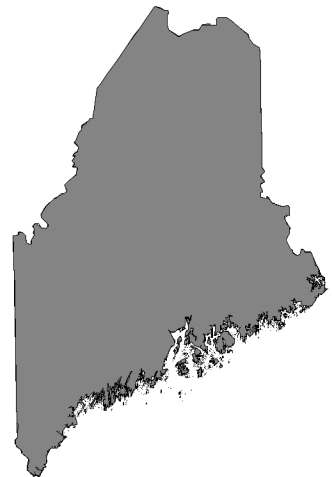
CONO
June 1998



Regional range



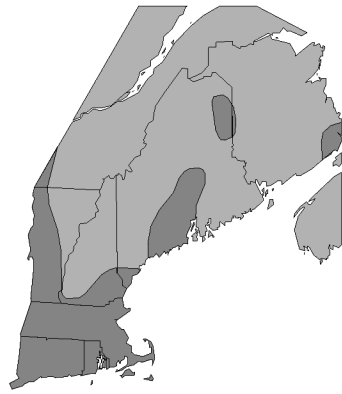
Predicted
distribution



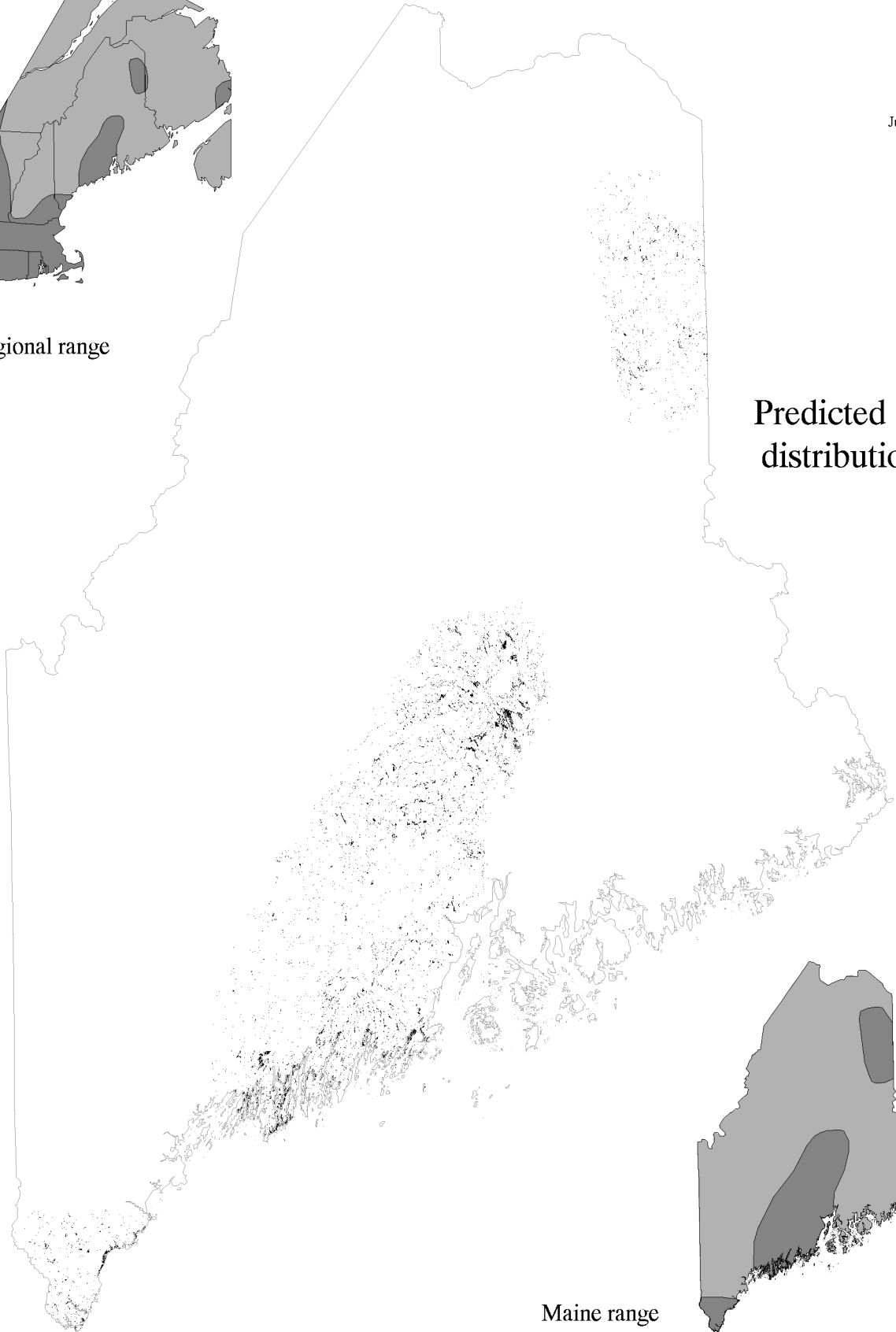
Maine range

Common Moorhen

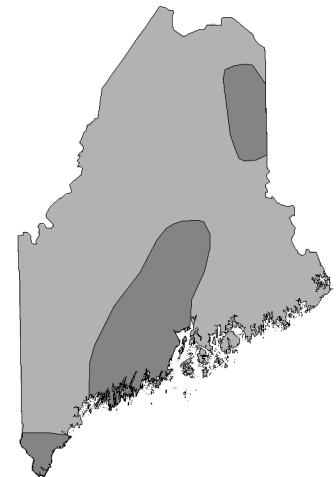
GACH
June 1998



Regional range



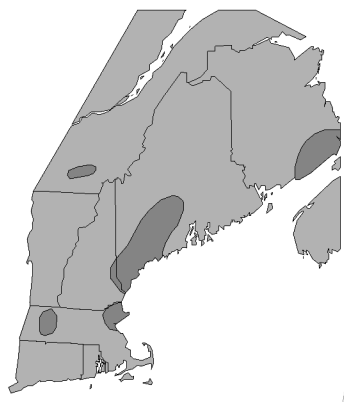
Predicted
distribution



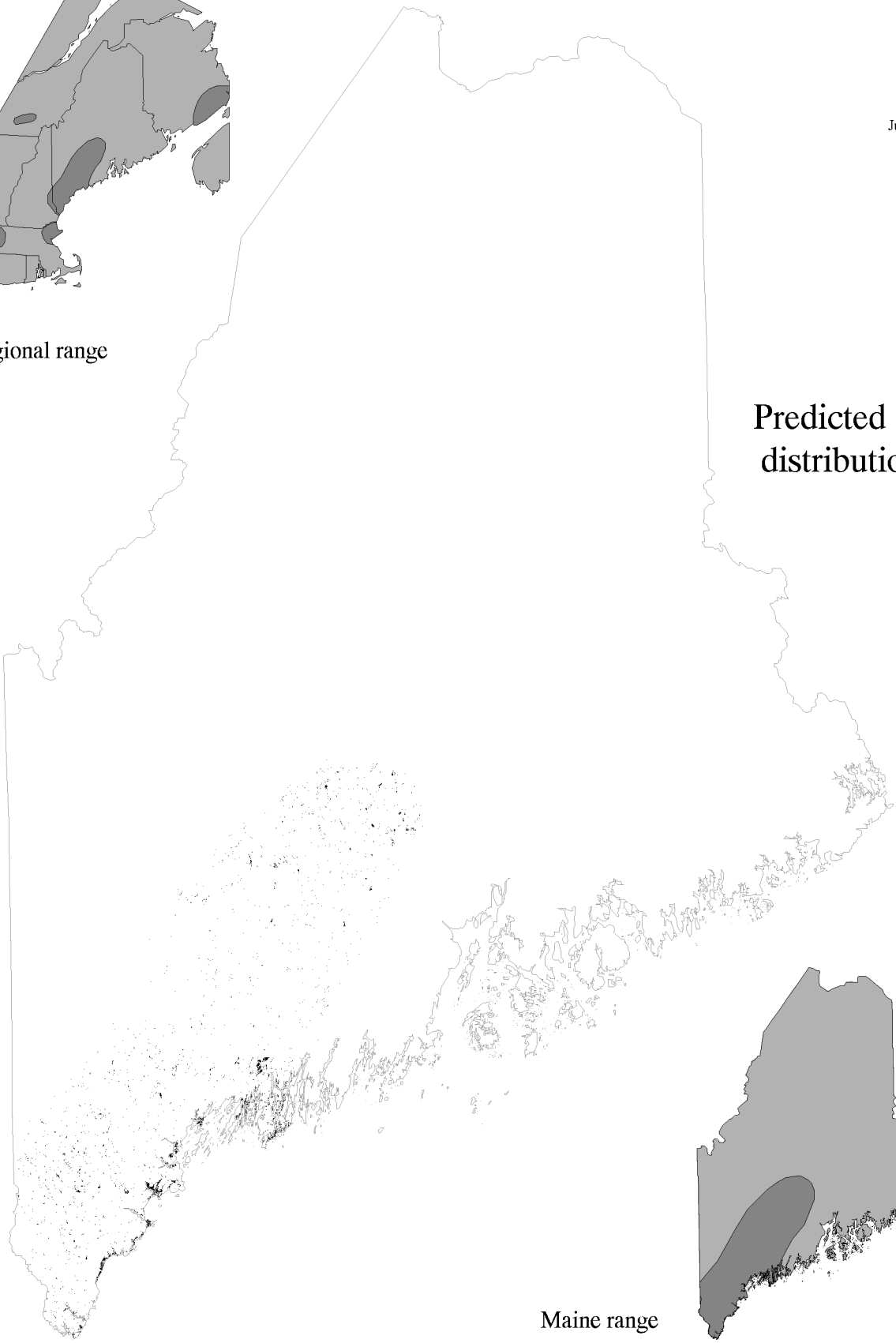
Maine range

American Coot

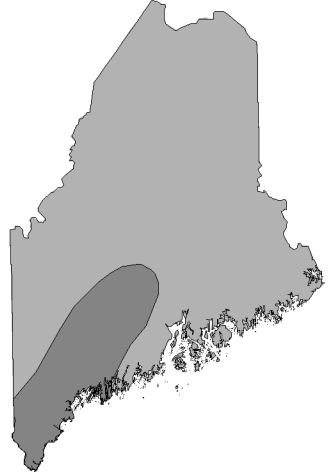
FUAM
June 1998



Regional range



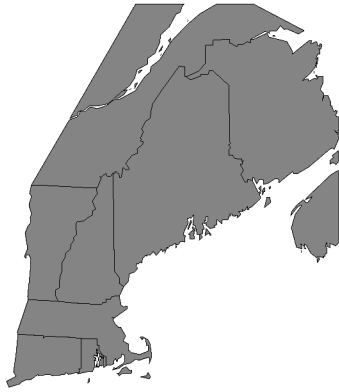
Predicted distribution



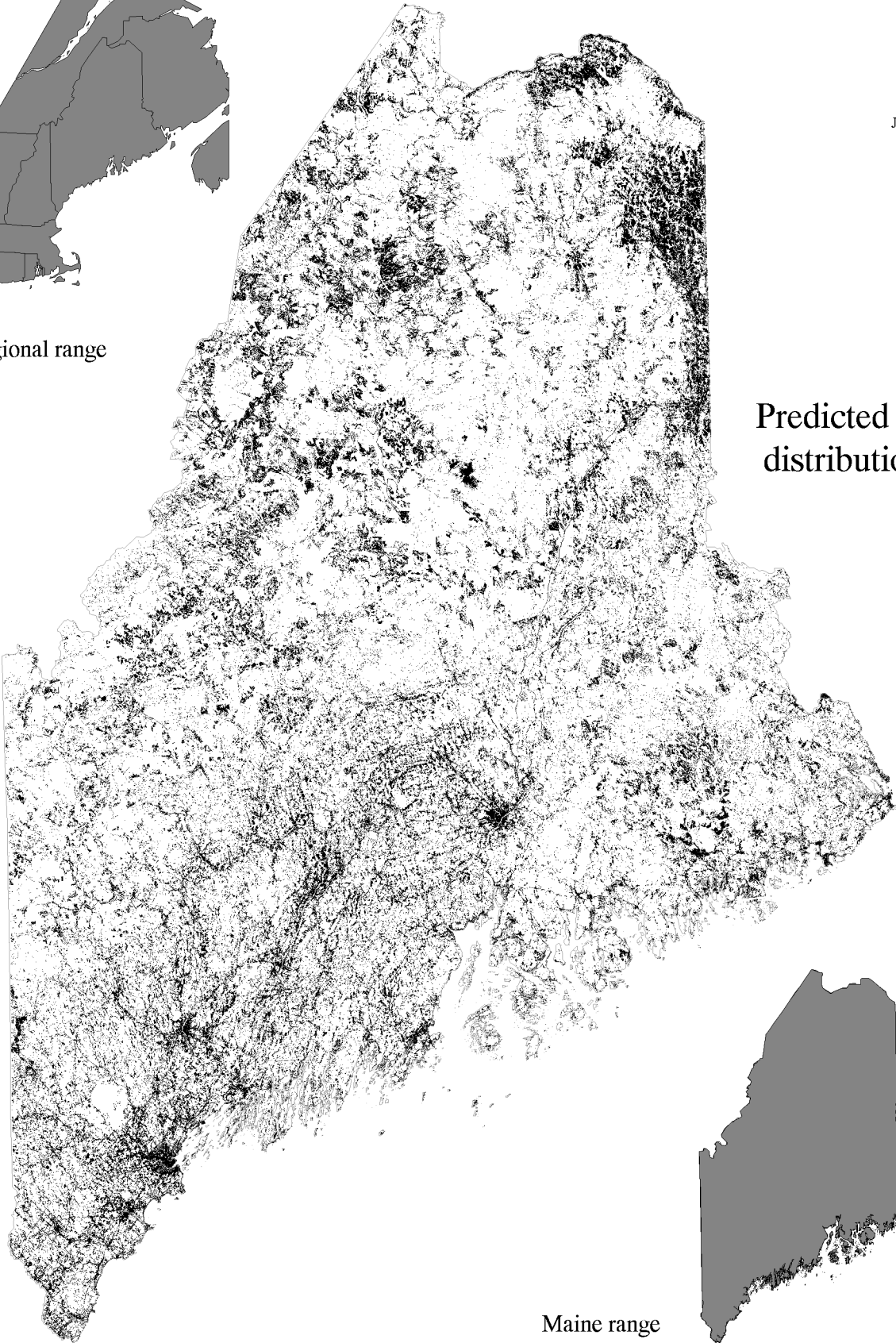
Maine range

Killdeer

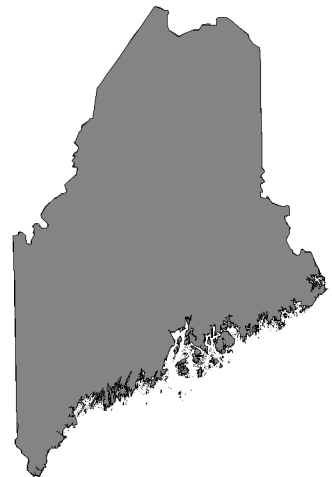
CHVO
June 1998



Regional range



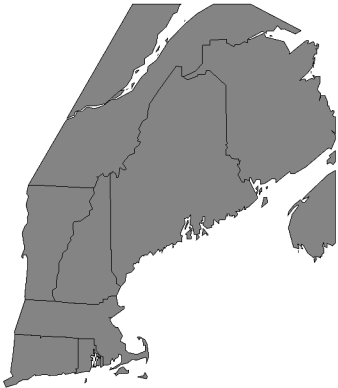
Predicted
distribution



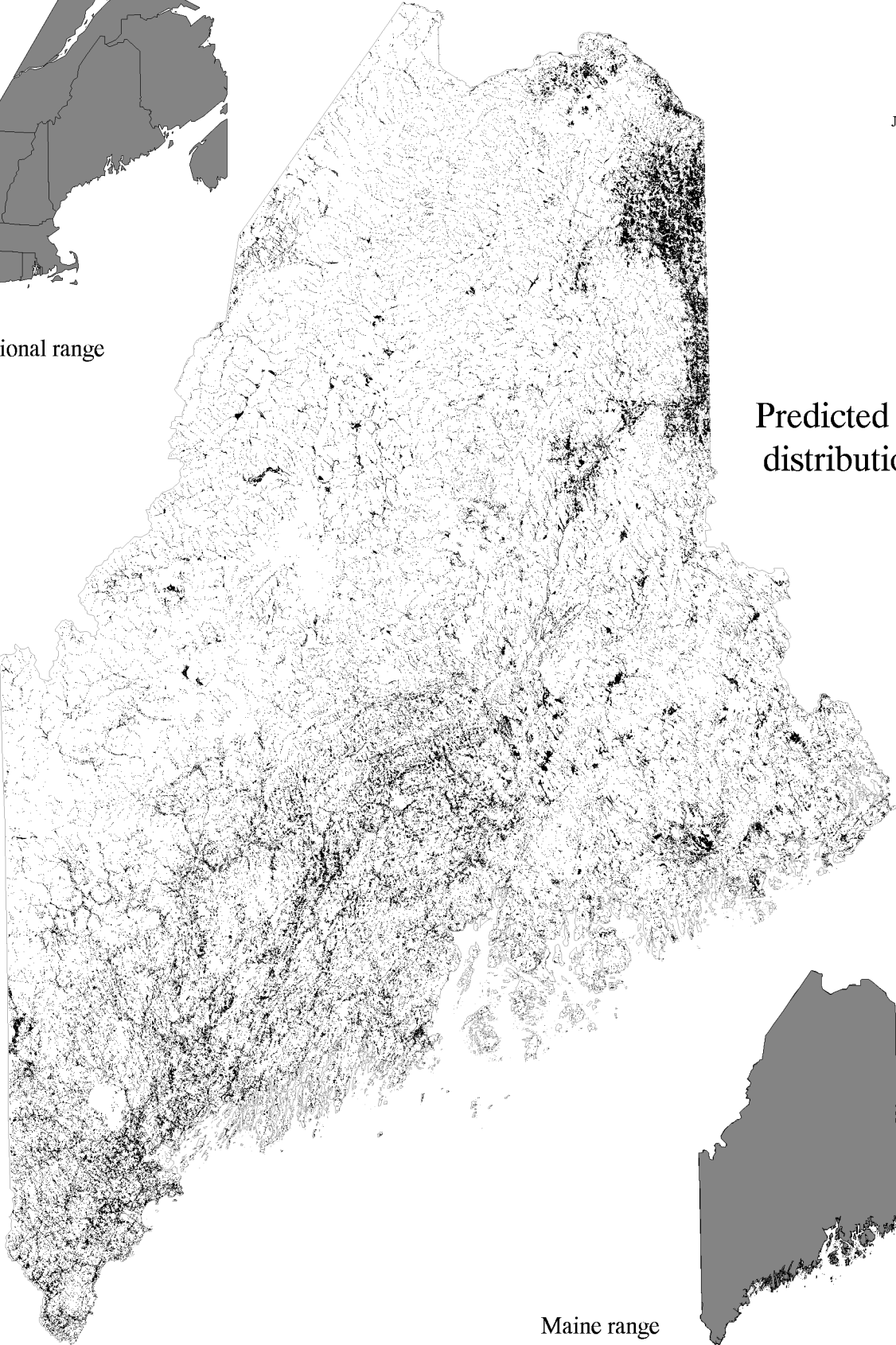
Maine range

Spotted Sandpiper

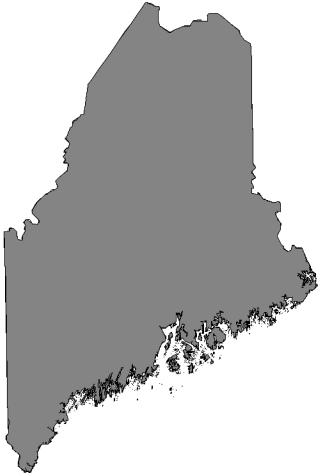
ACMA
June 1998



Regional range



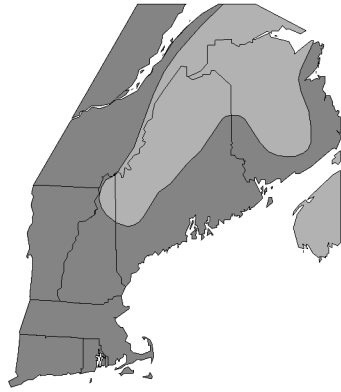
Predicted
distribution



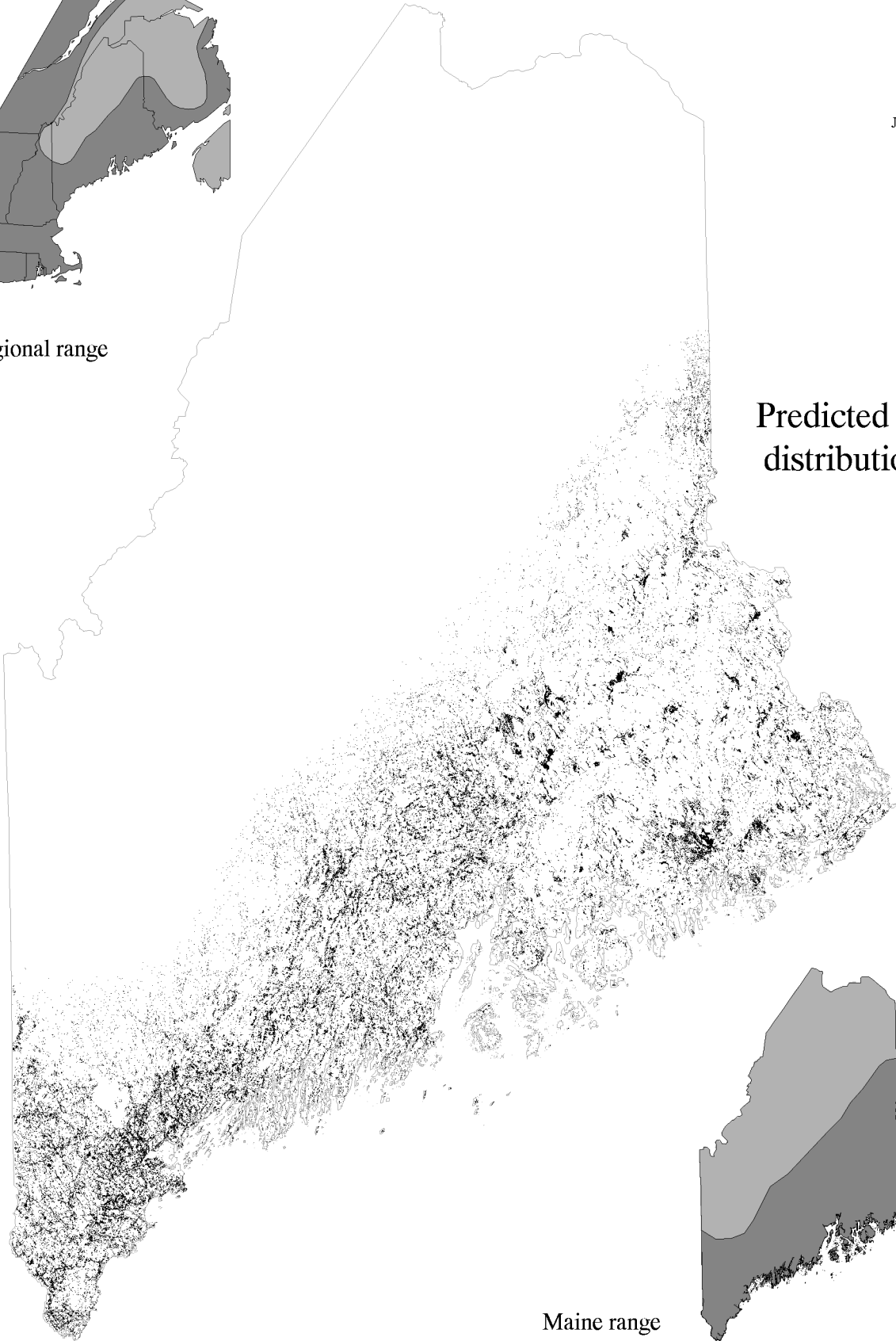
Maine range

Upland Sandpiper

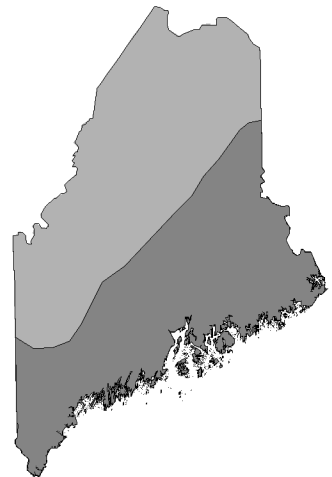
BALO
June 1998



Regional range



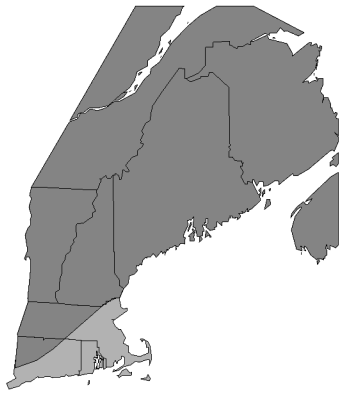
Predicted
distribution



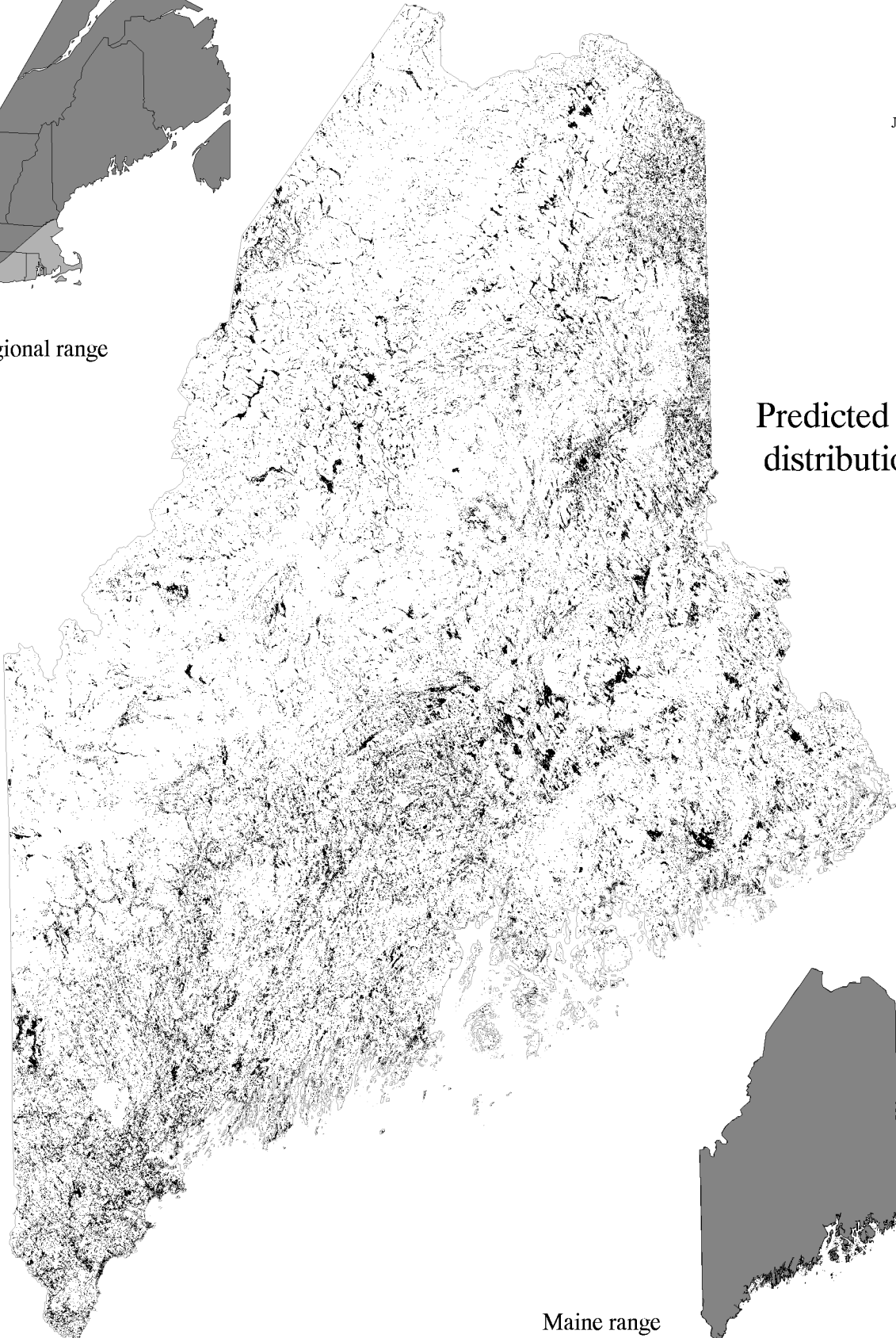
Maine range

Common Snipe

GAGA
June 1998



Regional range



Predicted
distribution



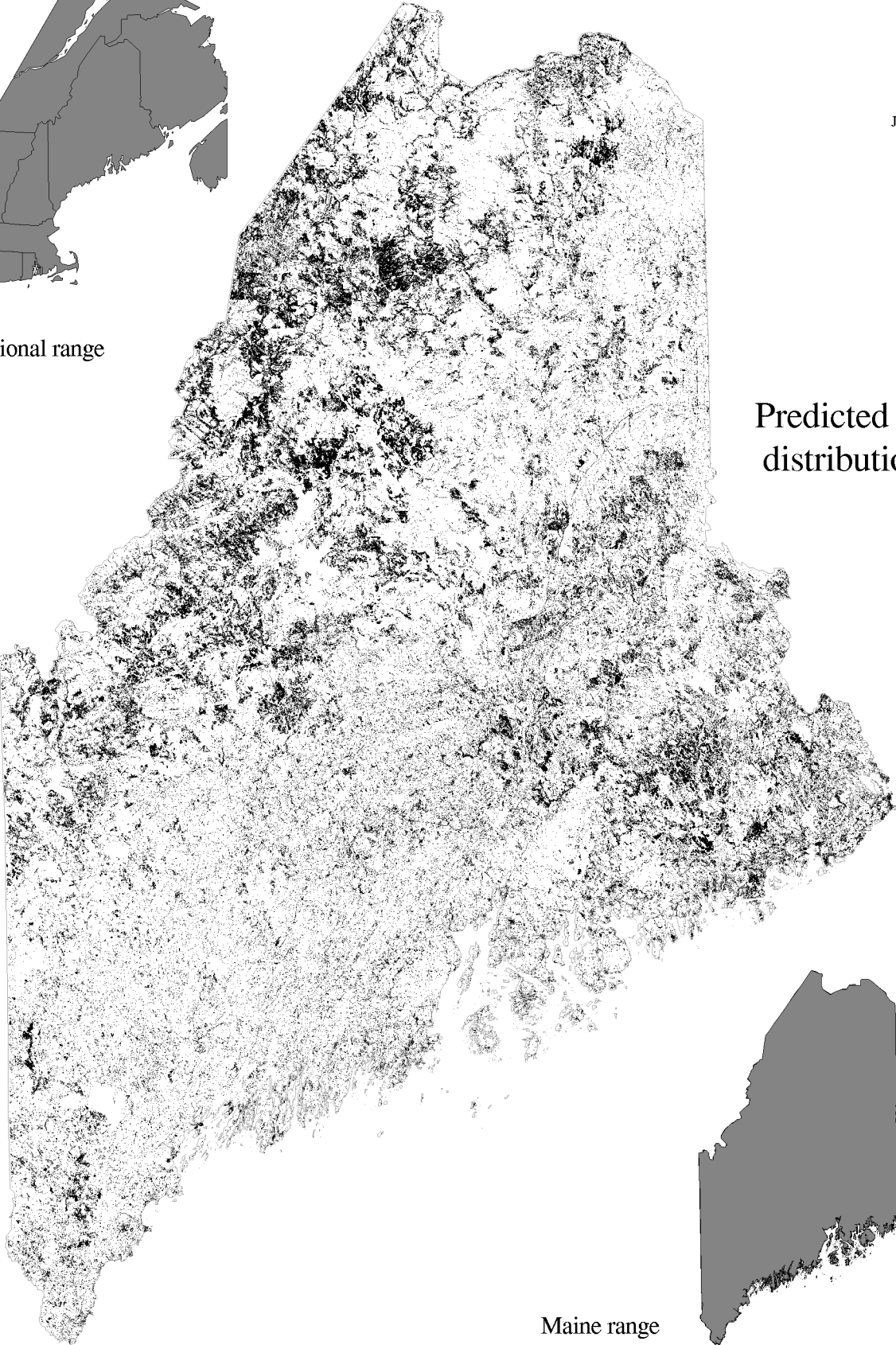
Maine range

American Woodcock

SCMI
June 1998



Regional range



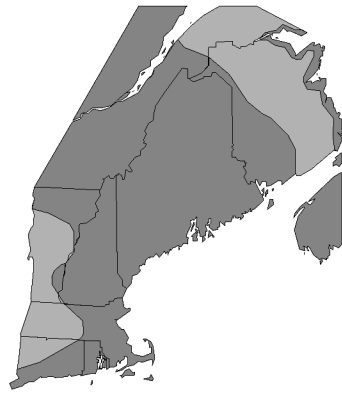
Predicted
distribution



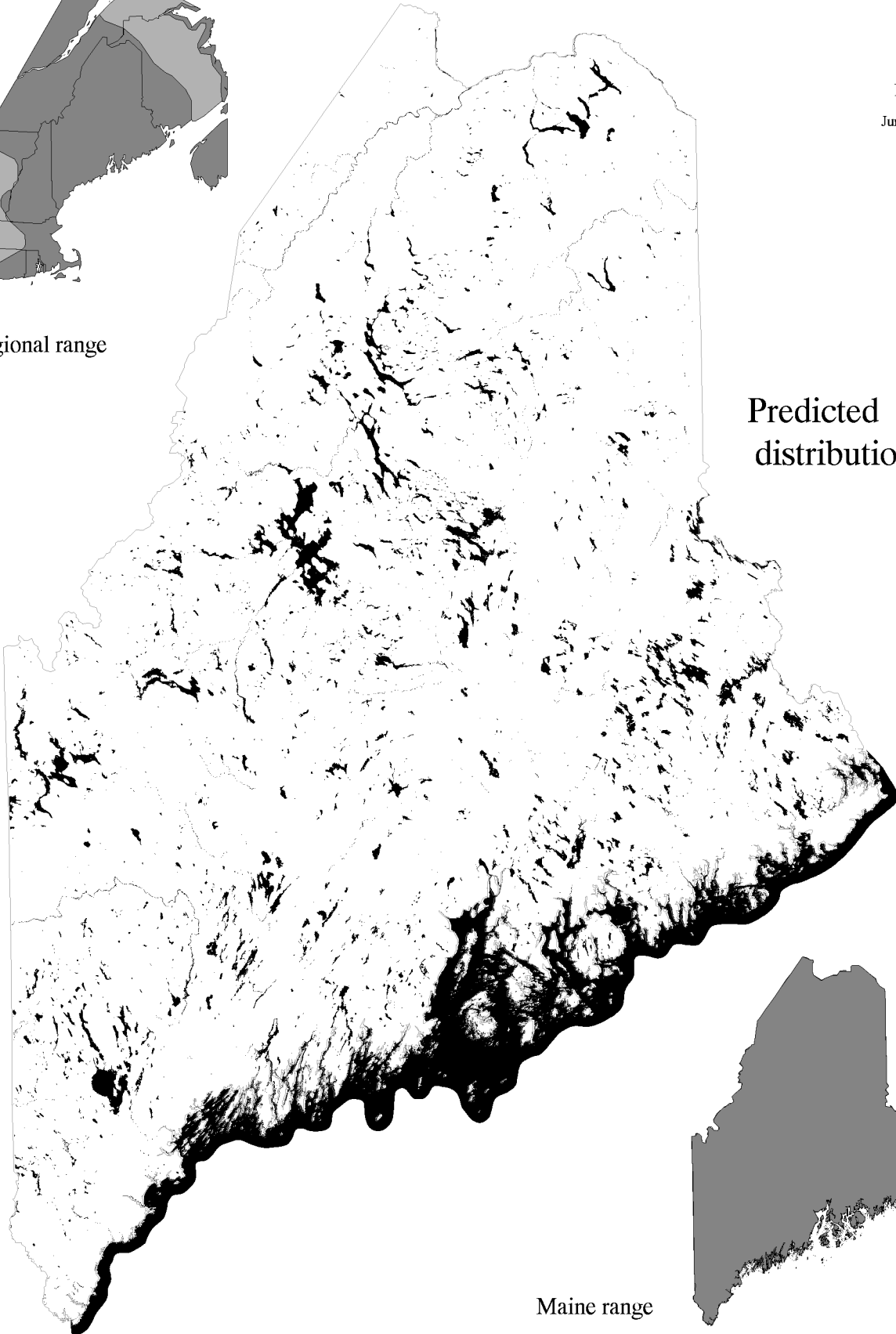
Maine range

Herring Gull

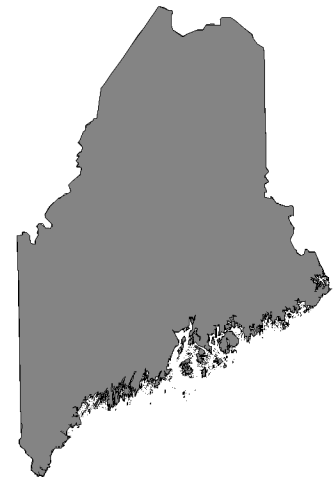
LAAR
June 1998



Regional range



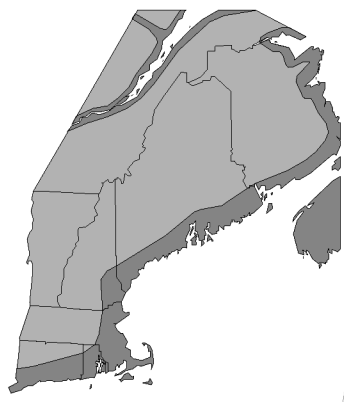
Predicted
distribution



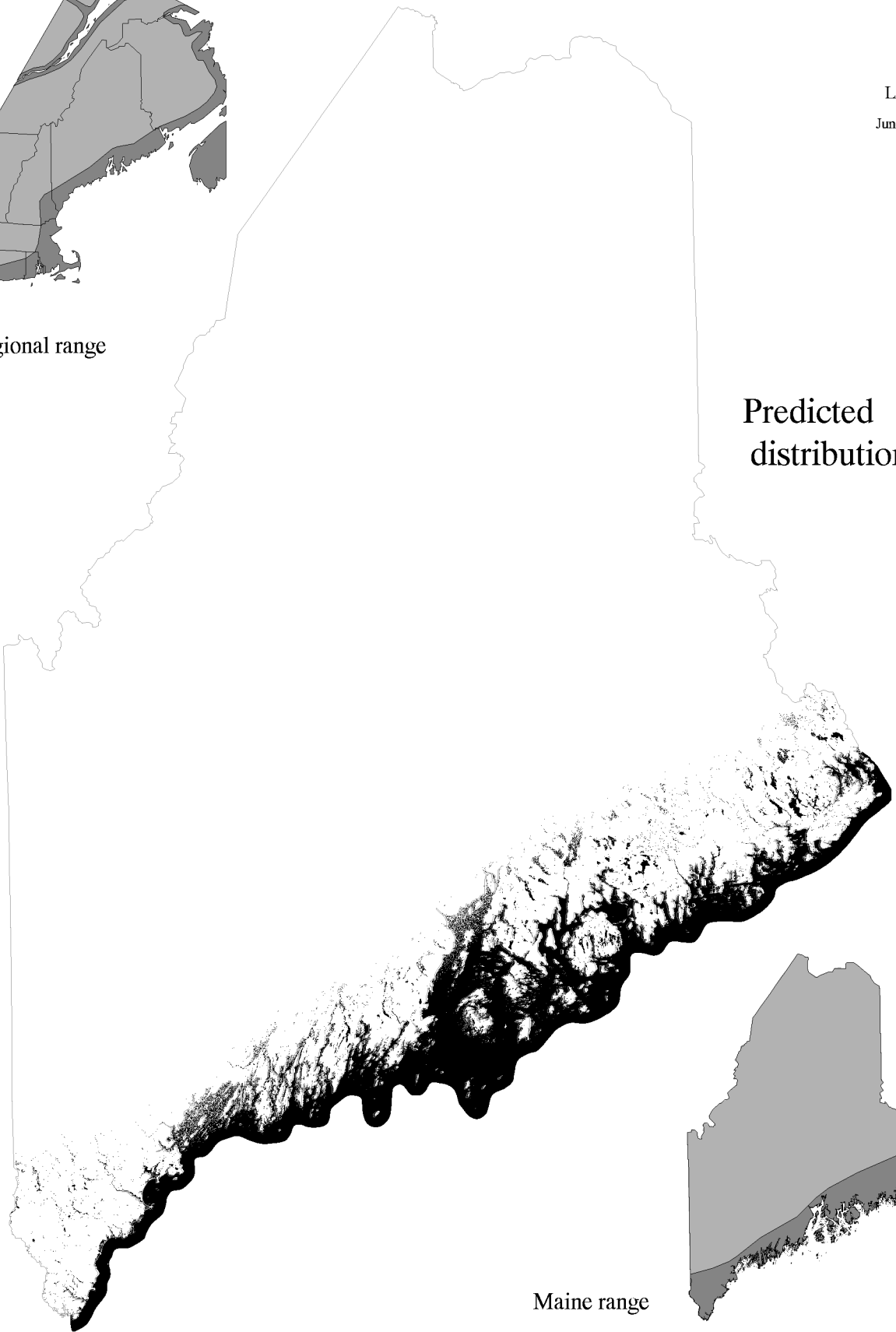
Maine range

Great Black-backed Gull

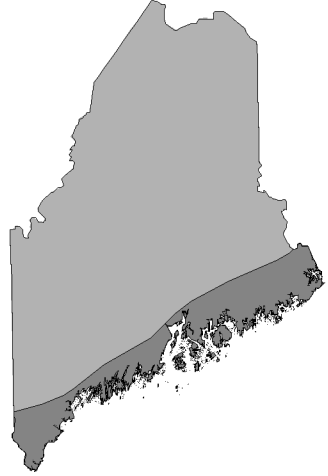
LAMA
June 1998



Regional range



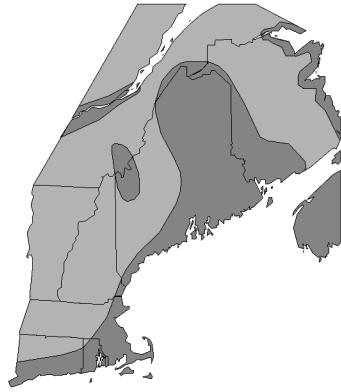
Predicted
distribution



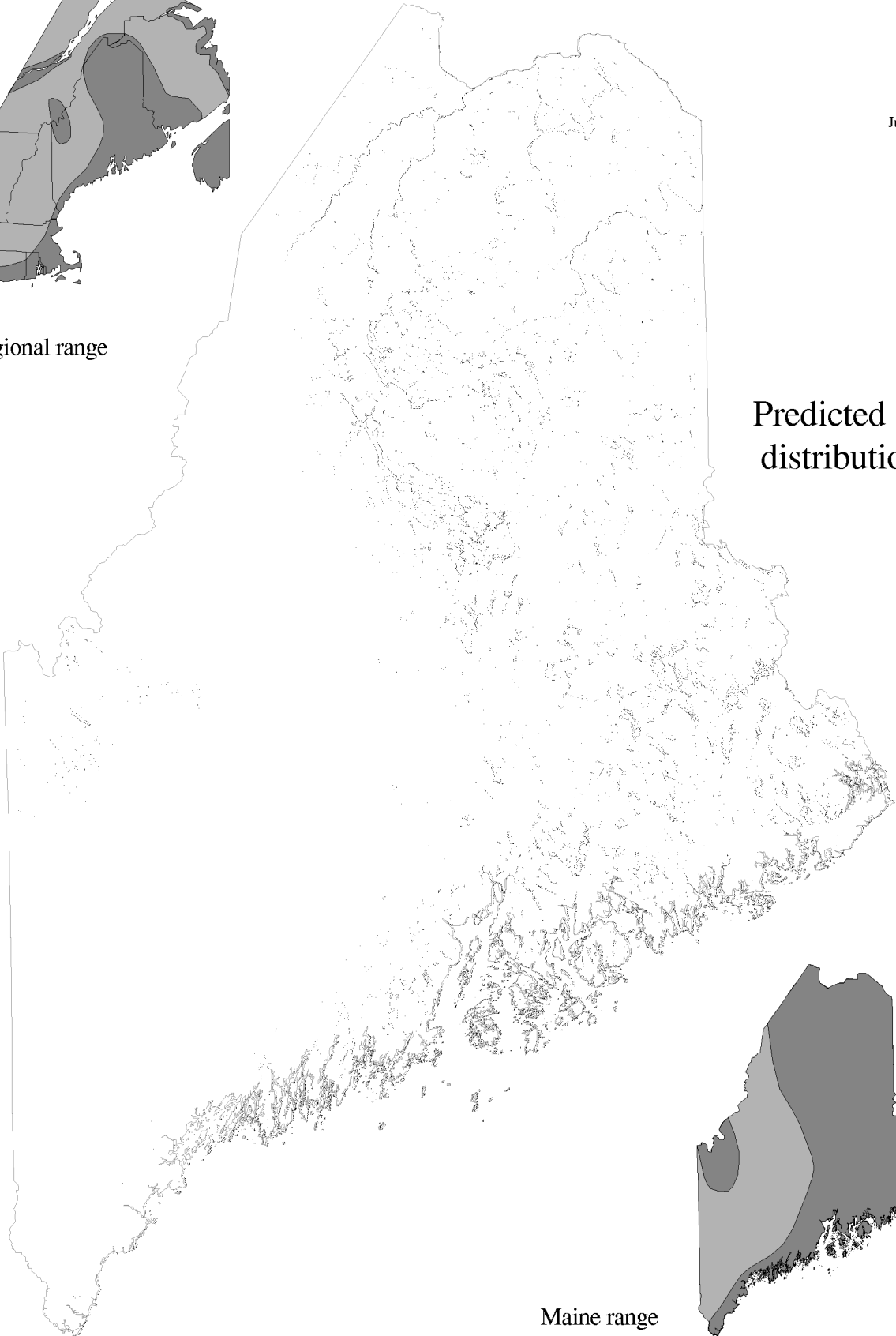
Maine range

Common Tern

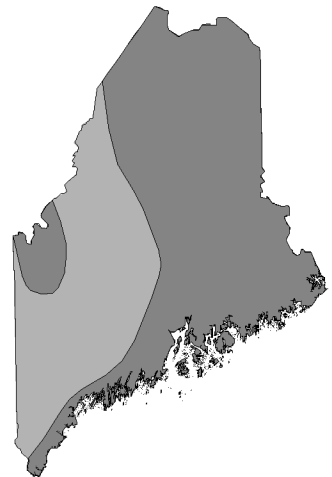
STHI
June 1998



Regional range



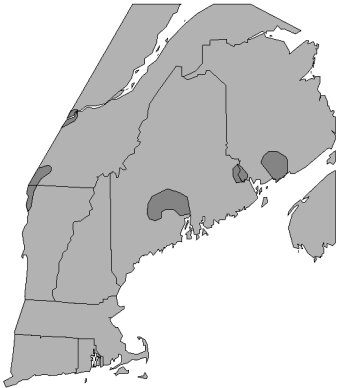
Predicted
distribution



Maine range

Black Tern

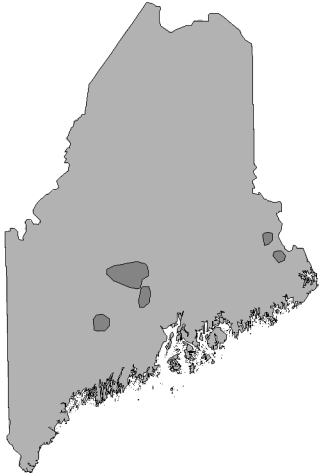
CHNI
June 1998



Regional range



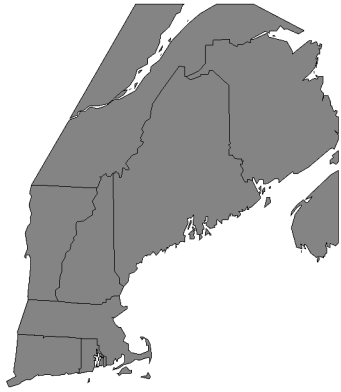
Predicted distribution



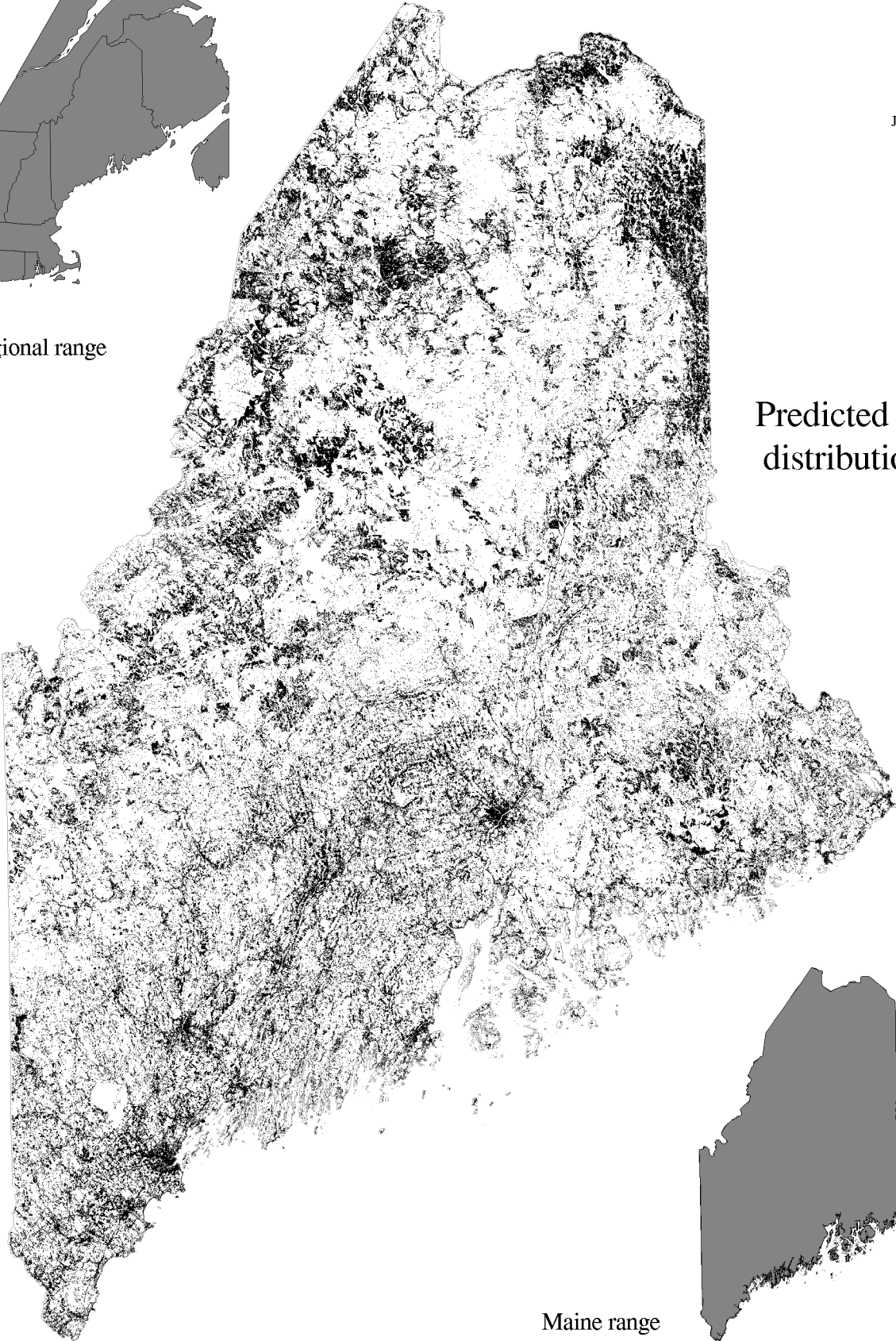
Maine range

Mourning Dove

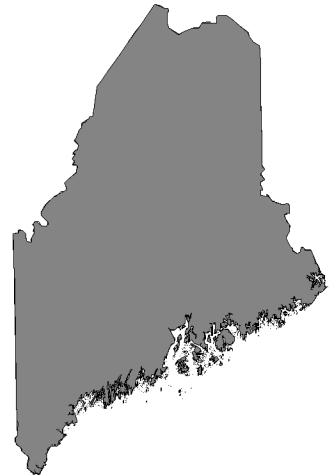
ZEMA
June 1998



Regional range



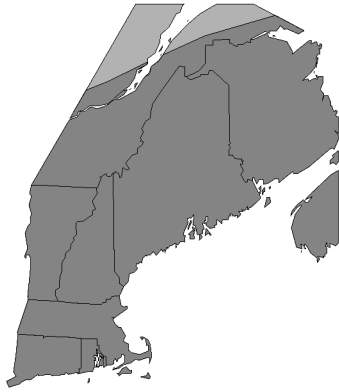
Predicted
distribution



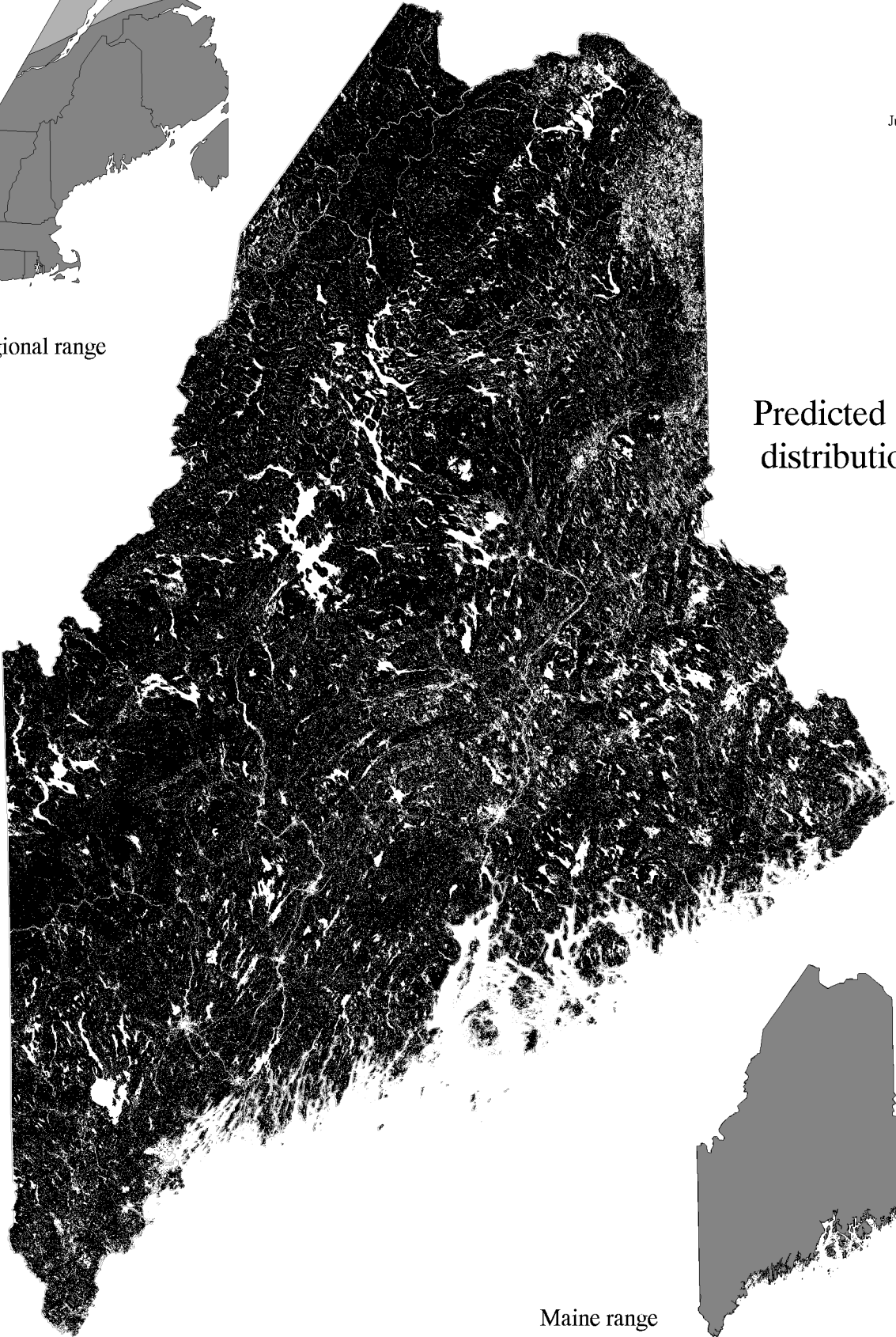
Maine range

Black-billed Cuckoo

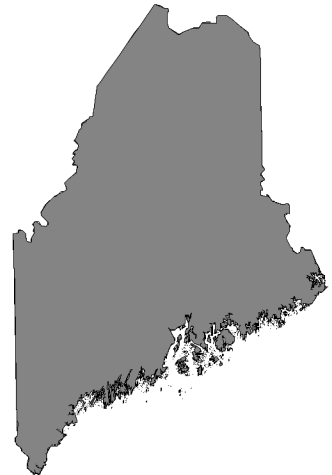
COER
June 1998



Regional range



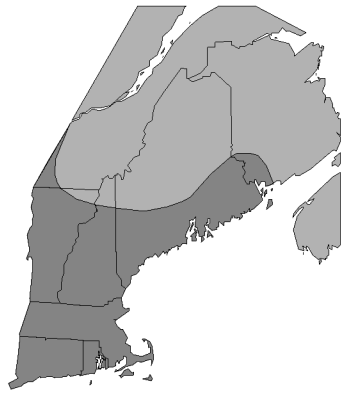
Predicted
distribution



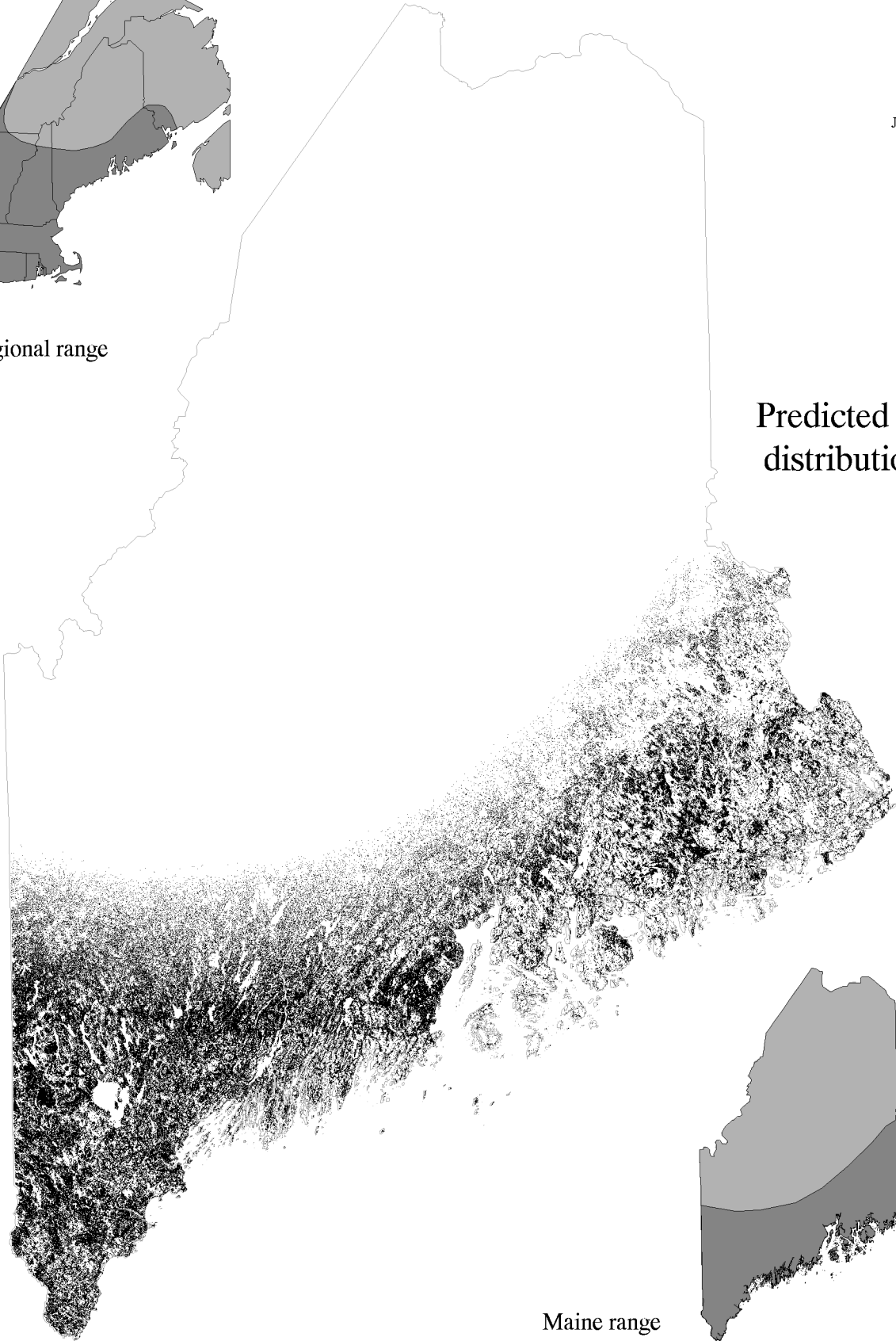
Maine range

Yellow-billed Cuckoo

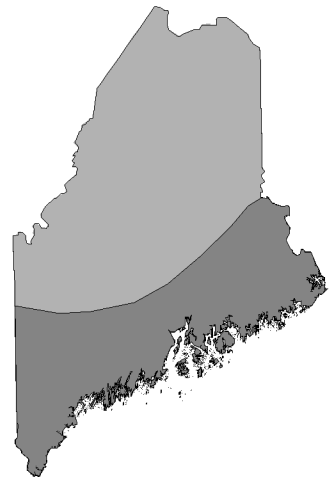
COAM
June 1998



Regional range



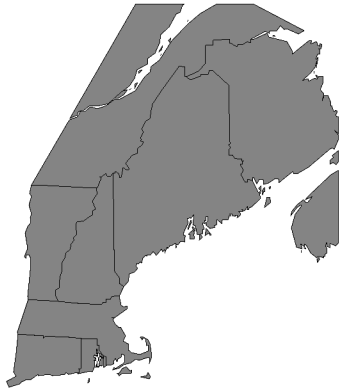
Predicted
distribution



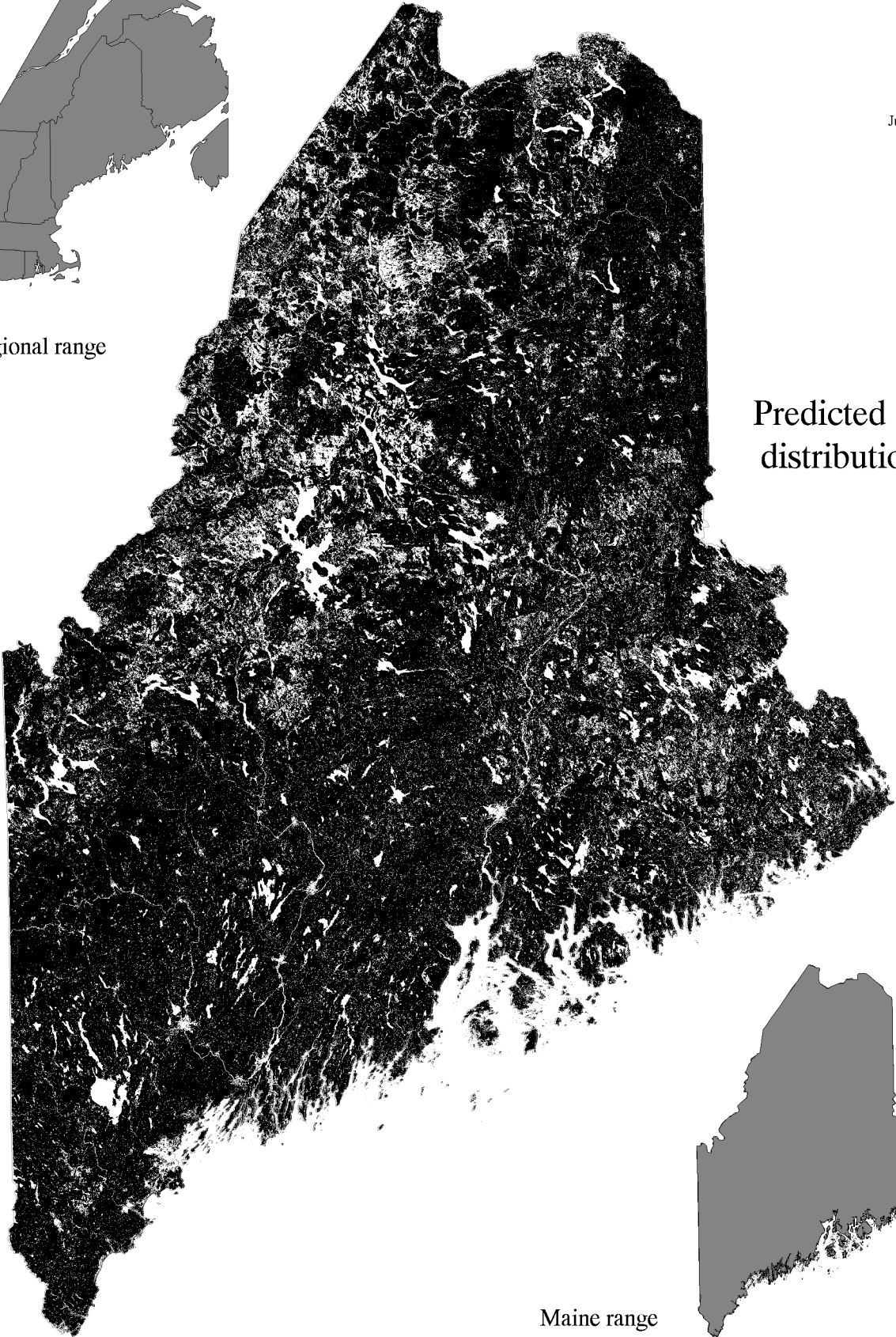
Maine range

Great Horned Owl

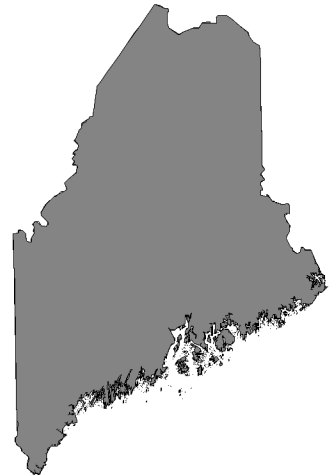
BUVI
June 1998



Regional range



Predicted
distribution



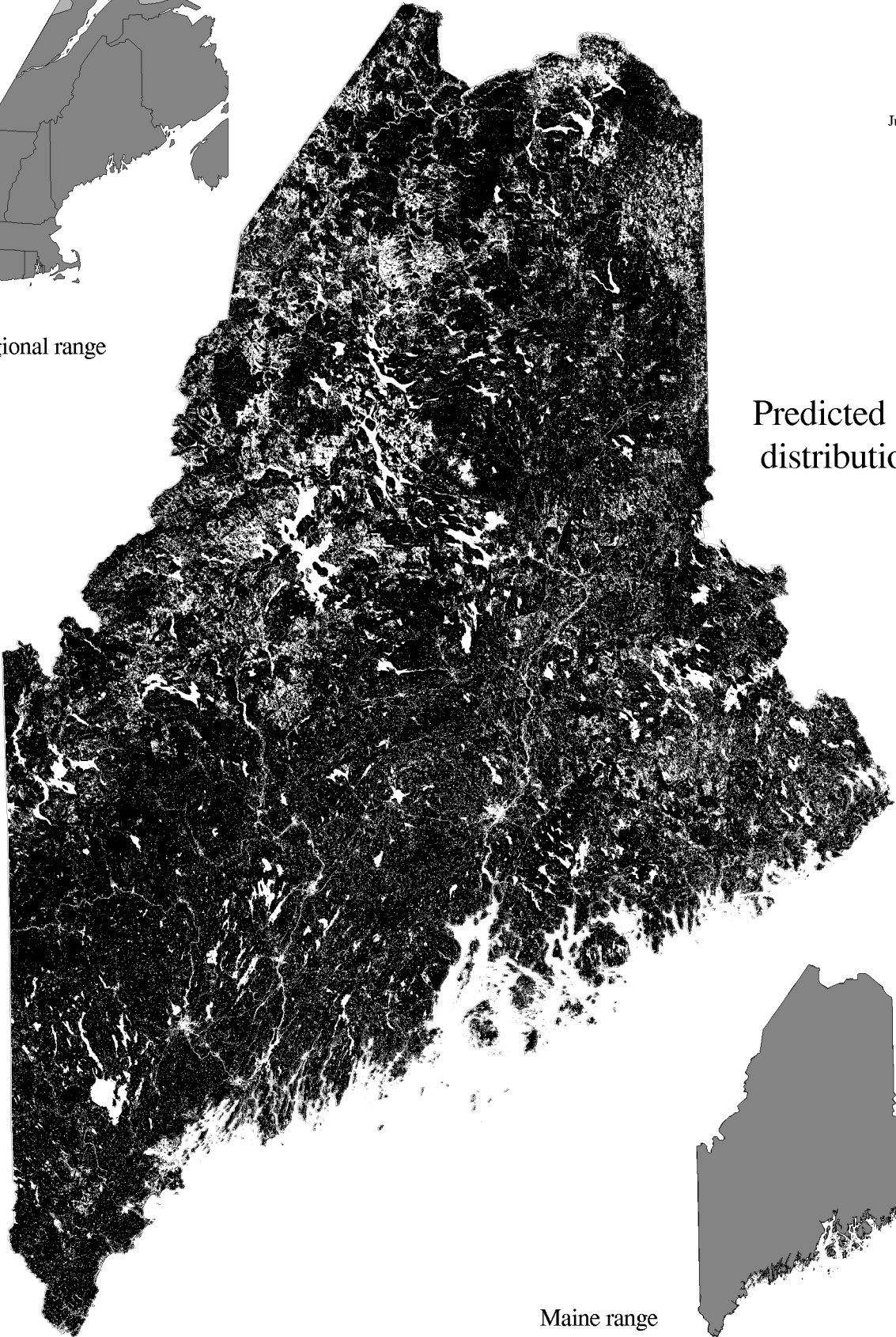
Maine range

Barred Owl

STVA
June 1998



Regional range



Predicted
distribution

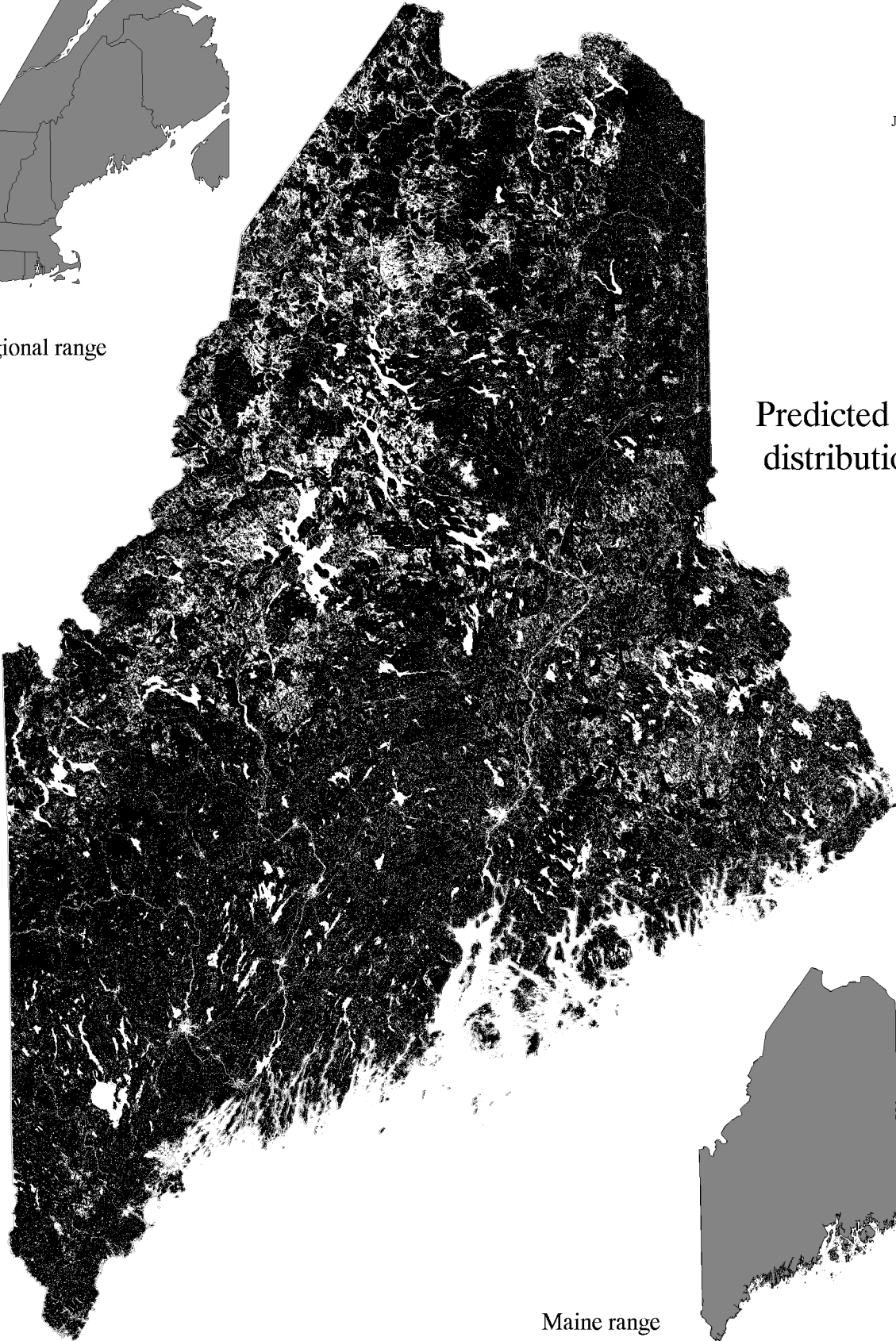
Maine range

Long-eared Owl

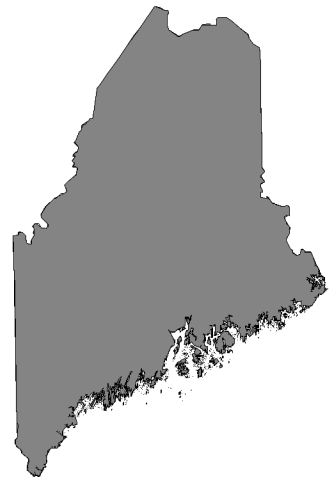
ASOT
June 1998



Regional range



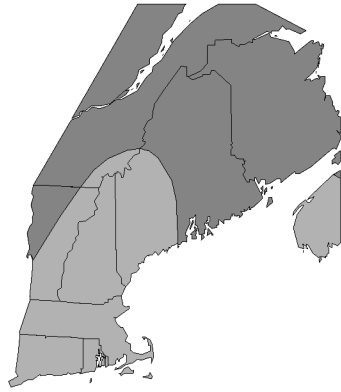
Predicted
distribution



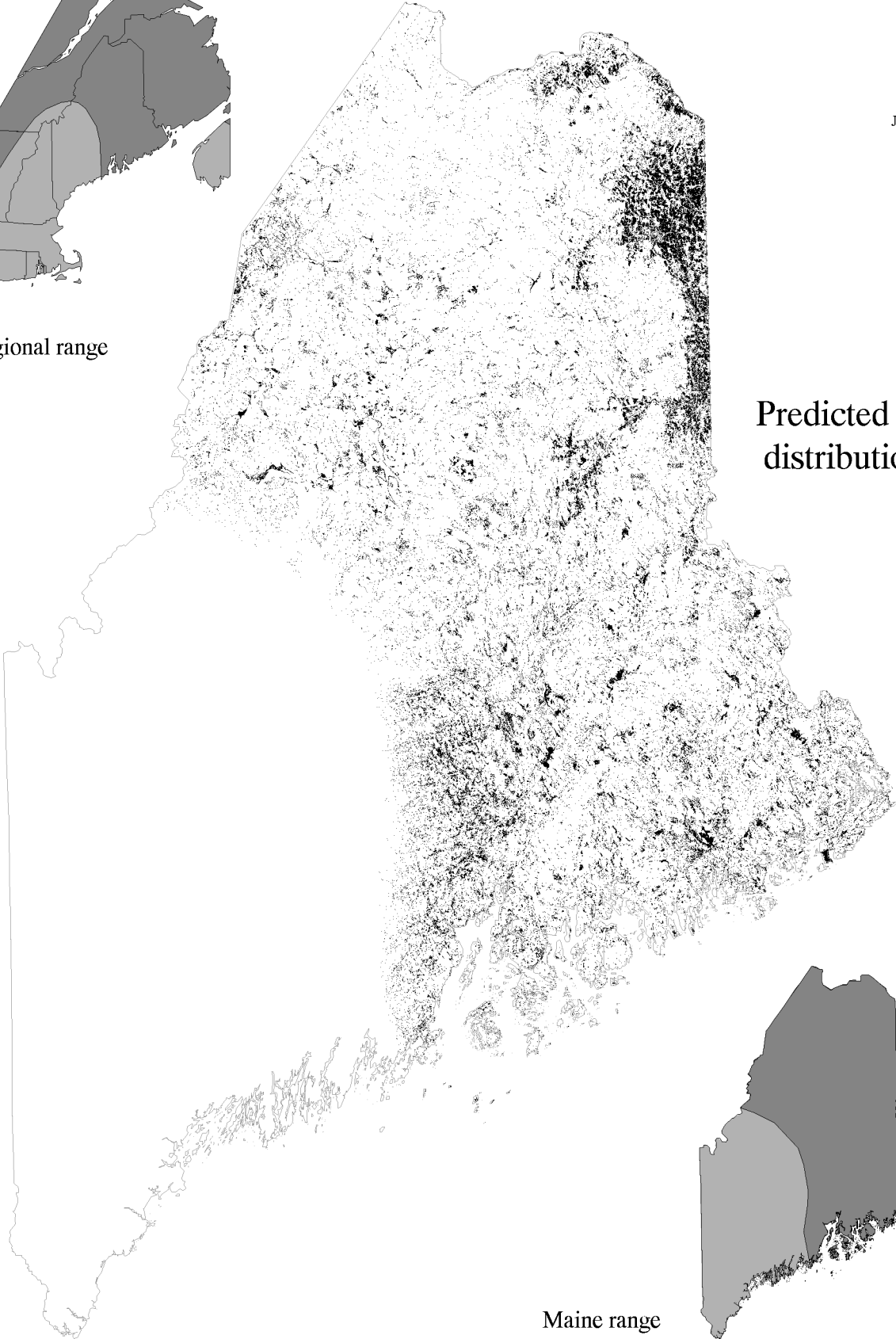
Maine range

Short-eared Owl

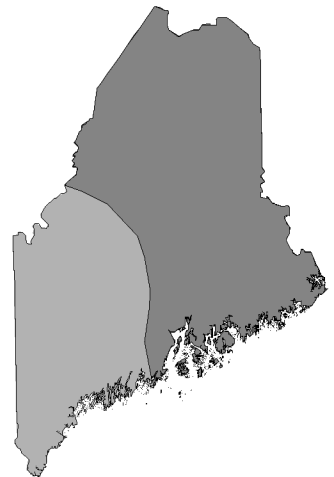
ASFL
June 1998



Regional range



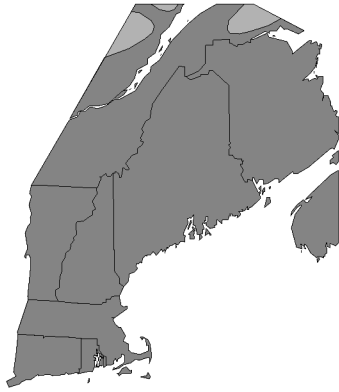
Predicted
distribution



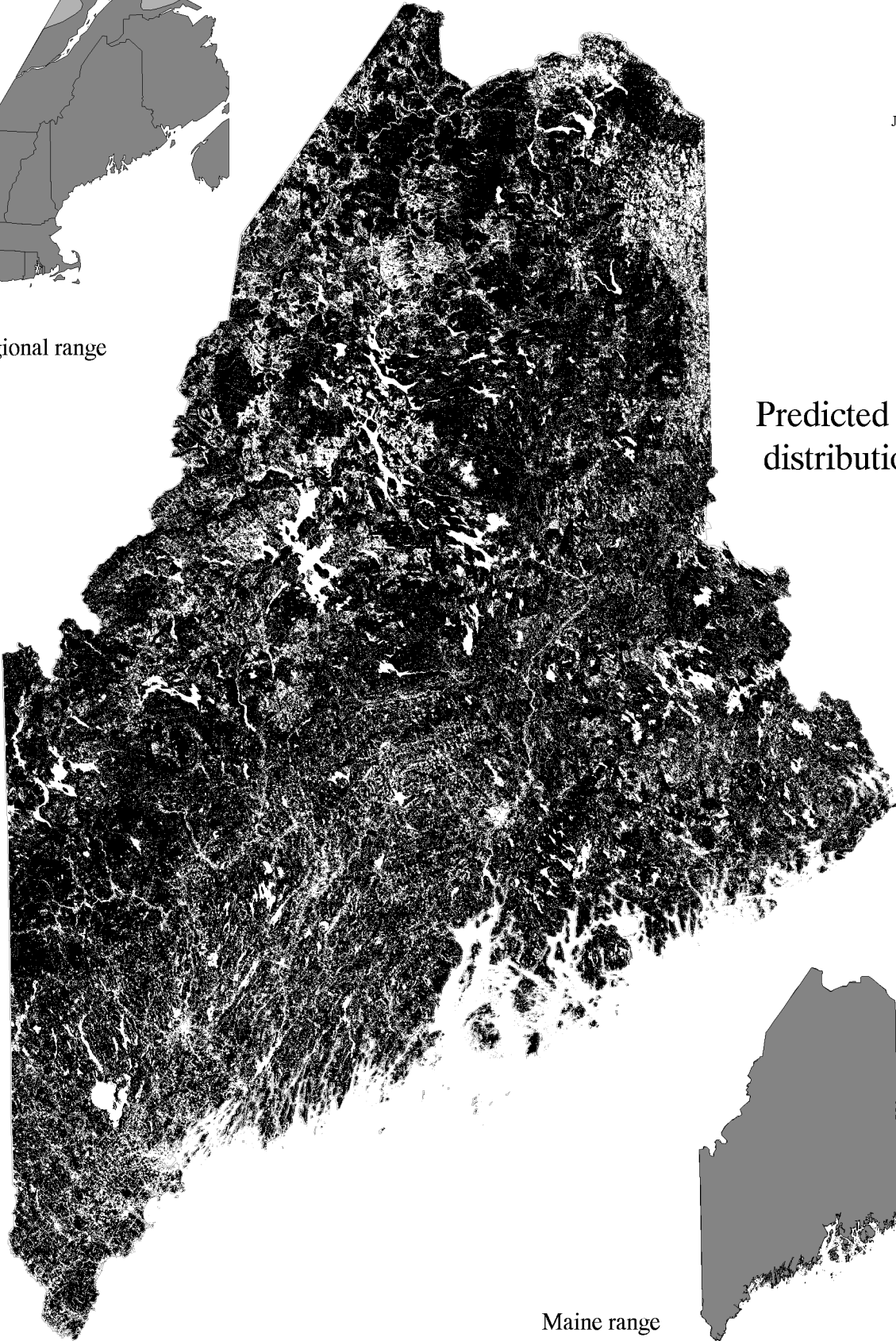
Maine range

Northern Saw-whet Owl

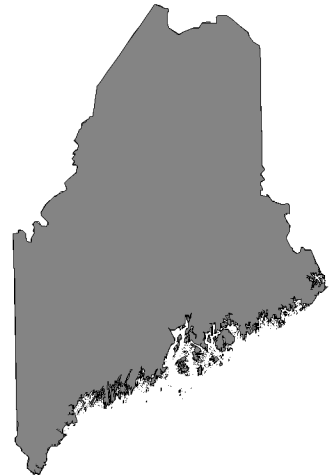
AEAC
June 1998



Regional range



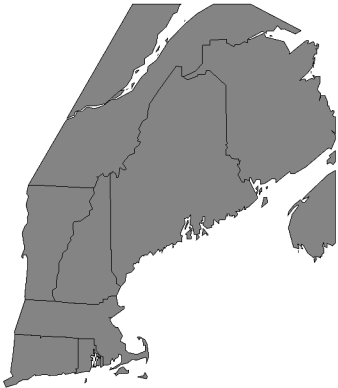
Predicted
distribution



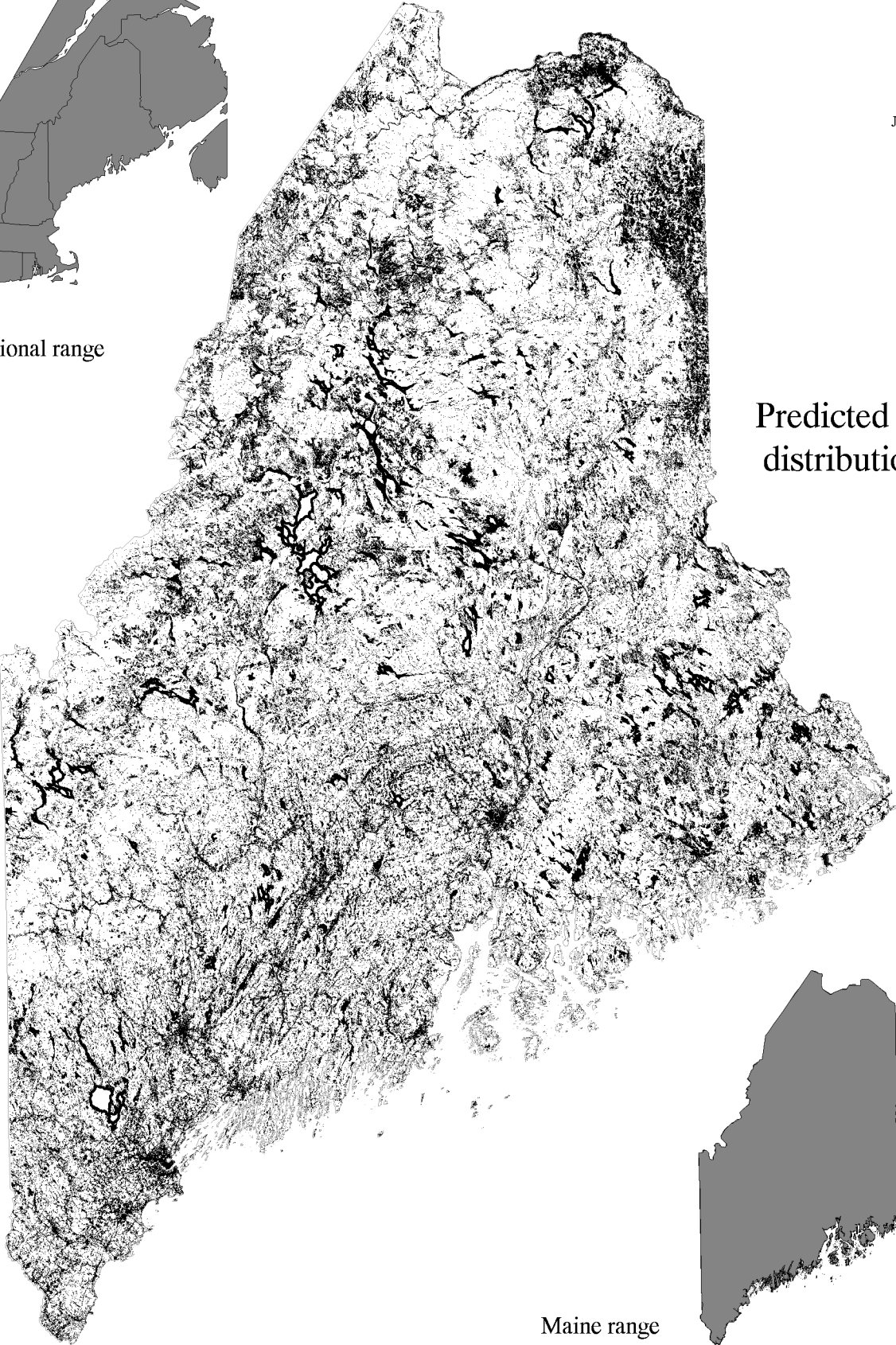
Maine range

Common Nighthawk

CHMI
June 1998



Regional range



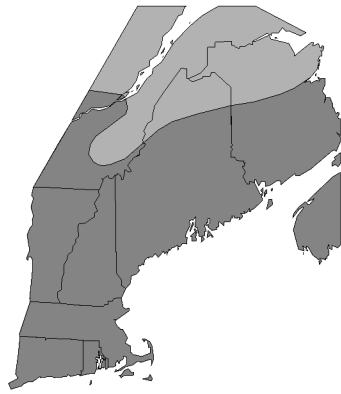
Predicted distribution



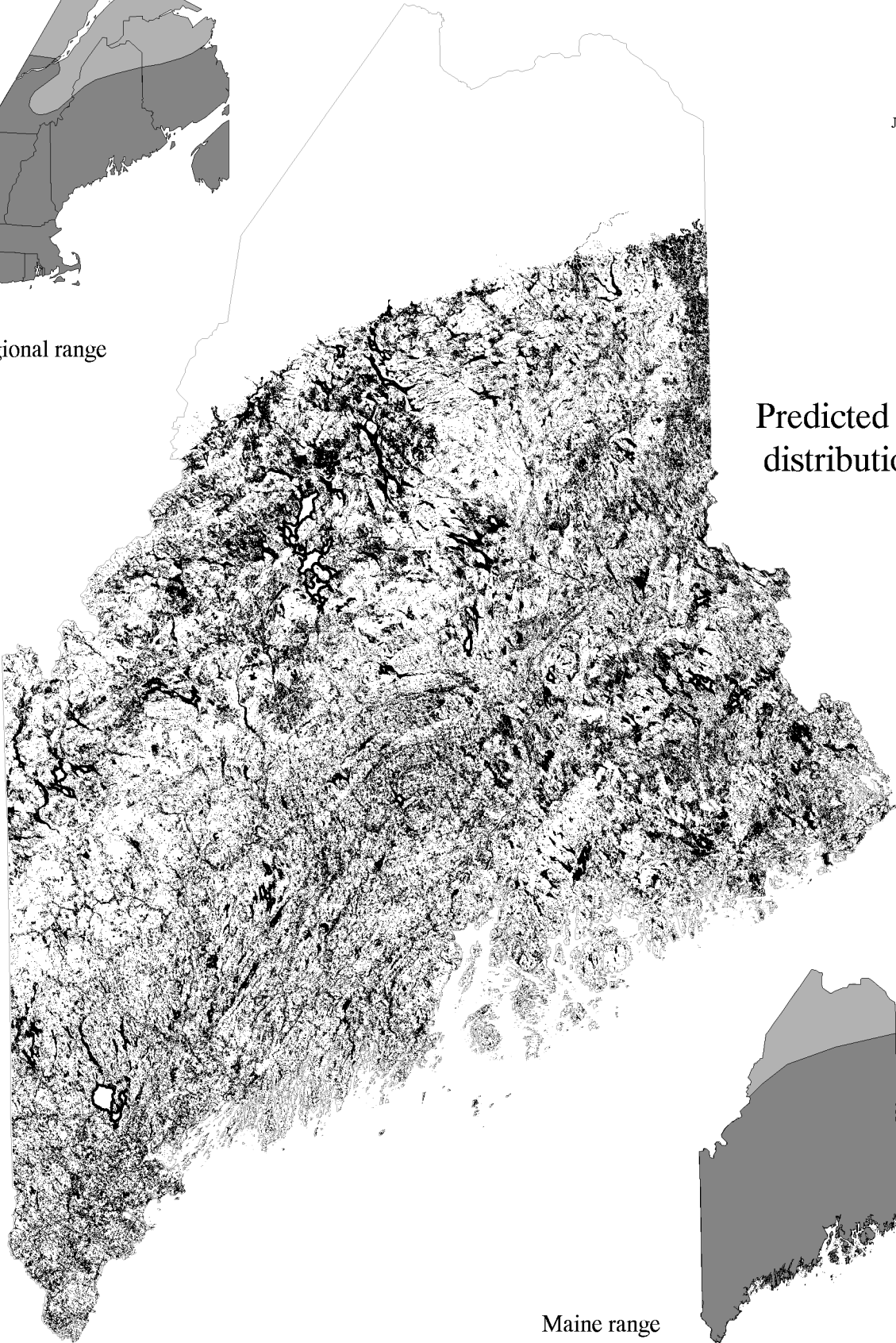
Maine range

Whip-poor-will

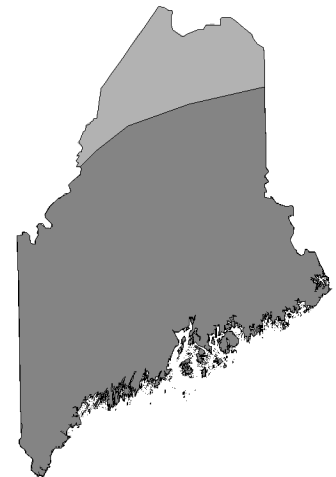
CAVO
June 1998



Regional range



Predicted
distribution



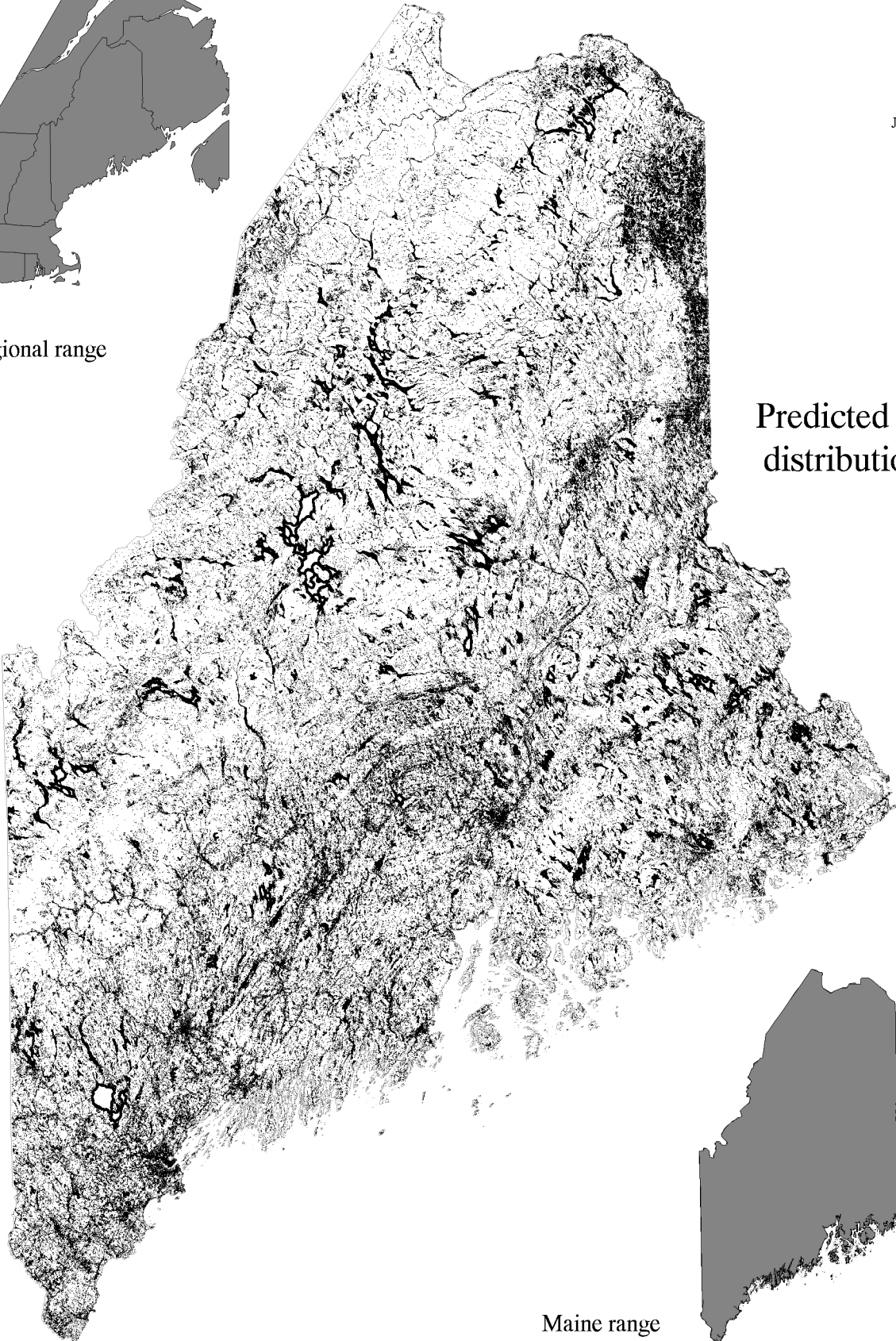
Maine range

Chimney Swift

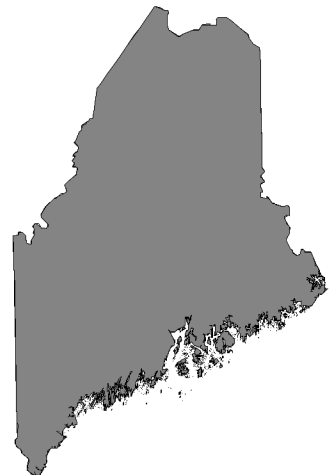
CHPE
June 1998



Regional range



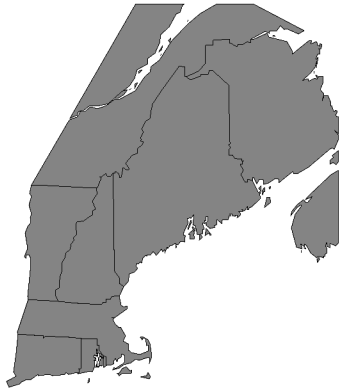
Predicted
distribution



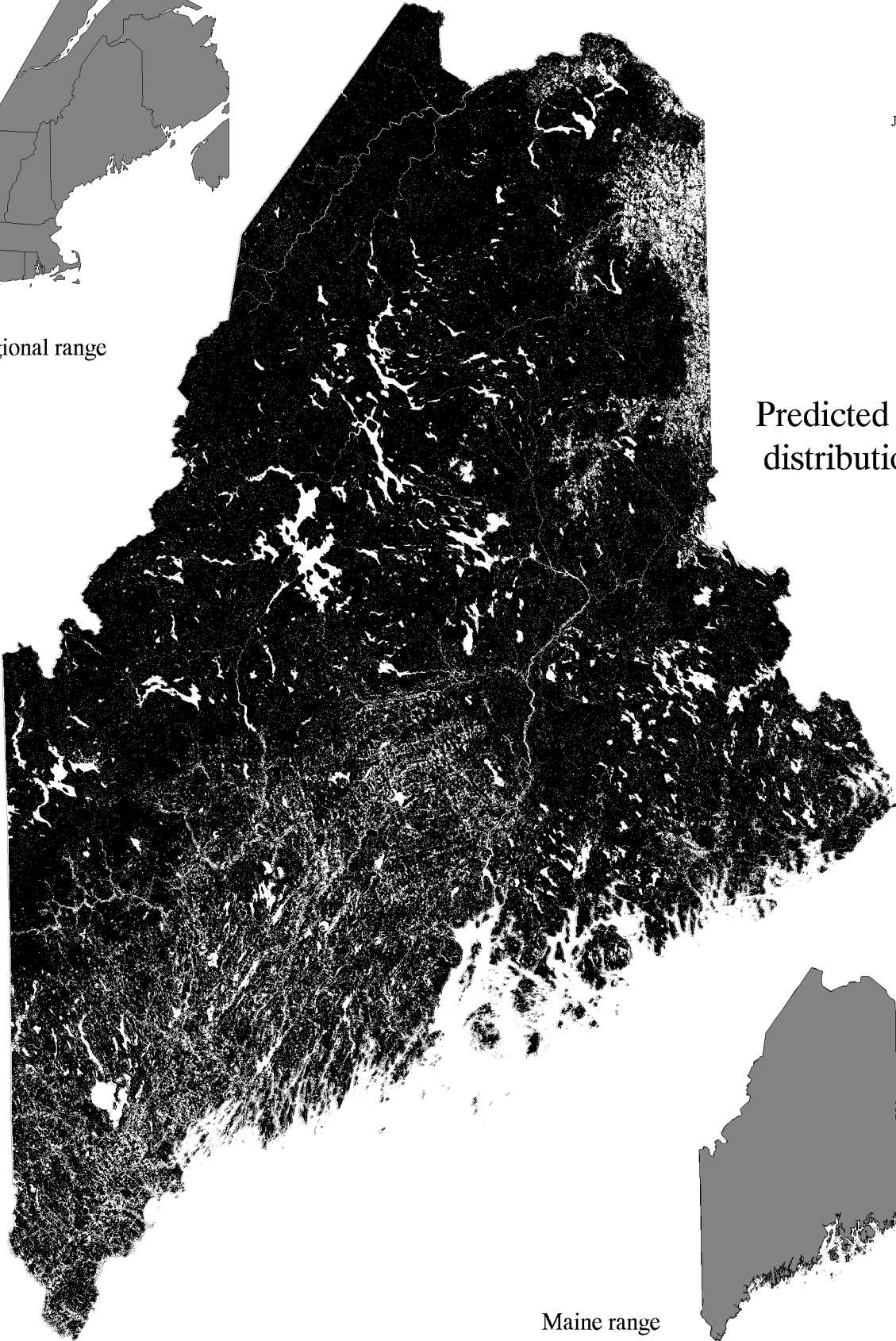
Maine range

Ruby-throated Hummingbird

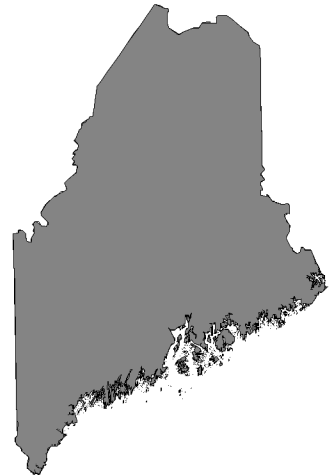
ARCO
June 1998



Regional range



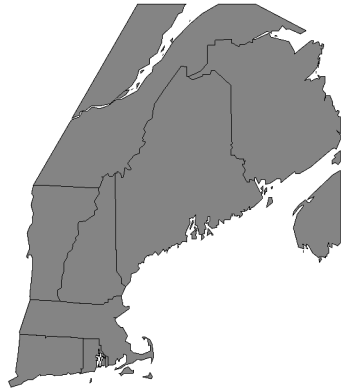
Predicted
distribution



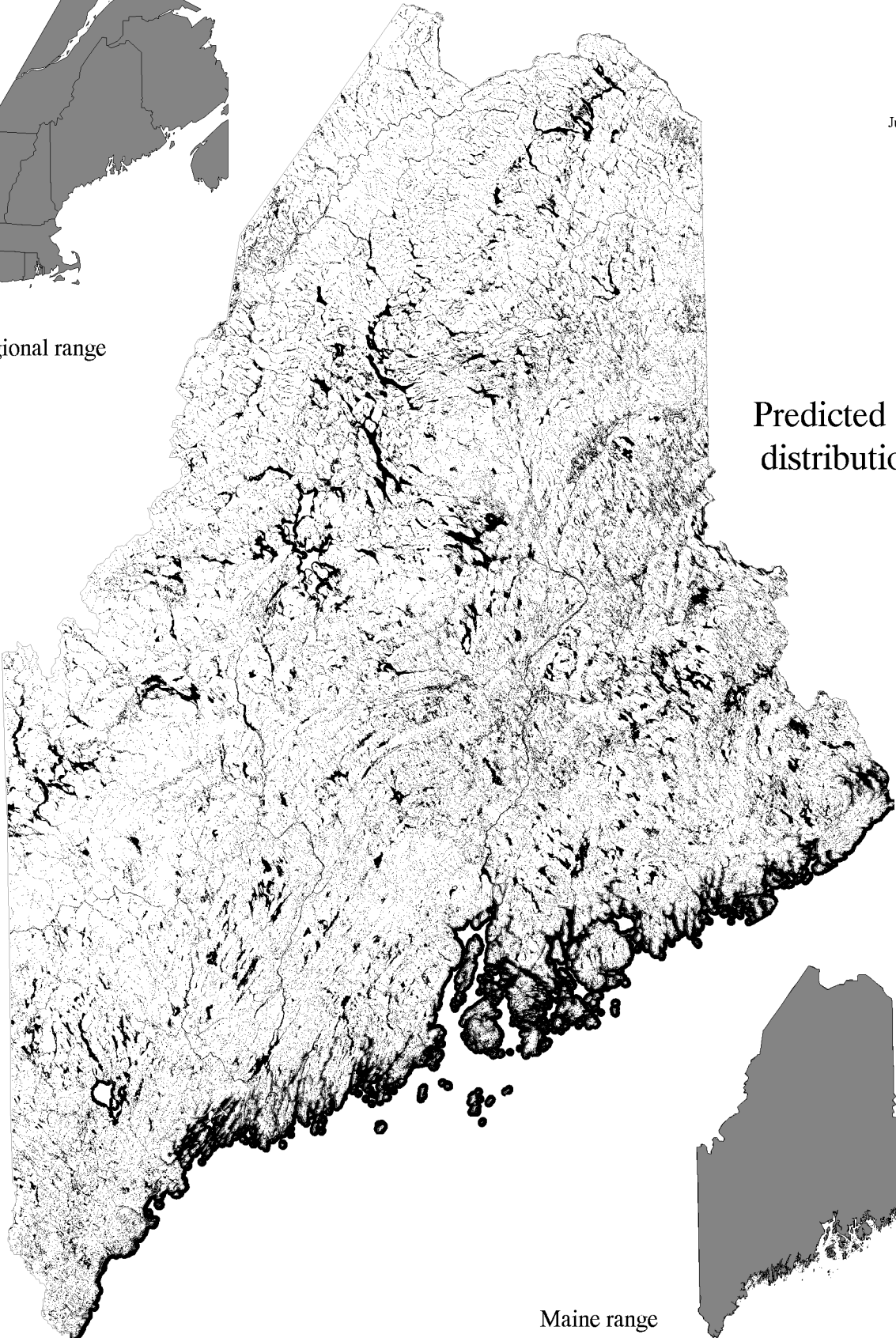
Maine range

Belted Kingfisher

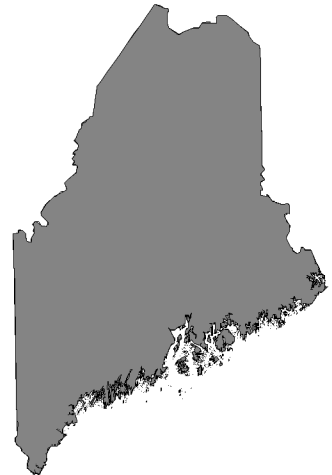
CEAL
June 1998



Regional range



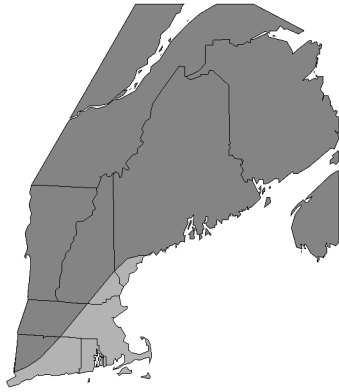
Predicted
distribution



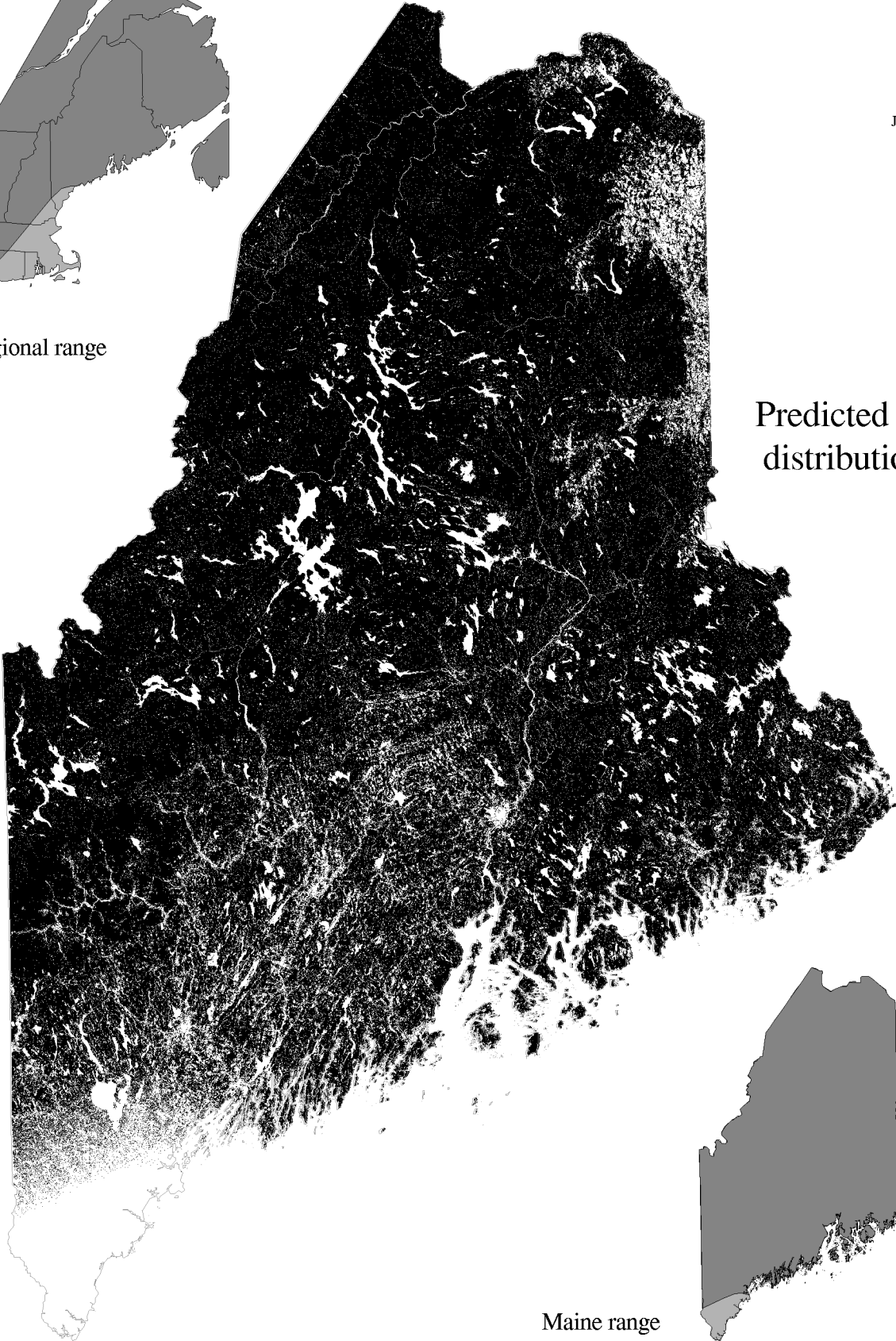
Maine range

Yellow-bellied Sapsucker

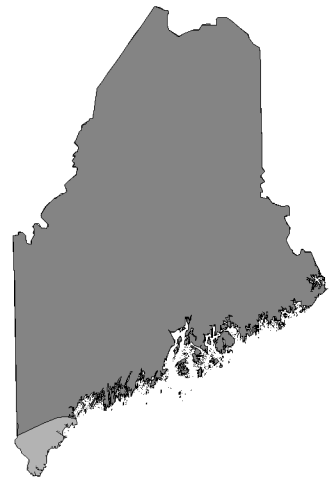
SPVA
June 1998



Regional range



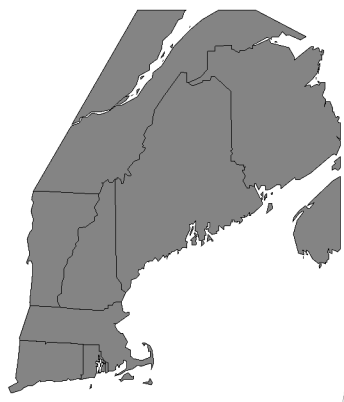
Predicted
distribution



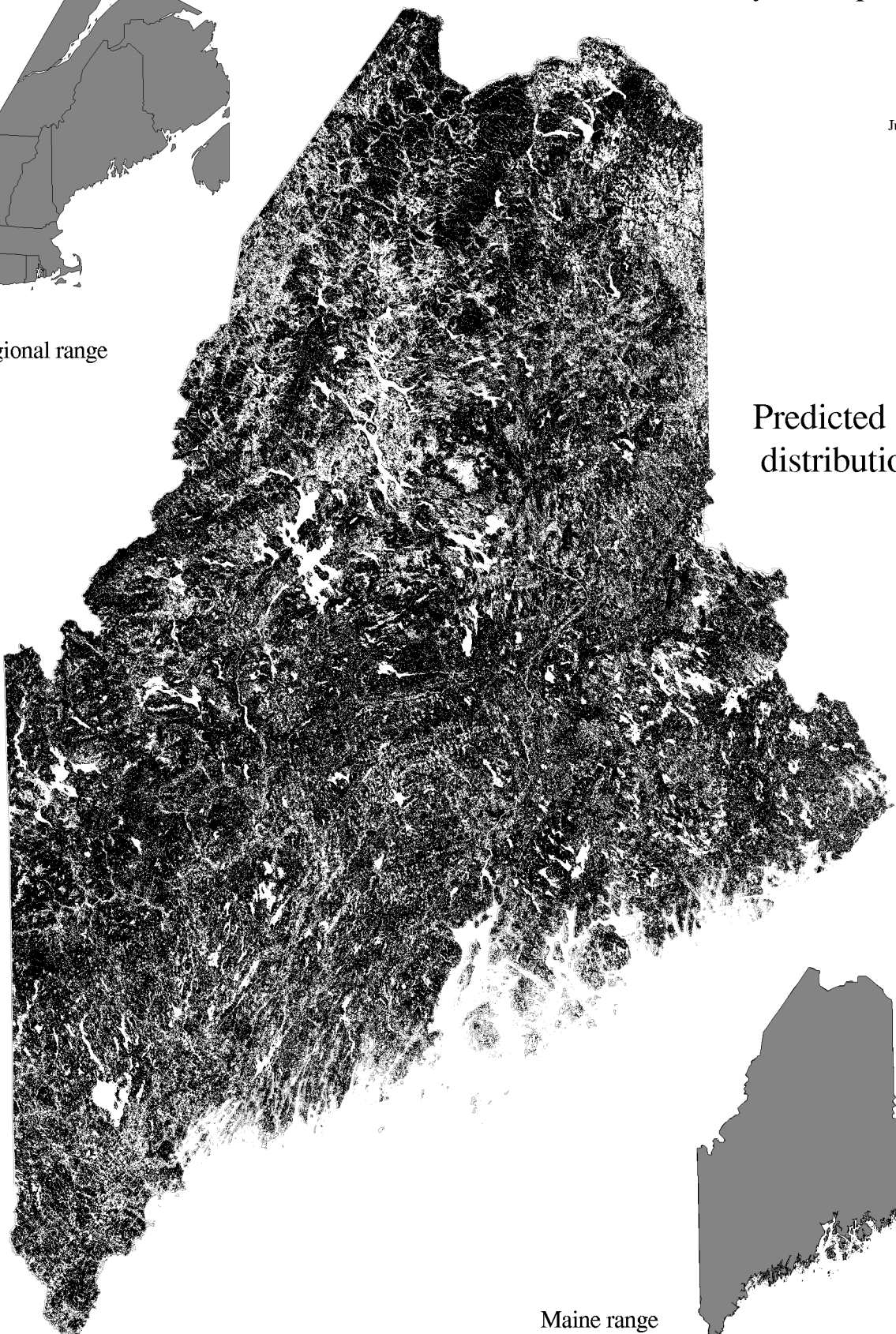
Maine range

Downy Woodpecker

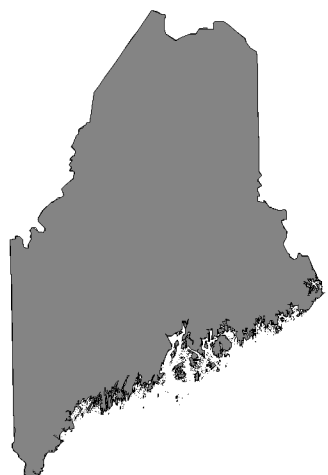
PIPU
June 1998



Regional range



Predicted
distribution



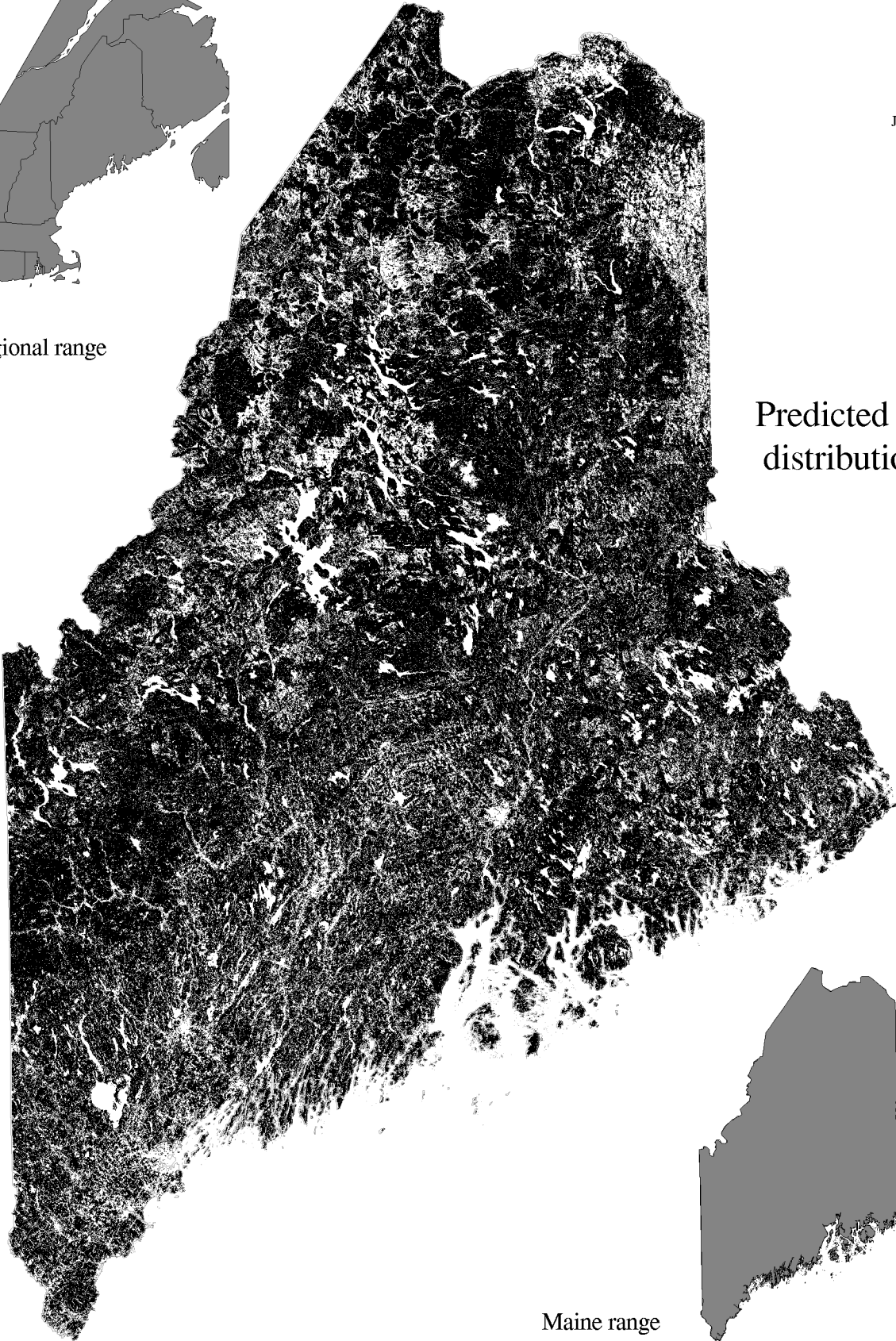
Maine range

Hairy Woodpecker

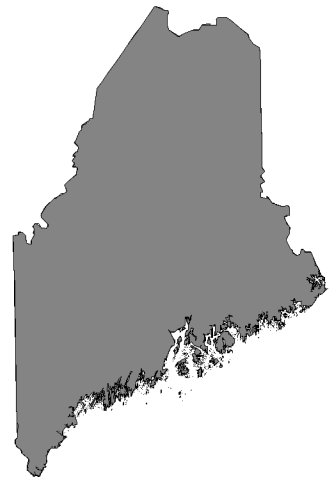
PIVI
June 1998



Regional range



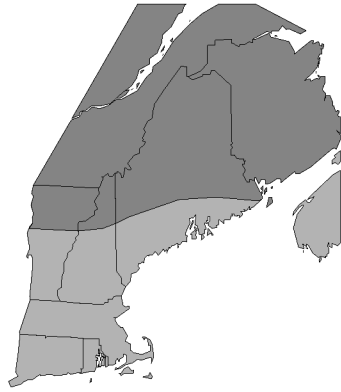
Predicted
distribution



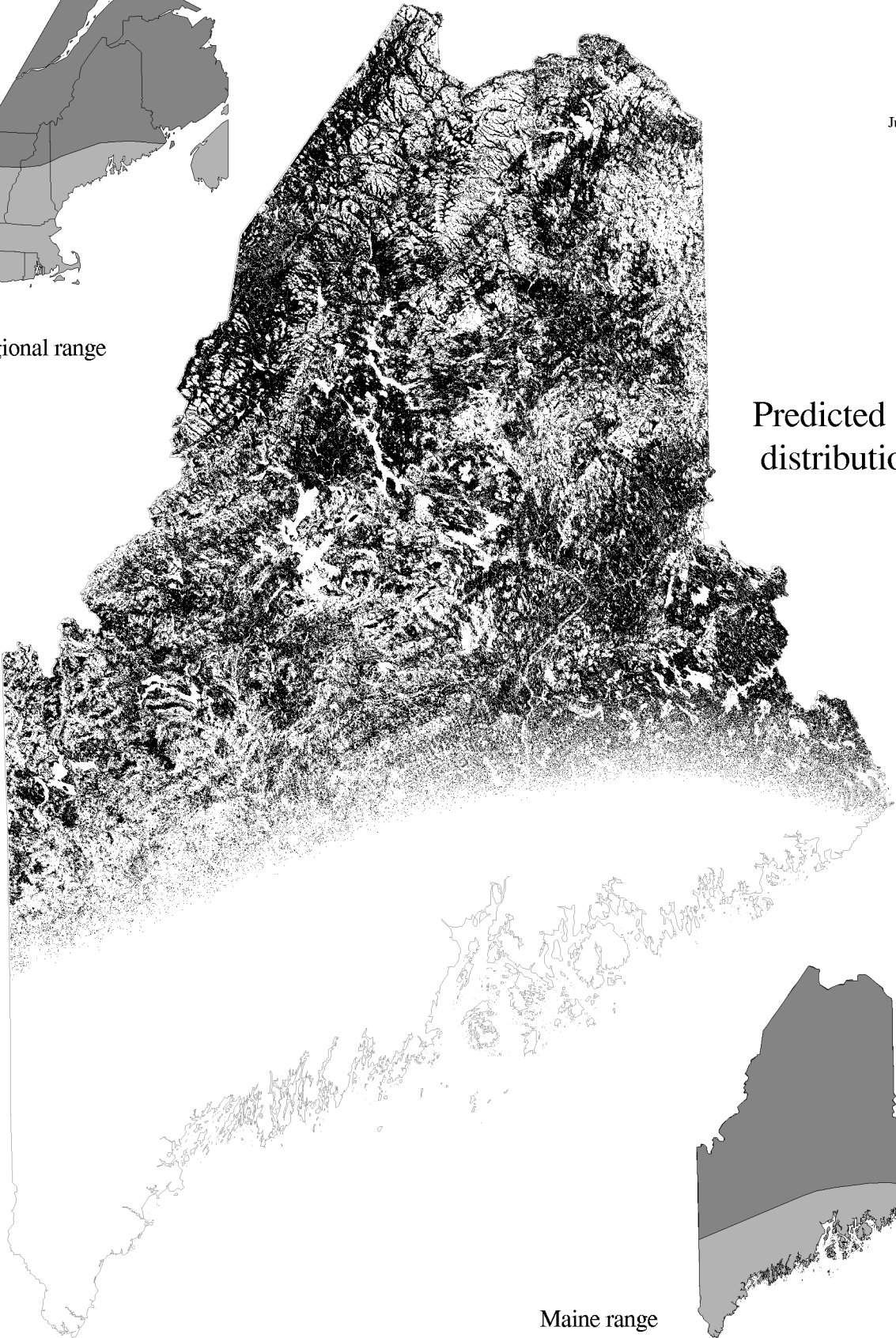
Maine range

Three-toed Woodpecker

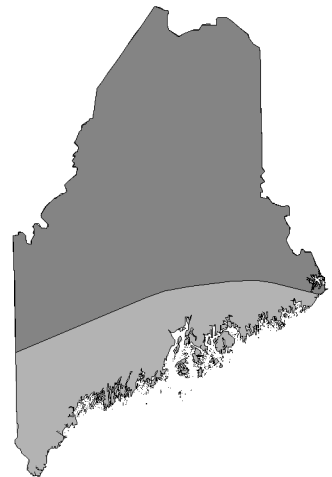
PTR
June 1998



Regional range



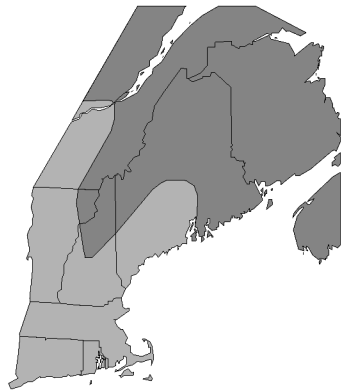
Predicted
distribution



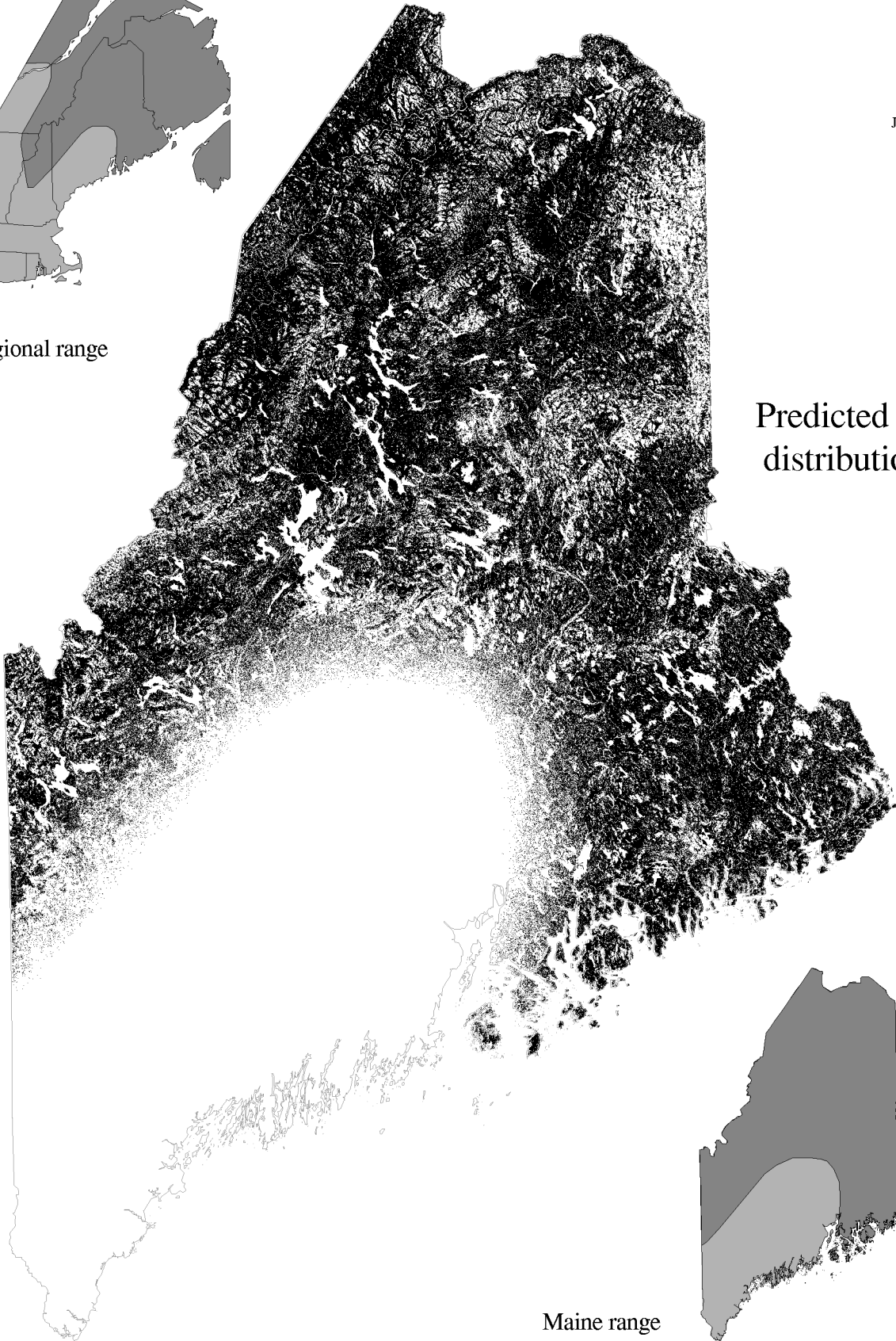
Maine range

Black-backed Woodpecker

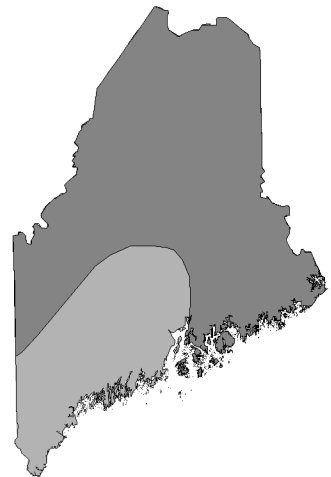
PIAR
June 1998



Regional range



Predicted
distribution



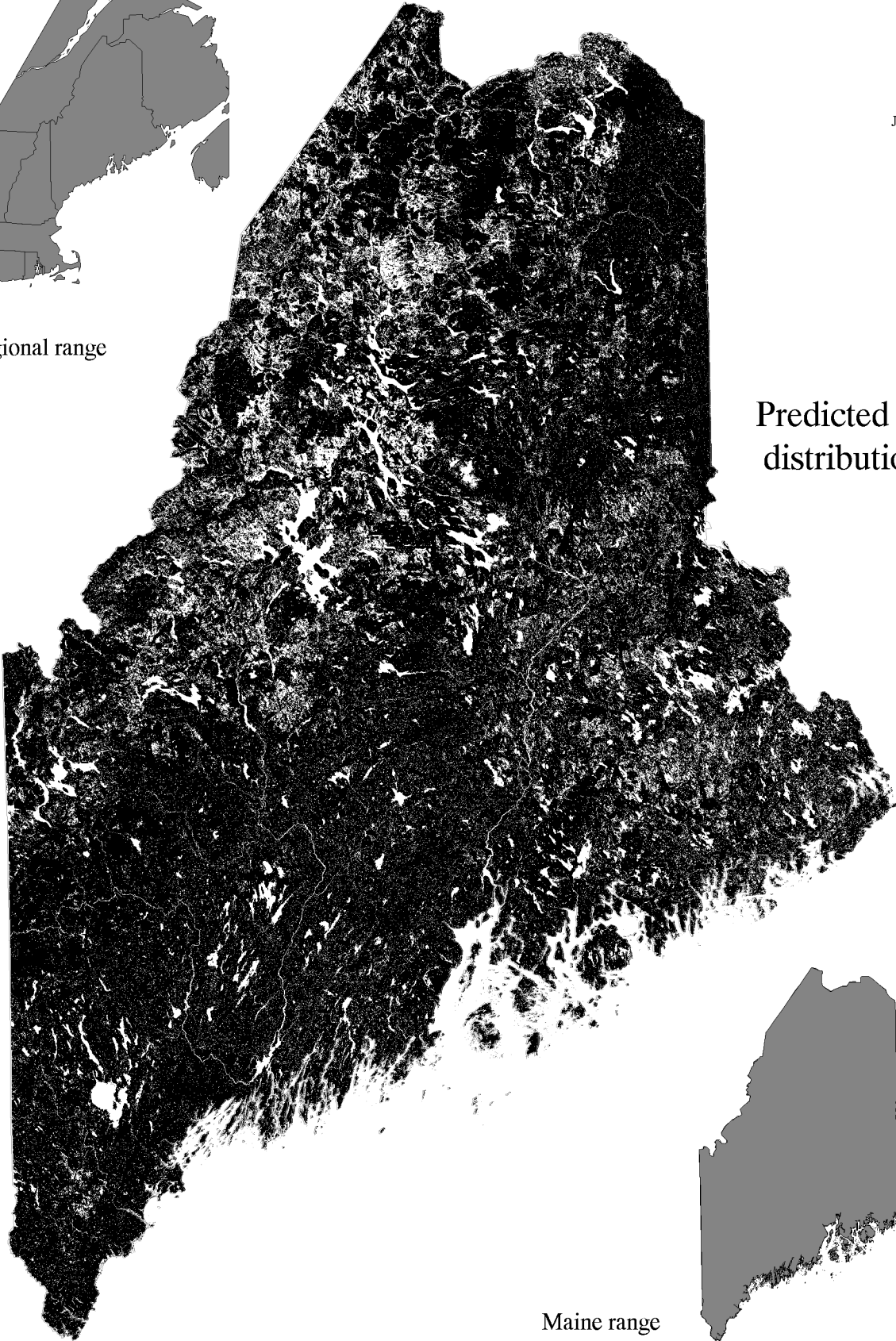
Maine range

Northern Flicker

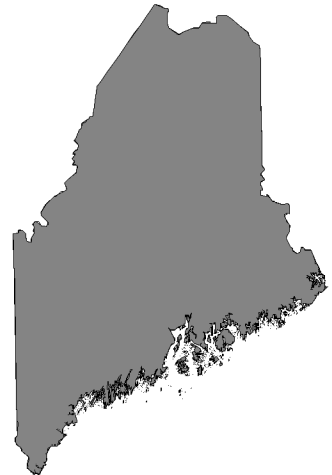
COAU
June 1998



Regional range



Predicted
distribution



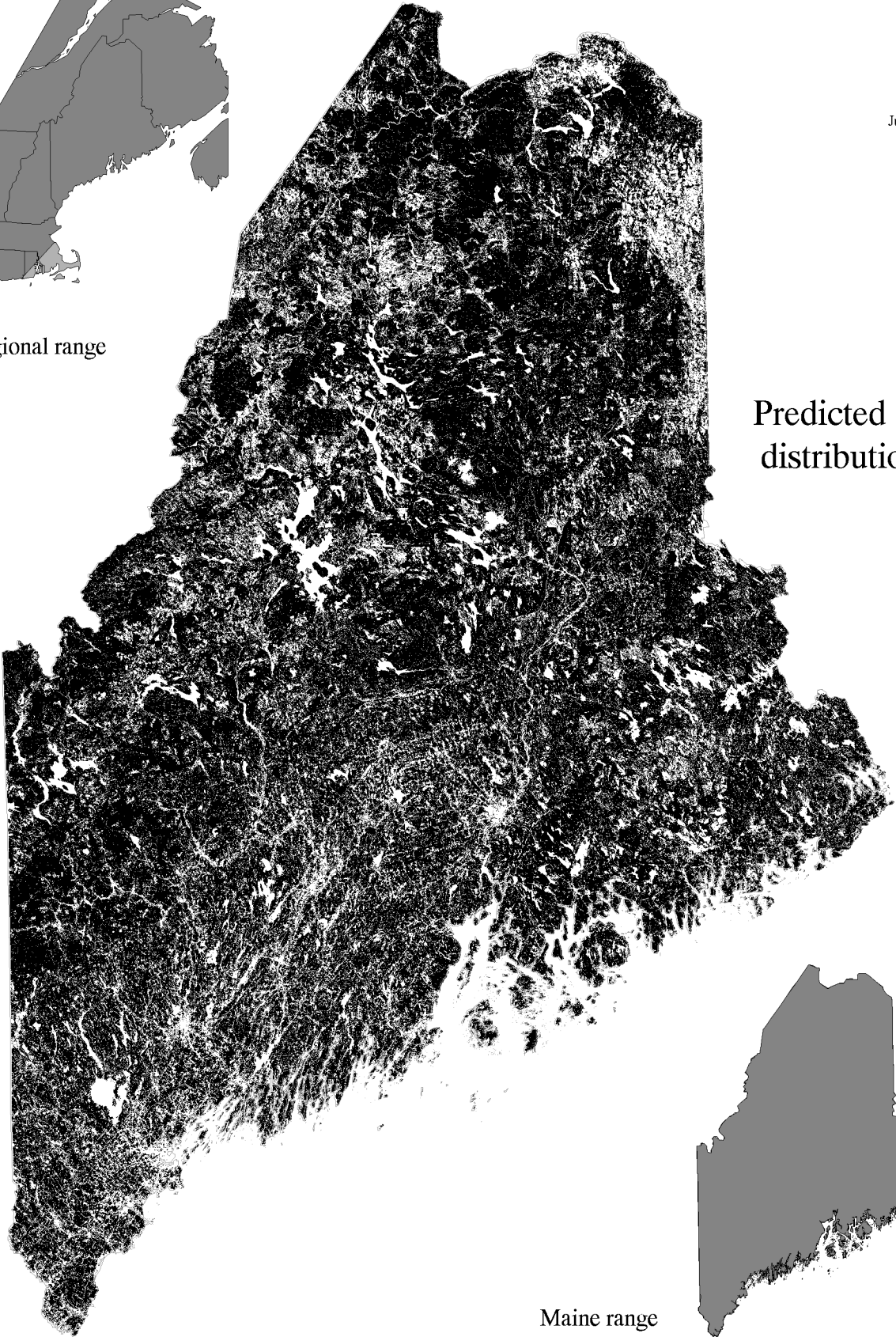
Maine range

Pileated Woodpecker

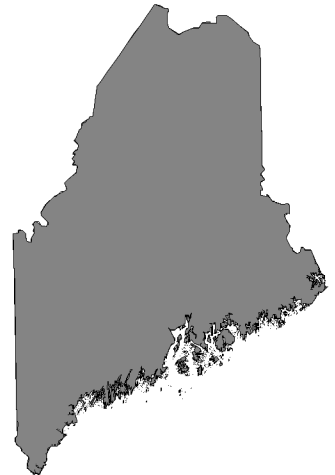
DRPI
June 1998



Regional range



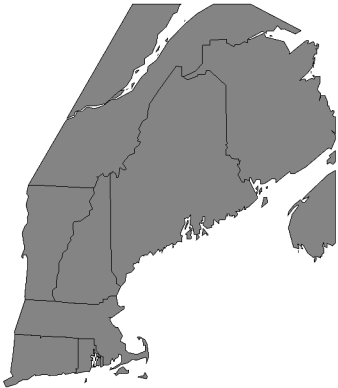
Predicted
distribution



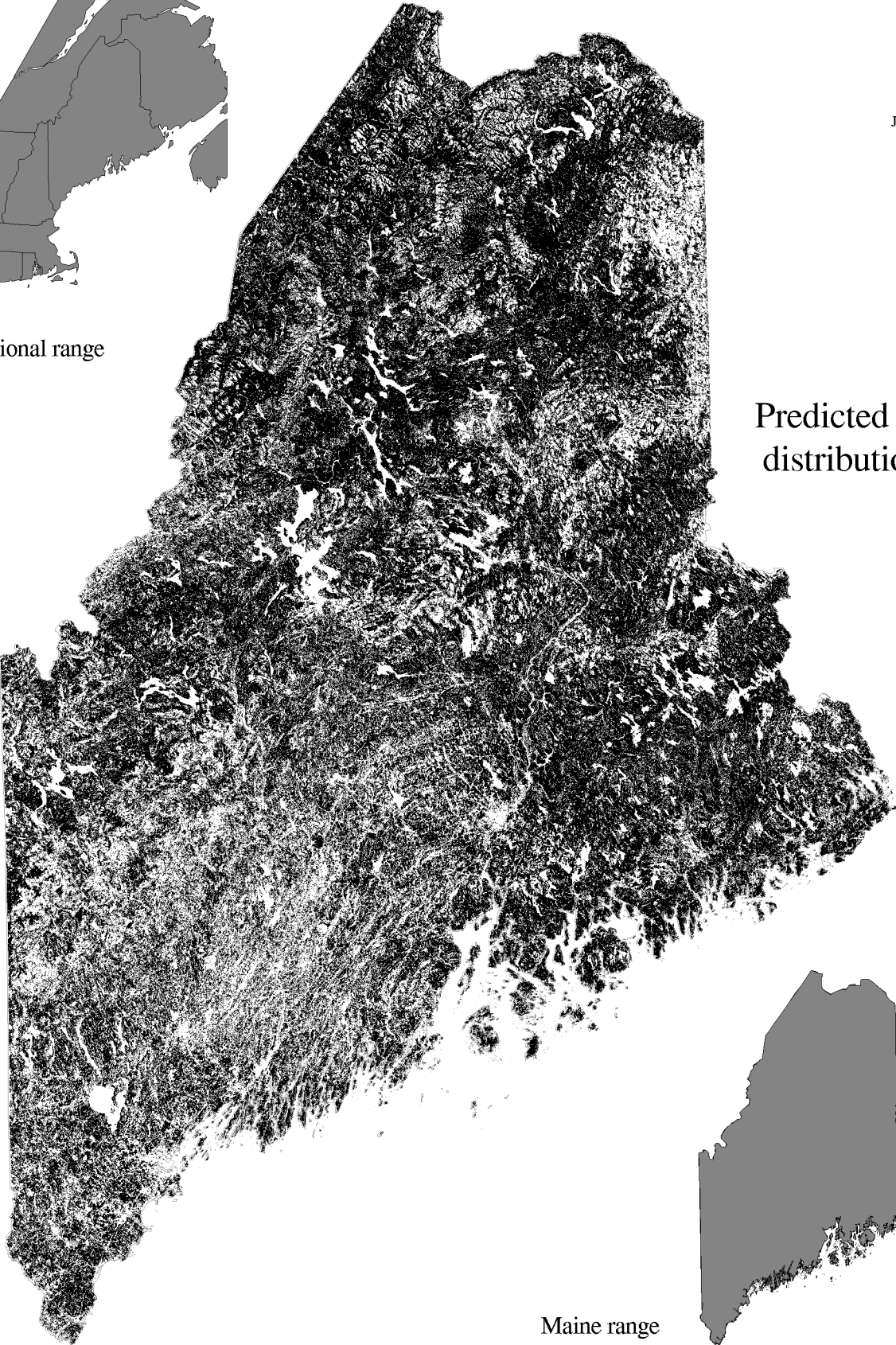
Maine range

Olive-sided Flycatcher

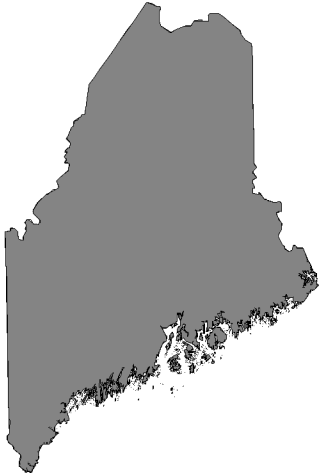
COBO
June 1998



Regional range



Predicted
distribution



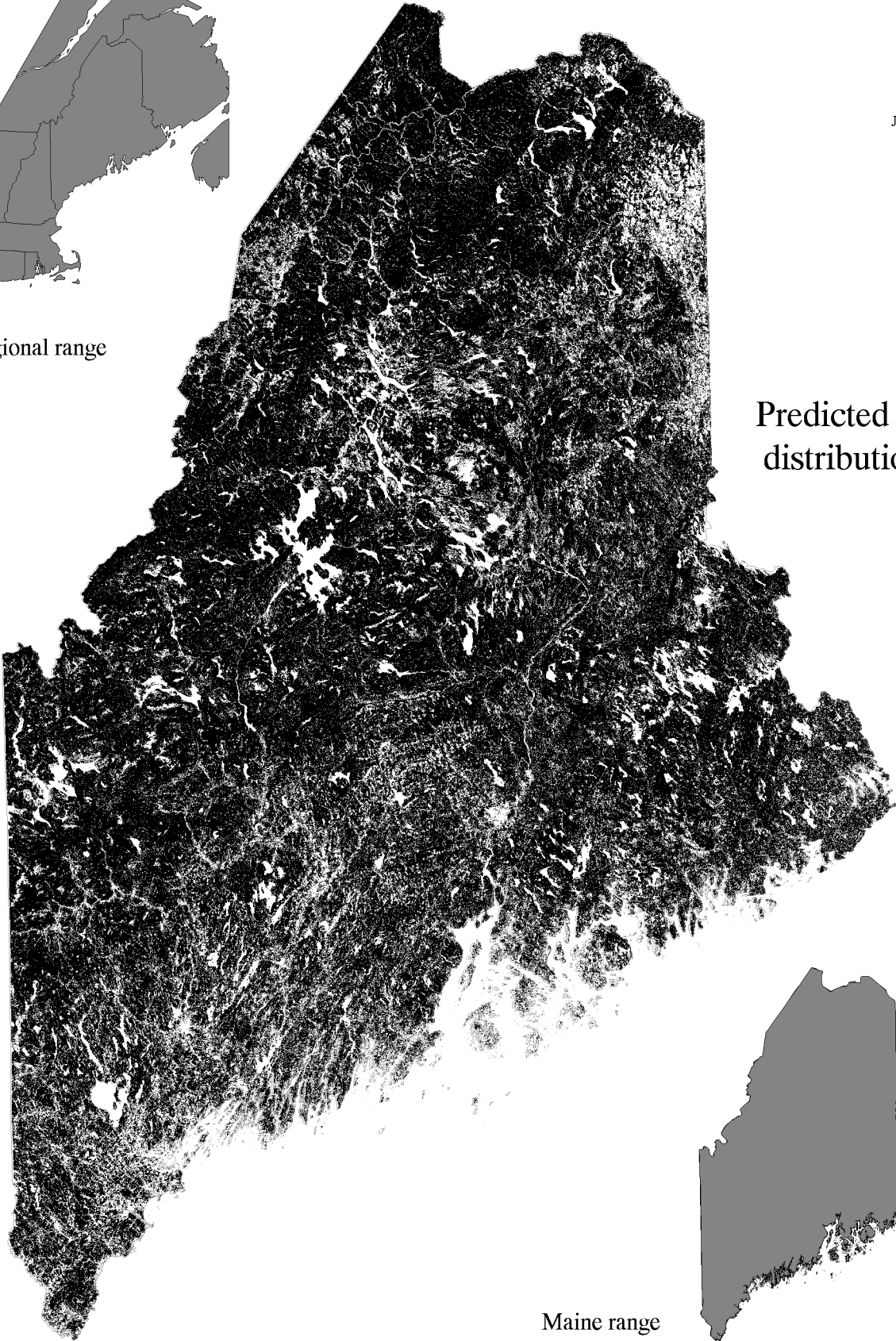
Maine range

Eastern Wood-pewee

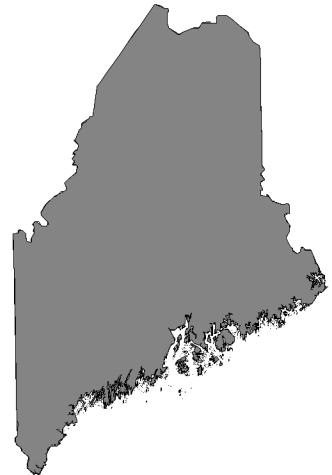
COVR
June 1998



Regional range



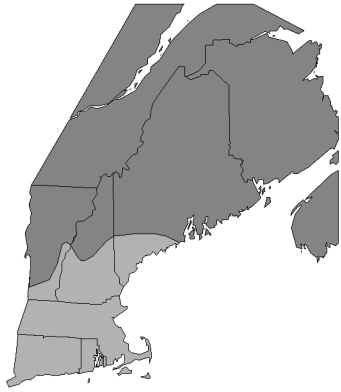
Predicted
distribution



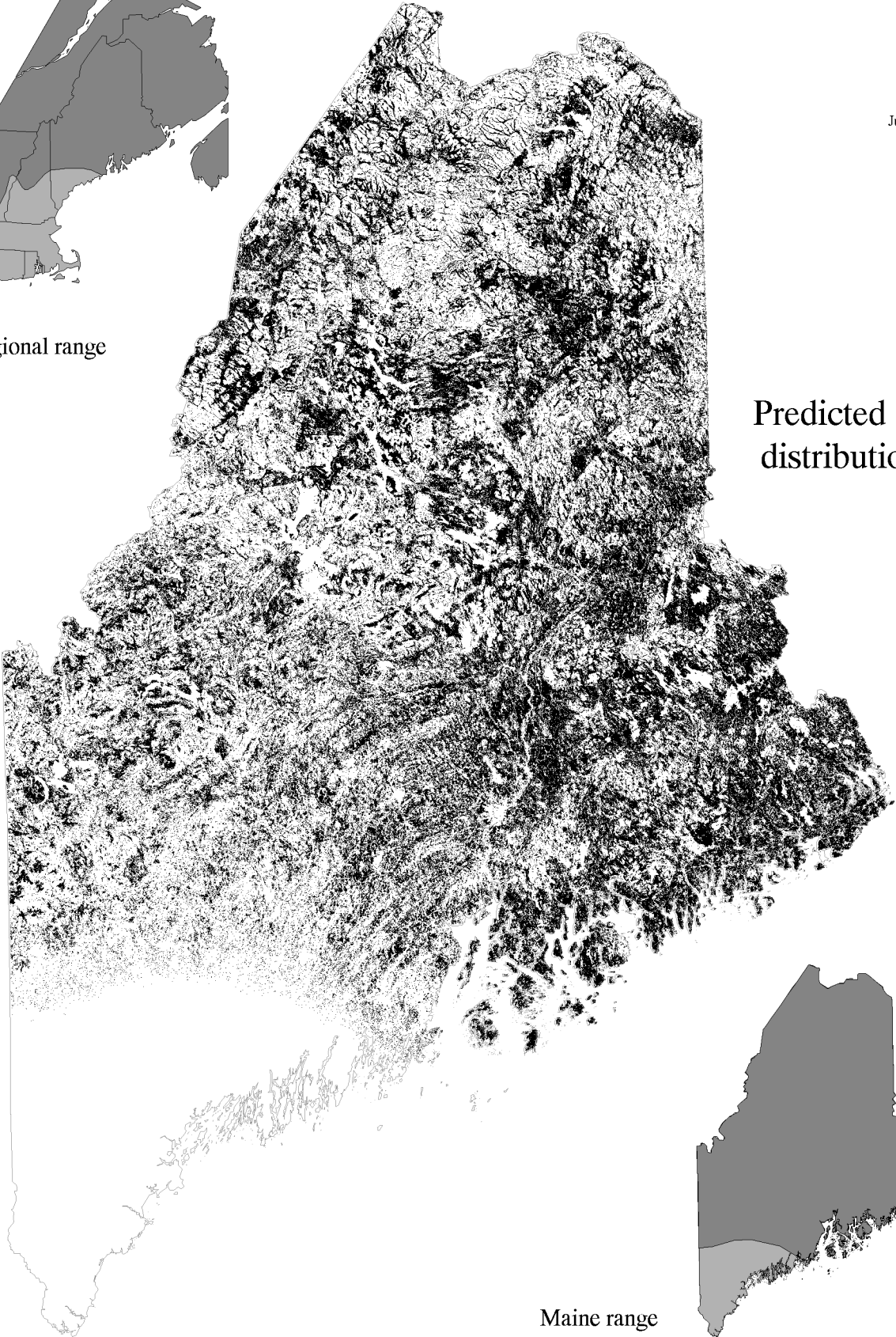
Maine range

Yellow-bellied Flycatcher

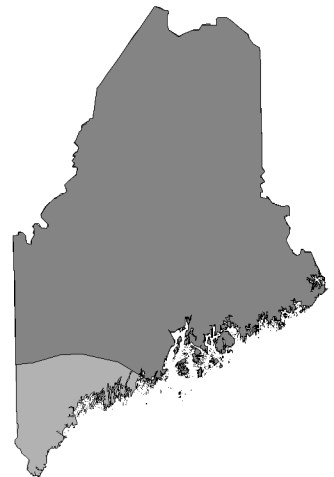
EMFL
June 1998



Regional range



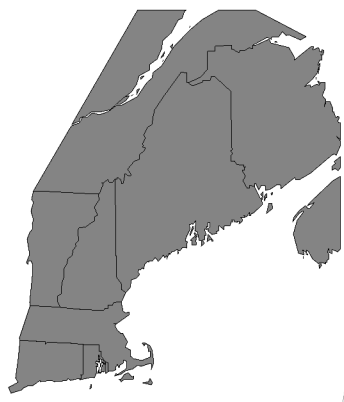
Predicted
distribution



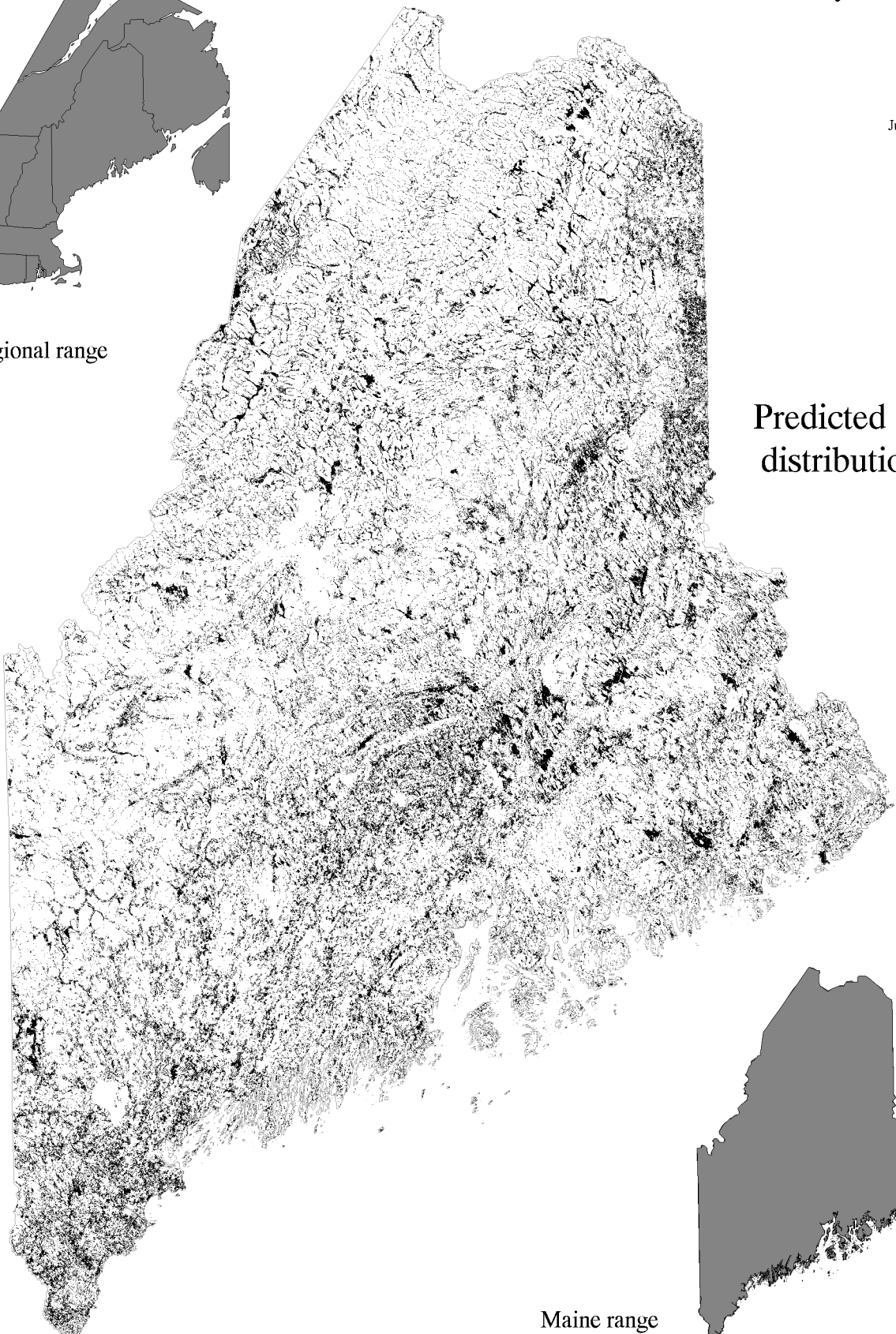
Maine range

Alder Flycatcher

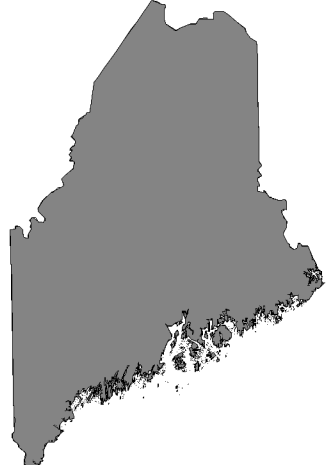
EMAL
June 1998



Regional range



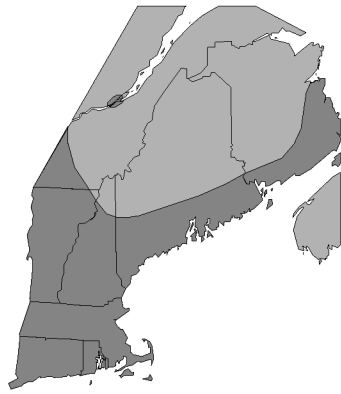
Predicted
distribution



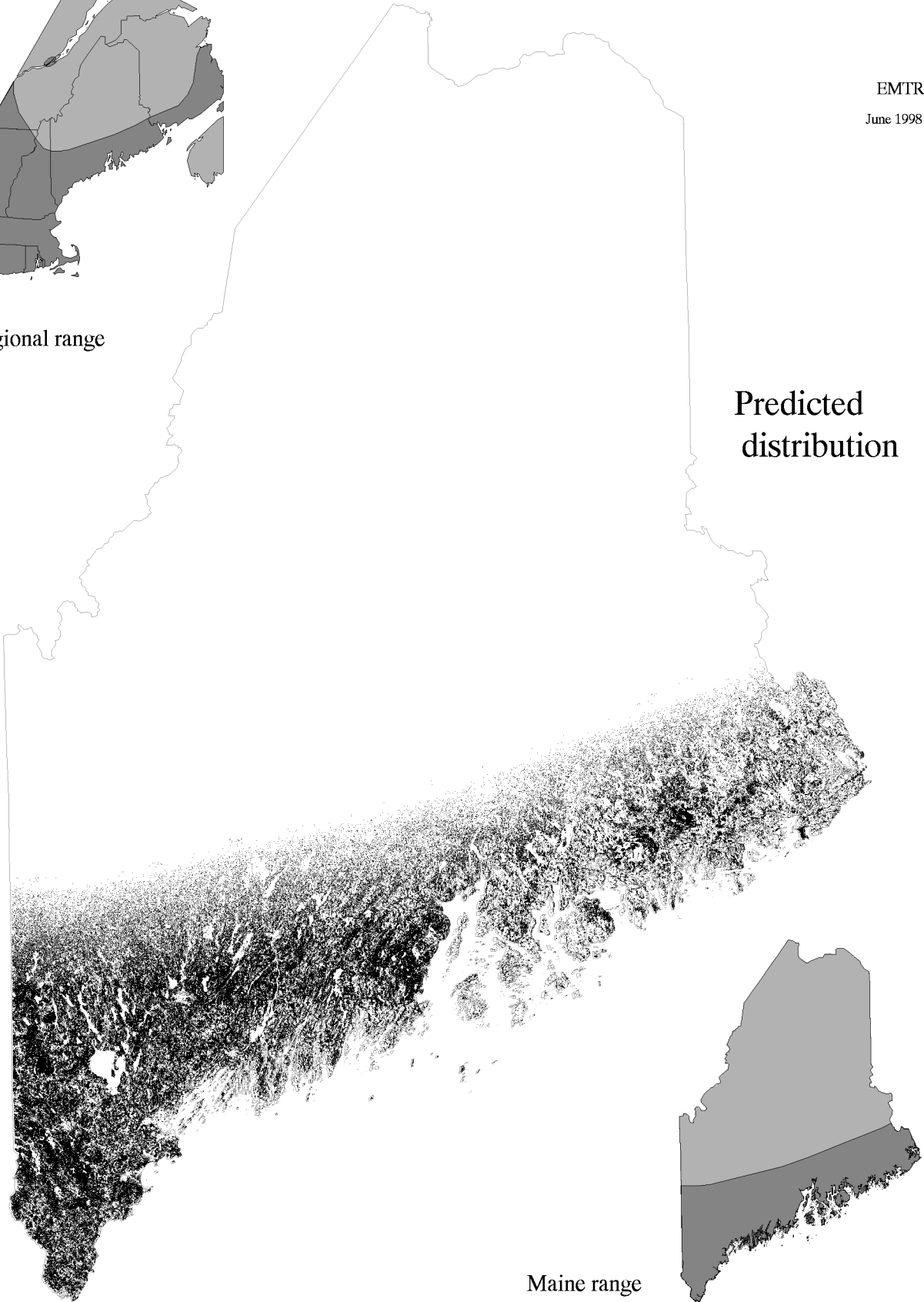
Maine range

Willow Flycatcher

EMTR
June 1998



Regional range

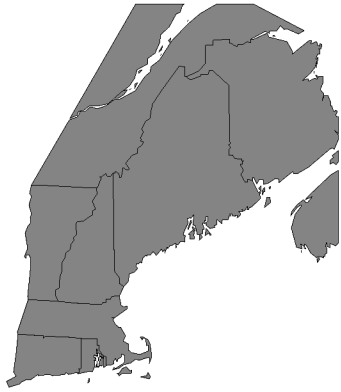


Predicted
distribution

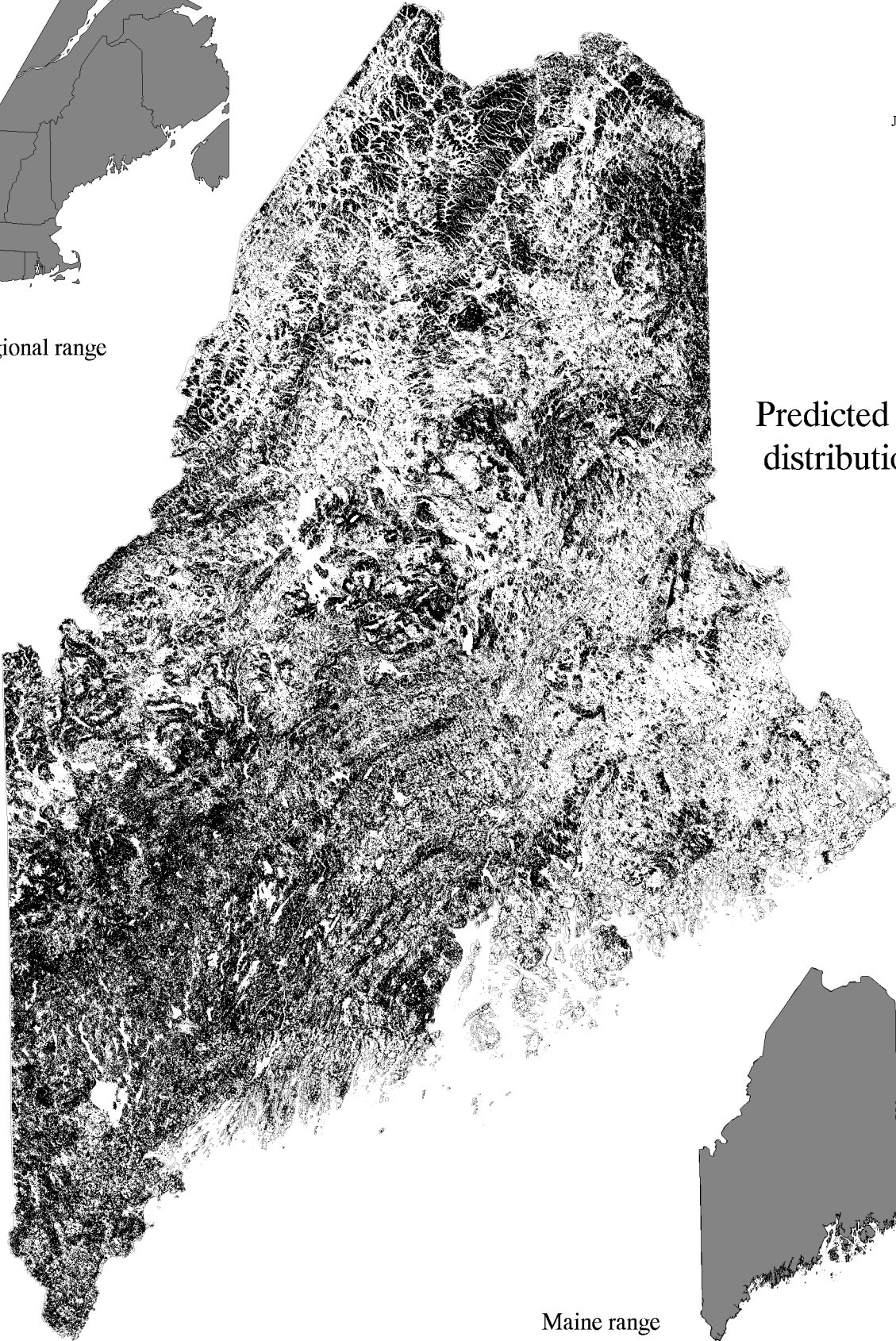
Maine range

Least Flycatcher

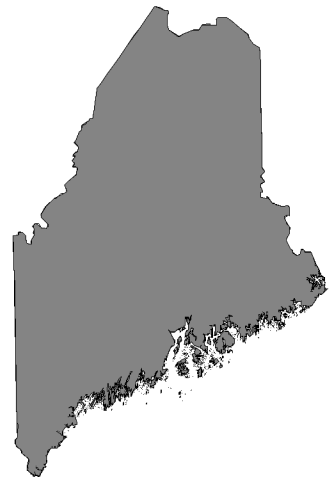
EMMI
June 1998



Regional range



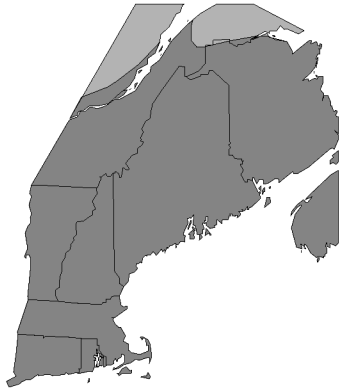
Predicted
distribution



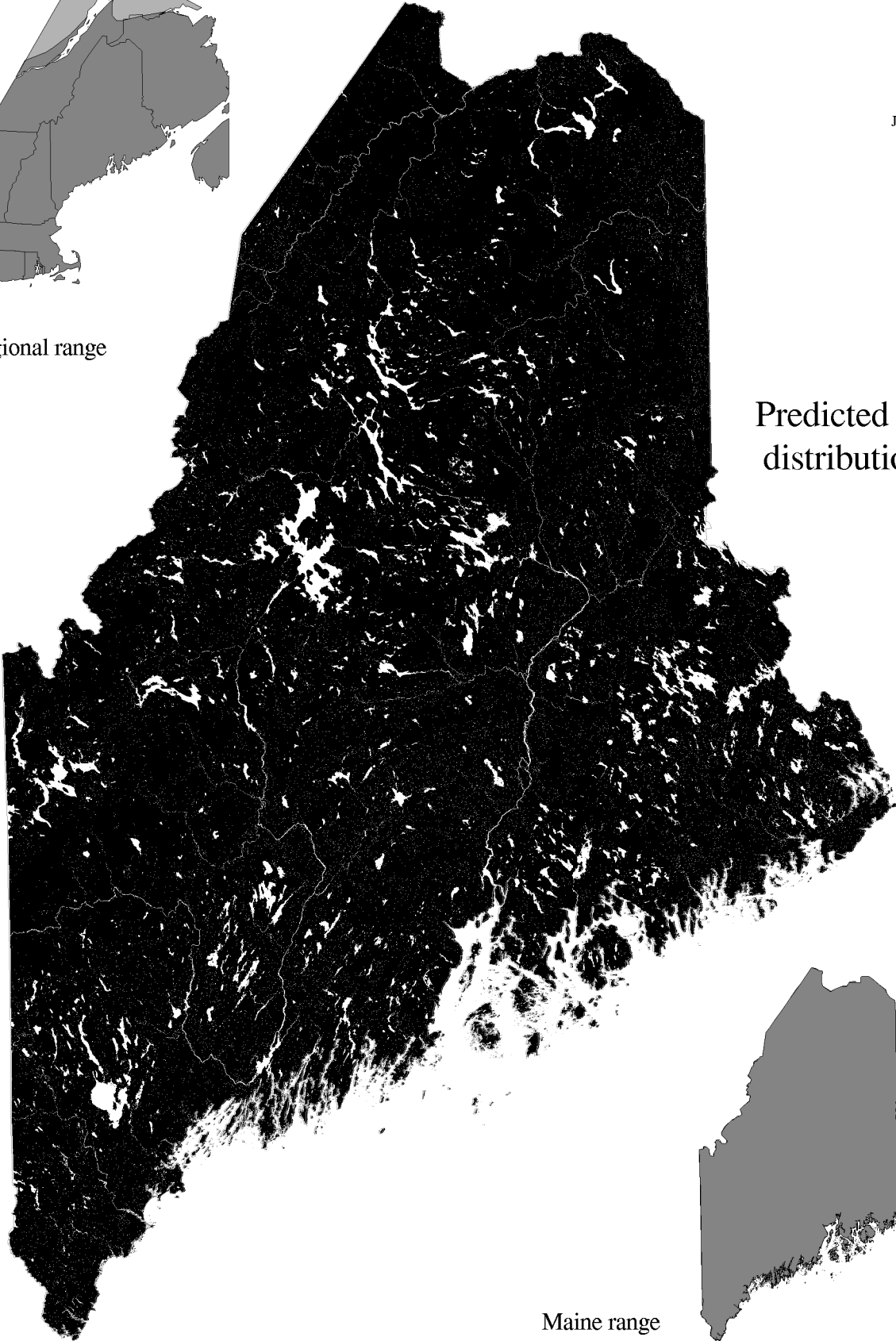
Maine range

Eastern Phoebe

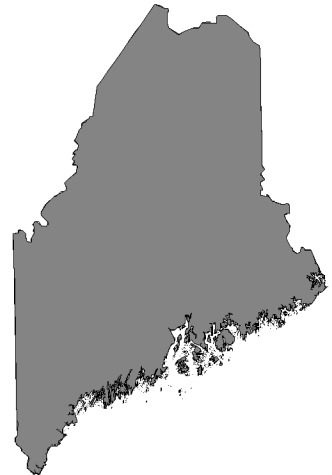
SAPH
June 1998



Regional range



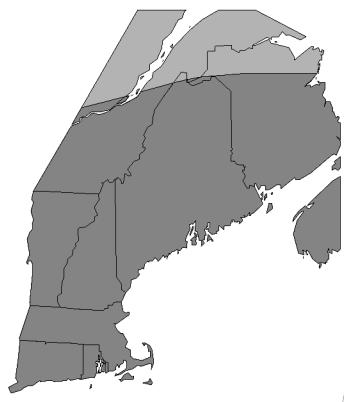
Predicted
distribution



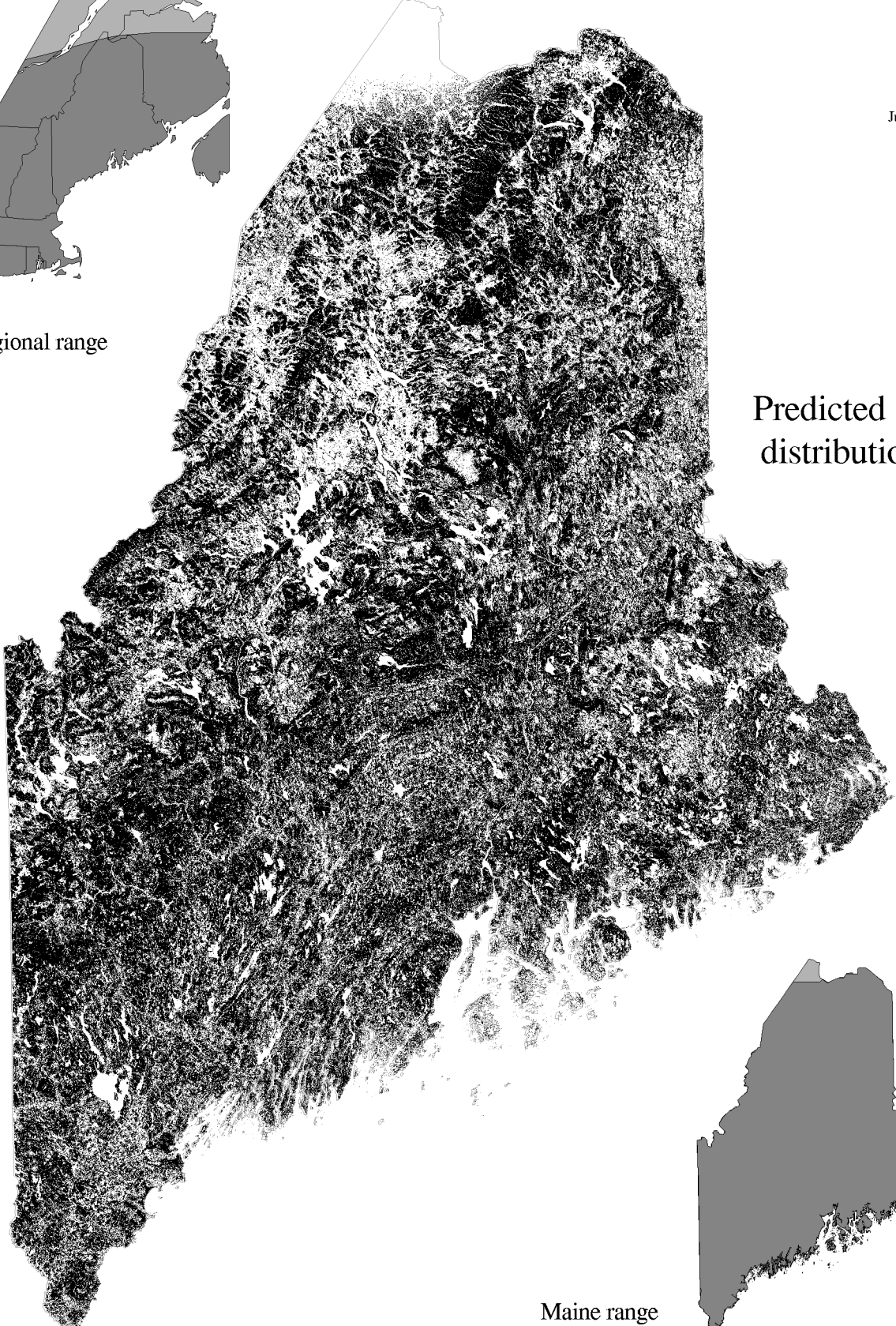
Maine range

Great Crested Flycatcher

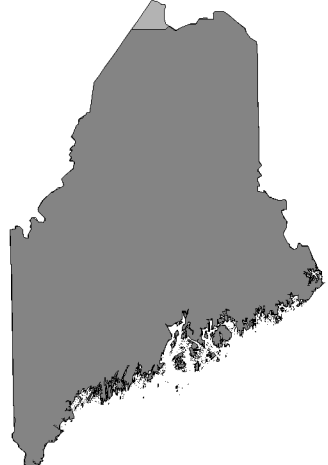
MYCR
June 1998



Regional range



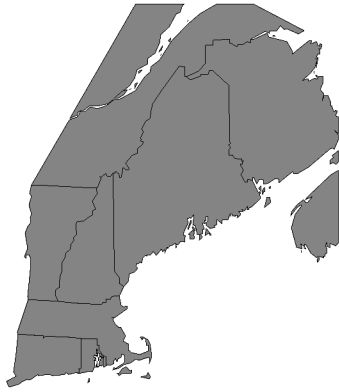
Predicted distribution



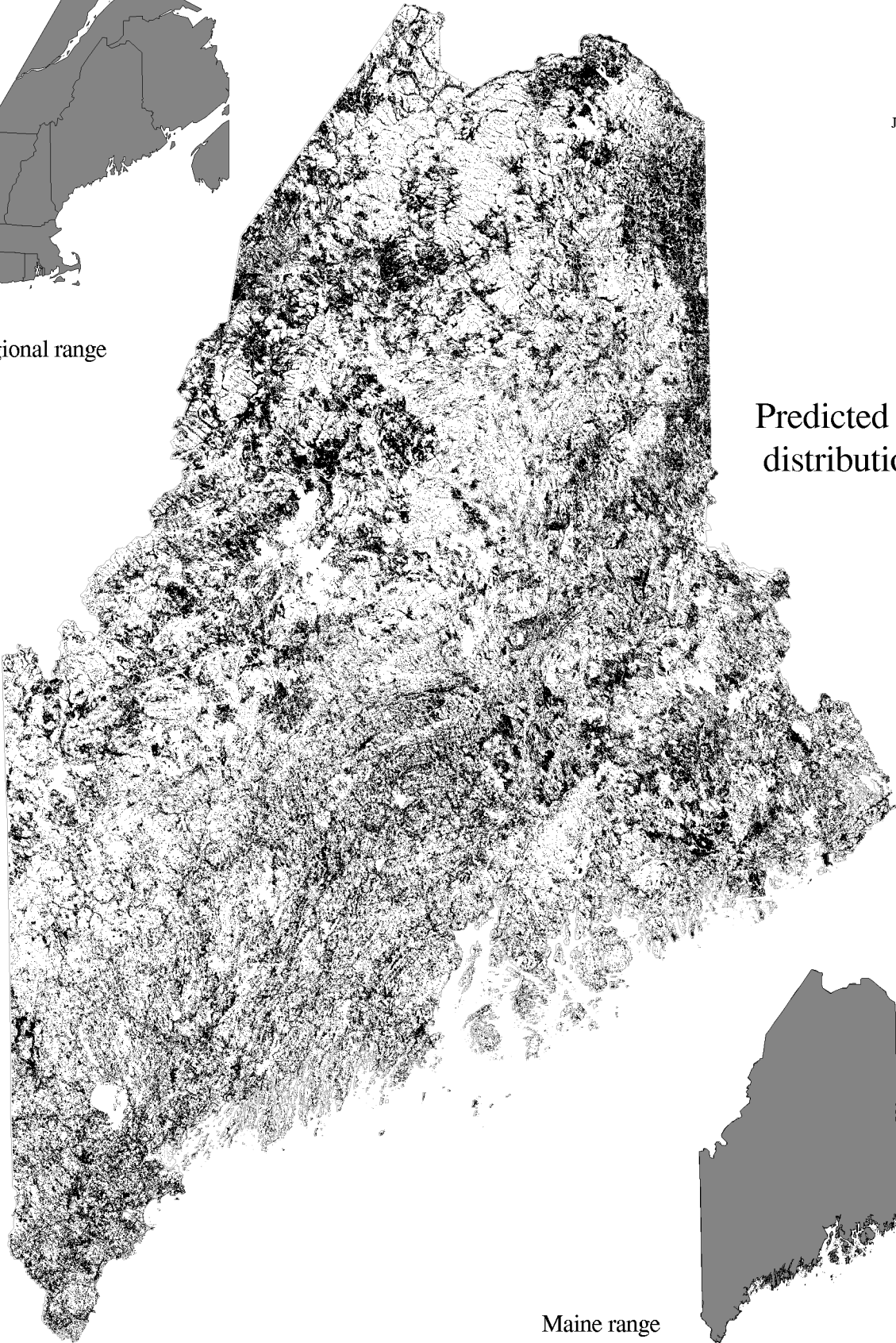
Maine range

Eastern Kingbird

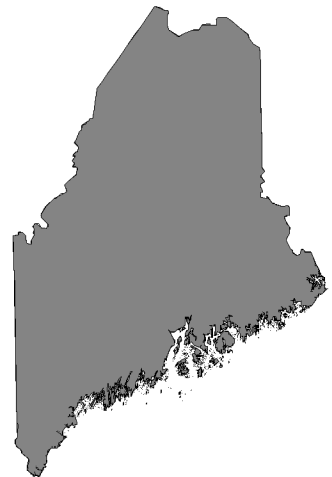
TYTY
June 1998



Regional range



Predicted
distribution



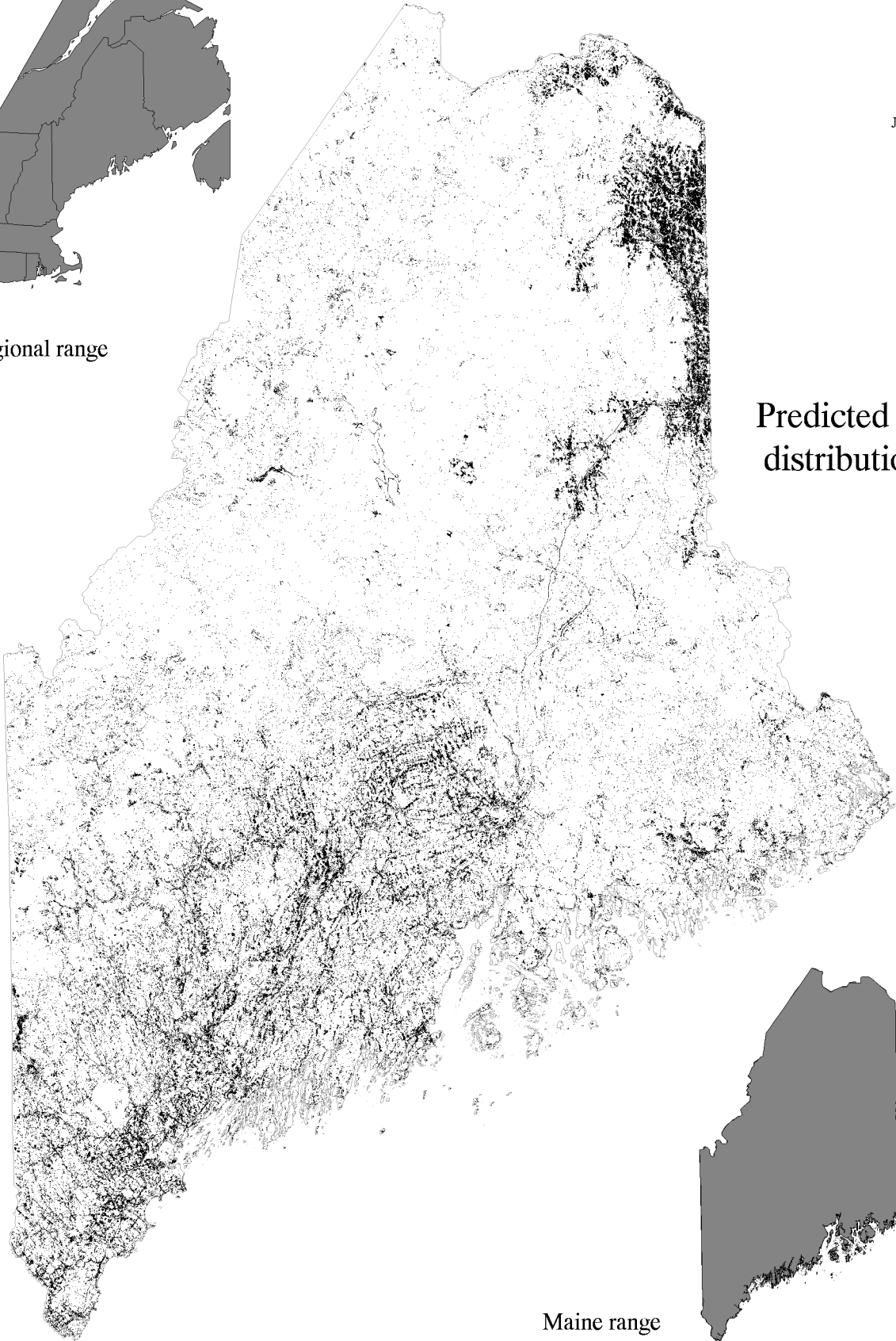
Maine range

Horned Lark

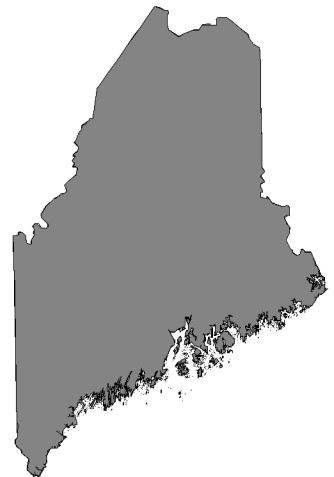
ERAL
June 1998



Regional range



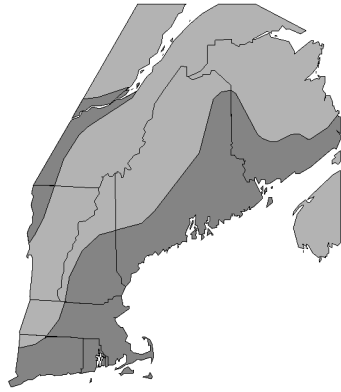
Predicted
distribution



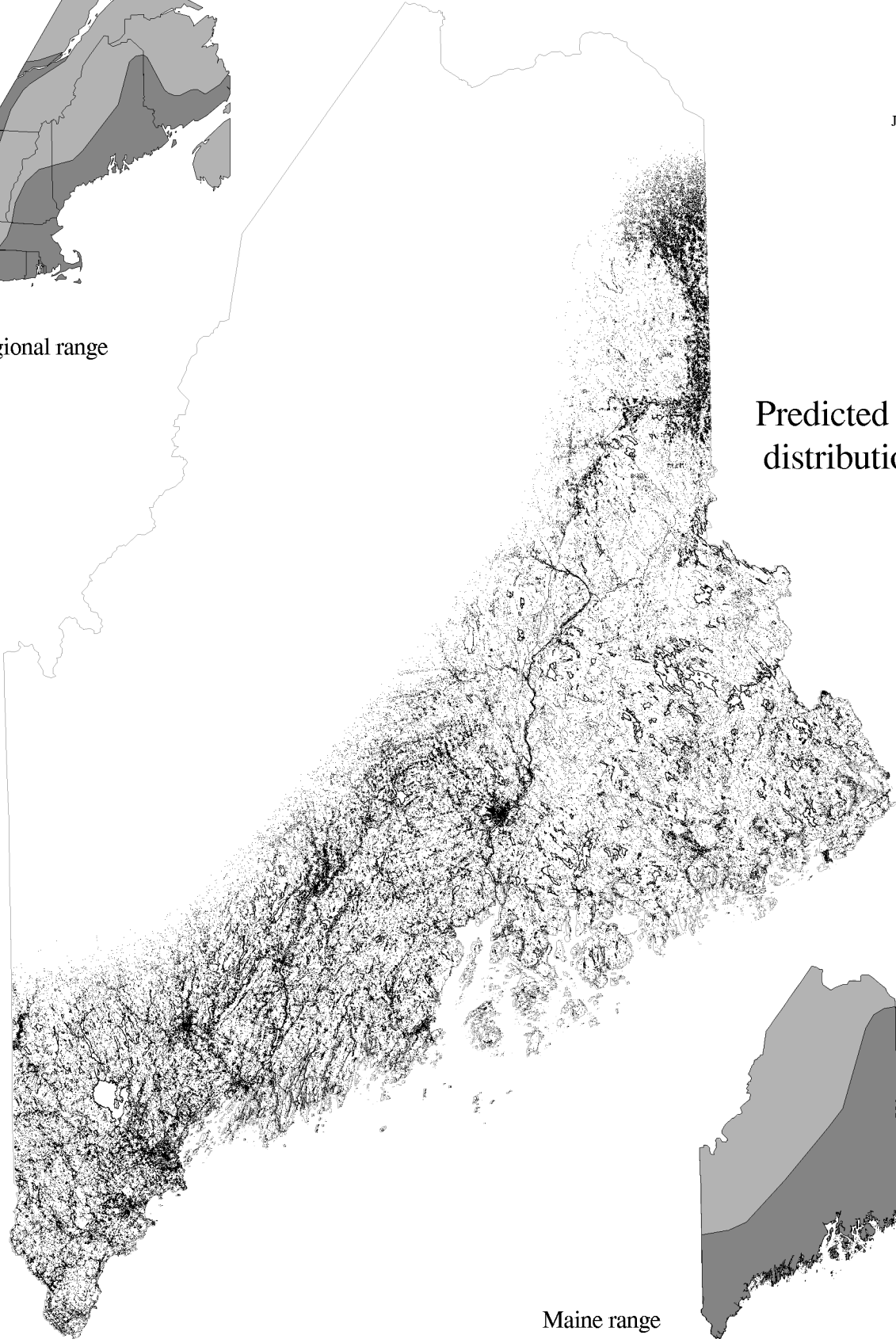
Maine range

Purple Martin

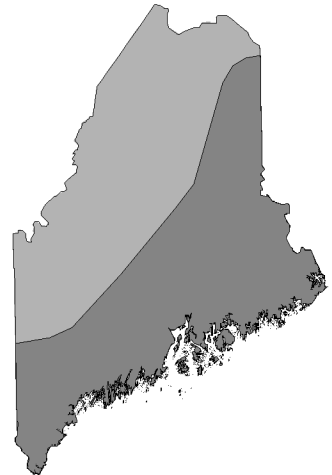
PRSU
June 1998



Regional range



Predicted
distribution



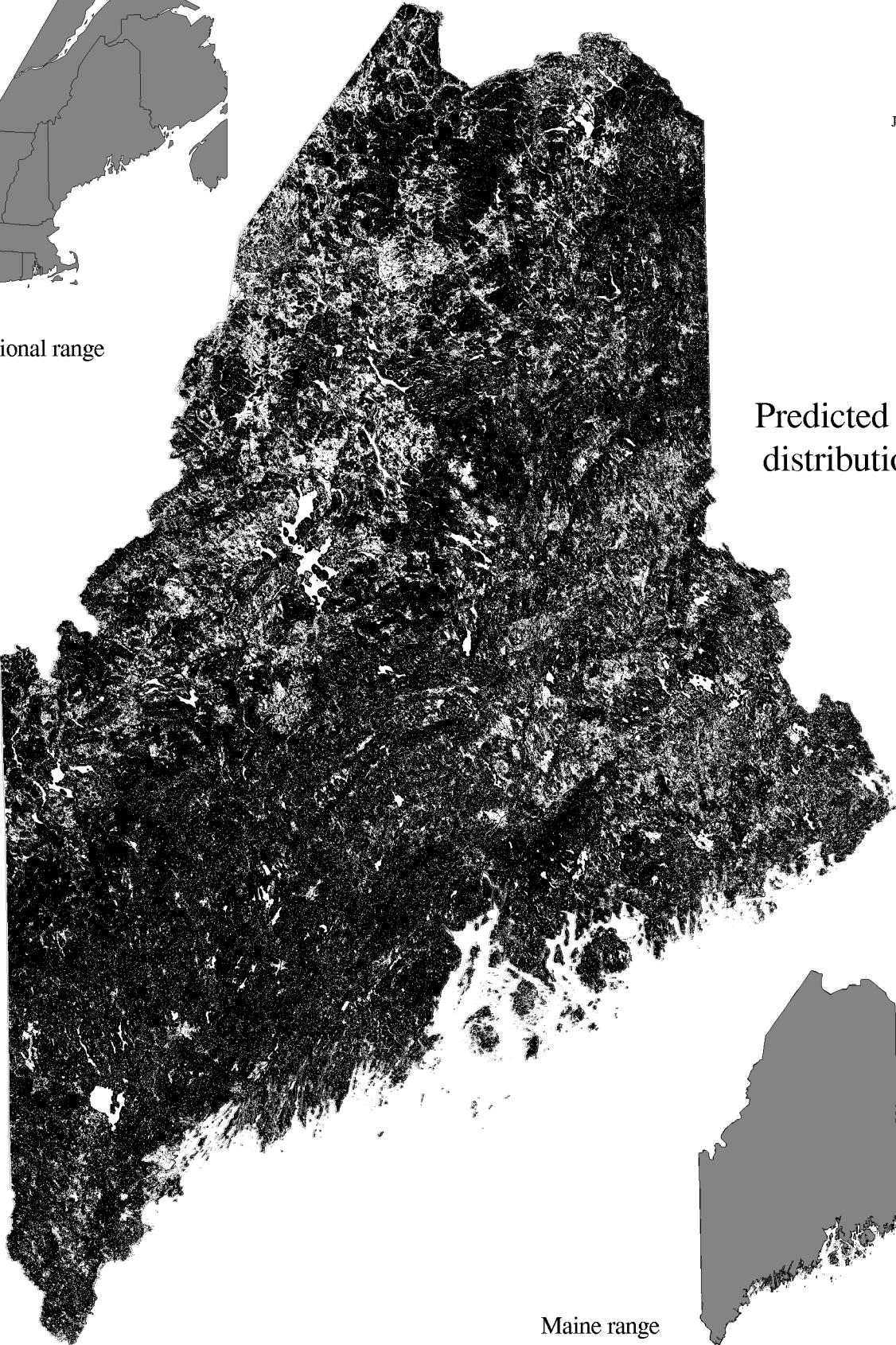
Maine range

Tree Swallow

TABI
June 1998



Regional range



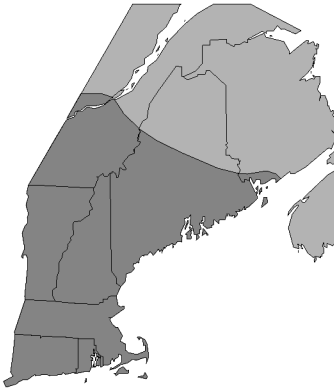
Predicted distribution



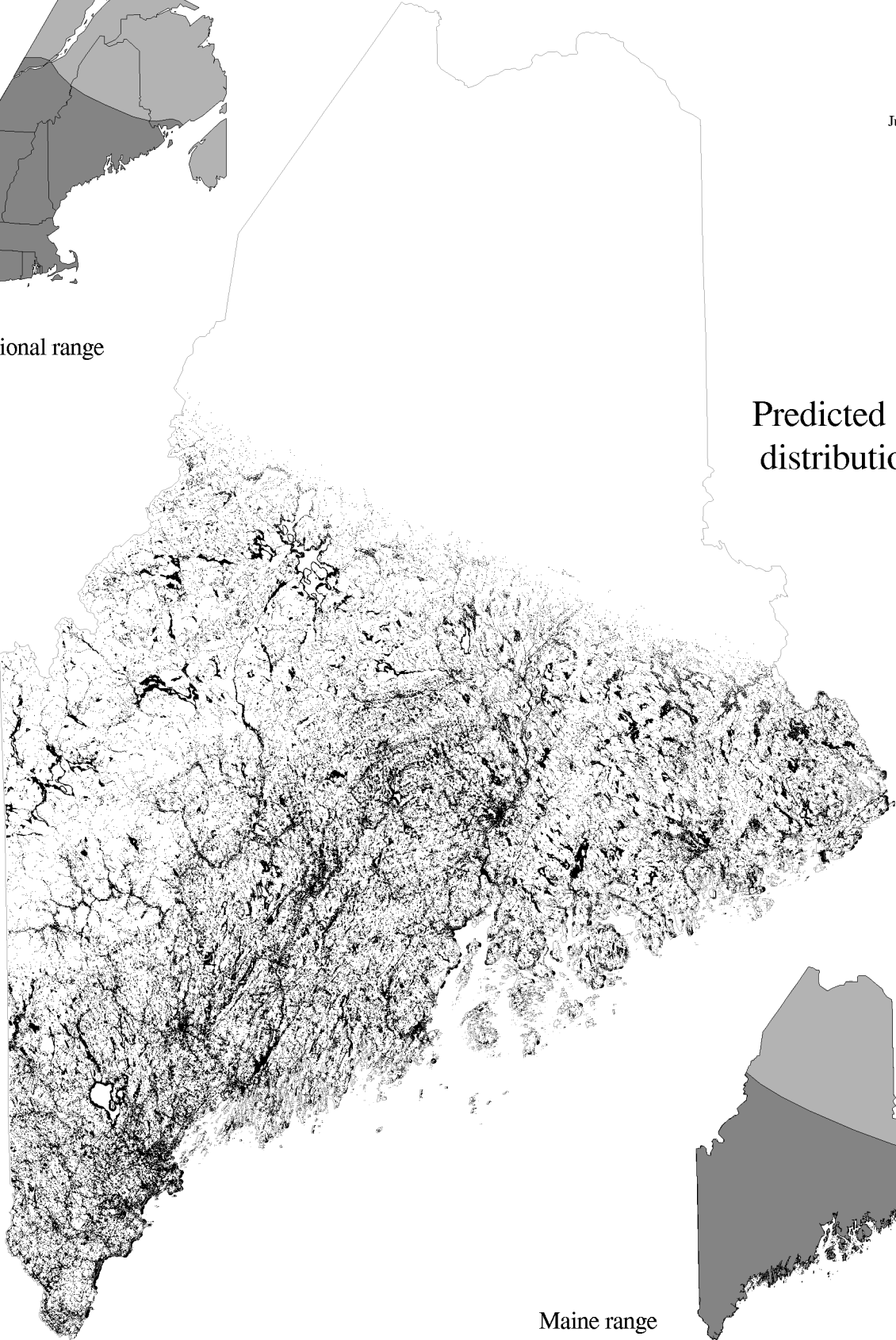
Maine range

Northern Rough-winged Swallow

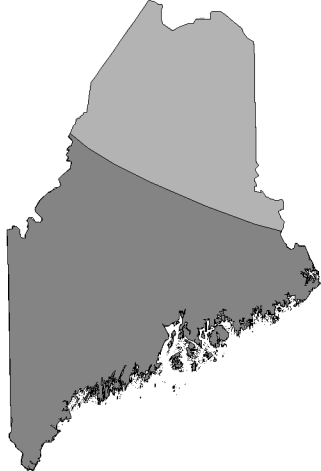
STSE
June 1998



Regional range



Predicted distribution



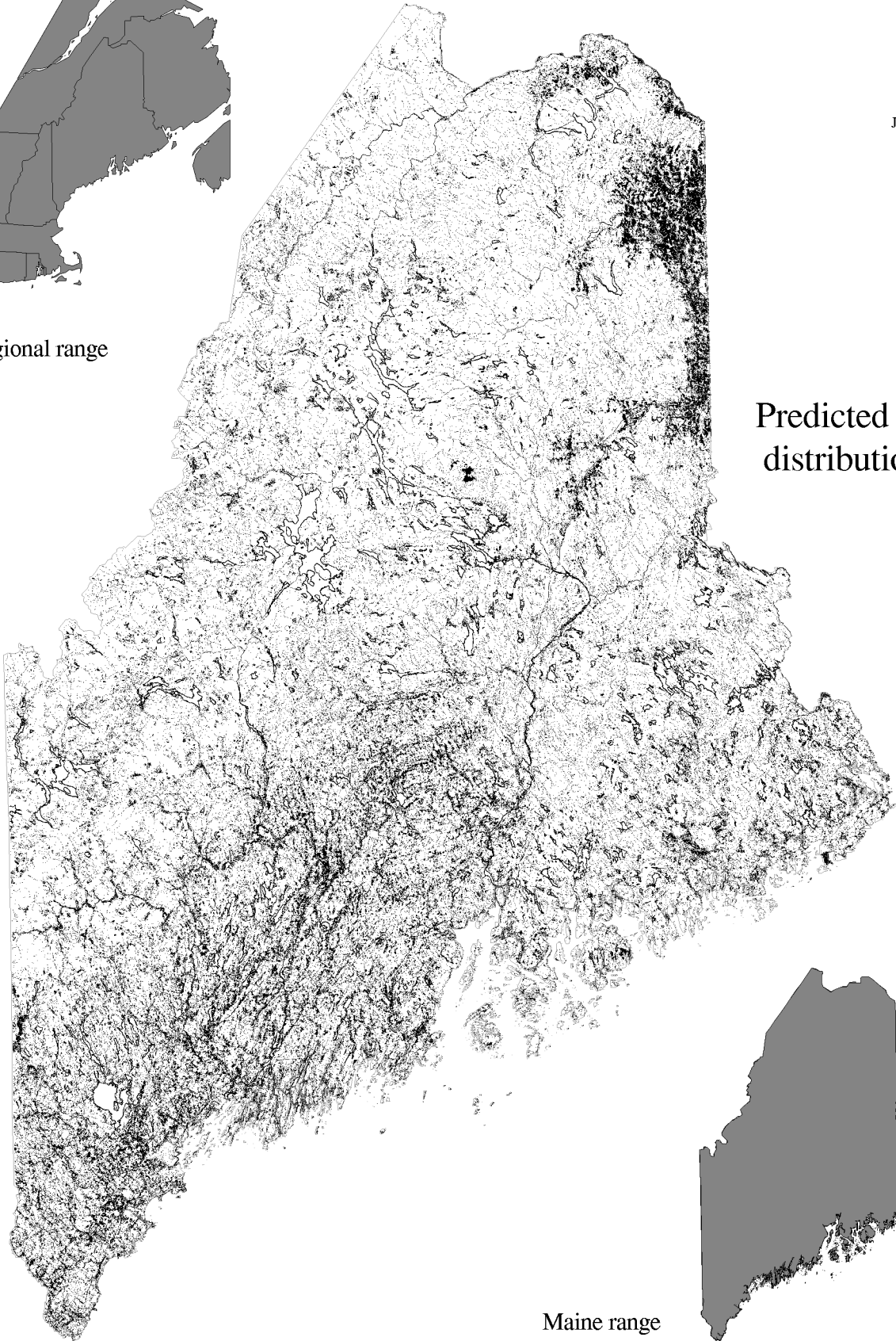
Maine range

Bank Swallow

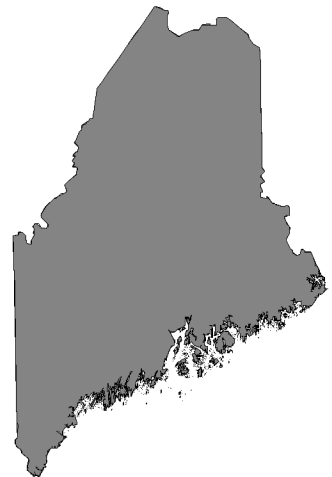
RIRI
June 1998



Regional range



Predicted
distribution



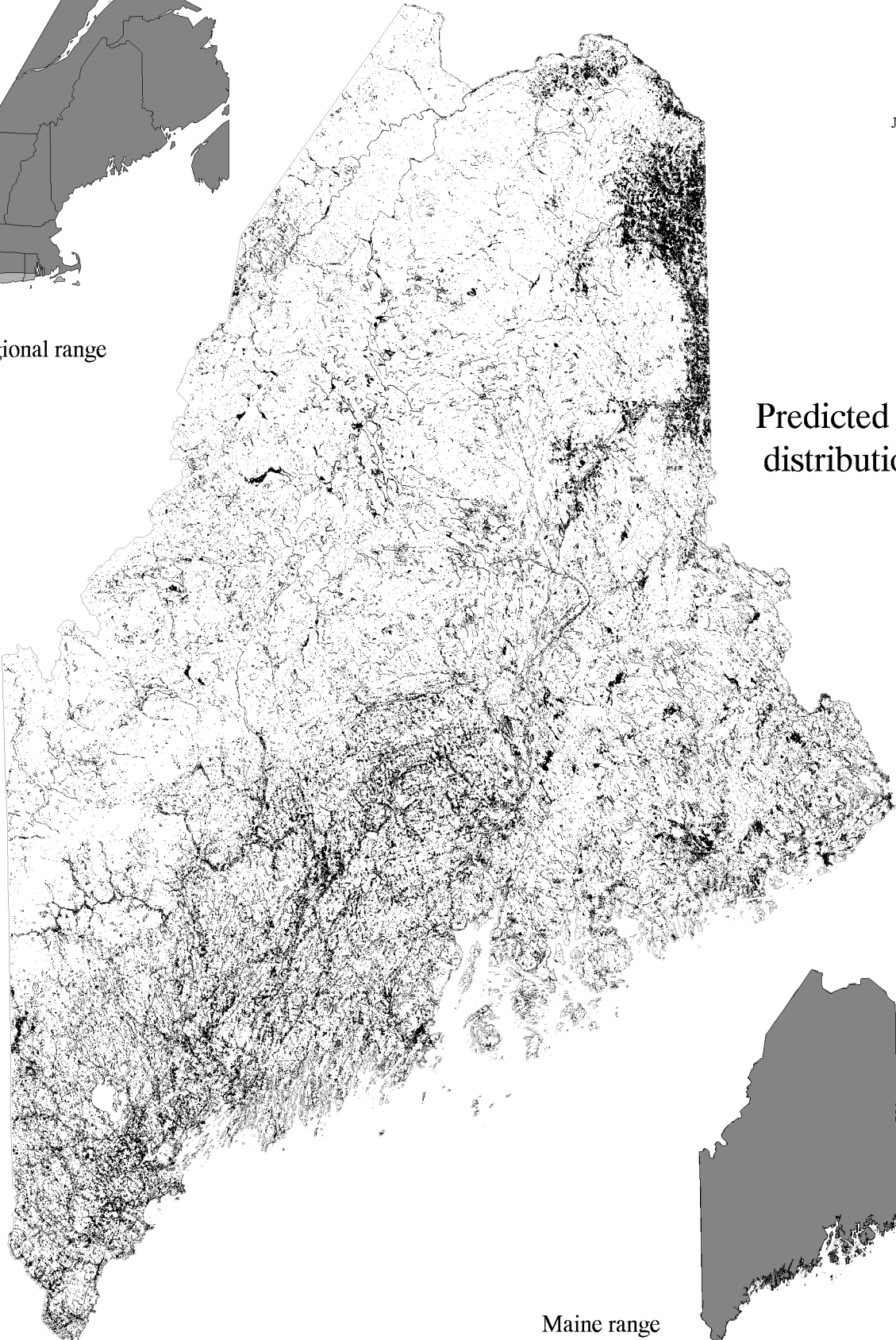
Maine range

Cliff Swallow

HIPY
June 1998



Regional range



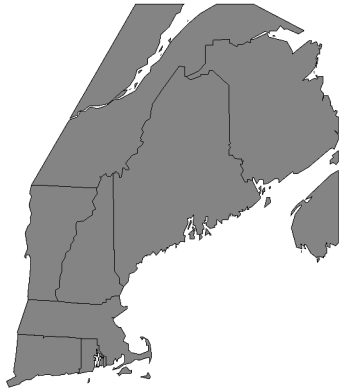
Predicted
distribution



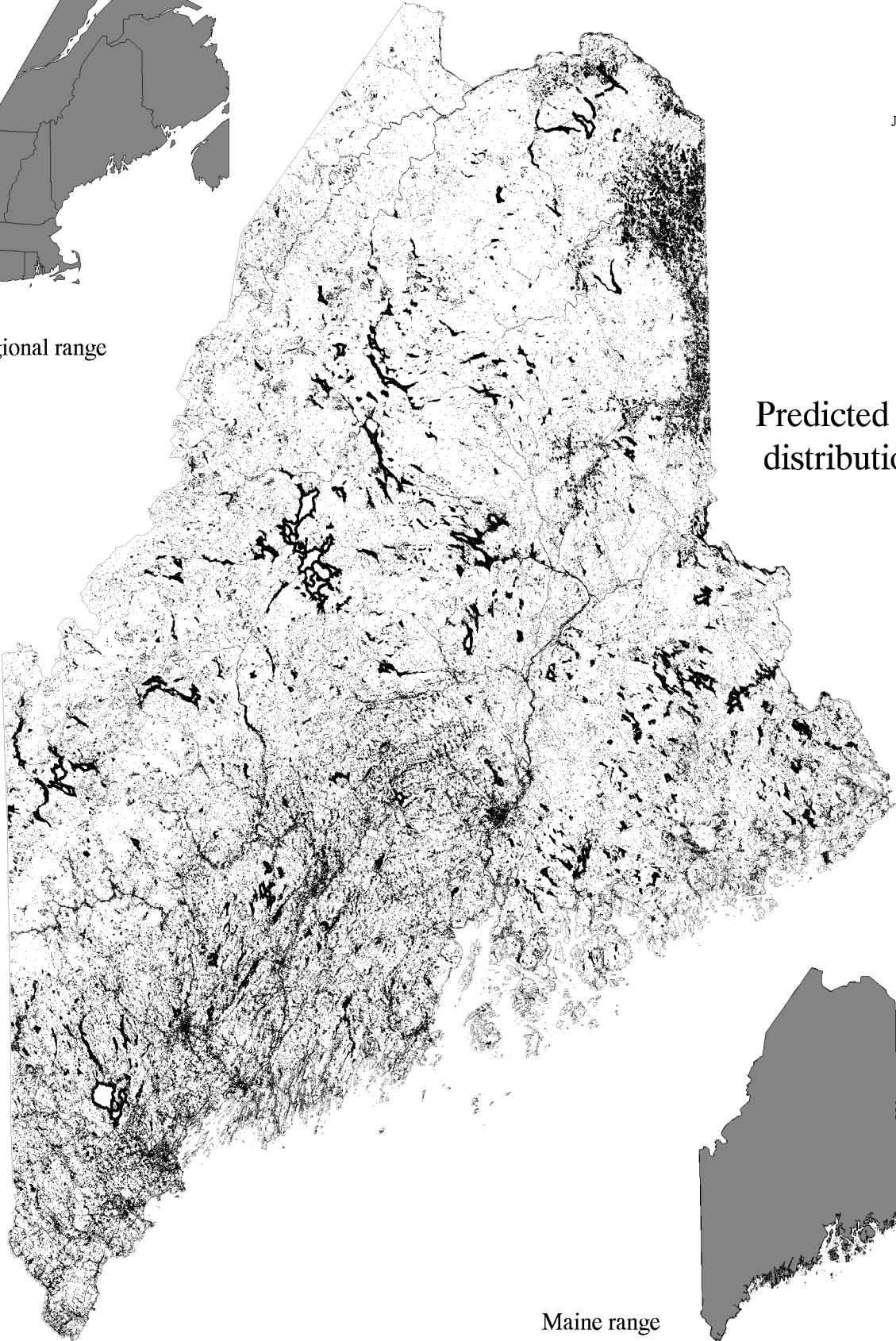
Maine range

Barn Swallow

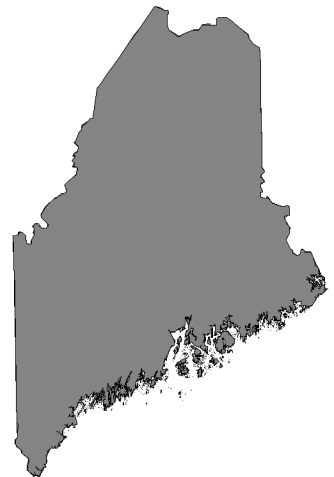
HIRU
June 1998



Regional range



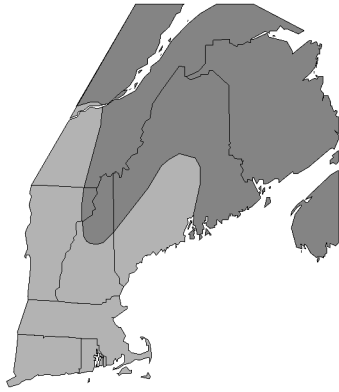
Predicted
distribution



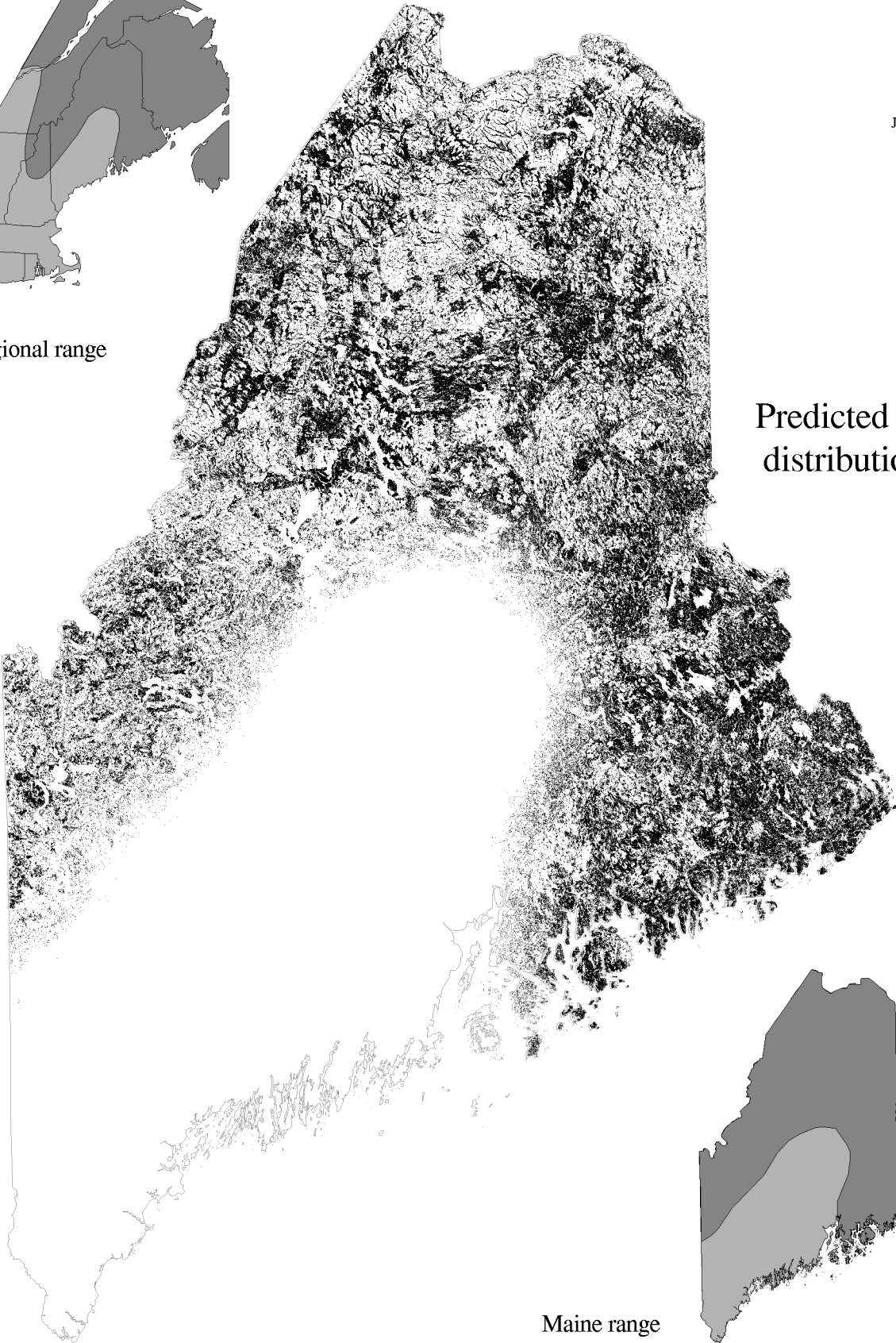
Maine range

Gray Jay

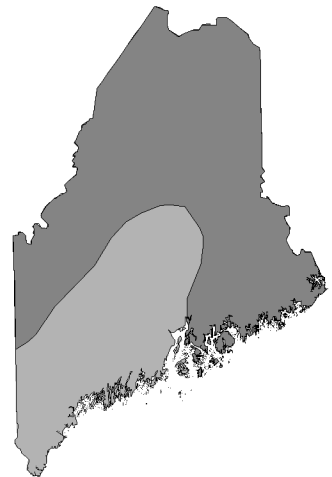
PECA
June 1998



Regional range



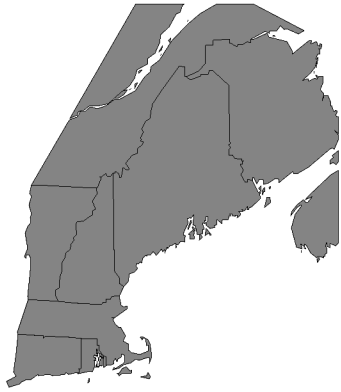
Predicted
distribution



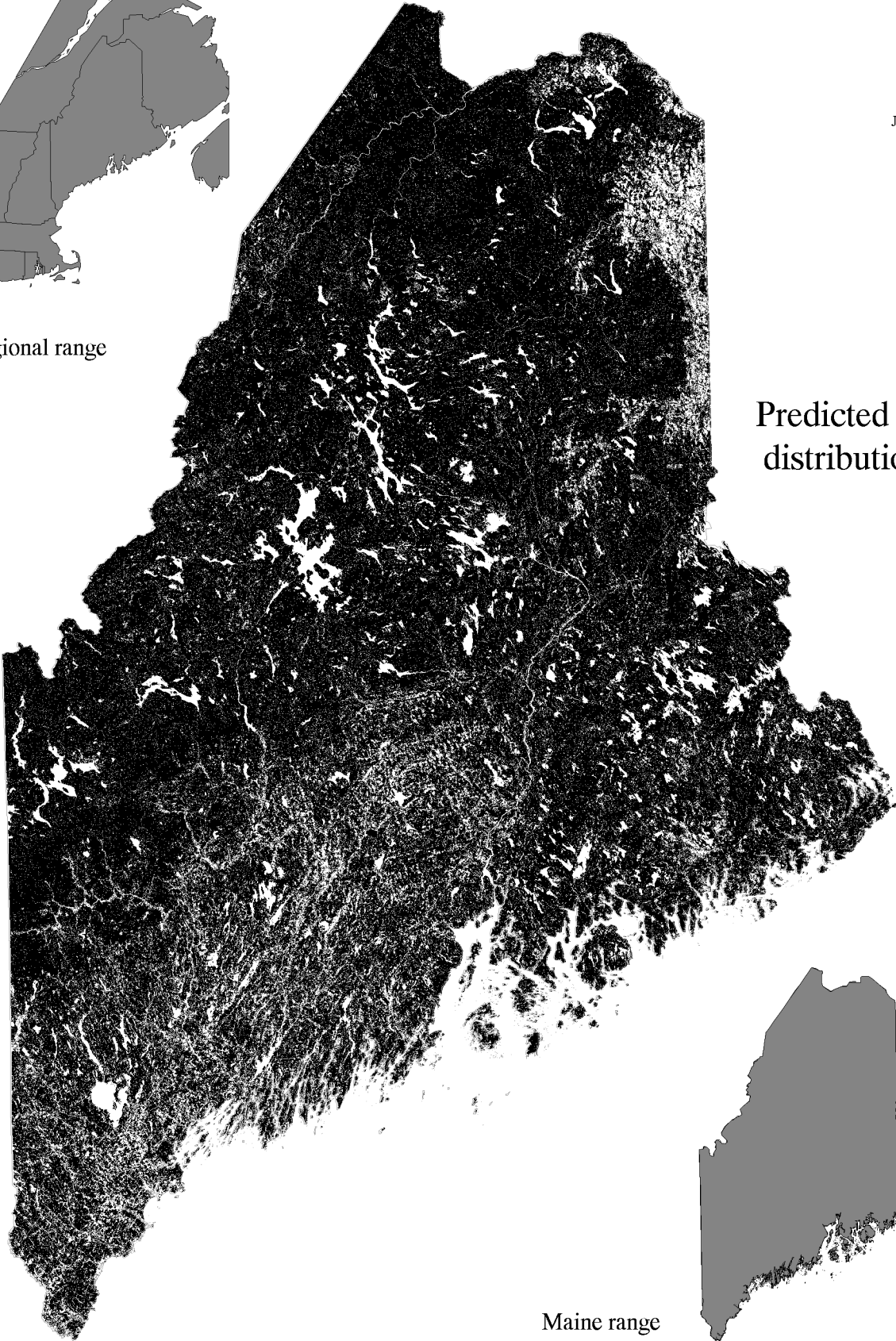
Maine range

Blue Jay

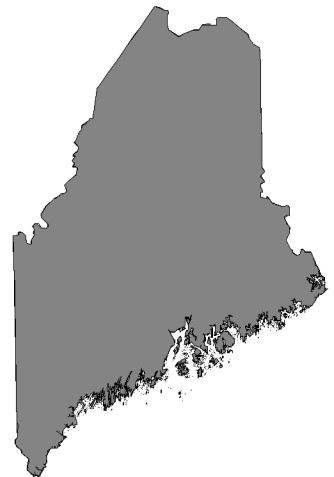
CYCR
June 1998



Regional range



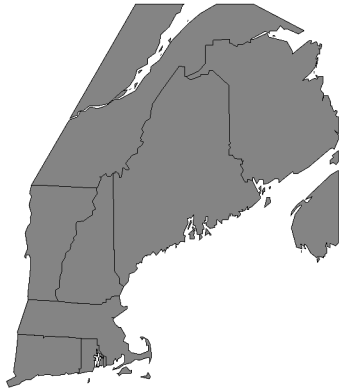
Predicted
distribution



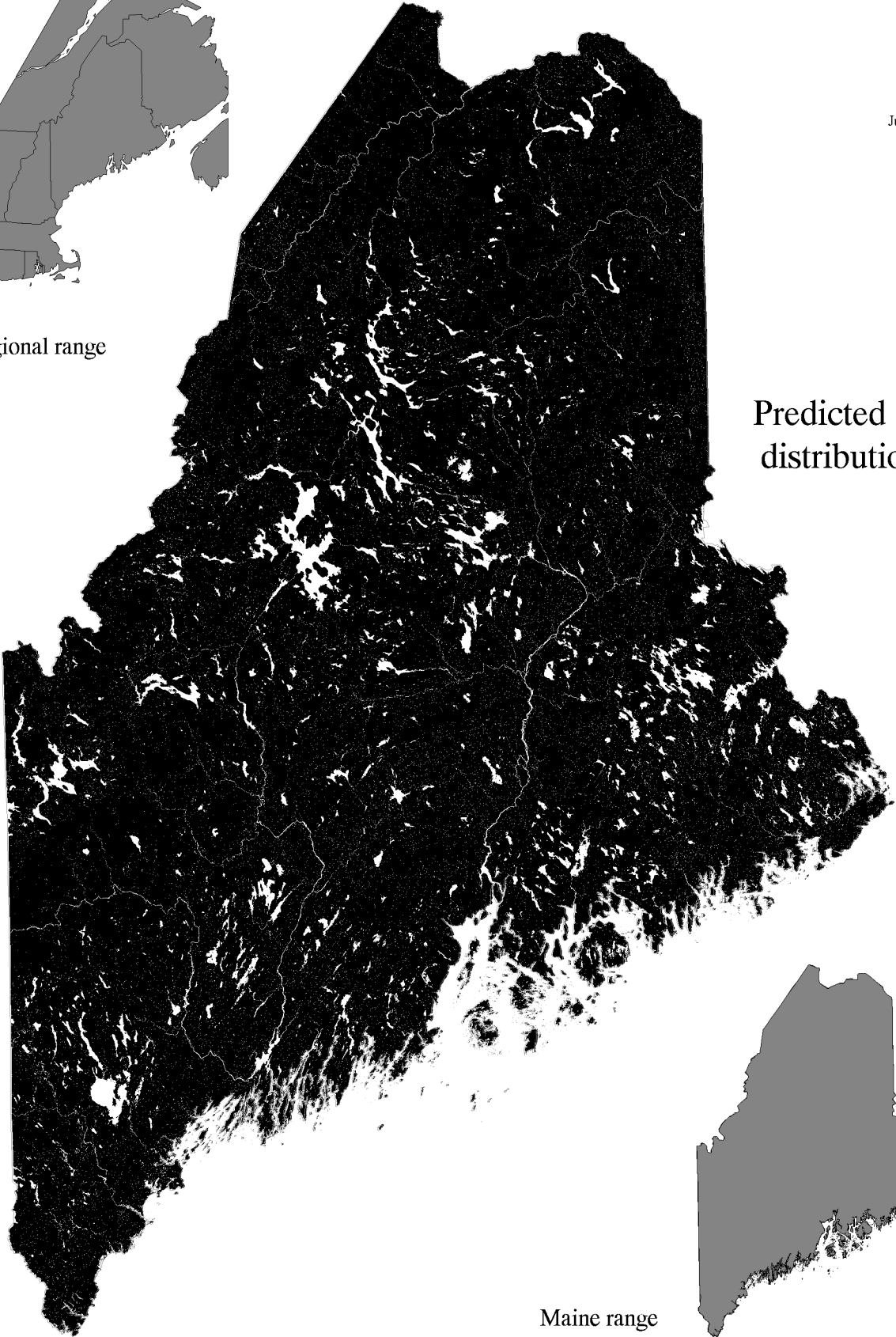
Maine range

American Crow

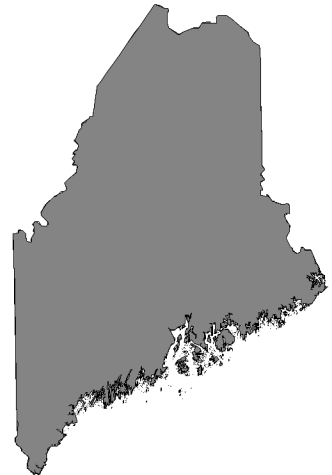
COBR
June 1998



Regional range



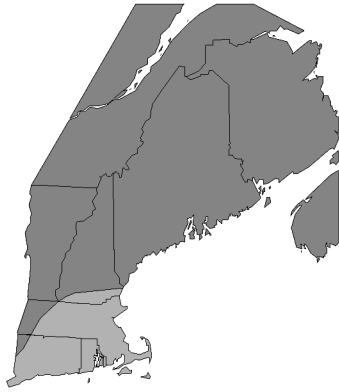
Predicted
distribution



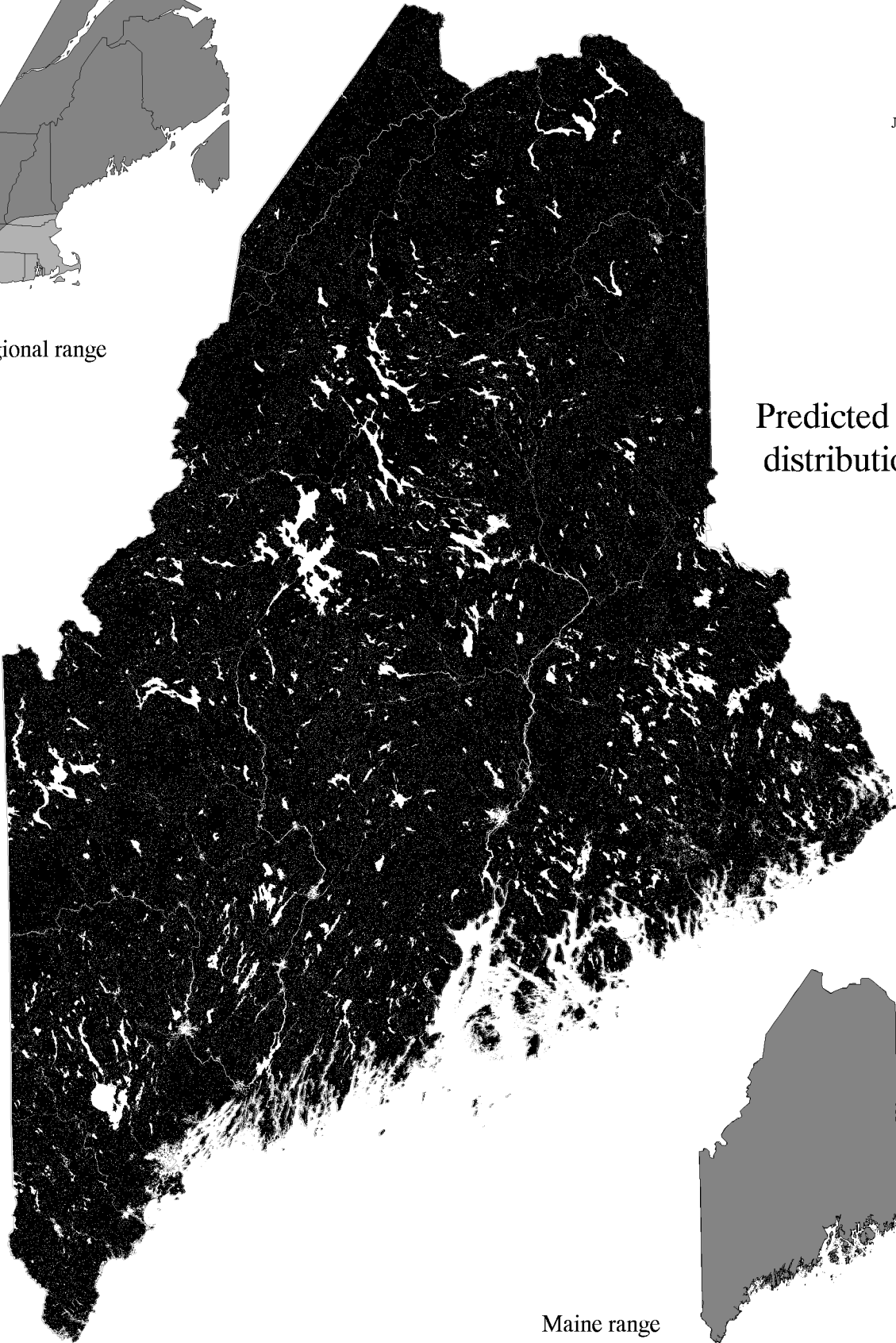
Maine range

Common Raven

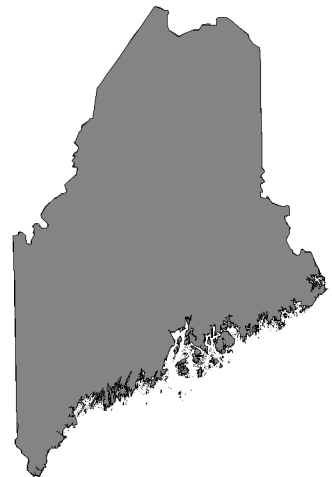
COCO
June 1998



Regional range



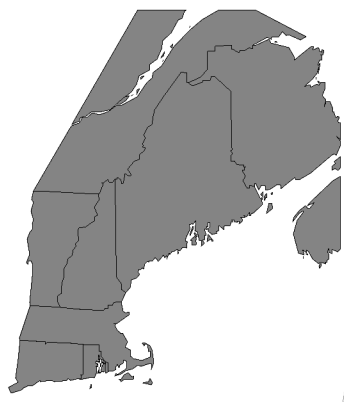
Predicted
distribution



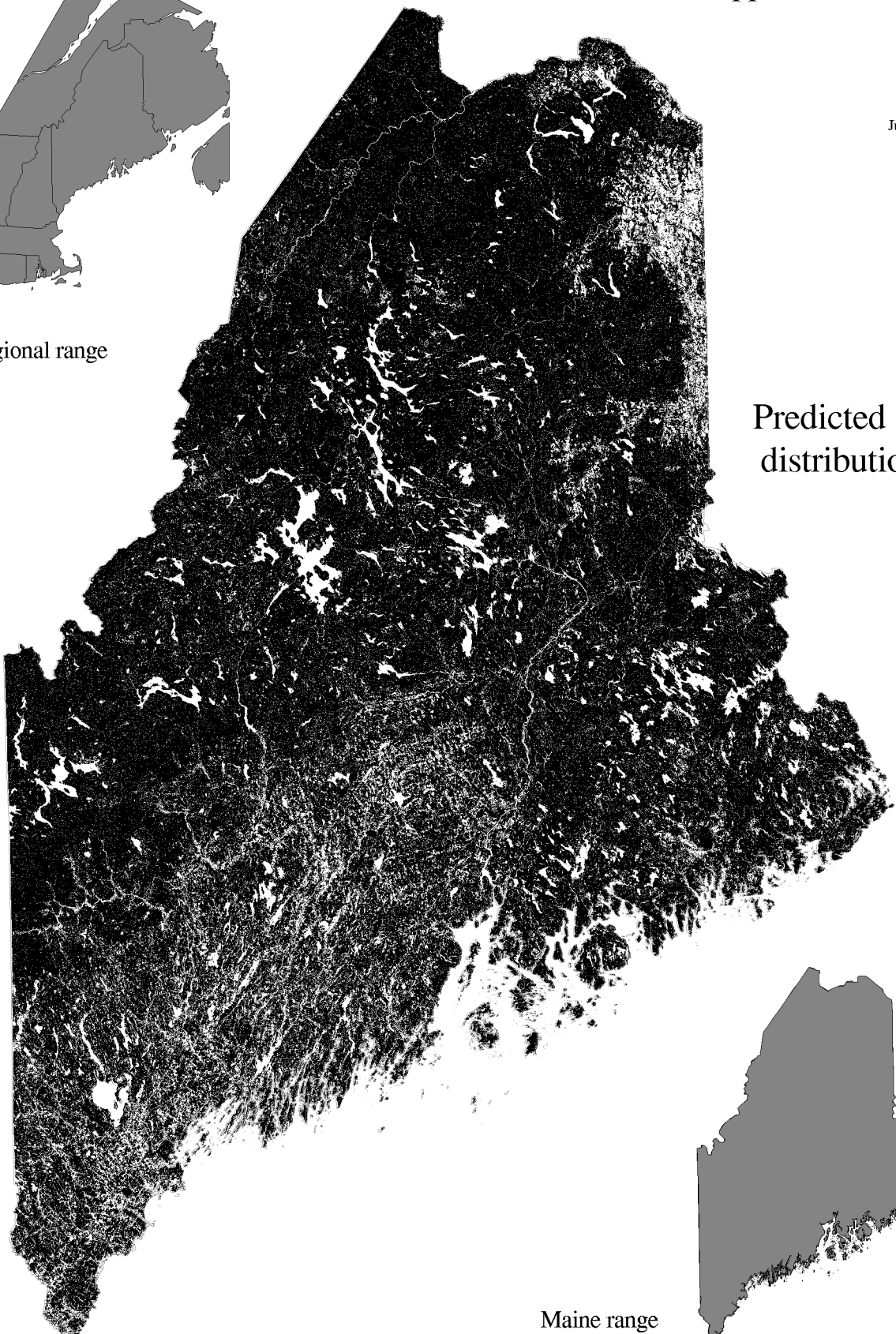
Maine range

Black-capped Chickadee

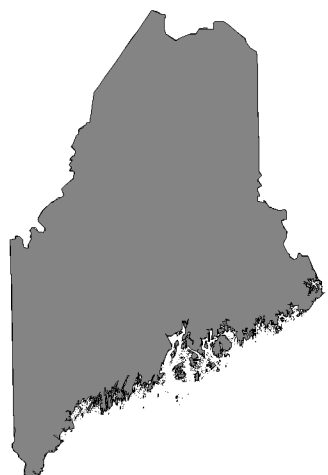
PAAT
June 1998



Regional range



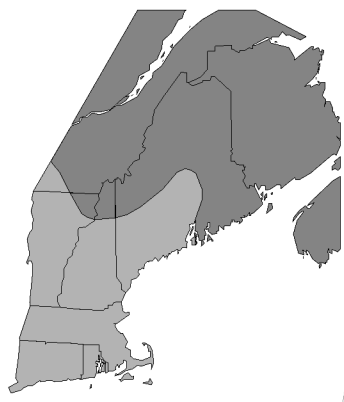
Predicted
distribution



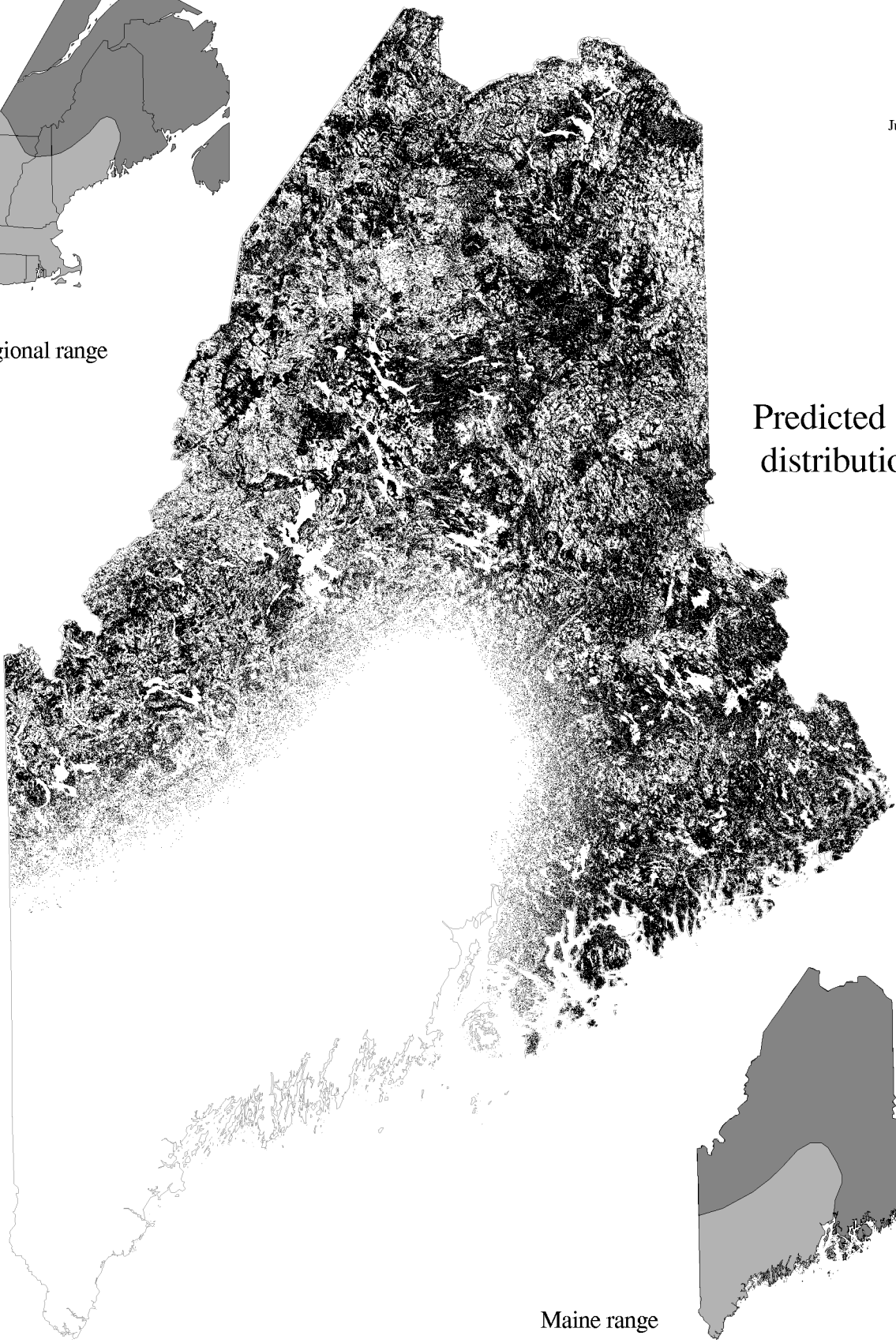
Maine range

Boreal Chickadee

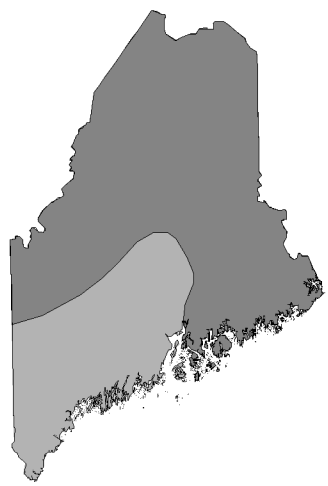
PAHU
June 1998



Regional range



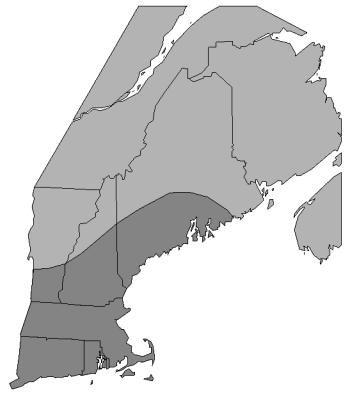
Predicted distribution



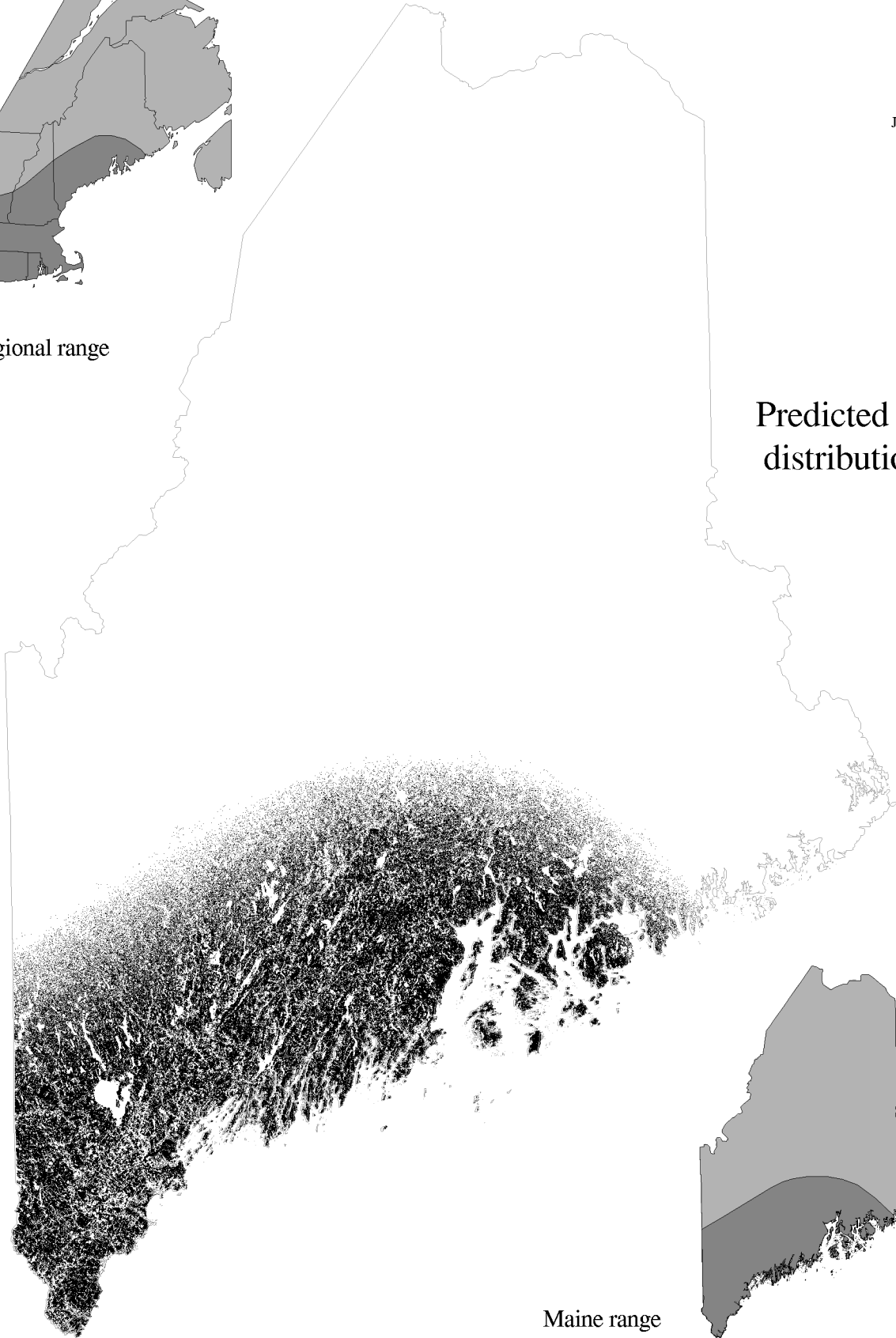
Maine range

Tufted Titmouse

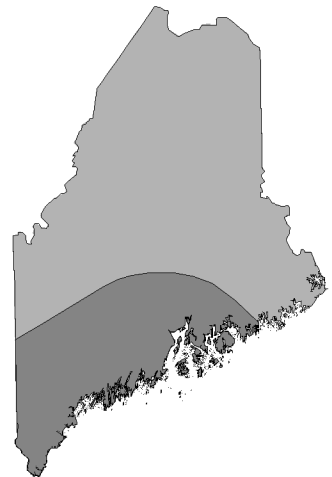
PABI
June 1998



Regional range



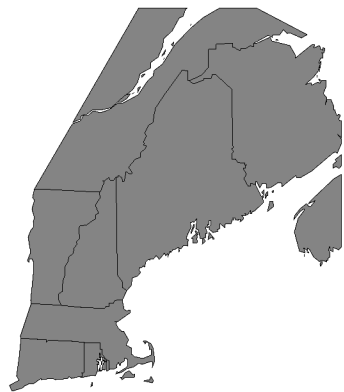
Predicted
distribution



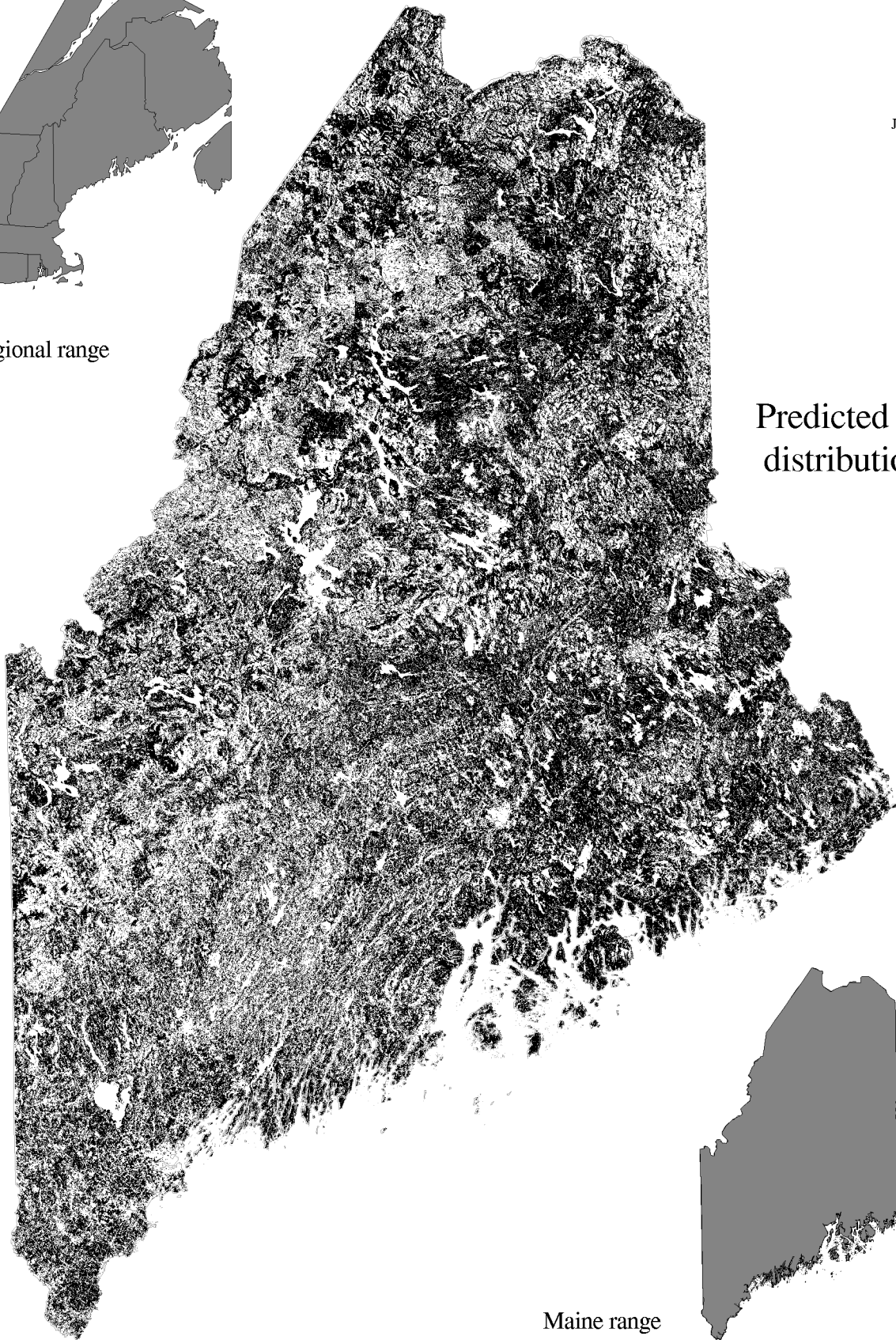
Maine range

Red-breasted Nuthatch

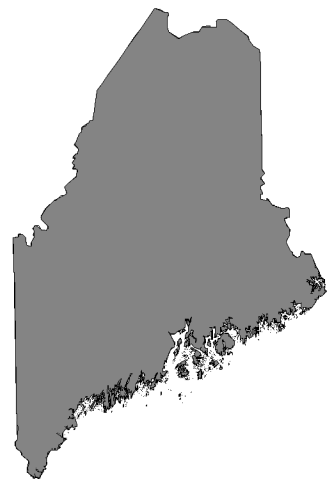
SICA
June 1998



Regional range



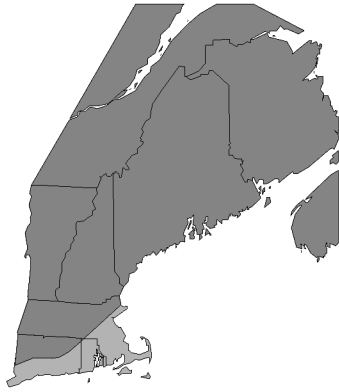
Predicted
distribution



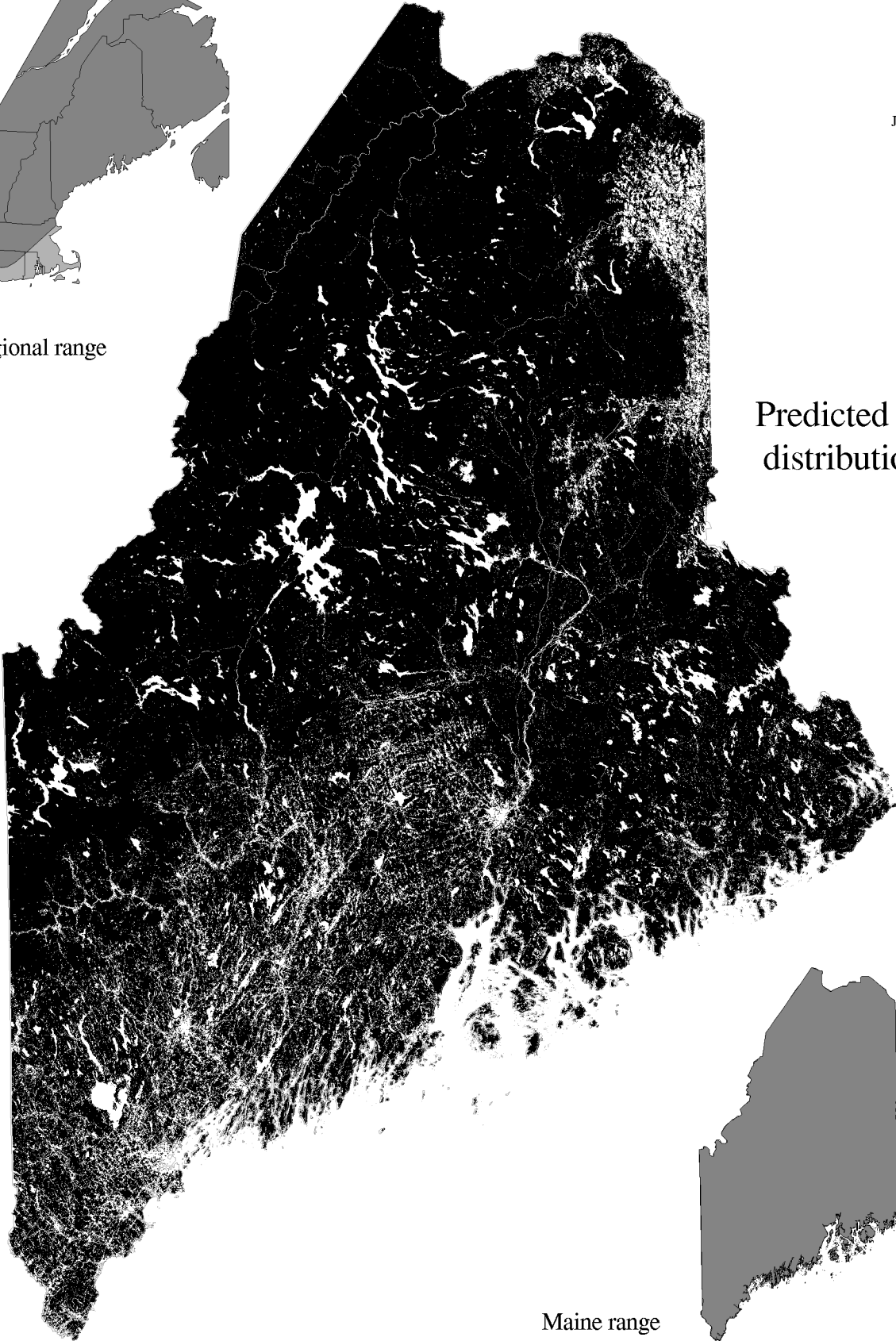
Maine range

Smoky shrew

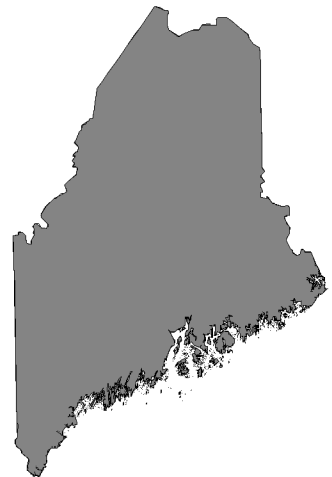
SOFU
June 1998



Regional range



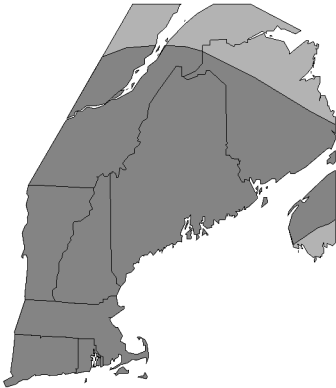
Predicted
distribution



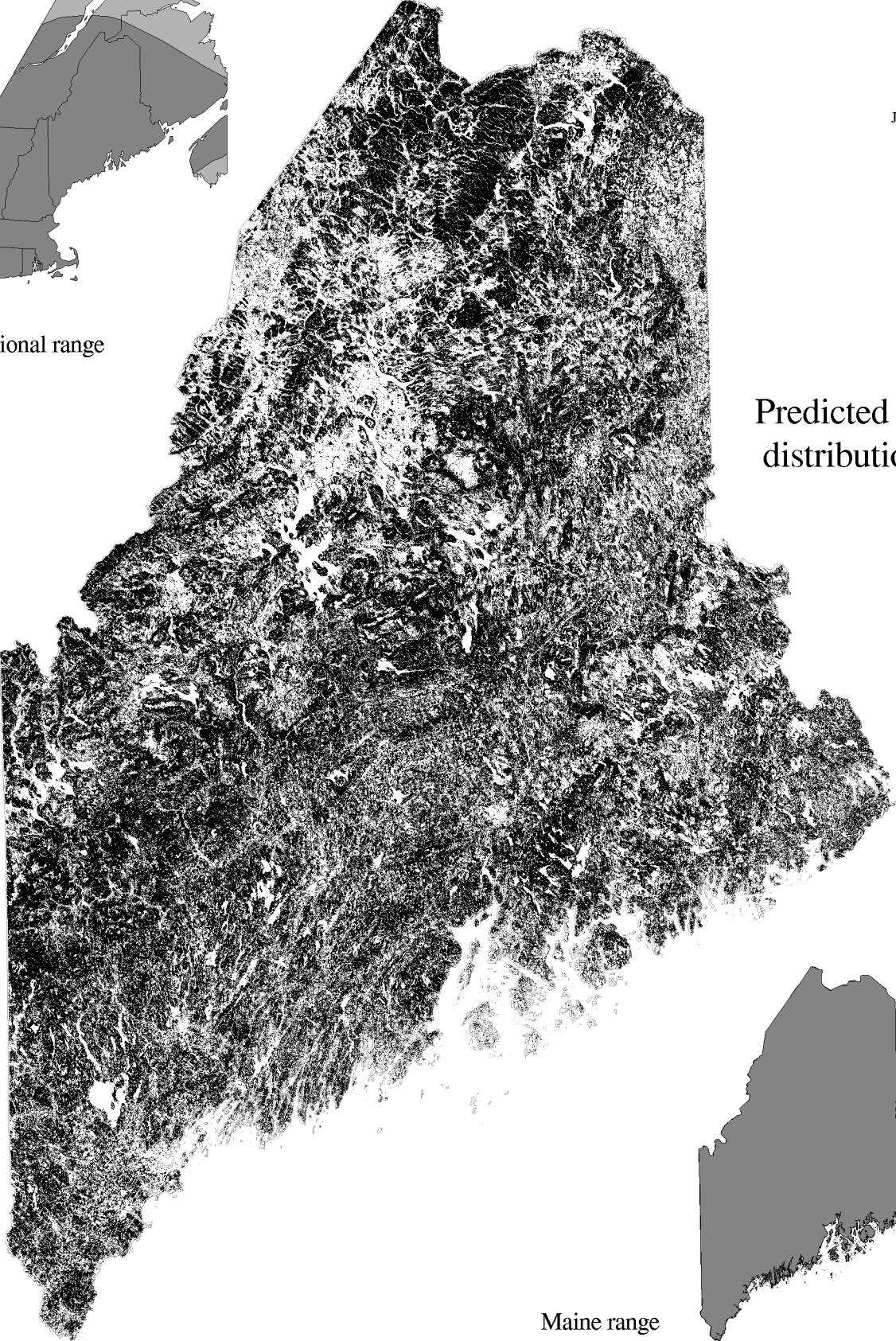
Maine range

White-breasted Nuthatch

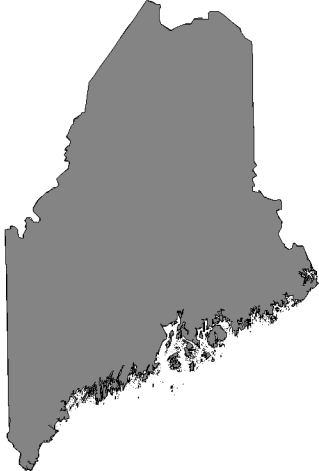
SICR
June 1998



Regional range



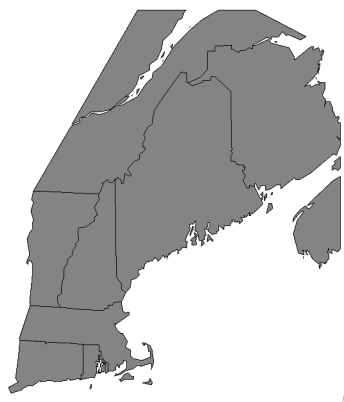
Predicted distribution



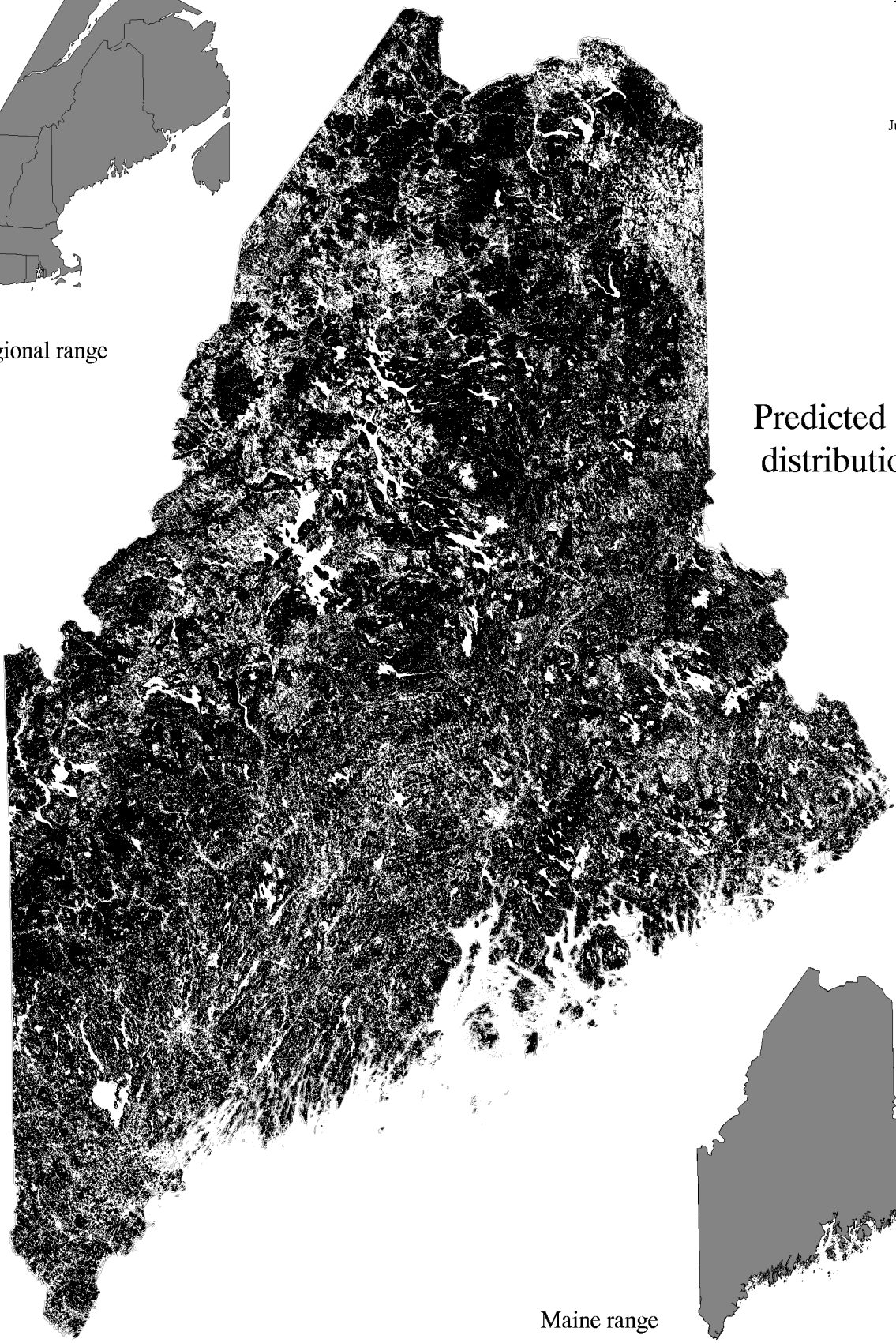
Maine range

Brown Creeper

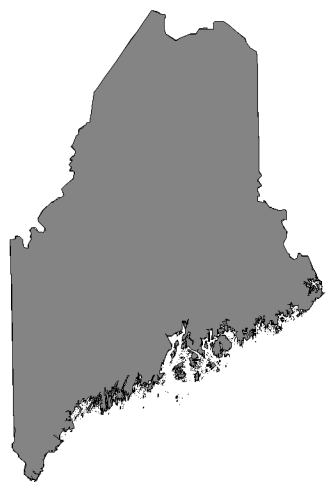
CEAM
June 1998



Regional range



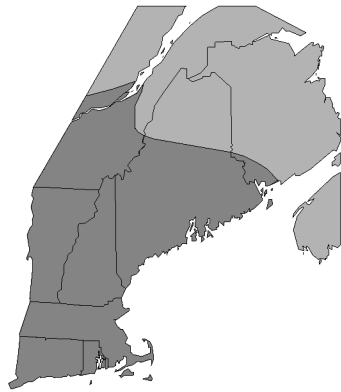
Predicted
distribution



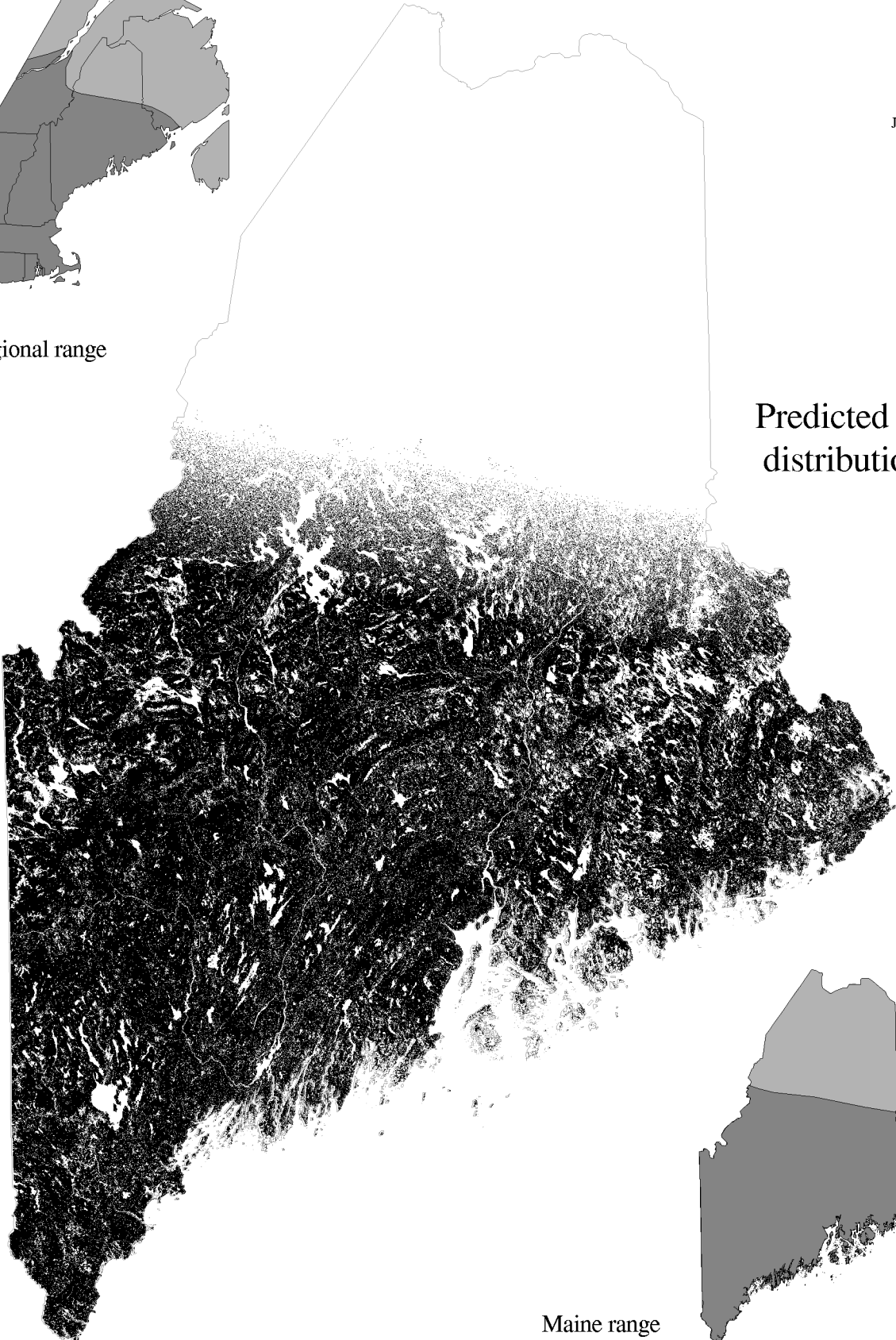
Maine range

House Wren

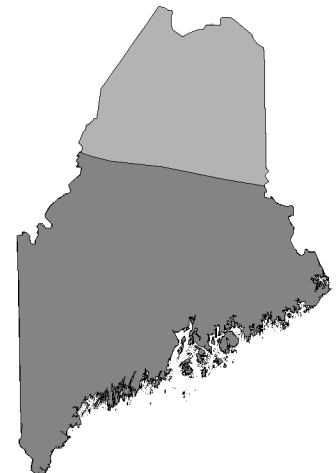
TRAE
June 1998



Regional range



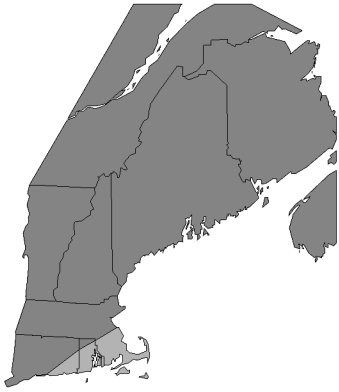
Predicted
distribution



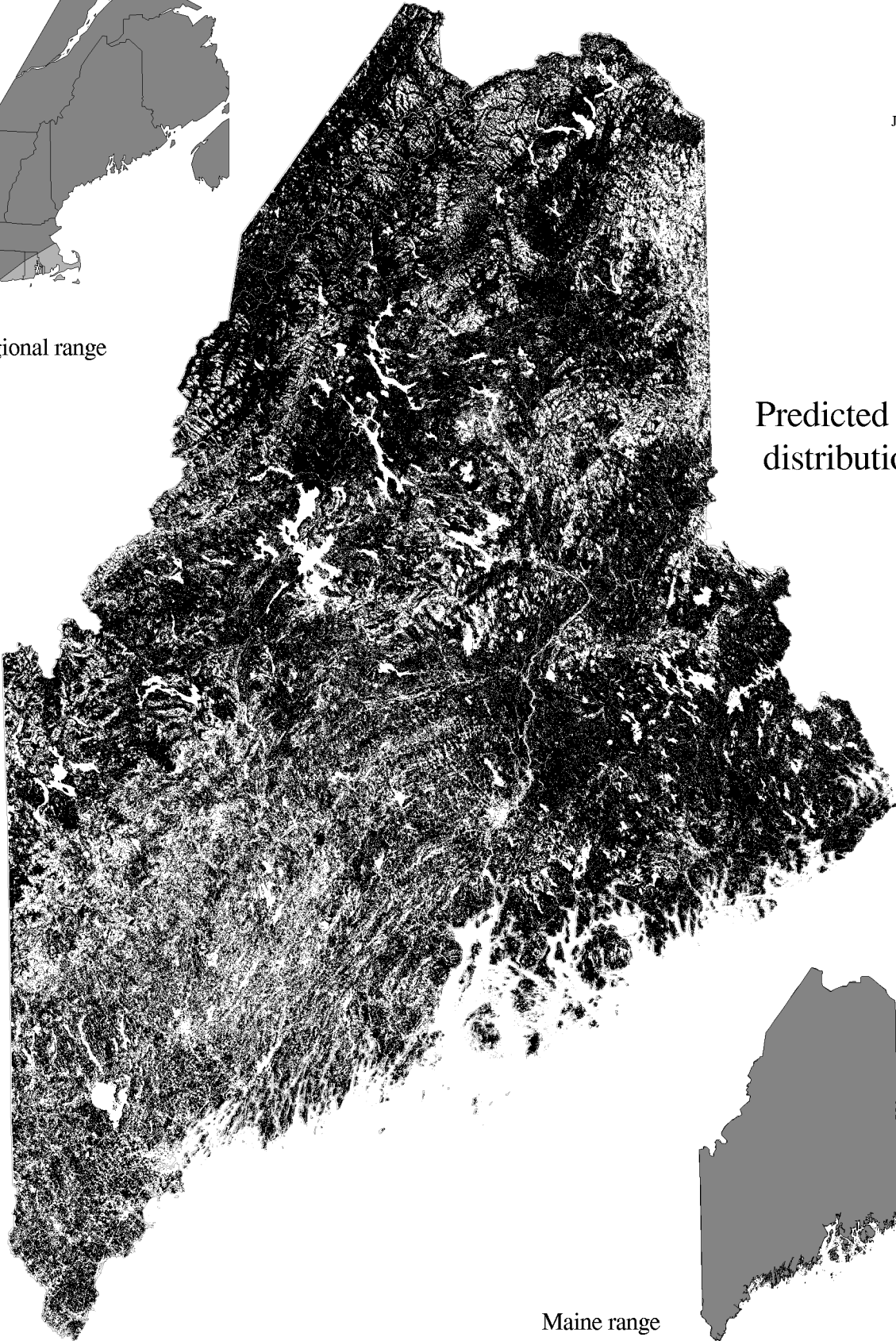
Maine range

Winter Wren

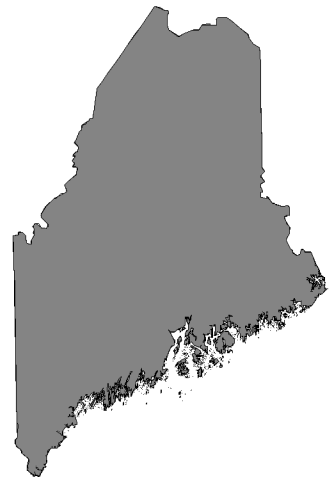
TRTR
June 1998



Regional range



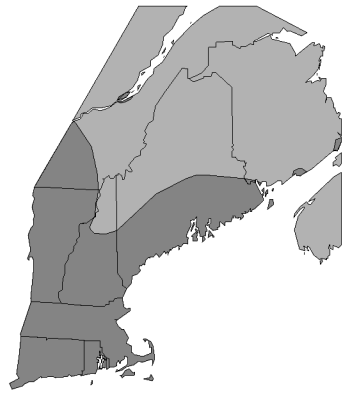
Predicted
distribution



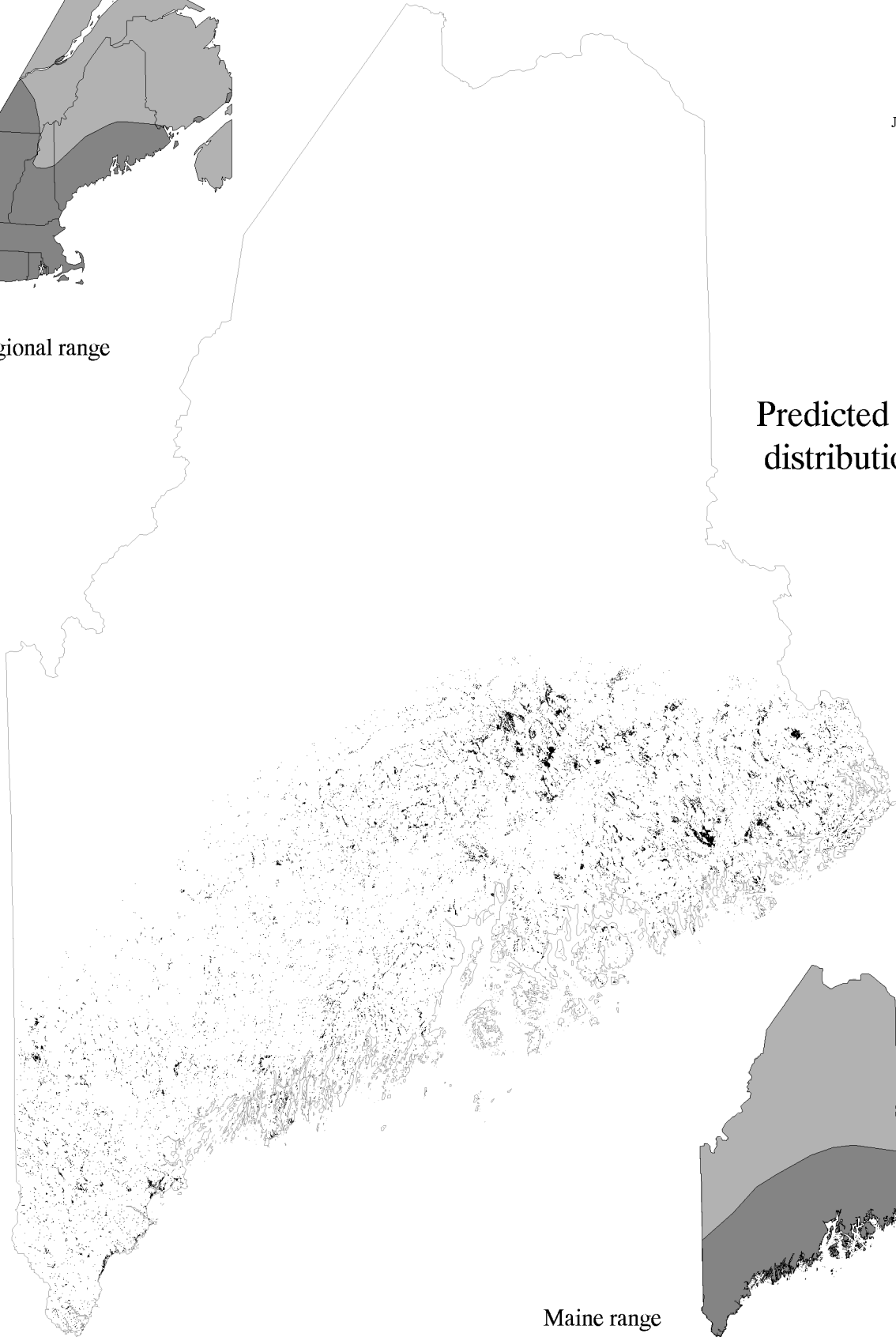
Maine range

Marsh Wren

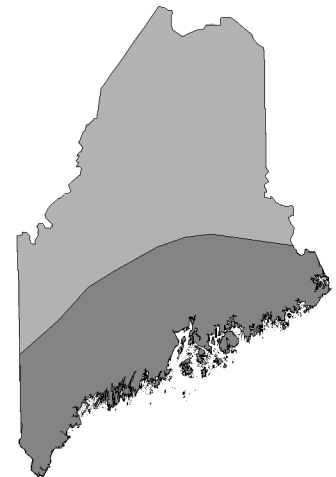
CIPA
June 1998



Regional range



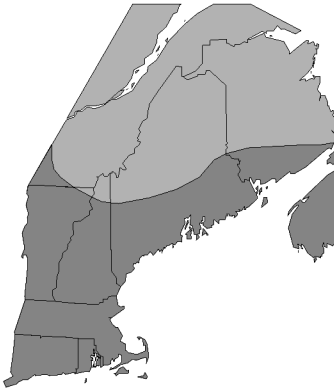
Predicted
distribution



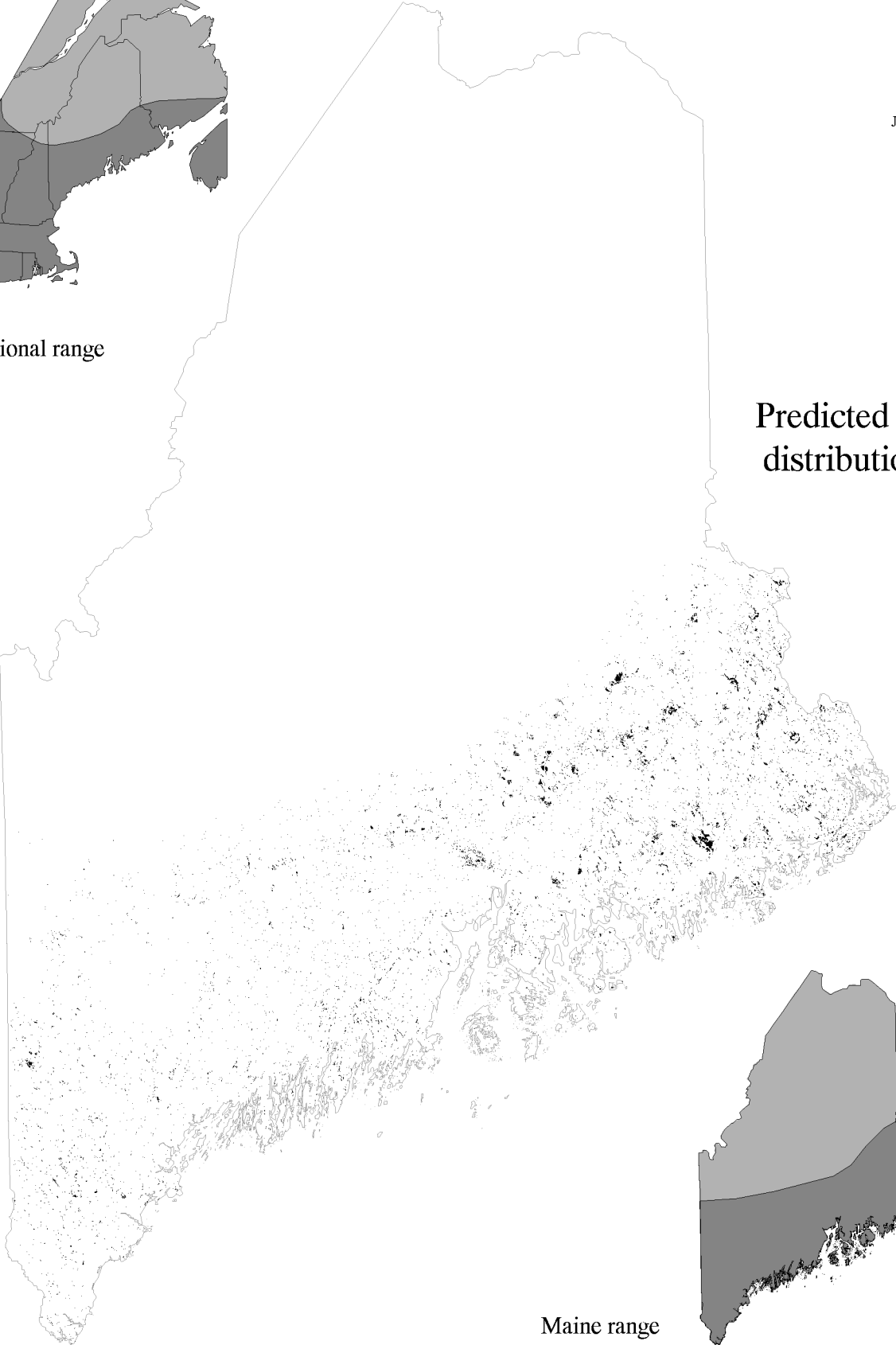
Maine range

Sedge Wren

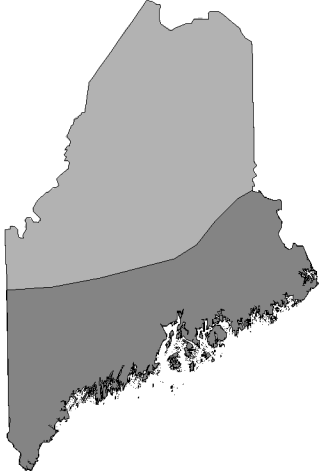
CIPL
June 1998



Regional range



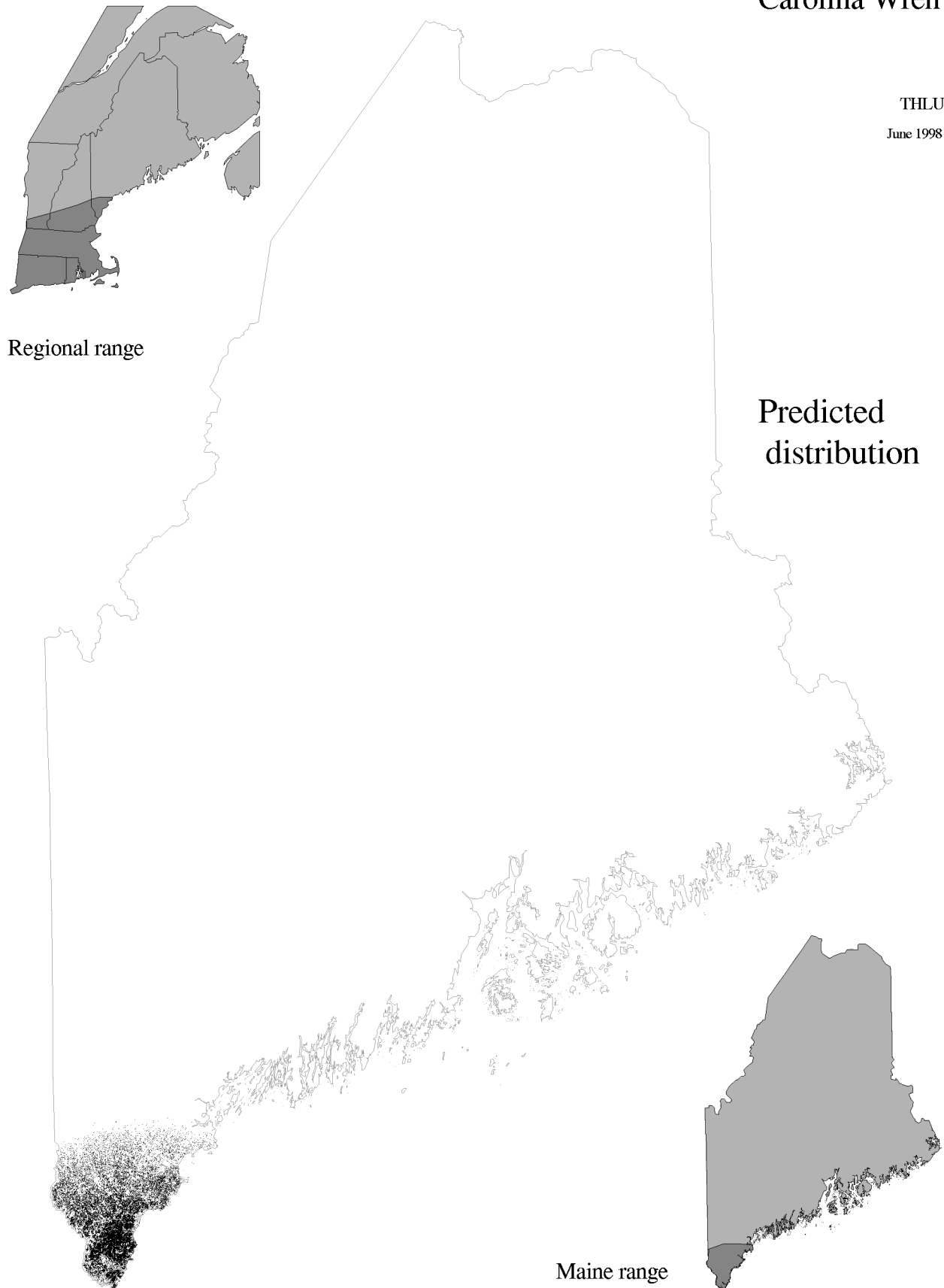
Predicted distribution



Maine range

Carolina Wren

THLU
June 1998



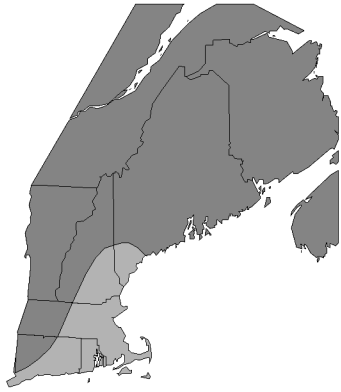
Regional range

Predicted
distribution

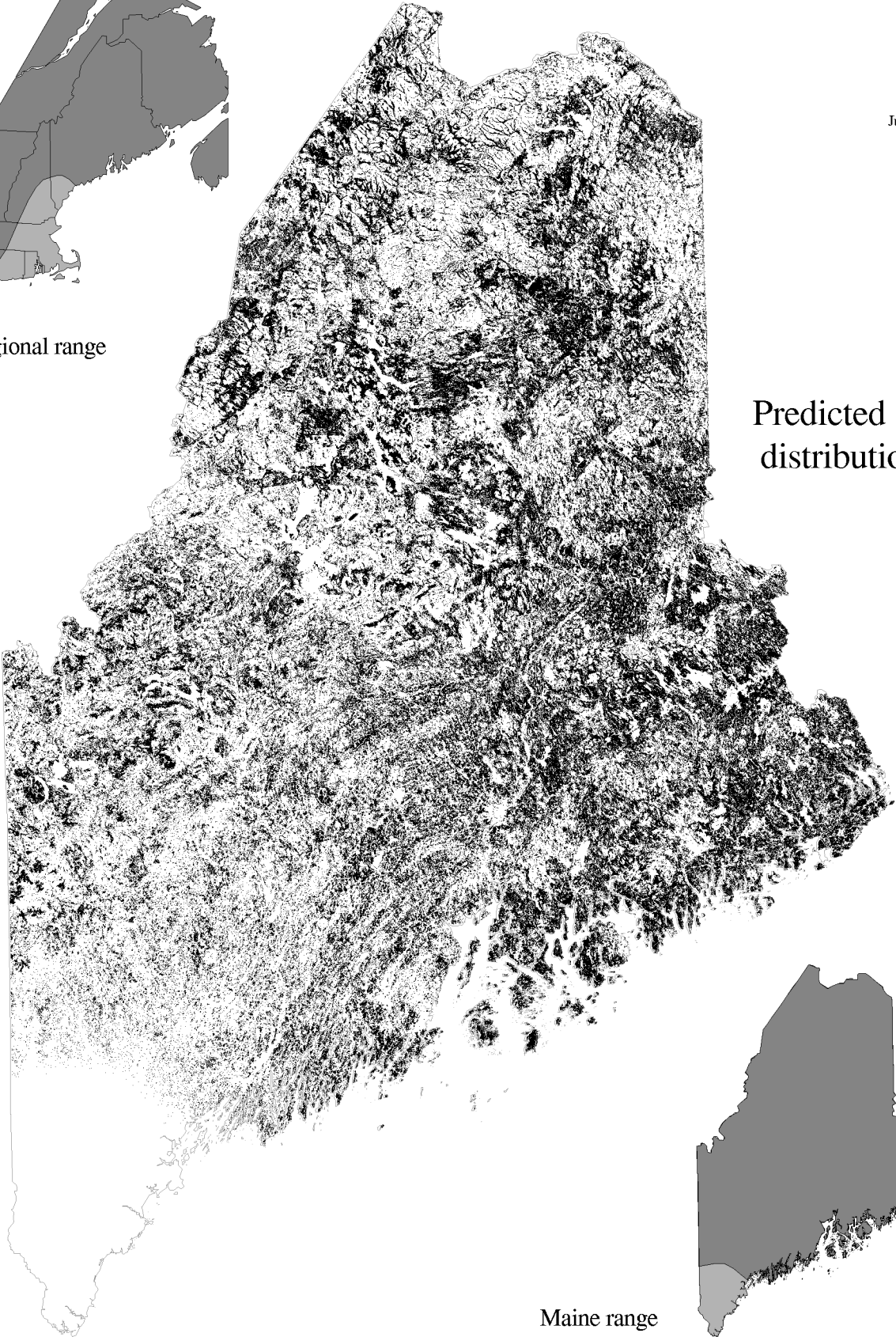
Maine range

Golden-crowned Kinglet

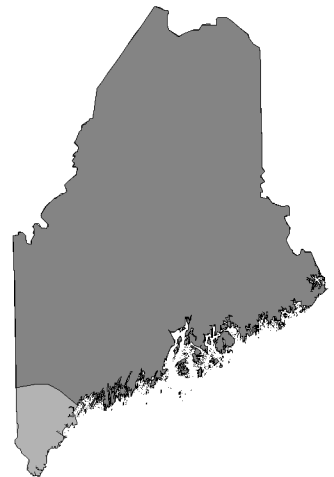
RESA
June 1998



Regional range



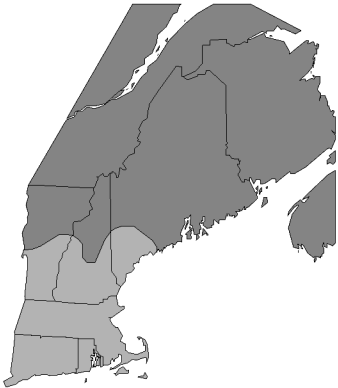
Predicted
distribution



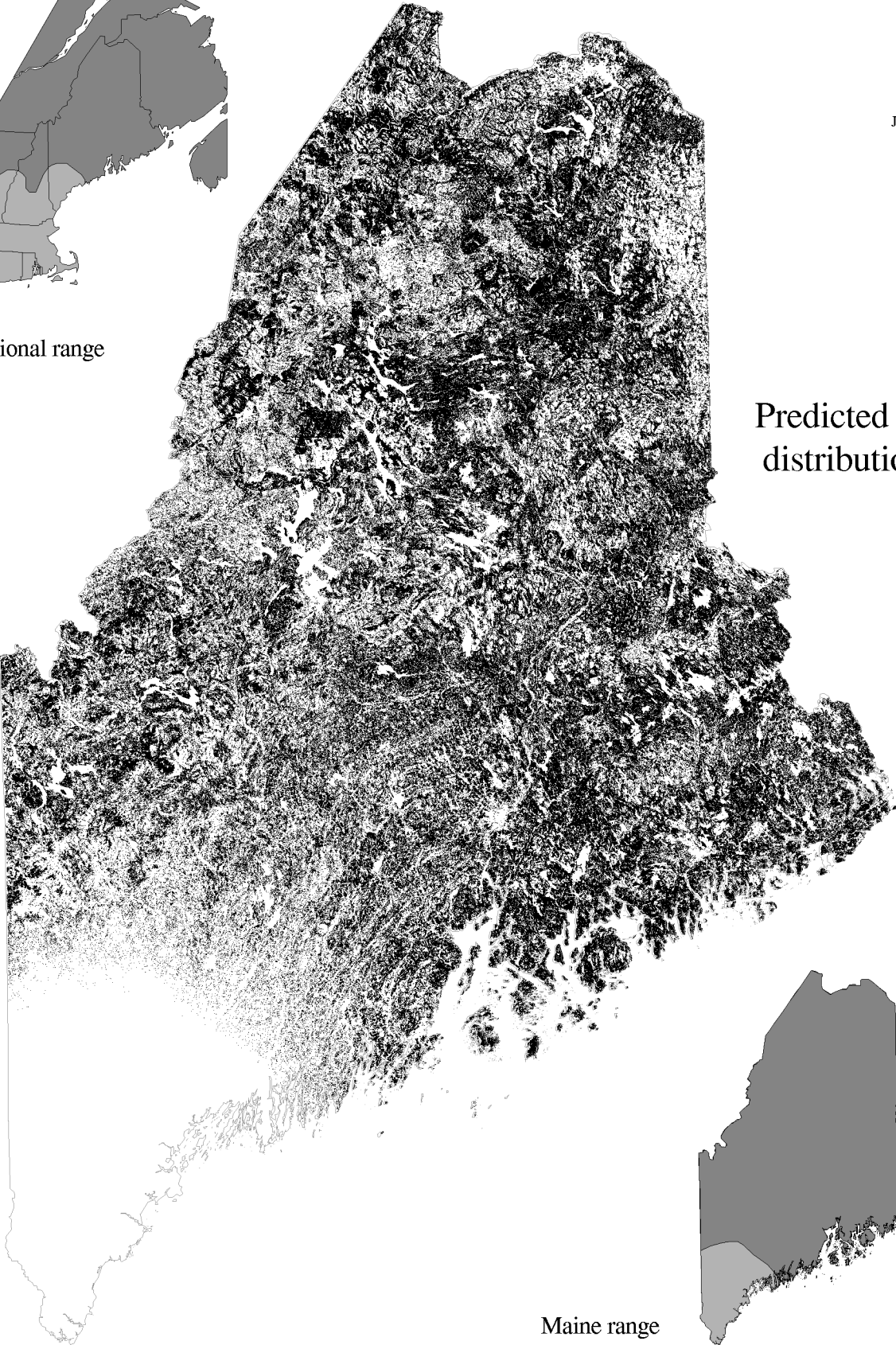
Maine range

Ruby-crowned Kinglet

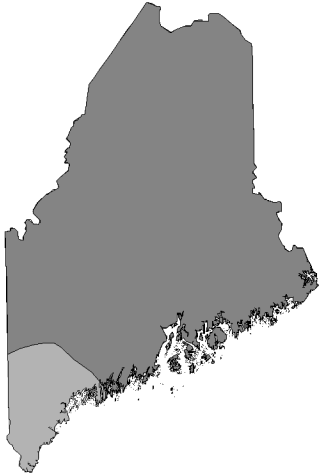
RECA
June 1998



Regional range



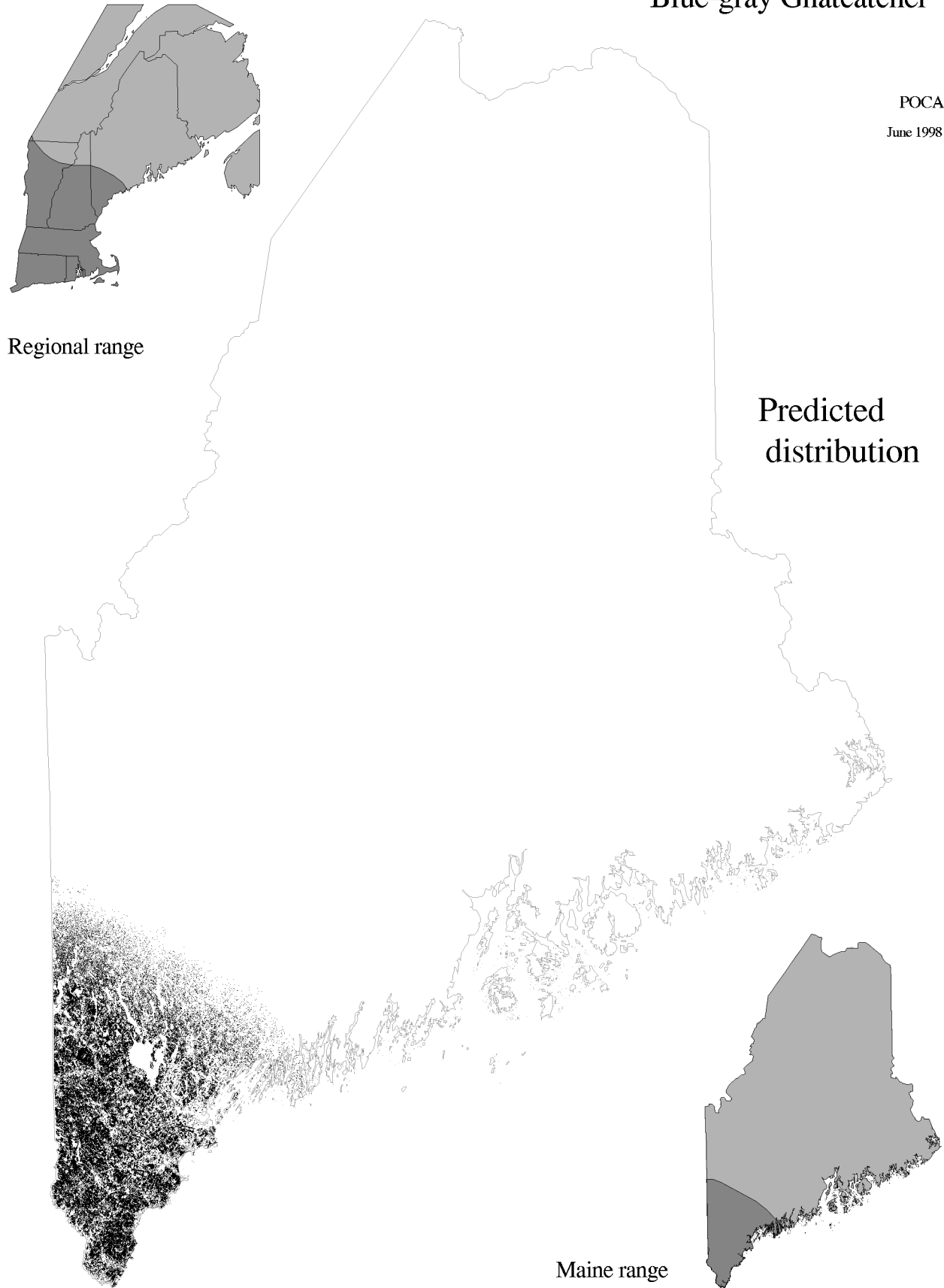
Predicted distribution



Maine range

Blue-gray Gnatcatcher

POCA
June 1998



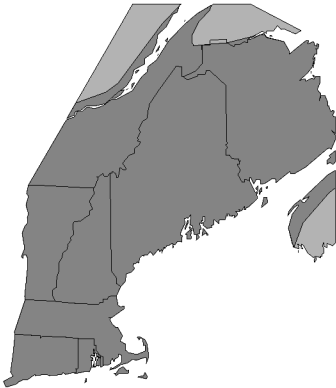
Regional range

Predicted
distribution

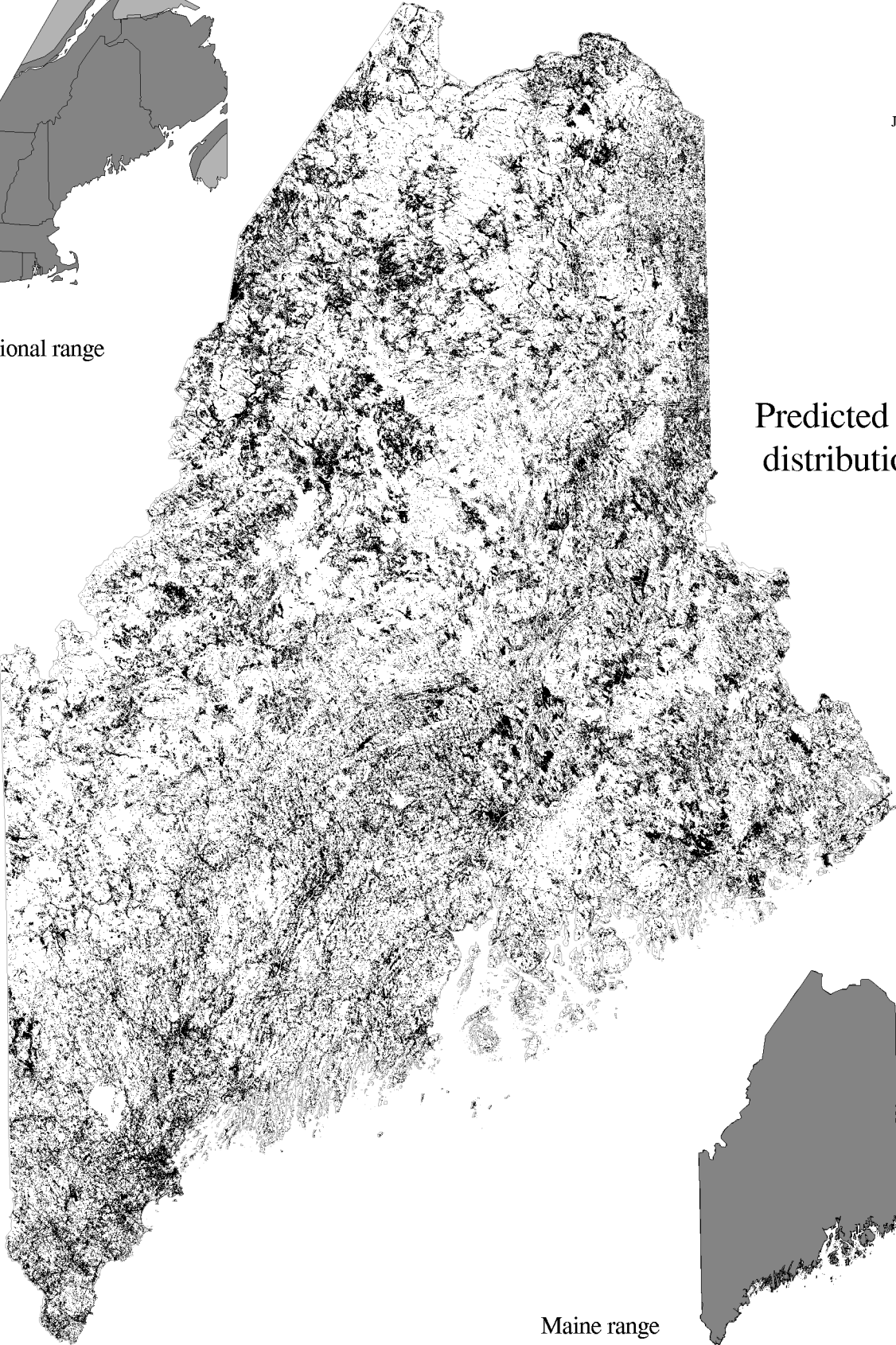
Maine range

Eastern Bluebird

SISI
June 1998



Regional range



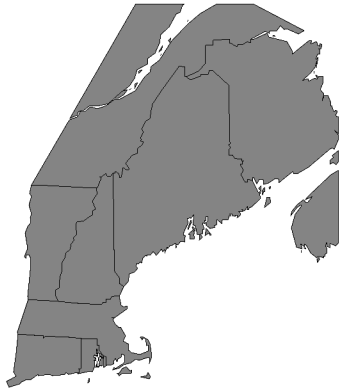
Predicted
distribution



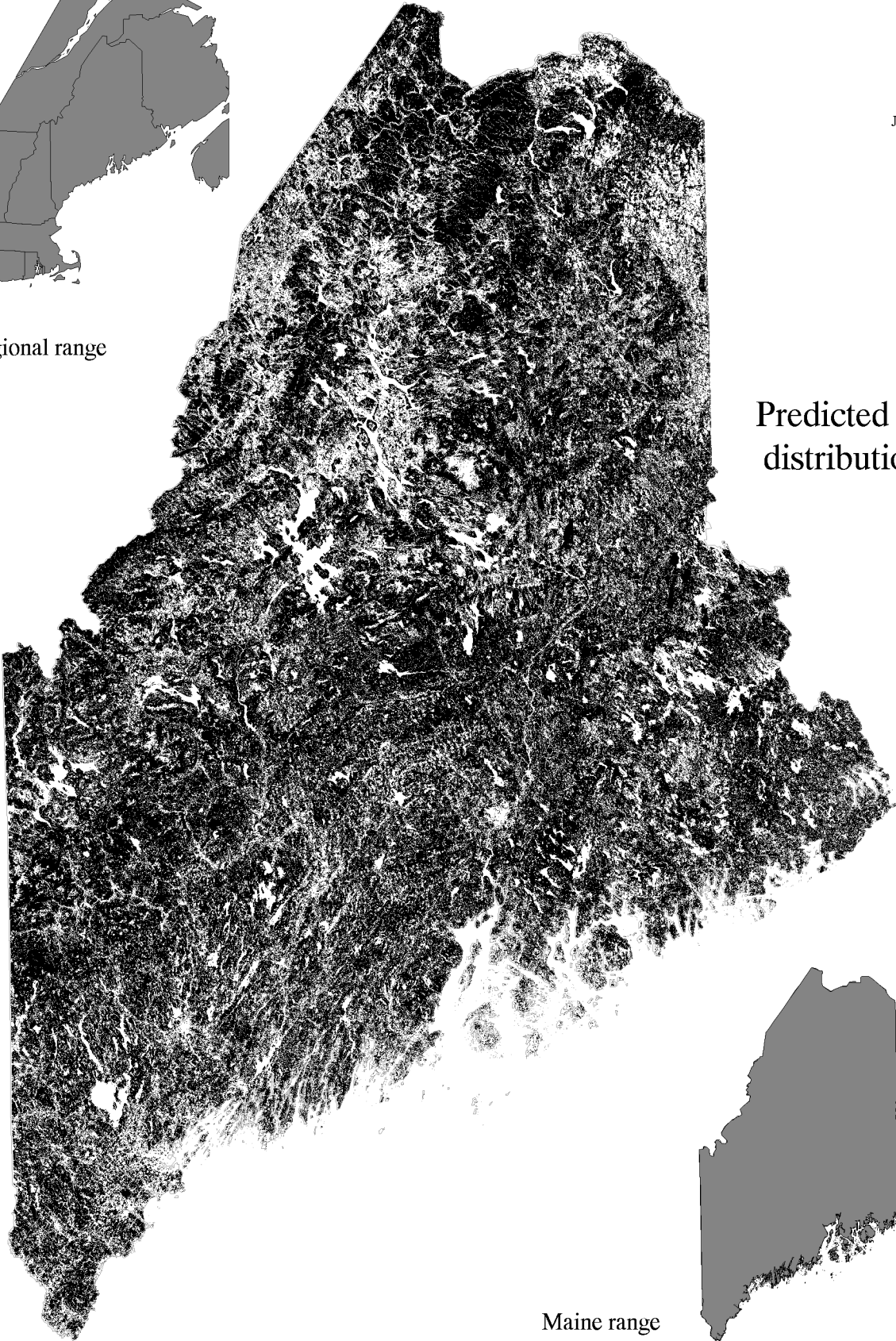
Maine range

Veery

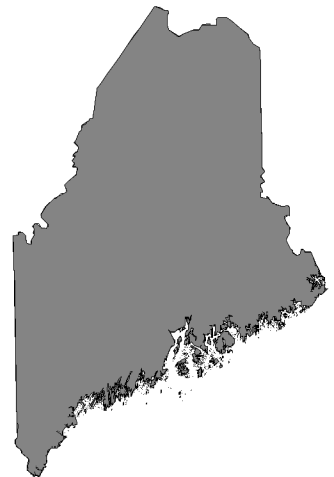
CAFU
June 1998



Regional range



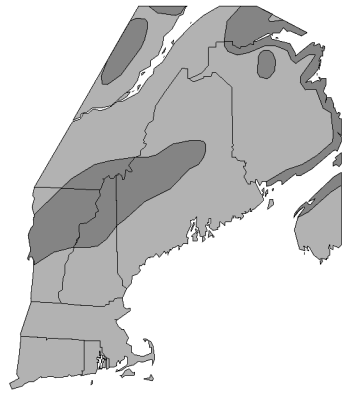
Predicted
distribution



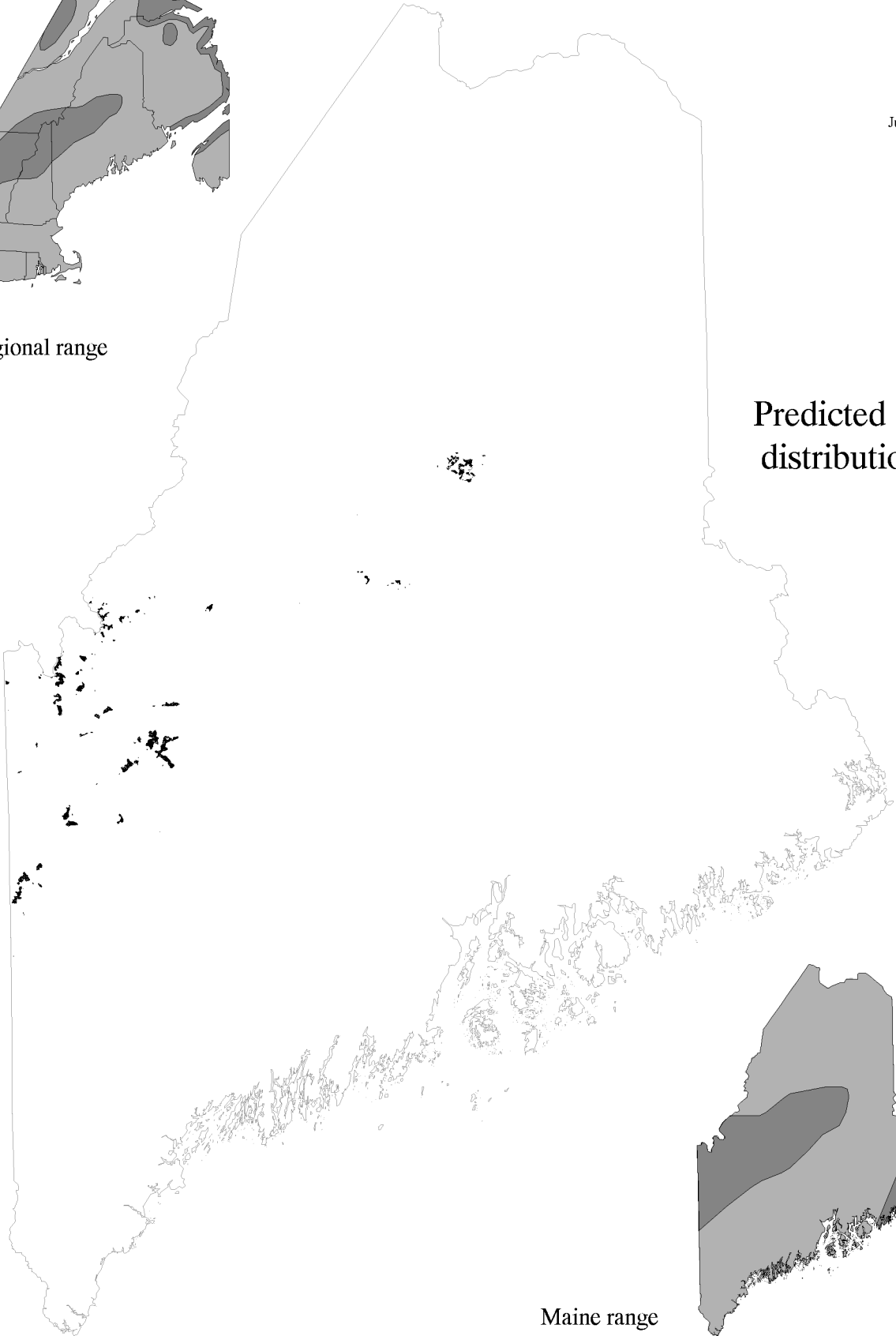
Maine range

Bicknell's Thrush

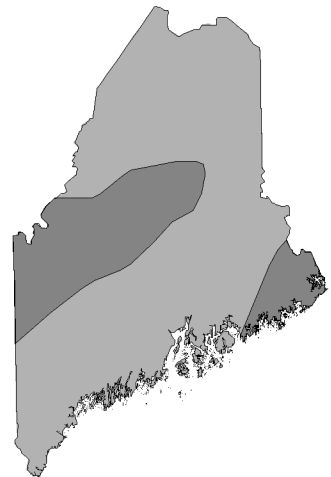
CAMI
June 1998



Regional range



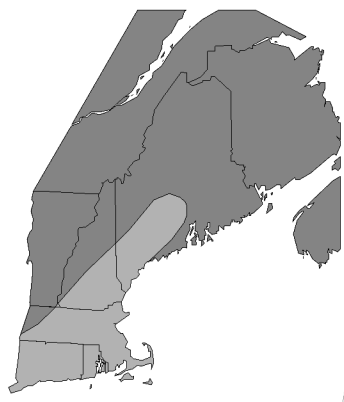
Predicted
distribution



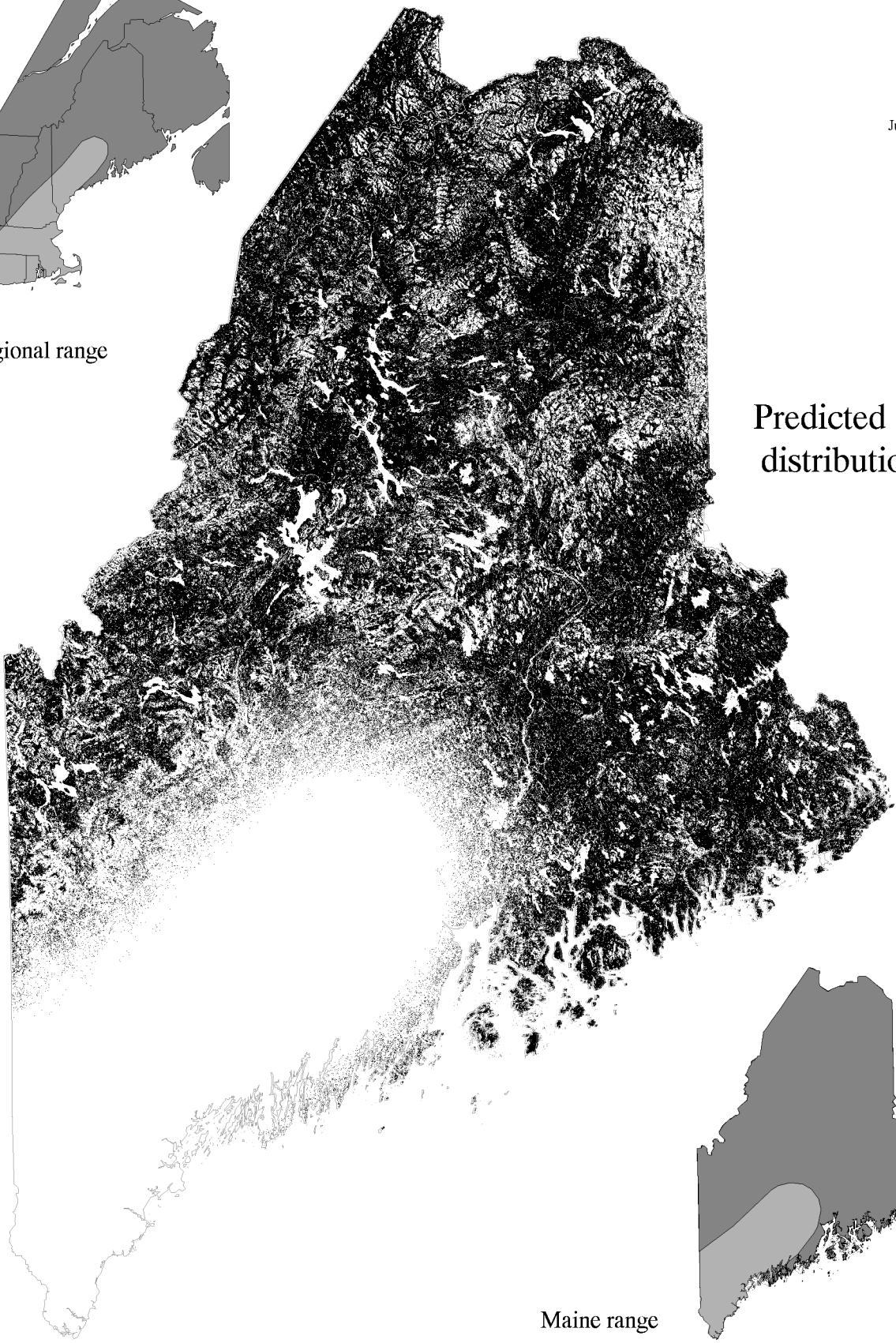
Maine range

Swainson's Thrush

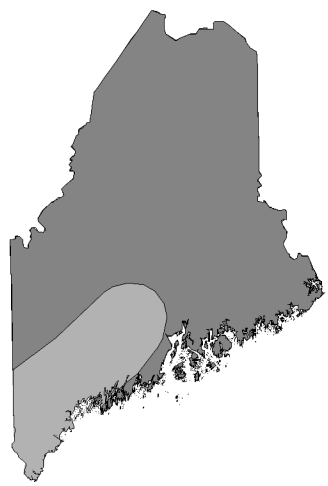
CAUS
June 1998



Regional range



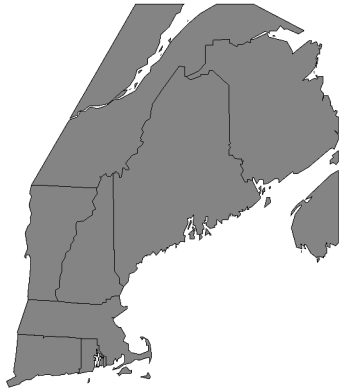
Predicted
distribution



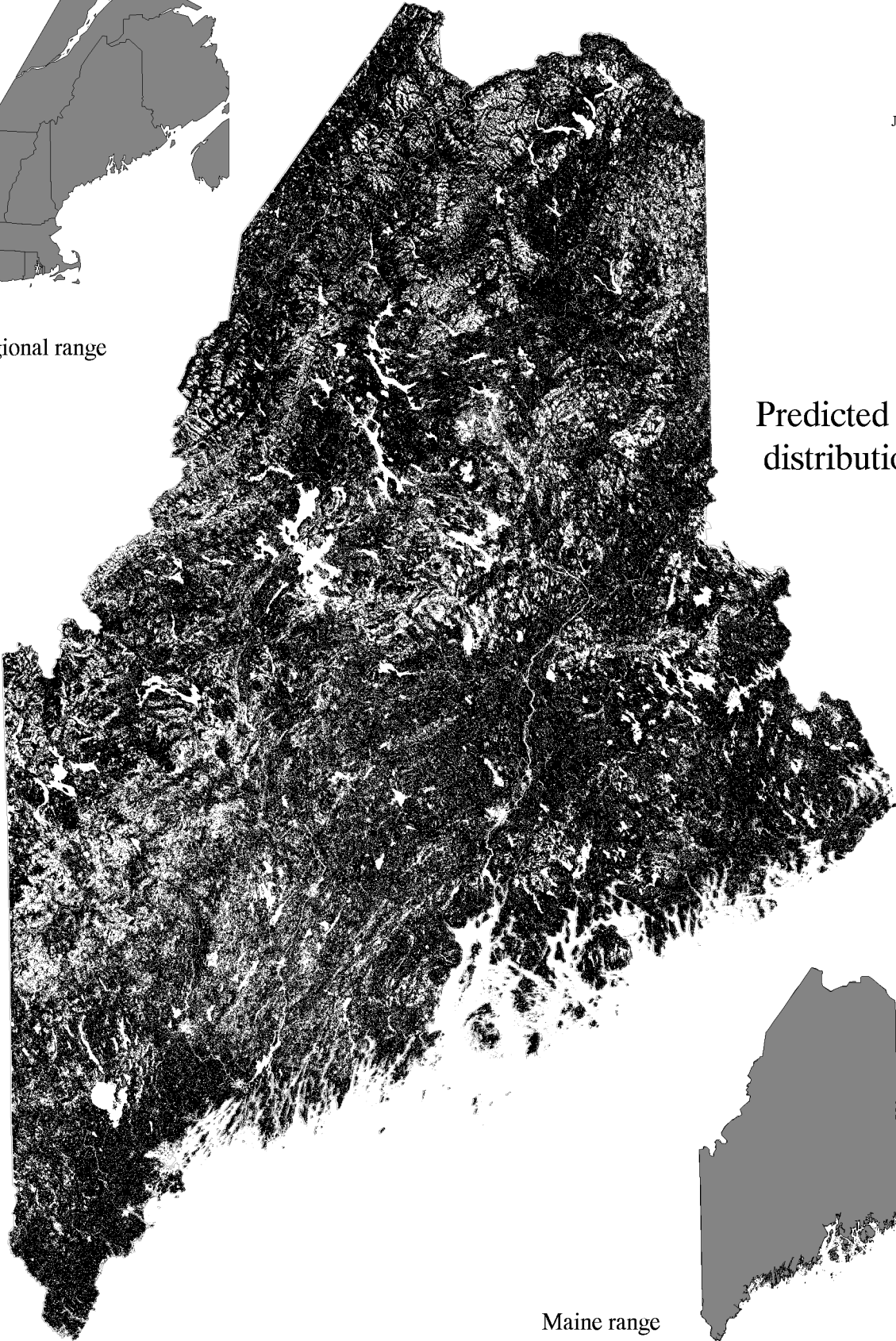
Maine range

Hermit Thrush

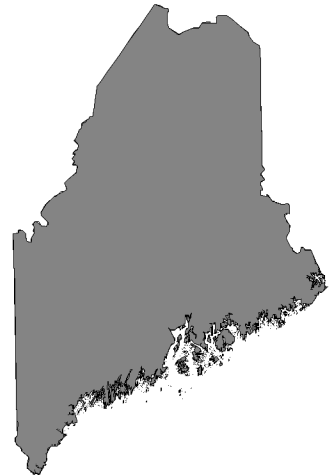
CAGU
June 1998



Regional range



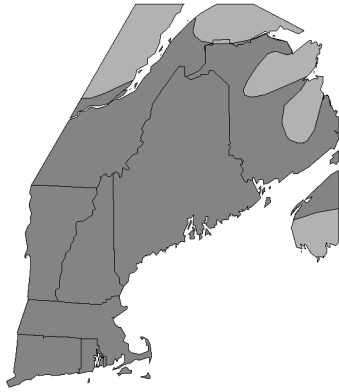
Predicted
distribution



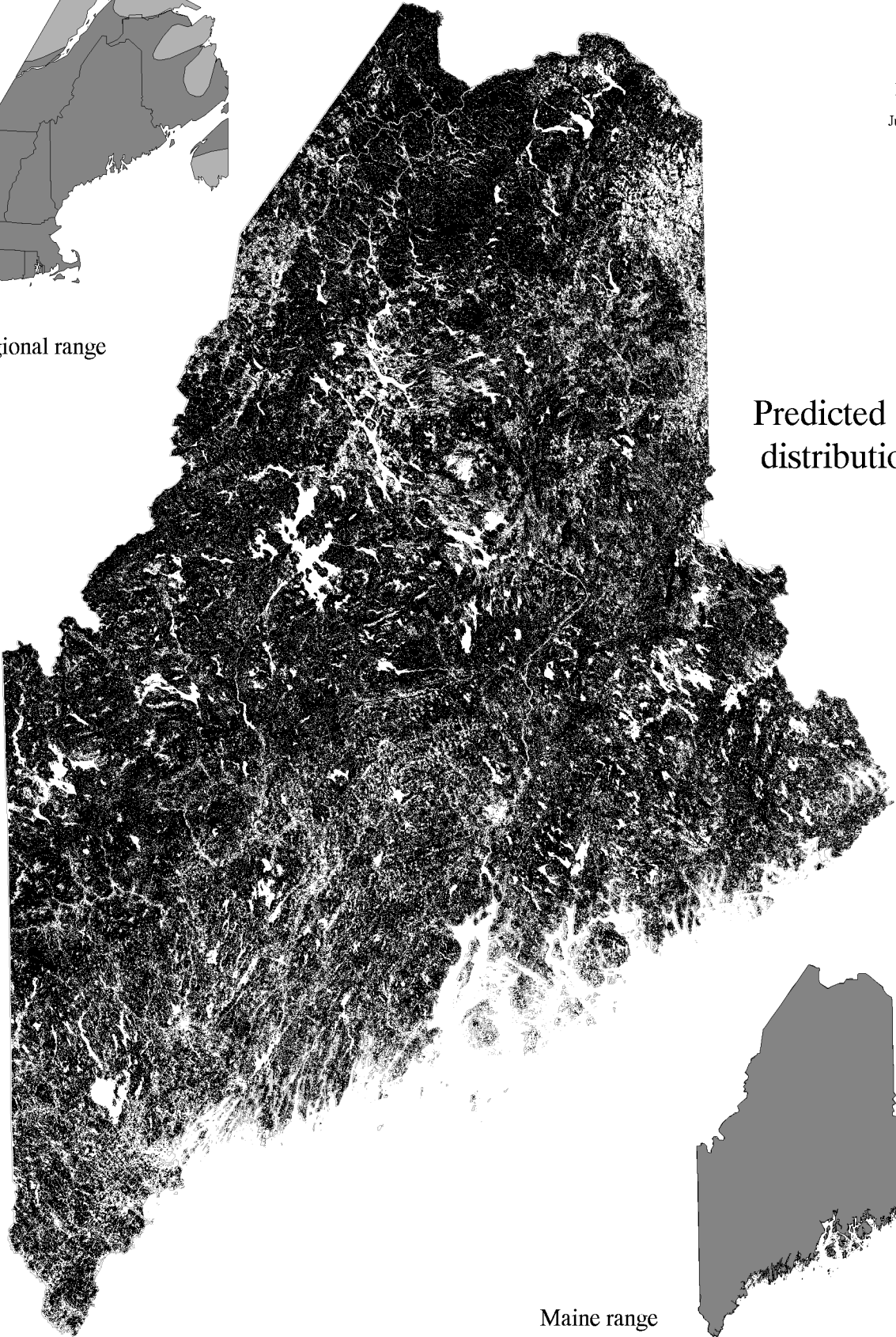
Maine range

Wood Thrush

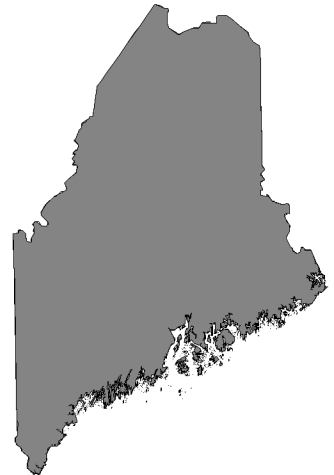
HYMU
June 1998



Regional range



Predicted
distribution



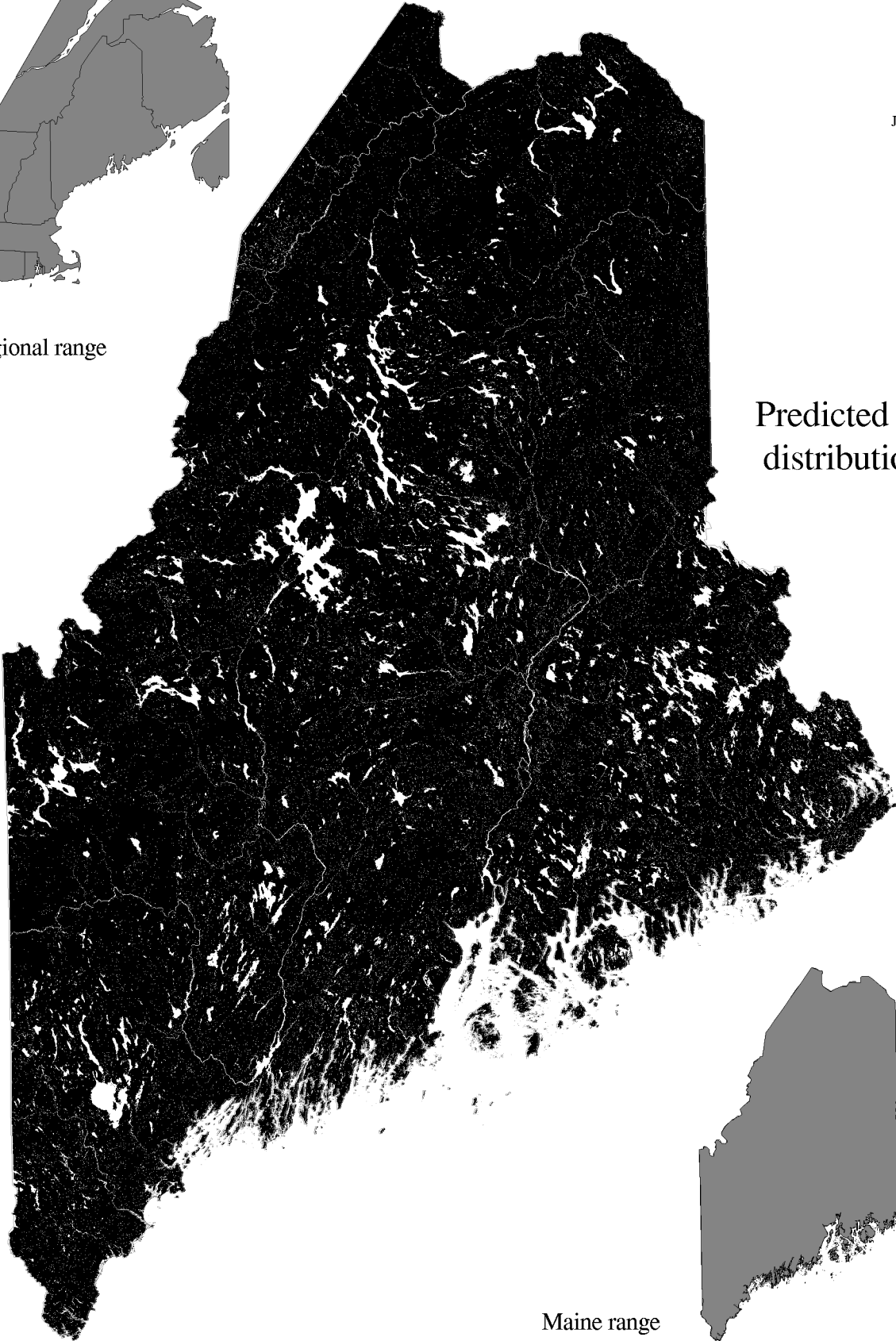
Maine range

American Robin

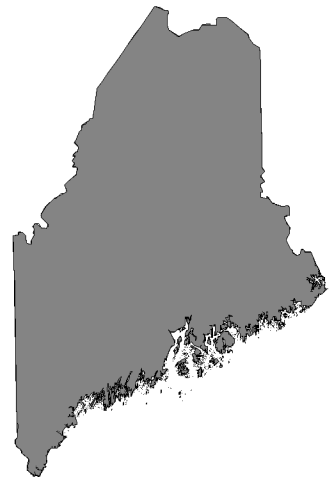
TUMI
June 1998



Regional range



Predicted
distribution



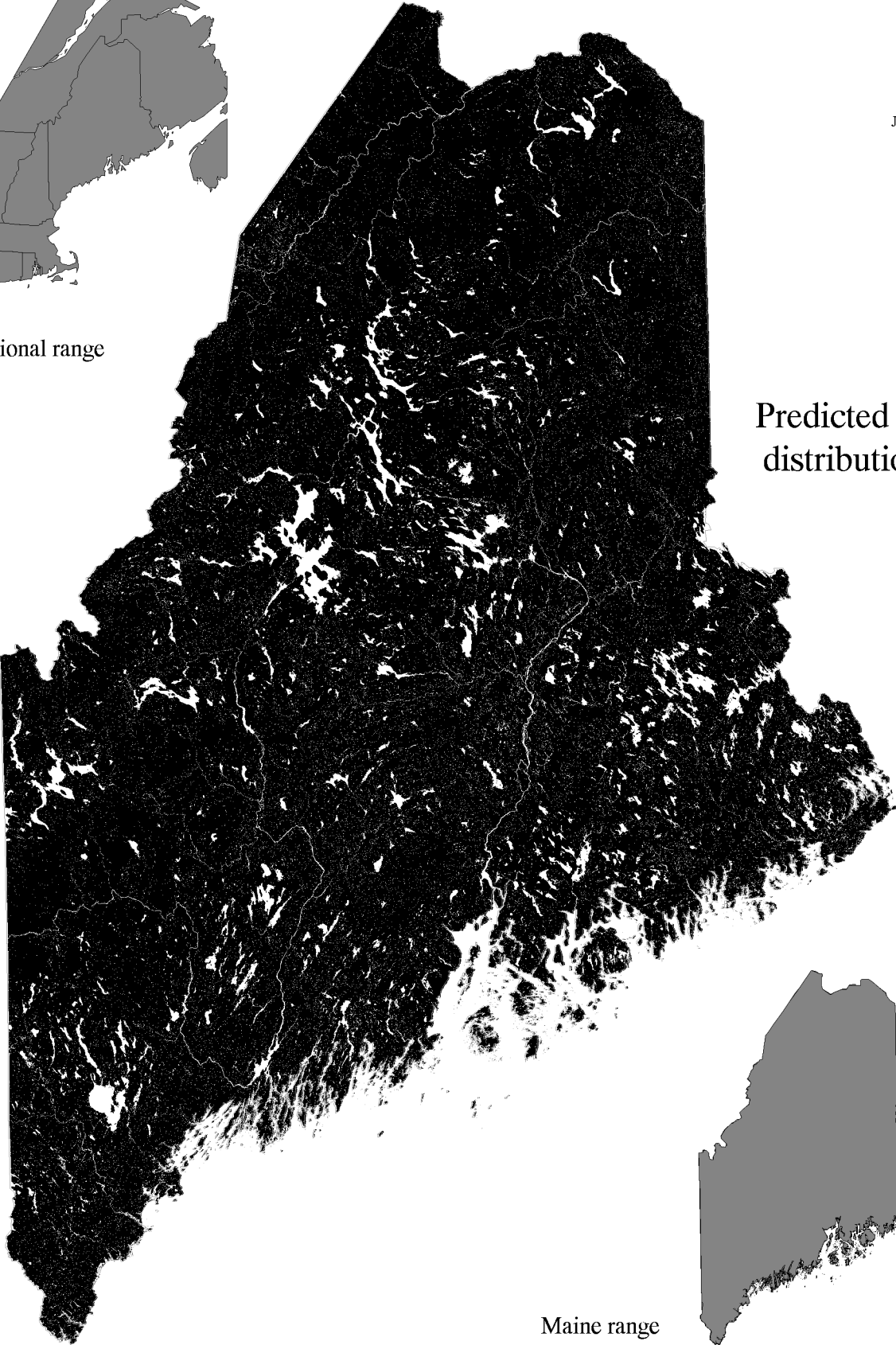
Maine range

Gray Catbird

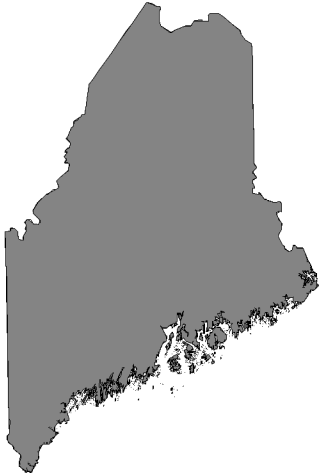
DUCA
June 1998



Regional range



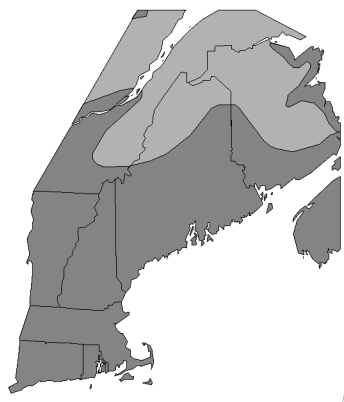
Predicted
distribution



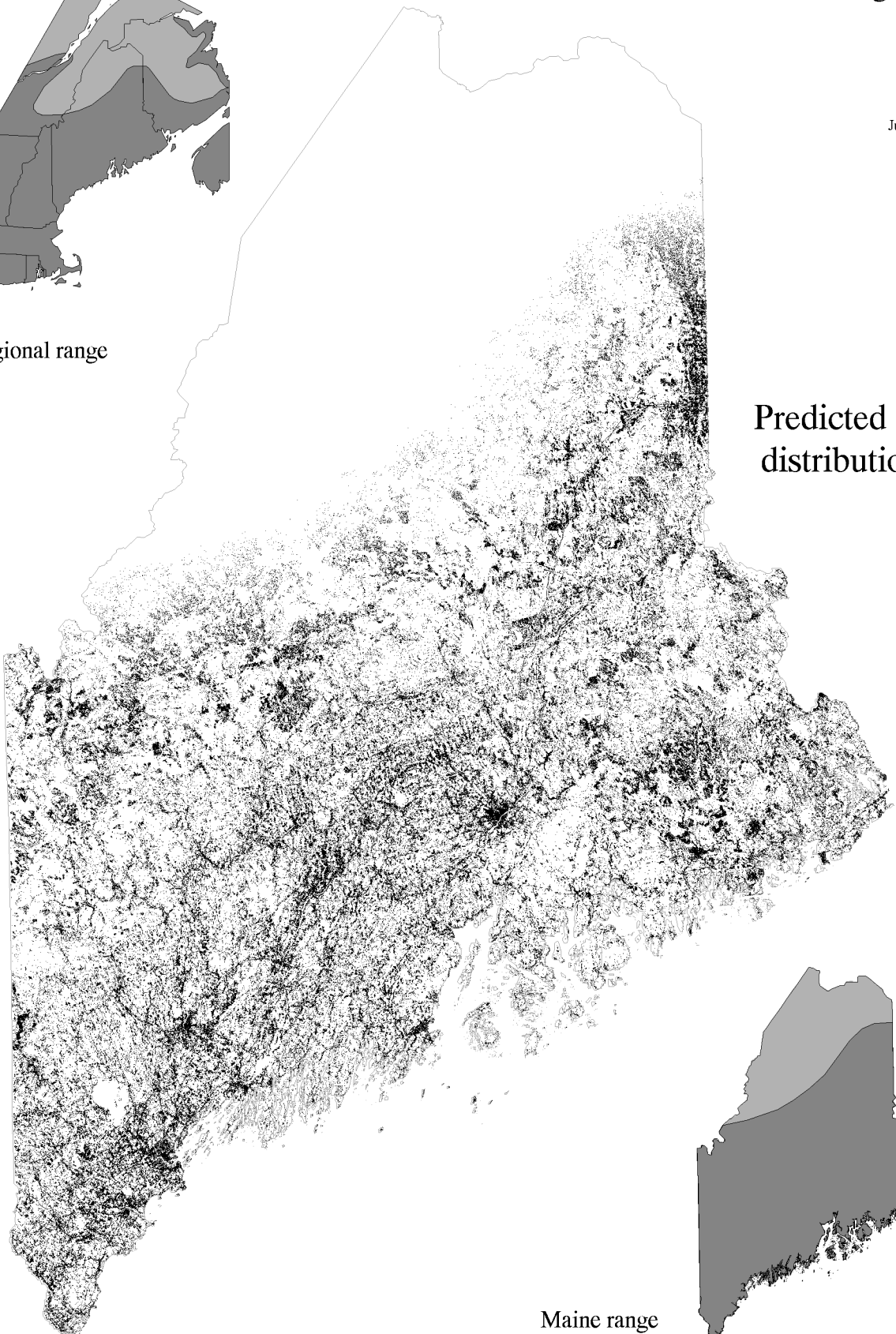
Maine range

Northern Mockingbird

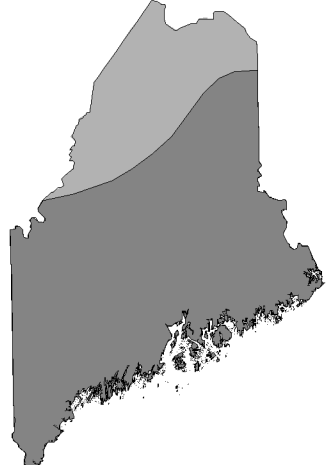
MIPO
June 1998



Regional range



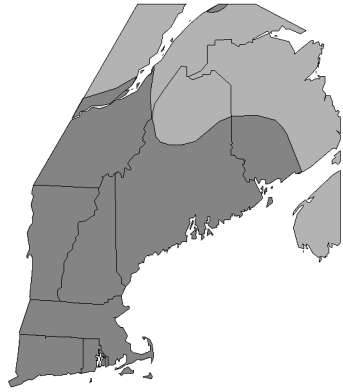
Predicted distribution



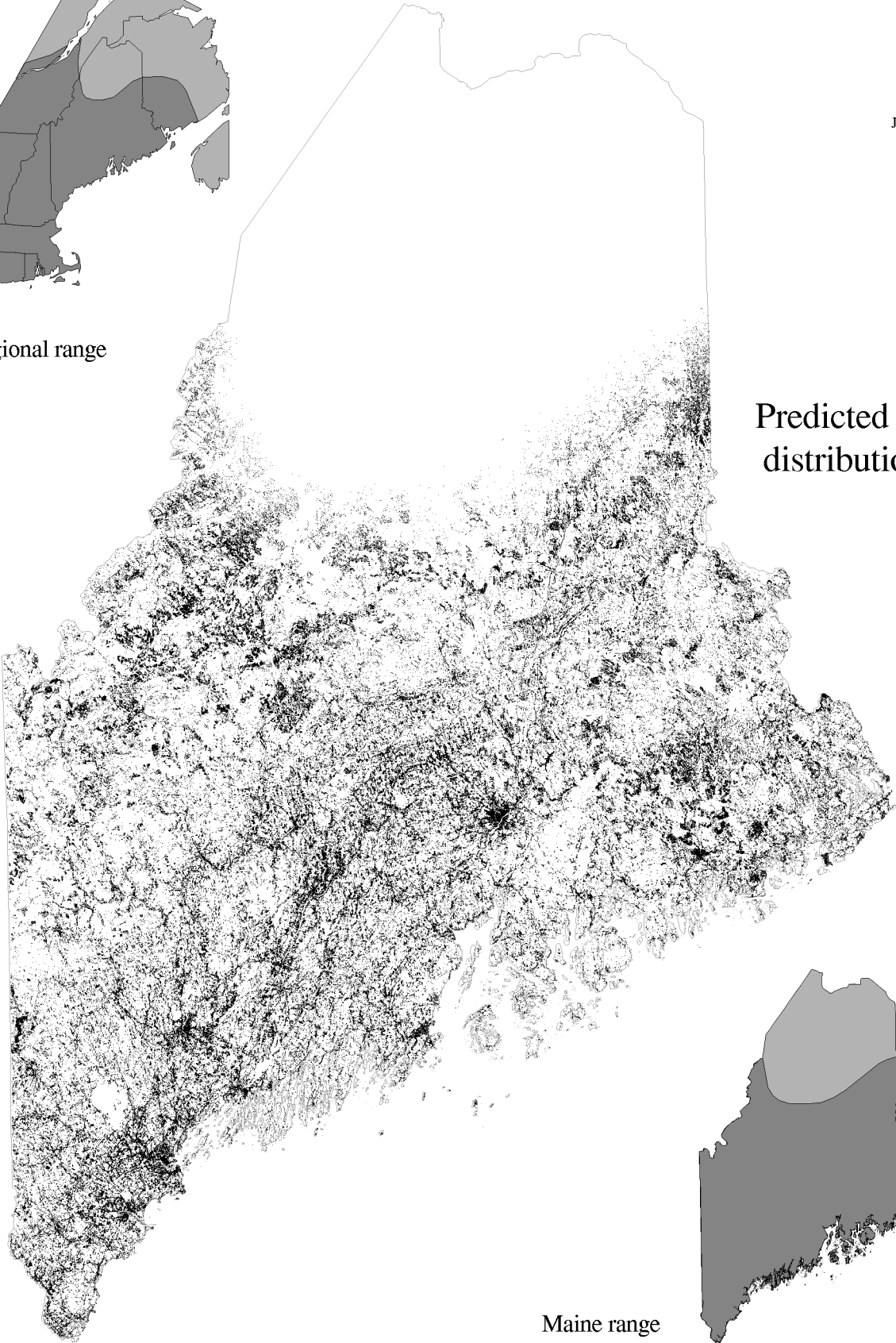
Maine range

Brown Thrasher

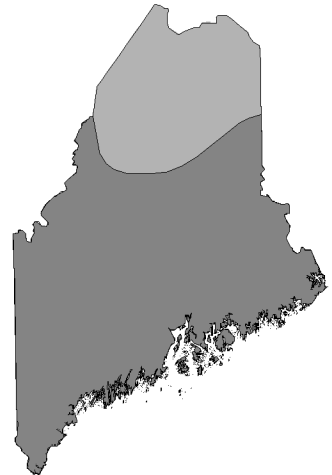
TORU
June 1998



Regional range



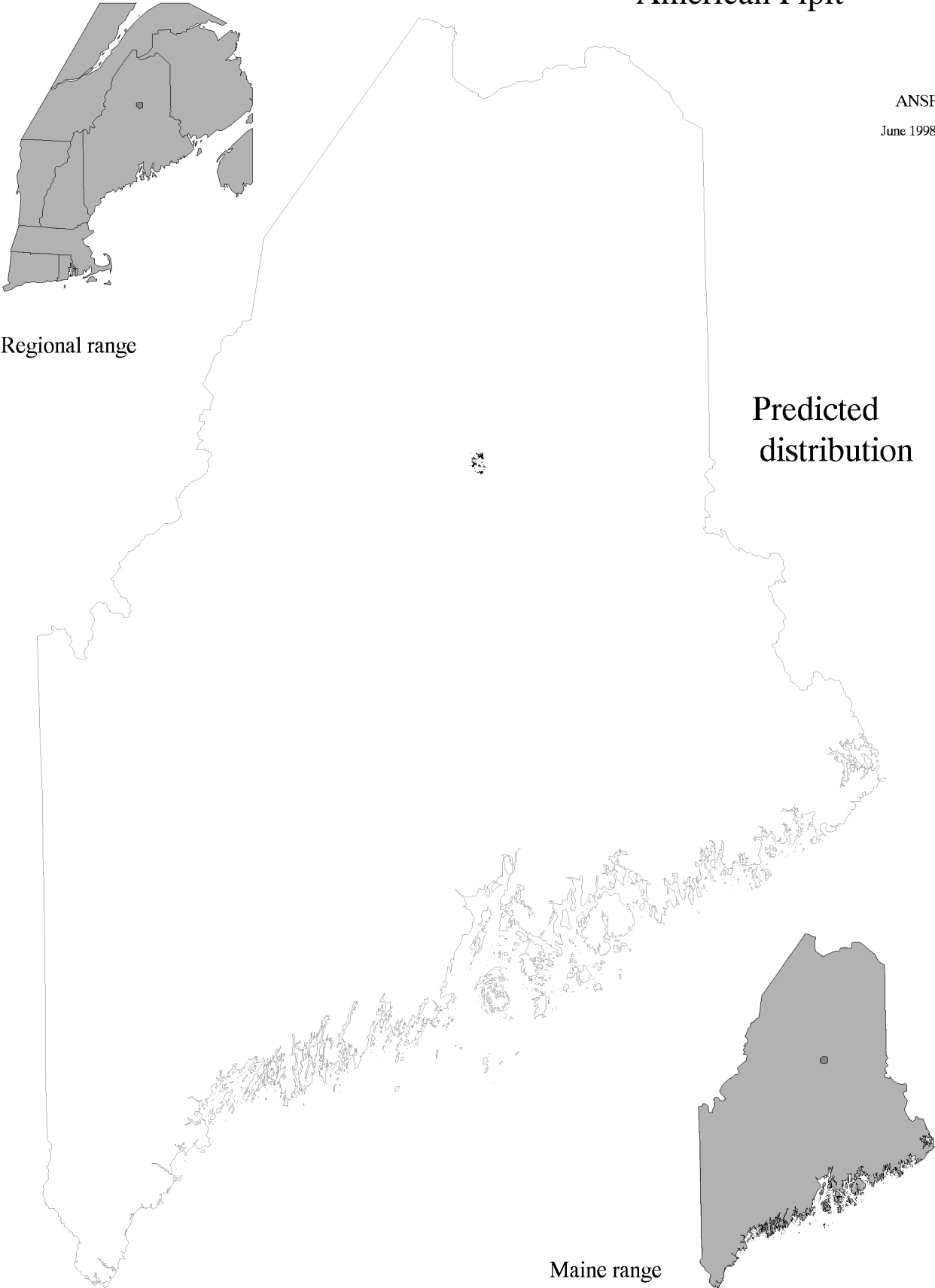
Predicted
distribution



Maine range

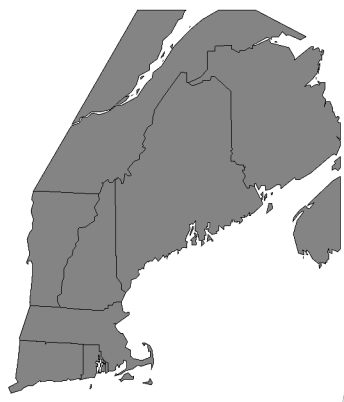
American Pipit

ANSP
June 1998

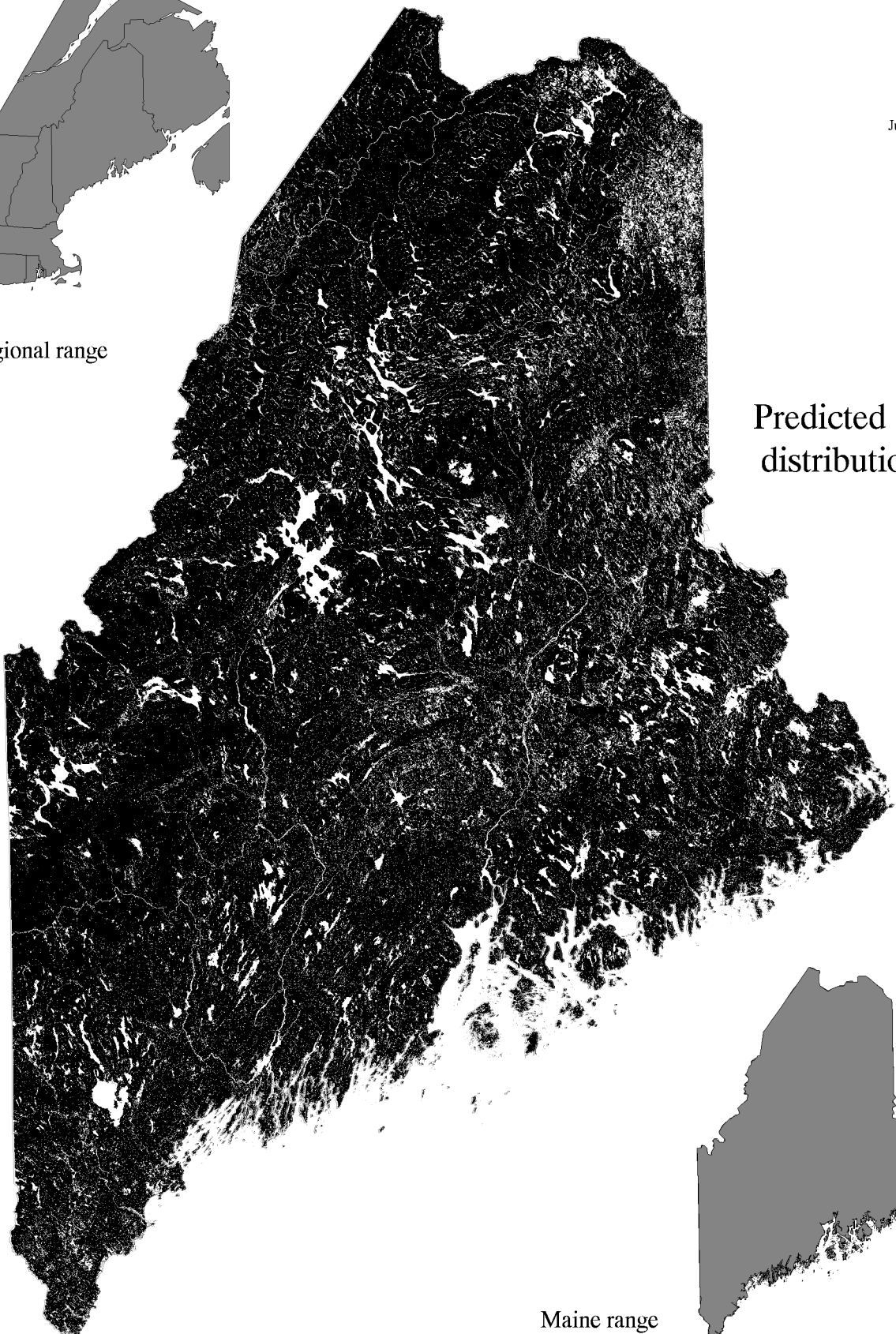


Cedar Waxwing

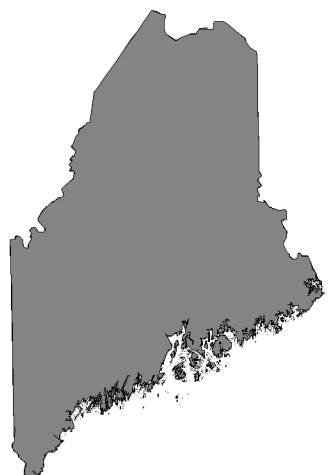
BOCE
June 1998



Regional range



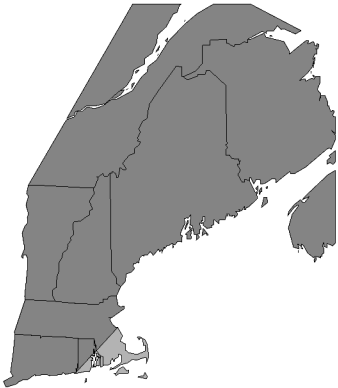
Predicted
distribution



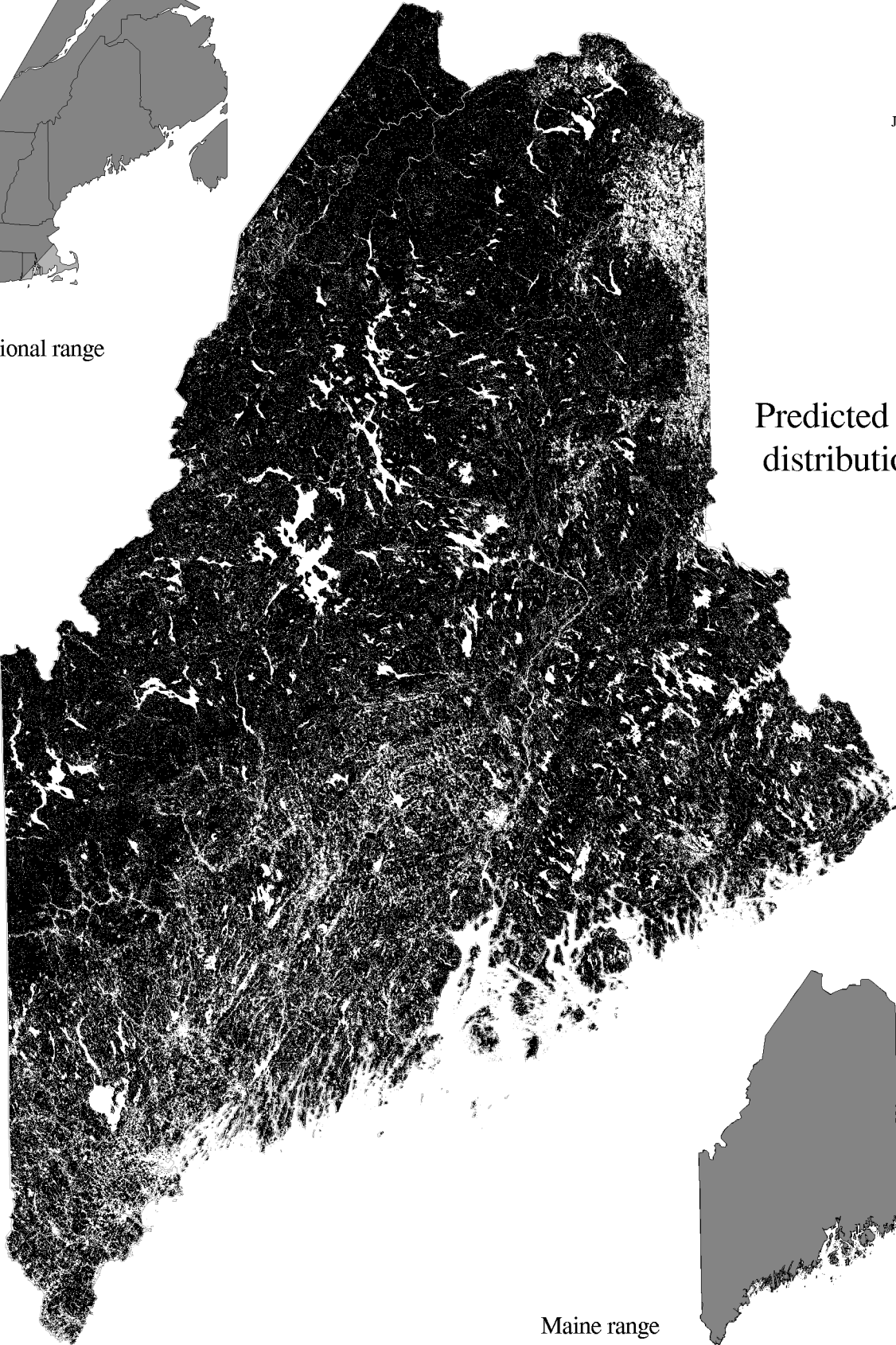
Maine range

Blue-headed Vireo

VISO
June 1998



Regional range



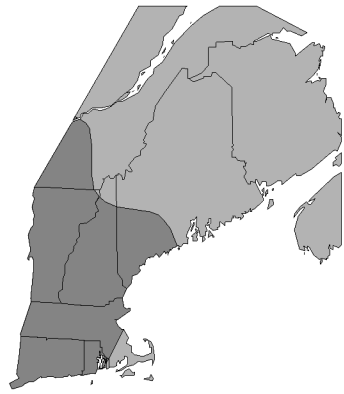
Predicted distribution



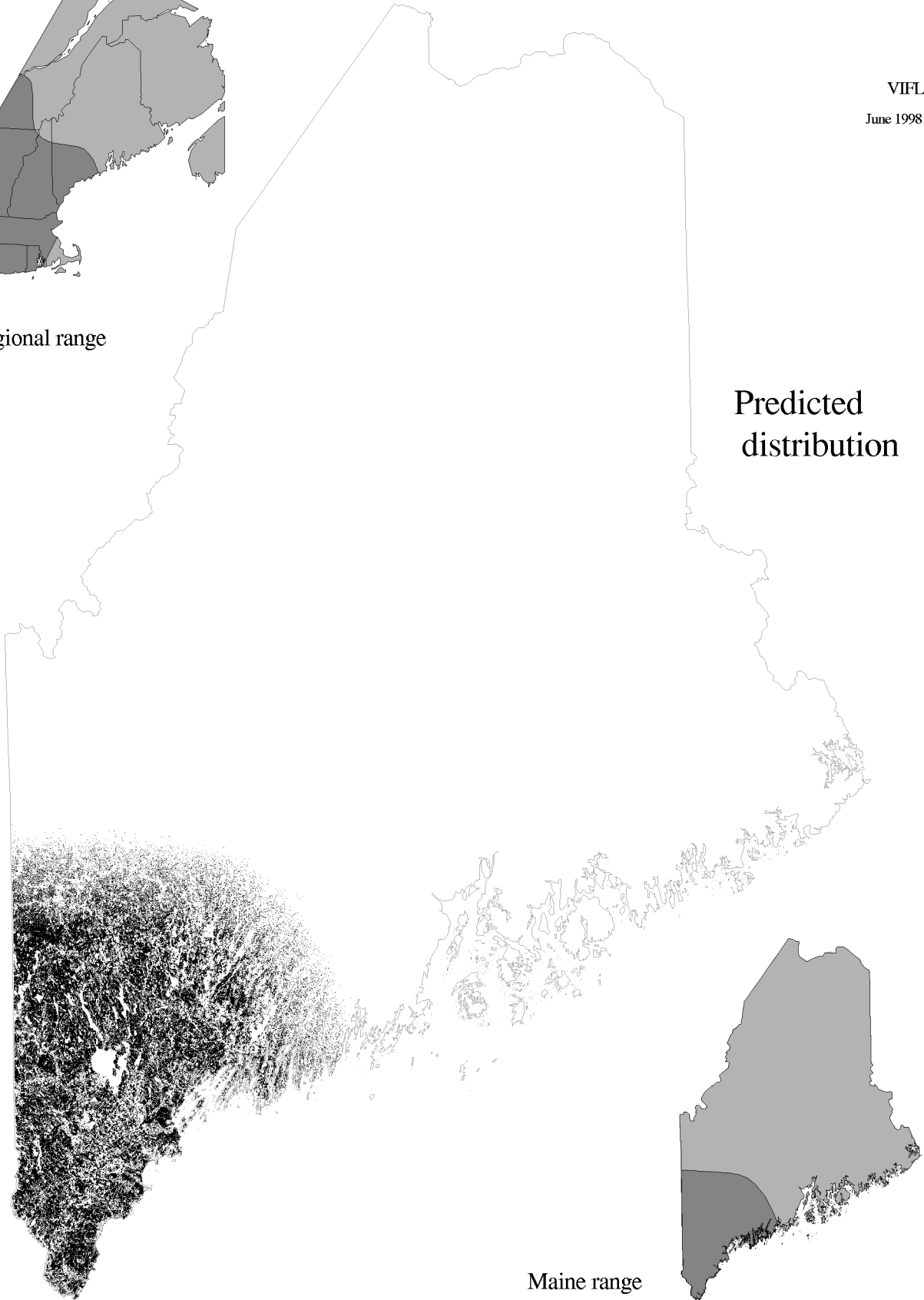
Maine range

Yellow-throated Vireo

VIFL
June 1998



Regional range

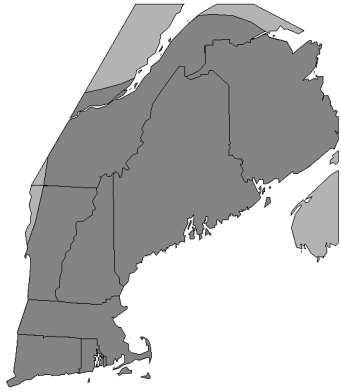


Predicted
distribution

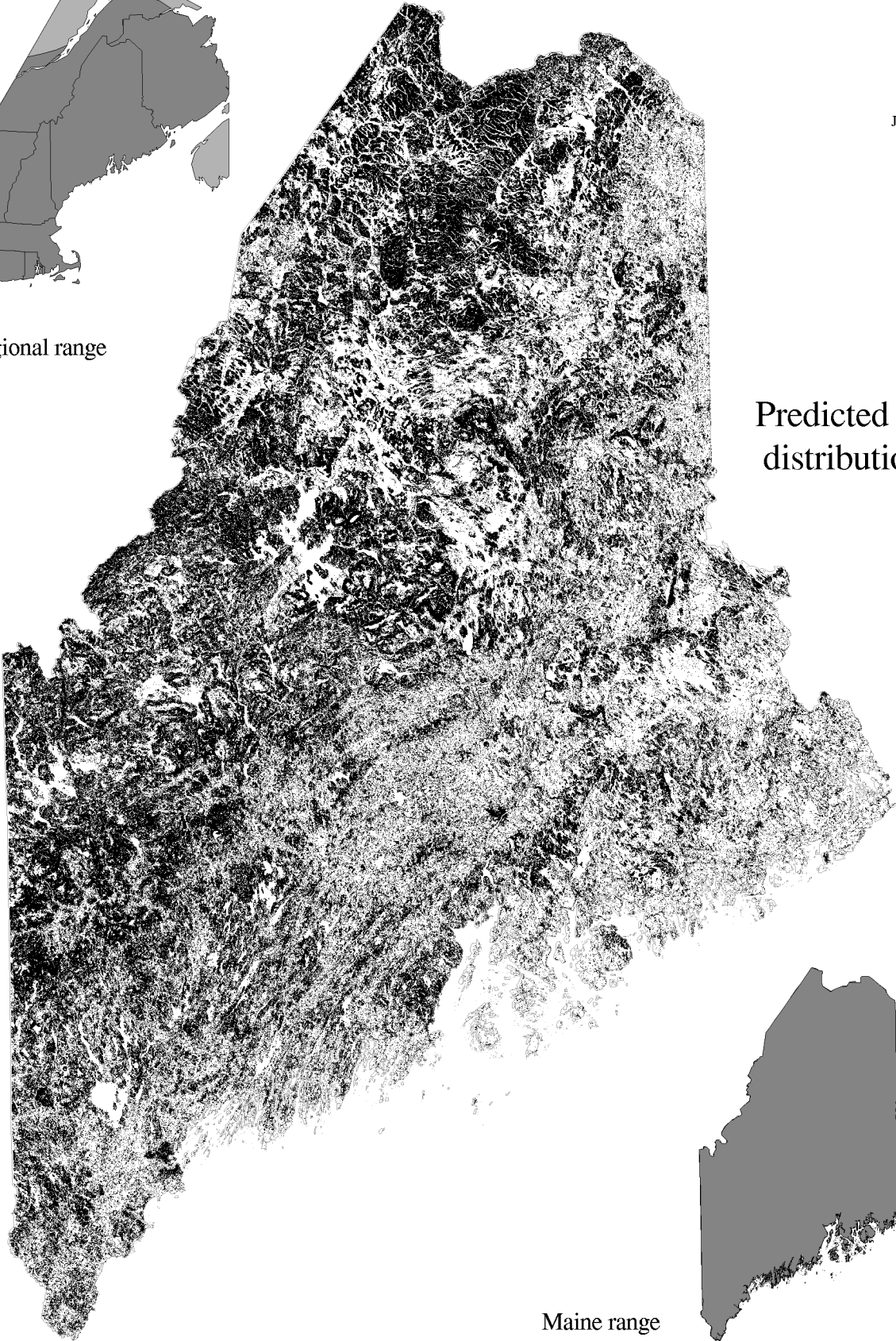
Maine range

Warbling Vireo

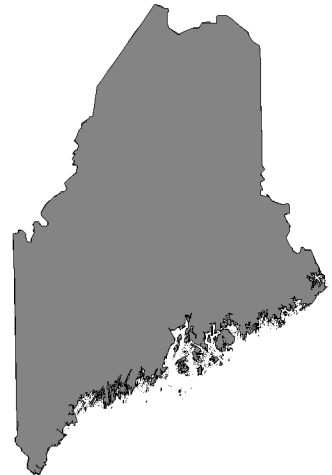
VIGI
June 1998



Regional range



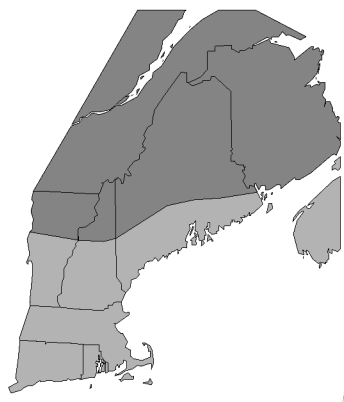
Predicted
distribution



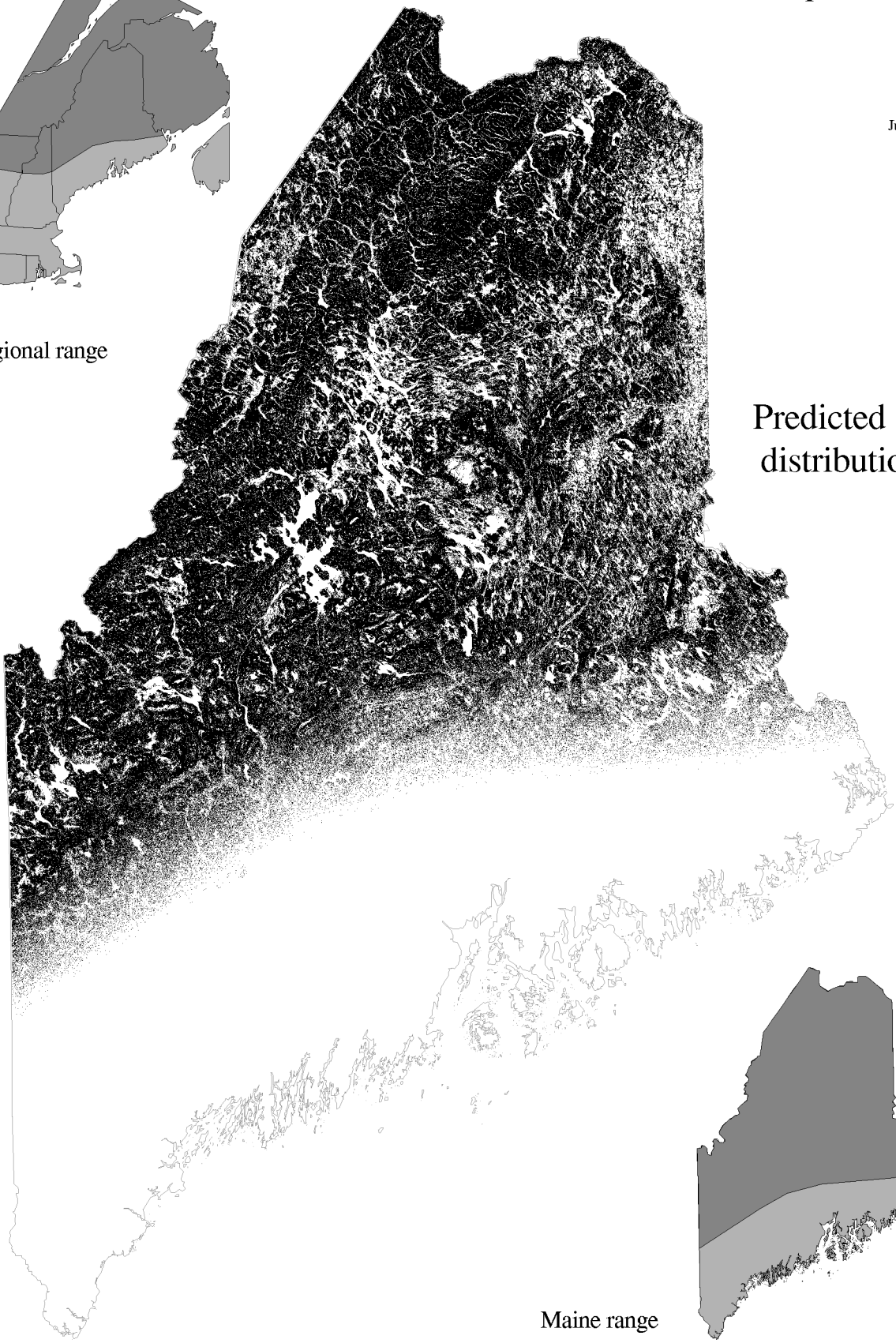
Maine range

Philadelphia Vireo

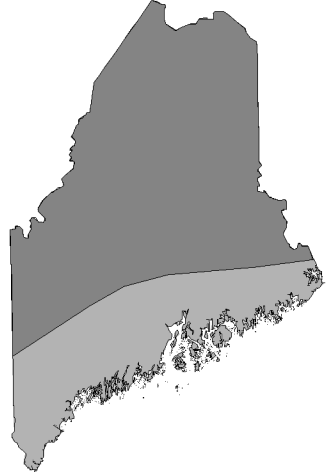
VIPH
June 1998



Regional range



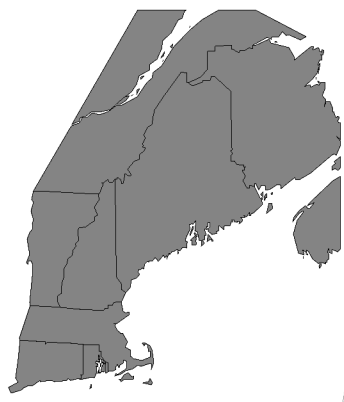
Predicted distribution



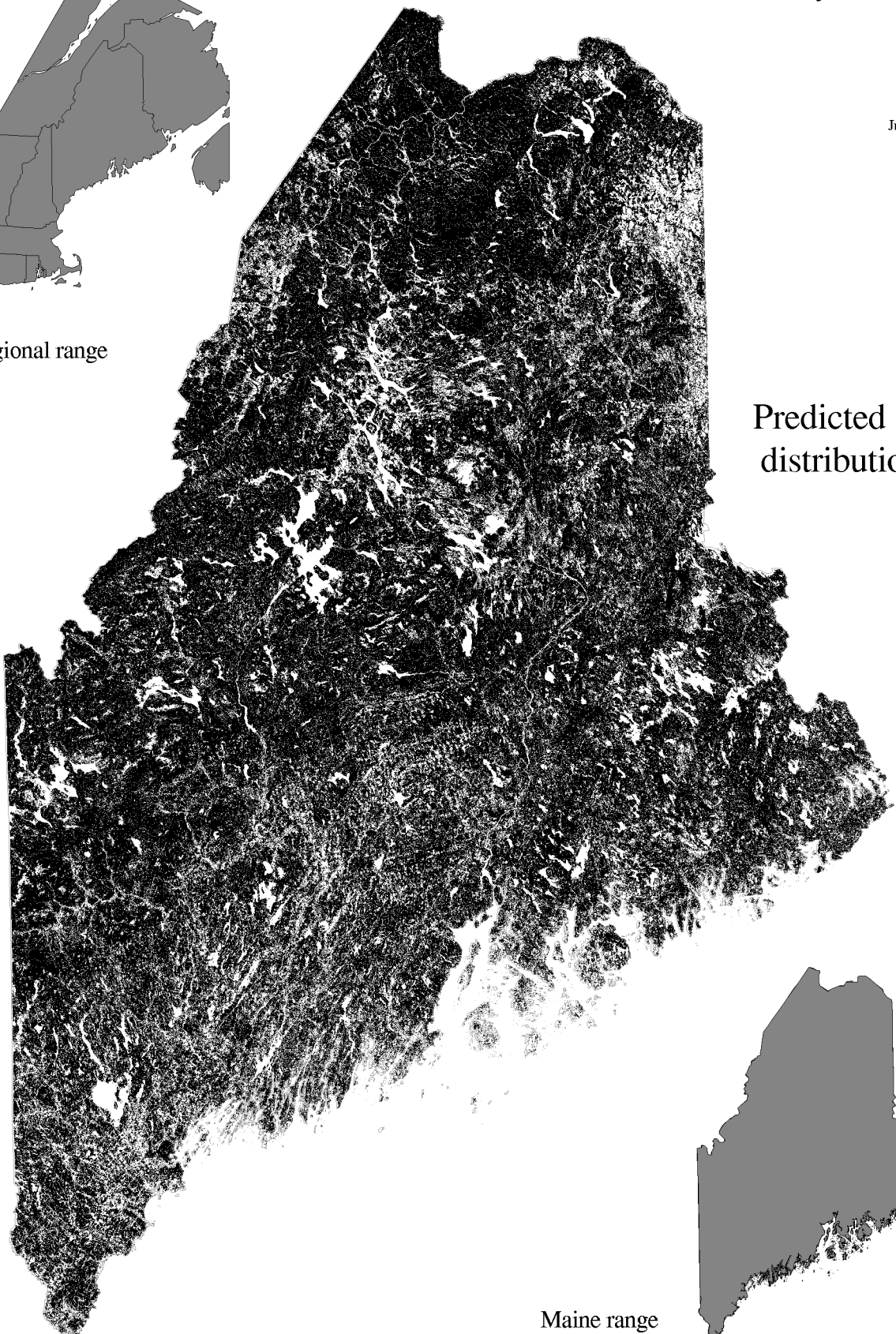
Maine range

Red-eyed Vireo

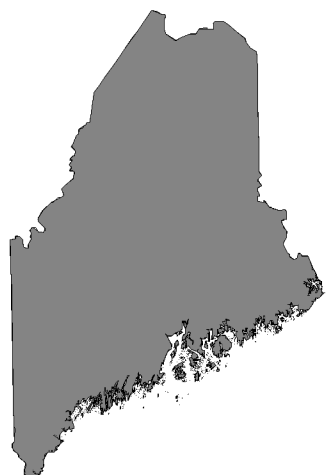
VIOL
June 1998



Regional range



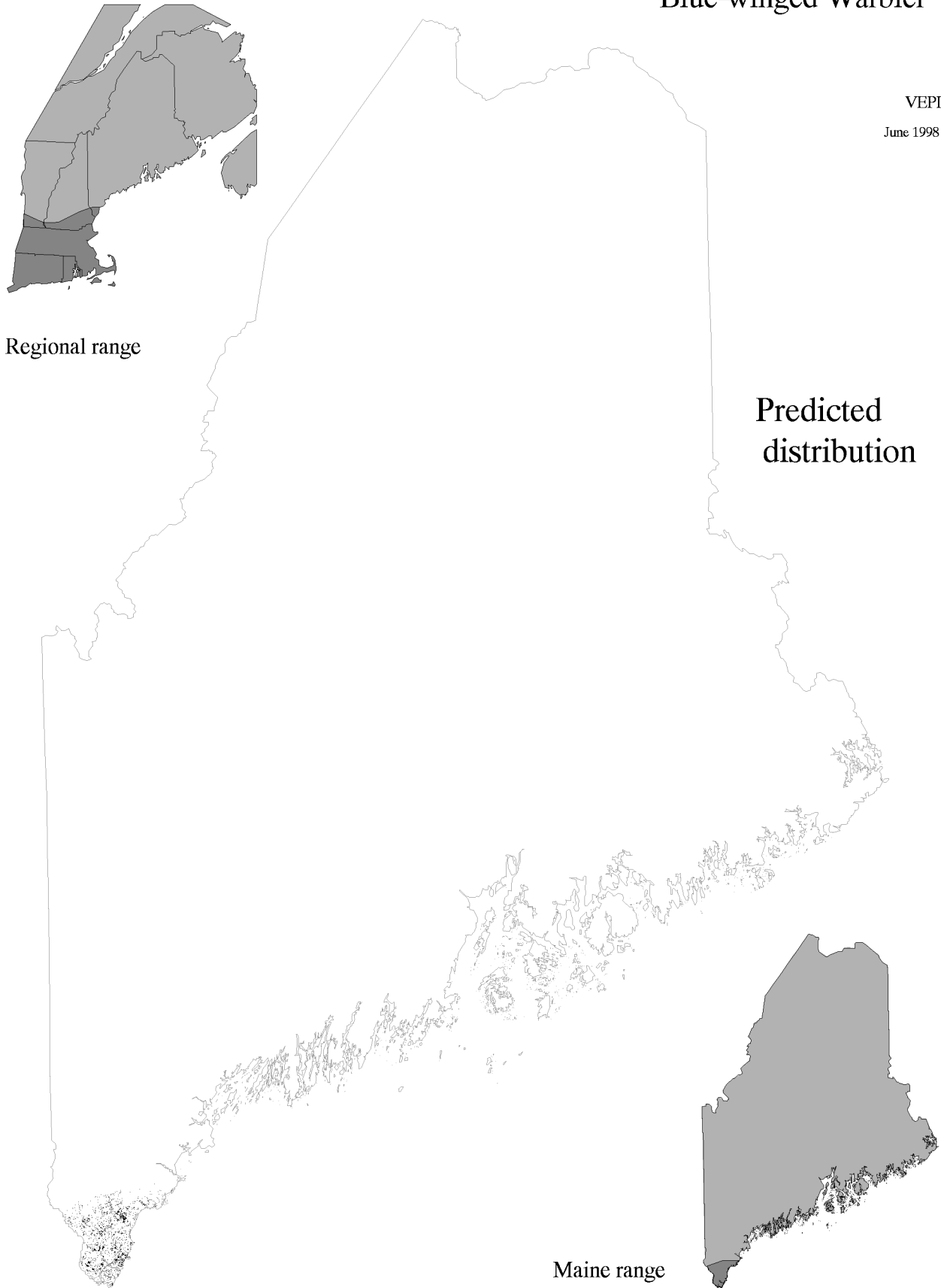
Predicted
distribution



Maine range

Blue-winged Warbler

VEPI
June 1998



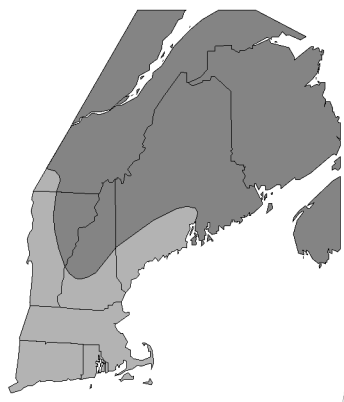
Regional range

Predicted
distribution

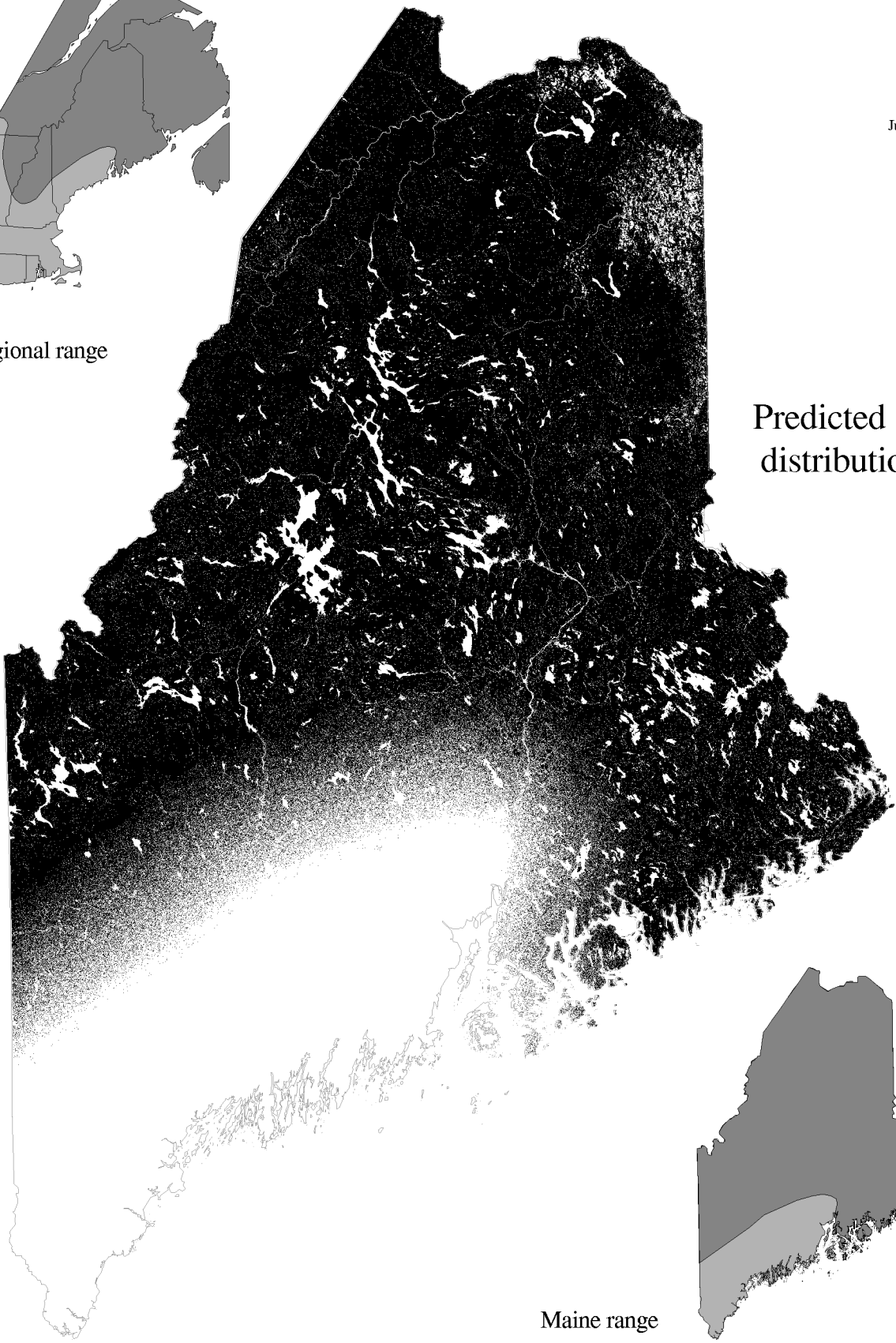
Maine range

Tennessee Warbler

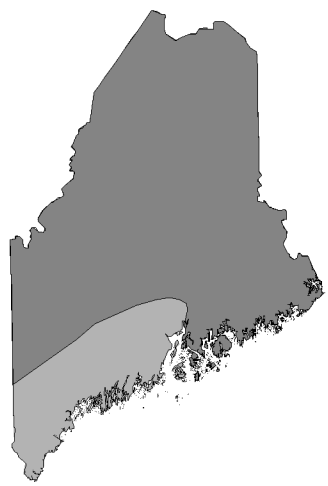
VEPE
June 1998



Regional range



Predicted
distribution



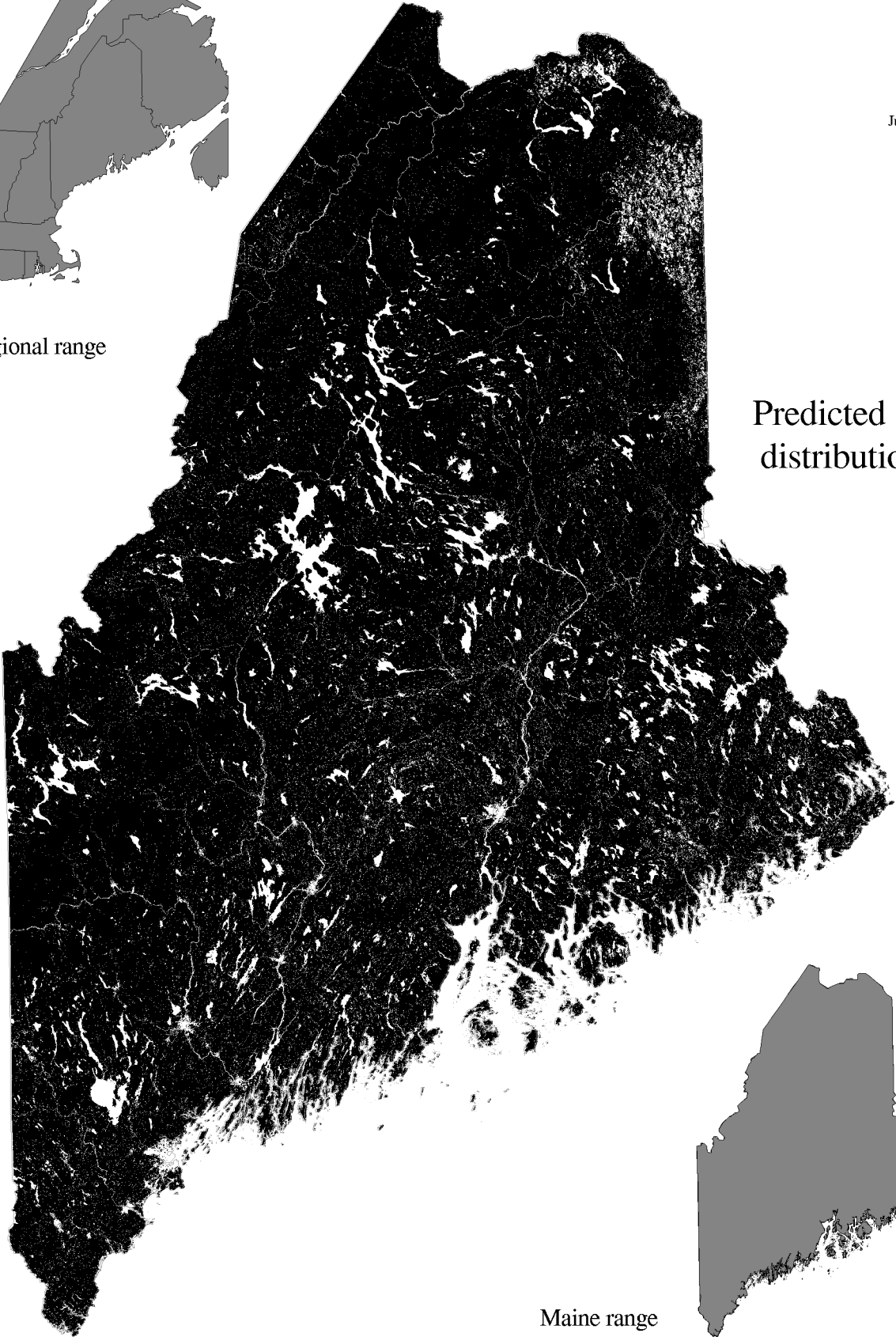
Maine range

Nashville Warbler

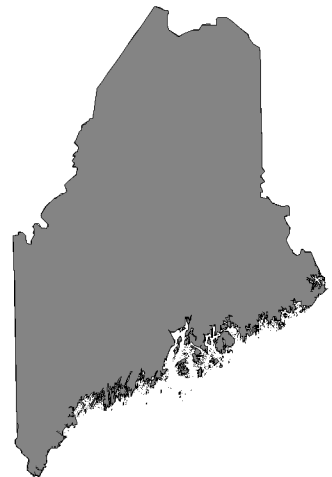
VERU
June 1998



Regional range



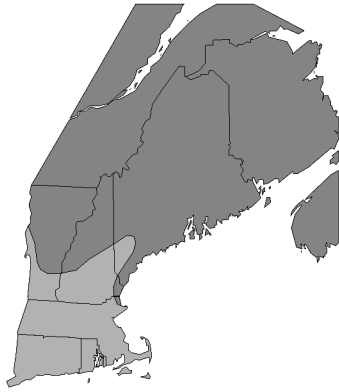
Predicted
distribution



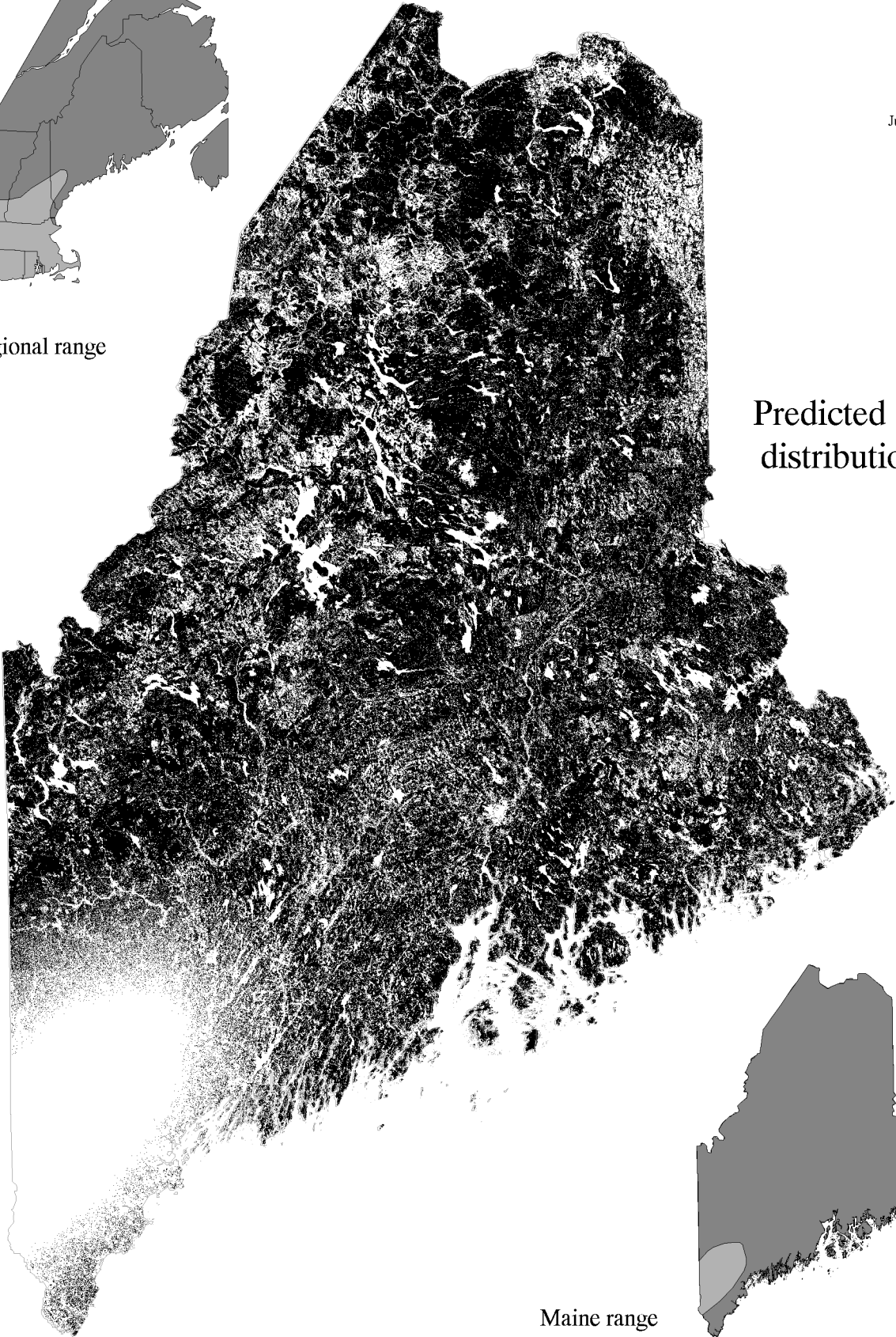
Maine range

Northern Parula

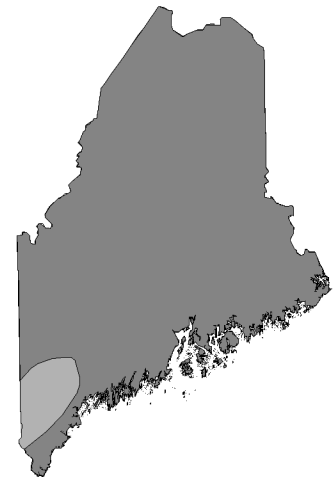
PAAM
June 1998



Regional range



Predicted
distribution



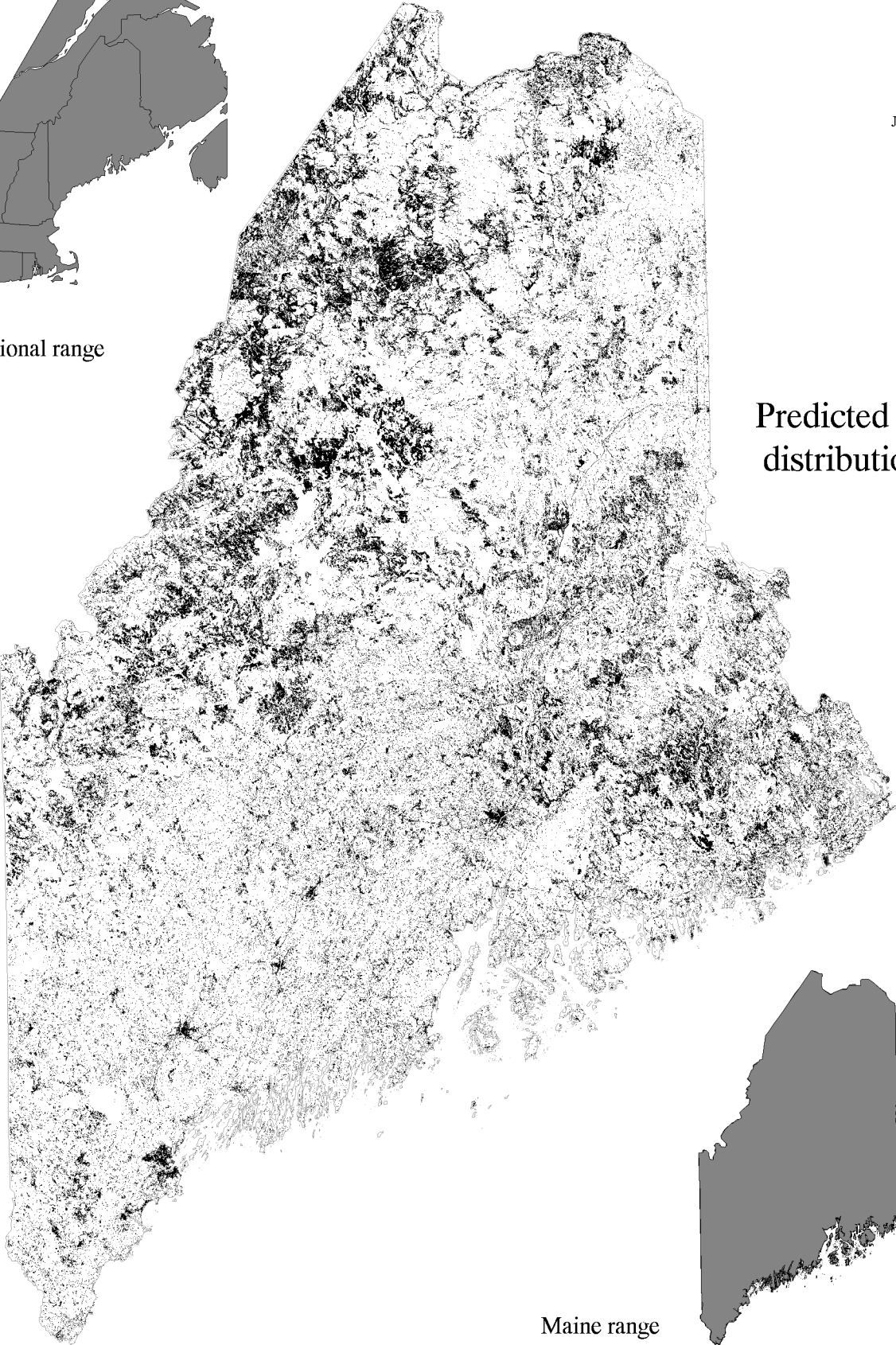
Maine range

Yellow Warbler

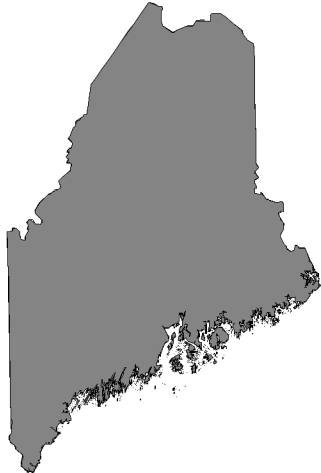
DEPE
June 1998



Regional range



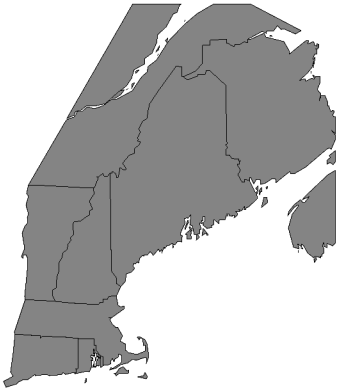
Predicted
distribution



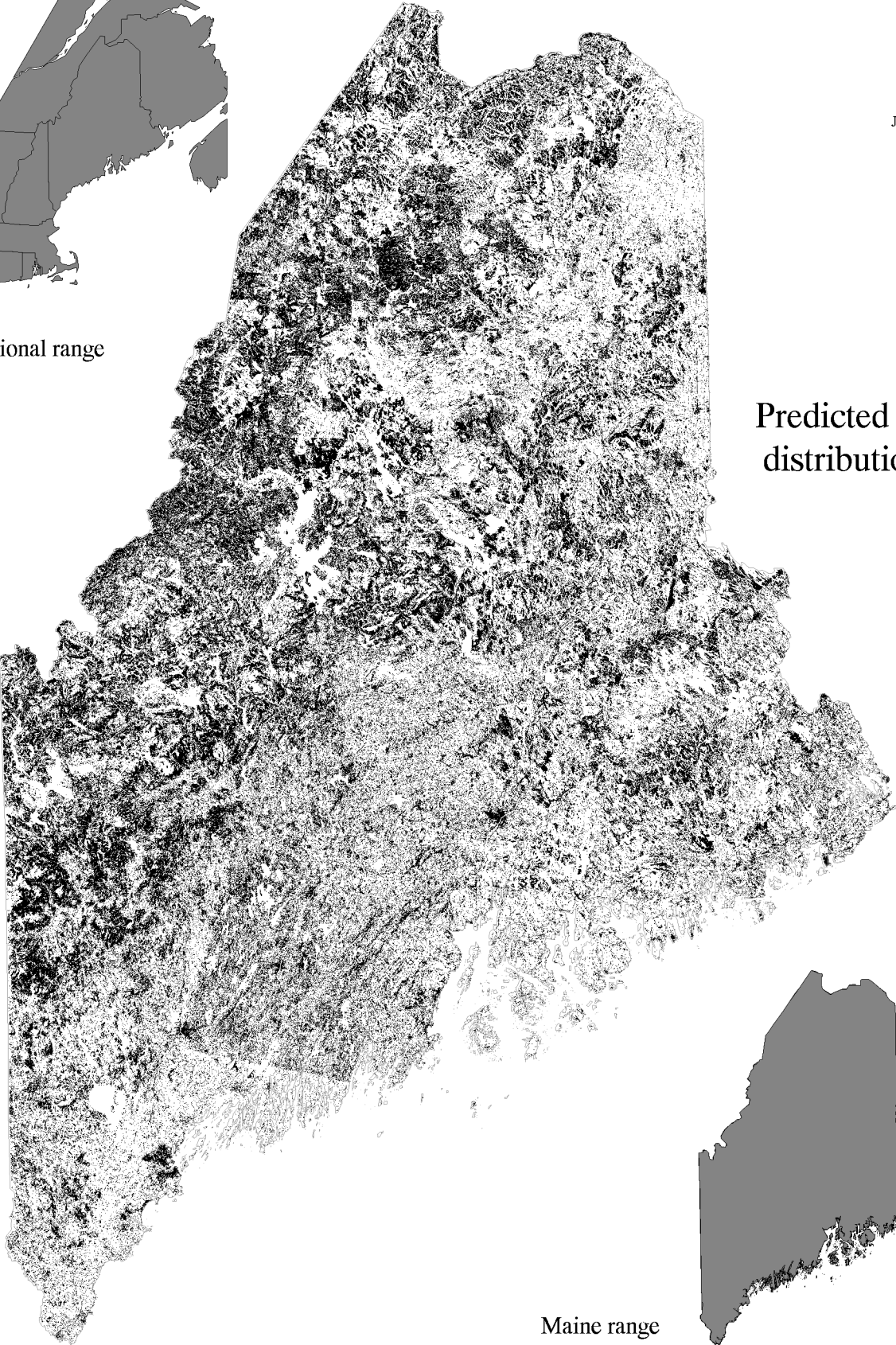
Maine range

Chestnut-sided Warbler

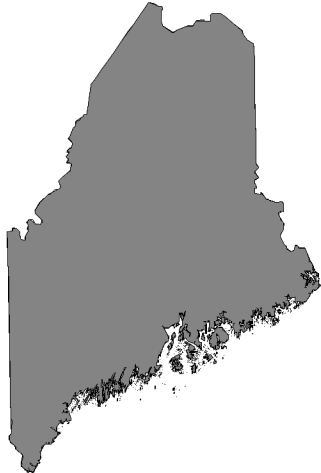
DEPN
June 1998



Regional range



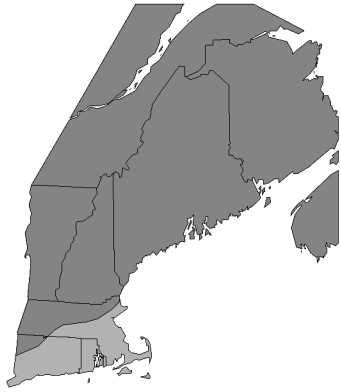
Predicted
distribution



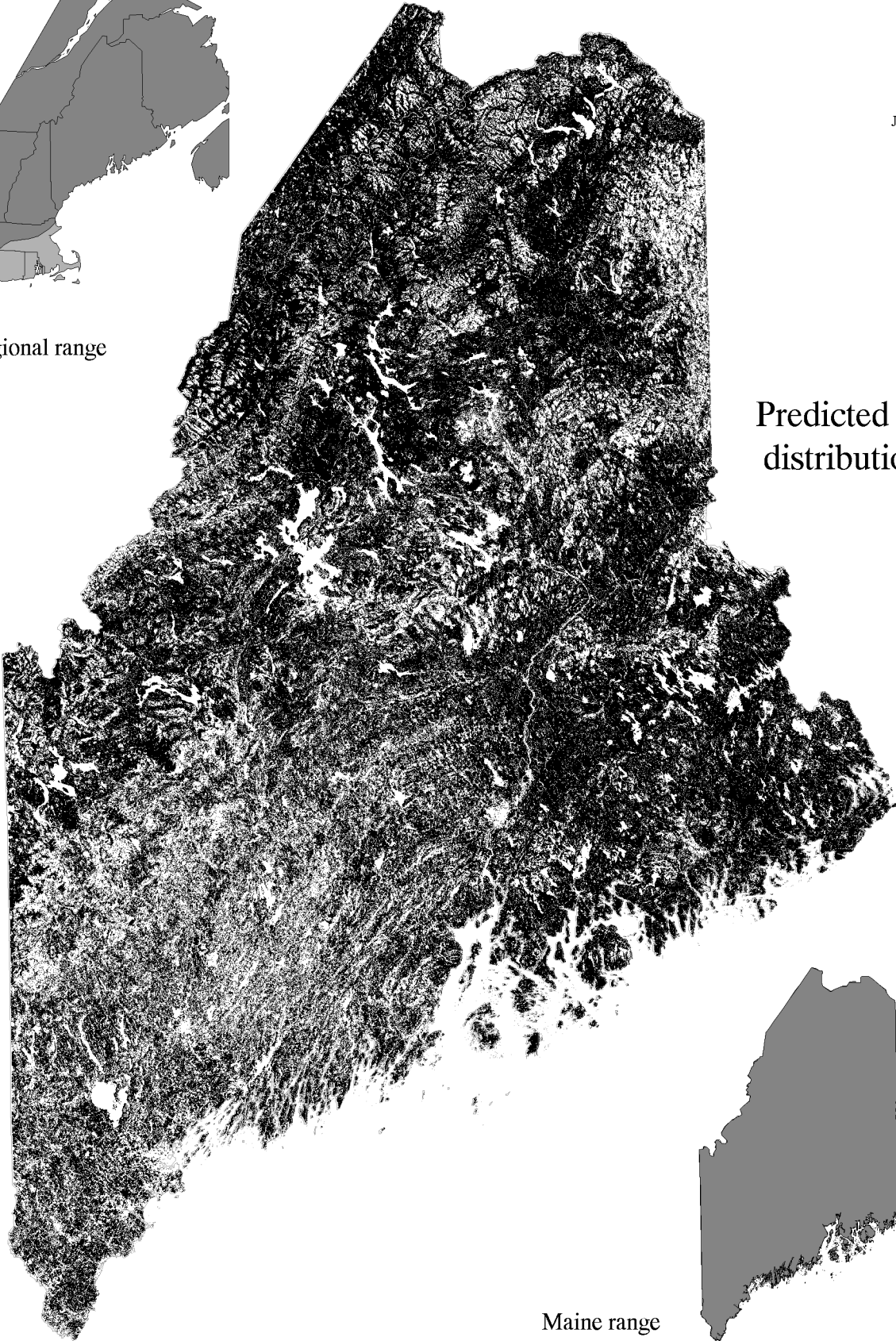
Maine range

Magnolia Warbler

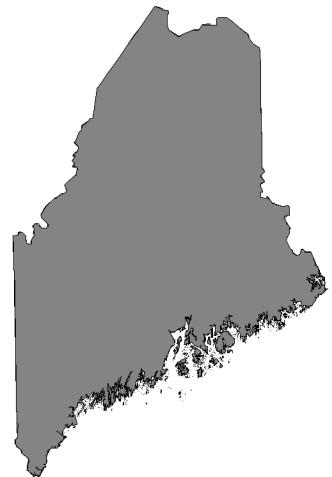
DEMA
June 1998



Regional range



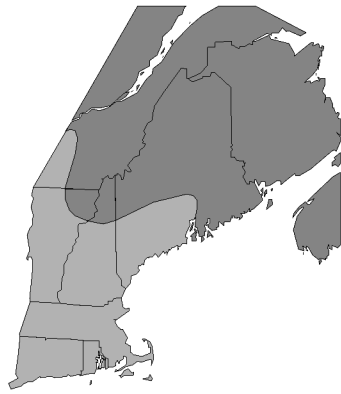
Predicted
distribution



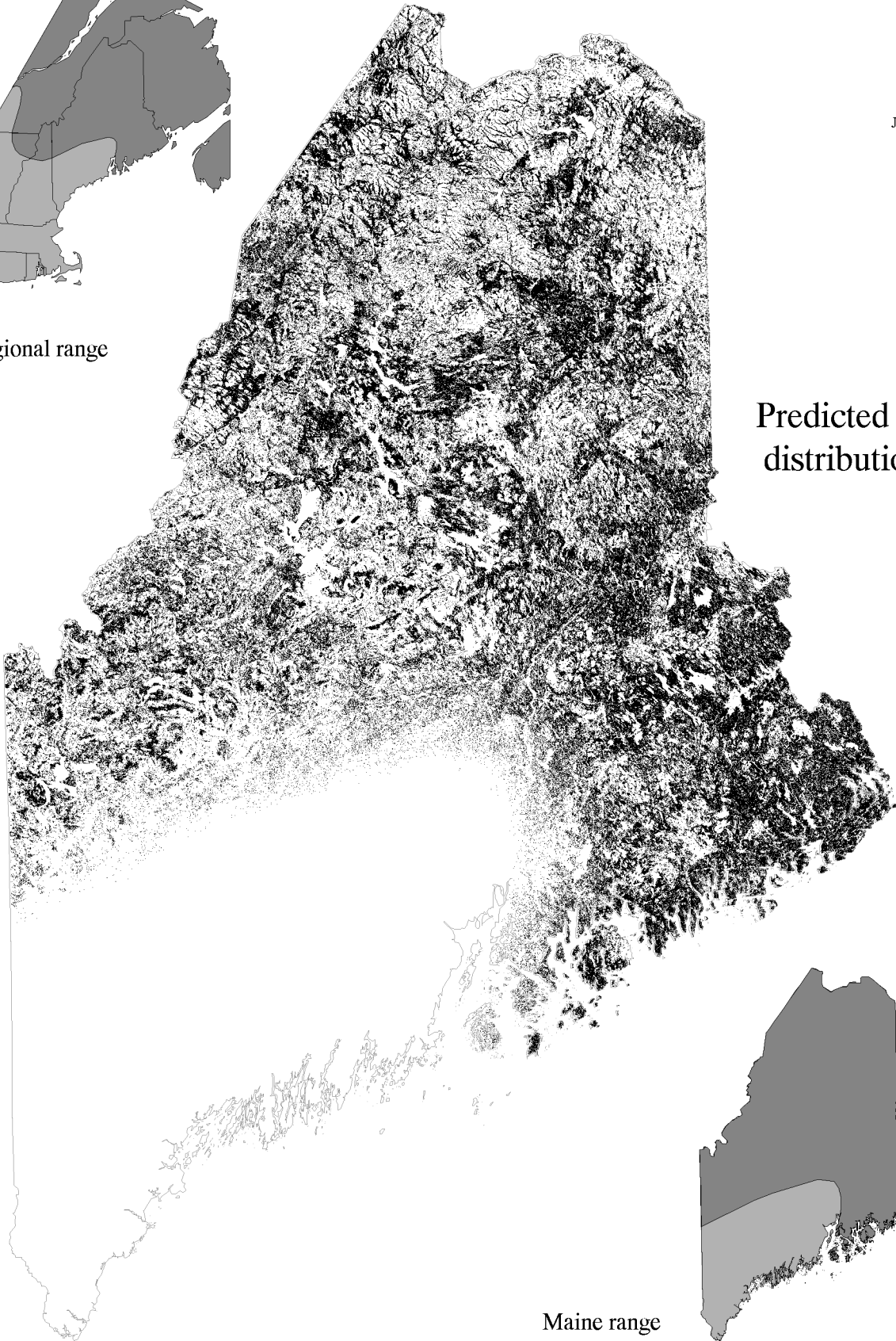
Maine range

Cape May Warbler

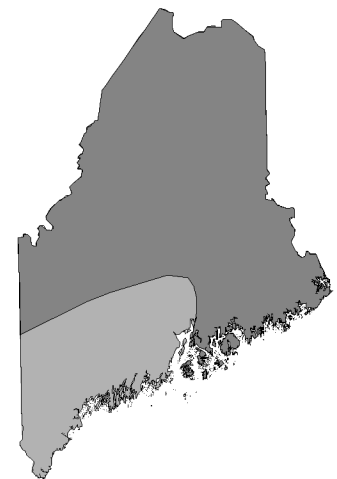
DETI
June 1998



Regional range



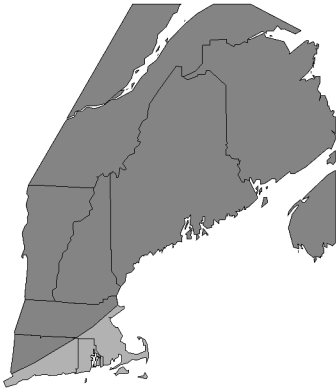
Predicted
distribution



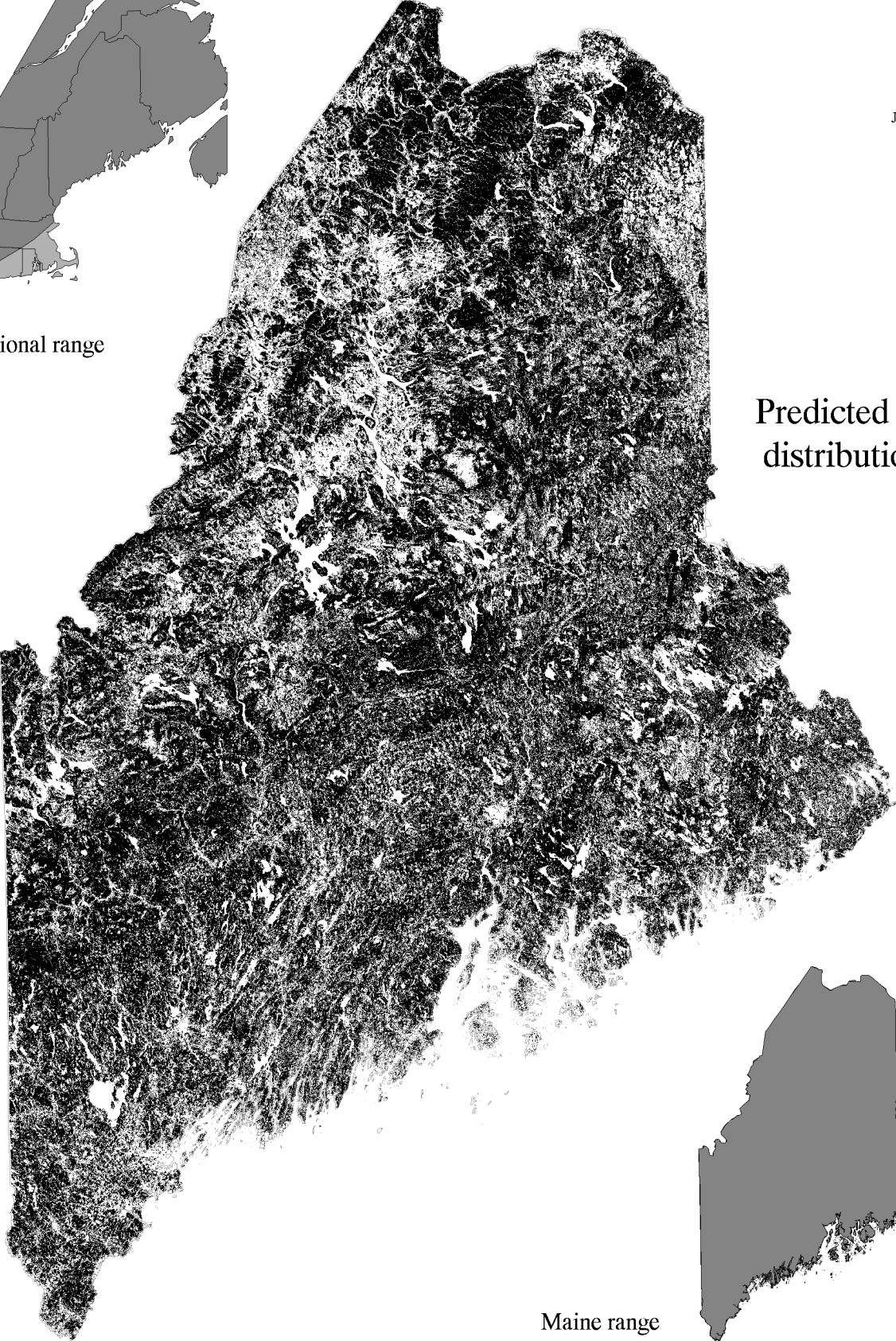
Maine range

Black-throated Blue Warbler

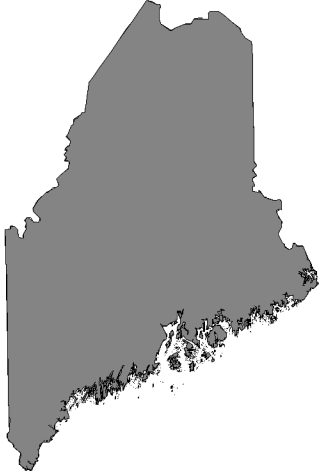
DECA
June 1998



Regional range



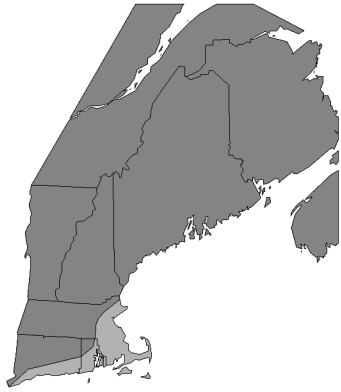
Predicted distribution



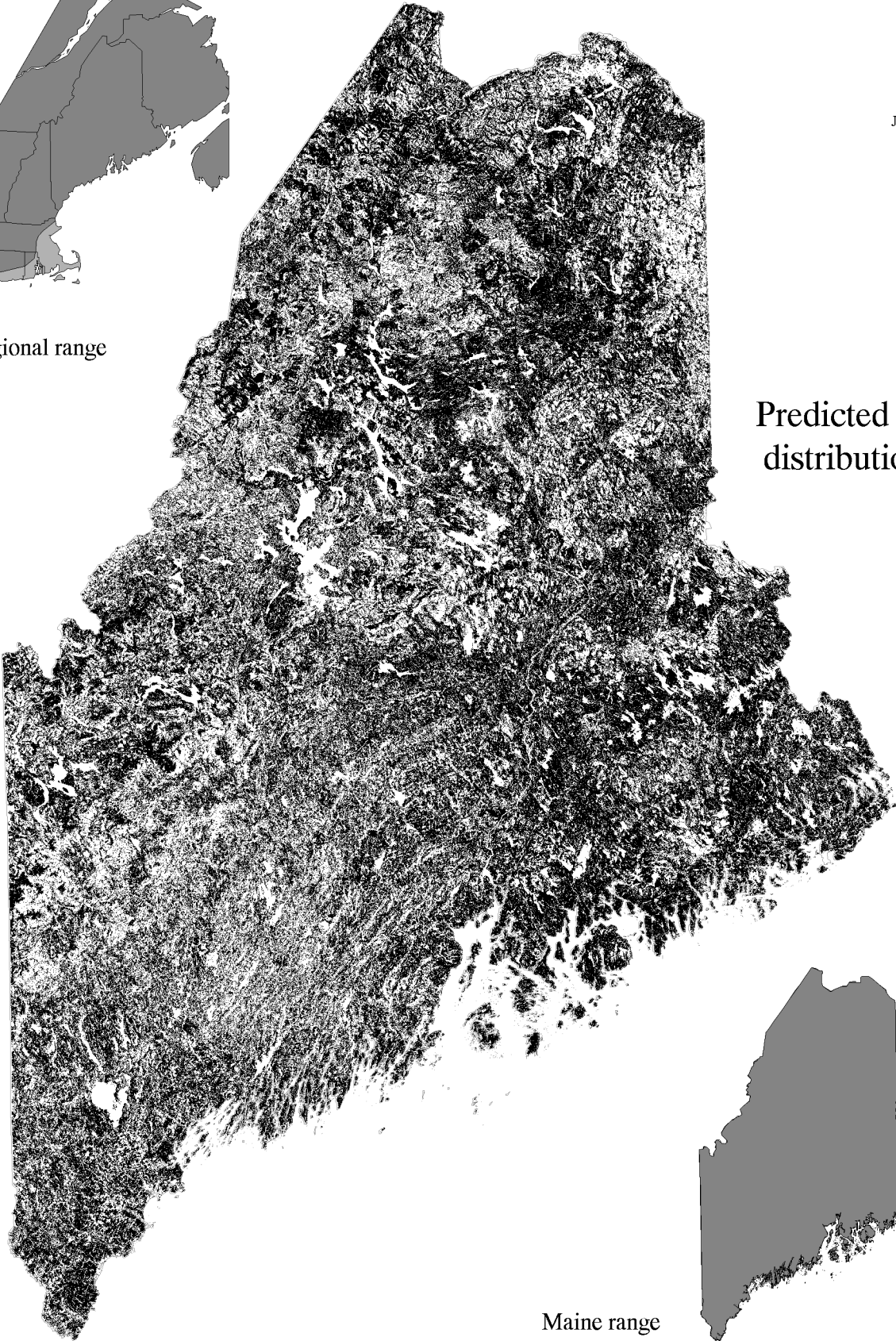
Maine range

Yellow-rumped Warbler

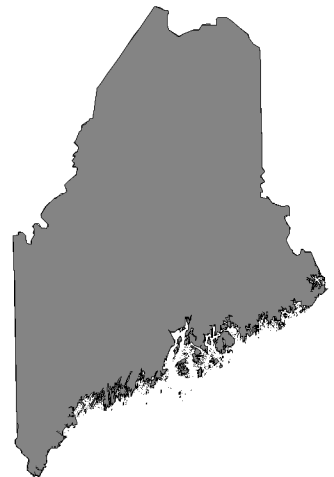
DECO
June 1998



Regional range



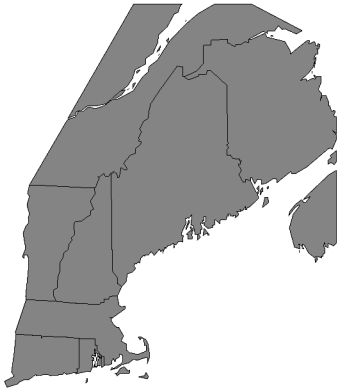
Predicted
distribution



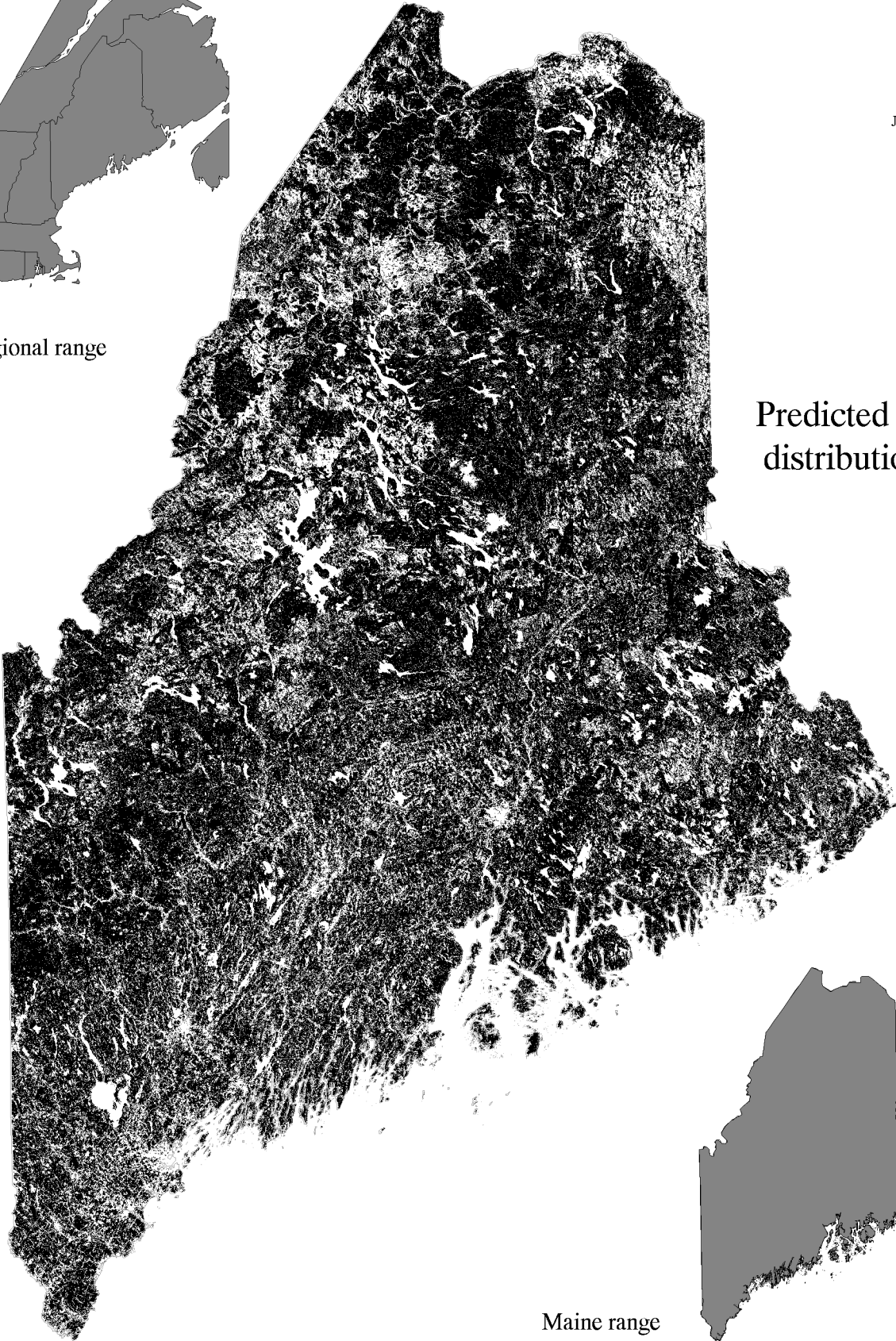
Maine range

Black-throated Green Warbler

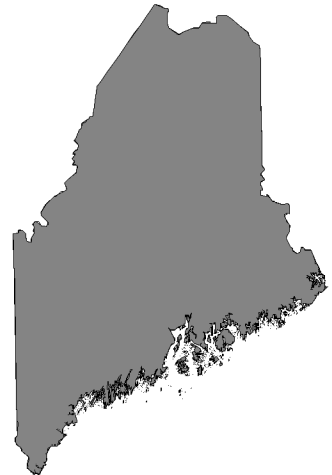
DEVI
June 1998



Regional range



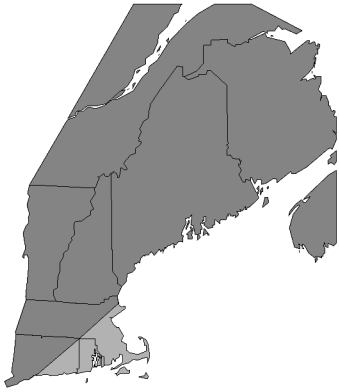
Predicted
distribution



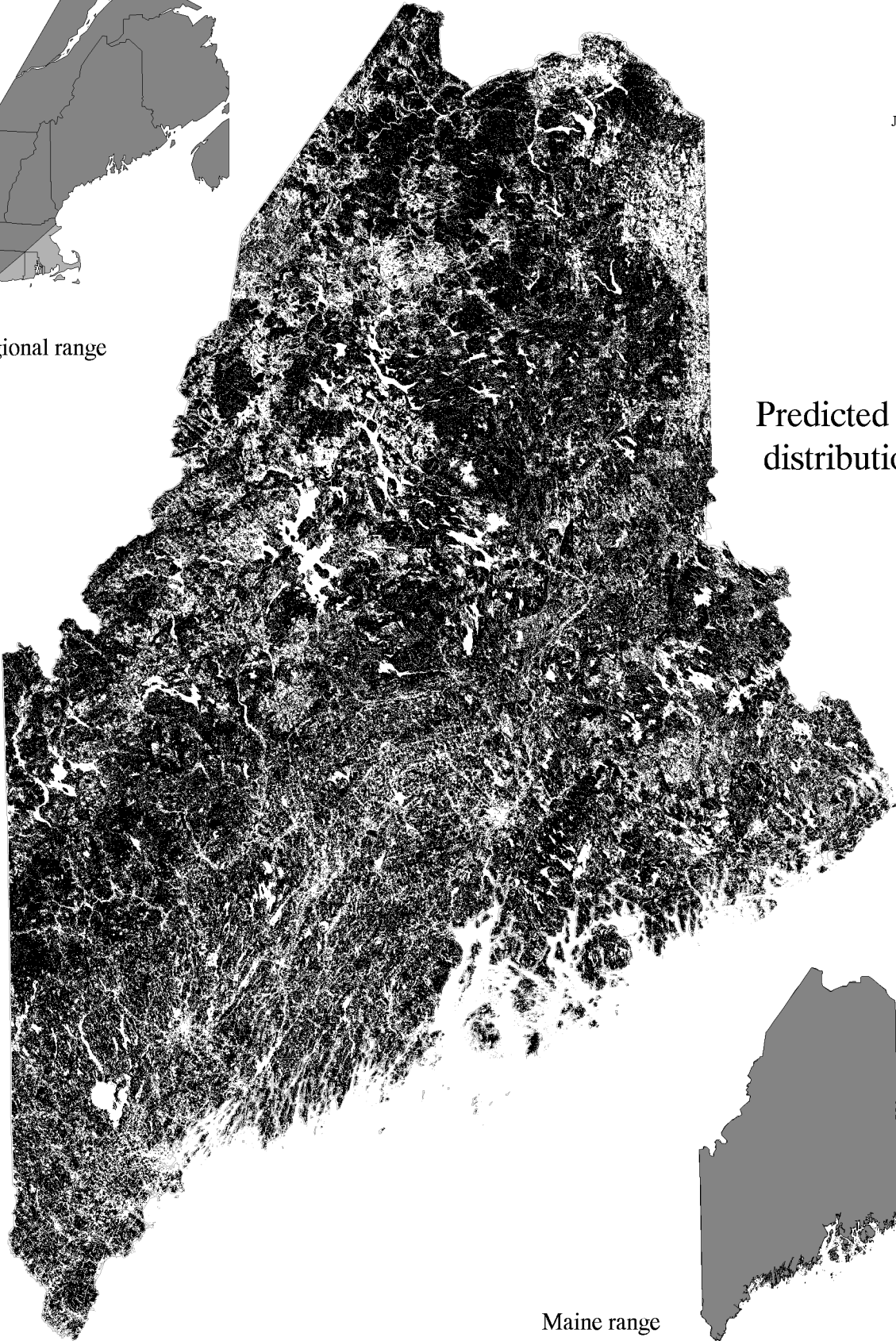
Maine range

Blackburnian Warbler

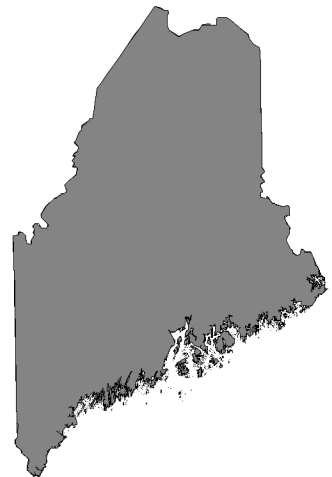
DEFS
June 1998



Regional range



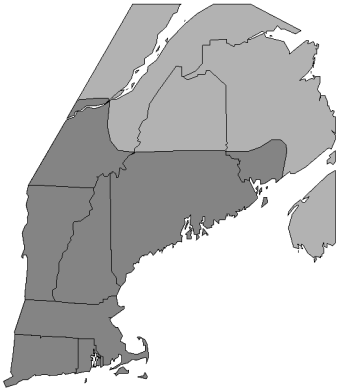
Predicted
distribution



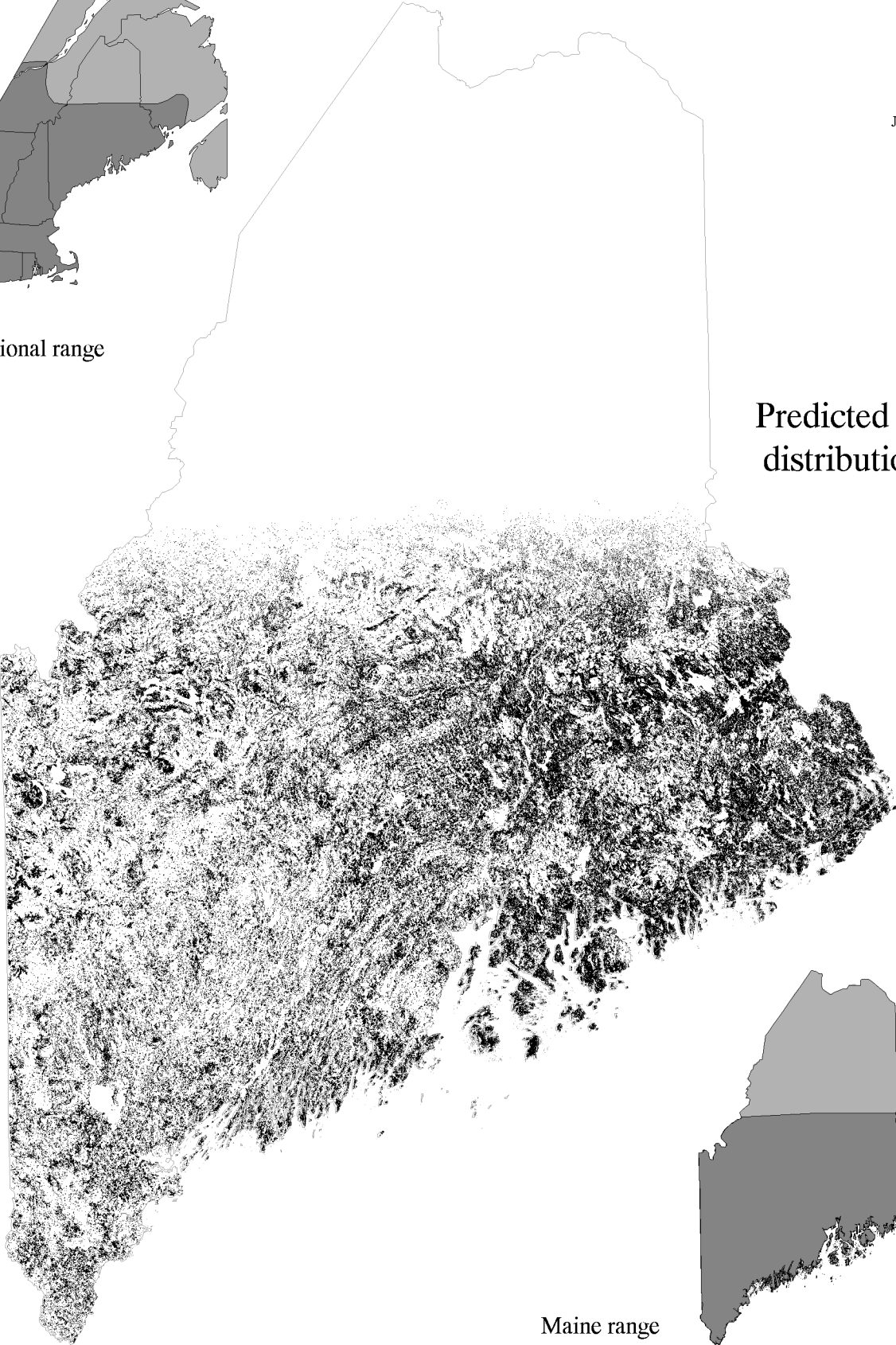
Maine range

Pine Warbler

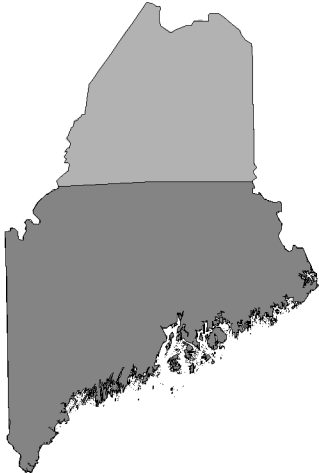
DEPI
June 1998



Regional range



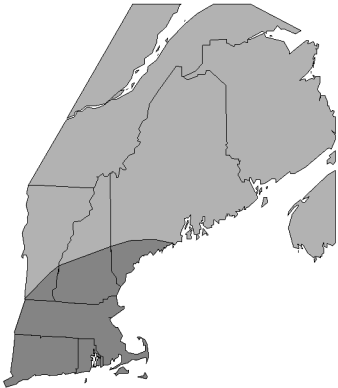
Predicted distribution



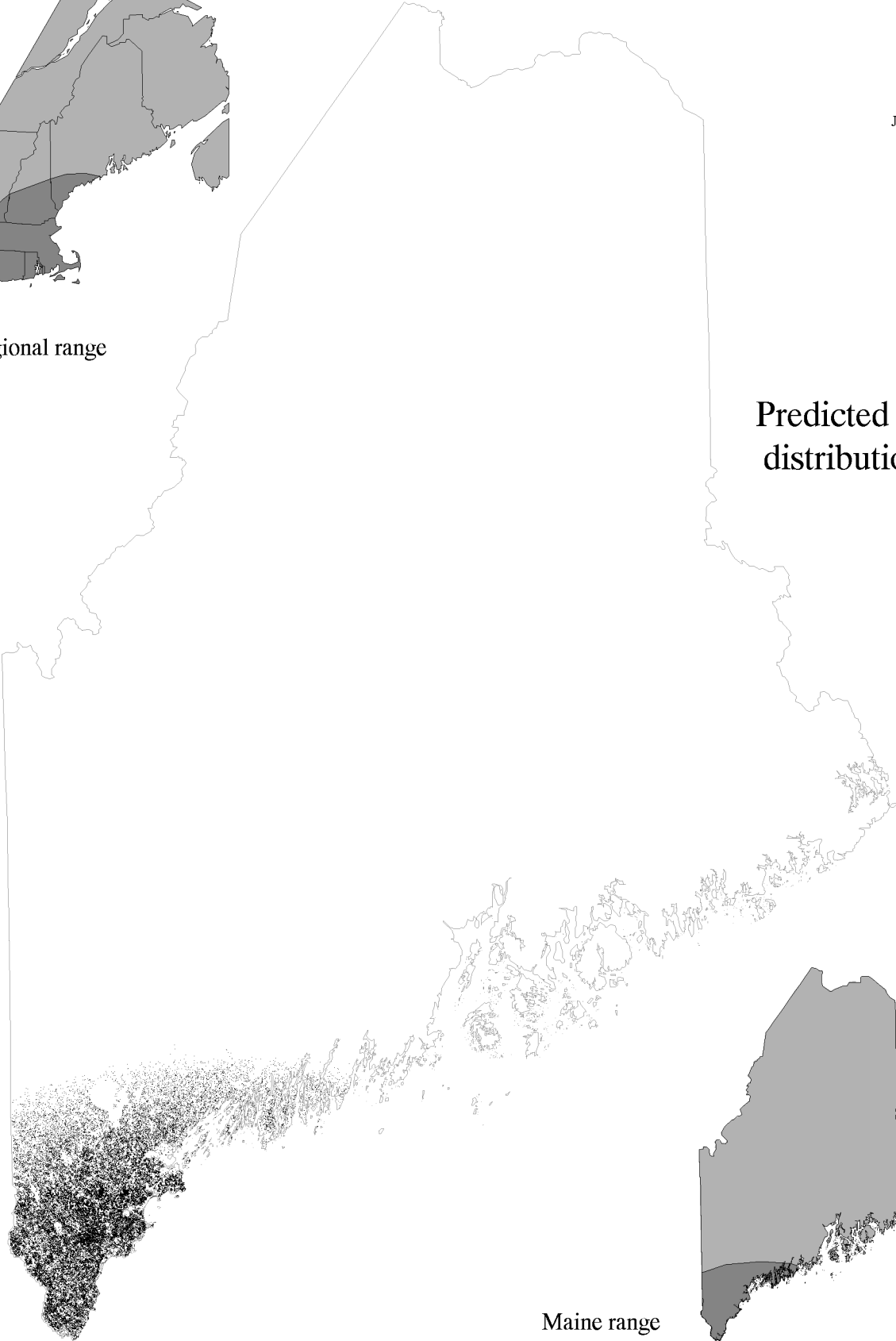
Maine range

Prairie Warbler

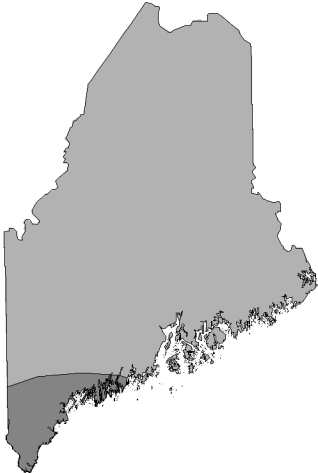
DEDI
June 1998



Regional range



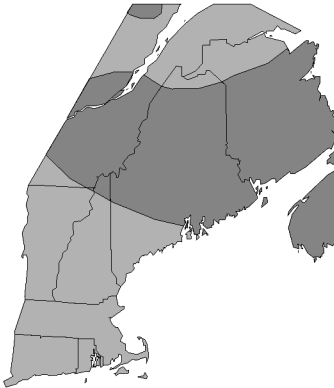
Predicted
distribution



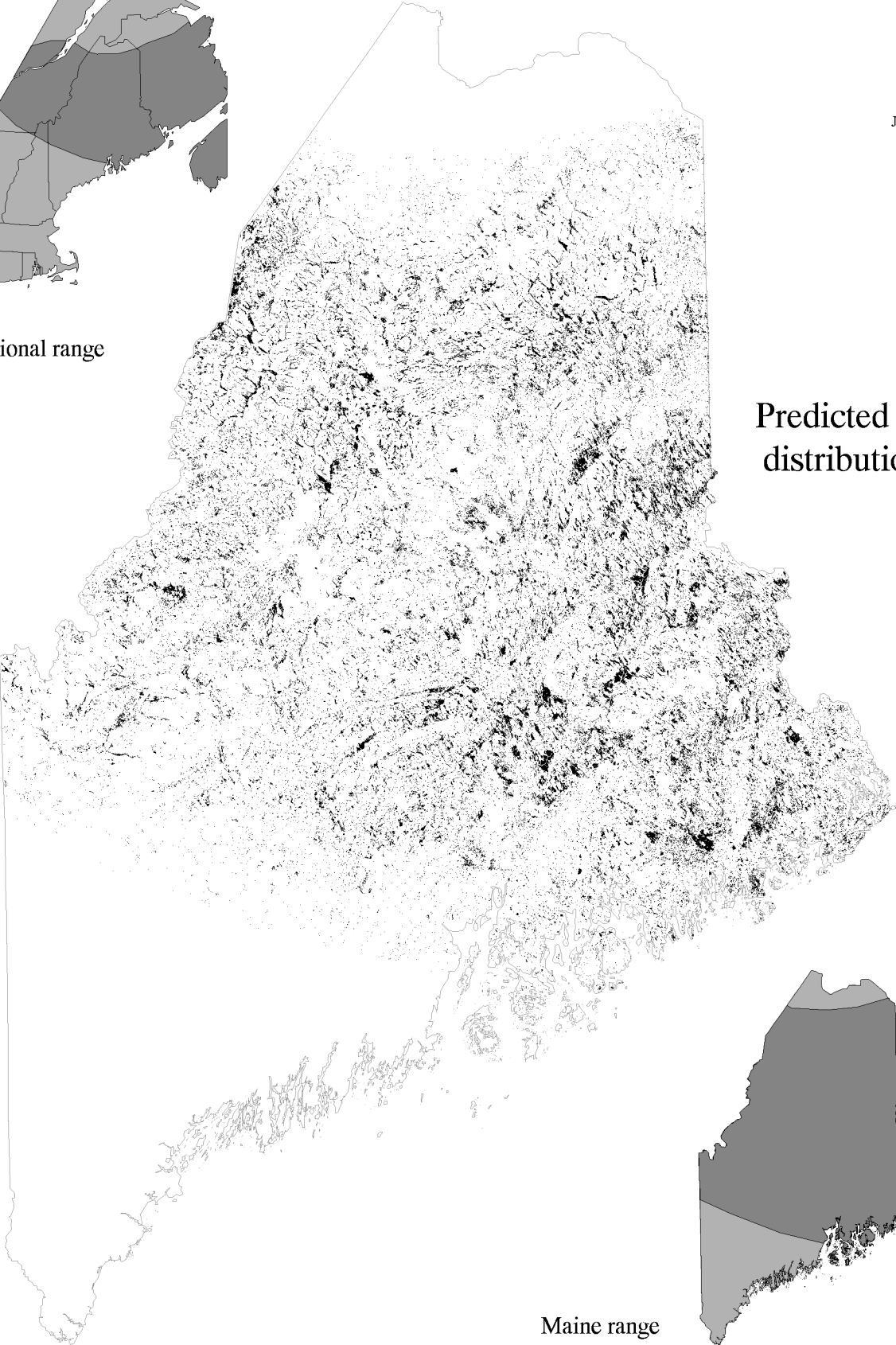
Maine range

Palm Warbler

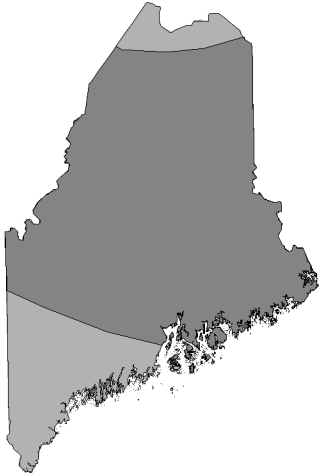
DEPA
June 1998



Regional range



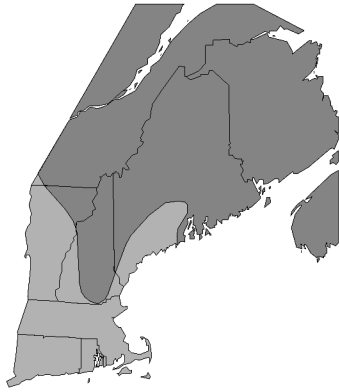
Predicted distribution



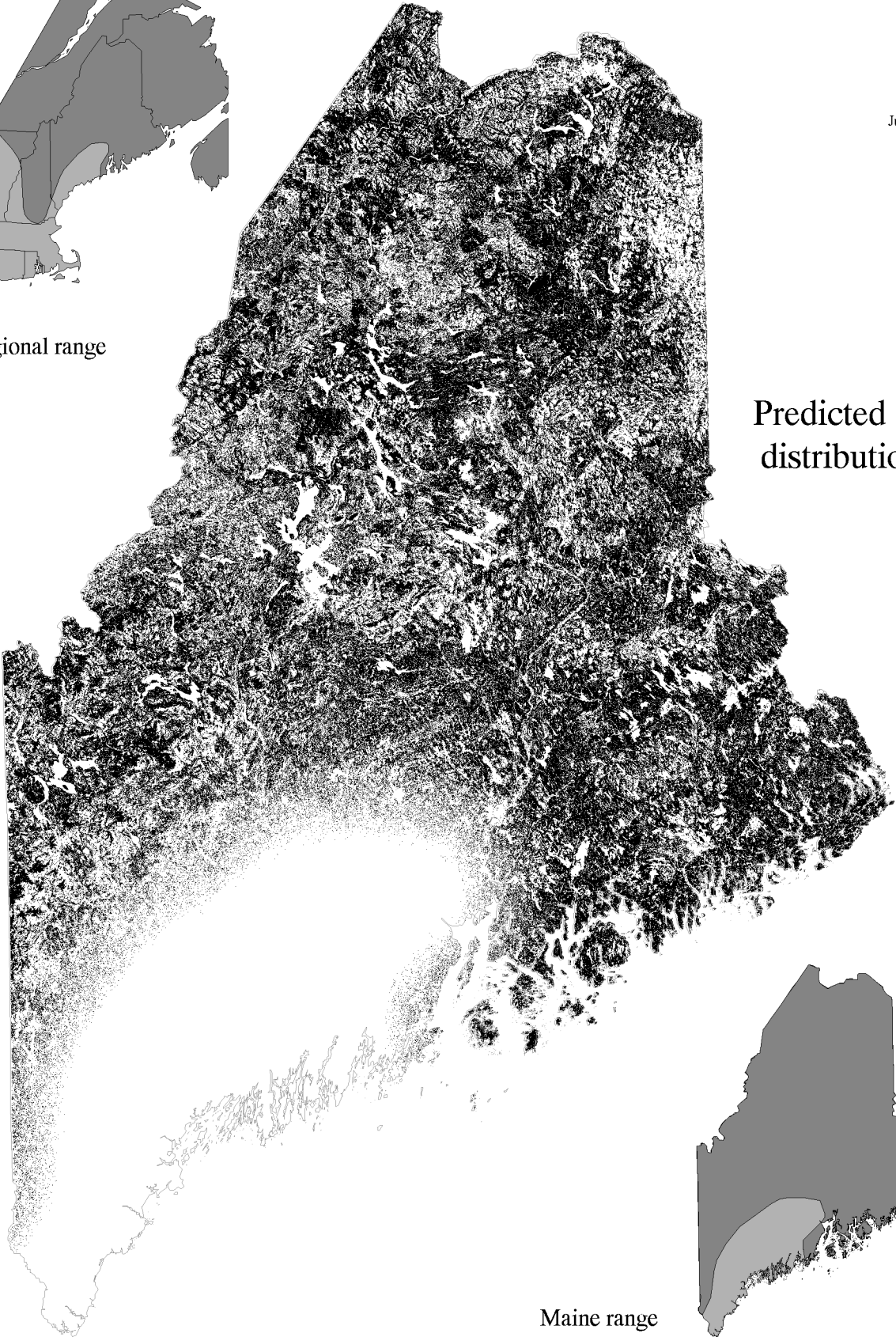
Maine range

Bay-breasted Warbler

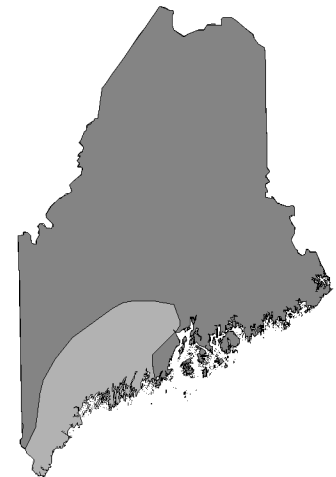
DECS
June 1998



Regional range



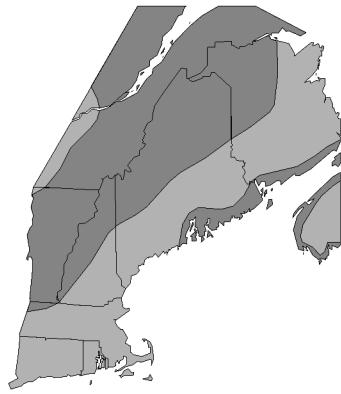
Predicted
distribution



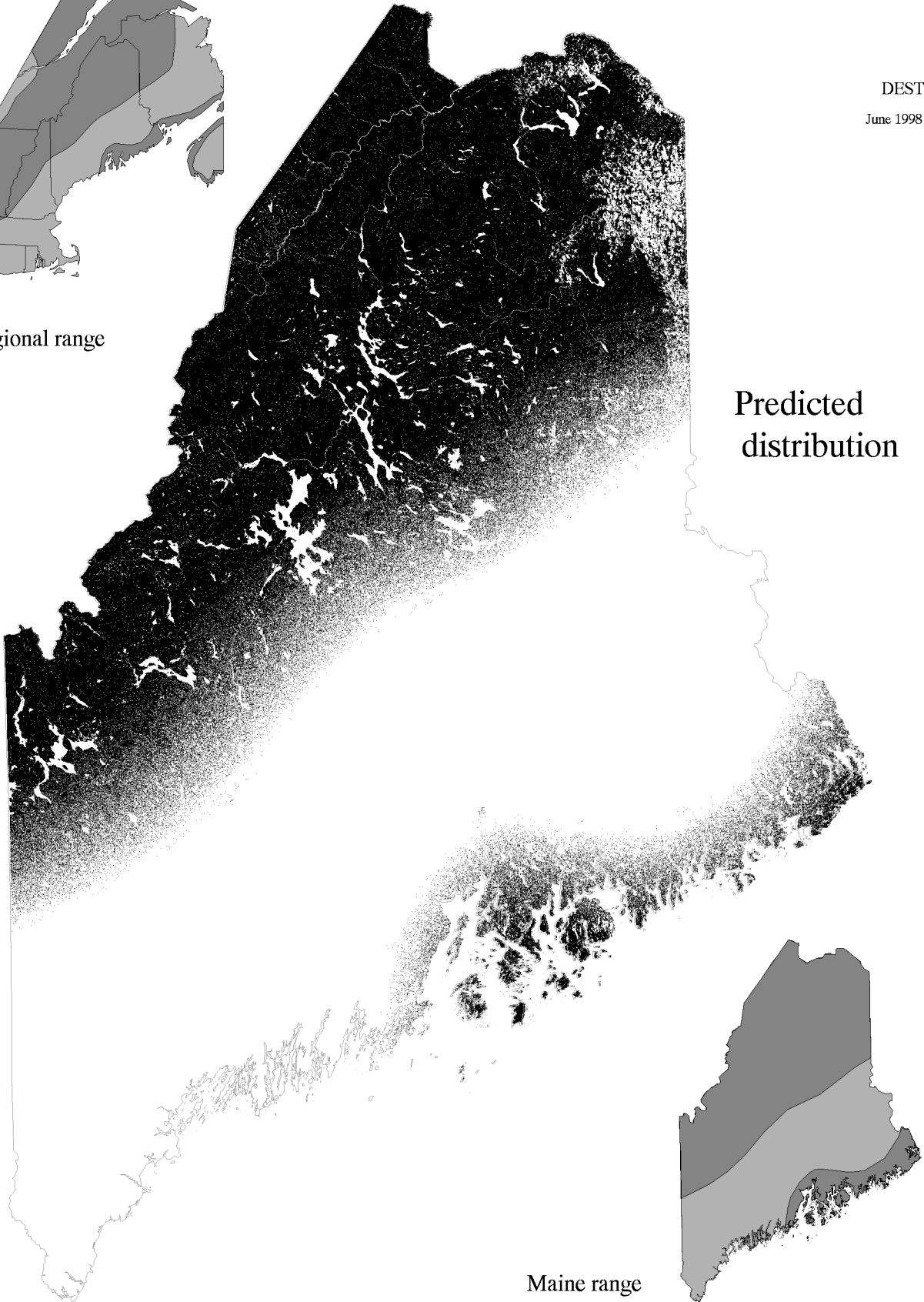
Maine range

Blackpoll Warbler

DEST
June 1998



Regional range

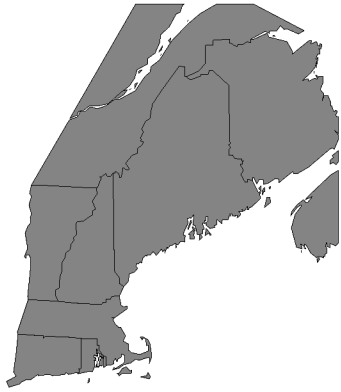


Predicted
distribution

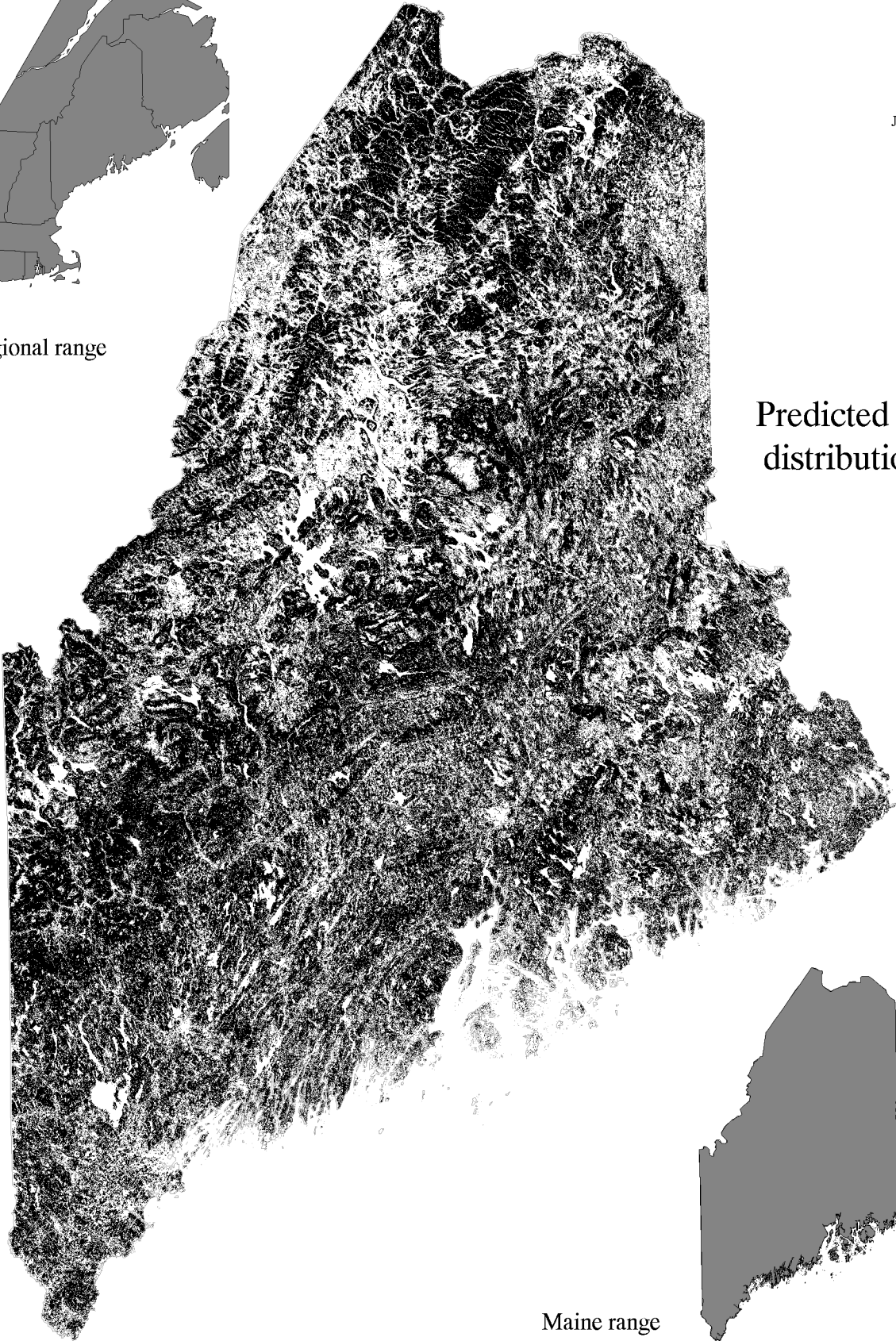
Maine range

Black-and-white Warbler

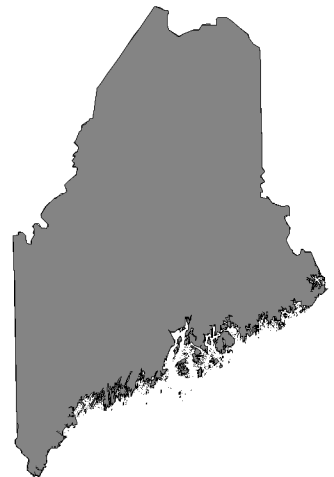
MNVA
June 1998



Regional range



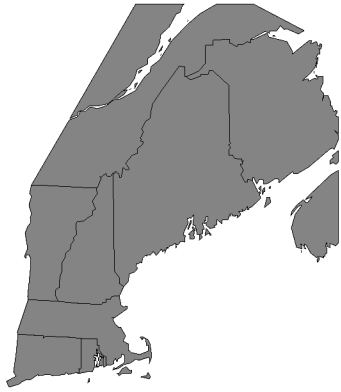
Predicted
distribution



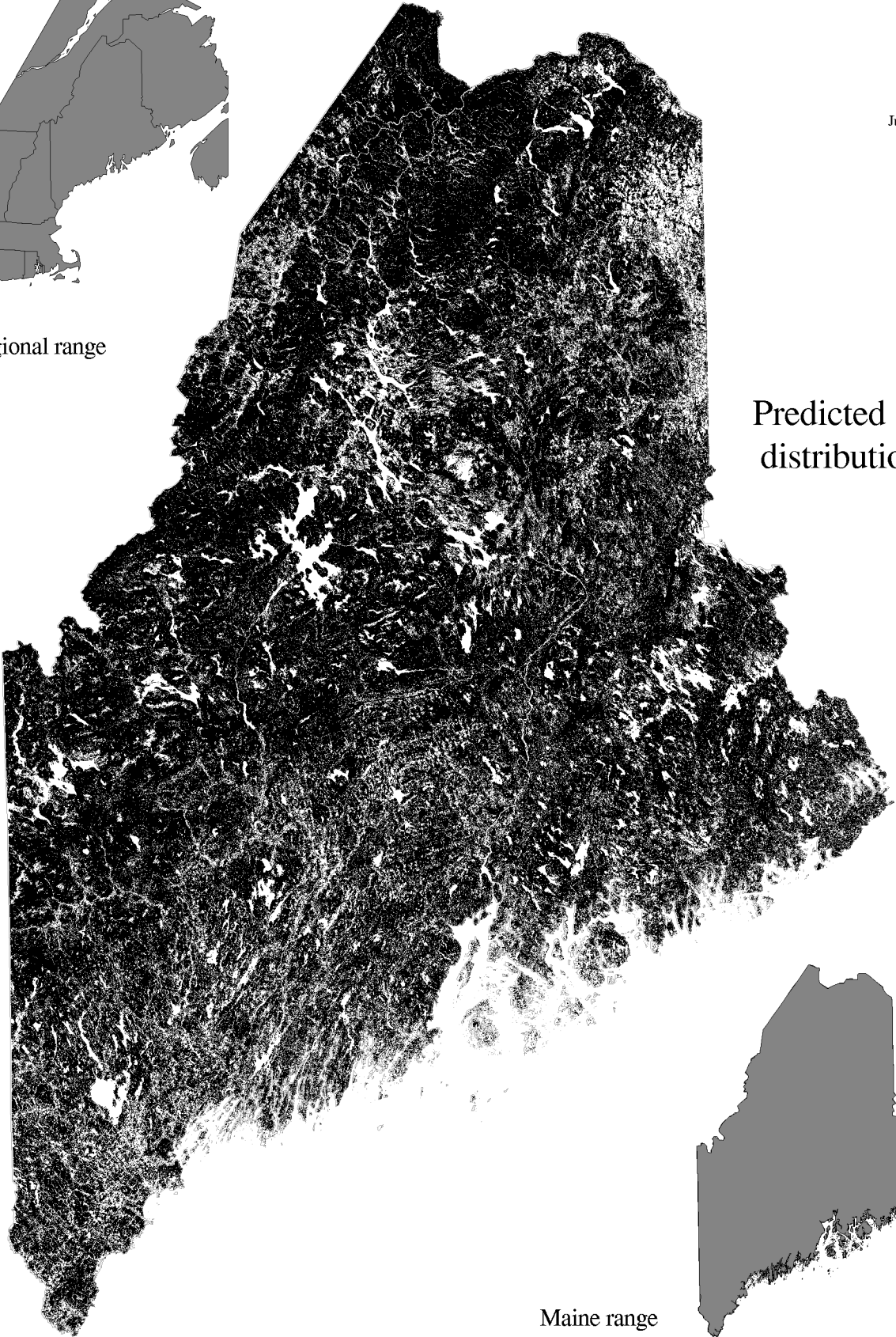
Maine range

American Redstart

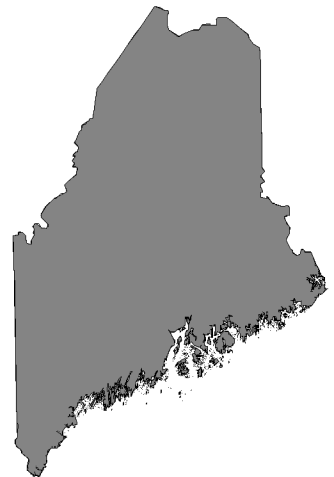
SERU
June 1998



Regional range



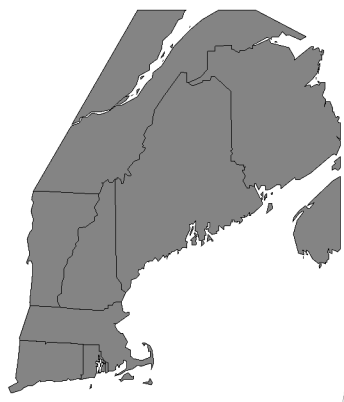
Predicted
distribution



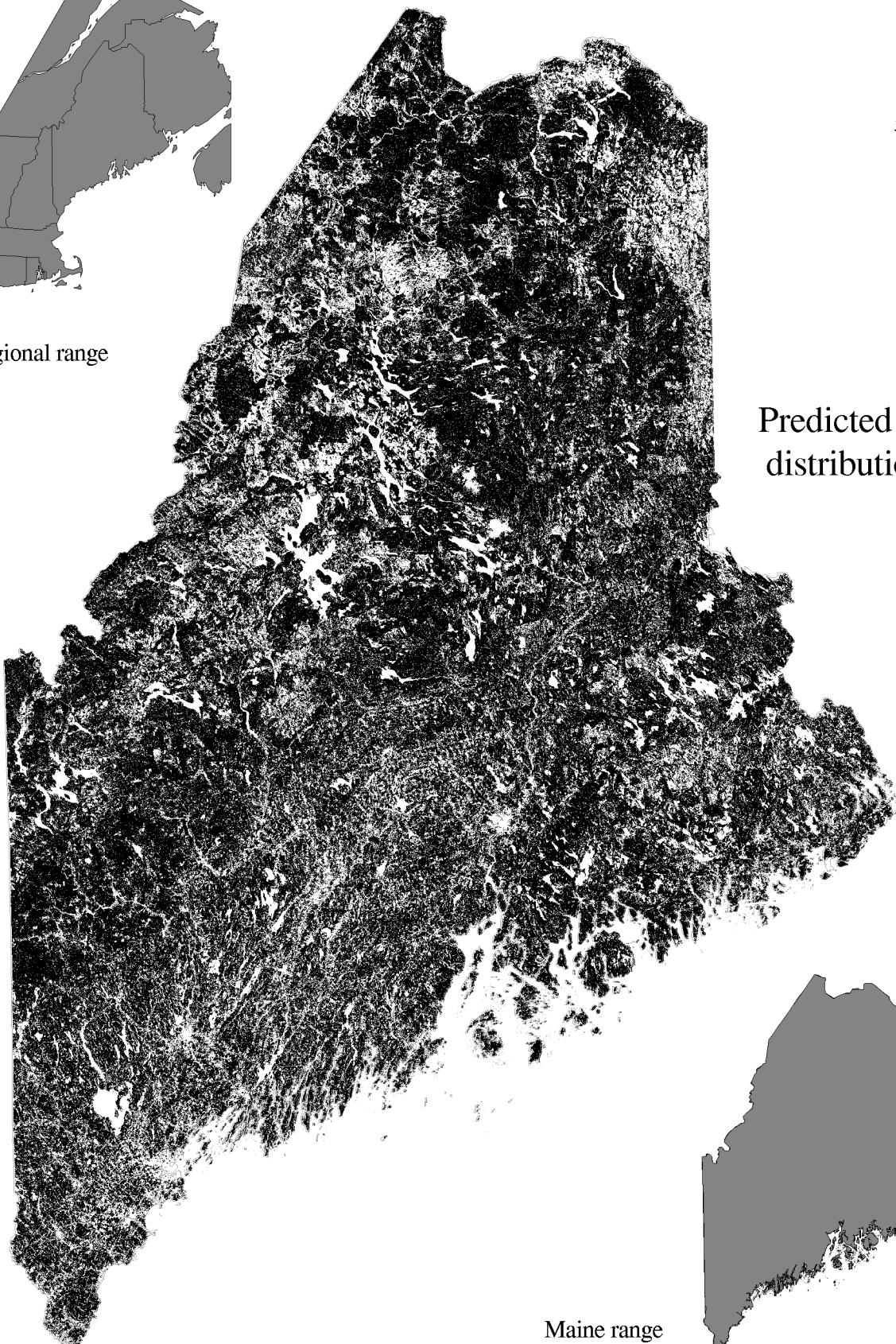
Maine range

Ovenbird

SEAU
June 1998



Regional range



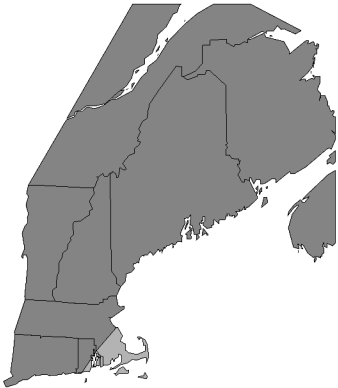
Predicted
distribution



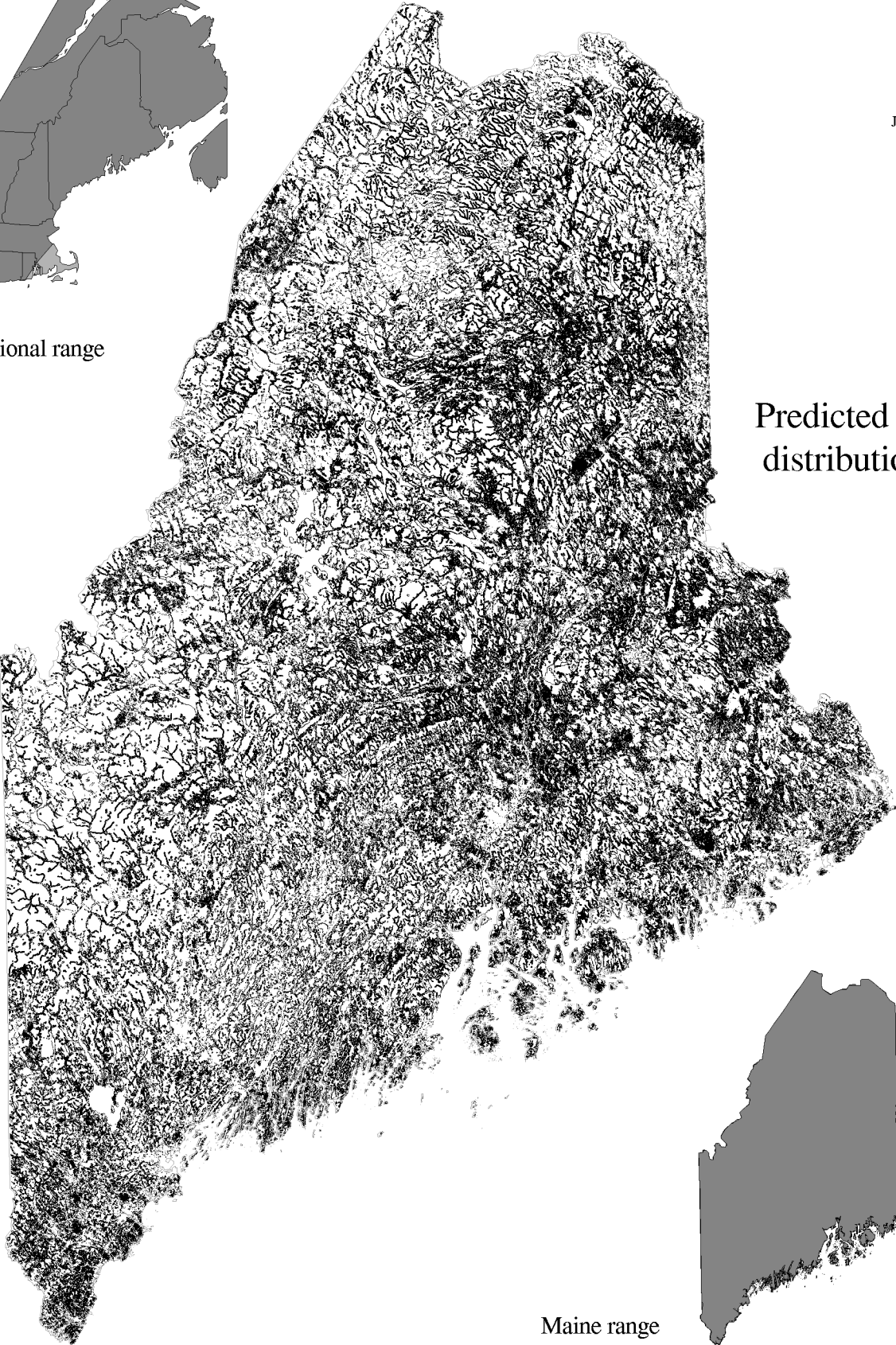
Maine range

Northern Waterthrush

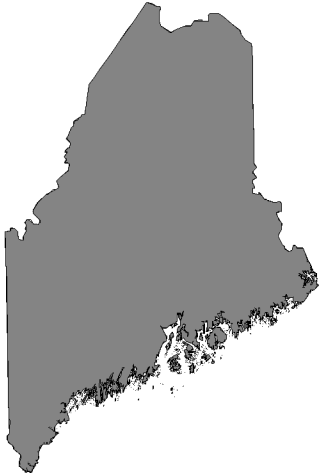
SENO
June 1998



Regional range



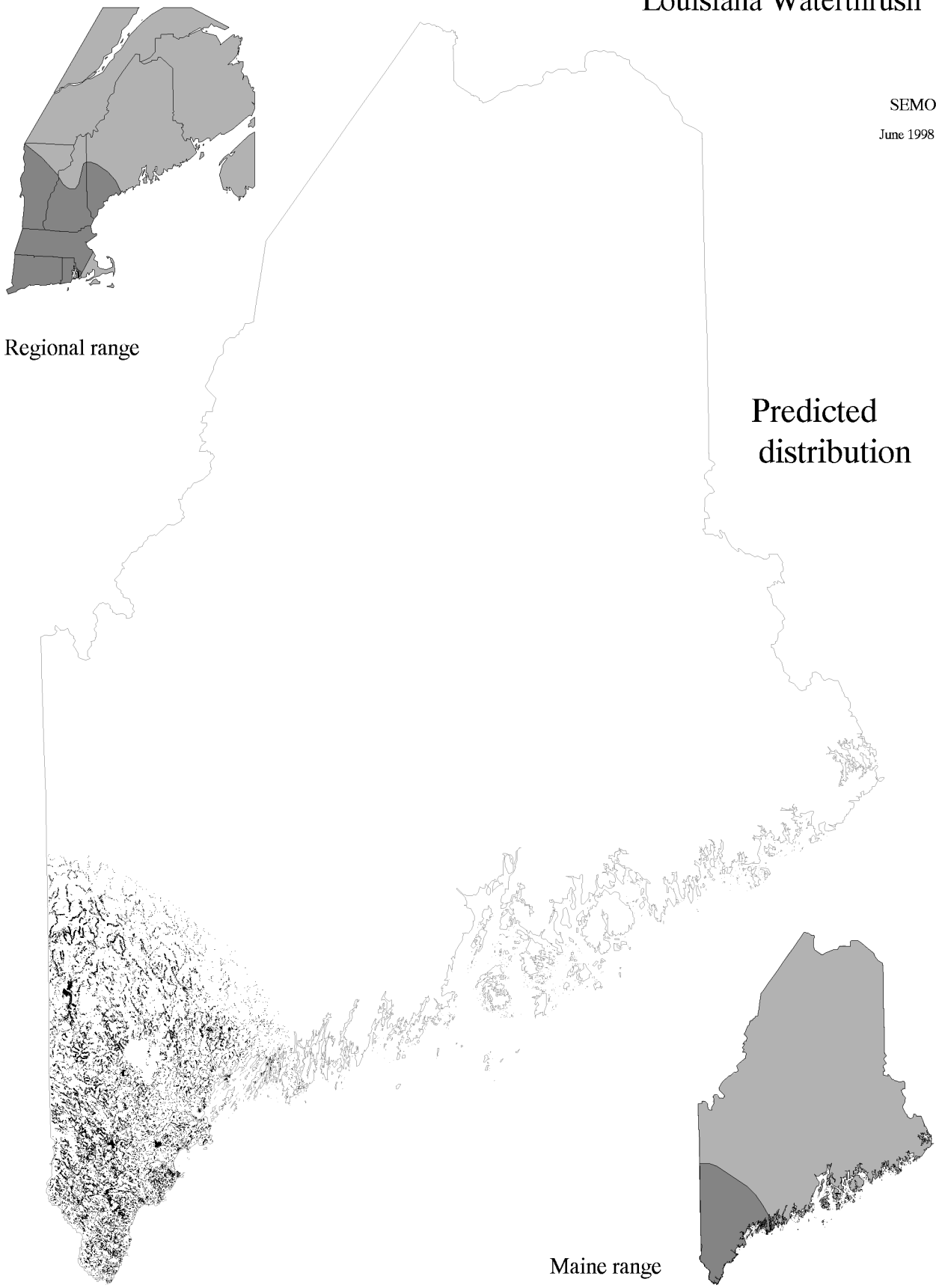
Predicted
distribution



Maine range

Louisiana Waterthrush

SEMO
June 1998



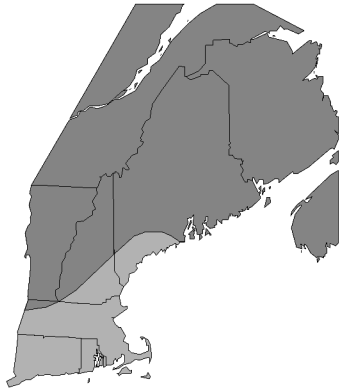
Regional range

Predicted
distribution

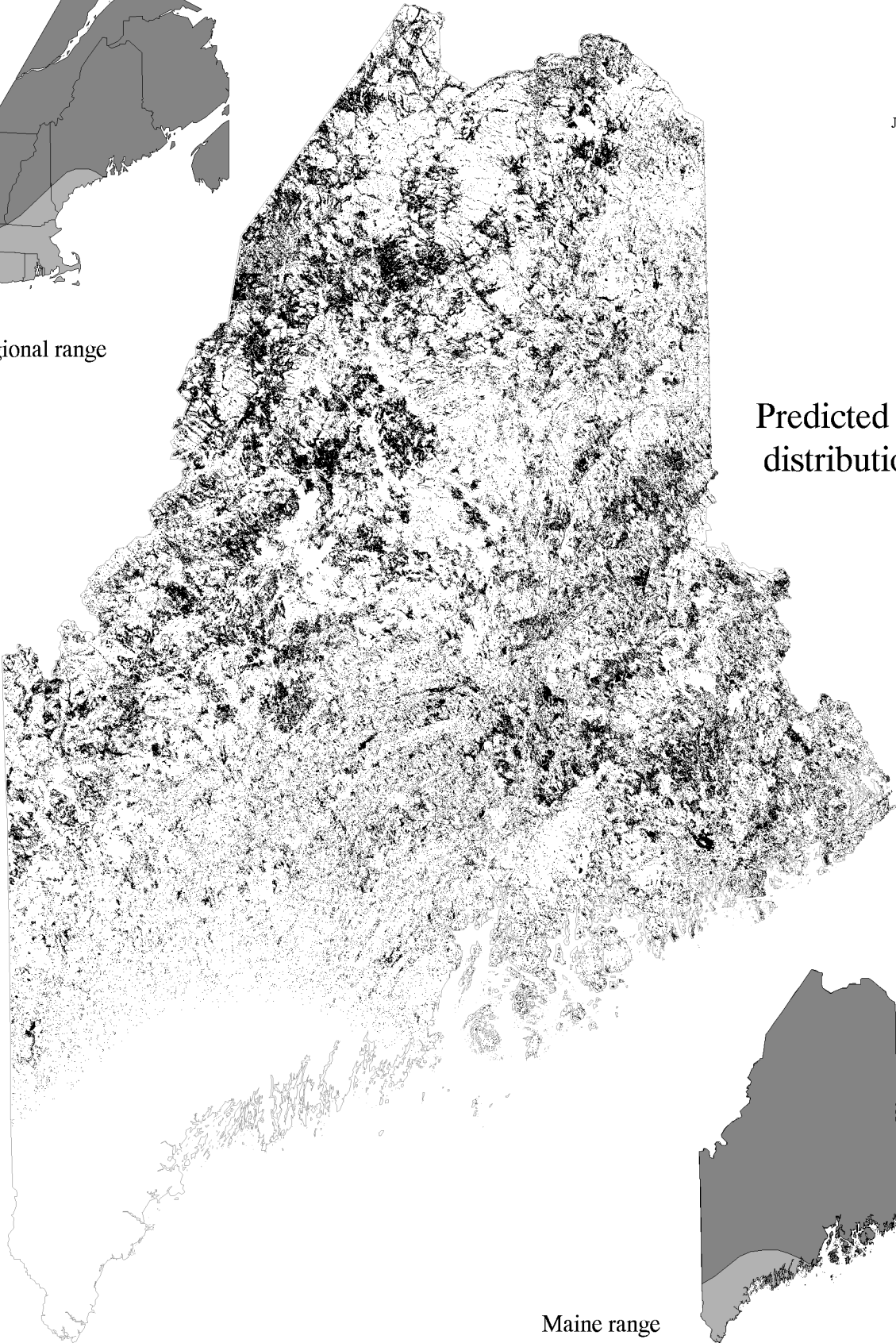
Maine range

Mourning Warbler

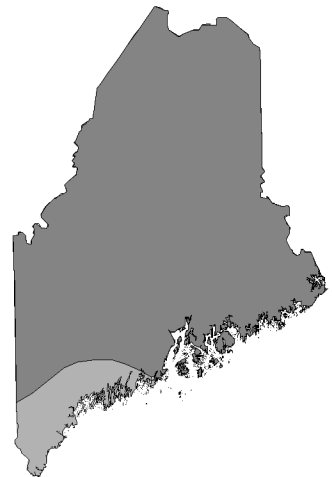
OPPH
June 1998



Regional range



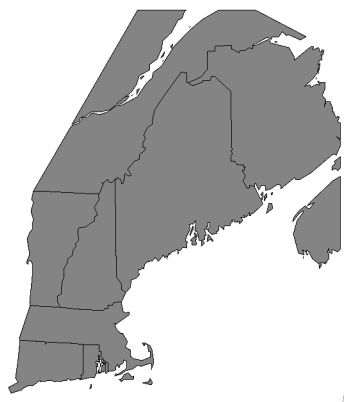
Predicted
distribution



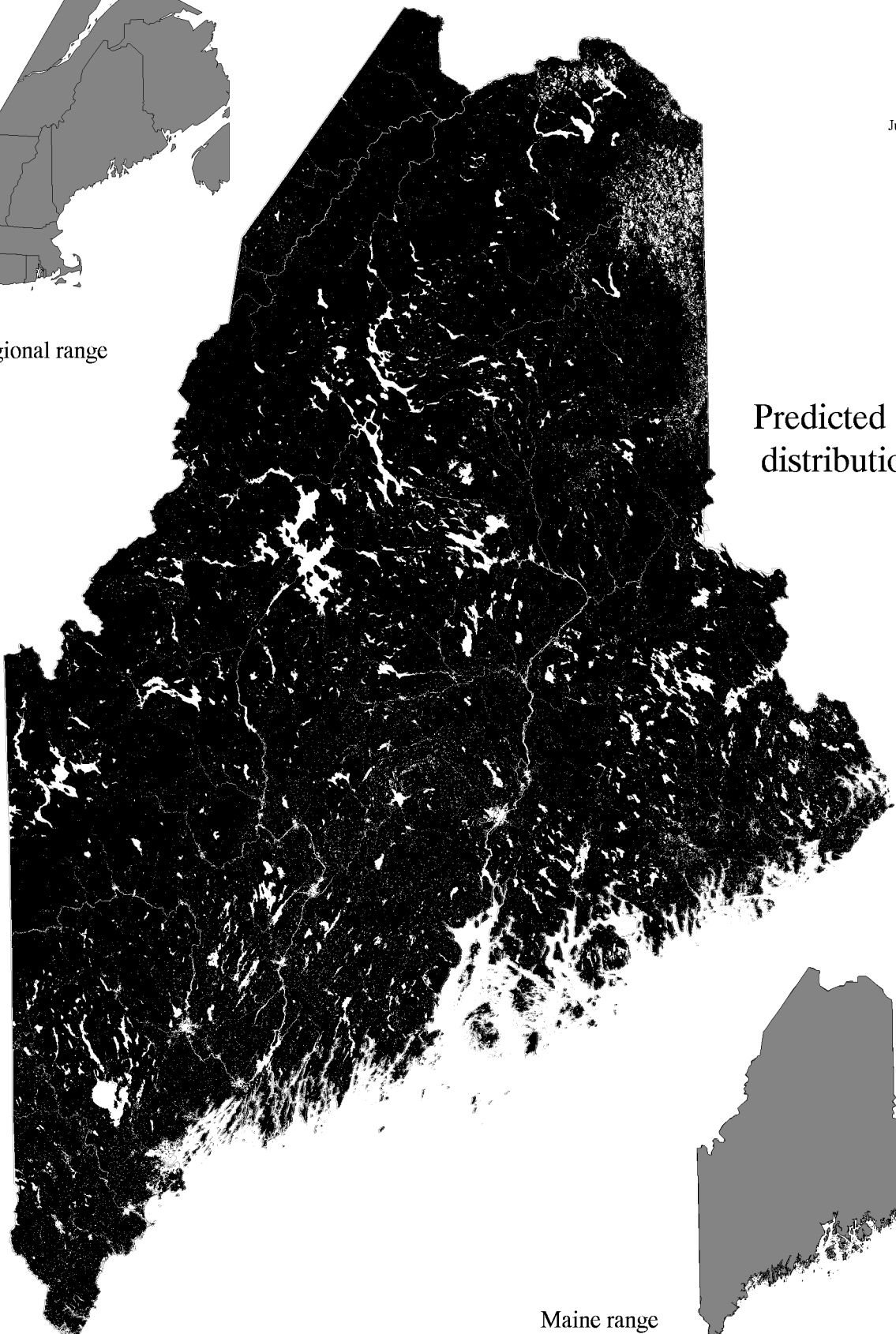
Maine range

Common Yellowthroat

GETR
June 1998



Regional range



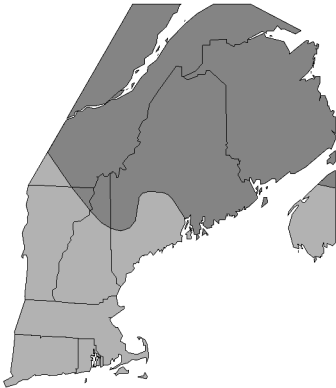
Predicted distribution



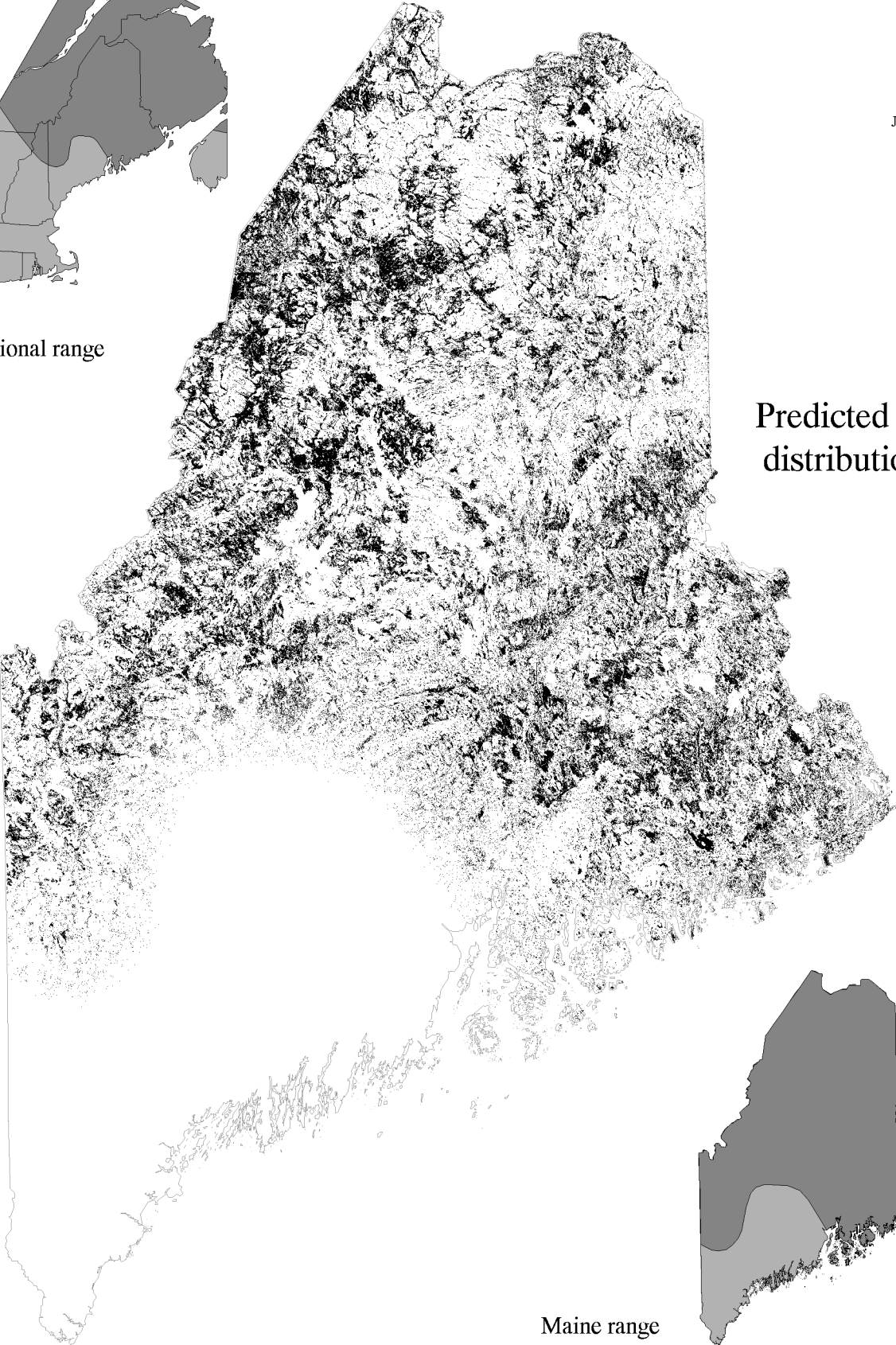
Maine range

Wilson's Warbler

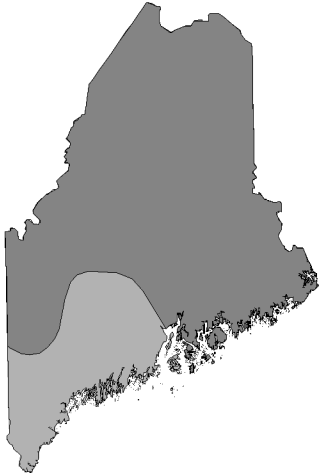
WIPU
June 1998



Regional range



Predicted
distribution



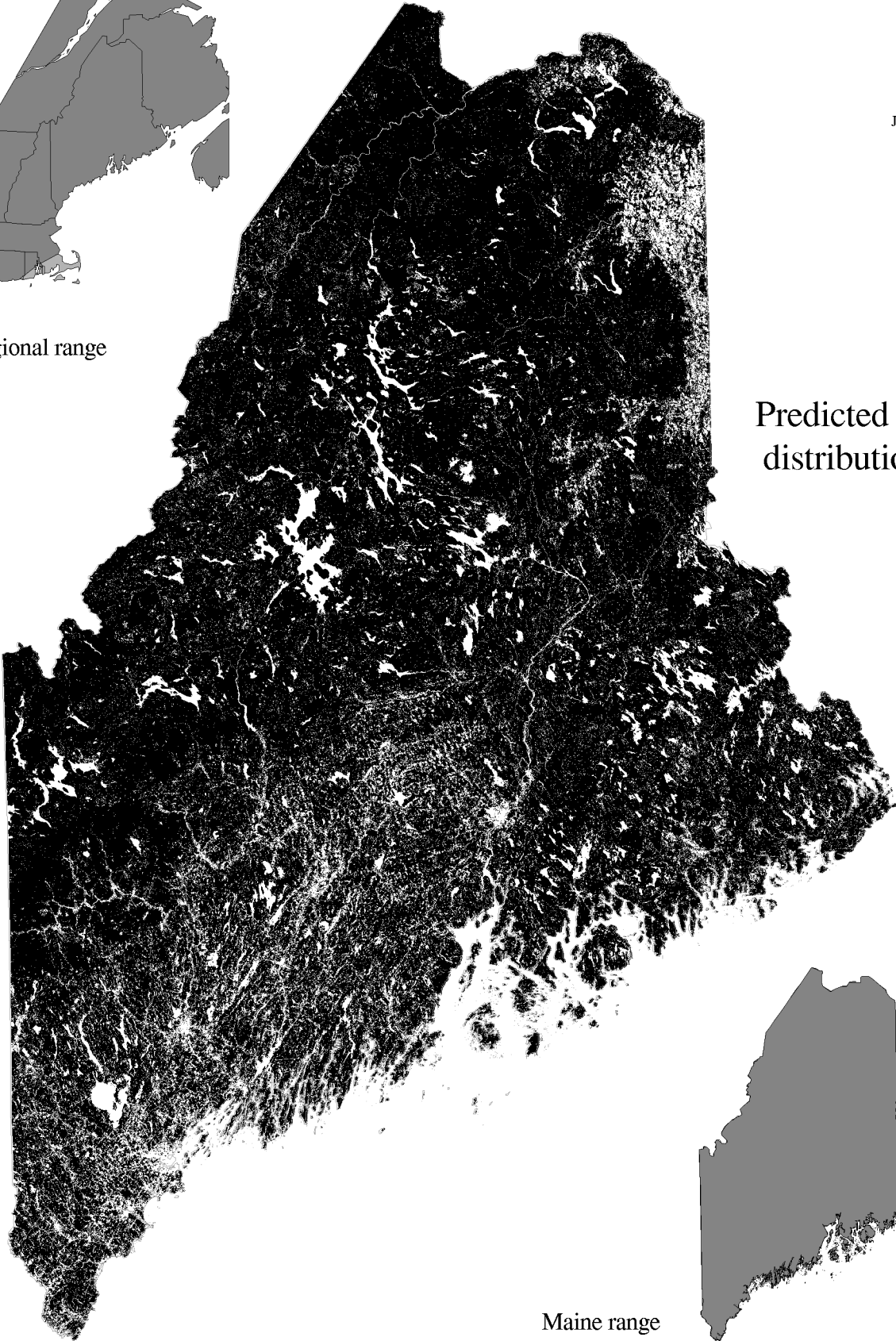
Maine range

Canada Warbler

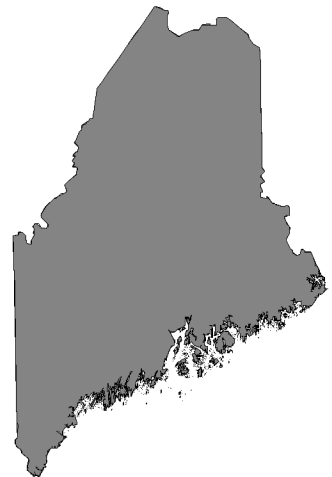
WICA
June 1998



Regional range



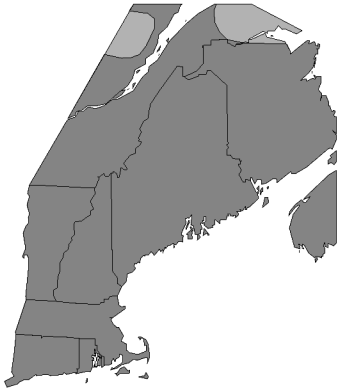
Predicted
distribution



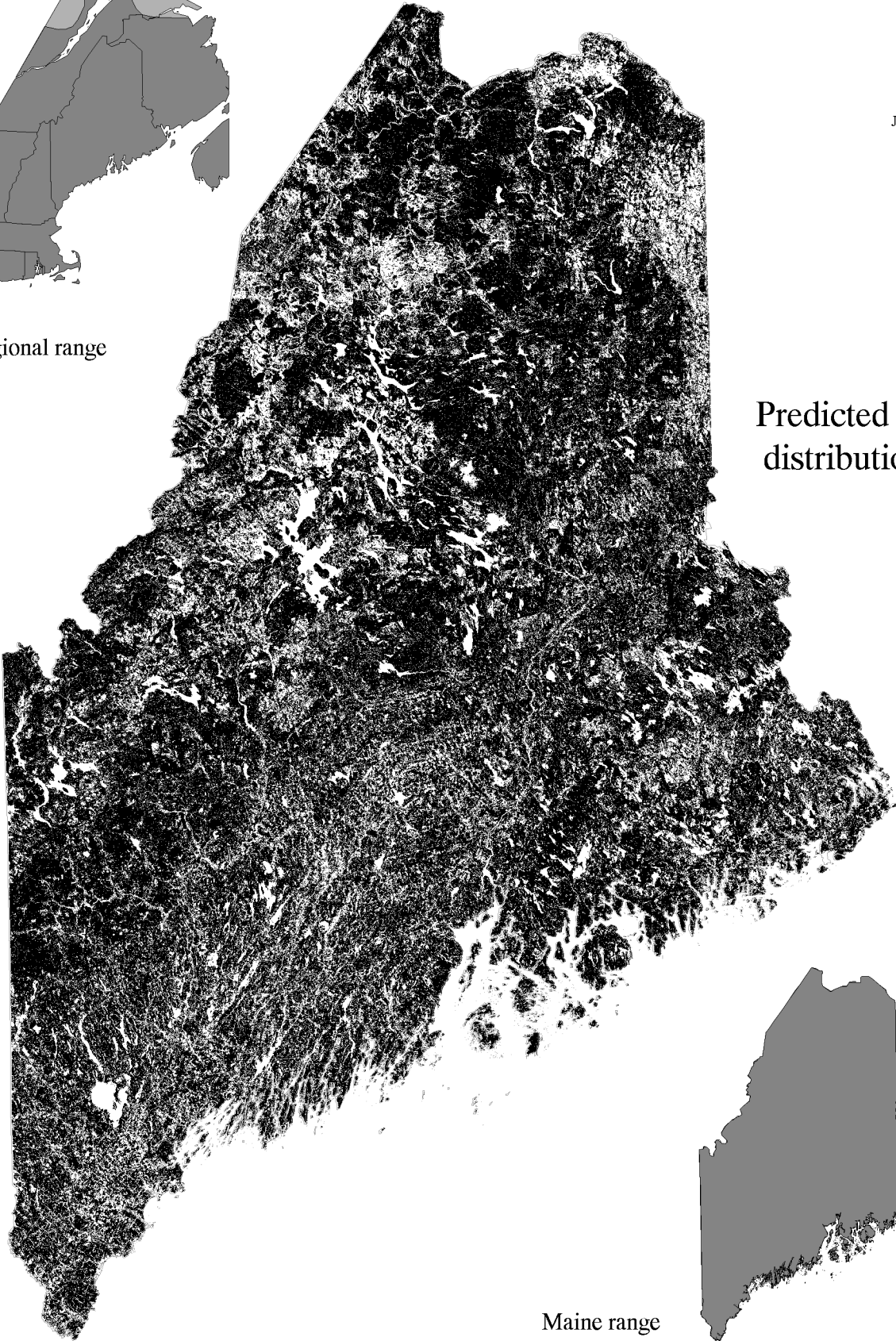
Maine range

Scarlet Tanager

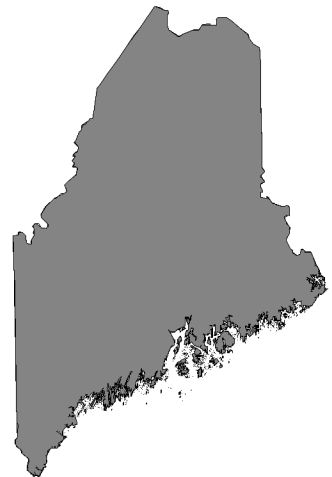
PIOL
June 1998



Regional range



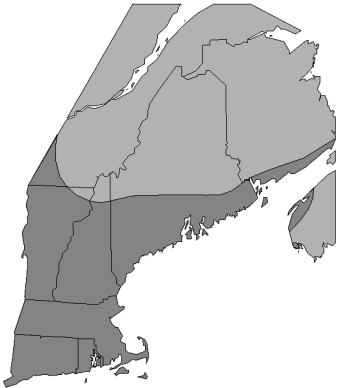
Predicted
distribution



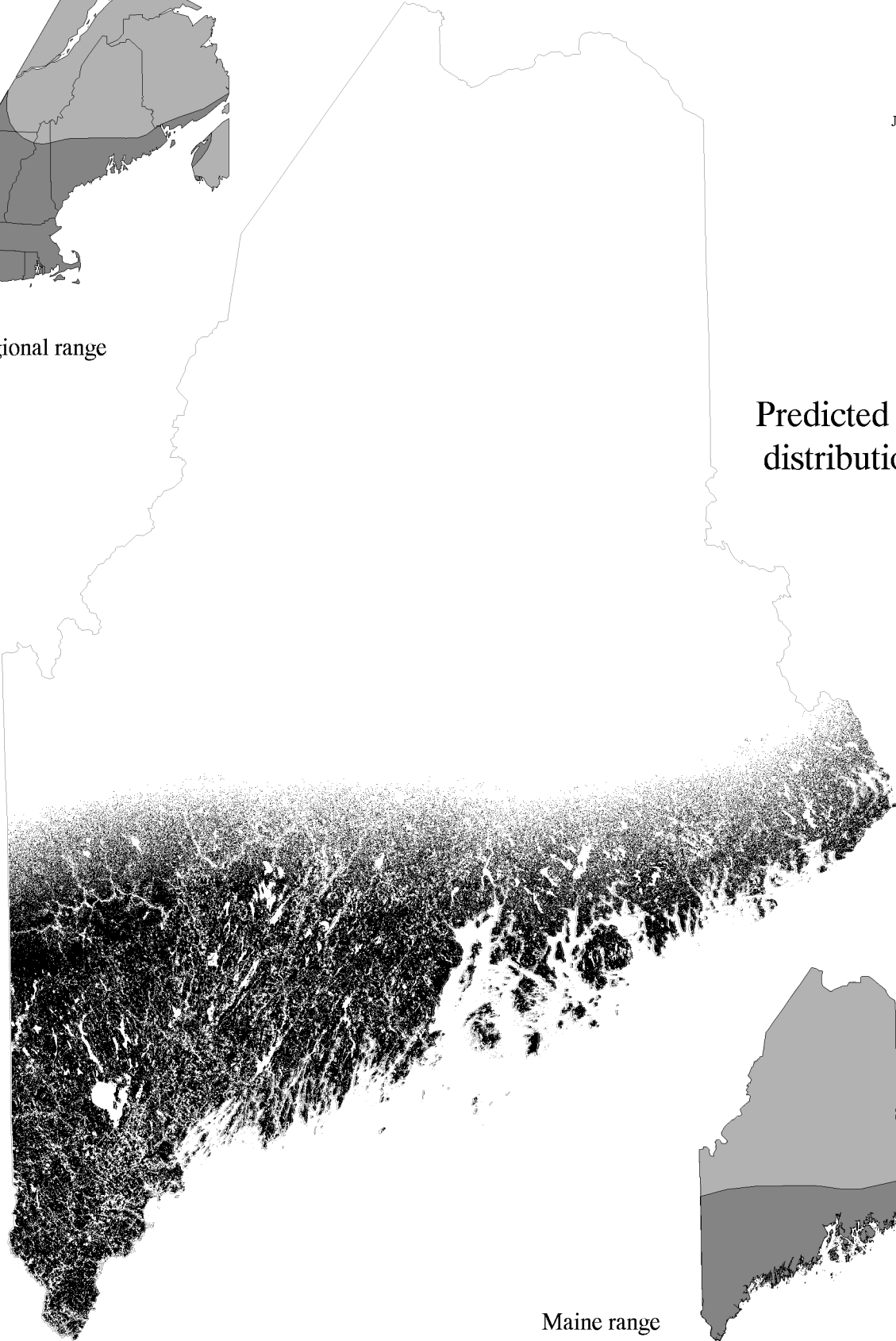
Maine range

Northern Cardinal

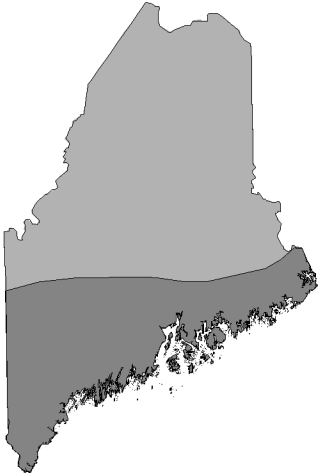
CACA
June 1998



Regional range



Predicted distribution



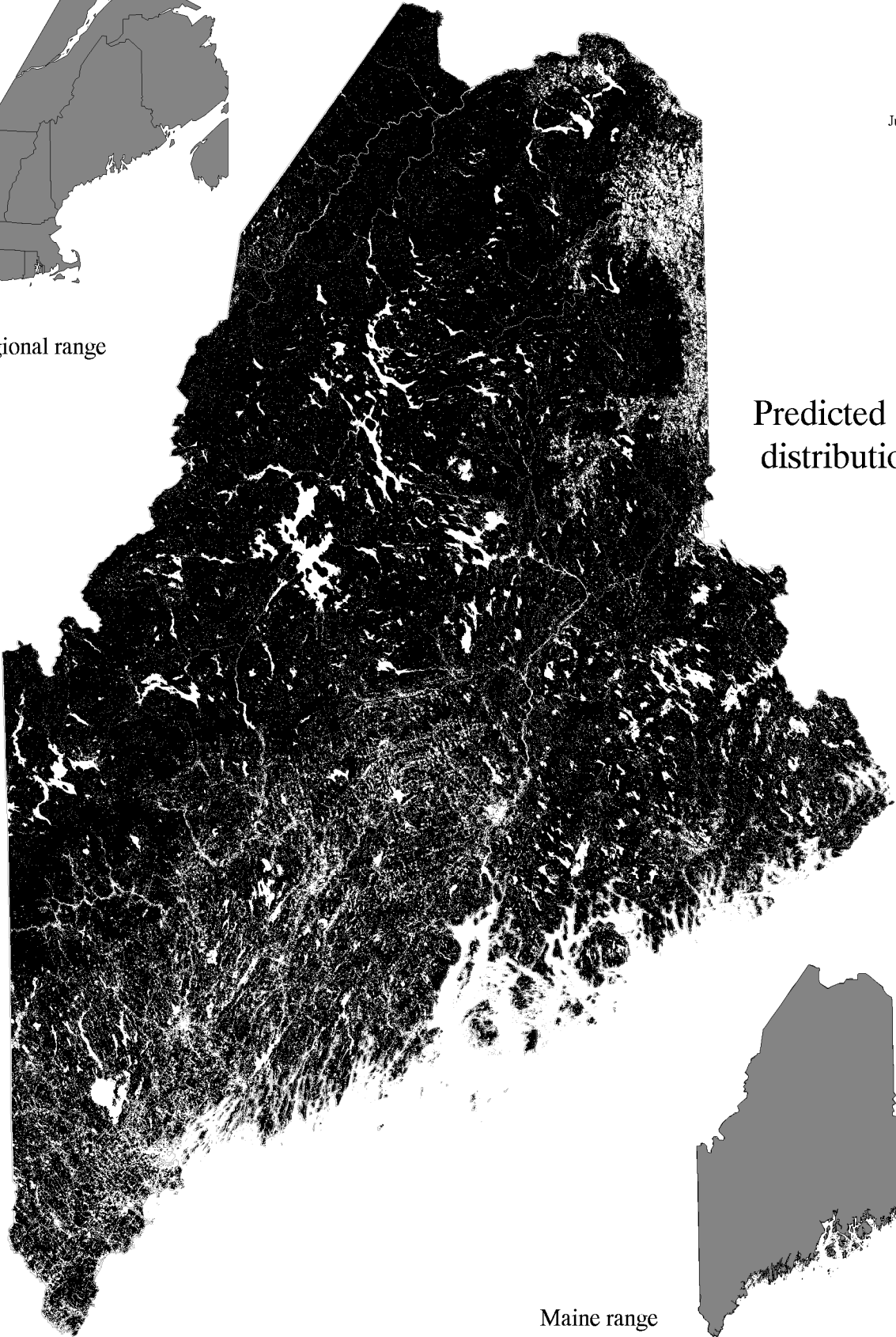
Maine range

Rose-breasted Grosbeak

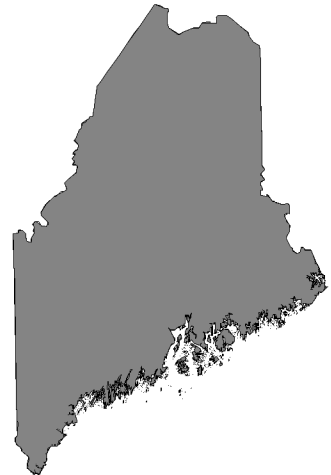
PHLU
June 1998



Regional range



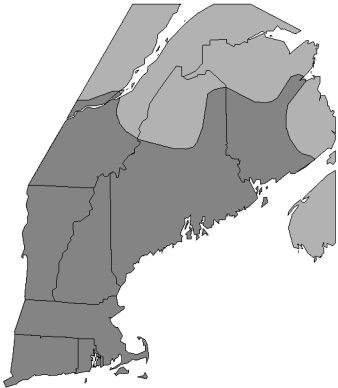
Predicted
distribution



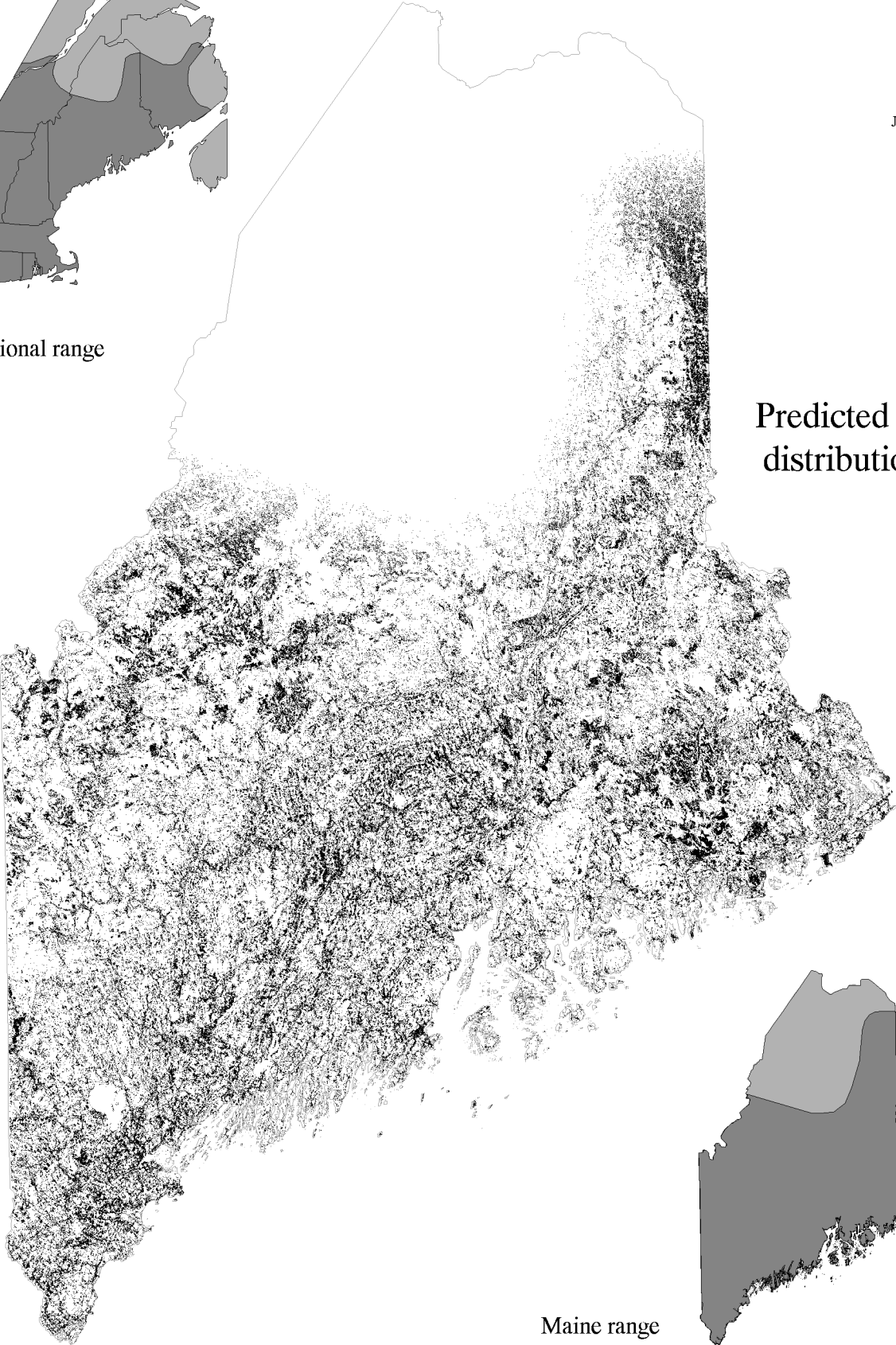
Maine range

Indigo Bunting

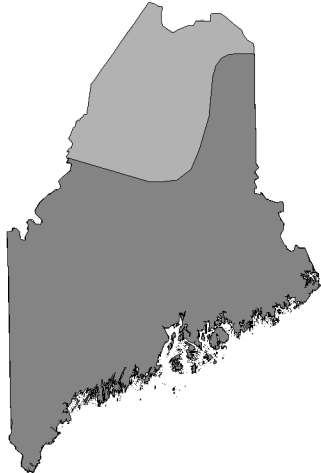
PACY
June 1998



Regional range



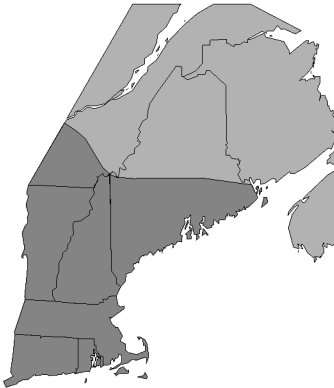
Predicted
distribution



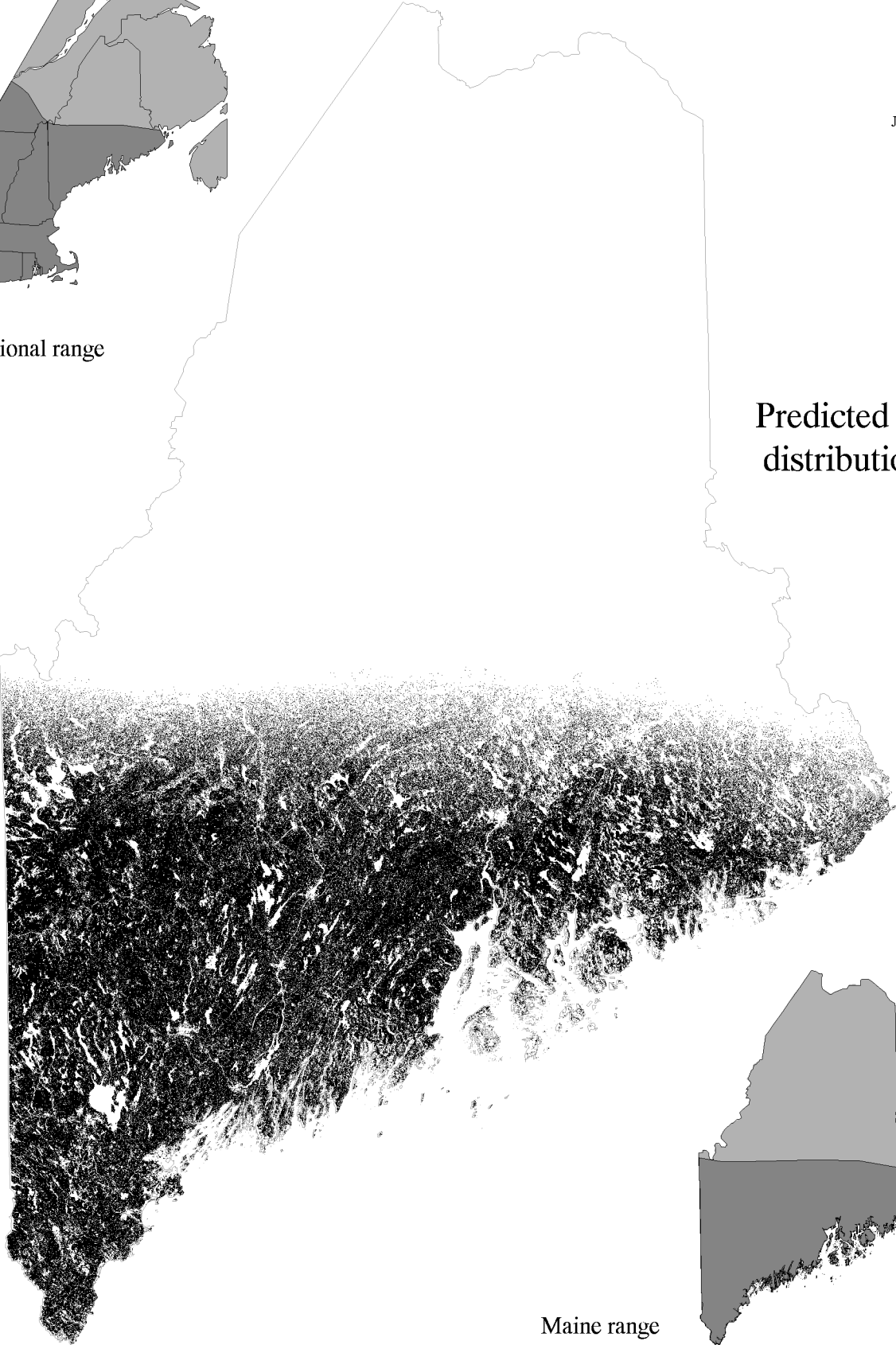
Maine range

Eastern Towhee

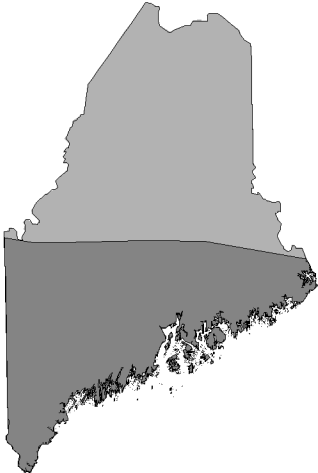
PIER
June 1998



Regional range



Predicted distribution



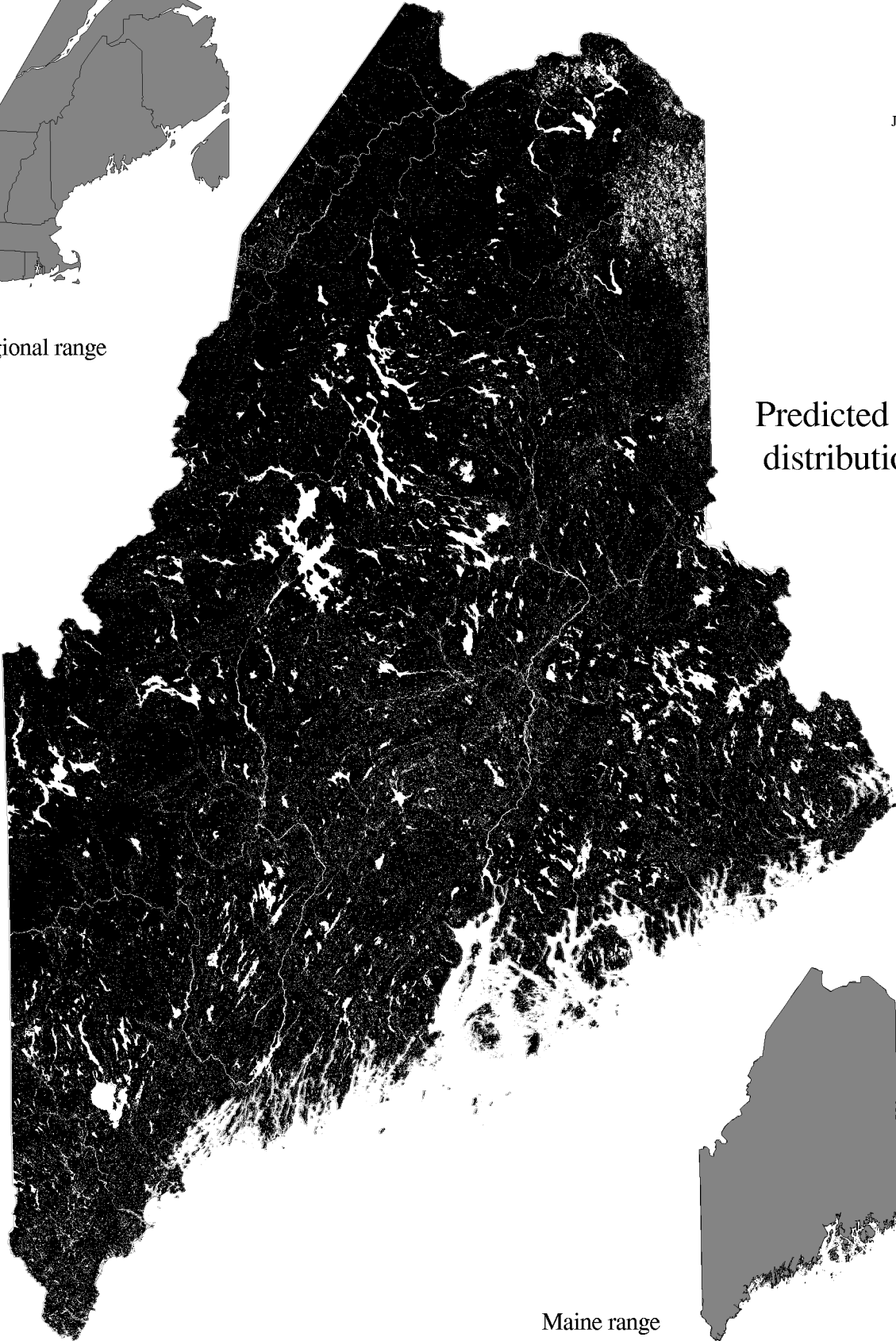
Maine range

Chipping Sparrow

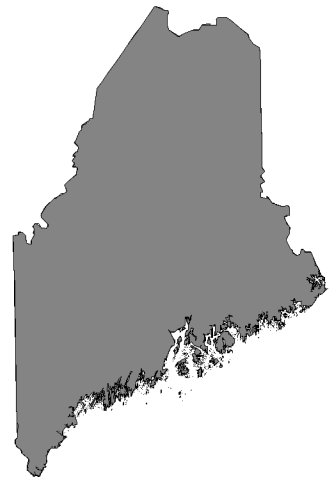
SPPA
June 1998



Regional range



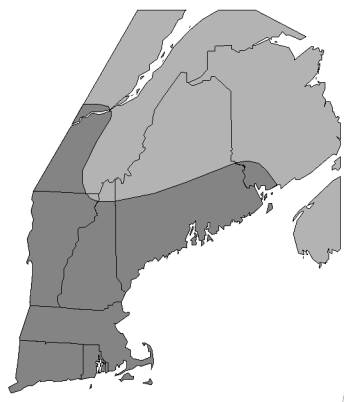
Predicted
distribution



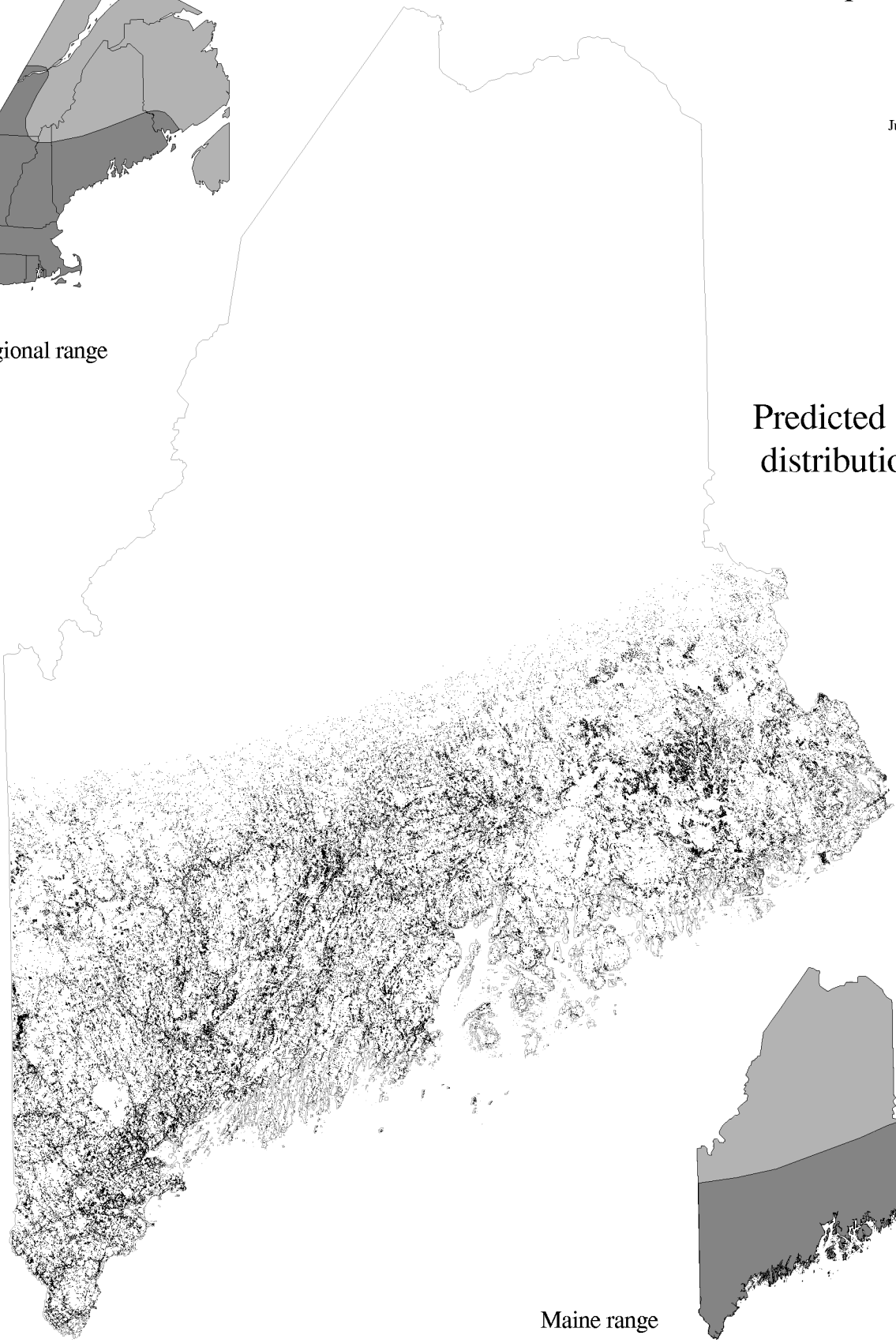
Maine range

Field Sparrow

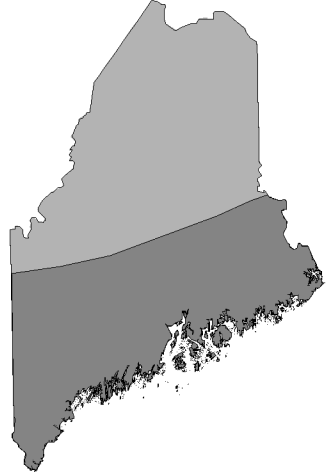
SPPU
June 1998



Regional range



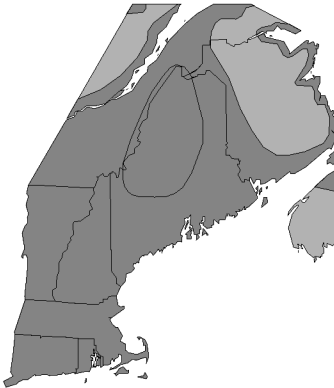
Predicted distribution



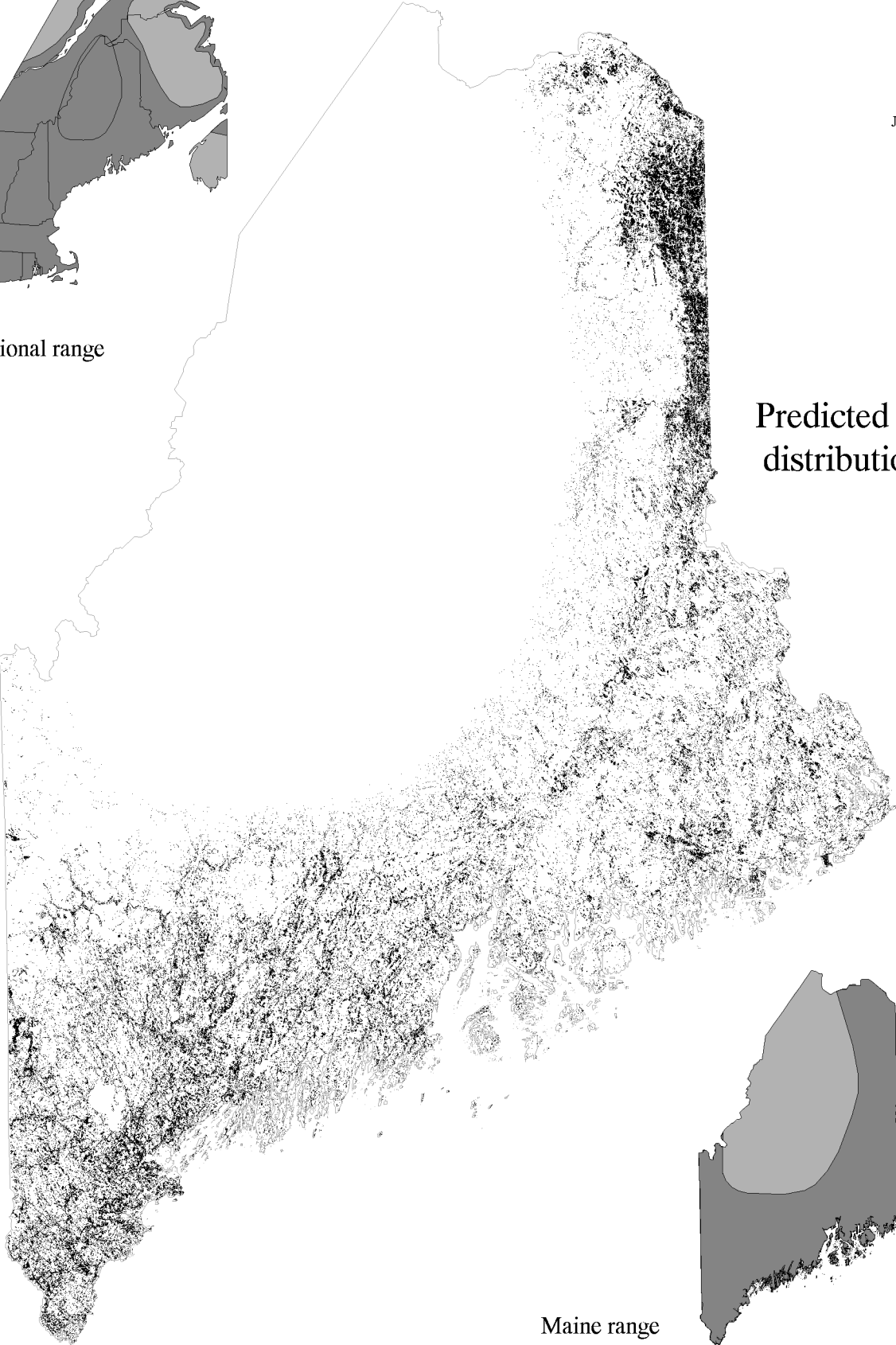
Maine range

Vesper Sparrow

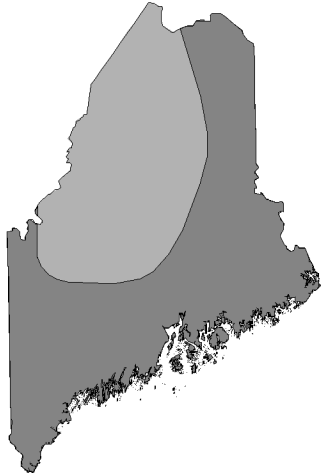
POGR
June 1998



Regional range



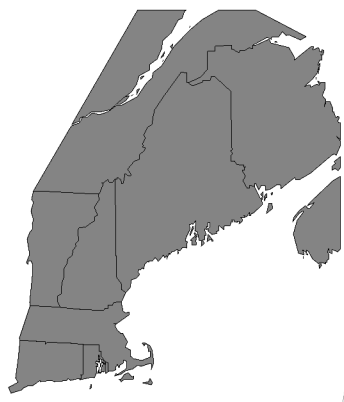
Predicted distribution



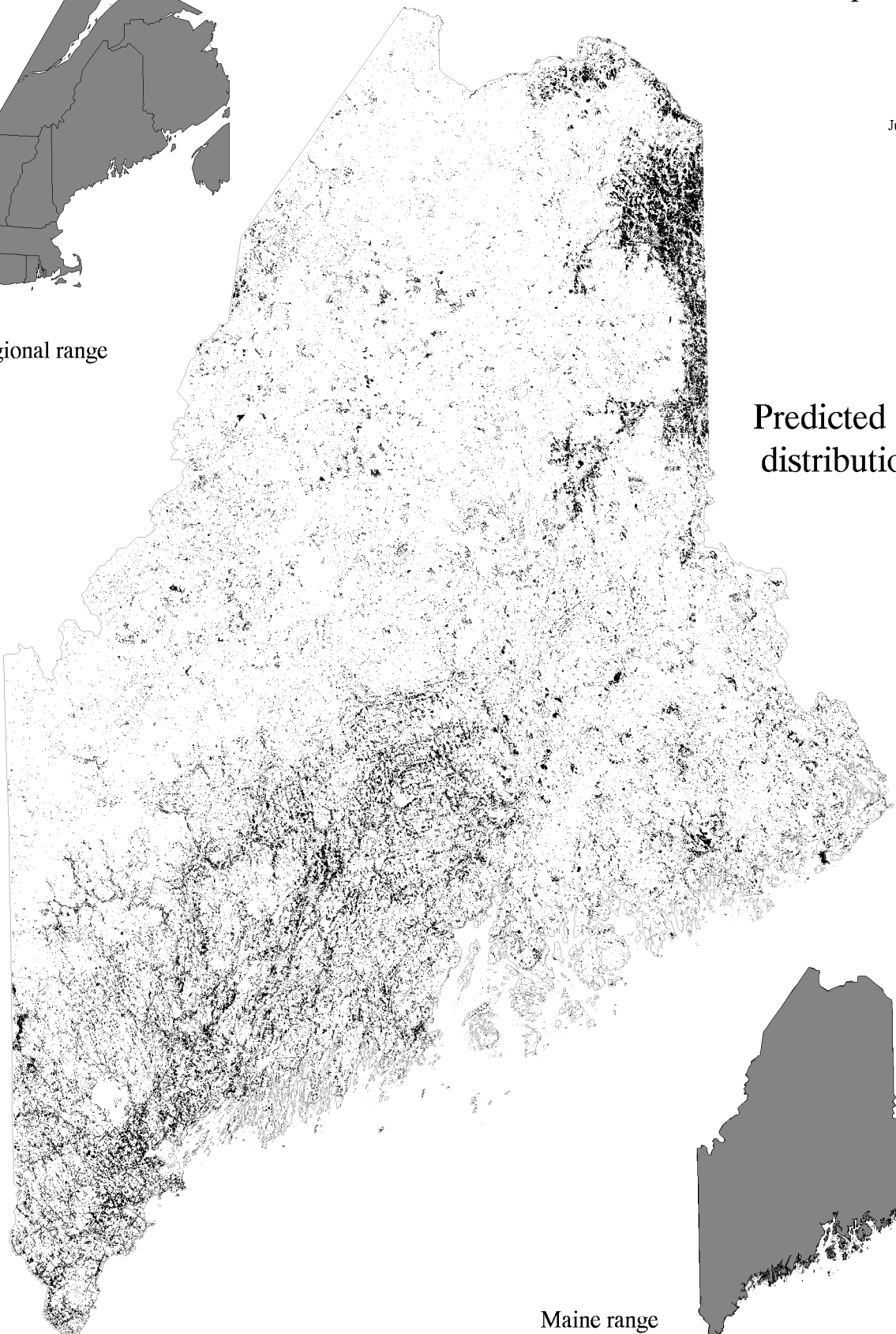
Maine range

Savannah Sparrow

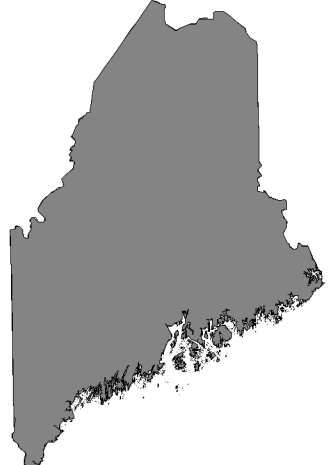
PASA
June 1998



Regional range



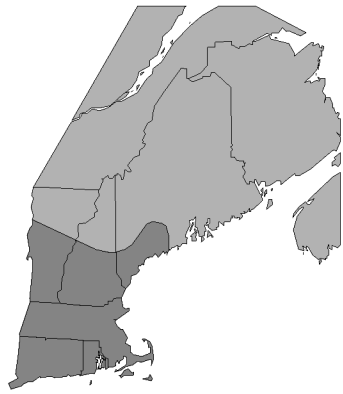
Predicted
distribution



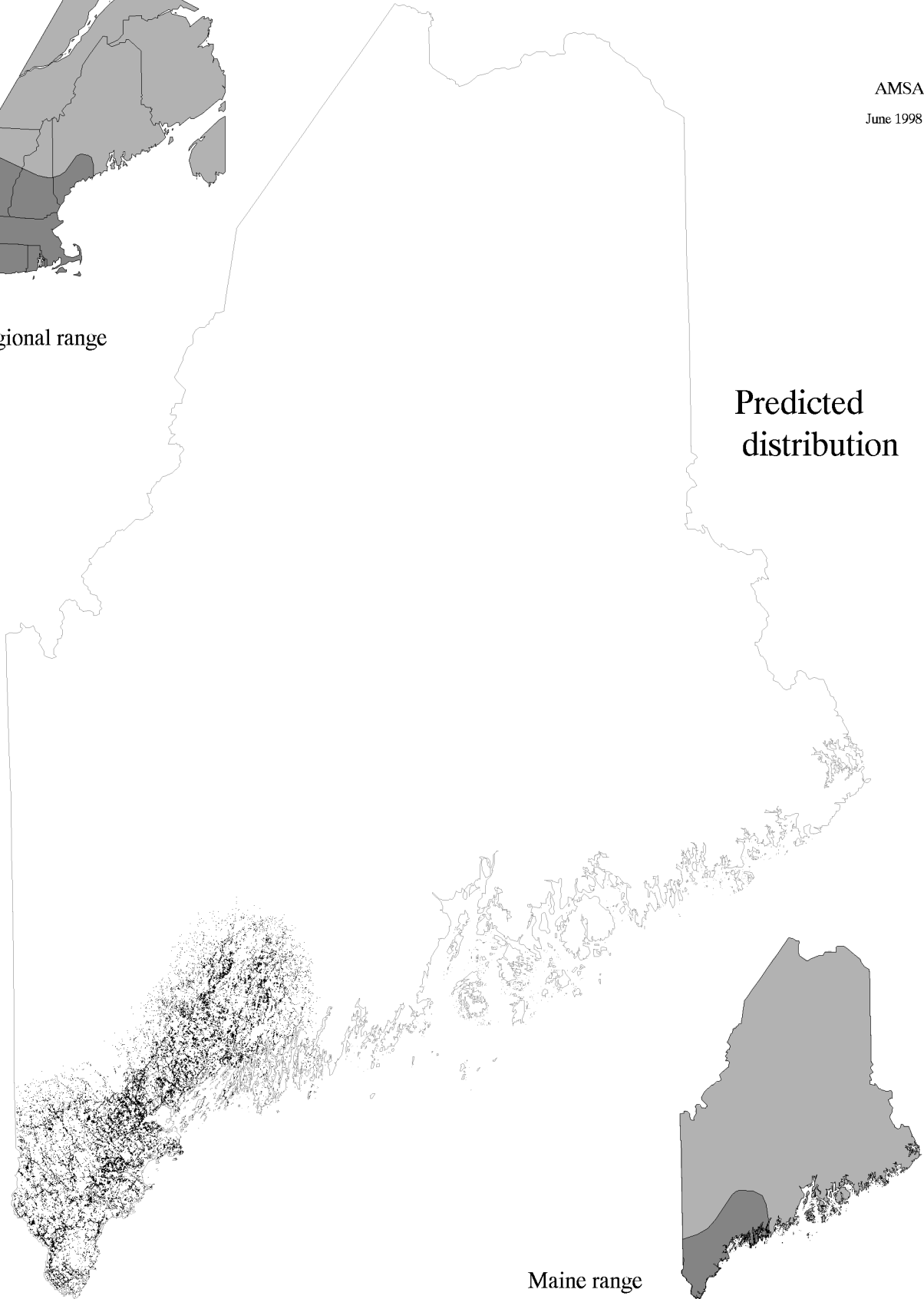
Maine range

Grasshopper Sparrow

AMSA
June 1998



Regional range

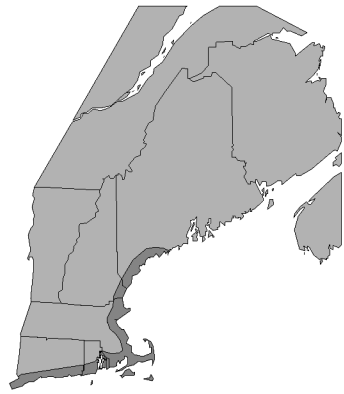


Predicted
distribution

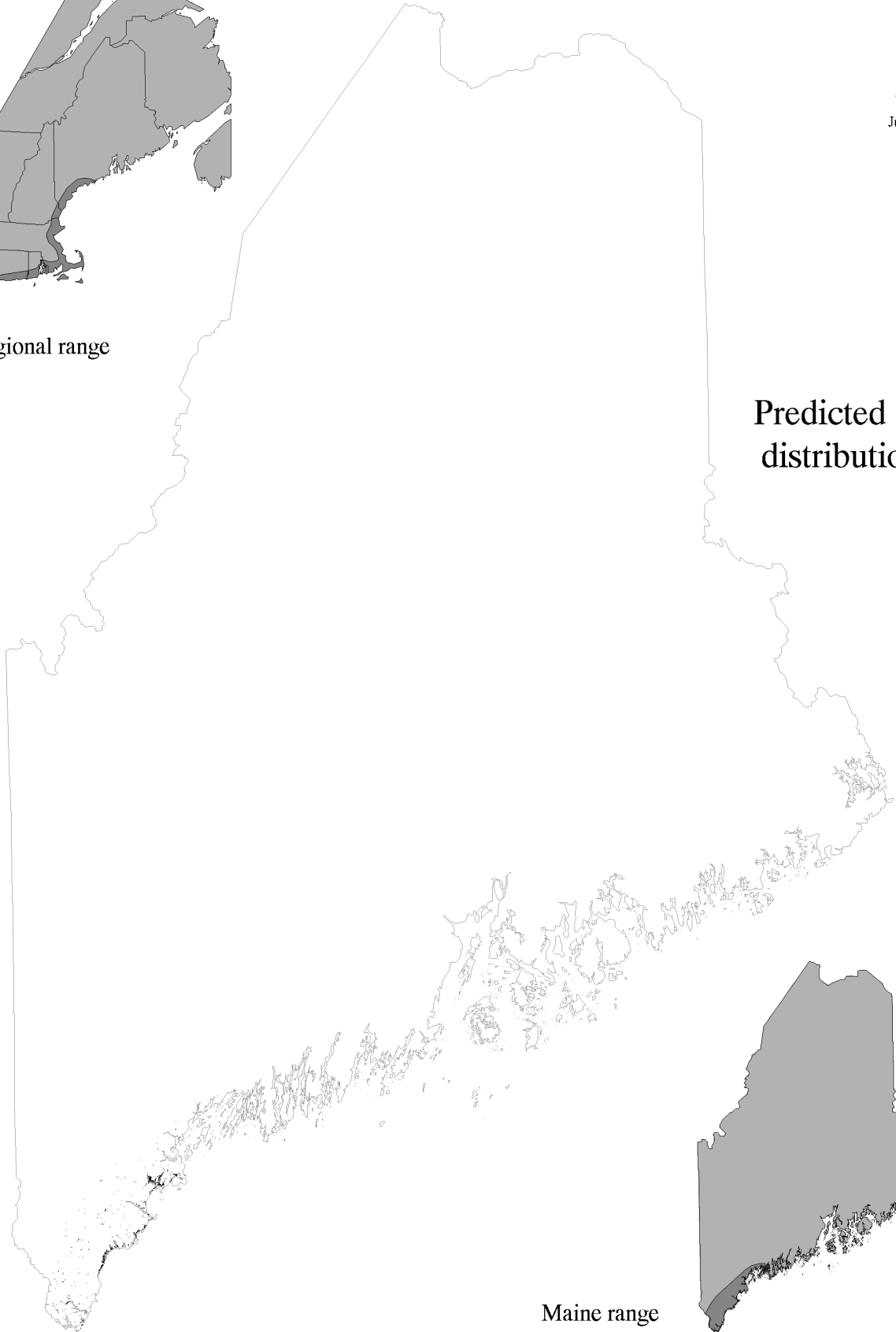
Maine range

Saltmarsh Sharp-tailed Sparrow

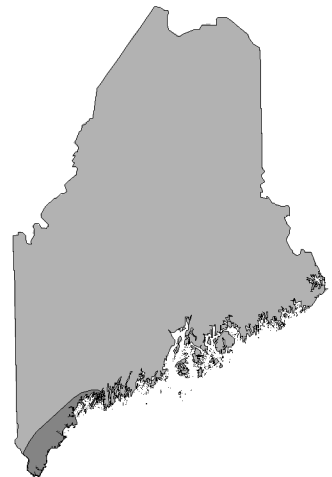
AMCA
June 1998



Regional range



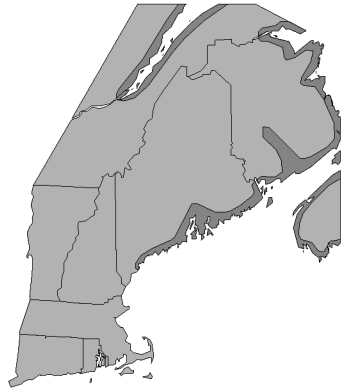
Predicted
distribution



Maine range

Nelson's Sharp-tailed Sparrow

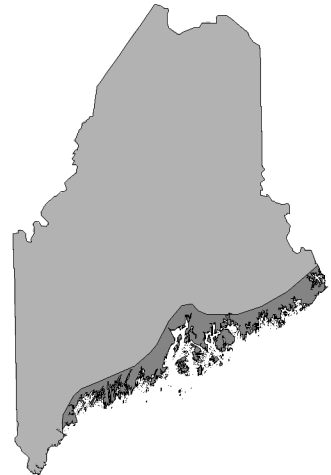
AMNE
June 1998



Regional range



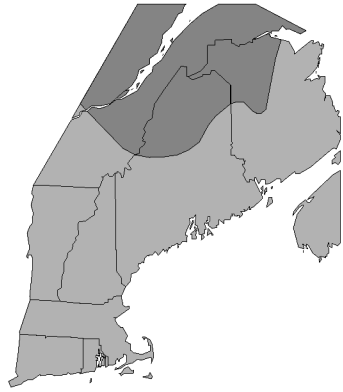
Predicted
distribution



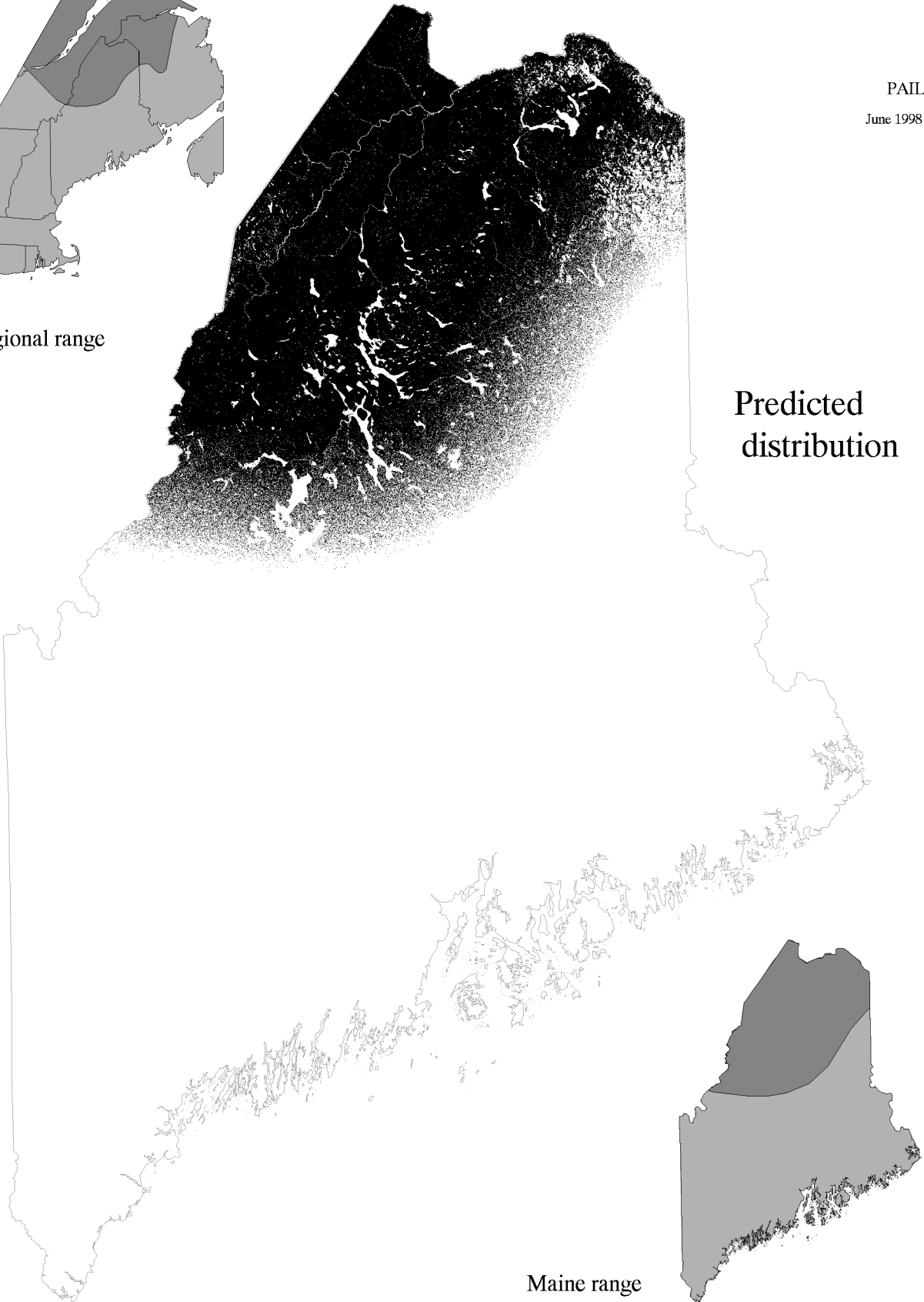
Maine range

Fox Sparrow

PAIL
June 1998



Regional range

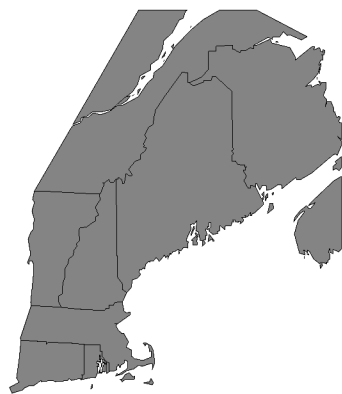


Predicted
distribution

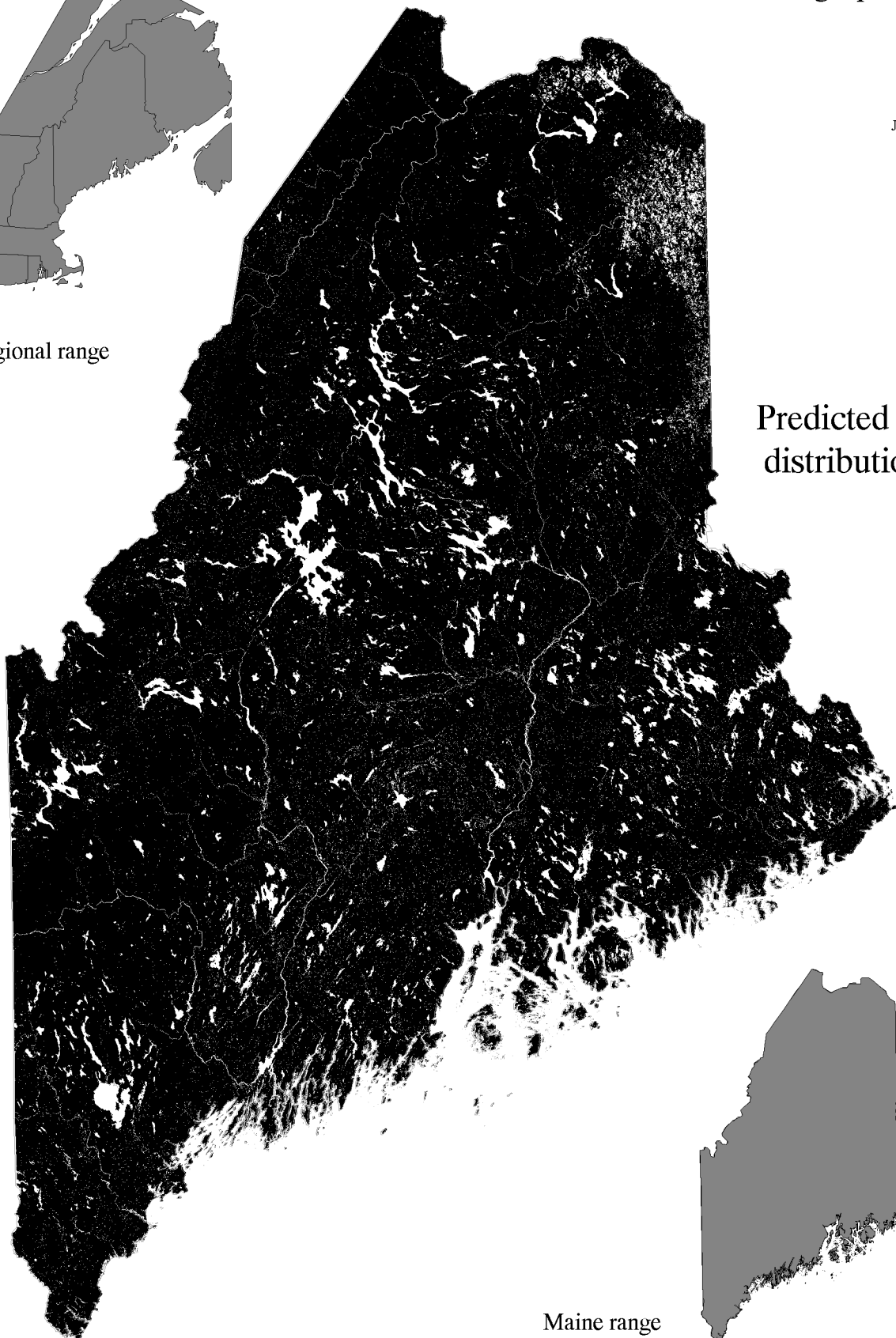
Maine range

Song Sparrow

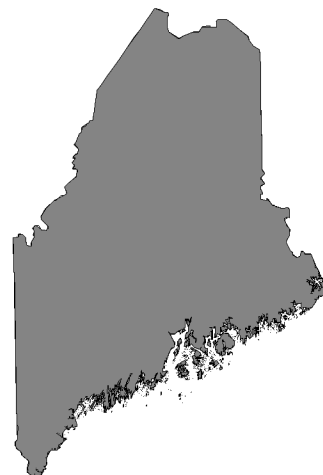
MEML
June 1998



Regional range



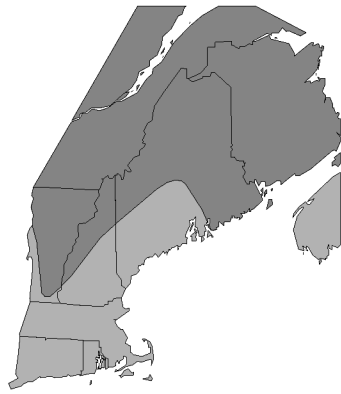
Predicted
distribution



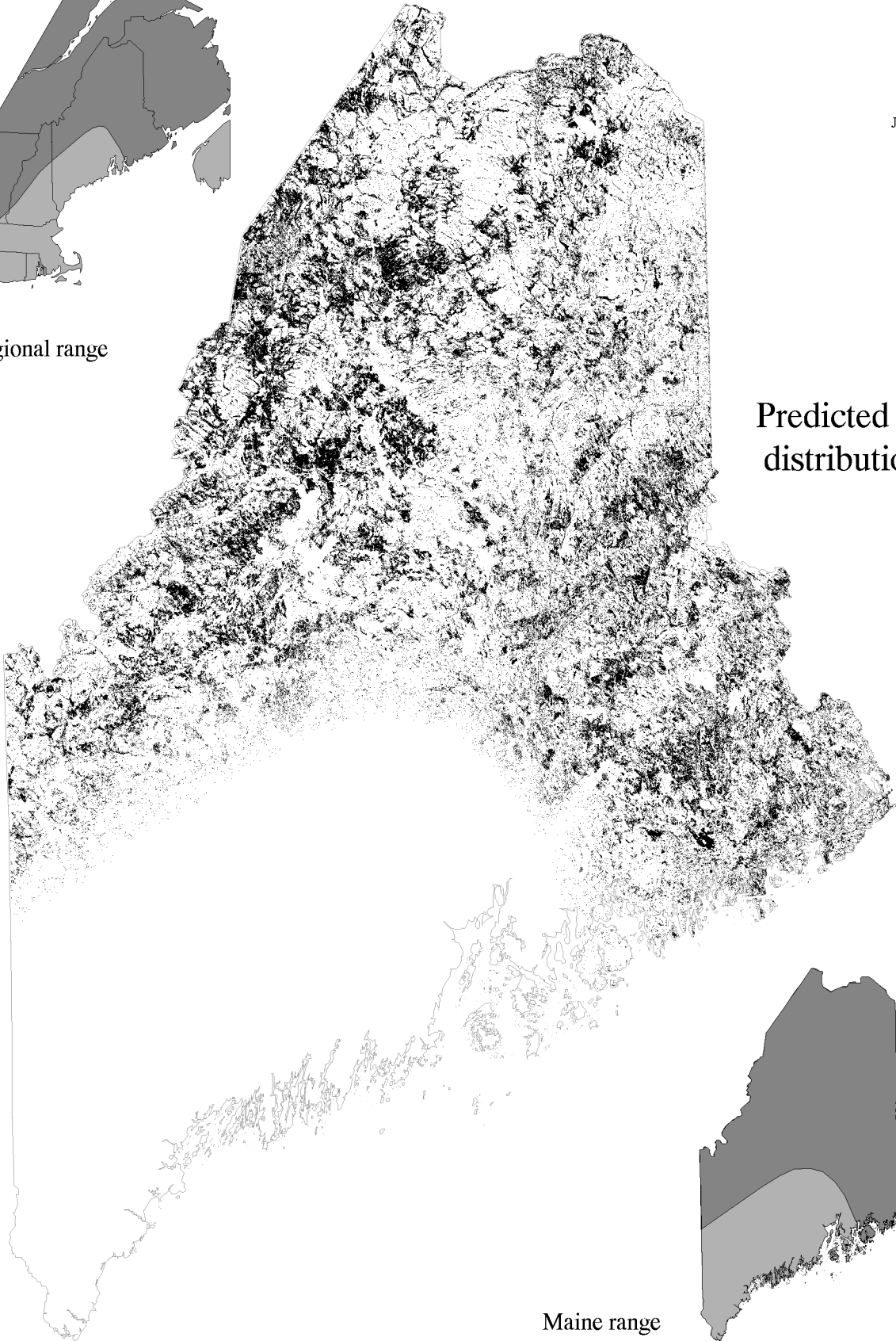
Maine range

Lincoln's Sparrow

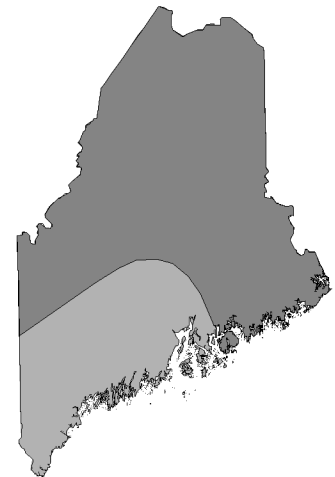
MELI
June 1998



Regional range



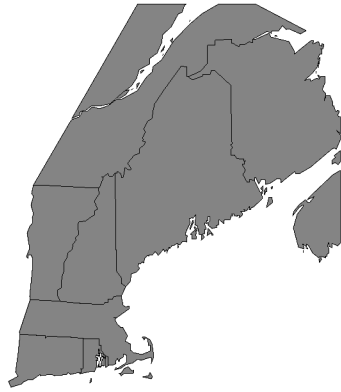
Predicted
distribution



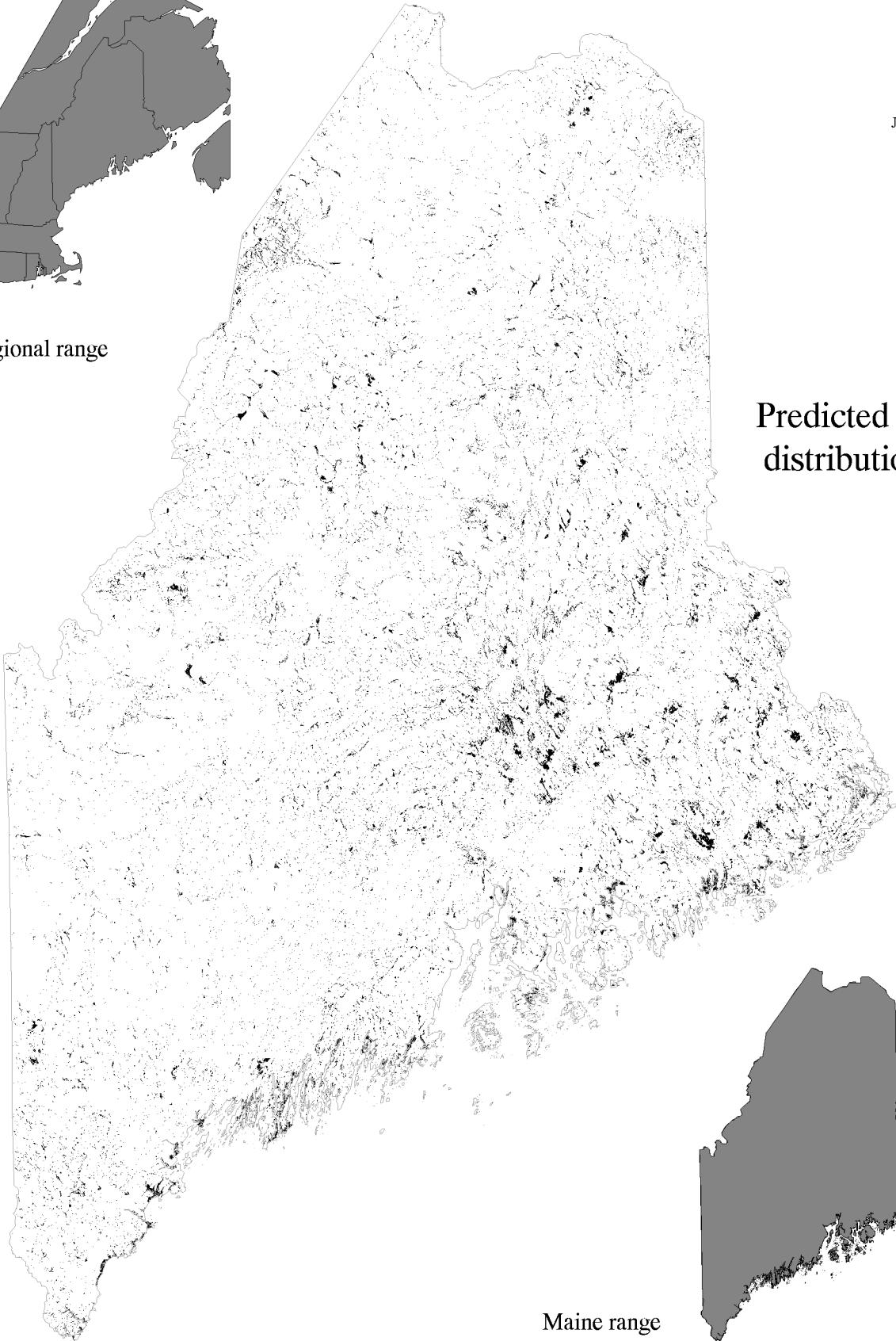
Maine range

Swamp Sparrow

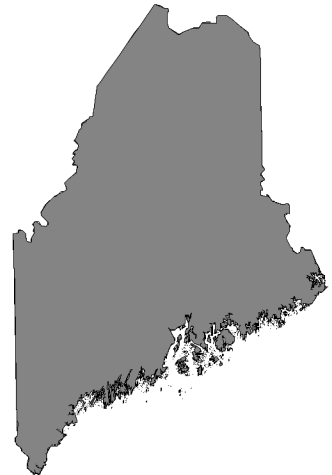
MEGO
June 1998



Regional range



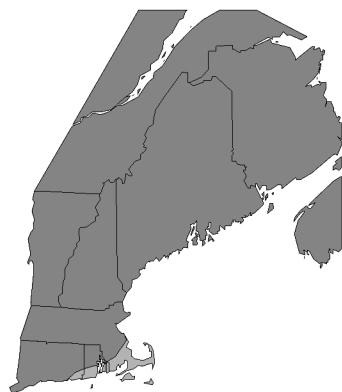
Predicted
distribution



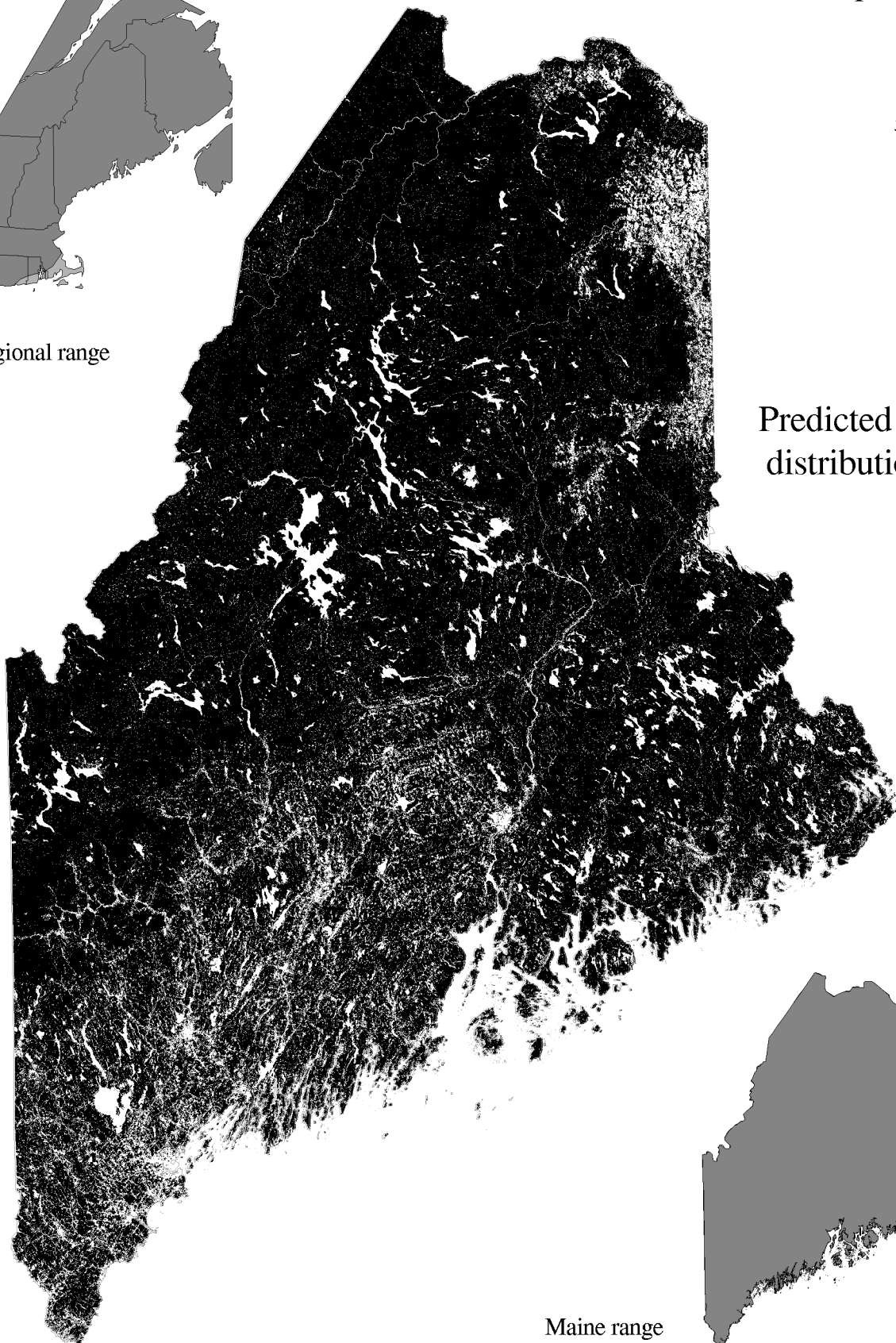
Maine range

White-throated Sparrow

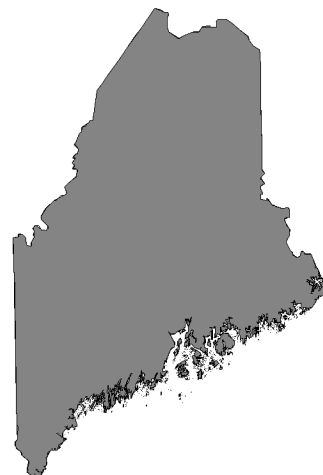
ZOAL
June 1998



Regional range



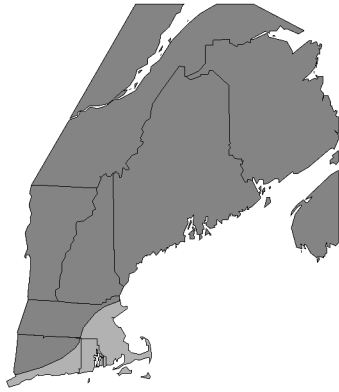
Predicted
distribution



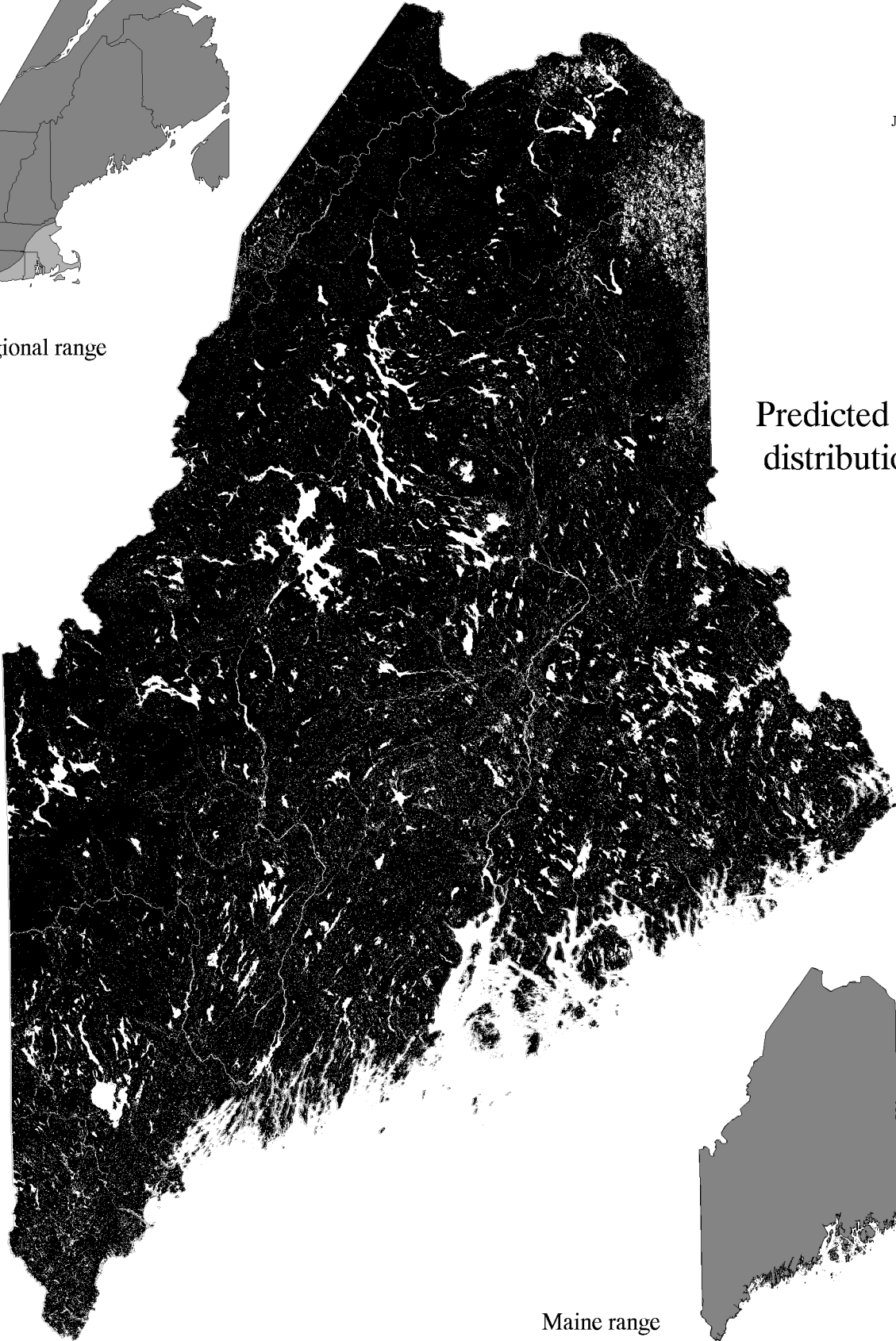
Maine range

Dark-eyed Junco

JUHY
June 1998



Regional range



Predicted
distribution



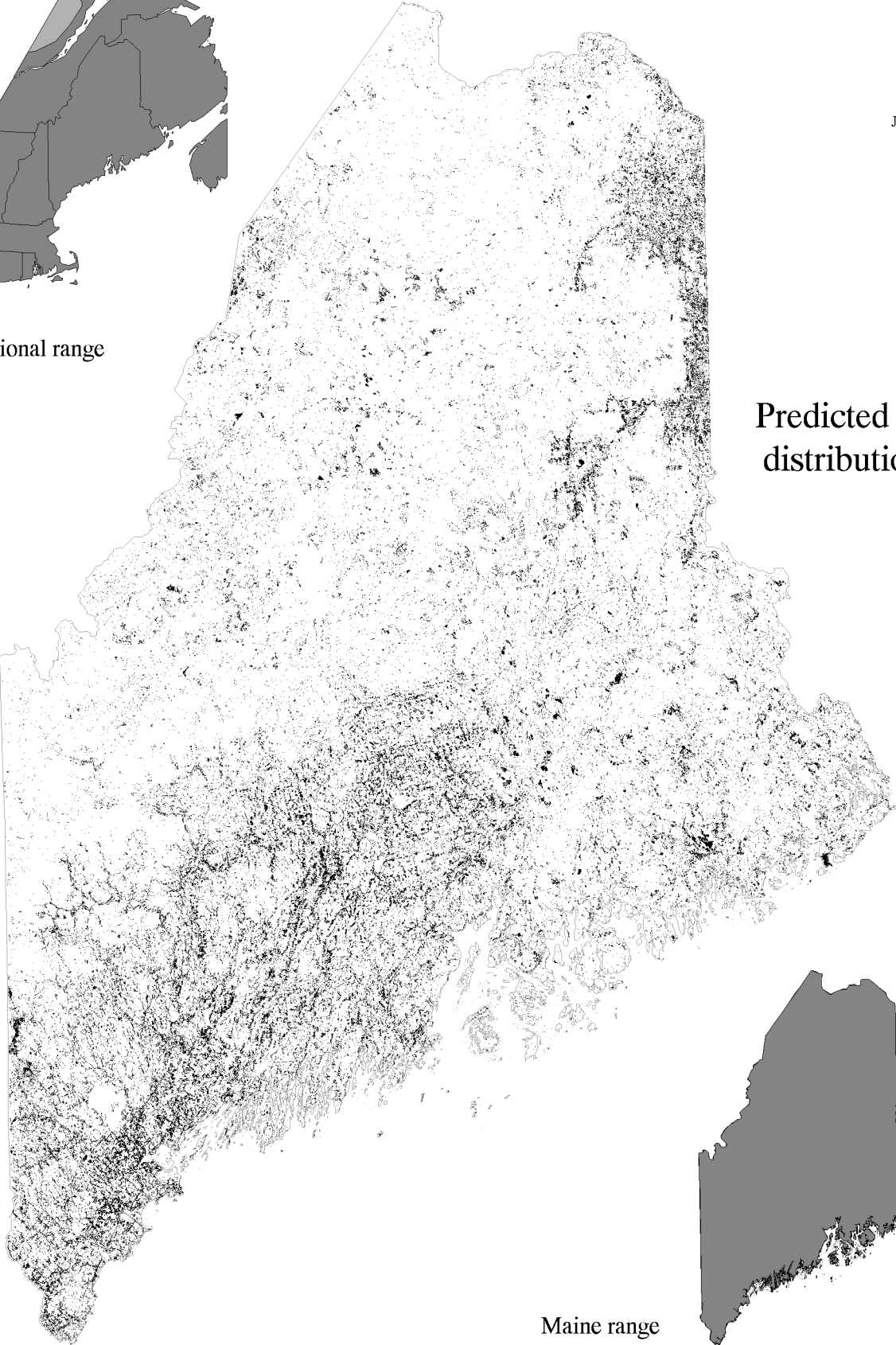
Maine range

Bobolink

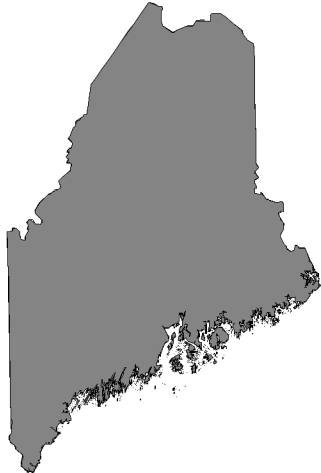
DOOR
June 1998



Regional range



Predicted
distribution



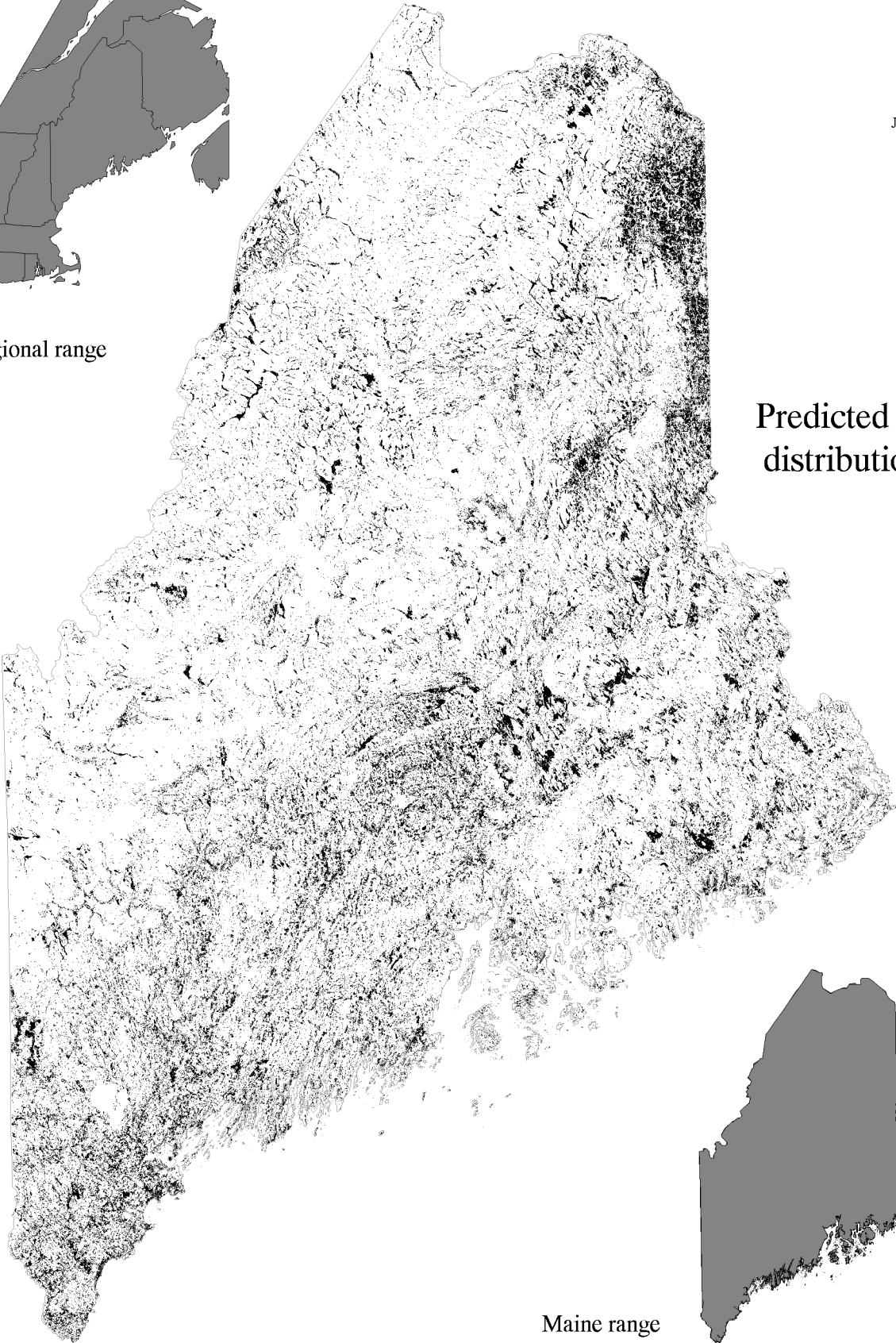
Maine range

Red-winged Blackbird

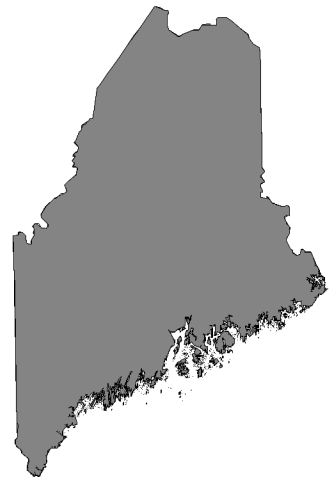
AGPH
June 1998



Regional range



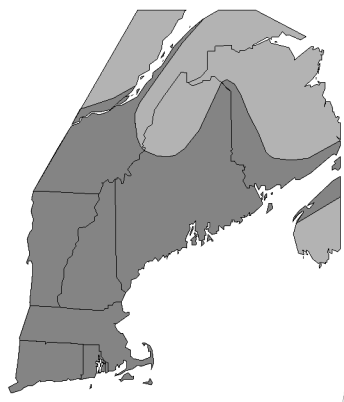
Predicted
distribution



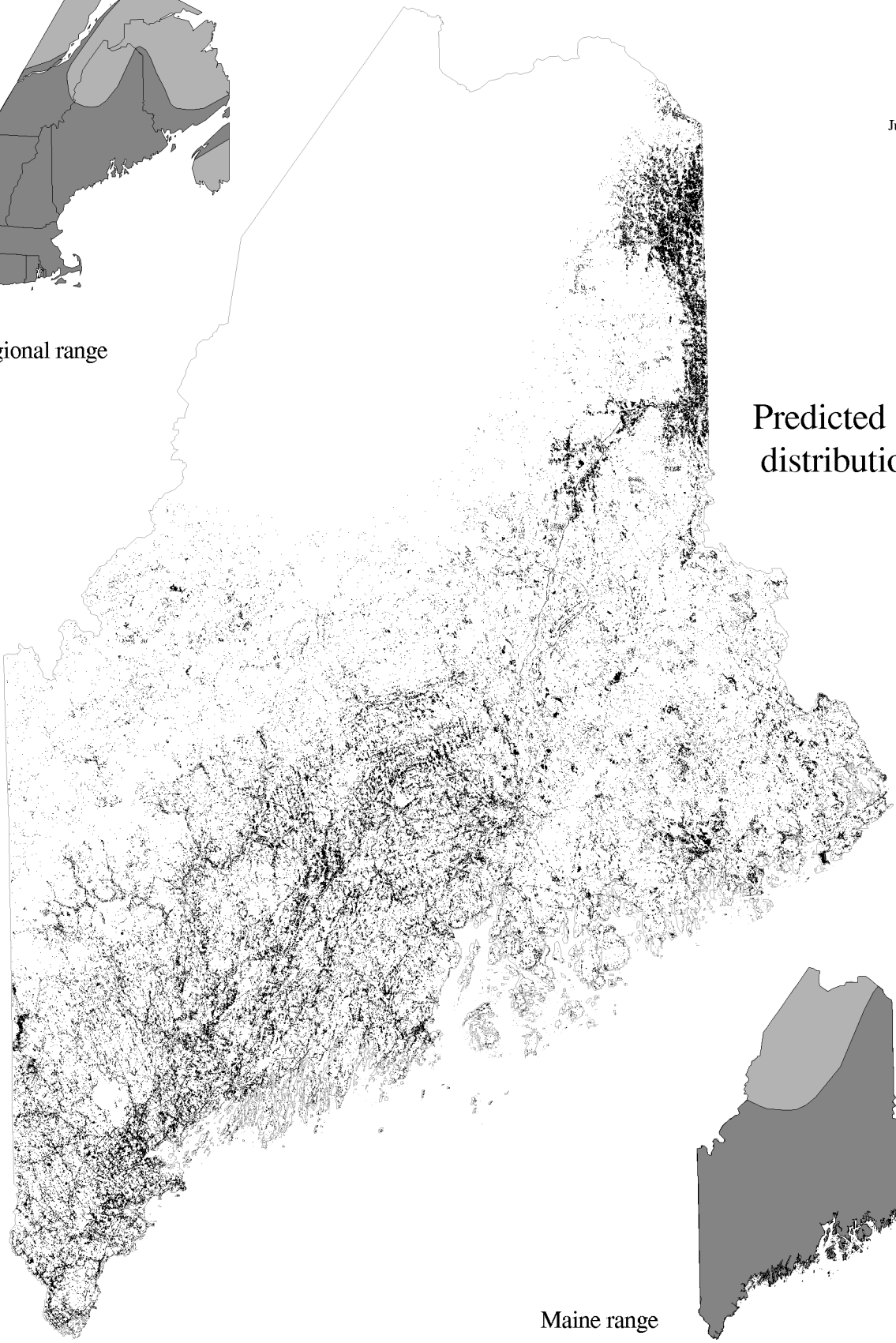
Maine range

Eastern Meadowlark

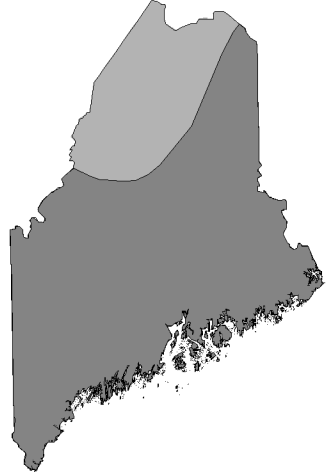
STMA
June 1998



Regional range



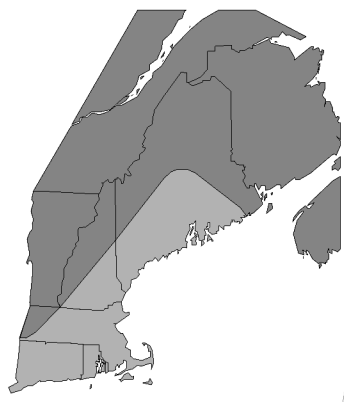
Predicted distribution



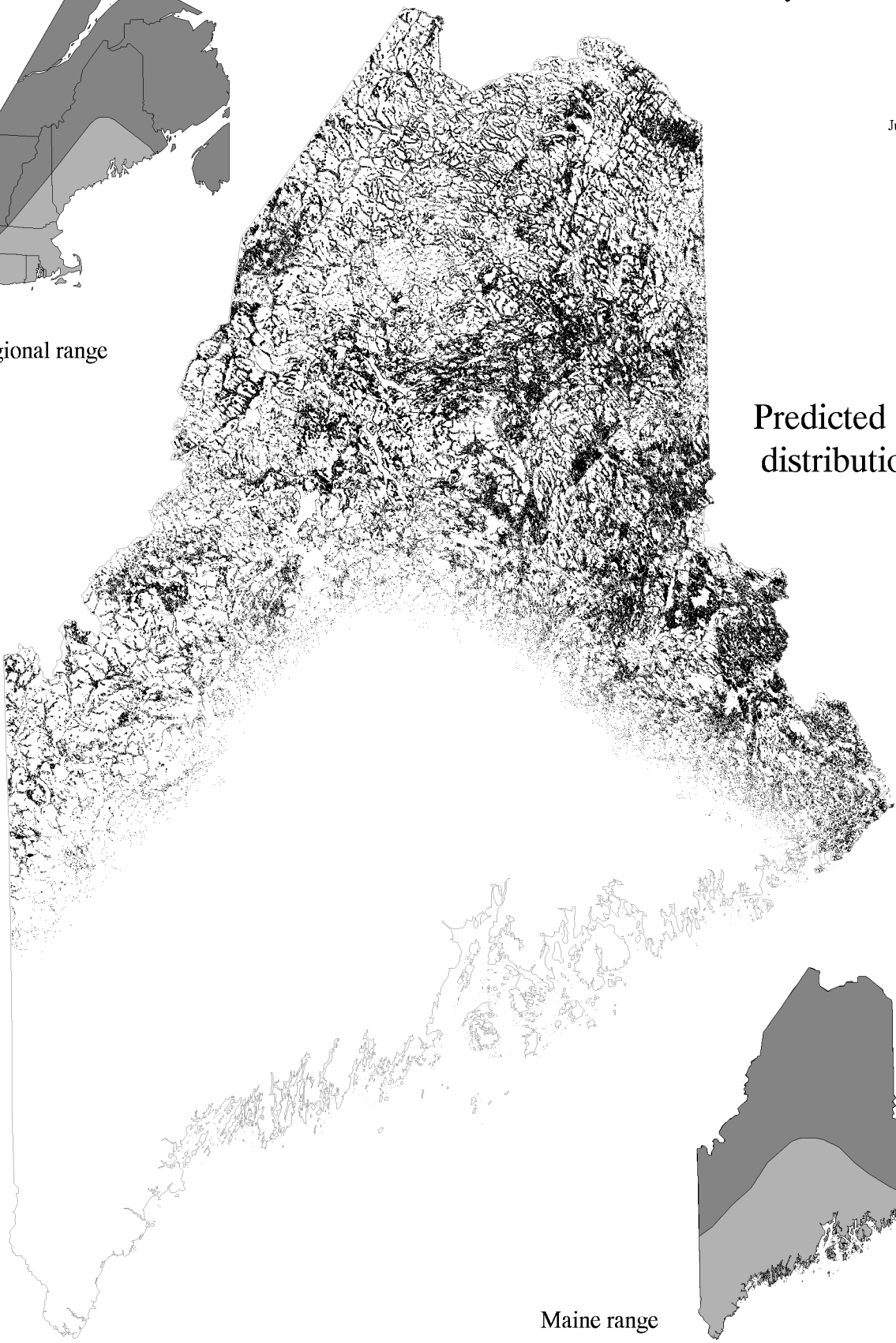
Maine range

Rusty Blackbird

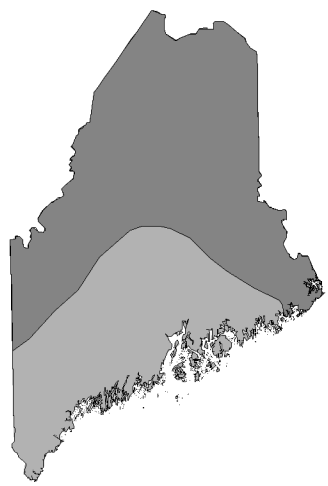
EUCA
June 1998



Regional range



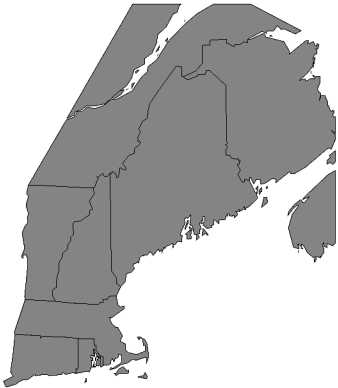
Predicted distribution



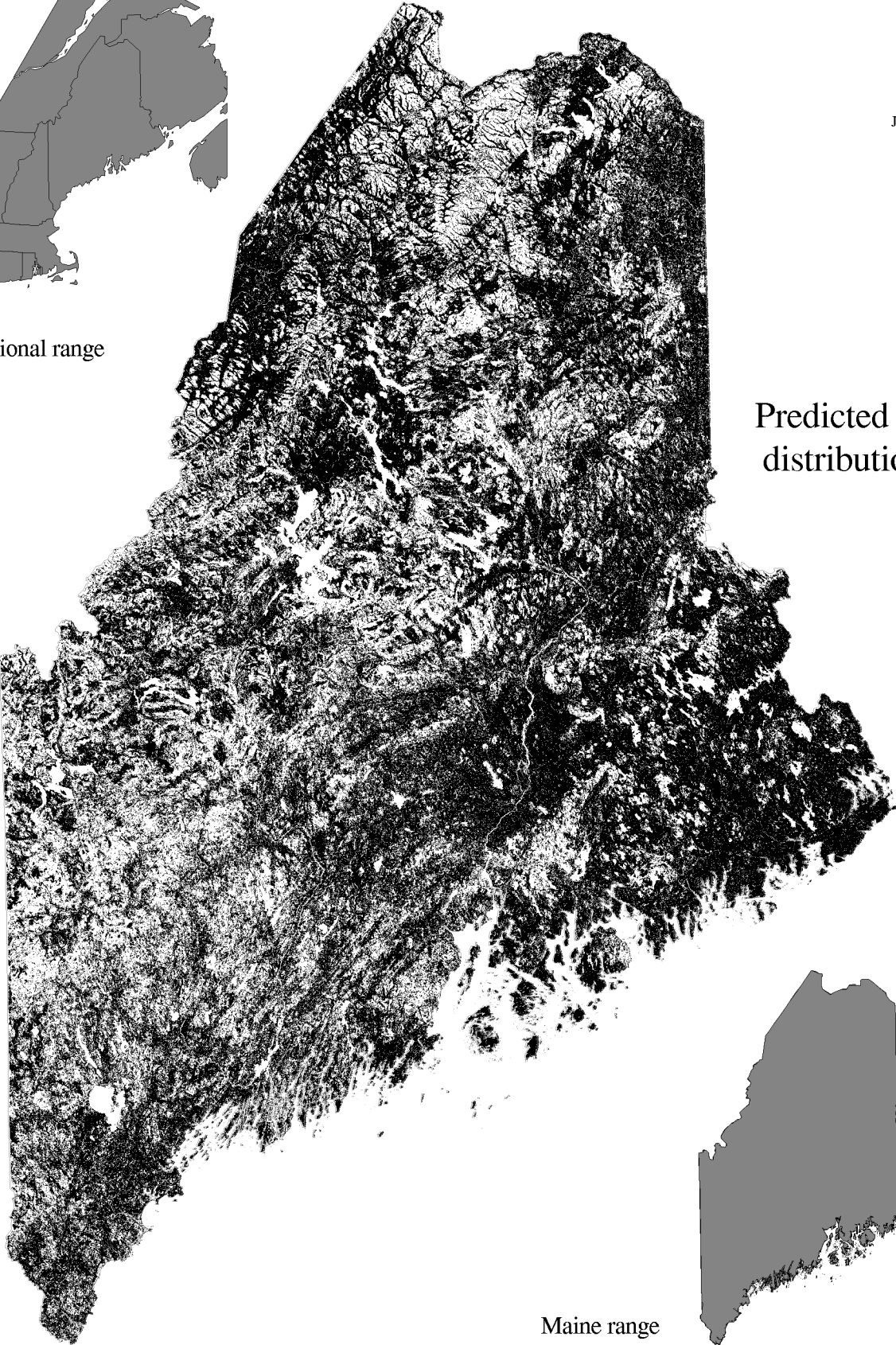
Maine range

Common Grackle

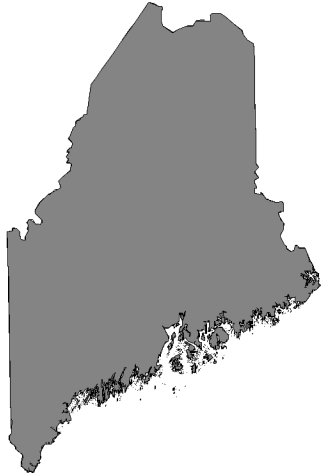
QUQU
June 1998



Regional range



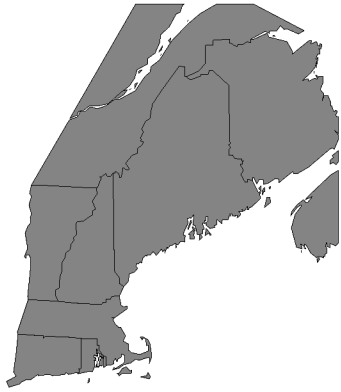
Predicted
distribution



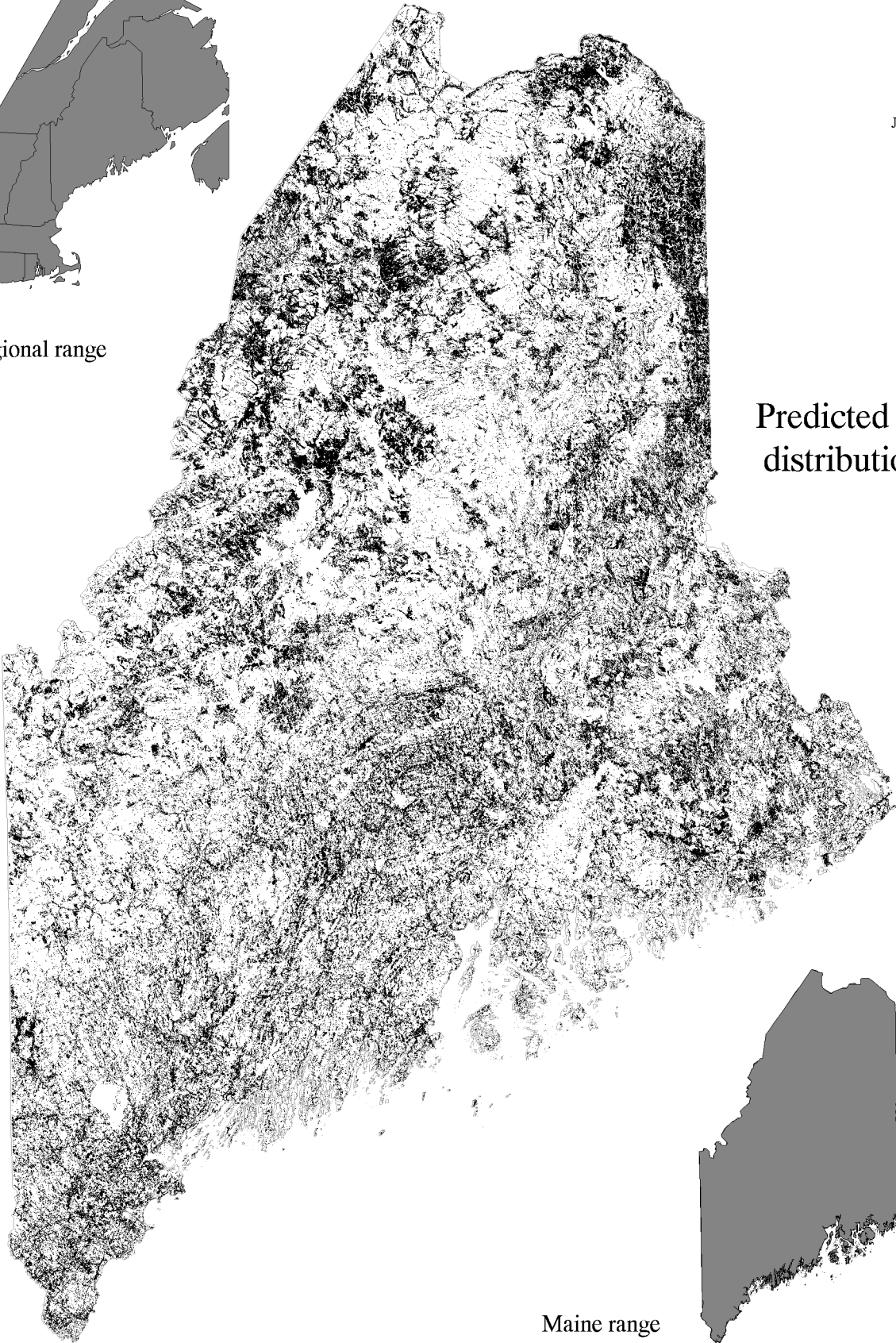
Maine range

Brown-headed Cowbird

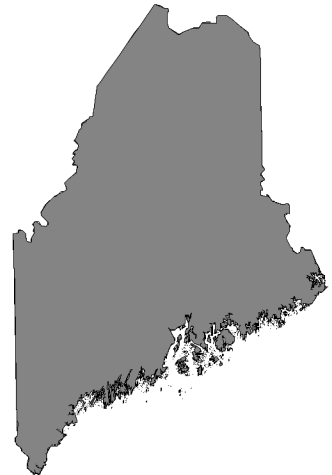
MOAT
June 1998



Regional range



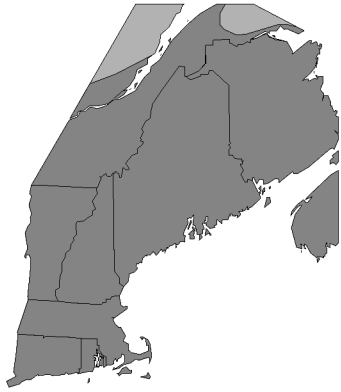
Predicted
distribution



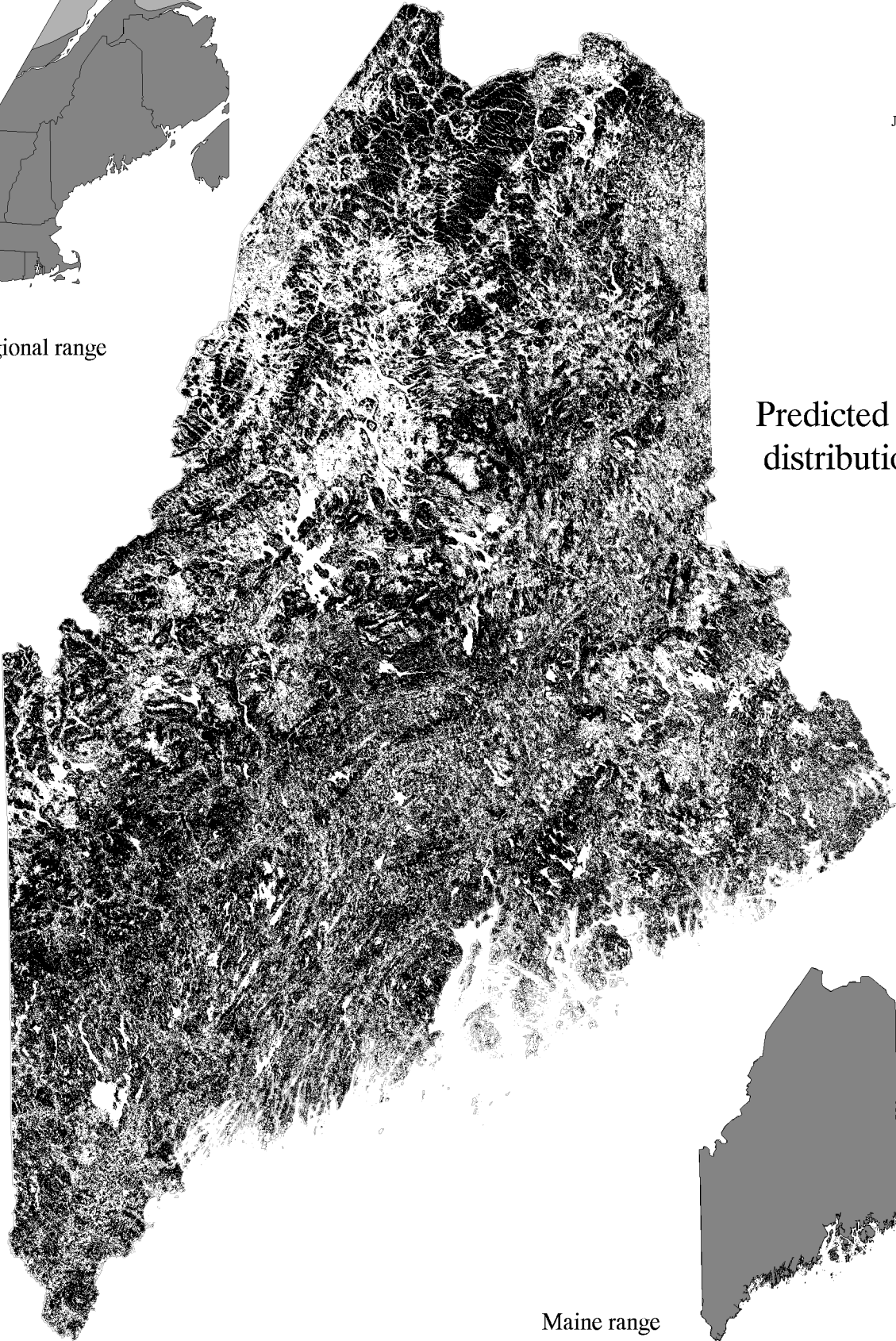
Maine range

Baltimore Oriole

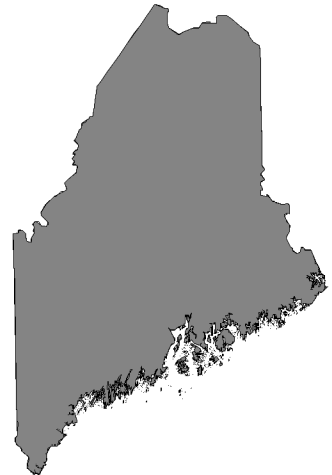
ICGA
June 1998



Regional range



Predicted
distribution

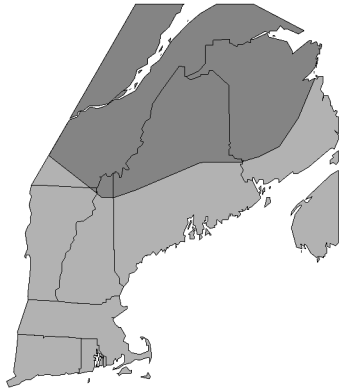


Maine range

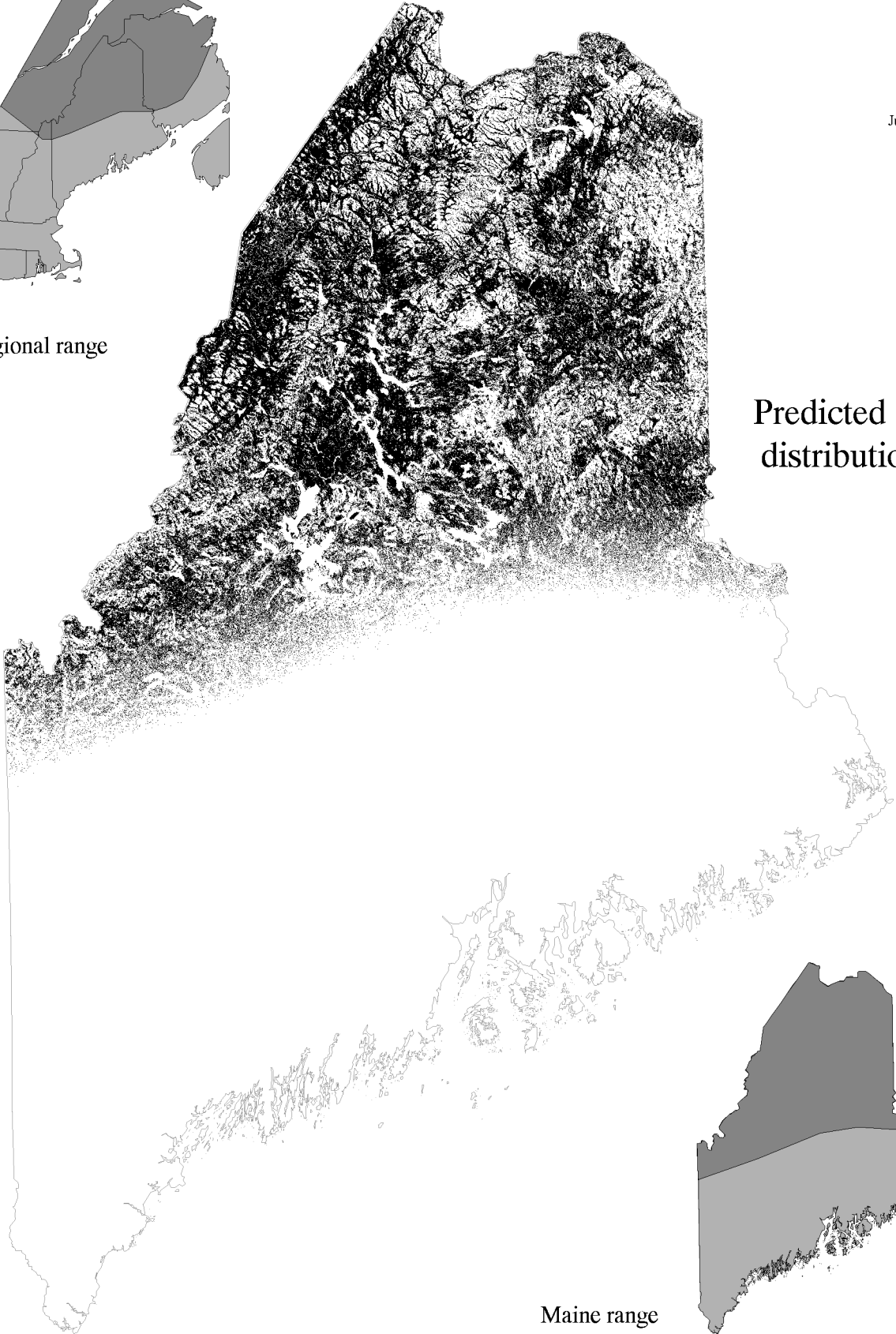
Pine Grosbeak

PIEN

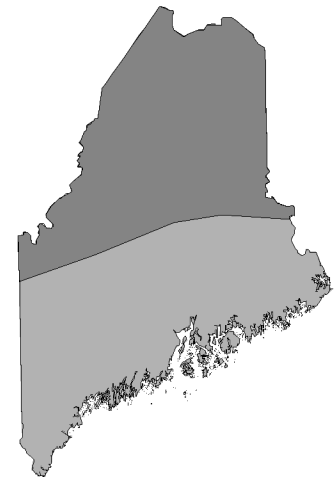
June 1998



Regional range



Predicted distribution



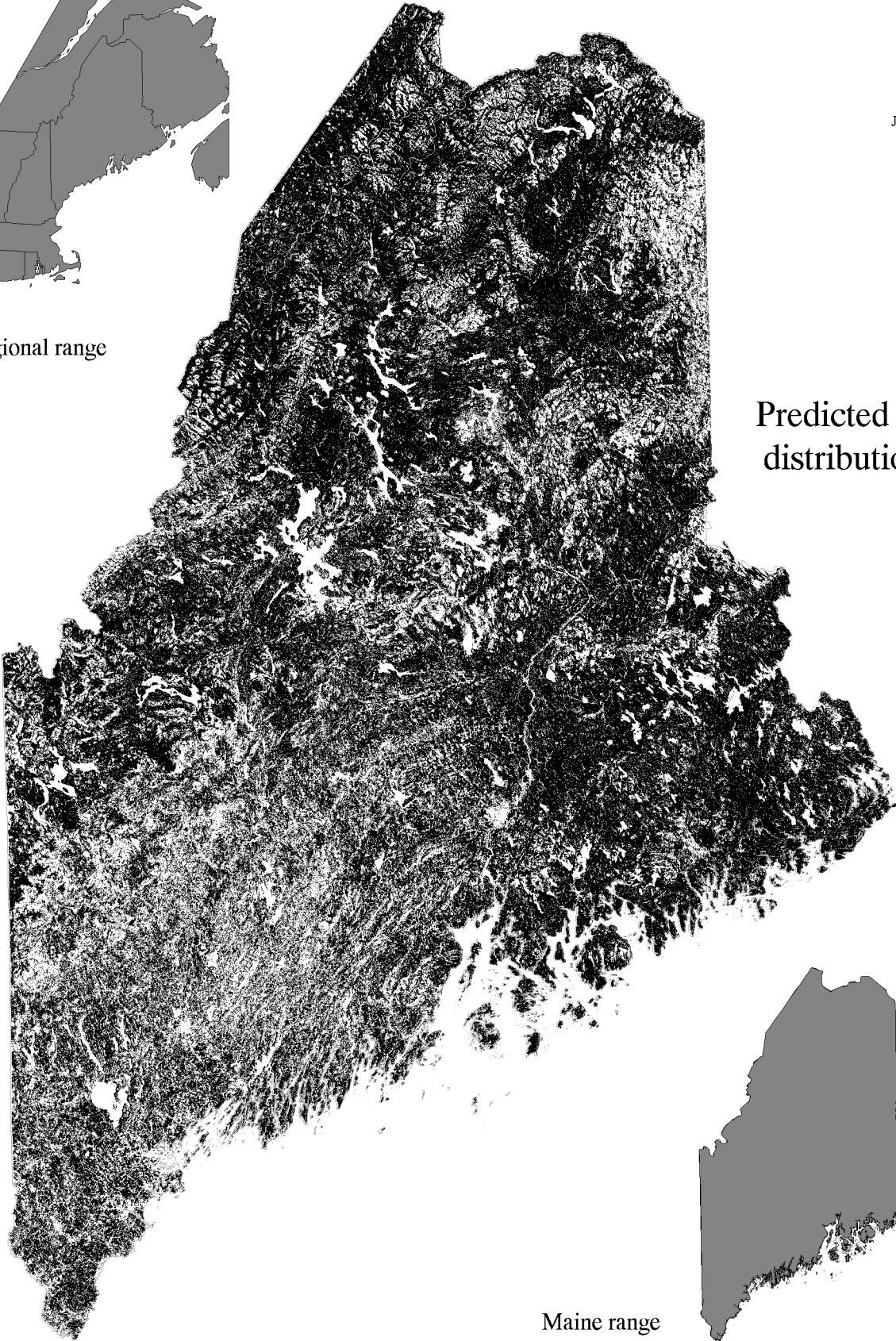
Maine range

Purple Finch

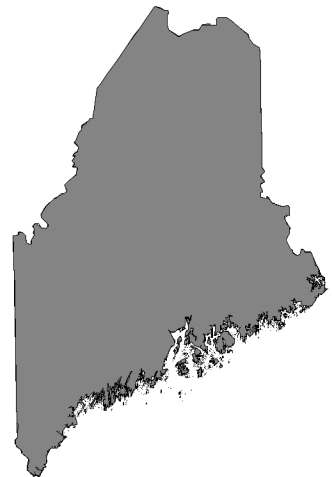
CAPU
June 1998



Regional range



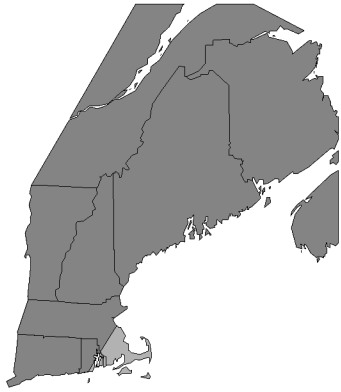
Predicted
distribution



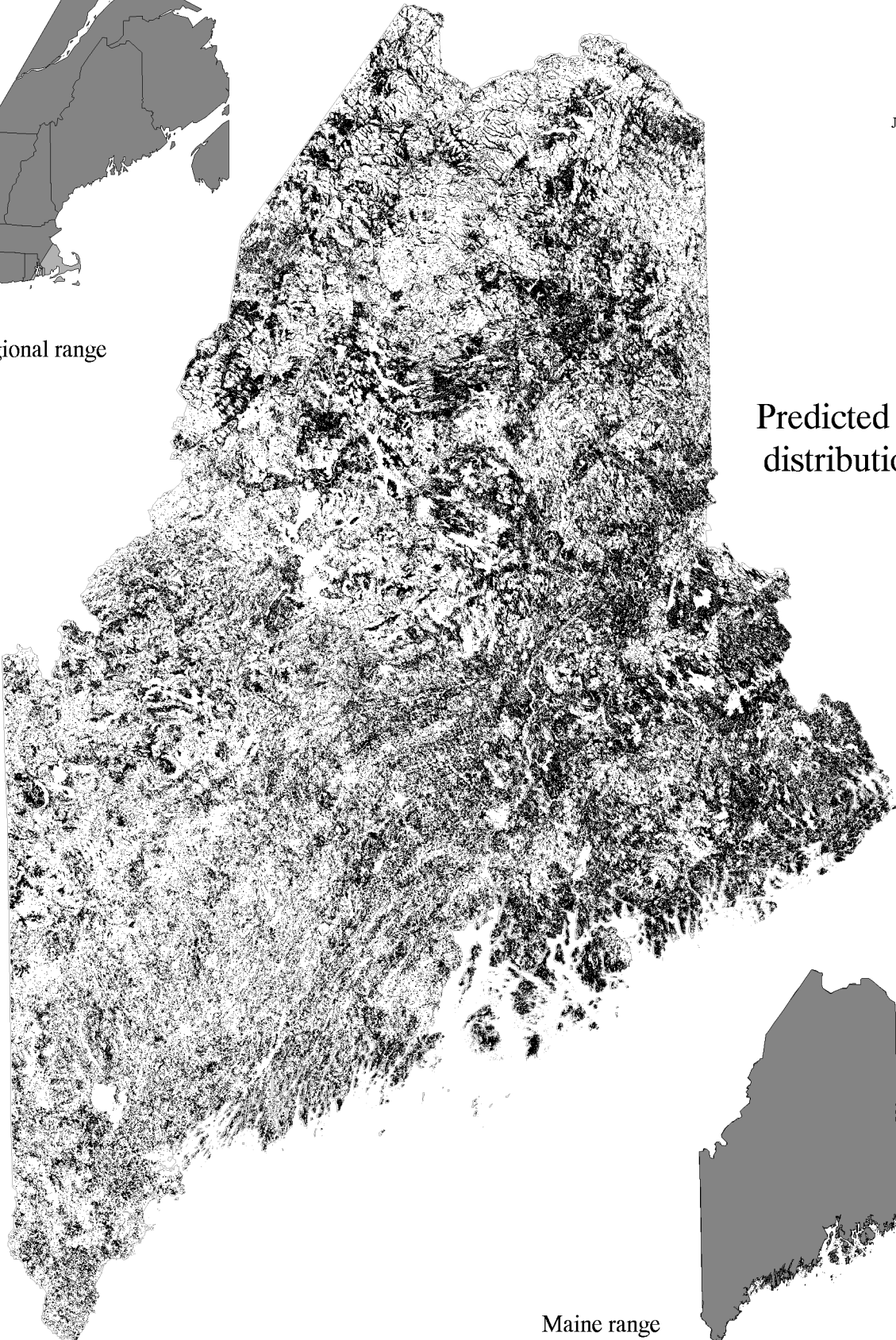
Maine range

Red Crossbill

LXCU
June 1998



Regional range



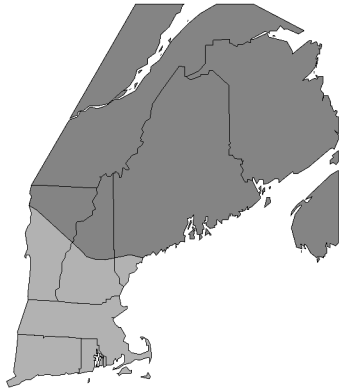
Predicted
distribution



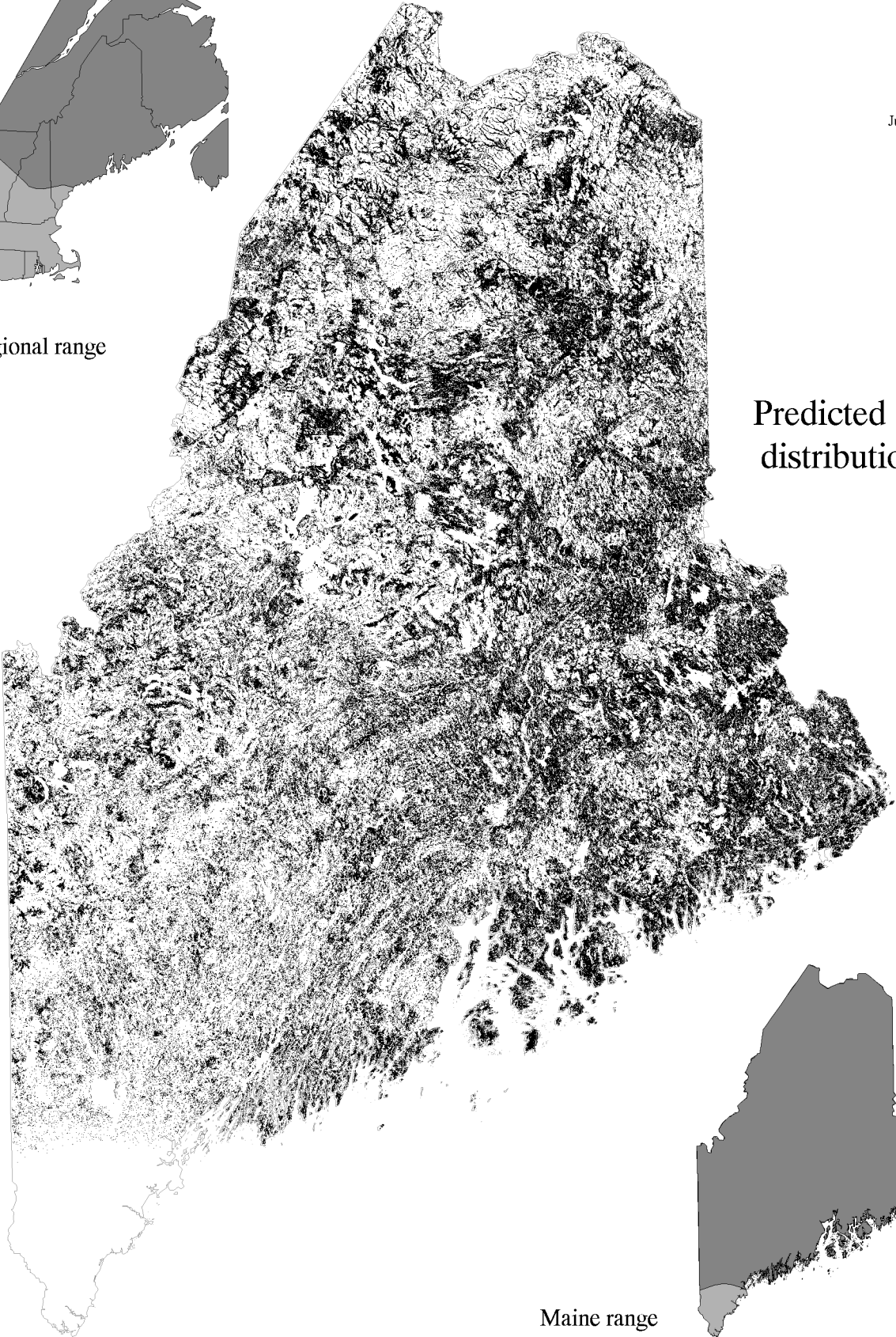
Maine range

White-winged Crossbill

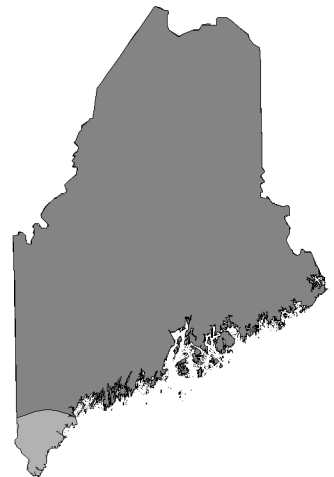
LOLE
June 1998



Regional range



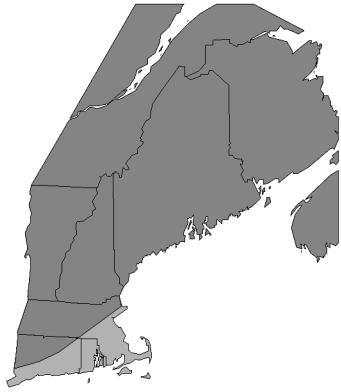
Predicted
distribution



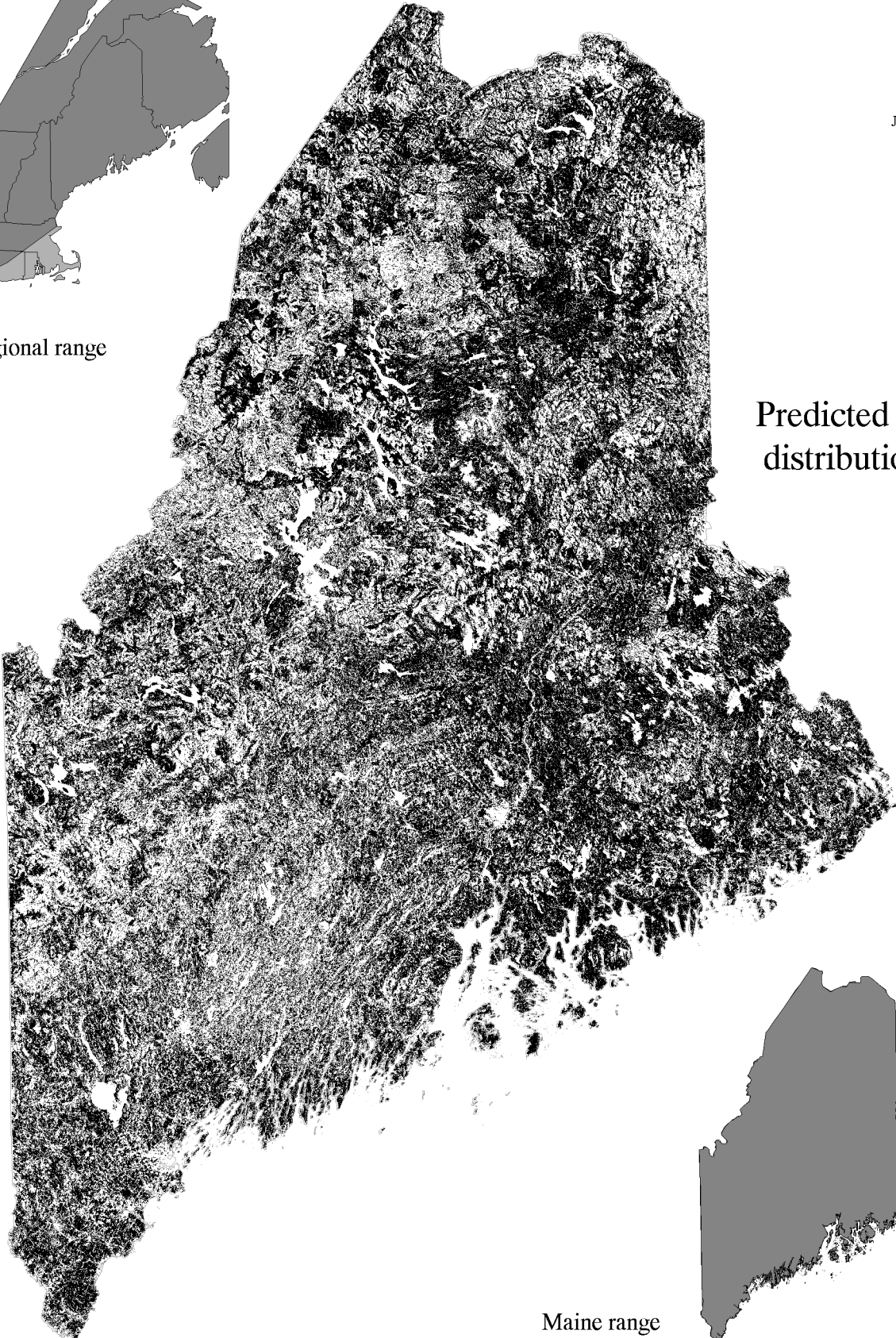
Maine range

Pine Siskin

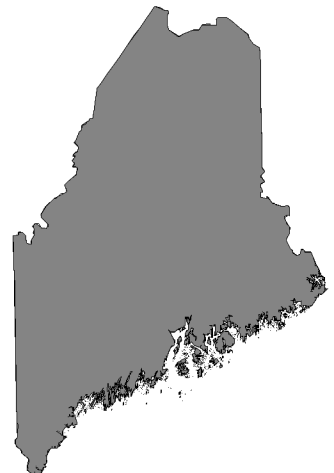
CAPI
June 1998



Regional range



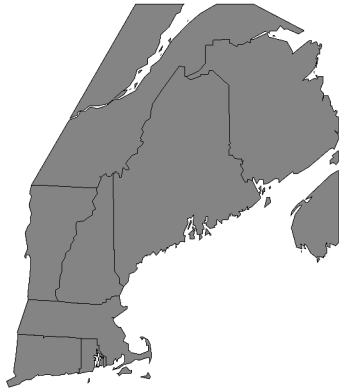
Predicted
distribution



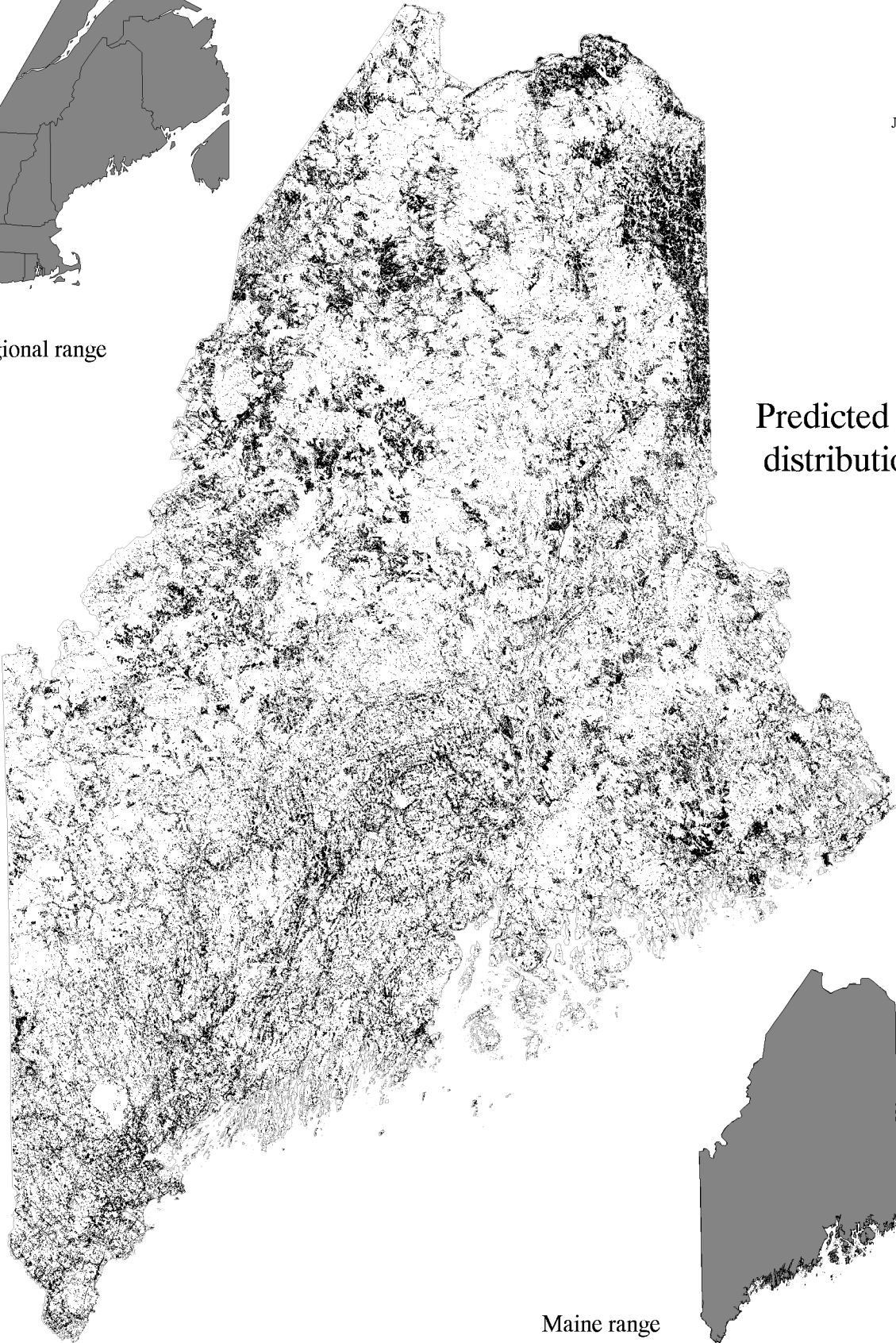
Maine range

American Goldfinch

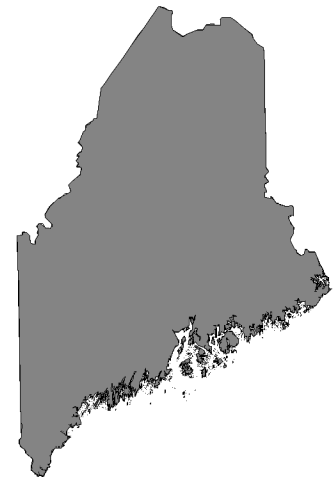
CATR
June 1998



Regional range



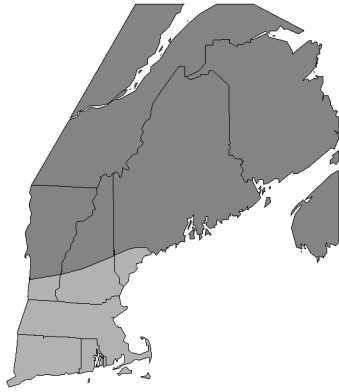
Predicted
distribution



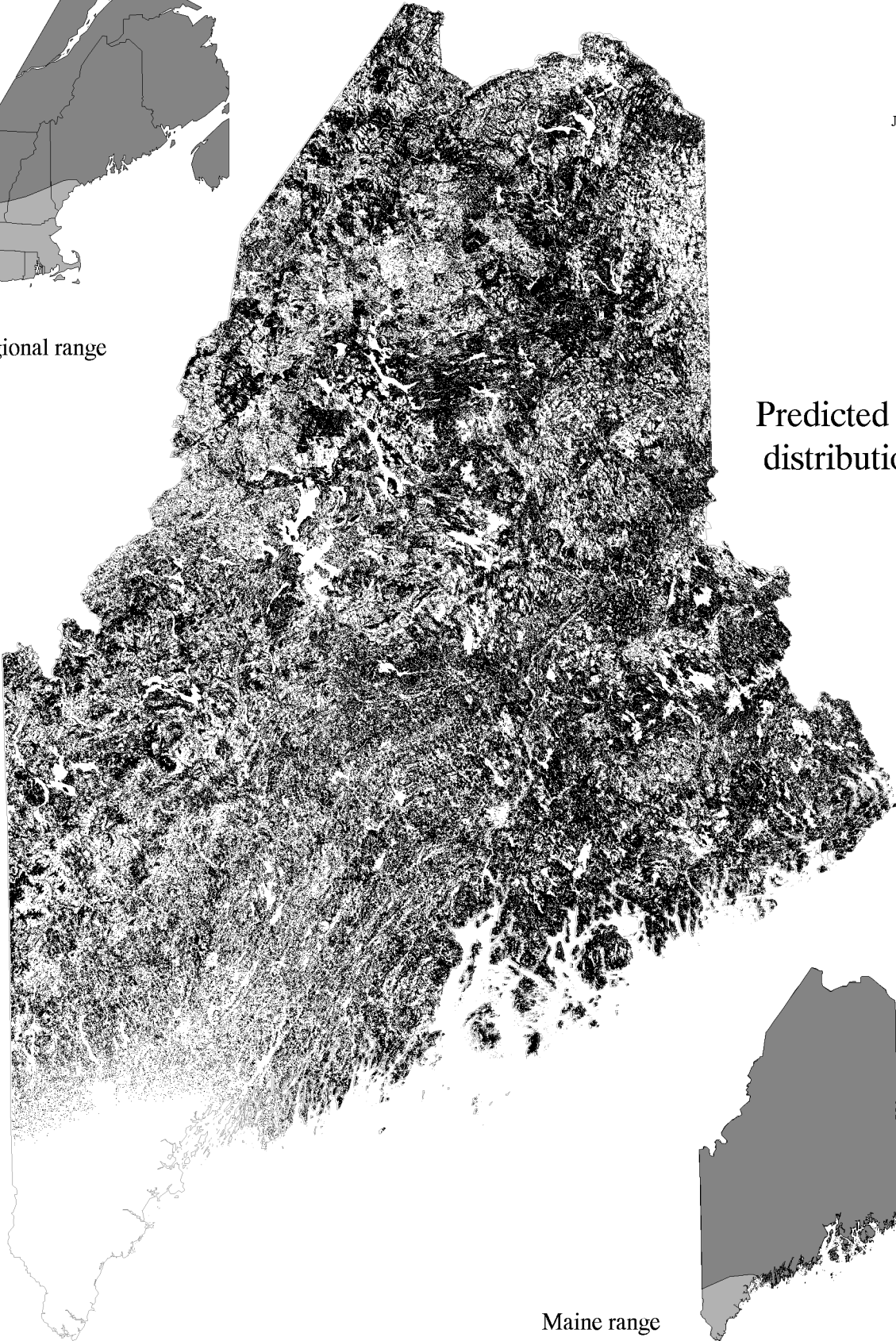
Maine range

Evening Grosbeak

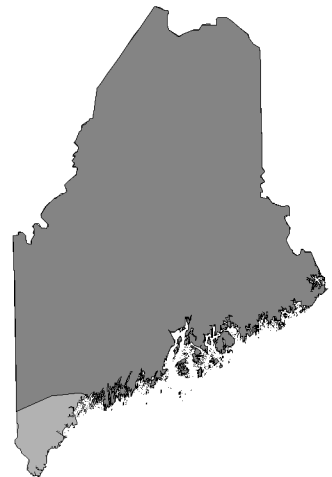
COVE
June 1998



Regional range



Predicted
distribution



Maine range